The Journal

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING

THE OFFICIAL RECORD OF THE PROCEEDINGS OF THE ASSOCIATION, AND THE PAPERS READ AT THE ANNUAL SESSION, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

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GEORGE H. SIMMONS, M.D.

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THE INDICATIONS FOR AND TECHNIC OF VAGINAL CESAREAN SECTION IN ECLAMPSIA *

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ANN ARBOR, MICH.

It was my original intention to prepare for this session a paper on the different methods of rapid evacuation of the uterus in the various toxemias of pregnancy. The invitation to participate in this symposium on eclampsia has modified my plan and I shall confine my remarks to the indications and technic of vaginal Cesarean section in eclampsia.

INDICATIONS

Vaginal Cesarean section or vaginal hysterotomy, the incision of the pregnant uterus through the vagina, is indicated in eclampsia when, in the presence of a rigid cervix, the uterus has to be rapidly emptied. It would seem as if these indications were simple enough. When the cervix is easily dilated or when there is no need for haste, other methods of emptying the uterus may be employed. When a multipara is threatened with eclampsia and the condition of the patient does not demand haste, slower methods of emptying the uterus, such as the balloon, gauze packing or manual dilatation, may be employed. But when the cervix is rigid and haste is necessary, vaginal Cesarean section is much quicker and is the method of choice.

My position in regard to vaginal Cesarean section has been misunderstood, judging from the protests which have been raised against my contention that under certain conditions the operation should be performed by the general practitioner. But careful consideration will show, I believe, that my position is correct. My claim is that in the past the practitioner has been taught to perform and expected to do any obstetric procedure which stopped short of using the knife. He was taught, for example, the indications and contraindications of high forceps, an operation calling for far more judgment and skill than vaginal Cesarean section. He was taught and has practiced for years the difficult and slow manual dilatation of the parturient os, with all its attendant danger of laceration of the cervix, as well as sepsis from the carrying upward of septic material from below. Yet the minute the practitioner is advised in the presence of a rigid cervix which will not yield to manual dilatation, when haste is imperative, to perform a clean surgical operation requiring the use of the knife, the wise ones shake their heads and speculate as to the harm that will result from such operations in unskilled hands. What operative procedure, may I ask, has not resulted in harm in certain hands, and, I may add, sometimes in supposedly skilled hands? It is not my purpose to advocate indiscriminate operating by anybody and everybody. Undoubtedly it would be better if surgery of every description could be limited to a select few in each community. Then the inexperienced operator would be heard of no more. The man who aspired to be one of those to perform surgery in a certain district would prepare himself by years of hospital work, serving a long apprenticeship under some older surgeon. Then this specialist would be ready to respond to the call of every practitioner and perform all his operations for him, obstetric as well as others. No doubt this would be an ideal condition of affairs, especially for the surgeon. But it needs no great argument to convince us that in this country, at least, such an ideal situation will not materialize in our lifetime. Even in the cities, where now it would be possible for such a condition of affairs to exist, the practitioner still persists in performing his obstetric surgery. In fact, it is about the only surgery in this age of specialism that has been left to him, or that he contends should remain his.

I am not referring to the city practitioner with the special obstetric surgeon within easy call. I am making a plea for the country practitioner, who must do the best he can, with the aid perhaps of a fellow practitioner no more skilled than himself. My contention is that less harm will be done when it becomes necessary to empty the uterus in eclampsia in the presence of a rigid cervix, by a clean-cut surgical procedure like vaginal Cesarean section, than by manual dilatation, the operation usually selected under these conditions.

My friend, Dr. Philander Harris, the originator of the only true scientific method of manual dilatation, a man of great gynecologic and obstetric experience, is able to accomplish dilatation in three-quarters of an hour even in difficult cases. Yet even he can not be entirely satisfied with the method, for reecntly he has brought forward a modification of Bossi's instrument, in which a powerful mechanical force takes the place of the fingers.

It is not a question of an hour's time in these difficult cases in which the cervix is rigid. The practitioner employs one hand until it is numb and useless. Then the other is substituted, each hand being inserted into the vagina and up to the cervix many times before dilatation is accomplished. Such manipulation means sepsis or a great chance of septic infection in every such operation. It is not uncommon for a physician to relate the history of a difficult case of eclampsia in which it required three or more hours before the cervix could be dilated, the patient being under the anesthetic all this time. For

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

my part I cannot see why obstetric surgery should not be as well done and according to as sound principles as other kinds of surgery. If practitioners are not familiar with the technic of this operation it is not an impossible task for them to acquire it.

THE TECHNIC

One assistant, besides the anesthetizer, is all that is absolutely necessary, although it is more convenient for the operator to have an assistant at each leg of the patient. If only one assistant can be secured the patient's legs can be held in the lithotomy position by an ordinary obstetric leg-holder, or a sheet passed under the popliteal spaces and over one shoulder and under the other.

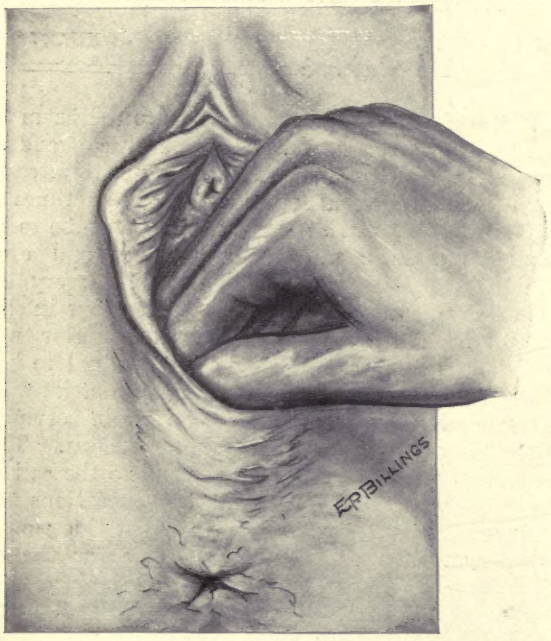


Fig. 1.—Vaginal orifice and vagina dilated with the gloved hand, held in the shape of a cone.

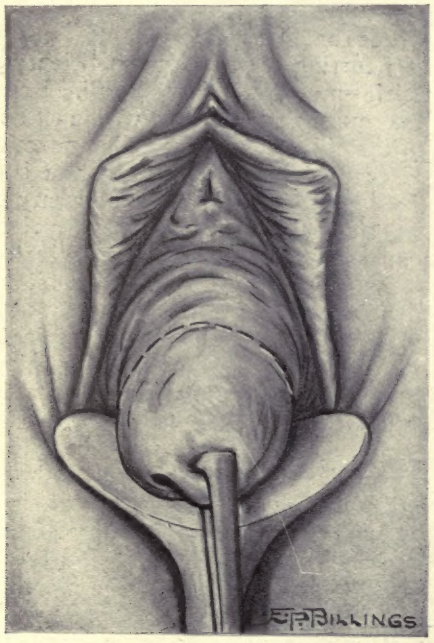


Fig. 2.—Cervix drawn forcibly downward by volsella forceps. Transverse incision through mucosa at vaginal juncture.

The vulva and vagina should be prepared as for any other obstetric operation, and the bladder carefully emptied. With the gloved hand, held in the shape of a cone, the vaginal orifice and the vaginal canal should now be completely dilated, in the same manner but more thoroughly than is customary when the hand is introduced for the operation of manual dilatation (Fig. 1). It may be necessary with very small vaginas to employ the lateral incisions advocated by Schuchardt, but they are unnecessary in the large majority of cases, ample dilatation being secured through the use of the hand-

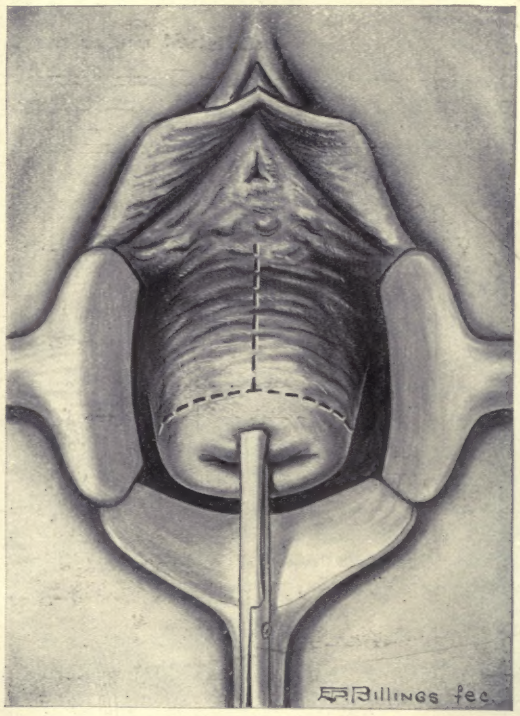


Fig. 3.—Additional longitudinal incision at times necessary to secure more room.



Fig. 4.—Vaginal and bladder walls dissected away from uterus by downward and upward strokes with sponge.

dilator as described above. However, it is essential that ample dilatation be secured, else the on-coming or after-coming head may either be arrested at the outlet or, if force be employed, tears of the perineum may result.

The perineum being depressed, the anterior lip of the cervix is seized and drawn downward to the vulva. Usually this is easily accomplished, so that the anterior vaginal wall, the field of operation, is within easy reach. When, for any reason, the cervix cannot be so drawn down, the operation is contraindicated, as it is quite essential that the anterior and posterior incisions made aided by sight. A transverse incision long enou to take in nearly one-half the circumference of the cer is now made through the vaginal mucosa at the vagi juncture (Fig. 2). At times, with a small cervix, it n be necessary to add a longitudinal cut through vaginal mucosa, thereby making an inverted T-shap incision (Fig. 3). Usually the first incision is suffici to allow the pushing upward of the vaginal and blad walls by a few strokes of the sponge (Fig. 4). Press

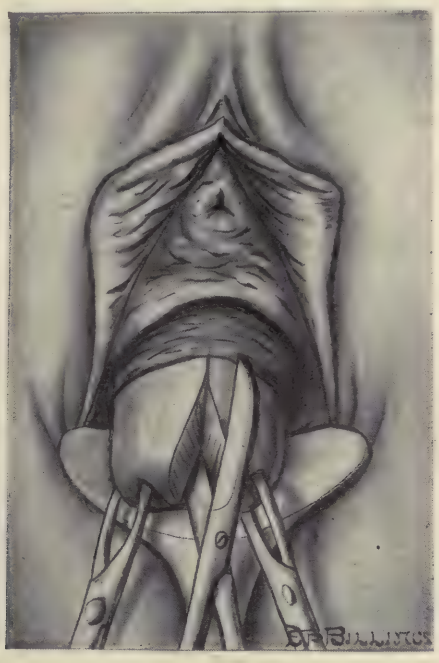


Fig. 5.—Cervix grasped at each side of median line by volsella forceps. Cervix split upward for about 9 cm. in median line by stout scissors, care being taken not to distort cervix.



Fig. 7.—Transverse incision through posterior vaginal mu preparatory to splitting posterior cervical lip in median Through transverse incision rectum and peritoneum are pus away from uterus by sponge.

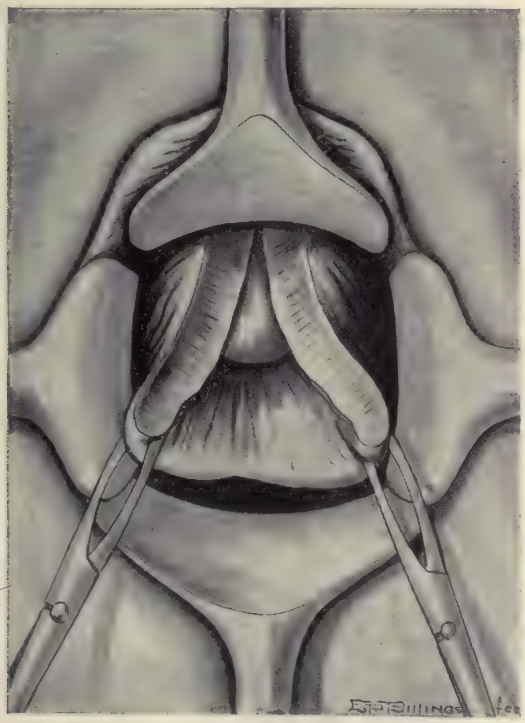


Fig. 6.—Bladder held away by retractor. Uterus split upward in median line. Scissors guided by fingers so as not to puncture bag of membranes.



Fig. 8.—Anterior and posterior uterine walls incised. In bag of membranes protruding.

5. In all methods of treatment that should be avoided which will either reduce the resistance of the patient, or seriously damage any of her organs.

Let us now consider these principles more in detail.

1. In reducing the products of metabolism requiring elimination the obstetrician is brought face to face with the problem of diet for the toxemic patient. As proteid metabolism is that most often at fault, it is generally agreed that red meats should be avoided in all forms of toxemia of pregnancy and the puerperium. Although in mild degrees of toxemia, chicken and fish may be allowed, in severe forms of the condition an exclusive milk diet with large draughts of water is the diet of choice, to which are added chicken broth, fruits and green vegetables, as the toxemia diminishes. As a prophylactic measure it is our custom, during the last month of a normal pregnancy, to allow the ingestion of red meat only two or three times a week.

2. In favoring the elimination of products of metabolism, the three avenues, the skin, the urinary tract and the intestinal tract, should receive careful attention. Thus elimination through the skin by sweating, induced either by the hot-air bath or the hot wet pack, is a most useful measure in the treatment of toxemia. Elimination through the urinary tract, favored by the ingestion of large amounts of water, and elimination through the intestinal tract, favored by calomel and saline or other laxatives, and especially by colon irrigations with saline solution, are methods which are considered routine procedures in the treatment of this condition.

3. In the reduction of blood-pressure, while venesection is the choice of many obstetricians, and was formerly

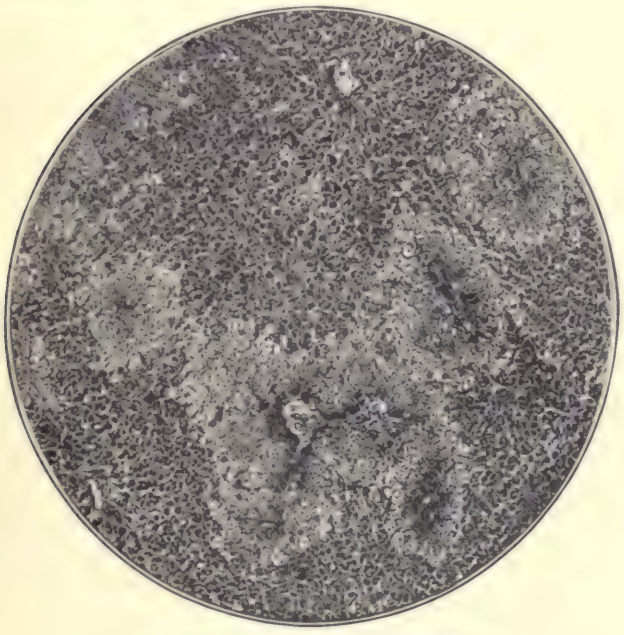


Fig. 1.—Liver of eclamptic patient.

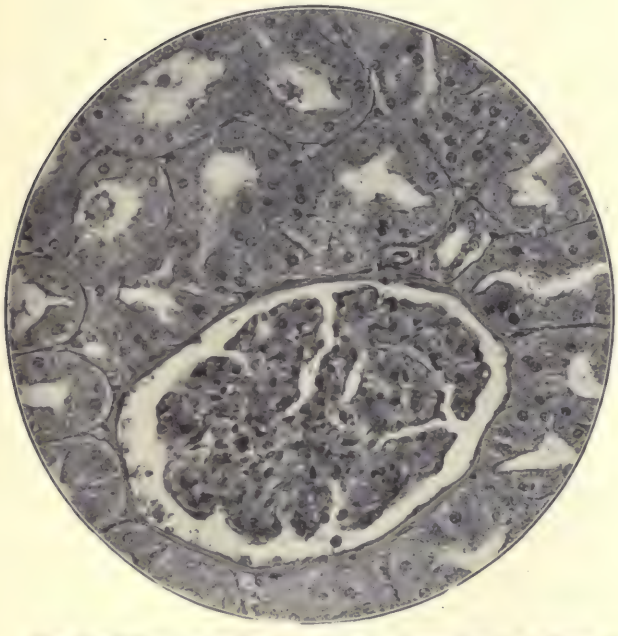


Fig. 2.—Kidney of eclamptic patient whose liver is shown in Figure 1.

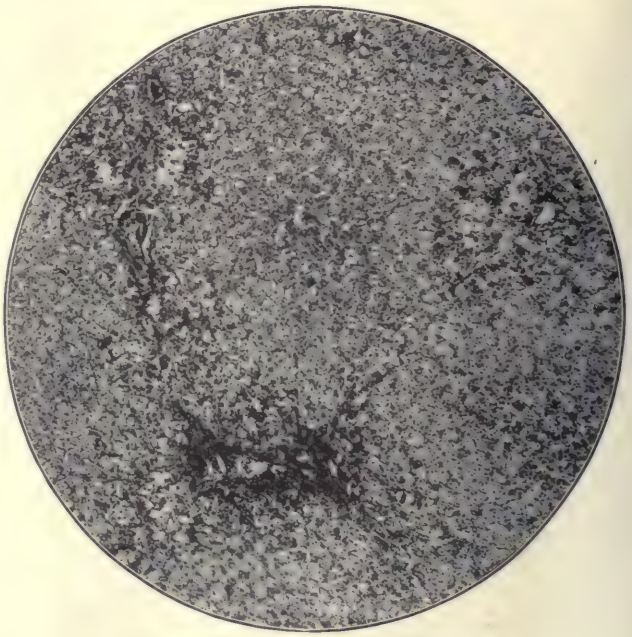


Fig. 3.—Liver of another eclamptic patient.

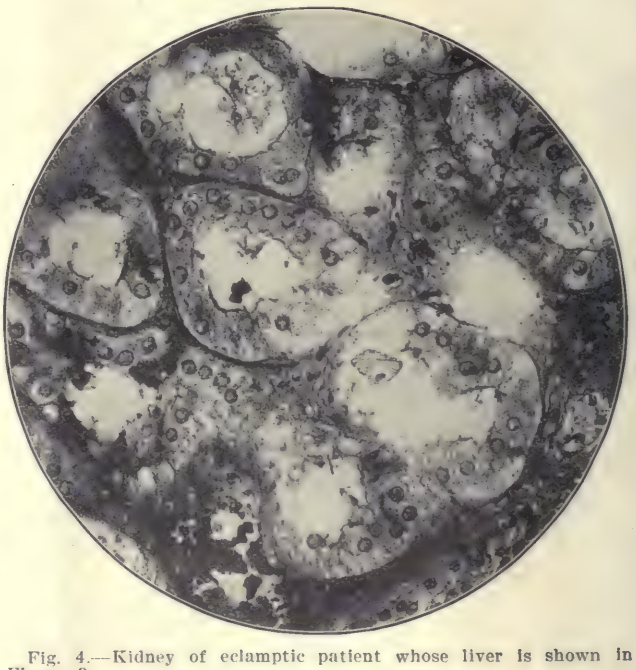


Fig. 4.—Kidney of eclamptic patient whose liver is shown in Figure 3.

quite extensively employed by one of us, its use has now been superseded at the Sloane Maternity by veratrum viride, nitroglycerin and chloral, and with better results.

Our method of using these drugs in toxemia threatening eclampsia is as follows: Chloral (30 grains) is administered per rectum as an initial dose and then repeated in doses of from 20 to 30 grains from every four hours to every six hours, according to the restlessness of the patient.. Nitroglycerin gr. 1/50 to gr. 1/100 from every two hours to every four hours is given hypodermatically. If under the use of the larger doses of these drugs the tension still remains high we depend on the use of veratrum viride rather than venesection.

The preparation used has been Squibb's fluidextract of veratrum and the dose employed has scarcely ever exceeded 5 minims. Our rule is to give 5 minims hypodermatically and watch the effect. As the frequency is usually reduced with the tension, it is our custom to be largely guided in repetition of the dose and in the size of the dose, by the frequency of the pulse, although the reduction in the tension is the object desired.

If at the expiration of from one to two hours the pulse has not been reduced in frequency to 100 or below and the tension correspondingly reduced, a second hypodermatic injection of veratrum 1 to 3 minims is given. The tension of the pulse is then controlled, if not kept low by the continued use of the nitroglycerin, by repeated doses of veratrum 1 to 3 minims every four hours.

4. To repeat the fourth principle stated earlier in the paper, if the toxemia of the patient, as shown by the urine, blood-pressure and general condition, does not

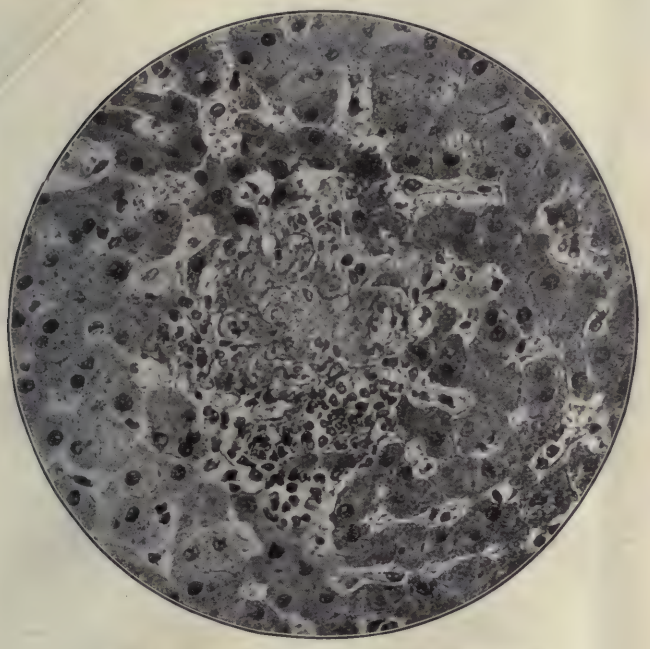


Fig. 5.—Liver of eclampsia, with hemorrhage.

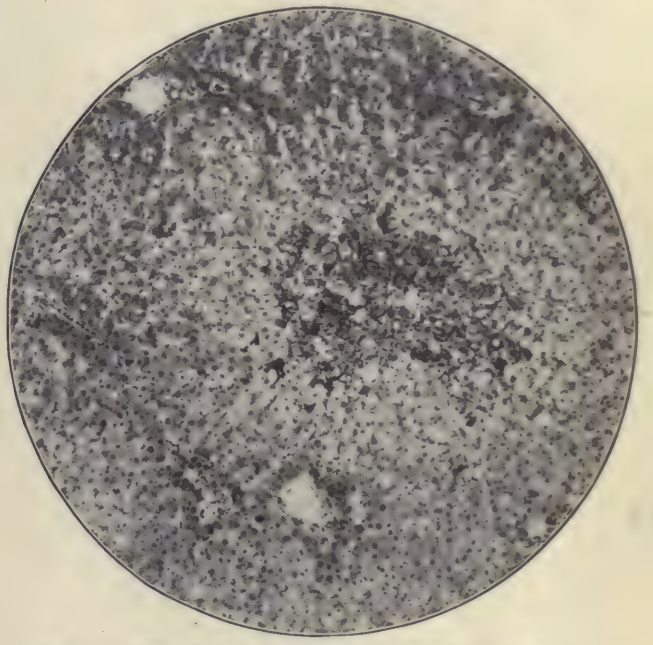


Fig. 7.—Liver of dog. One-hour chloroform anesthesia.

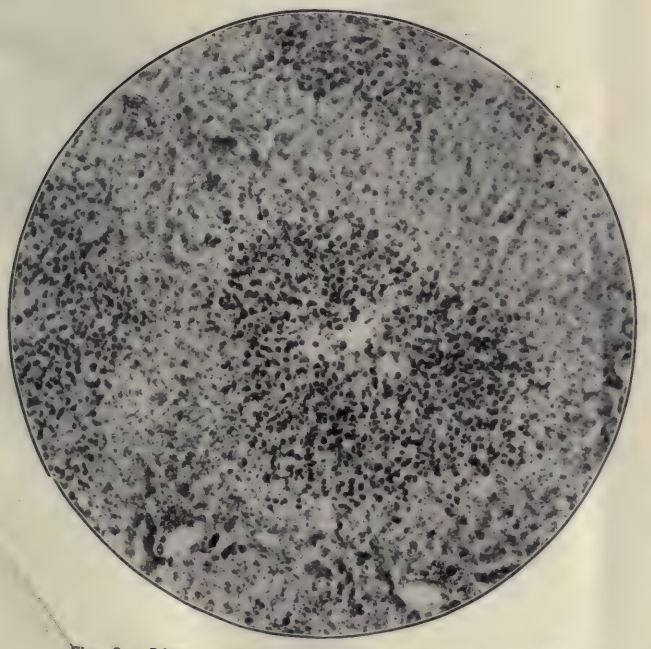


Fig. 6.—Liver. Delayed chloroform poisoning in man.

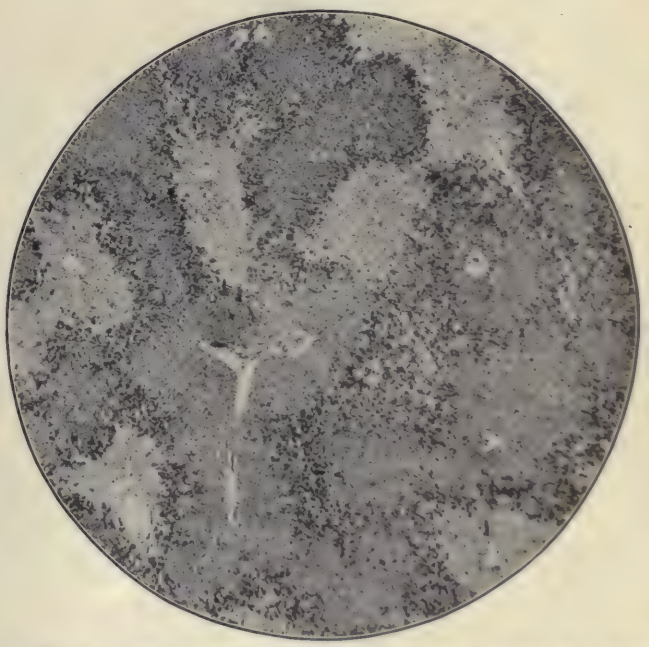


Fig. 8.—Liver of dog. Delayed poisoning after eight and one-half hours' chloroform anesthesia.

5. In all methods of treatment that should be avoided which will either reduce the resistance of the patient, or seriously damage any of her organs.

Let us now consider these principles more in detail.

1. In reducing the products of metabolism requiring elimination the obstetrician is brought face to face with the problem of diet for the toxemic patient. As proteid metabolism is that most often at fault, it is generally agreed that red meats should be avoided in all forms of toxemia of pregnancy and the puerperium. Although in mild degrees of toxemia, chicken and fish may be allowed, in severe forms of the condition an exclusive milk diet with large draughts of water is the diet of choice, to which are added chicken broth, fruits and green vegetables, as the toxemia diminishes. As a prophylactic measure it is our custom, during the last month of a normal pregnancy, to allow the ingestion of red meat only two or three times a week.

2. In favoring the elimination of products of metabolism, the three avenues, the skin, the urinary tract and the intestinal tract, should receive careful attention. Thus elimination through the skin by sweating, induced either by the hot-air bath or the hot wet pack, is a most useful measure in the treatment of toxemia. Elimination through the urinary tract, favored by the ingestion of large amounts of water, and elimination through the intestinal tract, favored by calomel and saline or other laxatives, and especially by colon irrigations with saline solution, are methods which are considered routine procedures in the treatment of this condition.

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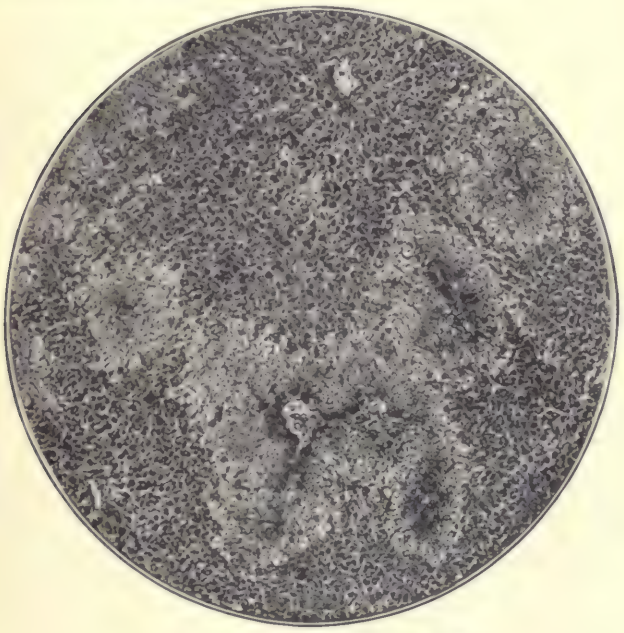


Fig. 1.—Liver of eclamptic patient.

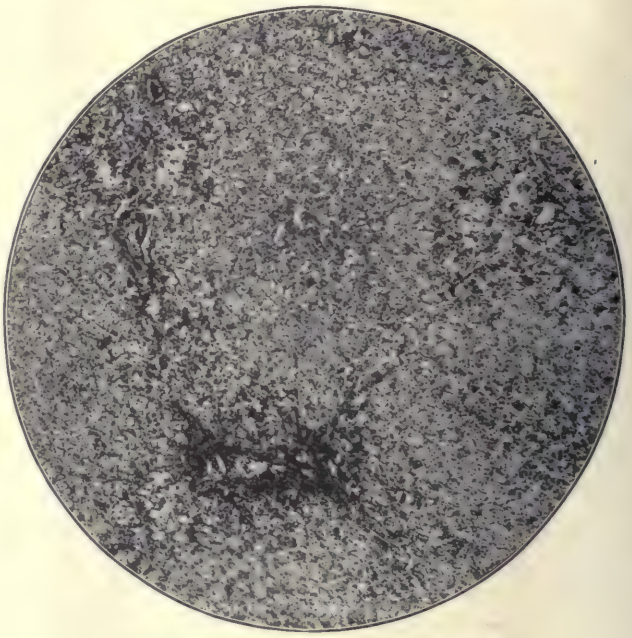


Fig. 3.—Liver of another eclamptic patient.

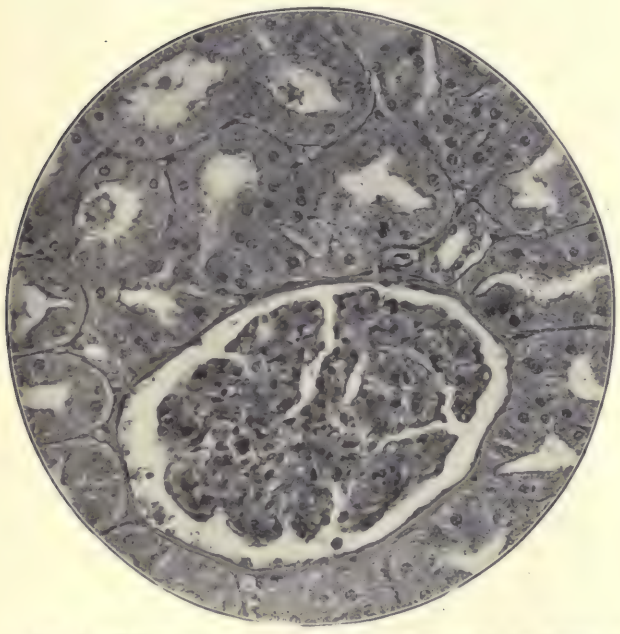


Fig. 2.—Kidney of eclamptic patient whose liver is shown in Figure 1.

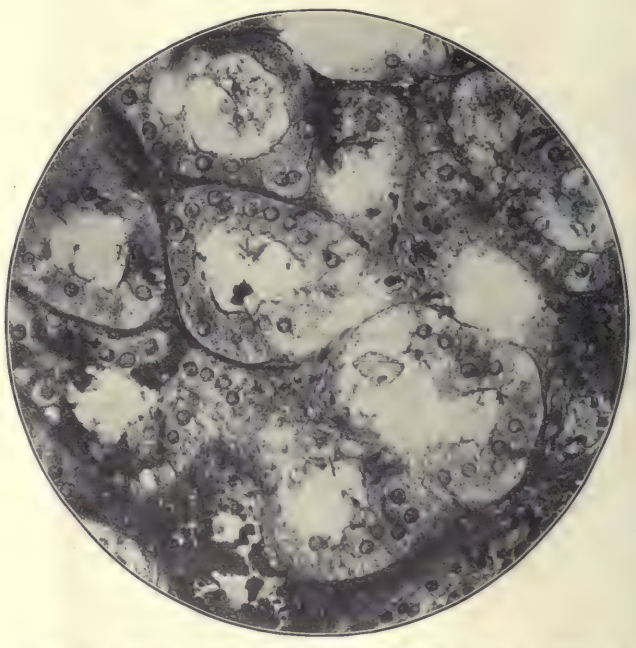


Fig. 4.—Kidney of eclamptic patient whose liver is shown in Figure 3.

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4. To repeat the fourth principle stated earlier in the paper, if the toxemia of the patient, as shown by the urine, blood-pressure and general condition, does not

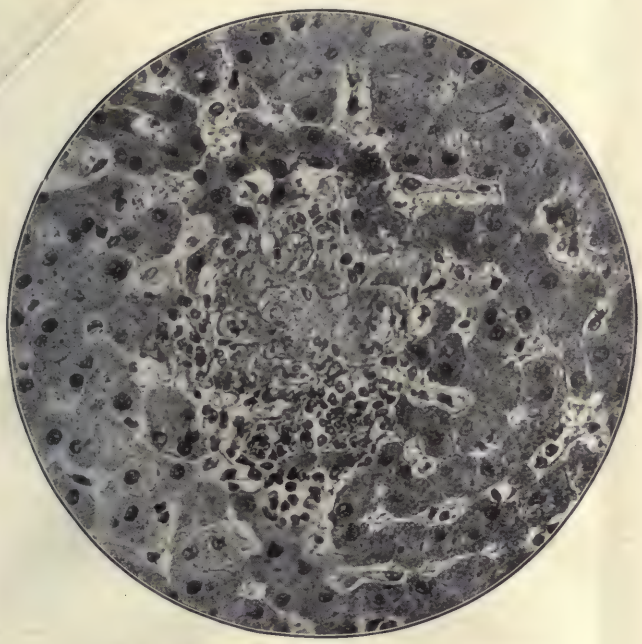


Fig. 5.—Liver of eclampsia, with hemorrhage.

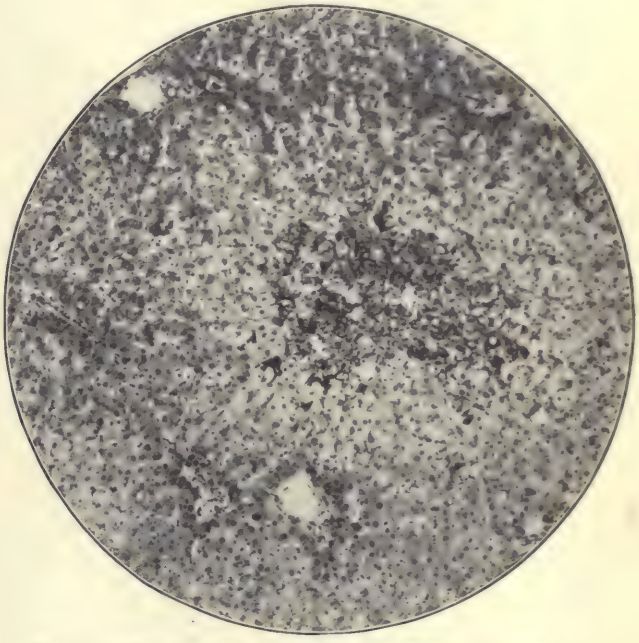


Fig. 7.—Liver of dog. One-hour chloroform anesthesia.

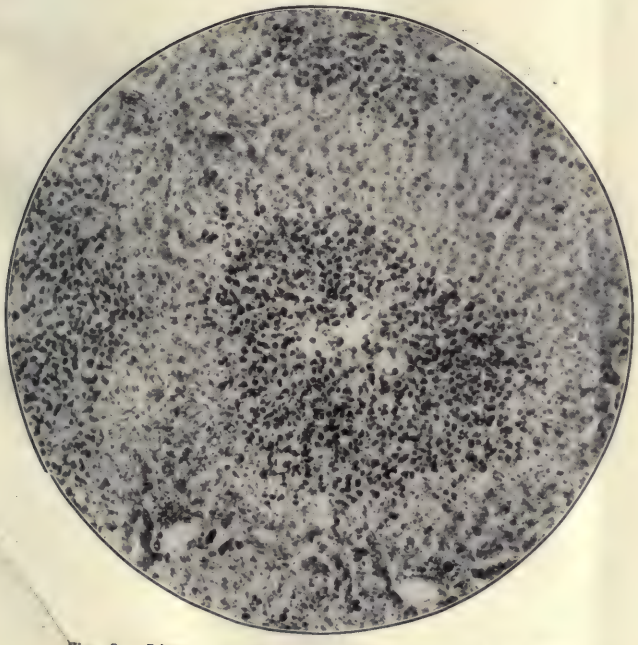


Fig. 6.—Liver. Delayed chloroform poisoning in man.

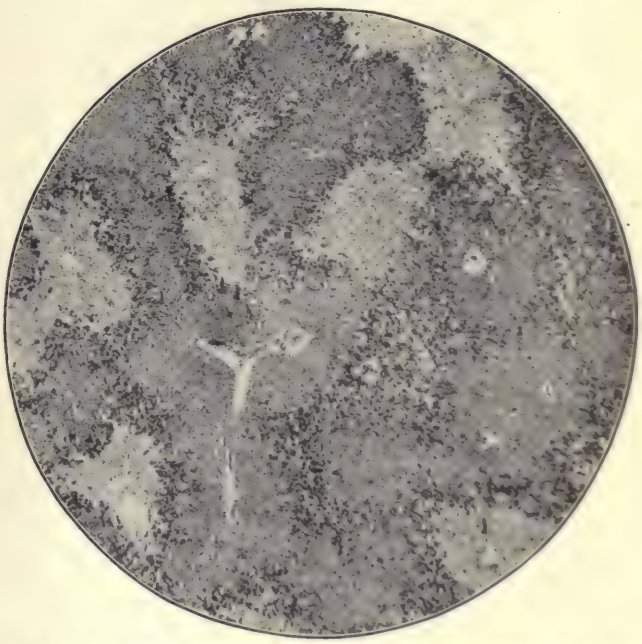


Fig. 8.—Liver of dog. Delayed poisoning after eight and one-half hours' chloroform anesthesia.

markedly improve under the preceding principles of treatment, or if an eclamptic seizure occurs, the uterus should be emptied. At the Sloane Maternity Hospital some years ago a series of patients was treated on the palliative plan, favoring elimination without emptying the uterus, but the mortality was so much greater than when the fetus and its toxins were eliminated from the uterus and the system, that for the past ten years the



Fig. 9.—Kidney of dog. Delayed poisoning, after seven and one-half hours chloroform anesthesia.

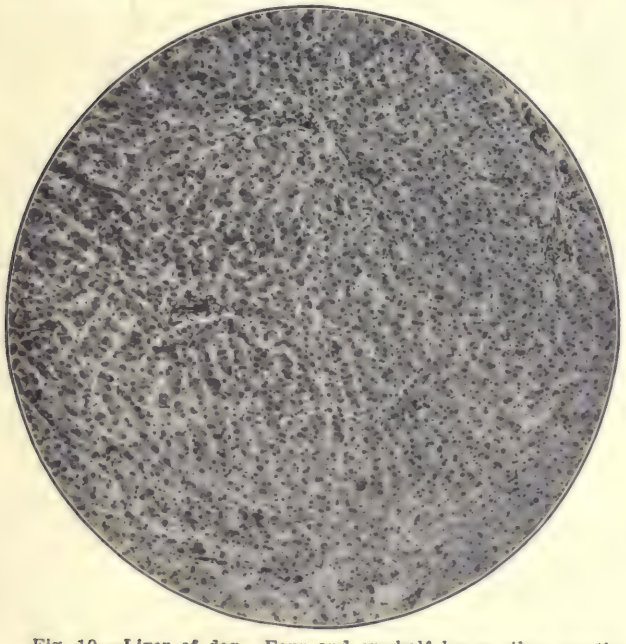


Fig. 10.—Liver of dog. Four and one-half hours ether anesthesia.

rule has been, given an eclamptic seizure, or a toxemia so severe as to strongly threaten eclampsia in spite of treatment, to proceed to empty the uterus.

In carrying out this rule the fifth principle of treatment deserves marked emphasis and will be restated here. *In all methods of treatment, that should be avoided which will either reduce the resistance of the patient or seriously damage any of her organs.*

This principle has an important bearing on the method of emptying the uterus. Having decided that the fetus should be removed from the uterus, the next questions are, How? and When? If the cervix is soft and dilatable and the patient has had one or more convulsions, our own preference is manual dilatation and delivery usually by version.

If on the other hand the cervix is long and rigid we believe that the patient is better off, even if delivered several hours later, to have her cervix softened and dilated by the preliminary use of the elastic bag, or bags, rather than to be delivered by an immediate *accouchement forcé,* which leaves her in marked shock and with cervix deeply lacerated, perhaps to the vaginal junction. Our observation leads us to believe that pronounced shock and deep lacerations lessen both the resistance of the patient and her chances of recovery. In the cases of long rigid cervix, which do not readily dilate under the use of the elastic bag, the so-called vaginal Cesarean section has a distinct and valuable

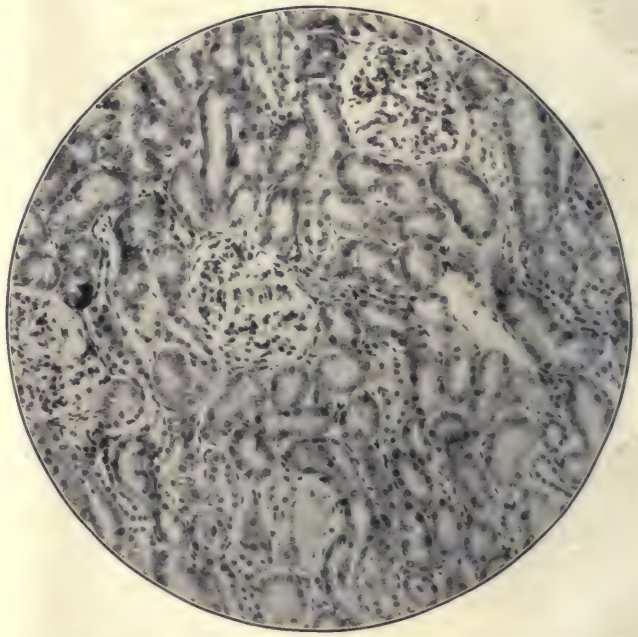


Fig. 11.—Kidney of dog. Five hours ether anesthesia.

field of usefulness. In a restricted class of these cases future experience may prove the abdominal Cesarean section to be the operation of choice.

SELECTION OF AN ANESTHETIC

In the treatment of eclampsia one of the most important questions is, What anesthetic shall be used and how shall it be employed? For many years at the Sloane Maternity Hospital, New York, it was our custom to administer chloroform to every patient suffering from eclampsia and to administer it to the patient each time she had a convulsion. This meant that often a physician or a nurse was detailed to sit beside a patient during a whole day, or a whole night, with a chloroform bottle and mask in hand and with instructions to administer chloroform at the first indication of a convulsion. This was done with the idea that the convulsions were in themselves an element of grave danger to the patient and should be controlled if possible. As we look back on the treatment now we appreciate that many patients were kept more or less under the influence of chloroform for many hours at a time.

Further, if the uterus had to be emptied for the toxemia of pregnancy, shown in the early months by pernicious vomiting, or in the later months by eclampsia, chloroform was the anesthetic usually employed.

In the light of our present knowledge concerning the effect of chloroform, the question arises: Does its use in puerperal toxemia and eclampsia conform to our fifth principle of treatment recommended above, viz.: "Harmful remedies should be avoided"? We believe that the question should be answered in the negative; and we propose to show that chloroform is dangerous in puerperal toxemia and eclampsia; that ether is safer and is to be recommended when anesthesia is required in this condition. Recent studies of the pathologic changes produced by eclampsia, delayed chloroform poisoning and chloroform anesthesia have shown a striking similarity in the findings in all three conditions.

The pathologic picture in each is that of congestion, hemorrhage, degeneration and necrosis. Our knowledge of the pathology of eclampsia is of comparatively recent date, but thanks to the work of Jurgens, Schmorl, Williams, Ewing, Welch and others the lesions are now well recognized and generally accepted.

The changes are mainly those of congestion, hemorrhage, parenchymatous degeneration and necrosis. The liver and kidneys are the organs chiefly involved. The lesions vary with the clinical type. Thus, in those cases characterized by vomiting, jaundice, a tendency to hemorrhage, with little edema and slight albuminuria, the liver is the organ most involved, as seen in Figures 1 and 2, which represent respectively the liver and kidney of the same patient. Here the liver is markedly involved and the kidney but little involved.

On the other hand in the cases characterized by headache, high tension pulse, marked disturbance of the nervous system, marked albuminuria and edema, the kidney changes are more marked as is seen in Figures 3 and 4, which represent the liver and kidney respectively of another patient. Here the liver changes are slight and the kidney changes very pronounced.

Although many border-line cases present themselves, still the two distinct types are easily recognized in every large maternity service. The lesions in the liver vary from granular and fatty degeneration, with congestion, to necrosis with almost complete dissolution of the liver parenchyma. This necrosis begins at the center of the lobule and extends towards the periphery, leaving only a mass of granular detritus surrounding the central vein, the nuclei and cell contents disappearing with only a reticular network in the place of the liver cells. Thromboses with hemorrhage occur throughout the lobule more often at the periphery (Figure 5). The organ may be swollen or diminished in size, according to the change in the parenchyma. It usually shows a yellowish color and may have hemorrhages under the capsule.

The kidneys are swollen, the cortex thickened, pale and congested, the markings less distinct, and the capsule not adherent. Microscopically the cells of the cortical tubules are swollen, in many places disintegrating. The vessels are injected and the tubules contain much granular material. Other changes described are moderate fatty degeneration of the heart; edema, congestion, and hemorrhages in the brain. The body often shows edema, subcutaneous hemorrhages and jaundice. The above are the pathologic changes found in the severe grades of toxemia of pregnancy and eclampsia.

Now what are the pathologic changes produced by chloroform, which until recently has been largely used in the toxemic condition?

Delayed chloroform poisoning as such has been frequently recognized and carefully studied both clinically and pathologically for the last twenty years. Many writers have reported series of fatal cases, all showing symptoms and lesions which are now recognized as typical of the condition. A number of these deaths occurred after only twenty or thirty minutes of anesthesia, untoward symptoms developing a few hours to a few days after the administration. The symptoms include progressive weakness, pallor or cyanosis, restlessness, vomiting, delirium, convulsions, stupor, coma and death. The organs principally affected are the liver and kidneys. The former is yellow and fatty, with hemorrhages often under the capsule and throughout its substance. The typical picture is that of a central necrosis (Figure 6). The cells about the central vein disappear, leaving only a mass of granular material which shows neither nuclei nor cell outline. Nearer the periphery of the lobule is a zone of swollen cells, which have undergone hyaline and fatty degeneration. A few normal liver cells may remain at the periphery. The kidneys are swollen, markedly congested, with occasional hemorrhages under the capsule, about the tubules, and in the pelvis. The cortex is thickened, the markings indistinct. Microscopically the cells of the tubules are greatly swollen, granular, and loaded with fat. The lumen is filled with granular material, fat globules and coagulated serum. The heart muscle often shows some fatty degeneration. The changes are generally considered to be more profound in the liver, though some observers have found the kidney degeneration even more marked.

The reports of these cases of delayed chloroform poisoning with their pathologic findings led naturally to a study of the lesions produced by chloroform anesthesia. Many animals were used in these experiments, most often dogs, rabbits and guinea-pigs. These studies were exhaustive and include the work of Lengemann, Ostertag, Stiles and McDonald, Stassman and others, together with the more recent work of Howland and Whipple. The most striking result of these studies was the extent of the degeneration and necrosis found in the liver and kidney after chloroform anesthesia of a short duration.

It has been found that characteristic lesions are regularly produced, varying in degree with the duration and depth of anesthesia and also with idiosyncrasy. Thus after thirty minutes to one hour anesthesia with chloroform, the centers of the lobules of the liver show congestion with granular and fatty degeneration, the innermost cells being necrotic, their nuclei not taking the stain and the protoplasm being deeply stained pink with eosin (Figure 7). With more prolonged action the changes approach those found in delayed chloroform poisoning in man. The liver appears yellow and fatty with scattered hemorrhages. The cells about the centers of the lobules are entirely necrotic, a granular mass remaining. Outside of this is an area of cells which have undergone hyaline and fatty degeneration, with normal cells at the periphery. In some cases the liver cells have almost entirely disappeared with only a few scattered living cells in the portal spaces (Figure 8). In the kidney, chloroform anesthesia causes a marked congestion with a cloudy swelling and occasionally hemorrhages into the parenchyma. The cells of the tubules are swollen and granular, occluding most of the lumen; in other places they have disappeared entirely. Fatty degeneration is present and in many cases pronounced (Figure 9). The heart muscle may be pale and show

fat droplets in its fibers. Hemorrhages occur throughout the body, particularly in the serous membranes, and in the intestinal and stomach mucosa.

Howland and others were able, almost at will, by continuing the anesthesia to produce delayed chloroform poisoning in dogs, with symptoms and lesions corresponding in detail with those of delayed chloroform poisoning in man. Thus we find in these three conditions, eclampsia, delayed chloroform poisoning in man and chloroform anesthesia in animals, many similarities. Pathologically there is central necrosis, parenchymatous and fatty degeneration in the liver; congestion, parenchymatous and fatty degeneration in the tubules of the kidney and a tendency to hemorrhages throughout the body. Clinically in delayed chloroform poisoning and in eclampsia there are vomiting, jaundice, delirium, convulsions and coma. With these facts before us, showing that chloroform acts as a poison to the liver and kidney, it certainly seems that its use in toxemia of pregnancy and eclampsia would still further impair these organs already damaged.

In turning to ether as a substitute, the question naturally arises, Does ether produce lesions in the liver and kidney similar to chloroform? Some work has already been done along this line, notably by Bandler, Lengeman and Leppmann, and it was partly to confirm scattered observatons on this subject that a further study of ether anesthesia was undertaken.

In our experiments six mongrel dogs of medium size were given ether by inhalation from an open cone. They were killed with ether forty-eight hours after the last anesthesia and autopsied at once.

Tissues were fixed with Müller's fluid and 10 per cent. liquor formaldehydi equal parts, and stained with hematoxylin and eosin. Fat was stained with Altman's fluid, Scharlach R. as control. Sufficient ether was given to produce complete muscular relaxation with loss of corneal reflex.

Dog 1. Given ether for 3 successive hours.
Dogs 2 and 3. Given ether 2 hours each on 2 successive days.
Dog 4. Given ether for 2½ hours on 2 successive days.
Dog 5. Given ether for 3 hours on 2 successive days.
Dog 6. Given ether for 2½ hours on 3 successive days.

With Dogs 3, 4 and 6 a section of liver and kidney was taken at the beginning of the first anesthesia for control. The dogs all took the anesthesia well and appeared bright and active throughout the experiments with the exception of Dog 3. This dog required artificial respiration twice, had a slight cough on the first day, which became more marked on the following days. It showed no pneumonia on autopsy.

In none of these animals could any necrosis in any of the parenchyma be found. In the lungs occasional small areas of a deeper red than the surrounding substance, containing an increase in amount of blood on section, showed congestion. The heart muscle in each dog was found to be of normal color, striations distinct, no apparent increase in fat.

There were no hemorrhages in the mucosa of the stomach and intestines.

The livers were of a good color throughout, the vessels in a few places standing out a brighter red than the surrounding structure. The yellow appearance was entirely lacking, the cells throughout preserved their outlines with contents intact (Fig. 10). There was no suggestion of necrosis at any point. The protoplasm was somewhat granular and small droplets of fat were found in the cells about the central veins and in the portal spaces. This fat was only slightly in excess of that in the controls.

The kidneys were of normal size, capsule not adherent, cortex not thickened, markings distinct. Microscopically the cells of the tubules were well preserved throughout; their outlines were distinct, the nuclei staining sharply, the protoplasm granular, the tubules containing in some places some granular material. Fat globules were present in a few of the straight tubules and in the lining cells. This condition seemed no more than is normally found and no more marked than in the controls taken. The condition is well shown in Figure 11.

No pathologic changes could be found in any of the sections of pancreas and spleen. These facts seem to demonstrate that in animals, at least, ether produces practically little effect on the liver and kidney as compared with the very marked changes in these organs produced by chloroform, and, while it may be argued that this comparison has been demonstrated only in animals, the similarity between the lesions of delayed chloroform poisoning in man and chloroform anesthesia in animals makes it appear more than probable that reasoning as to the effect of ether on the liver and kidney of man, from the lesions produced by ether in animals, is entirely justified.

Impressed with the above facts, one of us in his service at the Sloane Maternity Hospital has abandoned entirely the use of chloroform during the past year, in all cases of toxemia of pregnancy or eclampsia, either for operative procedure or for the control of convulsions, and has employed ether in these conditions whenever an anesthetic was required.

During this period, aside from numerous cases of toxemia, there have been 20 cases of true eclampsia, *i. e.*, toxemia with convulsions varying in number from one to thirty-one. In the treatment of these patients no attempt has been made to control the convulsions by means of the anesthetic. This end has been sought through lowering the blood-pressure and quieting the nervous system by the use of veratrum, chloral and nitroglycerin. Ether has been used whenever an anesthetic has been required during the delivery. Former experiences with attempts to control the convulsions by chloroform proved that it was practically impossible. Recent experiences without attempts to control the convulsions by an anesthetic have given results which compare favorably with those of former methods. Of these twenty patients only one died, and she was practically moribund when brought to the hospital, with jaundice, vomiting, scanty and bloody urine and with the liver necrotic. This gives a mortality of 5 per cent. In the last twenty cases of eclampsia in which chloroform was used there were five deaths, a mortality of 25 per cent.

In a series of 20,000 deliveries previous to this last year there were 251 cases of eclampsia, with a mortality of 71, i. e., 28 per cent.

It may be asked whether or not the twenty patients in the recent series were as seriously ill as those of the previous series. Not only did it seem to us that they were as seriously ill at the beginning of treatment, one of the nineteen who recovered having thirty-one convulsions, but it also seemed that others having toxemia were perhaps spared eclamptic seizures by the avoidance of the use of chloroform in this condition. It is freely admitted that a series of only twenty cases of eclampsia is a small number from which to draw positive conclusions, but the marked effect of chloroform on the organs

usually involved in eclampsia and the slight effect of ether on these organs makes the use of chloroform in this condition seem irrational and the use of ether rational.

For the loan of the specimens from which the photographs of Figures 7, 8 and 9 were taken we are indebted to Dr. John Howland of New York.

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THE ETIOLOGY OF ECLAMPSIA*

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ECLAMPSIA A DISTINCT DISEASE

The most recent conception of eclampsia is that it is the culmination of toxemia of varied origin. Its crises are manifested by convulsions; explosions of pain, cerebral or substernal; gastric and intestinal irritation; blood or blood-vessel dyscrasia, producing pernicious anemia and hemorrhages, retinal, of mucous membranes, retroplacental, cerebral or general; or as an acute degenerative process of the liver or other organs. We wish to develop this idea to prove that eclampsia is a distinct disease, with a definite pathologic picture, that at times convulsions prove the constant feature, but not invariably so.

We may have eclampsia with a typical picture without convulsions. In such cases the eclamptic seizure is manifested (1) by a headache of agonizing, blinding type, in which the patient may become unconscious from the pain; or (2) perhaps as a burning substernal pain, which is, in our experience, an almost constant feature of the preeclamptic stage, and may also accompany the convulsive type; (3) as a form of blood disintegration in which the poison may produce an anemia, as marked as pernicious anemia, and giving the same blood picture and physical signs, perhaps somewhat more rapid in its course; (4) as an irritant poison to the blood-vessels, as well as to the blood, a condition in which the blood contains various unformed principles or such an excess of normal principles as to produce irritation and even disease and disintegration of blood-vessel walls, which conditions result in sharp hemorrhage from any of the mucous membranes, from the placental site either before or especially after delivery, and into the retina or brain substances; and (5) as a type of acute degeneration of liver substance, simulating acute yellow atrophy; under such conditions other organs may also share in the degenerative process, but not so markedly as the liver.

We then believe that any one of the foregoing conditions may exist as a type of eclamptic seizure, that such patients may have associated with these other types the convulsive effort also, but that a certain percentage of them may become unconscious and die from these causes without at any time having convulsions, and would then have died of eclampsia.

THE TOXEMIA OF PREGNANCY

Any inquiry into the etiology of eclampsia includes a study of the toxemia of pregnancy, particularly that developing after the twelfth to sixteenth week of gestation. As a constant factor in all forms of eclampsia is foun some form of toxemia of longer or shorter duratio This must be thoroughly understood in order to gras the cause of the disease.

We have been called to see a private patient whom w had not known to be either pregnant or ill and foun her in the last efforts of a severe and overwhelming co vulsion from which she died in less than twenty mi utes. This patient had been talking cheerfully to h mother within the hour, had walked up stairs to h room and on hearing her fall the family sent for a ph sician. On inquiry we found that she was about fo and a half months pregnant, that she was excessivel constipated and had had a severe headache the evenin previously. This was a toxemia of severe grade and short duration, but nevertheless, a toxemia.

Toxemia as an intermediary step between the ultimat cause and the critical manifestation, is the result some acute or chronic disturbance of a vital organ, eithe excretory or secretory. Such disturbance may be purel functional or may be constant, the latter as the resu of permanent pathologic changes. Toxemia may b classified from the organ showing the greatest amou of disturbance as gastro-intestinal, hepatic, nephriti thyroid or parathyroid, placental and fetal.

Whether this disturbance is due to the fact that som perverted metabolism in that particular organ is a pr mary cause for the toxemia remains to be proven. Th study of the pathology and the chemistry of the patl ology of these organs and their secretions or excretion however, must give us further light on the ultimat cause. In succession studies were made of the sulphate creatinin, the chlorids, lactic acid, acetone bodies, ind can, urea and of the nitrogenous principles, in orde to discover a chemical cause or defect in metabolis evidenced by some chemical changes in excretions, ou inability to study thoroughly all of the excretions bein the handicap in this direction. With the exception urea and the protein principles, these studies an theories have thrown little, if any, light on the etiolog

The work of Zweifel,[1] Ewing and Wolf,[2] William and others has, however, in the past few years fixe firmly some facts in regard to the nitrogenous excretio in the urine of utmost value in the study of eclampsi

By tracing the nitrogen in the urine back to its sourc it was found that the normal excretion in health accord ing to Folin, is as follows:

Total N in 24 hours		15.8 gm.
Urea	N	87.7 per cent.
Ammonia	N	3.3 per cent.
Creatinin	N	2.7 per cent.
Uric Acid	N	0.7 per cent.
Purin Bodies	N	0.7 per cent.
Undetermined	N	5.6 per cent.

It was found that in eclamptic patients the urea nitro gen is persistently lowered sometimes even to below 5 per cent. of the total, while usually the ammonia nitro gen is above normal, although it may be below. But a a constant factor the undetermined nitrogen is high taking up much of the lowered urea content.

From these variations we deduce the fact that some where in the organism there is a deficient changing o ammonia and amino-acids into urea. This has bee called "deficient desamidation" by Ewing, who assert

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

1. Zweifel: Arch. f. Gynäk., 1904, lxxii, 1905, lxxvi; Zentralb f. Gynäk., 1909, No. 26.
2. Ewing and Wolf: Jour. Med. Sc., May, 1906; Am. Jou Obst., March, 1907.

that the process is more than an oxidation. This work is in a great measure performed by the liver, and therefore we are not surprised to find the liver most severely involved. We should be misled however, if we considered any condition of the liver as a primary cause, for the process of "desamidation" is complex, so complex that no one organ can be responsible.

Though we are forced to admit that these studies give no definite light as to the etiology of eclampsia, yet they have proved of value in treatment and in prognosis. We have found that in those cases in which the nitrogen ratio was disturbed the greater liver involvement occurred, producing the most severe eclampsia and usually at some time, unless corrected, ending in convulsions.

Studies have also been pursued along the line of thyroid secretion. We know that normally during pregnancy the thyroid is enlarged, and its function evidently increased, and from a purely theoretical standpoint we were led to suppose that in this internal secretion was found something to help the blood and body organism combat syncytial invasion. In a certain type of cases manifested by a high grade of toxemia we find hemorrhages from the mucous membrane of the bowel, stomach and mouth and an anemia showing marked blood disintegration and leading finally to eclampsia and perhaps death of the fetus. We have found that the careful administration of thyroid extract in small doses throughout the pregnancy has in future pregnancies after several disasters produced healthy children and that the mothers are even able to nurse the babies. In this type of cases also, the nitrogen partition is markedly altered, the alteration pursuing the same general type of eclamptic urine.

In past years the kidneys were blamed for much of this trouble. We now know that the cases are few in which the breakdown of the kidney in any way acts as a primary factor. The kidneys are secondarily involved in nearly all of the cases, but they may not be so even in the course of the most severe eclampsia. When the kidneys are the primary cause, we usually find widespread arterial changes and albumin and casts in the urine. There may or may not be a change in the nitrogen ratio. And we believe that such a change of undetermined nitrogen is, under these circumstances evidence of the present status of liver involvement over and above the kidney disease. The crisis of this type may assume the form of general severe hemorrhages.

There then remains the placenta and fetus to which we can ascribe a primary cause. Eclampsia occurs only in pregnancy and is a disease developing invariably after the time of placental formation. So we find in the past few years that the papers written on placental or syncytial cause of eclampsia are legion. From an exhaustive study of these theories we believe that no one has been proved, the most plausible being that based on the work of Bergell and Liepmann[3] (1905) and Savare[4] (1907) on the ferments, and the papers of Dryfuss,[5] Mathes,[6] etc., on autolysis. The normal placenta is rich in ferments.

1. Those acting on carbohydrates.
2. Glycolytic ferments (a question).
3. Proteolytic ferments.
4. Blood-coagulating ferments (Savare).

Any perversion of these useful ferments produces widespread disaster, namely, multiple hemorrhage and changes in the entire placental functions causing, by the retention in the mother's body of unchanged principles, an excess in her blood of principles normally changed into innocuous food for the fetus, and even autolysis of the placenta itself. When we ask, however, what causes the perversion of these normal ferments, we find no answer.

Let us quote from Holland's[7] summary of these theories:

From the foregoing account, it is obvious that, during the past six years, a number of valuable facts as to the etiology of eclampsia have been discovered. It is equally obvious that a number of worthless theories have been propounded, many of which have been disproved, but which, nevertheless, have served the good purpose of paving the way for better work. As far as it is possible to draw conclusions, the following are suggested:

1. There is no special eclamptic toxin.

2. Chemical discoveries have shown that eclampsia is an auto-intoxication, in which a profound disturbance of protein metabolism plays a chief part, the nature of which now rests on a firm basis.

3. The chief toxic substances are the products of the disintegration of protein.

4. In eclampsia, intracellular ferments, especially proteolytic, are raised in activity throughout the body, causing autolysis of cells and production of the above toxic substances.

5. The primary cause of eclampsia is to be sought in the placenta.

6. As regards the connection of the placenta with eclampsia:

I. The "specific placental theory" of Veit[8] must be considered dead; the various specific placental reactions (syncytiolysis, precipitins, etc.), whether produced naturally or experimentally in animals, do not exist.

II. Placental extracts possess no special toxicity for animals, beyond causing coagulation of the blood and death from extensive thrombosis.

III. The eclamptic placenta has no special toxicity.

IV. The intracellular ferments of the placenta are increased in activity in eclampsia. In the light of present knowledge, the most probable theory of the cause of eclampsia is an intoxication of the body by the passage of ferments and autolytic products from the placenta into the circulation, the principal effect of which is increased coagulability of the blood and the activation of autolytic ferments in other parts of the body.

THE PATHOLOGY OF ECLAMPSIA

In the study of the effects of eclamptic toxins on the different organs, we find that so definite are the changes that a diagnosis can now be made post mortem without the clinical history. There are usually edema and hemorrhages in the brain. The kidneys show, in over 95 per cent. of cases, active degeneration of the parenchyma, principally the epithelium of the convoluted tubules. Even in severe cases, however, the changes may be slight. The heart shows cloudy swelling and fatty degeneration, perhaps hemorrhages and necrosis. There may be general thrombosis and hemorrhages into other organs.

We are principally concerned with the picture in the liver. The best work in this has been reported by Konstantinowitsch,[9] who asserts that the diagnosis may be made from the liver alone. This is a progressive change which first manifests itself by a degeneration of liver

3. Bergell and Liepmann: München. med. Wchnschr., 1905, No. 46.
4. Savare: Zur Kenntnis der Fermente der Placenta, Beitr. z. chem. Physiol. u. Path. (Hofmeister), ix, 141.
5. Dryfuss: Chemische Untersuchungen über die Aetiologie der Eklampsie, Biochem. Ztschr., 1908, vii.
6. Mathes: Ueber Autolyse der Placenta, Zentralbl. f. Gynäk., 1901, No. 51.
7. Jour. Obst. and Gynec. Brit. Emp., December, 1909, p. 398.
8. Veit and Scholten: Syncytiolyse und Hämolyse, Ztschr. f. Geburtsh. u. Gynäk., xlix; Zur placentaren Theorie der Eklampsie Aetiologie, Arch. f. Gynäk., lxxxvii; Ueber die Aetiologie der Eklampsie, Ztschr. f. Gynäk., l.
9. Konstantinowitsch: Beiträge zur Kenntnis d. Leberveränderungen bei Eklampsie. Beitr. z. Path. Anat u. z. Allg. Path. (Ziegler). xl.

cells in the portal spaces at the periphery of the lobule, by fibrin formation and by hemorrhages, then by necrosis and extension of the process to larger areas of liver cells progressively toward the center of lobule from the periphery.

METHODS OF DIAGNOSIS

We should leave this review unfinished should we omit the methods by which we make a diagnosis of toxemia and eclampsia. Normal physiologic pregnancy is not an uncomfortable process. The deviations may begin with a slight lassitude, even hebetude, stupor and coma, or again, with melancholia, or even mania, which are all manifestations of toxemia. Usually there are progressive headache, disturbance of the stomach, disturbance of vision and constipation. The skin is dry and harsh, the lips cracked, the mucous membranes of mouth parched and dry without fever. There may be swelling of the ankles, emaciation, or perhaps a general puffiness of the skin over the entire body or only over the ankles, hands or face; there may be epigastric or substernal pain, perhaps an exaggeration of some latent nervous phenomena, as for example chorea or insomnia.

In preeclamptic toxemia and in eclampsia the blood-pressure is usually higher than normal for that patient, ranging from 170 to 180 or even 200 mm. of mercury. In the severer forms this persists, in spite of treatment, and tends to grow more marked, until convulsions or some other crisis appears. A study of the blood-pressure record should be part of the routine investigation of every pregnant patient early in the pregnancy or better still when not pregnant, a record of the patient's normal pressure should be secured; should the patient become toxic, one of the earliest signs of toxicity is this increased blood-vessel tension.

Since the first point noticed about the urinary findings is that there is usually a markedly decreased total daily output, we would urge increased study of this point in all pregnant patients. At times the only defect may be the lowered total daily output of an apparently normal urine. The specific gravity varies, in the inverse ratio to the quantity excreted. The next point noted is the progressive decrease in the daily output of solids. This may be studied approximately by investigating the total output of urea. We have found, however, that, up to the present time, the most definite indication of any toxemic disturbance, earlier than can be secured by any other method, is found in a study of the partition of the different forms of nitrogen found in the urine. Earlier in the paper we gave the normal ratio. The average daily output varies in pregnancy from 10 to 20 gm. per day of nitrogen excreted. It seems to be not so much the lowered output of total nitrogen within a certain range, as the definite change in the relations of the different forms. A lowering of the urea nitrogen, an increase of undetermined nitrogen, and some change in the ammonia nitrogen shows a beginning toxemia. With the tendency for these changes to persist or grow worse, we find evidence of oncoming eclampsia. Albumin is present in the advanced stages of the disease. It is entirely misleading, however, to base the diagnosis entirely on albumin, since very often it is not present in severe grades of toxemia. The presence of sugar, of acetone bodies, of an excess of indican or of peptone is an indication of faulty metabolism requiring careful watching. The presence of granular epithelial or fatty casts is positive evidence of kidney breakdown.

An early examination of the retina is of importance in all toxemic cases. We recall several patients who came to us, because some defect in vision led to an eye-ground examination and the advice from the ophthalmologist to seek relief for a kidney condition. The findings are those of arterial degeneration of the retinal vessels and hemorrhages into the substance of the retina.

A careful examination of the blood of toxemic patients proves of some value. In preeclamptic toxemia and in eclampsia we find a reduction of the hemoglobin and red cells with a moderate leukocytosis, the latter, on making a differential count, showing little variation from the normal.

SUMMARY

Those ideas which will prove of value from this study are as follows:

1. Eclampsia is a distinct disease with varied manifestations and a definite pathologic picture.
2. There is some relation between the fact that an altered nitrogen ratio is found in the excretions and the fact that the liver is the organ most seriously involved.
3. A study of this progressive nitrogen disturbance may prove a guide as to the point beyond which the liver involvement cannot go and allow regeneration and recovery.
4. While no placental theory has yet been proved, the most plausible theory is that some ferment from the placenta may prove responsible as a primary cause for the condition because of deficient or deranged action.
5. Any preexisting permanent pathologic condition may prove an exciting cause and still perhaps act by disturbing placental function.
6. Eclampsia should be a rare condition in the hands of a skilful, thorough investigator.

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THE SURGICAL TREATMENT OF ECLAMPSIA*

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There seems, at this time, to be hardly any question but that women suffering from eclampsia do better if the uterus is emptied promptly on the appearance of convulsions. Carl Braun emphasized the fact that the convulsions ceased or became less severe after delivery. Dührssen showed that in 93.75 per cent., and Olshausen that in 85 per cent. such a result followed. Seitz, in a very large collection of statistics, proves it conclusively. If further proof were needed, Winter brought it, in 1909, at the congress in Budapest, where he showed that of twenty patients delivered before they had had six convulsions not one died, and in thirty-two cases, only three women were lost, while by a waiting policy, the mortalities were much greater, as follows:

Eclamptics treated expectantly with spontaneous labor, 8; mortality, 40 per cent.

Eclamptics, with expectancy till os was fully dilated, 19; mortality, 30 per cent.

Eclamptics, with mild measures used for hastening labor, (metreurysis, incisions, etc.), 32; mortality, 25 per cent.

Eclamptics with vaginal Cesarean section, 34; mortality, 9 per cent.

Eclamptics with vaginal Cesarean section immediately after first attack, 22; mortality, 0 per cent.

Bossi dilator used, number not given; mortality, 36 per cent.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

In the discussion which followed, Bossi reported 395 cases in which his instrument had been employed with a death-rate of only 9.45 per cent. In the Berlin Charité during the years from 1904 to 1909 the mortality of the cases delivered within the first six hours was only 3.8 per cent.

THE OLD AND THE NEW VIEWS

I have always taken a skeptical stand as to the usefulness of statistics and usually discard them unless they cover a long period of time and comprise very large numbers. The individual opinion of those competent to judge is much more valuable. There seems to be a trend of the formerly most conservative obstetricians, toward a more and more early operative delivery. Jaggard taught the expectant or medical treatment and this, therefore, was my own practice for many years, but added experience has convinced me that the women do better if the uterus is emptied at once. The convulsions cease more often, or grow less violent, and at longer intervals, consciousness returns earlier and convalescence is sooner established. While no special record has been kept, it seems to me that the pathologic findings in the urine disappear earlier than with older methods of treatment. One of the strongest arguments for early delivery is the immense improvement of the child's chances for life, various statistics showing that twice, and even three times as many children are saved by early delivery. Much depends on the time in pregnancy of the outbreak of the convulsions and on the method of delivery.

THE PROBLEM TO BE MET

Since it is the best policy to empty the uterus early, a discussion of the treatment of eclampsia before delivery resolves itself into the consideration of the methods to be employed in individual cases. Since removal of the child is opposed mainly by the soft parts, the subject of treatment is narrowed down to a discussion of how best to prepare a way for the child through the cervix and vulva. The method of effecting delivery depends on the period of pregnancy, the environment of the patient, the state of the cervix, the skill of the operator, and the extraneous complications such as contracted pelvis, placenta prævia, heart disease, infection, etc.

Before the seventh month, the fetus always dies, either during or soon after delivery, and it is, therefore, necessary only to obtain sufficient dilatation of the cervix for the performance of craniotomy and extraction. After the period of viability, one must try to save the infant also.

If the patient is in a well-equipped maternity hospital and a man capable of his task is at hand, immediate delivery is practiced, overcoming by operation, the resistance of the cervix and perineum. If the patient is in a private house, and the obstetrician is without skilled assistance, reliance must be placed on medical treatment and on less active surgical measures. Here, puncture of the membranes, the use of the colpeurynter, and, when the cervix is almost completely dilated, manual dilatation of the balance, with episiotomy and forceps delivery or version and extraction depending on the conditions.

THE CONDITION OF THE CERVIX

The state of the cervix is the all-governing condition so far as the choice of method of rapid delivery is concerned. If the cervix is fully dilated, or effaced and the os has a diameter of 8 cm. (about 3 in.) delivery may safely be effected at once by forceps if the head is engaged, by version and extraction if the head is movable above the inlet. In primiparæ, I prefer to force the head down into the pelvis and then apply forceps rather than do a version.

If the cervix is effaced, that is, shortened, or taken up, or obliterated, but the os not sufficiently dilated, one may easily procure sufficient enlargement of the opening by manual dilatation, or stretching the os by means of one of the mechanical dilators about which there was such a furore several years ago. Hydrostatic bags may also be used for this purpose or the thin partition between the uterus and the vagina may be incised. —Dührssen's incisions. Manual dilatation is the method of choice in this particular class of cases, then episiotomy (in primiparæ) to overcome the resistance of the perineum, followed by forceps delivery.

The greatest discussion has arisen as to how to deliver in those cases—and they are the most frequently met—in which the cervix is uneffaced, tightly closed, and not admitting even the tip of the finger. Manual dilatation, metreurysis, Dührssen's incisions, vaginal Cesarean section, abdominal Cesarean section, each has adherents. I have had experience with all these methods and in the following will give my own opinion of each.

MANUAL DILATATION

Manual dilatation of the closed cervix with delivery is an operation, which, in the olden time, was called *accouchement forcé*. It requires from one to three hours and is often painfully tiring to the fingers and hands. It is invariably attended by lacerations of the cervix, and these tears are often deep, sometimes even of the importance of a rupture of the uterus, opening the peritoneal cavity, causing death, from hemorrhage or from sepsis. In multiparæ, the lacerations are usually somewhat less extensive. In all cases, the cervix is bruised and battered, and sepsis, even in the hands of the cleanest obstetrician is sometimes unavoidable.

Philander Harris and a few other authors, take a different view of this operation, but my own experience makes me oppose it, and in this, I am supported by all the German authorities. The latter demand the following prerequisites for the operation:

1. Cervix effaced.
2. Pelvis normal.
3. Child not too large.
4. Normal presentation, position and attitude, or one that can be produced.
5. Dilatable vagina.

In a few cases I found the parts so soft and dilatable that it was possible to stretch the uterus open sufficiently for safe delivery, but these are so rare as to be truly exceptional.

METREURYSIS

By putting a colpeurynter in the lower uterine segment and exerting traction on it, two things are accomplished—uterine action is set up and strengthened and the cervix is mechanically dilated from above downward, the bag acting like a fluid wedge. In cases in which no urgency exists, metreurysis is the ideal method of opening the uterus, because it imitates most closely the natural process. In favorable cases, that is, soft cervix and large vagina (conditions rarely found in primiparæ) it is possible under anesthesia, to dilate the cervix completely in from one to two hours, but if the cervix is rigid, and tightly closed, an attempt to force it open by means of bags in this time would fail, if it did not

rupture the uterus. Unfortunately rigid cervix is a frequent complication of eclampsia, since this condition is commoner in primiparæ and women of advanced years. Contraindications to metreurysis in eclampsia are, scars of the cervix, abnormal rigidity, complete closure of the cervix in a primipara, edema of the paracervical tissues, local infection, great urgency.

One may, in selected cases, procure partial opening of the womb with the bags, and then complete the dilatation by incisions or the vaginal Cesarean section. A word of warning to those using the bags for cervical dilatation. If too much water is put into them, or too much traction put on the tube, the uterus is stimulated to over-violent action and may rupture. This is especially likely to occur in placenta prævia. I use a large Voorhees bag in preference to all others.

INSTRUMENTAL DILATORS

Bossi introduced his branched dilator in 1887, but it received no general recognition until 1898 when Leopold, of Dresden, reported seventeen cases of eclampsia treated with it. It was then very extensively employed and many modifications of the instrument invented. Bossi used it when the cervix was closed, as did many others. Now, most authors have discarded it, and Bossi, himself, at the Budapest congress, said it should be used only when the cervix is effaced. Bossi reported 395 cases of eclampsia treated by rapid dilatation with a mortality of 9.45 per cent.

In a multipara, with a soft cervix, the instrumental dilator may occasionally accomplish the purpose without laceration or with negligible injuries. In other cases more or less deep tears are inevitable and the frequency of serious injury has relegated the instrument to a very subsidiary place. I would deny its usefulness in the class of cases under consideration and agree with Pfannenstiel that, in the clinic, the dilator is superfluous; in private practice, dangerous.

DÜHRSSEN'S INCISIONS

In the class of cases being discussed, the cervical incisions are contraindicated. Only when the cervix is effaced, shortened or fully taken up, when there is but a thin partition between the uterus and the vagina, are such incisions justifiable. Before this time, the large blood-vessels have not yet been retracted upward out of reach of the cut, the peritoneum has not been pulled up, the connective tissue of the broad ligaments is still in the pelvis. If one cuts the thick cervix now, there is danger of severe, perhaps uncontrollable hemorrhage. the incision is easily torn into the peritoneal cavity, and further, the attempt to draw the fetus through the pelvis will disrupt the whole connective tissue framework of the pelvis. Dührssen's incisions are also contraindicated if the child is large or presents abnormally.

VAGINAL CESAREAN SECTION

As was indicated at the beginning of this paper, this operation has given the best results of any yet obtained. especially when it is performed immediately after the first convulsion. It is considered by Dr. H. D. Fry in one of the papers of this symposium.

ABDOMINAL CESAREAN SECTION

This operation, proposed by Halbertsma in 1889, has not obtained the recognition it deserves. The statistics collected showing 30 to 60 per cent. maternal mortality, surely give too dark a picture, for it must be remembered that only the worst cases are submitted to the operation. Newell condemns the section, but Olshausen recommends it. It saves more infants than any other method of delivery, and is to be preferred when these complications coexist: contracted pelvis, placenta prævia, marked edema of the vulva, vagina and parametrium, scars or extreme rigidity of the cervix and perineum, unusual brittleness of the cervix, enormous varicosities of the genitals, large child, abnormal presentation. In the latter cases, the vaginal section often meets with insurmountable difficulties. A less skillful operator may be able to do the classical section when he would hesitate to operate from below.

With the extra-peritoneal Cesarean section, a resurrection of the laparo-elytrotomy of the last century, I have had no experience, but am inclined to believe that the advantages claimed for it are somewhat overdrawn. The technic is more difficult than that of the classical section; hemorrhage from the incision is sometimes dangerous; the Trendelenburg posture is needed and this increases the danger of air embolism and cerebral thrombosis already exaggerated in eclampsia; extraction of the child is harder and is oftener fatal to the infant; in 21 per cent. of the 65 cases reported by Pfannenstiel, Latzko and Fraipont the peritoneal cavity was opened, and in three, the bladder was injured; sometimes the bladder cannot be safely removed from the uterus and the transperitoneal route must be taken; the labor must have progressed till the uterus has drawn the peritoneum upward and unfolded the anterior plica—this is impossible in eclampsia, which demands instant delivery; the danger of infection of the immense connective tissue spaces is probably as great as that of the peritoneum, at least suppuration has been frequently reported (Rubeska, Franz), and hernia is just as possible, Franz having already found one with the bladder and another with the cervix in it; the danger of rupture of the uterus in subsequent labor is greater than with the classic operation because the scar is in the thinned dilated portion, and further, a second Cesarean section would be very difficult through the scarred cavity of Retzius; Latzko collected 137 cases which showed a maternal mortality of 7.3 per cent., while this is considered a high figure for the classical section.

Subjects of kidney and liver disease are generally considered poor subjects for laparotomy, and the danger comes mainly from the anesthetic. By means of nitrous oxid and oxygen anesthesia, this element may be reduced to an almost negligible minimum. Given a primipara, at or near term, with a long closed cervix and living child, the patient being in a good maternity hospital, I would strongly incline to abdominal Cesarean section.

RIGIDITY OF VAGINA AND PELVIC FLOOR

In the discussion of operative delivery, the resistance opposed by the cervix only has been mentioned, but the vagina and pelvic floor must by all means be considered. Rigidity of these structures is one of the strongest arguments against vaginal Cesarean section, because even if we do the deep perineotomy advised by Dührssen, it is not always possible to avoid extensive lacerations of the vagina, the pelvic floor, the perineum, the anus and the bases of the broad ligaments.

In performing episiotomy, one should not be afraid of cutting deeply into the levator ani muscle, because this can be accurately sutured, whereas, if brute force in delivery is used, the muscle may be torn from the bony attachments—an irremediable injury. Where only

slightly more room is needed, this may be obtained by stretching the muscle with the fingers or fist, but I have seen deep lacerations of the parts produced thus as well as by the head. I recommend the medio-lateral episiotomy and am not sparing with the incision.

A strong distinction must be made between hospital cases with an obstetric surgeon in charge and private practice by a general practitioner. For the latter, slower methods of treatment are to be recommended, first rupture of the membranes, then hastening the delivery as much as is safe, by metreurysis, manual dilatation, and, when the cervix is thoroughly effaced, incisions if necessary.

SURGICAL MEASURES

Venesection is a surgical procedure, but will probably be spoken of under the heading "medical measures," as also will saline solution administered hypodermically. Care should be taken with the dosage of saline solution, as edema of the lungs may be superinduced. Newell in one case transfused human blood.

Of the surgical measures special mention is to be made of decapsulation of the kidneys, first proposed by Edebohls. Chirié, in June, 1909, collected thirty-three cases of renal decapsulation, and finds that in only one-half of the patients do the convulsions cease after the operation, but many authors note that they are less severe. Unanimous accord exists regarding the postoperative diuresis—the amount of urine almost always increases, and there is decrease of the albumin casts, etc., and augmentation of the urea and solids. The edema subsides rapidly and consciousness returns quicker. The wounds heal well if due attention is paid to asepsis, but several instances are noted of suppuration due to dislocation of the dressings during convulsions and restlessness—one fatal case of infection and one fatal case of iodoform poisoning from gauze used in packing. In the one case in which I was consulted, the convulsions ceased, diuresis improved, but the woman died in coma three days after operation. It is impossible at the present time to pass judgment on this procedure, and also on the advisability of nephrotomy in addition to decapsulation. Sippel and a few German authors perform and recommend it. It is occasionally done in England and America. It has not had a fair trial since only cases that prove refractory to all other methods are submitted. Considering what we know of the causation of eclampsia, the operation is not rational, but it is perhaps as reasonable as any one of our other "specific" remedies. Chirié, in his thirty-three cases, found sixteen deaths, which is not encouraging. The literature will be found in Chirié's article, *Obstétrique*, June, 1909, and in the *Edinburgh Medical Journal*, May, 1909. Johnsen, in the *Deutsche medizinische Wochenschrift*, January, 1910, says that forty-two cases are on record with eighteen deaths. The general mortality of eclampsia is not as high as this.

ANESTHETICS

Early in my practice I learned two facts: one, that morphin given to eclamptics killed many of the babies and prolonged the postpartum coma, and the other, that chloroform is a very dangerous drug in eclampsia. It causes acute yellow atrophy of the liver and cardiac paralysis, acute and chronic. Whereas, I formerly advised anesthesia for every vaginal examination or manipulation to prevent a convulsion resulting from the local irritation, I now restrict anesthetics and narcotics to an irreducible minimum. For the operative delivery, I have used ether, but for Cesarean section I employ nitrous oxid and oxygen, because the child is delivered so rapidly that the preliminary asphyxia is of no moment. Cragin and Ewing also have emphasized the dangers of chloroform.

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VAGINAL CESAREAN SECTION *

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The history of vaginal Cesarean section is recorded in the last decade of obstetric literature. To Dührssen belongs the credit of having introduced the operation to the notice of the profession, while he and his German confrères have done much to elucidate the indications and technic of the operation. The result secured by them in the treatment of eclampsia by vaginal Cesarean section has reduced the maternal death-rate to a lower figure than that obtained by any other line of treatment. Fully nine-tenths of the literature on the subject is published in the German language. The United States comes second. A few articles are found in the French, Spanish and Italian languages.

In 1903 J. M. M. Kerr[1] published a report of a case of vaginal Cesarean section. Impressed with the value of the operation in the treatment of eclampsia, N. T. Brewis determined to employ the method in the next suitable case, and three years later reported to the same society six operations.

NOT IN GENERAL FAVOR

Stamm, of Fremont, Ohio, was the first to bring it to the attention of the profession in this country. Since then papers have been published by sixteen authors in the United States, who, with one or two exceptions, have endorsed the operation and recognized its value. In the discussions that have occurred on these various papers in our medical societies the general tone of debate has been against the operation. As a rule one will notice that the objections are based on theoretical grounds and the objectors have had little or no experience with the operation. In spite of opposition, however, favorable reports continue to appear and new advocates of the operation recognize and advise its performance. Palmer Findley prophesies that it will remain in general favor with only a few obstetricians and that, in the light of reported cases, the scope of the operation will be limited and vaginal Cesarean section will be little practiced.

He compares vaginal Cesarean section unfavorably with abdominal Cesarean section in eclampsia, on the ground that the latter is time-saving and the dangers less to the infant. The saving of time is questionable. It may take two or three minutes more to deliver the infant by vaginal Cesarean section, but the completion of the operation can usually be accomplished as soon as or more quickly than abdominal Cesarean section. When the mother is suffering from eclampsia the infant is already toxemic and generally is born dead, or dies soon after delivery. The difference of a few minutes in favor of delivery by abdominal Cesarean section will change the result for the infant too little to counterbalance the increased maternal mortality of the latter operation. The shock of abdominal Cesarean section

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Kerr, J. M. M.: Tr. Edinb. Obst. Soc., 1903.

added to the dangers of the operation on toxemic patients will give a higher maternal death-rate than when performed for other indications. Consequently we should not consider the favorable maternal death-rate of abdominal Cesarean section performed for different conditions as applicable to the situation presented when the mother is suffering from eclampsia. Edgar and Hirst quote the statistics of Charpentier for abdominal Cesarean section performed for eclampsia with a maternal mortality of 36.26 per cent. Hillman collected data on 40 operations with a mortality of 50 per cent. for the mothers and 45 per cent. for the infants. Olshausen has a mortality of 33.3 per cent.

INDICATIONS FOR THE OPERATION

The indications for vaginal Cesarean section presupposes a rigid os and undilatable cervix, and it is a valuable operation under the circumstances when the conditions point to the rapid evacuation of the pregnant uterus in the later half of gestation. Exceptionally it may be called for before that period, but it then is performed in the interest of the mother alone. The prompt termination of pregnancy may be required in the interest of the mother, or of the infant, or of both. The life of the unborn infant is so dependent on the welfare of the mother that disease compromising her life is liable to destroy the former. When toxemia has reached a degree that endangers the mother's life the same intoxication threatens to destroy the infant; when the loss of blood from accidental hemorrhage, or when advanced organic disease of the heart, with failure of compensation, threatens the life of the mother primarily it jeopardizes that of the offspring secondarily. Labor complicated by an undilatable condition of the os and cervix, physiologic or pathologic, endangers the infant primarily and the mother secondarily. Labor complicated by prolapse of the funis through a cervical canal unprepared for prompt dilatation compromises the safety of the infant and not that of the mother.

The indications under consideration for the employment of vaginal Cesarean section are restricted to its use in the treatment of eclampsia. These indications are viewed from the standpoint of the obstetrician and of the obstetric surgeon. Two years ago I read a paper in Chicago, before this Section of the American Medical Association, in which I presented my reasons for advocating prompt delivery in the treatment of eclampsia. This phase of the subject is presented to you to-day by other participants in the symposium, so my line of thought will take up for consideration the indications for vaginal Cesarean section from the standpoint of the obstetric surgeon.

To accomplish rapid evacuation of the pregnant uterus in the latter months, or at the expiration, of gestation we must recognize two important, cardinal steps in the operation: first, the dilatation of the cervix; second, the delivery of the infant.

The methods of delivery of the infant, whether by forceps or version, belong to the domain of the obstetrician. The consideration of the indications for vaginal Cesarean section from the standpoint of the obstetric surgeon presupposes that we have to deal with an intact and undilatable cervix. The cases are represented usually by primiparæ in the latter months of pregnancy and constitute that difficult class of patients in whom the obstetrician recognizes the complications to be met in the quick artificial dilatation of the cervix. Before considering artificial methods of rapid dilatation let us study briefly the natural method.

NATURAL METHOD OF CERVICAL DILATATION

Nature has one way to accomplish this purpose, and it is not done rapidly, but slowly, gradually, gently and without danger to the integrity of the soft parts. The intermittent force of the uterine contractions drives the bag of water against the point of least resistance, the center of the lower segment of the uterus represented by the internal os. Hydrostatic pressure from above, aided by the antagonistic action of the uterosacral and uterovesical ligaments, exerted antero-posteriorly, constitute the dilating mechanical forces.

Physiologic changes of great importance are the progressive thinning of the lower segment and the softening and dilatability of the tissues produced by engorgement of the pelvic blood-vesssels and the transudation of serum between the muscular fibers of the lower segment of the uterus and cervix. As resistance to the dilating forces is diminished the internal os opens wider; the cervix is effaced; the external os is dilated, and finally the canalization of the cervix is completed. Dilatation begins by obliteration of the canal from above downward. A funnel-shaped depression beginning at the site of the internal os increases in diameter and depth until the cervix has disappeared and the uterine cavity is separated from the vagina only by the external os.

ARTIFICIAL METHODS OF CERVICAL DILATATION

No method of artificial dilatation can be instituted that will meet the conditions mentioned in the natural method. Formerly manual dilatation was the only resource of the obstetrician and the result could not be accomplished by this method gradually, gently and without danger to the integrity of the soft parts. The very first requirement *viz.*, that of quick dilatation in the treatment of eclampsia is contrary to the laws of Nature; but these must be sacrificed. Dilatation by the manual method cannot be accomplished quickly in these cases, as its advocates admit that from forty minutes to an hour or longer is necessary to accomplish the purpose.

The Bossi dilator was introduced because the force obtained by the hand was insufficient. By the aid of this powerful instrumental dilator time is saved and the canal is quickly opened. Not only is the integrity of the soft parts endangered by the forcible manual or instrumental dilatation of unprepared tissue, but the life of the eclamptic patient is further jeopardized. The unfavorable results of *accouchement forcé* in the treatment of eclampsia are largely due to the aggravation of the disease by the reflex influence of forcible stretching of the cervix.

We must admit that every effort to effect quick dilatation and the termination of pregnancy opposes the laws of Nature. But disease is opposition to those laws and we must fight eclampsia by illegitimate means. These means are, first, the termination of pregnancy which is furnishing the source of the toxemia; second, the rapid dilatation of the cervical canal; third, the rapid extraction of the infant. The prompt termination of the first stage of labor is the principal difficulty to be overcome, and we have seen that manual and instrumental dilatation are objectionable.

How then can we quickly dilate an intact, unprepared cervix without subjecting the patient to the injurious influences of forced mechanical stretching? Manual and instrumental dilatation will not accomplish that result. Vaginal Cesarean section fulfils the indications better than any other method. The unprepared

tissues are cut and the wound opened without danger to the integrity of the soft parts. The cervical canal is dilated without forcible stretching and the eclamptic patient is saved from injurious reflex disturbances. A clean-cut surgical wound is left to be repaired instead of bruised and torn tissues.

THE VALUE OF VAGINAL CESAREAN SECTION

The objections to the operation are based on faulty technic and may be overcome. Sepsis, injury to the bladder, opening the peritoneal cavity anteriorly or posteriorly, extension of the incision by tearing, and hemorrhage cannot be placed to the discredit of the operation, but to that of the operator. The danger of infection is no greater in this operation than in any other performed on the birth canal of the pregnant woman, and no greater than that encountered in forcible manual and instrumental dilatation.

Injury to the bladder can be avoided by careful separation of the organ from the cervix. The connective tissue binding the bladder to the cervix is softened and loosely attached during the latter months of pregnancy except in the median line. The closer attachment in the median line is the uterovesical ligament. By cutting this central attachment and carefully working beneath the tissue and close to the cervix, danger of injury to the viscus is obviated.

Opening the peritoneal cavity in front or behind can result only from the careless extension of the incision beyond the needs of the case. Extension of the incision by tearing is due to one of two causes: either the incision is not carried up through the internal os and the wound opened sufficiently before delivery by forceps or version, or the extraction of a large infant at or about full term with only the anterior incision of the cervix, which alone is sufficient in premature cases.

Very little hemorrhage follows the separation of the bladder and still less from the incisions of the cervical tissue. Post-partum hemorrhage is prevented or controlled by the hot sterile douche and gauze tamponade of the uterine cavity. I have experienced one complication of the operation not heretofore mentioned. I performed vaginal Cesarean section on a primipara at the thirty-fourth week of gestation. Active treatment for pre-eclamptic toxemia had been instituted for eight days when the patient was seized with a convulsion. She was immediately removed to the operating-room and vaginal Cesarean section was performed, the anterior incision of the cervix only being required. The infant was born alive and lived three months. The mother remained in coma for ten hours and afterward was making a satisfactory convalescence when, on the seventh day, she had a most severe secondary hemorrhage. A large quantity of coagulated blood was removed from between the bladder and cervix and the cavity irrigated with hot sterile salt solution and packed with gauze. No fever followed and healing of the surfaces was complete. Objections to vaginal Cesarean section on the ground that rupture of the uterus may occur in subsequent labor conjure up an imaginary danger that has never been realized yet.

WHO SHOULD OPERATE?

By whom should vaginal Cesarean section be performed? I am led to take cognizance of this question because advice has been given that the general practitioner should be familiarized with the technic of the operation and be taught to perform it when necessary. It goes without saying that no one should attempt the operation without being familiar with the technic, and yet in this day of brilliant surgery the temptation is so great that "fools rush in where angels fear to tread." It needs little or no encouragement to transport the twentieth century physician from his graduating exercises to the operating-room. Men who practice general medicine and use the pen more than the knife are only too prone to undertake all manner of surgical work. I have been informed of four or five instances—and two of them came under my personal knowledge—of men who had attempted the operation and abandoned it because they were not familiar with the procedure. I recognize the fact that throughout the length and breadth of this great land of ours there are many self-reliant men, often indeed pioneers in surgical work, who are practicing the profession in sparsely settled country districts. Necessity makes them surgeons as well as physicians and against such men undertaking vaginal Cesarean section I raise no dissenting voice provided they have surgical skill and know how to do the operation. The difficulties of the operation are not great to any one who is familiar with the anatomy and surgery of the pelvic organs, but it should not be performed by the general practitioner unless he is experienced in surgery, otherwise more lives will be saved and less invalidism result by adhering to the older methods of treating eclampsia.

1909 Q Street, Northwest.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DAVIS AND FOULKROD, CRAGIN AND HULL, FRY, PETERSON AND DE LEE, CONSTITUTING A SYMPOSIUM ON ECLAMPSIA

DR. HENRY SCHWARZ, St. Louis: The report on the changes caused in the liver of dogs by chloroform narcosis is of great interest and will make us hesitate to use chloroform in cases of eclampsia, for fear of lowering the resisting power of our patient. We all agree that we should try to prevent eclampsia rather than to cure it. I am sure that in the case of women who place themselves under medical supervision early in pregnancy, the frequency of eclampsia has been much reduced. A great many women in city and country are delivered by midwives; much would be gained if the medical profession could educate the public so that these women would learn the necessity of placing themselves under medical supervision during pregnancy, even if they continue to be delivered by midwives. Great good would be accomplished if the urine were examined once a month during the first half, and twice a month during the second half of pregnancy. All organs of elimination, the skin, the kidneys and the bowels, should be kept in perfect working order; pregnant women should learn to live on mixed diet. Plenty of vegetables, plenty of fruit, plenty of cereals, little meat and plenty of pure water will do a great deal to prevent eclampsia.

DR. ERNST G. ZINKE, Cincinnati: The pathology of eclampsia has been well presented; but the problem still remains unsolved. It is also a serious question which mode of treatment has contributed most to the reduction of the maternal—and fetal—mortality of this frightful obstetric complication. In my own opinion prophylaxis is of the greatest importance; and intelligent medical treatment, when convulsions supervene, has contributed more to the reduction of the maternal—and fetal—mortality than all the surgical interventions designed for emptying the uterus. In this view I am well supported by authors and practitioners at home and abroad. He who has had years of experience in the practice of obstetrics, will readily admit that many patients with puerperal convulsions have recovered when left alone. In some instances spontaneous delivery has occurred, even with the child living. These cases are not at all isolated. I can portray to you a

picture which I observed in one of the European hospitals nineteen years ago. The impression it made on me has never been obliterated from my mind. This particular patient was left to herself in bed, with only a nurse at her side who saw to it that the patient did not hurt herself as she went from one convulsion into another. The attacks exceeded 100 within three days; and yet, she delivered herself spontaneously and recovered. When I witnessed this performance I thought to myself, that the man who would pursue this mode of treatment of puerperal eclampsia in this country would run the risk of being tarred and feathered. And still it teaches a lesson not to be regarded lightly. Some of you, no doubt, have seen cases of puerperal eclampsia, occurring in the seventh or eighth month, from which the patient recovered, after several seizures, under medical treatment, the pregnancy remaining undisturbed until term, and terminating spontaneously and favorably for both mother and child. This is the other side of the picture, and I merely present it to call attention to the fact, that surgical intervention, though necessary at times, is not the prime factor in the treatment of puerperal eclampsia, and that, if there is a reduction in the mortality of this disease between the present and the past, surgery has contributed little or nothing to it.

DR. J. H. CARSTENS, Detroit: We all admit that we know nothing about convulsions either in children or in adults; that one patient will have one convulsion and die, another will have a hundred and recover, and that another will die after ten or fifteen. We know that with one convulsion the patient may become paralyzed, or may lose one of her senses. We must know that the sooner we stop the convulsion the less liable is the patient to be injured. Now, the fact that my friend from Cincinnati has seen an isolated case in which they left the poor woman for three days and she recovered does not relieve us from the guilt of bad practice when we fold our hands and roll our eyes to heaven and say, "The Lord's will be done." What in the name of heaven are we here for? What is to cure the toxemia? The quickest way is to deliver the woman. Ninety-five per cent. will not have any convulsions after delivery, and those few cases that do occur after delivery simply point to the rule that the convulsion is stopped when the woman is delivered. The quickest method of delivery is the best. If we decide that the method which Dr. Peterson has so beautifully described is the proper one, it is up to everybody to learn that. Every one of us who has had much experience will only be too delighted to show the general practitioner the technic of the operation. We all cut into the bladder once in a while even now with all our experience, and if the poor general practitioner will save that woman's life I will forgive him, if he does the same, for a live woman is better than one that is buried six feet under the ground.

DR. F. J. PLONDKE, St. Paul: It is true that after delivery in the majority of cases the convulsions cease. There are, however, a certain number of cases in which they continue, and in still others they do not develop until after delivery has taken place. We have heard to-day that, while we do not know the exact nature of the toxins causing puerperal eclampsia, we do know that they are found in, and are distributed by, the blood-current, and that sooner or later they cause irritation of the liver and kidney cells. Taking this for granted the indication for treatment, whether the convulsions develop before or after delivery, are the same; viz., to eliminate as much of the poison as possible, and neutralize, by dilution or otherwise, what remains. I have met these indications in a number of cases during the past two years by opening a vein and inserting a glass cannula in the distal end, through which blood is allowed to flow away; through the same opening, but into the proximal end, another cannula is inserted through which physiologic salt solution is carried into the vein. The amount of blood withdrawn, ranging from 15 to 30 ounces, depending on indications (usually about 10 ounces), was allowed to flow away before the introduction of salt solution was begun; from 1 to 2 quarts of salt solution was used in each case.

I have used this treatment in ten cases; seven puerperal and three of convulsions in chronic nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear.

I realize that these are only a few cases from which to draw a conclusion, but the results have convinced me that the treatment merits further trial.

DR. T. M. BURNS, Denver: I wish to make a few remarks on the lack of danger in the use of Cesarean section for eclampsia. During the last five months I assisted at one operation and performed the operation nine times. Only two of the operations were for eclampsia, but in both of these we had excellent results. The operation of Cesarean section *per se* is without any shock whatever. The immediate results are perfect. We get a living child and the mother is just as good after the operation as before. The patient gets up in better condition than from any other abdominal operation. Even in the infected cases hysterectomy is unnecessary. Skilled assistants are essential, especially in giving the anesthetic and taking care of the baby.

DR. M. I. ROSENTHAL, Fort Wayne: From the standpoint of the gynecologist this operation presents another advantage which I believe will bear emphasis. Lacerations of the cervix frequently do not amount to anything, are easily repaired and are not of serious significance. A deep laceration laterally in the cervix extending up into the vault of the vagina, making a tear into the broad ligament, is a very serious thing, however. You have formed a fibrous tissue in the broad ligament, and chronic invalidism is produced which you are not able to reach by plastic operation. Such a tear in the broad ligament produces a very serious condition. This operation fixes the trauma in the cervix at a point where it is rather an immaterial affair, so that if it does not heal it can be repaired or left as it is.

DR. C. A. RITTER, Kansas City, Mo.: Among the most important questions requiring attention and demanding a rational answer is, Where, when, and how are we first to detect the danger-signals of eclampsia, and what are the prophylactic measures best calculated to furnish protection to the pregnant woman? In order that the greatest safety may be given her, she should be placed under the care of a physician from the earliest weeks of gestation to the close of the puerperium. It is our duty as physicians to educate the public, showing the necessity of more extended time and attention being given the prospective patient as she travels along the border line between health and disease. By early placing her under the care of an attendant, many of the worst complications of eclampsia may be prevented. We assert that the symptomatology of eclampsia is shot through and through with danger signals of sufficient importance to enable the close observer and intelligent physician to institute prophylactic treatment, and thereby modify or cut short the severity and dangers of the eclamptic storm. As to preventive treatment, diet and elimination, the latter by the way of skin, kidneys and bowels, is of greatest importance. I have received benefits from doses of veratrum, using six to ten drops hypodermatically. In the above dosage, we reduce arterial tension, securing the full physiologic benefits in the way of diuretic, diaphoretic, and antipyretic action. I have had good results in withdrawing from 10 to 20 ounces of blood, replacing the same with similar amount of physiologic saline solution. The choice of operation depends on the character of the individual case. It is impossible to lay down any hard or fast rules. Manual dilatation, with delivery of child by version or forceps extraction, great care being exercised to reduce shock and traumatism to the minimum, is the operation largely employed in the private practice, while vaginal or abdominal Cesarean section is more frequently adopted in hospital work.

DR. C. FOULKROD, Philadelphia: Dr. Carstens spoke of the expectant treatment. We have the records of the Stroganoff method in which the patients are put in a quiet room, the bowels kept open and good results are obtained. Then there is the argument advanced that if a toxemic patient is taken early enough, put to bed, given a milk or peptonized milk diet, she will not have convulsions. I have seen patients

treated in this way come back almost from the grave. Stroganoff says that if we let the patient alone Nature will take care of the separation and the delivery of the baby by the cutting off of the placental circulation. I am inclined to deliver because I think my results have been better. If bleeding is needed I find the results are better if this is done after delivery.

DR. E. T. HULL, New York: Bleeding used to be done at the Sloane as a routine. Since then better results have been obtained by the use of veratrum viride and nitroglycerin as outlined, repeating the dosage if necessary to get the desired result. It is well recognized that once the blood-pressure is down and once the pulse is slow, convulsions will no longer occur. If we were not able to bring about this condition by medication, then bleeding might be done, but that is very rarely necessary. In the third stage, bleeding may be allowed from the uterus with the idea of getting rid of toxins. As far as introducing salt solution is concerned I think that has to be done cautiously. With an overwatery condition of the blood one of the dangers is increased, that of edema of the lungs.

DR. H. D. FRY, Washington, D. C.: When these cases have reached the point of eclampsia they have gone too far to talk about preventive treatment. In regard to the let-alone plan of treatment the statistics have shown that surgery does a great deal of good in these desperate cases; that the mortality has been reduced by immediately emptying the uterus by surgical means and not using the expectant treatment. The mortality under the expectant treatment is between 30 and 40 per cent., and by immediate delivery, between 3 and 7 per cent. I was much surprised last month to hear Dr. Hirst read a paper advocating medical means in preference to emptying the uterus. He is the only obstetrician whom I have known to recently bring out such a view.

This sleight-of-hand technic described by Dr. Peterson, in which now you see the bladder and now you don't, is very alluring. It is easy with a piece of gauze to push the bladder out of the way, but you cannot ignore the uterovesical ligament. Dr. Bandler in his paper this morning brought out an important point in this connection showing how to avoid injury to the bladder. An important step when taking off the forceps is to pass a heavy ligature to hold the bladder back, and to act as a guide in bringing the cervix down.

I always drain, putting in gauze. In regard to chloroform, I saw a case some time ago which emphasized the dangers of using this anesthetic. The woman was delivered with forceps in the right occipitoposterior position, chloroform being the anesthetic. The lacerations were afterward repaired and the patient got along beautifully until the third day. She had had no symptoms of toxemia and the urine was perfectly clear. In thirty-six hours she was dead. The urine had been examined repeatedly without finding albumin or casts or the slightest trace of trouble with the kidneys. It was a plain case of liver poisoning from the use of chloroform and that case taught me a valuable lesson.

In a case of eclampsia with the woman undelivered the best way to bring down the blood-pressure is to empty the uterus. The blood-pressure may be brought down by bleeding, by giving veratrum viride or by rupturing the membranes; but the quickest way is to empty the uterus.

Double Pregnancy in a Uterus Didelphys.—An instance of a double pregnancy in a uterus didelphys is reported by M. Rochard (*Progrès méd.*, Nov. 5, 1910): The woman was admitted to the hospital with symptoms of an imminent abortion. On examination the vulva, vagina and colon were found to be normal, but the uterus was much enlarged, especially laterally. In Douglas' pouch was found a soft painful mass which was thought to be a swollen tube. An urgent laparotomy showed a uterus didelphys with a six weeks' pregnancy in each corpus. Each uterus communicated with a single opening and had a single ovary. On account of the probability of serious accidents in such cases if left to go to term it was deemed prudent to do a hysterectomy, which was followed by rapid recovery.

THE PREVENTION OF INFANT MORTALITY *

GOTTFRIED KOEHLER, M.D.
Assistant Commissioner of Health
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CHICAGO

The importance of preventing sickness and death in infancy has been generally recognized during the last decade by many European countries. In our country this problem has been growing, and when carefully analyzed is found to be really of greater magnitude than the problem of preventing tuberculosis, when considered from the standpoint of deaths involved. The organization of the American Association for the Study and Prevention of Infant Mortality, in November, 1909, has resulted in a more general recognition of conditions in this country, and has been followed by efforts to deal with the existing conditions, together with their causes.

Sanitarians hold that the infant mortality rate is a test of real sanitary accomplishment. Sir John Simon pointed out that a high infant mortality rate indicates the existence of evil conditions in the homes of the people. George Newman, in the preface of his recent treatise on this subject, concludes that the loss of infant life is in some way intimately related to the social life of the people.

The young of all animals are more susceptible than the adult to the influences of unfavorable circumstances in the environment. With advancement in civilization, the infant death-rate should become less. Man has succeeded in guarding judiciously against the death of the young in his domestic animals, but has not succeeded equally well with his own race. Comprehensive statistics are not available on the death-rate of young cows and horses, but we feel safe in making the assertion that the rate is lower than the infant mortality rate. In the registration area of the United States nearly one-fifth of all deaths is of infants under one year, and one-fourth of the total mortality is contributed by deaths of children under 5 years of age.

In Chicago the total deaths during 1909 were 31,300; of this number 9,368 were in children under 5 years, and 6,357 in children under 1 year of age. Thus the deaths in children under 5 years constituted approximately one-third of all deaths.

STUDY OF INFANT MORTALITY STATISTICS

That the cause must be known before a remedy can be applied is a well-established rule in medical practice. Sociologic problems have to be dealt with in the same manner. Thus before suggesting preventive measures, it behooves us to make a survey of the existing conditions and study them in relation to prevailing etiologic influences.

The general death-rate from all causes in this country and nearly all other civilized countries has been steadily declining, while the infant mortality rate has remained stationary, or at least has shown no material reduction.

For purposes of comparison Table 1 from Newman, contrasting the birth-rate, death-rate and infant

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-First Annual Meeting, held at St. Louis, June, 1910.

mortality rate of the principal European countries during the last and previous decade, is useful.

Table 2 shows the infant mortality in Chicago, compared with other American and European cities.

The studies of Newman on the distribution of infant mortality show that the rate is higher in cities than in rural communities. The diagram (Fig. 1) from Devine contrasts the infant mortality rates in the city and country.

TABLE 1.—BIRTH-RATE, DEATH-RATE AND INFANT MORTALITY RATE OF PRINCIPAL EUROPEAN COUNTRIES

	Birth Rate		Death Rate		Inf. Mort. Rate		
	1883-92	1893-02	1883-02	1893-02	1883-92	1893-02	03
England and Wales	31.9	29.3	18.9	17.6	144	152	132
Scotland	31.8	29.9	19.2	18.0	120	127	...
Denmark	31.6	29.9	18.7	16.5	135	133	...
Russia	48.4	48.8	34.6	32.9	270	272	...
Germany	36.6	36.9	24.7	21.5	...	195	...
Prussia	37.2	36.5	24.2	21.2	207	199	194
Austria	37.7	37.2	29.1	25.9	...	227	...
Hungary	45.5	39.9	32.3	26.3	...	224	212
Netherlands	33.7	32.3	20.9	18.5	176	152	135
Belgium	29.8	28.9	20.7	18.3	161	157	155
France	23.4	22.0	22.2	20.8	167	158	...
Spain	36.0	34.7	31.9	28.7	...	190	...
Switzerland	27.8	28.2	20.3	18.5	160	145	133
Italy	37.5	34.2	26.9	23.3	209	173	...

TABLE 2.—PROPORTION OF INFANTS WHO DIE BEFORE REACHING THE AGE OF ONE YEAR. DATA FOR CERTAIN LARGE CITIES FOR THE DECADE 1898-1907

Cities	Births	Deaths Infant	Per cent.
Buenos Aires	335,654	33,305	9.9
Paris	539,372	61,084	11.3
Chicago	457,604*	55,564	12.2
Amsterdam	149,922	18,483	12.3
Rome	119,674	15,786	13.2
London	1,195,668	187,593	14.5
New York (M. & B.)	610,360	98,661	16.1
Brussels	41,751	6,954	16.7
Hamburg	204,467	35,499	17.4
Vienna	509,918	92,964	18.2
Warsaw	247,135	45,243	18.3
Venice	39,725	7,307	18.2
Berlin	496,702	100,033	20.1
St. Petersburg	382,270	98,317	25.7
Moscow	380,727	131,605	34.6

*Estimated for intercensal years.

TABLE 3.—CAUSES OF DEATH AMONG CHILDREN UNDER ONE YEAR OF AGE FOR THE FIVE-YEAR PERIOD, 1904-1908

	Total	Per cent. of total under one year
Diarrheal disease group	12,176	39.8
Diarrheal diseases*	9,709	31.7
Convulsions	2,019	6.6
Gastritis	448	1.5
Congenital defects and accidents	7,362	24.0
Premature birth	2,474	8.1
Congenital debility	2,307	7.5
Injuries at birth	409	1.3
Other congenital defects	2,172	7.1
Impure-air disease group	6,298	20.6
Pneumonia	4,308	14.1
Bronchitis	1,896	6.2
Influenza	94	0.3
Four chief acute contagious diseases	993	3.2
Whooping-cough	541	1.8
Measles	195	0.6
Diphtheria	161	0.5
Scarlet fever	96	0.3
Meningitis (simple)	722	2.4
Tuberculosis (total)	486	1.6
Meningeal	195	0.6
Pulmonary	183	0.6
Other	108	0.4
Venereal disease	386	1.3
Syphilis	368	1.2
Gonorrhea	18	0.1
Violence (total)		
Sunstroke and heat prostration	27	0.09
Suffocations (overlying, etc.)	75	0.25
Other accidents	84	0.27
Homicide	107	0.35
Diseases of urinary system	...	0.6
Nephritis (acute)	146	0.5
Other urinary diseases	47	0.1
Rickets	146	0.5
Tetanus and trismus nascentium	100	0.3
Total deaths under one year of age	30,598	

* Diarrheal diseases include cholera infantum, summer complaint, dysentery, diarrhea, gastro-enteritis, enteritis, etc.

An analysis of infant mortality in Chicago, as to the causes, distribution and relation to environmental conditions, is given in Table 3.

An analysis of the age distribution of children who die before completing the first year of life shows that approximately 7 per cent. die in less than twenty-four hours after birth, at an average age of 4 hours, 41 minutes; 14 per cent. in from one to seven days, at an average age of 2 days, 17 hours; 53 per cent. in from seven days to six months, at an average age of 2 months and 10 days; and 26 per cent. when between 6 months and one year of age, at an average age of 8 months and 15 days. The average age of those dying before reaching the age of one year was 3 months and 19 days.

Out of an approximate total of 152,500 born in Chicago in the three years 1907-1909, 1,447, or 9.5 per thousand, died in less than twenty-four hours after birth; 4,354, or 28.5 per thousand, died in less than seven days; 14,479, or 96.8 per thousand, died in less than six months; 20,012, or 131 per thousand, died before completing the first year of life. Chicago's record is much the same as other large American cities.

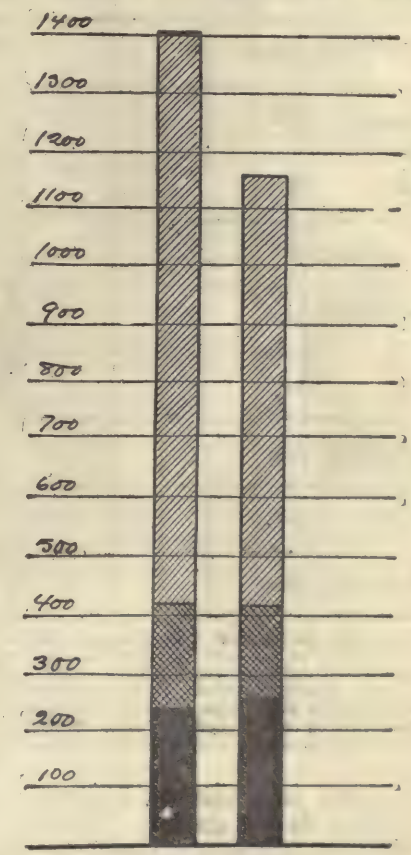


Fig. 1.—Infant mortality rates per 10,000 births in 1902.
Under 1 year, London, 1,403.0; rural counties, 1,158.8
Under 1 month, " 417.5; " 414.6
Under 1 week, " 240.5; " 258.8

The effects of population congestion, nationality, sanitary conditions and other environmental influences affecting infant life, are portrayed in a striking manner by the spot maps and diagrams of the Chicago Health Department which are herewith presented.

On the outline ward map of Chicago (Fig. 3) are shown the location of 1,570 infant deaths by means of spots. These spots are thickest in the areas of greatest density of population, and out of all reasonable proportion to the number of inhabitants or to the number of births occurring in these areas. They are thickest where the Lithuanians, Poles, Bohemians and Italian people are present in large numbers. They are thickest where the sanitary conditions are bad, where poverty and ignorance are most prevalent, where factories, in which many of the mothers or expectant mothers are employed, crowd close on the homes.

A study of the infant mortality statistics with relation to the nationality of mothers shows some startling conditions: Children of Lithuanian, Polish, Hungarian, Bohemian, Italian and Austrian mothers die in far greater ratio than do the children of mothers of other nationalities. The difference is shown in Figure 4.

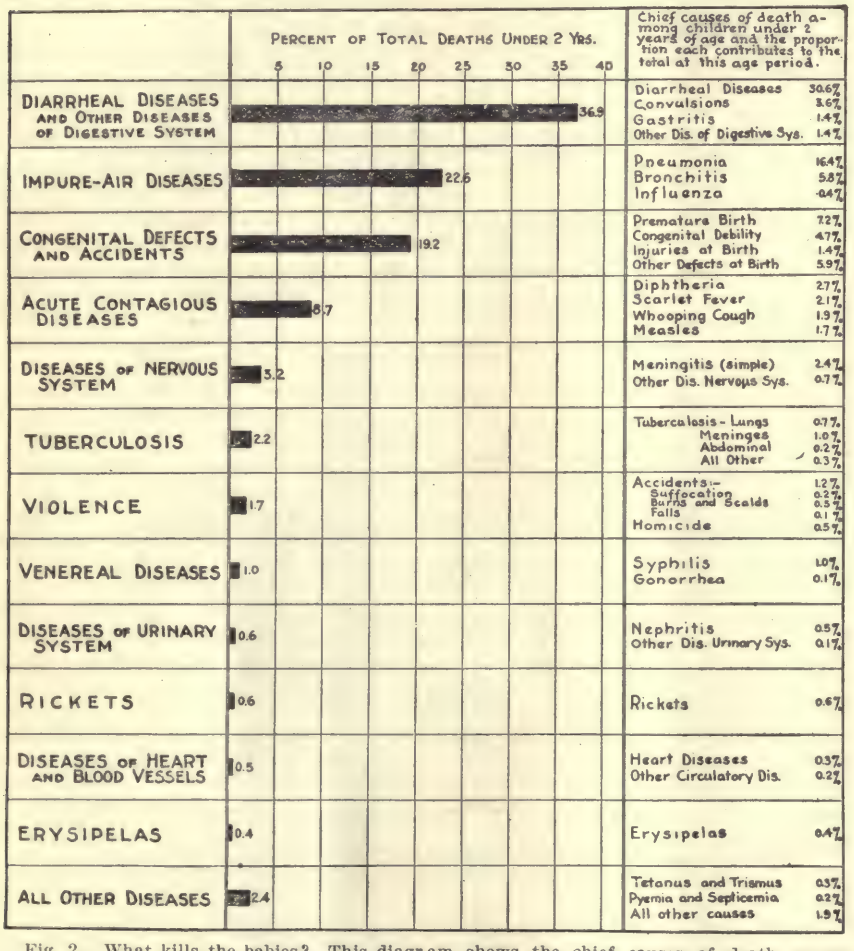


Fig. 2.—What kills the babies? This diagram shows the chief causes of death among children under 2 years of age and the ratio of each cause to the total deaths in this age division. In each 100 deaths among children under 2 years of age thirty-seven are caused by diseases of the digestive system, twenty-three by the impure-air diseases, nineteen by defects and accidents at birth, nine by acute contagious diseases, three by diseases of the nervous system, two by tuberculosis, two by violence, one by venereal diseases, etc.; 70 per cent. of such deaths can be avoided—with proper care.

PREVENTIVE MEASURES

In Chicago, as in most other large American cities, the death-rate among children during the last two decades has been below that of the preceding years, but, unfortunately, the rate of the last decade has not shown a decrease which is proportionate to that of the ten-year period preceding.

An analysis of the statistics of contagious diseases against which preventive measures have been applied with increasing vigor during the last ten years, is shown in condensed form in Figure 5.

We have progressed more in our fights against smallpox, malaria, diphtheria and typhoid than we have against the chief cause of infant mortality—the diarrheal diseases.

If we may count deaths from premature birth and injuries at birth as preventable—and surely a very large percentage of them are—there would be marked increases to show on the debit side of this sanitary ledger.

MILK AS A FACTOR

The general improvement of the market milk-supply, which began fifteen or twenty years ago, was followed by some slight lowering of the diarrheal disease deaths, not by any decided decrease. But the general improvement in market milk does not give us a milk-supply suitable for young infants, this being proved by the average bacterial count of all large cities, taken from the Hygienic Laboratory Bulletin, No. 56, and given in Table 4.

That a further reduction in the bacterial content will result in a lowering of infant mortality can be seen from (1) the statistics of infant mortality in New York before and after the establishment of the Straus milk stations; (2) from the mortality at the infant asylum at Randall's Island before and after the use of pasteurized milk; (3) the lowering of infant mortality in Chicago after the pasteurization of 60 per cent. of the market milk, and (4) comparison of infant mortality statistics in cities with good and ordinary milk-supply.

Infant Mortality in New York City.—Pasteurized milk was first made available for infants in general in New York City in 1893, in which year Nathan Straus dispensed 34,400 bottles of milk so prepared from one depot. In 1894, 339,494 bottles were issued, in 1895, 666,622, and in 1896, 666,941. In 1905, 2,668,397 bottles were dispensed and 1,016,731 glasses of pasteurized milk were bought at the booths in the parks of New York City. In 1906, seventeen Straus stations dispensed 3,142,252 bottles of pasteurized milk and 1,078,405 glasses. Prior to the beginning of this work the death-rate of children under 5 years in New York City was over 96.2 out of every thousand, and in June, July and August the death-rate of children was at the rate of 136.4 per thousand per annum. With the increased use of pasteurized milk the death-rate fell to 55 per thousand in 1906, and the summer death-rate to 62.7 per thousand.

The Mortality at the Infant Asylum at Randall's Island.—When the infants in the care of the City of New York were fed on milk from a carefully selected herd pastured on the island, the death-rate was as shown in the first part of Table 5. A pasteurizing plant

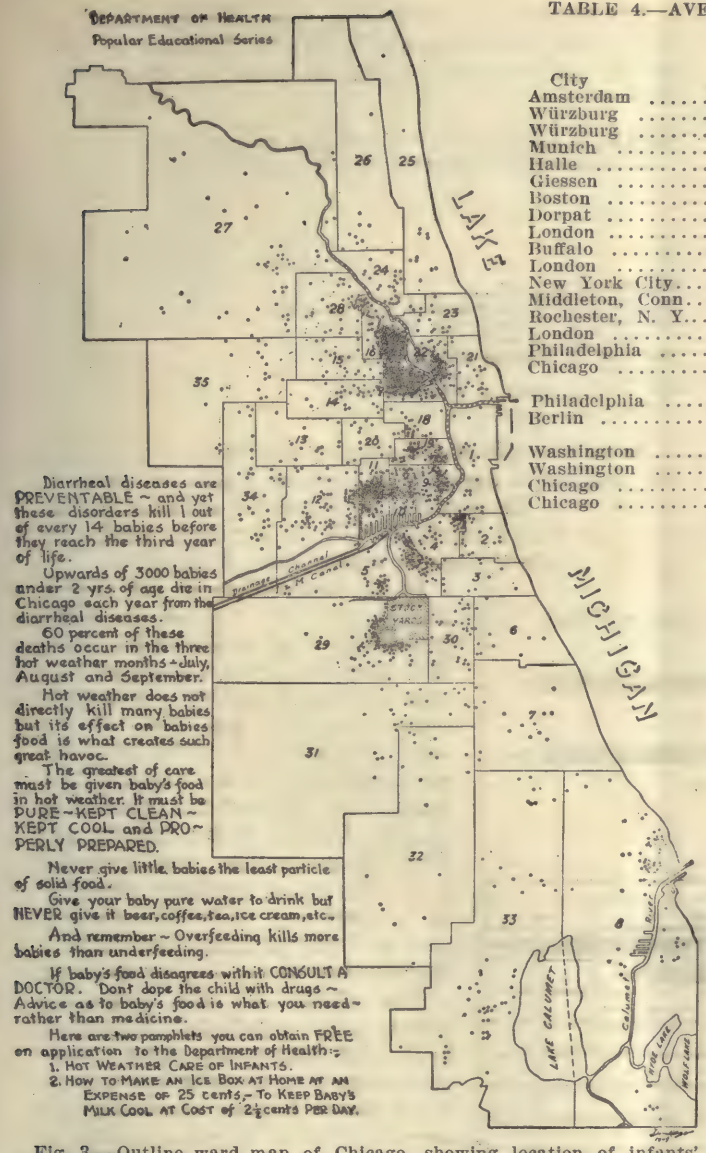


Fig. 3.—Outline ward map of Chicago, showing location of infants' deaths from diarrheal diseases during the summer of 1909; 1,570 deaths in July, August and September.

TABLE 4.—AVERAGE BACTERIAL COUNT OF MARKET MILK IN VARIOUS LARGE CITIES

City	Investigated by	Samples	Date	Count
Amsterdam	Von Geuns	..	1885	10,545
Würzburg	Clauss	8	1889	1,000,000 to 2,000,000
Würzburg	Hohenkamp	..	1889	1,900,000 to 7,200,000
Munich	Cnof	..	1889	200,000 to 6,000,000
Halle	Renk	..	1891	6,000,000 to 30,700,000
Giessen	Uhl	30	1892	83,000 to 169,600,000
Boston	Sedgwick & Batchelder	50	1892	708,000 to 4,200,000
Dorpat	Knochenstiern	..	1893	10,200,000 to 30,000,000
London	Rowland	25	1895	500,000
Buffalo	Frye	15	1896	25,000 to 43,600,000
London	Pakes	..	1900	3,000,000 to 4,000,000
New York City	Parke	..	1901	300,000 to 5,000,000
Middleton, Conn.	Burrage	..	1901	11,000 to 300,000
Rochester, N. Y.	Goler	86	1903	837,000 to 5,000,000
London	Dodd	..	1904	4,800,000
Philadelphia	Byrnes	..	1904	1,600 to 21,000,000
Chicago	Jordan	..	1904	16 per cent. samples contained over 20,000,000
Philadelphia	Bergey	..	1904	Average 4,800,000
Berlin	Proskauer, Seligmann, Croner	..	1907	Average 3,500,000
Washington	Hygienic Laboratory	..	1906	Average 22,134,000
Washington	Hygienic Laboratory	..	1907	Average 11,270,000
Chicago	Tonney (Raw Milk)	639	1909	Average 3,239,000
Chicago	Tonney (Past. Milk)	..	1909	Average 752,975

TABLE 5.—DEATH-RATE AT THE INFANT ASYLUM, RANDALL'S ISLAND

BEFORE THE USE OF PASTEURIZED MILK

	Children treated	No. of Deaths	Percentage
1895	1,216	511	42.02
1896	1,212	474	39.11
1897	1,181	524	44.36
Total	3,609	1,509	41.81

AFTER THE USE OF PASTEURIZED MILK

1898	1,284	255	19.80
1899	1,097	269	24.52
1900	1,084	300	27.68
1901	1,028	186	18.09
1902	820	181	22.07
1903	542	101	18.63
1904	345	57	16.52
Total	6,200	1,349	21.75

was installed in the early part of 1898. No other change in diet or hygiene was made.

Is it not significant that the only marked reduction in deaths in Chicago during the year 1909, as compared with the preceding year, was among the babies, the milk feeders? At all other ages, excepting 10 to 20 years, there were increases, as will be seen by Table 7.

TABLE 6.—THE LOWERING OF INFANT MORTALITY IN CHICAGO AFTER PASTEURIZATION OF SIXTY PER CENT. OF THE MARKET MILK-SUPPLY IN 1909 *

Year	Deaths	Rates per 100,000
1899	5,917	363
1900	5,726	337
1901	5,407	308
1902	5,514	303
1903	5,699	304
1904	5,387	279
1905	6,251	314
1906	6,554	319
1907	6,720	319
1908	6,908	319
Average 10 years	6,008	316
1909	6,389	287

* Prior to 1907 all deaths of children who lived less than one day were excluded from the mortality count. Since 1907 such deaths have been included and they constitute 7.2 per cent. of the total mortality under one year of age. Therefore, to make this statement comparable, 7.2 per cent. has been added to the tabulations of the years 1899 to 1906, inclusive.

TABLE 7.—AGES AT WHICH LIVES WERE SAVED DURING THE YEAR 1909

Years	Deaths 1909	Deaths 1908	Saving	Loss
Under 1	6,387	6,908	521	...
1 to 5	2,981	2,768	...	213
5 to 10	768	759	...	9
10 to 20	1,179	1,199	20	...
20 to 30	2,676	2,573	...	103
30 to 40	3,261	3,085	...	178
40 to 50	3,768	3,553	...	215
50 to 60	3,501	3,334	...	167
60 to 70	3,195	2,965	...	230
70 to 80	2,367	2,240	...	127
Over 80	1,158	1,150	...	8

TABLE 8.—COMPARISON OF INFANT MORTALITY STATISTICS IN CITIES WITH GOOD AND ORDINARY MARKET MILK-SUPPLY

GOOD MILK-SUPPLY (Pasteurized)

	1908	1909
Copenhagen	150	109
Buenos Aires	86	88
Paris	103	96

ORDINARY MILK-SUPPLY

	1908	1909
London	113	108
New York	128	130
Berlin	168	158
Vienna	183	172
Chicago	135	125

There are other significant factors besides the milk-supply to be taken into consideration:

In American cities the change in the immigrant population during the last two decades is an important factor. The change is illustrated by Table 9.

Thirty years ago the immigrant or foreign population of cities consisted of Germans, Scandinavians, English or Irish. Now the Slavs and those from southern European countries are in excess. They come from the European countries which have the highest infant

TABLE 9.—RECENT CHANGES IN THE RACE OF IMMIGRANTS; COMPARISON OF CERTAIN NATIONAL GROUPS *

	Per cent. of immigrants from Austria-Hungary, Italy and Russia in total immigration.†	Per cent. of immigrants from United Kingdom, France, Germany and Scotland in total immigration.
1869	0.9	73.8
1880	8.5	64.5
1890	34.0	57.7
1891	39.6	52.1
1892	44.8	53.9
1893	42.7	48.2
1894	42.6	47.9
1895	39.8	52.9
1896	53.9	38.5
1897	53.0	37.6
1898	57.9	33.3
1899	64.4	27.8
1900	66.7	25.3
1901	68.6	22.5
1902	70.6	20.3
1903	66.8	22.4
1904	63.4	25.0
1905	66.4	24.2
1906	68.5	18.3
1907	71.3	17.1

* Prepared by Immigration Restriction League from Quarterly Report of Bureau of Statistics, No. 2, Series 1892-1893, and Reports of Commissioner-General of Immigration.
† Includes Poland to 1898.

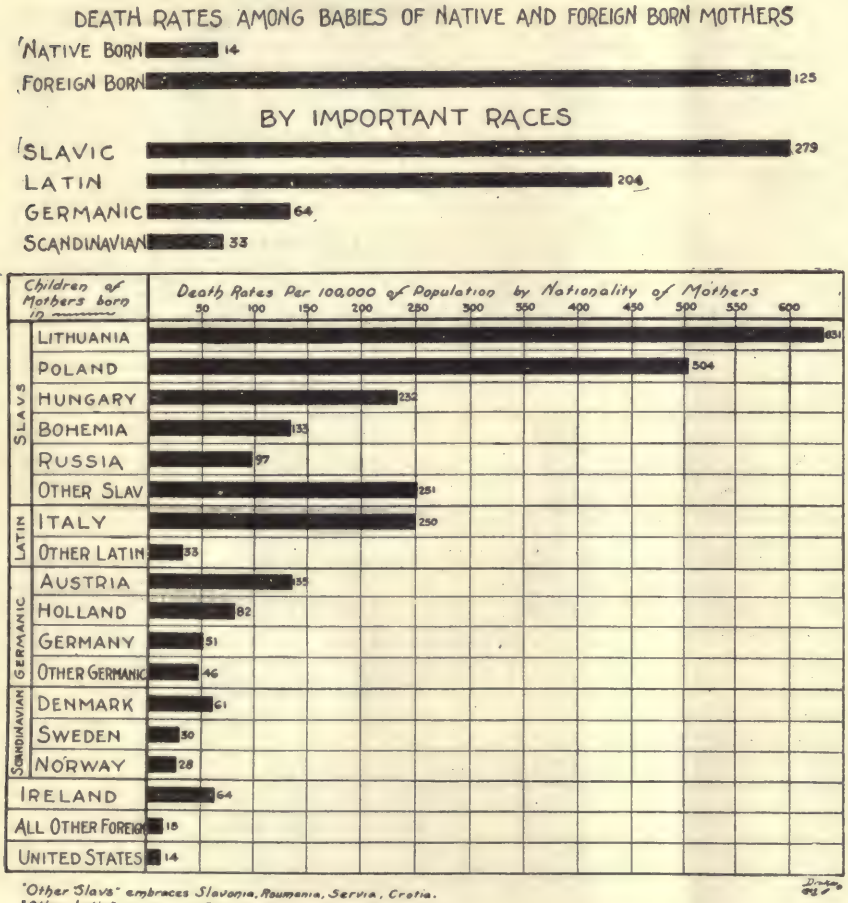


Fig. 4.—Chart of infant death-rates from diarrheal diseases in hot weather in Chicago, arranged by nationality of mothers.

mortality rates, and with the change in environment and industrial states of both sexes, conditions result which favor high infant mortality.

That the changed industrial conditions are an important factor has been shown by Devine in his studies of the mortality rates in two manufacturing cities in Massachusetts, compared with the rates observed in other American cities.

The statistics of families studied for Dr. Hamilton by Theresa McMahon, Ph.D., (Table 10) show the percentage of children dying in families of working women.

TABLE 10.—RELATION OF NUMBER OF WORKING WOMEN TO CHILDREN'S DEATHS IN 600 FAMILIES IN CHICAGO

	Women worked after marriage	Women worked before marriage	Women worked before and after marriage
Number of women	114	307	88
Number of children who died	200	504	150
Per cent. of children who died prematurely and at birth	39	33	36
Per cent. of children who died under 3 years	56	61	60
Per cent. of children who died over 3 years	4	5	4

As an example of the opposite condition may be cited the death-rate during the siege of Paris, in 1870-71, where, with the cessation of industrial activities in the city, the infant mortality fell 40 per cent., while the general mortality rate is said to have doubled.

In 1880, according to the Census Bureau, 25.8 per cent. of the entire population lived in the cities. Since that time the urban population has been increasing rapidly. In 1890 it constituted 32.9 per cent. of the total population; in 1900, 37.3 per cent., and now it is estimated that fully 41 per cent. of the inhabitants of the United States live in the cities of more than 4,000 population. This same tendency prevailed in the later days of the Roman Empire and was an important element contributing to its decline and fall.

The effects of such migration always have manifested themselves by a high infant mortality. Newman, after a study of infant mortality in Great Britain, concludes that the distribution of infant mortality follows mainly in the wake of urbanization—that is, high density of population—combined with industrial and social conditions.

Of the many other factors influencing infant mortality, which may bear on the results of preventive measures, excessive child-bearing may be briefly considered. Alice Hamilton reported at the New Haven meeting on investigations made in Chicago, and concludes that excessive child-bearing makes for excessive child mortality. Table 11, taken from her report, shows that the increase in size of the families is paralleled by the increase in the proportion of children lost.

Table 12, compiled from her report, shows the relation of nationality, child-bearing and infant mortality rate.

The high birth-rate and death-rate here shown among the Slavs and Italians is closely related to the deaths occurring from accidents at birth, and from prematurity. Tallent states that midwives attend 47 per cent. of all cases in Chicago, and 86 per cent. among the

Italian population. Accurate data on this question cannot be obtained from birth certificates, because complete returns are not made; but from a study of the 485 names of midwives practicing in Chicago, it is found that 35 per cent. are Slavic and 6 per cent. are Italian. The prevailing custom is that they practice, each among her own nationality.

TABLE 11.—INFANT DEATHS PER THOUSAND BIRTHS

Families of 4 children and less	118
Families of 6 children and more	267
Families of 7 children and more	280
Families of 8 children and more	291
Families of 9 children and more	303

TABLE 12.—INFANT DEATHS PER THOUSAND IN RELATION TO NATIONALITY AND CHILD-BEARING

	Group 1, 8 children and more.	Group 2, 4 children and less.	Av. No. children per family.	Av. No. deaths per family.
Jews	260	81	5.7	1.1
Mixed	271	98	5.1	1.0
Irish	291	113	6.6	1.7
German	288	186	5.7	1.3
Slavs	328	122	6.5	1.7
Italians	301	125	6.6	1.9

PREVENTIVE MEASURES SUGGESTED

The measures which we suggest and briefly summarize, are made with a view of remedying the existing direct and indirect causes of sickness and death in children, as shown by the study presented.

1. *Causes Operating Directly on the Mother.*—The causative conditions that need correction are neglected education, new environment, urbanization, female employment, improper care during pregnancy, and later neglected breast-feeding, overwork, bad health, alcoholism and poverty.

It is not easy to suggest a remedy for all of these. Some of these influences can and will be eliminated by proper enactment and enforcement of laws. The personal factor can be treated only by educational measures. Such measures promulgated in the public schools will have their effect in time. The present generation is much more difficult to reach. The procedure now followed in European countries is yielding results. For a detailed summary of these methods and work, embodied in the Infant Welfare Movement, I refer to Abt's article.[1]

Starting in 1892, with Budin's consultation for nurslings whose mothers were delivered in his clinic, the movement has progressed and with the recent building of the Augusta Victoria House at Charlottenburg, near Berlin, the work in Germany has assumed a national aspect.

The English method, as practiced by the Westminster Health Society of visiting mothers, is extremely practical. Voluntary lady visitors who have received some training call on the mothers in their localities, often before the baby is born, and after birth make calls as frequently as it seems necessary.

The calling on cases of reported sickness sometimes practiced in American cities does not strike at the root of the evil, yet it is better than inactivity. The baby-tent idea, used effectively in Chicago, has served in manifold ways to aid mothers in the care of sick and well children.

2. *Causes Operating Directly and Indirectly on the Child.*—Causative and contributory existing conditions that require correction are: incomplete birth registration, improper care, no reports of morbidity.

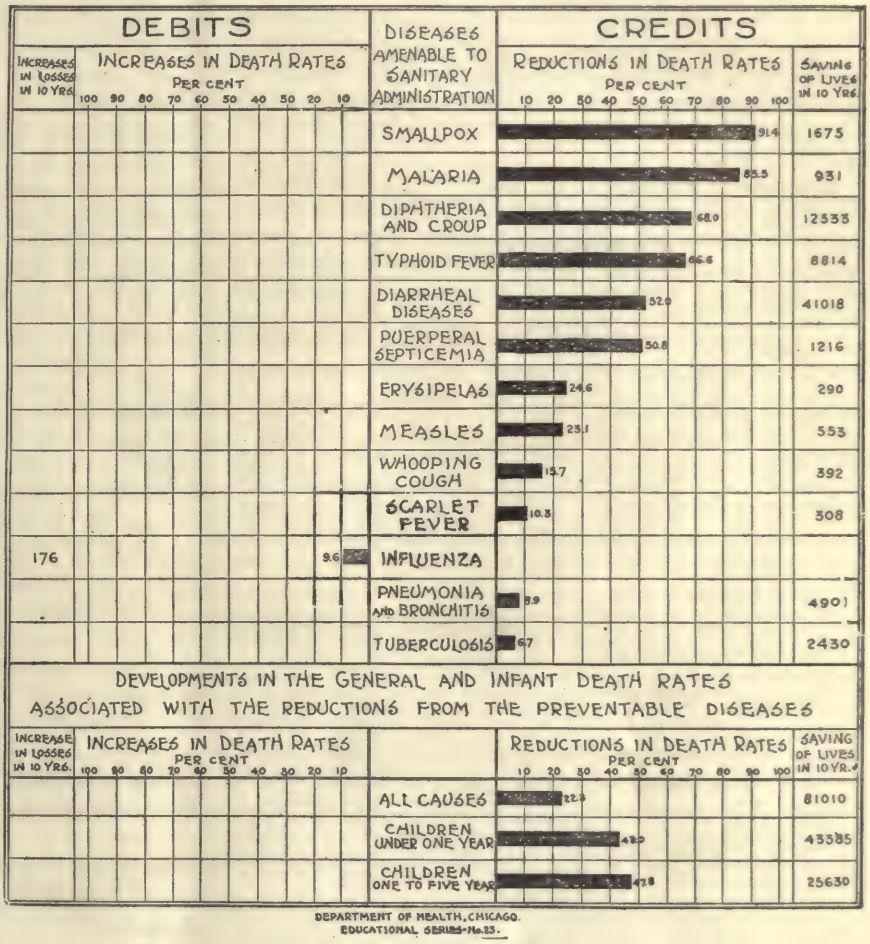


Fig. 5.—Sanitary trial balance: The City of Chicago in account with the preventable diseases; losses and gains during the last ten years as compared with the preceding decade.

It is impossible to apply a remedy if it is not known where the trouble exists. If the well or sick children are to be visited and taken care of, their location has to be determined. Births should be reported within twenty-four hours. Following this, advice should be given the mother in regard to the proper care and feeding of the child. Breast-feeding should be encouraged. Budin's experience has shown how much more generally it can be carried out when efforts are made to do so.

Leaflets, mailed to the mother on receipt of the birth report, are useful; but the best results are obtained by personal supervision. The obstetrician or midwife makes the initial call in practically all births, and in the absence of other agencies is in duty bound not only to attend to the birth and puerperium, but also to see that the child is properly started in life. Midwives with their practice limited by law to obstetrics are in need of enlightenment with regard to their duties to

1. Abt, Isaac A.: A Survey of the International Movement Concerning Infant Welfare, Illinois Med. Jour., April, 1910, p. 428.

humanity. When this is properly presented to them and it is shown of what great service judicious advice given by them to the mother will mean for the welfare of the child, they may be made influential agencies in the prevention of infant mortality. In Chicago a correspondence school for midwives is conducted by the Health Department with gratifying results.

Hedger, reporting on the work done in Chicago during the summer of 1909, says that 17,437 families were called on, and 2,876 sick children were found; 2,057 had diarrhea and 800 had other affections. Infantile diarrhea should be made a reportable disease.

3. *Indirect Causes to be Remedied by Action on the Part of the Authorities.*—The baneful influences of bad sanitation, improper housing, congestion in cities, filthy environment, flies, bad water and an unclean milk-supply are factors in the cause of disease and death of children, as well as of adults, that require correction wherever they exist.

Since the diseases due to impure milk and bad air make up the first and third largest groups of causes of death in infancy, it behooves us to eliminate these influences to the fullest extent. High-grade, clean milk may be had in most cities, but the price is prohibitive, as far as the poor are concerned. Infants' milk depots have been established and are distributing milk specially adapted, in regard to purity and chemical composition, to infants' feeding. Unfortunately, babies are too frequently supplied with milk from those sources only after sickness or nutritional disturbances have developed, and even then such milk stations are not within the reach of all. Milk-dealers who can make deliveries throughout the entire city should come to the aid of the philanthropic organizations which are now carrying on this work.

In addition, the general market milk-supply should be improved so that those who must rely on this source in the feeding of infants and children may not be unnecessarily exposed to infection. All milk not produced in accordance with strict sanitary requirements should be properly pasteurized under municipal control.

Pure water should be supplied for children in the hot season. This is mentioned to emphasize the findings of Hedger and others, namely, that many children are given food and food only when they are crying because of thirst.

Air, the first requirement of the child at birth, should be pure. The curative powers of pure air in pulmonary diseases, marasmus, rickets, summer diarrhea, and its soothing effect on the crying and restless child, have been recognized more and more of late, and necessarily we must draw the conclusion that if pure air is beneficial for the sick it must be equally good for the well.

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CACTUS GRANDIFLORUS

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The testimony concerning the therapeutic value of *Cactus grandiflorus* is conflicting and, indeed, absolutely contradictory, since many observers have stated that they found it to be a most useful cardiac remedy, whereas others have pronounced it absolutely inert.

Positive testimony is preferable to negative when other conditions are equal, and when reputable men declare that they have found a drug of value in a given condition, the burden of proof concerning its worthlessness then devolves on its opponents.

There can be no doubt that much of the misunderstanding which exists in regard to this drug has arisen through the substitution of other substances for *Cactus grandiflorus*. As an example of this we may cite the experience of Gordon Sharp,[1] who, as the result of clinical observations extending through several years, came to the conclusion that *Cactus grandiflorus* possessed no therapeutic properties whatsoever. Sharp worked with specimens of cactus obtained from a number of the better-known drug houses of Great Britain, but unfortunately, when he submitted a specimen of his *"Cactus grandiflorus"* to the botanist, E. M. Holmes, the latter found it to be *Opuntia decumana*.

Naturally this deprived Sharp's work of its value, so far as the question concerns *Cactus grandiflorus* and Sharp thereupon secured specimens of the true *Cactus grandiflorus* with which he conducted a new series of experiments, coming to the same conclusions[2] that he had reached previously, *i. e.*, that the drug was inert.

Under the circumstances we considered it necessary to exercise especial care to secure absolutely authentic specimens of *Cactus grandiflorus*, and application was made to some of the larger manufacturers of pharmaceuticals and dealers in ground drugs, but they were unable to supply us with authentic specimens.

Dr. J. N. Rose, associate curator of the Division of Plants of the United States National Museum, kindly supplied us with a specimen of the true *Cactus grandiflorus;* but it has been asserted that the Mexican variety alone possesses therapeutic value; hence we desired authentic specimens direct from Mexico. On the suggestion of Dr. Rose we applied to Dr. C. A. Purpus, a botanist at Zacuapan, Huatusco, in the state of Vera Cruz, Mexico, who gathered a sufficient supply of the fresh herb and forwarded it to us.

We have used tinctures made from these two specimens, fluidextracts made by the more prominent manufacturers of pharmaceuticals, as well as the Specific Medicine Cactus, made by Lloyd Brothers, and extracts prepared from these tinctures and fluidextracts. The specimen sent us by Dr. Purpus agrees with the description given by Holmes, and Dr. Purpus is a botanist whose standing cannot be questioned.

EXPERIMENTS

It was our plan originally[3] to supplement our pharmacologic examination of cactus with systematic clinical observations, but we felt constrained to modify our plans for reasons that will become apparent. The tinctures, fluidextracts and extracts were administered to cats, dogs and frogs by the stomach; the tinctures and fluidextracts were administered intravenously to cats and dogs. In some cases small amounts were used, in others the dose was limited only by the tolerance of the animal toward the alcohol contained in the preparation.

1. Practitioner, 1894, lii, 161.
2. Pharm. Jour., Series 4, v, 539.
3. The experiments in which the cactus was administered orally were performed two years ago; the results were so unsatisfactory that the work was discontinued, but our recent work on the standardization of the digitalis bodies by means of the intravenous injection into cats led us to believe that we could determine the cardiac action of cactus with greater precision than had been done hitherto.

The tinctures were prepared by macerating the crushed fresh cactus herb in four times its weight of 95 per cent. alcohol, after the manner by which Dr. Rubini[4] is said to have prepared his tinctures. The fresh herb contains a large amount of mucilage, and when a weakly alcoholic menstruum is used a thick viscid preparation is obtained of about the consistency and appearance of white of egg, except for a greenish color. This is of such viscidity that when a tall cylindrical graduate filled with the fluid is inclined so that a little runs out the entire mass is drawn up over the lip of the graduate, as the pendent end of a rope might draw an entire coil over a pulley. The tinctures prepared with strong alcohol have a handsome green color due to the presence of chlorophyll, but they contain only about 0.5 per cent. of solid extract.

There is a want of agreement among manufacturers of the fluidextract concerning the proper menstruum for exhausting *Cactus grandiflorus*, the percentage of alcohol in these preparations varying from 43 per cent. to 90 per cent. This results in great differences in the appearance and solid contents, and it also indicates that some manufacturers must use the dried herb, since the moisture present in the fresh would reduce the alcoholic content much below that given on the labels in some cases.

We determined the amounts of solid extracts in the tincture and fluidextracts which we used by heating 10 c.c. of each preparation in a porcelain crucible to 80 C. for 24 hours and weighing the residue. Some of these residues are quite dry; others are of the consistency of extracts. The alcoholic and solid contents are given in Table 1.

TABLE 1.—CONTENTS OF FLUIDEXTRACTS

Name of manufacturer.	Alcohol.	Solid extract.
	%	%
Eli Lilly & Co.....	55	4.0
Lloyd Bros. (specific med.).	81	4.0
Mulford & Co.....	80	0.9
Parke, Davis & Co.....	65-75	1.6
Sharpe & Dohme*.....	85	0.7
E. R. Squibb & Sons.....	43	1.8
Frederick Stearns	90	1.0
Wm. R. Warner & Co....	60	1.6
John Wyeth & Bro.....	75	2.4
Tincture (our own)....	80	0.58

* Only 2 c.c. were available for the determination of the solid extract. Since our own tinctures represent about 20 per cent. of the drug, they should contain but one-fifth as much extract as a fluidextract.

The extracts, not those mentioned in Table 1, which were used in our experiments on animals, were prepared by evaporating the tinctures and the fluidextracts, exposed in open dishes on a warm table placed over a radiator, to the consistency of a soft extract and adding sugar of milk. The extracts so prepared represented from one to fifty times their weight of cactus; the amounts used in the experiments are expressed in terms of the crude drug which they represent.

ADMINISTRATION OF CACTUS BY THE STOMACH

Two cats, A and B, received doses of the fluidextract of cactus so adjusted that the alcoholic content was the same in each case. A received 4.7 c.c. of Sharpe & Dohme's fluidextract, and B received 9.4 c.c. of Squibb's, each containing 4 c.c. of absolute alcohol per kg. of weight, through a stomach tube. C was used for a control and received 4 c.c. of absolute alcohol per kg., the three doses being so diluted with water that each contained the same percentage of alcohol.

There was no perceptible difference in the effects of the three doses. All three of the cats sank into a state of profound narcosis, so that they remained motionless in whatever position they were placed. The heart-rate of the cat which received the larger dose of cactus was slowed by 12 beats per minute; that of the one which received the alcohol alone was slowed by 20 beats; that of the one which received the smaller dose of cactus was increased by 9 beats per minute.

In order to test the effects of the continued administration of cactus, 1 c.c. of fluidextract of cactus per kg. of weight was given daily for one week through a stomach-tube to each of three cats. The heart-rate was determined before the drug was used, just after, and twenty-four hours after, the last dose. The results are given in Table 2.

TABLE 2.—HEART-RATE BEFORE AND AFTER CONTINUED ADMINISTRATION OF CACTUS *

Cat.	Manufacturer.	Heart-rate. I	II	III
D	Eli Lilly & Co.....	165	192	150
E	Sharpe & Dohme.....	198	....	168
F	Lloyd Bros. (spec. med.).	183	216	186

* I, before; II, just after; III, twenty-four hours after last dose.

The results of these experiments being unsatisfactory and inconclusive, larger doses were administered in the form of the extracts to seven cats for periods of three days. The results are given in Table 3.

TABLE 3.—HEART-RATE BEFORE AND AFTER LONGER CONTINUED ADMINISTRATION *

Cat.	Manufacturer.	Dose gm. per kg.	Heart-rate. I	II
G	Sharpe & Dohme.....	17.5	170	162-183
H	Lloyd Bros.....	17.5	126	126
I	Parke, Davis & Co.....	8.0	183	182-198
J	Eli Lilly & Co.....	8.0	150	162
K	John Wyeth & Bro.....	16.0	150	150
L	Our own tincture.....	15.0	180	192
M	Our own tincture.....	14.0	222	237

* I, before; II, after.

Tincture of strophanthus was used as a control in a number of cases. The results with this drug were not wholly satisfactory, but distinct slowing was usually induced by the subcutaneous injection of about one-fourth of the fatal dose, or by the oral administration of large, but not fatal, doses.

In order to test the effect of cactus on the dog after the oral administration, a single large dose was given as follows: Fluidextract of E. R. Squibb & Sons (250 c.c.) was warmed in order to evaporate most of the alcohol, and the residue, which was quite thick and mucilaginous, was diluted with water to measure 350 c.c. This was administered in one dose through a stomach tube to a dog weighing 4.4 kilograms. Emesis occurred in about thirty minutes—a result which cannot be considered extraordinary in view of the fact that the amount given was equal to nearly one-twelfth the weight of the animal.

Four days later the same dog received 150 c.c. of the fluidextract of cactus of Parke, Davis & Co. in the same way, after the alcohol had been removed by evaporation. No perceptible effect followed the administration of this stupendous dose, equal to one thousand times the average therapeutic dose for a man, which is given on the label of the specimen used as 0.12 to 0.3 c.c. This dog received about 15,000 times as much per kilo of weight as a man of 70 kilos would when taking the therapeutic dose just mentioned.

The extracts of cactus were administered to frogs by the mouth in doses corresponding to 100 grams of the drug per kilo of weight, without causing perceptible effects. Such amounts correspond to doses of 7 kilos for a man of 70 kilos in weight, or a great many thousands of times as large as the doses usually recommended.

4. Abstr. in Med. Rec., III, 299.

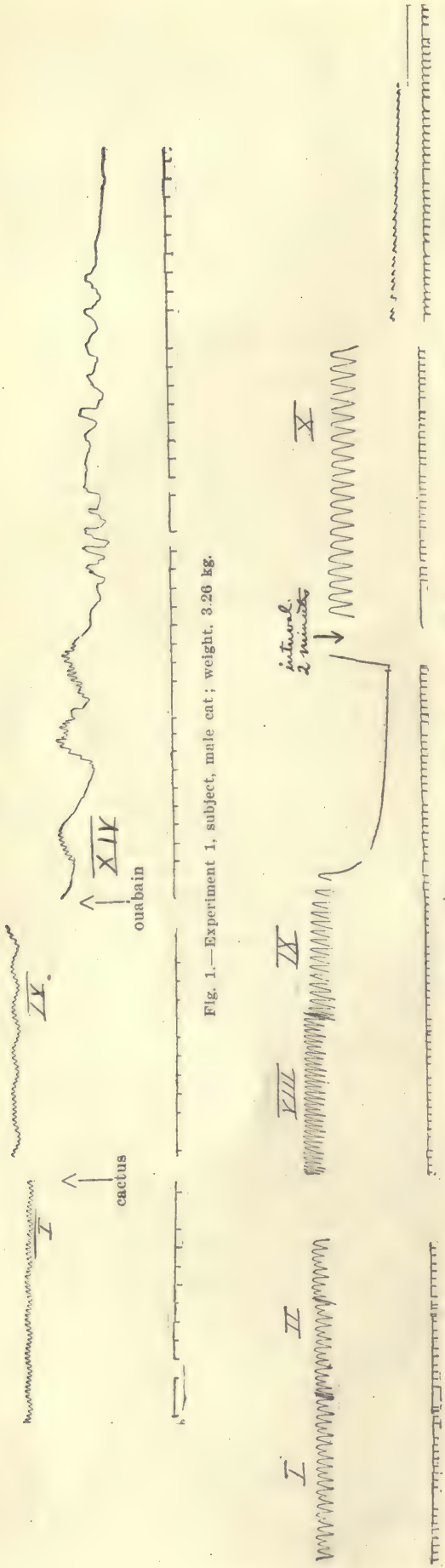


Fig. 1.—Experiment 1, subject, male cat; weight, 3.26 kg.

Fig. 2.—Experiment 2, subject, male dog; weight, 5.4 kg.

INTRAVENOUS ADMINISTRATION

The results of the oral administration of cactus showed that no effect could be expected from its use in that way, but as the rate of absorption of all of the digitalis bodies from the alimentary canal is variable, or at times entirely wanting, we next tried the effects of various amounts by intravenous injection. In some cases small doses were used, in others the amount was limited only by the animal's tolerance for the alcohol contained in the preparations used.

The protocols and parts of the tracings of two experiments are given to show the absence of any action resembling that of digitalis, and for convenience of comparison we give a tracing showing the final stage of the typical digitalis action on the same animal. The tracings cannot be reproduced in full, as each is about a meter in length, but they show nothing characteristic of the action of digitalis, aconite, strychnin or in fact of any drug.

The tracing in Experiment 1 (Fig. 1) shows a slight but steady rise in blood-pressure, with a corresponding slowing of the heart-rate which might be mistaken for a digitalis action; but this results from a gradual recovery following the ether and the operation, together with the action of normal saline with which the cactus was diluted. That the action is not at all characteristic of digitalis will be evident when one observes that the excursions are no greater, there is no increase in the vagus stimulation with increased doses, and the great irregularity so characteristic of the toxic stage of digitalis action is not obtainable with cactus (cf. ouabain tracing).

PROTOCOL OF EXPERIMENT 1

July 30, 1910. Male cat, weight, 3.26 kg.

10:40 a. m.	Ether; cannulas into femoral vein and carotid artery.
10:54 a. m.	Tracing I, normal.
10:56 a. m.	Tincture cactus, 0.1 c.c. per kg. diluted with 9 parts of normal salt solution.
10:58 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:00 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:02 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:04 a. m.	Tincture cactus, 0.1 c.c. per kg.
11:06 a. m.	Tincture cactus, 0.5 c.c. per kg. (total 1 c.c. per kg.).
11:18 a. m.	Tracing IX.
11:19 a. m.	Ouabain 1-100,000 injected continuously.
11:30 a. m.	Clot forming in cannula.
11:51 a. m.	Just fatal dose of ouabain injected.
11:55 a. m.	Great irregularity, slowing (Tracing XIV).
11:56 a. m.	Animal died. (Total 0.122 mg. ouabain per kg.)

All injections were made into the femoral vein; the blood-pressure in the carotid is recorded, the time-marker showing seconds. Tracings with a Huerthle membrane manometer.

The tracings in Experiment 2 afford an excellent example of the entire absence of any digitalis, aconite or strychnin action, death resulting from respiratory paralysis, due to the combined effects of the ether and alcohol, more than 5 c.c. of alcohol having been injected during the experiment.

The respiration ceased some time before the heart stopped beating. The pause in the heart-beat in this case is not in any way characteristic of the action of digitalis or aconite. It is quite true that pauses in the heart-beat occur in the latter stages of digitalis action, but these are usually of but a few seconds, duration, and when the beat is resumed it is always quite irregular and rapid at some period before death. In this experiment the heart beat slowly but with perfect regularity, except for one other pause, until just before death, some seven minutes after the cessation of respiration, and even the last beats were quite regular except for a progressive weakening.

The action of aconite is also characterized by great irregularity in the toxic stage, and strychnin causes convulsions, or, at least, hyperexcitability, with sudden rise

of blood-pressure. The portions of the tracing given fully represent all that was observed.

We have not seen a case in which death resulted from respiratory failure from a digitalis body alone, though this sometimes occurs when an animal is too deeply anesthetized, just as it does from an anesthetic in the absence of a digitalis action.

PROTOCOL OF EXPERIMENT 2

Aug. 4, 1910. Male dog; weight, 5.4 kg.

10:30 a. m. Morph. sulphate, 0.01 gm., subcutaneously.
11:00 a. m. Ether for light anesthesia; cannulas into the femoral vein and the carotid artery.
11:15 a. m. Ether withdrawn.
12:06 p. m. Normal (Tracing I).
12:07 p. m. Lloyd's specific medicine cactus, 0.1 c.c. per kg., diluted with four parts of normal salt solution.
12:10 p. m. Cactus, 0.2 c.c., as before (Tracing II).
12:17 p. m. Cactus, 0.3 c.c., as before.
12:34 p. m. Cactus, 1 c.c., as before.
12:40-12:58 p. m. Cactus, 2.4 c.c., as before. Clot in cannula (total, 4 c.c.).
1:05-1:18 p. m. Tincture Mex. cactus, 2 c.c. per kg., diluted with normal salt solution.
1:33 p. m. Resumed injection of tincture cactus.
1:34 p. m. Respiration begins to fail; total, 4 c.c. of specific medicine cactus and 2.75 c.c. tincture per kg. (Tracing VIII).
1:35 p. m. Cessation of respiration; total of 5.4 c.c. (Tracing 2). Alcohol per kg. (in cactus preparations).
1:36 p. m. Pause in heart-beat.
1:38 p. m. No respiratory movement (Tracing X).
1:42 p. m. Cessation of pulsations.

Despite these repeated failures to obtain evidence of any pharmacologic action with the preparations of cactus which we had employed, it seemed possible that *Cactus grandiflorus* might contain an active principle in such small amounts that its presence was masked by the alcohol in the liquid preparations, and that it might be injured or destroyed by the slight degree of heat used in the process of evaporating the alcohol from these preparations, though the probability of such being the case seemed to us very slight indeed.

We next resorted to a method which we believe to be capable of detecting even a feeble digitalis action. We have shown[5] that we could estimate the activity of various digitalis bodies by means of the combined use of ouabain and the particular digitalis body to be tested, the results being more accurate in the case of the more slowly acting digitoxin when the combined method is used than when the digitoxin is used alone.

This method may be described very briefly as follows: The fatal dose of crystalline ouabain for the cat by the vein is 0.1 mg. per kg. When less than the fatal dose of a digitalis body has been injected into the vein of a cat, less than 0.1 mg. of ouabain per kg. will be needed subsequently to cause the animal's death in a typical manner, the difference between 0.1 mg. of ouabain per kg. and that actually required being proportional to the activity of the digitalis body previously injected. This may be made clearer by the following illustration: 0.3 mg. of digitoxin per kg. injected intravenously proved fatal to a cat after four days, but 0.15 mg. of digitoxin per kg. and 0.05 mg. of ouabain per kg. (just half of the minimal fatal dose of each) injected into the vein at once caused death in a few minutes.

The accuracy of this method has been tested with a number of digitalis bodies, including digitoxin, digitalis, strophanthus and convallaria, but it is only to be expected that differences in individual susceptibility should be seen occasionally. We believe, however, that the results which we have obtained suffice to preclude serious errors.

It seems fair to conclude from what has just been said that if *Cactus grandiflorus* contains more than the merest traces of a principle having a digitalis action, the presence of such a principle can be detected by the method just described, and we certainly can detect the presence of as little as one-thousandth of 1 per cent. of ouabain when no greater quantities of an unknown solution are used than were used of the cactus.

At first we sought to use doses of cactus which were limited only by the estimated tolerance of the cats for the alcoholic content of the preparations, but we soon found that it was impossible to approximate the minimal fatal dose of alcohol for anesthetized cats, and the animals died at various stages of the experiments. Some survived until the cactus and the full fatal dose of ouabain had been administered; others succumbed when only 0.5 c.c. of the fluidextract of cactus per kilogram of weight had been injected. Such cases as the latter were so evidently due to the alcohol and ether that they had to be thrown out of the reckoning, and under the circumstances it was deemed better to throw out the entire series including those which supported the final results; hence these earlier experiments are not included in the table.

Such accidents were avoided when the dose of the fluidextract of cactus was reduced and the precaution was taken of letting the animals partially come out of the narcosis. As a further precaution the fluidextracts and tinctures were diluted with normal salt solution and injected very slowly. In the series tabulated we injected the fluidextracts and tinctures into the femoral veins of cats in doses of 1 c.c. per kilogram in eight cases, 1.5 c.c. per kilo in four, and of 5 c.c. in one case, that of the fluidextract having the lowest alcoholic content (43 per cent.) and then determined the amount of crystalline ouabain which was required to cause the death of the cat with typical symptoms.

TABLE 4.—COMPARISON OF EFFECTS OF CACTUS AND OUABAIN

Cat.	Manufacturer.	Dose of cactus in c.c. per kg.	Per cent. of fatal dose of ouabain required.	Per cent. of fatal dose due to cactus.
N	Ely Lilly & Co.....	1	100	00
O	John Wyeth & Bros....	1	195*	00
P	E. R. Squibb & Sons...	1	100	00
Q	E. R. Squibb & Sons...	1	106	00
R	Sharpe & Dohme.....	1	80	20
S	Sharpe & Dohme.....	1	104	00
T	Parke, Davis & Co.....	1	110	00
U	Lloyd Bros. (spec.)....	1	154	00
V	Lloyd Bros. (spec.)....	1.5	103	00
W	Tincture (our own)....	1	122	00
X	Tincture (our own)....	1.5	77	23
Y	Tincture (our own)....	1.5	115	00
Z	Warner's, Mulford's and Stearn's, mixed	1.5	97	3
A1	E. R. Squibb & Sons...	5	117	00

* Cat tolerant.

There is an apparent cactus action in the case of cats R, X and Z amounting to 20, 23 and 3 per cent. of the fatal doses respectively. We say apparent, for we believe these results can be explained otherwise than on the basis of the cactus activity. In the first place, the controls in two of the more important instances give no evidence whatsoever of cactus action, and the third is wholly within the limits of error. Even granting for the sake of argument that the activity is that indicated, it is very feeble. If we represent the activity of cactus as indicated in the case of R and that of ouabain by parallel lines the lengths of which are proportional to their activities, with that representing cactus one *inch* in length, that representing ouabain would have to be more than three-fourths of a *mile* in length. If we compare the doses on the basis of this indicated activity the oral dose of this fluidextract of cactus would be about 250 c.c., or half a pint.

5. Hatcher and Brody: Am. Jour. Pharm., 1910, lxxxii, 360.

We believe that it would be quite justifiable to attribute these discrepancies to undetermined and unimportant causes, but we were particularly anxious to leave nothing to deduction which could be proved experimentally; hence we made a new series of experiments in which we injected 5 c.c. of fluidextract per kilogram of weight, after evaporating a portion of the alcohol in a jet of cold air, the temperature of the preparations being kept quite low. The results of these experiments are given in Table 5.

TABLE 5.—FURTHER COMPARISON OF CACTUS AND OUABAIN

Cat.	Manufacturer.	Dose of cactus in c.c. per kg.	Per cent. of fatal dose of ouabain required.	Per cent. of fatal dose due to cactus.
A1	Parke, Davis & Co.....	5	86	14
C1	Parke, Davis & Co.....	5	94	6
D1	Warner & Co.....	5	88	12
E1	Warner & Co.....	5	89	11
F1	Wyeth & Bro.....	5	101	00

The results given in Table 5 require further comment. In one case there was no apparent effect even from such a colossal dose; cat C 1 was very fat, and we have frequently stated in other papers that such animals require smaller doses than the normal. This leaves three cases to be explained, as the differences are too high to be attributed to the limits of error, and furthermore, they are all in one direction. Another effort was made to determine the nature of this feeble action.

Reference to Tables 4 and 5 shows that in a few exceptions where cactus has an apparent action the fluidextract of Warner & Co. was used in three cases out of a total of seven, and we decided to make one more effort to determine whether this preparation really possessed a true digitalis action, however feeble, or some other toxic action which lessens the amount of ouabain required. Such actions are seen occasionally with such drugs as acetanilid, but they lack the uniformity of action possessed by the true digitalis bodies. Before discussing the final experiment we will take up the results given in Table 5 in some detail.

Every one who has worked with animals in the standardization of drugs knows that the use of enormous doses introduces disturbing factors which cannot be explained readily in some instances. In the present case we desired to inject the whole of the fluidextracts intravenously, but when the menstruum was altered by evaporation the preparations became muddy in appearance, and not altogether fit for intravenous use, but the addition of sufficient alcohol to make them clear would have defeated the purpose of the evaporation; hence these were used containing variable amounts of alcohol and insoluble matter in suspension. While these could have no protective effect against digitalis actions they might easily disturb the experiments.

Even though we grant the utmost that the most biased could demand the activity of the fluidextracts is absolutely negligible, since 5 c.c. of these correspond to about one-hundredth of a milligram of ouabain, or, to put it somewhat differently, the oral dose of such fluidextracts corresponding to 5 milligrams of ouabain would be 2,500 c.c., or more than half a gallon. The improbability of there being an active principle present in *Cactus grandiflorus* is very great. If it were no more active than impure digitalin, the least active constituent of digitalis, there could not be more than one part present in 15,000 parts of cactus to account for this supposed activity, but we are not acquainted with principles present in such infinitesimal amounts, and on the other hand should the cactus contain as much as 1 per cent. of an active principle then it must be of such slight potency that the ordinary therapeutic dose would have to be about 25 grams, or one ounce.

Our final effort to detect even traces of a digitalis action was made in the following way: Fifty c.c. of Warner's fluidextract (mentioned above) was evaporated in a jet of cold air to a volume of 20 c.c. The precipitate consisted mainly of chlorophyll. The residue was filtered, the filter washed, the filtrate and washings mixed and water and salt added so that the mixture measured 42 c.c., and had the concentration of normal salt solution.

The whole of this solution was injected slowly into the femoral vein of a cat weighing 1.68 kg.; the dose, corresponding to 30 c.c. of the fluidextract per kilogram of weight, caused no perceptible effect, and ouabain was then injected very slowly, and with frequent interruptions, until the animal died. This experiment was conducted with the utmost care to avoid the injection of any excess of ouabain over the minimal amount required to cause death. The result was striking and entirely failed to show a trace of digitalis (or any other) action on the part of the cactus. The cat required just 0.107 mg. ouabain per kg., or 107 per cent. of the normally fatal dose, a result wholly within the limits of error.

We are firmly convinced as the results of these experiments that there is no possible way of demonstrating that *Cactus grandiflorus* possesses any cardiac action in the slightest degree.

The fluidextracts of *Cactus grandiflorus* of different manufacturers were administered to three patients for periods of one week, and to two others for shorter periods, but there was no perceptible effect and their use was discontinued.

DISCUSSION

The literature concerning *Cactus grandiflorus*—and in this connection it is to be understood that reference is not made to the pseudo-literature of any secret or semi-secret preparation—is not very extensive, and would well repay perusal by those who use this drug clinically. A report to the Council on Pharmacy and Chemistry[6] summarizes the essential facts in the literature relating to cactus, but a careful analysis of the subject requires that certain papers shall be discussed in some detail.

Cactus grandiflorus was introduced into medical practice mainly through the recommendation of Dr. Rubini,[7] a homeopathic physician of Naples, about forty-five years ago. He used very small doses of a 25 per cent. tincture made by macerating the crushed drug in 95 per cent. alcohol. A. F. Pattee[8] recommended it for functional palpitation in doses of from one to five drops of a 25 per cent. tincture, but he gives little evidence of its value to support his recommendation. N. S. Davis[9] reported the use of cactus in two cases of palpitation with *apparent* benefit. It is to be noted particularly that Davis did not assert that cactus had any actual value; he merely used it in these two cases and said that the patients were benefited apparently. Naturally, no conclusions could be drawn from the casual observation of two cases, and he did not attempt to draw conclusions.

A number of papers appeared in the *Therapeutic Gazette* in the next few years in which cactus is extolled highly, but these papers are not wholly convincing.

6. THE JOURNAL A. M. A., March 12, 1910, p. 888.
7. See abstr. Med. Rec., iii, 299; and King's American Dispensatory, ed. 18, revision 3, p. 374.
8. Boston Med. and Surg. Jour., 1867, lxxi, 537.
9. Philadelphia Med. Times, 1879, x, 26.

Engstad[10] cites an instance of "lingering typhoid pneumonia" with the heart becoming feeble after the second week, in which cactus stimulated the heart immediately, after digitalis and strychnin had failed. Engstad mentions the fact that most preparations are inert, but that Parke, Davis & Co. and Merck make excellent preparations.

Hills[11] states that cactus acts especially on the circular fibers of the heart and arteries, causing irritability, hyperesthesia, neuralgia, spasm and palpitation. He says that cactus resembles digitalis in respect to its power of producing heart-failure, and that this is due to the secondary effect in the case of both. He states that cactus resembles aconite in the effect on the heart much more than it does digitalis. Hills gives no evidence to sustain his statement regarding the highly selective action of cactus for the "circular fibers of the heart and arteries." It would be interesting in the light of our own experiments to know just what preparation Hills used.

Among those who report clinical studies of cactus is R. W. Wilcox,[12] who used it in 23 cases of cardiac disease. The following statement made by Wilcox is of interest in this place: "The particular preparation that I have employed, because after experimentation it is the only one that I have found to give uniform results, is the fluidextract of Parke, Davis & Co. in dose of ten to thirty minims." It would be interesting to have the protocols of the observations in which other preparations were used without satisfactory results, but this information is not given in the article.

Williams[13] reports the use of cactus in the treatment of nearly 200 cases of cardiac disease during some years, but he refers to certain physiologic experiments as explaining his results, but those experiments were not made with *Cactus grandiflorus,* and if his results accord with those experiments we must suppose that he too, like Gordon Sharp, failed to secure the true *Cactus grandiflorus,* and that Williams worked with some species of cactus having a strychnin action.

Sayre found that cactus supplied by J. U. Lloyd produced little or no effect on frogs, and he sent a specimen of the tincture to E. M. Houghton who found that very large doses produced no perceptible effect when used intravenously on dogs. They reported[14] that the drug is worthless as a substitute for digitalis.

When one attempts to explain why cactus—and under this term we include its preparations and derivatives, proprietary and non-proprietary—attained some degree of popularity in the treatment of cardiac diseases he is confronted with certain difficulties, for the explanation involves a consideration of conditions which are known to exist, but for which sufficient evidence is lacking in individual cases. In the first place it is well known, but often forgotten by enthusiasts, that patients usually tend to recover regardless of the disease or the drugs used in its treatment. Enthusiasts of all ages are too prone to attribute the benefit observed to the latest drug used; and this appears to be true especially in cardiac disease, in which rest in bed and the substitution of a proper diet will often accomplish more than any drug or combination of drugs. Hence an inert substance may attain a certain vogue.

In the second place, when a new vegetable drug is put on the market, a financial harvest awaits the pharmaceutical manufacturer who is alert to convince practitioners that his preparation of that drug is superior to other makes and that the substitution of spurious drugs is common. This may be accomplished in various ways. We are all more or less familiar with the so-called "house-organs" and with the testimonials of men whose affiliations tend to make them unduly optimistic when the preparations of certain firms are under consideration.

Having attained popularity, the continued use of cactus or its preparations calls for a somewhat different explanation. Disappointment, following the use of the digitalis bodies, undoubtedly leads many physicians to seek harmless substitutes for the better-known and more potent drug, and when one happens to see improvement follow the use of cactus after some particularly unfortunate experience with digitalis, one is apt to incline to the continued use of the more harmless or, rather, the inert drug, unless his facilities for clinical study are above the average.

There can be no gainsaying the fact that the mastery of digitalis therapy presents many difficulties; that many physicians have failed to accomplish this mastery, and that disappointment proportionate to the lack of that mastery will almost inevitably follow its use, for it is like a two-edged sword, as potent for harm as for good.

And thus we find that the reason for the use of cactus often lies in ignorance of the resources at our command, and this accentuates the need for the more careful study of the actions of the true digitalis bodies in cardiac disease, for it is certain that the physician who depends on cactus or any derivative or preparation of it, deprives himself deliberately of his medical armamentarium in the treatment of conditions which imperatively demand all the resources at his command. Pathology has added much to our exact knowledge, but we gain little thereby if we waste it through the use of inert or little known drugs.

So much for the actual conditions; the arguments with which the users of cactus attempt to justify their position require consideration. These arguments suggest the position of the bats when the birds and the beasts were at war. When evidence is furnished that cactus has no digitalis action, the fact is admitted usually, and they advance claims which are decidedly vague, and it is significant that it now finds its warmest supporters among those who recommend it in the treatment of the so-called functional disorders of the heart, or precisely those conditions which are known to require no medication or treatment of any sort beyond abstaining from the habits which induce the disturbance.[15]

While thus disclaiming that cactus has any digitalis action, the adherents do not hesitate to quote those who have used it in precisely those conditions for which digitalis is known to be useful, and who have declared it to be superior to digitalis. As examples of this we may cite the following authorities who are nearly always quoted when cactus therapy is being upheld by references to the literature.

Ellingwood[16] states that cactus is in every way superior to digitalis; that cactus exerts a direct action on the cardiac plexuses, regulating functional activity, improves the nutrition of the heart (by what means is not stated); that it increases the contractile power and energy of the

10. Therap. Gaz., 1890, new series, vi, 606.
11. N. Y. Homeopathic Med. Times, 1891, xviii, 295.
12. Post-Graduate, 1891, vii, 85.
13. Practitioner, 1891, xlvii, 266.
14. Therap. Gaz., 3 ser., 1906, xxii, 812.

15. After this was written one of us observed an arrhythmia due to the use of caffein. It was considered a good opportunity to try cactus, but when the heart was examined 12 hours later the arrhythmia had disappeared spontaneously before the cactus could be obtained.
16. Med. Rec., 1905, lxvii, 857.

heart through the cardiac ganglia and accelerator nerves, increases the musculomotor energy, and elevates arterial tension; that it increases the height and force of the pulse wave, often acts more quickly than strychnin or digitalis, and is a true sedative when the pulse is rapid and feeble and the heart weak.

We are not aware how these conclusions were deduced, but they appear to be based on clinical observations alone and are unsupported by any instrumental evidence.

Wilcox[12] used cactus in mitral and aortic stenosis and regurgitation. Aulde[17] states that cactus is distinctly a cardiac tonic, free from the so-called cumulative action of digitalis. He states that cactus proved useful in dilatation with hypertrophy accompanied by a murmur. Gregory[18] endorses all that Aulde says. Herwisch[19] used cactus in cases of valvular diseases of the heart with good results when digitalis, strychnin and strophanthus did not improve the condition of the patient.

It would be well for those who use cactus while admitting that it has no digitalis action to cite other authorities than those just mentioned in support of their positions. But it would be a little unfair perhaps to judge severely many who quote the literature, as the perpetuation of certain small blunders suggests that the original literature of cactus is not consulted usually, and it seems probable that some of those who have been guilty of this inconsistency are not aware of the fact.

CONCLUSIONS

We have been unable to obtain any evidence that the true Mexican *Cactus grandiflorus* possesses any pharmacologic action whatever, but on the contrary, it appears to be a singularly inert substance when administered either by the mouth or by the vein.

When colossal doses of *Cactus grandiflorus* are given by the vein they sometimes—but not always—appear to exert an extremely feeble action on the heart; but this action is so slight that its nature could not be determined.

Even the most colossal doses of *Cactus grandiflorus* administered by the mouth to cats, dogs and frogs exert no perceptible effect.

If we are correct in maintaining that *Cactus grandiflorus* is inert it hardly requires further proof that any substance extracted from the drug must be inert also.

We wish to acknowledge our indebtedness to those who have assisted us in procuring authentic specimens of *Cactus grandiflorus* and to Mr. Maurice I. Smith for assistance in carrying out many of the experiments.

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Multilocular Cystic Hygroma of Neck.—In a healthy child, aged 4, who had had no children's diseases, a small, soft swelling was noticed in the angle between the left clavicle and the anterior border of the trapezius two weeks after birth. This had grown progressively in an upward and forward direction, more rapidly sometimes than at others. It had seemed to swell up at times and then decrease in size again. The last few months it had grown much more rapidly. There was no pain or dyspnea. A fortnight ago the portion beneath the lower jaw became painful and tender, with a rise of temperature to 100 F. The temperature subsided in a week, leaving this portion of the swelling hard.—Charles P. Childe, *Proc. Roy. Soc. Med.*, July, 1910.

17. Therap. Gaz., 1891, new series, vii, 315.
18. Therap. Gaz., 1891, new series, vii, 426.
19. Philadelphia Polyclinic, 1894, iii, 444.

ARTIFICIAL STIMULATION AND INHIBITION OF THE GROWTH OF NORMAL AND SARCOMATOUS TISSUES

A FOURTH ARTICLE ON CULTIVATION OF TISSUE IN VITRO *

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We have studied by the method of cultivation of tissues *in vitro,* the properties acquired by the plasma during the development of an experimental malignant tumor. The experiments were performed on chickens of thoroughbred stock, obtained from the same farm, inoculated with the sarcoma propagated by Dr. Peyton Rous. Fragments of this tumor and of normal tissues of chick embryos and adult individuals were cultivated comparatively in the plasma obtained from normal animals and in the plasmas obtained from sarcomatous chickens at different stages of the disease. Sharp differences in the rate and in the dimensions of the growth could easily be observed, even without the use of the microscope.

INFLUENCE OF NORMAL AND SARCOMATOUS PLASMAS ON THE GROWTH OF SARCOMATOUS TISSUES

Sarcoma cultivated in the plasma of the individual bearing the tumor grew very extensively. The area covered by the new cells in twenty-four hours was often fifteen or twenty times larger than the area of the primitive fragment. When the same sarcoma was cultivated in the plasma of a normal animal its growth was active although less extensive than in the plasma of the same individual. The same sarcoma cultivated in the plasma of another sarcomatous animal grew very little or even did not grow at all. If the plasma was taken from an animal recently inoculated and bearing a small tumor, it inhibited slightly only the growth of the tumor, but if it belonged to an animal bearing a very large and actively growing tumor it prevented completely the development of the cultures. Therefore the *plasma of a sarcomatous animal acquires the property of inhibiting the growth of a sarcoma taken from another animal.*

What causes the inhibition? Is it due to substances secreted by the tumor or to substances produced by the organism as a reaction against the tumor? If the inhibition is caused by substances secreted by the tumor and contained in the blood of the sarcomatous animal it might be possible to give that inhibiting power artificially to normal plasma by adding to it serous extract of sarcoma. Therefore we added a little sarcomatous extract to cultures of sarcoma in normal and in sarcomatous plasmas. The growth of sarcoma in normal plasma with sarcomatous extract was markedly accelerated. It showed, evidently, that the inhibiting power of sarcomatous plasma was not due to substances secreted by the tumor. Then it is, possibly, caused by substances produced by the organism as a reaction against the tumor. It is important to consider that the inhibiting power of the sarcomatous plasma is felt only by a tumor belonging to another animal, that is, by a homogenic tumor. The tumor belonging to the animal which has given the plasma, that is, the autogenic tumor, is not affected by the inhibiting substances. If a tumor could be sensitized to the action of the inhibiting substances

* From the Laboratories of the Rockefeller Institute for Medical Research.

existing in the plasma of the organism on which it grows, its development in the same plasma would probably be prevented.

INFLUENCE OF NORMAL AND SARCOMATOUS PLASMAS ON THE GROWTH OF NORMAL TISSUES OF NORMAL AND SARCOMATOUS ANIMALS

The comparative action of normal and sarcomatous plasmas was studied on normal spleen of sarcomatous animals, on normal spleen of normal adult animals, and on spleen, cornea, cartilage and skin of embryo chicks, eight and fifteen days old.

The plasmatic medium was taken from normal adult animals and from animals bearing small and recent tumors, or old and extensive tumors.

Fragments of spleen extirpated from a normal animal grew sometimes at the same rate in normal and sarcomatous plasmas, but it happened also very often that they grew more quickly and more extensively in sarcomatous plasma.

Fragments of spleen extirpated from a sarcomatous animal grew almost always much more quickly and extensively in sarcomatous plasma than in normal plasma.

It was also observed that spleen taken from chick embryos grew very much better in sarcomatous than in normal plasma. Embryonic connective tissue also showed a larger development in sarcomatous plasma.

The activation of growth produced by the sarcomatous plasma is affected in a large measure by the size and the age of the tumor of the animal which gave the plasma. Plasma from an animal with a large and old tumor is more stimulating for normal tissues than the plasma from an animal with a small and recent tumor.

What causes the stimulating action of sarcomatous plasmas on normal tissues, and especially on spleen?

It may be substances secreted by the tumor and diverted into the blood. In some experiments the growth of normal tissues cultivated together with fragments of tumor in normal plasma was noted to be accelerated. The results were not constant but showed that sarcoma may stimulate the growth of a tissue under certain ill-determined conditions. Therefore we attempted to modify the action of normal plasma by adding to it a little serous extract of sarcoma. Several series of experiments of that kind were performed. Normal spleen was cultivated in normal and sarcomatous plasma. In one of the series a little sarcomatous extract was added to normal and sarcomatous plasma. In the series in which no extract was added spleen grew very much better in sarcomatous than in normal plasma. On the contrary, in the series in which extract was added spleen grew more quickly and more extensively in normal plasma. It showed that normal plasma had become stimulating by mere addition of a little sarcomatous extract. The same experiments were repeated with embryonal spleen. Embryonal spleen was exceedingly sensitive to the action of the extract. We observed a very marked and sometimes an enormous acceleration of the growth. In one case, the area covered in twenty-seven hours by the new cells was almost forty times larger than the area of the primitive fragment. In a few days the primitive fragment resolved itself into cells and disappeared almost completely. Therefore, the stimulating influence for normal spleen acquired by the sarcomatous plasma may be due to a substance produced by the tumor and analogous possibly to the serous extract of sarcoma.

Is the stimulating substance specific to sarcoma, or is it contained in all actively growing tissues of connective and other types? We had already observed that the growth of cartilage can be stimulated by a fragment of quickly growing spleen, and that a new culture of spleen is activated by addition of a little piece of spleen in full growth. Nevertheless, fragments of spleen cultivated in plasma with tumor and embryonal extract, showed that tumor extract has a very much more energetic stimulating power than embryonal tissues extract.

These biologic characteristics of sarcoma have been studied only on the tumor of Dr. Rous. It will be important to ascertain whether they apply only to this sarcoma or if they express a more general law of development of experimental malignant tumors.

Sixty-Sixth Street and Avenue A.

GROWTH IN VITRO OF THE TRANSPLANTABLE SARCOMAS OF RATS AND MICE*

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Carrel and Burrows[1] have recently shown that, through the substitution of blood plasma for lymph, Harrison's method of growing *in vitro* the tissues of the frog embryo may be extended to mammalian tissues, human and fowl sarcomas. A brief description of their technic as applied to chick embryos has just appeared.[2] This procedure opens such a splendid field for experimental cancer investigation that its application to the transplantable rat and mouse tumors seems highly desirable. The size of rats and mice offers a difficulty, since the insertion of a cannula into any of the easily exposed vessels of young rats of the size best suited to tumor inoculation is rather tedious, and this difficulty is obviously greater in mice. Moreover, it appeared to us that the injury to the vessel lining through the use of a cannula would cause as much contamination with tissue juices (activator) as a simpler and easier method that we shall describe.

METHOD

The carotid artery is exposed by careful dissection for its entire length in the neck and after ligating above and clamping below with light serrefine forceps of easy grasp, is nicked with sharp-pointed scissors. The flap so made is caught with delicate forceps and the artery severed. The end of the vessel and the supporting forceps are covered with olive oil, the clamp released and the blood allowed to spurt into paraffined glass tubes of small caliber. The first drop or two of blood should not be used. In young 60 gm. rats approximately 1 c.c. of blood may be taken without causing the death of the animal. This yields a little less than 0.5 c.c. of plasma, a quantity sufficient for fifteen to twenty preparations. Twice as much plasma can be secured by bleeding the animal to death, but in many instances, as for example, in immunity studies, this may not be desirable. We have found that plasma obtained in this way remains fluid for at least a half hour and can probably be kept

* From the Department of Pathology, College of Physicians and Surgeons, Columbia University (The George Crocker Cancer Research Fund).

1. Carrel, Alexis, and Burrows, Montrose T.: Cultivation of Adult Tissues and Organs Outside the Body, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379; Cultivation of Sarcoma Outside of the Body, THE JOURNAL A. M. A., Oct. 29, 1910, p. 1554.

2. Burrows, Montrose T.: The Cultivation of Tissues of the Chick Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2057.

much longer if a low temperature is maintained. The remainder of the technic is the same as that described by Burrows, except that the tissues were teased at room temperature instead of body temperature.

We have grown *in vitro* a spindle-cell rat sarcoma and a mixed-cell mouse sarcoma, both from Ehrlich's laboratory. The rat sarcoma on transplantation gives 80 to 90 per cent. of "takes" in young animals and pursues a rapid course. In cultures we obtained growths in 70 to 90 per cent. of the preparations. Plasma from normal young rats seems to afford as good culture medium as that from the tumor-bearing animals. Routine examinations were made eighteen hours after "inoculation." At this time a certain percentage show a luxuriant growth far into the media, similar to that described by Carrel and Burrows for the Rous fowl sarcoma. Others show offshoots at various points extending several cell lengths, giving the specimen a prickly appearance. The type of cell varies with the rapidity of growth and age of the culture. In the early sprouting type of growth, the cells are long, spindle-shaped and finely granular. In later stages the cells become coarsely granular. These granules are brilliantly stained by Sudan III and Scharlach R. Where the growth has been very luxuriant the cells are irregular in shape, triangular, spindle-shaped or rounded, with long processes at one or several points. In some specimens growth does not begin until thirty-six or forty-eight hours. The cell type in these latent growths is distinctly different from that in the early wildly growing specimens and suggests that we may be dealing with a proliferation of connective tissue (stroma). Further study will be necessary to settle this point. We have not determined the final limit of growth but have noted that growth may continue for at least four days. Sections of the preparations show that most of the cells of the original piece of tissue remain alive. Mitoses are frequent.

The mouse sarcoma employed gives about 90 per cent. of "takes" when transplanted, grows rapidly and usually kills the host in four to six weeks. It may also be successfully transplanted into rats, in which for the first ten days it grows as well or better than in mice, afterwards undergoing rapid retrogression. This phenomenon suggested the use of rat plasma as a culture medium, since, apart from the value of determining the possibility of growing mouse sarcoma in rat plasma, the larger quantity of plasma obtainable facilitates the technic. Results were positive in a majority of the preparations. The growth in some was even more luxuriant than in the case of the rat sarcoma.

This preliminary study, then, indicates that cultural methods may be easily adapted to the experimental investigation of the transplantable rat and mouse tumors.

437 West Fifty-Ninth Street.

A CASE OF GANGRENE OF APPENDIX AND OMENTUM

OPERATION AND RECOVERY

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History.—The patient, R. R. A., O. S., was admitted to the hospital at 11 a. m., Dec. 10, 1909. Patient had reported at sickcall on morning of December 8, complaining of pain over entire abdomen, and diarrhea. On December 9, pain became localized in right iliac region. Temperature 99.5 F., pulse 82, respiration 18. On the evening of the 9th, temperature was 101 F., pulse 84, respiration 24; tenderness over right iliac region.

Examination.—On admission to the hospital the temperature was 101 F., pulse 120 and respiration 22, with pain and tenderness over appendix and rigidity of right rectus muscle. The patient was prepared for operation, which was performed at 2 p. m. Just prior to the operation the temperature was 101.4 F., pulse 122, and respiration 22.

Operation.—Under general anesthesia (ether) and with the usual aseptic and antiseptic precautions, an incision was made over McBurney's point, through the abdominal wall and into the abdominal cavity. The peritoneum was found much thickened from recent inflammation. The appendix was bound down by adhesions and its distal end was wrapped up in, and surrounded by, a dense mass of inflamed and gangrenous omentum. The last 1½ inches of the appendix were gangrenous, and it had ruptured about half an inch from the tip. Adhesions were broken down and the appendix was amputated, stump cauterized and invaginated into the cecum by a purse-string suture. The inflamed and gangrenous omentum (3 by 6 by 1½ inches) was ligated and amputated. The appendix was 5½ inches long, 1½ inches in circumference at its base and 2 inches in circumference near its tip. After removing the appendix and omentum, the abdominal cavity was flushed out with hot normal salt solution and the wound in the abdomen closed for two-thirds of its extent (peritoneum with fine catgut; muscles with chromicized gut; and skin with silkworm gut), and a drainage-tube inserted into the open one-third and dressings and a bandage applied over all.

Subsequent Course.—Patient was returned to bed in fairly good condition. At 7 p. m. his temperature was 100 F., pulse 120, and respiration 20, and he was given 1,500 c.c. of normal salt solution by proctoclysis; complained of some pain and tympanites. The patient was given a liquid diet and salol internally and did well, the wound closing slowly from the bottom, and the discharge lessening daily until January 10, when it was entirely healed and the entire gastro-intestinal tract in excellent condition and working normally. He has continued in excellent health since his recovery from operation.

This case shows what a serious condition of affairs may exist in the abdomen before any symptoms are observed; and even when symptoms do make their appearance, they are by no means indicative of the severity of the condition causing them. The symptoms in this case would not have led one to think that such a wide-spread gangrenous condition was present in the abdomen.

UMBILICAL HERNIA—AN UNUSUAL CASE

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Umbilical hernia in itself is, of course, not at all uncommon, but the symptoms in this case were so peculiarly veiled that a brief summary may be of interest.

History.—Mr. X., aged 50, weight 160 pounds, had had the ordinary children's diseases with no complications; always enjoyed good health; no history of abdominal trouble of any kind. Three weeks prior to the first time I saw him, following a violent attack of sneezing (unrestrained), he suddenly had a sensation as if something had given away in his abdomen, and in a short time he was seized with an acute lancinating pain, centralized two inches to the right and one inch below the umbilicus. Generally it was of a grumbling character, giving the patient constant unrest. The duration was from a few hours to three days and was not influenced by standing, exercise, lying on the back or side or sitting. The patient would sometimes be awakened out of a sound sleep by the agonizing pain. It caused no gastric or intestinal disturbance. The general health, appetite, and so forth, were excellent. Rheumatic treatment, opiates and various applications (heat and cold, salves, lotions, etc.) were used to no avail by various physicians.

Examination.—The patient was a man in the prime of life, of good color, etc., but with a worried expression. No adventitious signs of any nature were noted until I came to a more intimate abdominal examination. The abdomen was rounded, with a tendency toward a slight protuberance; the navel was deep and no impulse seen on coughing suggestive of a hernia of any kind; no rigidity or spasm of abdominal muscles and no sign of tenderness on pressure even over the point (above mentioned) where he said that his pain was localized. There was no tenderness over McBurney's point, even with the psoas put on the stretch (Weir's method). On inserting the tip of the little finger into the umbilicus and getting the patient to cough, I noted a distinct impulse. This impulse was in the lower right quadrant and I could make out a loss of substance of the ring, wedge-shaped with the base of the wedge directed outward. Over this edge, on pressure, the patient complained of pain which was sufficiently acute to make him wince.

Treatment.—A proper abdominal truss with plate attachment was ordered and all discomfort subsided and has not returned after some months' duration, except when temporary removal of truss caused a return of the previous symptoms. The patient is still wearing the truss.

CONCLUSIONS

A portion of the great omentum must have been forced into this wedge-shaped space and either by pressure on its raw edge or a squeezing of the peritoneal lining, involved a nerve filament and thus referred the pain, not at the site of the trouble, but downward to the point the patient elected.

171 West Ninety-fifth Street.

TRANSFUSION OF BLOOD BY A NEW METHOD, ALLOWING ACCURATE MEASUREMENT

PRELIMINARY REPORT *

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During the past year, we have had occasion to perform, in conjunction with some experimental work, a considerable number of transfusions on dogs, the result of which will be reported at a later date. One of us, together with Dr. Louis Pollock of the Dunning Infirmary, has also transfused thirteen human patients afflicted with pellagra. In all of these cases, with one exception, the artery-to-vein method of Crile was employed. In one instance vein-to-vein anastomosis was performed.

From study of the literature, as well as personal experiences, we have obtained certain impressions of the most approved methods of transfusion now in vogue, which we would summarize as follows:

1. The operation requires delicate technic, such as is possessed only by those who have had extensive experience in blood-vessel surgery.

2. Considerable time is consumed in performing anastomosis of the vessels.

3. The rate of flow and the amount of blood transfused are not measurable.

4. The flow of blood sometimes ceases before the desired amount has been transfused, even though the operative technic is excellent.

5. Movement of either donor or recipient may tear the vessels apart at their point of union, in spite of the watchfulness on the part of the operators.

6. In infectious patients there is always danger of transfer of infection from the recipient to the donor. This is most liable to occur through the rubbing of the raw surfaces which are held or bound together during the entire procedure.

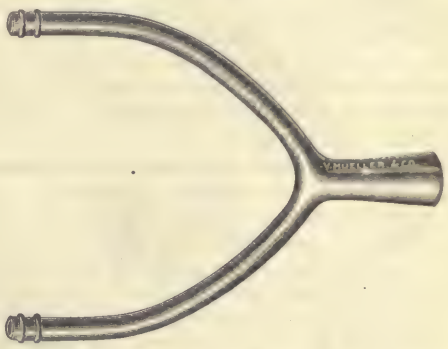
We believe that the method which we now employ overcomes most of these difficulties. Thus far it has proven entirely satisfactory.

The studies of Freund and Bordet and Gengou[1] have demonstrated that blood introduced into vessels coated with paraffin petrolatum remains uncoagulated for several hours. Practical use of this fact has been made in the development of our method.

The following instruments are required:

The usual instruments for exposure of vessels and suture of wounds; three mosquito forceps; two vessel clamps; one 100 c.c. Porges ground-glass syringe; and one especially constructed ground-glass or metal Y cannula.

The cannula consists of a neck and two arms (see illustration). The tips are 2 to 3 mm. in diameter and are provided with slightly raised collars to guard against slipping of ligatures. The neck of the cannula has a conical lumen which forms a firm smooth union with the end of the Porges syringe, which is inserted into its base. (Any other carefully constructed ground-glass syringe serves the purpose equally well.)



The syringe and cannula are sterilized by the dry method, fitted together under aseptic technic and uniformly warmed over a flame. About 25 c.c. of sterile hot petroleum is then aspirated into the apparatus, and, after the latter is thoroughly and rapidly coated by working the piston up and down, the excess is forcibly ejected through the ends of the cannula.

The median basilic or other prominent vein of the elbow region is now exposed in both donor and recipient for a distance of 2 to 3 inches. The vein of the recipient is ligated at the end toward the hand, stripped of blood toward the heart and a rubber-protected vessel-clamp applied as far as possible away from the ligature. A clamp is then applied to the distal end of the donor's vein, the vessel is stripped toward the heart and ligated proximally. Each vessel is in turn cut squarely across near its ligature, caught up at three equidistant points by mosquito forceps and irrigated with warm salt solution. A cannula end is introduced into each vein and tied in position so that one cannula is continuous with the recipient's vein and the other with the vein of the donor. The clamp on the donor's vein is released and a syringeful of blood is carefully aspirated. The clamp is then replaced and the one on the recipient's vein removed. The blood is very slowly injected into the recipient and the clamp reapplied. This procedure is then repeated until sufficient blood has been transfused.

* From the Memorial Institute for Infectious Diseases. This work was aided by a grant from the Fenger Memorial Fund.

1. Ann. de l'Inst. Pasteur, 1903, p. 822.

REPORT OF EXPERIMENTS

EXPERIMENT 1.—Large dog. A medium-sized saline transfusion cannula to which a 100 c.c. Porges syringe was accurately fitted was sterilized and well lubricated with petrolatum. The external jugular vein was exposed, a slit made in it at its upper end, and the cannula tied into the vein pointing away from the heart. Eighty c.c. of blood were aspirated into the syringe and the vein was ligated above the cannula. A slit was then made in the vein an inch nearer the heart and the cannula inserted pointing toward the heart. The blood was slowly injected, the vessel was ligated and the incision closed. Uneventful recovery.

EXPERIMENT 2.—Small dog, donor; medium-sized dog, recipient. A Y cannula and a 100 c.c. Porges ground-glass syringe were used, after usual preparation of the apparatus. External jugular vein of each dog exposed. The vein of the recipient was ligated near the distal end, stripped of blood and an artery clamp applied proximally. The recipient was bled 100 c.c. from another vein. An artery clamp was placed high up, distally, on the vein of the donor, the vessel was stripped of blood and ligated at the end nearest the heart. Each vein was in turn cut squarely across near the ligature, caught up at equidistant points with mosquito forceps and irrigated. Each vein was then slipped over an arm of the cannula and tied in position. The cannula tips now pointed toward the head in the donor's and toward the heart in the recipient's vein. The clamp on the donor's vein was removed and the syringe filled with blood, after which the clamp was reapplied. The clamp on the recipient's vein was then removed and the blood (100 c.c.) slowly injected. The clamp was then reapplied. The process was repeated and 75 c.c. more of blood were injected into the recipient's vein. The vessels were ligated and the wounds closed. Blood retained in the apparatus was liquid.

Results.—Blood-smears twenty-four hours afterward showed red cells normal in all respects. There was a normal percentage of polynuclear leukocytes, and no evidence of phagocytosis of the red cells could be found. Observation of the recipient for a number of days showed nothing abnormal.

EXPERIMENT 3.—Medium-sized dog. Usual preparation of apparatus. Three-inch exposure of external jugular vein. A clamp was placed high up on the vein, the blood was stripped out of it and a clamp placed nearer the heart. The vessel was then cut in the center between the clamps, the cut ends grasped with mosquito forceps, irrigated and each cut end slipped over one arm of the cannula and tied in position. One hundred c.c. of blood were transfused from the distal into the proximal end of the vein. Uneventful recovery.

EXPERIMENT 4.—Medium-sized dog. A 100 c.c. one-piece tubular glass chamber with divergent cannula at its base was used. Transfusion from the common carotid into the internal jugular vein toward the heart was performed. A large aspirating syringe fitted to the neck of the chamber exerted the desired positive and negative pressure. Four hundred c.c. of blood were transfused. Recovery prompt.

EXPERIMENT 5.—Medium-sized dog. Apparatus as in Experiment 4. Both external jugular veins were exposed and 350 c.c. of blood were transfused from the left into the right toward the heart. Uneventful recovery.

EXPERIMENT 6.—Two medium-sized dogs. Apparatus consisted of the Porges syringe and Y cannula with usual preparation. The donor in the experiment had been the recipient in one of the preceding experiments. Internal jugular of donor and external jugular vein of recipient exposed. Vessel clamp on the distal end of the donor's vein, which was stripped free of blood and ligated toward the heart, cut near the ligature, the end irrigated and tied over one end of the cannula. The recipient's vein had vessel clamp applied proximally. The vein was ligated toward the head and cut across near the ligature, the end irrigated and tied over the other arm of the cannula. Two hundred and fifty c.c. of blood were transfused from the donor into the recipient. Recovery was uneventful.

TRANSFUSION IN A HUMAN SUBJECT

Thus far, we have used our apparatus in but one human transfusion. The donor was a healthy, middle-aged man with negative history. The recipient was a patient about 50 years old with a severe case of pellagra. Preliminary hemolysis tests were negative. The patients were placed side by side with heads in opposite directions; their left arms were extended at right angles so that their elbows were in apposition. Preliminary to the transfusion a moderate amount of blood was removed from the recipient. The median basilic vein of each was freed by dissection for a distance of about three inches. The vein of the recipient was ligated distally, stripped in a proximal direction and a clamp applied high up. A vessel-clamp was applied to the distal end of the donor's vein, the vessel was stripped in a proximal direction and ligated. Petrolatum was applied to the field of operation. The vessels were in turn cut squarely across, caught with mosquito forceps, washed out with salt solution and tied over the arms of the Y cannula. One hundred and sixty c.c. of blood were transfused. Uneventful recovery.

Some may hesitate to use the apparatus because of the fear of fat embolism from the petroleum used to coat the instruments. Certain facts which speak strongly against such a possibility may be mentioned. Physiologic salt solution at body temperature, repeatedly aspirated and expelled from the petrolatum-coated syringe, did not show an accumulation of fat on the surface of the solution. Even were fat introduced into the circulation, (and this we think unlikely) it would be in an amount so small that no serious effects could result. The animals used in our experiments showed no evidence of embolism. Carrel,[2] in performing vessel transplantation, used large segments of vessels which had been placed in petrolatum; he reports no ill effects.

While our technic seems simple, every step outlined in its execution is essential to its success. The careful coating of the apparatus with petrolatum, stripping of the vessels, thorough cleansing of their cut ends with salt solution, and gradual injection of the blood are most important. The method is in accord with experimental observations and has thus far proved entirely successful in practice, yet it must be understood that this report is a preliminary one, and that the work is as yet in the experimental stage. At present, however, the method appears to possess the following advantages:

1. The amount of blood transfused can be accurately measured.
2. The rate of flow may be definitely controlled.
3. There is simplicity of technic with great saving of time. In emergency cases this should be of great benefit.
4. Success in the transfer of blood is assured.
5. There is lessened danger of transfer of disease from the recipient to the donor.

103 State Street—72 East Madison Street.

Large-Celled Sarcoma of Brain.—The patient, a boy aged 16, was brought to the out-patient department for deafness. On investigation there seemed to be no deficiency in the auditory apparatus, but very slow cerebration. No paralysis or other motor symptoms were found, except tremors of hands and nystagmus. Sight was good, but there was double optic neuritis, slight pain in the head, and no vomiting, except on one day. He was admitted as an in-patient a few days later, and he become progressively more and more drowsy; he could, however, take his food, and had no incontinence. About two weeks later sight began to fail rapidly; there was intense optic neuritis in both eyes. An operation was proposed to relieve pressure, but the patient in about twenty-four hours passed into a condition of coma and died from apparently sudden cardiac failure.—John T. Leon, *Proc. Roy. Soc. Med.*, July, 1910.

2. Carrel: Ann. Surg., 1910, lii, 462.

DIPHTHERIA IN ITS RELATION TO PUBLIC HEALTH

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INDIANAPOLIS

Many of the difficulties encountered by those engaged in public health work arise from the failure of many practitioners to realize the significance of certain facts that are matters of common knowledge to laboratory workers. The following paper is based on an analysis of the examinations of throat cultures at the bacteriologic laboratory of the Indiana State Board of Health. The facts presented are not essentially new, but because of their importance in public health work their rehearsal is thought to be warranted.

The total number of throat cultures examined for diphtheria bacilli during the year ending Oct. 31, 1910, was 2,288. Of these, 624, or 27.2 per cent., were positive.

The influence of school attendance on the incidence of diphtheria in this state is quite marked. Smith's report[1] to the London County Council in 1896 showed that the greatest incidence of this disease in England and Wales was among children from 1 to 3 years old, *i. e.*, before the school age. According to our statistics, however, only 17 per cent. of positive first cultures were from patients under 5 years of age, while 58 per cent. were from patients between 6 and 14, and 12 per cent. from patients between 15 and 20. The average number of positive first cultures per month during the vacation period was sixteen, as contrasted with a monthly average of seventy-seven during the school term. The influence of attendance at school appears to be most marked at the beginning of the school year, since the average for September, October and November was 110 positive cultures, while for February, March and April it was only twenty-three. The results last year were in the same proportion.

While age is an important factor in the etiology of diphtheria, it is a mistake to consider the disease exceedingly rare in adults. Thirteen per cent. of our positive first cultures were from patients over 21 years old. If cultures had been taken from as large a proportion of the cases of sore throat in adults as in children the percentage of positive results in grown persons would undoubtedly have been larger.

In 1,164 cases the physician made some definite statement as to clinical diagnosis. The results of the comparison of the clinical and bacteriologic diagnoses are shown in Table 1.

TABLE 1.—THE RELATION OF BACTERIOLOGIC TO CLINICAL DIAGNOSES

Clinical Diagnosis	Bacteriologic Diagnosis Positive	Negative	Totals
Diphtheria	161	118	279
Not diphtheria	118	537	655
Doubtful	81	149	230
Totals	360	804	1,164

Of 279 cases diagnosed as diphtheria by the physician, only 161 or 57.7 per cent., proved positive. Of 655 cases diagnosed as tonsillitis, ordinary sore throat, etc., *i. e.*, "not diphtheria," 118, or 18 per cent., showed the bacilli in cultures. Out of 230 "doubtful" cases, eighty-one, or 23 per cent., were found to be diphtheria. These percentages are not materially changed if the figures for the last two years, representing a total of 2,047 positive first culture cases, are taken. This is not due to local conditions in Indiana. At the Boston City Laboratory,[2] 68 per cent. of cases diagnosed as diphtheria clinically contained diphtheria bacilli; at the Philadelphia Laboratory,[3] 83 per cent.; and at the Chicago Laboratory,[4] only 34 per cent.

That the presence of a membrane or exudate is no absolute criterion in diagnosis is shown by the fact that of 845 cases in which a membrane or exudate[5] was said to be present, only 288, or 33 per cent., were positive, while of 271 cases with no membrane or exudate, forty-three cultures, or 16 per cent., were found to contain diphtheria bacilli.

The chances of error in the clinical diagnosis of diphtheria should be borne in mind by physicians on account of the necessity of quarantine in this disease. It is evidently unjust to both the patient and his family to place him in quarantine on a clinical diagnosis of diphtheria which, in over 40 per cent. of the cases, is proved by bacteriologic examination to be incorrect. On the other hand, it is not right to endanger the community by allowing a child to go about at will because a physician, on clinical grounds alone, has pronounced the case not diphtheria. Such diagnoses are proved bacteriologically wrong in about 18 per cent., of the cases. The statement seems to be warranted, then, that a physician is never justified in depending solely on the clinical picture for final diagnosis when the results of a laboratory examination can be had within a reasonable time. This statement applies not so much to treatment as to the proper regulation of quarantine.

Of 350 positive first culture cases, in which the physicians gave some information as to exposure, in only ninety-four (26.8 per cent.) did the patient give a definite history of having been in contact with some person suffering from diphtheria. In 109 instances, 31.1 per cent., diphtheria was present in the community but the patient had not been exposed, while in 150 cases, 42.8 per cent., no source of infection could be found.

There is no law or rule in this state requiring one or more negative cultures before a patient is released from quarantine. Hence, the records of this laboratory furnish very little data concerning the length of time diphtheria bacilli may remain in the throat after apparent recovery from the disease. The records of last year, however, show that in thirty-six cases, diphtheria bacilli were still present, as shown in Table 2.

TABLE 2.—RECORDS OF PRESENCE OF DIPHTHERIA BACILLI

After 6 to 10 days in	6	cases
After 11 to 15 days in	10	cases
After 16 to 20 days in	10	cases
After 21 to 25 days in	3	cases
After 26 to 30 days in	4	cases
After 41 to 45 days in	2	cases
After 58 days in	1	case
Total	36	cases

SUMMARY

The influence of school attendance on the incidence of diphtheria is shown (a) by the very large percentage of cases that occur in children within the school age, and (b) by the higher monthly average of positive cultures received during the school months as compared with the vacation months.

1. Smith: Jour. State Med., 1896, iv, 169.

2. Twenty-Ninth Ann. Rep. Health Dept. of Boston, 1900. p. 96.
3. Personal Communication from Dr. J. S. Neff.
4. Rep. Chicago Board of Health, 1905, p. 46.
5. No distinction is made here between a membrane and an exudate, because the statement of the physician was in many instances so confusing that an attempt at distinction was impracticable.

The chances of error in the clinical diagnosis of diphtheria are so numerous and the period of time during which virulent bacilli may remain in the throat after apparent recovery is so variable that a physician is never justified in quarantining or releasing a diphtheria patient without a bacteriologic examination, if such is obtainable.

PYELITIS OF PREGNANCY

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The etiology of pyelitis complicating pregnancy is somewhat obscure. The predisposing causes are the following:

1. Pressure on one or both ureters by the gravid uterus. Experimental studies on the cadavers of pregnant women show that the right ureter is more frequently pressed on by the uterus. It is well known that the right kidney is much more frequently affected in pyelitis of pregnancy.

2. Infection of the urinary tract; cystitis, ascending or hematogenous infection above the point of pressure.

3. Constipation is often stated as a possible cause, due to the presence of *B. coli communis* as the most frequent exciting cause. The hypothesis is that constipation and its inflammatory changes in the wall of the colon permit the bacilli to be carried directly from the colon to the pelvis of the kidney, and the close proximity of the colon to the right kidney rather strengthens this hypothesis.

4. Infectious diseases.

5. Traumatism is said by MacFarlane to be more often the predisposing cause than generally supposed.

6. Physical conditions which lower the vitality of the patient, such as exposure to cold, lack of proper food, etc.

7. Multiparæ and primiparæ seem to be almost equally affected.[1] So far as one can judge from reported cases, there does, however appear to be a slight excess of primiparæ.

8. From the fifth to the eighth month is the usual time of onset.

The exciting causes are (Mirabeau):[2] (1) gonorrheal infection; (2) pyogenic micrococcus infection; (3) *B. coli communis* infection; (4) tuberculous infection.

Tuberculous infection is well recognized as of frequent occurrence in cases of pyelitis, yet its presence during pregnancy would immediately raise the suspicion of its existence prior to the pregnancy, in which case pyelitis of pregnancy would not exist. Gonorrheal and pyogenic micrococcus infections are much more probable. The literature does not, however, warrant percentage statements. Swift[3] collected sufficient cases to warrant the assertion that *B. coli* infections are the most frequent in these cases: in seventeen examined bacteriologically this bacillus was found in pure culture seventeen times.

The diagnosis is that of a pyelitis developing for the first time during pregnancy, and usually disappearing before or during the puerperium.

The onset may be insidious or stormy, often with the marked chills and fever of advanced sepsis. The course depends on the exciting cause and the treatment. In most cases, especially those due to *B. coli*, the systemic and urinary signs disappear gradually within a few (two to ten) weeks under the treatment outlined below. In the forty cases collected by Swift, spontaneous premature labor occurred four times, was induced once, nephrotomy was performed once ante partum and four times post partum. Opitz[4] states that in the cases reports of which were collected by him, out of sixty infants born, seven were stillborn or died soon.

The following treatment is rational and well supported by those who have written on the subject:

1. Absolute rest in bed.
2. Fluid, preferably milk, diet.
3. Mild catharsis.
4. Hexamethylenamin, 0.5 gm. every three hours night and day in a full glass of cold water. The frequency of dosage is gradually lessened as the case improves.
5. Posture to relieve the ureter on the affected side, if the infection be single. The patient is instructed to lie as much as possible on the left side, should the right kidney be affected.
6. The statement that interruption of pregnancy is seldom if ever necessary appears to have the support of all those who have had experience with pyelitis of pregnancy.
7. Autogenous vaccine treatment has found favor with Hicks, and future experience may fully demonstrate its usefulness.
8. Topical applications in the bladder, or in the pelvis of the kidney, of the salts of silver, or other like antiseptic solutions, seem to be of service in severe cases, although in the average case of *B. coli* infection, the patient will do well on hexamethylenamin alone.

The following case will serve as an illustration:

Mrs. R., aged 23, primipara, pregnant six and one-half months, voided normal urine one week previous to the onset of the pyelitis. August 27, the patient had a chill, the temperature reaching 103 F., taken by mouth. From the first, pain was complained of on the right side of the abdomen from the right hypochondriac region downward into the pelvis. There was no abdominal distention and very little rigidity over the right kidney, which was very tender on slight pressure. The second day of the illness, urinalysis showed the presence of pyelitis, and blood examination proved a leukocytosis of 20,000 per cm., with 87 per cent. polynuclears. The urine gave a heavy trace of both serum and nucleo-albumin; one pus-cast was found; the pus-cells were well distributed, not in clumps, forming on sedimentation one-fifteenth of the whole bulk of the urine; specific gravity 1,024; sugar, none; reaction, strongly acid to litmus. The ureters were not catheterized because the diagnosis seemed clear without the operation. The patient was convalescent September 1 at the end of about a week from the onset, the temperature twice reaching 104. Bacteriologic examination of the urine, drawn aseptically from the bladder, showed a bacillus of the morphology and cultural characteristics of the colon bacillus.

For some weeks previous to the onset of pyelitis and during the remaining months of the pregnancy, the patient complained of the most intense itching, worse at night, and accompanied by a maculopapular eruption generally distributed over the trunk, arms and legs, but not on the face. The condition being mistaken at first for pediculosis vestimenti because the eruption at that time consisted in little more than the marks of vigorous scratching, antiparasitic treatment was rigorously tried without effect. Mild catharsis with menthol applications gave temporary relief. Yet despite every method of treatment we could devise the patient lost night after night of sleep because of the itching. October 30, two weeks before term, I delivered her of a normal six-pound infant. Within

1. Cragin: Med. Rec., New York, July 16, 1904.
2. Mirabeau, S.: Schwangerschafts-Pyelitiden, Arch. f. Gynäk., 1907, lxxxii, 485.
3. Swift, J. B.: Boston Med. and Surg. Jour., Feb. 21, 1907.
4. Opitz, E.: Ztschr. f. Gynäk., 1905, iv.

twenty-four hours the itching had subsided, and the eruption disappeared within three days.

The urine contained albumin and pus at intervals during the last month of the pregnancy in amounts sufficient to cause anxiety, and at times very little of either. The last specimen examined the day before delivery was free from both pus and albumin. At no time after the attacks described above were serious systemic effects noted. The urine after delivery contained neither pus nor albumin.

Therapeutics

INFANT MORTALITY: MILK

Few subjects have attracted more attention during recent years than that of infant mortality. It is not a new subject, for it received, thirty or forty years ago, much attention from members of the medical profession who specialized on diseases of infancy and childhood. But it seems to have been the rule that little attention was paid by the public to what was said by physicians. After several decades it seems to have occurred to political economists and sociologists that many lives might be spared to the state, presumably for useful service, if a little more attention was paid to the prevention and cure of some of the diseases which cause an astonishing mortality among babies.

An infant is defined by Foster as "a child not yet old enough to talk and walk."

Dr. J. Lewis Smith ("Diseases of Children," fifth edition, 1881) says, "Infancy extends from birth to the age of two and one-half years, or until the completion of first dentition."

The extent of the mortality among infants has been variously estimated by various statisticians. An estimate, which is generally accepted as not far from the fact, is that 15 per cent. of all children born die before they are one year old. Approximately one-third of these deaths during the first year are due to congenital malformations, deformities and weaknesses; another third to diarrheal diseases; a little less than one-fourth to respiratory and tuberculous diseases; and the remainder to other diseases.

It is toward the diminution of the number of deaths from diarrheal diseases that the present crusade is most conspicuously directed. A very large proportion of these deaths occur during the hot weather, between July 1 and October 1, and are directly traceable to improper feeding and improper food. Hence arises the great importance of the problem of feeding the infant.

When the fact is recalled that the milk of different animals varies in composition, it is not necessary at the present day, and in the present advancement of scientific knowledge, to enter on any argument to attempt to prove that the milk of the human mother is the very best food for the human infant during the early months of its life. Every woman, therefore, who gives birth to a living child, unless she is suffering from some serious disease, should nurse her child. This course is not only decidedly advantageous to the mother, but is also of the greatest importance to the child.

No artificial method of feeding has ever been devised which is as beneficial as nursing at the breast of a healthy mother. Unfortunately, many mothers object to performing this duty on various grounds; some because they have sore nipples and nursing is painful; others because the baby will not take the nipple, and therefore is given a bottle instead; others because they think that their milk is not adequate in quantity or of sufficiently good quality to properly nourish the baby; others because they think that their health is being undermined by the drain on the system incident to lactation; and still others because they are unwilling to give up social pleasure so as to be available to nurse the baby every two or three hours. All these conditions should be taken into account by the physician, and such as are present in any individual should, if possible, be removed. He should emphasize to the mother the great importance, both to herself and to her baby, of providing the natural food from her own breast for her baby. He should also give explicit directions to the nurse in regard to the care of the breasts and nipples so that the latter may not get sore, a condition which not infrequently is accompanied by serious diminution of the flow of milk. The nurse should be instructed in regard to the frequency of nursing, and entirely to avoid feeding the baby (unless it is too weak to nurse) anything except what it extracts from its mother's breast. She should also be instructed in regard to the food which should be given to the mother in order to encourage the flow of milk, and in regard to requiring the mother to rest, and to avoid overexertion, which sometimes seems to diminish the flow of milk. It should be impressed on the nurse that it is a reflection on her ability if her puerperal patient does not nurse her baby.

It perhaps seems to some to be a waste of time to write or read anything so trite and commonplace as the statements above, but their great importance amply justifies their repetition at this time and in this place, and especially because (1) there are a few physicians who even now do not insist on their patients nursing their own babies, because (2) some nurses encourage young mothers not to nurse their babies, but to bring them up on the bottle, and because (3) many mothers insist that they do not want to nurse their babies on account of the inconvenience which is associated with the performance of this maternal duty.

If the mother cannot or will not nurse her own baby the next best resource is a good wet-nurse. By this means the baby is supplied with human milk, and if the nurse is healthy, and was delivered at approximately the same date as the child's own mother, the substitute will usually prove very satisfactory. But practically this method of feeding a baby is applicable to only a very limited number of the babies who are denied nourishment at their own mother's breast.

In connection with this subject the question arises: How long should maternal lactation be continued? Thirty years ago it was advised to begin to give other food than milk at the age of six months, and to discontinue lactation entirely at the end of twelve months, or if this time came during the summer, to postpone weaning until the hot weather was over. More recently, other writers, like Dr. Joseph E. Winters of New York, have maintained that other food should be added after the second month, at which time the maternal milk shows a decided diminution in the amount of protein and mineral constituents. Winters maintains that "it is physiologic to wean as soon as practicable after the second month," but that among the poorer classes, on account of the difficulty of getting fresh, pure milk, weaning should not be advised at the end of the second month, but that nursing should not be continued beyond the fifth or sixth month. This advice will be accepted with considerable caution by most practitioners, who prefer

as a rule, that, if there is a good supply of milk of normal quality, supplementary feeding should commence at from four to six months, and nursing should not be entirely discontinued until from the tenth to the twelfth month. On the other hand, if a mother is determined not to nurse her baby at all, on account of her desire to enter actively into social life, or to avoid the trouble and inconvenience of lactation, the physician may propose, as a sort of compromise, that she should nurse the baby until the end of the third month, and then wean it. If she will do this, the infant will be carried over the period—the first three months of its life—during which artificial feeding is conducted with the greatest difficulty and the least success.

But there yet remains in addition to the not inconsiderable number of mothers who absolutely refuse to nurse their babies, another by no means small number of those who think that they cannot nurse their babies and do not, and still others who for various reasons really cannot nurse their babies.

When human milk is unobtainable, the best substitute, from a practical point of view, is cow's milk, because it can generally be obtained in abundance in a more or less fresh state. Its composition is well understood, also the respects in which it differs from human milk. Like everything else in common use, it varies greatly in quality, and some of these variations are intimately associated with unhealthfulness. Years ago consumers were especially disturbed by the abnormal proportion of water which many specimens of milk contained, and which was alleged to have been introduced surreptitiously by the producer or the dealer. This adulteration has largely been prevented by state legislation and the activity of local health boards.

With increasing knowledge of fermentation and putrefaction, and the relation of bacteria to these processes, it became evident that milk, although kept free from intentional dilution and contamination, readily underwent deleterious changes under the influence both of its inherent tendencies and of extraneous contaminating matters accidentally introduced into it. At present the most important cause of the deterioration of milk and the development of deleterious qualities in it appears to be the growth of bacteria. It seems to be practically impossible, even with the greatest care, to secure milk which is entirely free from bacteria, even when it is first drawn from the cow. Possible sources of contamination are dust and dirt in the air of the barn or dairy, and manure and other dirt loosely adherent to the hair of the cow, the hands and the clothing of the milker, and the utensils used in the transportation of the milk.

It would consequently appear that the work of extracting the milk from a cow should be conducted in the same way as an aseptic surgical operation.

1. The barn, or whatever place is occupied when the cow is milked, should be constructed so that it can be readily and thoroughly cleaned, and it should be cleaned at short intervals. This will be accompanied by a diminution in the amount of dirt and dust and bacteria in the air, and so the amount of contamination is diminished.

2. The milker, whether milkmaid or milkman, should wear clean clothing and have his hands cleaned by careful washing.

3. The cow should be made clean by washing and regular brushing, so that no manure adheres to the hair to be shaken or brushed off into the milk.

4. The utensils used in handling the milk, and especially the milk-pails, should be thoroughly sterilized by careful washing with boiling water.

By using effective caution in these four particulars the contamination of the milk may be greatly lessened. As precautions in these directions are imperfectly carried out, the number of bacteria increases and the conditions are more favorable for early deterioration of the milk.

Practically, most milk which is furnished to the consumer contains an abundance of bacteria, and an important practical problem is how their injurious effects may be avoided. It has been found that the growth of bacteria is prevented by a low temperature. Therefore, it is apparent that all milk should be cooled to a temperature not above 50 F. as rapidly as possible, as soon as it is drawn from the cow, and it should be kept at a temperature not above 50 F. until it is used.

But what milk-producers should do, and what they really do, are very different things. It is found that a large proportion of milk actually furnished to consumers contains a large number of bacteria, and that in many cases, through the growth and multiplication of the bacteria, it has already undergone changes which render it an unsafe food for human beings, and especially for infants. Not so very many years ago the advice was given to obviate this defect by "sterilizing" the milk by boiling it. It was even advised to sterilize all the milk which was fed to infants. This was soon found to be objectionable (1) because it altered the taste and made the milk less palatable, and (2) because exposure to such a degree of temperature as was necessary to boil milk produced such changes in it, including a destruction of the enzymes, that it was not a good food for infants.

Next in order to avoid this interference with the digestibility of the milk, it was proposed to subject the milk to such a temperature, below the boiling-point, as would inhibit the growth of bacteria and would not make other objectionable changes in it. This temperature was found to be about 140 F., and the process of heating the milk to this temperature was designated as "pasteurization." In recent years pasteurization has become almost a craze, and has been extensively employed, especially in large cities, and unquestionably with a favorable influence on infant mortality. But some have objected to this process, and here we must again quote Winters, who maintains that even pasteurization causes a dissociation of the organic combination of the protein and mineral constituents of the milk so that they are less suitable for assimilation by the infant. Where it is possible for the consumer to get milk which has been produced under favorable conditions, and to get it at once, as soon as it comes from the cow, without the delay incident to transportation, and when it is properly cared for by the consumer and used within twenty-four hours, there is no need of pasteurization.

Where, on the other hand, as is the case in most large cities, milk is twelve or twenty-four hours old when it reaches the consumer, and consequently at least a part of it is thirty-six or forty-eight hours old before it is consumed, and when the conditions under which it has been produced are unknown to the consumer, great care must be exercised to keep it at a low temperature until it is used, and then, for infants it certainly should be pasteurized.

During recent years municipal boards of health, by the enactment of ordinances regulating the production

and distribution of milk, have accomplished very gratifying results in improving the quality of milk. Occasionally, however, it becomes contaminated with pathogenic organisms. Epidemics, more or less extensive, of typhoid fever, scarlet fever, and diphtheria, have been traced to milk which has become infected. It seems proved that tuberculosis is caused by drinking milk coming from tuberculous cows and infected with tubercle bacilli. These facts are used as an argument, by some, for the routine pasteurization of all milk used for human consumption. It has been shown that subjecting milk for twenty minutes to a temperature of 140 F. destroys the pathogenic organisms therein.

A conservative man might well hesitate to advise universal pasteurization, but it is evident that the fresher the milk and the better the conditions under which it is known to be produced and distributed, the less need is there for any treatment designed to inhibit the activity of germs. On the other hand, the longer the time that elapses from the milking of the cow to the consumption of the milk, and the less that is positively known as to the salubrity of the conditions under which the milk is produced and distributed, the greater necessity is there for resorting to some means of destroying the pathogenic and other bacteria which are, or which are likely to be, present. For thus destroying the microorganisms in milk, which are such a menace to the health of consumers of milk, and especially of infants and young children, no method, at present in general use, is of more practical utility. To a family which has a healthy cow in its own stable cared for by a cleanly and careful man, it is not to be suggested. To one which has to use milk produced no one knows where, under conditions of which the consumer knows nothing, and which is of unknown age, pasteurization will often prove the means of avoiding not only the local disturbances of the digestive organs, but also sometimes of escaping one of the general infectious diseases.

Special Article

TYPHOID FEVER IN DES MOINES, IOWA

(By Our Special Commissioner)

Des Moines, the capital and largest city of Iowa, is situated almost at the center of the state, at the junction of the Des Moines and Raccoon rivers. It was founded in 1846 as a military post, incorporated in 1851 and became the state capital in 1857. It has grown rapidly, having in 1890 a population of 50,053, in 1900, 62,137 and in 1910, 86,732. This makes an increase during the last ten years of 40 per cent. It is noted particularly for its large insurance interests and its exceptional railroad facilities. Nineteen different railroads enter the city. The occurrence of bituminous coal in the region has helped largely to make the city an important manufacturing center. Among the products are books, carriages and wagons, engines and boilers, cotton and woolen goods, starch, and pottery. As one of the greatest educational centers of the middle west, it has thirteen colleges and technical schools with a total attendance of about six thousand. There are several fine public buildings and more are in progress of building. Its nineteen parks cover about seven hundred acres.

The city is built on hills, with drainage through numerous gullies into the rivers.

In 1908, Des Moines adopted the commission form of government. This consists of a council of five, including a mayor, who are elected by popular vote, with sa aries sufficient for them to give all their time to ci affairs. The use of the initiative, referendum and reca keeps the power of government in the hands of th people. The city has made rapid progress in many dire tions under this form of administration. Municip expenses have been materially reduced; water, gas an lighting rates have been lowered; the streets and alle have been cleaned, sewer connections extended, and th whole city put into what is usually termed a good san tary condition.

TYPHOID RECORDS IN DES MOINES IMPERFECT

Des Moines is not recognized by the United State Census Bureau as a registration city. This is no a creditable circumstance for a city of such siz and importance. Although public documents dealin with the street railway situation are numerous and com plete, there has been practically nothing published i regard to the public health.

So far as can be ascertained, typhoid fever has existe for some time in Des Moines. In 1906, the only yea for which published statistics are available, there wer recorded eighteen deaths from this disease. On a estimated population of 77,000, this makes the deat rate for that year, per 100,000 population, 23.4—a rat considerably higher than that of many American cities The following statement by Whipple[1] is significant i this connection. "It is commonly assumed that in th northern parts of the United States a continued typhoi death-rate above 20 per 100,000 indicates that the pub lic water supply is of questionable purity."

PRESENT OUTBREAK

The present outbreak of typhoid fever began abou November 15 and has continued, although with some falling off, up to the present date. It is said to be of a very virulent type, thirteen deaths having occurred in five weeks. On December 5, 106 cases had been reported to the health authorities, and it is probable that many more existed, as physicians in Des Moines are not required to report typhoid cases. On this date there were reported to be ninety cases in the hospitals. An investigation of the known cases was made by the city physician, Dr. Sayler, and presented to the council. According to a published summary of this report, the cases were fairly evenly distributed over the city—seventy-two on the west side, twenty-two on the east, eight on the north (including Highland Park), and four on the south. Rarely was there reported more than one case in a house. This distribution corresponds approximately to that of the population. The cases were about equally divided between adults and minors; forty-one were school children or students, while the remainder were scattered among a great variety of occupations; ninety-eight had used city water, exclusively or at times; there were sewer connections in the houses of eighty; and twelve dairies were represented.

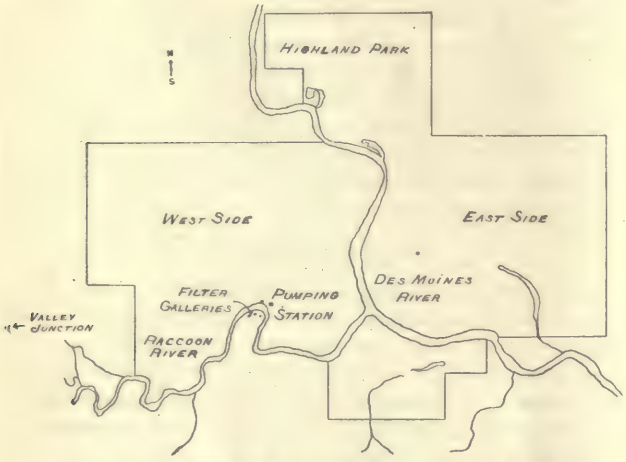
WATER SUPPLY

The water supply of Des Moines is controlled by a private company. In the report of the Health Department for 1906 a detailed description of the supply was made by Mr. Floyd Davis, at that time consulting chemist and sanitary engineer to the Water Works Company. This report, together with the facts obtained

1. Typhoid Fever, John Wiley & Sons, New York, 1908, p. 230.

from personal examination by your commissioner, is the basis for the following description. The water is taken from so-called filter galleries constructed parallel to the Raccoon River in the vicinity of the Eighteenth street viaduct (see diagram). No part of the supply is taken directly from the river. The principle involved in the use of filter galleries is that the ground water, which is continually flowing toward a river at some distance below the surface of the ground, should be intercepted, and collected for use. Ground water comes from rain water which in passing through the earth strikes an impervious layer, and runs off in the direction of the slope of the layer. Ground water is consequently filtered and of a high grade of purity for drinking purposes. Openings in the soil, however, are liable to be washed out so that the filtration is not perfect. Under these conditions house and privy drainage may run into the ground and pollute the ground water.

The galleries at Des Moines are built of gravel with a blue clay bottom and board sides. At the end of each is a collecting well from which the water is pumped into the city mains. In the spring and in wet weather the level of the ground water is considerably above that of



Map of vicinity of Des Moines, to explain water supply.

the river so that under these conditions the supply is very largely from the ground; but during dry times the water is mainly that which has filtered through from the river, and then the danger of pollution is greatest.

The Raccoon River rises in the northwestern part of the state and flows in a southeasterly direction into Dallas County where it is joined by the South Raccoon River. From there it flows east into Polk County, joining the Des Moines River at Des Moines. It is fed at frequent intervals by numerous creeks, some of which are of good size and drain fairly large areas. It is exposed to pollution from at least five communities—Valley Junction with a population of about 3,000, Adel with about 1,400, Jefferson with about 3,000, Perry with about 4,500, and Guthrie Center with about 1,500. Three of these have sewers discharging either directly into the river or into its tributaries. The numerous farming districts in the region of the river's flow are also possible sources of danger. The nearest of the main sources of pollution is Valley Junction, five miles by railroad and about ten by river west of Des Moines. A sewer at the Rock Island railroad shops at the west end of the town discharges into a creek which enters the river just below the town. An examination of this was made by your commissioner. A sample collected on December 23 contained 29,300 bacteria per cubic centimeter, of which 200 were acid forming. This result indicates a rather high degree of pollution.

It must here be noted that the water company has recently opened a new filter gallery near the pumping station. The date of opening, according to a published statement made by representatives of the water company, was November 15.

For the past year the character of the water has been investigated for the company by means of weekly chemical analyses. The manager of the company has stated that these "tests have shown no strong percentage of impurities." No regular bacterial examinations are made.

The water supply has been under suspicion for some time. That the method of filtration used was not efficient was contended in the federal courts last June during litigation concerning the water rates. In a letter to one of the Des Moines newspapers Dr. Gabel, professor of biologic sciences in Highland Park College says:

> You may call it a divine punishment or what you wish, but the facts are that last June we contended in the federal courts here that the system by which the city of Des Moines is supplied by water is antiquated, the filters are not properly constructed and do not keep out the bacteria and algæ which produce the bad odors and taste in the water and digestive and other disturbances in the consumers. I said that the water I had examined was not badly polluted, but of a suspicious character, which under conditions might become dangerous. As a result of my investigations I found and declared the filters inefficient and know of no one who proved them to be otherwise. In fact, I know of no one who ever made a complete scientific investigation of the water or of the efficiency of the filters. Although bacteriologic investigations were previously made we could find no records of them. . . . Regular examinations are necessary throughout the year.

Mayor Hanna is quoted in the same paper as saying that he believes that the present method is inefficient, and that tests made last year showed "evidences of typhoid germs" in the water. Dr. Albert, the state bacteriologist, is said to have found an excessive number of sewage bacteria in the river water, and to regard the filter galleries as a constant source of danger.

In addition to the sample of water from the creek at Valley Junction your commissioner has made bacterial examination of a sample of water from the Raccoon River just above the pumping station, and of city water. The samples were collected December 23. The river water showed an average of 137 bacteria per cubic centimeter, with *B. coli* present in 0.7 of a cubic centimeter. The city water averaged sixty-five bacteria per cubic centimeter, and no *B. coli* were present in 7 cubic centimeters. Although this examination shows that the city water is not badly sewage-polluted at the present time, still the bacterial count would be high for a good ground water to have. Also this does not prove that the water may not at some time become polluted.

CAUSE OF THE EPIDEMIC

As is well known, the most common means of infection in typhoid fever are water, milk, contact with cases and with carriers, and transmission to food, etc., by the agency of flies. No evidence has been adduced to show that infected milk is responsible for the 1910 Des Moines epidemic. A large number of dairies are represented among the cases, whereas in milk epidemics of such an extensive character only one or two dairies

would usually be involved. Contact infection may have played some part, but it is unlikely that this was the primary factor as the cases were scattered over a wide area. Fly-borne infection is hardly likely to have been an important cause in November and December. Simply by a process of elimination, therefore, the relation of the water supply to the epidemic assumes special importance.

From the statistics of 106 cases given above it will be noticed that nearly all patients had used city water prior to their illness. As this water is pretty generally distributed throughout the city this in itself would have little significance were it not for the fact that there has been practically no typhoid in Sevastopol, a suburb south of the city, where conditions are similar to those in Des Moines except that Des Moines water is used on only one street.

As stated above, examinations by your commissioner and others show that the Raccoon River is sewage polluted. That it contained typhoid bacilli just prior to the epidemic is rendered probable by the fact that there were in the autumn of 1910 at least two cases of typhoid fever in Valley Junction, and excreta from these cases may readily have passed into the river. That there has been considerable typhoid all over the state of Iowa increases the possibility of infection of the Raccoon River. According to Mr. Davis' report, referred to above, the conditions under which the galleries were operating at the time of the epidemic were exceedingly unfavorable. There was little rain in Iowa in 1910, the deficiency below normal at Des Moines from January 1 to December 23 being 13.88 inches. If any river water containing typhoid bacilli had entered the galleries imperfectly filtered, due to these unfavorable conditions, a typhoid epidemic would have been almost certain to follow.

That filter galleries after continued use do sometimes become inefficient has been shown by the case of Waltham, Mass., where the water supply was obtained for a long time from galleries dug near the Charles River, a method similar to that in use in Des Moines. Examination[2] showed that the supply had gradually become polluted, the contamination being due in the opinion of the State Board of Health partly to the passage of imperfectly filtered water from the river and partly to pollution of the ground water supply. At that time the level of the ground water was below that of the river, the same condition that recently existed at Des Moines. Waltham has been advised by the State Board of Health of Massachusetts[3] to look for some better source of public water supply. It is evident that the condition at Waltham presents in some respects an interesting parallel to that which obtained at Des Moines.

It has already been stated that a new gallery was opened on or about November 15. Suggestions have frequently been made that this had some connection with the outbreak of the epidemic. Whether or not this is so is not clear. If it were the sole cause, the outbreak would not have occurred until about ten days after the opening, whereas it was coincident with it.

Briefly, then, the situation at Des Moines may be summarized as follows: Examination of the topography of Des Moines and of the surroundings of the pumping station show that the public water supply is exposed to dangerous contamination. The results of bacterial examination confirm this view. At the tim of the November outbreak conditions, meteorological an other, were especially favorable for an unusual degre of pollution. The sudden and extensive character of th outbreak, the uniform distribution of cases throughou the city in proportion to the population, the entire lac of evidence, so far as appears, that the disease was mil borne are other features that point to an infection o the public water supply as the main if not the sol cause of the Des Moines epidemic.

2. Annual Report of the State Board of Health of Massachusetts, 1904, p. 54.
3. Annual Report, 1905, p. 103.

New and Nonofficial Remedies

BORNYVAL.—Bornyval is a name applied to capsules con taining borneol isovalerate $C_{10}H_{17}O.C_5H_9O$, the isovaleric aci ester of borneol, 0.25 Gm. (4 minims).

It is prepared by the condensation of equal molecular quantitie of borneol and isovaleric acid.

Borneol isovalerate is a clear aromatic liquid, having an odo resembling oil of rosemary and at the same time a weak odor an taste of valerian. It is insoluble in water, but dissolves in al proportions of alcohol and ether. The liquid boils at 225° t 260° C. (417° to 426° F.) under ordinary pressure. At a pres sure of 50 mm. it boils at 150° to 170° C. (302° to 338° F.). It specific gravity is 0.945 to 0.951; it is dextrorotatory. The alco holic solution 1:10 after the addition of a drop of phenol phthalein solution should be distinctly reddened by a drop o tenth-normal alkali.

Actions and Uses.—As borneol isovalerate forms a larg part of oil of valerian, its action is similar to that of th official drug. It reduces reflex excitability and acts as nervous sedative.

It is said to be useful in the various neuroses, especiall those of the circulatory, digestive and central nervous sys tems.

Dosage.—0.25 to 0.75 Gm. (4 to 12 minims) from two t four times daily. It is best given after meals with some milk coffee or similar drink to avoid eructations.

Manufactured by J. D. Riedel, Aktiengesellschaft, Berlin, Ger many. (Riedel & Co., New York). U. S. trade-mark No. 56,451.

ANTIFORMIN. Antiformin is a strongly alkaline solutio of sodium hypochlorite. In each 100 c.c. it contains approxi mately sodium hypochlorite equivalent to 5.68 gm. available chlorine, sodium hydroxide 7.8 gm., and sodium carbonat 0.32 gm.

According to the patent specification chlorinated lime is dissolve in water at the temperature of 35° C. To this a solution o sodium carbonate is added. After standing the supernatant liquid is decanted and to this sodium hydroxide is added.

Antiformin is a yellowish, clear liquid having the peculiar odo characteristic of hypochlorites.

The per cent. of available chlorine, of alkali hydroxide and carbonate may be determined by the methods described in the Reports of the Chemical Laboratory of the American Medical Association, 1911.

Actions and Uses.—Antiformin rapidly dissolves the bodies of bacteria with the exception of acid-fast organisms like the tubercle bacillus, on which it has no solvent action and which resists its germicidal action to a great extent. It dissolves other organic matters, such as those contained in sputum and feces. It exerts a strong oxidizing action and is disinfectant, antiseptic and deodorizing. It is said to be more than three times as active in germicidal action as phenol.

Based upon its property of dissolving most bacteria and the insoluble constituents of the sputum, Antiformin is employed in testing for tubercle bacilli. It is said to be useful for the sterilization of the surgeon's hands, of instruments and of wounds and for general purposes of disinfection. It is also said to be useful in certain skin diseases.

Dosage.—Externally in from 2 to 10 per cent. solution. In from 4 to 1,000 solution as a spray. As a disinfectant 5 per cent. solutions are used. For the demonstration of tubercle bacilli 15 per cent. solutions are suitable.

Manufactured by the American Antiformin Co., New York. U. S. patent No. 691,671 (Jan. 21, 1902; expires 1919). A process for Cleaning Beer Vats and Pipes, said process consisting according to the patent specifications "in subjecting the walls of said vats or pipes to the action of a solution composed of about 1 part of alkaline hypochlorite with about a half to one part of alkaline hydrate, substantially as specified." U. S. trademark No. 61,693.

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[*For other information see second page following reading matter*]

SATURDAY, JANUARY 7, 1911

CANCER AMONG THE AMERICAN INDIANS

Statistical investigations play an important part in the study of cancer, and modern methods are just as necessary here as in any chemical or microscopic research; faulty methods of collection or interpretation have made most of the earlier statistics of little worth. A large part of the energies of the German Central Committee for Cancer Investigation has been spent on statistics in these its earliest years of existence, if we may judge by the titles of the papers in its official organ; and one of the first reports from the newly established George Crocker Research Fund for the investigation of cancer indicates that the authorities directing this great American donation to medical science have considered statistical investigations an important basis for cancer research. It is stated in an article on cancer among American Indians, by Levin[1] of New York, that in order to study the ethnologic distribution of cancer an investigation under the Crocker Fund was begun simultaneously in the Hawaiian Islands, the Philippine Islands, Porto Rico, the Isthmian Canal Zone, and among the American Indians of the United States. That different races suffer to different degrees from cancer is a well-established fact, the low incidence of cancer in our own negro population being generally recognized, while British physicians in the scattered territory of that empire have testified to the infrequency of cancer in most of the dark-skinned subjects of the British crown. In Ceylon, for example, there were reported in one year but 234 cases in a population of nearly four millions, making a ratio of six cases per hundred thousand, as contrasted with the usual rate of seventy to a hundred cases per hundred thousand observed in the various countries of Europe.

So far as the Crocker Fund investigation is concerned, results complete enough for drawing conclusions have so far been received from two sources, the Canal Zone and the American Indians, because of the governmental organization and control of the medical service of these two groups. In the Colon Hospital there have been but thirty-five cases of malignant neoplasm during five years, among 54,249 patients, a remarkably low figure which can probably be ascribed, at least in large part, to the fact that the population of the Canal Zone is three-quarters negro.

As to the American Indians, returns furnished by 107 of the 130 physicians of the Indian Field Service showed but twenty-nine cases of cancer observed in a population of 115,455 during a time of practice ranging from a few months to twenty years. Since these Indians are distributed all over the United States and in parts of the country where it is known that the white population presents the usual number of cancer cases, climate, geography and geology cannot be advanced as an explanation of the relative immunity of the aborigines to malignant disease. Whether race, habits or diet are responsible for the difference cannot be said. Levin seems inclined to accept the rather prevalent view that "it is the modern civilization and the conditions created by it that give rise to the mediate causes which produce the disease." This view, however, does not fit well with the fact that among one of the oldest, and commonly considered most decadent of civilizations, the Chinese, cancer is relatively rare. In the Chinese population of Hong Kong, for example, the cancer mortality averaged 4.45 cases per hundred thousand during a period when it stood at 71.0 in England. Furthermore, cancer is extremely common in some animals; in dogs, especially, cancer is said to be a more common cause of natural death than it is in man. Does this mean that the dogs are more civilized than the Chinese and Hindus, or are we to believe that the association of the dog with man causes the poor quadruped to acquire the cancerous proclivities of the higher civilization?

Another statistical study of cancer published in the same journal brings out a point in cancer etiology which will undoubtedly arouse much interest, namely, the relation of alcohol to cancer. As the outcome of an extensive study of the vital statistics of Bavaria by a special committee appointed for this purpose, it appears that cancer is distinctly most frequent among those whose trades render them most likely to indulge in alcoholic beverages; the highest incidence of cancer is found among those selling alcoholic liquors, a fact which has also been brought out in other countries by statistical inquiries as to the relation of occupation to cancer. If this is true it may be that the efforts of the government to keep Indians and fire-water apart, while sometimes eminently unsuccessful, have on the whole been able to prevent wide-spread habitual indulgence and thus to remove this possible factor in civilized cancer morbidity. If the relation between alcoholic habits and cancer is eventually shown to be one of cause and affect, temperance advocates will have an argument which probably will carry more weight with the average individual than any and all the excellent reasons for total abstinence which they can now command.

1. Levin, Isaac: Ztschr. f. Krebsforsch., 1910, ix, 422.

THE BIRTH-RATE AND RACIAL STABILITY

The significance for the race of small families and the reduction of the birth-rate constitutes a problem of intense practical interest, especially at present. Many maintain that the children of small families, because they are better cared for, really grow up into better men and women—that is, better for the race—than do the less carefully nurtured and educated children of large families. This, of course, is on the assumption that the children of small families are, on the average, at least as well endowed with vital qualities as the children of large families. The subject, however, is by no means on a satisfactory basis for the drawing of final conclusions.

At the last meeting of the British Medical Association, in the section of medical sociology, a symposium was held on the social aspects of falling birth-rate. One of the speakers, Dr. D. W. Hunter,[1] believes that the elder-born children of a family are more liable to suffer from defects than the younger ones—that is, up to a certain limit. As a consequence, if the race or family stock is recruited mainly from the elder-born children, there is an inevitable tendency toward racial degeneration. As has been shown by bionomic statistics, the earlier members of familes of seven or eight children are likely to be less stable in physical health, less resistive in vitality to disease, more prone to neurotic conditions and with less mental equilibrium than those of later birth in the family. Where large numbers are taken, the physical and mental health of the children seems to increase on the average up to the seventh or eighth child. The descendants of earlier-born children, according to Hunter, show much more tendency to defect than the offspring of parents who are younger members. A series of generations of elder children would be especially likely to emphasize the defects of the family stock, whatever they might be.

The observation which has been made that successive children of the same mother, to the eighth or ninth child, show an average increase in weight of one-half pound at the time of birth, lends further support to the findings of the differences in physical and mental stability of the earlier and later offspring. The heavier children are likely to have better development, to be in better condition to stand the trials of existence during the early months particularly, and as a consequence, while the development of the nervous system is being completed during the first six months of extra-uterine life, disturbing factors in the process are fewer and less serious. The reason for this may be that the mother of later children is likely to be at a more suitable age to give strength of body and store of vitality to her child than the mother of an earlier child. Somewhere about twenty-five Hunter considers that a woman is best fitted to give birth to her first-born. After twenty-five the capacity to bear a vigorous, healthy child at the first birth rapidly diminishes. With regular pregnancies th power to reproduce well steadily increases until th mother reaches thirty-five years of age.

From the fact that the earlier children in large fam lies are inferior to those born later, Hunter infers tha the children of small familes, in which, as he say there are no later-born, must be inferior on the averag to the children of large families. The theory is interes ing and worthy of further investigation, but cannot b regarded as proved by Hunter's data. At least one fac tor in the superiority of the late-born children—appar ently the chief factor, according to his own theory—i the more matured vitality of the mother. But earl marriages are the rule among the races and classes tha multiply most rapidly. Women who marry at twenty-fou (in time to give birth to the first child at the age whic Hunter considers the most favorable for that event) ar found more frequently among the classes in which chi dren are not produced so numerously. It would seem as fair to say that there are no early-born children o comparatively late marriages as to say that there ar no late-born children. It is at least possible to conjec ture that the production of many children by immatur parents might have as unfavorable an effect on th stability of the race as the production of but few chil dren by better-matured parents.

Then, again, the infantile death-rate tends to be hig where the birth-rate is high. Hunter offers no data t show whether the younger or the older children of larg families survive in larger numbers. Among the poo especially, it seems possible that the inevitable increas of neglect and privation to which, during the critica period of infancy, the later comers in large families ar subject, may counterbalance, to some extent, thei superior physical endowment, thus favoring the survival of the inferior early-born rather than of the superio late-born.

It is held by some, moreover, that births in too rapid succession may so exhaust the mother's forces as t enfeeble her offspring. It was suggested by Professo Moore,[2] a speaker in the discussion that followed th symposium, that some nations have disappeared as world powers by allowing excessively prolific reproduc tion to sap the vitality of the race.

The whole subject needs further investigation; but at present Hunter's assertion that "the limitation of the family to two or three children inevitably means a nation of idiots, and that within a few generations," certainly seems to exceed the limits of sober scientific deduction. There are, no doubt, a number of elements in the problem of the falling birth-rate which have not been fully considered so far. The capacity to care for a few children is evidently a favorable factor for the race and capacity to endow them with vitality and health of body and mind is an even more important one. As yet, however, we have scarcely begun to accumulate the data

1. Hunter, D. W.: Brit. Med. Jour., Aug. 20, 1910, p. 453.

2. Moore, Benjamin: Brit. Med. Jour., Aug. 20, 1910, p. 454.

required as a basis for any valid conclusions. These problems deserve careful study at the hand of physicians. Some very interesting statistics could surely be made by family practitioners of long experience, who have opportunities to see the differences between early and late-born children in large families, their relative chances of survival, and the comparative stamina possessed by children of late and early marriages, and of more and less prolific families.

FATIGUE AND SUSCEPTIBILITY TO INFECTION

The influence of fatigue on the development and course of infectious diseases was recognized long before the real nature of infection was known. There has existed a general belief, founded on observation during epidemics of plague and cholera, that physical or mental exhaustion rendered the organism more susceptible to the disease. In the writings of some of the earlier veterinarians we find statements that overexertion can cause glanders or anthrax in horses and cattle. The literature of the later part of the nineteenth century after the study of infectious processes had been put on a sound basis, abounds in clinical observations on the influence of fatigue in many diseases of microbic origin, such as pyemia, osteomyelitis, infective endocarditis and myocarditis, typhus, tuberculosis and influenza. In typhoid fever above all, fatigue plays an important rôle as a predisposing cause of infection; according to Roger it is more important than any other cause. Thus military surgeons note again and again that though soldiers while in garrison may be free from typhoid fever, they are liable to develop it as soon as they have undergone the strain of the maneuvers, although they are stationed in villages where there is no typhoid.

In 1890, twenty years ago, Charrin and Roger published their classical work on the breakdown of resistance to infection following physical exhaustion, a work which has until very recently remained the last word on this subject. They experimented on white rats, using the bacillus of anthrax and of symptomatic anthrax. The experimental animals were first made to run in a squirrel's cage for several hours till thoroughly tired, and were then injected, control rats being injected with an equal dose. Charrin and Roger found that the fatigued rats succumbed to the infection earlier than the non-fatigued, and that in some cases the latter survived a dose which killed the former in less than twenty-four hours. In one experiment five control rats, inoculated with the virus of symptomatic anthrax, survived, while all of the six fatigued rats, inoculated with the same amount, died, three of them in less than twenty-four hours.

These authors did not attempt to show what changes in the fatigued animals underlay this breakdown of resistance to infection, nor would it have been possible to do this twenty years ago with anything like the completeness which recent advances in the study of immunity have made possible. This next step has been taken by De Sandro,[1] working in Ferranini's clinic of industrial diseases in the University of Naples.

De Sandro repeated the work of Charrin and Roger, using, however, as his subjects dogs, rabbits and guinea-pigs, and for injection typhoid toxin. He has succeeded not only in confirming their results but in demonstrating some of the changes which take place as a result of fatigue and which seem to explain the loss of resistance to infection. He brought about fatigue in his animals by means of faradization, carried to the point of rapid contractions but without causing pain or extreme terror. Each series of animals experimented on consisted of four classes, Class 1 containing those which were fatigued by faradization each day for five to seven days before injection; Class 2 those which were fatigued just prior to injection and then daily after injection; Class 3 those which received the injection in a normal state and were then fatigued occasionally at intervals of several days; and Class 4 those injected and left at rest, the controls. After ten days the animals, if living, were given a second dose.

The task which De Sandro set himself was to ascertain the effect of overexertion, fatigue, on the duration of life, the body weight, the temperature, the character and number of leukocytes, the formation of agglutinin, opsonin, precipitin, antitoxin, antiendotoxin and bactericidin. On the last five substances his experiments are not very satisfactory and could hardly be regarded as conclusive, although the results obtained are significant enough to encourage further exploration into these fields. A brief review of the remainder of his work will show that he has been able to demonstrate very decided changes in the mechanism of resistance as a result of overfatigue.

All the animals which were subjected to fatigue died sooner than the controls, death coming more quickly in those which received the first injection in a state of exhaustion than in those which were exhausted only after injection.

Loss of weight was greatest in those animals which were fatigued repeatedly before injection. Thus one guinea-pig lost 245 gm., while the control lost only 105 gm.; one dog lost 1,500 gm., while the control lost only 200 gm.

In all the injected animals, fatigued and at rest, injection of typhoid toxin was followed by typical changes in the leukocyte count, namely, an immediate leukopenia, followed by a leukocytosis and then a return to the normal count. The polynuclears were first increased at the expense of the mononuclears, which later rose in number as the polynuclears fell, this being due to the increase in large mononuclears especially. In comparing the changes in the fatigued with those in the non-fatigued animals decided differences were observed,

1. De Sandro, Domenico: Riforma Med., 1910, xxxv, 841, 871. Briefly noted in THE JOURNAL, Sept. 17, 1910, page 1064.

which point to the importance of the mononuclear leukocytes in the defense of the body against infection as well as the polynuclear phagocytes. These differences may be summarized as follows: First, the leukopenia following injection was more pronounced in the fatigued animals than in the controls, being most pronounced in animals of Class 1. Second, the subsequent polynucleosis was later by several hours, was less intense and persistent, these differences also being most pronounced in animals of Class 1. Third, the mononucleosis appeared later, was less intense and less lasting in the fatigued animals. Fourth, while the second injection of toxin in the control animals caused only a slight leukopenia, in the fatigued animals it caused a very decided leukopenia, with only a slight subsequent increase in polynuclears and in mononuclears.

The results of De Sandro's observations on agglutinin formation as affected by fatigue are also very interesting. He found that the slight agglutinative power of all the serums disappeared after the first injection (negative phase). The serum of the control animals began to exhibit agglutinative power by the third to the fifth day, that of the fatigued animals not till the fifth to the eighth day, animals of Class 1 being always slowest to respond. All the control animals exceeded the fatigued in the amount of agglutinin formed.

De Sandro concludes that overfatigue favors greatly the development of infectious processes by its effect on the mechanism of defense of the body. It is to be hoped that this interesting study will stimulate research into the influence of fatigue on the formation of opsonin, bactericidal substances, etc.

DEATHS OF PHYSICIANS IN 1910

During 1910, the deaths of 2,324 physicians in the United States and the Dominion of Canada were noted in THE JOURNAL. Reckoning on a conservative estimate of 137,000 physicians, this is equivalent to an annual death rate of 16.96 per 1,000. For the eight previous years the death rates were as follows: 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73 and 1902, 14.74. The average annual mortality for the period from 1902 to 1910, inclusive, was therefore 16.21 per 1,000. The age at death varied from 22 to 97, with an average of 59 years, 11 months and 4 days. The general average since 1902 is 59 years, 5 months and 28 days. The number of years of practice varied from 1 to 72, the average being 32 years, 8 months and 9 days. The general average for the past six years is 31 years, 5 months and 29 days. The chief death causes in the order named were "heart disease," cerebral hemorrhage, pneumonia, violence and nephritis.

CAUSES OF DEATH.—There were 335 deaths assigned to general diseases; 378 each to diseases of the nervous and circulatory systems; 231 to diseases of the respiratory system; 144 to diseases of the digestive system; 220 to diseases of the genito-urinary system; 172 to violence; 123 to senility; and 15 to unknown or vaguely described diseases. Among the principal assigned causes of death were "heart disease," 245; cerebral hemorrhage, 242; pneumonia, 193; nephritis, 166; senility, 123; accidents, 114; tuberculosis, 92; malignant disease, 77; after surgical operations, 71; angina pectoris, 57; paralysis and suicide, each 48; septicemia 38; arteriosclerosis, 34; diabetes, 32; "uremia," 31; typhoid fever, 30; appendicitis, 25; gastritis, 22; anemia, 18; paresis, 17; myocarditis, 14; cirrhosis of liver 13; cholelithiasis, 12; influenza, erysipelas, meningitis and intestinal obstruction, each, 11; homicide and insanity, each 10; rheumatism and gastric ulcer, each 9; locomotor ataxia and peritonitis, each 8; endocarditis and prostatitis, each 7; paralysis agitans, 6; aneurysm and pleurisy, each 5; dysentery, 4; tetanus, alcoholism and drug addiction, epilepsy, neuritis and pericarditis, each 3; typhus fever, anterior poliomyelitis, small-pox, scarlet fever, diphtheria, pellagra and gangrene, each 2; and yellow fever and Asiatic cholera, each 1.

The causes assigned for the 114 deaths from accident were railway casualties, 24; automobiles, 17; falls and poisons, each 15; horses and vehicles, 10; drowning, 7; fractures, 5; burns and exposure, each 4; ptomain poison, 3; sunstroke, gunshot wounds and asphyxia, each 2, and x-ray burns, poisonous gases and mines, each 1. The 48 physicians who ended their lives by suicide selected the following methods: firearms, 22; poison 18; cutting instruments and strangulation, each 3; and asphyxia and drowning, each 1. All of the 10 homicides were due to gunshot wounds, and of these 3 occurred in feuds or affrays.

AGES.—Of the decedents 30 were between the ages of 91 and 97; 214, between 81 and 90; 456, between 71 and 80; 497, between 61 and 70; 434, between 51 and 60; 323, between 41 and 50; 235, between 31 and 40 and 83, between 22 and 30. The greatest mortality occurred at the age of 65, when 60 deaths were recorded; at 69 and 70, when 59 deaths occurred, at 72, when 57 died. There was 1 death each at 92, 94 and 97 years of age; 2 at 22; 4 at 96 and 5 each at 90 and 93.

YEARS OF PRACTICE.—By periods of ten years the deaths were as follows: in the first decade, 237; second decade, 338; third decade, 469; fourth decade, 497; fifth decade, 395; sixth decade, 275; seventh decade, 71; and eighth decade, 1, who had been in practice for 72 years.

MILITARY SERVICE.—During the year 397 died who had served in the Civil War, and of these 107 were with the Confederate cause, and 152 were surgeons of United States Volunteers. There were 12 veterans of the Mexican War; 3, of the various early conflicts with Indians on the frontier; 32 had served in the Spanish-American War and 13 in foreign wars. The Army lost 23 officers

past and present; and in addition, 2 members of the Medical Reserve Corps, and 22 acting assistant surgeons; the Navy, 19; and the Public Health and Marine-Hospital Service, 9. The death loss of the Organized Militia was 35, of whom 6 had attained the grade of surgeon-general.

Medical Positions.—Medical colleges sustained the loss of 138 professors, lecturers, instructors and demonstrators during the year; hospitals lost 326 members of staffs; municipalities, townships and counties, 201 health officers or physicians; and boards of education and school boards, 91 members. There were 45 deaths of members of state boards of health and medical registration and examination; 49 of coroners and medical examiners; 87 of United States pension examining surgeons; and 118 of railway surgeons.

Of those who died, 3 had served in the House of Representatives of the United States; 15 had been members of state senates; 57 members of lower houses; 58 had been mayors; 39, aldermen or councilmen; 58 had served as justices of the peace or other civil officers; 19 as postmasters; 21 as editors; 13 were clergymen, of whom 2 were medical missionaries; 5 were attorneys; 4 were consuls, and 8 had been medical directors of life insurance companies.

The Notable Dead.—Among the more prominent dead of the year are:

Sarah Read Adamson Dolley, Elizabeth Blackwell and Emily Blackwell, pioneer women physicians of America.

Wharton Sinkler, Philadelphia, neurologist.

Fred Byron Robinson, Chicago, anatomist and research worker.

Edward Champe Carter, U. S. Army, health commissioner of Manila and member of the Opium Commission.

Howard Taylor Ricketts, Chicago, research investigator, a martyr to science.

Herbert Leslie Burrell, Boston, ex-president American Medical Association, surgeon, educator.

Henry Granger Piffard, New York City, specialist on diseases of the skin and genito-urinary system.

Alexander Johnson Stone, St. Paul, surgeon-general of Minnesota, surgeon and gynecologist.

William James, Cambridge, Mass., psychologist and psychic research worker.

James Nevins Hyde, Chicago, specialist on skin and venereal diseases.

Carey Kennedy Fleming, Denver, gynecologist.

DeForest Willard, Philadelphia, orthopedic surgeon.

John Veitch Shoemaker, therapeutist, former surgeon-general of Pennsylvania.

Carl Svanté Nicanor Hallberg, Chicago, pharmaceutical publicist, editor and teacher.

Frederick Holme Wiggin, New York City, prominent in state organization.

Nathaniel Pendleton Dandridge, Cincinnati, surgeon and teacher.

Landon Brame Edwards, Richmond, Va., sanitarian, editor and teacher.

Christian Archibald Herter, New York City, investigator and chemical pathologist.

John Cummings Munro, Boston, surgeon and clinician.

CLEAN MILK PRODUCTION

It is well known that milk is commonly produced under conditions that are less hygienic and cleanly than those under which any other food article or beverage is produced.[1] Credit for recent improvement in this respect is due in part at least to the activity of milk commissions, who make contracts with milk-producers to produce milk for infants and invalids under certain prescribed conditions and who in turn have their milk certified. The amount of certified milk produced is but a small fraction of the total supply, but in spite of this the moral influence of milk commissions has been a large factor in bringing about an improved general supply.

It has been demonstrated that milk produced under rigorous conditions of cleanliness and care, coupled with prompt cooling, will keep sweet for a long time. This is explained by the fact that milk decomposes only when germs are present, and with the production of milk with a low bacterial content the keeping qualities are enhanced proportionally, especially when kept at a temperature below 40 F. Heinemann says that unfortunately heretofore certified milk has been produced at little or no profit, chiefly because of lack of demand and the higher price charged for it. It is generally marketed by dairies with considerable capital and occasionally from philanthropic motives, so that it is a belief among the ordinary producers that only a rich man or a crank will attempt to produce it. He believes that this is a misconception; that clean milk can be produced advantageously, and that even certified milk can be produced with a small outlay of money. He cites the instance of a dairy in Wisconsin which markets in Chicago, 100 miles away, milk with a bacterial content of less than 2,000 bacteria per cubic centimeter—in many instances less than 1,000—which returns a fair profit on the investment with milk at six cents a quart in bottles at the farm. This dairy has only thirty cows and produces 250 quarts of milk a day. It has been fitted up with the equipment and supplies of a modern sanitary dairy—cement floors, stalls and stanchions, water-supply, washing and sterilizing machines, bottling machine, bottles, cooling apparatus, pails, cans, etc.—for less than $1,650. There is abundant light and ventilation in the stables, and every detail of clean milk production is carried out rigorously.

Dr. Heinemann believes that this example forms a justifiable basis for the assumption that certified milk can be produced with a small investment at a profit if the

1. Heinemann, P. G.: Hoard's Dairyman, Nov. 18, 1910.

owner or superintendent will look after each detail with proper care and intelligence, and that for the production of a milk of exceptional cleanliness and quality, even if not up to the standard of certified milk, a much smaller investment than the estimate given would be sufficient. On account of the interest aroused by sanitarians and scientists in this subject, the public will soon demand of all milk-producers milk of this standard.

Current Comment

INDEX IN THE TWENTY-SEVENTH NUMBER

The last half of 1910 contained twenty-seven Saturdays. The last volume of THE JOURNAL, therefore, contained twenty-seven issues. As a result, our readers have received more than the usual amount of good reading, if we may be permitted to say so. Another result—one which we had not anticipated—is the receipt of a number of letters similar to the following, quoted from one: "As I failed to receive the index which has always accompanied the twenty-sixth number of each volume of THE JOURNAL, and as I value my files very highly and am anxious that all my bound volumes shall be complete, I trust you will pardon me for inquiring whether it was an oversight in my case or whether the index has been omitted from this volume." Of course, by this time, all of these valued readers have had their anxiety allayed by the arrival of the twenty-seventh issue—that of Dec. 31, 1910. We are not altogether sorry over their temporary disappointment, because it has served to bring a number of appreciative letters on the value of the index.

A CITY'S LIABILITY FOR TYPHOID FEVER

An interesting decision on the question of the liability of a municipality for typhoid infection through defective water supply is abstracted in our Medicolegal Department in this issue. This is a most important and far-reaching decision; we hope to comment on it editorially next week.

THE COMMISSION EVIL

The secret division of fees between surgeons and family physicians has recently given rise to considerable sensational discussion in the newspapers. From the degree of surprise manifested in these articles, one might be led to believe that the existence of this evil in the profession has not heretofore been suspected by the public. If this is true, it is because the frequent warnings of physicians on this point, in both medical meetings and medical journals, have been ignored. The records of the American Medical Association, as well as those of many other medical organizations, will show that the payment of commissions for patients —for that is what the division of fees practically amounts to—has been repeatedly and unsparingly condemned. Since the regulation of the acts of individual members lies with the local society, rather than with the state or national organization, this question mus necessarily be dealt with by county societies, many o which have denounced this practice in the past, as, fro time to time, we have had occasion to note. This wee we present the report of a special committee of th Erie County (N. Y.) Medical Society[1] on this subjec This committee was appointed nearly a year ago and ha made a long and careful investigation of conditions. It report, therefore, may be regarded as one worthy o notice, and for this reason we are glad to reproduce i This committee has taken up the question calmly bu fearlessly, as should be done by every county society i which there is a suspicion of the existence of this evi The full light of publicity, not only professional bu general, should be turned on all those who adopt suc methods.

NOT MORE BUT BETTER-EQUIPPED MEDICAL COLLEGES NEEDED

Attention has repeatedly been called in these column to the superabundance of medical colleges in this coun try and also to the general need for those which wer better equipped, better conducted and better financed Many improvements in this respect have been brough about by the merging of two or more colleges, thereb forming in each instance one college, which wa invariably stronger and better equipped. Improvement by this process of merger are still being rapidly brough about. During the last year twelve colleges merge their interests, whereby six better-equipped and stronge colleges resulted. Two of these mergers were in Chi cago. But the possibilities of obtaining better college by the merger of weaker ones are still numerous an could be brought about without a serious reduction i the number of colleges. The merger of two or mor of the medical schools in Chicago or in other localitie is probably the most important step that could be take in the solution of the local educational problem. It i hoped, therefore, that reports of actual accomplish ment will follow the rumors which come to us of pro posed mergers in several places.

THE USE OF ULTRAVIOLET RAYS FOR STERILIZING WATER

The germicidal action of light, particularly the ultraviolet rays, on bacteria has long been known and has been already to some degree practically utilized. One of the latest applications is the exposure of polluted water to the ultraviolet rays from a quartz-tube mercury-arc lamp of the "Westinghouse-silica" type. The method is based on experiments carried out in Paris in the laboratories of the Sorbonne. Its bactericidal efficiency has been demonstrated by repeated tests on water containing large numbers of *Bacillus coli* and other microorganisms. The apparatus employed is very simple, consisting essentially of a trough or box provided with baffle-plates through which the water is run in close proximity to one or more of the sterilizing lamps. It is necessary, of course, to clarify a turbid water before treatment to insure adequate penetration. An ultra-

1. Department of Medical Economics, page 59.

violet ray plant has recently been installed as the result of a competitive test at Marseilles, France, a city long scourged with typhoid fever. The cost of this mode of sterilization is said to compare favorably with that of the ozone process.

AN AMERICAN CONGRESS ON MEDICAL EDUCATION

During the week of February 27 to March 4, 1911, several organizations interested in medical education and medical licensure will meet in Chicago. The Council on Medical Education and the National Legislative Council of the American Medical Association will hold their second joint conference. March 1 to 3; the Association of American Medical Colleges holds its session February 27 and 28 and the National Confederation of State Medical Examining and Licensing Boards meets February 28. Since these organizations are all working toward the same end it is indeed encouraging to know that they are thus getting closer together. Working in harmony, they can exert most effective influence for good.

Medical News

ALABAMA

Personal.—Dr. E. Marion Mason, Montgomery, resigned as state bacteriologist and pathologist, December 1, and has moved to Birmingham.——Dr. Robert Nelson was elected president of the Education and Aid Association of the Birmingham Health Department at the annual meeting, December 16.

Society Meetings.—At a meeting of the Calhoun County Medical Society at Anniston, December 6, Dr. B. Dudley Williams, Oxford, was elected president; Dr. Erastus T. Barker, McFall, vice-president; Dr. Irwin P. Levi, Anniston, secretary for three years; Dr. Edmunds C. Anderson, Anniston, treasurer for three years; Dr. Robert L. Hughes, Choccolocco, county health officer for two years; Dr. William Y. White, Anniston, city health officer for two years, and Dr. William H. Kinnebrew, Piedmont, censor for five years.—— At the annual meeting of Jefferson County Medical Society, held in Birmingham, December 5, Dr. James S. McLester, Birmingham, was elected president; Dr. Sidney H. Mann, Ensley, vice-president; Dr. Henry N. Rosser, Birmingham, county health officer for two years; Dr. Robert H. Hamerick, Birmingham, county physician; Dr. George Stubbins, assistant county physician; and Dr. Frank A. Lupton, Birmingham, censor for five years (reelected).

ARIZONA

Examination of School Children.—The first systematic medical examination of school children in Arizona has been inaugurated in Bisbee. The pupils of all schools of the district will be given thorough medical examination by the city health officers.

New Chief Surgeon.—Dr. Winfred Wylie, Phoenix, has been made chief surgeon of the Arizona Eastern Railway lines, vice Dr. George E. Goodfellow, Tucson, deceased. The headquarters of the chief surgeon will be moved at once from Tucson to Phoenix.

Medical Society Organized.—At a meeting for organization of the medical fraternity of Gila County, at Globe, recently, the Gila County Medical Society was organized. Dr. John Bacon, Miami, was elected president; Dr. Roderick D. Kennedy, Globe, vice-president; and Dr. John L. Wales, Globe, secretary-treasurer. Dr. Joseph N. McCormack, Bowling Green, Ky., was present, and addressed the meeting.

CALIFORNIA

Plague Prevention.—During the week ended November 12, 1,450 acres of land in Contra Costa County were covered with poison, the work being done in connection with making a squirrel-free zone around the cities on San Francisco Bay.

Personal.—Dr. George M. Bumgarner, Bakersfield, has been appointed health officer of Kern County, vice Dr. William S. Fowler, removed to Los Angeles.——Dr. Charles E. Stone, Marysville, superintendent of the Yuba County Hospital, is reported to be critically ill.——Dr. Edmund O. Sawyer has been appointed health officer of Los Angeles County, vice Dr. Owen R. Stafford, term expired.

Tuberculosis Notes.—Eight citizens of Riverside have given $100 each to start a sanatorium at the foot of Box Springs Mountains for persons afflicted with tuberculosis.——The Free Clinic for Tuberculosis Patients has leased new quarters at 527 Seventeenth St., Oakland, and the new clinic was opened for patients December 6. The offices of the Alameda County Society for the Study and Prevention of Tuberculosis will also be moved to the new location.

Illegal Practice.—Lee Tie Bong, a Chinaman, was found guilty of practicing medicine without a license in San Francisco and fined $100.—Chan Toa, who advertised himself as a doctor, was fined $100 for practicing medicine without a license.——F. J. Lewzy, Mrs. May White and J. J. Leek, prosecuted by the California State Medical Board, and charged with the illegal practice of medicine, are said to have been found guilty and sentenced to pay a fine of $100 each.

County Societies Elect.—At the annual meeting of Sonoma County Medical Society, held in Santa Rosa, December 5, the following officers were elected: resident, Dr. J. Walter Seawell, Healdsburg; vice-president, Dr. Reuben M. Bonar, Santa Rosa; secretary, Dr. Jackson Temple, Santa Rosa; treasurer, Dr. Fredd O. Pryor, Santa Rosa; and censor, Dr. Joseph W. Scamell, Windsor.——San Mateo County Medical Society, at its annual meeting in Belmont, elected the following officers: president, Dr. Franklin M. Seibert, San Mateo; vice-presdents, Drs. Archibald L. Offield, Burlingame, and Charles F. McCarthy, San Mateo; and secretary-treasurer, Dr. Wood C. Baker, San Mateo.

GEORGIA

Students Contribute to Fund for Alma Mater.—The student body of the Medical College of Georgia, Augusta, has made a contribution of $1,620 toward the fund which is being raised for the improvement of the institution.

Small-Pox Epidemic Subsides.—The epidemic of small-pox in Coweta and Meriweather Counties along the lines of the A. B. and A. Railroad has practically ended, thanks to the painstaking labors of Drs. Andrew J. Mann, Alvaton; William P. Ellis, Oakland, and Robert B. Gilbert, Greenville, county health officer, with the cooperation of the local authorities.

New Society Officers.—At the annual meeting of the Eleventh District Medical Society, held recently in Valdosta, the following officers were elected: president, Dr. Alexander G. Little, Valdosta; vice-president, Dr. Henry C. Whelchel, Douglas, and secretary-treasurer, Dr. William E. Miller, Eastman. The next meeting will be held in Eastman in June, 1911. ——The South Georgia Medical Association held its annual meeting in Cordele, December 7, and elected the following officers: president, Dr. Arthur R. Heyward, Warwick; vice-president, Dr. J. S. McKenzie, Cordele, and secretary-treasurer, Dr. T. E. Bradley, Cordele (reelected).———Bartow County Medical Society, at its annual meeting in Cartersville, December 14, elected the following officers: president, Dr. Robert I. Battle, Cartersville; vice-president, Dr. Tanner Lowry, Euharlee; secretary-treasurer, Dr. Howard E. Felton, Cartersville; censors, Dr. Alfred B. Greene and Alfred T. Calhoun, both of Cartersville, and delegates to the state society, Drs. Alfred B. Greene, Cartersville, and Ward Redwine, Cassville.——Fulton County Medical Society, at its annual meeting, December 15, elected the following officers: president, Dr. Edgar G. Ballenger; vice-president, Dr. L. Benjamin Clarke; secretary, Dr. Richard R. Daly (reelected); treasurer, Dr. Arnold H. Lindorme (reelected); and censor, Dr. Frederick G. Hodgson, all of Atlanta.

ILLINOIS

Personal.—According to the *Bulletin of the Illinois State Board of Health* for December, there are six physicians in the Forty-Seventh General Assembly: Drs. John H. Gray, Morrison, and James A. Womack, Equality, in the Senate, and Drs. James M. Bell, Rochester; I. N. Martin, LaHarpe; W. E. Stedman, Sullivan; and Hall Whiteaker, Mound City, in the House of Representatives.——Dr. J. H. Bacon, Peoria, was operated on for appendicitis at the Proctor Hospital, December 29, and is recovering nicely.

INDIANA

Ill and Injured.—Dr. W. W. P. McMillen, Decatur, slipped on an icy pavement, December 20, breaking his left arm.——Dr. R. W. Hurt, Indianapolis, fell December 3, fracturing his right leg.——Dr. Charles M. Coggins, Coal Creek, who has been seriously ill, is reported to be convalescent.——Dr. John H. Rerick, LaGrange, who has been seriously ill, is reported to be convalescent.

Pure Food Law in Indiana.—The enforcement of the pure food law in Indiana was much in evidence last week. In Indianapolis tests made in the food and drug laboratory of the State Board of Health, of several prepared breakfast foods of different brands, showed that packages marked 1 pound net contained only 10 ounces. A grocer in Indianapolis was arrested for adding water to oysters which he sold. In Terre Haute 10,000 bottles of tomato catsup from one establishment and 6,000 bottles and 340 gallon jugs from another establishment were seized. This catsup contained decomposed vegetable matter, and is said to have been made by a Cincinnati firm from refuse of canning factories.

Personal.—Dr. Thomas L. Taylor, Indianapolis, has been appointed house physician at the Indiana School for Feeble-Minded Youth.——Dr. E. E. Dougherty, a member of the staff of the Indianapolis City Dispensary, has resigned, under the new rule of the city board of health that no intern at the dispensary can be employed in any other capacity, and has been succeeded by Dr. John C. Irwin, Frankfort, Ind.——Dr. Hugh M. Hall, Camden, suffered the loss of his home and office in a fire, December 17.——Dr. Kent K. Wheelock, Fort Wayne, has returned from Europe.——Dr. Asa W. Brown, Bluffton, has been appointed secretary of the Wells County Board of Health, vice Dr. Louis Severin, Bluffton, resigned.——Dr. William A. Wildman has been appointed a member of the pension board of Butlerville, vice Dr. Green, deceased.

Preliminary Medical Curriculum.—President W. A. Mills of Hanover College; President Francis J. McConnell, DePauw University; Vice-President O. P. Kinsey, Valparaiso University; Prof. Stanley Coulter, Purdue University; Acting Vice-President M. E. Crowell, Franklin College; Dean M. B. Thomas, Wabash College; Dr. R. E. Lyons, Indiana University; and Vice-President T. A. Crumley, University of Notre Dame, met with the State Board of Health at Indianapolis, December 22, to establish a preliminary medical curriculum for the various state institutions. The regular amount of entrance work suggested was at least eighteen college months and should presuppose fourteen units of training in high schools or other preparatory institutions. The designation of special studies was referred to a committee for decision. The uniformity of courses offered by Indiana commissioned high schools was approved.

Society Meetings.—At the annual meeting of the Lake County Medical Association, held in Hammond, December 8, Dr. Edward E. Evans, Gary, was elected president; Dr. George W. Miller, Hammond, vice-president; Dr. Charles A. DeLong, Gary, secretary; Dr. George E. Miller, East Chicago, censor; and Dr. William F. Howat, Hammond, delegate to the state society.——The Fort Wayne Academy of Medicine held its annual meeting, December 9, and elected the following officers: president, Dr. Cecil C. Kimmel; vice-president, Dr. Homer E. Glock; secretary, Dr. Irvin W. Ditton; treasurer, Dr. Alfred L. S. Kane; and censors, Drs. John E. McArdle, Willis W. Carey and Allen Hamilton.——Laporte County Medical Association, at its annual meeting, December 9, elected Dr. Jesse B. Rogers, Michigan City, president; Dr. John N. Kelly, Westville, vice-president; Dr. George R. Osborn, Laporte, secretary and delegate to the state society; Dr. Edward G. Blinks, Michigan City, treasurer, and Dr. Benjamin W. Hollenbeck, Westville, censor.——Dearborn County Medical Society, at its annual meeting in Lawrenceburg, December 20, elected Dr. Jesse L. McElroy, Aurora, president; Dr. George W. Hansell, Guilford, vice-president; Dr. Orville S. Jaquith, Lawrenceburg, secretary; and Dr. Arthur T. Fagaly, Lawrenceburg, treasurer.

KANSAS

County Society Meeting.—The Republic County Medical Society met in Belleville, November 17, and elected Dr. William Kamp, Belleville, president; Dr. John B. Henry, Scandia, vice-president, and Dr. Jay C. Decker, Belleville, secretary.

Personal.—Dr. Allen W. Dortch, Arkansas City, was painfully injured in a runaway accident, December 5.——Dr. Josaphyne R. E. Davis, Ottawa, is reported to be critically ill in University Hospital, Kansas City, with septicemia due to an operation wound.

To Remain at Rosedale.—The regents of the University of Kansas are reported to have decided to retain the medical school property at Rosedale. The reorganization contemplates the establishing of a teaching hospital in Kansas City, Kansas, and the employment on salaries of additional capable instructors. Dr. Samuel J. Crumbine, Topeka, Secretary of the Kansas State Board of Health, has been elected dean.

Alumni Organize.—At the annual meeting of the Alumni Association of the Medical School of the University of Kansas, held recently, the following officers were elected: president, Dr. George M. Gray, Kansas City, Kan.; vice-president, Dr. Marion Truehart, Sterling, Kan.; secretary, Dr. Harold P. Kuhn, Kansas City, Mo.; and executive committee, Drs. Clifford C. Nesselrode, Kansas City, Kan., and Logan Clendening, Kansas City, Mo.

MARYLAND

Limit Professors' Salaries.—The authorities of the University of Maryland have limited the salary of medical professors to $1,500 per annum.

Personal.—Dr. Augustine S. Mason, Hagerstown, is reported to be critically ill.——Dr. Frederick Taylor, Baltimore, is in University Hospital, suffering from fractured ribs as the result of a fall on the ice.——Dr. Howard A. Kelly, Baltimore, has gone to Mexico for a month.

For the Colored Insane.—The board of managers of the State Hospital for Colored Insane has purchased 561 acres of land near Crownville, Anne Arundel County, as a site for that institution. The remainder of the legislative appropriation will be employed in the erection of the necessary buildings.

Bequests.—By the will of Miss Ada George, the Nursery and Child's Hospital, and the Church Home and Infirmary, Baltimore, each receives bequests of $1,000.——The late Edgar G. Miller left $2,000 to the Baltimore Eye, Ear and Throat Charity Hospital.——Hebrew Hospital has been bequeathed $1,000 by the will of the late Joseph Fredenwald.

Medical Society Meeting.—Dorchester County Medical Society met in Cambridge, December 13, adopted a new constitution, and elected the following officers: president, Dr. C. Frank Maguire, Hurlock; vice-president, Dr. Edward L. Jones, East New Market; secretary-treasurer, Dr. William H. Houston, Fishing Creek, and censors, Drs. John Mace, Cambridge, E. A. Jones and Joseph K. Shriver, Jr., Taylor's Island.

MICHIGAN

Lapeer Quarantine Temporarily Raised.—The quarantine against the Michigan Home for the Feeble Minded, Lapeer, was raised December 22, as there have been no new cases of small-pox in the institution in four weeks. The expense of the state troops on duty at the institution as a quarantine guard amounts to $5,373. On December 28, the institution was again placed in quarantine on account of the occurrence of another case of small-pox.

Academy Election.—At the annual meeting of the Kalamazoo Academy of Medicine, held December 13, the following officers were elected: president, Dr. John H. Crosby, Otsego; vice-presidents, Drs. H. L. Stewart and Lemuel E. Clark, Otsego, and Francis C. Penoyer, South Haven; secretary-treasurer, Dr. Charles E. Boys, Kalamazoo; censors, Drs. Adolph Hochstein, Edward P. Wilbur and George F. Inch, Kalamazoo; librarian, Dr. Edward J. Bernstein, Kalamazoo; delegates to the state society, Drs. Wilbur F. Hoyt, Paw Paw, and William A. Stone, Kalamazoo; and alternates, Drs. J. Charles Maxwell, Paw Paw, and John B. Jackson, Kalamazoo.

Deaths of Children in Detroit.—An investigation of the alleged incorrectness of the recent statement of the Census Bureau, of the proportion of deaths of infants in Detroit, as published in the official bulletin on mortality statistics for 1909, has been made by Dr. Cressy L. Wilbur, chief statistician of the bureau, acting in conjunction with the representatives of the secretary of state of Michigan. Subsequent to the issuance of the bulletin, the Detroit health authorities claimed that only 20 per cent. of the deaths at all ages in 1909 was of infants under 1 year, notwithstanding the fact that the census compilation gave a ratio of 29 per cent. Some local papers and the city health authorities of Detroit insisted that the bureau's figures were incorrect and injurious. After a thorough inquiry, Dr. Wilbur reports that the Detroit health authorities now admit that the census figures are correct, and that errors in the local compilation made it appear that 20 per cent. was the proper proportion. The health officer of Detroit has undertaken to reform the system in his office so that results hereafter will be strictly comparable with those of the Census Bureau.

NEW YORK

New York City

Sale of Red Cross Seals.—The manager for the sale of the Red Cross seals throughout the state reports that the sales outside of New York City and Buffalo will amount to at least $75,000, which is three times the amount of the sales of last year.

Drink Wood Alcohol.—It is reported from Kingston, N. Y., that wood-alcohol drinking has reached such proportions among the laborers on the New York Aqueduct that several deaths and numerous cases of severe illness have occurred. Efforts will be made to educate the men in regard to the dangers of this drug.

Label Milk for Infants.—A set of resolutions drawn up at the milk conference held on December 2 and 3 states that of the 16,000 babies that die annually in New York city, 4,000 are killed by bad milk and improper food, and that the most important problem connected with securing safe milk for infants is that of securing the proper labeling of milk so that mothers will know what is safe.

Would Make Vaccination Optional.—A complaint was recently brought against a resident of Staten Island charging him with violating the compulsory education law because he kept his children from school rather than submit them to vaccination. The case was decided in favor of the defendant and it is rumored that it will be made the basis of a campaign against compulsory vaccination. It is planned to make a demand that the Board of Education establish five schools, one in each borough, where vaccination may be optional according to the inclinations or beliefs of the parents. The bill providing that vaccination be made optional which was defeated at the last session of the legislature will be presented at the next session.

Hospital Interns Meet.—The first regular clinical meeting of the Society of Hospital Interns of New York City was held in St. Luke's Hospital, December 19. After reports of cases by seven interns, a general discussion followed on the clinical methods pursued at the different hospitals. Dr. Nathaniel Bowditch Potter, visiting physician to the City Hospital, and the originator of the idea of organization among interns, delivered an address on the purpose, scope and advantages of the society, in which he spoke of the immense value of such a society, not only to its members but to the profession in general, also of the spirit of rivalry that would obtain and the cooperation and unanimity essential among hospital interns, and the diffusion of new ideas that its meetings are bound to promote.

OHIO

Columbus Practitioners' Society Meets.—At the annual meeting of the General Practitioners' Society of Columbus, December 8, Dr. Emma O. Jones was elected president; Dr. Harry E. Myers, vice-president; Dr. Albert S. Barnes, secretary, and Dr. Charles H. Wells, treasurer.

Gift to Hospital.—Announcement was made, December 15, of a donation of $100,000 to the Babies' Dispensary and Hospital Association, Cleveland, by Mr. and Mrs. J. H. Wade, the only condition being that a memorial tablet to Mr. Wade's mother be placed in the new dispensary which is being erected by the association.

Tuberculosis Notes.—A tuberculosis sanatorium has been incorporated at Hamilton with a capital of $20,000.——A bureau of tuberculosis has recently been established in the health department of Cleveland, of which Dr. Robert H. Bishop is chief. Five tuberculosis dispensaries are being maintained in the city, each having its own salaried physician.

Personal.—Dr. William T. Lindsay, Cincinnati, has been appointed physician of Hamilton county jail, vice Dr. Louis J. Feid, resigned.——Dr. Joseph W. Chetwynd, assistant physician at the Massillon State Hospital, has resigned and will practice in East Liverpool.——A dinner was given in Cleveland, December 15, to Dr. Giovanni A. Barricelli, by 150 Italian-American citizens in celebration of the physician's recovery from a critical operation.——Dr. Sherman E. Simmons, Norwalk, is reported to be convalescent after a long illness.——Dr. Adam L. Jackson, Zanesville, who has been ill with cerebral hemorrhage, is reported to be improving rapidly.——Dr. William W. Smith, Portsmouth, who sustained a fracture of the arm recently, has resumed practice.——Dr. James F. Madden ,Toledo, sailed for Europe, December 21.

PENNSYLVANIA

To Compel Birth Reports.—In order to enforce the statute requiring a report of all births, the State Health Department caused the arrest of five physicians of Pittsburg, who were held in $500 bail for court, and action is threatened against 100 others. Dr. James F. Edwards, registrar of vital statistics, says that physicians have been disregarding this statute for several years. In many cases, when burial certificates were asked for children, no certificate of birth could be found by the health department.

Philadelphia

Personal.—Dr. S. Weir Mitchell, who has been a trustee of the University of Pennsylvania since 1875, has resigned.——Arthur R. Cushny, M.D., F.R.C.S., professor of pharmacology in the University of London, will deliver the first of the series of "Weir Mitchell Lectures" at the Weir Mitchell Hall in the College of Physicians on January 17. His subject will be "Heart Irregularity from Auricular Fibrillation."

Death Rate in 1910.—With the exception of 1908 and 1909, the death rate in this city in 1910 was the lowest in the history of the community. The total number of deaths reported was 26,879 and the rate of mortality 17.35 per 1,000 population. In 1908, the rate was 17.17 per thousand population, and in 1910, 16.40 per 1,000 population; 1909 holding the record as determined by the Bureau of Statistics.

First Branch of Free Medical Library Opened.—A medical section of the Free Library at Lehigh Avenue and Sixth Street was opened during the last week in December. A selection of modern text-books, made by the Library Committee of the Philadelphia County Medical Society, is in place on the shelves and current numbers of the best medical journals are on the tables. The committee has likewise in hand a nucleus of a similar collection for the new Southwark Branch Library, now under construction.

GENERAL NEWS

Small-Pox on Transport.—News was received at San Francisco, December 27, of an outbreak of small-pox on the transport *Logan* en route from Honolulu to the Philippine Islands.

Hygienists to Meet.—The fifth Congress of the American School Hygiene Association will be held at the Academy of Medicine, New York City, February 2 to 4, under the presidency of Dr. Luther H. Gulick, New York City.

Prevention of Blindness.—At a meeting of physicians and laymen in New York, December 17, the National Association for the Prevention of Blindness and the Conservation of the Eyesight was formed. Dr. F. Park Lewis, Buffalo, was elected chairman of the board of directors.

Proctologic Society Prize.—The American Proctologic Society announces that the sum of $100 will we awarded to the author of the best original essay on any disease of the colon, by a graduate or senior student of any medical college in the United States, not a member of the society. Essays must be submitted to the secretary of the committee, Dr. Lewis H. Adler, Jr., 1610 Arch Street, Philadelphia, before May 10. Each essay must be typewritten, designated by a motto or device without signature, and must be accompanied by a sealed envelope having on the outside only the motto or device contained on the essay, and within, the name and address of the author and motto or device used on the essay. The committee reserves the right not to make the award if no essay considered worthy of the prize is submitted. The object of the prize and competition is to stimulate increased interest in and knowledge of proctology.

FOREIGN NEWS

British-American Hospital for Chile.—The site has been secured and plans are under way for the construction of a hospital at Valparaiso, Chile, by the British and American colonies. The hospital is to cost up to $50,000, and is intended to be modern in every respect.

The Netchaeff Festschrift.—The issue of the *Russkiy Vrach* of November 25 is a special *Festnummer* of 175 pages in honor of Dr. A. A. Netchaeff's continuous service for twenty-five years as chief of the Obuchow general hospital at St. Petersburg. It contains forty-seven articles from the internists and surgeons connected with the hospital and the proceedings for the last two years of the association of hospital physicians.

Cholera Passes the Hundred Thousand Mark.—The entire issue of the *Russkiy Vrach* of December 3 is devoted to articles on cholera and the great epidemic in Russia this year. The

disease had caused 100,679 deaths by that date according to the official register. The distribution, mode of spread, healthy carriers, treatment and other aspects of the problem are discussed in detail, with especially minute study of conditions at St. Petersburg. The epidemic is dying out.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 16, 1910.

The Discovery of Carbon-Monoxid Poisoning Long After Death

On May 11 occurred at Whitehaven one of those mining disasters which from time to time send a thrill of horror through the country: 136 men and boys lost their lives. An explosion occurred and the mine caught fire. After all attempts at rescue failed, the affected parts were bricked up to prevent the fire from spreading. Five months afterward the bodies were found, most of them being much decomposed. Specimens of liver and heart were sent to a physiologist for examination with the result the spectroscope showed that in 35 cases death was due to poisoning by carbon monoxid. This constitutes a record in the length of time for the detection of carbon-monoxid hemoglobin. In many of the other bodies it was supposed that death was due to the same cause but that the carbon monoxid was dissociated by heat and bacterial agency.

The Health of the Navy

The annual statistical abstract of the health of the navy for the year 1909, which has just been issued, shows a continuous improvement in the general health of the fleet as compared with the preceding five years. Not only are the case, invaliding, and death ratios lower than the average for the preceding five years, but the average loss of service for each person has again dropped, from 10.8 to 9.76 days. The total force in the year 1909 was 112,700 and the total number of cases of disease and injury was 72,540, which gives a ratio of 643.65 per thousand, a decrease of 75.34 as compared with the average for the preceding five years. The total number invalided was 2,007, which gives a ratio per thousand of 17.8, a decrease of 4.3 in comparison with the average of the preceding five years. The total number of deaths was 362, giving a ratio of 3.21 per thousand, a decrease of 0.54 in comparison with the average of the preceding five years. Two hundred and fifty-eight were due to disease and 104 to injury. The number of days' loss of service due to venereal disease was 325,889, while the average daily number of men ineffective from these diseases was 892, as compared with 889 in 1908 and 903 in 1907.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 16, 1910.

Personal

The professors of the Paris medical college have just nominated Dr. Dejerine, professor of medical pathology, to the clinical chair of diseases of the nervous system at the Salpêtrière. This position, once made notable by Charcot, was recently occupied by Professor Raymond, who died last September. Professor Dejerine is to-day about 55 years old. He was a pupil of Vulpian, and, from the beginning of his career, specialized in diseases of the nervous system. His scientific work in this domain is of considerable extent, and his books on myopathy, neuritis, tabes, and motor and sensory spinal localizations, have brought him a great reputation. In collaboration with his wife, Mme. Dejerine-Klumpke, he has published an "Anatomy of the Nervous Centers," and in collaboration with Dr. Thomas, a work on diseases of the spinal cord, which appeared in Brouardel and Gilbert's treatise on medicine and therapeutics.

The House Where Pasteur Was Born

The municipality of Dôle, Jura, has just voted to buy and preserve the house where Pasteur, on Dec. 27, 1822, was born. It has decided, moreover, to ask the aid of "all of the admirers of that great benefactor of humanity."

Feminine Candidacy for the Academy of Sciences

In consequence of the candidacy of Mme. Curie for the place of M. Gernez in the section of general physics of the Académie des sciences, some members of the various academies composing the Institut de France (the Académie de médecine is not a part of the institute), influenced by the possibility of a precedent, have petitioned these academies to lay the question before the central commission. The petition has aroused a very warm discussion on the part both of the defenders and of the adversaries of feminine candidacy. The idea of complete solidarity among the various academies which compose the institute has been defended against the theory of the entire autonomy of each academy. The fact has been especially emphasized that the election of a member to one of the five academies carries with it the title of member of the institute, and that in accepting feminine candidacy, the Académie des sciences runs the risk of sometime admitting a woman to the presidency of the institute, that is to say, of all the academies, even of those opposed to the admission of women. Failing to agree, the commission decided to send the petition to the administrative commissions of each of the five academies for their advice, and then to lay the question before the five academies assembled for the trimonthly joint session, which will be held in January.

In this connection it is not without interest to note that the section of chemistry of the Royal Academy of Science of Stockholm has just decided unanimously to elect Mme. Curie as a foreign member in place of the Italian savant Cannizzaro, deceased.

Resolution in Regard to the Premature Publication of New Remedies

In the course of its last session the Association des journalistes médicaux français passed the following resolution: "Considering the real danger presented by premature publication of new remedies, the association regrets the haste with which incomplete ideas relative to such remedies are placed before the public in the lay press."

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 9, 1910.

Personal

Privy Councillor Prof. Kirchner of the Prussian department of education has been chosen to fill the place of Robert Koch in the board of directors of the Robert Koch foundation for the campaign against tuberculosis.

As a result of the founding of an institution for research under the auspices of the Kaiser, which I reported to you in connection with the centennial of the Berlin university, he has received the honorary degree of doctor from the medical faculty of the university of Prague.

Leyden Lectures

As a permanent honor to its founder, who was also for many years its honorary president, the Verein für innere Medizin und Kinderheilkunde of Berlin resolved, on motion of Professor Schwalbe, to establish a Leyden lectureship, the lecture to be given annually at the first session of the winter semester, by a speaker selected by the board of directors. This arrangement, which follows the English custom, is the first of the kind made in Germany. A large fee will be paid the lecturer, derived from the interest of the fund of $14,000 (56,000 marks), established on the seventieth birthday of von Leyden. The rest of the interest on the fund is to be devoted to scientific research under the influence of the society for internal medicine (Verein für innere Medizin), as the president of the society is also president of the fund.

Strike of Contract Physicians at Halle

A short time ago a difficulty arose about fees between the management of the local sick insurance societies in Halle and their medical appointees, and the Leipsic league forbade any supply to the societies by other physicians. As the insurance societies on this account were unable to supply proper medical aid, the city government on the authority of the social insurance law deprived the insurance officials of their office and took over the management of the bureau. A contract has now been concluded between the city government and the insurance physicians, which meets the demands of the physicians. This affords new evidence of the power of the Leipsic league backed by the German medical profession.

This affair will doubtless tend to make the legislators, who are still busy with the new imperial insurance law, more careful to avoid conflict with the entire medical profession. The management of the Leipsic league has issued an announcement to the effect that physicians will combine for mutual aid if the projected unfavorable provisions of the new imperial insurance bill are enacted into law.

Proposed Professional Courts of Honor for Bavaria

After repeated unsuccessful trials to establish courts of honor by law, the Bavarian medical councils have attempted to make such an arrangement themselves. According to their plan, each society shall establish an arbitration and an honor court. The arbitration court shall have jurisdiction over all the members of the district society and the court of honor over all except military surgeons during their term of service and health officers who are not engaged in practice. The arbitration court has charge of all difficulties between physicians. Charges before the court of honor can be made by any physician and in certain cases even by laymen. The members of the district society are bound to apply to the arbitration court before suing a fellow practitioner. Laymen may be called as witnesses. The penalties may consist of warnings, notices, advice to resign from the society, money fines and expulsion. At the last session of the medical councils this plan was discussed but no decision was reached.

Wholesale Poisoning from Margarine

A few days ago a wholesale poisoning was caused in a number of cities, especially in Hamburg, by the use of Backa-Margarine from an Altona factory. The chemical investigation undertaken in Hamburg and other places showed the presence of a vegetable fat not more exactly characterized. The impression has been conveyed by an advertisement of the manufacturers, which offers a reward for the discovery of the person who adulterated the product, that it was a criminal action of some appointee. On the other hand, this view does not seem to be accepted by other manufacturing firms, for they have excluded the suspected firm from their association. It is to be hoped that further investigations will clear up this very deplorable affair.

Dental Students Boycott a School

The dental department of the Breslau university has been defective in room and equipment for a long time. Demands for improvement have been repeatedly made by the faculty and in parliament without success. Now about one hundred students have boycotted the institution, refusing to attend lectures and exercises. It is to be expected that this special protest will have a good effect.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, Dec. 12, 1910.

A Discussion on Salvarsan ("606") in Vienna

The frequency of syphilitic affection in the patients frequenting the Vienna Policlinic and the various other hospitals and clinics of this city has rendered the experience of our syphilologists rather extensive. Postluetic and metaluetic affections are also very frequent in this country, and all such patients flock to Vienna from all Austria and from the southeastern Slavonic and oriental states which have no nearer place whence to seek help. Thus Vienna has the advantage of seeing an enormous number of cases belonging to this group of diseases. Naturally the discovery of the powerful effects of Ehrlich's salvarsan has been followed up very quickly here, and Ehrlich has provided the Vienna hospitals with sufficient doses for the purpose.

A symposium was held recently in the two Vienna medical societies, in which the experiences gained within the few months were reported. Professor Finger's conclusions were that the remedy has a powerful and specific action; its chief indication is to be sought where a rapid action is necessary. Professor Finger cannot admit that the syphilitic process itself is influenced by it in a much better way than by the old remedies. Its harmlessness has not yet been proved; it seems to have a "neurotropic" action by sensitizing, so to say, certain nerves for the luetic toxin.

Professor Rehl has investigated the literature on bad results after injection of mercury and after salvarsan. Hitherto 40,000 injections of the latter have been made and not a single case of death could be attributed directly to the latter substance while since 1906 there are ninety cases of fatal result after mercury injection. Therefore there seems to be, in his opinion, reason for the preference of "606."

Professor Urbantschitsch has seen sixty cases of affections of the ear caused by syphilis or by salvarsan. The interesting point is that in many cases an isolated affection of the vestibular nerve, with nystagmus, dizziness and vomiting, has appeared a few days after the injection, but soon disappeared. On the other hand, inveterate luetic ear affections have improved wonderfully under "606," but it is yet a question whether the improvement will be a permanent one.

Professor Alexander has seen sixty-four cases of syphilis of the ear before the introduction of "606," among them only three in recent syphilis. Therefore the frequent appearance of ear trouble after "606" seems to show that this remedy has some undesirable effect on the auditory organs. Therefore Alexander thinks that salvarsan should be used only in inveterate cases of luetic labyrinthic dizziness and deafness.

Professor Matzenauer thinks that the remedy is very useful for obtaining rapid improvement of syphilitic symptoms, but that there is not yet a single proof that the action is a permanent one. In 3 per cent. it has failed altogether, while in five cases of lues maligna it has had in his hand a wonderful effect. Relapses appear to be frequent (8 per cent.) even in recent infections. In his opinion "606" has not only a "neurotropic" but also an "organotropic" action (fever up to 104 F., general malaise, sweating, vomiting, swelling of the syphilitic lesions.)

Dr. Oppenheim has found that the injection of the substance should be resorted to in all cases of luetic affection of the skin, the mucous membranes and the glands, which respond very quickly. Diseases of the nerves, however, were not so easily influenced and such cases could become much worse. Only if an *indicatio vitalis* was present he would, in opposition to Ehrlich, use it also in brain syphilis. The neurotropic action of the injection was well illustrated by the fact that optic neuritis has been observed by Professor Dimmer and by other ophthalmologists too, in very recent cases of syphilis treated by "606." This is a rarity and must be searched for further. Actual blindness has hitherto not been caused by "606" alone. Salvarsan seems to predispose the auditory and optic nerves to an attack by luetic toxins. Wassermann's reaction has not behaved uniformly. In some cases the reaction has disappeared within three days after the injection, and remained absent or returned after a lapse of three to six weeks or three months. In others, even a repeated injection did not make the Wassermann reaction negative. Therefore, even in this respect, the substance offers certain difficulties. It is the rule in this country to inject about 1/10 of a grain (0.007 gm.) per kilo body weight, in neutral solution preferably; intravenous injection has been recommended by Ehrlich only quite lately, and the results are said to be much better still.

Taking all the pros and cons into consideration, one is forced to admit that Ehrlich has added to the physician's armamentarium a most valuable weapon, the exact action of which has yet to be found. But in one respect it surely surpasses all other remedies. It is the best prophylactic we have at present, as Dr. Hobler said. He saw many hundreds of cases of old syphilis in Bosnia in South Austria, where the whole population may be regarded as more or less syphilitic or heredosyphilitic. He advises that all prostitutes known to the police be treated prophylactically with salvarsan. This would be, in his opinion, the safest means of eradicating the most dangerous and most frequent means of infection. If this were the law everywhere, syphilis might soon be mastered.

Marriages

BYRON F. BARKER, M.D., to Miss Mildred Todd, both of Bath, Me., December 14.

SAMUEL SALINGER, M.D., Chicago, to Miss Florence Whiteson of Philadelphia, December 26.

CLAY LLOYD NICHOLS, M.D., to Miss Effie Duckwall, both of Louisville, Ky., December 21.

SEYMOUR LEWIS HOMRIGHOUSE, M.D., to Miss Ada Gorss, both of Hagaman, N. Y., recently.

ROBERT CADE PARRISH, M.D., to Mrs. Mary Barson Garrod, both of Philadelphia, December 15.

SOREN S. WESTLY, M.D., Manly, Ia., to Miss Susie Florynce Cron of Gladbrook, Ia., December 7.

ALAN GOODWIN BROOKS, M.D., Stoy, Ill., to Miss Ruth E. Kenney of Oil City, Pa., December 17.

WILLIAM S. EHRICH, M.D., Evansville, Ind., to Miss Bertha Juhad of Louisville, Ky., December 19.

WALTER EDWIN WALKER, M.D., Graham, N. C., to Miss Carrie Stanford of Marion, N. C., December 22.

CHARLES E. SMITH, M.D., Johnson City, Tenn., to Miss Dora Kinney of Mitchell County, N. C., recently.

WILLIAM EDGAR HOLLAND, M.D., Fayetteville, Pa., to Miss Rose Viola Byers, at Harrisburg, Pa., December 23.

Deaths

Willis Goss MacDonald, M.D. Albany (N. Y.) Medical College, 1887; a member of the Medical Society of the State of New York; professor of abdominal and clinical surgery in Albany Medical College; attending surgeon and consulting surgeon to the Westfield Hospital; a member of the Albany Board of Education; one of the prime movers in the establishment of the Raybrook State Hospital for the Treatment of Incipient Tuberculosis; major and surgeon of volunteers in the Spanish-American War; died at his home in Albany, December 30, from pneumonia, aged 47.

Frederick Wilcox Chapin, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association; consulting physician and surgeon to the Springfield (Mass.) Hospital; a member of the local pension examining board; at one time trustee of the Northampton Insane Hospital; chairman of the camp committee of the local society for the prevention of tuberculosis; died at his home in Springfield, December 16, from angina pectoris, aged 61.

William Marsh Proctor, M.D. Hahnemann Medical College, Philadelphia, 1899; of Braddock, Pa.; surgeon to the Braddock works of the American Steel and Wire Company; who was operated on in the new Homeopathic Hospital, Pittsburg, December 13, leaped from a window in the hospital, December 14, while delirious, sustaining injuries from which he died an hour later, aged 36.

Charles Merrill Bertholf, M.D. Kansas City Medical College, 1904; a member of the Kansas Medical Society; physician for the Hamilton and Fidelity Coal and Mining companies, Cherokee; died in Peabody, December 16, from the effects of morphin, self-administered, it is believed with suicidal intent, while despondent, aged 35.

William MacQuigg, M.D. Western Reserve University, Cleveland, O., 1861; assistant surgeon of the Twenty-sixth Iowa Volunteer Infantry during the Civil War; a member of the local pension examining board; died at his home in Clinton, Iowa, December 18, from cerebral hemorrhage, aged 82.

Frank Whitman, M.D. Berkshire Medical College, Pittsfield, Mass., 1863; of Bellows Falls, Vt.; surgeon of the Fifty-eighth Massachusetts Volunteer Infantry during the Civil War; died at the hospital of Dr. Henry O. Marcy, Cambridge, Mass., December 20, from arteriosclerosis, aged 75.

William H. Swander, M.D. Cincinnati College of Medicine and Surgery, 1859; for two years prosector to the chair of surgery; surgeon in the Federal service during the Civil War; for many years a resident of Washington, D. C.; died in Hampton, Va., December 11, aged 75.

Isaac H. Brewton, M.D. Medical College of the State of South Carolina, Charleston, 1886; formerly quarantine officer of Eagle Pass, Tex., and railway surgeon; died at his home in San Antonio, December 9, from septicemia, due to a carbuncle of the nose, aged 74.

Elizabeth Gallimore, M.D. Cooper Medical College, San Francisco, 1887; a member of the American Medical Association; of San Jose, Cal.; died in the Petry Sanitarium in that city, December 16, three weeks after an operation for appendicitis, aged 50.

Myron Watson Hunt, M.D. University of Vermont, Burlington, 1882; of Moreland, N. Y.; twice coroner of Oneida county, and a member of the board of education of Holland Patent; died in a hospital in Oklahoma City, December 5, from typhoid fever, aged 55.

Albert Reeder (license, years of practice, Massachusetts, 1894); was found dead in his apartments in Boston, December 25, from the effects of the inhalation of illuminating gas, aged 55. The medical examiner's decision was that the case was one of suicide.

Marquis L. Martin (license, Ind., years of practice); representative in the state legislature in 1872 and 1873; a practitioner of Indiana for 66 years; died at the home of his daughter in Rossville, December 14, from heart disease, aged 89.

J. W. F. Parker, M.D. University of Louisville, Ky., 1850; a member of the Kentucky State Medical Association; for several years president of the Pulaski County Medical Society; died at his home in Somerset, December 18, from pneumonia, aged 75.

James L. Clayton, M.D. University of Arkansas, Little Rock, 1891; representative from Concordia Parish in the Louisiana legislature from 1892 to 1896; and a member of the parish school board; died at his home in Clayton, December 23, aged 52.

Henry Parsons Terry, M.D. New York University, New York City, 1866; formerly supervisor of Riverhead, Long Island, N. Y.; and president of the Suffolk County National Bank; died at his home, December 5, from heart disease, aged 71.

Austin W. Foreman, M.D. American Medical College, Eclectic, St. Louis, 1878; of Vinita; a member of the Oklahoma State Medical Association; died in St. John's Hospital, Springfield, Mo., December 18, from disease of the stomach, aged 55.

Robert Hall, M.D. College of Physicians and Surgeons, New York City, 1856; a member of the Massachusetts Surgical and Gynecological Society; died at his home in Providence, R. I., December 13, from cerebral hemorrhage, aged 81.

Hugh L. Ferguson, M.D. Cincinnati College of Medicine and Surgery, 1869; at one time mayor of Westerville, O.; a veteran of the Civil War; died at the home of his son in Plain City, O., December 11, from osteosarcoma, aged 75.

George Scott Locke, Jr., M.D. Dartmouth Medical School, Hanover, N. H., 1900; formerly of Concord, N. H., and Fort Davis, Tex., died on his father's ranch in Jeff Davis County, Tex., November 4, from pneumonia, aged 35.

George Washington Smith, M.D. Hahnemann Medical College, Philadelphia, 1876; visiting physician to the Children's Homeopathic Hospital; died at his home in Philadelphia, Decembber 14, from heart disease, aged 67.

William S. Elliott, M.D. Vanderbilt University, Nashville, Tenn., 1883; of Langford, Port Royal, Tenn.; died in a hospital in Rochester, Minn., December 12, after an operation for cancer of the intestines, aged 54.

John Selden Parker, M.D. Medical School of Maine, Brunswick, 1849; for many years a practitioner of East Lebanon; died at the home of his son in Providence, R. I., December 18, from senile debility, aged 86.

Ludwig Wehlau, M.D. University of Würzburg, Germany, 1874; a member of the American Medical Association; died at his home in Scranton, Pa., December 23, from carcinoma of the intestine, aged 59.

Montraville Waddle (license, years of practice, Ill., 1878); for 45 years a practitioner; hospital steward during the Civil War; died at his home in Carmi, Ill., December 22, from rheumatism, aged 77.

John Burgess Gaither, M.D. College of Physicians and Surgeons, Baltimore, 1869; a member of the Medical Society of the State of North Carolina; died at his home in China Grove, December 17, aged 63.

Frank W. Rodgers, M.D. Chicago Homeopathic Medical College, 1888; a member of the Ohio State Medical Association; died at his home in Findlay, O., from nervous prostration, December 18, aged 47.

James H. Harris (license, Md., 1873); professor of operative dentistry in the Dental Department of the University of Maryland; died at his home in Baltimore, December 12, from pneumonia, aged 76.

David L. Todd, M.D. Tulane University, New Orleans, 1854; surgeon in the Confederate service during the Civil War; died at his home in Washington, La., December 15, aged 83.

John Robert Culbertson, M.D. Atlanta (Ga.) Medical College, 1883; a member of the South Carolina Medical Association; died at his home in Gray Court, December 15, aged 65.

Giles F. Roosevelt, M.D. Denver Homeopathic College, 1902; a member of the Colorado State Medical Society; died at his home in Denver, December 10, from tuberculosis, aged 36.

John R. Miller, M.D. Cleveland, O., 1854; College of Physicians and Surgeons, Keokuk, Ia., 1861; died at his home in Elvaston, Ill., December 24, from senile debility.

Luther Cochran Cook, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1863; died at his home in Ellsworth, Kan., December 19, from cerebral hemorrhage, aged 82.

Henry Vigor, M.D. Eclectic Medical Institute, Cincinnati, 1870; for 60 years a practitioner; died at his home in Brandon, O., December 11, from senile debility, aged 89.

Benjamin Hill, M.D. Ensworth Medical College, St. Joseph, Mo., 1891; died suddenly at his home in Huntsville, Wash., December 6, from heart disease, aged 68.

James Frost, M.D. University of California, San Francisco, 1877; of San Francisco; died at the home of his daughter in Sacramento, December 11, aged 74.

D. L. Whaley, M.D. Missouri Medical College, St. Louis, 1888; died at his home in Browning, Mo., December 10, from disease of the stomach, aged 60.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTERS TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE VAN BYSTERVELD MEDICINE COMPANY

A Fraudulent Concern that Makes Fake Diagnoses by Means of Farcical Uranalyses

If it were not for the fact that self-drugging is always dangerous and that swindling people is always criminal, the study of the genus *Faker* would often be amusing. Some quacks are so naively dishonest, so frankly fraudulent, so transparently tricky that one can but stand aghast at the stupendous gullibility of the public which makes their trade a thriving one. Some medical frauds show care in conception and expertness in execution; they show, in fact, that skilled lawyers have been consulted to determine just how immoral a concern may be without becoming illegal. On the other hand there are some fakes of a medical nature which in their crudeness of operation excite disgust for their inventors and contempt for their victims.

The Van Bysterveld Medicine Co., Ltd., is a fraudulent concern with headquarters at Grand Rapids, Mich. It advertises in cheap magazines that it "will locate the cause of your aches and pains" free. All you need do is to send in a sample of your urine "stating age and sex" and they will do the rest. The "expert" who performs these marvels in diagnosis is A. W. Van Bysterveld, who, we are told, "has spent a lifetime in examining human urine."



Fig. 1.—Photographic reproduction (reduced) of the outside cover and the first page of the folder sent out by the Van Bysterveld Medicine Company.

A LETTER IS WRITTEN

A few inquiries having come in to THE JOURNAL concerning this company, it seemed worth while to make some investigation of the methods employed by the Van Bysterveld Medicine Company. Accordingly a letter from a supposititious patient was sent last March, asking for "full particulars about your cure for disease." In reply the company sent a mailing case containing a small 1-dram vial (for the urine), a leaflet and a letter. The leaflet had for its front cover a picture of "A. W. Van Bysterveld, Expert Inspector of Urine." Mr. Van B. seems, from his picture (Fig. 1) to be a man of mediocre intelligence who runs to naturally curly hair and an artificially curled mustache. The analytical methods employed by Mr. Van B. in examining urine are described as follows:

"This is done by a careful and secret process handed down generation after generation, and most carefully guarded by the old families of Europe. Its age alone entitles it to the confidence of all. It has stood the test of years upon years, giving at all time substantial proof of its undoubted efficacy."

The "expert examiner" is apostrophized thus:

"A. W. Van Bysterveld, the chief inspector, whose secret methods are not taught in schools, examines on an average of 25,000 bottles of urine a year. This alone stamps him as an authority and of exceptional qualifications. In conjunction with him are the consulting physicians who prescribe the remedies. This combination assures you of a medicine that goes direct to the root of the evil."

SEVERAL LETTERS ARE RECEIVED

The letter that came in answer to the inquiry, referred to the mailing case and pamphlet that were being sent and then went on to say:

"Our method of examining the urine and thereby locating the CAUSE of trouble and prescribing medicine to remove the cause, has proved most successful in the past.

"Our fees, when urine is sent by mail, are $1.25 per week, which includes a careful examination of the urine and medicine enough to last one week."

This letter was signed by the company but the initials of, presumably, the writer were given as "G. R. S." In a clipping which we have on file from a Grand Rapids (Mich.) paper we learn that George R. Stark, M.D., of Grand Rapids, is secretary of the Van Bysterveld Medicine Company. Whether Dr. Stark wrote the letter quoted above can only be surmised.

The company's letter was purposely unanswered for eight months, during which time a number of "follow-up" letters were received, each urging the prospective victim to send in the sample. The November "follow-up" letter—also bearing the initials G. R. S.—had the following statement:

"Perhaps you have overlooked the fact that we make the first examination free, that you have the benefit of the best expert advice upon your condition without any cost to yourself, and that should you decide to take a course of treatment the cost is only $1.25 for one week or $2.25 for two weeks."

SAMPLE ONE

On receipt of the November letter it was decided to test the analytical and diagnostic powers of the Van Bysterveld concern. For this purpose the Association's chemists made up a few ounces of the following mixture and a vial full of it was sent to the company:

Hydrant water	about 1 dram
Pepsin	trace
Anilin dye	enough to color
Ammonia	trace

This solution was sent to the Van Bysterveld Medicine Company for its "expert inspector" to examine and a letter was written asking the company to diagnose the supposititious patient's case. Here is its diagnosis:

Diagnosis 1.—"Careful examination of the urine shows there is too much acid in the blood, which will cause a rheumatic condition, the back is weak, and you will have a tired nervous feeling most of the time."

SAMPLES TWO AND THREE

In the meantime two persons, one in Iowa and the other in Michigan, had been asked to correspond with the concern, so as to obtain the mailing cases and vials. These vials were filled in the Association laboratory but were mailed to the Van Bysterveld Company from the towns in which their respective recipients lived—and *they were filled with a part of the same mixture that was sent in the first vial!* Back came the following diagnoses:

Diagnosis 2.—"Careful examination of the urine shows the circulation of the blood to be very poor, the liver is not working

properly, which will cause gas in the stomach and bowels and will effect [*sic*] the heart, you have caught a little cold which has settled in the back and stomach and you will have a nervous feeling."

Diagnosis 3.—"Careful examination of the urine shows you are losing too much albumin in the urine, which will cause the back and kidneys to be weak, and there is a catarrhal condition of the stomach and bowels, and you will have a tired nervous feeling most of the time."

It seems, therefore, according to the "careful and secret process" of examining the urine that is so "carefully guarded by the old families of Europe," that a mixture of hydrant water, pepsin, anilin dye and a trace of ammonia indicates many pathologic states. Only one condition seems to be common to the three cases diagnosed and that is the "tired, nervous feeling." According to Van Bysterveld, whatever else may ail a person who is excreting pepsin, anilin dye and hydrant water through his kidneys, he will unquestionably be both "tired" and "nervous."

Seriously, though, the reason for tacking on the "tired, nervous feeling" to every "diagnosis" is perfectly evident. Every individual who is sick and every individual who *thinks* he is sick, to say nothing of a large number of people who belong to neither class, will have a "tired, nervous feeling," at least once in a while. It will be noticed that whenever the Van Bysterveld "diagnoses" deal with anything but the broadest generalities they describe such indefinite little aches and pains as any person suffering from the slightest indisposition would be likely to have. And naturally, it is the indisposed who, as a rule, write to these fakers.

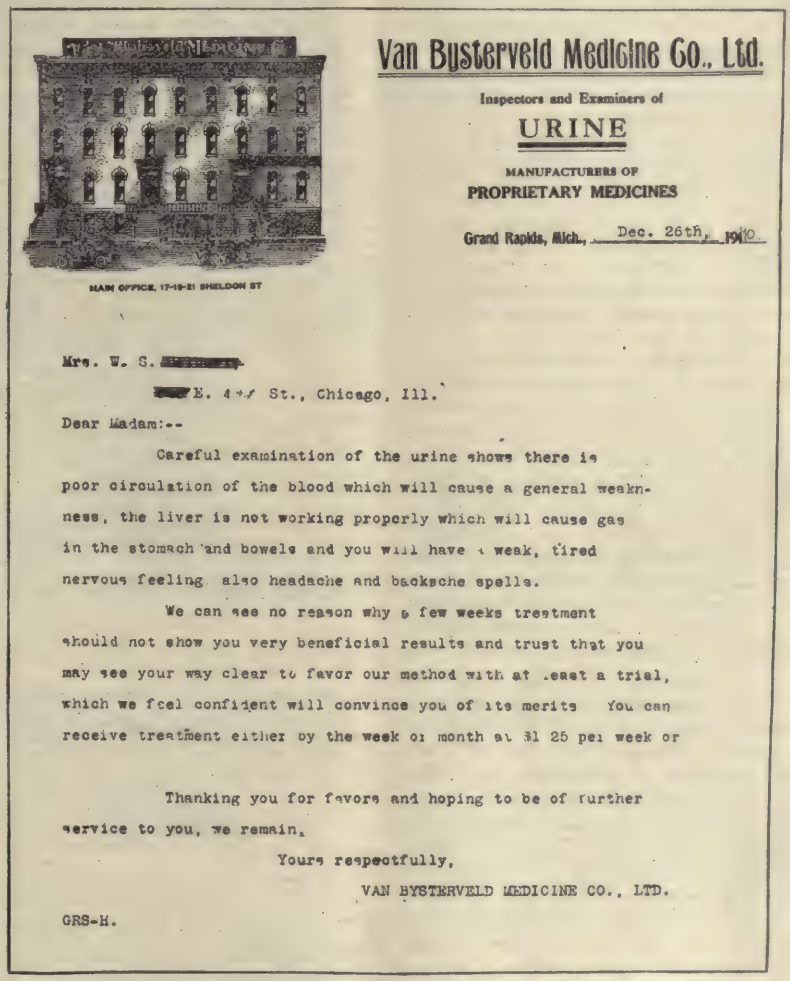


Fig. 2.—Photographic reproduction (much reduced) of one of the "diagnosis" letters sent in reply to a supposititious patient who had submitted a mixture of hydrant water and glucose. The name of the person and the house number have purposely been obliterated.

SAMPLES FOUR AND FIVE

Still further to demonstrate the worthlessness of the alleged uranalysis two more specimens were sent from two different persons in Chicago. These specimens also were prepared in the Association laboratory and had the following composition:

Hydrant water	95 per cent.
Glucose	5 per cent.

Nothing was added to give either color or odor to this last mixture! Now, as every physician knows, the presence of glucose in urine in such a large proportion as 5 per cent. is not only one of the easiest things to ascertain but any person excreting that amount of sugar would be in a desperate condition. Evidently, therefore, if any examination, worthy the name, of the last two specimens had been made the presence of sugar must have been evident. What did "expert inspector" Van Bysterveld have to say regarding these two cases?

Diagnosis 4.—"Careful examination of the urine shows the[re] is poor circulation of the blood, which will cause a general wea[k]ness, the liver is not working properly, which will cause gas [in] the stomach and bowels, and you will have a weak, tired nervo[us] feeling, also headache and backache spells." [See Fig. 2 for photographic reproduction of this "diagnosis" letter.]

Diagnosis 5.—"Careful examination of the urine shows the[re] is too much uric acid in the blood, which will cause a rheumat[ic] condition, the back and kidneys are weak, and there is a catarrh[al] condition of the stomach and bowels."

Not a word about the presence of sugar! No mention [of] the danger that a person excreting 5 per cent. of glucose wou[ld] be in!

CONCLUSION

The whole thing shows conclusively that the "examinatio[n] of the urine is a farce, the diagnosis is a fake and the takin[g] of money from vi[c]tims for the "trea[t]ment" of a purely im[a]ginary disease is fraud and a swindl[e] It shows, too, tha[t] those publicatio[ns] which accept the ad[-] vertisements of thi[s] concern are, wittingl[y] or unwittingly, par[-] ticipating in the pro[-] its of scoundrelism We sincerely hop[e] that the overworke[d] fraud - order depart[-] ment of the Unite[d] States postoffice wi[ll] in the near future ge[t] around to this pictur[e]esque, but viciou[s] humbug. We trus[t] also, that if the oper[a]tors of the Van Bys[-] terveld Medicine Com[-] pany cannot be give[n] board and lodging a[t] either state or federa[l] expense, they will a[t] least be forced into [a] more reputable, eve[n] if less profitable lin[e] of human activity The swindler wh[o] sells stock in bogu[s] companies to presum[-] ably intelligent hu[-] man beings is a gen[-] tleman compared wit[h] those scoundrels wh[o] lie to the sick, hum[-] bug the suffering an[d] fraudulently take th[e] money of the incapac[-] itated.

PALATABLE LAXATIVE

Dr. L. F. Cummings, Hopkinton, Iowa, sends the followin[g] formula for a laxative devised by his daughter "to take th[e] place of the similar high-priced preparations":

℞		gm. or c.c.
Phenolphthalein	gr. cxxviii	8.
Salicylic acid	gr. x	or .6
Baker's chocolate	ʒ j	30.
Syrup of acacia	ʒ j	ad 500.

Melt the chocolate by aid of heat, mix with the syrup o[f] acacia, then add the salicylic acid and phenolphthalein and mi[x] thoroughly. Dispense with "shake label." Dose: 1 to 3 tea[-] spoonfuls. Each fluid dram contains about 1/15 grain (.00[4] gm.) salicylic acid and 1 grain (.06 gm.) phenolphthalein.

Correspondence

A Preliminary Report on the Mortality of Cancer in the United States, as Given by the Census of 1910

To the Editor:—Bulletin 8, Mortality Statistics, 1909, Bureau of the Census, just issued, gives valuable information regarding the mortality from cancer in the registration areas of the United States. This list includes eighteen states in registration areas and fifty-four cities in non-registration states with an estimated population in 1909 of 48,776,893, being 53 per cent. of the estimated population of the United States.

It is thus seen that the estimated population is a little larger than the real population, which, in round numbers, is 91,500,000, as shown by the latest census report. Taking the above official statement as a basis for comparison, it appears that the registration area in the United States includes one-half of the population. Therefore, by doubling the number of deaths indicated by these mortality statistics, the entire death totals would be approximately determined. In the report mentioned cancer ranks sixth in the mortality list.

On this basis, the mortality tables show (Bulletin 8, page 20) that the deaths in 1909 are in point of frequency in round numbers as follows:

1. Tuberculosis	163,000	4. Pneumonia (all kinds)	98,000
2. Heart disease	132,000	5. Nephritis	97,000
3. Diarrhea and enteritis	105,000	6. Cancer	75,000

The same statistics show the increase of cancer from 1908 to 1909 on the same basis of comparison to be 8,000 (Bull. 8, Table 8, pp. 128-129).

Comparing the deaths from cancer (7,034) for the same year (1909) in the State of New York as published in its monthly Bulletin January, 1910, with its population by the recent census of 9,000,000, the relative mortality in New York is found to be relatively a little greater than in the registration area of the United States. These statistics indicate that one person out of every 1,200 of our population dies every year from cancer. A recent writer, after compiling statistics of the mortality from cancer in European countries, and basing his comparison on population, asserts that there are 80,000 cases of cancer in the United States with a yearly mortality of 40,000. It is difficult to obtain from reliable statistics the average duration of cancer of all varieties. It is, however, believed to be a conservative estimate that the average duration of cancer is three years. On this basis it would appear that at this time there are about 225,000 cases of cancer in the United States. The fact remains, however, that according to the best analysis of statistics attainable, there is a yearly mortality from cancer in the United States of 75,000. In this connection it must be remembered, first, that cancer is not (usually if ever) in the lists of diseases which boards of health require to be reported. This being the case, not all cases of death from cancer are reported as such. Some individuals and families are averse to having the cause of death known and it is not accurately reported, the death being attributed in death certificates to some other cause.

In the second place, doubtless a very considerable number of cases of internal cancer and tumors in various parts of the body are never correctly diagnosticated, and are never included in mortuary tables as such. Thirdly, as the census was taken nearly nine months ago, the natural increase in population would tend to correct any overestimate of the mortality from cancer for 1910.

Until the work of the Bureau of the Census is completed, it will be impossible to know the exact population in registration areas, as compared with that in non-registration areas, and this basis must be known before the ratio of mortality of cancer can be established. Further analysis as related to race, sex and locality cannot be determined until the information in Bulletin 8 has been completed by the census bureau.

When this information is accessible, it is my purpose to make a supplemental report, which will give more accurate data concerning the presence, increase and mortality of cancer in the United States. Enough, however, is known to fix approximately the mortality and demonstrate the rapid increase of cancer. WALTER B. CHASE, M.D., Brooklyn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CLASSIFICATION OF TUBERCULOSIS

To the Editor:—Please give me any information possible in regard to the classification of the various stages of tuberculosis, especially in regard to the Turban-Gerhardt classification.

W. B. LAFFER, Cleveland.

ANSWER.—Turban's classification, put forward in 1899, forms the basis of the classification in use to-day. In Europe it has been modified by the general adoption in addition of part of Gerhardt's scheme. In this country the National Association for the Study and Prevention of Tuberculosis has modified Turban's scheme by adding certain clinical data. Trudeau has a scheme of his own. The three classifications are given below in parallel columns as given in "Tuberculosis," edited by A. C. Klebs, 1909, p. 362.

TURBAN-GERHARDT	NATIONAL ASSOCIATION	TRUDEAU
I	I. INCIPIENT (FAVORABLE)	I. INCIPIENT
Disease of slight severity, limited to small areas of one lobe, that, for instance, in case of affection of both apices, may not extend beyond the spine of the scapula and the clavicles; in case of affection of one apex, frontal, beyond the second rib.	Slight initial lesion in the form of infiltration, limited to the apex or a small part of one lobe. No tuberculous complications, slight or no constitutional symptoms (particularly including gastritis or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially if at rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.	Cases in which both the physical and rational symptoms point to but slight local and constitutional involvement.
II	II. MODERATELY ADVANCED	II. ADVANCED
Disease of slight severity, more extensive than I, but affecting at most the volume of one lobe, or severe disease extending at most to the volume of one-half lobe.	No marked impairment of function, either local or constitutional. Localized consolidation, moderate in extent, with little or no evidence of destruction of tissue. Or disseminated fibroid deposits. No serious tuberculous complications.	Cases in which the localized process is either extensive or in an advanced stage, or where, with a comparatively slight amount of pulmonary involvement, the rational signs point to grave constitutional impairment or to some complication.
III	III. FAR ADVANCED	III. FAR ADVANCED
All cases extending beyond II, and all such with considerable cavities.	Marked impairment of function, local and constitutional. Localized consolidation, intense or disseminated areas of softening, or serious tuberculous complications.	Cases in which both the rational and physical signs warrant the term.

GATE CITY MEDICAL COLLEGE CONDEMNED

To the Editor:—1. Is the Gate City Medical College a reputable medical school?

2. Are graduates of this school allowed to become members of the American Medical Association?

J. A. BURNETT, M.D., Calvin, Okla.

ANSWER.—1. This college, formerly located in Texarkana, Texas, but now located in Dallas, was mercilessly exposed by the *Journal of the Arkansas Medical Society*, August, 1907. A circular sent out in that year by that college offered "a course in home reading (mail course) in medicine for $25," on finishing which, a "special diploma" would be granted. The statement was also made that "it takes from four to six months to finish the mail course." There had long been rumors that the college was little better than a diploma mill, but when summoned to appear before the Arkansas Medical Society, Dr. J. W. Decker, the dean, denied the allegations and invited an inspection. The inspection was made, and a part of the report is as follows: "A medical college organized and launched in the midst of an era of the greatest medical energy and progress the world has ever known, (a) that has practically no educational requirement for admission; (b) that is without an anatomic laboratory; (c) that does not require its students to dissect; (d) that makes false representations in its catalogues, thereby attracting many students; (e) that is without sufficient hospital advantages, thus depriving students of the best means of studying diseases clinically; (f) that gives lectures by mail for which credit is given;

(g) that is conducted dually, brazenly, irregularly and unprofessionally, in a Dr.-Jekyll-and-Mr. Hyde manner, should meet its just reward at the hands of the courts. The 'stigmata' of fraud were so much in evidence as to warrant the conviction that not only is Dr. Decker guilty of unprofessional conduct meriting the unqualified condemnation of the profession, but the charter under which he is authorized to conduct his school should be summarily revoked by the Arkansas and Texas authorities, thereby putting an end to a brief but disgraceful chapter in the history of an Arkansas-Texas medical college." Graduates of this college have not been admitted to the examinations of the Texas State Board of Medical Examiners since November, 1907.

2. The school of graduation is not a direct factor in determining eligibility to membership in the American Medical Association. The By-Laws provide that "any physician reported as a member in good standing of a constituent association by the secretary of that association" shall be eligible to membership. In practically all of the states, all members in good standing of the component societies are, *ipso facto*, members of the state association. Consequently all members in good standing of component county societies are eligible to membership in the American Medical Association. A county society may adopt such restrictive regulations regarding membership as its members see fit. Such restrictions, however, exist in very few county societies, admission being on the basis of personal merit.

SODIUM CACODYLATE

To the Editor:—In THE JOURNAL (Nov. 12, 1910, p. 1750) "P. L. M." inquires concerning sodium cacodylate. I note that in your answer as to literature on the subject you make no mention of an article on that subject by Prof. Holmes C. Jackson and myself which appeared in THE JOURNAL, June 22, 1907. Inasmuch as this article is the only one thus far published that gives an authentic description of the physiologic action of the drug, based on pharmacologic investigation and clinical observations, I am surprised that it escaped your notice.

As the question of organic arsenic preparations is now attracting so much attention, I would esteem it as a favor if you would publish a request that anyone who desires information on sodium cacodylate or anyone who has used the drug, successfully or not, communicate with me. SPENCER L. DAWES, Albany. N. Y.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 31, 1910.

Patterson, Robert U., major, ordered to Boston, about Jan. 26, 1911, to read a paper before the School of Medical Officers, Massachusetts Volunteer Militia.

Casper, Joseph, lieut., ordered to Fort Slocum, N. Y., for temporary duty until Jan. 20, 1911.

Girard, Joseph B., colonel, retired from active service.

Sweazey, Verge F., captain, retired from active service with rank of major.

Whitmore, Eugene R., major, leave of absence extended two months.

Ashford, B. K., major, leave of absence extended twenty days.

Collins, C. C., major, leave of absence extended ten days.

Haverkampf, C. W., lieut., left Fort D. A. Russell, Wyo., on fifteen days' leave of absence.

Carr, William B., lieut., reported for temporary duty at Fort Myer. Left Fort Monroe, Va., on Dec. 26, 1910.

Smith, A. M., major, in addition to his other duties, will take charge of the office of chief surgeon, Department of Texas.

Wolven, F. R., dental surgeon, reported for temporary duty at Fort Ward, Wash.

Mason, George L., dental surgeon, reported for temporary duty at Fort Missoula, Mont.

Cullen, Charles W., Medical Reserve Corps, reported for temporary duty at Fort Duchesne, Utah.

Medical Corps, U. S. Navy

Changes during the two weeks ended Dec. 31, 1910.

Field, J. G., surgeon, ordered home to await orders.

Taylor, J. L., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the *Chester*.

McLean, A. D., P. A. surgeon, detached from the *Chester* and ordered home to await orders.

Munson, F. M., P. A. surgeon, detached from the *Buffalo* and ordered to the *Independence*, temporarily.

Backus, J. W., P. A. surgeon, detached from the recruiting station, Detroit, and ordered to the *Pennsylvania*.

White, E. C., P. A. surgeon, detached from the *Vicksburg* and ordered to the *Buffalo*.

Robbins, I. W., asst.-surg., detached from the *Pennsylvania* and ordered to the *Vicksburg*.

Field, J. G., medical inspector, commissioned medical inspector from Oct. 7, 1910.

McDowell, R. W., asst.-surg., ordered to the Naval Academy on the expiration of sick leave.

DeValin, C. M., surgeon, detached from the marine recruiting station, Philadelphia, and ordered to the navy recruiting station, Detroit.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGA ZATION, POSTGRADUATE WORK, CONTRACT PRACTICE INSURANCE FEES, LEGISLATION, ETC.

THE SECRET COMMISSION EVIL

Report of the Committee Appointed by the Erie Cou (N. Y.) Medical Society to Investigate the Division of Fees and Its Causes and Remedies

At a meeting of the Erie County Medical Society, held F 21, 1910, Dr. M. D. Mann presented a paper entitled "Divid Professional Fees." The address was fully discussed and resolution was unanimously adopted directing the president appoint a committee to investigate the entire subject, incl ing the causes and possible remedies. In obedience to s instructions a committee was appointed and respectfu reports as follows:

Frequent meetings have been held and the matter assig us has received careful investigation and consideration. W the object of securing cooperation and information from profession, a circular letter containing twelve questions w sent to each member of the society and a reply request The response revealed disappointing apathy and lack of int est in problems which vitally affect the welfare, standing a ideals of the medical profession. About 540 circulars w sent and thirty-one replies received. Attention is sim directed to this demonstration of indifference; no comment ventured. The result of the inquiry revealed a practica unanimous agreement that the chief causes of commerciali and its attendant abuses were overcrowding of the profess and too low a standard of education. Your committee sought information wherever it could be obtained and tried to arrive at definite conclusions after mature delibe tion.

DR. MANN'S CHARGES SUSTAINED

It has been found that Dr. Mann's statements and char are true—that the practice of dividing fees or giving of co missions by some surgeons to physicians has existed in t city for several years, and that the exposure and criticism the abuse was justified. We thoroughly approve acquaint the profession with the facts concerning this vicious dangerous innovation, and favor warning the public of unhappy results which will follow its continuance or increa prevalence.

SECRET METHODS EMPLOYED

The division of fees has been accomplished by numer methods. All of them are more or less adroit, deceitful dishonest. The principal effort has been directed to prov secrecy. In the course of time some operators have beco bolder than others and have gradually converted the pract of surgery into a traffic of operating on commission. No publicly justifies the commercial bargain. If it is defen privately, the excuse or argument is cynical, shifty, self or sophistical. After examination from every side there no honest course except emphatic and unequivocal condem tion of this rather new species of hidden graft.

No matter how cleverly the division of a fee is accomplish it is done almost invariably without the knowledge of patient. The person who pays for an operation does know that part of the amount, which has varied from 25 50 per cent., occasionally goes to the physician who reco mended the operator. The physician and the surgeon are s posed to render their individual bills, and the afflicted pers is entirely ignorant of the "gentlemen's agreement" or "co munity of interest" which has been introduced from the real of high finance and legal honesty. The real purpose of deal is to encourage the physician to send his patients wh he can obtain a share of the money paid for relief or attempt relief. The surgeon may be highly competent or he may be, and the physician may be influenced by financial encoura ment. At all events, the performance must pay because has flourished and been profitable at times when other meth would probably have failed. At times, the demands of physicians have been quite high and some of the prosper merchants in surgery may begin to wonder if they have created a Frankenstein monster.

PERNICIOUS RESULTS OF PRACTICE

The practice may lead to unnecessary operating and ju surgery through increasing zeal to be busy and to establ a false measure of success by the amount of income deriv from business instinct and sagacity. The untrained and in

perienced cutter who has learned that there is money in operating, which is lost by the physician, is encouraged to obtain work which should go to the experienced, skilful surgeon who clings to the traditions and ideals of the profession, and will not cringe, stoop or barter to obtain his earned and rightful privilege of employment. The fee may be increased or stretched by agreement to provide for distribution of the spoils, and altogether there is something about the whole wretched proceeding which smells of the rebater, the promoter and the greed for disguised plunder.

MATTER SHOULD BE AIRED

Some members of the profession keenly regret and reprobate any public exposure and discussion of the subject, and fear that the public will become suspicious of all the members of the profession. The answer is simple: it is time that the people knew of the practice and be given an opportunity to penetrate some of the mysteries surrounding the sick-bed. In time the intelligently suspicious may distinguish between types of doctors and exhibit a tendency to investigate conditions quite puzzling to-day.

There is at least one profession that should be clean and have the confidence and trust of the public. Whatever may be its shortcomings in ability to help or save, the effort and purpose must be free from the taint of sordid commercial deals dependent on human suffering and woe. There is very often no more complete picture of helplessness than that of the sick who yearn for relief and know not where to seek it. If abuses exist, the profession must decide whether it will abolish them or allow them to prevail until the public is compelled to undertake the task. Your committee believes that the medical profession should perform the disagreeable work, and that an element is not afraid to expose or denounce iniquities which tend to degrade those who decently follow a noble calling.

LOCAL SITUATION

Honesty and a sense of duty compel us to call attention to the local aspects of this question and confess that an evil has existed. Surgeons can apply a prompt remedy, if they will, by simply stopping the practice. The committee has learned with pleasure and gratification that practically all of the operators in this county have signed an agreement that they will not indulge in any division of fees, and that any violator of the agreement will submit to a penalty which may be fixed by the Erie County Medical Society. It remains for the society to determine the value of this agreement and what steps shall be taken to ensure enforcement. The appointment of a committee to act as a court of honor, and consider complaints, examine evidence and devise methods of punishment—when acts in violation of certain standards of professional dignity are perpetrated—is certainly worthy of careful consideration.

We are sadly deficient in safeguards relating to professional conduct unless flagrant crime supplies a chance for decisive and wholesome action. The legal profession has more efficient control and well-defined direct methods of procedure when they are employed. At present the purpose is to be suggestive in the hope of arriving at some consideration of this theme by the society or its proper committee. If no other penalty can be found at this time, publicity in some form deserves attention as a possible corrective instrument. Something should be done to discriminate between the man whose influence is thoroughly damaging to the profession, and the one who helps to make it reputable and worthy of the highest admiration and confidence.

OVERCROWDED PROFESSION PRINCIPAL CAUSE

Any study of the causes and possible remedies of forms of commercialism, and especially of the division of fees, must be considered in a broad way. The evils are not local but general, wide-spread and probably national in scope. Other cities and localities throughout the country report that the same conditions are prevalent, and have developed in recent years. It would be misleading and unjust to search for causes or seek for explanations in this region, when we fully realize that we are dealing with an epidemic and not an endemic variety of infection. In classifying causes, the chief factor seems to be the unfortunate and unnecessary overcrowding of the medical profession. Those who have studied this phase of the problem arrive at the conclusion that about one-third or, at most, one-half of the present number of physicians and surgeons in the populous districts of this country could fulfil all legitimate demands for human relief and secure a competent living. The average income is far below the amount required to permit of a mode of life consistent with the modern practice of medicine. A large proportion of the profession cannot obtain sufficient practice, experience or skill to become proficient. If the number of doctors in this country were diminished by two-thirds or at least one-half, that proportion to the population would ensure adequate work and emolument, and correspond more closely to conditions in other nations.

The lamentable overcrowding has a most deleterious effect on the profession and the type of men who join its ranks. But the most baneful results will certainly be more keenly felt and appreciated by the public as they are discovered and better understood. At present this nation is in a semibarbarous state so far as provisions for control of national health is concerned. The full meaning of the conservation of natural resources has not yet been recognized as including human beings. In considering overcrowding no attempt has been made to include the army of new "pathies," faddists and variegated assortments of healers, pseudoscientists, or the old contingent of perennial quacks and nostrum-venders. Perhaps, in the advance of preventive medicine and medical education, we are wasting too much sympathy on the class "who never considered it necessary to add the incident of learning to the accident of brains." It has been asserted that overcrowding has long existed, and that evidences of many tricks to secure advancement are comparatively recent. There is no time for judicious discussion of the question whether there has been a decline in the moral standards of the profession, and how much any change is due to imitation and the influence of business crookedness and predatory customs which abound in a favorable environment. The important thing is to call attention to the fact that conditions have changed which make the effects of overcrowding more acute, the scramble for employment and a living more intense, and the temptation to resort to shrewd tactics more common and glaring.

PROGRESS OF PREVENTIVE MEDICINE

During the last twenty years, preventive medicine has made gigantic strides. The incidence of illness, particularly of childhood, has undergone a vast diminution, and the general death-rate has practically been cut in half. The marvelous advance in surgery has removed a large group of patients from the field of medicine, and new discoveries have shortened the period of illness or changed its course. The tardy awakening to the importance of public health will add more and more force to the crusade against disease.

CONTRACT PRACTICE AND OTHER EVILS

Vicious, dangerous and cheap modes of practice have developed to a surprising extent in latter days. Medical and surgical relief under contract, and stultifying agreements with lodges, societies, benefit associations, etc., and underpaid services to life-insurance companies, have demoralized practice among young men and robbed others of just remuneration. These abuses are largely indefensible, being delusive to the patient and public, as the results are mostly ineffective, the service superficial and careless, and often of no genuine value. It is only just to young physicians and the public that this increasing abuse should be investigated and fully considered at a future time. There is much harm and humbug in the practice, and the physician should no longer be a tool for crude, cheap work. Positions held by medical men almost invariably yield totally inadequate compensation, and any protest is unavailing because the supply is apparently unlimited. The young practitioner seeks opportunity for experience and a chance to escape idleness while waiting for employment in a profession where there is little or no room. There are two classes—one seeking the sick to make a living, and another expecting a reference of a patient or a consultation.

Practice legitimately belonging to competent physicians has been given over to faddists with a squint or kink, largely through the fault of narrow dogmatic members of the medical profession who could not or would not realize that the mentality of a patient required thought and attention, and that exercise of the body or its components was a physiologic aid or necessity in treatment.

Hospitals and other institutions have been monopolized or exploited by a few, and some of the hospitals supported by philanthropy are simply hotbeds for fee-splitting and commission jobbery. The industry is tolerated and winked at because the new method fills the private rooms. The amount of revenue the candidate can supply has occasionally become more essential than the amount of ability and character he can offer, when appointments are considered by trustees, or dictated by the staff.

GENERAL PRACTITIONER UNDERPAID

The division of a fee is only one abuse. There are many others harder to perceive and reach, and some of them have given an impetus to this method of trading and may perpetuate it. Undoubtedly this inducement of a commission has been extended in a pernicious effort to compete and grasp a share of operative work. Again it has been used as furtive evidence of sympathy toward the lesser-paid physician. This leads to a consideration of one of the principal contributing factors related to superabundance of doctors and their fees. The cost of living has decidedly increased, and the mode of life has undergone a transformation too little appreciated. The fee and the income have not changed in proportion, if at all. Extravagance is the fashion and the necessities of a progressive physician accumulate each year. He belongs to a class which is struggling along, surrounded by combinations, and the waves of prosperity lose their force before reaching him.

The surgeon and the specialist have educated the public to place a higher value on their services, and there is force in the contention as a rule. Special skill, experience, long training, responsibility and technic are required, and the qualified surgeon is rarely overpaid. Whether the surgeon who gives away half his fee regards himself as overpaid, is another question. The increase of operators and the lure of the knife, because it loosens the purse-strings, will soon equalize and distribute opportunity, and lower the rate of compensation. The surgeon has enjoyed halcyon days and deserved many of them, but he will have to guard and discipline the recruits to his guild, or the public will revolt.

PHYSICIANS MUST DEMAND PROPER REMUNERATION

The physician is actually and proportionately underpaid, and it is almost entirely his own fault. If overcrowding prevents the demand for proper remuneration because others will act for less, let him place the responsibility for the overproduction of doctors where it belongs and register his protest, not alone for selfish reasons, but vastly more for the benefit of the whole profession and the community. The competition that affects livelihood is keenest and most demoralizing among the mass and not among the few. There is no way by which the public can distinguish between the physician who has spent time and labor to become proficient and the one who has not. We have but one degree, and it may mean much or little. Nor is there any good reason why the fee of the physician should be rigidly fixed with no reference to the value of service. He should charge for the thoroughness, efficiency, skill, and time employed in his study of an individual case. Many times his diagnosis, advice and treatment are more valuable than surgical interference. The proper examination of a patient has become a problem involving time, wide knowledge, and chemical and microscopic analysis and search, requiring more and more special training and skill. The time has come for the physician to assert his position and claim what he deserves. He should receive his reward openly and not secretly, and demand due recompense of the patient and not of the surgeon. Let him stand on his own feet and not beg or barter with the surgeon for a hidden share which he has not the courage to ask for. Let him seek assistance, when he needs it, with motives as unmixed as if he were the patient, and receive it with a clean hand from a clean hand, and preserve a decent opinion of himself and his possibly more fortunate confrère.

SUPERABUNDANCE OF MEDICAL COLLEGES

The explanation of the overcrowding in the medical profession will be found in riveting attention on the character of medical education in this country; and recently an opportunity has been afforded to reflect on this interesting subject by the publication of Carnegie Foundation Bulletin No. 4. It should be read by every member of this society. This report may be considered intolerant and radical, but a great service has been performed; and the collection of facts based on investigation will have a tremenduous educational value and influence. Already its effect has become manifest, and the supplemental report will probably furnish a guide to action by comparison with European standards. It seems to be true that there are as many medical colleges in this country and Canada as in all the rest of the world. Canada still protects its population from the flood of graduates poured into this country. It also seems to be true that about one-third of the medical colleges in this country could be lifted to a higher modern standard and supply all the doctors needed for an indefinite time and growth of population.

The facility with which medical colleges could be est lished in this country has long been a disgrace. There pr ably was a time when the proprietary medical school, w all its schemes for profits among a few, was tolerable or e seemed to be necessary. That time has passed and the sch of the proprietary type and its self-created professors, v be eliminated. The medical school will ultimately be obli to cease depending on students' fees for support, and libe funds will be required to furnish the tuition which should supplied to-day. The connection with a university will close, true and actual—not spurious or non-existent, a trustees and councils will probably cease to be rubber stam or respectable, irresponsible nonentities, well described Dickens.

NEW STANDARD OF MEDICAL EDUCATION IMPERATIVE

Many so-called medical colleges are still proprietary spite of evasion and strenuous efforts to escape from th category. There are direct and indirect profits, and scruti will go deeper and deeper to discover the true purpose a objects of these prolific institutions of learning. Is it n very strange that we have such a prodigal supply of medic colleges and that overproduction of the graduates continu unabated, while the professors must know that the oversupp is unnecessary and that the fresh product cannot be assim lated? Is it not perfectly plain that doctors are responsible f the superabundance of doctors and the attendant evils whi result from the wholly unnecessary excess? The most whol some, natural remedy would follow an awakening of t whole profession to its interest and duty in dealing with national disgrace. The united profession should decide the necessity for medical colleges, what status they shou have and maintain, what shall constitute a medical educatio and what shall be required of a licentiate to practice humanity. There should be control of the appointments professors, and their duties and obligations to those real concerned should be defined. These matters should not left to a few self-perpetuating and self-constituted faculti who have enjoyed too much power and freedom from restrai and domination. National and state supervision and radic reorganization of medical teaching and requirements is impe ative and inevitable.

There is no reason at present why the standard of quali cation cannot be raised more rapidly and the comparison wi other countries made less apparent or glaring. The flo of graduates can be checked with safety. It is sophistical claim that a better class will gradually replace those w are striving to-day. That is the old cry heard with eve advance. The real demand is for increased intelligent a stringent legislation and some guarantee that a state licen assures true proficiency.

PRESENT STATE EXAMINATION NOT PROPER TEST

A beginning has been made in this state by extending t power of the state regents and providing for a state boa of medical examiners. Objections and obstacles had to overcome before this step was taken, and some good has be accomplished; but an examination for fitness to practice me icine and surgery by present methods must be obvious incomplete and unsatisfactory to anyone who has given t matter any careful thought.

The regents appoint the examiners. If any plan for sele tion because of special training or attainments is employe some of the results are truly surprising. A recent excelle appointment deserves warm commendation. The schools, do mas, creeds and sects are represented, and possibly the re ommendation of candidates may emanate from medic societies during political sessions. The board of examine is presumed to safeguard the public and to act as a clearin house and check on the medical colleges. When the gradua satisfies the examiners and the law, he is licensed to practi on anybody in any way he chooses.

The candidate is subjected to a written examination and supposed by many to answer correctly 75 per cent. of t questions. As a matter of fact, he is given fifteen question allowed to select ten, and must gain a marking of 75 on the Consequently, he is really obliged to answer correctly 50 p cent. in accordance with the opinion of the examiners. T questions and answers are published frequently, and it seem as though the students who make a collection of them a cram, or are quizzed assiduously, might find it advantageou No time need be consumed in explaining to an intellige physician how crude, farcical and unreliable such a test f admission into one of the highest professions must be necessity. High percentages obtained in this way are cit

with pride by the medical colleges as proof of superior teaching and preparation. The professors and the examiners are both anxious to advance the standards, but new obstacles and conservative policies seem to block the way.

NEW STANDARDS MUST REPLACE OLD

Your committee has learned with gratitude that the time is now near when the candidates will be compelled to reach a percentage of 75 on answers to the full fifteen questions. Thus progress is gradually assured. The time seems to be ripe to insist that the state examinations should in reality prove a candidate's fitness to practice medicine and surgery by demonstration of his knowledge at the bedside and in the laboratory, as well as by written evidence. Before entering such an examination, the applicant should be required to show that he has had actual experience and training in branches of medicine and surgery in a general hospital. It seems eminently fair to request that the licentiate to practice on humanity in this state should be as well qualified as the one the government carefully provides for the sailor and soldier. If such competence could be required, there are a great many problems which would be effectually settled. Of course, the machinery would have to be changed. More money and a reorganization would become necessary, but the real purpose in creating a state board of examiners would be achieved, and their function as sentinels fulfilled. The requirements in preliminary education should certainly be increased in this state.

Legislation should be secured, if necessary, to assist progressive action on the part of the regents, and to transform the personnel, organization and duties of the board of examiners in accordance with present conditions and the need of remedial measures. This society may as well lead in this direction and make its influence felt in the state medical society. It will take time and wisdom to sift the facts and arrive at safe conclusions. There are many interests involved, and while radical action is needed, it should be sane and practical. If there is need of reformation and a sincere desire for improvement, relief seems to lie along that path. If the manifold taints of commercialism are to be discouraged and decreased, and the tone of the profession is to be raised, paramount causes must be attacked. There may be full indulgence in garrulity and strong disapproval of wrongs expressed, but there are only two methods of gaining a greater height. The one who ought to climb must be helped, or lift himself. It is about time to drive home the truth that "a little integrity is better than any career."

PUBLICITY RECOMMENDED

Your committee unanimously recommends that this report be published in medical journals and copies be given to the daily press to be fully presented to the public if possible. Publicity is the safest, sanest course to follow. The confidence of the people must be maintained without equivocation or deception. If the revelation or confession hurts, let the blame rest where it belongs. The mass of the profession is sound, clean and unafraid to condemn ignoble motives and improper conduct which have stealthily stolen into its ranks. Regret is blended with the hope that frank disapproval will make any other action unnecessary.

FUNDAMENTAL CAUSES EXPLAINED

The causes and effects seem easily discernible if they are fearlessly examined and the microscope is occasionally employed instead of a telescope. The historic course of events follows a natural sequence, and it is not surprising that an avenging Nemesis is crying for retribution. When these events are recited in proper order, we can perceive a vast new nation with a rapidly increasing scattered population and no provision for the inception or control of medical education as it existed in older civilized countries. Medical colleges were of necessity created by small practically self-appointed groups, with little or no restraint. Later they were too often established and employed for personal aggrandizement, questionable advantage, and direct and indirect profits. The false system, inculcating special privileges, spread without proper jurisdiction or supervision. In the course of time the outcome was a multitude of proprietary medical schools and gradually a vast superabundance of diploma factories and an oversupply of the product. Substantial benevolent returns from the alumni in proportion to the annual crop were most enticing. Then came control and domination of institutions and increase of lieutenants. Nothing paid so well as professorships and titles, when used to promote the reference of cases and consultations. Frequently the aim in supply was quantity, not quality. Ultimately lamentable overcrowding and a struggle for existence became only too evident. Ambitious doctors endeavored to advance and seize a share of reputation and compensation. Competition was difficult and became keener and fiercer. Many means were suggested to check the flood of graduates and a state examination was introduced. The hoped-for benefit has not been obtained. The number of unnecessary colleges and professors, the yearly flux of deluded graduates, the overcrowding and the baneful competition, continued to exist. Then came the increased cost of living and the added expense of modern practice with no increase and often a decrease in income. This condition is tremendously influenced by industrial and financial revolutions, accompanied by a toleration for moral obliquity and censurable methods in business enterprise. At last a vicious, misdirected mode of competition is found which proves financially successful. It is devoted largely to a pitiful scramble for the dollar, and is still limited to a small part of the profession. One mode of gaining ascendancy and its tribute was followed by another much less tolerable and more reprehensible from a moral standpoint. It is one symptom of reckless revolt, and an adaptation of the policy "after us the deluge." The great mass of the profession has a right to protest and complain of the character and amount of competition to which they have long submitted, but the fee-splitter and the schemer by any method only add another more dangerous incubus. It is the outcropping of the worst, polluted with a desire to substitute one abuse for another of which many have become thoroughly tired and exasperated.

The blame for the degradation and turmoil in the profession should be traced to its true origin, and the labor of reformation belongs largely to those who are responsible for the conduct and output of institutions ostensibly intended for ethical and medical education, and the laxity of government control, which is the core of the whole problem. Let there be no privilege not beneficial to the whole profession and a fair field on level ground. The cleansing process should extend beyond any one evil now exposed to the light. Its associates and their ancestors need ventilation and disinfection also.

REMEDIES SUGGESTED

As the work of the committee progressed, many cynical remarks have been heard to the effect that any exposure and consequent action will prove ephemeral and futile. It is claimed that this society has no legal power to check or abolish such an evil as has been described. But there are methods which can be used in a drastic manner, if necessary. We ask that this report shall not fall cold and be deposited quietly in the archives of this society. What the Erie County Medical Society begins should be thoroughly finished. A form of bribery must be starved by ostracism and denunciation, or strangled by some form of punishment. Let the matter be kept before the society at future meetings. Investigation should continue. Activity and determined persistence will encourage other societies to follow, and the benefit will be widespread. Now that the facts are known and the dangers appreciated, reform or supine toleration are the only courses left open.

RECOMMENDATIONS OF COMMITTEE

To ensure and possibly to guide effective remedial efforts, the following recommendations are submitted and approval requested:

1. Publication of this report in the medical journals and the daily press is recommended.
2. Reference of that portion relating to complaint, investigation and devising some form of punishment, to the committee on professional relations, is recommended, provision being thus made for continued watchfulness and further consideration.
3. It is recommended that the secretary transmit a communication to the state board of regents, urging the necessity of a higher preliminary educational requirement, and definite changes in the method and scope of the examination for a license to practice in this state; and that this matter be referred to a proper standing or special committee to arouse interest, stimulate inquiry and promote necessary progressive action leading to higher medical education.
4. It is also recommended that a special committee be appointed to report at an early date on the extent, character, effects of professional services under contract or by agreement with companies, corporations, fraternal societies and life-insurance companies; this report to include if possible practical remedies which may be applied to diminish this form of employment or place it on a different basis.

Your committee was assigned a difficult, unpleasant and undesired task, and has discharged a duty with honest intent, free from any malice, prejudice or unkind feeling.

Respectfully submitted.

JOHN H. PRYOR, M.D., Chairman.
M. D. MANN, M.D.
BERNARD BARTOW, M.D.
F. PARK LEWIS, M.D.
WILLIAM GAERTNER, M.D.
IRVING P. LYON, M.D.
E. A. BOWERMAN, M.D.
T. J. WALSH, M.D.
GROVER WENDE, M.D., *ex officio.*

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

General subject for the month: Anesthesia and Surgical Shock

Sixth Month—First Weekly Meeting

ANESTHESIA—HISTORICAL

Crawford W. Long, W. T. G. Morton, Charles Jackson, Horace Wells, Simpson.

ANESTHETICS

CHLOROFORM: Chemical and physical properties. Physiologic effects: Locally. By inhalation; stimulant, narcotic, anesthetic, paralytic stages. Effects on central nervous system, respiration, circulation, liver and kidney, metabolism, pupils.

ETHER: Chemical and physical properties. Physiologic effects; differs from chloroform.

NITROUS OXID GAS: Chemical and physical properties. Physiologic effects. Use in combination with air and oxygen. Teter's method.

ETHYL CHLORID: Mixtures of ethyl chlorid.

ETHYL BROMID.

REFERENCE BOOKS FOR THE SIXTH MONTH

Buxton: Anesthetics.
Luke: Guide to Anesthetics.
Patton: Anesthetics.
Turnbull: Artificial Anesthesia.
Crile: Surgical Shock.
Crile: Blood-pressure in Surgery.
Bryant and Buck: American Practice of Surgery, i.
Keen: Surgery, i.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, January 10. Chairman, Dr. W. H. Sanders, Montgomery.

DISTRICT OF COLUMBIA: The District Bldg., Washington, January 10. Sec., Dr. George C. Ober, 125 B St., S.-E.

ILLINOIS: Coliseum Annex, Chicago, January 11-13. Sec., Dr. J. A. Egan, Springfield.

INDIANA: 120 State House, Indianapolis, January 10-12. Sec., Dr. W. T. Gott.

NEW MEXICO: Santa Fé, January 9-10. Sec., Dr. J. A. Massie.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

SOUTH DAKOTA: Aberdeen, January 11-12. Sec., Dr. F. W. Freyberg, Mitchell.

VERMONT: Montpelier, January 10-12. Sec., Dr. W. Scott Nay, Underhill.

WISCONSIN: Milwaukee, January 10-12. Sec., Dr. John M. Beffel, 3200 Clybourn St.

Nebraska May and August Reports

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examinations held at Lincoln, May 23-24 and August 10-11, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75.

At the examination held May 23-24, 1910, the total numb of candidates examined was 59, all of whom passed. Th following colleges were represented:

PASSED			
College	Year Grad.	Pe Cen
Hahnemann Medical College of the Pacific	(1902)	82
Hering Medical College	(1910)	87
Washington University, St. Louis	(1910)	83
Lincoln Medical College (1910) 77.5, 82.1, 83, 83.1, 83.4, 84.7, 85. 86.5, 87.9.		
University of Nebraska, College of Medicine (1910) 79.7, 80.9, 82. 84.4, 85, 85.5, 86.9, 87.2, 87.7, 88, 88.9, 91.		
John A. Creighton Medical College (1910) 75, 75, 75.6, 75.7, 76. 78, 78.1, 78.2, 78.6, 78.6, 78.9, 79.7, 80.2, 81.1, 81.6, 81.7, 82. 82.2, 82.5, 82.6, 83, 83.1, 83.2, 83.4, 83.4, 84.5, 84.6, 84.9, 85. 85.7, 86, 86.9, 87.7, 88.6, 88.7.		

At the examination held Aug. 10-11, 1910, the total numbe of candidates examined was ten, all of whom passed. Th following colleges were represented:

PASSED		
College	Year Grad.	Per Cen
College of Phys. and Surg., Chicago.. (1897) 80.7;	(1910)	75.
Bennett Medical College	(1910)	83.
Ensworth Medical College	(1910) 77.4,	77.
University Medical College, Kansas City	(1910)	83.
Barnes Medical College	(1909)	75.
Lincoln Medical College	(1910)	82.
John A. Creighton Medical College	(1910)	80.
University of Nebraska, College of Medicine	(1910)	82.

Twelve candidates are reported as having been license through reciprocity. The following colleges were represented

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocit with
University of Colorado	(1907)	Colorad
College of Phys. and Surg., Chicago	(1900) (1909)	Iow
Rush Medical College	(1891)	Michiga
Drake University	(1909)	Iow
Kentucky School of Medicine	(1907)	Kentuck
Tulane University of Louisiana	(1903)	Tennesse
St. Louis University	(1906)	Illinoi
Washington University, St. Louis	(1903)	Missou
John A. Creighton Medical College	(1904)	Iow
Eclectic Medical Institute, Cincinnati	(1897)	Iow
Medical College of Ohio	(1889)	Oklahom

Arkansas November Report

Dr. F. T. Murphy, secretary of the State Medical Boar of the Arkansas Medical Society, reports the written exam ination held at Little Rock, November 8-9, 1910. The numbe of subjects examined in was 12; total number of question asked, 120; percentage required to pass, 75. The total num ber of candidates examined was 24, of whom 8 passed and 1 failed. Nineteen candidates were licensed through reciprocity including one osteopath. The following colleges were rep resented:

PASSED		
College	Year Grad.	Per Cent
Louisville and Hospital Medical College	(1908)	86.
Tulane University of Louisiana	(1904)	77.
Harvard Medical School	(1909)	86
University of Michigan, Dept. of Med. and Surg.	(1901)	87.
Jefferson Medical College (1902) 81.4;	(1909) 85.5,	89.
Queen's University, Kingston, Ontario	(1909)	87.

FAILED

University of Arkansas	(1910) 64.5,	71.
College of Physicians and Surgeons, Litttle Rock (1908) 64; 50.6, 68.6, 68.7.	(1910)	
St. Louis College of Phys. and Surg.. (1908) 73.5;	(1909) 64	66.
Barnes Medical College	(1910)	62
College of Physicians and Surgeons, Memphis	(1909)	66.
Memphis Hospital Medical College... (1893) 53.4;	(1910)	56.
Vanderbilt University	(1888)	71.6
Meharry Medical College	(1910) 65.5,	73.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1907)	Illinois
Physio-Medical College of Indiana	(1901)	Texas
University of Louisville	(1909)	Illinois
Kentucky School of Medicine	(1897)	Kentucky
University of Kansas	(1906)	Oklahoma
Tulane University of Louisiana	(1908) (2, 1910)	Louisiana
Barnes Medical College	(1900)	Oklahoma
Washington University	(2, 1910)	Missouri
St. Louis Woman's Medical College	(1895)	Indiana
Kansas City Medical College	(1898)	Kansas
Columbia University, College of Phys. and Surg.	(1889)	Vermont
Vanderbilt University	(1895)	Oklahoma
University of Tennessee	(1902)	Texas
Physio-Medical College of Texas	(1906)	Oklahoma
University of Texas	(1898)	Texas

Book Notices

DIE EXPERIMENTELLE CHEMOTHERAPIE DER SPIRILLOSEN (SYPHILIS, RÜCKFALLFIEBER, HÜHNERSPIRILLOSE, FRAMBÖSIE). Von Paul Ehrlich und S. Hata. Mit Beiträgen von H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Kairo, und Dreyer, Kairo. Paper. Price, 6 marks. Pp. 164, with 50 illustrations. Berlin: Julius Springer, 1910. Rebman Co., 1123 Broadway, New York City, Agents for the United States.

In this book we have accounts of the fundamental work which led to the introduction of salvarsan ("606") as a therapeutic agent, especially in syphilis. This work is based throughout on the principles of chemotherapy developed by Ehrlich to the effect that a medicine acts only on those cellular structures with which it unites. After long and arduous labors he finally has reached constructive results of the greatest therapeutic importance.

Hata describes succinctly the biologic experiments on which the chemotherapy of the spirilloses is based. For the purpose of these experiments spirilla of recurrent fever, of chicken spirillosis, and of syphilis were used. The action of various substances on spirilla, *in vitro* as well as in infected animals, was determined. The course of the experimental infections and the technic used are described fully. Of the stains tested some were found to be spirillocidal in the test-tube but without effect in the animal body; a large number of arsenical preparations were tested also, and in the course of this work the prompt spirillocidal effect of "606" in non-toxic doses was discovered. In the meantime it had been shown that syphilis was communicable to rabbits, and Hata found that salvarsan, in doses of 0.015 to 0.01 per kilo, promptly kills the spirochetes and hastens the healing of the lesions. The experiments show that the affinity of salvarsan for the spirochetes of syphilis is so great that they are easily destroyed in the animal body without danger to the latter.

In the part written by Ehrlich he discusses, with his usual clearness and brilliancy, the chemical origin of dioxydiamidoarsenobenzol and the chemotherapy of trypanosomiasis and their consequences, the work on which preceded that on the spirilloses. He lays especial stress on the value of his demonstration of the true constitution of atoxyl for the experimental construction of "606," the arsenical radical of which carries the spirillocidal function. When this book was issued, Ehrlich had at hand reports concerning more than 9,000 cases of syphilis which had been treated with salvarsan. Not a single case of blindness or of sudden loss of any other sense is noted. Only a single death in any way directly traceable to the remedy had occurred, and in that case it may have been due to shock incidental to the injection. On account of possible dangers Ehrlich cautions against the use of the remedy in patients with extensive degenerations of the central nervous system, with paresis and tabes, with heart disease, especially angina pectoris, and with aneurysm. The specific action of the remedy is shown not only by its wonderful effects on many of the lesions of syphilis but also by the apparently prompt development of antibodies which, in the case of women, pass into the milk and favorably influence congenital syphilis in nursing children. It has been found also that serum of a patient freshly cured or treated by "606" has a definite action on syphilis in both adults and children. It would seem that such effects indicate the development of antibodies, the stimulus to the formation of which is to be found in the disintegration of the spirochetes and the setting free of antigens. Ehrlich points out that the curative effects of "606" are superior to those of any other remedy in syphilis; a single injection accomplishes practically what mercurial treatment of from four to six weeks will do. He recommends that special attention be given to improvement in the method of administration, to the matter of dosage and the repetition of the injections, and to the discovery of combinations of remedies which would increase the action of "606."

In a short note Nichols (U. S. Army) describes experiments with "606" to test in animals its action on the *Spirochæta pertenuis*, the cause of frambesia. In twenty-four hours after the injection, no more spirochetes could be found and the animals so treated were promptly cured. He advocates a trial of the remedy in the human disease in the tropics.

Iversen (St. Petersburg) details observations on the treatment of recurrent fever with salvarsan; after an injection of 0.2 to 0.3 gm., the spirilla disappeared completely from the blood within four to ten hours, and at the same time the subjective symptoms permanently subsided. Intravenous injection was found to be painless and the results therefrom more prompt than after the painful intramuscular injection. Bitter and Dreyer (Cairo) report similar results, the number of cases treated being, however, smaller. Iversen concludes that the specific spirillocidal effect is marvelous; the spirilla being destroyed with mathematical accuracy without injury to the host, the process constituting a striking instance of a most effective *therapia sterilisans magna*.

From the reading of this book one receives a very definite impression that the introduction of salvarsan marks a permanent step in advance in the treatment not only of syphilis but also of other diseases, like recurrent fever, a step which in no sense is traceable to accident but to the direct result of systematic experimental work guided by genial theoretical conceptions.

A TREATISE ON DISEASES OF THE EYE. By John E. Weeks, M.D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College (Medical Department of New York University). Cloth. Price, $6 net. Pp. 944, with 553 illustrations. Philadelphia: Lea & Febiger, 1910.

This recent candidate for text-book honors opens with a chapter on the development and comparative embryology of the visual apparatus—subjects too often neglected even in larger treatises on the eye and its diseases. A knowledge of the ordinary evolutionary steps through which the organ of vision passes, from the appearance of the primary optic vesicle to the full development of the organ, is necessary not only to a rational understanding of ocular pathology, but to an enlightened appreciation of physiologic optics. We are glad to see that these matters are as fully discussed as is consistent with the scope of a student's manual. There are several other chapters that demonstrate completeness in the treatment of ophthalmic subjects, among which are a description and a colored illustration of the chlamydozoön (not chlamydozoan, as entered in preface, text and index) of Prowazek and Halberstädter, a chapter devoted to special remedies, a full account of serotherapy as applied to eye diseases, and practical suggestions for the preparation of specimens for diagnosis in the search for microorganisms. The author furnishes plainly worded descriptions of the remedial measures and other subjects included in his thirty-one chapters, and has not burdened, obscured or padded the text with unnecessary matter. He has been fortunate in his selection of collaborators, who have written several attractive chapters. Among these are William N. Souter, who contributes the section on the "General Principles of Optics," and Alexander Duane, who writes on "Movements of the Eyeballs and Their Anomalies." The book has, however, the usual defects of its class—defective illustrations; and yet most of the colored plates and some of the black-and-white reproductions are a distinct improvement on those that do duty in the average text-book. Altogether, this treatise will be found to mirror the wide experience and independent views of its well-known author.

THE CAUSE AND CURE OF COLDS. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1 net. Pp. 147, with illustrations. Chicago: A. C. McClurg & Co., 1910.

There is a need for just such a book as this, which can safely be recommended to the laity. It is sensible, comprehensive and yet not discursive. It is gratifying to see the author admit the danger of drafts in the cause of colds. The slogan of some, who are carrying the fresh-air theory to the extreme, "Drafts do not cause colds," is on the one hand dangerous to health and on the other destructive of the poor victim's confidence in the adviser. Sadler places drafts where they belong as exciting causes and lays just weight on the more important underlying causes of overeating, underelimination, inactive skins, and improper habits of bathing, clothing, etc. Prophylaxis and treatment are clearly given, with the reasons for their effectiveness, and the patient is frequently reminded of the conditions which are serious enough to make it wise to have a physician's advice.

GYNÉCOLOGIE OPÉRATOIRE. Par Henri Hartmann, Professeur de Médecine opératoire à la Faculté de Médecine. Paper. Price, 18 francs. Pp. 498, with 422 illustrations. Paris: G. Steinheil, 2, Rue Casimir-Delavigne 1911.

This volume is to be regarded as the personal experience of one of the leading operators in Paris rather than as a complete systematic exposition of the subject. Some topics are very inadequately considered and out of all proportion to their importance—for example, ectopic pregnancy. The book is therefore more fitted for specialists in gynecology than for students or general practitioners. The illustrations are numerous and for the most part satisfactory.

Medicolegal

Liability of Municipalities for Deaths from Typhoid Due to Negligence in Permitting Water Furnished to Become Contaminated

The Supreme Court of Minnesota holds, in an opinion filed December 23, 1910, in the cases of Delia Keever and Kate Flanagan, each as administratrix, against the City of Mankato, that the municipality was liable for its negligence in its private or corporate capacity, if it negligently allowed the water supply in its waterworks system to become polluted, causing deaths from typhoid fever.

The complaint alleged that the defendant, a municipal corporation, negligently allowed waters and the water supply in its waterworks system to become infected and polluted with poisonous substances "and large quantities of filth and sewage, all of which were saturated with the germs of diseases * * * and did carelessly, negligently * * * permit * * * filthy, foul and dangerous substances, common sewage and other filth to escape into and saturate the water supply"; that by reason thereof the water became imminently dangerous to life and health, of which the defendant had full notice and knowledge; that the plaintiff's intestate, a citizen and resident, used the water, contracted typhoid fever and died in consequence, etc. The defendant city demurred to the complaint, and its demurrer was sustained, but the order sustaining it is now reversed by the Supreme Court.

It is to be noted, the Supreme Court says, that the complaint in this case set forth not a mere action against the defendant to recover damages because the city failed to provide an adequate supply of pure water. The question here was whether the city was liable for, among other things, recklessly causing dangerous substances like common sewage and other filth to saturate its water supply and the wells, mains and appurtenances thereto.

The first essential question was whether the city was exempt because it was carrying out a governmental function, or whether it was liable because it operated the waterworks in its private or corporate function. The defendant naturally insisted that it was performing merely a governmental function. But the court holds that it was liable for its negligence in its private or corporate capacity, and was not exempt as carrying out a governmental function.

The defendant also insisted that the city could make no profit out of its operation of these waterworks. Doubtless this was in a general way true; at all events it might be here admitted. But the sequence which the defendant sought to draw did not at all follow: i. e. that therefore it should be exempted from all liability for mismanagement. For the city is liable for neglect in connection with its streets, sidewalks, and sewers, from which in their very nature no profit is or can be made. The city operates the waterworks for profit in the sense that it is voluntarily engaged in the same business which when conducted by private persons is operated for profit. The city itself makes a reasonable and varying charge. The undertaking is partly commercial. It is enough that the city is in a profit-making business.

Then the defendant insisted that it would not be sound policy to open the door and permit actions like the present to be maintained for the reason that as a result the defendant city as well as any other city would be liable at any time to have the same misfortune and would be bankrupted thereby. But the court must regard the defendant's figures as purely hypothetical. The question is one of general principles recognized by the law and not of the private views of court or counsel as to what the convenience or necessity of a particular city may dictate under particular circumstances. The general experience of public and private waterworks is that ordinarily their operation involves no such financial disaster as the defendant portrayed. It is obvious that a sound public policy holds a city to a high degree of faithfulness in providing an adequate supply of pure water. Nor does it appear why the citizens should be deprived of the stimulating effects of the fear of liability on the energy and care of its officials; nor why a city should be exempt from liability while a private corporation under the same circumstances should be held responsible for its conduct and made to contribute to the innocent persons it may have damaged.

The cases in which a city has been held responsible or irresponsible for damages by fire consequent on an inadequate supply of water are in a class of cases by themselves. From many points of view the rule holding the city liable for its negligence is not inconsistent with the rule there announced. The law does not undertake to achieve the impossible.

The defendant also urged that in no case has the city been held liable for negligence in the operation of its waterworks unless the act involved a trespass, or an invasion of a direct property right. Thus water escaping from a city reservoir runs onto another's property and does damage; this is trespass and there is liability. But if the escaping water should do damage to a person on a public highway there would be no trespass, but the law would recognize liability. Liability of the city is recognized in the case of streets and sidewalks which cannot properly involve trespass. Nor did the defendant show any reason for imposing liability in the case of trespass or the breach of insurance of safety which does not logically apply to cases of negligence. On general principles liability for negligence is more just and more generally recognized because it is based on culpability.

Lastly, the court holds that, on the assumption that the plaintiff's intestate could have maintained an action against the city had he lived, his administrator, or administratrix, could maintain an action under the Minnesota statutes.

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

The President, DR. JOHN P. LORD, Omaha, in the Chair

Officers Elected

The following officers were elected: president, Dr. Amos W. Abbott, Minneapolis; vice-presidents, Drs. A. E. Halstead, Chicago and William J. Frick, Kansas City, Mo.: secretary-treasurer, Dr. Arthur T. Mann, Minneapolis.

Kansas City, Mo., was selected as the place for holding the next annual meeting, Dec. 18-19, 1911.

Desmoid Tumors of the Abdominal Wall After Operation

DR. E. WYLLYS ANDREWS, Chicago: I have seen only two cases of desmoid tumor in several thousand abdominal operations, both of which followed herniotomies. Most of the cases on record followed pregnancy or injury of the fascia above the inguinal region. Unlike keloids, true desmoids are found in the fascia and aponeurosis, especially of the abdominal wall. Histologically desmoid tumors are pure fibromata of the hard white form, showing coarse whirls of cut fibers macroscopically, like uterine myomata, and spindle cells microscopically with numerous fibrillæ. The cells show oval nuclei. Myxomatous and even malignant degenerations may occur. Desmoid tumors should be removed by operation inasmuch as the tendency is to grow larger and occasionally to start degenerative retrograde or malignant changes.

DISCUSSION

DR. J. CLARK STEWART, Minneapolis: The point of greatest interest in Dr. Andrews' report is the analogy which he shows as to etiology between desmoid tumors and keloids. I doubt whether the term "desmoid" should be used. Originally desmoids were tumors of the posterior sheath of the rectus muscle, and I must differ with Dr. Andrews that these tumors are found in the majority of cases in the upper part of the abdomen. The majority of the reported tumors I have run across have been found in the lower half of the abdomen. They grow inward, so that ultimately they become covered only by peritoneum. They attain considerable size. Quite a number of the reported cases of desmoid tumors are undoubtedly sarcomatous, and it is hard to differentiate a sarcoma under the microscope from the ordinary desmoid. The after history of these cases has shown several times that they were sarcomas, yet I do not think there is any question about the malignancy of desmoid tumors as originally described.

DR. A. E. HERTZLER, Kansas City, Missouri: It is easy, I think, to fix the pathogenesis of these desmoid tumors. Any tissue which contains a large amount of the original substance, will, when irritated long enough, short of suppuration, give rise to this fibrous tissue hyperplasia. One sees the same tumors subperitoneally about the duodenum. They are histologically very much the same. Microscopically they differ from fibroma in that they are long, with large oval vacuolated cells, many round cells, and polynuclears. This point is sufficient to separate the desmoid tumor from the fibromatous tumor or any tumor analogous to sarcoma.

DR. E. WYLLYS ANDREWS: As to the identity of keloid and desmoid, keloid, although it appears in scar tissue, never involves anything but skin. Keloids are confined to the skin, no matter how great the size they may attain, and are movable and free.

Non-Suppurative Osteomyelitis

DR. J. CLARK STEWART, Minneapolis: Three distinct clinical conditions may be classed under this title. First, cases of osteomyelitis, in which owing to the non-virulence of the invading germ or to unknown conditions increasing the resistance of the individual, no necrosis is caused. There is no pus, no sequestrum, but instead there is great overproduction of bony tissue. These cases are quite common, regularly recognized and properly treated. Second, cases of injury, generally fracture, in which a small piece of bone is entirely separated and dies, forming about it a shell of dense new bone in which it lies until absorbed, but without suppuration. These cases differ from those of the first class in that the irritant is not bacterial, but a fragment of the third class differs from the others in that it has an insidious onset. The disease is essentially chronic, but progressive and is diagnosed and treated as rheumatism. The etiology seems to be unknown. Text-books on surgery term this condition "chronic osteoperiostitis," which is a misnomer, for the periosteum is normal. The characteristics pathologically are the transformation of the marrow cavity into a multicellular labyrinth filled with a tissue which macroscopically resembles red marrow, and subperiosteal production of bone which results in a fusiform enlargement, the new bone being spongy. Symptomatologically these cases are characterized by an insidious onset, so-called rheumatic pains, worse in damp weather and at night, with slight evening rise of temperature. What would ultimately happen to a case of this kind without operation can only be surmised. It seems probable that the bone would remain enlarged and painful until stirred up by a fresh injury or infection, when there would be suppuration. The diagnosis is easy, after syphilis is excluded. Tuberculous osteomyelitis causes cold abscess and sinus formation, while periosteal sarcoma is generally more rapid and can be eliminated by skiagrams. Fusiform enlargement of a long bone, increasing very slowly in size, with point pressure tenderness in various places, and slight afternoon temperature, is a characteristic picture. The treatment consists in curetting the bone each way until normal bone is reached, cleansing, and filling the cavity with Moorhof's wax.

DISCUSSION

DR. D. S. FAIRCHILD, DesMoines, Ia: I have seen a number of cases of this kind which seemed to have arisen from some injury which had been inflicted to the bone, with involvement of the periosteum to some extent, but the trouble seems to extend throughout the entire shaft of the bone, the tibia being most commonly affected because it is more subject to traumatism. In the cases I have seen the bone has been dense. In the recent cases where the disease has not been progressing for a long time the bone is softer, and when the medullary canal is examined it is found almost entirely occluded by the proliferation of this bony tissue. These cases are more like cases of osteitis in which the inflammation has extended not only into the medullary canal and from the periosteum, but into the bone substance itself, and in the cases of long standing the bone has been very dense so that when a gutter was tunnelled out, it required a considerable amount of chiseling to do so.

DR. W. W. GRANT, Denver: The diagnosis of these cases is not made early, and that is why we do not see more of them. I believe that there will be ultimately death of the part and either pus formed or sequestrum, and an involucrum. We saw these cases formerly much oftener than now, because no one thought of operation until there were several sinuses leading to the canal. To-day the diagnosis can be made earlier, and if it is, operation should be done earlier when the patient will be saved several months and years of suffering, and will get well with a better leg. It is necessary to exclude syphilis and tuberculosis especially in arriving at a proper diagnosis.

DR. JAMES E. MOORE, Minneapolis: The principal difficulty in diagnosis is between non-suppurative osteomyelitis and chronic bone abscess. Therapeutic tests will eliminate syphilis. As a rule, syphilitic disease of the bone is bilateral, while non-suppurative osteomyelitis is usually unilateral. Chronic abscess of bone is likely to be limited to one end of the diaphysis, while the condition under discussion affects the entire diaphysis. The history of these cases is that of a low form of inflammation, with gradual enlargement, the principal symptom being pain, more particularly at night. When we operate, we find the main part of the bone proper eburnated, and the older surgeons amputated many of these limbs, showing how great the pain is at times. The modern treatment is that pointed out by the essayist.

DR. ARTHUR T. MANN, Minneapolis: I have had two cases of this type of osteomyelitis in which I used the Moorhof wax. One patient was a girl, thirteen years of age, who had symptoms for two years. She had the usual symptoms of chronic osteomyelitis in the lower third of the tibia, the pain being worse at night, and the temperature sometimes running up to 102 F. At the end of two years, when I saw her, she had a fusiform swelling at the junction of the lower third of the tibia, which was very tender. She cried at night on account of the severe pain. On opening this there was a mass more dense than cancellous tissue, but much thinner than ordinary cortical bone, so that the cortex had thinned out and the medullary cavity had filled in. In the center there was pale granulation tissue. This tissue was scooped out and the cavity filled with Moorhof's wax, and the usual closure of the wound made. There was healing by first intention. The pain stopped immediately following the operation. There had never been suppuration.

DR. WILLIAM H. MAGIE, Duluth, Minn.: In a recent case I had previously troughed the bone. Recurrence took place four or five months later, when Dr. Judd, of Rochester, operated. Later the patient returned to me with all the symptoms reestablished. I found the tibia enormously enlarged for fully eight inches, so that the case looked like one of sarcoma. I adopted the plan of chiseling down at the extreme end of this enlargement, splitting it, removing one-half of the tibia, then I applied skin direct on the raw surface of the bone that I had left, after removing half of the diameter of the tibia for fully eight inches. The wound healed by first intention, and the pain was relieved immediately. The patient has been well since and is working with a lumber crew.

DR. A. E. HERTZLER, Kansas City, Mo.: I do not think we would make a mistake if we called this a desmoid tumor of the bone. In the chronic sclerosing type of bone disease we have a milder form of infection which produces an exudate which is capable of being organized, and not as in the more acute types which form an exudate which is not organized. Rather unconsciously, I suspect, in the use of Moorhof's bone plug, you are imitating, in a measure, a very mild type of infection. The iodoform produces an exudate which is capable of being thrown down into fibrin, and it is by active hyperemia acting on the substance which produces an exudate, after forming fibrin, that healing is brought about.

DR. M. L. HARRIS, Chicago: In the cases belonging to the subgroup which has been described, there is no material enlargement of the bone, no condensation of the bony cortex. The disease usually affects the shaft of the bone. In the interior of the bone we find the red marrow which Dr. Stewart mentioned; it is very soft, almost semiliquid in some cases. These cases are characterized by extreme pain. The most interesting and typical case of that kind I saw was a man who had been treated for syphilis. He had visited several watering places in Europe, but returned to this country without being relieved. His pain was so severe that he was obliged to take morphin to afford relief. There was extreme pain in the shaft of the humerus. In these cases there is sensitiveness when the bone is percussed or when deep pressure is made. All that is necessary to do is to open the medullary cavity, remove a portion of the cortex and relieve tension.

(To be continued)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-15, 1910

The President, DR. W. O. ROBERTS, Louisville, in the Chair

Officers Elected

The following officers were elected for the ensuing year: president, Dr. Rudolph Matas, New Orleans; vice-presidents, Drs. Guy Leroy Hunner, Baltimore, and J. Garland Sherrill, Louisville; secretary, Dr. William D. Haggard, Nashville; treasurer, Dr. William S. Goldsmith, Atlanta.

Washington, D. C., was selected as the place for holding the next meeting, in December, 1911.

The Importance of Preserving the Gall-Bladder

DR. J. W. LONG, Greensboro, N. C.: An analysis of eighty-six cases convinces me of the value of retaining the gall-bladder. Cholecystectomy should be done in the presence of new growths, especially primary carcinoma; also in gangrene when the whole thickness of the bladder-wall is involved, but not otherwise, since I have had several recoveries following drainage for gangrenous mucosa of the bladder. Infection and empyema are only relative indications for doing cholecystectomy, most patients doing well under cholecystostomy. The cystic duct obstruction always present in empyema is gradually overcome under the influence of drainage, and after a varying interval of one to seven days, in one instance fifteen days, bile begins to discharge through the duct. Stone impacted in the cystic duct is only a rare indication for cholecystectomy. Even perforation cannot be considered an absolute indication for cholecystectomy. Drainage is second in importance only to removal of stones. Removal of stones cannot cure a pancreatitis, but drainage does. Drainage is the *sine qua non* for curing the patient of the widespread sequelæ of gall-bladder infection. It is prudent in doing a cholecystectomy to leave a forceps rather than a ligature on the cystic duct in order to provide for a free flow of bile, should untoward symptoms arise. The gall-bladder is not a storage pouch for bile, but rather is an expansion tank for the bile-duct system. Its removal is always followed by dilatation of the ducts, even the nub of the cystic duct compensating for the loss of the expansion tank. Pure bile injected into Wirsung's duct causes pancreatitis, bile mixed with the bladder mucosa does not, a cogent reason for preserving this function. The only avenue through which to treat chronic pancreatitis is the bile-duct system, preferably through the gall-bladder.

DISCUSSION

DR. THOMAS S. CULLEN, Baltimore: We have for several years made it a practice to drain all gall-bladders, except in those cases in which there is a suspicion of malignant disease, or in which there is empyema of such a character that it is impossible to drain satisfactorily, and the danger of removing the gall-bladder is not as great as that of infection from drainage.

DR. HOWARD A. KELLY, Baltimore: Under no circumstances would I remove a gall-bladder that is apparently sound or even moderately diseased which evidently may easily recover with drainage; nor would I remove a gall-bladder in which there is any suspicion of trouble in the common duct or any pancreatic disease. It is best to remove a gangrenous gall-bladder or one that is suspected to be malignant.

DR. J. GARLAND SHERRILL, Louisville: There has been a tendency to do too radical operations in this region. I have saved a number of gall-bladders that were full of pus by drainage. The reparative power of the tissues is very great and the opening becomes patent in a short time, and drainage of bile free.

DR. RANDOLPH WINSLOW, Baltimore: I operated in a case some time ago in which the duct was evidently obstructed; although bile reappeared, it did not flow. However, in the course of time nothing but mucus came from the external opening; the gall-bladder was distended, and bile did not pass. There occurred stricture of the cystic duct which necessitated a second operation for the removal of the gall-bladder.

DR. R. E. FORT, Nashville: In those cases in which we have a small contracted, rigid, friable gall-bladder, not larger than the finger, in which drainage cannot be instituted, I think it not only proper, but essential to do a cholecystectomy. There are cases in which we have common duct obstruction and it becomes necessary to do cholecystectomy, but in other cases it is not necessary to do this radical operation.

DR. BACON SAUNDERS, Fort Worth: In these old chronic gall-bladder cases it is necessary to continue drainage sometimes for six weeks in order to get satisfactory results.

DR. WILLIAM B. COLEY, New York City: When I remove a gall-bladder I institute drainage in the cystic duct and this does as much good to the pancreas as if we drained through the gall-bladder itself.

DR. J. W. LONG, Greensboro: In gall-bladder surgery, as in all other surgery, it is largely a matter of personal equation in deciding what is the best thing to do in the individual case.

Chronic Urethritis and Chronic Ureteritis Caused by Tonsillitis

DR. GUY L. HUNNER, Baltimore: Certain cases of chronic urethritis and chronic ureteritis heretofore of obscure origin are due to tonsillitis, although the great majority of these cases are due to gonorrhea, most of the cases of rheumatic urethritis of the older text-books being of this nature. Some cases can be traced to trauma and infection in childhood, or trauma and infection of non-gonorrheal character in the newly married. Other cases may possibly be due to onanism, and some may be classed as autoinfections, the short female urethra and the myriads of microorganisms normally present in the outer orifice being factors that would make autoinfection probable. After ruling out gonorrhea and these rarer causes of infection, there still remains a certain large percentage of chronic urethritis cases, which, in recent years I have associated with the rheumatic diathesis. In a large proportion of this class of cases the disease is due to infections or toxins from the tonsils, and the importance of this observation is appreciated only when we recognize that the urethritis cannot be cured permanently until the tonsils are thoroughly extirpated. Of the four operative cases, two had been treated for months without appreciable permanent benefit to the urethra, whereas after removal of the tonsils, one patient recovered promptly and has been well for fourteen months, after having had bladder trouble eight years. A second patient after removal of the tonsils, had an irritable spot in the base of the right fauces, which for seven months

gave periods of sore throat, accompanied by rheumatic symptoms in the knees and urethritis symptoms. For the past four months the throat symptoms have been absent, and the joints and urethra are apparently well. The third patient had been treated on two occasions in the past nine years with prompt recovery from the urethral symptoms each time. When last seen in March, 1910, the tonsils were clipped with the tonsillotome, and the patient reports a return of all her symptoms soon after going home. The fourth patient had a tonsillectomy after two urethral treatments, so that no conclusions can be drawn in her case as to the futility of urethral treatments, without removal of the tonsils. She has apparently recovered after having had bladder trouble three years, although only four months have elapsed since the tonsillectomy. The fact that acute prostatic abscess sometimes follows inflammation of the tonsils suggests a possible relationship between the tonsils and certain chronic urethritis cases in males. These cases are often associated with chronic prostatitis, in which gonorrhea can be excluded as the cause, and for which no definite etiology has heretofore been obtainable.

DISCUSSION

DR. J. M. MASON, Birmingham: All the cases reported have occurred in unmarried women in whom there is some possibility of nervous disturbance or reflex irritation of the urethra. I would like to ask Dr. Hunner whether he has had any cases in married women or in women whose sexual relations are normal.

DR. G. R. HOLDEN, Jacksonville: Did the discharge in these cases contain pus cells as seen by the microscope?

DR. HOWARD A. KELLY, Baltimore: The wife of a professional colleague had been under my care for fifteen years. She had more or less malaise. Careful examination revealed pus in the urine in varying amounts, but so far as the local conditions were concerned, the patient was without symptoms. She was in ill health. I catheterized and found pus coming from the left kidney. I dilated the ureter on that side, washed out the kidney, she got better, and after a few months returned for further investigation and treatment. She had for twelve years been troubled with rheumatism. She had enlargement of the joints. Last spring, in examining her, I found a large, tender kidney, with a good deal of pus in the urine. I drained this kidney, and did a plastic operation on the semilunar ureteral valves. I cut down on the fascia at the end of the ureter and drained from the side. She continued to suffer with rheumatism through the summer, although she experienced some relief from the drainage in the side. This fall I took out the kidney and her rheumatism disappeared.

DR. JOHN F. OECHSNER, New Orleans: It seems from the cases cited that the tonsils were at fault. I fear, however, that what has been said may lead to more or less universal tonsillectomy; if we regard the tonsils as always at fault in cases of urethritis, where the specific organism, the gonococcus more particularly, cannot be determined. I would, therefore, make a plea to educate the practitioner to be more specific in determining the nature of a local infection, whatever it may be, and find out exactly where the focus of infection is.

DR. GUY L. HUNNER, Baltimore: Some of my patients were married women. They did not have pus in the urine. You cannot milk pus out of the urethra as you can in an acute gonorrheal case.

The Best Method of Exposing the Bladder for Aggressive Operations by the Suprapubic Route

DR. HOWARD A. KELLY, Baltimore: I make a transverse crescentic incision above the pubis out to or even beyond the semilunar line on each side. I then separate the fascia from the muscles after the manner proposed by Pfannenstiel for operations on abdominal and pelvic tumors. In bladder cases, however, the abdominal cavity is not opened. The recti muscles, freed from their overlying fascia, are flaccid and easily drawn apart, thus affording a very broad exposure of Retzius' space. The bladder is brought into view by inflation with air and is widely incised in its transverse axis; thus, all parts of the organ are perfectly exposed to view and made easily accessible to operation. The whole question of dealing with extensive ulcers, papillomata, malignant disease and cystitis requiring resection is by this means greatly simplified. Further help in bringing the base of the bladder up within reach may be secured by introducing two fingers into the vagina in women and pushing the anterior wall upward. At the conclusion of the operation, the bladder is closed with fine silk or catgut sutures, the investing fascia is also carefully united with catgut or silk, and the rest of the abdominal wound closed, in suitable cases leaving a small drain extending down to or into the bladder.

DISCUSSION

DR. J. S. HORSLEY, Richmond, Va.: For more than a year I have been using the Pfannenstiel incision as a routine measure in all suprapubic cystotomies. It takes very little more time than the ordinary incision and it leaves the abdominal wall in a much better condition afterward.

DR. ERNST JONAS, St. Louis: The Pfannenstiel incision gives a very good view of the bladder. This incision was advocated for clean gynecologic cases where there is no pus in the pelvis, and not for cases in which the pelvis is badly infected.

DR. REUBEN PETERSON, Ann Arbor, Mich.: The Pfannenstiel incision is only suitable for clean cases. While the technic demonstrated by Dr. Kelly is fine for clean cases, I can see objection to this incision in suppurative cases.

DR. GEORGE H. NOBLE, Atlanta, Ga.: I have made use of the transverse or Pfannenstiel incision quite frequently in cases in which I did not expect to encounter a septic process, both in placing the uterus in its normal position and in opening the bladder. A point I want to bring out especially is, that in this dissection you can increase the opening very materially and satisfactorily by making a section of the lower ends of the recti muscles, where necessary. This is particularly the case where you want to open the pelvis to go into the peritoneum.

DR. ALEXANDER HUGH FERGUSON, Chicago: I can see how this method of exposing the inside of the bladder would be of great utility to those surgeons who practice suprapubic prostatectomy; also in removing papillomata to avoid the ureter. We must remember that there is no fascia behind the rectus muscle in this region, and that it retracts easily and acts as a bar to infection in the operative area.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

December 22

1 *Care and Management of the Tabetic Bladder. J. D. Barney, Boston.
2 *Case of Bilharziasis with Appendicitis. C. G. Lane, Woburn, Mass.
3 Tuberculosis Among the Philippine Scouts (Native Troops) of the United States Army. I. W. Brewer, U. S. Army.

1. **Care of Tabetic Bladder.**—According to Barney, trabeculation of the bladder in tabes is found in more than 80 per cent. of cases, and may occur before any symptom or other sign of vesical disturbance. In tabetic bladders it is found in the fundus and side walls only, in typical cases. It is more delicate and regular than that seen with mechanical obstruction. Probably it is due to a primary detrusor hypertrophy. Residual urine is found in more than 70 per cent. of the patients, often before any symptoms begin. In over 50 per cent. of all cases the urine is infected. Cystoscopy is generally a painless procedure, a fact which is of some diagnostic value. Urinary disturbances, variable in character, are observed in over 90 per cent. of all patients with tabes.

2. **Bilharziasis.**—Lane reports a case of both intestinal and genito-urinary bilharziasis, complicated with acute appendicitis. Sections of the appendix showed many bilharzia ova in the wall. A review of the reported cases brings out the fact that there are only five undoubted cases of the South

African *Bilharzia hematobia* among them. Investigation shows that the lateral spined ova may belong to one species of bilharzia and the terminal spined to another.

New York Medical Journal

December 24

4 The Law of Degeneracy in Its Relation to Medicine. C. P. Noble, Philadelphia.
5 Psychotherapy—Its Uses and Abuses. E. D. Fisher, New York.
6 Pulmonary Tuberculosis as Studied in the General Medical Dispensary. E. J. G. Beardsley, Philadelphia.
7 Ear Disease and Its Prevention. A. Bardes, New York.
8 Prevention of Abortion. C. Rosewater, Omaha, Neb.
9 Removal of the Faucial Tonsils Followed by Exophthalmic Goiter. C. J. Kœnig, Paris.
10 Liquid Air and Carbonic Acid Snow. J. D. Gold, Bridgeport, Conn.
11 The Dislocated Puerperal Uterus. W. L. Marsden, Burns, Ore.
12 Magic and Medicine: A Study in the Borderland of Light and Darkness. J. Knott, Dublin, Ireland.

Medical Record, New York

December 17

13 Salvarsan. M. S. Kakels, New York.
14 Intussusception of the Appendix. A. V. Moschcowitz, New York.
15 Typhoid Spine. N. B. Potter, New York.
16 *Stab Wound of the Heart. J. F. Erdmann, New York.
17 Spontaneous Rupture of a Glaucomatous Eyeball. B. Chance, Philadelphia.
18 Heart Stimulants Used During Fevers with a Recommendation of the Precordial Compress. W. L. Secor, St. Petersburg, Fla.
19 *Chancroids Due to Mercury Bichlorid. W. J. Robinson, New York.

December 24

20 Neurology in Zurich. E. W. Scripture, New York.
21 Immunity Reactions as Products of Natural Selection. R. G. Eccles, Brooklyn.
22 Probable Duration of Life. A. H. Stewart, Lawton, Okla.
23 *Treatment of Paralysis Agitans with Parathyroid Gland. W. N. Berkeley, New York.
24 A Case of Pyloric Obstruction. A. Goldman, New York.
25 A Simple Clinical Method for Measuring the Diameter of the Pupil. T. A. Williams, Washington, D. C.

16. **Stab Wound of the Heart.**—A man received a stab wound in the chest, made by a knife three-quarters of an inch wide by 6 inches long. The puncture—three-quarters of an inch long—was on the right side of the chest, 1¾ inches to the right of the median line, penetrating the fifth costal cartilage obliquely, and splitting its lower three-quarters. The distance from the left nipple was 6 inches to the right of the median line and on a line 1¼ inches below the right nipple. The patient was received at the hospital shortly after the injury, stating that he struck his assailant a blow and knocked him down subsequent to his being stabbed. His condition at the time Erdmann saw him was one of profound shock. The heart sounds were distant and almost imperceptible. The patient complained of constant abdominal pain, and on palpation he was found to be exceedingly tender on the right half of the abdomen. On percussion, dulness and flatness extended over this entire region, being particularly marked in the upper half.

An exploration was begun at the angle between the seventh costal cartilage and the ensiform process. On reaching the peritoneum a deep blue-black appearance, such as is seen in extrauterine pregnancy with rupture, was observed. The exploration was then extended 2 inches further in the abdominal wall and the peritoneum opened, when the dark blue mass was seen to be the liver, driven downward 4 inches below the costal margin. It was deeply cyanotic. The peritoneal cavity and the dome of the liver were explored and nothing found to indicate puncture. The seventh costal cartilage was then raised, the diaphragmatic musculature was detached, and the cartilage cut at its juncture with the rib. The sixth, the fifth, and the fourth were also cut through. A retractor was placed on the cartilages, the skin raised from the sternum at the upper limit of the incision, and the sternum cut through at the upper limit of the incision with a pair of bone-cutting forceps. On raising the flap, a hole admitting the index finger was found penetrating the pericardium, and a similar hole was found in the right ventricle. An exposure was made 4 inches in length. The palm of the hand above and the thumb below grasped the heart, while the index finger was retained within the ventricle. A curved needle, threaded with No. 2 plain catgut, was then placed down to the heart, and during a systole a puncture was made, irrespective of penetrating the cavity or not. As soon as the needle had pierced one side of the incision, the finger was withdrawn and the needle made to make its exit from the opposite side. A knot was tied and the heart held dangling from this suture. The subsequent stitches—eight or ten in number—were readily placed, one more being placed in the line of the heart wound proper, and two more rows placed after the manner of Lembert. A long cigarette drain was placed in the pericardial cavity, and the incision in the pericardium closed up to the emergence of the drain, which was led out at the angle of the seventh costal cartilage and the sternum. Catgut stitches were taken in the costal cartilages between them and the ribs. Nothing was done to the sternum, except to hold it in place by the dressings after the skin wound was sutured. The patient was back in bed in about thirty minutes, and was out of bed and well on the fourteenth day.

19. **Chancroids Due to a Peculiar Cause.**—In Robinson's case a bichlorid tablet inserted in the vagina proved sufficiently irritating to cause the formation of ulcers.

23. **Treatment of Paralysis Agitans.**—Berkeley is of the opinion that paralysis agitans has all the marks of a chronic toxemia. The symptoms following parathyroidectomy are remarkably like those of paralysis agitans. In cases of myxedema and exophthalmic goiter, paralysis agitans has not infrequently occurred as a complication or sequela. Of fourteen reported autopsies on paralysis agitans, eleven showed negative parathyroid glands, three showed distinct pathologic changes; and lastly, a remarkable percentage of patients with paralysis agitans treated with properly identified fresh gland, or a properly made extract, have been greatly benefited. Berkeley's first patients were treated with commercial parathyroid gland. This worked well in a few cases, but was found so variable and uncertain in its action that it had to be given up. He next tried a preparation of properly identified gland rubbed up in the crude fresh state to a dry powder with milk sugar. This was distinctly better, but still seemed to be variable and unstable. Later, he tried a nucleoproteid solution of the parathyroid made up by Beebe's method and preserved with a few drops of chloroform in the bottom of each bottle. This has still further raised the percentage and degree of improvement, but it precipitates rapidly, and is susceptible to damage from temperatures above 5 C., therefore hardly admitting of transportation to any great distance. His latest process is this: The nucleoproteid extraction process (Beebe's method) is adhered to generally, but all the preliminary steps are hurried, and the precipitated nucleoproteid is not redissolved, but quickly dried in a draught of cold air; so that within eight or ten hours after the warm glands leave the bullock a minute amount of smooth yellow powder is obtained which stands physiologic tests admirably, is stable, easily handled, and does not require a freezing temperature (though for safety's sake it is recommended to keep it on ice). The powder is rubbed up with milk sugar as a menstruum and is placed in sealed containers.

American Journal of Public Hygiene, Columbus, Ohio

November

26 Hygiene of the Swimming Pool. J. W. M. Bunker.
27 Spread of Scarlet Fever and Diphtheria in Schools. C. V. Chapin, Providence, R. I.
28 Water Analysis and the Public Health. D. G. Revell, Edmonton, Alberta.
29 Functions of a Public Health Laboratory. D. G. Revell, Edmonton, Alberta.
30 Germicidal Value of a Few "Commercial" Coal-Tar Disinfectants. F. H. Slack and E. M. Wade, Boston.
31 A New Form of Anaerobic Jar. S. H. Ayers, Washington, D. C.
32 Social Economics and Public Health. E. Seidel, Milwaukee.
33 Cholera. M. J. Rosenau, Boston.
34 Infantile Paralysis. R. W. Lovett, Boston.
35 Municipal Sanitation. C. V. Chapin, Providence, R. I.
36 Personal Hygiene. P. G. Stiles, Boston.

American Journal of Medical Sciences, Philadelphia

December

37 *Pleurisy as a Complication and a Sequel of Lobar Pneumonia: Its Diagnosis and Treatment. J. M. Anders, Philadelphia.
38 *Use of the Soy Bean as a Food in Diabetes. J. Friedenwald and J. Ruhräh, Baltimore.
39 *Auscultatory Signs of the Respiratory System. J. H. Barach, Pittsburg.

40 *Clinical Method of Estimating the Coagulation Time of the Blood. R. D. Rudolf, Toronto, Canada.
41 *Clinical Significance of Transitory Delirium Cordis. G. H. Fox, Ann Arbor, Mich.
42 Erythremia or Polycythemia with Enlarged Spleen and Chronic Cyanosis. E. C. Seufert, Chicago.
43 *Tuberculosis and Menstruation. D. I. Macht, Baltimore.
44 Smooth Atrophy of the Base of the Tongue. D. Symmers, New York.
45 Syndrome of Sphenopalatine Ganglion Neurosis. G. Sluder, St. Louis.
46 *Clinical Value of the Cammidge Reaction. L. C. Kinney, Philadelphia.
47 Determination of Chlorin and the Purin Bodies in Urine. R. W. King, Las Animas, Colo.

37. Abstracted in THE JOURNAL, July 9, 1910, p. 155.

38. **Soy Bean as a Food in Diabetes.**—The most striking point about the soy bean is the fact that it contains no starch, or, at least, a very small quantity, which is strange when one considers it resembles the various beans very closely, and all other varieties are extremely rich in starchy materials. As it contains no starch, it is exceedingly difficult to make a bread without the introduction of a certain amount of some other flour, but Lecerf, a French pharmacist, is said to have made a bread which resembled somewhat ginger bread, which was not at all disagreeable, and which contained no starch whatever or a very small percentage. Lailleux is said to have treated a number of cases of diabetes in Algiers with the soy bean with admirable results. The experience of Friedenwald and Ruhräh with the soy bean in diabetes extends over a series of eight cases. The beans may be taken as a vegetable by soaking them for from twelve to sixteen hours, until the skins come off, and stirring until the skins rise to the surface and can be removed. They are then boiled in salt water or with bacon until soft, and seasoned with pepper, salt and butter and served hot. When the bean is not available the gruel flour from the soy bean is even more serviceable. Each ounce of this soy gruel flour yields about 13 grams of protein and 120 calories, and there are several ways in which it can be used: 1, As a gruel; 2, in broths; 3, in making biscuits.

In the study of the authors' eight cases of diabetes, the patients were placed, first, on an unlimited diet; second, on the restricted (usual diabetic) diet; and third, on restricted diet, together with the soy bean. The soy bean replaced largely the gluten of wheat bread, while the patient still remained on the usual diabetic diet. In nearly every instance there was a marked diminution in the glycosuria.

39. **Auscultatory Signs of the Respiratory System.**—Barach calls attention to certain findings relative to the conduction of auscultatory sounds by the bony framework of the chest. The first observation is, that typical bronchial breathing may be heard at the acromion end of the clavicle. By placing the bell of the stethoscope over this area and having the patient make deep respiratory efforts, typical bronchial breathing will be heard. Not only is bronchial breathing heard, but the spoken and whispered voice sounds are transmitted clearly. These auscultatory findings are present in nearly all chests and are heard especially well in those persons who do not have a thick subcutaneous and fatty covering. In the normal individual they are usually heard with more distinctness on the right side than on the left. Very often the bronchial sound is transmitted to, and may be distinctly heard by applying the stethoscope over the occipital and other bones of the cranium. It may also frequently be heard below the fifth dorsal vertebra. These observations prove conclusively to Barach that the bony framework of the chest is capable of transmitting auscultatory signs from points near their source of origin to distant points on the contour of the chest.

40. **Coagulation Time of the Blood.**—The chief object of Rudolf's communication is to advocate and describe a method of measuring the coagulation time of the blood which is convenient clinically and which seems to give reliable results. Thin glass tubes 1.5 mm. in diameter and about 7 inches in length are used. A pint thermos bottle is employed, and its ordinary cork is replaced by a rubber cork perforated in three places. In these perforations rest two brass tubes, 7 inches long and just large enough in caliber to hold easily the glass blood-tubes. The third perforation in the cork contains a thermometer. The apparatus rests on its side on a special stand, which prevents it rolling about. The bottle is filled with water at the temperature at which it is desired to work, say 20 C., and the cork put in position. The temperature of the contents will remain for fully an hour at the same point in a room of 55 F. or more.

The back of the finger or thumb near the nail is cleansed with soap and water and then with alcohol. As soon as it is dry the digit is wrapped about with a piece of twine loosely and at once punctured, the exact time of puncture being noted. Two glass tubes are partially filled from the same drop, the blood being made to run nearly to the far end of each, and each as filled is placed in a brass tube of the thermostat, the first in that to the left and the other in that to the right. Then the protruding ends, which are the ends at which the blood entered the tubes, are sealed at one's leisure with a spirit lamp. If the test is being made on an apparently healthy individual, in about five minutes the first tube is drawn out of its holder by the left hand (which is covered with a thick glove, in order that the heat of the fingers may less affect the tube) and touched with a glass-file and broken across between one's fingers and thumbs, and the broken ends are slowly separated. Probably the blood-column also breaks across sharply, if one may so speak of a column of fluid. The tube is at once replaced in the thermostat. In half a minute the second tube is removed and treated in the same way. Soon on breaking the tube across and separating the ends a thread of fibrin appears between the broken ends. At once the tube is broken farther on, and probably the thread of fibrin again appears. Very rarely a thread appears at the first break and not at the next one. This would be counted as a negative finding, and the tube would be at once replaced in the thermostat and tried again in fifteen seconds. If one is careful to begin the breaking at the first blood which entered the tube, such a thing seldom happens. One of the alternating tubes having given a positive finding, the other one almost certainly will do so in the next half minute, but if not, then usually in the next. With quick working one can try them every quarter of a minute, but the half-minute intervals give more time to make sure that a given tube has really coagulated, as it can be broken several times before the next one is due.

The temperature at which the experiment is carried out makes a marked difference in the results. This difference is about one minute for each degree centigrade. At 20 C. (68 F.) the average coagulation time is about eight and one-half minutes. Age (beyond early childhood) and sex seem to have no influence on the coagulation time. A diurnal variation does not seem to occur; possibly there is a slight increase in coagulability as the day advances, but this is probably due to experimental error. There appears to be a slight tendency to decrease in the coagulability about two hours after a meal, but it is too slight to put much weight on. Calcium lactate does not appear to have any marked influence on the coagulation time of the blood of normal individuals. Citric acid appears to have a slight retarding influence on the coagulation. Considerable variation occurs in the coagulation time of a healthy individual from time to time, the nature of which is not evident.

41. **Transitory Delirium Cordis.**—Of six patients in whom transient attacks of delirium cordis were observed by Fox, five eventually developed the permanent type of irregularity. Many features of the attacks themselves would suggest a nervous condition, especially the onset under excitement and the complete recovery between attacks with no demonstrable heart changes. The prognosis, however, should be guarded and efforts made to avert the onset of permanent irregularity, which is practically always accompanied by symptoms of cardiac insufficiency.

43. **Tuberculosis and Menstruation.**—The histories of nearly all the female patients between the ages of 12 and 45 years, about 1,600, applying for treatment to the Phipps Dispensary of the Johns Hopkins Hospital were analyzed by Macht. Over one-half of the patients, or 51.6 per cent., at the time of admission gave a history of no change in menstruation at all; 27.3 per cent., or over one-fourth, gave a history of amenor-

rhea, or more or less scanty flow or suppression; and 4.6 per cent. complained of a more profuse flow than ordinarily, without any history of uterine or adnexal disease. Of the patients under 20 years, 32.5 per cent. and 39 per cent. of those between 20 and 30 years of age, making a total of 71.5 per cent., or nearly three-quarters of all the patients with amenorrhea below 30 years of age; 45.8 per cent. of the amenorrheic patients, or nearly one-half of them, were in the first stage of the disease; 41.9 per cent of the patients were ill for not more than six months. Taking these three data together, it will be seen that amenorrhea is, therefore, a sign of considerable diagnostic importance. Macht has repeatedly been led to suspect tuberculosis in young patients by this sign alone. Menorrhagia, when it does occur, is an early symptom, preceding amenorrhea, and unless carefully inquired for, may be easily overlooked. For this same reason it is a valuable diagnostic sign.

The course of events is usually something like this: A patient's menses being regular and normal, begin without apparent cause to grow more profuse and of longer duration. This continues for a few months, and is followed by a gradual development of amenorrhea, which may eventually end in complete suppression of the menses. The effect of the tuberculous process on the menstrual function is manifested chiefly in changes in the menstrual type. (a) Tuberculous patients may menstruate regularly to the end, especially after the age of 35. (b) The patients may have amenorrhea, passing into complete suppression of the menses. (c) An appreciable number, 4.6 per cent., may have menorrhagia preceding the amenorrhea. The age of the patient is the most important factor in these conditions. Some cases of dysmenorrhea are of a purely tuberculous origin, and are relieved by tuberculin treatment. The effect of treatment in general is to restore a normal type of menstruation. The changes in the menstrual type are of considerable diagnostic and prognostic value. The influence of menstruation on the tuberculous process is manifested by aggravation of all symptoms, and accentuation of physical signs. The effects of ovulation may continue after the menstrual flow has been suppressed.

Periodic variations in temperature are very common, occurring in probably 50 per cent. or more of all cases, and are of diagnostic and prognostic value. These rises in temperature may be (a) premenstrual, (b) menstrual, (c) postmenstrual, (d) intermenstrual. Periodic hemoptyses and other hemorrhages in tuberculous patients are more common than is generally assumed. These hemoptyses may occur simultaneously with the menstrual flow, or may take the place of the menstrual flow. True vicarious menstruation does occur, but it is exceedingly rare, so that in most cases of vicarious hemoptysis a tuberculous lesion is to be suspected. Tuberculin should not be administered at the time of menstruation. The evil effect of the menstrual processes on the patient's constitution can be minimized by proper treatment.

46. **Clinical Value of the Cammidge Reaction.**—In 105 cases with a negative Cammidge reaction there was no evidence of disease of the pancreas; seventy-five of these cases came to operation at which the gall-bladder region was explored, and in them palpation of the common duct made it necessary for the operator to feel the consistency of the pancreas. In these cases the pancreas was recorded as normal to palpation in twenty cases, but in the remaining fifty-five no note was made as to its condition; thirty patients not operated on were not considered from clinical examination to have pancreatic disease. A lesion of the pancreas was diagnosticated in fifteen patients who gave negative findings; eleven individuals with chronic interstitial pancreatitis were found at operation in which the pancreas was stated to have been abnormally enlarged, firm, or nodular; two patients with carcinoma of the pancreas (one diagnosis being confirmed at postmortem examination) and one with acute pancreatitis failed to give positive "C" crystals. The single case of cyst of the pancreas gave a negative reaction before operation, but twenty-one days after, while the rubber-tube drainage was still in place, the reaction was decidedly positive. In thirty-four cases the Cammidge reaction was positive. Of these, fourteen patients came to operation and one to postmortem examination. The diagnosis of chronic pancreatitis was confirmed by palpation in seven cases, and in one case of acute exacerbation of a chronic pancreatitis the diagnosis was confirmed microscopically after death. In two cases the pancreas was normal to palpation, that is, one case of chronic cholecystitis and one case with a stone occluding the ampulla of Vater. No note was made of the condition of the pancreas in the four other cases in which the patients were not operated on—subhepatic abscess following perforation of the gall-bladder, cholelithiasis with 258 stones in the common duct, empyema of the gall-bladder, and abdominal adhesions. Twenty patients with a positive reaction were not operated on. In seven cases a lesion of the pancreas was diagnosticated clinically as follows: three cases of chronic pancreatitis, one of acute pancreatitis and one of carcinoma of the stomach and pancreas.

The remaining thirteen patients were not considered to have pancreatic disease. These cases were as follows: Neurasthenia, catarrhal jaundice, four cases of cholelithiasis, chronic cholecystitis, acute cholecystitis, diabetes, epigastric distress (not diagnosticated), duodenal ulcer, carcinoma of the stomach, and carcinoma of the liver. Thus, in the thirty-four cases in which the Cammidge reaction was positive, a diagnosis of pancreatic disease was made in fifteen cases, or 44 per cent. The positive reaction in 33 per cent. of the patients with carcinoma of the pancreas agrees with Cammidge's report. Kinney has had cases of both acute and chronic pancreatitis in which the Cammidge reaction has been negative. There were forty-three cases in the series which came to operation or postmortem examination, in which the condition of the pancreas was definitely recorded. The pancreas was found to be normal in twenty-two cases, twenty of which gave a negative, and two a positive Cammidge reaction; eighteen cases of chronic interstitial pancreatitis gave eleven negative and seven positive findings. The acute exacerbation of a chronic pancreatitis gave a positive reaction, while the cyst and carcinoma were negative.

Laryngoscope, St. Louis

November

48 Infectious Diseases of the Labyrinth. H. Neumann, Vienna.
49 Osteomyelitis of the Temporal Bone. C. W. Richardson, Washington, D. C.
50 Exfoliation of the Bony Tympanic Wall Including the Major Portion of the Semicircular Canals. J. A. Stucky, Lexington, Ky.
51 Bacteriologic Examination of the Tonsillar Crypts at the Manhattan Eye, Ear and Throat Hospital, New York. J. G. Dwyer and Miss Gignoux, New York.
52 Subcutaneous Surgical Emphysema. B. D. Parish, Philadelphia.
53 Foreign Body Removed from the Bronchus. S. Yankauer, New York.
54 Mishaps in Tracheobronchoscopy and Esophagoscopy. S. H. Large, Cleveland.
55 Bismuth Paste in Chronic Suppurative Diseases of the Nose, Accessory Sinuses, Ears, and Mastoid Process. J. C. Beck, Chicago.
56 Complicated Cerebral Case with Pathologic Findings. C. F. Welty, San Francisco.

Annals of Surgery, Philadelphia

December

57 Treatment of Scalping Accidents. J. S. Davis, Baltimore.
58 Responsibility of the Tonsil in Tuberculous Adenitis. F. S. Mathews, New York.
59 *Treatment of Tuberculous Glands of the Neck. E. S. Judd, Rochester, Minn.
60 Metallic Foreign Bodies in a Bronchus. G. R. Fowler, Brooklyn, N. Y.
61 *Sarcoma of the Clavicle: End-Results Following Total Excision. W. B. Coley, New York.
62 Transgastric Excision of Calloused Ulcer of the Posterior Wall of the Body of the Stomach. W. J. Mayo, Rochester, Minn.
63 *Relation Between Appendicitis and Disturbance in the Gastro-duodeno-Hepatico-Pancreatic Physiologic System. W. C. MacCarty and B. F. McGrath, Rochester, Minn.
64 *Technic of Appendicostomy. F. C. Yeomans, New York.
65 Anomalous Renal Arteries and Their Relation to Hydronephrosis. A. L. McDonald, Grand Forks, N. Dak.
66 *Anatomy and Treatment of Undescended Testicle. A. V. Moschcowitz, New York.
67 Resection of the Male Rectum for Cancer. W. C. Lusk, New York.
68 Fracture of the Tarsal Scaphoid. W. R. MacAusland and B. E. Wood, Boston.

59. **Tuberculous Glands of Neck.**—During the past fifteen years there have been performed at the Rochester clinic 668 operations for complete excision of glands of the neck, sixty-two operations for partial excisions and curetting, and twenty-four excisions of tuberculous glands in the axilla in patients

who also had tuberculous cervical glands. In all, 649 patients were operated on, on one side at a time. Of these, nineteen have since died of pulmonary tuberculosis, and nine have died of tuberculous lesions elsewhere. Ten of the patients had pulmonary tuberculosis at the time of the operation. In operating on these individuals, it has been the aim to do a thorough and radical excision of the groups involved. Having made the incision from the mastoid to the clavicle, the skin and platysma are reflected well forward and backward. The sternomastoid is not cut except a few posterior fibers of its upper attachment on the mastoid process. The entire posterior border of this muscle is freed and the fascia dissected from it. The dissection is started at the lower angle underneath the clavicular attachment. The omohyoid pulley is exposed and this is the lowest point of the dissection. The glands are all left together in the fascia as much as possible. Care should be taken to avoid important nerves. Lymphatic glands within the parotid should be shelled out in a manner that will not interfere in any way with the branches of the seventh nerve.

Having completed the dissection, if caseous material has soiled the wound, it should be mopped out with tincture of iodin well diluted with water; or, as suggested by von Eiselsberg, the entire wound may be mopped for an instant with boiling water. Drainage should be provided through a stab incision; preferably, a small rubber tube split spirally. This drain is for the purpose of withdrawing serum and is removed in from 24 to 48 hours. The platysma muscle is carefully sutured with fine catgut, and the skin edges approximated by a subcuticular suture approximating as much of the cut of the skin as possible, giving the appearance of a ridge. A rather small, snugly fitting gauze dressing is used. The next day the patient is gotten up and encouraged to move the head freely to prevent any stiffening of the muscles. From this time general outdoor treatment is advised. In this series of cases there has been no mortality due directly to the operation. One patient died a few weeks after the operation of general tuberculosis, and a second died in about three months from diffuse sepsis.

61. **Sarcoma of the Clavicle.**—In view of the favorable results obtained in the few cases of sarcoma of the clavicle, and the much larger number of cases of sarcoma of the long bones in general, by the use of the mixed toxins of erysipelas and *Bacillus prodigiosus* immediately after operation, as a prophylactic, Coley believes that such use would seem to be strongly indicated as a routine measure. The histories of sixty-three cases are given in full.

63. **Appendicitis and Associated Disturbances.**—The possibility of an etiologic relationship between the appendix and pathologic conditions in the stomach, duodenum, liver, bile passages and pancreas arose as the result of an investigation by MacCarty and McGrath of the embryology, anatomy and physiology of these organs in view of clinical experience and pathologic findings in studying the material from 216 gastrectomies, 365 cholecystectomies, 5,000 appendectomies, three duodenal ulcers and the experimental experience of Cannon, Litthauer, Tsunoda, Roger, and others, all of which, when taken together, strongly suggest that the appendix is at least a part of the etiology of conditions which have been and are being treated as local conditions but which may possibly arise secondarily. Autopsy has shown that duodenal ulcers when they occur at or near the papilla of Vater are sometimes, if not always, associated with cholecystitis, and occasionally with chronic interstitial hepatitis (cirrhosis). Clinical experience presents strong evidence that there are gastric disturbances which are relieved and often completely dissipated by the removal of the appendix. Examination of the appendices removed in association with "pyloric spasm," gastric and duodenal ulcers, cholecystitis and cholelithiasis shows that there is a higher percentage of appendices with partially or completely obliterated lumina in all of these conditions, than at general autopsy or at operations for appendicitis. It was found that of 365 patients in whom cholecystectomy was performed, 13 per cent. gave definite histories of pain and soreness in the region of the appendix. In fifty-nine of these patients with cholecystitis the appendices were removed and 69 per cent. showed undoubted gross or microscopic evidence of inflammation, varying from a chronic catarrhal condition to complete obliteration and periappendicitis.

In the examination of 2,000 appendices with the histories, 52 per cent. of 175 patients with cholecystitis with and without stones gave histories of pain in the region of the appendix. In 1,147 histories, which include all the cases of appendicitis and appendices removed during operations, for conditions other than cholecystitis with or without stones, there was a history of pain in the epigastrium or right hypochondrium in 13 per cent. In 9.4 per cent. there was pain in the abdomen and in 14.6 per cent. pain in the abdomen was radiated to and became localized in the region of the appendix.

64. Abstracted in THE JOURNAL, July 30, 1910, p. 430.

66. **Treatment of Undescended Testicle.**—Moschcowitz has operated on eighteen patients by the Bevan method. Primary union resulted in every instance; there is no recurrence of the hernia; the testicle is freely movable and in the very bottom of the scrotum. In other words, he says, all these patients can be legitimately regarded as completely cured, so far as the descent of the testicle and the hernia is concerned.

American Medicine, Burlington

November

69 The Cystoscope in Practice. E. W. Pinkham, New York.
70 A Life of Intense Suffering and of Unrealized Aims Due to Eyestrain. G. M. Gould, Ithaca, N. Y.
71 Goiter and Its Treatment. J. W. Solow, Brooklyn, N. Y.
72 Myxosarcoma of the Right Frontal Lobe; Extensive Degeneration in Cord. G. E. Price, Philadelphia.
73 A Sanatorium School for Consumptives. D. L. Sohn, New York.
74 Physiologic Action and Standardization of Digitalis. O. Hensel, New York.

Cleveland Medical Journal

December

75 *Psychoses Associated with Acute Infectious Diseases. A. M. Barrett, Ann Arbor, Mich.
76 Trend of Modern Research on the Nature of Ferment Action. J. J. R. Macleod, Cleveland.
77 Lacerations of the Cervix. N. C. Yarian, Cleveland.
78 Vaccine Therapy in Lung Abscess. P. A. Jacobs, Cleveland.
79 Eight Cases of Syphilis Treated with Salvarsan (606). W. T. Corlett, Cleveland.
80 *Surgical Approach to the Lower Ureter. F. C. Herrick, Cleveland.
81 Method of Preparing Lantern Slides in Color. A. H. Tashjian, Cleveland.

75. **Psychoses in Acute Infections.**—Five cases reported by Barrett give some idea of the multiformity of the clinical symptomatology which may occur in the psychoses caused by infectious diseases. Common to the cases given only is the disturbance of the consciousness. A review of a large number of cases reported as psychoses of acute infectious diseases shows that there are no specific clinical symptoms which distinguish the group of psychoses from non-infectious conditions. The most that can be said is that it is true in general that at the same stage of an infectious disease, psychoses of the same type are prone to occur. The clinical picture is greatly influenced by the intensity of the infection. The more acute the infectious disease, the more turbulent are the physical symptoms. This is borne out in Barrett's cases. The only case in which definite delusions were present ran a subacute course of seven months, while the case in which there was the greatest excitement and most severe disturbance of consciousness was one of puerperal infection which ran its course in twelve days. There is a certain harmony in this series of cases between the clinical course and the pathologic findings. The case which ran the longest and mildest course showed in the brain the less acute changes. Barrett did not find in this case the same severe distinctive process affecting the nerve cells as in the other cases. The most severe changes in the cortex were found in a case of delirium in tuberculosis. Two cases of typhoid psychoses are specially interesting from the similarity of the neurologic disturbances in each, and one of these, by reason of the occurrence of the mental disturbance nearly ten weeks before the physical signs of the disease were observed. The other typhoid case has a point of interest in the occurrence of an infectious psychosis without fever, yet with the anatomic alterations which can be experimentally produced by increasing the body temperature.

80. **Surgical Approach to Lower Ureter.**—The incision recommended by Herrick is made on an imaginary line drawn from the inner lip of the anterior superior spine to a point above the opposite spine of the pubis, say the external abdominal ring, starting from 1½ to 2 inches from the anterior superior spine and extending from 3 to 3½ inches to the rectus muscle. This strikes the edge of the rectus from 1 to 1½ inches above the entrance into it of the deep epigastric artery. The tendinous external oblique is split in the line of the incision, the internal oblique and transversalis are likewise split parallel to their fibers and parallel to the nerve trunks which lie between them. The peritoneum is dissected up with the fingers from the side and floor of the pelvis. A broad retractor, placed at the lower end of the incision, gives good access to the deep pelvis. In finding the ureter, the finger is carried to the bifurcation of the common iliac and then turned up against the under surface of the peritoneum where, closely adherent to the peritoneum and covered by some of its reflected fibers, will be felt the ureter. By cutting the fibers the ureter is separated from the peritoneum for an inch or two, a strip of gauze is passed behind it and gentle traction made when the ureter will stand out as a ridge extending to the base of the bladder. Herrick has, without difficulty, removed stones impacted just above the bladder but inaccessible through the cystoscope and feels that since all structures are returned to their normal state this route is an ideal one.

Journal of the Delaware State Medical Society, Wilmington

December

82 Home Treatment of Pulmonary Tuberculosis. G. B. Pearson, Wilmington.

Journal of the Arkansas Medical Society, Little Rock

November

83 *Modern Methods of Treatment for Severe Prolapse of the Uterus. H. L. Crossen, St. Louis, Mo.
84 *Infant Mortality. J. T. Clegg, Siloam Springs.
85 *Acute Otitis Media and Mastoid Abscess in Children. R. Caldwell, Little Rock.

83, 84 and 85. Abstracted in THE JOURNAL, June 11, 1910, pp. 1991 and 1992.

Texas State Journal of Medicine, Fort Worth

December

86 *Use of Drugs as Stimulants in Accidents Occurring During Anesthesia. O. H. Plant, Galveston.
87 *Position for Combined Abdominal and Pelvic Outlet Operations. A. C. Scott, Temple.
88 Organization and Public Education. T. C. Merrill, Colorado.
89 General Anesthesia. F. B. Bryan, Childress.

86. **Use of Drugs as Stimulants in Accidents.**—Of the drugs investigated by Plant, a combination of cocain and strychnin was by far the most efficient in producing recovery; nine out of twelve of the animals operated on recovered without any other restorative measure than the intravenous injection of these drugs. In ether anesthesia, this was the only series in which more than one animal was restored. This fact is not hard to explain, because in ether anesthesia the respiration is depressed to a much greater extent than the circulation, so that a respiratory stimulant is the chief need. The average fall in mean pressure in twenty-three experiments where ether was administered amounted to 23 per cent., while in twenty-four experiments in which chloroform was used it amounted to 74.6 per cent., more than three times as much; the force of the heart (pulse pressure) was diminished 1.7 per cent. in ether anesthesia, and 62.8 per cent. in chloroform anesthesia. These figures show that in ether anesthesia the circulation was not greatly depressed in these experiments at the time the respiration stopped, and that a respiratory stimulant is the prime necessity, so far as drugs are concerned in ether anesthesia.

Plant regards cocain as probably the most powerful of the respiratory stimulants and combined with strychnin, which stimulates both respiratory and cardiac centers, it meets the indications better than any of the stimulants commonly employed in ether and chloroform anesthesia. In all accidents during anesthesia, artificial respiration is by far the most important and efficient restorative, and the drug treatment is only accessory. This is especially true in ether narcosis, where respiration is depressed to a much greater extent than the circulation. Neither adrenal preparations nor atropin, nor a combination of the two, had any marked beneficial effect in ether anesthesia. In chloroform anesthesia, however, the circulation is depressed to almost as great an extent as the respiration, and adrenal preparations, which raise the blood-pressure chiefly by causing constriction of the blood-vessels were found to have some value, provided the cardiac inhibition which they produce does not offset the stimulating effect. When they are injected directly into the circulation the slowing of the heart is very pronounced, but it is probable that if their effects were produced slowly (as when absorbed from hypodermic injection) this effect would be less marked. Combined with atropin, which prevents the slowing of the heart and acts to some extent as a stimulant itself, adrenal preparations have greater value in chloroform anesthesia than when used alone.

The value of atropin as a restorative was found to be limited to chloroform anesthesia, and here the beneficial effects are due to the fact that this drug removes cardiac inhibition. The average decrease in pulse-rate in twenty-four experiments where chloroform was administered amounted to 43.7 per cent. The slowing of the pulse in chloroform anesthesia is quite variable; in some of the experiments it was less than 10 per cent., while in others it amounted to as much as 75 per cent. When marked inhibition occurs, atropin causes a sharp rise in pressure by increasing the pulse-rate, and this rise in pressure serves in itself to stimulate the respiratory center. In four experiments in which recovery occurred there was marked inhibition before the injection was made, and in the animal that did not recover, there was only slight change in the pulse-rate. Camphor and digitalis, although good heart stimulants, Plant regards as of not much use during anesthesia, because they act slowly and their stimulating effect is limited to the heart.

87. **Combined Abdominal and Pelvic-Outlet Operations.**—By the use of any metal knee-holder which fits comfortably in the popliteal space, Scott secures an exposure of the abdomen in an elevated position and at the same time exposing the pelvic outlet. This is accomplished by having the popliteal knee-holder hinged on a short, upright bar, broadened and slotted at the lower end to slide, with a set screw, on a horizontal metal bar, which in turn is fixed to a strong cylindrical upright bar, sliding in a screw clasp at the side of the operating table. The sliding on the horizontal bar allows adjustment for the varying lengths of patient's thighs. The cylindrical sliding upright bar at the side of the table permits the thighs to be moderately flexed or fully extended, abducted or adducted at will. A piece of bandage loosely wound about each ankle is tied to any convenient point below the corner of the table, and another is placed above each knee, to prevent extension and elevation of the knees, thus securely holding them in their respective knee-holders. Any modern operating table will serve the purpose of these attachments and enable one to secure the desired combined position if it has a pivotal point about the center permitting the entire surface of the table to be raised or lowered at will.

Kentucky Medical Journal, Bowling Green

November 15

90 Diagnostic Significance of Headache to the Internist. J. W. Kincaid, Catlettsburg.
91 Diagnostic Significance of Headache to the Physician. A. D. Willmoth, Louisville.
92 Diagnostic Significance of Headache to the Specialist in Eye, Ear, Nose and Throat Diseases. M. C. Dunn, Henderson.
93 Present Status of Serotherapy and Vaccine Therapy. F. H. Montgomery, Danville.
94 Necessity for Properly Selected and Compensated City and County Health Officers. J. N. McCormack, Bowling Green.

December 1

95 *Kentucky's Opportunity for Vital Statistics—How the Medical Profession Can Aid. C. L. Wilbur, Washington, D. C.
96 *Nature and Treatment of Splenic Anemia. B. E. Giannini, Coalmont.
97 *Diagnosis and Medical Treatment of Cirrhosis of the Liver. G. W. Payne, Bardwell.
98 *Diagnosis and Treatment of Cholecystitis. I. Abell, Louisville.
99 Abscess of the Liver: Diagnosis and Treatment. J. I. Rathburn, Russell.
100 Etiology, Diagnosis and Treatment of Pellagra. W. F. Stirman, Owensboro.
101 *State Care of the Insane. C. Pope, Louisville.

102 Electricity in Diagnosis and Treatment of Disease. J. J. Rodman, Owensboro.
103 Water Supply and Sewage Disposal. P. Hansen, Bowling Green.
104 *Medical Expert Testimony. E. J. McDermott, Louisville.

95 and 96.—Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1400 and 1401.

97, 98, 101 and 104. Abstracted in THE JOURNAL, October 22, pp. 1492, 1493 and 1495.

American Journal of Surgery

December

105 Operative Treatment of Cranial Fractures. F. Hartley, New York.
106 Diseases of Bone and Their Differentiation by Means of Roentgen Rays. G. E. Pfahler, Philadelphia.
107 *Contusion of the Back and Its Complications. W. Lathrop, Hazleton, Pa.
108 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
109 *Acute Angulation and Flexure of the Sigmoid. A Causative Factor in Epilepsy. W. H. Axtell, Bellingham, Wash.
110 A Practical Syringe for Intramuscular Injections. V. C. Pederson, New York.

107. Contusion of the Back.—Summarizing his paper, Lathrop says: In simple contusions of soft parts, we should promote the absorption of extravasated blood by cold, elevation and pressure; but if at all extensive, or with marked fluctuation, immediate incision, under aseptic conditions, will give the best results. Rest is of paramount importance. Massage of contused parts, such as the elbow, shoulder, knee, ankle and hip, is of great value after the acute stage is past. Lead and opium, arnica, alcohol, and sublimate applications are all used more or less, and no doubt with benefit. In severe injury involving not only the skin, but the muscles beneath, and possibly the bony structures as well, the best management is through examination under anesthesia, and treating the case as indicated—careful cleansing, suturing of any torn muscles, and provision for drainage. When sloughing occurs—and it will in many instances—the area should be well protected, and treated as any other granulating surface. In regard to the spine, any injury must be very severe to involve its contents, and must be regarded as serious; it will require time for repair, or improvement, and must be treated largely symptomatically. The prognosis should be guarded at all times.

109. Flexure of Sigmoid.—From an experience in the examination of thirty-one cases of epilepsy, Axtell is convinced that constipation and intestinal toxemia are minor factors in causing epilepsy. Of sixty-seven individuals with obstinate and persistent constipation examined and treated by the sigmoidoscope, forty-three, or 64 per cent., had acute flexure at the recto-sigmoidal juncture. Of these forty-three patients, eight had epilepsy. A remarkable fact was that this condition should be present in every one of the epileptics. Another remarkable feature was that the prolapsed loop of the sigmoid was inordinately impacted in every instance. Of the eight cases six were males, two females; convulsions began eight years before in one; ten years in one; fourteen years in one; four years in one; twelve years in two; time not recorded in two. All the cases had acute angulation of a severe type; all had impaction of the sigmoid of an inordinate character. The cecum in every case was enlarged and tympanitic. In all, the rectal mucous membrane was inflamed and the veins were more or less engorged. One patient had a large ulcer just below the angulation; two had adhesions of the impacted and prolapsed loop of the sigmoid; three had, in addition to the angulations, a thickening of the bowel wall at the point of flexure and an invagination of the mucous membrane to a greater or less degree; two had retroverted uteri, and in one the uterus was adherent from an attack of pelvic peritonitis.

Virginia Medical Semi-Monthly, Richmond

December 9

111 Etiology and Symptoms of Arteriosclerosis. L. T. Royster, Norfolk.
112 Pathology of Arteriosclerosis. H. T. Marshall, Charlottesville.
113 Treatment of Arteriosclerosis. W. S. Gordon, Richmond.
114 Diagnosis and Treatment of Pyelitis. H. A. Fowler, Washington, D. C.
115 Peritonitis and Its Treatment. S. McGuire, Richmond.
116 Climatology of the Seaboard Air Line Region. E. Gladmon, Southern Pines, N. C.

California State Journal of Medicine, San Francisco

December

117 Enucleation of the Tonsil from the Standpoint of the General Medical Man. L. Porter, San Francisco.
118 Enucleation of the Tonsil, a Surgical, Not a Radical Procedure. A. J. Houston, San Francisco.
119 Pathologic Histology of the Tonsil. H. Hastings, Los Angeles.
120 Tendon Transplantation. C. Kurtz, Los Angeles.
121 Strangulated Hernia. A. M. Taylor, San Francisco.

Journal of the Missouri State Medical Association, St. Louis

December

122 *Clinical Recognition of the Scaphoid Type of Scapula and of Some of Its Correlations. W. W. Graves, St. Louis.
123 Rupture of the Intestine from Abdominal Trauma. H. P. Kuhn, Kansas City.
124 *Technic of Immediate Closure of Bladder Following Suprapubic Cystotomy. C. E. Burford, St. Louis.
125 Bladder Calculi. E. G. Mark, Kansas City.
126 What Shall We Do With Patients With Advanced Uterine Cancer? F. Hinchey, St. Louis.
127 Prevention of Blindness. J. Green, St. Louis.

122. Published in THE JOURNAL, July 2, 1910, p. 12.

124. Immediate Closure After Cystotomy.—Instead of immediate, complete closure of the suprapubic wound being a curiosity, Burford holds that it should be the routine procedure in the majority of cases. Constant drainage of the bladder preventing distention and sudden tenesmus, is a necessity if integrity of a freshly sutured vesical wall is to be maintained. Instead of the perineal or suprapubic drain, the method under discussion involves the use of the natural channel of the urethra for a large caliber drainage tube. The character of cases in which this is indicated is as follows: (1) Following removal of all benign and many malignant growths of the bladder when hemorrhage is not great; (2) following all cases of suprapubic cystotomy for retrograde catheterization of impassable stricture of urethra; (3) following many cases of suprapubic lithotomy; (4) following many cases of suprapubic prostatectomy in which the cystitis is not too severe.

Ohio State Medical Journal Columbus

December

128 Etiology, Results and Treatment of Movable Kidney. R. E Skeel, Cleveland.
129 The Movable Kidney from a Medical Standpoint. M. J. Lichty, Cleveland.
130 The Movable Kidney from the Standpoint of the Genito-Urinary Surgeon. E. O. Smith, Cincinnati.
131 Hyoscin Hydrobromid as an Adjunct to Cocain Anesthesia, and as a Preventive to Cocain Poisoning. M. Metzenbaum, Cleveland.
132 Social and Economic Value of Efficiency in Medicine. F. P. Lewis, Buffalo, N. Y.
133 Medical Inspection of Schools. J. H. McHenry, Cleveland.
134 Malingering and Its Detection. E. E. Gaver, Columbus.
135 Tetany of Children. D. S. Hanson, Cleveland.

Bulletin of the Johns Hopkins Hospital, Baltimore

December

136 *Electrocardiography and Phonocardiography. L. F. Barker, Baltimore.

136. Electrocardiography and Phonocardiography.—This is a collective review of the work done and of the instruments used in the study of the differences in electric potential which occur in different parts of the heart-muscle preceding and during their activity.

Journal of the Tennessee State Medical Association, Nashville

December

137 Treatment of Syphilis by Salvarsan. W. Litterer, Nashville.
138 Report of 503 Cases Treated with Salvarsan. W. Wechselmann, Berlin, Germany.
139 Report of 109 Cases of Syphilis Treated with Salvarsan. A. Glueck, Sarajevo, Bosnia.
140 Subphrenic Abscess. A. B. Cooke, Nashville.
141 Pathologic Report. W. Litterer, Nashville.
142 A Case of Subphrenic Abscess. J. J. Waller, Oliver Springs.
143 Plea for a Higher Standard of Medical Education. A. McCoy, Jackson.

Journal of the Kansas Medical Society, Kansas City

December

144 *Necrobacillosis of the Skin. C. M. Stemen, Kansas City.
145 Bacteriology of *Bacillus Necrophorus*. F. W. Shaw, Kansas City.
146 Appendicitis. C. R. Lytle, Durham.
147 Etiology and Treatment of Ulcerations of the Cornea. W. H. Graves, Pittsburg.
148 Cleft Palate. G. W. Jones, Lawrence.
149 The New Profession. H. B. Caffey, Pittsburg.

144. **Necrobacillosis of the Skin.**—The case cited by Stemen was caused by the *Bacillus necrophorus*, the condition being identical with one found on the lip and legs of the sheep. The ulceration in this case was on the back of the hand and was about 2½ inches broad by 2 inches in length, and raised at its highest about ¾ of an inch. The sore consisted of blebs, each one, seemingly, having its own peculiar appearance, some gray and some a bluish red. The inflammation extended to the shoulder. The entire arm was rubbed thoroughly twice daily with unguentum Credé. The ulceration proper was treated with the bichlorid pack and a 20 per cent. solution of ichthyol applied to the parts adjacent to the ulceration. The constitutional treatment consisted of 20 grains of iodid of potassium 3 times daily, with 1 teaspoonful of salts morning and night. The man made an uninterrupted recovery and in three weeks the wound had entirely healed.

Colorado Medicine, Denver

December

150 A Fatal Case of Lupus Erythematosus. C. B. Van Zant, Denver.
151 The Dwarf Tapeworm in American Children. J. W. Amesse, Denver.
152 Transmission of Contagious Diseases. M. Kleiner, Denver.
153 A Dietary Study in the National Swedish Sanatorium, Englewood, Colo. C. D. Spivak, Denver.
154 Retropharyngeal Abscess. W. C. Bane, Denver.

Iowa Medical Journal, Des Moines

December

155 *Diagnosis of Pancreatic Diseases. D. C. Brockman, Ottumwa.
156 Postoperative Treatment of Laparotomy. J. L. Augustine, Ladora.
157 Treatment of Diffuse Septic Peritonitis. V. Knott, Sioux City.
158 Milk Examination. S. R. Klein, New York.
159 Surgical Procedure in Contracted Pelvis. H. G. Welpton, Des Moines.
160 A National Department of Public Health Necessary for Prevention and Control of Tuberculosis and Other Communicable Diseases. G. A. Smith, Clinton.

155. **Diagnosis of Pancreatic Diseases.**—Brockman urges an examination of the pancreas in every examination for pathology in the upper abdomen, in cases in which the biliary apparatus is diseased, in cases of rapid emaciation without evident cause, in every case of diabetes in the adult, in all cases of profound abdominal disease accompanied by ileus, collapse, vomiting and pain in upper abdomen, in all cases of painless jaundice with enlarged gall-bladder and loss of weight which will prove to be either chronic sclerosing of the head of the pancreas, due to chronic inflammation, or cancer of the head of the organ.

Journal of the Medical Society of New Jersey, Orange

December

161 *Relation and Attitude of the Pubic To and the Obligation of the Physician in the Development of Communicable Diseases. P. Marvel, Atlantic City.
162 Adenoids and Their Influence on the Mental Condition of the Patient. J. Koppel, Jersey City.
163 *Sulph-hemoglobinemia. T. W. Clarke, New York, and R. M. Curtis, Paterson, N. J.
164 Our Present Knowledge of Anterior Poliomyelitis. P. Boysen, Riverton.

161. Abstracted in THE JOURNAL, Aug. 6, 1910, p. 527.

163. Also published in the *Medical Record*, Dec. 3, 1910; abstracted in THE JOURNAL, Dec. 17, 1910, p. 2181.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

December 15

165 Cystitis and Pylecystitis in Infants and Young Children. W. R. Ramsey, St. Paul.
166 Teaching of Hygiene in the Grades. F. E. Lurton, Anoka.
167 Malignant Endocarditis with Recovery. H. L. Staples, Minneapolis.

West Virginia Medical Journal, Wheeling

December

168 Victories to Be Achieved and Problems to Be Solved by Medicine. W. H. Sharp, Parkersburg.
169 The West Virginia Physician and Tuberculosis. C. A. McQueen, Charleston.
170 Management of Normal Labor. H. W. Daniels, Elkins.
171 Preservation and Repair of the Perineum. W. A. McMillan, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 26

1 *Use of Elastic Traction and Elastic Pressure in Surgery. G. A. Wright.
2 High Blood-Pressure in Arteriosclerosis. R. D. Rudolf.
3 *Reaction of the Heart to Digitalis When the Auricle is Fibrillating. T. Lewis.
4 *Variations of the Fermentation Properties of *B. Typhosus*. W. J. Penfold.
5 Diaphragmatic Hernia in an Adult. E. Ringrose.
6 Diagnosis and Treatment of Infective Labyrinthitis. R. Bárány, S. Scott and C. E. West.
7 Connection Between Irritation of the Mucous Membranes Throughout the Body and Middle-Ear Catarrh. M. Hovell.
8 *Practicability of Treating Meningitis by Lavage of the Cerebrospinal Subarachnoid Spaces. J. S. Barr.
9 Ossiculectomy in Chronic Suppurative Otitis Media. M. Yearsley.
10 Deafness and Disease of the Ear in Relation to the Public Services and Insurance. J. Horne.
11 Aural Tuberculosis in Children. W. Milligan.
12 Congenital Atresia of the Choanæ. J. S. Fraser.
13 Headaches in Association with Obstruction in the Nasal Passages. L. H. Pegler.
14 Tuberculin in Laryngeal Tuberculosis. W. C. Wilkinson.
15 Vasomotor Rhinitis. H. S. Birkett, E. B. Waggett and A. Francis.
16 Cancer of the Throat. R. H. S. Spicer.

December 3

17 Prophylaxis in Obstetrics. A. W. Russell.
18 Treatment of Hypertension Based on Consideration of the Cause. H. B. Shaw.
19 *Estimation of Blood-Pressure by the Sphygmo-Oscillometer. K. Eckenstein.
20 Control of Venereal Diseases at Their Source in Civil Communities. H. C. French.
21 Combined Use of Spinal and General Anesthesia. A. E. Johnson.
22 Thyroid Extract in Rheumatoid Arthritis. H. Wilson.
23 A Case of Intestinal Reflex. E. S. Stevenson.
24 Proof of the Endemic Origin of Yellow Fever in West Africa. R. W. Boyce.
25 Fatal Trichocephaliasis in a Child. J. G. S. Jamieson and J. M. Lauder.

1. **Elastic Traction.**—The use of rubber as an orthopedic agent is discussed by Wright. In cases of flexion of joints, when no actual ankylosis is present, but immediate straightening by force is undesirable, he thinks no more valuable means of rectification exists than elastic tension. First, rubber has the advantage over steel springs in that its tension can be employed through a much wider range, and the strength of the tension is capable of more ready adjustment. It is much easier to apply slighter degrees of traction or pressure, much easier to arrange for the exact line of traction required, and, in addition, any apparatus needed may be readily and cheaply improvised. The appliances are exceedingly cheap, easily managed, and easily replaced. A little ingenuity and some rubber cord is the stock-in-trade, though patience and care are, of course, also necessary, as living tissue cannot be dealt with quite as if it were a question of cabinetmaking or upholstering. Pressure sores are a possible result of mismanagement or neglect, and are easier to make than repair.

For flexed joints that require straightening, all that is necessary in many cases is the application of a straight splint across the angle of flexion, secured to the limb above and below the joint, but not so tightly as to prevent the lower segment from slipping through the bandages as the limb straightens. These bandages may be of any material, but it is better to use flannel or some slightly elastic material for the distal segment of the limb. The joint is left bare at this stage. Next an elastic bandage is carried over the joint and round the splint so as to exert the desired pressure in the required direction. The angle of flexion should be measured before and at short intervals during the treatment. A daily removal of the elastic is necessary at first to make sure that there is no excessive pressure. Exactly similar appliances may be used to prevent or to correct cicatricial contractions in suitable cases. It is a good plan to substitute elastic traction applied to the lower segment of the limb, either as a temporary substitute or an alternative to the elastic pressure, if, for any reason, direct pressure over the joint is inadvisable. A good example of the use of elastic traction is seen in Bryant's double splint. In fracture of the patella, elastic traction may be used to approximate the fragments by steadying the lower one and drawing the upper downward toward

it. In rachitic deformities the use of elastic pressure finds a very wide application. For curvatures of the shafts of the bones of the leg a straight splint applied on the concave side with elastic pressure over the convexity of the curve will straighten a large proportion of these curved limbs. Of course, the more rapidly the deformity is increasing the more likely is the use of elastic pressure to succeed.

For the anterior curve of the tibia the tension of the calf muscles makes the use of elastic pressure more tedious, and in some instances nothing but cuneiform osteotomy or a splice section will succeed. For genu valgum in slight cases an outside splint applied on similar lines is efficient, but in severe cases there is great difficulty in maintaining steady pressure by reason of the tendency of the limb to rotate outward, and so take off the tension. In the great group of deformities classed as flat-foot and talipes, there is ample scope for the use of elastic traction. For paralytic conditions the elastic traction is a most useful adjunct to, or, in some circumstances, substitute for tendon grafting.

3. **Reaction of the Heart to Digitalis.**—Lewis suggests that the ventricular rate is retarded in clinical auricular fibrillation by the action of digitalis on the junctional tissues, the functions of which are already in a depressed state.

4. **Fermentation Properties of Bacteria.**—Penfold pleads for the value of the fermentation tests in elucidating the laws of bacterial variation. They are easily applied, and if once understood, he thinks, would probably explain many of the most difficult problems in connection with virulence and other properties of microorganisms.

8. **Treatment of Meningitis.**—The experiments carried out by Barr were made on the body of a child, which had died of epidemic cerebrospinal meningitis. Lumbar puncture was performed, and the hollow needle left *in situ*. A small quantity of turbid fluid escaped but soon ceased to flow. Through a trephine opening in the skull, made above and behind the left ear, a cannular trocar was introduced into the lateral ventricle, and, on removing the trocar, a small quantity of turbid fluid escaped through the cannula. By means of a rubber tube attachment and a glass funnel, held 2 in. above the head, water tinted with carbol fuchsin was allowed to flow into the ventricle. Almost immediately turbid fluid began again to drop from the needle in the lumbar region, and in less than a minute the escaping fluid was found to have a reddish tinge; it continued to flow as long as the fluid entered the lateral ventricle. The higher the elevation of the glass filler the faster became the flow of stained fluid from the needle, and the flow was allowed to continue for over a quarter of an hour. The brain was then removed and carefully examined, when the course of the fluid introduced into the ventricle could easily be traced by the red coloration into the fourth ventricle via the foramen of Monro, third ventricle and aqueduct of Sylvius. From the fourth ventricle the fluid found exit into the subarachnoid space (cerebello-medullary cistern) through the foramen of Magendie, and possibly also through the two lateral apertures. It stained the entire cerebello-medullary cistern, passed forward into the interpeduncular cistern, upward along the Sylvian fissures over the anterior ends of the temporosphenoidal lobes, and even along the vaginal sheaths of the optic nerves. The course of the colored fluid could also be traced downward along the spinal subarachnoid space.

The same experiment was repeated on several other fresh subjects with similar results. This at least established the fact that fluid may pass uninterruptedly from the ventricular system into the basal and spinal subarachnoid spaces. A case (a boy 13 years of age) of advanced purulent leptomeningitis, secondary to a chronic purulent ear affection, came under Barr's care. The symptoms were typical of the worst form of the disease, and lumbar puncture verified the diagnosis, the fluid withdrawn being turbid, containing streptococci in chains, as well as pus cells. The radical mastoid operation, including the opening of the dura mater and the employment of such therapeutic measures as hexamethylenamin, 10 grains 4 times daily, repeated lumbar puncture, and several subcutaneous injections of antistreptococcus serum, led to no improvement in the condition, and, two and a half days after the admission to the hospital, the patient was obviously moribund. He was in a state of coma, the temperature was over 103 F., pulse 130 a minute and feeble, and the breathing markedly Cheyne-Stokes in type. It was considered justifiable to operate in the same way as Barr had done in the cadaver. By means of a glass funnel attachment, sterilized saline solution, at a temperature of 100 F., was allowed to flow into the lateral ventricle. In a few seconds turbid fluid began to drop from the lumbar cannula. This was carried on for quite an hour, and at the end of that time more than half a pint of turbid flaky fluid had been collected in a glass. As a final step, 10 c.cm. of antistreptococcus serum were introduced into the lateral ventricle through the rubber tube. The cannula in the lumbar region was then removed, but the rubber tube, fixed by means of sutures, was left in the lateral ventricle. The patient bore this prolonged operation well, and for an hour or two there was a slight general improvement, but no return to consciousness; this slight improvement soon passed off, and death ensued fourteen hours after the completion of the operation. A postmortem examination confirmed the diagnosis of widely diffused basal leptomeningitis, characterized by the large amount of exudate filling the basal subarachnoid cisterns. There was no other intracranial lesion.

19. **Estimation of Blood-Pressure.**—The sphygmo-oscillometer, described by Eckenstein, is the instrument which was devised by Dr. V. Pachon, Chef du Laboratoire de Physiologie in the Faculty of Medicine of Paris, for the clinical estimation of blood-pressure, and the study of the variations which occur in the cardiac cycle as manifested by the pulse-wave. It consists of a rigid and air-tight metallic box, which contains an aneroid chamber. At the beginning of an experiment the box, the aneroid chamber and the armlet are in direct communication with one another. One great advantage of this instrument is said to be the absence of the personal equation. Those who have worked with instruments of the Riva-Rocci type must have been struck with the difficulty that is sometimes experienced in determining the exact moment at which the registering finger can no longer distinguish the pulse. This difficulty may be made still more marked if two observers perform the experiment, one of whom is engaged in watching the sphygmomanometer, while the other is occupied solely with feeling the pulse. With the oscillometer there is no such difficulty, as the disappearance or the reappearance of the pulse is indicated by the needle. The oscillometer should be used exactly as a Riva-Rocci instrument—that is to say, the armlet should be applied over the brachial artery and the finger on the radial pulse.

Lancet, London

November 26

26 *Thrombotic Softening of the Spinal Cord a Case of So-Called Acute Myelitis. H. C. Bastian.
27 Diseases of Elephants' Tusks in Relation to Billiard Balls. J. Bland-Sutton.
28 Diffuse Lipoma. J. Hutchinson.
29 Infection in Phthisis. L. Cobbett.
30 Salvarsan ("606"). E. Emery.

December 3

31 Treatment and Prognosis of Exophthalmic Goiter. W. H. White.
32 Recurring Arterial Hypertonus in Granular Kidney and in Migraine. W. Russell.
33 Diagnosis and Treatment of Cystic Disease of the Breast. D. Power.
34 *Heart Strain and Dilatation. J. F. Goodhart.
35 Motor Functions of the Stomach. H. M. W. Gray.
36 Intramedullary Lesion of the Spinal Cord. A. Bernstein.
37 *Intestinal Obstruction Caused by an Enterolith Spontaneously Cured by Evacuation Through an Umbilical Fistula. D. M. Greig.
38 Outbreak of Illness Due to Canned Meat in the City of Carlisle. J. Beard.

26. **Thrombotic Softening of the Spinal Cord.**—Bastian holds that the evidence seems to be altogether overwhelming that in the great majority of cases of so-called "acute myelitis." and also of "acute poliomyelitis," the affection is caused not by an inflammation, but by the thrombosis of some of the vessels of the spinal cord (when, in the latter disease, it is not due to a special acute degenerative process). This latter conclusion, he believes, is rendered obvious: (1) by the similarity of the morbid changes in question to those occurring in the brain which are due to thrombosis, as well as to the absence of any reason why a primary inflammation should

be rare in the brain and common in the spinal cord; (2) these strictly logical reasons are strongly reinforced by the fact of the existence of special conditions favoring the occurrence of thrombosis in the vessels of the spinal cord, and in just such parts of the cord as are most frequently affected; (3) by the fact that the disease is most commonly met in just such persons and under just such conditions (as to heart's action, blood-vessels and quality of blood) as are known to be favorable to the occurrence of thrombosis; (4) by the fact that the mode of onset and the early symptomatology of the affection are wholly different from what they would be, had an inflammation of the cord actually existed; and (5) by the fact of the absence of any reasonable cause of inflammation, certainly in the majority of those in whom the malady makes its appearance.

34. **Heart Strain and Dilatation.**—True heart strain, by which Goodhart understands a state of muscle that, if not dealt with by retreat from all active exercise for long periods, leads to dilatation of the heart, is a rare condition. Dilatation of the heart, in the beginning, is evidently not easy to determine with certainty, for it may share signs and symptoms in common with many emotional and other nerve disturbances of which the heart is a past-master of expression. Cases of doubt are common, and they call for circumspection as regards their management.

37. **Intestinal Obstruction.**—A boy, of imperfect health, a sufferer from alternating constipation and diarrhea, had a pointing abscess at the umbilicus which was protruding, inflamed and fluctuating. The abscess burst and discharged offensive pus, which necessitated frequent dressing, but the boy did not seem to make progress. After five days of vomiting and pain, a drainage tube was inserted. This was followed by a diminution of the discharge, but it was noticed that there was some fecal matter mixed with the pus. The slight improvement was maintained for a few days. The sinus was enlarged by dressing forceps, and an attempt was made to provide more efficient drainage. This was successful to some extent. While the wound was being dressed, a rounded calculus-like mass presented in the sinus and was easily removed, its escape being accompanied and followed by an unusually large quantity of pus. From that moment the wound healed rapidly and the boy's condition materially improved, and he was discharged healed and looking well and stout ten days later. His general improvement was as striking and remarkable as the improvement in the local condition. The structure which was discharged proved on examination to be an enterolith. It was globular, measured 2½ inches in circumference, was rather larger than an ordinary marble, being smooth for the most part but not polished, and when dried its most striking feature was its lightness. It weighed 24 grains, and, indeed was considerably lighter than a pith ball of equal size. Where the enterolith lay in this case it was impossible to say. The sinus led from the umbilicus backward into the right loin, but the obstruction must have been in the small intestine, for a foreign body of its size could not cause obstruction in the large bowel.

Medical Press and Circular, London

November 9

39 Medical Treatment of Ulcer of the Stomach and Duodenum. F. J. Smith.
40 Local Tenderness on Pressure in Tuberculosis. C. Sabourin.
41 Occurrence of Headache and Pain in Nasal Conditions. J. W Wood.

November 16

42 Vision. W. R. MacDermott.
43 Pathogenesis and Treatment of Anuria. C. Achard.
44 Infection of the Urinary Tract with *B. Coli*. J. R. Charles.

Clinical Journal, London

November 9

45 Arthritis: Its Varieties and Treatment. W. Murrell.
46 Enlarged Tonsils and Adenoids. G. F. Still.
47 Endo-Aneurysmorrhaphy. W. Sheen.

November 16

48 Syphilitic Headaches. G. Pernet.
49 Treatment of Central Osteitis by Metal Drains. C. J. Symonds.

Indian Medical Gazette, Calcutta

November

50 A New Method of Making Permanent Preparations of Mosquitoes. C. A. Bentley and J. Taylor.
51 Value of Adrenalin and Pituitrin in Treatment of Cholera. H. E. Drake-Brockman.
52 Persistent Hiccough as a Sequela of Choleraic Diarrhea. W. D. Keyworth.
53 Diagnosis and Treatment of Intrapelvic Extra-Uterine Tumors. K. Platt.
54 Strangulated Hernia. F. P. Connor.
55 Three Unusual Cases of Hemoglobinuric Fever. C. Roper.
56 *An Unusual Complication of Labor. D. Munro.
57 Two Cases of Snake Poisoning. Recovery. F. C. Fraser.
58 Fatal Case of Snake-Bite by *Echis Carinata*. C. H. Reinhold.
59 A Case of Poisoning by Eucalyptus Oil. G. G. Jolly.

56. **An Unusual Complication of Labor.**—In the case reported by Munro, a cystic tumor about twice the size of a fetal head was attached between the legs of the fetus. The base of attachment corresponded to what should have been the perineum and to the coccyx and sacrum. The tumor was covered by ordinary skin continuous with that over the abdomen and buttocks of the fetus. No anal opening could be discovered in the fetus. Its pelvic cavity communicated directly with the cavity of the tumor. In front of the base of attachment of the tumor was a rudimentary vulva with a small blind urethra. There were several daughter-cysts in the walls internally and running around the internal walls were loops of the intestine. Of these loops some were rudimentary and blind. They were attached to the inner wall of the cyst by mesentery. The rectum of the fetus was in this way continuous with a blind loop in the wall. The spinal column of the fetus did not end at the coccyx but was continued on into a bony mass which seemed like a rudimentary pelvis. From this mass five stunted twisted legs had projected forming a star-shaped figure. Of these one foot had eight toes, one six toes, one three toes and one one toe. They were not all of the same size and were at different stages of development and perfection. Two of them were very rudimentary, containing some rudimentary bone, but joined on to the central mass by skin and fibrous tissue. Another was only joined on by skin and fibrous tissue. Two of the legs had articulations with the rudimentary pelvis, and did not hang loose like the others. Munro dissected out from one a fairly well-formed tibia with ossified shaft and upper and lower cartilaginous epiphyses.

Archives Générales de Chirurgie, Paris

September, VI, No. 9, pp. 881-990

60 Plastic Operation After Severe Burns of the Face. (Cicatrices vicieuses de la face.) L. Desgouttes and L. T. Tavernier.
61 Hemophilic Iliac Hematoma. G. Houzel.
62 *Traumatic Asphyxia. (Le masque ecchymotique de la face par compression thoracique.) P. Mauclaire and R. Burnier.

October, No. 10, pp. 991-1100

63 *Operability of Cancer of the Rectum. A. Chalier.
64 *Automobile Fracture of the Radius. (Fractures radio-epiphysaires.) P. Caccia.
65 *Continent Gastrostomy. (Gastrostomie par dédoublement du muscle droit suivant son épaisseur.) F. Lofaro.

62. **Traumatic Asphyxia.**—Mauclaire and Burnier report two cases of stasis cyanosis from trauma compressing the upper part of the trunk, and summarize sixty-six other cases from the literature. Treatment should be that for asphyxia in general, supplemented by stimulants, heat and friction.

63. **Operability of Cancer of the Rectum.**—Chalier found nearly 60 per cent. operable in his own experience with forty-seven cases, but the percentage in sixteen other clinics, which he cites, ranged from 19 to nearly 81 per cent. He found the ampulla distended with gas without admixture of feces in two cases; this is what is known as Hochenegg's sign of rectal cancer. The patient should be examined both erect and reclining, and anesthesia is frequently necessary to determine the question of operability. Even with this, he adds, metastasis in the liver is liable to escape detection. Exploratory laparotomy in the left side is the best of all means, he says, to determine the actual condition with rectal cancer in men, and vaginal laparotomy in women. He regards involvement of the bladder or urethra as contra-indicating removal; adhesion to the uterus or adnexa is not a contra-indication. In three of his cases a mammary or gastric cancer had been previously removed, and in another case a cancer in the anus or one in the sigmoid flexure was removed at the same time, and the patients survived from seven months to two years.

64. **Automobile Fracture of the Radius.**—Caccia reports five cases from Rome and describes the mechanism of the fracture and treatment, advising immobilization in abduction and slight supination when the fracture was the result of pres-

sure and flexion. But if it is due to torsion, immobilization in slight adduction is indicated, the hand slightly flexed and adducted, the arm between supination and pronation. During the immobilization the fingers should be exercised to maintain muscle functioning and after a week the cast should be removed for massage every day, and be discarded by the end of three weeks.

65. **Continent Gastrostomy.**—Lofaro separates the layers of the rectus muscle or bores through it horizontally and draws a cone of the wall tissue of the stomach through the passage thus made in the thickness of the muscle, bringing the cone of stomach wall finally out through the skin where it is sutured to make an opening into the stomach. The muscle fibers around, above and behind it insure a sphincter-like closure of the opening. The outcome was excellent in the eight dogs on which the operation has been performed.

Lyon Médical, Lyons

November 20, CXV, No. 47, 845-884

66 No Appreciable Influence from Simple Hyperthermia and Febrile Infection on Glycemia. R. Lépine and Baulud.
67 Functions of the Thymus. E. Weill.

Bulletin de l'Académie de Médecine, Paris

November 15, LXXIV, No. 36, pp. 261-338

68 *Comparative Value of Organic Arsenic and Mercury in Syphilis. E. Gaucher.
69 *Malta Fever. F. Widal.

68. Summarized in Paris Letter, Dec. 10, 1910, page 2074.

69. **Contagiousness of Malta Fever.**—On Widal's motion the Académie adopted a resolution advocating compulsory notification of cases of Malta fever, after he had discussed several small epidemics of the disease that have occurred in France recently. In most cases infection could be traced to goat's milk, but not always. Even mere contact with the infected goats or with their blood may transmit the disease. Laboratory infection seems to occur more readily with Malta fever than with glanders or plague, and he reported a case in a worker in his own laboratory, who developed a typical case of Malta fever after working on some cultures of the Malta micrococcus. No other source for his infection could be discovered; his habit of laying temporarily his cigarette on his work table probably afforded the opportunity for contagion.

Presse Médicale, Paris

November 16, XVIII, No. 92, pp. 857-864

70 Intoxications. H. Roger.

November 19, No. 93, pp. 865-880

71 *Experiences with Lime in Treatment of Pulmonary Tuberculosis. (Recalcification—méthode de Ferrier—dans la tuberculose pulmonaire.) E. Sergent.
72 Wisdom-Tooth Disturbances. (Péricoronarite dentaire.) P. Fargin-Fayolle.

November 23, No. 94, pp. 881-888

73 Operative Treatment of Hemorrhoids. P. Reclus.

November 26, No. 95, pp. 889-896

74 *Serous Meningitis and Anaphylaxis After Spinal Serotherapy. J. A. Sicard.

71. **Lime in Treatment of Tuberculosis.**—Sergent has been treating pulmonary tuberculosis in the last six years according to Ferrier's recalcification method. This aims to resupply the lime, the loss of which, he believes, prepares the soil for tuberculosis and promotes its development. Sergent here gives the theoretical bases and reviews the results of treatment along this line, regarding it as the best method of treating tuberculosis at our disposal. The aim is to prevent undue loss of lime and to induce recalcification in the decalcified organism. He has applied it in 1,574 cases and states that 306 patients have been under practically constant observation for from six months to five years. General improvement was marked in 96 per cent.; general and local in 40 per cent.; 14 per cent. were apparently cured, while in 14 per cent. the disease continued its course unmodified. Ferrier assumes that the principal cause of the loss of lime is acid fermentation in the digestive tract, which must be prevented, and combated while the lime salts are to be given in substance and in mineral waters.

74. **Serous Meningitis After Intraspinal Serotherapy.**—Sicard calls attention to the meningitis liable to follow intraspinal injection of any substance, but especially of antimeningococcus serum. He applied this serotherapy in certain nervous and mental diseases, epilepsy or psychoses, hoping to modify the permeability of the meninges, and was surprised at the lively reaction that followed even small injections, the temperature rising several degrees, with headache, nausea, a suggestion of Kernig's sign and pains in the legs, all appearing two or three hours after the injection, most intense by the fifth or sixth hour and then gradually subsiding. The spinal fluid was turbid or opalescent, with polynucleosis gradually yielding to lymphocytosis. This reaction to the serum was observed both with normal and with chronically diseased meninges. With acute meningitis the infectious symptoms masked those due to the serum reaction, which explains why the latter has not been recognized before. This reaction has nothing to do with anaphylaxis as it occurs with the first injection. In one case this reaction following the serum injection in meningitis in a young man was assumed to be a flaring up of the infectious process, but the sterility of the cerebrospinal fluid convinced Sicard that it was merely this serum reaction, and the rapid recovery confirmed his assumption. In another case the laboratory findings in the cerebrospinal fluid were negative in a case suspicious of meningitis. The fluid the next day was opalescent and the diagnosis was supposed to have been erroneous until it was learned that in the interim an intraspinal injection of serum had been made. The change in the fluid was merely a serous reaction and the rapid recovery showed that a tonsillitis was responsible for the disturbances.

Revue de Gynécologie, Paris

October, XV, No. 4, pp. 305-400

75 Large Subperitoneal Myxoma of Broad Ligament. H. Brin.
76 *Vagino-Sacral Hysterectomy. (Hystérectomie vaginale à ciel ouvert.) Chaput.
77 *Inflammation of Gastric Cellular Tissue. (Linite plastique.) P. Reymer and P. Masson.
78 Contusions and Traumatic Ruptures of the Duodenum. H. M. Guibé.

November, No. 5, pp. 401-512

79 Double Uterus. Anatomy and Development. G. Piquand.
80 Advantages of Billroth I. Technic for Anastomosis After Pylorectomy. (La suture duodéno-gastrique terminale après pylorectomie.) M. L. Chevrier.

76. **Vagino-Sacral Hysterectomy.**—Chaput asserts that the technic illustrated has the advantages of both the abdominal and vaginal routes; it gives ample access, exposing the parts fully to view, while it is an unusually benign operation and leaves no scar on the abdomen. It is particularly useful for rather inaccessible vesico-vaginal fistulas as well as for operations on the internal genitals. The incision starts from near the right posterior superior spine of the ilium, follows the right margin of the sacrum, passes half way between the anus and the ischium and ends in the center of the right labium. The parts are incised down to the vagina and peritoneum inclusive. The vagina is thus opened through the labium up into the posterior cul-de-sac, a little to the right of the median line. His illustrations show the ample access thus provided and also the practically invisible scar left between the buttocks.

77. **Plastic Linitis.**—There were signs of cancer in the two cases reported by Reymer and Masson, and they say that study of the gastric chemistry in cases of so-called plastic linitis would probably reveal unsuspected malignant disease in many if not in all cases.

Semaine Médicale, Paris

November 30, XXX, No. 48, pp. 565-576

81 *Idiopathic Congenital Dilatation of the Rectum. (Megarectum.) L. Bard.

81. **Idiopathic Dilatation of the Rectum.**—In Bard's case the patient was a farmer of 48, whose rectum was dilated to fill two-thirds of the abdomen, pushing up the diaphragm to the third interspace on the right and to the sixth on the left. The rectum was packed with feces, over 5 pounds being removed, besides a mass nearly 3½ inches in diameter packed in the small pelvis. The man died under choleriform symptoms after a dose of castor-oil. The remarkable feature of the case was that the man had never known anything was

wrong in the abdomen; there had never been any symptoms of obstruction or digestive disturbances. The rectum was the only part of the intestine involved. Cough, dyspnea and a tendency to ascites were the only symptoms complained of and the interference with the movements of the diaphragm was probably responsible for them. He was a large eater with stool only about every second day. Bard explains the dilatation in this case as due to a congenital lack of strength and resistance in the walls of the rectum.

Archiv für Gynaekologie, Berlin

XCI, No. 3, pp. 479-761. Last indexed December 17, p. 2187

82 Relations Between Conception and Menstruation and Embedding of the Ovum. S. Gottschalk.
83 Atresia of Follicles in Child Ovaries. W. Benthin.
84 Histogenesis of Corpus Luteum and Products of Retrogression. K. Hegar.
85 *The Wertheim-Schauta Operation for Genital Prolapse. W. Stoeckel.
86 Lecithin Bouillon for Differentiation of Hemolytic Streptococci. A. Hamm and P. Jacquin.
87 Epithelium Development in Vaginal Portion of Uterus. R. Meyer.
88 Erosions and Pseudo-Erosions of Vaginal Portion of Uterus, Congenital and in Adults. R. Meyer.
89 Abdominal Operations for Uterine Carcinoma. K. Franz and A. Zinsser.
90 Lymphangiectasia with Uterine Myoma. R. Todyo.
91 Simulated Superfetation. E. E. Franco.
92 *New Experimental Research on Function of Corpus Luteum. L. Fraenkel.

85. **The Wertheim-Schauta Prolapse Operation.**—Stoeckel has performed this operation in forty cases and discusses several points which he regards as important for the technic. The bladder should be entirely mobilized and the uterus interposed so that it holds the entire bladder evenly on its back. If the uterus shows too strong a tendency to straighten up again there is less chance for its serving the purpose. Unless the uterus can be brought down without force as far as the urethra, he does not attempt to apply this technic. In one case it was a mere accident that he discovered an incipient carcinoma in the corpus as he was about to perform this operation. The patient had no signs of malignant disease and he wavered between the Schauta technic and hysterectomy, finally deciding on the latter. To his amazement he found a flat carcinomatous ulcer in the fundus; since then he has never utilized the uterus in a prolapse operation unless absolutely convinced of the soundness of its interior. For this purpose he curettes a day or so before the contemplated Schauta operation examining the scrapings under the microscope, and before suturing the uterus to support the bladder, he slits the anterior wall and inspects the interior, then curettes, applies the actual cautery to destroy the mucosa throughout, so as to ward off any possible trouble later by obliterating the cavity of the uterus, especially the opening into the tubes. One of his patients succumbed to pulmonary embolism, ten days after the operation, as she was allowed to get up. There was moderate myocarditis in this case; the operation had required only thirty-five minutes, under chloroform, and convalescence had been afebrile. A tendency to slight incontinence in two cases was evidently due to fastening the uterus too high.

92. **Function of the Corpus Luteum.**—Further experiences during the last seven years with 277 new experiments have only confirmed Fraenkel's statements in 1903 based on 120 experiments. All apparently sustain the assumption that the corpus luteum is a gland with an internal secretion, and that this is responsible for the changes and processes which induce the settling down of the ovum in the uterus and control the first few weeks of embryonal life. In the 112 rabbits whose corpus luteum was entirely removed before the fifteenth day after coitus, the pregnancy was completely arrested, while it progressed unmodified in over 50 per cent. of the fifty-three cases in which only part had been removed.

Beiträge zur klinischen Chirurgie, Tübingen

LXX, No. 1, pp. 1-391. O. von Angerer Festschrift

93 Parabiosis by Direct Union of Vessels. E. Enderlen, G. Hotz and H. Flörcken.
94 *Persisting Thymus with Exophthalmic Goiter. H. Gebele.
95 Free Osteoplastics. W. Lobenhoffer.
96 *Expulsion of Foreign Bodies. (Fremdkörper im Organismus.) H. v. Baeyer.
97 Surgical Impressions in America. F. Ebermayer.
98 General Treatment Before and After Operations. E. Leonpacher.
99 Intoxication from Dermatol. L. Dorn.
100 Roentgen-Ray Inspection in Sun-Lighted Room. (Röntgenoskopische Operationen im taghellen Raum.) R. Grashey.
101 Traumatic Retroflexed Coxa Vara. R. Grashey.
102 Injuries of the First Metacarpophalangeal Joint. R. Grashey.
103 Transverse Fracture of the Upper Jaw. (Zur Quérin'schen Transversalfraktur des Oberkiefers.) J. Duschl.
104 Ultimate Outcome of Traumatic Dislocation of the Shoulder. K. Lexer.
105 Brachydactylia. F. Klaussner.
106 Treatment of Injuries of the Lungs. v. Bomhard.
107 Primary Operative Treatment of Gunshot Wounds of the Lungs. R. Seggel.
108 *Operative Treatment of Gastric Ulcer. (Zur chirurgischen Behandlung des Magengeschwüres.) A. Schmitt.
109 Splenectomy After Rupture of Spleen and in Malarial Fever. Papaioannou.
110 Hysteric Ileus. R. Dax.
111 Treatment of Diffuse Suppurative Peritonitis. Lunckenbein.
112 Emptying the Stomach in Operating on This Organ. (Mechanismus der Magenentleerung bei Magenoperierten.) C. Maunz.
113 Intrahernial Torsion of the Omentum. (Netztorsion.) A. Schönwerth.
114 *Plastic Closure of Opening in Femoral Hernia. (Neue Art eines plastischen Bruchpfortenverschlusses bei Cruralhernien.) A. Ach.
115 Retrograde Esophagoscopy with Stenosis. (Oesophagusstenosen und ihre Behandlung.) A. Ach.

94. **Persisting Thymus with Exophthalmic Goiter.**—Gebele states that seven died, being 19 per cent. of thirty-six patients with exophthalmic goiter operated on at the Munich surgical clinic. Necropsy was possible in five of the seven fatal cases and a large thymus was found in four out of the five. In six other patients with exophthalmic goiter no operation was attempted. These experiences led to considerable experimental research to determine the influence of removal of the thymus in dogs, implantation of thymus and thyroid tissue, and other experiments on these glands. The conclusions drawn from this research are that the thymus hypertrophies as a natural compensating process to do the work which the diseased thyroid is unable to accomplish; that is, there is a vicarious enlargement of the thymus. The death of persons with exophthalmic goiter and abnormally large thymus has nothing to do with the "persisting" thymus, but must be ascribed to the injury of the heart from the toxic action of the morbid thyroid secretion. He thinks the thymus is probably an epithelial gland rather than a lymphoid organ, and the more pronounced the disease in the thyroid, the larger we may expect to find the thymus. It may be examined by palpation, percussion and radiography, and if it is found enlarged it is wiser to refrain from operating in a case of exophthalmic goiter, he declares, not on account of danger from the thymus, but because its enlargement shows that the thyroid is ireparably damaged, and the Basedow syndrome in such an advanced stage that the chances for operative recovery are practically zero. At the same time, the chief index of the severity of the exophthalmic goiter is the condition of the heart.

96. **Expulsion of Foreign Bodies, Sutures, Etc.**—Baeyer has been studying the cases reported in the literature of the spontaneous expulsion of foreign bodies either by mechanical or bacterial means, and supplements the lessons thus learned by conclusions drawn from personal experimental research on the ultimate expulsion of foreign bodies incorporated in rabbits. When a foreign body is implanted in the tissues, the means to prevent its expulsion are strict asepsis, a compact rather than porous composition, or, if the foreign article is porous, it should be impregnated with an antiseptic. This induces a transient chemical suppuration which aids in walling off the foreign body; coating with vaselin or paraffin likewise answers this purpose. The bowel functioning must be regulated before and after the operation to prevent the intestinal bacteria from starting a process leading to expulsion of the foreign body. Another important point is that the foreign body should never be implanted during fever; even tonsillitis should contra-indicate it. The foreign body must not slip around in its place; to insure proper conditions in this respect long immobilization is strictly necessary. If this is impossible the serous effusion bathing the foreign body should not be drained away but left to protect it. The

incision should therefore be as far away from the foreign body as possible to prevent eventual fistula. The foreign body should be as smooth, light and small as possible and it should be encapsulated before active motion with it is allowed, as in case of an artificial tendon.

108. **Surgical Treatment of Gastric Ulcer.**—Schmitt discusses the indications for operative measures and the results in his sixty-two cases in the last five years. The list includes eight cases of duodenal ulcer. Of the total number, 51.6 per cent. have been cured; 27.4 per cent. improved, and only 4.8 per cent. failed to benefit by the operation, while 16.1 per cent. died. Two of the ten patients with cancer, out of the three treated by resection, were cured.

114. **Plastic Operation for Large Femoral Hernia.**—Ach gives an illustrated description of the technic with which he effectually closes and protects the femoral canal from the rear. He does this with a flap 10 cm. long by about 6 cm. broad, taken from the deep fascia of the thigh on the outside of the front of the thigh. This flap from the fascia lata is drawn up through an incision 1 or 2 cm. above Poupart's ligament and it is then pushed down behind the horizontal ramus of the pubis to the innominate line, so that the flap hangs down into the small pelvis behind the femoral ring like a curtain. It is held in place by being fastened across to Cooper's ligament—the fold of the fascia transversalis—and the latter is then sutured to Poupart's ligament. The front of the flap is thus turned toward the femoral canal and the rear towards the abdominal cavity. He gives the details of three cases in which he has applied this technic on middle-aged women, with eminently satisfactory results to date, over five to eleven months. This technic is designed only for very extensive hernias or for recurrence after failure of other measures.

Berliner klinische Wochenschrift, Berlin

November 14, XLVII, No. 46, pp. 2089-2132

116 Salvarsan ("606") in Syphilis. (Erfahrungen über Applikationsart und Dosierung bei Ehrlich-Behandlung.) W. Gennerich.
117 Biologic Research on Origin of Bone. (Herkunft von Knochen.) K. Steffenhagen and P. W. Clough.
118 Much's Granula in Lupus. (Vorkommnis des Much'schen Tuberkulosevirus bei Lupus vulgaris.) H. Boas and C. Ditlevsen.
119 Quantitative Determination of Diastase in the Urine and Its Relation to Nephritis and Diabetes. O. J. Wynhausen.
120 *Gastric Cancer in Relation to Female Genital Organs. (Magenkrebs in seinen Beziehungen zu den weiblichen Genitalorganen.) E. Runge.

November 21, No. 47, pp. 2133-2176

121 *Local and General Hypersusceptibility to Salvarsan. W. Wechselmann.
122 Salvarsan. O. Rosenthal.
123 Mercury Reactions in Secondary Syphilis. (Quecksilberreaktionen bei sekundärer Lues.) J. Baum.
124 Recurrence of Syphilis as Optic Neuritis After Salvarsan. R. Kowalewski.
125 *Typhoid Bacilli-Carriers in Insane Asylums. (Bedeutung der Bacillenträger in Irrenanstalten.) C. Neisser.
126 Sensitized Tuberculin. (Entgiftete Tuberkuline.) A. Wolff-Eisner.
127 Internal Secretion of the Ovaries and Testicles. (Innere Secretion der Keimdrüsen.) A. Münzer. Commenced in No. 46.
128 Care of Severe Wounds. (Versorgung schwerer Verletzungen.) G. W. Schiele.
129 The Cell Lipoids. (Nachweis, Vorkommen und Bedeutung der Zell-Lipoide.) C. Kaiserling.

120. **Gastric Cancer in Relation to the Female Genital Organs.**—Runge remarks that authors are almost unanimous in regarding the stomach as the site of the primary tumor when coincident ovarian cancer and gastric cancer are found. Metastasis of malignant disease in other organs seldom locates in the stomach; Mengerhausen found no metastasis in the stomach in sixty cases of malignant ovarian disease. The metastasis from the gastric cancer is especially liable to locate in the ovary as the cancer cells are moved along by the intestinal peristalsis, ascites, etc., and alight on the ovaries, the epithelium of the ovaries being particularly permeable for corpuscular elements, the vessel supply of the ovaries also favoring the development of malignant tumors. The congestions, wounds and scar formation in the ovaries connected with the ovulation process are all factors which enhance the predisposition of the ovary to cancerous growths above that of other organs. The patients are generally between 20 and 40 years old, and amenorrhea is constant when the tumors have developed at all. The symptoms on the part of the stomach are overshadowed completely by those from the ovaries. If noted, they are generally considered merely accompanying manifestations of the ovarian trouble. As a rule, both ovaries are affected. The correct diagnosis has been only rarely made; generally the gastric tumor is overlooked. In any operation on the ovaries the stomach should be carefully inspected for possible primary cancer, and the ovaries examined in all operations for gastric cancer, and they should be removed at the slightest sign of enlargement. Some authors advocate removing the ovaries always when there is gastric cancer, even when merely a palliative operation is possible. In a few cases on record a gastric cancer developed during a pregnancy and was the cause of uncontrollable vomiting. In such cases the vomiting commences in the second month of pregnancy or later, mostly in women who had no tendency to vomiting in previous pregnancies. The gastric cancer in these cases seems to run an unusually acute course and the enlarging uterus renders diagnosis difficult. Chemical examination of the stomach content is indicated in suspicious cases. Polano advocates immediate interruption of the pregnancy, followed by removal of the gastric tumor when a cancer is discovered in the stomach of a pregnant woman, although cases are known in which a healthy child was born at term even under these conditions.

121. **By-Effects of Salvarsan.**—Wechselmann supposed it was merely a casual coincidence that a febrile sore throat developed a week after injection of salvarsan in some of his patients, until the regularity of the occurrence led to the discovery that it was an enanthem similar to the exanthem which he observed in a number of others, fully 1 per cent. of his patients exhibiting these by-effects. The remarkable feature about them is that they do not develop until after an incubation averaging nine days, these severe symptoms thus appearing when the main mass of the drug has been eliminated or walled in by a tough wall of tissue. He is convinced that these by-effects are similar in nature to the manifestations of serum sickness, which do not develop until the serum is no longer present in the body as such, and which are explained as the result of the reciprocal action between the organism and the antigen. The same explanation applies also, he thinks, to the Herxheimer reaction. He gives the temperature curves of some typical cases. There did not seem to be any increase in the reaction after repetition of the dose, but he warns that it is wiser to refrain from repeating the dose just at that critical period, from the eighth to the tenth day, when the organism seems to be in an especially sensitive state. To date, he states, these manifestations of hypersusceptibility have proved transient and harmless, but they suggest caution in case of weak heart or other depressing factors. The exanthem appeared coincident with a temperature of 104 F. and resembled that of measles or of scarlet fever, and was accompanied by gastric symptoms, diarrhea, thirst, coated tongue and occasional vomiting; there was much malaise, but the pulse was good and the urine normal. The febrile and other manifestations were still more severe when the enanthem was localized in the throat; it is possible that the gastrointestinal mucosa may be likewise affected. The temperature kept high for five days in one case reported.

125. **Typhoid Bacillus-Carriers in Insane Asylums.**—Neisser reports some experiences which seem to confirm the assumption that insane asylums are peculiarly liable to shelter bacillus-carriers, but inquiry among fifty other German institutions of the kind showed that an epidemic of typhoid had not been known in them for years. Complete isolation of bacillus-carriers seems to be the only means to control contagion from this source, he says. At the Bunzlau asylum in his charge, every new inmate is examined for typhoid bacilli and a special pavillion is devoted to the patients with positive findings. At Emmendingen, during the last two years, eight of the attendants and three of the servants were found to harbor typhoid bacilli. Neisser classes dysentery with typhoid in the necessity for prophylactic measures. He condemns in conclusion the exaggerated dread of bacillus-carriers as the danger of contagion from them cannot be very grave, or more of it would occur.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 10, XL, No. 32, pp. 1065-1096

130 *Momburg Belt Constriction for Post-Partum Hemorrhage. (Zur Behandlung der Post-partum-Blutungen durch künstliche Blutleere der untern Körperhälfte nach Momburg.) A. v. Reding.

131 *The Alleged Harmless Methods of Anesthesia. Dumont. Commenced in No. 31.

130. **Treatment of Post-Partum Hemorrhage with Momburg Belt Constriction.**—Reding applied Momburg's technic of constriction of the waist with rubber tubing in thirty cases to arrest post-partum hemorrhage and in twenty-eight cases the benefit was prompt and gratifying. The bleeding stopped at once and the uterus was stimulated to vigorous contraction. This gave time for tranquil preparation for an application of any other measures deemed desirable. This is one of the greatest advantages of the Momburg technic in general practice, as time is gained. Another advantage is that lacerations can be sutured with slight loss of blood. The women do not seem to mind the constriction; only in three cases were there complaints of pains in the legs. The anemia alone is liable to induce such pains. No other by-effects were noted in these twenty-eight cases, but in two others the procedure had little effect, although both patients were thin and no reason for the failure of the constriction could be discovered. In the first case the hemorrhage was not controlled until after the uterus had been tamponed. In the other case the woman was a iv-para, aged 25, with placenta prævia. The bleeding continued under the Momburg belt and after it was removed and applied again, and persisted even after tamponade. Necropsy failed to reveal the slightest injury from the Momburg constriction. In a third case of placenta prævia the extreme anemia was the primary cause of the collapse that followed loosening of the constricting tube. There is no doubt that the woman would have died without the constriction, which should be weighed in the balance in passing judgment on this collapse for which the Momburg constriction was evidently the occasional cause. His final conclusions from these experiences and from the reports of others are that the Momburg technic is entirely harmless for healthy women who are not very anemic. It should be applied as early as possible in cases of post-partum hemorrhage, before the women have lost too much blood. Extreme caution is necessary with much anemia or heart disease. He thinks that raising the pelvis before applying the tube or before loosening it, when there has been great loss of blood, prevents threatening anemia of the brain and heart, but the possibility of air embolism should be borne in mind and no intra-uterine manipulations should be done while the pelvis is raised. He remarks in conclusion that the Momburg method is not infallible, but it adds one more to our means of combating post-partum hemorrhage.

131. **General Anesthesia.**—Dumont discusses the technics that have been lauded recently as harmless and shows that the authors draw the picture in too favorable colors, especially Jonnesco with his "high spinal technic." Recent statistics have shown that twelve fatalities have been recorded in 2,400 applications of spinal anesthesia; that is, one death in 200, besides five cases of abducent paralysis and four of asphyxia, yielding to artificial respiration, while the postoperative pneumonias amounted to 0.7 per cent. He declares that the problem is not to search for new methods but to teach and practice better technic for the old and tried methods.

Deutsche medizinische Wochenschrift, Berlin

November 24, XXXVI, No. 47, pp. 2177-2224

132 *Origin and Treatment of Detachment of the Retina. (Netzhautablösung.) C. Horstmann.

133 Sphygmobolometry. (Weiterer Ausbau der Sphygmobolometrie oder energetischen Pulsuntersuchung.) H. Sahli.

134 Relation of Heart Sounds and Murmurs to the Electrocardiogram. (Beziehungen der Herztöne und Herzgeräusche zum Elektrokardiogram.) O. Weiss and G. Joachim.

135 Action of Salvarsan ("606") on the Eye. (Wirkung des Dioxydiamidoarsenobenzols auf das Auge). W. Wechselmann and W. Seeligsohn.

136 Vicarious Muscular Action. (Ueber stellvertretenden Muskelersatz.) H. Kron.

137 Case of Paratyphoid Osteoperiostitis. V. Jensen and A. Kock.

138 *Rhythmic Compression of the Heart in Apparent Death. (Anwendung rhythmischer Herzkompression beim Wegbleiben der Kinder und ähnlichen Zuständen.) A. Japha.

139 Economy in Dressings. (Sparsame Verbände, vereinfachtes Verbinden.) Waldow.

140 Microphotography. Berg.

132. **Detachment of the Retina.**—Horstmann remarks that the retina becomes detached only when the pressure from the vitreous humor becomes reduced or a stronger counter-pressure from the other side pushes up the retina from below. He advocates recumbency, moderate diaphoresis, subconjunctival injections of salt solution and a light compressing dressing in treatment of detachment of the retina. If several months of this treatment do not induce marked improvement, operative treatment may be proposed, although the prospects are uncertain and dubious. The general treatment above outlined, Uhthoff estimates, will cure in 20 per cent. of the cases; Schmidt-Rimpler cured fourteen and materially improved twenty-eight out of seventy-six patients, and Horstmann himself has cured with good vision 14 per cent. of fifty patients. Not until medical measures have completely failed should an operation be considered. He warns against every method which requires an injury of the retina or vitreous body.

138. **Rhythmic Compression of the Heart for Apparently Moribund Children.**—Japha reports two cases in which apparently moribund infants were treated by rhythmic compression of the heart and revived. The yielding thorax of a child renders this external manipulation more efficient than with the rigid chest of the adult. He does not ascribe the effect to the mechanical influencing of the circulation, but to reflex action. In the first case described a twelve-day infant with signs of heatstroke, unconscious, deeply cyanotic, with foam at the mouth, the pulse scarcely perceptible, respiration 80 to the minute, improved rapidly under the rhythmic compression of the heart and soon recovered after injection of camphor, and cold douches in a warm bath. The other child was a month old and apparently moribund, cyanotic, the temperature 43.3 C. (110 F.), the heart-rate 180, the breathing reduced to gasps at long intervals. Under the compression of the heart and a bath with a cold douche, the temperature dropped to normal and all symptoms soon subsided. Both children are now nearly 2 years old and apparently normal in every respect. The thumb of the right hand is placed between the sternum and the apex and the chest-wall is pressed in rhythmically and deep, about 120 times in a minute (*120 rhythmische Herzstösse*). He thinks that this measure might prove effectual in pneumonia, in spasm of the glottis and in chloroform syncope. Under the rhythmic compression the pupils contract, the face grows less livid and a normal inspiration follows. He has been applying it for years for spasm of the glottis and has had no further fatalities from this cause, and he commends this measure in all such catastrophes and in those with anesthetics. What good does it do, he asks, to exhibit ether or chloroform when in consequence of the spasmodic closure of the glottis the patient is unable to breathe? The rhythmic compression of the heart is more effectual in many cases than artificial respiration. (In this connection we quote a recent case of successful massage of the heart in an apparently fatal early chloroform accident. The patient was a robust man and the operator, J. W. Milne, at once cut into the abdomen to the left of the xyphoid cartilage, and wormed his thumb down to the peritoneum and up through the diaphragm margin till he had it well behind the heart and the other fingers over the heart outside. He says in his communication to the *British Medical Journal*, Nov. 19, page 1657, "I now began to squeeze the heart as one does the bulb of an enema syringe, and never shall I forget the kick and wobble, or rather thrill, that the heart gave in response to the very first compression. It reminded me of the feel of a trout when one grabs it below a bank or boulder. I kept pumping away and all the symptoms disappeared, the first symptom of revival being contraction of the pupil. The patient to this day wonders why the upper wound was necessary to remove one little appendix".)

Medizinische Klinik, Berlin

November 27, VI, No. 48, pp. 1885-1920 and Supplement

141 Diet in Health Resorts and Institutions. (Diät und Mineralwässer; Diätkuren. II.) A. Strasser.

142 Urotropin in Treatment of Meningitis, Especially in Children. J. Ibrahim.

143 Plastics During and After Operations on the Ear. Preysing.

144 Technic of Intravenous Injection of Salvarsan. (Zur Technik der intravenösen Hatainjektion.) H. Assmy.

145 Incarcerated Hernia. (Pathogenese, Diagnose und Therapie der eingeklemmten Hernien.) A. Most.

Monatsschrift für Kinderheilkunde, Leipsic

November, IX, No. 7, pp 343-382. Last indexed December 24, p. 2276

146 Physiologic Variations in the Leukocyte Count in Breast-Fed Infants. W. Wernstedt.
147 Spasmodic Cough and Spasmophilia. (Pertussis, bezw. pertussis-ähnlicher Husten, und spasmophile Diathese.) W. Wernstedt.
148 Idiosyncrasy to Cow's Milk in Infants. (Zur Frage der Kuhmilchidiosynkrasie im Säuglingsalter.) W. Wernstedt.
149 Treatment of Furunculosis in Infants. E. Schloss.
150 Importance of Carbohydrates with Fat in Food. (Bedeutung der Kohlehydrate bei fettreicher Ernährung.) H. Helbich.
151 Ash in Brain with Spasmophilia. (Aschgehalt in den Hirnen Spasmophiler.) E. Aschenheim.
152 *Uncontrollable Vomiting with Congenital Megacolon. (Hirschsprungsche Krankheit unter dem klinischen Bilde unstillbaren Erbrechens.) H. Kleinschmidt.

152. **Fatal Vomiting with Congenital Megacolon.**—Nothing during life suggested Hirschsprung's disease and nothing could be discovered to explain the incessant vomiting in an infant about eight months old, until necropsy revealed typical congenital megacolon, the abnormally long and large bowel having become kinked and twisted.

Münchener medizinische Wochenschrift

November 22, LVII, No. 47, pp. 2449-2504

153 *Necessity for Caution in Administering Iodin. L. Krehl.
154 *Intermittent Limping in Connection with Tobacco. (Zur Klinik des intermittierenden Hinkens.) W. Erb.
155 *Recurring Effusion with Neuralgia of Joints. (Zur Aetiologie des rezidivierenden Gelenkhydrops der Gelenkneuralgie.) C. Garrè.
156 Participation of Blood-Vessels in Movement of the Blood. (Anteil der Blutgefässe an der Bewegung des Blutes.) J. Strasburger.
157 Modern Arsenic Treatment of Syphilis. K. Zieler.
158 Technic for Injection of Salvarsan. (Einfache und praktische Injektionsmethode des Ehrlich Hata-Präparates 606.) A. Pasini.
159 Roentgen-Ray Diagnosis of Callous Gastric Ulcer. M. Haudek.
160 Matrimony for Girls with Heart Disease. (Zur Frage der Ehe bei herzkranken Mädchen.) R. T. Jaschke.
161 Operative Cure of Cerebellar Cyst. R. Cassirer and V. Schmieden.
162 Permanent Cure of Carcinomas After Radium Exposures. A. Exner.
163 Hyoscyamus Poisoning. (Eine Massenvergiftung durch den Genuss der Wurzel von Hyoszyamus niger.) Philippi and Mühle (Davos).
164 Improved Rapid Azure-Eosin Romanowsky Stain. G. Giemsa.
165 Simplified Technic for Wassermann Reaction. E. Steinitz.
166 Operation for Phimosis. Drüner.
167 Fenestrated Sound for Diagnosis of Esophageal Cancer. (Einfaches diagnostisches Hilfsmittel bei Speiseröhrenkrebs.) Brünings.

153. **Necessity for Caution in Administration of Iodin.**—Krehl warns that there is necessity for great caution with iodin, especially in cases of arteriosclerosis with enlargement of the thyroid. If there is the slightest sign of perverted thyroid functioning it is better to refrain from it entirely. He has been studying this subject for eight years at Heidelberg, where thyroid disease is common and in many cases the first symptoms of toxic thyroid functioning had developed after a physician had prescribed iodin. In a number of cases a patient with goiter grew very thin and hidden cancer was assumed, but hyperfunctioning on the part of the thyroid was the real cause of the cachexia; it always proved that the patient had been taking iodin, possibly even for a very short time, and that his emaciation or restlessness, excitability or lassitude, dated from that time. Some of the patients had apparently only nervous or psychic disturbances. In some cases there was an apparently causeless fever; this is much more common with thyroidism than physicians generally appreciate. With the iodin cachexia the retention of a good appetite is an important differential point. With arteriosclerosis and apparently normal thyroid functioning, iodin is a useful measure, but its administration should always be under medical supervision. Thyroidism liable to be brought on by iodin does not cease when the iodin is suspended, and it may possibly progress to a serious form as in several of his patients, who had taken but 1 gm. of potassium iodid daily for two weeks, on account of existing or supposed arteriosclerosis, in whom severe thyrotoxic conditions developed.

154. **Intermittent Limping.**—Erb reports that he has had fifteen additional patients with this affection since his last communication recently reviewed in these columns, and states that 14 per cent. of his total material of fifty patients with arteriosclerotic dysbasia were excessive smokers, consuming from 50 to 150 cigarettes a day, and 44 per cent. were great smokers. Thus the abuse of tobacco was evident in 58 per cent. of his fifty cases, and there was a large proportion of moderate smokers among the rest. In 300 other patients, free from intermittent limping, only 19 per cent. were great smokers, showing the large preponderance of excessive smokers among the patients with arteriosclerotic dysbasia. He states further that 84 per cent. of all his patients who were excessive smokers had unmistakable signs of arteriosclerosis.

155. **Recurring Effusion in the Joints with Joint-Neuralgia.**—Garrè reports some cases of supposed neuralgia in a joint which proved to be the result of a minute focus in the adjoining long bone, so small that it escaped all detection. In one case the neuralgic pains in the knee for six years were finally traced to a minute process in the epiphysis, scarcely as large as a bean and visible with the Roentgen rays only from the front. A splint removing the weight from the knee and worn for three years seems to have entirely cured the trouble. The neuralgic pain in the knee returned twice when the splint became defective but subsided at once when it was repaired. In another case an effusion in the knee dominated the picture at last after six years of recurring neuralgia; then a minute focus was discovered and all trouble was cured by curetting the osteomyelitic lesion. In both these cases there had been a slight trauma in the knees years before. In a third case the patient's complaint of an industrial trauma had been disregarded until a focus of periostitis became manifest and a minute shadow was seen with the Roentgen rays 1 cm. below the articular cartilage. In these and in a fourth case the tiny focus in the epiphysis was the sole localization of the pyemic bone process which at no time in its course had presented the typical picture of osteomyelitis.

Wiener klinische Wochenschrift

November 17, XXIII, No. 46, pp. 1623-1666

168 *Clinical Diagnosis of Cancer. R. Paltauf.
169 Xanthelasma and Jaundice. F. Chvostek.
170 *Temporary Sterilization of Women. C. J. Bucura.
171 Influence of Menstruation on the Neuropsychic Sphere of Women. J. v. Jaworski.

November 24, No. 47, pp. 1667-1702

172 *Salvarsan ("606") in Syphilis. E. Finger.
173 *Operative Treatment of Acute and Chronic Pancreatitis. J. Gobiet.
174 Isolation of Oxybutyric-Acid Producers in Stools. (Studien über Darmfäulnis. VII.) A. Rodella.

168. **Clinical Diagnosis of Cancer.**—Paltauf's article was read at the recent cancer conference at Paris. He reviews the various new methods for clinical diagnosis of cancer, especially gastric cancer, stating that the precipitin and complement-binding reaction, as also the tests based on anaphylaxis, have given negative results which harmonize with the fact that no one has ever succeeded in determining the presence of a foreign albumin in the tissues of malignant tumors. More important is E. Freund's discovery that the serum of normal human beings has a destructive action on cancer cells, and he traced this destructive action to the lecithin element. He discovered further that not only is the serum in cases of cancer lacking in this lecithin element, but there seems to be also some substance in the cancer serum which protects the cancer cells. He further found that the cancer serum induces precipitation in cancer extract; precipitation is not obtained under other conditions. He found this turbid precipitation in the serum in fifty-four cancer patients, while it was constantly absent in the serum from forty-five patients with various non-cancerous affections. Paltauf regards these findings as very important. They are confirmed by C. Neuberg's discovery of the same phenomenon by another route, namely, the clearing up of a suspension of cancer cells when normal serum is added to it. Ascoli's meiostagmin reaction seems also to have an indirect connection with it as the physical-chemical changes in the solution are the manifestations of this difference between cancerous and normal serum. The concordant findings of three research workers by different routes are highly remarkable. Freund regards his findings as the expression of a predisposition on the part of cancer patients. On the other hand, the healthy possess an immunity

to cancer—their serum destroys the cancer cells—but this property may be gradually lost and may finally yield to extreme susceptibility as with universal metastasis. Freund's findings show that the euglobin in the blood of cancer patients behaves towards the lipoids differently from normal serum. His findings further explain certain histologic processes with incipient carcinoma and harmonize with pathologic and anatomic observations. They may possibly throw light not only on the clinical diagnosis but on the whole cancer problem.

170. **Temporary Sterilization of Women.**—Bucura suggests slitting the broad ligament just below the ovary and burying the latter under the peritoneum and suturing the peritoneum above it, so that the ovary is completely excluded from the region of the tube and uterus. Success depends on the minutely careful suturing, so that no ovum can find its way out of the pocket in which it is buried. If at any future time the conditions permit conception, it would be an easy matter to release the ovary which would then resume its normal functioning as nothing has been done to interfere with its integrity. He has confirmed the feasibility of the operation on animals, but has not yet applied it in the clinic. The article is illustrated.

172. **By-Effects with Salvarsan.**—Finger states that in the five months since he has been using salvarsan 170 syphilitics have been treated with it and all but thirty-eight have been kept under supervision. The results of treatment do not indicate, he says, that the salvarsan has any more effectual action on the syphilitic process itself than the usual methods of treatment, while the harmlessness of the drug has by no means yet been demonstrated. In his own experience, four of the patients presented serious disturbances on the part of the eyes and three others disturbances in the internal ear. The first patient was a robust girl of 19, and two months after the injection of salvarsan (which had been made two months after primary infection), she returned complaining of headache, vertigo and impaired vision in the right eye. As the Wassermann reaction was positive, she was given another injection of salvarsan, followed by mercury and iodid, but there has been no improvement in the condition, and the left optic nerve now also shows signs of neuritis. Incipient atrophy of the optic nerve was also discovered in another patient who had seemed to be much benefited by the injection of salvarsan after two years of the usual measures had proved inefficient to cure the malignant syphilis; the treatment had included thirty injections of arsacetin and eighteen of enesol. Three months after the injection of salvarsan, incipient atrophy of the optic nerve on both sides became manifest. In the fourth case the syphilis was of five months' standing when the salvarsan was injected, and three months later there were evidences of right peripheral choroiditis with central turbidity of the vitreous body humor. In two of the cases the Wassermann reaction had become negative. Wechselmann has also reported choroiditis, paresis of the ocular muscles and iritis, as remarkable forms of recurrence of the syphilis a few weeks or months after the salvarsan injection. Fischer has reported severe papulous iritis in four cases and neurochorioretinitis in another case from two to three months after the injection. All these are occurrences which are never observed under ordinary mercurial treatment in this early stage of syphilis. The same can be said of Finger's three cases in which the acoustic nerve was affected. In the first with nystagmus, vertigo and typical tendency to fall, the hearing was intact, indicating that the vestibular nerve had been alone shut off in some way. The symptoms all passed away in a few days, but in the two other cases the trouble was evidently in the true nerve of hearing and the deafness and vertigo have persisted unmodified to date. In these three patients the Wassermann reaction has been persistently negative and the auditory disturbances did not develop until from nine weeks to nearly four months after the injection in the last two cases, but they came on the day after the injection in the case in which they proved transient. His experience shows, he says, that salvarsan has great symptomatic efficiency, but that it does not eradicate the disease.

173. **Treatment of Pancreatitis.**—Gobiet reports a case of severe acute pancreatitis in which the patient, a woman of 57, was promptly cured by exposure of the pancreas by incision and tamponing. He calls attention to the isolated distention of the transverse colon which occurred as an early symptom in this case. Discovery of this should suggest the possibility of pancreatic disease and compel exposure of the gland even when the abdominal syndrome shows no other symptoms pointing to pancreatitis. With chronic pancreatitis without gall-stones but with stagnation of bile, cholecystenterostomy should be done. If there are gall-stones the indications for them dominate the syndrome, but whenever the pancreas is found enlarged with patches of induration, decapsulation and incision and partial excision with drainage should supplement the operation on the biliary apparatus. In the rare cases of inflammation of the body of the pancreas without gall-stones and stagnation of bile, the decapsulation and incision of the pancreas are sufficient.

Zentralblatt für Chirurgie, Leipsic

November 12, XXXVII, No. 46, pp. 1465-1488

175 *Aspiration Drainage of Bladder. (Aspirationsdrainage der Blase.) A. Barth.
176 *Operation for Exstrophy of Bladder. F. Fink.
177 *Diagnosis and Treatment of Kidney Tuberculosis. (Nierentuberkulose.) C. Longard.

175. **Aspiration Drainage of the Bladder.**—Barth has found even the retention catheter unsatisfactory for draining the bladder after operations on this organ, especially after prostatectomy or stone operations on an infected bladder. Even siphon drainage requires the closest supervision. A much simpler and more reliable measure is the use of a Bunsen aspirating jar insuring regular, constant aspiration under mild negative pressure. He uses two jars connected with a long tube entering close to the bottom of each; one stands on the floor, the other on a stool or table. When the higher is filled with water and plugged with a rubber stopper, the water flowing into the lower jar leaves a vacuum, that is, negative pressure, in the higher jar. A glass tube through the rubber stopper is connected by a rubber tube with the retention catheter, or a receiving jar with two tubes in the stopper may be interposed. The urine as it is aspirated drops regularly into the first, interposed, jar and a glance at this jar shows the color, amount and regularity of the drainage. A difference of about 18 or 19 inches between the levels of the vacuum jars is ample for the aspiration. By this means the urine is collected neatly and without odor. The receiving jar can be removed and cleansed every twenty-four hours without interfering with the vacuum, by clamping the tube beyond. This contrivance will be found useful also for drainage of other organs. In one case an elderly man with a fistula after perineal prostatectomy, which absolutely refused to heal, was finally cured under this aspirating drainage through a retention catheter.

176. **Operation for Exstrophy of the Bladder.**—Fink utilizes the appendix for the outlet to the new bladder made by drawing up the bladder tissue present. This has the advantage of using the anatomically and physiologically normal bladder tissue. The appendix provides an outlet for the urine into the cecum, the valves serving to prevent penetration of gas and feces into the bladder. He has applied the operation in only one case and the much debilitated child did not survive it. He has not had opportunity since, but he thinks that this technic has several advantages, not the least of which is the continence which it promises. If infection should occur, the appendix could be drawn out through the skin.

177. **Treatment of Renal Tuberculosis.**—Longard comments on the mishaps in treatment of renal tuberculosis, and thinks that they might be avoided with the technic which he has applied in two cases. The patients were able to be up and about in ten days. The question is to determine which kidney is the diseased one, or, if both are affected, has one sufficient functionally capable parenchyma to permit the removal of the other? None of the ordinary technics allows a reliable answer to these questions; consequently he advocates and practices the following method: (1) exposure of the presumably sound kidney, with reposition and primary suture if found sound; (2) exposure of diseased kidney, loosening, ligating and severing the vessels; (3) detaching the ureter

towards the small pelvis, still connected with the kidney; (4) incision parallel to Poupart's ligament through which the kidney with its ureter is drawn; here the ureter is sutured and the wound sutured around it; (5) primary suture of the other incision, and (6) 4 or 5 cm. from the wound the ureter is ligated and the kidney cut from it with the actual cautery.

Nordiskt Mediciniskt Arkiv, Stockholm

XLIII, Internal Medicine, No. 2. Last indexed Nov. 12, p. 1772

178 *Influence on Growth and Ossification of Exophthalmic Goiter and Analogous Conditions. I. Holmgren. Commenced in No. 1.

179 *Acute and Subacute Dilatation of the Stomach. O. Hanssen.

178. **Influence on Ossification and Stature of Thyroid Hyperfunctioning.**—Holmgren presents and discusses about all that is known in this line to date, reviewing 353 articles and his own wide experience. It seems evident that the thyroid has control of the growth of the bones, and that infections, by their action on the thyroid, are able to promote the growth of the bones in length and thus increase the stature. In his own experience a blonde complexion or unusual height for the age or both almost invariably accompanied thyroid hyperfunctioning. The 240-page article is in German.

179. **Acute Dilatation of the Stomach.**—Hanssen remarks that the frequency of acute dilatation of the stomach as a postoperative complication has brought it into the limelight in the last decade, but cases due to overfilling of the stomach were described centuries ago. He tabulates ten postoperative cases from recent Norwegian literature, and mentions three from Sweden and two from Finland; no case has been published in Denmark. Hanssen has encountered one case himself, and gives the details of this and of ten other cases at the Christiania general hospital. The patients were four women and seven men, aged from 15 to 37; two were healthy when the acute dilatation occurred, and in two other cases the dilatation occurred after an operation on the knee. All the patients died in from one to three days. The correct diagnosis was made in only two cases; in two the trouble was supposed to be poisoning from the antiseptic that had been used. In the others ileus or peritonitis was assumed. It seems to be the general rule that the first case, at least, of acute dilatation of the stomach that occurs in a hospital is never recognized as such. He lays great stress on careful preparation for operations and careful diet during convalescence from acute diseases, especially typhoid, as important in prophylaxis. If the dilatation has occurred, rinsing out the stomach, resting it completely afterward, and stimulants, especially saline infusion, are the main points in treatment. Neck advocates lavage of the stomach three times a day as the general rule. It may be necessary to raise the pelvis to facilitate the outflow of the fluid. Placing the patient in the ventral decubitus has proved effectual in the experience of some clinicians, but in Rosenthal's case harm resulted, and Borchardt has reported aggravation of symptoms from the "cow position" (*Lage à la vache*), recommended by Albrecht. Landau, Hanssen quotes, compares this position treatment with taxis in hernia. Kelling recommends raising the pelvis, the patient lying on the left side. Engström suggests that possibly good might result from introducing a speculum into the vagina, suddenly spreading it and thus pushing the intestines out of the small pelvis. Fürstner has reported success in some mild cases with Faradization and Erdmann with cold packs. Atropin has been recommended, but Hanssen protests that this has a weakening influence on peristalsis. In an operative case reported by Lennander and one by Sommarin the acute dilatation of the stomach was found accompanied by volvulus of part of the small intestine. In an additional case reported by Hanssen in which the acute dilatation came on a few days after a cancer operation, the symptoms subsided under lavage of the stomach and saline infusion, but there was an acute exacerbation nine days later and necropsy disclosed volvulus of the jejunum. Kehr and Tschudy, among others, have been successful with gastro-enterostomy, but most writers warn against operative interference. An early diagnosis and prompt measures for relief will generally forestall the necessity for an operation. The article is in German.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

LA STENOSE DU PYLORE, PAR HYPERTROPHIE MUSCULAIRE CHEZ LES NOURRISSONS. Par M. Pierre Fredet, Chirurgien, et M. Louis Guillemot, Médecin des Hôpitaux de Paris. VI cong. de gynéc., d obst., et de paediat., tenu à Toulouse en Septembre, 1910. Paper. Pp. 83, with illustrations. Toulouse: Librairie de l'Université, 14, rue des Arts (Square du Musée), 1910.

EMANUEL SWEDENBORG'S INVESTIGATIONS IN NATURAL SCIENCE AND THE BASIS FOR HIS STATEMENTS CONCERNING THE FUNCTIONS OF THE BRAIN. By Martin Ramstrom. (Till Kungl. Vetenskaps-Societeten I Uppsala vid dess 200-Arsjubileum af Uppsala Universitet. Den 19 November, 1910.) Paper. Pp. 59, with 4 illustrations. University of Uppsala, 1910.

REPORT ON HIGHER EDUCATION IN THE STATE OF NEW YORK. For the School Year ending July 31, 1909. Reprinted from the sixth annual report of the Commissioner of Education of the State of New York as submitted to the Legislature Jan. 24, 1910. Paper. Pp. 516. Albany: New York State Education Department, 1910.

TASCHENBUCH DER PATHOLOGISCHEN ANATOMIE. Von Dr. Edgar Gierke. I. Allgemeiner Teil. II. Spezieller Teil. Dr. Werner Klinkhardt's Kolleghefte. Heft 5 and 6. Paper. Price, 3 and 4 marks. Pp. 143, with 69 illustrations, and 207, with 58 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

MOTO-SENSORY DEVELOPMENT. Observations on the First Three Years of a Child. By George V. N. Dearborn, Professor of Physiology in the Tufts College Medical and Dental Schools, Boston. Educational Psychology Monographs. Cloth. Price, $1.50. Pp. 215. Baltimore: Warwick & York, 1910.

THE PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Medicine, Medical College of Ohio. Second Edition. Cloth. Price, $5. Pp. 172. New York: D. Appleton & Co., 1910.

CLINICAL PATHOLOGY IN PRACTICE. With a Short Account of Vaccine-Therapy. By Thomas J. Horder, M.D., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. Cloth. Price, $3. Pp. 216, with 6 illustrations. New York: Oxford University Press, 1910.

HAUT- UND GESCHLECHTSKRANKHEITEN. Von Dr. Felix Pinkus, Privatdozent. Leitfäden der praktischen Medizin, herausgegeben von Prof. Dr. Ph. Bockenheimer, Berlin. Band II. Paper. Price, 7 marks. Pp. 272, with 68 illustrations. Leipsic: Dr. Werner Klinkhardt, 1910.

UEBER DIE VERSCHIEDENEN LYMPHOIDEN ZELLFORMEN DES NORMALEN UND PATHOLOGISCHEN BLUTES. Von A. Pappenheim in Gemeinschaft und Mitarbeit mit A. Ferrata. Paper. Price, 6 marks. Pp. 132, with illustrations. Leipsic: Dr. Werner Klinkhardt, 1910.

A MANUAL OF PHARMACY FOR PHYSICIANS. By M. F. DeLorme, M.D., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition. Cloth. Price, $1.25 net. Pp. 199, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

HANDBUCH DER BIOCHEMIE DES MENSCHEN UND DER TIERE. Herausgegeben von Dr. Carl Oppenheimer in Berlin. Twenty-Sixth and Twenty-Seventh Instalments. Paper. Price, 5 marks each. Pp. 241 to 400 and 401 to 595. Jena: Gustav Fischer, 1910.

INNERE MEDIZIN. Von Dr. Georg Zuelzer. I. Teil. Leitfäden der praktischen Medizin, herausgegeben von Prof. Dr. Ph. Bockenheimer, Berlin. Band III. Paper. Price, 7.50 marks. Pp. 330, with illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

LEHRBUCH DER UROLOGIE UND DER KRANKHEITEN DER MÄNNLICHEN SEXUALORGANE. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Paper. Price, 13.50 marks. Pp. 522, with 162 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

SECURING EFFICIENCY IN RAILROAD WORK. Story of an attempt to apply Scientific Management to Some Departments. A Lecture delivered at Harvard Nov. 16, 1910. Paper. Pp. 38. New York: Harrington Emerson, 30 Church Street.

FOURTH REPORT OF THE BABIES' DISPENSARY AND HOSPITAL OF CLEVELAND. For the Year Ending Sept. 30, 1910. Paper. Pp. 47, with illustrations. The Babies' Dispensary and Hospital, 2500 East Thirty-Fifth Street.

PRINCIPLES OF THERAPEUTICS. By A. Manquat, National Correspondent to the Académie de Medicine. Translated by M. Simbad Gabriel, M.D. Cloth. Price, $3 net. Pp. 298. New York: D. Appleton & Co., 1910.

PUERPERAL INFECTION. By Arnold W. W. Lea, M.D., Lecturer in Obstetrics and Gynecology, the University, Manchester. Cloth. Price, $9. Pp. 384, with illustrations. New York: Oxford University Press, 1910.

CARE OF THE PATIENT. A Book for Nurses. By Alfred T. Hawes, M.D. Cloth. Price, $1 net. Pp. 173, with 6 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

TWENTY-FIRST ANNUAL REPORT STATE OF NEW YORK STATE COMMISSION IN LUNACY. Statistics of the Insane, 1908-1909. Paper. Pp. 85, with illustrations.

ANNUAL REPORT OF THE MOUNT SINAI HOSPITAL OF BOSTON. For the Eighth Year. Jan. 1 to Dec. 31, 1909. Paper. Pp. 29. 17 Staniford Street, Boston.

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WHY THE GENERAL PRACTITIONER SHOULD STUDY THE SURGICAL DIAGNOSIS OF GASTRIC AND DUODENAL ULCER

REPORT OF CASES

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DENVER

I base my conclusions on 203 successive cases of gastric and duodenal ulcer, of which ninety-three cases came to operation or exploration. The operations were done chiefly by Drs. Craig, Fleming, Freeman, Lyman, and Perkins of Denver, several by other Colorado surgeons, and a few by the Mayos and other surgeons outside of Colorado. To all of these gentlemen I make my acknowledgments, as well as to the physicians with whom I have seen the majority of the cases. Fifty of these cases formed the basis of a previous report.

In the study of this disease we may find, I believe, a greater diversity of opinion among clinicians of experience as to frequency, symptomatology, gravity and treatment, than in the study of any other serious and common ailment. We find in the recent literature excellent reports of hundreds of cases of gastric and duodenal ulcer by the operating surgeons studied chiefly from the point of view of the surgeon, but throwing little light on certain questions of the utmost interest to the medical man. On the other hand, we have long discussions from the medical side giving minute conclusions as to the rarity or frequency of ulcer, as to its symptomatology, as to the danger of obstruction of the pylorus, or the development of cancer, and as to the medical treatment of the disease, with, in many cases, a total disregard of the abundant material which has been furnished us by the surgeons in recent years, and which offers the physician his greatest opportunity for adding to his knowledge of the disease. Many writers offer conclusions freely as to diagnosis and treatment who apparently, from the utter absence of any mention of the matter, have never seen half a score of such patients on the operating table. The moderate number of the cases which I have seen prevents my making any very positive statements in regard to many interesting features of peptic ulcer.

I shall be ready to modify those given when convinced of the need by reports of much larger numbers of cases presented by clinicians of greater experience who see these cases as I do, from the standpoint of the medical consultant, rather than from that of the family physician, the surgeon, or of the gastro-enterologist. In my opinion, one ought to correlate his knowledge of the medical aspects of ulcer with that to be obtained on the autopsy table, and vastly more important, with that from the operating room, and season it all with what wisdom he may have gathered from a wide, general medical experience before being over-positive in his conclusions. I regret my inability to reach any such ideal, but since I have been asked for them, I shall give the best conclusions that my experience permits me to draw.

I should state in advance that these cases were derived from a general consultation practice, not 5 per cent. of them being strictly personal cases. They should not be regarded at all as being Denver cases, since they came from a dozen states. They therefore probably represent a much more severe type of disease than would an equal number of cases seen in a large dispensary service or in family practice. As Jacobi pointed out in the discussion on ulcer in the Section on Practice of Medicine at the last meeting of the American Medical Association, we must be extremely careful not to draw too general conclusions from the study of material drawn from a single source, because severe cases present themselves in one clinic, and mild ones, more nearly representing the general average type, in another.

In a previous article,[1] I drew attention to the great advantage of studying the symptomatology of ulcer from cases in which the diagnosis was established by operation. I undoubtedly erred somewhat in my conclusions, since the milder cases do not come to operation, and their symptomatology should be studied separately.

My further study has confirmed my previous opinion that the symptoms and signs most constant and valuable in the diagnosis of ulcer rank about as follows (taken from previous series):

1.	Pain	82 per cent.
2.	Persistent sour stomach	80 per cent.
3.	Tenderness	70 per cent.
4.	Vomiting	66 per cent.
5.	Rigidity	60 per cent.

Vomiting of blood occurred in the ninety-three cases with operation seventeen times, or 18.3 per cent.; melena was noted in nine cases, or 9.6 per cent. Thus blood was passed or vomited in approximately 28 per cent. of the series.

I have classed the ulcers, after reviewing my previously reported cases, as gastric, pyloric and duodenal, there being fourteen, sixty-one and fifteen in these respective classes in the complete series, while in three cases in which operation was done elsewhere I did not learn of the exact location.

In twelve of the sixty-one pyloric cases only an obstructing scar of previous ulcer existed. I do not doubt that many of my pyloric cases would be classed as duodenal by many physicians. The overwhelming

1. The Diagnosis of Gastric Ulcer as Tested by Operation, Am. Jour. Med. Sc., May, 1909.

majority of ulcers demanding operation are evidently situated close to the pylorus. In this series obstruction in some degree was present in practically all cases of pyloric ulcer. Many of the definitely gastric ulcers were brought to operation, because of perforation, impending perforation, disability because of adhesions or development of cancer, but not often from dilatation of the stomach.

Cancer was proved in six cases, with definite evidence of ulcer as the starting point, a percentage of 6.4. In several of these, perfectly typical histories of ulcer extended over periods of years. In three other patients the presence of a tumor developing on a previous ulcer was assumed to indicate cancer from the extensive glandular involvement and rapid downward course. Two of these were alive when last reported. No fair-minded clinician without a vastly greater experience on which to base his opinion can properly maintain in the face of such evidence as this, and the reports from numerous surgeons and pathologists, that cancer is not a frequent development in cases of peptic ulcer. The mere fact that in the milder type of cases occurring in average family practice cancer is not often noted is not to be balanced against such showings as I have quoted.

My conclusions, from a study of the previous series, that pyloric ulcer is likely to leave permanent obstruction, if it heals, or to lead to cancer if it does not, is confirmed by my further experience. If medical treatment, which I try faithfully in the milder cases without obstruction, does not give a practical cure in a few months, I cannot conscientiously continue it, nor can I believe it right that advice, from those not thoroughly familiar with the surgical aspects of this disease, to continue medical treatment should prevail. Unfortunately much of the current literature, especially in text-book form, has been promulgated by those who see only the medical aspects of ulcer, and who are, I believe, prejudiced against surgical procedures without proper reason.

Since the introduction of the modern gastro-enterostomy I have seen no case of "vicious circle." The results in sixty-eight of the seventy-nine cases in which gastro-enterostomy was performed are classed as good, and in the more recent ones, better selected than those of earlier years, they are almost uniformly good.

In six cases exploration only was done, cancer or other hopeless condition presenting. Out of six cases of perforation four were closed by suture without gastro-enterostomy, the latter operation being omitted because obstruction did not exist or the patient's condition was too desperate. Three of the patients recovered. In one case Finney's operation was done, one ulcer was excised, and adhesions were broken up in one case. In one case in which operation was done elsewhere I did not learn the exact nature of the operation performed. I am satisfied that we have not excised so many ulcers involving the pylorus as we should, for the tendency is, because the results of gastro-enterostomy are so good, to avoid the heavier mortality involved in excision. I believe that Rodman's operation is demanded if much infiltration exists around the ulcer.

I believe that more attention must in future be given to the group of signs and symptoms which we have considered above, and less to the laboratory findings if we are to make early and correct diagnoses in cases of peptic ulcer. The question in the severe cases is commonly whether to operate or not to operate, and this is never settled in the laboratory. While we should give due weight to the analysis of the gastric contents, the search for occult blood, the leukocyte count, and other laboratory procedures, we should hold all these factors subservient to the history and bedside examination. A reliable history of continuous sour stomach is of more value than a gastric analysis, and a history of hematemesis than a report of occult blood in the stools. Rigidity and tenderness, as determined by the trained clinician, outweigh all the evidence from the laboratory in these cases.

How deceptive the inferences to be drawn in a certain type of gastric disease may be, is illustrated by the following case, not included in the list, the patient being now in the hospital.

A man of 35 had been well until four months previously. Then persistent sour stomach, pain, vomiting and hematemesis came on. I found that he had lost 15 pounds in weight; the stomach was dilated until its lower margin was 3 inches below the navel; splashing was noted, and rigidity and tenderness existed to the right of the navel. The diagnosis of pyloric ulcer was confirmed by the withdrawal of three pints of retained contents after an Ewald test meal, and by the high hydrochloric acidity reported by my assistant, Dr. Love. History, physical examination and laboratory report all pointed to ulcer, yet the glands about the ulcer found at the pylorus were later reported by Dr. W. H. Bergtold to present an exquisite picture of adenocarcinoma. The great thickening about the ulcer had already led Dr. Leonard Freeman and me to the conclusion that only very extensive resection of the stomach offered any hope, and he therefore had resected more than half of the lower end of the organ and removed all of the enlarged glands. This patient is now gaining a pound a day.

To those who advocate medical treatment in pyloric ulcer I commend a careful consideration of this case, for I fully believe that any but immediate surgical treatment would have been criminal. I could mention several more or less similar instances in which the persisting ulcer apparently kept up the high acidity long after cancer had developed. We must not exclude cancer because of laboratory reports pointing toward ulcer if we are to do justice to these patients.

Fortunately the evidence on which the decision as to operation in gastric diseases is based is of such a character that we need not hesitate to act on it. In these cases I have found ulcer when I suspected cancer, and cancer when I suspected ulcer to be present; pyloric obstruction from other cause than either ulcer or cancer; gall-bladder disease when duodenal ulcer was suspected and many other conditions more or less different from what I had believed to exist, but I have yet to see the abdomen opened in a case with such a general symptomatology as I have indicated above without finding a surgical condition demanding relief, or else so far advanced as to be beyond help. We do not operate in these cases for ulcer or for cancer, but for some condition, whatever it may be, which we believe to be beyond medical help. The indications which lead the trained clinician to explore the abdomen do not often deceive him, for they fortunately are not present in neurotic, hysterical, tabetic and other patients who have made so much trouble in the past as to gastric diagnosis.

In deciding on the advisability of medical or surgical treatment in any given case of peptic ulcer which has attained a sufficient degree of severity to lead to the consideration of the latter method, we may state the advantages of medical treatment about as follows:

1. Avoidance of immediate operative and anesthetic dangers.
2. Avoidance of possible vicious circle, recurrence of jejunal ulcer, ventral hernia, post-operative adhesions, etc.

Against these advantages we should set the following dangers:

1. Likelihood of failure of medical treatment.
2. At least an even chance that the patient will relapse if temporarily cured.
3. Dangers of development of pyloric stenosis through presence of an active ulcer at that point, or spasm caused by its irritation, or cicatricial stenosis following its healing.
4. Danger of hemorrhage or acute perforation.
5. Danger of the development of cancer on the base of the ulcer (68 per cent. of the pylori excised by the Mayos for cancer showed origin in an ulcer, while 71 per cent. of those excised under the belief that they were cases of ulcer showed cancerous changes beginning. Wilson). Nearly 10 per cent. of our patients operated on showed cancer.
6. Danger of adhesions, which cripple the action of the stomach, obstruct the gall-passages, produce serious pain and often require late operation.
7. Dangers from a troop of late complications of slowly developing perforation, amongst which I have encountered peritonitis, subphrenic abscess, empyema, pyopneumothorax, pneumonia, perforation through the lung, septic pericarditis, mediastinitis, pancreatitis, suppurative processes about the liver and gall-ducts and general sepsis. Unfortunately many cases are reported under such headings without a recognition of the origin of the process in a peptic ulcer.
8. The development of such a condition of anemia and malnutrition from the crippling of the digestive apparatus as to lead to neurasthenia, hysteria, and various functional nervous diseases, or to pave the way for an easy and often fatal infection by the tubercle bacillus, pneumococcus, influenza bacillus, etc.

In my opinion the medical man does not do justice to his patient in such cases as we are considering if he does not present to him clearly the grave dangers of delay if prompt improvement does not follow medical treatment. The latter should be given a fair trial for several weeks, but if practical restoration to permanent health be not obtained, operation should be most carefully considered. Fortunately, the truth of Billroth's saying of thirty years ago that "internal medicine must become more surgical," is gradually receiving recognition.

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REPORT ON SIXTEEN SYPHILITIC PATIENTS TREATED WITH EHRLICH'S SALVARSAN (606)

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In September Dr. Simon Flexner of the Rockefeller Institute sent us a supply of Ehrlich's salvarsan (606), to be used for experimental purposes. The cases that we have selected for treatment with this remedy belong to unusual types and to those rebellious to the usual methods of treatment. The routine followed in every instance included a preliminary examination of the eyes, the nervous system, and a complete physical examination by competent specialists. Complete urinalyses, differential and leukocyte counts, and the Wassermann reaction were made before and after each injection. In a majority of the cases the injections were made according to Wechselmann's method. The Junkermann method was used in the later cases, however, following instructions from Dr. Flexner. A few of the patients treated by injections according to Wechselmann's technic required a small dose of morphin to relieve the pain. In all in whom the Junkermann method was used the injection was preceded by hypodermic of ¼ grain of morphin, and in every case a second dose of morphin was necessary to relieve the severe pain, which usually lasted from ten to twelve hours. Those injected after the Wechselmann method suffered only a moderate amount of pain and in only one case was it severe and lasting.

CASE REPORTS

CASE 1.—The patient, M. Q., a man aged 22, seen at the Skin and Cancer Hospital, was infected with syphilis four years previously. Treatment had been irregular, and followed only when lesions were present. The patient entered the hospital in June, 1910, at which time he had a large tubercular ulcerating syphilid involving the upper two-thirds of the right forearm; another 8 inches in diameter on the leg, and an ulceration of the inner surface of the left nostril, one inch in diameter. The patient was treated with mercuric bichlorid injections daily for ten months; also by local treatment of mercuric bichlorid packs, various salves, and milder dressings. Very little improvement resulted. He was then given injections of a 10 per cent. salicylate of mercury mixture once or twice a week up to saturation, together with iodids, forced feeding, and rest in bed for a month.

Improvement was noted for a time, the lesions showing some tendency to heal, but only temporarily. Oct. 6, 1910, the Wassermann reaction was still positive. The ulceration on the forearm was 2 inches in diameter, the one on the leg was 5 inches, and the one in the nostril was the size of a nickel. The urine was normal; the leukocyte count was 16,000. Oct. 6. 1910, the patient was given 0.6 gm. of salvarsan under left scapula according to Wechselmann's method. Considerable pain followed, lasting about twelve hours. The next day the site of the injection was infiltrated, slightly painful, and presented a tumefaction 4 inches in diameter.

Four days later the ulceration in the nose had healed entirely, and the ones on forearm and leg showed marked improvement. Twelve days later, the forearm was healed and the leg ulcer was only 2 inches in diameter, and healing rapidly. The Wassermann reaction was still positive, but eighteen days after injection it was negative, and all of the lesions had entirely healed, and the patient's condition was wonderfully improved. November 15 he was discharged from the hospital apparently cured. December 7 the patient felt well and had gained 12 pounds. The leukocyte count was 8,000.

CASE 2.—M. L., a girl aged 6, a patient of Dr. Blair, was treated at the St. Louis Children's Hospital. July 27, 1910, an ulcer was noticed on the left side of the soft palate, which increased rapidly in size. Injections of cyanid of mercury were continued for three days in increasing doses. August 15 a small indurated gummatous lesion appeared on the right thigh. In the next few days several small lesions appeared on the extremities. All of them became ulcerated, and increased rapidly in size within a few days. The mercury injections were increased, but the cutaneous lesions grew worse.

September 8 the injections were discontinued and 1/10 grain doses of calomel were given three times a day, with increased doses of potassium iodid. September 30 the pupils became widely dilated, the patient could not see, was very restless, stammered in speech, and cried continuously. She developed tetanic convulsions that night, and morphin was used. October 1 there were muscular twitchings, retraction of the head, rigid spine, unequal pupils, Cheyne-Stokes breathing, weak and irregular pulse. Mercury inunctions were begun and potassium iodid given by enteroclysis. October 3 the symptoms of October 1 had nearly disappeared; October 5 the Wassermann reaction was positive. A thorough physical examination was made preparatory to the administration of Ehrlich's salvarsan, with the following results: Weight 42 pounds; scars over the extremities, some of them rather pinkish in color, showing recent healing. There was swelling and induration of the right cheek, several ulcers on the mucous membranes of the

mouth. The child was very weak and pale, and cried continuously. The pulse was weak and rapid; there was a foul, unbearable odor emanating from the mouth; heart and vital organs normal. Examination of the eye by Dr. Charles showed pupils dilated and maximum and absolutely irresponsive to light but child was blind from some central disturbance. The fundus was normal. Neurologic examination by Dr. Bliss showed knee-jerks present, no Babinski of ankle-clonus; organic reflexes normal, cutaneous sensibilities acute. October 6, 0.15 gm. of salvarsan was prepared by the Wechselmann method and injected into the cellular tissue under the left shoulder. The temperature was 99, respiration 26 and pulse 132, some hours before the injection. The leukocyte count was 12,000. The patient was miserable and restless, and morphin was administered during the night. No albumin or casts were found in the urine.

October 7, there was a moderate amount of swelling at the site of injection; no albumin or casts; right cheek more swollen; temperature 100; pulse 152; leukocyte count 18,000.

October 8, patient was very restless, pulse 120; respiration 32; temperature 102; leukocyte count 31,500; casts and albumin; odor from mouth worse.

October 9, there were albumin and casts in urine, leukocyte count, 33,600; extremities cold; scar tissue at site of healed ulcers had sloughed, leaving deep ulcerations; urine and stools involuntary; stimulants administered.

October 10 to 13, great improvement; patient sitting up in bed; some diarrhea; pupils reacted to light; exudate from ulcers; crying and moaning ceased.

October 14, pupils reacted to direct and consensual light; ulcers improving rapidly, both on the skin and in the mouth.

October 16, swelling of right cheek much less; stool semisolid; appetite good; leukocyte count 18,200; albumin and casts.

October 17, patient voluntarily stated that she felt much better; great improvement was evident; much less odor from mouth.

October 27, temperature 98; pulse 90; respiration 22; patient counted fingers with either eye at 20 feet; cutaneous ulcers healed; patient walked about room and was gaining in weight; there was still a free flow of saliva; leukocyte count 10,000; albumin and casts.

November 4, a thorough physical examination was again made; all skin ulcers healed; two small ulcers on mucous membranes of gums not yet healed; heart normal; digestive tract normal; no albumin or casts; leukocyte count 8,200; neurologic examination normal; pupils equal and responded to light and accommodation; vision normal.

November 15, mouth was entirely well, except small ulcers on gum which were healing slowly; no albumin or casts. The patient seemingly well.

CASE 3.—I. B., a City Hospital patient, aged 38, was infected with syphilis fifteen years previous to being seen, since which time he has taken treatment at irregular intervals. Since June, 1910, the patient has had tubercular ulcerating syphilis of both sides of the nose; hard palate and septum both perforated; the septum ulceration still showed activity. He was treated with daily injections of mercuric bichlorid, iodids internally, and various local applications until October 6, with very little benefit. Oct. 6, 1910, physical examination showed no abnormalities except nose lesions and purulent discharge from nose and pharynx; urine normal; leukocyte count 17,000; Wassermann reaction positive. Injection was made of salvarsan, 0.6 gm., after the method of Wechselmann, subcutaneously under the left scapula. Three days later the ulcers on the nose showed marked improvement. No temperature or pulse reaction followed and the urine remained normal. Improvement in the ulcers continued rather slowly for four weeks, when they became active again, and in two weeks more were slightly larger than when the injection was given, and involved adjoining scar tissue that had been produced by mercurial injections. Seven weeks later the Wassermann reaction was positive. A second dose of salvarsan, prepared according to method of Junkermann, was injected into each buttock. Urine normal; leukocyte count 11,335. December 2 the ulcerations greatly improved and showed a tendency to heal; leukocyte count 10,925; urine contained no albumin but contained a few granular casts. December 12 the ulcers were healing rapidly; leukocyte count 12,000.

CASE 4.—E. G., a City Hospital patient, a man aged 29, was infected with lues in March, 1910, and entered the hospital in June. Examination showed a slight protrusion of bone over the sternum, extremely sensitive to the touch, which was present for two weeks; reflexes normal, except for general hyperesthesia; lymphatic glands in the axillæ, epitrochlear and inguinal regions showed some enlargement. October 6 the Wassermann reaction was positive; urine normal; leukocyte count 14,800. Injection of salvarsan, 0.4 gm., was made subcutaneously under the scapula, after Wechselmann's method.

Five days later the patient's general condition was greatly improved and there was less pain over the sternum; urine normal; leukocyte count 18,200; no temperature or pulse reaction; site of injection somewhat painful for 12 hours; tumefaction present at injection site; Wassermann reaction positive. One month later his physical condition was fine; site of injection still indurated, though not painful, and consisted of a slight elevated discoid mass three inches in diameter. There was a superficial necrosis appearing on the glans penis. The patient had never had a lesion on this area. He had gained 7½ pounds, and was up to normal weight; his general condition was very good. Six weeks later the lesion on the glans had become much deeper, larger and phagedenic in character; urine normal; leukocyte count 14,300.

Seven weeks later the ulceration on the glans was quite deep. A piece excised and prepared according to Levaditi's method shows no *Spirochæta pallida;* Ducrey's bacillus not found. The patient did not feel well and had pain in right humerus; the sternum was slightly painful again; *x*-ray picture showed periosteal thickening of middle of shaft of humerus and some involvement of medullary portion. Eight weeks later the ulcer on the glans was healing; Wassermann reaction positive; urine normal; leukocyte count 13,650.

CASE 5.—F., a man aged 45, seen at the Jewish Hospital, referred by Dr. S. I. Schwab, had been infected with syphilis nine years previously, had very pronounced secondaries, and was treated for several months. He was well until five years before the time of examination, when his present trouble began. The patient was well developed and his color and nutrition were good; expression depressed; answered questions intelligently, but slowly; eyes showed diffuse swelling of lids; redness and tenderness over right supraorbital region. Urinary incontinence was present at times; there was vertigo and double vision, and occasionally patient complained of continuous pain and tenderness in muscles, with marked weakness for the previous four years. Both legs had been swollen lately, with tenderness over tibiæ; pain in chest; trunk rigid when walking; frontal headache on right side; all reflexes exaggerated. The spleen was slightly enlarged, and felt one-half to 2 inches below costal margin. On each tibia was an elevated hard mass 4 inches long and 2 inches wide, somewhat reddened and tender. The urine contained few casts. October 10 injection was made of 0.4 gm. of salvarsan after the method of Wechselmann. Four days later there was less pain in chest and tibiæ and the tibial tumors were smaller. Ten days later there was marked improvement; redness and induration of tibiæ nearly gone; no pain in chest; no albumin or casts in urine. Fifteen days later the patient felt fine; there was no pain in chest or over tibial nodules. The skin over tibiæ was loose; there was no pain, but the bone was still enlarged and rough; leukocyte count 9,800. Spinal fluid showed no cellular elements and was clear. The patient was discharged from the hospital on request, apparently well. The Wassermann reaction was positive.

CASE 6.—K. M., aged 25, a patient at the Skin and Cancer Hospital, gave no history of syphilis, but stated that her present lesion began on the right side of the nose as a small red papule four years previously. In July, 1910, the lesion consisted of a deep ulceration which had destroyed the lower right half of the nose and adjoining cheek for a distance of 1 inch, and almost the entire upper lip. The remaining sep-

tum was ulcerated and the superior maxillary bone necrosed, exposing the upper incisors and right canine in their entirety. The ulceration was granulomatous and there was a considerable discharge of pus.

Physical examination revealed no abnormalities; urine was normal; leukocyte count 8,000; Wassermann reaction positive. The patient had been treated weekly with intramuscular injections of 10 per cent. salicylate of mercury with some improvement.

October 25, injection was made subcutaneously of 0.6 gm. of salvarsan under the left scapula, after the method of Wechselmann. The pain lasted two hours; leukocyte count was 12,000 twenty-four hours later. Six days later the patient felt fine and the lesion looked much better; discharge less; healthy granulations in ulceration; leukocyte count 7,500. Four weeks later the ulceration of the nasal membrane had healed, but the edges of the skin of the nose showed pearly epithelial proliferation. Five weeks later, sections excised from the edge showed the lesion to be an epithelioma. The teeth became much more firmly set in the alveolar processes; necrosed bone exposed; the nasal ulceration was healed but an epithelioma had developed on a syphilitic ulceration and *x*-ray treatment of the epithelioma was begun; leukocyte count 8,665.

CASE 7.—A. D., a woman aged 52, a patient of Dr. Grindon, had had good health until five years previously. Then she began to have nocturnal headaches, continuing for three years with great loss of weight. Lesions on trunk and extremities appeared in August, 1909, which left scars characteristic of syphilis. The patient had active lesions on her face which appeared in January, 1910, and which extended and continued to appear as tubercular ulcerations with crusting, rupial lesions over the entire face. The lids were much swollen, closing one eye completely; puffy and everted; nose and chin were infiltrated and cheeks present a mass of tubercular syphilis. On removing the crusts the underlying surface was of deep raw-ham tint, superficially ulcerated at many points. Pharyngitis and characteristic congestion of the anterior pillars were present. The patient had been under treatment at irregular intervals. October 30, the Wassermann reaction was positive; urinary examination negative; heart normal. November 3, leukocyte count 12,500; 0.5 gm. of salvarsan was injected under the scapula by Dr. Engman after method of Wechselmann. November 4, leukocyte count was 13,200; November 5, it was 12,000; four days later it was 12,000; Wassermann reaction positive; marked improvement of lesions. The infiltration had practically disappeared; outline of eyelids and lips was normal; discoloration as deep as ever. Two weeks later the patient was transferred to out-clinic. The discoloration was much less; no other remaining evidence of disease except scars on forehead and nose. Eighteen days later the Wassermann reaction was positive; discoloration fading, semifluid mass at site of injection slowly disappearing; no pain.

CASE 8.—G. McD., a man aged 24, a patient at the Skin and Cancer Hospital, applied for treatment in 1909 for scaly lesions on nose, eyebrows, elbow, neck and shoulders and was treated for two months with intramuscular injections of mercuric bichlorid after which most of the lesions disappeared; stopped treatment and a relapse of the lesions occurred within a short time. He stated that his treatment had been irregular, because a cessation of treatment had always been followed by an immediate relapse. Nov. 6, 1910, he entered the hospital, at which time all of the former erythematous, papulo-tubercular and scaly lesions were again active. The lesion on the right elbow was ulcerated and there were small ulcerations of the nasal septum. The patient's physical condition was otherwise normal; urine normal; leukocyte count 13,000; Wassermann reaction positive. The patient was given 0.5 gm. of salvarsan after the method of Wechselmann. In preparing the mixture the salvarsan was dissolved in 0.1 per cent. sodium hydroxid solution instead of 20 per cent. In neutralizing, a large amount of sodium hydroxid was necessary, so that there were 30 c.c. of the mixture. This was injected subcutaneously under each scapula, November 8, and was followed by considerable pain for several hours at the site of the injection. Morphin gave relief. There was no pain twenty-four hours later; sites of injection were elevated and indurated; lesions paler. Leukocyte count was 17,650; urine normal. Eight days later sites of injection were infiltrated, but not painful; lesions on face nearly gone; patient said he felt better than he had for several years. Fifteen days later most of the lesions had entirely disappeared, and the patient had gained 6 pounds. Three weeks later all lesions were entirely well except the ulcer on the elbow, which had healed, and the only remnant of lesion was an erythematous, thin scar. The improvement was striking; Wassermann reaction positive; urine normal. Four weeks later the patient was apparently cured. The leukocyte count was 8,200 and the Wassermann reaction positive.

CASE 9.—Baby P., a bottle-fed private patient, referred by Dr. Doyle, was first observed Oct. 3, 1910, when she was 11 weeks old. The entire body was covered with an erythematous, scaly, macular eruption. The neck, trunk, and especially the genito-crural regions, were involved in confluent patches of the so-called luetic eczema. Both ears discharged pus, showing middle-ear involvement. The mother stated that the eruption had appeared two weeks after birth. The ear affection appeared a week before observation. The child's face had the characteristic, wrinkled, "old-man" appearance; she had "snuffles," and presented a typical congenital secondary syphilis. The Wassermann reaction, however, was negative. In view of the clinical diagnosis, inunctions were prescribed, and followed by immediate improvement in the general condition; the ears became well and the eruption disappeared rapidly. The inunctions were too irritating after a week, and powders containing one-half grain of mercury with chalk were given three times a day. The improvement was rapid, and the eruption disappeared without local treatment.

November 18 it was decided to give the patient salvarsan. At this time there were no skin symptoms of lues. The injection was prepared after the Wechselmann method, and 0.1 gm. was injected subcutaneously under the left scapula. Two days later there was a large elevated tumor of infiltration as large as a guinea-egg. The general condition remained good, except that the tumor from the injection was large and red at times, raising and receding. Twelve days later the tumor was as large as ever and the baby was very fretful. The temperature varied from 100 to 102 F. The tumor showed some infiltration, though there was no central softening. The luetic lesions showed no signs of recurrence.

On December 1 the nodule showed fluctuation and was incised. A small amount of fluid blood and pus was discharged.

December 6 the site of the injection was an elevated, indurated infiltration, 2 inches long, 1 inch wide and three-fourths of an inch high. The edges of the incision wound showed the mass to be organized, hard, and with no tendency to heal. The mother stated that there was constant constipation, relieved only by enemas, and that the general condition was not very good. Sleep was irregular, and at times considerable perspiration appeared over the forehead and scalp. Crying was paroxysmal. Nourishment was taken from the bottle at regular times. There was no indigestion.

December 12 there was marked improvement in the general condition. The site of the injection was still open; the discharge was serous.

CASE 10.—A. J., a private patient, aged 2 months, referred by Dr. Henckler, was first examined Nov. 13, 1910. The baby was covered with an universal, typical, macular eruption of syphilis, was very much emaciated and presented the characteristic "old-man" appearance, with "snuffles." The baby was born with the eruption on the hands, and moist papules around the anus. The Wassermann reaction was positive only to moderate degree. The baby was practically in a dying condition when first examined. Mercury with chalk was given three times a day for five days and some improvement was noted. November 18 it was decided to give an injection of salvarsan. Accordingly, 1 c.c. of a 6 c.c. mixture of 0.4 gm. prepared after Wechselmann's method, was injected subcutaneously under the left scapula. The baby was so emaciated that there

was no subcutaneous tissue at the site of injection. It was first decided to give the treatment to the mother, but the child was in such a bad condition that it was deemed advisable to treat him directly to save time. The patient died twenty-four hours after the injection and a necropsy was not obtainable.

CASE 11.—W. McG., a man, aged 25, referred by Dr. Urban, was infected with syphilis, April 1, 1909, and put on treatment within two weeks. Three weeks later the secondaries appeared; three weeks after this, destructive tubercular ulcerations began to appear over his face and body, showing a rapid and malignant lues.

The patient then went to Hot Springs, Ark., where the lesions all healed under inunctions, after a seven weeks' course. The tubercular ulcerations reappeared in a short time, and when he was first observed at the City Hospital in February, 1910, most of his body was covered with large and small papulo-tubercular lesions and ulcerations. A course of injections of bichlorid cleared up all the lesions; but two months prior to admission they began to appear again at the old sites.

November 28 he had two large lesions 4 inches in diameter on the left arm, another on left thigh posteriorly, and a few smaller ones on the chest and back. The middle turbinate on the left side had sloughed away. He was pale and rather weak. The urine was normal. Physical examination showed no visceral lesions; leukocyte count 11,350; Wassermann reaction positive. An injection of 0.5 gm. of salvarsan, prepared after the method of Junkermann, was given in the buttocks, preceded fifteen minutes by an injection of ¼ gr. of morphin. The pain was immediate and very severe. A second injection of ¼ gr. was given and morphin was again necessary one hour later. Twelve hours later his temperature had risen from normal to 102 F., the pain had disappeared and he was comfortable. He stated that all of the active lesions had a peculiar tingling, burning sensation, some of them being somewhat painful.

November 29 all of the active lesions, which had only shown superficial ulceration, with much crusting, were now red, deeply ulcerated, and there was considerable reactionary inflammation. Four days later all of the active lesions, except the one on the chest, which was much paler and less infiltrated, had sloughed, with a large amount of débris and pus discharge. He gained 5 pounds in weight in four days. Six days later the leukocyte count was 15,850; urine normal. The lesions were all healthy-looking granulating surfaces, with little or no infiltration. Daily improvement was rapid and marked. The urine was normal. Nine days later the surfaces of ulceration on the arm were quite red and apparently granulating. Close inspection showed the surface to be covered with a very thin film of epithelium as though the granulating surface had been painted with a weak solution of silver nitrate. Within twenty-four hours the thin epithelium covered the entire former ulcer, which was 3 inches in diameter, apparently not growing from the periphery, as is usual in the healing of this variety of ulceration. The patient on his discharge had gained 7 pounds in ten days.

CASE 12.—A man, aged 31, a private patient, had been infected with syphilis seven years previously. Eighteen months before examination squamous syphilids appeared on the thumbs; six weeks before examination typical papular, scaly syphilids developed on his nose and chin. Scaly, squamous lesions were still present on his thumbs. Physical examination revealed no abnormalities; urine was normal; Wassermann reaction positive; leukocyte count 9,900. November 17 an injection of 0.5 gm. of salvarsan was given after the method of Junkermann. The pain was very severe for twelve hours. Ten days later the lesions were nearly all healed. The Wassermann reaction was positive.

CASE 13.—S., aged 40, was referred by Dr. Unterberg with a diagnosis of tabes dorsalis. Examination revealed the following: first nerve normal; third, fourth and sixth unequal; pupils reacted slightly, if at all, to direct light, consensually or to accommodation; ocular excursions normal; fifth nerve, bilateral hyperesthesia over the nose and forehead; eighth nerve normal; seventh, facial innervation equal on both sides; sense of taste dull over entire tongue; tongue deviated to right on protrusion; other cranial nerves normal. Spinal nerves, cervical normal; dorsals, area of hyperesthesia on left side between third and sixth ribs, and over the abdomen in a belt extending from the lower margin of seventh rib to 2 inches below umbilicus; abdominal and cremasteric reflexes not obtainable; sensation of right leg good; left leg markedly delayed—one to two seconds; knee-jerks and Achilles reflex absent; no Oppenheim, Gordon or Babinski; movements incoordinate; Romberg sign present; Wassermann reaction positive; urine normal; leukocyte count 8,000. An injection was given of 0.5 gm. of salvarsan, after the method of Wechselmann. Five days later the patient suffered very little pain; general condition somewhat improved. There was no change in the tabetic symptoms. Two weeks later there was no improvement.

CASE 14.—W. S., aged 19, seen at Alexian Brothers' Hospital, was admitted to the hospital with a chancre on the prepuce, generally distributed maculopapular syphilid on face and body, intense throat symptoms, with great swelling of glands of neck and lymphadenitis in both inguinal regions. The patient was placed on inunctions daily for two weeks and the symptoms were slowly improving. Nov. 17, 1910, the throat symptoms, lymph-nodes and papules were still marked. At 4 p. m. the patient was given 0.4 gm. of salvarsan, after the method of Wechselmann. There was no pain for two weeks, after which the pain became very severe and the area at the point of injection very red. The following day pain continued, the face was flushed, and the area of injection had become very hot and painful to the touch. The pupils were dilated; patient had a diarrhea and temperature reached 100 F. The urine voided was in excess, turbid in character, and contained a large amount of precipitate of earthy phosphates. On the third day red blood-cells were present in the urine; the pain had subsided; the patient stated that he felt better than he had for two months; his expression was alert, skin perfectly clear; the entire eruption had disappeared over night. On the sixth day the Wassermann test was negative; throat symptoms had subsided; enlargement of glands was disappearing, the patient felt well and was discharged.

CASE 15.—G. R., aged 28, was referred by Dr. Lutz with a diagnosis of taboparesis. He had acquired syphilis seven years previously; no secondaries followed, and he had no internal treatment. Five months before he was seen by us he developed lightning pains in the legs, perineum, penis and testicles. Headaches were very severe during the last six weeks. The pupils were immobile to light and accommodation. Injection was made of 0.5 gm. of salvarsan on November 17, after the method of Junkermann. Examination showed Argyll-Robertson pupils, exaggerated knee-jerks, more marked on the right side, loss of pain-sense below the knee, retention of tactile sense below the knee, anesthetic cuirass 4 inches wide at the nipple-line; gastric and rectal crises and lightning pains; a slur in the speech, and the mental symptoms of incipient paresis. Two weeks later the patient showed no improvement.

CASE 16.—Mrs. C., aged 35, patient of Dr. Fischel, was referred with a diagnosis, made by exclusion, of syphilitic ulcers of the stomach. There was a definite history of syphilis, acquired three years before. Physical examination revealed no visceral lesions. Her symptoms were frequent vomiting, at times tinged with blood, and occult blood in the stools. The Wassermann reaction was positive; leukocyte count 9,000; urine normal. Injection was made October 16 of 0.5 gm. of salvarsan under left scapula after the method of Wechselmann. There was great local reaction, and two weeks later the site of the injection sloughed, leaving an ulceration the size of a dollar. Cultures from the lesion were sterile. Vomiting ceased within two weeks, and the blood disappeared from the stools. If the ulcers were syphilitic, they evidently became well in two weeks. The leukocyte count was 7,600 the next day after the injection. The history in this case is not as complete as it should be.

One is not justified, perhaps, in drawing conclusions from the observation of sixteen cases, but the following comments may be made:

The baby, two months old, who died twenty-four hours after receiving the injection was practically dying at the time, and the treatment was not responsible for its death.

Patient 3 (I. B.) was the only one to whom a second dose was administered, the first evidently not being large enough to kill all the spirochetes. He then made rapid improvement. Patients in whom lesions were quite active showed leukocytosis, which became more marked in from twenty-four to forty-eight hours after the injection, gradually returning to normal in from two to four weeks.

Patient 2 (M. L.) developed nephritis, which soon cleared up without special medication.

Patient 14 (W. S.) had blood-cells in his urine, following the injection, but they disappeared in a few days.

The two patients with nerve syphilis, Nos. 13 and 15, returned for observation later and were undoubtedly worse than they were before the injections.

In Cases 9 and 16, the injections produced sloughing. The slough in Patient 16 healed nicely three weeks later. In Case 9, the incised tumor discharged sterile serum, but was very slow in healing.

The pulse and temperature reactions were slight, with but one or two exceptions. None of the patients showed symptoms of arsenical poisoning.

In those showing marked improvement, the gain in weight in some instances was striking.

To be perfectly fair, except in Case 2 (M. L.), we have seen equally as rapid disappearance of skin manifestations from the use of injections of mercury; but several of the cases herein reported seemed to be rebellious to mercury. Reasoning from analogy and our knowledge of chemical therapy, a certain per cent. of cases will also, no doubt, prove rebellious to Ehrlich's remedy; but no matter how many may prove rebellious, it has a remarkable effect on the cutaneous manifestations of syphilis.

Humboldt Building.

THE DIAGNOSIS OF OPERABILITY OF CARCINOMA OF THE UTERINE CERVIX*

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Operability is a condition dependent on the operator as much as on the patient. This obtains as much in operations for fibroids as in operations for carcinoma. What to one operator is an inoperable fibroid, presents to the other a moderately difficult task. In carcinoma the personal factor enters even more into the determination of operability. I know of surgeons who refuse to operate in any case of carcinoma of the cervix; others who will do only operations which have a low primary mortality; others again whom no amount of primary mortality can deter from the most desperate attempts. Each one of them has his own conception of operability, which, expressed in figures, would vary between zero and 80 per cent. of all cases.

Operability to one surgeon appears to be the condition in which it is possible to take out the carcinomatous uterus. Such a surgeon would probably have a percentage of operability approaching 80 per cent. Other surgeons have no faith in surgical operations for carcinoma, either because they have not operated sufficiently extensively and have had a shocking number of recurrences, or have done poor surgery and have had a mortality following their operations which precluded further efforts on their part. This class sometimes hides behind the oft-repeated statement that it is no use to operate on carcinoma anyhow, because in those cases that were really carcinoma recurrence always follows and those in which recurrence does not take place were not really carcinoma, microscopic diagnosis nothwithstanding.

To find some foundation on which to base a scientific discussion, it is necessary to recall a few generally accepted results of clinical experience and pathologic investigation.

First, the diagnosis of carcinoma must be based on microscopic evidence. This evidence, I am happy to say, is now so generally accepted that the statements concerning microscopic diagnosis which a few years ago resounded from prominent rostrums need no further refutation. It is sufficient to repeat that it is not the microscope or the stain or the method of imbedding or cutting which makes the diagnosis, but the man who looks through the microscope.

Second, in cases which have been diagnosed as carcinoma by reliable microscopic investigation the patients have been cured by operation in numerous instances and have remained cured for many years after the operation. Therefore it is certain that cases of carcinoma can be cured by operation.

INDICATIONS AND CONTRA-INDICATIONS FOR OPERATION

The cases which give the best chances of a complete cure by operation are the cases in which the carcinoma is small and limited in extent. These cases give the best chances because the operations can be done in freely movable tissues and without sepsis being present in the field of operation; therefore with low primary mortality. Furthermore, the chances of removing all of the carcinoma are good, therefore the remote results are satisfactory.

The cases which give the most unfavorable results are those in which the carcinoma has involved the tissues extensively, and in which infection of the disintegrating tissue has taken place. These cases are bad risks for both primary mortality and remote results.

It is evident that every carcinoma has a stage when it is in its beginning and when its operative cure would be safe and lasting. It is regrettable that only a pitifully small percentage of such cases reach the operator. Somebody is to blame in every case in which this stage has been allowed to pass unrecognized and unoperated. If we are charitable, we are willing to assume that in most cases the patient herself is to blame, who through ignorance, superstition, fanaticism or fear commits suicide by the carcinoma route. If we are less charitable and more inclined to criticism, we remember the many cases in which the physician is to blame who fails to make the diagnosis.

Once this ideal stage of carcinoma, if I may so call it, is passed, the carcinoma patient reaches a condition in which many factors enter into the determination of her chances and in which conscientious and able surgeons may vary widely in their individual opinions.

This much we may hope to maintain, that every operation for the removal of carcinoma is undertaken with the hope and intention of removing all of the carcinoma, and that any operation which fails to remove all of the

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

carcinoma is a failure, whether the patient survives it or not. If the patient survives an operation for carcinoma which fails to remove all of the carcinoma, her condition is not essentially different from that of the woman whose carcinomatous uterus has not been removed, but only curetted and cauterized. And the chances of the two are nearly equal as far as length of life after the operation is concerned (an average of eighteen months with wide, but exceptional, variations above and below that average).

There is no question that with modern methods of hemostasis it is possible to remove almost any uterus affected with carcinoma, but it is also beyond question that this kind of operation is a perfectly useless sort of tight-rope performance; and, let it be understood clearly, it is the patient who must walk the rope, not the surgeon.

When it appears impossible to eradicate the disease completely by operation, the patient is better off with a simple palliative operative treatment. Palliative slight operations achieve nothing but a mitigation of the living death, but they do not render surgery abhorrent to the next patient who may be a good risk.

From what we know about the lawless ways of carcinoma of the cervix, it becomes clear that the more of the tissue surrounding the original seat of the carcinoma is removed the greater the chances of removing all of the carcinoma and of accomplishing a lasting cure. Unfortunately, the primary mortality increases in direct ratio with the extent of the operation. Furthermore, the cervix is in a particularly unfavorable location for wide excision of the surrounding tissues. In general we desire to keep at least an inch from the carcinoma in our operations. Who can do that in the structure attached to the cervix in front, the bladder? And who has the courage to advise complete removal of the posterior wall of the bladder with resection and reimplantation of the ureters in every operation for carcinoma of the uterus? Furthermore, the extension of the carcinoma of the cervix along the lymphatics is particularly treacherous, the paths leading underneath the apparently intact vagina, sometimes to considerable distances, and through apparently intact broad ligaments to lymphatic glands inside and outside the pelvis.

With all these obstacles which threaten our results, we must keep in mind that the farther away from the primary carcinoma we keep with our excision, and the farther away from the primary carcinoma we head off the outposts of the carcinoma the greater the certainty of a lasting result.

OPERATION

The operation which I have had the honor to propose to the profession in 1895, and which has since been modified and moderated and variously called the extensive Freund operation or the Wertheim operation, was the result of these and similar considerations. The intention was to keep as far away from the primary seat of the carcinoma as possible, to remove not only the primary carcinoma, but all of the surrounding tissues to an extent which would include the most probable first metastatic outposts, and at the same time to evolve a technic which would give a fair chance to the patient to survive the necessarily extensive operation. My first imitators had a mortality which soon made them more conservative, and at the present time, as far as I can ascertain, I am still the most radical operator, with the result that all of the patients who have left the hospital after a complete operation are to-day alive and free from pelvic carcinoma.

SUMMARY OF RESULTS

I have treated between 1897 and the end of 1909 33 patients with carcinoma of the cervix. Eleven of these were too far advanced for anything except palliative treatment. Of the 22 operated on 8 died from the operation, 2 from hemorrhage, 2 from the anesthetic, 4 from septic conditions. Of the 14 surviving the operation, 2 were operated on incompletely, the operation being interrupted when it was found impossible to complete it. Of the 12 with completed operation, one on examination of the specimen proved to be carcinoma just above the cervix and therefore belongs among the carcinomas of the body. One patient whom I reported to the Boston meeting of the American Medical Association as having had a recurrence in the external inguinal glands under the skin nine years after the first operation, I lost track of one year after the second operation. She was therefore alive ten years after the first operation. She belongs to the submerged stratum of society and I have little hope of finding her again. The 10 known survivors were operated on as follows: 1908, one; 1899, one; 1900, one; 1901, two; 1903, one; 1906, one; 1908, one; 1909, two. The number is so small that it is hardly worth while to figure out percentages. Suffice it to say that out of 17 who came to treatment from thirteen years to five years ago, 14 have been operated on by the radical operation, 1 has been lost sight of, 1 was carcinoma of the body, 6 died and 6 are alive and well to-day; 1 twelve, 1 eleven, 1 ten, 2 nine, 1 seven years.

After this operative experience and the pathologic study of the specimens removed, the principles which I announced in 1895 remain unchanged. But I must repeat that the value of this operation lies rather in the possibility of more numerous, complete and lasting cures of favorable cases than in the possibility of operating on advanced cases which are not amenable to treatment by the older methods.

Carrying out this operation I found, as was to be expected, that certain cases are inoperable which formerly would have been considered operable. On the other hand, certain classes of cases were demonstrated as amenable to operation which formerly were regarded as hopeless, as will appear in the further discussion.

Coming to the more technical points of this discussion, it may be said that there is no case which is inoperable for the palliative methods. Even those patients who cannot safely take an anesthetic can be submitted to this palliative treatment, as it can be carried out without an anesthetic or with a little morphin, in practically all cases.

The radical operation as I practice it, is a severe and dangerous operation in itself, even where the conditions are reasonably favorable as far as the extent of disease is concerned. Patients who are very anemic in consequence of prolonged and severe hemorrhages stand the anesthetic poorly and are poor risks even with scopolamin-morphin or spinal anesthesia. If preparatory treatment of short duration directed towards raising the hemoglobin percentage and the red blood count is not rapidly successful, the danger is considerable. Short stout patients of stocky frame are hard to operate on. Even tall patients, when very obese, offer great obstacles and the operation is liable to be extremely difficult and long, and therefore risky. Patients with nephritis, chronic bronchitis and emphysema and valvular lesions of the heart are in special danger. Preparatory treat-

ment should be tried in these cases for a short time. If it is not rapidly successful the patient should be informed of the additional risk she is running. I have repeatedly operated on patients with well-compensated heart-lesions without bad results.

The bacteriology of the carcinomatous surface is of great importance. Practically all carcinomas contain microorganisms of varying degrees of virulence. The danger of infecting the pelvic connective tissue and the peritoneum is always present in spite of various technical precautions which have been advised. It is safe to say that it is impossible to render an infected carcinomatous ulcer aseptic, whatever the preparatory treatment may be. The carcinomatous area may be opened into in the course of the operation, if the uterus tears, and carcinomas of the cervical canal are particularly treacherous in this respect. In order to lower the primary mortality it has been advised to give preparatory treatment to the septic carcinomatous areas for weeks, if necessary, before the main operation. But it is not safe to let a carcinoma go on for weeks, because in the course of these weeks it may become hopelessly inoperable, even if a little cleaner on the surface. In addition it must be stated that preliminary curetting and cauterizing in itself is not without danger. It is often followed by rise of temperature, sometimes even by exudates, which may render the radical operation impossible. Preparation of the carcinoma the day before the main operation or immediately preceding the main operation seems to be the best method. Patients who develop high temperature and septic conditions if prepared one day before the intended main operation, are best left without operation.

DIAGNOSIS OF EXTENT OF INVASION

The extent of the neoplasm is necessarily of prime importance with regard to the operability of the case. It is diagnosed before, during and after the operation, and often the result of the investigation at one of these periods is vastly at variance with that at another period.

Before the operation the methods used in the diagnosis of the operability of the carcinoma are inspection in the speculum, palpation, vaginal, rectal, abdominal and combined, and lastly cystoscopy.

The speculum is mentioned only to be condemned as practically useless. Cystoscopy should theoretically give safe indications, but does so only in a very limited way. If the cystoscope shows that the carcinoma has grown through into the bladder, it has been of value, because it shows the case to be inoperable. But the other conditions found in the bladder, edema, bullous edema and distortion of the bladder, are not reliable. They may be due as much to the infected condition of the carcinoma as to carcinomatous invasion of the bladder itself. Unless the cystoscope shows actual involvement of the bladder mucosa, the case need not be considered inoperable until further investigation.

Vaginal palpation of the carcinoma, especially after as much of the neoplasm as possible has been removed with the curette, shows the involvement of the uterus and surrounding tissues with a reasonable amount of accuracy. Extensive involvement of the vagina especially if extending into the depth, extensive destruction of the cervix, especially if involving the broad ligaments, characterize the case as inoperable. Palpation through the rectum may reveal thickening and rigidity of the ligaments which might make the operation useless. Palpation of the glands in the pelvis through the rectum has been recommended, but I myself have never been able to palpate glands even if I found them enlarged afterward in the course of the operation.

Abdominal palpation might reveal carcinoma of abdominal organs outside the pelvis, thereby forbidding the operation. Palpation of the uterus through the abdomen may reveal a large tumor, but that in itself is not a serious obstacle.

Combined palpation, vaginal and abdominal, or vaginal, rectal and abdominal, will demonstrate the amount of mobility of the uterus and the condition of the ligaments. Free mobility of the uterus, which was of prime importance in the days of the old vaginal hysterectomy, is of much less importance for the method I advise, unless the immobility is due to carcinomatous involvement. If the immobility is due to carcinomatous fixation, the operation is not theoretically impossible, but it is practically useless as far as remote results are concerned. It is one of the important advances achieved by the performance of the radical abdominal operation that we know now that a uterus which appears immovable on combined palpation, may be perfectly operable, with good remote result, because in a number of cases the fixation is not due to carcinoma but to chronic inflammatory thickening of the ligaments.

CONDITIONS REVEALED AT OPERATION

In the course of the operation the operability may appear entirely different from that diagnosed before operation. Small metastatic tumors in the liver or carcinomatous adhesions to the intestines or omentum may be found immediately on opening the abdominal cavity, and classify the case at once as hopeless, when no amount of abdominal or combined palpation preceding the operation had revealed these conditions.

Therefore it is an important rule that every radical abdominal operation for carcinoma of the cervix should be begun as an exploratory operation. A rapid review of the liver, the abdominal glands along the aorta and its branches and of the bladder, must precede the actual operating in the pelvis. Conditions may be revealed here which forbid all further interference. Metastatic tumors of the liver make the case absolutely hopeless, as do also large carcinoma masses in the broad ligament, especially if they have perforated the ligaments and have made metastatic nodules on the peritoneum in the cul-de-sac or anywhere else. The condition of the glands is very difficult to interpret correctly. Large glands may or may not be cancerous and small glands are not necessarily free from cancer. Firm attachment of the glands to the veins must be considered very suspicious. This finding may occur in cases in which the carcinoma seemed confined to a small area in the uterus. These are the cases which appear perfectly operable on careful examination before the operation and prove incurable in the course of the operation. Toughness of the broad ligaments, if not combined with actual tumor formation, does not necessarily indicate carcinomatous involvement.

In the course of the operation conditions may be encountered which show the operation to be useless after it is more or less completed. For instance, it may be found, after removing evidently cancerous glands along the common and internal and external iliacs, that cancerous chains of glands extend under Poupart's ligament down into both thighs—a condition which I have seen. Or, in detaching the vagina, about the last step of the operation in the pelvis, it may be found that the pelvic connective tissue is invaded to an unexpected extent, a condition which I have seen. Then we have performed

an apparently well-indicated operation and do not discover until its very end that it was all useless.

MICROSCOPIC STUDY OF THE TUMOR AND TISSUES

After the operation follows the extremely important microscopic investigation of the specimen. No amount of operative technic can further our knowledge so much as a carefully conducted pathologic investigation of the specimen with constant comparison of the findings before and during the operation, with those of the post-operative investigation. This post-operative examination uncovers all shortcomings of our diagnosis and of our operative technic, and must be the basis of future improvements. There is no greater satisfaction than to find that the results agree in all three stages, and no greater incentive for further work than to find out where and why they do not agree. Literally thousands of sections of glands and broad ligaments and cervix are required to make sure that we have operated outside the carcinoma, but this work, laborious and heart-breaking as it may be, is a most essential part of our task, on which the rational surgical treatment of carcinoma of the cervix must be based.

100 State Street.

USE OF THE CAUTERY IN TREATMENT OF CARCINOMA OF THE CERVIX*

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Hysterectomy for carcinoma of the cervix has been a more or less unsatisfactory operation, the large percentage of early recurrences being an especially distressing feature of its results. The treatment of operable cases has now progressed to a well-nigh perfect degree of technic in competent hands. The radical abdominal operation, like the radical breast operation, when properly done, leaves nothing more that can be done in an operative way.

The one remaining thing to accomplish is to educate both the laity and physician to such a point that the patient will present herself early to her physician, and that the physician will make an early diagnosis, which being made, the patient will be forthwith sent for operation, rather than be kept under the physician's remunerative local treatments till the golden opportunity has passed. When such a condition has been obtained the statistics of radical pelvic extirpation will show different results than those of the past.

The experience of all operators is that a very large percentage of cervical carcinoma cases are much more advanced than the examination at first seems to show.

Bovée has said that fully 80 per cent. of all cases of carcinoma of the cervix are inoperable. The squamous-celled carcinoma of the portio vaginalis, as shown by Montgomery, is less malignant than the adenocarcinoma originating in the glands of the cervical mucous membrane. The latter much earlier involve the lymphatics than do the former.

Emil Ries, Wertheim, Clark, Sampson, Bovée and others have shown years ago that lymphatic involvement high up may exist when no suspicion or evidence of it existed on examination. Unfortunately, we shall always have a much larger percentage of inoperable cases with us than we would wish for. It seems to be a necessary step to decide definitely in our minds between what constitutes an operable and an inoperable case. The statistics of the past would have been better had there been a well-defined line of demarcation between these two classes.

An operable case can be defined as one in which the disease is confined to uterine tissue alone, and an inoperable case, one in which the growth has involved surrounding tissues. It is often impossible to determine these questions until the patient is anesthetized. Examination through the rectum, high up, is necessary, as well as the vaginal examination. The rectal examination often tells more than the vaginal. If pain has been, to any extent, a symptom, it is probable that the extension is outside, for carcinoma of uterine tissue produces no pain nor tenderness.

Operations which do not remove all the diseased tissues only hasten the process of growth, as witnessed by the reported rapid recurrences in so large a percentage of cases. Many of these patients would live longer if they were never operated on. Another fruitful source of recurrence has probably been infection of raw surfaces at time of operation, as evidenced in the prompt recurrence in the scar in the vaginal vault. This scar would not be the first point of return were it not for this fact.

The late Dr. John Byrne of New York nearly twenty years ago demonstrated what he could do with the actual cautery in inoperable cases of carcinoma of the cervix. He reported a series of successful operations by the method of which he was the author, which to this day excels in results any that have been done by any other operator. He wrote of his method and reported his results from time to time till his death, but for some unknown reason his methods were never persistently followed by any of the army of operators who knew what he was doing. Dr. Byrne, in a discussion of one of Dr. Boldt's papers on carcinoma, made this statement relative to the apathy of the profession as to the cautery operation:

> That the great bulk of our profession have practically ignored one of the least dangerous, but most successful of all the means yet devised for the relief and often permanent cure of uterine cancer is something *not* to be proud of in this age of progress.

His report made in 1896 as president of the American Gynecological Society embraced two series of cases, one consisting of 63 patients operated on for cancer of the portio vaginalis, of whom 23 patients had strayed away, leaving only 40 to account for. Of these, "exemptions from relapse were obtained ranging from two to twenty-two years, averaging nine years for each."

In the second series of 81 cases, out of which 31 patients had strayed, he reported exemption from relapse as follows: 10 for over two years; 11 for over three years; 6 over four years; 8 over five years; 6 over seven; 2 over eleven; 1 over thirteen and 1 over seventeen years. He further reported one of his stray patients, a very unpromising one when operated on in 1875, discovered alive and well twenty-one years afterward.

Undoubtedly a goodly proportion of the patients subjected to hysterectomy in the past would have been as well, and probably better off without operation, and would have lived longer. It is manifestly our duty not to operate when the results of such operations are known not to relieve, but probably hasten the death of the patient. But we cannot desert these poor sufferers. And in the cautery operation of Dr. Byrne we have the means

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of doing for them that which cannot be done in any other way. All the other makeshifts, the chemical caustics, such as zinc chlorid, pyoktanin, bromin, etc., are useless as compared to the galvanocautery, because they are difficult to control and of doubtful efficacy.

The galvanocautery can be controlled, and all done while the patient is under the anesthetic. When the cautery is withdrawn we are sure that no further destruction of tissues is going on. With the chemical caustics such is not the case. Besides, the cautery is more penetrating and certain in its results.

The acetone treatment, to which Dr. Gellhorn of St. Louis first called attention by his publication in THE JOURNAL of this Association in 1907, and later in the *American Journal of Obstetrics and Gynecology,* I have never tried. I have been trying out the cautery in this class of cases. Acetone is not to be classed with bromin, zinc chlorid, etc., because it is not a caustic and is followed by no sloughing. It is more of a hardening fluid; but from all reports I doubt that its depth of penetration is equal to that of the cautery. One of the strongest points in favor of the cautery is that scar tissue follows its use, and as scar tissue always is contracting, it to a greater or less extent interferes with the nutrition of the cancer growth and thereby prevents recurrence or inhibits rapid recurrence and growth.

When the carcinomatous growth has progressed to the stage of breaking down with hemorrhage and infection, we have not only the results of the hemorrhage on the general health of the patient, but we also have various grades of toxemia from the infective processes accompanying the sloughing and bleeding cancer tissue. Both the hemorrhages and the infection may be stopped by the thorough use of the cautery, thereby controlling two of the prominent inroads on the health and life of the patient. And if in addition thereto we take into consideration the cessation of foul, fetid discharges, which are disgusting to the patient and all about her, we have added no inconsiderable blessing to her existence. By this means if we do not permanently cure the patient, we are adding to her length of days as well as making her life more happy and tolerable.

Manifestly cauterization of a fungating cervix will not cure the patient if the infection has passed up into the pelvic lymphatics beyond the reach of the cautery. But in a small portion of cases, even far advanced, infection of the lymphatics higher up has not occurred, or else Dr. Byrne could not have had patients alive five to twenty years after cauterization with no evidence of any carcinoma present. Undoubtedly many of his successes were in cases which were seen comparatively early in the disease, and as he treated all patients with cancer of the cervix with the cautery, instead of hysterectomy, his results would naturally give a larger percentage of cures than are obtained by treating the inoperable cases only, by this method. Cases which we consider safely operable are seldom if ever treated in this way, but the radical operation is done probably with as great or better chances of non-recurrence, with a proper technic, to prevent reinfection at time of operation.

The sharp curette is the adjuvant of the cautery in the inoperable class. By it all the soft bleeding mass may be removed, thus excavating down to the basement carcinoma. All of the cylindrical water-cooled speculums which have been devised, to my way of thinking, are hindrances rather than helps to the efficient performance of this operation, because by their thickness they so limit the field of operation and vision that I, at least, cannot do it thoroughly. Burning of the vagina or bladder may be prevented by placing over the blades of speculums and retractors moist gauze jackets made to fit them. By this means a wide field of vision and action is obtained. After curetting away all the soft tissues, there is more or less oozing and sometimes bleeding.

Dr. Boldt, several years ago, suggested, and I think practiced, packing the crater thus made and waiting a day or two before using the cautery. If there is too free bleeding which cannot be readily controlled, this is a good plan to follow, for the effective use of the cautery demands a comparatively dry surface; otherwise the penetration of heat from the cautery tip will not be sufficient. Dr. Byrne used a saturated solution of zinc acetate with 25 per cent. of strong acetic acid to stop oozing and to dry the curetted surfaces before using the cautery. The acetone, from Dr. Gellhorn's report, will also prove to be an ideal application to stop all oozing.

I think that many operators have failed to get results and have given up the attempt to do this operation because they have not used a good and efficient cautery. No Paquelin thermocautery apparatus that I have ever seen can do the work properly. Only the right kind of electrothermocautery will do this work efficiently. Ordinary cautery batteries are of doubtful utility. The ordinary street current used for incandescent electric lighting, controlled by a rheostat, gives the necessary power to heat a platinum dome to any degree desired from dull red to white heat. Before using the dome the operator should determine where he desires the most penetration, where the tissues are thickest and what he wishes to avoid, be it bladder or peritoneal cavity. The peritoneum has been opened by the cautery with no ill results. So long as intestines are not burned, no peritoneal opening could be made under more aseptic precaution. The bladder, rectum and ureters only are to be avoided. The uterine arteries, if not exposed, may be destroyed by the deep cooking process with impunity, for they will, long before the slough comes away, have been effectually sealed. Dr. Byrne suggested that no packing be used in the crater subsequent to the cautery, as in its removal the slough might be forcibly torn away and hemorrhage follow. Natural separation I have never known to produce any bleeding.

The best results may be secured by not placing the heated dome against the tissues, but by holding it near them, thus allowing the heat to make the greatest penetration, roasting them as it were. If the bladder is well held up by a wet gauze-protected retractor it will never be damaged; neither will the penetration of the heat reach the ureters unless it is much overdone.

It is only within the past five or six years that I have been doing this work in a manner which has appealed to me as effectual in this class of cases. Some of the patients have lived two or three years very comfortably; two have been, I believe, absolutely cured, now living, one four and the other five years. One had passed the menopause, and she has a shriveled cicatrix where her uterus was, and is well. The other was not yet past the menopause and had hematometra after the cautery, by occlusion of the uterine canal, for which I did a vaginal hysterectomy. This uterus was investigated thoroughly after removal and not one slide showed any vestige of cancer tissue in it. She is well five years after the last operation. In general, all of these patients have been

made more comfortable than were those whom I formerly operated on and have lived longer.

I have done several hysterectomies for those whom I cauterized three or four times previously to the operation. The effect of the cicatricial deposits after the use of the cautery has been to inhibit the growth of the cancer to an extent which warranted me in making the attempt to do a radical abdominal operation later.

I wish, therefore, to suggest the idea of using the cautery as a means of preparing a limited number of these patients for later radical operation. I have further to suggest the use of the cautery freely before doing a radical operation, with the idea in mind that no inconsiderable part of the subsequent recurrences in the scar, as before outlined, are due to fresh infection of the raw surfaces at time of operation.

I believe that free and deep cautery of the cervix before radical operation does more to prevent such recurrences, as no other means has been devised that will not at times fail. This I believe to be a very much more important step in the technic of the radical operation than would at first thought appear.

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THE RESULTS OBTAINED BY THE RADICAL ABDOMINAL OPERATION FOR CARCINOMA OF THE UTERUS *

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The evolution of the modern radical operation for the cure of cancer of the uterus has kept pace not only with the general evolution and progress in surgery but with the modern conceptions of the pathology of cancer as well.

The abdominal radical extirpation of cancer of the uterus may be said to be still in its infancy. Sufficient time has not elapsed in which to draw definite conclusions, but this fact remains, that up to the present time our experiences with operations for cancer in all parts of the body prove that an operation which gives the least number of recurrences must conform to the following general principles, namely, "the complete removal of the diseased organ, and as much of the surrounding tissues as is possible, together with the removal of the regional lymphatic glands which drain the part affected."

There exists at the present time no other disease in gynecology around which so much interest centers, or one regarding whose surgical treatment so little unanimity of opinion exists as is the case in cancer of the uterus.

This review of the literature has been undertaken with the idea of determining, as far as may be possible at the present time, what results, immediate and remote, we may hope to obtain from the radical abdominal operation, inasmuch as this method conforms, more nearly than any other, to our present conception of what an operation for this disease should be.

In making a statistical study of the results obtained with the radical abdominal operation for cancer of the uterus, we are confronted by many difficulties. The scarcity of complete detailed reports of such operations makes an ideal statistical study almost impossible. There exists no systematic or common method of reporting the cases on record, that is, whether the operation was done early or late, or whether the cancer was of the cervix, vaginal portion, or body of the uterus. There are no large series of cases on record which have been observed for five years or more, to corroborate the final results from many operators. Another difficulty which we meet is that not all operations reported as "abdominal operations" or "abdominal hysterectomy for uterine cancer," are really operations by the radical abdominal method. So that in making a statistical study, all reports of cases which do not possess the essential requirements of the modern radical operation must be carefully excluded.

From the standpoint of malignancy, it is now generally recognized that of all the uterine cancers, the least malignant is the adenocarcinoma affecting the body, next the squamous-celled carcinoma of the vaginal portion of the cervix, and that the most malignant is the adenocarcinoma of the cervical canal. It follows that the surgical treatment of each variety will give different results and therefore, it is not exactly proper to consider them all together. In the literature, however, there are only a few instances in which the different types are separated by the operators in reporting their cases of radical abdominal operation. I have found that a separate consideration of the results obtained from the radical abdominal operation in each type of cancer of the uterus is impossible, and therefore have been obliged to consider them altogether.

I have collected from the literature and from personal communication with operators in this country, reports of 2,765 instances of the radical abdominal operation which conform to Winter's formula as to what constitutes this operation. Of these 2,467 have been gathered from the continental literature, and 298 from American surgeons. The 2,467 operations which were reported are as follows:

	Cases.
Radical Wertheim operation	1,052
Radical abdominal method	689
Amman method	5
Radical abdominal operation with cleaning out of pelvis	261
Bumm-Wertheim operation	77
Freund-Wertheim operation	183
Mackenrodt-Amman operation	13
Freund	15
Mackenrodt operation	144
Complete extirpation with parametrium and glands	28
Total	2,467

The reports of the 298 operations gathered from American surgeons were either reported as Wertheim operations, or in a personal communication to me, as "abdominal hysterectomies with a free dissection of the ureters and wide excision of the parametrium, the removal of a portion of the vagina and any enlarged glands present."

The status of the radical abdominal operation in America was illustrated by the replies received from 330 letters of inquiry sent to the leading surgeons and gynecologists of this country regarding the radical abdominal operation for cancer of the uterus. I received 140 replies, only twenty-two of which gave the experience of operators who had done the operation. From the scarcity of the number of recorded cases in the American medical journals, and from the comparatively few reports of cases obtained from personal communication, it is evident that the modern radical abdominal operation for uterine cancer has not received the recognition in this country which it has abroad. I regret that, at this

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

* For reasons of space, the article is here abbreviated by the omission of part of the historical portion and all of the bibliography. The complete article appears in the Transactions of the Section and in the author's reprints.

time, I have been unable to obtain late reports from Kelly, Clark, Cullen, and Ries, all of whom have had much experience with this method.

In this statistical study I have given Wertheim's results separately as well as combined with the general results of other operators. This has been done for the reason that one of the objections which has been raised to the more general employment of this method has been that other operators could not obtain results equal to those of Wertheim.

The following is a tabulated list of the cases reviewed.

TABLE 1.—STATISTICS OF THE OPERABILITY AND MORTALITY

CONTINENTAL OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No:	Per Cent.
Amman, J. A.[7]	5	..	1	20
DeArcangelis [8]	2	..	1	..
Berutti [9 10]	...	..	..	..
Bellocuf, F., and Sorell [11]	1	..	0	..
Bergesio and Berutti [9 10]	79	..	27	..
Berkeley, C., and Bonney, V.[12 13 14]	18	67	3	16.6
Billhaut, M.[15]	4	..	3	..
Bumm [16 17]	75	90	15	20
Cheatle, Lenthal [18]	1	..	..	..
Dobbert, T.[19]	25	..	3	..
Depage, A., and Mayer, L.[20]	1	..	..	..
Döderlein [21 22 23 24]	209	48.3-68.6	30	14.3
Ernst [25]	3	..	..	..
Ferrier [16]	15	..	3	..
Freund, H. W.[26]	15	..	3	20
von Franque, Otto [27 28 29 30]	166	..	33	20
Faure, J. L.[31 32 33]	12	..	0	..
Franz, K.[34 35 36 37 38]	140	81.35	27	19.28
Fuchs [39]	2	..	0	..
Fueth [40]	1	..	1	..
Jacobs [41 42 43 44 45]	95	..	6	6.3
Blake [45]	15	..	0	..
Jeannel [46]	33	30	11	35
Jessett and Bowerman [47]	1	..	0	..
Jessnitzer and Eugen [48]	14	..	3	..
Jonnesco, T.[49 50]	28	..	9	..
Kleinhans, F.[16 51]	32	..	3	9.4
Korner, V.[52]	7	..	3	..
Kroenig [16 53 54]	47	61.7-87	2	..
Klein, G.[55 56 57 58]	52	40	7	12.8
Kuestner [16 59 60]	20	68.7	4	19.4
Gattrono, S.[61]	18	..	2	..
Lampe, R.[62]	7	..	3	..
Latzko, W.[63]	10	..	0	..
Lockyer, C.[64]	12	70.5	3	..
Legeau [9]	10	..	4	..
Mackenrodt [16 17 65 66 67 68]	144	92	28	19-21
Morisani [9]	14	..	1	..
Muller, P.[69]	7	33.3-89.5	3	42.5
Opitz [69 70]	1	..	0	..
Oberlander [71]	1	..	0	..
Pfannenstiel [16]	10	..	2	20
Prelli, C.[72]	24	..	10	..
Prochownick [73]	16	..	6	..
Polosson, A., and Violet [14 74]	32	12-14-56	6	(18.7)
Poten [75]	2	..	0	..
Poroschin [77]	4	..	1	..
Reinecke, P.[78]	66	40.76	14	21.2
Reynier [9]	18	..	5	..
Ricard [16]	9	..	1	..
Richevin, R.[79]	18	..	6	..
Richelot, G. L.[80]	21	..	8	..
Rouffart [81]	1	..	1	..
Von Rosthorn and Shindler [82 83 84 1 16 85]	117	36.1	16	13.67
Spinelli [86]	5	..	1	..
Sellheim, H.*	13	..	3	..
Sitzenfrey, A.[87]	1	..	0	..
Thring, E.[88]	6	..	0	..
Veit [89]	33	..	11	..
Viannay [33]	7	..	3	40
Wertheim [75 90 103]	487	60†	119	24.50
Walthard [103]	8	..	0	..
Weiss, Th.[104]	1	..	0	..
Zacharias, P.[105]	97	..	21	..
Zweifel [16 106 107]	129	..	17	10.8

† In last 200 cases.

AMERICAN OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No.	Per Cent
Peterson, R.*	36	15 or 20	7	19
Reder, F.*	32	40	8	26.2
Jonas, J. E.*	5	50	1	20
Cannady, J. E.*	10	50	2	20
Boldt, H. J.*	5	..	..	0
Rixford, E.*	12	..	3	25
Smith, R. R.*	3	20	1	33⅓
Janvrin, J. E.*	12	10	4	33⅓
Polak, J. O.*	10	..	2	10 or 12
McLaren, A.*	7	..	11	5
Tate, M. A.*	4	15	0	..
Cumston, C. G.*	12	5	0	..
Frank, L.*	25	†	3	3 or 4
Stone, I. S.*	20	25.20	1	5
Ill, E. J.*	2	..	0	..
Poucher, J. W.*	39‡	..	3	..
Gellhorn, George*	3	..	2	..
Crossen, H. S.[108]	1	..	0	..
Rosenthal, M. I.[109]	3	..	0	..
Hutchins [110]	8	50	1	12.5
Jacobson, J. H.*	7	..	2	..
Barrett, C. W.*	6	..	1	..
Cushing, E. W.*	12	25	..	..
Humiston, W. H.*	2	..	0	..
Sampson, J. A.*	14§	50	4	..

† All of body to cervix.
‡ At present all cases.
§ Since 1905.

OPERABILITY

In the 2,765 operations reported by 130 operators, I found the percentage of operability, as recorded by 28, to vary from 5 per cent. to 90 per cent. The operability percentage is decidedly higher among European surgeons.

TABLE 2.—PERCENTAGE OF OPERABILITY

CONTINENTAL OPERATORS

	Per Cent.
Berkeley and Bonney [13]	67
Bumm [16]	90
Döderlein [16 23 24]	68.6
Franz [34 35 36 37 38]	81.35
Jeannel [46]	30
Kroenig [46 53 54]	87
Klein [55 56 57 58]	40
Kuestner [16 59 60]	68.7
Lockyer [64]	70.59
Mackenrodt [53 17 65 66 67 68]	92
Muller [54]	89.5
Polosson [14 74 75]	56
Reinicke [78]	40.76
Rosthorn [82 83 84 1 111]	36.1
Wertheim [86 87 27 88 89 33 75 90 to 102]	60.0
An average operability of	65.17

The average per cent. of operability excluding Wertheim's figures is 65.54 per cent.

AMERICAN OPERATORS

	Per Cent.		Per Cent.
Peterson	20	Tate	15
Rider	40	Cumston	5
Jonas	50	Frank	25
Cannady	50	Poucher	100
Smith	20		
Janvrin	10		
An average operability of			35

In the twenty-eight instances in which I found the operability recorded, seven had a percentage of less than 25 per cent.; 10 gave it as being between 25 to 50 per cent.; five between 50 to 75 per cent., while six gave a percentage of 75 and over. It must be emphasized that with the radical abdominal operation, a higher percentage of all cases of cancer of the uterus are operable than by any other method, and this to a large extent, explains its high primary mortality. If the radical abdominal operation was performed only in the early cases, or in cases in which a vaginal hysterectomy could be made, the operative mortality would not be considered high.

There exists a definite relation between the percentage of operability and the mortality-rate of the operation. The primary mortality is dependent, for the most part, on the degree of operability of a given case, as well as on the percentage of operability of all cases which the individual operator possesses. It is obvious that the earlier the patients are seen, the higher will be the percentage of operability and the lower the primary mortality. The operability percentage as well as the primary mortality is likewise influenced by the experience which the operator has had with the method; with a larger experience comes a greater familiarity with the technic of the

operation and therefore an increase in the operability of all cases seen, with fewer deaths from the operation. These facts are well illustrated in Table 3, in which I have endeavored to ascertain the relation of operability with primary mortality, and have therefore compared operators having an operability of less than 50 per cent. with those of 50 per cent. or more.

TABLE 3.—OPERABILITY COMPARED WITH PRIMARY MORTALITY

OPERATORS HAVING AN OPERABILITY OF LESS THAN 50 PER CENT.

Operator.	Per Cent.	Per Cent.
Döderlein	48-68	Primary mortality 14.3
Jeannel	30	Primary mortality 35
Klein	40	Primary mortality 12.8
Reinecke	40.76	Primary mortality 21.21
Von Rosthorn	36.1	Primary mortality 13.67

An average operability of 38.95 per cent., with a primary mortality of 19.39 per cent.

OPERATORS HAVING AN OPERABILITY OF MORE THAN 50 PER CENT.

Operator.	Per Cent.	Per Cent.
Bumm	90	Primary mortality 20
Franz	81.35	Primary mortality 19.28
Mackenrodt	92	Primary mortality 19-21
Polosson	56	Primary mortality 18.7
Wertheim	60	Primary mortality 24.5

An average operability of 75.87 per cent., with an average primary mortality of 20.69 per cent.

Simultaneously with the adoption of the radical abdominal operation; many authors record an increase in the operability of all patients presenting themselves for examination; thus Baisch[22] states that at Tübingen the operability of all cases of cancer of the uterus rose from 48.3 per cent. to 68.6 per cent. with the introduction of the radical abdominal operation, while Muller, in Berne, raised his operability from 33 per cent. to 89 per cent.; von Rosthorn to 36.1 per cent.; Döderlein[16] from 48.3 per cent. to 68.6 per cent.; Franz[34] from 29.2 per cent. to 52 per cent.; Kuestner[17] from 34.5 per cent. to 68.7 per cent.; Zweifel[106] to 68.4 per cent.; Kroenig[16, 54, 53] 61.7 per cent. to 87 per cent.; Polosson[14, 74, 75] 12.14 per cent. to 56 per cent.; Wertheim[90, 102] to 60 per cent. in his last 200 cases.

PRIMARY MORTALITY

In the 2,765 operations tabulated, there were 538 deaths, a gross primary mortality of 19.45 per cent. This percentage agrees in the main with what has heretofore been generally considered as the primary mortality, namely about 20 per cent.

The Continental surgeons in 2,467 operations had 492 deaths, a primary mortality of 19.94 per cent., which, exclusive of Wertheim's cases, was 13.79 per cent. The American surgeons in 298 operations, had forty-six deaths or a primary mortality of 15.77 per cent.

The gross mortality of all the operations recorded is necessarily high, yet not so high as one might expect from so formidable an operation in the hands of so many different operators. The following list further shows that in individual instances, the primary mortality is much below the average, as for example:

Döderlein in 209 operations had 30 deaths or 14.3 per cent.
Jacobs in 95 operations had 6 deaths or 6.37 per cent.
Kline in 52 operations had 7 deaths or 12.8 per cent.
Zweifel in 192 operations had 17 deaths or 10.8 per cent.

Although it is of the greatest importance, I have, for lack of detailed data, been unable to tabulate and contrast the results of the cases which have been operated early with those which have been operated late. The percentage of operability has a relative bearing on these questions and has been considered above.

I have been able to find a number of references illustrating the fact that with an increased experience, individual operators have had a corresponding decrease in the primary mortality rate.

Bouvier[113] 1904, states that Mackenrodt in his last twenty-one cases had two deaths or 9.5 per cent.

Baisch[22] 1905, reports that the primary mortality in Döderlein's cases was 15 per cent., and that in his last forty-five cases it decreased to 6.6 per cent. Bergesio[10] states that from 1898 to 1906, the Wertheim operation was done by himself and Berutti seventy-nine times; if we divide the time of these operations into three-year periods, we have the following figures:

1898 to 1900, 20 operations with 9 deaths, primary mortality 45 %
1901 to 1903, 32 operations with 11 deaths, primary mortality 34.5%
1904 to 1906, 27 operations with 7 deaths, primary mortality 26 %

Von Franque,[28] 1909, reports 166 operations with a 20 per cent. primary mortality.

In 1905 he made 38 operations with primary mortality of 13%
In 1906 he made 42 operations with primary mortality of 26%
In 1907 he made 44 operations with primary mortality of 16%

He had series of cases, as many as eighteen consecutively, without a death. Von Franque, however, does not think it will be possible to reduce the mortality as low as 10 per cent.

J. L. Faure[31] writing in 1906, reports the following figures:

First series (15 operations) 9 deaths (primary mortality of 60%)
Second series (18 operations) 6 deaths (primary mortality of 33%)
Third series (7 operations) 1 death (primary mortality of 14%)

Scheib[27] gives the figures presented in Table 4 by years, containing the number of patients with cancer of the cervix who died primarily from operation as well as the total who came to operation, including the number of attempts at operation in which the radical operation could not be completed.

TABLE 4.—OPERATIONS AND MORTALITY IN SCHEIB'S CASES

Year.	No. Cases.	Inclusive Attempts.	Deaths No.	Deaths Per Cent.	Deaths Inclusive Attempts at Radical Operation.
1903	15	17	4	26.6	5 or 29.8 per cent.
1904	22	25	4	18.1	5 or 20. per cent.
1905	35	38	5	14.2	5 or 13.1 per cent.
1906	39	42	10	25.6	11 or 26.1 per cent.
1907	38	44	7	14.4	7 or 15.9 per cent.
	149	166	30	20.1	33 or 19.8 per cent.

E. Wertheim[103] (1902) gives the following figures:

Primary results of his first 30 cases, 12 deaths
Primary results of his second 30 cases, 5 deaths
Primary results of his third 30 cases, 3 deaths
Primary results of his fourth 30 cases, 4 deaths

His total mortality is 20 per cent. and, if we exclude the first thirty cases on account of imperfection of technic, his later ones give a primary mortality of only 13 per cent. Wertheim[27] stated at the 1909 International Congress, at Budapest, that in his last 200 cases, the primary mortality was only 10 per cent.

R. Peterson (1910) reports a primary mortality in his first series, of 14 cases, 42.8 per cent.; in his second series, of 22 cases, of 4.5 per cent.

Schindler[85] 1904, reports that, at von Rosthorn's clinic, in twenty-five operations performed from Jan. 1, 1903, to April 1, 1904, there were only two deaths or a mortality of 8 per cent.

CAUSES OF DEATH

The causes of death from the radical abdominal operation for cancer of the uterus are given as shock, peritonitis, infection, sepsis and injury of the ureters.

I have been able to find in the literature only eighty detailed cases of death which were directly traceable to

the operation. The relative frequency of each cause is illustrated in the following list of causes:

Infection and sepsis	31
Peritonitis	19
Total	50
Shock	18
Injury of the uterers	2
Pneumonia	2
Nephritis	2
Anemia	2
Paralysis of the heart	1
Fatty degeneration of the heart	1
Pulmonary embolism	1
Necrosis of the ureter	1
Total	80

This list shows the relative high frequency of deaths due to infection, sepsis and peritonitis, fifty out of the eighty cases being due to these causes. Shock ranks next in relative importance as a cause of death, there being eighteen cases.

The most potent argument which has almost universally been used against the employment of the radical abdominal operation in the surgical treatment of carcinoma uteri, has been the high primary mortality which accompanies the operation. That the operation is correct in theory, and is the only one which conforms to our modern conception of the pathology of the disease, seems to be universally agreed; but its high primary mortality has not only deterred many operators from performing it, but has led to its abandonment by some who had already adopted it.

Those who make the criticism that the primary mortality of the operation is too high must not forget that the history of all major abdominal operations, in their period of development and perfection, have been accompanied by a higher mortality, and that such death-rates should not be taken as final.

SUMMARY OF THE REVIEW OF THE PRIMARY MORTALITY

1. In the 2,765 operations tabulated there was a primary mortality of 19.45 per cent.

2. The average percentage of primary mortality among Continental surgeons was 19.94 per cent. and among the American operators 15.77 per cent.

3. In individual instances the deaths from this operation have been reduced considerably under the general average, Jacobs 6.37 per cent., Zweifel 10.8 per cent., Kline 12.8 per cent., Wertheim in last 200 cases 10 per cent. and Döderlein 14.3 per cent.

4. The primary mortality is much lower when the operation is made before the disease has advanced too far. According to Berkeley in early cases the primary mortality is only 6.8 per cent., as compared to 26.7 per cent. in late cases.

5. The relatively high primary mortality of this operation is largely due to the greater number of cases operable by this method, the result being that cases are operated in a stage too far advanced for the employment of any other method of operation.

6. Death from this operation seems to be due in most instances to infection and sepsis and not as a rule to shock as is generally supposed to be the case.

The infection is, in all probability, the result of the presence of pyogenic bacteria in the carcinomatous mass and large area of raw surface exposed during the operation.

Shock may be due to any one or more of the following causes:

1. Inaccessibility of the deep pelvic structures, causing rough manipulations.

2. Manipulation and exposure of the abdominal viscera, particularly the small intestines.

3. Hemorrhage.

4. Prolonged operation with subsequent prolongation of the anesthesia.

FINAL RESULTS

It is too early at the present time to obtain a large amount of corroborative information regarding the end results of the radical abdominal operation. This is due mainly to two reasons: (1) the operation is still in its period of development, and (2) in only a few instances have operators been performing the operation for a sufficient length of time to have series of cases which have been observed for five years after the operation.

The following reports as they exist in the literature, together with the personal reports which I have been able to obtain from some of the American operators, represent the end results with the radical abdominal method as near as they can now be determined:

Bergesio and Berrutti[10] reported 1906, their final results in 20 operations performed from 1898 to 1900; 3 patients were alive two years after operation: 1, three years afterward, and 2, four years afterward; 11 were unaccounted for and 4 patients had relapsed and died in periods ranging from six months to twenty-two months after operation; 33 per cent. were alive from one year and ten months to four years.

Bumm,[16] reporting in 1907, was able to trace fifty-six women out of seventy-five in whom he had made the radical abdominal operation. Thirty per cent. were alive more than one year after operation.

Dobbert,[19] in 1907, out of twenty-five radical abdominal operations, gives the end results in eleven. Seven patients are free from recurrence one to four years after operation (35.7 per cent.).

Döderlein,[16] in 1907, reported forty-seven radical abdominal operations which he performed in 1902. Of the patients fifteen were free from recurrence three and one-half to four and one-half years after operation (31.9 per cent. Waldstein, 37.5 per cent. Winter); fifteen of these operations were made for cancer of the body of the uterus, which gave a primary mortality of 6.6 per cent., with an operability of 100 per cent. and a percentage of cure, after Winter, of 72.7 per cent. (or 53.3 per cent. after Waldstein). The thirty-two cases of cervical cancer gave an operability of 60.3 per cent., a primary mortality of 18.7 per cent., with permanent cure in 26.9 per cent. after Winter and 21.8 per cent. after Waldstein; an absolute cure of all cases observed three and one-half to four and one-half years after operation 16.2 per cent. were after Winter, 13.1 per cent. after Waldstein. He contrasts this with the end results of vaginal hysterectomy at Tübingen, which was only 9 per cent.

Mackenrodt,[68, 53, 27] in 1908, reports that among 144 patients operated on by his method, who were observed eighteen months to six and one-half years after operation, there were 61.5 per cent. of all or 74 per cent. of the surviving patients still well. The primary mortality in the last few years has been between 19 and 21 per cent. in an operability of 92 per cent.

Absolute cure	18 months	to 6½ years,	55.6 per cent.
Absolute cure	3½ years	to 6½ years,	52.6 per cent.
Absolute cure	4½ years	to 6½ years,	45.4 per cent.
Absolute cure	5½ years	to 1½ years,	58.3 per cent.

Polosson[75, 14, 74] reported in 1907 that after thirty-two radical abdominal operations for uterine cancer, 60 per cent. of the patients were alive after five years.

Reinecke,[78] in 1909, reports the final results in sixty-six cases. Up to the end of 1903 twenty-seven radical

abdominal operations were made for cervical cancer. Of the twenty surviving patients, seven are still free from recurrence, making a permanent cure of 35 per cent.

Recurrences were as follows:

First	year there were	23	recurrences
Second	year there were	5	recurrences
Third	year there were	3	recurrences
Fourth-Fifth	year there were	0	recurrences

Enlarged glands were removed in twenty-six of the sixty-six cases; in twelve instances they were found carcinomatous; all cases, excluding the primary deaths, recurred, with one exception, in which the glands had been found carcinomatous, or in which carcinoma-like cells were found.

Von Rosthorn[85] reported by Schindler in 1906 thirty-three abdominal radical operations. Twenty-seven patients have been observed for a period of five years and six for a period of four years. Seventeen patients have had recurrences and five have remained well. This makes 77.2 per cent. of recurrences with a permanent cure of 22.7 per cent.

Veit,[89] writing in 1910, states that out of thirty-three radical abdominal operations performed in 1904 for uterine cancer with a primary mortality of eleven cases, nine patients are now living, and, among these, one from whom probable carcinomatous glands were removed.

Wertheim,[27, 102] at the last International Medical Congress, 1909, at Budapest, reported the final results in 487 operations by this method; 200 patients were operated on more than five years ago. The primary mortality was 24.5 per cent. and the absolute cure in all cases 19.3 per cent. In the last series of cases the primary mortality has been lowered to 10 per cent. and the operability has risen to 60 per cent., so that Wertheim states that he expects an absolute cure, in all cases observed of 30 per cent. The accuracy of his statistics is demonstrated by the fact that none of his cases were lost from observation. At the Kiel congress, in 1905, Wertheim reported 60 to 70 per cent. of permanent cures (Winter) after five years, and at the Dresden congress, in 1907, he reported 120 radical abdominal operations the patients having been observed for five years after operation, among whom there was a permanent cure of 58.6 per cent. (Winter).

The summary of permanent results of continental operators is as follows:

Three	operators report	20%	to 30%	of cures	from 1 to 5 years
Seven	operators report	30%	to 40%	of cures	from 1 to 8 years
Three	operators report	40%	to 50%	of cures	from 1 to 5 years
One	operator reports	50%	to 60%	of cures	after 3 years
Five	operators report	60%	to 74%	of cures	from 1 to 6½ years

Operators reporting permanent cures five years after operation are as follows:

Von Rosthorn	20	per cent.
Veit	30	per cent.
Wertheim	58.6	per cent.
Polosson	60	per cent.
Reinicke	35	per cent.

Average of the five operators, 40.72 per cent.; permanent cures five years after operation.

Average of the American operators, 8.39 per cent.; permanent cures five years after operation.

From the 298 radical abdominal operations by American operators there were forty-six deaths (15.77 per cent.) of the 252 survivors, seventy-eight are still free from recurrence and twenty-five or 8.39 per cent. are alive and well five years after operation.

TABLE 5.—COMPARISON OF OPERATIONS FOR UTERINE CANCER

Method.	Operability.	Primary Mortality.	Permanent Cures After Five Years.	Absolute Cures.
1. Radical abdominal operation by Continental surgeons, including Wertheim.*	65.17 per cent.	19.94 per cent.	40.72 per cent. (five operators)	Average 21.14 per cent. (five operators with a period of observation from 2-6½ years).
2. Wertheim's results. †	60 per cent. in last 200 cases.	10 per cent. in last 200 cases.	58.6 per cent. (Dresden Congress, 1907)	19.3 per cent.; awaits 30 per cent. on account of increase in operability.
3. Radical abdominal operations by Continental surgeons, not including Wertheim.*	65.54 per cent. (Continental Surgeons)	13.79 per cent. (Continental Surgeons)	36.25 per cent.; average of 4 European Surgeons	Average 21.40 per cent. (four operators 3 to 5 years after operation).
4. Extensive vaginal hysterectomy, Schauta.†.	47.7 per cent.	10.7 per cent.	39.5 per cent.	13.4 per cent.
5. Vaginal hysterectomy.††	25 to 40 per cent.	8 to 10 per cent.	Lasting results in 33⅓ per cent., Gusserow, 1890-1900 (ca. cervix), 24.4 per cent. (ca. body), 100 per cent.	7 to 10 per cent.
6. Byrne's operation, 237 cases, 151 lost sight of.‡	100 per cent.	Nil.	Three years after operation (65 cases), 17.71 per cent.; five years after operation (46 cases), 12.53 per cent.	Three years after operation 17.71 per cent.; five years after operation (46 cases), 12.53 per cent.

* Compilation by the author.
† Internat. Med. Cong., Budapest, 1909.
†† Döderlein-Kroenig, 1907.
‡ Tr. Am. Gynec. Soc., 1889, xiv and xvii.

These twenty-five cases are reported by the following:

	Cure.	
Peterson	3	Permanent cure five years after operation.
F. Reder	2	Permanent cure five years after operation.
E. Rixford	2	Permanent cure five years after operation.
J. E. Janvrin	2	Permanent cure five years after operation.
J. O. Polak	1	Permanent cure five years after operation.
C. G. Cumston	3	Permanent cure five years after operation.
J. W. Poucher	6	Permanent cure five years after operation.
C. W. Barrett	2	Permanent cure five years after operation.
Emil Ries	4	Permanent cure five years after operation.

The following is a summary of absolute cures:

Mackenrodt,[68] 58.3 per cent., 5½-6½ years after operation.
Wertheim,[102] 19.3 per cent., 5 years after operation.*
Döderlein,[16] 1902, 16.2 per cent., 2½-3½ years after operation.
Döderlein,[16] 1903, 22 per cent., 2½-3½ years after operation.
Von Franque,[28] 10.1 per cent., 3 years after operation.
Von Franque,[28] 19.4 per cent., 2 years after operation.
Von Rosthorn,[85] 2.65 per cent., 5 years after operation.
* Awaits returns from 30 per cent.

The advisability of removing enlarged and carcinomatous glands, when such are found at the operation, is still one of the mooted questions in the performance of radical abdominal operation. While most operators agree that when such enlarged and carcinomatous

glands are found, a recurrence is the rule, and in spite of the fact that Wertheim and others consider the wide excision of the parametria as the all-important factor in the operation, the following reports of patients alive without recurrence five years after operations in which such carcinomatous glands were removed commands our serious consideration.

PERMANENT CURES FROM ABDOMINAL OPERATION IN WHICH CARCINOMATOUS GROWTHS WERE REMOVED

Emil Ries,[14] in 1906, reported four cases in which carcinomatous glands were removed at the time of operation; the patients were free from recurrence five years after operation.

Döderlein[10] has two patients with carcinoma of the cervix who were operated on in 1902, with simultaneous removal of carcinomatous glands, who have remained free from recurrence four and one-half years. He also has three other patients, operated on in 1903, who have remained free from recurrence for three to three and one-half years.

Wertheim[16] has had four similar cases with freedom from recurrence from three to three and one-half years after operation.

Mackenrodt[16] had eighteen cases of radical operation with the removal of carcinomatous glands which, as reported by Brunet, are as follows:

Three	cases in 1901,	1 patient	remaining well without recurrence
Four	cases in 1902,	3 patients	remaining well without recurrence
Nine	cases in 1903,	7 patients	remaining well without recurrence
Two	cases in 1904,	1 patient	remaining well without recurrence

Von Rosthorn[85] had one case with ultimate recovery.

Bumm[85] had two cases in which carcinomatous glands were removed, in one of which the right ureter had become infiltrated with cancer which necessitated the removal of the right kidney; both patients were well after two and one-half years.

Veit[89] reports one patient alive after five years in whom the glands were probably carcinomatous.

CONCLUSIONS

From the foregoing summary we are warranted in drawing the following conclusions regarding the operability, primary mortality, permanent results and absolute cures obtained from the radical abdominal operation for uterine cancer:

1. Among Continental operators, including Wertheim's figures, an operability of 65.17 per cent., a primary mortality of 19.94 per cent., a permanent cure from three to five years in 40.72 per cent. (five operators) and an absolute cure in all cases of 21.14 per cent. (five operators with period of observation from two to six and one-half years).

2. Wertheim's figures are an operability of 60 per cent.; a primary mortality of 10 per cent.; permanent cures after five years in 58.6 per cent., and an absolute cure of all cases in 19.3 per cent., with a probability of 30 per cent.

3. Other Continental operators exclusive of Wertheim's figures, give an operability of 65.54 per cent.; a primary mortality of 13.79 per cent.; an average permanent cure five years after operation in the hands of four other operators of 36.25 per cent., with an average absolute cure in all cases three to five years after operation in the hands of four operators of 21.44 per cent.

4. Eleven American operators give an average operability of 35 per cent.; a primary mortality of 15.17 per cent.; permanent cures after five years, 8.39 per cent. On this basis the absolute cure would be approximately 1 per cent.

In Table 6 is found a comparison of the results obtained from the radical abdominal operation with those obtained from other operations for cancer of the uterus.

From the review it is apparent that the best results in the surgical treatment of uterine cancer are obtained from radical abdominal operation.

The real problems at the present time in the surgical treatment of uterine cancer are not what particular operation gives the best results, but, rather, how such patients can be operated on earlier and how the primary mortality of the radical abdominal operation can be further reduced.

The first problem can be solved only by a campaign of education in our medical schools and in our medical societies, together with some form of public instruction similar to that which has been inaugurated in Germany by Dührssen and Winter. The problem of reducing the primary mortality is one which I believe will be solved largely in the next few years. Further experience with the technic of the operation, the use of spinal anesthesia, perhaps the more general employment of Mackenrodt's transverse abdominal incision, Bumm's modification of Wertheim's technic for quickly locating the ureters, further experience with implantation of the ureters in the blader, diminution of the exposure and manipulation of the viscera, and the diminution of the dangers from hemorrhage either by Momburg's method or by temporarily clamping the internal iliac arteries, are some of the methods and procedures which, combined with early operation, will help toward solving this problem.

THE PARTICIPATION OF THE TISSUES ADJACENT TO THE UTERUS AND OF THE PELVIC LYMPHATICS IN UTERINE CANCER*

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Cancer may arise either in the body or in the cervix of the uterus. The former variety is infrequent, occurs as often in nulliparous as in parous women, and the average age of those afflicted is greater than in cancer of the cervix. Its growth is usually slow and it remains restricted to the uterus for a relatively long period of time (Fig. 1). For the latter reasons the diagnosis is usually made while it is limited to the uterus, and hysterectomy for this condition is attended with a low primary mortality and a high percentage of cures.

Cancer of the cervix, on the other hand, is one of the most frequent varieties of primary carcinoma; it usually occurs in parous women; and it is more often a disease of midlife than of old age. (A large percentage of its victims are under 45; and its occurrence in those under 35 is not infrequent.) Its growth is often rapid and it soon extends beyond the cervix by the direct invasion of the adjacent tissues (Fig. 2) and by metastases to the lymph structures of the pelvis. Its frequency, virulence, the youth of many of its victims and the fact that they usually have children make it one of the most dreaded diseases and one of the most important problems confronting the gynecologist at the present time. Its rapid growth and early extension

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at St. Louis, June, 1910.

* For reasons of space, part of the text and of the illustrations are omitted. The entire article appears in the Transactions of the Section and in the author's reprints.

beyond the uterus have in a large measure been responsible for the failure to recognize it while it is still confined to that organ. In a large percentage of the cases the condition is detected too late for anything but palliative treatment, and hysterectomy is attended with a high primary mortality and a very small percentage of cures.

On account of its greater frequency, malignancy and importance, cancer of the cervix alone will be considered in this communication.

Clinical experience has taught that only a small percentage of patients have been cured by operation; thus



Fig. 1.



Fig. 2.

Fig. 1.—Advanced cancer of the body. From photograph of stained median sagittal section of the uterus (× ½), operative speciment. The growth usually does not extend beyond the uterus until late in the course of the disease, and in the majority of cases the diagnosis is made before this has taken place. Hysterectomy is attended with a low primary mortality and a high percentage of cures.

Fig. 2.—Advanced cancer of the cervix. From photograph of stained median sagittal section of the uterus (× ½), operative specimen. The growth usually extends beyond the cervix early in the course of the disease and the diagnosis is rarely made while it is restricted to the uterus. Hysterectomy is attended with a high primary mortality and a very low precentage of cures.

suggesting that either the entire growth had not been removed or, through faulty technic, the pelvic tissues had been infected with cancer at the time of the operation, or that there has been a true recurrence of the disease.

It is evident that a knowledge of the exact extent of the disease, especially in the "operable" cases, is of the greatest importance in the intelligent treatment of this condition.

The study of the specimens removed by the more radical operations has shown that the disease had extended beyond the uterus in a large percentage of them. The careful studies of Kundrat[1] in Wertheim's clinic have been of great value. Similar studies have been made in other clinics and they all, in the main, confirm the findings of Kundrat.

In 1906 I reported[2] the results of a careful study of twenty-seven specimens removed in Dr. Kelly's clinic at the Johns Hopkins Hospital. Cancer was found in the parametrium in seventeen instances, eight times as direct extension alone, either in the form of thread-like processes or *en masse:* three times as metastases in the lymph structures of the parametrium without any evidence of a direct extension of the disease from the cervix; and in six cases both forms of invasion were present. In nineteen cases some of the pelvic lymph-nodes had been removed, and cancer was found in nine of these. In three of the latter there was no evidence of cancer in the parametrium. I am at present studying the material from eighteen additional cases; fourteen of the specimens were obtained by me at operation, and four at autopsy from patients dying during the advanced stages of the disease. While these studies are not yet completed they confirm the findings in the previous report.

We may classify cervical cancer according to its origin, whether from the portio vaginalis or from the mucosa of the cervical canal. Irrespective of their situation or histologic structure the growths may usually be grouped as either everting (vegetative) or inverting (infiltrating). Intermediate types are seen, and possibly in the progress of the disease a growth may sometimes pass from one morphologic type into the other.

The everting type, arising from the portio vaginalis, forms a sessile or pedunculated tumor projecting into the vaginal canal; it tends to spread over the mucosa and gradually invades the underlying tissues (Fig. 3). It is apparently less malignant and less frequent than the inverting form.

In the latter variety the process seems to be reversed. The growth soon extends into the deeper tissues and sometimes with very little evidence on the surface (Fig. 4). Necrosis often occurs early with a resulting loss of tissue and the formation of the so-called ulcers. This variety is apparently the more frequent one and also the more malignant. It soon extends beyond the uterus by the direct invasion of the adjacent tissues and by metastases to the lymphatic structures of the pelvis.

The two varieties may also arise from the mucosa of the cervical canal: here the inverting form is the more frequent and malignant (Fig. 5).



Fig. 3.



Fig. 4.

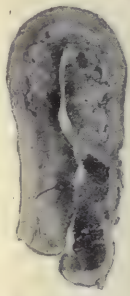


Fig. 5.

Fig. 3.—Everting cancer of the portio vaginalis (× ½). Less frequent and malignant than the following; bleeding usually occurs early, the growth is readily detected on inspection and palpation.

Fig. 4.—Inverting cancer of the portio vaginalis (× ½). One of the most frequent and malignant types; bleeding may not occur until late in the course of the disease and the diagnosis is not as easily made as in the preceding.

Fig. 5.—Inverting cancer of the cervical canal (× ½). This type is apparently less frequent and less malignant than the same type arising in the portio vaginalis; bleeding may not occur until late in the course of the disease. In its early stages a diagnosis can be made only through curettage of the cervical canal.

THE DIRECT EXTENSION OF CANCER INTO THE TISSUES ADJACENT TO THE UTERUS

Cancer may invade the tissues adjacent to the uterus as delicate thread-like processes or *en masse.* These processes are sometimes found in the nerve sheaths, other times in definite lymph-vessels but more often in whatever tissues are nearest the growth, in what are known as lymph-spaces. The parametrium is the tissue most frequently involved and often

1. Kundrat: Arch. f. Gynäk., 1903, lxix, 355.
2. Sampson, J. A.: Am. Jour. Obst., 1906, liv, 433.

near the junction of the cervix and the vagina (Fig. 6). This is a very unfortunate situation because here the cervix is in its closest proximity to two very important structures, namely, the bladder and the ureters (Fig. 7). Furthermore, it is very difficult to obtain a wide excision of the parametrium at this level, whereas higher up, where the direct extension is less frequent, a wide excision is much easier. The growth may extend anteriorly, laterally or posteriorly. In its anterior extension it soon reaches the bladder, in its lateral, the tissues about the ureters, while posteriorly it is separated from the rectum by the cul-de-sac. The place at which the cancer extends beyond the cervix is determined by many factors, such as its origin, *i. e.*, whether in the portio vaginalis or the mucosa of the cervical canal, whether in the anterior or posterior lip and whether near the right or left side. There are other factors determining the direction of its growth which we are unable to ascertain.

The reaction on the part of the tissues involved varies greatly in different specimens. Often there is an increase in connective tissue; at other times an inflammatory exudate is present; and again there may not be any apparent reaction on the part of the tissue surrounding the growth. The reaction may sometimes be due to the presence of bacteria in the necrotic portion of the growth, but I think that it is often due to the cancer itself, because the tissues involved by the metastases may show the same reaction as those involved by the primary growth.

The Bladder.—In the study of the specimens obtained in the forty-one operative cases the musculature of the bladder wall was found to be invaded by cancer in eight (Fig. 8). In seven of these it occurred at the level pre-

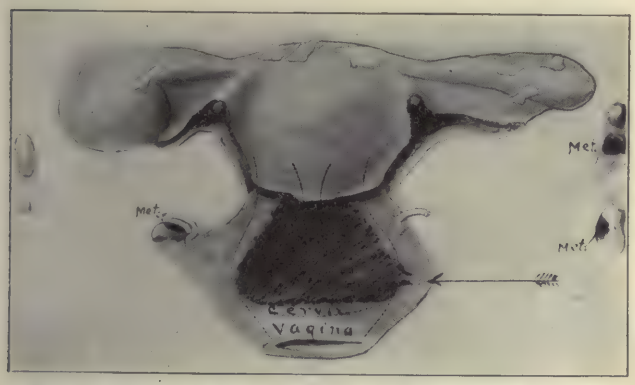


Fig. 6.—The most frequent situation of the direct invasion of cancer into the parametrium. From drawing showing the extent of the cancer in an illustrative case (× ½). In over half of the operative cases the parametrium is already invaded by cancer. This occurs most frequently at the junction of the cervix and vagina (see arrow), where the cervix is in its closest proximity to the bladder and the ureters.

viously mentioned. If the growth causes a marked reaction in the surrounding tissues, the bladder may become adherent to the cervix before the growth has extended through the cervical tissues. This may be detected during the operation in attempting to free the bladder from the cervix.

The early involvement of the bladder has not received the attention it deserves. Its most important feature is that the growth may invade the intramural portion of one or both ureters.

The Ureters.—It is well known that hydro-ureter and hydronephrosis, due to compression or actual invasion of the lower end of the ureters, exists in a large percentage of the patients dying in the advanced stages of the disease. The renal insufficiency resulting from stricture of the ureters is a frequent cause of death. The proximity of the ureters to the cervix, the early invasion of the parametrium, especially at the level where the ureters are nearest the cervix, the frequency of accidental injury to these ducts in hysterectomy for uterine cancer, together with the autopsy findings mentioned above, would cause one to infer that the ureters were actually involved by the growth soon after its extension from the cervix. I have studied very carefully the parametrial portion of twelve ureters (twice a dou-



Fig. 8.—The direct extension of cancer into the bladder wall. From photograph of stained cross-section of entire cervix (× 1), operative specimen. The growth has invaded the parametrium laterally and the bladder wall anteriorly. The bladder is often invaded early in the direct extension of cancer from the cervix.

ble ureter was present, thus making fourteen) which had been resected on account of the apparent invasion of the parametrium about the ureters by cancer. In four cases both ureters had been resected and in four only one. In only one instance was I able to find a ureter actually invaded by cancer. In all these cases cancer was present in the parametrium and in some the invasion extended into the tissues about and even beyond the ureter. The single instance of invasion of the ureter occurred in its intramural (vesical) portion from cancer present in the wall of the bladder.

I have concluded (possibly from insufficient data) that the ureter is rarely invaded in the operative cases and have attributed this to three possible factors, first, its peristalsis; second, the protection afforded by its "sheath," and third, that there may be sufficient difference in the lymphatics of the cervix and ureters to render the early invasion of the latter infrequent. It seems remarkable that in a series of forty-one cases the bladder was involved in eight instances and a ureter only once and yet we realize that the main lymph-channels from the cervix cross the parametrial portion of the ureter. In previous papers I have called attention to the "ureteral sheath" and have stated that I believed that the peristalsis of the ureter converted the tissues about it into a form of sheath which is not a distinct anatomic structure but simply the tissues along the course of the ureter which had been molded into this shape (Fig. 7). In those cases in which the parametrium is invaded and there is a reaction on the part of the tissues involved with the formation of connective tissue, this "sheath" may become markedly hypertrophied (Figs. 9 and 10). In this hypertrophied condition it may afford temporary protection to the ureters. As this hypertrophy increases the ureter becomes compressed and later may become

invaded by cancer. This marked thickening of the "sheath" may possibly arise from two sources, first, the reaction arising from its invasion by cancer and second, the local irritation caused by the ureter rubbing against it during its peristalsis.

From the study of material obtained at autopsy of those dying in the advanced stages of the disease I have found that the ureter may become involved from three sources; first, its intramural (vesical) portion from cancer in the bladder wall (Fig. 12), second, its parametrial portion from the direct extension from the primary growth (Fig. 13) or from metastases to lymph-nodes of the parametrium, and third, the pelvic portion above the parametrium from the direct extension from metastases in the pelvic lymph-nodes. Once gaining access to the ureter, the growth may extend in its walls and sections taken at other levels may show what appear like metastases in the ureter (Fig. 14).

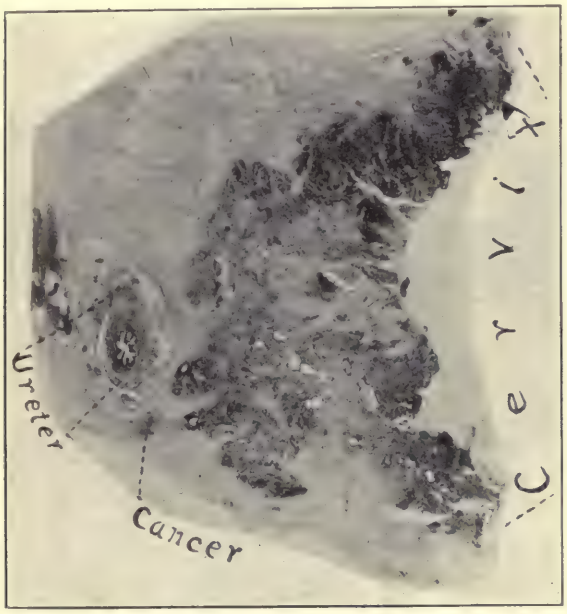


Fig. 9.—The direct extension of cancer into the tissues about the ureter. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. The growth has invaded the tissues (sheath) about the ureter, causing a hypertrophy of the latter, which may temporarily protect the ureter. The tissues about the ureter are often involved early in the direct extension of cancer from the cervix.

The Vagina.—The involvement of the vagina presents three pictures: the direct extension over the surface, the direct invasion of the deeper structures from above which may appear without any evidence of the disease on the surface other than a slight elevation caused by the growth in the underlying tissues, and finally the so-called implantations. Aside from an occasional slight involvement of the vagina at its junction with the cervix, in only four of the forty-one operative cases was there any marked invasion of its tissues.

I have had the opportunity to study only one "vaginal implantation" where the tissue between it and the primary tumor was intact. In this instance I found that the implantation was apparently connected with the primary tumor by a thread-like process of cancer, *i. e.*, it was a direct extension of the growth and did not result from a "retrograde metastasis" or implantation of cancer cells in an abrasion of the vaginal mucosa. I used the word "apparently" because complete serial sections were not made and thus I cannot state that the thread of cancer was intact for its entire course from the primary growth to the nodule in the vaginal mucosa.

Rectum.—In only one of the operative cases was the rectum invaded, and this resulted from the direct extension posteriorly with obliteration of the cul-de-sac and invasion of the anterior wall of the rectum. The rectum may also be invaded by the extension of cancer in the posterior vaginal wall.

Body of the Uterus, Tubes, and Ovaries.—The body of the uterus was involved in only seven of the forty-one cases, and in all of these the disease was advanced. This is more apt to occur in cancer arising in the cervical canal, especially if it is of the adenomatous variety. The tubes and ovaries were not examined microscopically in this series, but there was no evidence of cancer in them which could be detected in the gross specimens.

METASTASES

Apparently if cancer once gains access to a lymph-vessel it either grows in the vessel in continuity with the primary growth or, if set free, it is carried by the lymph-stream and usually does not stop until it reaches a lymph-node whether it be situated in the parametrium or further on. Metastases to structures other than lymph-nodes are very unusual.

Metastases may be divided into four regional groups: the parametrium, pelvic lymph-nodes, abdominal lymph-nodes, and lastly, other parts of the body.

Parametrium.—Metastases to the lymphatic structures in this situation are of frequent occurrence. A careful study of the parametrium has been completed in thirty-two of the forty-one operative cases and parametrial metastases were found in ten of these. In this situation we may recognize four varieties of lymph-nodes:

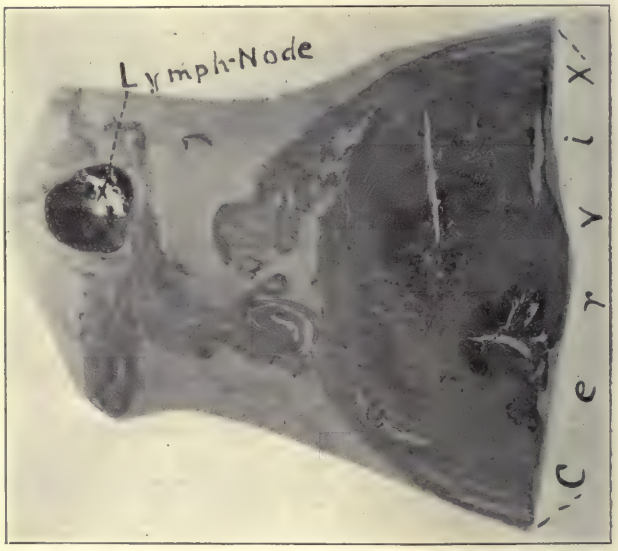


Fig. 15.—Metastasis in lymph-node inconstantly present near the crossing of the ureter by the uterine vessels. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen.

1. *The Parametrial Lymph-Node Inconstantly Present at the Crossing of the Ureter by the Uterine Vessels.*—It was found and removed eight times in this series of forty-one cases (and only on one side). Cancer was present in three of the nodes removed and in none of these did it apparently alter in any way the surrounding tissue (Fig. 15).

2. *Small Lymph-Nodes Scattered Throughout the Parametrium.*—These are apparently typical lymph-nodes and occur normally in varying number. They are usually found along the course of the main lymph vessels. In one instance a typical node was found in the tissues of the cervix itself (outer portion). Metastases were found in these nodes in four of the thirty-two cases in which a complete study of the parametrium has been made (Fig. 16). In one case there was a thickening of the tissues about the node and in another the retrograde growth of the cancer from the node into the afferent lymph-vessel. The infected nodes were apparently not increased in size and in two there was no change in the surrounding tissues.

3. *Intravascular Lymph-Nodes.*—These small nodes project into the lumen of the lymph-vessels like sponges. I do not know if they may occur normally in the parametrium or if they may be associated with diseased uterine conditions other than cancer. I have found them in only four specimens of uterine cancer and only in the parametrium. In three of these four cases, cancer was found in one or more of these nodes (Fig. 17). Possibly they are newly formed lymph-nodes and later develop into the small lymph-nodes previously described; or they may be the latter observed under different conditions of activity. In one specimen they were very numerous; in a section taken at one level eight were present.

4. *Small Lymph-Nodes Which Apparently Do Not Bear Any Relation to the Lymph-Vessels.*—Collections of lymphoid tissue about blood-vessels may be present in large numbers, appearing in the section as darkly stained areas the size of miliary tubercles. They apparently owe their origin to a stimulus directly or indirectly

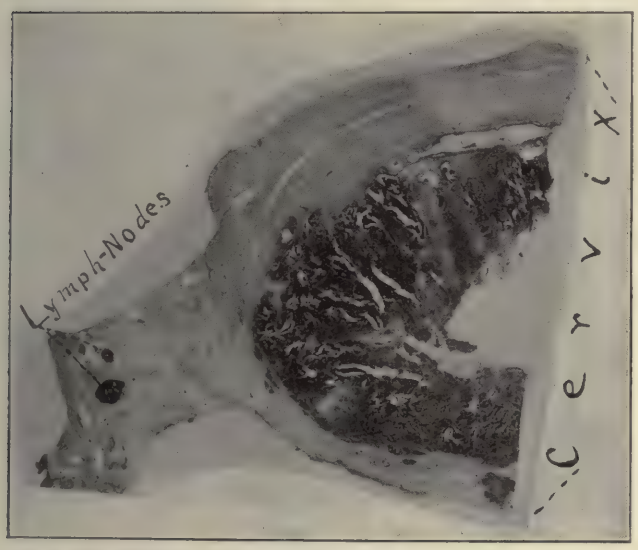


Fig. 16.—Metastasis in a small lymph-node of the parametrium. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. These nodes are normally present in varying numbers and are apparently sometimes increased in size and number in uterine cancer. A metastasis is present in the periphery of the larger node. It is possible that these nodes may sometimes prevent metastases from reaching more distant nodes.

caused by the cancer, but do not necessarily bear any relation to the lymph-vessels. I have never seen any metastases in these nodes.

Pelvic and Abdominal Lymph-Nodes.—The study of the material obtained from those operations where some of the pelvic lymph-nodes have been removed have shown that metastases occur in from one-third to one-half of these cases. I have studied the material from twenty-three of these cases and found cancer in the pelvic lymph-nodes in twelve. While these metastases occur more frequently in patients with extensive primary tumors they may be present in very early cases. The primary tumor may be very small, the parametrium free and yet metastases may be present. This occurred especially in the inverting type arising in the vaginal portion of the cervix. The glands most frequently found involved were those situated in the triangle between the external and internal iliac vessels and along

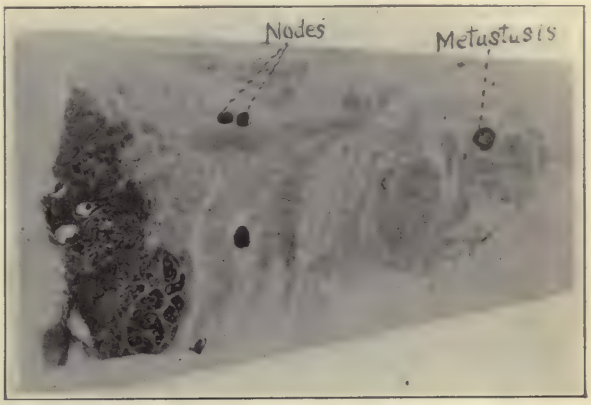


Fig. 17.—Metastasis in an "intravascular" lymph-node of the parametrium. From photograph of stained cross-section of the left half of the parametrium (× 2), operative specimen. These nodes project into the lumen of the lymph-vessels like sponges, are possibly newly formed, and it is possible that they sometimes check cancer as it is carried along the lymph-vessels.

the external iliacs. I do not think that my observations are of any great value in determining the exact distribution of metastases in the pelvic lymph-nodes because the above mentioned nodes were the ones most frequently removed and often others were not removed which might have been infected.

I have studied all the abdominal and pelvic lymph-nodes in three operative cases. The patients died as the result of the operation and the lymphatics were obtained at autopsy. All the glands were cut and an attempt was made either to find or to exclude cancer. Metastases were found in only one of these cases. In this instance three nodes were found to contain cancer (Fig. 19).

The early metastases are usually found in the periphery of the node along its convex border or near its proximal pole. The reaction varies greatly (Fig. 20).

Metastases to the lymph-nodes in other parts of the body may occur but they are very infrequent.

CONCLUSION

The term "cancer of the uterine cervix" defines the exact condition present in only a very small percentage of the cases when first seen by the physician. In more than half of them the growth has so extensively invaded the adjacent structures that palliative treatment alone is indicated and in over half of the operative cases the growth has already extended beyond the uterus. As in its extension it invades the lymph-spaces of the adjacent tissues and metastases occur in the lymph-nodes of the parametrium, pelvis and even the abdomen, this condition should be studied and treated as carcinoma of the lymphatics of the uterus and adjacent tissues.

In its direct extension the lymph-spaces of the parametrium are usually first invaded, then those of the

bladder wall and rarely, in the operative cases, those of the ureters, although the tissues about them may be infected and in this way the ureter may be compressed. Later in the course of the disease one or both ureters are very apt to be invaded.

Metastases to the pelvic lymph-nodes are present in at least one-third and possibly over half of the operative cases. While they are more frequently found in the advanced than in the early ones, they may be present in cases in which the primary growth is very small and the adjacent tissues free from cancer. Metastases to the abdominal nodes are sometimes present in the operative

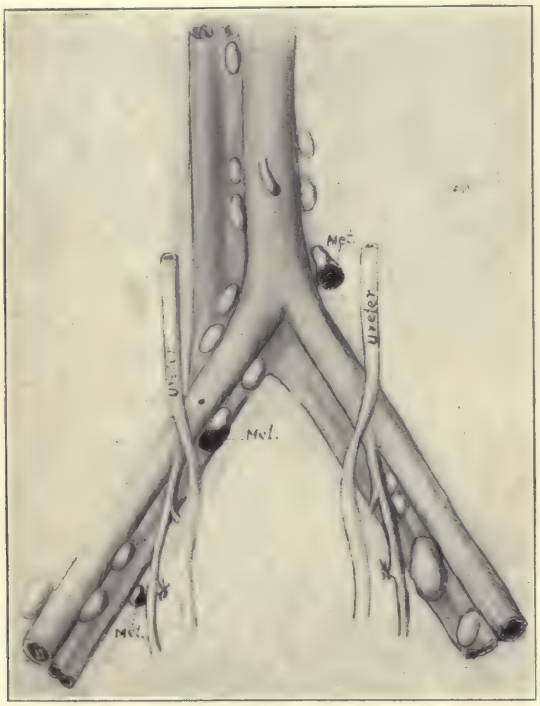


Fig. 19.—Metastases in the pelvic and abdominal lymph-nodes. The patient died on the fifth day after the operation. The abdominal and pelvic blood-vessels with their accompanying lymphatics were removed at autopsy. The lymph-nodes represented were found and carefully studied. Metastases were found in those indicated.

cases. I do not know their frequency and whether or not they may be present in the very early ones.

Should the operative treatment of this condition be based solely on laboratory findings it would consist in first, dissecting the lymphatics from the blood-vessels of the lower abdomen and pelvis, then freeing all the tissue lateral to the cervix from each pelvic wall and removing it, together with the lower portion of both ureters, the uterus and any portion of the bladder wall which may be adherent. We know that the ureters are actually invaded by cancer in only a small percentage of the operative cases but the tissue about them is very likely to be invaded and the main lymph-vessels cross them. In order to remove this tissue undisturbed the lower portion of the ureters would have to be sacrificed. The clean dissection of the lymphatics of the lower abdomen and pelvis is very difficult even in a cadaver and takes a long time—too long with our present technic for any patient to stand on the operating table. The resection of the ureters and their implantation into the bladder is attended with the danger of compressing them, thus causing renal insufficiency and possibly leading to renal infection. Such an operation is attended with a prohibitive primary mortality.

My own experience in the early cases with a wide excision of the parametrium and freeing the ureters with or without the removal of the accessible pelvic nodes has been attended with a very low primary mortality (I have not lost a favorable early case) and I hope for a high percentage of cures. This group of cases is small and sufficient time has not elapsed to render my statistics of any definite value. On the other hand, the operative treatment of the advanced cases, in which I have sacrificed a portion of one or both ureters or resected portions of the bladder wall (and in one case a portion of the rectal wall) has been attended with a high primary mortality (50 per cent.) and the growth has recurred in all patients who have survived the operation. The treatment of the so-called border-line cases, in which there has been a wide excision of the parametrium with freeing the ureters, has also been attended with a high primary mortality and the growth has recurred early in the majority of them. On the other hand two patients who were operated on in July, 1905, and which were unfavorable cases, are at present apparently free from cancer. In one of these, metastases were found in the pelvic lymph-nodes. Such instances as these encourage one to operate in unfavorable cases.

As a result of a combined laboratory and clinical study I wish to emphasize the following points:

1. In over one-half of the operative cases the growth has extended beyond the uterus at the time of the operation and the recurrence after operation is usually (possibly always) but a continuation of a growth not entirely removed.

2. Certain types are more malignant than others. In my experience the inverting type arising in the portio vaginalis is the most frequent and most malignant variety, the same type arising from the mucosa of the cervical canal is less frequent and less malignant, while the everting type is still less frequent and malignant. As

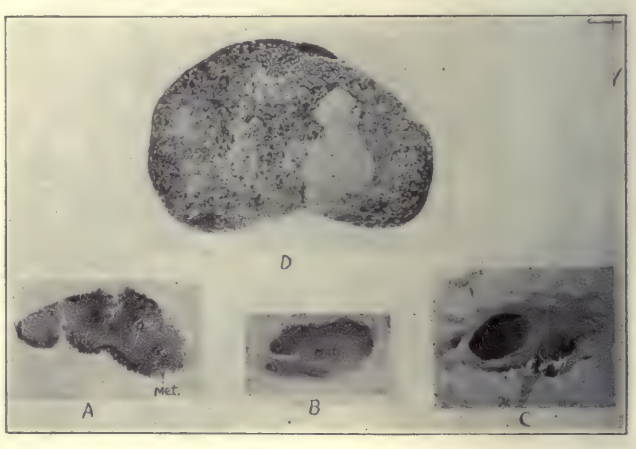


Fig. 20.—Metastases in pelvic and abdominal lymph-nodes showing variations in reaction on part of nodes. From photograph of stained sections of these nodes (× 1), operative specimens. A, early metastasis in the proximal pole of an iliac node. The node is apparently hypertrophied, but there is no reaction in the tissues about it. B, metastasis in a similar node. Over half of the node has been replaced by cancer, yet the node is apparently but very little increased in size and the tissues about it are unaltered. C, another metastasis showing that the cancer has invaded the surrounding tissues and these are markedly thickened. D, lumbar node diffusely invaded by cancer and greatly enlarged. There was no reaction on the part of the surrounding tissues.

was stated in the beginning of the paper, carcinoma of the body is so much less frequent and less malignant than cervical cancer that it was not further considered in this paper.

3. The reaction on the part of the tissues invaded by cancer varies greatly.

A. Sometimes there is very little, thus suggesting that it is unable to resist its invasion.

B. At other times there is a marked increase in connective tissue about the cancer which may retard its growth.

C. The lymph-nodes of the parametrium are sometimes increased in size and new ones are apparently formed. These may check metastases.

4. We are unable to judge definitely of the extent of the disease before the operation.

A. The growth may appear to be very early and yet metastases may be present (especially true of the inverting type).

B. The primary growth may seem very extensive and yet be entirely local.

C. A normal-feeling parametrium does not exclude the possibility of cancer in its tissues.

D. The induration felt in the parametrium is not always due to carcinoma.

E. For the above reasons an apparently favorable case may prove unfavorable and *vice versa*. Exploratory operations are sometimes justifiable.

5. The most radical operation consistent with a "permissible primary mortality" is indicated, especially in the early cases. The first requisite of this operation is a wide excision of the parametrium. The routine removal of the pelvic lymph-nodes is still, in my mind, a debatable procedure with our present technic. If the nodes have not been removed, cancer has been left behind

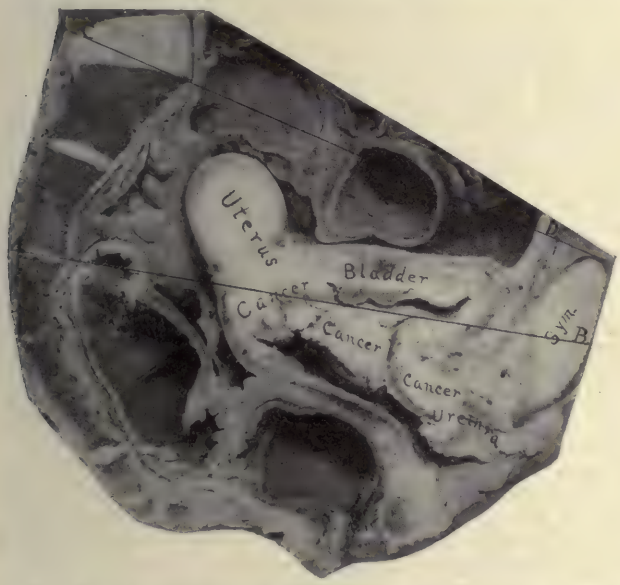


Fig. 21.—Advanced cancer of the cervix with extensive involvement of the bladder and resulting vesicovaginal fistula (patient only 25 years of age). From photograph of median sagittal section of the pelvis. Line A-B indicates the plane at which the section illustrated in the following figure was taken.

in at least one-third and possibly in over half of our operative cases. Against their removal it may be said that it increases the primary mortality and that patients in whom metastases have not yet occurred will die from the operation who would have survived had this not been done. It is also impossible to remove at operation all the lymph-nodes which may be infected, and at best we must be satisfied with their incomplete removal. The more thorough and complete the operation the greater the chance for curing the patient and for these reasons we should do the most thorough operation which we believe that each individual patient will stand.

6. Extensive operations in advanced cases are usually unjustifiable and great care should be exercised in the choice of the border-line cases in which operation should be done.

7. *The most important aid to the treatment of this condition is an earlier diagnosis.*

8. An earlier diagnosis could have been made in the majority of our cases. Sometimes symptoms referable to the growth do not arise until late in the course of the

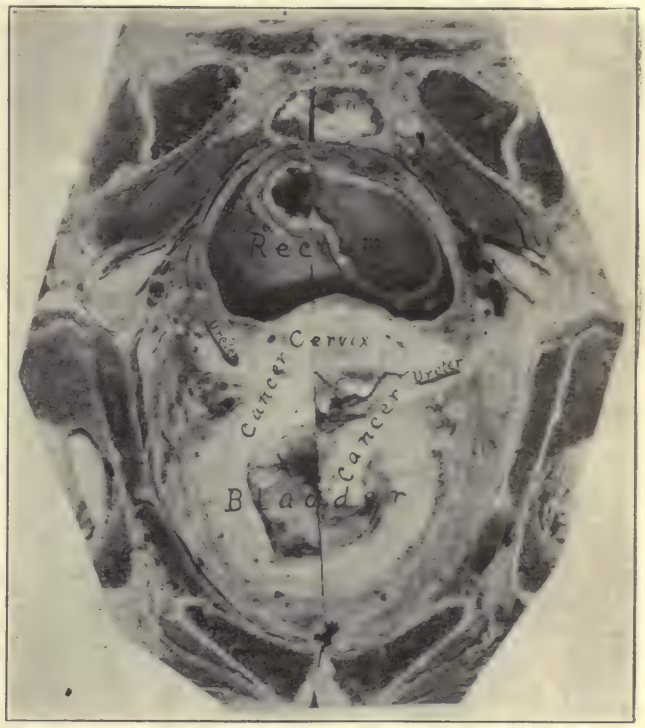


Fig. 22.—Cross-section of the pelvis through the plane A-B in Figure 21. Wires are inserted in the lumina of both ureters. The one in the right ureter can be seen protruding into the bladder at the margin of the vesicovaginal fistula. The ureteral walls are invaded by cancer, causing hydro-ureter, hydronephrosis with resulting renal insufficiency and death.

disease, but in *over half* of the *forty-one operative cases* referred to in this communication there was a history of *neglected uterine bleeding* of *over six months' duration*.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SAMPSON, JACOBSON, RIES, AND FREDERICK, CONSTITUTING A SYMPOSIUM ON CARCINOMA OF THE UTERUS

DR. GEORGE GELLHORN, St. Louis: The papers have presented so many phases of the subject that I shall confine my remarks to the paper presented by Dr. Frederick. Dr. Frederick has spoken of the cautery for two different purposes, if I understood him correctly; one for the purpose of radically curing a cancer, and the other for the purpose of treating inoperable cases of uterine cancer. I wish to refer only to the second use of the cautery. I can confirm the statement of Dr. Frederick that the thermocautery will relieve the symptoms for a short time but I must insist that any lasting good effect can be accomplished only by a methodical repetition of its use. Only if it be applied every four weeks for six or seven months in succession is a good result likely to occur. Unfortunately the patients do not return for such repetition; at least, my experience has been that a patient would come a second time, but I have yet to see the patient who would

come back to the hospital for a third cauterization, so that the good effect of the cautery remains more or less theoretical. The majority of inoperable cases after all are in the hands of the general practitioner and the cautery is hardly an appliance of general practice. The odor of the profuse discharge and the hemorrhage are so overwhelming that the practitioner is practically helpless. The acetone method is especially suited to his needs. Regarding the criticism made by Dr. Frederick, I would state that the penetrating effect of acetone seems to be very great. From our laboratory knowledge we know that it deeply penetrates dead tissues, and it is only logical to suppose that the penetration in living tissue is even more quick. Two and a half months ago I curetted an inoperable cancer and after the excochleation the opening was large enough to admit a speculum about two inches in diameter. On Monday last I only succeeded in introducing a very small vaginal nozzle into the crater in order to pour the acetone in. This would show that the penetration is sufficiently deep and the resulting formation of scar tissue satisfactory. Of course, these patients all die, but we are able to keep them alive from one to two years and in comparative comfort. One of our patients in the St. Louis Skin and Cancer Hospital who had been declared inoperable by Wertheim when he was in St. Louis occupied her position as scrub-woman in a downtown office a year after having been declared inoperable, earning a livelihood for herself and family. The woman died almost two years after the first treatment and might have lived longer except that the absence of symptoms induced her to stay away from our treatment. The acetone treatment is a very simple method and can be used in the hands of the general practitioner who has not hospital facilities. The lesion should always first be curetted very thoroughly. I use a large spoon devised by Dr. Boldt. After curetting, I insert a Ferguson speculum into the bleeding wound and then pour the acetone into it. In all the cases that we have observed the bleeding has been checked. We use the pure acetone, a chemical that is used for the wholesale preparation of chloroform, and also in machine-shops for dissolving fats. It is poured into the speculum and left there for fifteen or thirty minutes. It is then permitted to run out, a piece of gauze soaked in the acetone is inserted into the wound and the speculum is removed. The patient is returned to bed, which she may leave the next day. Regular treatment is begun five days after this preliminary treatment and applied three times a week for several weeks. As the symptoms improve we gradually lengthen the intervals. I have again and again tried to curette these lesions after five or six or seven weeks of treatment and I have hardly ever succeeded as the walls are hard and smooth in contradistinction to the spongy character of the original excrescences. The subsidence of the symptoms of the patient, aside from the relief of hemorrhage, odor and discharge, is very marked. Perhaps owing to its chemical relationship to chloroform the acetone seems to have an anesthetic effect on the patient. In many cases the pain disappears. When the cancer has reached the nerves, of course, the acetone does not relieve pain. In those cases we have to resort to morphin. Certainly, however, the subjective symptoms of cancer have been greatly relieved by this method, and we have, after trying various other methods, always returned to this and shall continue to use it until we find something better. At that time, however, we shall be the very first ones to adopt the better method.

Dr. Reuben Peterson, Ann Arbor, Mich.: I have been much interested in the Ries operation for the radical cure of cancer of the uterus ever since Dr. Ries brought forward his operation in 1895. I had the good fortune to be associated with him shortly after that time in the Chicago Post-Graduate Hospital. I can only praise the thorough work which Dr. Ries has done with his operation and the consistency with which he has followed along one line. But I differ with Dr. Ries because of my own experience. We are not partial to any one operation unless it will save the most patients. My experience with the radical operation for cancer of the uterus as I tried to carry it out according to Dr. Ries' directions, gave me such a high mortality that I concluded that if I could do a less radical operation and save more lives, the women at least would be better off. I agree with Dr. Ries that statistics based on less than 100 cases do not count for much. Yet, right after that he gives his own statistics with much less than that number. We must talk about our results for that is what we have to go on. My mortality for the first fourteen cases was 42 per cent. That is a shocking mortality to anybody who is doing abdominal work. Out of the seven patients that have been operated on for five years there are four alive. Two of these had carcinoma of the fundus, which Dr. Ries very properly says are in another category. Still, theirs are cancer cases and in my hands prior to this abdominal operation I did not save such patients. You say it is easy to save them, but I didn't. I remember only one patient whom I operated on for carcinoma of the body that I saved by the old method. So setting aside, if you please, the two cases of carcinoma of the fundus I have two patients out of seven to my credit who have lived beyond five years. Since that time I have been doing less radical work, not making such extensive dissection of the glandular tissue as Dr. Ries recommends. My primary mortality is much better, as of course, he will say it should be. The operation, even when one does not dissect out the glands, is a terrible one and I agree with him it is the worst we have to perform. In my last twenty-three cases I lost but one patient. Some have lived for over three years. I do not know whether they are going to live beyond five years, but I know that the mortality is much more satisfactory, and taking that as a whole I think I shall be better off as far as saving these women is concerned than if I did the radical procedure.

Statistics improve with the operator's experience. I can now see my mistakes with my first cases. I have had the same experience that Dr. Ries and others have spoken of, that when you begin with this operation you have an idea that when the uterus seems to be firmly fixed in the pelvis the patient is beyond hope. I quite agree with the essayist when he says that every operation should be an exploratory laparotomy. In some of the cases it is a matter of surprise to find that the induration to one or the other side of the cervix is really inflammatory tissue and not carcinomatous.

There is a certain class of patients whom I exclude from this radical operation irrespective of the extent of their disease because the primary mortality is so great. Such patients are the excessively fat women. They die from the operation almost invariably and I think that I shall do better by them in carrying out the palliative treatment because in my hands, at least, they do not stand the ghost of a chance of surviving with the radical operation.

Dr. A. Goldspohn, Chicago: I also admire the radical work which Dr. Ries has done; but when we consider the results of very extensive autopsies in uterine cancer cases, particularly those made by Schauta, which show that in only about one-fourth of all the cancer cases the glandular involvement is located only in or near the pelvis, so that thorough operation and search for the glands is rational, we feel that extreme searching for glands is irrational and disappointing. We all know the extensive research work which Schauta has done in some eleven or twelve thousand post-mortem examinations of glands. The conclusion of the matter is that if these ideas of thorough extirpation are to be actually followed, then the operation, which consists in eliminating the human trunk, as Dr. Ries has mentioned, would be necessary.

In the majority of cases the metastatic glands are located in both the upper and the lower parts of the abdominal cavity. In a small proportion they are in the upper part only. In all of these the extreme search for glands means the cutting short of many lives by unwise operating, for no good reason. Since recurrence most commonly takes place in the cicatrix of the amputated vagina a very liberal exsection here is called for. A procedure which I like consists in doing an abdominal hysterectomy with a moderate search for glands. Take out the uterus thoroughly with the adnexa and broad ligaments as closely up to the bony limits as possible. Get the entire uterus free from everything except the vagina. Dissect the upper part of the vagina also from the connective tissue area.

Then tuck the whole uterus with the inverted vagina down into the small pelvis. Close over the small pelvis by peritoneum from different directions at about the level between the true and false pelvis and close the abdomen. Then go to the vagina and take out the uterus, taking with it the upper portion of the vagina more thoroughly and safely against bleeding than can be done from above. This method has given me rather satisfactory results. Repeated cauterization is also followed by good results, in the inoperable cases. I have seen a number of such patients live quite comfortably for three and four years.

The excellent views of Dr. Sampson have shown what needs to be emphasized—that in the majority of cases cancer of the uterus begins in the upper part of the cervix. Germans have shown that it comes chiefly from retention cysts, *i. e.*, the Nabothian follicles superficially and deeply seated up in the cervical canal. These vulnerable and dangerous glands can mostly be removed in amputations of the cervix, when any operation for lacerated or pathologic cervix is indicated. Such amputation, then, and not the Emmet trachelorrhaphy should be done. As a prophylactic for cancer it will do much more good than the heroic search for glands with the attendant mortality in attempts at cure.

DR. ELIZA M. MOSHER, Brooklyn, N. Y.: The small number of patients with cancer of the uterus who are cured emphasizes what has been said here and for years past on the importance of instructing women in reference to the symptoms and early signs of this disease. Even though we realize the tremendous importance of it, we cannot do very much in our offices in the way of prevention. You will be glad to hear that the committee appointed last year by the House of Delegates, termed the "Public Health Education Committee" has been able during this year, in New York and Brooklyn alone, to give careful instruction on this subject to more than a thousand women, through these lectures. Throughout the United States the same teaching is being carried on, and we are hoping that the number of cases of late cancer will be lessened materially during the next five years through the work of this committee.

DR. HORACE G. WETHERILL, Denver: In regard to the work to which Dr. Mosher has just referred, as your representative in the House of Delegates, I may say that this committee made its report to the House of Delegates yesterday and it was a very comprehensive, dignified and tactful report, showing excellent work on the part of the committee. So far as may be in our power this Section should endorse and support this educational committee.

DR. J. H. JACOBSON, Toledo: Just a word in reference to the statistics that I have shown. I realize full well that everything which Dr. Ries has said is true; that it is very difficult to get statistics in which a genuine radical abdominal operation has been performed, and that it is impossible to get statistics of operations performed as thoroughly as Dr. Ries does them. I was prompted to make this statistical study because the operations ordinarily performed for the cure of cancer uteri, have appeared to me only palliative at best. If we expect to make any advance in this work we must make our operations more radical. I admire Dr. Ries' work very much and have only words of praise for it. Wertheim's results are the best up to the present time. I hope that this statistical study will help operators to adopt this operation which has a higher percentage of permanent and absolute cures than any other.

DR. EMIL RIES, Chicago: Wertheim removes a few glands from a patient and gives a low percentage of carcinoma in the glands. That does not prove anything. If anybody removes glands extensively, as some have done, the number of cases in which carcinoma is found in the glands is about 60 per cent. That means that two out of three women have cancer in their glands when they have carcinoma of the cervix. You take the chances on the 60 per cent. if your main purpose is a large primary recovery. You can do so. You are the physicians and it is for you to say, only be honest with the patient. Tell her what you can do. Wertheim said in Chicago that all the patients in whom he found carcinoma in the glands had recurrence. Why? Because he did not take out enough. The so-called recurrence in the scar in the vagina is not new disease. It is only the consequence of insufficient operation. The operation did not go far enough.

Just a word in regard to Schauta's report. Dr. Goldspohn did not tell you all about it. He did not tell that Schauta's work has been refuted by Mackenrodt. Schauta's paper shows that he examined from six to ten glands in each case, when the smallest number should be approximately twenty. As he overlooks the other fourteen the work of Schauta is absolutely useless. If you have no conception of the meaning of examining glands for carcinoma, try it in one case. I have examined 1,200 sections from one case without finding a single bit of carcinoma, while the next 200 sections were full of it. Anybody not willing to do such work should not talk about it.

REPAIR OF CEMENTUM

IN RELATION TO THE TREATMENT OF ALVEOLITIS *

M. H. FLETCHER, D.D.S., M.D., M.S.
CINCINNATI

Many years ago Dr. William H. Atkinson of New York endeavored to induce repair in the sockets of teeth which were deeply affected with alveolitis, by sponge-grafting, a method of surgery then in vogue.

At that time, from 1885 to 1890, the discussion of the etiology and treatment of the diseases of the sockets of the teeth, was at a very high pitch, the name "pyorrhea alveolaris" being then, as it is now, strongly attacked by many as inadequate and misleading. The etiology and pathology and the question whether it should be considered a local or a constitutional disease were also hotly discussed. Since then the methods of treatment have changed very little.

If, however, we knew all the causes and the actual tissues most involved in the repair we should better know how to treat the disease intelligently, and have a greater number of recoveries and those more complete. It is hoped the facts here to be presented may do something toward this desired end.

The wonderful recuperative powers of cementum have recently been brought to my attention with great force, and the result has been active research regarding this tissue. Such literature as I have been able to find about cementum and its relation to human teeth is confined to mere descriptions of its locality and histology but not of its necessities and uses.

Cementum is the bond of union between the teeth and bone, and seems much like bone in its recuperative and reparative powers. For one to know that under proper environment the cementum may and will reform, when it has been removed from a root or cut into grooves, should be a fact of much moment and value to those interested in the treatment of diseases of the sockets of the teeth and the surrounding tissues. The incident which encourages me to believe this to be true is as follows:

A year or more ago a young woman of 19 came to me for treatment. About four years previously she had lost the crown of the first lower molar on the right, by an attempt to have the tooth extracted. The crown had been broken at an angle quite below the neck so that the soft tissues, when they began to repair, lapped partially over the broken surface. On close examination the soft tissues were found to be adherent to the broken surface of dentin. This being very unusual, the roots were carefully extracted, the lump of soft tissue still adhering to the broken surface. The anterior root was decalcified,

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

with some of the soft tissue still adherent. Sections were made from the root and adherent tissue (Fig. 1). It was found that the cementum had not only grown over and become adherent to the broken surface of the dentin but had partly filled the canal of one root from the top down, something after the manner of the growth of secondary dentin induced by abrasion from mastication. The formative membrane was still adherent to these surfaces (Fig. 2). The cementum was very much thicker about the end of this root than is normal in teeth of this age (Fig. 3). This, no doubt, was due to the disturbance brought about by the attempt to extract the tooth. Nodules of cementum on the roots of the teeth are very common in older persons and are called exostoses, but to find cementum formed on and adherent to a broken surface of ivory of a human tooth, much as it is on the roots, is a new phenomenon in biology to me, and is of so much moment to those interested in the treatment of alveolitis that I have spent much time in investigating the subject.

The specimens examined seem to show that if environment is made perfect in treating deep-seated cases of alveolitis we may have a normal restoration of tissue to a great extent if not to a full amount. In the language of the general surgeon, we can expect to have a healthy useful stump if we cannot have a completed organ.



Fig. 1.—Section of anterior root of first molar (× 3) ; d, dentin ; c, cementum growing on broken surface of dentin ; p, c, pericementum ; p, remnants of pulp chamber.

We all know numbers of cases in which teeth that, under treatment, have seemed hopelessly loose, in time have become firm and useful for many years; and I have wished many times that we might know just what the process of repair was. This one case of excessive growth and unusual attachment of the cementum to the broken surface of dentin teaches what this process of repair can be, and I am now convinced that it is the cementum on which we largely rely for the repair in these cases, it being the underlying factor of attachment. The specimens show excessive growth of cementum which must have been the result of some stimulating environment.

Cementum is of mesoblastic origin like dentin and bone; but bone seems to be one step too far away from dentin in physical character for perfect union between them to be possible, so that in the growth of teeth in vertebrate animals the cementum seems to have been a development by nature to supply the intermediate link as a bond of union between tooth and bone. Cementum is the natural product of the pericemental layer of the periosteum of the socket, and does not exist until the root of the tooth is formed. The presence of the dentin of the root in proximity to the periosteum seems to stimulate the layer of cells next to the dentin to bring into action that unknown law, the differentiation of cells, and cementum is the result. Thus it is seen that the periosteum of the socket is remarkable in that it forms bone on one side and cementum on the other, and at the same time acts as a cushion against the forces of mastication.

Since we know by the specimens that this membrane is capable of what seems unusual things, we can set our goal at having Nature reproduce much of the lost attachment in diseased sockets. The necessary conditions to produce this result would mean that we must have live tissue to live tissue as is done in setting a broken bone. Sterile blood-clot must fill the space between. To produce this condition the roots of the tooth must be surgically free from foreign matter. They can be cleaned by scraping and polishing, or, better, by planing the roots off with instruments like Thompkin's, Hartzells' or Carr's sets, which leave live tissue on the tooth side.

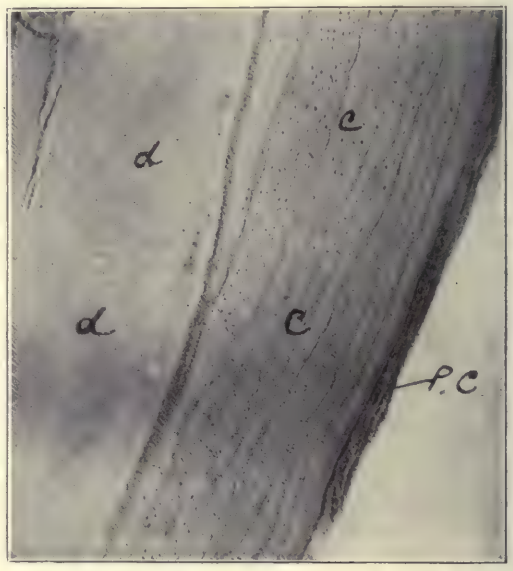


Fig. 2.—Normal cementum of the root (× 100) to compare with the cementum found on broken dentin and in root canal ; d, dentin ; c, cementum ; p c, pericementum.

All dead or diseased bone or other tissue should next be removed from the socket; this leaves live bone tissue on the other side opposing the live cementum, and if the wound be kept sterile by gently washing away the disorganized blood-clot at proper times, what would seem perfect conditions for repair will be produced, the space not being large enough to demand anything like sponge-grafting.

This condition no doubt existed in the case of repair here presented, that is, a broken surface of live dentin on one side and healthy cementum-producing tissue on the other side in close proximity, so that it could grow over the broken surface of dentin with the results shown. The cementum-producing membrane may come from above or below in the socket or from both directions.

If pus is found forming again, as it often is, either more thorough curetting or escharotic germicides such as pure lactic acid or iodin should be resorted to, in order to have Nature throw the strongest possible army of repair into the neighborhood. She will renew the effort, as often as called on, by making frequent fresh wounds in the socket. The principle is the same as that

according to which setons were formerly drawn daily through a wound; but daily is too often in these cases. This treatment should fall short of destroying any repair which has already begun.

If the tissues are put and kept in normal condition for repair, as above described, healing will take place in due time, that is, in from two or four months, or in whatever length of time it would naturally take such wounds to heal—possibly a year or more in some cases. But the physician must know when the tissues are in proper condition for repair and how to produce them. It is understood that many patients do not come for treatment until they are beyond recovery.

It seems to me that at present we proceed in the treatment of alveolitis without any definite idea of what processes are called into play in the healing; but we go ahead and do something; if the patient recovers, well and good; if not, we do not know why nor do we know what we should do in order to have Nature do the repairing which she is always trying to do and always will do if the physician is bright enough to know how to remove the hindrance in her way. Thus encouraged, Nature will accomplish what may seem wonders, but what to her is mere fulfilment of her own laws.

The facts as displayed in this case of repair certainly show a definite and encouraging goal for which to work and this goal is, I believe, the proper one; that is, we may look forward to the activity and reproductive power of cementum to form a new bond of union, knowing that this union will occur if the environment is made right. In bone surgery, it is not thought that the periosteum reproduces itself by growing edgewise to any great extent, but, surgically speaking, the reformation of enough periosteum and pericementum to line the whole tooth socket would not be considered a large amount to be reproduced. In cases of amputation of the apex of roots it no doubt is due to the cementum which covers the freshly cut surface that makes it possible for the tissues to retain the tooth in health instead of expelling it. Where roots may have been fractured repair may take place by the crevice being filled with cementum just as broken bone is cemented together by the fracture being filled with new bone.

Often arteriosclerosis, auto-intoxications or other systemic disorders hinder the healing of these wounds in the same manner as they hinder the healing of wounds in other parts of the body. If these conditions exist, they should be looked after either by the operator or the family physician, since the condition of the blood and blood-vessels have much to do with the susceptibility of the patients to alveolitis and to other diseases, as well as with the tendency to repair or to remain chronically diseased. So the systemic conditions must be looked after as well as those that are local.

Many patients suffering from necrotic and suppurative alveolitis are reported to have recovered under systemic treatment, but always after the deposits have been removed from the roots. From my point of view such patients recover on the same principle that tuberculous and other patients recover, that is, through such improvement in the patient's health by means of medical or climatic assistance that the system is equipped with sufficient additional material and vigor to overbalance and finally overcome the disease.

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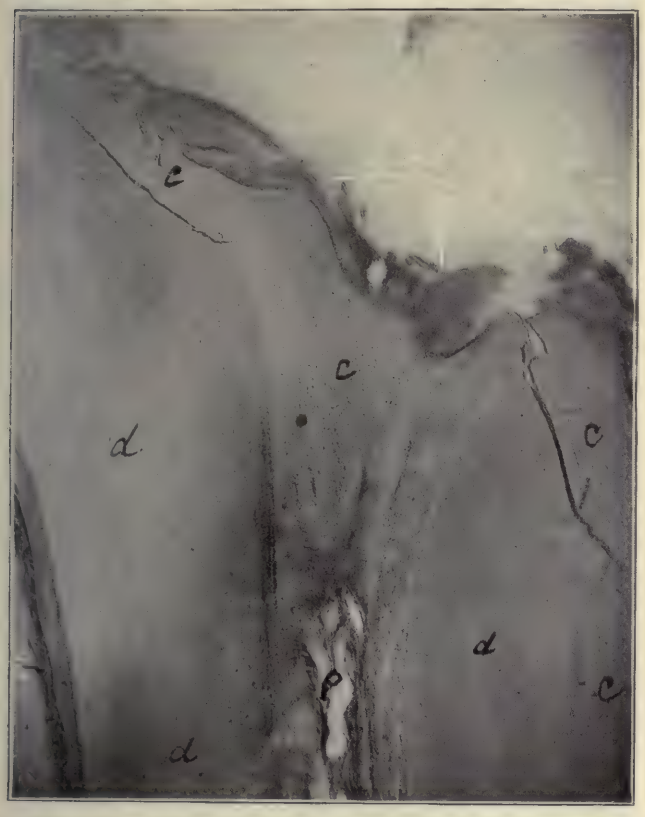


Fig. 3.—Top of Section 1 (× 75) showing cementum growing up over the side and onto broken dentin and into pulp canal: d, detin; c, cementum; p c, remnants of pericementum; p, remnants of pulp chamber.

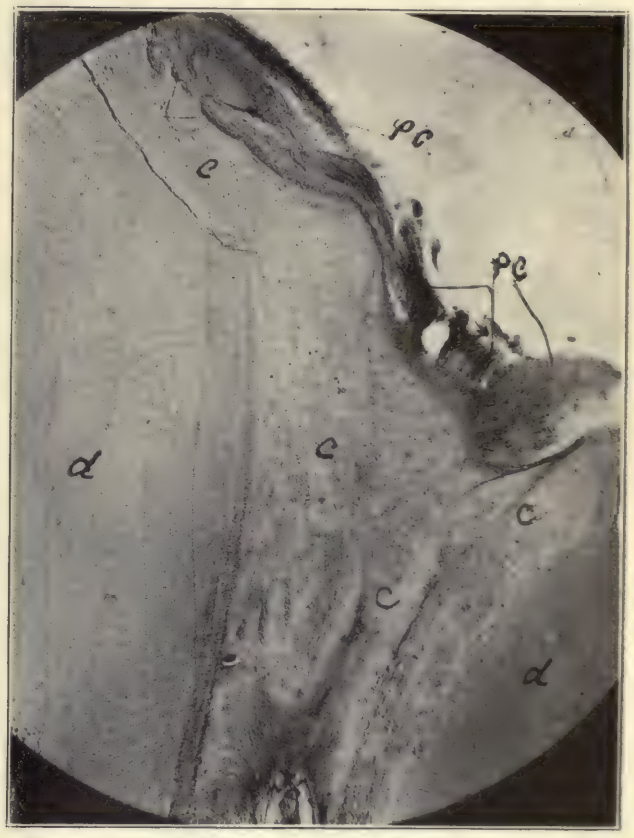


Fig. 4.—Higher magnification of Figure 3 (× 100), showing more plainly the character of tissue; d, dentin; c, cementum; p c, remnants of pericementum.

ABSTRACT OF DISCUSSION

DR. FREDERICK NOYES, Chicago: For a long time I have been trying to teach that cementum was the means of attaching the surrounding tissues to the tooth, and that normal cementum continues to be formed as long as the tooth remains in function. A tooth that has just erupted has a few layers of cementum over the root. One that has been in use for a long life has a great many. Further, I have been trying to convey the idea that the tooth is continually moving as long as it is in function, and with every movement the attachment of the fibers to its cementum is cut off and they are reattached by the formation of a new layer of cementum. I think Dr. Fletcher will agree with me that these things which are physiologic facts occurring in the formation of every tooth are of prime importance in the consideration of this specimen, and that they are the foundation of the treatment of the roots of teeth in alveolitis.

The problem, then, which is presented to the practitioner in the treatment, for instance, of a deep pocket on the labial surface of the lower incisor where the normal attachment has been removed, is that of bringing the tissues in physiologic contact, and that is very far from an easy thing to do. If physiologic conditions can be obtained, the reattachment of the soft tissues to the surface of the root is the only logical thing to be expected. I would like to ask Dr. Fletcher if any of those broken fragments of dentin showed any formation of cementum?

DR. H. M. FLETCHER: They are enclosed in cement, and yet in most of them you can see an attempt at absorption.

DR. NOYES: That question was suggested to me from the emphasis of Dr. Fletcher on its being living dentin. I am not so certain on that point. That is that the formation of cementum continues on the surface of the root from which pulp has been removed, and moreover, formation of cementum continues on fragments of diseased roots in which there is no living dentin. For instance, I saw a case a few days ago, in which a tooth which had lost almost all of its peri-dental membrane, had become turned over sideways and formation of new cementum along the new under surface had occurred. Any damage to the outer surface of the dentin is always repaired by the formation of a new layer of cementum.

No surgeon ever closes a wound; all he does is to control conditions so that the living tissues can close the wound, and the thing that has led to the development of modern surgery has been a knowledge of the conditions of life and an ability to control cell activity. The same way in this field. No dentist can ever reattach the tissues to the surface of the root, but if he knows enough about the vital conditions and can control them the tissues may be able to carry out their activities, and they may reattach themselves in their normal position.

DR. G. V. I. BROWN, Milwaukee, Wis.: The subject opens up vast possibilities in our treatment of pathologic conditions affecting the cementum and adjacent structures, which if these slides are as they seem, will make it possible to do a great deal more than has ever been attempted before. It is another example of the wonderful versatility that cells display in adapting themselves to adverse conditions which sometimes leads to the production of cells essentially different in their ultimate character from the condition of the original cell. It certainly is new to me to know that cementum would spread itself over a bare surface of dentin, whether living or dead, as this seems to have done. I would like to be a little more certain as to just how far the fibers of the pulp in that tooth had extended themselves, and have no doubt Dr. Fletcher will be able to tell us whether this would be the kind of thing which one could expect regularly from cementum under pathologic conditions, or whether it is merely the outgrowth of pericementum quite similar perhaps to that which we find where we have hypertrophic conditions and polypoid gum tissue, or if it is only an unusual case.

DR. T. W. BROPHY, Chicago: The essayist has brought two very important subjects for consideration; first, the importance of observing the correct nomenclature; and second, the wonderful reproductive powers of Nature. As to etiology, he has not entered into it. However, we have a local condition which is aggravated by lowered vitality of the patient. Anything which decreases the patient's vitality aggravates the disease in this locality the same as anywhere else. Therefore, proper treatment of patients from a systemic point of view should be considered. The work of Nature in depositing cement on this pericementum has been pointed out by the essayist in a manner that explains many of the conditions that we find associated with the teeth that have never been heretofore pointed out. If so, it has escaped my attention. What the essayist has presented here will be very interesting material for the men working along these lines of pathology and histology.

If the pathologic condition has advanced to a point that has left the tooth denuded of pericementum—if there has been considerable destruction of the surrounding bone—though the tooth may be an irritant to the tissues about, in such a case I think the tooth is gone. The essayist has not told us that Nature could reproduce the alveolar process. I have never heard anyone say that could be done. I do not believe it can be done. The greatest mistakes made in treating alveolitis have been in the failure to make diagnoses—to determine to what extent the parts are lost. If the only support of the tooth is gone, the tooth is lost, notwithstanding the fact that it may still be present and adherent to the membranes. It seems to me that where there is doubt, every practitioner should have a skiagraph made in order to be of the greatest service to his patient.

DR. EUGENE S. TALBOT, Chicago: This specimen certainly has brought out some beautiful things which will give us material for future study. As to the application of this condition to repair of the alveolar process, etc., I can hardly agree with Dr. Fletcher. There are two fixed conditions, foundation principles, we cannot get around; one, that the alveolar process is only a temporary structure to hold the teeth in place, and as the persons grow older, the process is absorbed; second, that the alveolar process is an end-organ. These two points must always be considered.

In the first place the patient must have been about 17 or 18 years of age. The chances are that such a condition would not be found in an individual who had obtained his growth. After the process has built itself around the tooth, it is simply waiting for an irritation to tear down the alveolar process. This is only a matter of time. If a man live long enough and keep his excretory organs in good condition, the alveolar process, without disease, will gradually absorb, and he will lose his teeth naturally. As I tried to show yesterday, and as Dr. Noyes brought out very beautifully in his pictures, when the matrix is destroyed—the lathing—the fibrous tissue within the alveolar process of the bone cannot possibly be restored under any circumstances. It is only partially restored in other bones of the body needed for the future support of the individual; so that his analogy, to my mind, will not hold good.

DR. FREDERICK NOYES, Chicago: There are two points clearly shown in the microsopic specimens that are particularly important. The first is that the broken surface across the end of this root shows first an absorption in the dentin, and then the laying of the cementum on it. In other words, the tissues came into physiologic contact with that dentin, first to absorb it, and then the absorbing cells were replaced by building cells, and the tissue was attached to it. I believe this is important. Second, it is evident that the pulp chamber has been largely obliterated by the formation of dentin by the remains of living pulp in the broken root, and in a hurried examination it is impossible in all places to find the junction between the cementum and that secondarily formed dentin; but I think it is a little misleading to assume that all of that tissue down in the pulp chamber is cementum. It is not. It is at least largely secondary dentin, and the cementum has overlapped on to that at the mouth, but I think it does not cover it entirely, though I would not be positive. In the treatment of these conditions, I believe that the tissues will first lie in contact with that denuded root for the purpose of absorption, and then the absorbing cells

will be replaced and forming cells produced. This is an exceedingly important factor.

DR. WILLIAM C. FISHER, New York: Does Dr. Fletcher mean to convey the idea from this specimen that he hopes to build by stimulation the cementum body, filling in such spaces as may have been produced by the waste product of alveolitis? And if so, to what point he thinks this can be controlled? In other words, is this a sort of artificial exostosis that he would stimulate?

DR. M. H. FLETCHER, Cincinnati: Dr. Noyes' description of what he saw in the specimens indicates the necessity of putting it properly before you. The only way this can be done is to have you study the specimens through the microscope. If Dr. Noyes had time to look through all the specimens, he would find a few that are perfect, where there is no breaking away of the cementum from the dentin in the process of mounting. The law of repair would make me believe, after all our scraping and polishing of roots, that Nature still puts the root surface in proper condition for reattachment of the bone.

In answer to Dr. Fisher, I think what the cementum does is to reproduce itself on the surface of the root, preparing a surface to which bone may be attached through the periosteum; to what extent I do not think we know. Theoretically, I should say it will cover any place on the root that is in normal contact with healthy periosteum, thus we can at least have what is left in a healthy condition.

In answering Dr. Talbot I would say that it is a well-known fact that an organ which is not continually and normally used is changed to a useful form or position or it disappears, but the alveolar process is constantly in use so long as the teeth are present. I have seen mouths of elderly persons in which there was comparatively no recession of the gums, except where disease from local irritants existed. I do not believe in the idea that the alveolar process is a temporary or transitory organ. It disappears if the teeth are removed, but it will remain so long as the teeth remain without local disease. The permanency of this bone is shown in animals where the teeth are of persistent growth. In the tusks of elephants, the incisors of rodents and all animals that have teeth of persistent growth, the alveolar process, the periosteum and the peri-dental membrane are in perfect health so long as life lasts. I have examined the mouths of many animals, and if I understand the doctor correctly, I do not agree with him that the alveolar process is transitory or weakened excepting by disease. If the gums and bone about the teeth are kept healthy I believe the alveolar process is as permanent as the turbinates or other thin bones connected with the air passages.

Regarding the cementum, it is a law of the construction and attachment of teeth of vertebrates that it exists on the root. I do not believe we as practitioners have attached the importance to his fact that it demands. Such men as John Hunter, Richard Owen and Purkinje are the ones who gave us the best knowledge we have of this tissue, but they were not dentists and could not realize the importance it is to us to-day in the treatment of the diseases of the tooth sockets. We should know more about this tissue and call it into use in our work from the present on. Nature utilizes cementum between plates of enamel for constructing perfect grinders in many animals. The cementum wearing away faster than enamel leaves indentations which form perfect millstones for grinding the rough foods which would not otherwise be digestible.

Nasal Chancres.—Chancres of the nostrils and nasal fossæ are rare. Contagion may be direct or indirect. The chancre may be erosive, hypertrophic or ulcerative; the latter form may be mistaken for eczema or impetigo. Rolleston reported an interesting case of nasal chancre which was mistaken for nasal diphtheria, and sent to a fever hospital. In this case the chancre was covered by a diphtheroid membranous deposit; the submaxillary and sternomastoid glands were enlarged and there was an eruption of secondary syphilis on the body which had escaped notice.—C. F. Marshall, in the *Practitioner*.

A SUGGESTION IN THE USE OF THE STANTON SPHYGMOMANOMETER

EDWARD H. GOODMAN, M.D.
PHILADELPHIA

Those who use the Stanton sphygmomanometer a great deal will have experienced the necessity of frequent renewals of the rubber bulb used to inflate the cuff. When employing the instrument, the bulb remains distended throughout the entire blood-pressure determination, and if the pressure be high, the tension is extremely great. It has been my experience, and this is probably the experience of many, to find that the bulb usually lasts but a short time and must be replaced frequently.

To overcome this protracted distention I have devised a simple arrangement whereby the air may be let out of the bulb without affecting the pressure in the cuff. As shown in the illustration, the rubber tube leading to the



Suggested improvement in blood-pressure apparatus to avoid continuous pressure on the rubber bulb while taking the reading. A Y tube, *A*, is inserted in the rubber tubing with a short rubber tube closed by a pinch-cock, *B*, on one leg of the Y. After the cuff is inflated the cock, *C*, is closed and the pinch-cock, *B*, opened, releasing the pressure on the bulb.

mercury chamber is cut and a Y-shaped tube (*A*) is interposed. To the third arm of the tube is attached a piece of rubber tubing furnished with a pinch-cock (*B*). When a blood-pressure reading is to be made the cuff is inflated in the usual way, the cock (*C*) turned and the pinch-cock (*B*) opened, allowing the air to escape from the bulb, but in no way affecting the pressure in the arm band.

I am aware that many practitioners prefer to use a Politzer bulb, or an ordinary atomizer bulb with the Stanton instrument, and when this is practiced there is no necessity for the Y-tube. In our work we employ the double bulb, and we have found that this slight but useful modification complicates in nowise the technic

and is of distinct advantage in preserving the usefulness of the former.

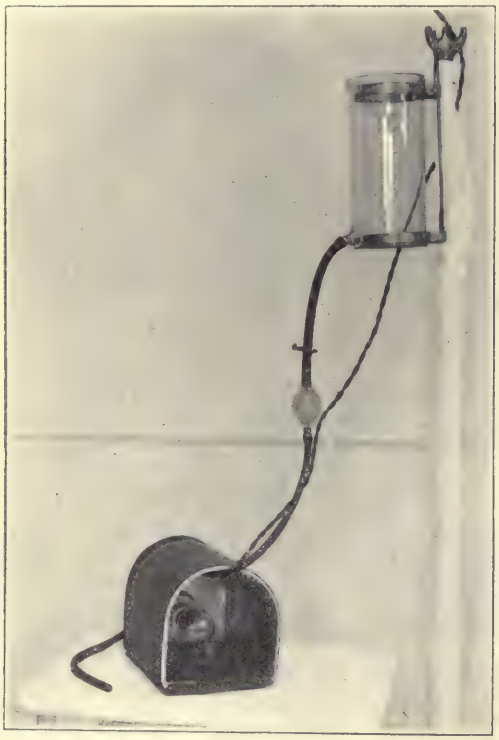
I am uncertain as to whether such a modification has been suggested before, but inquiry of the manufacturers failed to reveal any record of this. If such a modification has been described, however, it is worthy of wider use than is apparently the case at present.

248 South Twenty-First Street.

APPARATUS FOR PROCTOCLYSIS

MAURICE DUANE BIRD, M.D.
MARINETTE, WIS.

The new appliance for heating salt solution for proctoclysis shown in the accompanying illustration, consists of a galvanized iron box covered with asbestos and sole leather, 9 inches long, 6 inches wide, 6 inches at greatest height, being dome-shaped, one end closed, the other open, with an opening ¾-inch in diameter at top of closed



New apparatus for proctoclysis

end, and a loop ¾-inch in diameter at top of open end, allowing a ½-inch tube to be passed without trouble; an electric lamp socket is fixed on the inside of the closed end and fitted with a 4-candle-power lamp, 12 feet of silk-covered copper wire with plug for attachment to electric light fixture, attached to lamp through the closed end.

The advantages of the appliance are the following: It is simple, efficient, and durable. It will not get out of order, keeps a constant temperature and will not burn the patient, or soil or moisten the linen. If a 16-candle-power lamp is used, the bed will be warmed also when the apparatus is used for shock. The patient cannot be injured in changing position or by lying on the appliance. It reduces the labor and attention required of the nurse. The appliance slides on the terminal portion of tube, there being no fixed segment; therefore the reservoir can be placed any distance from patient without removing end portion of tube, which should be 16 inches in the bowel.

NEW REFLEX SIGNS IN MENINGITIS DIAGNOSIS

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Brudzinski's "new sign" in meningitis is probably one of the best signs in the diagnosis of this disease, although it does not differentiate between the various forms. It consists of reflex actions manifested in what are called the neck-sign and the leg-sign. It comprises two reflex phenomena, the identical reflex *(réflexe identique)* and the contralateral reflex *(réflexe contralatérale)*.



Fig. 1.—Patient with septic meningitis, subsequently fatal; relaxed; comatose.

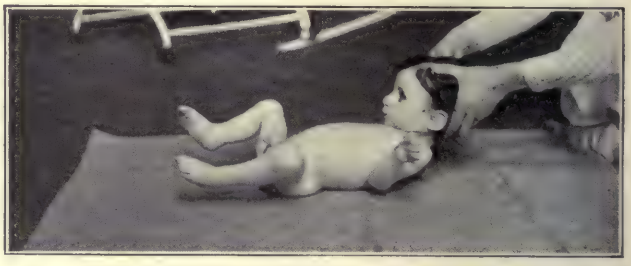


Fig. 2.



Fig. 3.

Figs. 2 and 3.—Method of eliciting the identical reflex or neck-sign, by flexing head on chest.

The identical reflex is elicited by forcibly flexing the head on the chest, when the arms and legs regularly assume the positions shown in Figures 2 and 3.

The contralateral reflex is produced by passive flexion of one leg, which causes the fellow limb to draw up and remain in the position shown in Figure 4.

Of the two signs the neck-sign is the more constant and is really a refinement of the ordinary "stiff-neck," "rigidity," etc., mentioned in the descriptions of the physical signs in meningitis.

Brudzinski[1] in forty-two cases of meningitis, found the neck-signs *(réflexe identique)* positive in 97 per

1. Brudzinski: Arch. de méd. d. enf., 1909, xii, 745.

cent.; the leg-sign *(réflexe contralatérale)* in 66 per cent.; Kernig's sign in 57 per cent, and the Babinski sign in 50 per cent.

Morse[2] examined 400 children, "well, or ill with diseases other than meningitis," and his conclusions are that "neither the neck-signs nor the contralateral reflex are present in well children or in those ill with diseases



Fig. 4.—Producing contralateral reflex or leg-sign by passive flexion of one leg, causing a reflex flexion of the other leg.

other than diseases of the nervous system; and that they are very seldom met in diseases of the nervous system, outside of meningitis." "Their presence is strong evidence in favor of meningitis: their absence does not rule out meningitis."

57 East Seventy-Ninth Street.

AN APPARATUS FOR THE PREPARATION OF BACTERIAL SUSPENSIONS*

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BOULDER, COLO.

Anyone who has prepared autogenous vaccines has no doubt found the shaking up of the suspension by hand,



as recommended by Wright, a tedious process. There are several mechanical agitators for the emulsification of large quantities of fluid, but I have been unable to find anything well adapted to the preparation of bacterial suspensions as used in vaccine work. In several instances mechanics have made on special order devices for this purpose, but these have been produced at a considerable expense. The device described was made under the direction of Professor Hunter of the College of Engineering, and is reported because of its slight expense and its simplicity.

A second-hand sewing-machine was bought for fifty cents. Much of the machinery was removed, being unnecessary, leaving the wheel and the needle-bar. On the top of the needle-bar was attached a bronze cylinder ⅞ by 5½ in. as shown in the illustration at A. In this cylinder is placed the sealed glass capsule containing the bacteria in salt solution. The capsule is protected by cotton and held down by a rubber stopper. As the needle-bar oscillates rapidly up and down it carries with it the cylinder and capsule contained in the cylinder. This rapid vertical motion will very quickly break up any clump of germs, producing a uniform suspension in five to ten minutes. This agitator may be propelled by water or by an electric motor. I obtained a water motor for one dollar and fifty cents which furnishes as great a speed as is necessary. The work required on the machine would not cost two dollars, making the entire cost with the motor about four dollars.

2. Morse, John Lovett: Arch. Pediat., xxvii, 561.

* From the Laboratory of Bacteriology, University of Colorado.

THE TREATMENT OF PUERPERAL ECLAMPSIA

FREDRIC J. PLONDKE, B.S., M.D.
Surgeon to St. Joseph's, and Gynecologist to City and County Hospital
ST. PAUL, MINN.

Of all the diseases or pathologic conditions confronting the medical profession, perhaps none has received so much attention as puerperal eclampsia. We learn from early literature that the most competent investigators of all ages have searched for the cause, and equally competent therapeutists have endeavored to apply successful treatment. While these labors have resulted in a measure of success, it must be admitted that even in this enlightened age of medical research we have been unable to determine the exact etiology; and the fact that the most recent statistics still estimate the maternal mortality at from 25 to 35 per cent., and the fetal at 40 to 60 per cent., would indicate that the treatment has been as unsatisfactory as the attempt to find out the cause.

Pathologists are almost unanimous in their belief that the convulsions and concurrent symptoms of puerperal eclampsia are the result of irritation of the liver and kidney cells, and of the cerebral centers, by toxins circulating in and distributed by the blood-current. Taking this for granted, it would seem that treatment based on such a theory, having for its purpose rapid elimination of a part of the toxins, and the neutralization, by dilution or otherwise, of those which remain, would more nearly meet the indications than the slow and uncertain methods heretofore employed.

COMBINED VENESECTION AND INFUSION

With the hope of accomplishing this purpose I have combined the very oldest method, that of venesection, with the comparatively new intravenous infusion of normal salt solution, as follows:

Technic.—Any prominent superficial vein, preferably the median basilic on the anterior surface of the elbow, is selected. Constriction is made above by applying a bandage just tight enough to cause congestion sufficient to make the vein prominent. The parts are carefully cleansed and under local or general anesthesia an incision from 1 to 1½ inches

in length is made over the long axis of the vein, which is exposed by carefully dissecting it loose from the contiguous tissue. A double ligature of No. 1 or single 0 catgut is then carried under the vein by an aneurysm needle, tissue forceps or other suitable instrument (Fig. 1, *a*) the loop divided (Fig. 1, *b*) and the two ligatures tied around the vein with a single knot at either end of the incision, from ½ to ¾ inches apart (Fig. 2, *a*, *a*). The external surface of the vein is then grasped with a small rat-toothed tissue forceps midway between the two ligatures (Fig. 2, *b*) and divided at this point (Fig. 2, *c*) transversely upward (or downward as desired) about half-way through its circumference. The end of a thin-walled glass cannula, with the largest diameter that will be admitted, is then inserted downward into the distal end of the opening in the vein (Fig. 3, *a*); traction is then

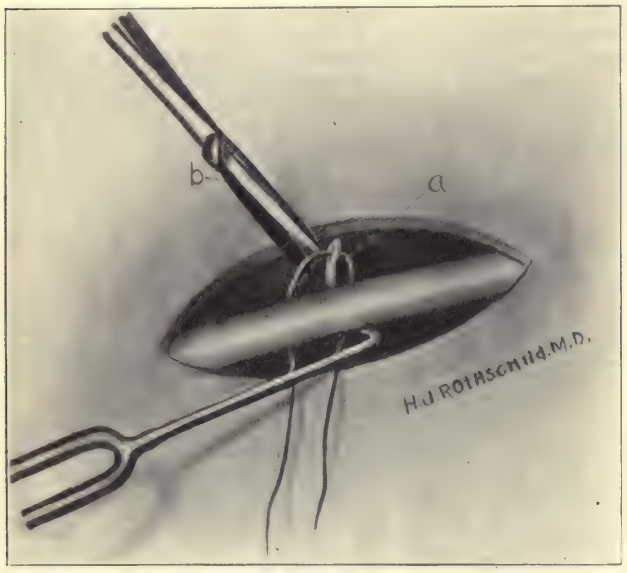


Fig. 1.—Dissection of vein and preparation for venesection; (*a*), ligature and carrier; (*b*), division of loop, forming two ligatures.

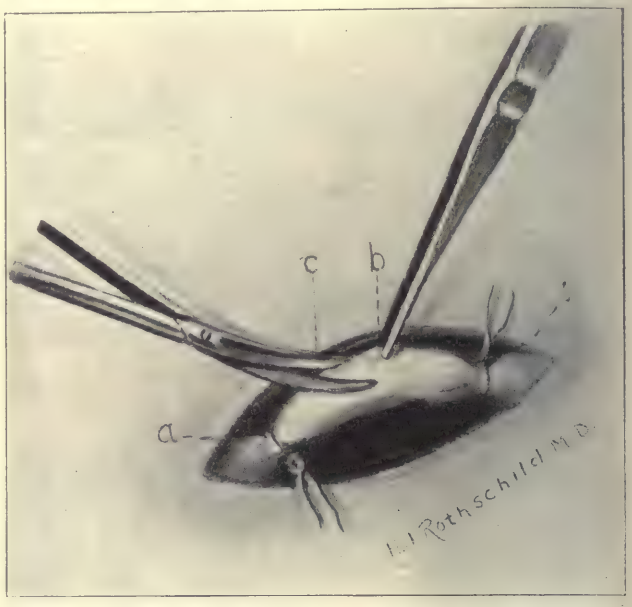


Fig. 2.—Vein with ligatures tied at *a*, ¾ inch apart; at *b*, rat-tooth forceps holding vein; at *c*, diagonal partial section of vein.

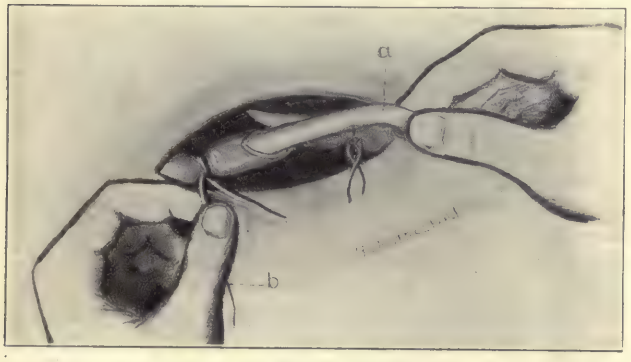


Fig. 3.—Insertion of glass tube in distal portion of cut vein at *a*; at *b*, loosening ligature to permit of insertion of tube.

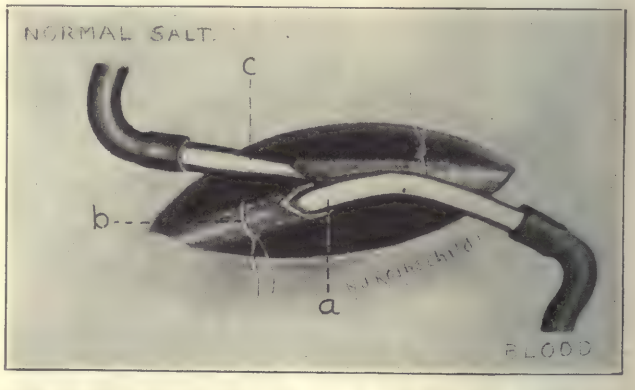


Fig. 4.—Tube (*a*) in distal portion of cut vein, for escape of blood, held by ligature (*b*); *c*, tube in proximal end of vein conveying saline solution.

made on one end of the ligature (Fig. 3, *b*), when the single knot readily loosens, allowing the cannula to pass through the loop (Fig. 4, *a*); the ligature is again tied, this time around the vein containing the end of the cannula (Fig. 4, *b*) (it is important that the lumen of the cannula is not too small, otherwise the blood will coagulate and refuse to flow); the constriction is then removed and another cannula which may be of smaller diameter, attached to a rubber tube coming from a receptacle containing a normal salt solution, is inserted (with the solution slowly escaping from the tube) upward into the other (proximal) end of the opening in the vein (Fig. 4, *c*) in exactly the same manner in which the first tube was introduced. When the desired amount of blood has escaped and a sufficient quantity of salt solution introduced the tubes are carefully withdrawn while the assistant securely tightens the knot, obliterating the vein. The skin wound may be closed by any suture desired.

In emergencies, a fountain syringe, with the glass tube of an ordinary medicine dropper, or in the absence of the latter the cannula from a small oil-can (such as is found with every sewing-machine, automobile or other machinery), may be used to convey the salt solution into the vein. If catgut is not at hand spool linen or other thread will answer for ligature. The salt solution is prepared by adding a heaping teaspoonful of common table-salt to one quart of water. The blood is allowed to escape from the vein by simply loosening the distal ligature as above described; the disadvantage being that without the aid of the cannula the blood obscures the field of operation, and it cannot be accurately measured. When the condition of the patient warrants, it is advisable to allow from 10 to 15 ounces of blood to escape before the introduction of salt solution is begun. The amount of blood withdrawn in my cases ranged from 15 to 32 ounces; the quantity of salt solution introduced varied from 1 to 2 quarts; average, about 40 ounces.

Nothing new is claimed for this operation, other than the combination of the two methods, viz, the withdrawing of the blood and introduction of salt solution through the same opening at the same time, thus literally washing out the vascular system. It seems reasonable to assume that by the withdrawal of a portion of the

surcharged blood the system is relieved of a considerable part of the toxins, and by dilution with salt solution the poison in the remaining blood is rendered at least temporarily less irritating.

I have used this treatment in ten cases, seven puerperal, two of convulsions in chronic nephritis and one of subacute nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear. The following will serve as examples:

CASE 1.—Mrs. M., aged 23, primipara, weight about 120 pounds, had a perfectly normal labor of about 4 hours' duration; 1 hour after the child was born the nurse noticed a slight spasm of the muscles of the face; this was followed in a few minutes by a severe convulsion lasting about 2 minutes; this was again followed by another in about 10 minutes; the convulsions increased in severity, becoming more prolonged and appeared at shorter intervals until I saw her about 1½ hours later, when she was in a tonic spasm. She was given ¼ gr. morphin hypodermatically and taken to Bethesda Hospital 3 blocks away and immediately placed on the operating table; by this time the pulse was 150 and very weak. The convulsions were so severe that it was almost impossible to hold the patient on the table until chloroform could be administered. The median basilic vein was opened and 12 ounces of blood withdrawn, when the introduction of salt solution was begun and 10 ounces more of blood allowed to escape. The patient revived from the anesthetic in about 30 minutes, and except for a slight twitching of the facial muscles there was no further signs of convulsions. She left the hospital on the tenth day in as good condition as would be expected to follow an uncomplicated confinement.

CASE 2.—Mrs. S., aged 26, primipara, weight 130 pounds, a patient of Dr. A. W. Miller, was sent to my office with a note that she was 8 months pregnant, very anemic, with feet and legs swollen, large quantities of albumin in the urine, etc. On examination the above was confirmed and in addition a large number of granular, hyaline and ephithelial casts were found. The patient was sent to the home of friends with instructions to keep quiet in bed. confine herself to a milk diet, etc. At 3 o'clock the following morning labor began. She was sent to St. Luke's Hospital, where a healthy child was born about 5 hours later after an easy labor, an intern attending. About 5 hours after the delivery she was seized suddenly, without warning, with a terrific convulsion lasting about 6 minutes. I arrived at the hospital about 1 hour after the first attack; during this time the patient had had about five or six convulsions, and appeared absolutely lifeless during the intervals; the pulse was very rapid and almost imperceptible at the wrist. She was taken to the operating room and given chloroform enough to control the convulsion, the median basilic vein was opened, and on account of her serious condition the cannula conveying the salt solution was inserted first and the infusion begun before any blood was allowed to escape. Then about 28 ounces of blood was allowed to flow away without any attempt to insert the larger cannula; about 1½ quarts of salt solution was given; in 10 minutes the pulse was very much improved, being slower and of better volume. The patient was returned to her room, where she regained consciousness in about 3 hours, with no further sign of convulsions. She left the hospital at the end of 2 weeks, and 2 weeks later left for her home in South Dakota in as good health as before the confinement.

CASE 3.—Mrs. D., aged 22, weight about 120 pounds, primipara, 7 months pregnant, had been in good health up to Dec. 3, 1909, when a dull headache, which had been present for a week, suddenly developed into an agonizing pain, with blurred vision, intense restlessness, etc. Dr. R. J. Brady of Hastings was called and found the urine almost solid with albumin. He ordered hot packs, saline cathartics, rest, milk diet, etc., which apparently gave slight relief until December 9 at 3 a. m., when he was again called and found the patient in a severe convulsion, it being the fourth she had had in an hour. She was entirely blind, very restless and suffered intensely from headache. She was given ¼ gr. morphin, which was repeated in an hour with practically no relief. As the convulsions increased in severity and her general condition became alarming she was brought to the city by train and taken to St. Joseph's Hospital, where I saw her with Dr. Brady about 3 p. m. She had had about fifty convulsions up to this time and continued to have them every few minutes. She was irrational and intensely restless during the intervals. The whole body was badly swollen, the face almost beyond recognition; pulse was 140 and weak; no sign of fetal life could be detected, but on account of an urgent request from the husband that every effort be made to save the life of the child we abandoned our first intention, that of rapid dilatation or vaginal Cesarean section, and under chloroform anesthesia opened the basilic vein, inserted a cannula, through which about 15 ounces of blood was allowed to escape; another cannula was then inserted as above described and 2 quarts of salt solution introduced; after the infusion of salt solution was begun 17 ounces more of blood was withdrawn, making 32 ounces in all. The patient was returned to her room, where 4 hours later she was semi-conscious and was able to count fingers 2 feet away. The next morning she was perfectly rational and able to recognize her husband at the bedside. She improved steadily, with no further sign of convulsions and left the hospital on the tenth day, remaining in good condition until one month later, when she returned and gave birth to a dead child, which, from its appearance, had been dead for about one month.

No other treatment was employed in these cases except a dose of salts every morning, and a hot vapor bath once daily for a week as a matter of precaution.

The same treatment was employed in the other seven cases, varying only in the amount of blood withdrawn and the quantity of salt solution introduced. In this we were always guided by the condition of the pulse, having an assistant watch it very carefully, while the blood was escaping and, at the first sign of weakness, the infusion of salt solution was begun, with an invariable improvement within a few minutes. It was interesting to note that in each case within 30 seconds from the time that the salt solution was allowed to enter the vein there was a decided change in the blood to a lighter color, indicating dilution.

While I confidently believe this treatment, when properly applied, to be the most successful of any yet employed, it is not intended that it should take the place of, or be used exclusive of all other methods; in many cases, perhaps the majority, in which convulsions appear after seven months, and positively in all cases after eight months, in which other means do not relieve promptly, vaginal Cesarean section, manual or instrumental dilatation, with rapid delivery, should be practiced. I am of the opinion, however, that if the venesection-infusion method is employed first, Nature, with a little assistance in the way of hot packs, hydragogue cathartics, milk diet, rest, etc., will, in most cases, do the rest. At any rate no harm will result, and unless an unnecessary amount of blood is withdrawn the patient will be in better condition to withstand the shock of the more radical procedure, should that become necessary.

In the foregoing an attempt has been made to present a treatment based on rational principles, the advantages of which may possibly be emphasized by a brief comparison with some of the other methods.

As above stated, in cases in which rapid dilatation or vaginal Cesarean section is indicated, i. e., if the woman is at that period of gestation when under more normal conditions the child would be expected to survive, the treatment is not a substitute but an adjunct. Thus, if for any reason, as lack of an assistant or the necessary instruments, etc., delivery must be delayed, this treatment can be employed, not alone with the hope of bene-

fit during the temporary delay, but with reasonable assurance that the patient will, as the result of its use, be the better able to undergo the graver operation. Again, it may be done by an assistant at the same time that delivery is being made, and by thus ridding the system of toxins hasten the convalescence and obviate the danger of a continuance of the convulsions after delivery.

Veratrum viride, without doubt the most reliable of all remedies in the so-called expectant treatment, is supposed to act by powerfully depressing the circulation, and thereby bleeding the woman into her own vessels; it is also supposed to reduce the spasm of the renal vessels, causing an increased flow of urine and encouraging perspiration by relieving spasm of the capillaries.

If this theory is correct, the effects are, to an extent, exactly what we hope to obtain by the venesection-infusion method, with the difference that by the latter, instead of the patient being bled into her own vessels and retaining the cause of the trouble within the system, the poisoned blood is withdrawn and replaced with salt solution, thereby promoting diuresis, diaphoresis, etc., and what is most important, in many of these cases, stimulation of the heart and vasomotor centers, which is directly the opposite to the ultimate effect of veratrum viride. It is also worthy of note that while veratrum viride is supposed to control the convulsion by depressing the circulation, the venesection-infusion treatment, although temporarily reducing arterial pressure, finally stimulates the circulation and raises blood-pressure; yet, as demonstrated by my cases, the convulsions cease.

Hot baths, for the purpose of encouraging perspiration, used as a preventive before the convulsions appear, and to guard against recurrence after they have ceased, are unquestionably a valuable aid to other means, but for direct relief of the convulsions they are obviously too slow. It may even be seriously questioned whether by rapidly drawing large quantities of liquid from the blood by a process approaching filtration, an abnormal proportion of the more insoluble products (possibly toxins) are not left behind; thus instead of the toxins being eliminated they become more concentrated, consequently more irritating. The indications for, and the effect of, hydragogue cathartics are practically the same as those of hot baths and these cathartics can be advantageously used at the same time.

Considering the cause, as we understand it to-day, morphin is theoretically contra-indicated in all cases of puerperal eclampsia, for the reason that it inhibits both secretion and excretion, thus locking up the toxins in the system, and when used in doses large enough to control the convulsions undoubtedly endangers the life of both mother and child by prolonging the post-eclamptic coma. In emergencies, when other means are not at hand, its use is justifiable.

Chloroform, the most generally useful of all means at our disposal for the treatment of puerperal eclampsia, should be used to control the convulsions while waiting for the less active remedies to take effect, and for anesthesia when the more radical means are employed; but as recent investigations have shown that its prolonged use causes acute degeneration of the liver and kidney cells, it is advisable, on account of the already crippled condition of these organs, to substitute ether when it is necessary to continue the administration for a considerable time.

490 Endicott Arcade.

THE SITUATION AS REGARDS SALVARSAN (606)

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Indications at present are very strong that we are on the verge of a period of indiscriminate and reckless use of Ehrlich's new remedy, 606, or salvarsan, as it is known commercially, that will result in disappointment in that valuable remedy and—what is more important—in damage to many syphilitic patients, chiefly, let us hope, from neglect of established measures of treatment. Indeed, it will be very fortunate if we do not have another therapeutic fiasco, like that following the announcement of Koch's tuberculin, in which a valuable remedy failed to come up to first expectations, and thereby caused disappointment from which it did not recover for ten years. For in the excitement over 606 we are apparently remembering only that it was introduced to cure syphilis, and are therefore assuming that it will cure it, and are not taking heed of the fact that experience already is showing that it is not doing it. Undoubtedly the basis of the sensational interest in 606—the sole basis in the popular, if not in the professional, mind—is the belief that the new remedy is a cure for syphilis; that it will completely destroy the infection and leave the patient free from the disease; that the person who gets syphilis will be cured "at one shot"—to adopt an expression concerning 606 now in the vernacular; and that the disease will be robbed of its seriousness. Take, for example, the following statement[1]—not from the daily press, but from one of the soberest of scientific journals: "One of the greatest scourges of humanity—perhaps the most insidious and cruel of all, since it so often places its victims beyond the pale of human sympathy, to be loathed rather than pitied—is on the point of being eradicated." The patient is to be cured of syphilis by one injection, or mayhap two or three, and the treatment is so efficient that syphilis is possibly "on the point of being eradicated."

And this conception of the possibilities of the agent are in accordance with the purpose for which 606 was introduced. To cure syphilis was Ehrlich's noble aim. The new drug was to be a *therapia sterilisans magna*—to destroy by one massive dose of a "parasitotropic" remedy all of the infecting organisms in a syphilitic patient.

In the light of even the brief present experience with 606, it may be said with confidence that the agent has failed in this magnificent aim. It is not a *therapia sterilisans magna;* it does not destroy the infection; and it does not rid the syphilitic patient of his syphilis. This is not saying that the drug is not a useful remedy; there seems every reason to believe that it is a valuable addition to our means of combating syphilis.

Ehrlich's hopes for 606 were based on animal experiments. Ehrlich recognized, as do others, that experiments on syphilized animals with the agent were not conclusive for man, and he turned over the remedy to clinicians for trial in human syphilis. And it is with the results in human syphilis that we have to do.

The belief that salvarsan cures syphilis in man depends on the following considerations:

1. Schweitzer, H.: Ehrlich's Chemotherapy, Science, Dec. 9, 1910, p. 809.

1. The destruction of the spirochetes.
2. The reversal of the Wassermann reaction.
3. The removal of the clinical manifestations of syphilis.

The evidence is becoming increasingly strong that the agent does not permanently and completely cause any of these results.

It has a very striking effect on spirochetes, but the sudden disappearance of spirochetes from lesions is no evidence of an overwhelming attack upon the disease. The drug may cause the disappearance of spirochetes from a chancre within twenty-four hours and greatly reduce the number, or cause their disappearance from deeper lesions—but mercury may do the same thing. A little calomel powder dusted on a chancre will within twenty-four hours make it exceedingly difficult or impossible to demonstrate spirochetes; and as soon as a syphilitic patient is brought thoroughly under the influence of mercury the difficulty of demonstrating spirochetes is enormously increased. And yet under such conditions, who attaches any weight to these findings as an evidence of the cure of syphilis? If one were to take any warning from the accumulated experience of generations in syphilis, it would lead him to expect that the apparent disappearance of the spirochetes was but a lull in the invasion and that they would return. And that is exactly what is coming to light. Disappearing spirochetes are returning, it may be, even at the site of the original lesion, where their disappearance has been regarded as of such significant importance.

The Wassermann reaction is very much more reliable evidence of the effect on the disease, for its findings cover the patient's whole organism. Present experience indicates that a reversal to negative occurs in a minor proportion of cases; but if it were made negative in all cases, only time—and much more time than the few weeks after treatment of most of the reports—would show that this negative reaction meant cure. The Wassermann reaction can be made negative by vigorous mercurial treatment—not so readily, however, as by 606—but no conservative syphilographer regards this as evidence of cure. On the contrary, experience with mercury shows that a return to positive is to be expected, and that treatment must be persisted in after the manner that we have learned from clinical experience. As a matter of fact, we do not yet know how to interpret the reversal of the Wassermann reaction in its bearing on treatment. The same return to positive of cases which have become negative under salvarsan is occurring in the same way as after the use of mercury.

But, after all, the most important evidence as to the value of 606 is the effect on the clinical manifestations of syphilis; and here experience indicates great variability. These variations extend from cases which are "refractory" to the drug, and show no effect, to cases in which strikingly good results are seen. As a rule, there is in active early syphilis—the stage at which most would be expected from a remedy that cured—distinct and positive improvement. Sometimes the symptoms entirely disappear—as happens from mercury or even without treatment—but that, even in these cases, no cure is obtained, is shown by the definite tendency to recurrence that the later literature is revealing.

In fact, accumulating experience simply shows that the remedy has as a rule a distinctly beneficial effect on the lesions of syphilis, but not so positive or beneficial an effect as would give any ground for the hope that it will cure the disease by the radical destruction of the invading spirochetes. How definite and constant these effects will be, or whether the action of the drug will be as reliable as that of mercury, cannot with our present experience be determined. But it can at least—and unfortunately—be said from present experience that the effects on symptoms are such as to show that salvarsan falls short of cure of the disease.

How useful 606 will prove is another question. The burden of reports is that it shows marked effects in intractable and destructive lesions. In the usual cases of active early syphilis it is very much to be doubted if it is of more value than mercury. In late lesions—lesions of the tertiary period—particularly in those which have been intractable to other treatment, the most striking results have occurred. In the cases of active secondary syphilis of the ordinary types that I have seen treated with salvarsan the effects have certainly not been more rapid or better than would be expected from mercury—not, I believe, so good. In three or four cases with very extensive ulcerative lesions the effects have been remarkably good. Various syphilographers are calling attention to the fact that men are losing sight of the results obtained from mercury, and that the new agent does not show results to indicate any probability of its superseding or being superior to mercury in the treatment of syphilis; that, so far as we can judge from present experience, mercury must still be our reliance, but that as a reserve we have a valuable agent in 606.

Of the dangers of salvarsan we are least able to speak at present. We do not fully know them. The evidence is large that immediate risk of serious accidents from the remedy are small. But enough is known to show that dangers exist. There is good ground for the belief that a larger proportion of serious accidents are occurring than would be estimated from the present literature. And that serious accidents should occur is not surprising. Salvarsan is the lineal successor of atoxyl, soamin, and arsacetin. All of these were introduced as safe arsenical preparations—atoxyl, so safe that its atoxic character was "blown" as it were in its name—and all have a train of arsenical fatalities and optic atrophies in the wake of their use in therapeutic doses. Salvarsan has about 35 per cent. arsenic content; it is administered in an average dose of half a gram—8 grains—that is, a dose of 2.8 grains of arsenic. There is no doubt that such a dose of arsenic has in it immediate possibilities of optic atrophies and other dangers. The dangers of its use, however, are as nothing in the face of a severe syphilitic crisis, or if the remedy were able to cure syphilis.

There is great diversity of opinion about technic of efficient administration, with much striving for a new technic that will be more effective. Injections in neutral emulsion, in alkaline solution, or mixed with oil, into the subcutaneous tissue, into the muscles, or into the veins, or combinations of these various methods of administration are succeeding each other. The hope of a *therapia sterilisans magna*—the complete destruction of the spirochetes of syphilis in an infected patient—is practically abandoned, and two or three or more injections are being used. And, finally, the recommendation of the use of salvarsan and then mercury, as heretofore, is the last evidence that the new agent is not equal to its proposed mission.

It cannot be emphasized too strongly that the situation with 606 is still experimental—and more experimental

than it was thought to be when the drug was introduced. Its position is not established; the degree of its usefulness—even of its immediate usefulness on the active manifestations of the disease—is not established. The amount of beneficial effect it will have on the after-history of syphilis is, of course, with our present brief experience with 606, purely theoretical—with grounds existing for different theories. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

The foregoing statement can be abundantly substantiated from the recent literature. Particular attention in this connection may be called to the following references:

Dr. W. Fischer, assistant to Professor Buschke, who writes for Buschke's Dermatological Clinic in the Rudolf Virchow Krankenhaus, Berlin—the very center of the clinical exploitation of "606:" *Medizinische Klinik*, Nov. 6, 1910, p. 1778.

Professor E. Lesser and Sanitätsrath Dr. O. Rosenthal, Berlin: *Deutsche medizinische Wochenschrift*, Nov. 17, 1910, pp. 2175 and 2176.

Professor Gaucher, successor to Fournier in St. Louis Hospital, Paris: Paris Letter, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2074.

Professor E. Finger, Vienna: *Wiener klinische Wochenschrift*, Nov. 24, 1910, p. 1667.

72 Madison Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6°}{D} = -51.4°$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

L-SUPRARENIN SYNTHETIC BITARTRATE.—L-suprarenin synthetic bitartrate is the acid tartrate of l-suprarenin synthetic.

It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York). German patent No. 222,451.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage forms of accepted proprietary articles have been accepted for N. N. R.:

Protan and Opium Tablets, No. 1.—Each tablet contains opium 0.005 Gm. (1/12 grain) and protan 0.162 Gm. (2½ grains).

Protan and Opium Tablets, No. 2.—Each tablet contains opium 0.03 Gm. (½ grain) and protan 0.5 Gm. (7½ grains).

Supracapsulin Inhalent.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

Therapeutics

NOT TUBERCULOSIS

History.—A young man, aged 28, came on Oct. 7, 1910, to ascertain how long he could live. He had been told that he had tuberculosis of the lungs, and had been treated three years for that disease. He had not worked for the last seventeen weeks, and was, in his opinion, rapidly growing worse. He had not a real cough, but he hawked and raised a great deal of yellowish sputum which was very frequently streaked with blood; in fact, hardly a day passed that he did not raise some blood. He had considerable gastric indigestion, some nausea, but no vomiting, quite a little gastric flatulence, but no pyrosis. A year and a half ago he had trouble with diarrhea, having movements of the bowels from ten to twelve times a day, but for the last six months the bowels had moved only two or three times a day, and not loose. The previous history shows that the patient had never really coughed, and that he had been subject to nose-bleed, sometimes as often as five or six times a week; it might not occur for several weeks, and then he would again have a period of it. He had no recognizable palpitation; no dyspnea on exertion; slept well; had had no swelling of the feet and legs. He had never had any urinary trouble, except a gonorrhea twelve years ago, and had no syphilitic history. He did smoke a great deal, but not so much during the last year. He also chewed tobacco. He had never used much alcohol. The only severe illness he ever had was pneumonia when 12 years of age. The patient's father died of kidney trouble; his mother was alive and well. One sister died of tuberculosis three years ago. The patient did not live in the same house as this sister. Three sisters and two brothers were alive and well.

Examination.—Last year at this time the patient weighed 127 pounds; he now weighed 136, and the weight had remained stationary for the last three months. His tongue was slightly coated and moist. The pulse was 78, occasionally intermittent. Temperature was 98 at 2 p. m. The heart was not enlarged, but showed an incomplete contraction of the ventricles every sixth to tenth beat, which accounted for the intermittency at the wrist. There were no murmurs. The lungs were absolutely normal. The abdomen was normal, with perhaps slight epigastric tenderness. There was an enlarged thyroid gland. The pharynx showed chronic catarrh, as did the naso-pharynx. The lingual tonsil was enlarged, coated, and showed a number of dilated blood-vessels. The nostril which bled the most frequently, the left, showed a swollen mucous membrane, and the mucous membrane of the septum was unusually red. The urine and the sputum were negative.

Diagnosis.—Disturbed thyroid secretion caused the diarrhea and the tendency to bleeding. The large amount of tobacco caused the throat catarrh, lingual tonsil irritation, and probably the irregular action of his heart. There was no tuberculous trouble in this patient.

Treatment.—The patient was told to go to work; to stop tobacco; and given Seiler's tablet gargle, and a small dose of sodium iodid to satisfy the probable need of the thyroid to improve its activity.

℞	Gm. or c.c		
Sodii iodidi	2		gr. xxxi
Aquæ menthæ piperitæ	100	or	fl ℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

October 21: The patient has been working throughout the two weeks since last seen; is feeling very much better; has no cough, and less expectoration; the appetite is good; the bowels constipated. The pulse is regular, and the heart has ceased its reduplicating beat. The throat looks very much better, and the patient has raised no blood since October 11; has not quite stopped his tobacco. The patient is told to cease his use of tobacco absolutely, and to continue the same medication.

November 4: The patient feels well; is not in the least tired after working all day, and is perfectly able to work longer, he says. He has entirely ceased his use of tobacco; raises but little sputum, and that is white instead of yellow, and without a drop of blood. The tongue is in perfect condition; the appetite is fine; the bowels act normally; the pulse is regular, and the heart is acting perfectly. The throat looks almost normal; the lingual tonsil is apparently normal, except for some enlarged blood-vessels; the weight is 137 pounds.

The patient is dismissed; told to stop all medication, except twice a day for a short time to use a tannic acid gargle.

℞	Gm. or c.c		
Acidi tannici	3		gr. xlvi
Glycerini	10	or	fl ʒiiss
Aquæ	ad 200		ad fl ʒvi

M. et Sig.: Use as a gargle, twice a day.

REMARKS

A patient could not have had active tuberculosis of three years' duration, with profuse expectoration, with blood, without loss of weight, fever, tubercle bacilli in the sputum, and very evident lung lesions.

No examination of a patient is complete without an examination of the throat, and if he is coughing and raising blood, the laryngoscope should be used to examine the lingual tonsil and larynx.

Excessive use of tobacco can cause the disturbance of the heart as noticed in this patient.

Disturbed thyroid secretion can cause digestive disturbances, mucous membrane congestions, and a tendency to bleeding as occurred in this patient.

A small dose of iodid will often stimulate a thyroid to normal activity, and an enlarged thyroid may become reduced in size under such a treatment. This patient's thyroid was undersecreting and not oversecreting.

GOOD SENSE IN PRESCRIBING

The following has been recently recommended as an internal treatment for posterior urethritis:

℞	
Mass of copaiba	2 gr.
Oil of santal	2 *m*
Potassium bicarbonate	4 gr.
Extract of kava-kava	2 gr.
Atropin sulphate	1/250 gr.

M. et fac Pil. 1.
Sig.: One pill every two hours.

Further instruction is given that this treatment should be stopped after the urgency of urination has subsided, but there is no definite limit placed on the number of pills that shall be taken at the rate of every two hours.

In the first place, atropin sulphate is a potent drug. It is absolutely uncertain when each 1/250 will be absorbed from the sticky mass with which it is incorporated. It is therefore uncertain how much atropin will be in the patient at one time, even if each individual dose is small. Also, as the excretion of belladonna or atropin is very slow, taking certainly from ten to twenty hours, at least five doses, taken at two-hour intervals, would be in the patient at once, making 1/50 of a grain of atropin somewhere in him. Also, in this sort of a sticky mass several of the pills might dissolve very slowly, and then all at once several might dissolve rapidly, depending on their chemical surroundings, and the patient might be poisoned. In other words, this method of administering atropin is absolutely inexcusable. If atropin action is desired, a soluble tablet of atropin sulphate, uncombined, may be given the patient by the mouth, in doses of 1/250 of a grain, or, better, 1/200 of a grain, and repeated every four to six hours, if deemed advisable, to be stopped as soon as symptoms of atropin action were evident, viz., a dry throat, flushed face, or dilated pupils.

Massa copaibæ, not official in the last Pharmacopeia, but official in the Pharmacopeia of 1890, is really a solidified copaiba. Its action is similar to the better preparation of "Copaiba," which is official in the Pharmacopeia of 1900, and is a thick liquid. Copaiba, oil of santal, and kava-kava belong to the same class of drugs, *i. e.*, are all genito-urinary stimulants. In other words, theoretically, they should not be used in acute inflammations of this part of the body, but are valuable in subacute and chronic inflammations of the genito-urinary tract. They all interfere more or less with digestion, and may produce flatulence, pyrosis, and even nausea. They readily cause a coated tongue. The drug least likely to cause indigestion is the oil of santal; consequently, as these drugs act in the same way, the oil of santal should be preferred. Two grains of the mass of copaiba every two hours would soon cause gastro-intestinal disturbance, with no advantage to the patient over the oil of santal. Also, any drug, especially in pill or capsule form, should preferably be administered after meals, when it is least likely to cause stomach disturbance. Therefore, a genito-urinary stimulant administered in pill form every two hours is inadvisable.

As just stated, the oil of santal is the best genito-urinary stimulant, and there is no need for the others. There is nothing that oil of santal can do pharmacologically that the other two drugs can do better. There is nothing that oil of santal cannot do that the other two drugs can do pharmacologically.

The oil of santal in 2-minim doses, made into a solid pill, would require a considerable amount of dry excipient to absorb it. The oil of santal is best administered in flexible capsules, and it is better administered in larger doses, after meals, than in a small dose every two hours, when it is surely more or less irritant to the stomach.

Potassium bicarbonate is an alkaline diuretic. The dose of 4 grains, even every two hours, is very small. Such a dose would probably ordinarily not render the urine alkaline, as the dose for this purpose would be 2 gm., or 30 grains, three or four times in twenty-four hours. In amount to do any good, it must be administered in solution, and it tastes disagreeable. Potassium citrate is more agreeable to taste and will do as well. It may be administered as follows:

℞	Gm. or c.c.		
Potassii citratis	40		ʒi
Aquæ gaultheriæ	200	or	fl. ʒv

M. et Sig.: 2 teaspoonfuls, in water, three, four, or five times a day, as deemed necessary.

There is no official extract of kava-kava. Kava-kava is a pepper (*Piper methysticum*) which grows in the South Sea Islands. It acts locally in the stomach and intestines as a pepper. It contains some resinous bodies which have been thought to have some action as a genito-urinary stimulant. Its action is certainly very much inferior to that of the oil of santal. As a drug it is not needed.

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[*For other information see second page following reading matter*]

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CANCER OF THE APPENDIX

In the early days of the surgical pathology of the appendix the occurrence of neoplasms of this organ was not often noted, but as the laboratories of hospitals and clinics became better organized and thorough gross and microscopic examination of all surgical specimens became a matter of routine, a histologic diagnosis of cancer in an appendix removed for supposedly simple appendicitis began to be somewhat less of a rarity. The literature of this subject also began to increase rapidly, and although there were but a few scattered cases reported before 1900, since that time medical journals have teemed with reports of single cases or small groups of cases. In 1908 McWilliams[1] was able to collect records of 105 cases, and since then a great number have been added, MacCarty[2] having reported one group of twenty-two cases among five thousand appendices removed by the Mayos. Statistics from large clinics, where great numbers of appendices are removed and thoroughly examined, have shown with remarkable uniformity that not far from 0.5 per cent. of all appendices removed for whatever cause show thickenings, nodules or tumor masses which exhibit a microscopic structure warranting the pathologist in returning a diagnosis of cancer.

In most cases this diagnosis reaches the surgeon as a surprise, the appendix having been removed for symptoms and findings which indicated nothing more than ordinary acute or chronic appendicitis; and at first such diagnoses occasioned much alarm and anxiety. The general experience, as exhibited by the literature, soon brought at least partial relief, for it was found that in spite of the positive diagnosis of cancer by the pathologist, the patients, when watched for several years, in but few instances gave evidence of recurrence or metastasis. To explain this unusual behavior of appendix carcinoma various explanations were suggested. Some authors have thought that because of the location of these cancers they soon cause symptoms of obstruction to the lumen of the appendix, leading to a diagnosis of appendicitis and removal at so early a stage in the development of the growth that metastases and regional infiltration have not developed. The pathologists have pointed out that the structure of these epithelial growths is usually somewhat different from that of the ordinary malignant cancers of the gastro-intestinal tract, many being of a spheroidal-cell type approaching in character the rodent ulcer or basal-celled carcinoma of the skin, which is notorious for its slow growth and its failure to produce metastases.[3] Other explanations have been offered, among them one based on the vestigial character of the appendix and the possibility that locally defective resistance might permit of a cancer growing here which could not obtain foothold in the normally developed structures elsewhere.[4]

Of late there has been a growing doubt as to whether, after all, these epithelial neoplasms in the appendix are true cancers, in spite of the typical invasion of the connective and muscular tissues by strands of columnar or spheroidal cells. Some of the reasons for skepticism are well put by Sitsen,[5] who calls attention especially to the fact that in large autopsy material pathologists do not find carcinomas arising from the appendix except as the greatest of rarities, nor did they in the days before the appendix was removed by operation for inflammatory attacks. If one in every two hundred inflamed appendices were carcinomatous, as the surgical laboratory statistics intimate, then among the hundreds and thousands of chronically inflamed appendices observed at autopsy there should be not a few fatal cancers. Of 1,460 cases of cancer in the public hospital of Berlin, however, in but one did the disease definitely arise in the appendix, and Nothnagel found but one such case in 2,124 cancers. Furthermore, the fact that out of about one hundred instances in which a microscopic diagnosis of cancer of a resected appendix has been made, only one has been reported as terminating fatally, gives abundant grounds for questioning the diagnosis.

In view of all this doubt concerning an important practical subject, we note with particular interest a warm discussion concerning cancer of the appendix at the last annual meeting of the German Pathological Society.[6] Winkler reported that he had found at autopsies no less than six appendices showing changes of the type usually diagnosed as carcinoma, yet in none of these cases was there evident regional infiltration or local or remote metastases. In the discussion which followed, participated in by some of the best-known pathologists in Germany, there developed much difference of opinion as to the exact status of these growths. It seemed to be generally agreed that they do not represent inflammatory hyperplasia of the endothelium of the lymph-channels, as some critics have suggested; but

1. McWilliams: Am. Jour. Med. Sc., 1908, cxxxv, 822.
2. MacCarty, W. C.: Classification of Appendicitis, THE JOURNAL A. M. A., Aug. 6, 1910, p. 488.
3. See Warthin: Physician and Surgeon, December, 1906.
4. Horsley, J. Shelton: Carcinoma of the Bowel and of the Appendix in the Young, THE JOURNAL A. M. A., May 8, 1909, p. 1471.
5. Sitsen: Centralbl. f. Path., 1910, xxi, 871.
6. Verhandl. d. deutsch. path. Gesellsch., 1910, xiv, 167.

as to whether they should be looked on as true carcinomas, or as "carcinoid tumors," or as epithelial malformations of either embryonal or inflammatory origin, there was no agreement. Perhaps a fair interpretation of the opinions expressed here and elsewhere would be somewhat as follows: True malignant epithelial growths do occasionally, but rarely, arise in the appendix, and their occurrence is probably favored by chronic inflammatory processes; these true cancers are usually of the typical columnar-celled type, and sometimes mucoid changes are present, but this latter or "colloid" form is less common than in cancer of the cecum. As a result of chronic appendicitis we also have a snaring off and displacement of epithelium, which may proliferate to some degree, forming atypical epithelial growths which are not true carcinomas, but which may resemble carcinoma closely, and into which they may also become transformed. Similar structures may also be produced by congenital malformation or displacement of the epithelial structures of the appendix, analogous to certain epithelial growths found elsewhere in the alimentary tract, and accounting for the supposed carcinomas which have been described in the appendices of young children. Finally, as a result of chronic infection, the endothelium of the lymph-channels of the appendix may proliferate in such a manner as to produce appearances strongly suggestive of cancer infiltration. The chief conclusion to be reached is that surgeons should appreciate, as well as the best pathologists do, the limits of our ability to decide positively from microscopic appearances alone the malignant or non-malignant character of each and every growth; and also that, especially in the appendix, we encounter not only true carcinomas, but also much more frequently epithelial proliferations which exhibit all the usual histologic criteria of malignancy without necessarily or commonly causing the clinical results usually associated with cancer.

PUBLIC HEALTH AND THE COURTS

The important decision of the Supreme Court of Minnesota which was cited in our last issue[1] is another indication of the gathering force of public opinion in matters of public health. The causes that sway public opinion and determine national character from age to age are often obscure, but their effects are nevertheless striking. The contrast between the Elizabethan Englishman and the Englishman of the time of Pope and Swift or of Lloyd George and Rudyard Kipling is one of the really important facts of history. The transformation in the national character of the German people which has occurred in the last hundred years is another and most remarkable instance of the change that may take place in the character of a great nation. Our knowledge of the underlying factors concerned in such changes is still very imperfect, although Bagehot's characteristically shrewd speculations on the subject are well worth reading.

No competent observer can doubt that we in this country are passing through one of these periods of transformation of national character. National ideals are shifting and new forces are making themselves felt in politics, business, religion and medicine. The greater sensitiveness now displayed by public opinion about all matters relating to the public health is one of the many manifestations of the new spirit. It is perhaps in keeping with the qualities of the legal mind that the courts should not be among the first agencies of public opinion to reflect the view that is becoming dominant. At the same time, it is well for many reasons that they should not be the last. In any case, public opinion will not indefinitely tolerate legal decisions that are sharply out of harmony with the prevailing type of national judgment or modes of thought.

The Minnesota decision, which holds that a municipality becomes liable for negligence if it carelessly allows the water in its waterworks system to become polluted, so causing deaths from typhoid fever, is an especially significant illustration of the increasing responsiveness of the courts to the modern view of public health responsibilities. The matter is put squarely on the same footing as negligence in regard to care of streets and sidewalks. One part of the decision merits wide publicity: "It is obvious that a sound public policy holds a city to a high degree of faithfulness in providing an adequate supply of pure water. Nor does it appear why the citizens should be deprived of the stimulating effects of the fear of liability on the energy and care of its officials; nor why a city should be exempt from liability while a private corporation under the same circumstances should be held responsible for its conduct and made to contribute to the innocent persons it may have damaged."

It remains to be seen what effect this decision will have on the outcome of damage suits that have been started in Rutland, Rochester and other places where typhoid fever has been attributed to public water-supplies. One thing is sure, however, and that is that the best public opinion will no longer rest satisfied with an explanation of "accidental" or "unavoidable" for extensive water-borne typhoid epidemics. Someone's negligence is usually responsible for such a catastrophe, and in many cases it will be found possible to assign responsibility and to insist on punishment or reparation so far as that is possible. The Minnesota decision will be warmly welcomed by everyone interested in having the established conclusions of modern medical science recognized by progressive legal opinion and made part of the law of the land. The translation of technical knowledge into practical measures for improving conditions of life is an indispensable condition of real progress.

1. Medicolegal Department, p. 65.

DAIRY INSPECTION

The extensive use of milk in the raw state as a food by both adults and infants, the ease with which it is contaminated and its qualities as a culture medium for dangerous bacteria, render it important that the highest degree of purity be secured and maintained in its production and after-care. To this end there has been a constantly increasing activity on the part of health officers and sanitarians to improve the quality of the milk-supplies of cities and towns. Local milk commissions for securing milk of certified quality have been organized, and regular inspections of dairies instituted. We commented recently[1] on the practical side of clean milk production and its cost.

It is generally agreed that a bacteriologic examination furnishes the most accurate insight into the conditions which have prevailed during the production and handling, and that the bacterial content of the milk is the proper index of its purity or safety as an article of diet. Some authorities think that an ideal milk would contain no germ life, but such an ideal would doubtless be difficult of attainment. No way has been found of producing milk with less than a few hundred bacteria per cubic centimeter, since milk in the udder is not sterile; and under commercial conditions milk with a few thousand bacteria per cubic centimeter must perhaps be considered the limit of the attainable.

In the production of a pure or safe milk with a low bacterial content, care is necessary at four stages: in production, in transportation, in distribution, and, by no means least in importance, in the home after it is finally distributed. The first three may be controlled by suitable legislation, by inspection and laboratory examinations; the last must be improved by proper education of the consumer. Milk may be produced with care, yet become unwholesome through improper handling during transportation and distribution. If it is produced with too little care, or, as is frequently the case, with gross carelessness, subsequent attention cannot make good milk of it.

The chief attention should be concentrated on a cleanly and hygienic production; and therein the rôle of the inspector is most important. Much depends on the knowledge and judgment of the inspector. Unfortunately at present the inspection of dairies is carried on largely by persons not properly educated for the duties. Many delicate points have to be considered and decided, and their decision depends not only on intelligence and experience, but on a technical knowledge of the various sciences concerned, particularly of bacteriology. Without a thorough knowledge of dairy bacteriology, some points are sure to be overlooked or misjudged. Inspectors may insist on changes which are not justified in the light of modern knowledge, or on points about which scientists still disagree, in consequence of which dairymen who endeavor to produce a truly sanitary milk become discouraged or are put to needless expense and annoyance. It is therefore highly important that dairy inspectors be men of good practical judgment, thoroughly trained in the technical requirements of clean milk production, and well acquainted with the best work in dairy research. The card system of recording the results of inspections and establishing the rating of each dairy has proved of value, but needs further elaboration and improvement. About this we may have something to say later.

1. Jan. 7, 1910, p. 48.

SURGEONS AS NON-BELLIGERENTS IN WAR

In his recent and notable "History of the Confederate War," Eggleston calls attention[1] to a great step forward in the civilization of warfare which was brought about by one of America's great surgeons, who was also one of the Presidents of the American Medical Association. The event makes an epoch in the betterment of the customs of war, and its origin deserves to be more widely known than it is. In describing Stonewall Jackson's Valley Campaign, Eggleston pauses to give the following account of the event in question, which occurred after the battle of Winchester, in May, 1862:

"In the meanwhile, it is pleasant to record here one step forward in civilization which was made during this campaign, and the author of which, Dr. Hunter McGuire, deserves remembrance for his humanity. Until that time, and indeed for long afterward, surgeons in charge of hospitals full of wounded men, on falling into the enemy's hands, were treated as prisoners of war. After every battle, therefore, the surgeons of a retiring army, in charge of wounded men from both sides, must make a hard choice. They must either abandon their patients—many of whom were in desperate need of immediate surgical attention—or they must submit themselves to the rigors and sufferings of a military imprisonment, precisely as if they had been taken in battle. As a result of this peculiar barbarism of war the wounded—by the flight of their surgeons—were often left unattended at the critical moment that meant to them the difference between life and death. Many precious lives were needlessly sacrificed to this barbaric military practice.

"At the battle of Winchester Jackson captured all the Federal surgeons in charge of the field hospitals there, but instead of sending them to Belle Isle or Andersonville or Libby Prison, he acted on the suggestion of his medical director, Dr. Hunter McGuire, and released the doctors unconditionally on the rational and humane ground that surgeons do not make war, and ought not to be subjected to war's pains and penalties, and on the still more rational and humane ground that it is needful for the care of the wounded on both sides that surgeons shall be permitted to remain at their posts

1. Eggleston, George Cary: The History of the Confederate War, I, 385, et seq.

until surgeons on the other side can replace them, regardless of army movements and without fear of being sent to a loathsome prison as a punishment for their faithfulness to their merciful duty.

"This step forward in the amelioration of war's horrors was not generally followed up until two years later when, during the tremendous struggle of 1864, General Lee and General Grant, acting on their own humane impulses and with no authority except the confidence of each that his acts would be approved, agreed that surgeons in charge of wounded men should not be made prisoners of war. . . .

"It was Dr. Hunter McGuire who first offered this suggestion in behalf of humanity, and it was Stonewall Jackson who first took the responsibility of acting on it. To their memory history should record honor for it."

It is a pleasant duty to repeat this bit of history and to give this tribute to one who left a rich heritage of good deeds.

Current Comment

DOCTORS DIGGING THE DITCH

Under the above heading the *St. Louis Republic* recently made the following editorial comment:

When a great medical inventor or chemist discovers anything which promises to be or is of great benefit to mankind his discovery or invention at once becomes the common property of the human race without royalty or rate beyond that of personal service of the physicians who may administer such remedies.

When a great commercial chemist or inventor makes a discovery of value to humanity he at once capitalizes it, and all mankind pays high tribute in the form of sometimes prohibitive royalty.

In digging the Panama Canal the United States is obliged to pay tribute to monopolists of machinery and to patentees of various mechanical devices.

Yet had it not been for the physicians who have made the canal zone habitable through sanitation the efforts of all the inventors and "world conquerors," of engineers and machinists would amount to exactly nothing.

The doctors of the United States, not its engineers or mechanics, are doing the most important work in the great isthmian ditch. Yet it is the soldier, the engineer, the mechanic to whom the honors are accruing.

Why is it that temporal honor and financial reward seem so bent upon being diverted from the ways in which they should properly travel?

The construction of the Panama Canal has been, and is, a magnificent object-lesson on the possibilities of prevention of disease by the application of facts connected with modern scientific medicine. No one will deny that the French had as good plans, as good engineers, as good machinery, and as good workmen as we have; but the French could not build the canal. And what was the reason? Simply that they could not keep enough men out of the hospitals and graveyards to complete it. The men sickened and died as fast as they could be imported. When the United States undertook the construction of the canal, the government did not call in the representatives of various erratic cults, "mind-cure healers" or patent medicine vendors to solve the problem as it related to health. Its solution was entrusted to educated, experienced, specially trained, scientific medical men; to those who brought to its solution the latest and best methods of modern science. And the results have justified the methods. The civilized world has marveled at the result of the work of the Sanitary Department of the Isthmian Canal. Yet, it is simply the application of modern medical science. There is not a village, not a city, not a state that cannot secure equal results in the way of prevention of sickness and the saving of life, if such methods are adopted and if competent men are given authority and opportunity.

STATE SOCIETIES AND A SANE FOURTH OF JULY

At least one state medical society, that of Pennsylvania, through a special committee, has been doing energetic work toward the securing of safer methods of celebrating the Fourth of July. This committee, which was appointed a year or two ago, has been giving wide publicity throughout the state to the statistics of deaths and injuries as published annually in THE JOURNAL, and has also been conducting a campaign through local clubs, societies and associations of Philadelphia, to secure the enforcement of existing laws, or the adoption of new laws restricting or prohibiting the use of fireworks during the celebration of Independence Day. Since proper control by the larger cities means practically the solution of the problem, the committee has drawn up two model prohibitive ordinances, one for boroughs and one for cities, and is now working to secure their adoption. The committee has also been working for the substitution of more desirable methods of celebration, such as picnics, parades, pageants, field sports and the like. The splendid work being done by the Medical Society of the State of Pennsylvania through its able committee is worthy of emulation in other states.

CONSUMPTION-CURE FAKES

At different times THE JOURNAL has exposed the methods of those firms and individuals who make capital out of the consumptive by advertising "cures" for his disease. The way in which one of these cruel frauds is carried on may be taken as typical of the methods of all. On another page[1] a widely advertised concern of this kind is dealt with—the J. Lawrence Hill Company. Like another "consumption cure" shown up a few weeks ago, the firm is located at Jackson, Michigan, a town which has also fathered such fakes as the Magic Foot Drafts, the Van Vleck Pile Cure, Young's Pepto-Pads, the Vitalia Company, Vibro Discs and Lung Germine. One of the reasons for this city being so popular as headquarters for mail-order medical fakes is made evident in the article before referred to: at least three of the concerns are operated by the same group of business men. The fact of the matter is, medical mail-order companies, as a general rule, are in no sense the property of those renegade members of the

1. Page 134.

medical profession whose names appear on the stationery of the concern. Such physicians usually are merely cheap tools in the hands of business men who are concerned not at all with the moral, much less with the ethical, phase of the subject of quackery. The cruelty of promising to cure such diseases as cancer and consumption by means of pills bought in million lots from pharmaceutical houses does not, apparently, occur to such men. The business is, to them, merely a cold-blooded commercial proposition: A few thousand pills; a series of follow-up letters; a batch of testimonials; a cheap and unscrupulous physician; an advertising campaign—these are the stock-in-trade by which those engaged in this disreputable business gather in the toll of blood that pays dividends on the money invested. A pretty business, forsooth!

Medical News

CALIFORNIA

Million to Hospital.—Through the generosity of the heirs of Calvin Page and D. O. Mills, St. Luke's Hospital, San Francisco, will receive an endowment of more than a million dollars.

Personal.—Dr. John C. Hollister, formerly of Chicago, has recovered his health and settled in Los Angeles to resume practice.——Dr. M. Evangeline Jordan has been elected president of the Professional Woman's League of Los Angeles.

Advertising Abortionist Sentenced.—Charles H. Carelton, Los Angeles, charged with using the mails to advertise unlawful surgery, is said to have been found guilty, December 28, and fined $2,500. This individual was arraigned in 1909 on the charge of conducting the business of an abortionist and of using the mails in furtherance of this occupation. He is said to have pleaded guilty to a similar charge in 1908 and was fined $1,500.

Elections.—At the annual meeting of the Alameda County Medical Association, held in Oakland, Dr. Alexander S. Kelly, Oakland, was elected president; Dr. William A. Clark, San Leandro, vice-president; Dr. Pauline S. Nusbaumer, Oakland, secretary, and Dr. Dudley A. Smith, Oakland, treasurer.—— The Santa Clara County Medical Society, at its annual meeting held in San José, December 21, elected the following officers: president, Dr. Jonas Clark, Gilroy; vice-presidents, Drs. William S. Van Dalsem, San José; Harry B. Reynolds, Palo Alto, and Robert L. Hogg, Saratoga; secretary, Dr. William T. McNary, San José; treasurer, Dr. Henry J. B. Wright, San José; delegates to the state association, Drs. A. Lincoln Cothran and Henry C. Brown, both of San José, and alternates, Drs. Louis V. Saph, Morgan D. Baker, John L. Benepe and Edward F. Holbrook, all of San José.

ILLINOIS

Enters Penitentiary.—Dr. J. Allen Cotton, Peoria, entered the State Penitentiary, Joilet, December 28, to serve an indeterminate sentence for forgery.

Small-Pox in State Hospital.—Employees and patients of the Elgin State Hospital have been vaccinated on account of the discovery that the chief gardener was ill with small-pox.

State Board Election.—At the annual meeting of the State Board of Health, held in Springfield, January 5, Dr. George W. Webster, Chicago, was reelected president, and Dr. James A. Egan, Springfield, was reelected secretary.

New Trial Granted.—In the case of Dr. Benjamin A. Arnold, Freeport, convicted in the March term of the circuit court of Stephenson County on account of criminal assault, and sentenced to four years in the penitentiary, the supreme court has reversed and remanded the case.

Superintendent of Health Loses Case.—In a case instituted by Dr. George T. Palmer, Springfield, against Dr. Addison C. James, Springfield, for alleged violation of the city ordinance which prescribes the reporting of all cases of communicable diseases, the magistrate dismissed the case on motion of the city attorney on the ground that the evidence was not sufficient.

Sterilization of Defectives.—A bill is being prepared by Judge Sherman, president of the State Board of Administration, with the assistance of Dr. Frank Billings, chairman of the State Commission on Charities, providing for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded wards of the state. The bill provides that in all cases the subject must be examined and passed on by an authorized board before this operation is performed.

Personal.—Dr. Charles M. Noble, Bloomington, who has been confined in a hospital on account of a fracture of the leg, is convalescent and has left the hospital.——Dr. Thomas E. Walton, Danville, was thrown from his buggy recently, fracturing a rib.——Dr. Edward E. Barbour, Peoria, is reported to be seriously ill with typhoid fever in St. Francis Hospital. ——A judicial inquiry is to be made with the object of determining the mental condition of Dr. William P. Pierce, Hoopeston, who is alleged to be on the verge of a nervous collapse.

State Board Recommendations.—The Illinois State Board of Health, in its annual report to the governor, recommends the creation of a state sanatorium for consumptives; a bill providing for better methods of registration in vital statistics to conform with the provisions of the census bureau of the United States; a law providing for a revised medical practice act so as to give the State Board of Health jurisdiction over all licenses issued since 1877; continuation of the provision for free distribution of diphtheria antitoxin to all classes of people, and a special provision for the investigation of typhoid fever in the state.

Hospital Notes.—By the will of the late Elizabeth Shaw, Dixon Public Hospital is bequeathed $30,000.——The Colonial Hospital, Geneva, has been incorporated by Drs. Raymond G. Scott, Francis M. Marstiller and others. The hospital now has accommodation for twenty-five patients.——A hospital for the care of destitute crippled children, costing $50,000, has been erected 3 miles west of Wheaton, as a branch of the Home for Destitute Crippled Children, Chicago. Sixteen acres of land were donated to the institution by Sears, Roebuck and Company.——A private sanitarium for the treatment of nervous diseases is being established by Dr. George W. Mitchell in Peoria.

Good Work at the Edward Sanatorium.—The report just issued of the Edward Sanatorium, Naperville, of which Dr. Theodore B. Sachs is medical director, gives an analysis of the first four years of the work of this institution. Of the patients who were admitted in the incipient stages of the disease, 91.5 per cent. have been discharged as either cured or the tuberculosis process arrested, and these are all still maintaining their condition and full working capacity. Of the moderately advanced cases treated at the sanatorium during the same period, 35 per cent. are at present in possession of full working capacity. The State Association for the Prevention of Tuberculosis maintains that the fact that patients taken in the first stages are cured at relatively small expense and again become productive members of the community, is a convincing argument in favor of state and local provision for the curable consumptive, obviating as it does the necessity of later care at county expense for both the advanced consumptive and his family left destitute.

The Apfelbaum Case.—The State Board of Health has served notice on David Apfelbaum that if he continues to practice, additional suits will be brought against him. In June last the board revoked his certificate for advertising under another name than his own, and for fraudulent use of the United States mail in conducting medical practice. A short time ago the board learned that Apfelbaum was still engaged in practice. He was served with notice to discontinue. The notice was disregarded. The board then brought suit against him for practicing medicine without a license. The defendant, through his attorney, declared that he had a license and that there was no provision in the law enabling the board to prosecute a man who had once been issued a license. The attorney took exception to this plea and pressed the suit which was tried in the municipal court, January 3. The court decided against Apfelbaum, who has appealed to the supreme court.

Chicago

Senn Memorial.—The building of a new high school at Ridge and Francis Avenues is recommended to relieve the old Lake View High School which is to be torn down. The new school is to be known as the Nicholas Senn High School.

Personal.—Dr. and Mrs. Robert H. Babcock and family have gone to California for a stay of two months at Pasadena.—— Dr. Jacob M. Furstman has been appointed commissioner of health of Lacrosse, Wis.——Dr. Claude Tilleson, an intern at the Henrotin Memorial Hospital, was painfully burned while acting as Santa Claus at a Christmas celebration at the Nurse's Home of the hospital.

Impure Food Seized and Condemned.—More than 6,200 cans of tomato paste, weighing 124,000 pounds, said to be used by hotels and restaurants in making soup and tomato bouillon, were seized, December 30, by United States deputy marshals, who raided box cars in the Pennsylvania Railroad yards, following the filing of a libel against the tomato paste, in the United States District Court, declaring that the "paste was putrid, decomposed and contained filthy matter."

Hospital Notes.—The Iroquois Memorial Emergency Hospital, a monument to the six hundred and more who lost their lives in the Iroquois Theater fire, Dec. 30, 1903, was dedicated December 30, with impressive ceremonies. The building is of fireproof construction, four stories and basement in height, and contains twenty rooms, including four surgical dressing rooms and two operating rooms.——An order was issued December 29, allowing the Northern Trust Company as trustees of the will of the late Anna W. Durand to purchase a site for a hospital for infectious diseases. Mrs. Durand bequeathed $375,000 to be used for the erection and maintenance of the hospital.——The dispensary department of the Municipal Tuberculosis Sanatorium opened a night clinic at Gad's Hill Center, January 5. The dispensary is open Thursday evenings from 7 to 8 for the benefit of patients who are unable to come during the day.

KENTUCKY

Sisters of Charity Plan Sanatorium.—The Sisters of Charity of Nazareth are arranging to establish a tuberculosis sanatorium near Louisville at an expense of about $50,000.

Nurses' Home Damaged by Fire.—The Nurses' Home of the Jewish Hospital, Louisville, was damaged by fire to the extent of $3,000, recently. Fortunately no casualties occurred.

Typhoid in Railway Shop.—Owing to the prevalence of typhoid fever among employees of the Louisville and Nashville Railway shop, South Louisville, the county bacteriologist is making investigation of the water-supply used by the men at work. Fifteen cases of typhoid fever occurred among these men during the last three months.

Jefferson County Society Meeting.—The annual business meeting and election of officers of Jefferson County Medical Society was held in Louisville, January 2. The following officers were elected: president, Dr. Virgil E. Simpson; vice-presidents, Dr. Albro L. Parsons and Walker B. Gossett, and treasurer, Dr. Hugh N. Leavell, all of Louisville.

Vital Statistics Law.—The Kentucky Vital Statistics Law went into effect January 1. The first infant to be registered under the law was born at Bowling Green, the home of the secretary of the State Board of Health and the headquarters of the Vital Statistics Bureau. Registrars have been appointed in every county in the state largely by magisterial districts, save in larger cities and towns where one registrar will serve.

Personal.—Dr. William Bailey, the oldest practitioner of Louisville, fell on an icy pavement, December 27, and sustained an impacted fracture of the arm; on January 2, he had a mild cerebral hemorrhage, but nevertheless he is reported to be in favorable condition.——Dr. W. Ed Grant, health officer of Louisville, has returned from Pass Christian, Miss.——O. C. Robertson, Cynthiana, has been appointed the osteopathic member of the State Board of Health.

New Officers for Antituberculosis Society.—At the annual meeting of the Kentucky Association for the Study and Prevention of Tuberculosis, held in Louisville, Dr. Joseph N. McCormack, Bowling Green, was elected second vice-president; Dr. Hervey Keller, Frankfort, third vice-president, and Drs. Joseph N. McCormack, Bowling Green; Dunning S. Wilson, Louisville; George P. Sprague, Lexington; Henry P. Sights, Paducah; Vance Rawson, Danville; Hervey Keller, Frankfort, and J. C. Carpenter, Stanford, directors.

MARYLAND

Typhoid Fever at Naval Academy.—The outbreak of typhoid fever at the United States Naval Academy, Annapolis, which began in November last, affected twenty-six midshipmen without a single death, and 200 of the cadets submitted to vaccination with anti-typhoid serum. The outbreak has been traced to infected milk.

Personal.—Dr. William D. Hammond, Hagerstown, has been appointed resident physician of the Free Skin and Cancer Hospital, St. Louis.——Dr. Guy Steele, Cambridge, is ill with pneumonia.——Dr. Arthur L. Wright, assistant physician at the Maryland Hospital for the Insane, Catonsville, has been made pathologist, vice Dr. Robert P. Winterode, resigned to take charge of the proposed new State Hospital for the Colored Insane.——Dr. Augustine S. Mason, Hagerstown, is reported to be critically ill at his home.

Society Meetings.—At the annual meeting of the Talbot County Medical Society, held in Easton, the following officers were elected: president, Dr. William S. Seymour, Trappe; vice-presidents, Drs. Philip L. Travers, Easton; Joseph A. Ross, Trappe; secretary-treasurer, Dr. Clifford M. Steele (reelected); censors, Drs. Edward R. Trippe and S. Denny Willson, Easton, and Charles H. Rose, Cordova; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James A. Stevens, Easton.——The Medical Society of Somerset County held its semiannual meeting in Princess Anne, elected Dr. Teackle J. Smith, Princess Anne, president, and reelected Dr. Ralph L. Hoyt, Oriole, secretary-treasurer.

Baltimore

Hospital Sued.—Suit has been started against Mercy Hospital for $25,000 damages for the death of a man suffering from pneumonia, who, while delirious, threw himself or fell from a window. Negligence of those having the patient in charge is alleged.

Personal.—Dr. M. E. B. Owens, of the University Hospital staff, left for Spokane, December 23.——Dr. William H. Howell has resigned as dean of the Johns Hopkins Medical School, and has been succeeded by Dr. J. Whitridge Williams. ——Dr. John W. Churchman, resident physician at Johns Hopkins Hospital, has resigned.——Drs. William Emrich and Hugh W. Brent have returned after three years in Brazil.—— Dr. William J. Schmitz has been made second assistant bacteriologist of the City Health Department.

MASSACHUSETTS

Milk Commission.—The personnel of the Suffolk District Medical Milk Commission, beginning January 1, will be as follows: chairman, Dr. James Marsh, Jackson; secretary, Dr. Richard M. Smith; and Drs. George A. Craigin, Robert L. DeNormandie, B. L. Arms, and Fritz B. Talbot, all of Boston.

Personal.—Dr. F. Lyman Wells, formerly assistant in pathologic psychology in McLean Hospital, Waverly, has been made assistant in experimental pathology in the Psychiatric Institute of the New York State Hospitals and lecturer in psychology in Columbia University.——Dr. Edward Wyllys Taylor, Boston, has been nominated to succeed Dr. George F. Jelly, resigned, as a member of the State Board of Insanity. ——Dr. Charles G. Dewey, Boston, has been made senior insanity expert, and Dr. William P. Prescott, junior expert. ——Dr. Charles S. Tomkies, a member of the Boston City Hospital medical staff and former house officer of the Long Island Hospital and Alms House, has been appointed resident physician at that institution, vice Dr. George W. Holmes, resigned.

Bequests.—By the will of the late Mrs. William O. Moseley, Newburyport, $200,000 is bequeathed to the Anna Jaques Hospital, Newburyport, to be divided into two funds, of which the income only is to be used. The first fund is to be known as the William O. Moseley Fund and the income is to be applied to the purposes of the hospital; the other fund is to be known as the Julia M. Hale fund, and the income is to be devoted to the maintenance of free beds.——By the will of the late Rev. Thomas Griffin, former pastor of St. John's Church, $10,000 is devised to St. Vincent's Hospital.——By the will of John Ashton, who died nearly half a century ago, the Massachusetts General Hospital will now receive more than $20,000. The estate has been in litigation since the death of the testator in 1867.——By the will of Mrs. Sarah A. Matchett, Brookline, $50,000 is bequeathed to the McLean Hospital, Waverly, and $25,000 to the Massachusetts General Hospital, together with certain contingent bequests to the McLean Hospital.

NEVADA

Postgraduate Course in Washoe County.—Washoe County Medical Society took up the postgraduate course recommended by the American Medical Association, January 1. The society is divided into four classes, each class meeting once a week.

Personal.—Dr. John A. Ascher, Sparks, has been elected state senator from Washoe County.——Dr. William H. Hood, Reno, has returned from a six-months' trip around the world. ——Dr. Lee T. Richie, formerly of Reno, has removed to Trinidad, Colo.——Dr. A. Parker Lewis, Reno, has been seriously ill with pneumonia followed by septicemia from an infected finger.——Dr. John A. Lewis, Reno, has returned after a year abroad.——Dr. Sydney Clarke, Tonopah, is reported to be dangerously ill in a sanatorium in California.

NEW YORK

Albany Hospital Loses.—Because Dr. Willis G. McDonald, who died a short time ago, forgot to put his signature to his will, thus making it worthless under the law, the Albany Hospital with which he was connected for so many years will lose a bequest of $50,000, and also his surgical instruments and library. The estate goes to his relatives.

Would Discontinue Directory.—At the annual meeting of the Medical Society of the County of Chemung, resolutions were adopted setting forth the loss to the Medical Society of the State of New York in publishing the Tri-State Medical Directory, and urging the discontinuance of the publication of the directory. The state society is declared to lose more than $6,000 each year in publishing the directory.

Personal.—Dr. Frederick S. Lee, New York City, has been appointed to the directorship of the department of physiology of Columbia University.——The ninetieth birthday of Dr. Alfred Mercer, the oldest practicing physician of Syracuse, was made the occasion of a complimentary party, tendered to him by the Syracuse Academy of Medicine, at which Dr. John L. Heffron presided as toastmaster. Dr. Albert E. Larkin, on behalf of the guests, presented Dr. Mercer with a handsomely-bound copy of the souvenir dining card, bearing his photograph, and signed by those present at the dinner.

New York City

Harvey Society Lecture.—The fourth lecture of the Harvey Society Course, delivered January 14, by Dr. Arthur R. Cushny of the University of London, is on "The Therapeutics of Digitalis."

High Birth and Low Death Rate.—During 1910 this city has recorded the lowest death rate since records have been kept, and also the highest birth rate. The lowest death rate from tuberculosis and typhoid fever and the lowest mortality among infants are also reported.

Herter Lectures.—The first of the six lectures on "The Irregularities of the Heart," given under the Herter Foundation of the University and Bellevue Hospital Medical College, was delivered by Dr. Arthur R. Cushny of the University of London, January 9, at the Carnegie Laboratory.

Hospital Buys Property.—The Presbyterian Hospital has added to the site for the new hospital buildings twelve and one-half lots just west of the property acquired and immediately north of the site on which the buildings of the Rockefeller Institute for Medical Research have been erected.

Officers of the New York Neurological Society.—The following officers were elected for the year 1911: president, Dr. L. Pierce Clark; vice-presidents, Drs. Smith Ely Jelliffe and Dr. Edward W. Scripture; corresponding secretary, Dr. J. Ramsay Hunt, and recording secretary and treasurer, Dr. Edwin G. Zabriskie.

Dr. Alexander's Death.—The Medical Board of Bellevue Hospital, at its meeting, January 1, recorded on its minutes the removal by death of Dr. Samuel Alexander, who had been connected with the hospital from the time of his graduation until his death, and bearing testimony to Dr. Alexander's ability as a surgeon, and earnest, sympathetic and noble qualities as a man.

Injunction Against Expulsion.—The New York County Medical Society recently expelled Dr. Robert Kunitzer and Dr. Louis Anton Ewald for falsification of the Sydenham Hospital records. Dr. Ewald has asked the Supreme Court to continue a temporary injunction restraining the Board of Censors of the County Medical Society from taking action toward expelling him.

Donation to Medical School and Hospital.—A gift of $1,300,000 has been pledged for the perfection of the affiliation of the Presbyterian Hospital and the medical school of Columbia University. The gift was made through Edward H. Harkness, and is believed to have come from members of his family. He himself contributes $300,000 for the erection of a surgical pavilion to be equipped with modern appliances and also a complete laboratory for advanced research work.

Reorganization of Health Department.—Dr. Ernest J. Lederle, commissioner of health, in a talk before the City Club, January 7, outlined the work of the department for the last year and detailed his plans for the coming year. One plan is the reorganization of the department on lines to increase its efficiency. This will include the question whether the commission of sanitary inspectors of the various boroughs will have charge of certain functions or whether full power will be centered in the commissioner.

Christmas Gifts for Hospitals.—The Hospital Saturday and Sunday Association, which helps to maintain forty-five hospitals of this city has asked for a fund of $200,000 this year as a Christmas donation. Of the 79,132 persons cared for in these hospitals during the past year, 42,484 received free treatment. The annual expenditures of these hospitals are in nearly every case larger than their receipts and the cost of maintaining a patient has increased from $1.17 daily per capita ten years ago to $2.06 at present.

Personal.—The appointment of Dr. Daniel Potter as director of the new board of ambulance service has been approved by the municipal civil service commission.——Dr. Simon Flexner, who was operated on for appendicitis at the Presbyterian Hospital, December 5, has entirely recovered and has left the hospital.——Dr. Theodore C. Janeway has resigned from the City Hospital Board.——Dr. Ernest J. Walker, Fordham Hospital, was recently injured in a collision between an ambulance and a street car, and as the result of the injury was obliged to have his arm amputated.

To Conserve Eyesight.—At a meeting of physicians and laymen at the United Charities Building a National Association for the Prevention of Blindness and the Conservation of Eyesight was formed. In addition to the conservation of eyesight the association will interest itself in social purity, the prevention of infant mortality and the safeguarding of industrial occupations. National and state medical associations, educational and commercial bodies, labor organizations, women's clubs and other societies dealing with social problems will be invited to cooperate with the new association. Dr. F. Park Lewis of Buffalo was elected Chairman of a Board of Directors to be named in the near future.

Accidents to Children.—There were seventy-six children of school age killed last year in street accidents. The National Highways Protective Association says that 40 per cent. of these accidents were due to the carelessness of the children or their ignorance of the conditions of street traffic. This society caused warnings to be printed and posted and to be read in the schools. The German newspapers printed the notice and commented on it, bringing it forcibly to the minds of parents and it is stated that in no instance was a German child maimed or killed. The necessity of teaching children to care for themselves in the streets should be brought to the attention of teachers and parents. The school masters of Boston have formed a committee of Prevention of Street Accidents to Children and are considering the most feasible ways of incorporating into the minds of the older children a sense of responsibility for younger ones.

Public Health Lectures.—A series of lectures which form part of the New York work of the Public Health Education Committee of the American Medical Association was inaugurated January 12, under the auspices of the Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs. The lectures are to be given alternate Thursday afternoons and Wednesday evenings, and two, three or four lectures are to be given at each session. On January 12, the session was devoted to Home Hygiene; that of January 18 will consider Industrial Hygiene; January 26, the Cause and Prevention of Some Common Diseases; February 1, Insect-Borne and Water-Borne Diseases; February 9, Pure Milk and Infant Hygiene; February 15, Public Hygiene; February 26, The Health of the School Child; March 1, Congenital and Acquired Deformities and Their Prevention; March 9, Mental Hygiene; March 15, Alcohol and Meat in Relation to Disease; March 23, Health of Women, in Youth and Maturity; and March 29, The Care of the Eyes. The use of Hosack Hall has been offered through the courtesy of the Council of the New York Academy of Medicine.

PENNSYLVANIA

Personal.—Dr. George R. Vernon has resigned from the presidency of the Board of Health of Clifton Heights.——Dr. William T. W. Dickenson, of Media, one of the oldest physicians in Delaware County, celebrated his eighty-third birthday anniversary, January 5.

War on Food Adulterations Successful.—Statistics compiled by James Foust, of the State Food and Dairy Commission, show that the campaign against food adulterations has diminished greatly the number of infractions of the law. During the year special agents purchased and the chemists analyzed 5,594 samples of food products. Prosecutions for adulterations misbranding, departure below standard and other infractions of the food laws were terminated in 621 cases; 231 were oleomargarin cases, seventy milk cases and sixty-

two ice cream cases. The fines and costs imposed by the courts in these cases amounted to $30,405.92, of which those for the violation of the oleomargarin law amounted to $15,456.92.

Officers Elected.—At the November meeting of the Washington County Medical Society, the following officers were elected: president, Dr. Robert E. Conner, Hickory; vice-president, Dr. Joseph W. Hunter, Charleroi; secretary-treasurer, Dr. John B. Donaldson, Canonsburg; and censors, Drs. Olie P. Dearth, William J. L. McCollough, both of Washington, and John H. Carey, Prosperity.——At the meeting of the Somerset County Medical Society, held at Meyersdale, October 18, the following officers were elected: president, Dr. Maurice Stayer, Rockwood; vice-president, Dr. Henry I. Marsden, Somerset; financial secretary, Dr. Henry Hertzler, Jenners; secretary, Dr. Henry C. McKinley, Meyersdale, and treasurer, Dr. Walter S. Mountain, Confluence.

Philadelphia

Hospital Does Not Need State Aid.—The St. Agnes Hospital has notified the State Board of Charities that it will not apply for an appropriation from the legislature, because the bequest of $70,000 of James I. McCauley, who died in that hospital four years ago, will become operative during the present year. Its last biennial appropriation was $50,000.

College of Physicians Election.—The following officers and elective committees were chosen at the January 4 meeting of the College of Physicians of Philadelphia to serve for the year 1911: president, Dr. George E. de Schweinitz; vice-president, Dr. James C. Wilson; censors, Drs. Richard A. Cleeman, S. Weir Mitchell, Arthur V. Meigs and James Tyson; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry, and councilors, Drs. Francis X. Dercum and William T. Shoemaker.

Housing Commission Committee Appointed.—At a conference of the Philadelphia Housing Commission, held on December 15, in the Mayor's office in the City Hall, it was decided to appeal for better legislation in the campaign to improve conditions in the congested city districts. The following committee was appointed to prepare a bill for presentation in the legislature: Dr. Richard H. Harte, Mrs. Hannah Fox, Dr. Charles J. Hatfield, Mrs. B. Weston, Dr. Frances C. Van Gasken, Montgomery Harris, F. S. Hall, Dr. Samuel Furbish and Mrs. Wendel Reber.

Gift to the University.—It was announced on January 4, that on December 31, the last day of Mr. C. C. Harrison's provostship, he received a gift of $100,000 from an alumnus of the University of Pennsylvania, to endow the chair of physiologic chemistry in the Medical School. The donor of the fund, who has requested that his name be withheld, has asked that the new chair be called "The Benjamin Rush Chair of Physiologic Chemistry." Dr. Alonzo E. Taylor, who was called from the University of California last fall, to occupy the chair of physiologic chemistry, will become the Benjamin Rush professor.

Officers Elected.—At a December meeting of the West Philadelphia Medical Association, the following officers were elected to serve for 1911: president, Dr. Hiram L. Lutz; vice-president, Dr. Charles P. Pike; corresponding secretary, Dr. Henry G. Munson; financial secretary, Dr. Walter M. Miller; treasurer, Dr. Edmund L. Graf; board of directors, Drs. Aaron L. Bishop, Benjamin F. Wentz, Christian B. Longenecker, Arthur E. Bogart, A. Wiese Hammer, George M. Astley, George C. Shammo, Charles H. Wallace, William S. Newcomet, Sherman F. Gilpin and F. Mortimer Cleveland.——At the annual meeting of the South Branch of the County Medical Society, held on December 30, Dr. Stuart C. Runkle was made president; Dr. William N. Bradley, vice-president and delegate to the Philadelphia County Medical Society, and Dr. Paul B. Cassidy, secretary, all of Philadelphia.

Personal.—Dr. David L. Edsall, professor of medicine in the University of Pennsylvania, has resigned and accepted the professorship of preventive medicine in Washington University, St. Louis.——Dr. Arthur C. Sender has been appointed chief of the *x*-ray department in St. Joseph's Hospital.——Dr. Max F. Herrman has been appointed to the out-patient gynecologic staff of St. Joseph's Hospital.——Drs. W. A. Newbold, Francis Stover and Howard L. Hull have been appointed to the out-patient medical staff of Jefferson Medical College Hospital.——Dr. Philip J. Conlon, a resident physician in the Germantown Hospital for the past year, left that institution on January 4, to take a similar position at St. Agnes Hospital. He is succeeded by Dr. C. B. Mack.——Dr. Simon Wendkos, superintendent of Mount Sinai Hospital, resigned January 7, to take effect on March 1. He will go to Berlin where he will take a special course in medicine and surgery.

TEXAS

Society Meetings.—At the annual meeting of the South Texas District Medical Association, held in Port Arthur, December 8, Dr. Wilbur E. Thomson, Beaumont, was elected president; Dr. Howard R. Dudgeon, Galveston, vice-president; Dr. Edward F. Cooke, Houston, secretary-treasurer (reelected). The next meeting will be held in Galveston in July, 1911.—— The Fifth District Medical Society, at its semi-annual meeting in San Antonio, elected the following officers: president, Dr. Evarts V. DePew, San Antonio; secretary, Dr. Ferdinand C. Walsh, San Antonio; and treasurer, Dr. Louis G. Wille, New Braunfels (reelected).——At the annual meeting of the Fourth District Medical Society in San Angelo, Dr. T. Richard Sealy, Santa Anna, was elected president; Dr. J. Ernest Robinson, Brownwood, secretary-treasurer; and Coleman was selected as next place of meeting.——At the annual meeting of the El Paso Medical Association, December 5, Dr. Henry F. Safford was elected president; Dr. Harry H. Stark, vice-president and editor of the bulletin; Dr. R. Irvin McNeil, secretary-treasurer; and Dr. William H. Pickles, censor.——The Big Springs-El Paso Medical Society held its annual meeting in Sweetwater, recently, and elected the following officers: president, Dr. Newton J. Phenix, Colorado; vice-president, Dr. John W. Overton, Sweetwater; and secretary-treasurer, Dr. Granville T. Hall, Big Springs.——At the annual meeting of the Taylor County Medical Society, held in Abilene, December 6, Dr. Manton M. Carrick, assistant superintendent of the State Epileptic Colony, was elected president; Dr. Marion Armstrong, Merkel, vice-president and censor; and Dr. J. M. Estes, Merkel, secretary-treasurer. The members of the society were guests of Dr. James M. Alexander at a dinner. Dr. M. M. Carrick presided as toastmaster.

VIRGINIA

New Secretary of State Society.—Dr. Paulus A. Irving, Farmville, has been elected secretary of the Medical Society of Virginia, vice Dr. Laudon B. Edwards, deceased.

Expectorators Fined.—As a result of the crusade of the Norfolk Board of Health against spitting on sidewalks, fines of two dollars each were assessed against a negro and a white man recently.

Hospital Notes.—The Southern Hospital and Dispensary Company has been incorporated at Richmond with capital of $50,000.——Fire at Catawba Sanatorium, the State Tuberculosis Camp, destroyed a building causing damage of $800.—— The resident physician at Catawba Sanatorium announces that ninety-five patients are now under treatment at the hospital.

Medical Fraternity Election.—The eighteenth annual meeting of the Centrum Ovale of the Pi Mu National Medical Fraternity was held in Richmond, December 17. Dr. Paul W. Howle, Richmond, was elected senior councilor; Dr. Charles M. Byrnes, Charlottesville, junior councilor; Dr. Francis W. Upshur, Richmond, calamus scriptorius; Dr. Lawrence T. Price, Richmond, calyx; Dr. Wallace D. Carr, Richmond, librarian, and Dr. N. Thomas, Richmond, editor of the annual.

GENERAL NEWS

Journal Becomes Monthly.—The general manager of the Rockefeller Institute for Medical Research announces that the *Journal of Experimental Medicine* begins its thirteenth volume as a monthly instead of a bi-monthly as heretofore. Two volumes will be issued each year, without change in the price of subscription. Dr. Benjamin T. Terry has succeeded Dr. Eugene L. Opie as the associate of Dr. Simon Flexner in the editorial control of the magazine.

New England Alumni Meet.—The New England Association of the New York Medical College held its eighth annual meeting and banquet in the Parker House, Boston, December 13, and elected the following officers: president, Dr. Elgin W. Jones, Lynn, Mass.; vice-presidents, Drs. Ira. J. Prouty, Keene, N. H.; Albion S. Whitmore and Charles O. Thompson, both of Boston; secretary, Dr. J. Henry Woods, Brookline, Mass., and treasurer, Dr. James H. Stuart, Boston.

Interstate Meetings.—At the annual business meeting of the Marinette (Wis.) and Menominee (Mich.) Medical Society, December 14, Dr. Calvin R. Elwood, Menominee, was elected president; Dr. David R. Landsborough, Daggett, Mich., vice-president, and Dr. Earl V. McComb, Menominee, secretary-treasurer.——The Society of Missouri and North Arkansas Surgeons held its annual meeting in Helena, December 14, and selected Heber Springs as the next place of meeting.

The following officers were elected: president, Dr. Hugh L. Routh, Batavia, Ark.; vice-presidents, Drs. S. A. Russell, Fairview, Mo.; Clifford H. Trotter, Helena, Ark., and William B. Snipes, Spring Creek, Ark., and secretary, Dr. Tillman B. Bradford, Cotton Plant, Ark.

CANADA

Sanitarium Fire.—Fire did $50,000 damage to the Homewood Sanitarium at Guelph, Ont., January 6. All the inmates were removed safely and found accommodation in a private residence adjoining the sanitarium.

Dominion Society to Meet.—The forty-fourth annual meeting of the Canadian Medical Association will be held in Montreal during the first week of June, 1911, immediately following the official opening of the new McGill medical buildings.

Increase of Cancer in Ontario.—During the seven years up to and including 1908 8,769 persons of all ages died in Ontario from various forms of cancer. In 1902 the number was 1,048; 1903, 1,156; 1904, 1,253; 1905, 1,224; 1906, 1,411; 1907, 1,329, and 1908, 1,348.

Montreal Medical Journal Announces Its Discontinuance.—Having just issued its December number, the *Montreal Medical Journal* announces that it will cease publication, as it has been acquired by the Canadian Medical Association as its official organ. The title of the new journal is somewhat in doubt as "The Canadian Medical Journal" infringes on the title of one of the other medical journals of Canada. The history of medical journalism in Montreal is given from 1844 when the *Montreal Medical Gazette* came into existence, up to the present time.

Personal.—Dr. W. B. Kendall, superintendent of the Muskoka Cottage Sanatorium, Gravenhurst, has gone to Europe to study the latest phases of the tuberculosis problem.——Dr. Joseph E. Laberge, chief of the infectious diseases department, Montreal, has been appointed a member of the Board of Health of the Province of Quebec.——Dr. Charles H. Vrooman, Winnipeg, formerly in charge of the Manitoba Sanatorium for Consumptives, Ninette, has been appointed superintendent of the Tranquille Sanatorium in British Columbia. ——Dr. James T. Rogers, Montreal, has returned from Europe.

Tuberculosis in Ontario.—From the published report of the Registrar-General for Ontario, which has just been issued for the year 1908, it is seen that tuberculosis is declining materially in the province of Ontario. The largest number of deaths from this disease in any one year was that of 1900, when the total was 3,484. In 1901 the number was 3,284; 1902, 2,694; 1903, 2,723; 1904, 2,877; 1905, 2,667; 1906, 2,911; 1907, 2,530; 1908 2,511—a decrease in the eight years of 973. The death rate from tuberculosis in Ontario per 1,000 of the estimated population is 1.12; in the city group, it is 1.43; in the town group, 1.17; for the balance of the province, 1.002.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 31, 1910.

The Destruction of Rats

The epizootic of plague among rats in Suffolk, accompanied by four cases in man and occasional imported cases of plague observed in the London docks, which have been reported in previous letters to THE JOURNAL, have led to great activity in the destruction of rats. The Board of Agriculture and Fisheries has issued a leaflet on the destruction of rats. Of poisons, barium carbonate is recommended as the cheapest and best. It causes thirst and therefore induces the rats to seek water in the open, where they die. It may be used in the proportion of one part to four parts of meal mixed into a dough with water, or may be spread on fish or moist toasted bread. It is added that if rats find that any of their fellows die after eating any kind of food they avoid such food for some time, so that it is generally necessary to vary the form and appearance of the bait. With regard to rat virus the results are found to be uncertain, owing partly to difficulty of securing successful infection in all cases, and partly to the fact that if only slightly infected, rats recover and become immune to the disease. When it is desired to exterminate the rats in a district all methods—hunting, trapping and poisoning—should be used and the attack made in a circle radiating from a spot in which it is considered that the final work of destruction can be accomplished with the least difficulty.

Salvarsan in England

As in all civilized countries, salvarsan, or "606," has become a burning topic, not only in the profession, but in lay circles, and has been the subject of a long article in the *Times*, a journal in which such a technical as well as objectionable (from the lay standpoint) subject as the treatment of syphilis is very much out of place. Considerable difference of opinion exists as to the value of the new remedy. Mr. McDonagh, surgeon to the London Lock Hospital, who has had by far the greatest experience with it in Great Britain, reports favorably on it and endorses all the claims made by Ehrlich. In all stages of syphilis rapid recovery followed a single injection. He has treated 130 cases, in only three of which recurrence took place, two of these patients being cured by a second injection; only five patients did not respond at all. Lichen syphiliticus, which is most resistant to mercury, was cured by a single injection. Malignant syphilis associated with tuberculosis was improved beyond recognition. In nerve paralysis from syphilitic meningitis almost complete power of the muscles was regained. In one case of tabes the Argyll-Robertson pupils disappeared and the knee-jerks returned, and also morning erections which had been absent for years. However, out of seventeen patients with tabes only three improved so much that the lightning pains disappeared. General paralysis in the early stage improved considerably.

On the other hand, Mr. Ernest Lane, another specialist, declares that his results have been no better than he would have expected from mercury. One patient with syphilitic ulceration improved temporarily, but soon relapsed; another injection was followed again by improvement and another relapse, the ulcer spreading to twice its former size. In one case hyperpyrexia followed the injection for ten evenings.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 23, 1910.

The Lannelongue Prize

The Lannelongue prize, which consists of a gold medal and the sum of $1,000 (5,000 francs), to be awarded every five years (THE JOURNAL, April 3, 1910), has just been awarded for the first time. Sir Victor Horsley of London is the first recipient.

The New Director of the School of Pharmacy

Professor Guignard, who desires to devote himself hereafter solely to scientific work, has requested the minister of public instruction to relieve him of the directorship of the higher school of physiology and pharmacy, which he has carried on for about fifteen years, having succeeded Professor Planchon. The faculty of the school has unanimously elected a new director, M. Henry Gautier, professor of inorganic chemistry at the school.

Personal

On December 20, the Académie de médecine held its annual election, Professor Lannelongue, the vice-president, assuming the presidency of right. Dr. Gariel, professor of medical physiology at the Paris medical school, was elected vice-president, and Drs. Weiss and Henriot were elected secretary and treasurer, respectively.

Relief of Foreign Paupers

M. Emil Loubet, former president of the republic, as president of the Association internationale d'assistance publique et de bienfaisance privée, has asked the government to invite the powers to a diplomatic conference to arrange a treaty in regard to the relief of foreign paupers in conformity with the resolution adopted by the Congress of Copenhagen (THE JOURNAL, Sept. 10, 1910, p. 956). The conference will probably be held in Paris, the headquarters of the association.

Civil Responsibility of the Surgeon

A patient who was operated on at the Beaujon hospital by Dr. Bazy for an ovarian cyst brought suit against the surgeon for $10,000 (50,000 francs) damages for having left in the cystic cavity two compresses which finally penetrated into the rectum and were eliminated by the anus. The court recognized that Dr. Bazy had been at fault, but as it was established that the present condition of the patient had no relation with this

fact, and that at the time of her admission to the hospital, her health and even her life had been in great danger, and as it was impossible to overlook the fact that the plaintiff probably, not to say certainly, owed her life to Dr. Bazy's intervention, the court reduced the amount of damages to $1,000 (5,000 francs).

Dr. Bazy has appealed from the decision and has laid the question before the Société des chirurgiens des hôpitaux de Paris, in the following form: 1. Is it scientifically possible, assuming that compresses were left in a cyst in the course of operation, that this cyst, which was malignant according to experts, might, whether spontaneously, through its epithelial nature, or secondarily by the presence of the compresses, have ulcerated or caused the ulceration of the intestine so as to permit the passage of two compresses, measuring a meter in length by 30 centimeters in thickness (about a yard long by about 12 inches wide), without having caused any stercoral fistula? 2. This decision would constitute a precedent which would encourage fraud and would threaten professional independence. Is it not most desirable that the society should take measures to free surgery from this handicap? To study these questions, the society has appointed a commission, composed of Dr. Sagond, president of the société des chirurgiens des hôpitaux, Dr. Nélaton, representative of the same society on the *conseil de surveillance* of the Public Charities, Dr. Routier, president of the Société de chirurgie, Drs. Delbet and Quénu and Professor Reclus, one of the three experts in the case (added to the commission at his own request).

Premiums with Medical Journals

Up to the present, certain lay journals have been the only ones which have offered premiums for subscriptions. Recently, the first number of a new weekly journal of medicine, called *Paris Médical*, published under the direction of Prof. A. Gilbert, has offered premiums "worth several times the price of the subscription." A monthly medical periodical, announced to appear January 15, also offers premiums to the first 5,000 subscribers in France and all of the foreign subscribers. "Our premiums are not," says the advertisement, "such worthless trifles as paper-knives and blotters; they are worth at least the price of the *Æsculape*, and most of them are worth much more." This new and curious phase of medical journalism cannot be too much deplored.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Dec. 16, 1910.

Personals

Prof. Franz König, the distinguished surgeon, died at Berlin, December 12, aged 78. König was one of those whose researches secured the development of modern surgery. Endowed with keen powers of observation and an inventive mind, he early recognized the significance of antisepsis and asepsis and enriched surgical pathology with a series of important observations and in his classical demonstrations became a model for scientific study and teaching. Diseases of the bones and joints were prominent subjects of his study. He also did good work in the course and results of wounds of the lung, stenosis of the rectum, tracheotomy in croup, the operation for congenital dislocation of the hip, etc. His large three-volume text-book of special surgery monopolized the book market for a long time and has only lately been somewhat approached by other text-books. It is remarkable that König without having joined any faculty was chosen on the ground of his literary publications in 1869 as regular professor of surgery at Rostock. A few years after his service in the Franco-Prussian war he was called to Göttingen where he worked for twenty years. When Langenbeck resigned as director of the surgical clinic in Berlin, König received a call as his successor, but declined on account of his health. However after the death of Bardeleben he accepted charge of the surgical clinic at the Charité in Berlin. Here he performed a great service in the rebuilding of the surgical clinic. After he had performed this task he resigned his position in 1904 while still fully capable of service. König possessed the fullest confidence both of the medical profession and of his clientele, owing to his strong personality and his completely reliable character. In criticism he was sharp and merciless, but under his rough exterior was hidden deep feeling.

Professor Riess, former assistant of Frerichs and for many years director of the internal medicine department of the hospital at Friedrichshain, celebrated his seventieth birthday December 15.

Dr. Kurz, privat-docent at Heidelberg, has been appointed director of the institute for legal medicine at that place.

Robert Koch Memorial

On December 10, a mausoleum for Robert Koch was opened in the institute for infectious diseases of which he was director for many years. It was formed from some rooms of the institute. The funds for the rebuilding, amounting to about $5,000 (20,000 marks), were contributed by his many pupils and friends. The mausoleum consists of two rooms, the first a small antechamber in which some of the scientific instruments used by Koch, his numerous domestic and foreign honorary diplomas, models of the medals awarded to him, and other memorials of his life are placed. Here also is the so-called "golden book" of the Robert Koch-Foundation for the War on Tuberculosis that contains in an artistic setting the history of the foundation and the autographs of the larger contributors to the fund including the Kaiser, Andrew Carnegie, Prince von Donnersmarck, the representatives of the cities of Berlin, Charlottenburg, Hamburg, Bremen, etc. In the special memorial hall, in a niche that is closed with a white marble slab, is placed the urn that contains the ashes of Robert Koch. The walls and floors are all of marble. Over the niche for the urn is a marble tablet on which is a portrait of Koch in relief, larger than life size, and on the opposite wall the chief dates of Koch's life are engraved.

December 11 the special memorial service took place in the new hall of the university. The large hall which seats about 1,500 persons was filled with a mourning throng which included many physicians, especially members of the Berlin medical faculty, representatives of the government and the chief German medical faculties and representatives of many medical societies as well as of foreign universities and societies. Of his relatives there were present his son-in-law, Professor Pfuhl, his brothers and sisters, his widow and others. On the other hand, his daughter by his first wife did not appear, probably on account of the family difficulties which arose in connection with the divorce of his first wife and marriage to his second wife, who, as is well known, was before her marriage a member of an operetta troupe. The memorial address was delivered by Professor Gaffky who was for many years a pupil of Koch and is his successor as director of the institute for infectious diseases. The musical part of the memorial service, which was rendered by distinguished talent, was a great factor in the profound impression produced by the entire memorial.

Fourth International Congress for Thalassotherapy

A few days ago there occurred a session of the German imperial commission for the fourth international congress for thalassotherapy which is to assemble in June, 1911, at Kolberg, the Baltic seashore resort. The transactions showed that the preparations for the congress are making the best of progress and promise a very successful meeting especially in scientific lines. The congress is to consider the success and limitations of sea bathing as a therapeutic agent. Especial contributions will be offered by the Prussian institute for oceanology on the physical properties of sea water, e. g., its different and varying content in salts at the individual watering places. On the climatic conditions of the bathing resorts on the North Sea and the Baltic information will be furnished by the meteorologic institute.

Third International Congress for Infant Hygiene

The empress has assumed the protectorate of the congress to be held in Berlin, Sept. 11-13, 1911, and the imperial chancellor has accepted the chairmanship of the honorary committee. Following the congress there will be a visit to the international exposition of hygiene at Dresden which, to judge from the great style in which the preparations are being carried out, will be of unusual importance.

Hospital Provision in Prussia

According to the official review recently published, the number of general hospitals in Prussia in 1908 amounted to 2,203 with 147,737 beds; 1,167,000 patients were given about 35,500,000 days' care. For every 10,000 inhabitants, there were in 1908 38.4 beds and 303.35 patients against 38.33 beds and 293.20 patients for 1907.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Dec. 17, 1910.

Protests Against Proposed Legislation

As I wrote in a previous letter, the plan of establishing a special committee for the purpose of controlling the charitable institutes has aroused a vehement burst of indignation on the part of the medical profession. Not only have the medical councils protested against an arrangement to which the profession was not a part, but the directors and professors of the Austrian hospitals and clinics have also called the attention of the public and the government to the fact that such an undertaking would be answered by them with a resignation of all posts. This was brought to the knowledge of the ministry of education by a deputation through which the clinical professors demanded freedom and independence for their scientific research. The plan has now been so changed that only the financial transactions will be handed over to the various diets (of states) while the other grievances shall form the subject of negotiations between the factors concerned. One of the principal demands of the medical circles is that politics and religion shall have no bearing whatever on the appointment of the staff and that recommendations by the hospital staff as regards appointments and scientific equipment shall have the first consideration.

Marriages

FELIX S. JENKINS, M.D., to Miss Regina Randolph, at Baltimore, December 26.

MARION DILLON, M.D., Fairfield, Mo., to Miss Ethyl Kahl of Windsor, Mo., recently.

ALOIS F. JUETTNER, M.D., to Miss Cora K. Amann, both of Cincinnati, December 27.

CARL C. STEVENS, M.D., to Miss Hazel Arnold, both of Sharon, Wis., December 27.

MARK F. HOPKINS, M.D., to Miss Hazel M. Wintringer, both of San José, Cal., December 20.

WILLIAM B. LINTON, M.D., to Miss Florence L. Whitney, both of Minneapolis, December 14.

ROBERT GAYLORD DAVIS, M.D., Des Moines, Ia., to Miss Vera Hartley of Durand, Ill., December 27.

OSCAR M. OWENSBY, M.D., to Miss Bessie Myrtle Frazier, both of Pittsburg, Kan., December 31.

JAMES B. MARTIN, M.D., Traverse City, Mich., to Miss Mabel Bullock of St. Joseph, Mo., December 20.

WALLACE BRUCE SMITH, M.D., U. S. Navy, to Miss Louise Blake, at San Mateo, Cal., December 21.

JAMES L. LYNCH, M.D., Winona, Minn., to Miss Nora J. Guidinger of St. Charles, Minn., December 28.

JAMES ALBERT SULLIVAN, M.D., East St. Louis, Ill., to Miss Ethelynne P. Weisert of Vincennes, Ind., May 25.

FRANK MARION SPRAGUE, M.D., Seattle, Wash., to Miss Ethelinda Ireland of Pocatello, Ida., December 29.

GEORGE EDWARD CHAPPELL, M.D., to Mrs. Isobel Brown, both of Grass Valley, Cal., at San Francisco, December 23.

LEROY SPANGLER HOWARD, M.D., Harrisburg, Pa., to Miss Myrtle Ada Snyder of Loganville, Pa., December 22.

JAMES DAWSON REEDER, M.D., Baltimore, to Miss Anne Carey Gourley, at Holland's Point, Md., December 30.

WILLIAM S. CROUCH, M.D., Stafford, Kan., to Mrs. Ella Pennington of Ashland, Ky., at Herrin, Ill., December 8.

MARSHALL DICKSON CORNELL, M.D., to Miss Susie Cherry, both of Sallisaw, Okla., at Fort Smith, Ark., December 26.

THEODORE H. TRAPPE, M.D., Hecker, Ill., to Miss Lela Mannen of Waltonville, Ill., at Mount Vernon, Ill., December 29.

WILLIAM M. DAVIS, M.D., South Omaha, Neb., to Miss Lorene Emery of Lincoln, Neb., at Mynard, Neb., December 26.

MARY COFFIELD SMITH, M.D., Grand Rapids, Mich., and William Waldemere Von Baumgartner of Frankfort-on-the-Main, Germany, December 28.

Deaths

David Sherwood Kellogg, M.D. University of Vermont, Burlington, 1873; a charter member and trustee of the Northern New York Medical Association; a member of the Medical Society of the State of New York; pension examiner at Plattsburg from 1883 to 1900; health officer of the city from 1878 to 1880; on various occasions acting assistant surgeon U. S. Army at Plattsburg Barracks; a veteran of the Civil War; a trustee of the State Normal School and Public Library; died at his home in Plattsburg, December 19, aged 63.

William Smith Janney, M.D. Pennsylvania Medical College, Gettysburg, 1854; Jefferson Medical College, 1880; assistant surgeon of the Twenty-First, and surgeon of the Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; a veteran of the Indian Border War in Kansas in 1856; coroner of Philadelphia in 1880; for sixteen years surgeon of the Philadelphia Hospital, and for twenty years to the Girard College Hospital; died at his home in Philadelphia, December 24, from heart disease, aged 78.

Carl Heinrich Kroeber, M.D. Dartmouth Medical School, Hanover, N. H., 1895; College of Physicians and Surgeons, New York City, 1896; of Yonkers, N. Y.; vice-president of the Jenkins Medical Society; a member of the staff of St. Joseph's Hospital, Yonkers; since 1902 a medical officer of the National Guard of New York, and assigned to the Tenth Infantry; died at the Loomis Sanatorium, Liberty, N. Y., December 12, from tuberculosis, aged 41.

Damon S. Cummings, M.D. Northwestern University Medical School, Chicago, 1876; a member of the American Medical Association; for six years mayor and for twenty-five years president of the School Board of Waseca, Minn.; for two terms superintendent of schools of Waseca County; a member of the board of control of the State School for the Indigent, Owatonna; died in St. Luke's Hospital, St. Paul, December 25, aged 60.

James Swinburne Hopkins, M.D. New York University, New York City, 1882; a member of the Medical Society of the State of New York and New York Academy of Medicine; formerly professor of ophthalmology in the New York College of Veterinary Surgeons, and assistant surgeon to the New York Ophthalmic and Aural Institute; died at his home in New York City, December 19, from chronic meningo-encephalitis, aged 51.

Isaac Prince, M.D. Hahnemann Medical College, Chicago, 1878; for ten years a missionary in Jamaica; a chaplain during the Civil War; for several years assistant superintendent of the Foundlings Home, Chicago; founder of the Home for Destitute Crippled Children, and instrumental in establishing the first three day nurseries in Chicago; died in the Church Home for Aged People, Chicago, January 2, from pneumonia, aged 76.

Willis Horton Pratt, M.D. University of Michigan, Ann Arbor, 1869; of Stillwater, Minn.; a veteran of the Civil War; for several years prison physician, coroner and physician of Washington County, and city physician; for one term a member of the legislature; for ten years president of the local pension board; died at his home, December 15, from uremia, aged 76.

John W. Blanton, M.D. Hospital College of Medicine, Louisville, 1884; a member of the Kentucky State Medical Association, and formerly president of the Jefferson County (Ky. Medical Society, and Jefferson County Milk Commission; died tion, and formerly president of the Jefferson County (Ky.) December 26, from cerebral hemorrhage, aged 58.

Eben Hillyer, M.D. Jefferson Medical College, 1854; major and surgeon in the Confederate service during the Civil War; later a practitioner of Rome, Ga., and since 1885, president of the Rome Railroad; died at his home in Rome, December 19, from the effects of shock following a fall, in which he sustained a fracture of a leg and internal injuries, aged 78.

James Atwood Crowell Milliken, M.D. Medical School of Maine, Brunswick, 1910; intern in the Western Washington Insane Hospital, Fort Steilacoom; a member of the Kappa Sigma Fraternity and Phi Chi Medical Fraternity; died at his home in New Bedford, Mass., December 29, from lymphatic leukemia, aged 25.

Edward Storror, M.D. University of Pennsylvania, 1863; a surgeon of volunteers during the Civil War, and for several years thereafter a contract surgeon in the army; afterward

special sanitary agent of the French government in Cochin, China; died at his home in Berkeley, California, December 3, aged 73.

Roscoe H. Goodrich, M.D. University of Vermont, Burlington, 1876; a member of the American Medical Association, and American Association of Railway Surgeons; local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home in Chamberlain, S. D., December 19, aged 56.

Edward Page Granville Holderness, M.D. Missouri Medical College, St. Louis, 1860; Bellevue Hospital Medical College, 1875; consulting surgeon to St. Joseph's Hospital Bloomington, Ill.; of Chenoa, Ill.; died in Chicago Heights, Ill., January 1, from bronchopneumonia, aged 78.

Harrie William Moellering, Jr., M.D. Toledo (O.) Medical College, 1909; of Goshen, Ind.; a member of the Goshen Medical Society; while crossing a railway track near Goshen in his automobile, December 29, was struck by an express train and instantly killed, aged 28.

Andrew Judson Ervey, M.D. Rush Medical College, 1874; a member of the Michigan State Medical Society; a veteran of the Civil War; while crossing the railway track at his home in Wheeler, December 26, was struck by a passenger train and instantly killed, aged 65.

Walter J. Wait, M.D. Washington University, St. Louis, 1880; formerly coroner of St. Louis, but of late a practitioner of Joplin, Mo.; died at the home of his father-in-law in St. Louis, December 6, from amyloid disease of the kidney, aged 51.

Ira E. Cox, M.D. Central College of Physicians and Surgeons, Indianapolis, 1895; a member of the Indiana State Medical Association; formerly a practitioner of Indianapolis; died at his home in Goldsmith, Ind., December 20, from septicemia, aged 42.

John K. Hertz, M.D. Pennsylvania Medical College, Gettysburg, 1860; a member of the Medical Society of the State of Pennsylvania; a school director of Lexington; died at his home in that place, December 28, from valvular heart disease, aged 78.

Elsa M. Meador, M.D. Eclectic Medical Institute, Cincinnati, 1887; a member of the Kentucky State Medical Association; of Drake, Ky.; died in St. Joseph's Hospital, Bowling Green, Ky., December 14, from tuberculosis of the hip, aged 50.

William Powell Gordon, M.D. Washington University, St. Louis, 1867; Missouri Medical College, St. Louis, 1875; a member of the American Medical Association; died at his home in Carlyle, Ill., October 10, from cirrhosis of the liver, aged 66.

Samuel P. Smith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901; formerly of Cornelia, Ga.; president of the Ocmulgee Medical Association; died in a sanitarium in Atlanta, December 12, from cerebral hemorrhage, aged 39.

Osman Royal, M.D. Boston University School of Medicine, 1885; of Portland, Ore.; formerly president of the State Medical Board; died suddenly in that city, while watching a football match, December 31, from heart disease, aged 54.

Jonas Hoover (license, Nebraska, 1891); Ensworth Medical College, St. Joseph, Mo., 1892; of Waverly, Neb.; for thirty-seven years a practitioner; died in the Everett Sanitarium, Lincoln, Neb., December 17, from nephritis, aged 71.

John W. Pitts, M.D. University of Pennsylvania, 1867, a member of the Medical and Chirurgical Faculty of Maryland; a Confederate veteran, and first mayor of Berlin; died at his home, December 27, from pneumonia, aged 69.

John Aloysius Hemsteger, M.D. Chicago Homeopathic Medical College, 1890; and formerly professor of materia medica in his alma mater; died suddenly at his home in Chicago, January 5, from cerebral hemorrhage, aged 56.

Daniel Michael Driscoll, M.D. College of Physicians and Surgeons, New York City, 1900; a member of the American Medical Association; of Bridgeport, Conn.; died in St. Vincent's Hospital in that city, December 18, aged 33.

James B. Stephens, M.D. University of Nashville, Tenn., 1857; of Nashville; was thrown from his buggy in a collision with a taxicab, December 10, and died from his injuries five hours later in Dr. Fort's Infirmary, aged 76.

Herman F. Goetsch, M.D. Marquette University, Milwaukee, 1903; died at the home of his brother in Milwaukee, December 20, from the effects of cyanid of potassium, self-administered, it is believed with suicidal intent, aged 37.

William G. Gray, M.D. Washington University, St. Louis, 1862; for many years a practitioner of Greene County, Mo.; died at the home of his daughter in St. Louis, December 22, from disease of the intestine, aged 73.

Charles Stuart Maynard, M.D. Eclectic Medical Institute, Cincinnati, 1859; for fifty years a practitioner of Van Buren County, Mich.; died at his home in Paw Paw, December 23, from cerebral hemorrhage, aged 80.

John Joshua Martin, M.D. Keokuk (Ia.) Medical College, 1904; of McCausland, Ia.; who moved to Davenport in November last; died in the Davenport Hospital, December 19, from intestinal obstruction, aged 42.

George W. Stapleton, M.D. Missouri Medical College, St. Louis, 1857; for sixty years a practitioner of Albany, Mo.; died at the home of his son in that place, December 21, from cerebral hemorrhage, aged 86.

Alexander Stephens Dyar, M.D. Southern Medical College, Atlanta, Ga., 1883; for four years city physician of Atlanta; died at his home in New Orleans, December 23, from tuberculosis of the larynx, aged 48.

William Harvey Leach, M.D. Cincinnati College of Medicine and Surgery, 1861; a member of the Medical Society of the State of California; died at his home in Napa, November 22, from angina pectoris, aged 75.

Raymond W. Chamberlain, M.D. Washington University, St. Louis, 1909; of Fisher, Ill.; senior medical intern at the City Hospital, St. Louis; died in that institution, December 24, from typhoid fever, aged 27.

Rebecca Lippett Smith, M.D. Hygeio-Therapeutic College of New York, New York City, 1859; New York Free Medical College for Women, 1873; died suddenly at her home in Syracuse, N. Y., December 11.

Hugh Henry Haden, M.D. University of Nashville, Tenn., 1886; a member of the Medical Association of the State of Alabama; died at his home in Holly Pond, December 25, from heart disease, aged 50.

Isaac B. Yeakel, M.D. University of Pennsylvania, 1866; a member of the Medical Society of the State of Pennsylvania; died at his home in Bally, December 30, from tuberculosis, aged 70.

Braxton Wise, M.D. Tulane University, New Orleans, 1883; a member of the Louisiana State Medical Society; died at his home in Benton, December 27, from cerebral hemorrhage, aged 55.

Franklin J. Geiger, M.D. Medical College of the State of South Carolina, Charleston, 1858; a Confederate veteran; died at his home near Saint Matthews, S. C., November 30, aged 75.

Amos S. Smith (license, Pa. 1881); for almost half a century a practitioner of Pennsylvania; died at his home in Bismarck, December 27, from heart disease, aged 78.

Ashbury Westfall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1869; a resident of California for fifty years; died at his home in Monterey, November 30.

Oscar Augustus Perine, M.D. Eclectic Medical College of the City of New York, 1888; died at his home in Brooklyn, December 23, from uremia, aged 45.

George L. Ezzard, M.D. Southern Medical College, Atlanta, Ga., 1892; of Atlanta; died at a private sanitarium in that city, December 19, aged 44.

Lloyd E. Goodpasture, M.D. Washington University, St. Louis, 1908; died at his home in Thayer, Ill., December 25, from typhoid fever, aged 28.

Horace Parrish Taylor, M.D. Bellevue Hospital Medical College, 1889; died at his home in Norfolk, Va., December 1, from heart disease, aged 44.

Adolph Buettner, M.D. College of Physicians and Surgeons, Chicago, 1886; died at his home in Chicago, December 18, from paresis, aged 55.

Henry R. Richard, M.D. University of Minnesota, Minneapolis, 1900; of Waterville, Wash.; died in Wenatchee, Wash., December 22, aged 36.

William Warder McCarty, M.D. Miami Medical College, Cincinnati, 1878; of Canaan, Ind.; died in Madison, Ind., December 15, aged 82.

John R. Holifield, M.D. University of Louisville, Ky., 1870; died at his home in Mayfield, Ky., December 12, from pneumonia, aged 75.

George Cheeseman, M.D. Jefferson Medical College, 1866; died at his home in Library, Pa., December 24, aged 82.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

J. LAWRENCE HILL, A.M., D.D., M.D.,

Another Consumption Cure Fake in Jackson, Michigan *

A few weeks ago we devoted some space to a vicious consumption cure fraud, Lung Germine, hailing from Jackson, Mich. A similar concern in the same town is conducted by one J. Lawrence Hill, who sometimes writes after his name the letters "A.M., D.D., M.D." As in most mail-order medical concerns, the "doctor" in whose name the concern is operated is really a very unimportant part of the company. "J. Lawrence Hill, A.M., M.D.," is the corporate name of the company that has recently been re-incorporated with an authorized capital of $5,000, the stock being held in $10.00 shares. There are apparently three stockholders: (1) F. L. Childs, Cleveland, O.; (2) F. C. Badgley, Jackson, Mich., and (3) J. Lawrence Hill, A.M., D.D., M.D. Of the 500 shares representing the entire stock, Hill is said to hold but 50 and the balance of 450 is said to be divided equally between Childs and Badgley. Evidently Childs and Badgley furnish the money, while Hill furnishes the "degrees"—and incidentally keeps the business from being illegal as well as immoral.

A COMMUNITY OF INTEREST

When the company was first incorporated in 1906, there were two other stockholders in addition to Badgley and Childs, viz., R. A. Oliver and H. H. Mallory. Whether the members of this quartet have any qualifications for "curing" consumption, may be decided by the reader, from the following information:

Childs, F. L.: Vice-president of the Hill Consumption cure concern; is said to have been on the road previously for the Upjohn Company; to be at present sales-agent for a Cleveland iron company and to be proprietor of a mail-order "constipation cure" —"Pomola"—in Kalamazoo, Mich.

Badgley, F. C.: Secretary and treasurer of the Hill consumption cure concern; is said to be: a member of the law firm of Badgley & Badgley, Jackson, Mich.; president of the concern operating the "Magic Foot Draft" fake (also of Jackson) and president of a "pile cure" mail-order company, the "Dr. Van Vleck Company" (also of Jackson).

Oliver, R. A.: Ex-secretary and treasurer of the Hill consumption cure concern; is said to own one-fourth interest in the "Magic Foot Draft" concern, his name appearing in the advertising done by the British branch of that concern. Incidentally, we understand that the London branches of the Van Vleck pile cure and the Magic Foot Draft concerns occupy the same offices.

Mallory, H. H.: Ex-vice-president of the Hill concern; advertising agent; is said to be vice-president of the "Magic Foot Draft" company, also vice-president of the Van Vleck pile cure concern.

A study of the foregoing will help make clear a fact that has been previously referred to in these columns, viz., that Jackson, Mich., for a city of its size, is particularly well represented in the line of medical fakes, doing, not merely a national, but an international business. It shows, too, the community of interest between the various mail-order medical concerns in Jackson.



Fig. 1.—A typical advertisement of the Hill consumption cure, from the St. Joseph (Mo.) *News-Press*.

HILL'S METHODS

The methods by which J. Lawrence Hill, A.M., D.D., M.D., conducts the business which bears his name differ in no essential respect from those pursued by other mail-order "consumption cure" fakers. First, of course, there are the advertisements (Fig. 1) which appear in such periodicals and newspapers as are not above sharing the blood-money of the consumption-cure ghouls—a type of journalism, we are glad to say, that is yearly becoming scarcer. Second is the series of follow-up letters, so prepared as to simulate personal communications, but which are really printed, even to the signature of the "physician" in charge. The only part of each letter of this series which has any remotely personal element in it is the name and address of the victim to whom it is addressed, these being "filled in" by means of a typewriter in the same style of type and color of ink as that used in printing the letters. Third, is the bait of a "trial treatment," of which more later. Fourth, the inevitable testimonials—the *sine qua non* of the quack.

THE TRIAL PACKAGE

In his advertisements, Dr. Hill says he "cures consumption" and will send a trial package to all who will send 20 cents "to help pay for packing," etc. Those who answer his advertisement are sent a four-page circular letter, the first of his follow-up letters, designated, for the convenience of Hill's mailing force, "E 1," together with the "trial package." The package consists of a collapsible tube and three small cardboard boxes, all contained in a larger cardboard box. The three small boxes are labeled, respectively: "Globules," "Systemic Wafers" and "Laxative Tablets," while the tube is labeled "Plasma." Cursory examination shows:

Plasma: A white ointment smelling strongly of wintergreen. The consumptive is directed to "rub in the upper part of chest and between shoulders." He is told that "the ingredients of plasma are quickly absorbed by the blood, thus the plasma helps to destroy the bacilli or germs in the blood . . ."

Globules: Nine flexible capsules each containing an oily liquid, having the odor of guaiacol. Floating in the liquid is a small pill. One globule to be taken three times a day. They are claimed to "help supply the blood with what it needs to make strong fighting corpuscles . . ."

Systemic Wafers: Small pinkish-white tablet triturates, having a sweet taste. To be taken at 10 a. m., 3 p. m. and 7 p. m., and are said to "act specifically on the . . . lungs, imparting strength to them . . ."

Laxative Tablets: Small chocolate-coated tablets. Says Hill: "They are wonderfully [*sic*] bowel regulators, act nicely on the liver and are a triumph in the art of chemistry, being prepared by one of the best known chemists and pharmacists."

THE FOLLOW-UP SYSTEM

The first letter of Hill's "follow-up" series states, among other things:

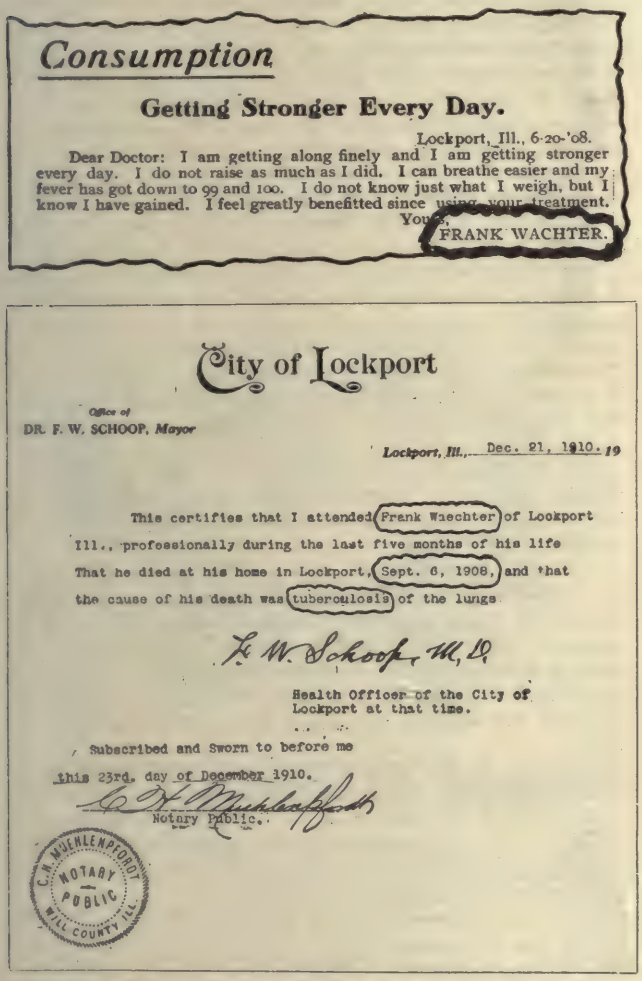
> "My purpose in sending you my trial treatment is to prove to you . . . that it is not necessary for you . . . to spend a good deal of money in following a complicated mode of living . . ."

This statement and the fact that Hill claims in his preliminary advertising that the use of his "treatment" renders

* A reprint of this matter may be had in pamphlet form; price, 4 cents. The pamphlet contains additional data of interest as well as several additional illustrations.

it unnecessary "to materially change the patient's mode of living," and the further fact that in none of his series of follow-up letters does he recommend the open-air method of treatment, make plain the viciousness of this particular "consumption cure." As every reputable physician knows, the hardest task that confronts him, in his attempt to help the consumptive, is to get the patient to consent to put up with the inconveniences and minor hardships inseparable from the only rational treatment of the disease—the out-door life. The average consumptive believes that the physician should be able to give him "medicine" that will "cure" him—a belief that is as fallacious as it is dangerous and yet one that Hill and most consumption cure fakers play on.

After he has persuaded the victim to part with his $10 for the "first month's treatment," however, Hill sends a pamphlet entitled "Rules for Living," in which the "mode of living"



Consumption

Getting Stronger Every Day.

Lockport, Ill., 6-20-'08.

Dear Doctor: I am getting along finely and I am getting stronger every day. I do not raise as much as I did. I can breathe easier and my fever has got down to 99 and 100. I do not know just what I weigh, but I know I have gained. I feel greatly benefitted since using your treatment.

Yours,
FRANK WACHTER.

City of Lockport

Office of
DR. F. W. SCHOOP, Mayor

Lockport, Ill., Dec. 21, 1910. 19

This certifies that I attended Frank Waechter of Lockport Ill., professionally during the last five months of his life That he died at his home in Lockport, Sept. 6, 1908, and that the cause of his death was tuberculosis of the lungs

F. W. Schoop, M. D.

Health Officer of the City of Lockport at that time.

Subscribed and Sworn to before me this 23rd. day of December 1910.

Notary Public.

C. H. MUEHLENFORDT NOTARY PUBLIC WILL COUNTY ILL.

Fig. 2.—The upper illustration is a reduced photographic reproduction of a Hill testimonial. The writer of it died three months after giving it. Hill continued to use the testimonial, however, for two years longer. The lower illustration is a photographic reproduction of a certified statement regarding the death of the writer of the testimonial.

recommended is certainly as "complicated" as any ever suggested by a reputable physician. It is evident, then, that the claims made—both directly and by inference—in the follow-up letters and advertising by which the prospective patient is led to believe that Hill's "treatment" is all that is necessary to cure consumption, is merely a catch-penny device to ensnare the victim. It is equally evident that if good results ever follow Hill's "treatment," they are due, not to the drugs he sends, but to the mode of living adopted by the patient.

SLIDING SCALE OF FEES

With the first letter and the "Trial Treatment" comes a symptom blank—the "Three Day Test Sheet"—which the patient is expected to fill out and return with the order for the first month's treatment. Much, also, is made of the wonderful virtues of Hill's "truly wonderful appliance for lung development and air sterilization" called the "Ozonol Lung Developer," which is sent "free" to those who order the first month's treatment. The price first asked for one month's treatment is $10. Should the patient not "bite," the second follow-up letter—number "E 1 a"—comes just one month later. This "letter" dilates again on the "Ozonol Developer," for which Hill claims:

"The air in passing through this Developer is . . . more heavily charged with oxygen than if breathed otherwise . . ."

The second letter still gives the price of the treatment as $10. Continued silence on the part of the patient brings—thirty days later—follow-up letter number "E 1 b." In this, the third letter of the series, the poor victim is told of those who have "been laid away among the Innumerable Dead" because they did not send for the Hill treatment soon enough.

"You know what is awaiting you, if you delay ordering my treatment."

The third letter brings the price asked down to $5—the balance to be paid "after you are cured, or whenever you are able, just as you see fit." One month later, if the patient still wisely continues to hold on to his money, comes the fourth follow-up letter, number "E 2 a." This letter is chiefly devoted to Hill's laudation of himself and his work. For instance:

"I am a physician of many years' practice."
"I am widely known for the good I have done in treating patients afflicted with consumption . . ."
"The remarkable success I have had in curing these troubles certainly warrants any man or woman, no matter how seriously affected . . . to feel absolutely certain that if there is any one man living who can save them, I believe I can do it."
"I do not say this to boast, but because it is true."

The price, in the fourth letter, still remains at $5. Should this fail to bring an order within a month, the fifth and last of this series of follow-up letters comes, number "E 3 a." This represents Hill's final attempt to "land" his victim, and the identical "treatment" for which $10 was asked in the first two letters is now offered for $3.20: "You shall never be asked for the balance."

THE "TREATMENT"

If the price of a "treatment" is sent—either $10, $5 or $3.20, according to the ease with which the victim bites—back comes another form letter, "Tr. 1," commencing: "Your remittance for treatment just to hand, for which please accept thanks." The amount of the remittance is not mentioned, so presumably this "letter" may be used in acknowledging the receipt of any of the "fees" which Hill's sliding scale calls for.

The "treatment" itself seems to differ in no respect from the "trial treatment" sent previously, except in size. The "Globules," the "Systemic Wafers," the "Laxative Wafers" and the "Plasma"—all are there, in larger quantities, but with similar directions for their use. In addition to these there is the "New Ozonol Lung Developer," about which so much is said in Hill's follow-up letters and other advertising matter. The "lung developer" consists of a cigar-shaped piece of hard rubber about 3½ inches long. One end of the "developer" is hollow and the cavity is loosely packed with cotton saturated with the "ozonol" fluid, a small vial of which accompanies it. The consumptive is instructed to place the charged end of the instrument in one nostril, close the other and inhale deeply; when the lungs have been filled the patient is to place the opposite end of the "developer" in the mouth and "blow the air out from the lungs."

The Association's chemists examined the various preparations sent by Hill in one of his $10 "treatments," and their report follows:

LABORATORY REPORT

A box labeled "Dr. J. Lawrence Hill's Rational $10 Three-Fold Treatment for Consumption, Asthma, Bronchitis, Catarrh and all Diseases of the Throat, Nose and Lungs," and containing several forms of medication was submitted to the

Association laboratory for examination. The "treatment" consisted of (1) a box of sealed elastic gelatin capsules, containing a liquid in which floated a pill, and labeled "Dr. J. Lawrence Hill's Globules"; (2) a small box of pinkish tablets labeled "Dr. Hill's Systemic Wafers"; (3) a small box of chocolate-coated tablets—"Dr. Hill's Laxative Tablets"; (4) a collapsible tube of a white ointment or salve labeled "Dr. J. Lawrence Hill's Plasma"; (5) a small vial (less than 2 drams) containing a brown liquid and bearing on the label—"Dr. J. Lawrence Hill's Antiseptic and Germ Killing Ozonol"; (6) a black hard-rubber inhaler, and (7) a small box containing a tuft of cotton.

The "Globules": These were opened and the liquid and pill examined individually. The pill after being freed from the liquid was treated with hydrochloric acid, resulting in an evolution of hydrogen with a characteristic odor, such as is given off on treating iron with hydrochloric acid. On triturating one of the pills and washing away the lighter insoluble matter, a residue of shining metallic scales remained, which, when dissolved in hydrochloric acid, emitted hydrogen gas as when the entire pill was treated. The resulting solution responded to tests for iron. On extracting the pills, from an alkaline medium, with ether, a bitter white crystalline substance was obtained, which responded to general alkaloidal tests, viz., it yielded a brown precipitate with iodin solution and a white precipitate with mercuric potassium iodid solution. Further examination showed that the substance gave strong reactions for quinin and less distinct ones for strychnin. No arsenic or other metals were found. From the results of the tests made it was assumed that the pills were composed essentially of iron (metallic), quinin and strychnin. The liquid in the globules was oily and possessed an odor of guaiacol. It was partially soluble in alcohol and completely soluble in ether and in chloroform. Alcohol extraction of the oil left a light yellow oil, practically odorless and tasteless; the portion extracted with alcohol responded to tests for guaiacol. The liquid portion of the "globules" then appeared to be a solution of guaiacol, or guaiacol-like body, in some bland oil.

The "Systemic Wafers": These were practically completely soluble in water, yielding a slightly turbid solution. They were sweetish in taste and slowly soluble in the mouth, resembling milk sugar. Tests for milk sugar indicated its presence. Further examination indicated the absence of metallic constituents, such as arsenic, antimony, mercury, iron, manganese, zinc, magnesium or calcium. Tests for alkaloids indicated the absence of alkaloids, such as atropin, strychnin, etc., while tests for such substances as iodids, bromids and salicylates indicated their absence. From the examination it was concluded that the tablets were essentially milk sugar.

The "Laxative Tablets": These were found to contain a substance having a faint, peculiar odor and a very bitter taste. Tests for arsenic and other heavy metals indicated their absence, and the tablets did not respond to tests for alkaloids. The bitter taste and the use for which the tablets were intended, pointed to the possible presence of aloin or aloes, and appropriate tests proved that aloin or aloes and a small quantity of starch were present. From the tests made, it was assumed that the tablets were principally aloes or aloin with some starch.

The "Plasma": This substance was found to be a white ointment or salve with a strong odor of oil of wintergreen. When subjected to steam distillation the distillate was found to contain material having the odor of wintergreen, while the residue in the distillation flask possessed an odor resembling oil of cloves. The "plasma" when extracted with ether yielded a substance which had the properties of stearic acid and the portion soluble in water had the properties of a stearic acid soap. The substance also contained a small quantity of a gummy substance resembling tragacanth. Tests indicated the absence of metals and alkaloids. It was concluded that the "plasma" was essentially a stearic acid ointment containing as its chief ingredient oil of wintergreen and small quantities of other oils.

"Ozonol": This liquid possessed an aromatic odor and was soluble in alcohol, ether and in chloroform, but insoluble in water. When extracted successively with various solvents fractions were obtained which resembled such essential oils as sassafras, peppermint and eucalyptus. No alkaloids or other potent drugs were found. From the above properties "Ozonol" was assumed to be a mixture of aromatic oils resembling sassafras, peppermint and eucalyptus.

The chemists' report thus confirms what has been said over and over again, viz., that quacks and medical fakers use either absolutely worthless preparations or else endow well-known and commonly used drugs with virtues that they do not possess. To suppose that rubbing an ointment of tallow and wintergreen on the chest would cure consumption is as foolish as to believe that taking sugar tablets internally or that sniffing the vapors of oil of peppermint or sassafras would accomplish the same end.

The fact is the drugs sent out by Hill will not cure consumption, either in the first, second or any other stage of the disease. That they may easily upset the digestive apparatus of the person taking them is evident to any physician, and the danger of such a result becomes apparent when it is remembered that the chief hope of the consumptive is an unimpaired ability to digest food.

TESTIMONIALS—TWO KINDS

With each of Hill's follow-up letters testimonials are sent. These are of two kinds: One kind purports to come from "patients" telling how they were "cured"; the other emanates from "prominent business and professional men," and are printed to show Hill's "standing, both as a man and physician." Of the latter, four of the testimonials are purely personal and not professional. The use Hill has made of them, however, practically means that they are an endorsement of his "treatment." Hill is one of those pious humbugs who work their church affiliations to the limit in the exploitation of fake "cures." It is said that he used to be in the ministry, and that even after opening his fakery at Jackson he was a pretty regular attendant at the weekly meeting of the Jackson Ministerial Association, where he not only participated in the discussions, but occasionally contributed papers. Even as recently as Dec. 18, 1910, a Jackson newspaper contained a "Christmas Sermonette" by John L. Hill entitled "Christ the Wonderful One." These incongruous mixtures of pseudo-piety and quackery—and they are not uncommon—must make the thinking marvel and the religious grieve.

The four pastors, whose endorsements Hill has used, were written to and their attention called to the use Hill was making of their letters. Here are some excerpts from the replies received:

Says Rev. R. E. Macduff: "I knew then [at the time the letter was written] nothing about his quack nostrum, his method, the fraud being practiced on the sick. . . . I desire earnestly that it shall be understood by the American (medical) profession that I absolutely repudiate the letter given which is being used as never intended. . . . I have been deceived and imposed on, like a large number of good men here."

Says Rev. F. W. Fraser: "I advised Dr. Hill and asked him to discontinue the use of the testimonial."

Says Rev. R. W. Van Kirk: "I did not know he was going into the mail-order business when I wrote the commendation, and am quite unwilling that he should make merchandise in any way of my name."

Says Rev. Bastian Smits: "I have requested Dr. J. L. Hill to cut out my recommendation from all of his printed matter. He has honored this request."

SOME MEDICAL ENDORSEMENTS

Of the other miscellaneous testimonials from "prominent . . . professional men" is one from S. M. Angle, M.D., of Jackson, Mich. In appraising the value of this testimony, it should be borne in mind that Dr. Angle is at present "consulting physician" for the other Jackson "consumption cure" fraud, the Lung Germine Company; furthermore, he is a "women's specialist" of the usual advertising type, and within the past few weeks the newspapers that carry his advertisement have chronicled his arrest on the charge of selling cocain to 17-year-old boys. Apropos of mail-order medical men writing testimonials for each other: A fulsome puff of the Van Vleck "pile cure"—another Jackson industry—is credited by that concern to Dr. J. L. Hill. Another of Dr. Hill's endorsers is Dr H. F. Wertz of Jackson. Wertz advertises to "cure with my home treatment" the "worst cases" of ulcer of the stomach and many other conditions too numerous to be given. Dr. W. T. Bobo, a "goiter cure" advertiser of Battle Creek, Mich.,

adds his mite of testimony to the sterling value of J. Lawrence Hill, A.M., D.D., M.D. In Figure 3 we reproduce some of the advertisements of this trio.

PATIENTS' TESTIMONIALS

Testimonials from patients, as we have shown repeatedly, mean little. Those that are honestly given come from one of two classes of individuals: (1) People who are really dangerously ill, and who, in the optimism that every new "treatment" inspires, write praising the "cure"; (2) those who, having nothing seriously the matter with them, naturally recover from the passing indisposition and credit their recovery to whatever they may have taken. This may be laid down as an axiom: No sufferer from tuberculosis ever got well from the "treatment" sent out by mail-order consumption cure quacks.

We investigated some of the cases of consumption in patients whom Hill claims, either directly or by implication, to have cured. Space will not permit us to do more than give very briefly the result of the inquiries. Following are the names of individuals whose testimonials are given as samples of the "cures" of consumption which Hill achieves:

Frank Wachter, Lockport, Ill.: Died Sept. 6, 1908 (Fig. 2). The testimonial, however, was still doing duty in the latter part of 1910!

Nancy Townesly, Shawnee, Okla.: No one of that name could be found. The city directories for the past six years failed to show the name.

Otto Bruce, Hartford, Wis.: Died March 5, 1909. Testimonial still used in the fall of 1910.



Fig. 3.—Photographic reproduction (reduced) of the advertisements of some of Hill's professional friends; these gentlemen testified to his sterling worth.

Miss Young, South Haven, Mich.: A South Haven physician writes: "In my opinion, judging from my observations of her for the last ten years, she has never had tuberculosis. At all times she has presented the appearance of a strong healthy girl."

Miss Ida Schultz, Amherst, Wis.: Died Aug. 21, 1909. The testimonial still lives.

Mrs. Mary Hawkins, Cleo, Okla.: A physician in Cleo writes: "The only Mrs. Hawkins in this vicinity is said, by those who have known her many years, to be a strong healthy woman, with no suspicion of tuberculosis."

HILL GROWS WARY

So much for the testimonials. Dr. Hill, within the past few months has grown wary. Like every other consumption "cure" exploiter, he has found that testimonials prove boomerangs. He now, therefore, omits the names and addresses on the testimonials sent out, but states that they "will be given you on request." One of his latest sheets of testimonials consists of answers to queries mailed to a number of his "patients." The queries are alleged to have been sent by "an anxious seeker after health," and were signed "F. L. C." Is it possible that Mr. F. L. Childs, the vice-president and owner of nearly half of the stock in the Hill concern and alleged proprietor of a Kalamazoo "constipation cure" is the "anxious seeker after health"—and testimonials?

HILL'S EDUCATIONAL QUALIFICATIONS

Just a word in closing about J. Lawrence Hill, A.M., D.D., M.D. He is a graduate of the Chicago Homeopathic Medical College, 1894. In his advertisements he claims to be a graduate of Edinburgh University, Scotland. In 1896 Hill was practicing in Battle Creek, Calhoun County, Mich. In February, 1896, he filed his physician's certificate, as the law requires, with the county clerk of Calhoun County, and, according to the court records, he at that time *stated under oath* that he was "a graduate of Edinburgh Medical College, Scotland." Inquiry made of the authorities of the University of Edinburgh brought the following reply from the registrar of the university:

> "*The name* J. Lawrence Hill *does not appear in any of our lists of graduates*, but we find the following entries in Matriculation Records (a search having been made for the period 1856 to 1894):
>
> "'1877-8 John Lawrence Hill, Pontypool, age 26, Arts 1st.'
>
> "'1878-9 J. L. Hill, Edinburgh, age 27, Arts 2nd.'
>
> "No other entry appears which gives the slightest indication of bearing on the case."

Which is correct? Hill's statement or the registrar's? If the latter, does it place Hill in the serious position of having committed perjury? In any case it seems to be a matter into which the Michigan authorities may well look.

CONCLUSIONS

To sum up: What does this investigation of the Hill "consumption cure" show?

First: The Hill consumption cure is chiefly owned and controlled by men whose only qualification for treating disease is that they are business men financially interested in other medical fakes.

Second: The claims made in the advertisements, either directly or by implication, that the Hill remedies will "cure" consumption are cruel and heartless falsehoods.

Third: The methods employed to capture victims, by means of speciously worded circular letters disguised as personal communications, are an imposition, if not an actual fraud, on the ignorant or credulous.

Fourth: The drugs sent out by Hill as a "trial treatment" are worthless as a cure for consumption.

Fifth: In printing endorsements of himself, which Hill received from ministers of the gospel, he grossly abused the confidence of men who did not know the use to which their letters were to be put.

Sixth: The testimonials from physicians which Hill publishes have been shown to emanate in some cases from men who themselves are employed in exploiting medical fakes.

Seventh: The claim Hill makes of being a graduate of Edinburgh University has been shown to be as false as the claims made for the nostrum he exploits.

Can a much more disgraceful business than the various "consumption cure" humbugs be imagined? Founded on fraud, maintained by deceit, perpetuated by falsehood—the sick are exploited to pay dividends on corporate quackery. How much longer will this outrage on the unfortunate victims of the White Plague be tolerated? If not for humanitarian reasons, then for its own protection, at least, society should demand that such cruel frauds be suppressed. Their existence is a menace to public health and a disgrace to modern civilization.

CALMINE

New Names for Old Drugs

"Calmine, the new Hypnotic," is another example of the ingenuity of the exploiters of proprietary preparations in coining new names for old drugs and the recklessness with which exploiters herald forth renamed remedies to the profession and the public as new and wonderful discoveries.

This is what the promoters, sustained by a calm confidence in the credulity of the profession, have to say:

> In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable.

Very few drug products have attracted so much attention as this one.

A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come out at frequent intervals—but none of them have "filled the bill"; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.

Correspondence

The Medical Profession Must Change Its Tactics

To the Editor:—He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with "new thoughters," and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, maligned, lied about, misrepresented and "knocked" on every possible occasion.

Physicians are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, "drug dopers," etc. The medical profession is denounced as a trust and monopoly, and any attempt of physicians to organize or to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition or by fear of the superior skill of their irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how physicians are losing the confidence of the people, how the ground is slipping from under their feet.

As an illustration one need only mention the reception that has been accorded to the suggestion of a federal department of health. The motives that actuate physicians and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of 150,000.

Physicians themselves are to blame. When the irregular, fantastic and pernicious cults began to make their appearance, they paid no attention to them. They thought that these cults amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, physicians remained silent. They considered it *infra dignitatem* to pay attention to them, and thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

This long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it may take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that physicians actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, they can do much toward destroying the influence of the quacks and the irregular cults. In short, medical men must throw off their exclusiveness, and must go out to the public and take it into their confidence.

The truth is with physicians—that they know; only they must not hide their knowledge under a bushel, and expect that without any effort on their part its light will penetrate into the darkest recesses of ignorance and quackery.

W. J. ROBINSON, M.D., New York City.

Reporting the Case of Another

To the Editor:—I wish to call attention to the reporting of cases that do not belong to the one reporting them, and to protest against the practice. THE JOURNAL (Dec. 31, 1910, p. 2296), contains an article entitled "A Case of Diaphragmatic Hernia." The patient referred to entered my service at Cook County Hospital, Chicago, and was operated on by me for obstruction of the bowels. The case report has been published without my knowledge or consent.

LAWRENCE RYAN, Chicago.

[A proof of the above letter was sent to Dr. Bamberger, who replies:]

To the Editor:—In reply to Dr. Ryan's letter the full facts of the matter are all that I want to state. On July 24, 1910, the patient in question entered the surgical service of the Cook County Hospital, of which I was senior resident surgeon, and Dr. Ryan, staff surgeon. I made the diagnosis of intestinal obstruction, and urged immediate operation. With Dr. Ryan, I participated in the operation, and I had full charge of the entire tedious postoperative treatment. Six months elapsed and no report of the case had been made, and I did not think that any objection would be made to my reporting it, since I was so closely connected with it. If I have unintentionally slighted Dr. Ryan, I take this means of asking pardon, and I am most willing to have Dr. Ryan, if he so desires, be given his share of credit in the report of the case. You will favor me by publishing this letter in the JOURNAL.

ARRIE BAMBERGER, Chicago.

Anesthesia in Traumatic Surgery

To the Editor:—The discussion under the above heading (THE JOURNAL, December 24, p. 2226), is a matter of very great importance to the surgeon, and has a bearing on the little-understood condition designated as shock. This condition, I believe, is sometimes misnamed, and does not receive the attention it should at the hands of the investigator.

In my earlier years I used chloroform almost exclusively, and my experience agrees with that of Dr. Lathrop, in that many patients showed improvement, as to shock, shortly after the anesthetic had been started. This occurred oftener with chloroform than with ether. I nearly always operated at once, without waiting for shock to pass off. This was done on the theory that the general anesthetic should relieve the shock, by narcotizing the receptive apparatus. Crile's nerve blocking has the same end in view, differing only by narcotizing the nerve, to prevent transmission of the painful impressions; and as is well known only large nerves may be thus blocked, while many smaller nerve fibers, not being blocked,

may to some extent at least defeat this object. Given a traumatic injury, with coincident loss of blood and the patient apparently in shock, how much of his condition is due to loss of blood, and how much to true shock?

A case in point: I have now a convalescent patient who was brought into the Allegheny Heights Hospital in an unconscious condition; leg was badly crushed, pulse small, rapid and thready. I amputated the leg without an anesthetic, which procedure did not add at all to the shock, because loss of blood was a greater factor in this case than pure shock. This is a point in which I hope this communication may arouse some interest.

On a purely theoretical basis one has difficulty in understanding just how chloroform or ether could add to shock. They are both supposed to owe their anesthetic action to their ability to dissolve out lecithin from the brain cells, the details not being well understood. Practically, the fact remains, that too much anesthetic is a bad thing. When the times comes, that the same care is exercised in the selection of skilled anesthetists, and the same position given them, as to responsibility, etc., that is attached to the surgeon, then we may expect better results, not only in traumatic surgery, but in all surgery.

IRVIN HARDY, M.D., Davis, W. Va.

The Culture of Cancer Cells in Vitro

To the Editor:—In THE JOURNAL (Oct. 15, 1910, p. 1379; Oct. 29, 1910, p. 1554, and later), Carrel and Burrows have published reports of very interesting experiments on the growth of normal and pathologic tissues outside of the body and on the culture of cells.

I desire to inform the American medical public that on Dec. 10, 1909, I communicated to the Royal Medical Academy of Turin (*Gior. d. r. Accad. di med. di Torino*, 1909, No. 12) that I obtained in a semihardened horse-serum medium a development *in vitro* of mouse adenocarcinoma fragments. A second report on the same subject was made on March 11, 1910, and the results of several experiments were published in the Italian medical periodical *Pathologica* (Oct. 15, 1910). In the first communication I reported that small fragments of cancer placed in the serum had enlarged and changed their form after from ten to eighteen days and that at the microscopical observation a number of well-preserved elements and of karyokinetic features were seen. In the second report I was able to confirm this fact and to report karyokinetic features demonstrated after the tissues had been seventy days *in vitro* (37 C.). In the note published in the *Pathologica* I wrote that fragments kept under those conditions were really alive, because they could be grafted into fresh animals.

I am very glad that Drs. Carrel and Burrows have independently obtained the same results that I obtained and have been able to extend their experiments so as to get cultures in series. I am going on with my researches, from which I hope I shall obtain new results that may extend those I have already obtained and confirm the American observations on the possibility of the transplantation in series.

DR. GUIDO VOLPINO, Professor of Bacteriology.
Turin University, Turin, Italy.

Work in Treatment of Neurasthenia.—In treatment of chronic neurasthenics who are strong enough to undertake some employment, work of some sort should be employed regularly and systematically. It is desirable to get out of the channel in which the patient has lived and to start him in some new occupation. Individuals differ greatly in the amount of work they are able to perform, and it is quite as important to grade the amount of manual labor as the dosage of any remedy that is administered. Whether we employ indoor or outdoor work, and whether it be for diversion or as a training toward a means to gain a livelihood, the main object is "to train the patient's mind to run naturally in a different channel. It is not so much the work as the way one inspires the person to take it up. That form of work, however, is best which interests the patient and leads him on to more and more thought of things outside himself."—W. N. Thompson, in *Yale Medical Journal*.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MEDICAL JOURNALS OF LATIN AMERICA

To the Editor:—Kindly submit to me the names of South American medical journals, preferably of Brazil or Argentina.

G. H. REINHARDT, St. Louis.

ANSWER.—The following are some representative South American, Mexican and Cuban journals:

Revista de la Sociedad médica argentina. Buenos Aires, Argentina. Published three times a year. Address E. Spinelli, 737 Callao, Buenos Aires, Argentina.

Semana médica. Subscription $5.00. Weekly. Address Emilio Spinelli, 737 Callao, Buenos Aires, Argentina.

Brazil-Médico. Subscription 20 milreis (about $11), including postage. Weekly. Address Dr. Bulhoes Carvalho, 140 Rua do Rosario, Rio de Janeiro, Brazil.

Gazeta médica da Bahia. Subscription 12 milreis (about $6.60). Address Dr. Oscar Freire, Rua do Garcia n. 190, Bahia, Brazil.

Repertorio de medicina y cirugía. Subscription $3. Address Dr. J. M. Montoya, Apartado 102, Bogota, Colombia.

Crónica médica. Price 6 soles (about $3.00), including postage. Semi-monthly. Address Dr. E. Bello, Apartado 50, Lima, Peru.

Revista médica del Uruguay. Subscription $5.00. Monthly. Address L. Danieri, Calle Arapey 106, Montevideo, Uruguay.

Memorias do Instituto Oswaldo Cruz. Published at irregular intervals. Address Directeur de l' Institut Oswaldo Cruz, Caisse postale 926, Manguinhos, Rio de Janeiro, Brazil.

Revista de medicina y cirugía. Semi-monthly. Subscription $4.50. Address Dr. J. F. Arteaga, Apartado 155, Havana, Cuba.

Prensa médica. Monthly. Address Dr. Enrique Nunez, Teniente Rey 41, Havana, Cuba.

Crónica médica méxicana. Subscription $2. Monthly. Address Dr. Enrique L. Abogado. Plaza de San Juan, num. 38, City of Mexico.

PERIODICALS ON OBSTETRICS

To the Editor:—Please give me the names of some good American and British journals on obstetrics and inform me where subscription should be sent, etc.

WALTER HIGGS, M.D., Eveleth, Minn.

ANSWER.—*American Journal of Obstetrics and Diseases of Women and Children.* Monthly: subscription $5. Published by Wm. Wood & Co., 216 York Street, York, Pa.

Surgery, Gynecology and Obstetrics. Monthly; subscription $5. Published at 103 State Street, Chicago.

Journal of Obstetrics and Gynecology of the British Empire. Monthly; subscription in United States, 26 shillings, including postage. Published by Sherratt & Hughes, 33 Soho Square, West, London.

PROPORTION OF SODIUM GLYCOCHOLATE AND TAUROCHOLATE IN BILE

To the Editor:—In what proportion do the bile salts sodium glycocholate and taurocholate exist in bile?

F. S. SCHMIDT, Roxbury, Mass.

ANSWER.—The proportion of taurocholate to glycocholate is variable. According to the analyses of Hammersten, it varied between 1 of taurocholate to 2.07 of glycocholate and 1 of taurocholate to 14.36 of glycocholate. The total amount of bile salts varied in three analyses between 9.04 and 18.240 per thousand. In the bile of animals the proportion is also generally variable. In the carnivora usually sodium taurocholate is the predominant bile salt. In many of the herbivora the glycocholate predominates, and in swine it is found almost to the exclusion of the taurocholate.

POTASSIUM CYANATE AND THE BLOOD

A correspondent wishes the reference to an article, which he thinks was published in THE JOURNAL some time ago, reporting experiments on dogs to ascertain the action of potassium cyanate on the blood. We fail to find such an article in the index. The drug was perhaps mentioned incidentally in the text, but was not considered of sufficient importance to be named in the title. Perhaps some of our readers can render assistance.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 7, 1911.

Woodall, Wm. P., captain, left Ft. D. A. Russell, Wyo., on 30 days leave of absence.

Banister, John M., col., is retired from active duty.

Barney, Chas. N., major, is retired from active service.

Davidson, Wilson T., captain, granted leave of absence for three months.

Krebs, Lloyd Le R., captain, ordered to report to Lt. Col. James D. Glennan, Med. Corps, Pres. Examining Board, San Francisco, for further examination to determine his fitness for promotion.

Nolven, F. Homer, D. S., left temporary duty at Ft. Ward, Washington, en route to Ft. George Wright, Wash., for temporary duty.

Allen, John H., major, leave of absence for 10 days, extended 10 days.

Harris, Herbert I., M.R.C., order relieving him from duty at Ft. Snelling, Minn., and directing him to proceed to the Philippines Division, for duty, is revoked.

Scott, H. O., D.S., Jan. 4, relieved from duty at Ft. Hamilton, N. Y., and ordered to San Francisco. Dent. Surg. Scott on expiration of leave of absence to report to S. G. for annulment of contract. Granted one month and 10 days leave of absence.

Mason, George L., D.S., reports for temporary duty at Ft. Missoula, Montana.

Wing, F. F., D.S., left Ft. D. A. Russell, Wyo., en route to Ft. Crook, Nebraska, for temporary duty.

Ebert, Rudolph G., lt.-col., relieved from duty as chief surgeon, Dept. of the Columbia, and ordered to San Francisco, for duty as chief surgeon, Dept. of California, relieving Lt.-Col. Chas. M. Gandy, Med. Corps, and in addition to that duty Lt.-Col. Ebert will assume the duties of medical superintendent, Army Transport Service, San Francisco. Lt.-Col. Gandy after being relieved will proceed on transport to sail from San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in Philippines Division.

McAlister, John A., Jr., D.S., on arrival at San Francisco, will proceed to Ft. Leavenworth, Kansas, for duty at that post.

Leslie, Samuel H., D.S., relieved from duty at Ft. Leavenworth, Kansas, and ordered to sail on transport leaving San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in the Philippines Division.

Smith, Herbert M., captain, honorably discharged from the service of the United States.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 7, 1911.

Smith, H. L., passed asst-surgeon, ordered to the *Hancock*.

Higgins, M. E., passed asst-surgeon, detached from the naval proving ground, Indian Head, Md., and ordered to temporary duty at the Naval Medical School, Washington, D. C.

Phelps, J. R., asst-surgeon, detached from the *Solace* and ordered to the *Vermont*.

Brown, E. W., asst-surgeon, detached from the *Vermont* and ordered to the naval proving ground, Indian Head, Md.

Foster, T. G., passed asst-surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the *New Orleans*.

Hathaway, G. S., passed asst-surgeon, detached from the *New Orleans* and ordered to the naval station, Olongapo, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Jan. 4, 1911.

Anderson, J. F., P. A. surgeon, directed to proceeed to Philadelphia on special temporary duty.

Irwin, M. H., A. A. surgeon, granted seven days' leave of absence from Dec. 24, 1910, under paragraph 210, Service Regulations.

McMullen, John, P. A. Surgeon, granted fourteen days' leave of absence from Dec. 30, 1910.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., as soon as practicable, to make medical survey of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Society Proceedings

COMING MEETINGS

Am. Med. Assn. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.

Assn. of American Medical Colleges, Chicago, February 27-28.

Natl. Confed. of State Med. Exam. and Licng. Bds, Chicago, Feb. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-14, 1910

(*Concluded from page 68*)

Stone in the Ureter

DR. R. C. BRYAN, Richmond, Va.: The size, number, and location of the stone having been accurately determined, the treatment resolves itself into one of two methods: (1) ureteral catheterization and lavage; (2) operation. It would seem advisable in small stones, and those located in the lower segment of the ureter, to attempt by ureteral catheterization and injection to dislodge them. This will likely occur in a fair percentage of instances. It occurred in four of my eight cases. If this method fails, operation is indicated. I have done only the extraperitoneal operation. It does not appear that the intraperitoneal or combined method offers any advantage which would justify the possibility of peritoneal infection by urine leaking from a suppurating tract. An incision starting midway between the highest point of the crest of the ilium and the eleventh rib, and running to the anterior superior spine of the ilium, thence parallel with and internal to Poupart's ligament for its outer three-fourths, has in my series given sufficient opening to explore the ureter from the kidney above to the bladder below. In those instances in which the stone is incarcerated in the intravesical segment, the incision may be carried down to the spine of the pubes, thus giving all the room desired. The ureter is cut through its long axis and the stone removed. Catgut sutures approximate the wound, and a tube is inserted to the site. In my series there was leakage in but one case for five days, the remainder giving none at the end of two days.

The Early Diagnosis and Treatment of Renal Tuberculosis

DR. J. M. MASON, Birmingham, Ala.: Renal tuberculosis is, in the beginning, a unilateral infection and may remain so for a long time. For successful treatment the patient should reach the surgeon while the disease is still confined to one kidney. The early symptoms are rarely referred to the kidney, but in a large percentage of cases are vesical and may remain so for many months. Repeated examinations should be made for the detection of tubercle bacilli in the urine, and often the inoculation of guinea-pigs should be resorted to. The cystoscope and ureteral catheters must be made use of to ascertain the condition of the bladder and to determine which kidney is the seat of disease, also for the purpose of ascertaining the organic and functional condition of the second kidney. The treatment consists of prompt nephrectomy followed by the best hygienic, climatic and dietetic management.

Time and Technic for Cesarean Section

DR. LEWIS S. MCMURTRY, Louisville, Ky., read a paper on this subject which will appear in THE JOURNAL.

Intussusception in the Adult

DR. STEPHEN H. WATTS, Charlottsville, Va.: I have had two cases of intussusception in the adult, one of which was due to multiple adenomata of the intestine, and the other to a sarcoma of the cecum. In the first case it was found necessary at several operations to perform two resections of the intestine with lateral anastomosis, two other lateral anastomoses, and seven enterotomies for removal of the growths. The patient was perfectly well when seen about a year after the last operation. In the second case, after reducing the intussusception, the sarcoma was removed with an elliptical portion of the wall of the cecum, and the patient made a good recovery.

Complications Due to Operative Procedures

DR. L. E. BURCH, Nashville, Tenn.: Many of the accidents following operations are preventable. No operation should be advised, however trivial in character, unless there is positive pathology to indicate its performance. No operation should be carried out, either under local or general anesthesia until a careful history of the case is obtained, including a thorough physical examination, with urinary and blood findings. Better results would be obtained and fewer accidents would happen if patients are given preliminary treatment before operation. Surgeons should never state to patients that any operation is free from danger.

Formation of a New Vagina

DR. ALEXANDER HUGH FERGUSON, Chicago: I do not claim to produce a normal vagina, still in two of my three cases a vagina has been formed. The technic of the operation varied slightly in each case, but the underlying principles were the same, namely, first, to utilize the available mucous membrane: second, to form three flaps; third, to tunnel through behind

the bladder and in front of the rectum, dissecting the peritoneum from both structures without opening the peritoneal cavity; fourth, to invert the flaps into the tunnel thus formed and suture them in place with catgut. The lateral flaps include the mucosa of the labia minora on either side, exercising care not to interfere with the mucous membrane in connection with the clitoris and meatus urinarius. The flaps are cut as thick as possible in order not to interfere with nutrition. The fact that the flaps are not sutured together renders the cavity dilatable. Horsehair is used to close over the denuded areas. A roll of gauze about seven inches long is anointed with sterile petrolatum and zinc oxid and inserted into the plastic vaginal canal. The external end spreads like a flange and is held in place by a firm pad. It must not fit too tightly. The initial dressing must not be withdrawn for six or eight days. The parts must be kept as aseptic as possible. The internal stitches are catgut and may be left to become absorbed. The horsehair should be left in place for two weeks. Absolute cleanliness without antiseptics is of primary importance. The patient must remain under observation for at least three months.

The Treatment of Anteflexion

DR. HENRY T. BYFORD, Chicago, read this paper, which will appear in THE JOURNAL.

Complete Transverse Destruction of the Spinal Cord

DR. RANDOLPH WINSLOW, Baltimore: In this case there was complete transverse destruction of the spinal cord from pistol wound, without penetration of the spinal canal. In two cases of pistol wound of the dorsal vertebræ the cord was not injured by direct impact of the bullet, but in both paralysis and the usual signs of a transverse destruction of the cord immediately supervened, proving fatal in one case, which came to autopsy and the bullet was found lodged in the second dorsal vertebra, but not penetrating into the spinal canal or impinging on the cord. The other case presented similar symptoms and was submitted to laminectomy, but the cord was not divided nor could the missile be found. The patient is still living, but is in a very precarious condition, with absolute paralysis below the eighth dorsal vertebra. These cases were probably due to concussion of the cord. Serious and even fatal lesions of the spinal cord may be produced by concussion, without direct impact. In gunshot injuries with a probability of a complete severance of the cord, laminectomy should be performed, foreign bodies and clots removed, bleeding arrested, and if the cord has been divided, the separated ends should be approximated with sutures. Care should be exercised not to destroy any nerve fibers or tracts which may still be intact.

Unusually Large Ovarian Cyst

DR. J. SHELTON HORSLEY, Richmond, Va.: The cyst in this case weighed 116½ pounds. It was successfully removed. The greatest abdominal circumference was sixty-three inches. Operation in these cases of large ovarian cysts usually has a high mortality rate on account of the pressure which causes organic changes and makes the patients poor surgical risks.

DISCUSSION

DR. THOMAS S. CULLEN, Baltimore: Four and a half years ago I saw a patient who weighed 174 pounds. She was supposed to have an ovarian cyst, but it turned out to be a fibroid tumor. We operated, removed an 89-pound fibroid, and the patient immediately after operation weighed 85 pounds. After a week in the hospital, when edema began, she weighed 80½ pounds, and although she developed bed sores she promptly recovered.

DR. ALEXANDER HUGH FERGUSON, Chicago: I was once called to see a woman with a large ovarian cyst. She had carcinoma of the left breast and gall-stones. She was in a bad condition. I introduced a small trocar and cannula which went into a cyst that was quite watery. The trocar was left in place for twenty-four hours. The next day she could eat, a thing she had not been able to do for two weeks, and she could swallow. Her heart, which was bad, improved. I passed a larger trocar in another direction through the same opening, and allowed it to remain for another twenty-four hours, and then she was brought to Chicago. Three days later I operated and at one sitting removed the cyst, the left breast, and 1,250 gall-stones from the gall-bladder. She recovered.

A Malignant Intestinal Growth Requiring the Removal of an Unusual Number of Abdominal Structures

DR. THOMAS S. CULLEN, Baltimore: The patient was 56 years of age, very pale and emaciated. Pelvic examination revealed a growth on the posterior surface of the uterus. This almost filled the pelvis and felt very much like a myoma. The patient, however, gave a history of flattened stools occasionally associated with diarrhea and a malignant intestinal growth was suspected. On opening the abdomen I found a growth involving the lower portion of the descending colon, also a loop of small bowel, and extending out and forming a tumor mass in the mesentery of the small bowel. Intimately blended with this tumor mass was the uterus. The appendix was also involved. As no secondary nodules could be found either in the mesentery, in the lymph glands, or in the liver, removal was undertaken. The uterus was amputated through the cervix and with the tubes and ovaries turned up on the surface of the tumor. The appendix was next amputated, carefully covered over with gauze and also turned up on the tumor. About three feet of small bowel and almost a foot of large bowel were then clamped off and the mesentery of the small bowel containing the tumor was gradually tied off. All the structures mentioned were removed in one piece, as it would have been absolutely impossible to separate the uterus without entering the cancerous mass and opening up the bowel. It was possible to remove the entire mass without soiling the peritoneum. The four ends of the bowel were closed. A lateral anastomosis was then made between the small bowel and the cecum, and as the descending colon had been redundant it was possible to do a lateral anastomosis between the descending colon and the sigmoid. A drain was laid in the pelvis. The patient made a very satisfactory recovery and is at present in good health. The ultimate outlook is not a favorable one.

Goiter Operations

DR. JOHN R. WATHEN, Louisville, Ky., described an improved technic in goiter operations, an abstract of which appeared in THE JOURNAL, Jan. 29, 1910, p. 409.

Collapse of the Trachea While Performing Thyroidectomy

DR. T. C. WITHERSPOON, Butte, Mont.: Twice during the last fourteen months has the trachea collapsed while I was performing a thyroidectomy for exophthalmic goiter. Predisposing causes of collapse of the trachea are the anatomic defect in the rings posteriorly, and the proximity of the recurrent laryngeal nerve to the thyroid gland. The one prophylactic measure which I suggest as a means of avoiding pressing on the trachea is a para-sternocleido-mastoid incision. This enables the operator to raise the gland out of its bed without medianward pressure of appreciable degree. While working out the problem of removal of the thyroid under local anesthesia, I found it very much easier to do so by the paramuscular than by the collar incision. Manipulation was easier and discomfort minimized.

Catheterization of the Common Duct for Enteroclysis in Toxic Biliary Cases

DR. RUDOLPH MATAS, New Orleans: I am convinced that this constitutes one of the most valuable therapeutic assets in dealing with the dangerous postoperative complications of biliary cases. I have had occasion to try it in a case of choledochus drainage after cholecystectomy for gangrenous and perforated gall-bladder. Notwithstanding the excellent effect of the duodenal infusion on the circulation, the patient succumbed on the fifth day from the effects of general peritoneal

sepsis and exhaustion due to secondary pulmonary infarcts. I have also applied it in three other cases of persistent biliary fistula after cholecystotomy for multiple calculi and cholecystitis. In these cases there resulted a rapid cure of the fistulæ after repeated catheterization of the biliary tract, including the duodenal orifice of the common duct. I have injected the fluid directly into the duodenum by introducing a catheter through the gall-bladder opening into the common duct and then into the duodenum. For this purpose, I have found nothing so effective as a ureteral catheter, beginning with a fine bougie and gradually dilating with the catheters until the number three of the French scale has been reached.

Treatment of Acute Intestinal Obstruction

DR. JOHN YOUNG BROWN, St. Louis: An analysis of the records of fifty-nine cases of acute intestinal (mechanical) obstruction, coming under my care, with the view of ascertaining the treatment received in each case prior to operation and the bearing this treatment had on the mortality has convinced me that the general profession has yet to appreciate that acute intestinal block is one of the gravest and most disastrous surgical emergencies, and that the outcome of a given case depends largely on the time elapsing between the development of the condition and its relief by surgical interference. Of the fifty-nine cases, twenty-seven required primary resections for gangrene of the bowel. All of these cases, except one, resulted from strangulation due to hernia, the exception being due to a gangrenous intussusception. Of these twenty-seven patients, five died, a mortality of about 20 per cent. In twelve cases the formation of an artificial anus was necessary. Three of these were for strangulated umbilical hernia, four for strangulated inguinal hernia, and five for acute obstructions due to malignancy. Of these twelve patients, six died, a mortality of 50 per cent. Twenty cases of strangulated inguinal hernia in which the contents of the sac were such that they could be returned to the abdomen resulted in the loss of one case, a mortality of 5 per cent. The total mortality in the fifty-nine cases was a little over 20 per cent. The history of each case showed that temporizing methods were resorted to prior to operation, the cases being referred for operation as a last resort. In the treatment of gangrenous bowel found in the sac of a femoral hernia, I strongly advocate the use of a supplementary abdominal incision as possessing many advantages when it becomes necessary to resect the intestine. In the postoperative treatment, I advocate frequent washing of the stomach, the withholding of food by the mouth, and the use of salt solution both under the skin and in the rectum, and I condemn the use of morphin and strychnin. In cases in which an artificial anus has been made, I urge the importance of attention to the passive bowel. Failure to attend to this point in the after-treatment can result in a contracture of the small bowel to such an extent that it will complicate the work of restoring the intestinal continuity.

The Causal Relationship Between Injury and Cancer

DR. WILLIAM B. COLEY, New York: In 236 (26 per cent.) of 910 cases of sarcoma seen by me there was a definite history of antecedent trauma. The interval elapsing between the injury and the development of the cancer was less than two weeks in sixty-three cases (27 per cent.); less than a month in ninety-seven cases (42 per cent.); tumor occurred within the first six months in 137 cases (60 per cent.). The disease originated in the bone in 111 cases (47 per cent.) and in the soft parts in 125 (53 per cent.). In 125 cases of carcinoma of the breast there was a definite history of previous injury in fifty-two cases (41 per cent.). In five of these the tumor was noted within a week after the injury; in twelve within the first few weeks; in nineteen within the first month, and in thirty-six within the first six months. Three cases fulfill the strict, scientific test which Segone requires, namely, that a medical examination has been made of the parts by a competent surgeon prior to the accident. I believe more strongly with increasing experience that all types of malignant tumors are of extrinsic origin or parasitic.

Volvulus of the Cecum

DR. HORACE J. WHITACRE, Cincinnati: I have seen four cases of volvulus of the cecum. In one case a very movable cecum and ascending colon had passed over in front, completely around and behind the mesentery of the small intestine, and reappeared in the right side. This patient had suffered three previous similar attacks of obstruction of the bowel which had been relieved by enemata and position. This patient recovered after operation. Cases two and three represented volvulus of the cecum and ascending colon alone, gangrene having occurred in both. One of these patients recovered. A fourth patient suffered from volvulus of the cecum and ascending colon, was operated on in a very few hours, and made a prompt recovery. Volvulus of the cecum is among the least frequent causes of intestinal obstruction. It has occurred at all ages from 16 days to 80 years. The symptoms, as a rule, do not differ widely from those of intestinal obstruction from other internal cause. The mortality is very high even in the cases operated on (52.2 per cent.). The mortality in my group of cases was 25 per cent.

Pylorospasm

DR. STUART MCGUIRE, Richmond, Va.: Spasm of the pylorus is not a disease but a symptom. It may be caused by rapid eating, by indigestible food, by an ulcer or other lesion of the stomach, but is most frequently the expression of some remote abdominal disease. How appendicitis or cholecystitis causes gastric symptoms has never been satisfactorily explained. It is believed that irritation transmitted to the stomach through the sympathetic nervous system causes an excess secretion of hydrochloric acid. The resulting hyperchlorhydria causes spasm of the pylorus; the pylorospasm causes retention of food beyond the physiologic limit, and finally there comes motor insufficiency, food stagnation and dilatation of the stomach. The most prominent symptom of pylorospasm is a cramping pain in the epigastrium, which may last only a few minutes or may continue for several hours. In some cases the spasm may relax suddenly; in others it may terminate slowly and gradually. Some patients have attacks several times a day; others at intervals of weeks; and others still only once or twice a year. In the interval between attacks the digestion may be normal. During attacks peristalsis of the stomach is increased, but food cannot pass through the pylorus, and often relief comes only after vomiting. The patient usually diets strictly, and loses flesh and strength steadily from starvation and auto-intoxication. In no other case of patients, with possibly the exception of epileptics, is it necessary to be so thorough in preliminary examination and so patient in postoperative treatment. The real cause of the condition must be found, and after it has been removed the patient must be systematically treated until the hypersensitiveness of the pyloric muscle is relieved, and its spasm habit overcome.

Tumors of the Jaw

DR. WILLIS F. WESTMORELAND, Atlanta, Ga.: So far as my clinical experience goes this type of tumor has practically disappeared. I have not seen one in years. It seems to have occurred almost exclusively in the negro. In thirty-eight cases operated on by my father, only one was white. In the five cases coming under my observation, all were in the negro. Among us these cases were known as fibro-cystic tumor; this title very closely describes the gross clinical appearance of the tumor. It seems to conform more closely to the species of follicular odontoma of the genus odontomata in Bland Sutton's classification. I would class it as an anomalous form of this species. I should judge they belong to the follicular rather than the epithelial odontoma, although they have never shown malignancy, while the epithelial type occasionally does. Clinically the tumors present a uniformly well-rounded mass, the surface of which feels hard and dense to the touch. Firm pressure on the tumor with the fingers will always at some point elicit a distinct crackle; this is characteristic and is in a way diagnostic, though not differentially so as it occurs in other species of odontomata.

Transfusion in Pellagra

DR. H. P. COLE, Mobile, Ala., presented a review of twenty cases of this disease. His article will appear in THE JOURNAL.

Other Papers Read

The following papers were also read: "Hydatid Cyst of the Liver, Successfully Treated by Operation," Dr. John C. Oliver, Cincinnati; "Diagnosis of Extrauterine Pregnancy," Dr. E. Gustav Zinke, Cincinnati; "Position for Saving Time in Combined Abdominal and Pelvic Outlet Operations," A. C. Scott, Temple, Tex.; "Omentopexy," Dr. Maurice H. Richardson, Boston; "Tumors of the Breast," Dr. Wm. C. McCarty, Rochester, Minn.; "Aneurysm," Dr. J. G. Sherrill, Louisville; "Hypernephroma Arising in the Right Testicle," Dr. James E. Thompson, Galveston, Tex.; "Degeneracy, the Underlying Cause of Disease; How the Unfit Perish," Dr. Chas. P. Noble, Philadelphia; "Cysts of the Pancreas," Dr. R. B. Hall, Cincinnati.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Nov. 23, 1910

The President, DR. HENRY LEFFMAN, in the Chair

The Pathologic Chemistry of Diabetes Mellitus

DR. A. G. ELLIS: The hyperglycemia and glycosuria of diabetes mellitus are due either to overproduction of glucose by the liver or to an underconsumption of that substance by the tissues, the former possibly the chief of the two. This perversion of metabolism appears due either to the failure of substance produced normally by the pancreas, muscles, and possibly other tissues, or to an affection of the central nervous system. The acidosis of diabetes is due to the abnormal metabolism of fats and possibly proteins as carried on in the absence of sufficient carbohydrates. Determination of acetonuria appears to be the most satisfactory clinical method of estimating the degree of acidosis.

The Functions of the Stomach in Diabetes Mellitus

This article by Dr. John J. Gilbride will appear in THE JOURNAL.

The Cold Cautery; Carbon-Dioxid Snow

DR. L. D. FRESCOLN: In making profound impressions of cold, we have a rapid method in the use of carbon-dioxid snow, what I call the "cold cautery." With varying degrees of exposure and under regulated amounts of pressure it causes hardening, bleaching, vesication (like extreme frost-bite) and finally crusting and at times a pliable scar. It is used successfully in treating moles, nevi, warts, senile keratosis, lupus erythematosus, lupus vulgaris, trachoma and some forms of epithelioma of the skin. It is to be applied from 10 to 40 seconds, often with considerable pressure. It is well for the operator to protect his own fingers during the application. We should not treat a large area at one sitting, particularly on the cellular tissue about the eye. The temperature of the solid stick is 79 C. and this may be reduced by dipping in ether. Cases of keratosis senilis, thought by the patients to be malignant and lasting many years, have disappeared completely in from one to three treatments, and this sometimes, when the Roentgen rays have made little improvement. The proper cases should be chosen for this particular treatment. It should be tried in the future on keloids. Its advantages are: It is cheap; easy to control; prompt in action. Portable tubes are used for office practice. A summary of its action may be quoted as (1) stimulating; (2) destructive; (3) immediate destruction. Further study is needed on this form of treatment to reach its possibilities.

DISCUSSION

DR. HENRY KENNEDY GASKILL: We have had experience with the "cold cautery" in fifty or sixty patients in the past three years at the Jefferson Hospital with most gratifying results. Included in this series were cases of lupus erythematosis, pigmented moles, capillary nevi, small epitheliomas and tattoo marks. In many cases of nevi, the electric needle was supplemented, for small areas left between applications are difficult to treat otherwise. When the trouble is deep-seated the exposures must be from one minute to one minute and twenty seconds, and we have found that if given in applications of twenty seconds and in two days afterward another application of thirty seconds the resulting scar will be less, though the pain is more. In small pigmented moles the electric needle is still preferable, as often the pigments will be disseminated in a ring around the area. Dr. Stelwagon has adopted a little apparatus consisting of a small metal tube filled with carbon dioxid and a rubber tube with stop cock, originally intended to be sold for the inflation of automobile tires. This tube is about 12 inches long, having a copper cap, which has to be punctured to allow the escape of gas which is collected in a piece of kid firmly bound down with adhesive strips. The snow can readily be molded by hand and with a knife cut in any desired size or can be pressed into an ear speculum. It is wise to measure the area to be treated in order that the surrounding skin may not be involved while the snow is melting under pressure. The larger tubes that are used in drug stores are unsightly as well as awkward to handle and there is some risk of their exploding. This little tube is neat, readily handled and can be carried to the patient's house if desired.

DR. M. B. HARTZELL: I have used the cold cautery and have found it most convenient in appropriate cases, but it is far from being a cure-all. It is a caustic and can accomplish only that which any other caustic can effect. It acts rather superficially, which limits its usefulness and accounts for the slight scarring which follows its use. Its greatest use is in vascular nevi. I do not believe it to be effective in lupus vulgaris; it does not go deep enough. The small tubes have a certain degree of convenience but they are certainly not cheap. A most convenient way of preparing the gas for use is by making a cylinder of thick blotting paper around a stick, and around this wrapping a towel. After molding the carbon-dioxid in the cylinder it can be withdrawn, when you will have a stick of the cold cautery ready for use. I have not used the cautery in lupus erythematosus sufficiently long to be sure of permanent results. I must take exception to the statement that the temperature of the carbon dioxid is materially reduced by dipping in ether.

DR. FRANK C. KNOWLES: I have employed the carbon-dioxid snow in quite a number of cases and have had the best results in angiomata. The port-wine stains apparently do not respond as well as other discolorations, as do not the very deep-seated angiomata. In cases of lupus erythematosus improvement but not cure has been obtained by this treatment. In the molding of the snow I employ wooden pill-boxes, using the size approximating the area to be treated. When the lesions are small I shape the snow in various-sized ear specula. These simple devices answer admirably, instead of the very expensive and unnecessary appliances so widely advertised.

Treatment of Suppurative Otitis Media (Scarlatinal) by Bacterins

DR. JOHN A. KOLMER and DR. P. G. WESTON read a paper on this subject which will appear in THE JOURNAL.

DISCUSSION

DR. B. ALEXANDER RANDALL: The results reported in this paper represent about half of all the work done on this subject, the aggregate of cases treated elsewhere having been hardly more than the hundred cases reported to-night. I am a believer in the matter, but everything of the sort must be dealt with cautiously. The natural history of the disease must be distinctly taken in mind to estimate rightly the value of any treatment. The success of the treatment, together with the fact that other treatment was withdrawn, gives a strong support to the claims made for it. On the other hand, I cannot refrain from feeling that more can be done in the simple measure of irrigation than has been intimated. If the amount of personal attention requisite in the culturing, etc., were given to the older-fashioned style of treatment we

would have a considerable amount of good results. If a child with scarlet fever or other exanthemata is well protected as to the ears with a nightcap much can be done to forestall trouble. If the case is treated early I think we can bring it to a successful issue in children in fair condition of health, in something like three weeks; I have done it in eighteen days.

DR. B. A. THOMAS: Incidentally I would like to criticize the employment of the term "vaccine." I think it is proper that we should use as nearly as possible scientific terms. The therapeutic agent referred to is merely a suspension of dead bacteria in physiologic salt solution, to which has been added a minute quantity of phenol for preservative purposes; hence "bacterin" is the term which scientifically and properly expresses the nature of the preparation. "Vaccine," the term unfortunately employed by Wright, has by common usage become almost universally popularized, but strictly is a misnomer and should be restricted to the virus used in vaccinia, derived from the cow in accordance with the original suggestions of Jenner. Otitis media can be divided into the acute suppurative, and chronic suppurative varieties for bacterin treatment. The treatment has a definite accessory effect in conjunction with other forms of treatment. Local measures should never be omitted. I feel that bacterin therapy in otitis media has a more restricted field as a therapeutic measure than in the vast majority of affections in which it is commonly used. This is largely due to the fact that the middle ear is encased in a bony cage.

DR. JOHN A. KOLMER: Local treatment in conjunction with the bacterin treatment is advisable if it can be carried out by the physician himself. The average nurse is not able to syringe the ear satisfactorily. We are always careful to see that drainage is free and feel that anything more is unnecessary. The ear is cleansed several times a day and care observed that there is no thickening of the pus leading to retention.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

NEWSPAPER COMMENTS ON A NATIONAL DEPARTMENT OF HEALTH

The proposal to establish a national department of health continues to gain favor among newspaper editors, in spite of the desperate efforts and unlimited expenditures of those having selfish reasons for endeavoring to prevent it. Evidence is not lacking that the prodigal expenditure of money and the unlimited amount of printed matter used in attempting to arouse prejudice against a proposed agency for promoting better health conditions have already caused a reaction, and that the press, as well as the people, is asking what the motives are of those who are ready to devote large amounts of time and money to prevent such legislation. American newspaper men are throroughly familiar with all the devices of the publicity promoter. They know that only those buy newspaper space and printer's ink who expect to get a return for their money. They naturally assume that the funds for the support of such an expensive campaign come from those who fear they would lose their ill-gotten gains if a department of health, backed by the federal government, should do for the whole people what the Department of Agriculture has done for the farmer. The Natchez *Daily News* in a recent editorial comment says, in part:

NO DEPARTMENT OF HEALTH

" . . . Thoughtful citizens throughout the country will regret the inaction in a matter of transcendent importance to the people. The opposition to the measure comes from many quarters and for many reasons. Certain alleged schools of medicine are opposed to it for specious reasons, though the real reason is that if we had a department of health, what is known as the 'regular' school of medicine might be represented more strongly than all others. Since one school represents over 90 per cent of all physicians, there would not be anything unreasonable to have them more numerously represented in the contemplated department of health.

"In other quarters the opposition is based on the ground that a national department of health would in some mysterious manner interfere with the rights of the states in home affairs. This ground is poor at best, and insincere in most cases; . . . The opposition of many well-intentioned men to the establishment of the Department of Agriculture a quarter of a century ago was based on the alleged violation of states' rights; however, states' rights or no rights, the Department of Agriculture is doing a very useful work, and its agency for good is no longer a matter of dispute. The most fanatical states' rights men do not hesitate to work tooth and nail for the improvement of rivers in their districts, and for the increase of the powers of the Interstate Commerce Commission, the states regulation not being sufficient.

"The real opposition is chiefly due to the wilful ignoring of the fact that human health and life should be the first care of the state and of the legislator. The most freely moving object between states is man, and yet less is done to control human disease and to gather statistics concerning his birth, life and death than is done for cattle. We resort to the federal government to eradicate the tick in cattle or cholera in hogs, yet, according to some Democrats, states' rights are in the way when it comes to the establishment of a Department of Health. No doubt, such a department will be established some day, . . . when the general interest in the welfare of our children will at least equal that in the thriving of our pigs. Some day when the real concerns of the people will receive as much attention as politics, we may have a department of health."

The argument of the *News* effectually disposes of the states'-rights objector. Coming from a southern newspaper of influence, this statement is significant, yet it is no more than is to be expected. The southern states have learned the value of federal aid in the suppression of epidemics and the preservation of life. The advocates of states' rights in public health matters will not come from the south.

Equally significant is a recent editorial comment of the Boston *Advertiser*, which considers the question from an economic and social standpoint; and particularly worthy of note is the emphasis laid on the necessity of public opinion in the protection of public health. The *Advertiser* says, in part:

"The agitation for a national department of public health, at Washington, is based on some sound and able arguments, including that of economy in public service. There has been plenty of misdirected effort in the confusion which arises from the existence of so many branches of sanitary service, under the direction of different departments or bureaus of the government service. It would be possible to secure greater efficiency with striking economy, as compared with existing conditions, if the work were all placed under the control of a single department or bureau. . . . .

"But the fact remains that the real, vital force that must protect the public health, if it is ever to be protected, will be found in the force of public opinion. If the people will but insist on legislation which will safeguard their interests and their lives, it will be possible for the national and the state departments of health to do what should be done; but that time has not yet come. Perhaps it will never come within the lifetime of this generation. Something may be done, here or there, for the suppression of epidemics, for the elimination of the most evident and most striking dangers to public health; but until the people make it their business to vote at the polls for their own protection against the greed or the indifference which annually sacrifices the lives of tens of thousands, there will be no hope for any adequate protection of the people against the results of insanitary methods in workshops, farms, cities, and country, generally."

The Chicago *Tribune* recently discussed the question editorially from the humanitarian standpoint, laying special emphasis on the unnecessary and avoidable loss of life under existing conditions. Under the heading "American Waste of Life," the *Tribune* says:

"When the federal government appropriated large sums to relieve such distress as was occasioned by the San Francisco or the Messina disaster, every one approved the action with a warm glow at the heart. Such aid is in every way com-

mendable, but it is aid after the fact. . . . Every day of the year there die by preventable diseases or accident a number equal to the full crews of two battleships. For the loss of one such crew we went to war with Spain. Every three months as many lives are sacrificed to those causes as there are men in the United States army. All the dead in every war we have had since 1776 only equal the yearly toll made by disease and accident in this country.

"Last year the entire population of Indianapolis died of degenerative diseases. Tuberculosis swept away every man, woman and child in Paterson, N. J. Pneumonia carried off all of the inhabitants of Wilmington, Del., and every one in Yonkers was killed by an accident. If these things really happened the whole world would be shocked and our government would stop all other legislation to enact laws looking to the prevention of such catastrophes in the future. But because these diseases carry off their victims not all in one place but in many places over the country we do nothing about it.

"President Taft has had this matter much at heart. He favors the proposed department of health and he is quoted as saying: 'There is nothing in the constitution especially about hogs, or cattle, or horses, and if out of the public treasury at Washington we can establish a department for that purpose it does not seem a long step or a stretch of logic to say that we have the power to spend the money in a bureau of research to tell how we can develop good men and good women.' Fear has been expressed that the establishment of a national health department will curtail individual liberty, but the Department of Agriculture has helped, not hurt, the farmer, and that of Commerce and Labor has immeasurably benefited the workingman and the merchant. . . .

"We are prodigal of life in a measure which amounts to impiety. The waste must be stopped, not by leaving it to the doctors but by the establishment of research bureaus, the popular education of the people in sanitary matters, and by the enforcement, when necessary, of laws designed for protection of the public against disease and accidents."

Of the three methods by which the *Tribune* proposes to stop the waste of life, probably all will admit that the second—"the popular education of the people in sanitary matters"—is the most important. So long as the people know no better, they will continue to be duped and misled by the quacks, fakers and swindlers who have preyed on them for years. It is the duty of those who know the facts to place them before the people. As soon as this is done, it will require more than one "national league" to prevent the government from protecting the lives and health of our citizens.

Especially interesting are the editorial comments of the Chicago *Tribune* in a later issue regarding the recommendations on the creation of a bureau of health contained in the President's message to Congress. The *Tribune* says:

"Another well-considered recommendation is that on behalf of the unjustly attacked bureau of health, already recommended in a previous message. The objections raised were partly disingenuous and partly mistaken, and should not be permitted further to postpone the creation of this useful bureau. One of the great public services which it is to be expected will be performed by such an institution is to give effective aid to the proper authorities for the suppression of the criminal traffic in nostrums and dangerous drugs."

In the last sentence of the extract quoted above is to be found the explanation for the opposition to the organization of an efficient federal health department. Those who have fattened for years on public ignorance and carelessness would have the people believe that the medical profession of the United States is composed of political plotters and schemers, endeavoring to advance their own interests at the expense of the public. To avoid the charge of wholesale slander on a profession, they assert that the majority of physicians are unselfish but that they are dominated by a few "political doctors." Truly, the American Medical Association is blessed in the enemies which it has made. No better evidence of the unselfishness of its aims could be asked than the methods and the arguments by which its work is being opposed. Those who favor and are working for a national department of public health should feel under deep obligations to the "National League of Medical Freedom," since this organization is truly educating the public with an effectiveness that leaves little to to be desired.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Second Weekly Meeting

PREPARATION OF PATIENT FOR ANESTHETIC

Time of anesthetic. Diet. Clothing. Foreign bodies in mouth. Gavage. Operating room. Position of patient for anesthetic.

CHOICE OF AN ANESTHETIC

IN HEALTHY SUBJECTS: For brief operations, for prolonged anesthesia. Age, sex, pregnancy.

IN DISEASE: Alcoholism, diseases of the respiratory tract, diseases of heart and blood-vessels, renal disease, shock from trauma, collapse from hemorrhage, ruptured viscera, etc.

IN OPERATIVE SURGERY: Operations about head, neck, face, nose, eyes, trachea, thyroid, thorax. In abdominal surgery. In labor.

INDICATIONS AND CONTRAINDICATIONS FOR ETHER AND CHLOROFORM.

ANESTHESIA BY SEQUENCE: Advantages and disadvantages.

SCOPOLAMIN-MORPHIN ANESTHESIA: Status, dangers.

ACCIDENTS DURING ANESTHESIA

SUFFOCATION: Causes and treatment.

RESPIRATORY PARALYSIS: Incidence, causes.

CARDIAC PARALYSIS: Causes, incidence.

TREATMENT: Of cardiac and respiratory failure; artificial respiration, cardiac massage, rhythmic traction of tongue, epinephrin, faradism, amyl nitrite.

SEQUELÆ OF ANESTHESIA: Vomiting. Shock. Post-anesthetic and central anesthetic palsies. Lung complications. Renal complications. Delayed chloroform poisoning.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Annual Meeting of National Confederation of State Boards

The National Confederation of State Medical Examining and Licensing Boards has announced that its twenty-first annual meeting will be held at the Congress Hotel, Chicago, Tuesday, Feb. 28, 1911, on the day preceding the conference of the Council on Medical Education. The program will include a symposium on "State Control of Medical Colleges," which subject will be considered from the view points of the state, the law, the college, the licensing board and the medical profession.

Joint Conference on Medical Education and Medical Legislation

The American Medical Association's second joint conference on medical education and medical legislation will be held at the Congress Hotel (formerly Auditorium Annex), Chicago, Wednesday, Thursday and Friday, March 1, 2 and 3, 1911, the first session to begin at 9 o'clock Wednesday morning.

Wednesday, March 1, will be taken up by the seventh annual conference of the Council on Medical Education of the American Medical Association, the program for which will include addresses and reports on preliminary education, the five-year medical course, laboratory facilities and instruction, hospital facilities and instruction, the hospital year, the license examination and reciprocity. For Wednesday evening, an address from some well-known speaker has been planned.

Thursday, March 2, will be devoted to a joint conference on medical practice legislation of the Council on Medical Education and the Council on Health and Public Instruction. The program will include discussions of medical practice laws from the standpoint of the legislator, lawyer, judge and sociologist; also, a discussion of the enforcement of medical practice acts.

Friday, March 3, will be devoted to a conference on legislative matters, including vital statistics, pure foods and drugs, expert testimony, etc.

Reservation of rooms can be made in advance at any of the hotels in the city. The Congress, Auditorium, Stratford and Blackstone hotels are conveniently located on Michigan Avenue within easy reach of the meeting-place.

Tennessee May Report

Dr. C. A. Abernathy, secretary of the State Board of Medical Examiners of Tennessee, reports the written examinations held at Nashville, Knoxville and Memphis, May 3-4, 1910. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 367, of whom 315 passed, including 142 non-graduates, and 52 failed, including 25 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1908)	90.6
Indiana Medical College	(1906)	78.7
University of Louisville (1909) 76.2, 84.2; (1910) 79.4, 80, 83.1, 83.9, 84.7, 87.2, 91.2, 91.6.		
Tulane University of Louisiana	(1903) 88.9; (1909)	90
Univ. of Michigan, College of Med.	(1907) 90.5; (1908)	94.9
Baltimore Medical College	(1907)	90.2
University of Maryland	(1909)	80.9
Tufts College Medical School	(1897)	92.7
Mississippi Medical College	(1908) 85.6; (1910) 76.4,	84.1
Missouri Medical College	(1885)	84.2
Leonard Medical School	(1909)	82.5
College of Physicians and Surgeons, Memphis (1907) 75.2; (1910) 78, 80.2, 88.7, 88.9, 90.		
Memphis Hospital Medical College (1899) 83.2; (1901) 80.5; (1908) 82.4; (1909) 78.1; (1910) 75, 76.6, 77.5, 77.7, 79.6, 80.2, 80.7, 80.7, 82.4, 82.6, 82.6, 82.9, 82.9, 83.2, 83.4, 83.4, 84.1, 84.1, 84.7, 84.7, 85.7, 86.2, 86.9, 87.5, 88.2, 88.7, 89, 91.5, 92.2, 92.5, 94.9.		
University of Nashville (1902) 80.7; (1907) 93; (1908) 91.4; (1909) 90.4; (1910) 82.5, 83.7, 84, 84, 84.1, 84.2, 85.9, 86.2, 86.2, 86.9, 87.5, 89.2, 89.5, 89.7, 89.7, 90, 90.9, 91.4, 91.7, 92.9, 94.1, 94.1.		
University of Tennessee (1907) 83.5; (1908) 77.7; (1909 79.2; (1910) 85.9.		
Meharry Medical College (1905) 87.2; (1906) 77.6; (1909) 79.7, 79.7, 83.4; (1910) 75.5, 78.1, 78.4, 78.5, 80.4, 82.9, 84.2, 84.9, 86.2, 87.4, 87.9, 88.1, 88.7.		
Vanderbilt University (1901) 91; (1909) 89, 93; (1910) 83, 87.9, 88.4, 90.1, 90.2, 93.6, 95.1, 95.4.		
University of the South (1905) 82.2, 92; (1909) 79.5, 81.1, 81.7, 84.7.		
Tennessee Medical College (1904) 79.1, 80.7; (1908) 77.1; (1910) 79, 83, 85.1, 85.5, 85.6, 86.7, 87, 87.7, 88, 88.2, 88.2, 89.1, 90.1, 90.7, 90.7, 91.5, 93.1, 93.5.		
Chattanooga Medical College (1908) 82.4, 92.7; (1909) 84.6, 91; (1910) 77.1, 81, 81.7, 83.5, 83.6, 85.2, 85.6, 85.4, 87.1, 87.2, 89.9.		
University of West Tennessee	(1909) 76.2; (1910)	76.5
Knoxville Medical College	(1910)	89.6
University of Pennsylvania	(1907)	90.7
University of Virginia	(1892) 85; (1905) 90.2; (1908)	93.4

FAILED

University of Louisville	(1910)	69.9
Mississippi Medical College	(1908)	68.1
Meharry Medical College (1909) 74.5; (1910) 60.6, 62.6, 67.2, 67.4, 70, 71.6		
Chattanooga Medical College (1905) 70.2; (1910) 72.6, 74.4; (1907) 61.7; (1908) 71.5.		
University of Nashville	(1908) 70.9; (1910) 59.4, 68.2,	73.6
Tennessee Medical College	(1906)	68.9
College of Physicians and Surgeons, Memphis	(1910) 65.7,	69.2
University of the South	(1909)	73.6
Memphis Hospital Medical College	(1910) 25,	72.2
University of West Tennessee	(1910)	67.6
University of Tennessee	(1893)	64.5
Gate City Medical College	(1905)	71

ANATOMY

1. What organs are found in abdominal cavity? 2. Describe the abdominal cavity. Muscles and bones that form the same. 3. Name the muscles of the gluteal region, origin and insertion of same. 4. Describe the femur and the bones with which it articulates. 5. What organs are found in the thoracic cavity? 6. Name the facial muscles. 7. Trace the femoral artery. Name the important branches given off by same. 8. Name ten cranial nerves.

PHYSIOLOGY

1. Name the principal chemical elements found in the human body. 2. Mention the enzymes found in the gastro-intestinal canal and the action of each. 3. What is the function of the iron of the red blood cells? 4. Name the three cardiac ganglia. 5. What causes the blood flow in the veins? 6. What are the functions of the suprarenal glands? 7. Mention the principal automatic and reflex centers found in the medulla. 8. What would be the effect of a lesion of the lower half of the pons Varolii 9. If the left occipital lobe of the brain were destroyed, what would be the effect on the sense of sight?

PATHOLOGY

1. Describe the pathology of the liver, lungs and blood in pernicious intermittent fever. 2. Give the pathology of the gastric intestinal tract in acute alcoholism. 3. Describe the pathologic changes in the blood in pyemia. 4. Describe the pathology of the blood in septicemia. 5. Describe the pathology of scurvy. 6. Describe the pathology of gonorrheal arthritis. 7. Describe the pathology of the joints when the seat of chronic inflammatory rheumatism. 8. Describe the morbid changes in the valves in mitral stenosis.

CHEMISTRY

1. Give the chemical formula for carbolic acid. How is it obtained and what are its properties and uses? 2. Give chemical formula for ethyl chlorid. How prepared and its uses? 3. Explain how water and its contained impurities may become purified by running in a shallow stream over a precipice. 4. Give chemical test for free hydrochloric acid in stomach contents. 5. What is the range of the specific gravity of normal urine? State what diseased conditions produce (a) an abnormally high specific gravity of the urine, (b) a low specific gravity of the urine? 6. When testing for glycosuria with Fehling's solution, how do you determine whether the reaction is that of sugar or some other reducing agent? 7. How do you detect the presence of bile in a specimen of urine? Name the principal bile pigments. 8. What is the urinometer? State its importance as an aid to diagnosis.

PRACTICE

1. Name the diseases which you expect to encounter in your practice in Tennessee. Name your methods of making diagnosis of diseases. 2. Name the specific causes of lobar pneumonia. What would auscultation and percussion reveal in the first stage of congestion of the lung? Give a treatment for lobar pneumonia. 3. What is endocarditis? Name the causes which produce it. Give treatment for it. 4. Name the specific cause of typhoid fever. How does it gain entrance to the body? Differentiate typhoid fever from remittent fever. Give a general treatment for typhoid fever. 5. What is cerebrospinal meningitis? Name its specific cause. Differentiate between epidemic cerebrospinal meningitis and tuberculous meningitis. Give the clinical features of each. 6. Describe the eruption of small-pox. Of chicken-pox and of measles. What is the period of incubation of each? 7. Give the differential diagnosis between tonsillar diphtheria and follicular tonsillitis. Name the treatment for diphtheria. 8. Name the chronic diseases of the liver. What are the symptoms of obstruction of the common bile duct? What are the symptoms and clinical manifestations of biliary calculi? Name a treatment for biliary calculi.

SURGERY

1. State the constitutional effects and give the treatment of burns. 2. What general principles govern the diagnosis of a tumor? 3. Describe a method of differentiating between (a) the urethra, (b) the bladder and (c) the kidneys as the source of pus in the urine. 4. State the most common seat of fracture of the clavicle and describe a method of treatment. 5. Describe the steps in the treatment of a scalp wound. 6. Make a differential diagnosis of coma from (*a*) injury, (*b*) apoplexy, (*c*) uremia, (*d*) opium poisoning and (*e*) alcoholic intoxication. 7. What are the symptoms and treatment of a sprained ankle? 8. What arteries need ligating in amputation at the middle third of the leg? Describe your method of ligating.

OBSTETRICS

1. State in detail your management of a normal labor from its inception to its close. 2. Give the differential diagnosis between a primiparous and multiparous woman. How would you calculate the date of confinement? 3. Mention the signs of pregnancy at three months and at six months, naming them in order of their importance. 4. What is your opinion of the Cesarean section? At what time and under what conditions would you advise it? 5. After the period of viability, how would you diagnose a dead fetus, and, if dead, what would you do, and how would you do it? 6. Given a case of placenta prævia approximating full term, what would you do? Give advantages and disadvantages of various procedures as regards safety of both mother and child. 7. Mention the uterine displacements that are liable to influence (*b*) conception, (*c*) pregnancy and (*d*) labor, and state the reasons for such influence. 8. Give a differential diagnosis between ovaritis and ovaralgia.

MATERIA MEDICA

1. What is magnesium sulphate? Give its use in the practice of medicine. 2. From what source is heroin, and what is the dose? 3. Give the source of atropin, and dose. 4. What is hydrastis? Give the dose, and describe the pathologic lesion for which you would use it. 5. What is the source of sulphocarbolate of zinc? 6. What preparation of iron is used in erysipelas? The dose? How often repeated, and mode of administration? 7. For what pathologic lesion would you use iodin? 8. What is the dose of calcium sulphid? Potassium chlorate? Potassium bromid?

Texas June Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 28-30, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 139, of whom 135 passed, including 6 osteopaths,

and 4 failed. The college and year of graduation for one candidate who failed was not obtained. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
University of Alabama	(1875) 75; (1910)	83.7
Georgetown University	(1909)	86.4
Atlanta College of Phys. and Surg.	(1902) 77.2; (1910)	75
Medical College of Indiana	(1900)	81.9
Louisville Medical College	(1906)	81.9
Louisville and Hospital Medical College	(1908)	83.9
University of Louisville	(1894) 75; (1909)	82.3
Kentucky School of Medicine	(1876)	75.7
Tulane University of Louisiana (1904) 78.4; (1909) 78.5; (1910) 78.7, 82.5, 82.5.		
University of Maryland	(1904)	75
College of Physicians and Surgeons, Baltimore	(1910)	84.8
Harvard Medical School	(1888)	75
Kansas City Hahnemann Medical College	(1910)	89.9
American Medical College, St. Louis	(1910)	82.9
Barnes Medical College	(1910)	78.3
St. Louis College of Physicians and Surgeons	(1909)	77.8
Kansas City Medical College	(1882)	75
Missouri Medical Coollege	(1873) 75.2; (1876)	75.8
Bellevue Hospital Medical College	(1885)	76.5
North Carolina Medical College	(1909)	84.1
Jefferson Medical College, Philadelphia	(1895)	81.7
Woman's Med. Coll. of Pennsylvania (1896) 79.9; (1905)		92.4
University of Pennsylvania	(1860) 75; (1907)	90.8
University of Tennessee	(1907) 86; (1910)	83.3
University of the South	(1908)	81.2
Vanderbilt University (1890) 75; (1909) 85; (1910) 82.7, 84.8, 89.7.		
Memphis Hospital Medical College (1902) 85.7; (1903) 79.9; (1907) 84.7; (1909) 75.5, 86.7; (1910) 75.7, 78.8, 79.2, 79.8, 90.5.		
College of Physicians and Surgeons, Memphis	(1907)	79.3
Meharry Medical College (1909) 80.8; (1910) 75, 75, 91.6.		
University of Nashville (1904) 77.3; (1909) 78; (1910) 75.		
Baylor University 75.5 (1910) 79.9, 80.4, 80.7, 83.6, 86.7, 89.5, 90.3.		
Fort Worth University (1910) 75, 75.6, 79.7, 80.4, 80.7, 81.2, 82.1, 82.7, 82.9, 84.3, 84.4, 84.5, 84.7, 88.2, 88.3, 93.3, 93.3, 90.8, 90.9.		
Southwestern University Medical College, Dallas (1910) 76.6, 77, 79.5, 80.9, 81, 82.4, 82.5, 84.3, 85.3, 86.2.		
University of Texas (1906) 86.4; (1907) 75.6; (1910) 77.7, 79.5, 79.8, 80.8, 81.1, 83, 83.2, 83.7, 83.8, 84.7, 84.9, 84.9, 85,6, 85.7, 86.2, 86.6, 87.3, 87.4, 87.5, 87.7, 87.8, 87.8, 88.1, 90, 90.1, 90.5, 90.8, 91.5, 91.7, 92.4, 95.5.		

FAILED		
Louisville Medical College	(1890)	51.8
Maryland Medical College	(1905)	65.6
St. Louis College of Physicians and Surgeons	(1909)	69.3

The following questions were asked:

ANATOMY

1. Give the origin, relation, course and distribution of the posterior tibial artery. 2. Give the muscles of the orbital region, describing one, giving its attachments and insertion with its action and nerve supply. 3. Describe the posterior triangular space of neck, naming the structures found therein, together with their relation to each other. 4. Describe the ulna, giving its muscular attachments. 5. Describe knee joint, giving the osseous and ligamentous structures that enter into its formation. 6. Describe the collateral circulation around the elbow. 7. Describe the perineum, giving the nerve and blood-supply to the parts, together with their source and relations. 8. Name the extensor group of muscles of the forearm; describe one fully, giving its attachment and insertion, together with its action and nerve supply. 9. Describe the brachial plexus of nerves. 10. Outline and give a gross description of the liver, together with its relation to the internal organs.

BACTERIOLOGY

1. Describe the Gram method of staining. 2. Name three pathogenic bacteria that are stained by the Gram method. 3. Name or give examples of three different bacteria which do not stain readily. 4. Describe the process of staining blood. 5. In normal blood, stained, describe the various cells. 6. Name three different pus-producing bacteria. 7. What are the chief effects of bacterial growth? 8. Before being accepted as the cause of a given disease a germ must conform to what is known as "Koch's Four Laws"; name them. 9. In diagnosis, name the means for identifying bacteria. 10. What are ptomains and toxins?

PATHOLOGY

1. Panaritium tendinium: Give its pathology and give reason why a felon of the thumb and little finger is more liable to spread into the palm of the hand than felon of the three middle fingers. 2. Wounds: In a wound of any kind, septic or aseptic, certain principles of treatment if faithfully carried out, will greatly contribute toward a union by first intention. Name these principles. 3. Poisons: Caustics and irritants—describe their effects on the body tissues and how these effects are brought about. 4. Give causes of catarrhal jaundice and its effect on the system. 5. Give pathology of pleurisy and name the two diseases it most commonly occurs in as a complication. 6. Give pathology of phlegmonous tonsillitis. 7. Give pathology of yellow atrophy of the liver. 8. Name three varieties of sarcoma and describe the cells of each variety named. 9. Typhoid fever: Give its cause and pathology. 10. Dermoid cysts: To what class of tumors do they belong, and on what parts of the body do they most frequently occur?

HISTOLOGY

1. Describe the histologic structure of the skin. 2. Describe the histologic structure of the pancreas. 3. Describe the histologic structure of the tonsils. 4. Where is unstriped muscular tissue found? 5. Describe the Pacinian corpuscle. 6. Give the histologic difference between the wall of an artery and the wall of a vein. 7. Name the genital organs of the male system and describe the vas deferens. 8. Name the genital organs of the female system, and, if any, what is the difference between the mucosa of the body of the uterus and that of the cervix? 9. Enumerate the different epithelia, giving a locality or organ in which each predominates. 10. Describe the microscopic appearance of a cross-section of a nerve-fiber.

CHEMISTRY

1. Give toxic symptoms of bismuth; (b) say how they may occur; (c) and describe a test for same. 2. Give symptoms of fatal dose, and (b) treatment of ammonium hydroxid poisoning. 3. Give Graham's law covering diffusion of gases. 4. The presence of ammonia in excess of 0.05 mg. per liter in water indicates what? 5. What is acetone? (b) clinical significance. (d) Describe a practical test for same. 6. Define hemoglobinuria and give test for hemoglobin. 7. Give a simple, practical test for pus in the urine. 8. What is muscarin; (b) where found; (c) symptoms of poisoning; (d) antidote? 9. How is the specific gravity of a gas determined? 10. Differentiate dialysis and osmosis.

PHYSIOLOGY

1. Name the nerves supplying the tongue; (b) give the function of each. 2. Give the velocity of the blood flow in the large arteries; (b) capillaries; (c) give time necessary for a complete circulation of the blood; (d) give velocity of nerve impulse. 3. To classify all the senses as external and internal; name five belonging to each class. 4. Give action and tell where found of the following enzymes: (b) amylopsin; (c) invertase; (d) lipase; (e) pepsin; (f) erepsin. 5. What tissues of the body possess marked power of contractility? 6. Name the nerves supplying the heart; (b) give function of each. 7. What artificial stimuli may produce muscular contraction? 8. What is the normal blood-pressure in an adult, expressed in mm's.? 9. Define the following terms: (b) tidal; (c) complemental; (d) supplemental; and (e) residual air; and (f) vital capacity. 10. Define (a) miosis; (b) mydriasis; (c) eupnea; (d) necremia; (e) hydremia; (f) choluria; (g) biotomy; (h) albuminuria; (i) alopecia; (j) chemosis.

MEDICAL JURISPRUDENCE

1. Give the eight varieties and classification of insanity. 2. What is meant by justifiable abortion? (b) Differentiate justifiable abortion from criminal abortion. 3. Give the chemical tests of blood. 4. What is meant by rape? (b) Give the three important constant symptoms or signs as medical testimony in alleged rape. 5. What do you understand by age of consent in reference to rape? 6. Give common cause of death from wounds. 7. Describe death from and give the post-mortem signs of strangulation. 8. Describe, define and differentiate illusion, delusion and hallucination and the lucid interval. 9. What are the effects of exposure to extreme heat? 10. By what means may the dead be identified?

PHYSICAL DIAGNOSIS

1. Give the physical signs of Raynaud's disease and describe the different grades. 2. What is meant by dyspnea? In what disease is it a prominent symptom? 3. Name six causes for the displacement of the cardiac apex. 4. Name the points to be noted when taking the pulse. 5. Give the most important signs of thoracic aneurysm. 6. Name the different groups of emphysema and describe each briefly. 7. What organs can be felt through the abdominal walls by palpation? 8. Name the most common diseases affecting the peritoneum and the commonest cause of local peritonitis. 9. What is meant by jaundice and give some of the causes? 10. Name some of the symptoms of intestinal diseases.

SURGERY

1. How do you prepare patients for the administration of anesthetics? 2. How do you treat acute synovitis? 3. How is the callus disposed about a fracture? 4. What are the causes of gangrene? 5. What complications accompany fractured ribs? 6. What symptoms denote malignant disease of the prostate? 7. What changes take place in strangulated hernia? 8. What precautions are observed in excising a joint? 9. Under what circumstances should the head of the femur be excised? 10. Give differential diagnosis between intracapsular fracture and extracapsular.

OBSTETRICS

1. Describe the human embryo during the fourth, sixth and eighth months, giving the appearance and weight. 2. What effect would double ovariotomy have on the fetus of five months' gestation? 3. Describe changes occurring in the blood during gestation. 4. What are the effects of an acute zymotic disease during pregnancy on (a) mother, (b) child? 5. What are the dangers to (a) mother; (b) the child, from gonorrhea during pregnancy and labor? 6. What is the significance of glycosuria during pregnancy and the frequency of its occurrence during pregnancy? 7. Causes, pathology and treatment of puerperal eclampsia and the danger signs of impending eclampsia. 8. Give the varieties of puerperal eclampsia and their differential diagnosis. 9. What is Tavnier's signs of inevitable abortion? Give its importance in the diagnosis of inevitable abortion. 10. Give formation of caput succedaneum and where does the caput succedaneum appear in the third position?

GYNECOLOGY

1. Give clinical symptoms of stenosis of the cervix and give remedy. 2. Give differential clinical diagnosis of cervical stenosis and atresia of the vagina. 3. Give the classifications and causes of dysmenorrhea. 4. Give the causes of and remedy for procidentia. 5. Give differential diagnosis of ovaritis and appendicitis in a young woman. Would you or would you not advise operative procedure in either condition? 6. For what pathologic condition would you advise amputation of the cervix? 7. What are the relations between menstruation and ovulation? 8. Give the hygiene of the menstrual period. 9. What is artificial menopause, its etiology and the pathologic conditions that justify it? 10. When and for what purpose would you use the following suture material: silk, silkworm gut, plain catgut, chromic catgut and silver wire, in gynecologic work?

HYGIENE

1. Why and how is carbon dioxid deleterious to health? 2. Name the chemical germicides most commonly used and the proportions employed. 3. What is the difference between fermentation, oxidation and putrefaction? 4. Mention the preventable epidemic diseases and state how you would stop the spread of each. 5. Name and describe the principal chemical elements of food, giving the use of each. 6. What is the effect of alcohol on the nerve centers, circulation? 7. How are impurities in water classified? How can they be detected, and why is the presence of organic material in drinking water deleterious? 8. Give the principal factors on which natural and acquired immunity depends. 9. Give period of detention of persons exposed to the following infectious diseases: smallpox, measles, scarlet fever, diphtheria, cholera, typhoid fever and yellow fever. 10. Give the formation of the four standard disinfecting solutions.

Book Notices

DISEASES OF THE STOMACH AND UPPER ALIMENTARY TRACT. By Anthony Bassler, M.D., Visiting Gastro-Enterologist to the People's Hospital. Cloth. Price, $6. Pp. 836, with 108 illustrations. Philadelphia: F. A. Davis Co., 1910.

The contributions of American authors to the literature of gastric disorders have been notable from Beaumont's time to the present; several excellent works on diseases of the stomach by Americans are fit to rank with those of the best foreign authors. This series of notable works is worthily continued by the book under consideration. The results of modern investigation are fully presented, including a considerable amount which is original with the author. The anatomy and physiology of the digestive organs are considered in a brief but practical manner. The section on physiology includes a statement of the principles of nutrition and heat production. The methods of examination are exhaustively described. Bassler gives much credit to the method of auscultatory percussion which has been slightingly handled by some authors. This section of the book is illustrated by fifteen plates, showing *x*-ray pictures of the stomach in various conditions. Considerable light is thrown on the difficulties experienced in removing stomach contents through the tube by the author's skiagraphs of a stomach-tube filled with bismuth paste and introduced into stomachs of various sizes and conditions. In the chapter on diet are some valuable tables on the composition of foods. Therapeutics are carefully considered, and the opinions expressed are sound and embody some of importance that have waited for this volume to find expression. The fact that alcohol increases the acid but not the pepsin of the gastric juice and that its action is therefore pathologic is carefully explained; the remedy is not recommended unless in exceptional cases. Digestive ferments find almost no place in the author's therapy. He also calls attention to the fact that stomach mucus is primarily protective and does not usually need to be removed. The clinical section dealing with the various diseases of the stomach gives a large mass of data well worked out and contains a practical guide for the treatment of these diseases by the general practitioner as well as by the specialist.

Some minor errors may be noted which undoubtedly will be corrected in the next edition. It would seem that so well-informed an author ought to recognize the rights of modern chemical nomenclature and no longer refer to the fats as hydrocarbons. A more serious error occurs on page 185 where the use of potassium chlorid instead of the chlorate is directed in performing the iron test for blood. The author states that Boas-Oppler bacilli do not stain with iodin, while such staining is mentioned by other authors as one of their chief characteristics. An error has been made in describing the method of nitrogen estimation on page 267. The amount of urea would be found by multiplying the nitrogen found by 2 instead of 20. Legal's test for acetone (p. 190) is simplified by the omission of sodium nitroprussid; this occurs possibly by mistake, but it is doubtful if the directions will prove a very useful guide in their present form. The description of Strauss' method of examination for lactic acid (p. 178) is incorrect and impracticable. Other mistakes have been allowed to slip through; thus the calorific power of butter is put at 475 calories per pound, evidently 10 times too low. The Latin of the prescriptions is decidedly faulty, the genitive endings having been frequently omitted. A gradual transition from Latin to English prescriptions is indicated by the mixed variety, in which both languages are employed indiscriminately, thus:

℞.	Bismuthi subnitratis	6.0
	Ceril oxalatis	2.0
	Peppermint sugar	3.0
	Fiat Chart. No. x.	

Obsolete or unusual words are used. In the haste of composition the grammatical construction has frequently been allowed to shift for itself. Although it is distasteful to criticize the literary style of so good an author, we feel that the attention of the publishers should be called to the matter.

DYSPEPSIA: ITS VARIETIES AND TREATMENT. By W. Soltau Fenwick, M.D., Doctor of Medicine of the University of Strasburg. Cloth. Price, $3 net. Pp. 485, with illustrations. Philadelphia: W. B. Saunders Co., 1910.

Under the term "dyspepsia"—a very indefinite one for the title of a medical book in an age of scientific precision—Fenwick includes nearly all affections of the stomach and intestines. The author comments on the failure of treatment which adheres too closely to the indications derived solely from laboratory examinations; he calls attention to the fact that drugs which are supposed to control gastric motility or secretion seldom do what is expected of them. The influence of the mind and nervous system on the stomach is recognized. The etiology of dyspepsia involves the consideration of the influences flowing from other organs and from various general pathologic states. These receive special attention in the work. The irritating effect of various foreign bodies, such as hair balls, insects and other living creatures, seldom more than noticed by other authors, receive due attention.

Notwithstanding the critical attitude toward laboratory work, a sufficient account of the results of these investigations has been incorporated in the account of the symptomatology. The value of the book lies in its comprehensive treatment of the subject from the clinical standpoint. The introduction of laboratory technic, which the limits of the work preclude from being completely described, might better have been omitted. Thus in the account of intestinal indigestion two chemical methods quite beyond the skill of the average practitioner are introduced, but the more feasible methods of microscopic examination are merely mentioned. The significance of the findings is very inadequately discussed. With these exceptions the book presents little to criticize and its utility to the average practitioner is enhanced by the fact that it treats the subject from a somewhat unusual point of view.

ANATOMY, DESCRIPTIVE AND APPLIED. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons. Eighteenth Edition. Revised and re-edited by Edward A. Spitzka, M.D., Professor of General Anatomy in the Jefferson Medical College, Philadelphia. Cloth. Price, $6 net. Pp. 1,496, with 1,208 illustrations. Philadelphia: Lea & Febiger, 1910.

It seems scarcely possible that new editions of text-books on anatomy can present much that is new, yet the eighteenth edition of this well and widely known work contains many new ideas intended to increase its value as a text-book. Much of the text has been rewritten and rearranged, the new arrangement being according to sequence of subjects, so that the student receives his knowledge of parts in the order of their anatomic dependence. The spleen and suprarenals have been placed among the ductless glands. The urinary and generative organs are placed together in a chapter on "The Urinogenital Organs." The chapters on the surgical anatomy of hernia and on the dissection of the peritoneum have been omitted, the descriptions being given only in their proper place. Ample directions are given for dissecting. Embryology and histology come in for their usual share of consideration. The name of each structure is printed in black-face type followed by the Basel nomenclature in italics; thus it is easy to find a given reference on a certain page.

Although the text has been enlarged considerably, smaller type has been used freely, so that the size of the book is not increased, and by condensation and omission of duplications, such as those mentioned, the work is made more compact. On the whole, the book has not lost any of its good features; many new ones have been added, and the objectionable features found in the previous edition have been removed. The editor is to be congratulated on the successful completion of a very difficult task in this revision.

HYDROTHERAPY. A Work on Hydrotherapy in General, Its Application to Special Affections, the Technic or Processes Employed and the Use of Waters Internally. By Guy Hinsdale, M. D., Secretary of the American Climatological Association. Cloth. Price, $3.50. Pp. 466, with 145 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The neglect of physiologic remedies, of which many physicians in the past have been guilty, is rapidly being replaced by an active interest in these useful therapeutic agents. As one of the most valuable, hydrotherapy has received a good share of attention during the past few years, a fact which is evidenced by the number of books that have appeared on the subject.

In spite of this, Dr. Hinsdale's book needs no apology, since it presents the subject in a clear and untechnical form and its author does not attempt to convey the idea—as do so many who write on special forms of therapy—that this particular method of treatment is the last word in therapeutics. As the author says, while he "is a firm believer in using physiologic therapeutics wherever possible, he by no means wishes to exclude the use of drugs," because he believes that "rational therapeutics calls for their use." The book deals not only with hydrotherapy as the term is usually understood—including balneotherapy—but also with crounotherapy or the internal use of mineral waters. The larger part of the volume, naturally, is devoted to the subject of hydrotherapy, which for convenience has been divided into three parts: general hydrotherapy, special hydrotherapy and the technic of hydrotherapy.

The value, and also the limitations, of the use of water in various diseased conditions are conservatively and plainly stated and the methods of getting the best results from the use of this agent are described.

THE SURGERY OF CHILDHOOD. Including Orthopedic Surgery. By De Forest Willard, M.D., Professor of Orthopedic Surgery, University of Pennsylvania. Cloth. Price, $7. Pp. 800, with 729 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This complete treatise on the surgery of childhood covers an enormous amount of ground, especial emphasis being laid on orthopedic conditions. In view of the great amount of material to be covered, numerous non-surgical conditions that are described might well have been omitted; for example, thrush, aphthous ulcers, masturbation, spermatorrhea, scurvy, earache, etc.

Under the treatment of scurvy rickets, only oil of erigeron and epinephrin are mentioned to stop the bleeding from the gums; no mention is made of fruit-juices, nor is the possibility of mistaking a subperiosteal hematoma for an acute osteomyelitis mentioned. In the surgery of pyloric stenosis, divulsion is advocated. This is not in agreement with the literature on this subject. As long as mastitis of the new-born is mentioned, there seems to be no good reason for omitting the fact that abscesses do occur and need surgical attention.

In spite of a few minor points, largely non-surgical, on which the book needs revision, it covers the subject very completely, especially in the chapters dealing with the tuberculous lesions of bones and joints, which are very profusely illustrated with photographs and *x*-ray pictures.

OSTEOLOGY AND SYNDESMOLOGY. By Howard A. Sutton, M.D., Assistant in the Department of Anatomy of the University of Pennsylvania, and Cecil K. Drinker, B.S. Cloth. Price, $1.50 net. Pp. 225. Philadelphia: P. Blakiston's Son & Co., 1910.

This is a quiz-compend of about 200 pages, and probably answers the purpose of such questionable productions. There are no illustrations. Referring to the necessarily laborious task of learning the bones and joints from the regular descriptive works, the authors say, "it is the hope of the authors that in presenting this small volume they remove the need for such tedious labor."

It may well be asked, "When will students ever have more time for studying the bones and doing this 'tedious labor' than when they are students?" Again quoting, "In the preparation of the text the author has consulted Morris,' Piersol's Gray's, Cunningham's and Swan's anatomies. . . . " Why deprive the student of the advantage of getting this information at first hand, embellished with the good descriptions and illustrations in the complete works, having the stamp of authority—so far as that goes? Why give him in their stead the bare details devoid of illustrations and the vitality of good descriptions so necessary to the proper comprehension of his subject?

A TEXT-BOOK OF MENTAL DISEASES. By Eugenio Tanzi, Professor of Psychiatry in the Royal Institute of Higher Studies of Florence. Authorized Translation from the Italian by W. Ford Robertson, M.D., C.M., Pathologist to the Scottish Asylums, Edinburgh, and T. C. MacKenzie, M.D., F.R.C.P., Edin., Medical Superintendent, Inverness District Asylum. Cloth. Price, $7. Pp. 803, with 132 illustrations. New York: Rebman Company. 1910.

Tanzi's classification is rather more simple than Kraepelin's. He separates melancholia from mania and circular psychoses, however. He places idiocy among the cerebropathies, thus separating it from imbecility, which he puts among the degenerative mental anomalies. The book includes chapters on the seat of the psychic processes, the causes of mental diseases, anatomic substratum of mental diseases, sensibility, ideation, memory, the sentiments, movements and other external reaction, classification of mental diseases, pellagra, alcoholism, amentia, the thyroid psychoses, progressive paralysis, infantile cerebropathies, adult cerebropathies, the affective psychoses, neurasthenia, hysteria, epilepsy, dementia præcox, sexual perversions, constitutional immoralities, paranoia, imbecility and asylums. The translation is remarkably good.

A STUDY OF MELTING-POINT DETERMINATIONS. With Special Reference to the Melting-Point Requirements of the U. S. Pharmacopeia. By George A. Menge. Hygienic Laboratory. Bull. No. 70. P. H. and M.-H. S. of the United States. Paper. Pp. 101, with 20 illustrations. Washington: Government Printing Office, 1910.

In view of the importance of the melting point of a chemical substance, both as a means of identification and control of purity, and because of the widely varying methods of carrying out this determination, the whole subject has been carefully and thoroughly reviewed and discussed in this bulletin. From a survey of the existing methods and the results obtained by these methods, the author has devised an apparatus and technic which is simple and inexpensive, yet accurate. The method was thoroughly tested and found to be satisfactory, as shown by the many results tabulated in the bulletin. Menge recommends the apparatus and method for adoption as the official method for the United States Pharmacopeia.

INSANITY IN EVERY-DAY PRACTICE. By E. G. Younger, M.D. Brux. Senior Physician, Finsbury Dispensary. Second Edition. Cloth. Price, $1.25. Pp. 124. Chicago: Chicago Medical Book Co., 1910.

This little volume is prepared especially for the general practitioner; and, unlike many books with this ostensible aim, it is actually helpful, as it endeavors to present in a simple and easily assimilated form essential and important facts regarding various types of insanity and their legal aspects. Noticeable and commendable are the absence of complicated nomenclature, the concise discussion of the various forms of insanity, and the rational arrangement of the contents. The appendix contains copies of various legal forms. The book can safely be recommended to the general practitioner.

TOBACCO AND ITS DELETERIOUS EFFECTS. A Book for Everybody, Both Users and Non-Users. By Charles E. Slocum, M.D., Member of Local, Ohio State and the American Medical Associations. Cloth. Price, $1. Pp. 70. Toledo: The Slocum Publishing Co., 1909.

This author does not leave any room for doubt as to his opinion of the use of tobacco. While his strong feeling on the subject may be justified, his indiscriminating and unanalytic amassing of testimony and his lack of judicial serenity tend to make the reader discount the statements of supposed facts. Since there is a real need for a scientifically authoritative statement of the injury and waste caused by tobacco, it is to be regretted that this book is not more scientific in its citations and more restrained in its style.

DIE PRAXIS DER LOKALEN ANÄSTHESIE. Von Dr. Artur Schlesinger, Berlin. Cloth. Price, 5 marks. Pp. 160, with 22 illustrations. Vienna: Urban & Schwarzenberg, 1910.

The increasing frequency of the use of local, instead of general, anesthesia and the widely scattered state of the literature on this subject make Dr. Schlesinger's little book a welcome addition to our working library. About one-half of the work is devoted to the history, means and methods of use, the remainder to the technic of local anesthesia as applied to special regions. It is written in such fashion that one having no personal experience may safely follow its guidance, while the specialist will find it replete with information on the methods of to-day.

HISTORY OF MEDICINE. By Max Neuburger, Professor of Medical History in the Imperial University of Vienna. Translated by Ernest Playfair, M.B. In Two Volumes. Vol. I. Cloth. Price, $9. Pp. 404. New York: Oxford University Press, 1910.

This volume, which contains a preface by Dr. William Osler, gives the history of medicine from primitive times down through the middle ages. The subject-matter is presented as a more or less continuous narrative, in a style which at once attracts and holds the interest of the reader. As an added advantage, the text of the book has been printed in large type, while in smaller type appear numerous references and details. This will be a valuable addition to the library of any one interested in the history and progress of medicine.

ATLAS DER RECTALEN ENDOSKOPIE. Nebst einer Einführung in die Technik der rectalen Endoskopie. Von Dr. Arthur Foges, Wien. Second Edition. Price, 14 marks. Paper. Pp. 102, with illustrations. Wien: Urban & Schwarzenberg, 1910.

The second and concluding part of this work fully maintains the high standard of excellence reached in the plates and text of the first part, noticed in THE JOURNAL, Feb. 12, 1910, p. 563. The complete work with its practical text and artistic plates is one of great value to the student or specialist in proctology.

Medicolegal

Validity of City Ordinance Regulating Location of Private Hospitals, Especially for the Insane

The Supreme Court of Washington, in Shepard and others vs. City of Seattle (109 Pac. R. 1067), affirms a judgment dismissing an action to restrain the city from enforcing an ordinance regulating the location and maintenance of private hospitals and sanatoriums, brought by the owners and lessees of certain property used for a sanatorium for the treatment of persons suffering from nervous and mental diseases, including insane persons. The ordinance provided that no private hospital or sanatorium should be established or maintained within the city in any building in which any of the sinks or water closets or other drainage were not connected with the public sewers of the city, nor should any private hospital or sanatorium for the treatment of inebriates or persons suffering from insanity or other mental diseases be established or maintained in any buildings situated within 200 feet of any private property the owner of which had not consented in writing to the location and maintenance of such hospital or sanatorium, nor in any building without the written permit from the commissioners of health of the city.

It was contended that a private sanatorium for the care of persons suffering from insanity or other mental diseases is not a public nuisance in and of itself, and cannot be made a public nuisance, if not such in fact, by a mere declaration of a municipal legislature; that this ordinance deprived the plaintiffs of their property without due process of law, and denied to them the equal protection of the law, in violation of the state and federal constitutions. But no question was involved here as to the power of the city, as contradistinguished from the power of the state itself, the court says, for in all matters appertaining to the public health and public safety substantially the entire police power of the state is vested in municipal corporations of the first class, in the state of Washington.

Furthermore, the ordinance applied to different kinds of hospitals and sanatoriums, and prescribed different requirements with which those desiring to establish and maintain such institutions must comply. The provisions of the ordinance were severable, both as to the character of the institution and the requirements to be met or complied with. Some of those requirements might be valid and others invalid, or they might be valid as to one kind of an institution and invalid as to another.

The case of Bessonies vs. City of Indianapolis, 71 Ind. 189, would sustain the provision of the ordinance requiring hospitals to connect with the public sewers of the city—at least such hospitals as harbor persons suffering from infectious or contagious diseases. Whether reasonable as to a hospital of the character here in question, the court need not inquire, for it was convinced that the second requirement of the ordinance was both reasonable and valid.

The ordinance in effect declared that any private hospital or sanatorium for the treatment of inebriates, or persons suffering from insanity or other mental diseases, was a public nuisance, and should be abated as such, unless its location and maintenance were consented to in writing by the owners of private property situated within 200 feet of the hospital buildings. This, in the court's opinion, was a valid and reasonable police regulation. The presence of a private insane asylum, with its barred windows and irresponsible inmates, would annoy, injure and endanger the comfort, safety, and repose of any person of average sensibilities if located within 200 feet of his place of abode. In other words, it is a matter of common knowledge that the presence of such an institution in a residential portion of a city would practically destroy the value of all property within its immediate vicinity for residence purposes. If so, it was proper and competent for the municipal authorities to require the assent of the injured parties to its location and maintenance. Hospitals for the treatment of patients suffering from infectious and contagious diseases have often been adjudged nuisances, when located in the residential parts of cities and towns, and danger from the immediate presence of a hospital of this kind differs in kind rather than in degree.

The third requirement of the ordinance was a written permit from the commissioners of health, but that requirement was apparently for the purpose of showing that the other provisions of the ordinance had been complied with. In any event the requirement was unobjectionable in itself.

The contention that the ordinance was void because it was admitted that it was enacted at the solicitation of persons residing in the vicinity of said premises and solely in their behalf as a local and special regulation, is answered by the court's saying that it was not permitted to inquire into the motives of the city council. If the ordinance was valid on its face, the reasons or arguments that might have moved the city council to act were not pertinent here.

There are many unpleasant and annoying things that must be borne by those living in a state of organized society, in order that others may enjoy their equal rights under the law, but the preservation of the public health and safety is one of the chief objects of local government, and every citizen holds his property subject to a reasonable exercise of the police power of the state. In the court's opinion this ordinance was a reasonable and proper application of the maxim, "So use your own as not to injure another's," and was sustained by the maxim, "The welfare of the people is the supreme law," in which the police power of the state finds its chief support.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

December 31

1 Surgical Methods of Treating Hyperthyroidism. C. H. Mayo, Rochester, Minn.
2 Experiences with Salvarsan. W. S. Gottheil, New York.
3 Mental Disturbances Following Traumatism; Medicolegal Considerations. A. Gordon, Philadelphia.
4 *Long-Continued High Blood-Pressure; Its Results and Prevention. W. H. Sheldon, New York.
5 *Approximate Estimation of Protein Contained in the Cerebrospinal Fluid. D. M. Kaplan, New York.
6 *Mercury Succinamid in Treatment of Tuberculosis. L. S. Peters, Silver City, N. M.

4. **Long-Continued High Blood-Pressure.**—Attention is called by Sheldon to the fact that high blood-pressure is a condition and not a disease. He says that long-continued high blood-pressure produces a condition whereby there is leakage of cardiac energy. The arterial tree in health maintains diastolic pressure in normal relation to systolic. In cases of long-continued high blood-pressure there is failure of diastolic pressure to maintain its normal relation, therefore, there must be lessened elasticity of the arteries. The increased strain on the heart is in accordance with the amount of the

diastolic failure. In a series of thirty patients examined by Sheldon, the average pulse-pressure was 78.5 mm., while a normal arterial tree will give a pulse-pressure of from 20 to 40 mm. Therefore, there was a loss of from 38 to 58 mm. of high pressure. It would seem, he says, that in these cases the high systolic pressure was in the nature of a compensatory act, as in order to maintain a diastolic pressure of 108.7 it was necessary to have a systolic pressure of 187.2. There are signs of poor circulation with high systolic pressure if the diastolic pressure is relatively low. Sheldon is convinced that if attention were paid to the first indication of increased pressure and the cause removed, the inevitable bad results noted could be prevented. When the pathologic condition of failure of diastolic pressure has been established, efforts should be directed toward maintaining the compensation of the heart.

5. **Estimation of Protein in the Cerebrospinal Fluid.**—The technic of the test used by Kaplan is: 1. Centrifugalize the fluid and use the supernatant liquid. 2. Into each of five small test tubes introduce from 0.1 c.c. to 0.5 c.c. of clear fluid. The obtained fluid must be blood-free. 3. Heat the first tube (0.1 c.c.) gently and add 2 drops of a 5 per cent. butyric acid solution and heat until it bubbles—but does not spurt. 4. Holding the tube almost horizontally permit 0.5 c.c. of a supersaturated ammonium sulphate solution to float on top of the cerebrospinal fluid. The same is performed with the other tubes. 5. Stand aside, noting the time when the last portion of ammonium sulphate was added to the 0.5 c.c. tube. In case of a protein excess, a distinct ring appears in the middle of the fluid. The ring appears in from 5 to 25 minutes after being set aside, is of a coarse granular appearance (cheesy) of a cream color. The greater the protein content the more apparent the appearance of the ring in the tubes with the smaller amounts of cerebrospinal fluid. The rings that appear later than 25 minutes are not characteristic. Negative fluids at times show a ring, but it takes from thirty minutes to over one hour before its appearance and the rings in this case are not composed of the coarsely granular material which is seen in the case of fluids with a protein excess. Compared with other methods, Kaplan's reaction is said to conform to clinical diagnosis and other laboratory results oftener than the protein reaction of Nonne and Noguchi.

6. **Mercury Succinamid in Tuberculosis.**—Peters' work covers a series of twenty-three patients treated in a closed institution under perfect dietetic and hygienic conditions. An analysis of his work shows the following results: Stationary, six; died, two; failed, nine; improved, four; cured, two. It is interesting to note that of the six patients classed as improved or cured four were syphilitic and two, cases of simple tuberculosis. One syphilitic made rapid gain under mercury but developed in the course of treatment a neuritis which was extremely painful and because of which the injections were abandoned. He went down rapidly from then on and is now a hopeless case. The other syphilitic who failed gained for a time, but from a pulmonary standpoint was hopeless in the beginning. Of the two non-syphilitic individuals one improved and one recovered. Peters, however, is firmly convinced that either would have done the same under any treatment, for both were excellent patients with little pulmonary involvement. Of the nine who failed and the six remaining stationary, only two were syphilitic. Two who died were also free from any syphilitic taint, one dying of bronchopneumonia following hemorrhage and the other was sent home as hopeless and died a few months later.

New York Medical Journal

December 31

7 *Eggs. R. C. Rosenberger, Philadelphia.
8 The Wassermann Reaction and Salvarsan. T. MacRae, New York.
9 Regulation of Prostitution. M. Glasgow, New York.
10 Rest, Exercise and Food in the Management of Tuberculosis. A. P. Francine, Philadelphia.
11 Climate as a Curative Agent. F. G. Byles, Denver.
12 *A New and Successful Use for Old Staphylococcus Bacterin. B. R. LeRoy, Athens, Ohio.
13 Impetigo Contagiosa Transmitted by Machine Oil. O. V. Huffman, Cincinnati.
14 Magic and Medicine: A Study in the Borderland of Scientific Light and Darkness. J. Knott, Dublin.

7. **Eggs.**—Rosenberger says that if the so-called heated or "spot" eggs contain putrefactive bacteria and if kept in a mixture for some time before disposing of them, poisonous products are generated which may cause symptoms of gastroenteritis and simulate very closely cases of meat poisoning. It is sometimes said by patients who are on a diet of raw eggs that they cannot eat them, that they make them sick or cause diarrhea or other symptoms of gastroenteritis. It can easily be explained if the patients have eaten these spot eggs. Take a patient with tuberculosis who is recommended to eat so many raw eggs a day. If he is too sick to wait on himself, someone might make up a milk punch containing spot eggs, and mild or severe gastroenteritis develops. Or in the making of a salad dressing where great heat is not required, the making of corn starch, of various puddings, or even in baking cakes, these spot eggs may have been used and, perhaps, bring about gastroenteritis in those who eat thereof. If 0.5 c.c. (8 minims) of an egg mixture offered for sale as fit for food purposes will kill a guinea-pig in eight hours, one wholly unacquainted with bacteria or their products will readily see that a potent poison is contained in the eggs and that they are absolutely unfit for food.

It is Rosenberger's opinion that the most rapid and efficient method of determining strictly fresh eggs is by the candling process, but by an expert. Some eggs that are put on sale as fresh eggs open up apparently fresh, yet when the dish is slightly jarred, the admixture of white and yolk is easily accomplished, which, with a perfectly fresh egg, is only accomplished after severe beating. The spot eggs do not uniformly give off an odor, but a mouldy egg does, as well as a black rot or an ordinary rotten egg. Take a fresh egg and shake vigorously for an indefinite time; no admixture of white and yolk is possible in the shell, and everyone knows how impossible it is to mix these two portions in a dish without vigorous beating. To prevent the selling of spot and rot eggs, as well as mixtures of these forms of eggs, either frozen or not, the law should compel the dealers to dispose of them immediately to the manufacturing concerns individually and not leave them for some unscrupulous trafficker or peddler who collects these eggs for personal gain, obtaining them from dealers for almost nothing and disposing of them to small bakeries at from 18 to 20 cents a pound when fresh eggs are bringing from 36 to 48 cents a dozen. When two grades of eggs are offered for sale at a "dairy" or store, it is almost a foregone conclusion that the cheaper ones contain "spots" or are "heated" eggs.

12. **Staphylococcus Bacterin.**—While engaged in making a comparative bacteriologic study of certain parasitic microorganisms found on the bodies of persons suffering from certain forms of insanity, LeRoy had occasion to make and use considerable quantities of the staphylococcus bacterin. A mixed form of the bacterin was made from fresh cultures of the *Staphylococcus pyogenes albus* and the *Staphylococcus pyogenes aureus* in about equal amount. The bacterin was made very strong, and this particular bottleful was made the density of thin cream. The bottle, of 8-ounce capacity, was sealed with paraffin, wrapped in amber-colored paper, and placed in a cool, dark place and forgotten for a space of over two years when it was brought to light and examined. It was found to be separated into two portions, the upper and greater portion was a yellowish serum-colored fluid, the lower portion was of a gelatinous nature and of a deep red color. On agitating the substance it broke up into flakes which became suspended in a homogeneous manner, making a fluid the density of thin cream. Wishing to learn whether it had lost its immunizing power or not, and not caring to inject it into the circulation, LeRoy applied it topically in a case of exaggerated pustular acne, the face, neck, back, breast and arms being covered with the pustules. The diseased surface was painted with a camel-hair brush, frequently shaking the bacterin. At once the skin became intensely red, with considerable sharp stinging pain which lasted for a few minutes; then all was pleasant. The redness subsided within a few hours, and nothing further was noticed. The treatment was given every day, the few unpleasant symptoms becoming less and less until there was practically no reaction whatever following the application of the fluid. The clinical results

were most rapid in action and very pleasing to all concerned. The face cleared up without further pustulation. The comedones dried up and were removed by rubbing the skin briskly with a coarse towel, the comedones rolling out like shot.

In all, twenty-eight patients have been treated in this manner without a failure. This seems remarkable when it is recalled that the bacterin is now over three years old, is sterile, is without odor or signs of change other than what has been mentioned. This substance is being used on a case of rhinophyma with the most gratifying results, the surface of the nose being painted with the solution mentioned in the foregoing article. The solution has been used in cases in which suppuration has been part of the trouble, regardless of the other conditions present, with the same result as mentioned in the cases of acne.

Lancet-Clinic, Cincinnati

December 17

15 *Action of Heart Stimulants. F. C. Askenstedt, Louisville, Ky.
16 The Wassermann Reaction. O. Berghausen, Cincinnati.
17 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

December 24

18 The Former Medical Giants of France. F. Dowling, Cincinnati.
19 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

15. **Action of Heart Stimulants.**—In the nine cases reported by Askenstedt, strychnin was used seven times, nitroglycerin five times and ammonium carbonate once. Strychnin was administered five times to patients of low blood-pressure, once when arterial tension was normal and once when it was high. Except in a doubtful case of anesthesia, strychnin did not in a single instance show any stimulating effect on the circulation. As the tablets used were obtained from various sources, and some had come as samples direct from the manufacturers, the lack of perceptible action of the strychnin cannot be ascribed to bad pharmacy. In all of the five nitroglycerin cases—each of which presented a hypertension—a reduction of the systolic tension from 10 to 25 mm. invariably took place, lasting not less than one or one and one-half hours after the administration of the drug. Any effect of the nitroglycerin as a heart stimulant, however, is devoid of proof in these cases. The reputed power of digitalis to increase arterial tension was not borne out by the two experiments, either where the tension was low or where it was high. Ammonium carbonate proved inert in the case of complete heart-block. While these heart stimulants were given principally for experimentation, most of them were legitimately used on physiologic indications; in other words, they were such remedies as the average physician would have employed for the conditions presented. Only a few patients knew that an experiment was being carried out, so Askenstedt infers that the therapeutic administration of these stimulants in closely similar cases would produce practically the same results.

New Mexico Medical Journal, Las Cruces

November

20 The New Mexico Medical Society. J. W. Elder, Albuquerque.
21 The Needs of the Profession in New Mexico. R. E. McBride, Las Cruces.
22 A Case of Mitral Regurgitation. J. R. Gilbert, Alamogordo.

Southern Medical Journal, Nashville

December

23 *Safeguarding Society from the Unfit. A. B. Cooke, Nashville.
24 *Exophthalmic Goiter. W. D. Haggard, Nashville.
25 Therapeutic Indications for Thyroid Administration. J. M. Tompkins, Richmond, Va.
26 *Pharmacologic and Clinical Aspects of Hexamethylenamin. L. B. Wiggs, Richmond, Va.
27 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
28 Pain in Abdominal Disease. W. M. Harsha, Chicago.

23 and 24. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1919.

26. **Clinical Aspects of Hexamethylenamin.**—It is believed by Wiggs that his experiments show the positive irritant properties of hexamethylenamin. Medium doses of hexamethylenamin continued over comparatively short periods (ten days) will produce renal irritation. Even small doses, if long continued, may produce irritation. In moderate amounts there is an initial increase in the total quantity of urine passed, due to the primary irritation of the kidney structure, but, if the drug is continued for any considerable length of time, there is a diminution in the amount excreted. Toxic symptoms are only noted when there is severe renal irritation. (Animal No. 2 showed a marked tendency to lie about and sleep and altogether looked sluggish and ill, refusing all food while the hematuria was present.) Hexamethylenamin is more effective as an antiseptic if the urine is acid in reaction. It may itself produce in the urine an acid reaction on account of the ammonia radical present, ammonia, as is well known, rendering the urine acid in reaction. The drug—as such—has only mild antiseptic properties and is probably, in part at least, absorbed unchanged.

Wiggs urges that great care must be exercised in administering even small doses of hexamethylenamin, certainly when it is proposed to be used over extended periods. Microscopic examinations of the urine in all patients receiving the drug should be made if possible, or, if this be impracticable, daily examination of the albumin content should be made. After the drug has been adminstered for as long as seven days, bladder and renal irritation may be expected and must be rigidly sought for. When given with care and intelligence this is the most potent genitourinary antiseptic. It is suggested that in patients with alkaline urine some drug be given that will render the urine acid in reaction previous to administration of the hexamethylenamin, which seems to act better in the acid medium.

Western Medical Review, Omaha, Neb.

December

29 Prevention of Venereal Diseases. P. Findley, Omaha.
30 The Work of the Nebraska Orthopedic Hospital. J. P. Lord, Omaha.
31 Induced Pregnancy. G. W. Shidler, York, Neb.

Medical Fortnightly, St. Louis

December 10

32 Material and Methods, the Secret of Success in Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
33 Acute Mania with Unusual Duration of Mental Obliviousness—Recovery. M. R. Hughes, St. Louis.
34 Functional Neuroses, Clinically Reviewed. W. F. Waugh, Chicago.

Illinois Medical Journal, Springfield

December

35 *Acute Epiphysitis of the Hip. J. L. Porter, Chicago.
36 Commitment and Care of the Insane of Cook County. J. P. Houston, Chicago.
37 Our Research Workers. E. B. Coolley, Danville.
38 Therapeutic Nihilism. J. Miles, Merom, Ind.
39 Analytic and Microscopic Study of Pus. L. J. Willien, Terre Haute, Ind.
40 Recognition of Extra-Uterine Pregnancy. A. M. Miller, Danville.
41 Fracture of the Skull. I. L. Firebaugh, Robinson.
42 Surgical Aspects of Hernia. H. N. Rafferty, Robinson.
43 *Aneurysm of the Aorta. C. N. Combs, Terre Haute, Ind.
44 Advantages of Clinical History Writing. B. V. Caffee, Terre Haute, Ind.
45 *Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
46 Diabetes Mellitus. C. F. Newcomb, Champaign.
47 Prevention of Blindness. C. B. Voight, Mattoon.

35. **Acute Epiphysitis of Hip.**—The lesion described by Porter seems to be always confined to the epiphyseal line which looks wider than normal, irregular in outline and somewhat hazy, while the examination of a long series of Roentgen plates of early tuberculosis of the hip shows a wide variation in the location and extent of the tuberculous foci. He says that it seems, therefore, that a better differentiation of these cases from the other recognized forms of acute and chronic infections of the hip must come through a closer study of the clinical findings; they all recover without abscesses or other complications which require invasion of the joint and the opportunities for direct pathologic investigation are lacking. The last five patients who have been under observation, and all of whom have apparently recovered, illustrate the clinical history of this affection. In no case was there a history of trauma. In all cases but one, the onset was so acute that within twenty-four hours the patient could not walk on account of pain. In the oldest patients the onset was less acute and the patient continued to walk but limp and complaint of pain in hip developed very suddenly. In all cases the pain was referred to the groin directly over the joint, and in no case was there pain referred to the knee. In two

cases a slight fulness at the site of the pain in the groin could be seen, suggesting some synovitis but no marked tension. In the other three cases no sign of synovitis could be discovered. In none of the cases during all the course of treatment was there any marked thickening or induration of the peri-articular tissues. All the cases showed marked limitation of motion at the hip, muscular spasm and pain on motion during the earlier stage of the attack. In all the cases the acute symptoms subsided rapidly under rest in bed, though the limitation of motion and some spasmodic contraction persisted for a longer time.

In three patients temperatures were taken at intervals from the start but was found elevated in but two, rising from 1 degree to 1.5 degrees during the first ten days. In the other two patients no temperature was taken until after the acute stage had subsided, when it was found absent. One very noticeable point in all the cases was the very slight degree of atrophy which developed during the entire course of the disease and which might easily be due to the immobilization. In one case von Pirquet's tuberculin test was used and a positive reaction resulted, but strange to say, that patient recovered more quickly than any of the others under continued immobilization and crutches. In one case, after apparent recovery, a marked talipes cavus with slight equinus developed in the foot of the affected leg and has progressed in spite of treatment, though no definite paralysis can be made out and the hip remains perfectly well. In none of these cases was there any history of preceding infection such as typhoid, measles, scarlatina, or diphtheria, which might account for the acute arthritis. The time required for recovery has varied from ten weeks to ten months.

43. **Aneurysm of the Aorta.**—This case of aortic aneurysm is reported by Combs because aneurysm of the inferior portion of the arch and the descending thoracic aorta is a rare variety. Death by rupture into the esophagus adds to its unusual features. The tumor pressure on the left recurrent laryngeal nerve caused voice alteration and a brassy cough. In the early stages, on change of position, the pressure was relieved, the patient's voice returned and thus it was that she was thought hysterical. Pressure on the esophagus caused dysphagia. Pressure on the bronchus caused dyspnea. A weak left radial pulse was due to the oblique course of the left subclavian through the thickened aortic wall and the expansion following the ventricular systole partially closed its lumen. Pain was due to erosion of the vertebræ and also to tumor-pressure in general. Had death been delayed the erosion would soon have reached the spinal cord and produced the final symptom of paraplegia. In this case, the diagnosis was especially difficult because on inspection no tumor was in evidence. That rupture of the sac into the esophagus caused the immediate death cannot be denied in view of the large irregular opening.

45. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

Journal of the Oklahoma State Medical Association, Muskogee

December

48 The General Practitioner. C. W. Fisk, Kingfisher.
49 Cerebral Meningitis. F. B. Erwin, Norman.
50 Appendicitis. W. T. Tilly, Muskogee.
51 Intestinal Obstruction. J. C. Watkins, Hallett.
52 Management of Fractures of the Extremities. J. A. Foltz, Fort Smith, Ark.
53 The County Medical Society. D. Armstrong, Mead.

American Journal of Orthopedic Surgery, Philadelphia

November

54 *Treatment of Structural Scoliosis. W. Truslow, Brooklyn, N. Y.
55 *Apparatus for Treatment of Scoliosis at Night. F. Lange, Munich, Germany.
56 *Scoliosis Relieved by Operation on the Transverse Process of One of the Vertebræ. Z. B. Adams, Boston.
57 *Pott's Paraplegia. C. F. Painter and G. C. Moore, Boston.
58 *Advantages of Braces over Plaster Jackets in Pott's Disease. H. O. Feiss, Cleveland.
59 *Support for the Spondylitic Spine by Buried Steel Bars, Attached to the Vertebræ. F. Lange, Munich, Germany.
60 Relation Between Clinical Evidence and Pathologic Conditions in Spinal Caries. E. G. Brackett, Boston.
61 Physiotherapy in Sacro-Iliac Conditions. F. E. Peckham, Providence, R. I.
62 Fracture Dislocation of the Shoulder. A. R. Shands, Washington, D. C.
63 *Congenital Absence of the Tibia. T. H. Meyers, New York.
64 *Bone Clamps of Aluminum Wire. L. A. O. Goddu, Boston.
65 A Portable Apparatus for Applying Jackets in Hyperextension. L. T. Brown, Boston.
66 A Splint for Postoperative Hallux Valgus. C. F. Painter, Boston.

54 and 55. Abstracted in THE JOURNAL, July 2, 1910, p. 47.

56. **Scoliosis Relieved by Operation.**—In this case the operation consisted of excision of the lateral process of the fifth lumbar vertebra for abnormal development with scoliosis. The patient suffered considerable discomfort following the operation and complained of the right leg being "dead and immovable." Examination showed knee-jerks active and equal on both sides. There was no apparent sensory disturbance; nor was there swelling or discoloration of that extremity. The general condition was good. The patient suffered slight pain in the wound, but had an uneventful recovery. A few days after operation a plaster jacket was applied. When first allowed to walk the patient shuffled the right foot and complained of hyperesthesia of the dorsum of the foot. Her recovery was eventually a very satisfactory one.

57, 58 and 59. Abstracted in THE JOURNAL, June 11, 1910,, p. 1995.

63. **Congenital Absence of the Tibia.**—Myers operated on this patient in 1905 for congenital absence of the tibia. He transplanted the head of the fibula, and did an arthrodesis at the ankle joint. The result is excellent. The shortening, measured from the anterior superior spine to the ball of the foot where the weight is borne, is now 2 inches, of which three-fourths is in the femur. The shortening was originally 1¾ inches. The right (affected) calf is ¾ inch smaller than the left. The foot is fixed at 135 degrees. There is no hyperextension and no rotation possible at the knee. The boy can extend his leg to 165 degrees strongly and flex it to 90 degrees. The ankylosis at the ankle is firm.

64. **Bone Clamps of Aluminum Wire.**—This clamp is made of aluminum wire, gauge 16 or more, according to the strength required, of any desired length, and with one or more loops at each end, through which screws of deep thread are inserted and thus the clamp is fastened to the bone. The advantages of the use of this clamp over that of the ordinary bone plate or the silver wire, according to Goddu, are as follows: It has been shown that of all materials aluminum produces the least irritation to the tissues; the wire being round, the line of contact with the periosteum is necessarily very slight; even at the time of operation this clamp may readily be bent and made to conform with any deviations of the bones and still maintain its tensile strength; lastly, it can be so applied as to have no contact with the seat of disease. If it becomes necessary to remove the clamp, a small incision may be made in the skin over the site of one end of the clamp, the screws removed and the loops cut off and taken out; a similar incision may be made at the other end and after removing the screw the remaining portion of the clamp can be withdrawn. It has been shown in three incisions of the knee that the patients have experienced decidedly less pain with fixation by bone clamps or plates. The most striking feature in the use of these aluminum clamps is the almost entire absence of pain after operation.

Southern California Practitioner, Los Angeles

December

67 Strabismus in Infancy. F. Baker, San Diego, Cal.
68 Stone in the Bladder and Urethra in Children. L. B. Morton, Pasadena.
69 Cholelithiasis Simulating Appendicitis—Dislocation of Liver. R. Brown, Santa Barbara.
70 Liver Abscess. W. J. Barlow, Los Angeles.
71 Mental Defects Following the Use of Alcohol. J. T. Fisher, Los Angeles.
72 Present Status of Abdominal Drainage. C. P. Thomas, Los Angeles.
73 Mummified Fetus. R. L. Alexander, Tempe, Ariz.
74 Influence of Mixed Blood on the Susceptibility to Infection in the American Indian. R. E. Thomas, Phoenix, Ariz.

Military Surgeon, Washington, D. C.

December

75 The Status of the Medical Corps of the National Guard, in Relation to the Army, the Navy and the Public Health and Marine-Hospital Service. J. K. Weaver, Norristown, Pa.
76 *Tincture of Iodin in the Surgery of War. N. Antelo, Buenos Aires, Argentine Republic.

77 *Treatment of Lobar Pneumonia. E. Jurado y Gama, San Luis Potosi, Mexico.
78 Treatment of Hemiplegia Resulting from Apoplexy. K. S. Yau, China.
79 New Instrument Case of the French Army. Ruotte.
80 *Prophylaxis of Venereal Diseases in the United States Army. L. M. Maus, U. S. Army.
81 *What Can the Navy Do with Its Tuberculosis? C. T. Hibbett, U. S. Navy.

76, 77, 80 and 81. Abstracted in THE JOURNAL, Dec. 24, 1910, pp. 2257 and 2258.

Ophthalmic Record, Chicago

December

82 Ophthalmic Hospitals in Egypt. A. F. MacCallan, Egypt.
83 Two Cases of Interstitial Keratitis and One of Optic Neuritis Treated by Salvarsan. R. Denig, New York.
84 Attachment of the Tendon After Advancement. D. W. Wells, Boston.
85 Parinaud's Conjunctivitis. G. H. Mathewson, Montreal.
86 *Extraction of Cataract in Its Capsule. V. H. Hulen, Houston, Texas.

86. Extraction of Cataract in Its Capsule.—Fixing the lens by a small vacuum cup, and gently lifting out of the eye the cataract while yet contained in its capsule, are the essential features of Hulen's operation, one which he has employed successfully in six cases. The operation is done as follows: The preliminary preparations are the same as for an ordinary cataract extraction except the use of atropin in the eye an hour previously. The speculum is introduced and the section made in the limbus includes one-half of its circumference; raising a conjunctival flap above, a small iridectomy is done and the edges of the coloboma replaced. The speculum is now removed and a drop of cocain instilled. Should blood in the anterior chamber exclude the pupil it is removed by a gentle stream of warm saline solution. Next the assistant holds the upper lid with a retractor, controlling the lower lid with the other hand; under no circumstances must he now allow pressure on the globe until the eye is finally closed. The extractor is introduced through the section from the convenient side and gently let down on the lens, making sure the cup is everywhere free of the pupillary margin so that the iris may not be pinched subsequently. The extractor being held in the operator's right hand, the left is free for use as required. The patient should look straight ahead, never down. With the cup resting over the center of the anterior capsule the nurse turns the cock at the gage, the vacuum thus connected will cause the cup to grasp the cataract more rigidly. The extractor is then somewhat elevated and rotated to sever the suspensory ligament; now with the upper edge of the cup slightly raised the cataract in its capsule is slowly and gently lifted out, passing easily through the pupil and section. The edges of the coloboma are replaced and the subsequent management of the case is not different from the usual method.

Virginia Medical Semi-Monthly, Richmond

December 23

87 Ophthalmia Neonatorum. A Plea for Legislative Enactments for Its Prevention. J. A. White, Richmond.
88 Vagaries of Disease in Infancy and Childhood. E. P. Copeland, Washington, D. C.
89 Value of Sanatorium Treatment in Pulmonary Tuberculosis. W. D. Tewksbury, Catawba, Va.
90 Differential Diagnosis of Alcoholic Coma from Other Forms of Coma. L. D. Mason, Brooklyn, N. Y.
91 Syphilis Treated by Salvarsan. M. C. Sycle, Richmond.

Vermont Medical Monthly, Burlington

December

92 Medicine of To-Day and of Thirty Years Ago. J. C. Rutherford, Providence, R. I.
93 Extra-Uterine Pregnancy. E. H. Ross, St. Johnsbury.
94 Auto-Intoxication. E. W. Crane, Hardwick.
95 Diseases of the Upper Abdomen and Their Differential Diagnosis. C. J. Rumrill, Randolph.

Archives of Internal Medicine, Chicago

December

96 *Estimation of Chlorids in the Stomach Contents from Normal and from Atrophic Infants. A. H. Wentworth, Boston.
97 Effect of Treatment on the Wassermann Reaction. H. F. Swift, New York.
98 *Normal Percentages of the Different Varieties of Leukocytes in Infants and Children. O. M. Schloss, New York.
99 *Studies of Malaria in Panama: 1.—Clinical Studies of Malaria in the White Race. W. V. Brem, Cristobal, Canal Zone.
100 Pernicious Anemia Mistaken for Amebic Ulcerative Colitis. W. W. Herrick, New York.
101 The Duodenal Contents in Man. M. Einhorn and J. Rosenbloom, New York.
102 *Human and Animal Typhoid Agglutinins. R. S. Austin and C. Frothingham, Jr., Boston.
103 Cutaneous and Conjunctival Tuberculin Tests in the Diagnosis of Pulmonary Tuberculosis. L. Hamman and S. Wolman, Baltimore.
104 Histologic Study of the Sweat Glands in Cases of Chronic Nephritis. H. U. Williams, Buffalo, N. Y.
105 *The Lenticular Zone and Anarthria. A. Gordon, Philadelphia.
106 *A Quick Macroscopic Typhoid Agglutination Test. C. C. Bass and J. A. Watkins, New Orleans.

96. Chlorids in Stomach Contents of Infants.—The observations recorded in Wentworth's paper are a continuation of work briefly alluded to in a previous article. The purpose of this work is to discover whether or not the hydrochloric acid of the gastric juice is diminished in cases of infantile atrophy. In the first series of observations, the stomach contents were obtained one hour after eating from a limited number of atrophic infants fed on mixtures of cow's milk. The determinations were made by Sjöquist's method. The results showed a diminished amount of hydrochloric acid in the stomach contents in every case. The same series of observations included determinations of hydrochloric acid in the stomach contents from a limited number of well-nourished and apparently healthy infants fed on mixtures of cow's milk. The results in these cases were variable. In four cases the amount of hydrochloric acid was much greater than in the cases of atrophy. In three cases the amount of hydrochloric acid approximated that of the atrophic infants.

As these results were not conclusive, a second series of observations were made with a view to controlling the first series. The same method of analysis was employed. Unfiltered stomach contents were used in every case. The diagnosis of infantile atrophy was made from clinical evidence alone. Most of the cases were under observation for several weeks. The Sjöquist method rarely showed more than a trace of hydrochloric acid in the stomach contents from atrophic infants fed on cow's milk mixtures. Out of twenty one determinations made of hydrochloric acid in the stomach contents obtained from eight infants, ten showed a percentage of hydrochloric acid between 0.01 and 0.05, and eleven showed a percentage of hydrochloric acid between 0.002 and 0.009. The stomach contents from nine well-nourished infants showed a diminished amount of hydrochloric acid. The diminution of hydrochloric acid corresponded closely to that found in about one-half of the determinations made on the above-mentioned atrophic infants. Out of twelve determinations of hydrochloric acid in the stomach contents obtained from nine infants, one showed 0.12 per cent., one showed 0.09 per cent., nine showed percentages between 0.01 and 0.05, and one showed 0.005 per cent. hydrochloric acid. Thus the diminution of hydrochloric acid, although it was marked, was never so extreme as in one-half of the determinations obtained from atrophic infants. Examinations of the stomach contents obtained from the same atrophic infants at different periods of time after eating, and without any change in the diet, rarely showed any marked variations in the quantity of hydrochloric acid present.

Wentworth does not believe that the results of these observations prove that a marked diminution of hydrochloric acid in the gastric juice is an essential factor in the production of infantile atrophy, although they do show that this diminution is constant. On the other hand, considerable evidence is afforded by several of the observations that it is possible for atrophic infants to gain rapidly in weight and yet produce little hydrochloric acid in the gastric juice. This appears to show that the quantity of hydrochloric acid in the gastric juice is not an important factor in recovery from infantile atrophy.

98. Normal Percentages of Leukocytes in Children.—A series of differential blood-counts were made by Schloss on eighty apparently normal infants and in children between 3 and 12 years of age. The investigation was undertaken primarily to determine, if possible, the normal percentages of the cells with eosinophilic granules. Most of the children were from the poorer classes, but all cases of manifest illness were excluded. Cases were also excluded in which there was a

history of any disease recognized as a cause of eosinophilia. The following precautions were taken in the attempt to eliminate helminthiasis: The counts on children between 1 and 12 years of age were made only in instances in which the history and a previous examination of the feces was negative. In infants under 1 year of age, the feces were examined in cases showing more than 5 per cent. of eosinophil cells. The eosinophil cells were over 6 per cent. in seven of fifteen infants under 2 months of age; the highest percentage was 9.7. In two additional cases the percentage was greater than 5; in one, 5.2 per cent; in another, 5.3 per cent. The highest percentages were found in infants between 2 days and 2 weeks of age. In none of the fifty-five infants and children between 2 months and 12 years of age was the percentage of the eosinophil cells above 6. In two cases the eosinophil cells were 6 per cent. In all other cases the percentage was less than 5. In apparently normal infants from 3 days to 2 months of age, the eosinophil cells were frequently above the percentages normal for adults. In normal individuals between 2 months and 12 years of age, when the known causes of eosinophilia were excluded, the eosinophil cells were rarely above 5 per cent. and never greater than 6 per cent., and were present in approximately the same relative proportion as in adults. It therefore only seems fair to conclude, says Schloss, that there is no physiologic eosinophilia in childhood; that 5 per cent. of eosinophil cells may be considered as the upper limit of normal, and certainly, more than 6 per cent. as pathologic.

99. **Malaria in Panama.**—In the "white fever wards" of Ancon Hospital, during 1905 and 1906, 1,107 of 1,300 patients were malarial, a morbidity of 85 per cent. The malarial mortality was 0.54 per cent.; the mortality from other diseases, 4.6 per cent., or about nine times that of malaria. Malarial parasites were found in the peripheral blood of 705 patients, or 63.7 per cent. of the malarial cases. The estivo-autumnal parasite alone was diagnosed 447 times, or in 63.4 per cent. of the positive cases; the tertian alone, 232 times, or in 32.9 per cent.; mixed infections with estivo-autumnal and tertian organisms were found in 26 cases, 3.7 per cent. No quartan organisms were found in this series. The estivo-autumnal percentage is probably slightly too small, and the tertian too large. Three systems of quinin administration were tested: (1) 30 grains daily, 3 doses of 10 grains each, at 6, 8 and 10 a. m.; (2) from 30 to 40 grains daily, given in 5-grain doses every 4 hours, with 2 extra doses of 5 grains each given in obstinate cases before the approximate time for the onset of paroxysms, at 10 a. m. and 2 p. m.; (3) 20 grains daily, 2 doses of 10 grains each, at 6 and 8 p. m. The febrile period was approximately equal under Systems 1 and 2; it was much longer under System 3. All things considered, System 1 seemed to be preferable for the treatment of ordinary infections in male adults.

Several points are emphasized by Brem. The great majority of malarial paroxysms, both estivo-autumnal and tertian, occurred between the hours of 8 a. m. and 8 p. m. Acquired partial immunity or tolerance for the malarial poison is marked after the first infection. The febrile period and the severity of the symptoms decrease markedly after the first attack, remain approximately stationary in the second, third and fourth attacks and then undergo another marked decrease. For the quinin diagnosis test, the drug should be given in the doses of Systems 1 and 2 to male adults. In other cases the quantities may be regulated by the weight of the patient. In first attacks of malaria, the fever of two out of three estivo-autumnal infections will reach and remain normal within three days. If a marked remission and a much-decreased fastigium do not occur on the fourth day, the fever is not malarial and quinin may be discontinued. If a remittent or intermittent fever continues unabated for more than four days, it is not of malarial origin. First attacks may show mild or rudimenary paroxysms of fever for six, seven or eight days. In secondary attacks of malaria, fever usually ceases within three days, and a remittent or intermittent fever that persists unabated for three days is not malarial. Four days is the maximum time to persist in the test. All tertian infections are controlled within three days. Great care must be used to insure the absorption of quinin, and the patient must be kept at rest in bed. Chronic malaria and malarial cachexia are much-abused terms; they describe a condition and not a disease, and should be used only in elaboration of a diagnosis of malarial fever, for which proper cause should be shown. If parasites are not demonstrable and if careful examinations appear to exclude other diseases, the quinin test may be used in malarious regions. If an anemic (cachectic) condition is due to malaria, a partial immunity or tolerance has been acquired, and quinin causes a rapid cessation of fever and other symptoms. If these do not disappear within three days, or if the anemic condition does not improve rapidly, malaria is not the origin of the trouble, and another diagnosis must be sought. In using the test, the patient must be kept at rest in bed, and the absorption of quinin must be assured.

102. **Human and Animal Agglutinins.**—The points brought out by Austin and Frothingham are: The agglutinating power of the serum in typhoid usually reaches its height in about the third or fourth week. Occasionally at this time a positive reaction will be obtained at a dilution of 1 to 600 or 1 to 800; as a rule, only at a dilution of about 1 to 250. In rabbits, agglutinins can be developed by injecting typhoid bacilli intraperitoneally. These experimentally produced agglutinins apparently can be increased in strength as long as the bacilli are injected. The serum from these rabbits when injected into other rabbits causes a transitory agglutinating power to appear in them. This power appears the first hour after injection, gradually increases in strength until the third hour, then subsides and has disappeared about the seventh hour. These time-relations are practically the same, whether the serum is given subcutaneously or intravenously. The height of the agglutinating power is greater after intravenous than after subcutaneous injection. The agglutinating power in the injected animals is apparently simply a dilution of the agglutinating power injected. Even repeated injections of serum fail to stimulate a rabbit to form agglutinins. If comparison may be drawn from animal experimentation it should be possible in typhoid to administer serum in doses of practical size so as to produce more agglutinating power than ordinarily occurs in the course of the disease. In order to keep up this agglutinating power the serum should be given every few hours. The serum should preferably be given intravenously.

105. **Lenticular Zone and Anarthria.**—A case is reported by Gordon which he believes demonstrates clearly that, while certain features of Marie's revised view on aphasia are not at all in conformity with pathologic findings, there are nevertheless some phases which can be explained, if not totally, at least to a large degree, on the basis of his so-called lenticular zone. The anatomic and clinical conditions of the case are particularly conspicuous with regard to the most important point of Marie's contention, namely, the question of anarthria. The patient presented at the time of his admission to the hospital and for two subsequent months, complete right hemiplegia, alexia and verbal amnesia. The latter two phenomena were not complete. Particularly important was the total absence of motor aphasia and dysarthria. For two months the patient's condition remained unaltered. One morning he was found unconscious and agitated with convulsive movements in his right arm and leg and frothing at the mouth. The attack lasted a minute, but for two subsequent hours the arm and leg remained in a state of extreme rigidity. Moreover, the least touch of the leg or arm would produce a convulsive movement. From the moment he lost consciousness, and during the following twenty-four hours of his life, he presented a conjugate deviation of the head and eyes to the right. An attempt to turn his head to the left would not correct the direction of the eyes. During the first few hours he could not voluntarily turn the head to the left, but in the last few hours he was able to make attempts to do it, but only attempts, as he was unable to hold it in the right direction longer than for a fraction of a minute. The same can be said about the eyes. In addition to this phenomenon, the patient was unable to protrude his tongue, move his lips or utter a word. Soon he presented difficulty of swallowing and on the twenty-fifth hour he expired.

The brain and cord were removed. Destruction of the lenticular and caudate nuclei was complete, and yet the patient did not present the least indication of dysarthria. His speech, so far as the articulation was concerned, was clear and distinct. He did, however, present a partial word-blindness and partial verbal amnesia, all symptoms of sensory aphasia. The few symptoms of sensory aphasia observed in this case correspond in reality to Marie's contention, but are at variance with the old conception concerning Wernicke's zone. The angular gyrus, the supramarginal gyrus, the posterior portions of the first two temporal convolutions, the insula and the frontal convolution, were found intact, macroscopically and microscopically. In support of Marie's conception of sensory aphasia Gordon mentions also the condition of the inferior longitudinal bundle, which was partly destroyed. The conclusion to which this observation leads Gordon is that the so-called lenticular zone of Marie may play a certain but not considerable rôle in sensory aphasia. As to its being a center of anarthria, the present case proves that its destruction does not interfere with phonation and articulation of spoken words. Consequently, if Marie's conception of aphasia may be applicable to a certain series of cases, as he has shown, it does not hold its ground in every case in which the sensory or motor speech may become involved.

106. **Quick Macroscopic Typhoid Agglutination Test.**—The method proposed by Bass and Watkins for making the typhoid agglutination test requires an ordinary microscope slide, or other piece of glass, a surgical needle or other puncture needle, and an ordinary medicine dropper. The material required is 1 drop of a suspension typhoid bacilli. The time required to make the test is less than two minutes. No special bacteriologic or laboratory experience is necessary; and the test, when properly performed by one with even limited experience, is as reliable and accurate as can be made by an expert bacteriologist within an hour with a microscope and the facilities of a laboratory. The test may be made at the bedside in two minutes. The material consists of a suspension of 10,000 million dead typhoid bacilli per cubic centimeter in 1.7 per cent. sodium chlorid solution to which 1 per cent. of liquor formaldehydi is added. The blood is diluted by dissolving it in approximately four times its volume of water. One or 2 drops of this diluted blood are mixed on a microscope slide or other piece of glass, with an equal quantity of test fluid. The slide is tilted from side to side or end to end in order to keep the mixture flowing back and forth. If the reaction is positive, a grayish, mealy sediment appears within one minute; usually in less than that time. This consists of agglutinated bacilli and is easily seen with the unaided eye. It appears in the fluid around the edges first and tends to collect there. If the agitation is continued the clumps increase in size for two or three minutes. With blood that gives a weak reaction the appearance of the sediment is not so rapid as with stronger reacting blood. It is useless, however, to continue the test longer than two minutes, for if the reaction has not occurred in two minutes it will not occur at all. When the reaction is negative, no agglutination occurs, and the mixture remains as clear and unchanged as when placed on the slide.

Therapeutic Gazette, Detroit

December

107 Prospect of Salvarsan Coming into General Use. S. L. Olsho, Philadelphia.
108 Ocular Affections in Cardiovascular Disease. S. D. Risley, Philadelphia.
109 Partial Detachment of a Normally Situated Placenta—Concealed Intra-Uterine Accidental Hemorrhage. W. H. Wells, Philadelphia.
110 Infectious Arthritis. J. W. Torbett, Marlin, Texas.

Chicago Medical Recorder

December

111 Echinococcus Cyst of the Liver. L. A. Greensfelder, Chicago.
112 Use of the Medical Library. B. Holmes, Chicago.
113 Salvarsan. E. H. Mensing, Chicago.
114 Foreign Bodies in the Ear. J. C. Warbrick, Chicago.

Detroit Medical Journal

December

115 Dysmenorrhea. E. T. Abrams, Dollar Bay, Mich.
116 Salvarsan in Syphilis. H. R. Varney and R. C. Jamieson Detroit.

Journal of Abdominal Psychology, Boston

December-January

117 Action of Suggestion in Psychotherapy. E. Jones, Toronto.
118 *Mental Mechanisms in Dementia Præcox. A. Hoch, New York.
119 *Nature and Conception of Dementia Præcox. A. Meyer, Baltimore.

118 and 119. Abstracted in THE JOURNAL, July 16, 1910, p. 248.

Albany Medical Annals

December

120 The Portals of Entry in Tuberculosis. H. Chiari, Strassburg.
121 Problem of the Acute Mental Case. J. M. Mosher, Albany.
122 Anesthesia in Normal Labor. P. T. Harper, New York.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December

123 *Catalytic Activity of the Blood in the Toxemias of Pregnancy. M. C. Winternitz and F. C. Ainley, Baltimore.
124 Acute Pancreatitis. J. W. Poucher, Poughkeepsie, N. Y.
125 *Cesarean Section by the Small Median Incision Above the Umbilicus. A. B. Davis, New York.
126 Adenocarcinoma of the Kidney. J. G. Sherrill, Louisville, Ky.
127 *Breast of the Expectant Mother: Its Care Before and During the Period of Lactation. F. Reder, St. Louis.
128 Progress of the Year in Gynecology. S. M. Brickner, New York.
129 Progress of the Year in Obstetrics. G. L. Brodhead, New York.
130 *Acute Hemorrhagic Pancreatitis. J. W. Keefe, Providence, R. I.
131 *Conservatism in Operations on the Uterine Appendages. L. C. Morris, Birmingham, Ala.
132 Pathology of Gynecology and Obstetrics. R. T. Frank, New York.
133 Clinical Aspect of Recent Researches in the Chemical Physiology of Infants. J. Zahorsky, St. Louis.
134 Results of Infant Feeding with Milk from City-Kept Cows. E. V. Davis, Chicago.
135 Method of Feeding of More Importance than Choice of Food in Substitute Feeding of Infants. C. Douglas, Detroit.
136 Nasal Diphtheria in Infants. G. D. Scott, New York.

123. **Catalytic Activity of the Blood.**—In the hope of being able to demonstrate the presence or absence of renal insufficiency in the various types of toxemia of pregnancy, Winternitz and Ainley have determined the catalytic activity of the blood in a number of such cases. They employed a modification of the method described in detail by Kastle and Loevenhardt. Ten clinically normal patients were studied, in each of whom several readings were made at varying intervals before, during and after labor, but in no instance did the readings show any appreciable variation from those noted in normal non-pregnant individuals. Such findings suffice to show that neither pregnancy, labor nor the puerperium produce any appreciable change in the power of the blood to split hydrogen peroxid, which always falls within the limits of physiologic variation. The test was then applied in ten cases of toxemia of pregnancy. In seven the catalytic activity of the blood showed no changes, while in three it was found to be definitely decreased. The results obtained from a study of the catalytic activity of the blood during life and of the tissue extracts, as well as the autopsy findings, are all in agreement. That is to say, there being no renal insufficiency, there was no decrease in the catalytic activity of either the blood or the tissue extracts, which is in marked contrast to the results obtained in the cases of chronic nephritis and uremia, uncomplicated by pregnancy, which have been previously reported. In them, accompanying the renal insufficiency, the authors were able to demonstrate a corresponding decline both in the activity of the blood and of the tissue extracts. In two fatal cases it was positively demonstrated that the patients died of eclampsia; the eclampsia was independent of renal insufficiency; the absence of renal insufficiency, shown before death, by the normal catalytic activity of the blood, was substantiated by autopsy findings. The authors conclude, therefore, that the determination of the catalytic activity of the blood appears to offer a means of differentiating the toxemias of pregnancy into two groups. In certain instances the catalytic activity shows no departure from normal these include cases of eclampsia and other toxemias without marked renal involvement. In certain other cases the catalytic activity of the blood is decreased; these include patients suffering from chronic nephritis in whom the increased work thrown on the kidneys by the pregnancy brings about renal insufficiency, as well as cases of true eclampsia and other toxemias with marked renal involvement.

125, 130 and 131.—Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1402 and 1403.

127. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1313.

Denver Medical Times and Utah Medical Journal, Denver

December

137 Some Problems Before the Medical Profession. W. N. Beggs, Denver.
138 Edema of the Glottis. F. E. Waxham, Denver.
139 Mucous Colitis: Etiology and Treatment. H. Heath, Denver.
140 Whooping-Cough. R. J. Smith, Logan, Utah.
141 Medical Education and Legislation. D. C. Budge, Logan, Utah.
142 The Physicians in Ancient Rome. L. Hoefeli.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 10

1 Surgical Versus the Expectant Treatment of Intracranial Tumor. Sir V. Horsley.
2 *Cancer. A. P. Gould.
3 *Results of Bronchial Obstruction. G. N. Pitt.

December 17

4 Plea for Graduation in Laryngo-Otology on a Broad Basis. P. W. Williams.
5 Treatment of Gastric and Duodenal Ulcer. E. C. Hort.
6 Unusual Case of Toxic Dermatitis. C. Pernet.
7 *Variation Among Bacteria. W. J. Wilson.
8 Therapeutic Advantages of Using Mercury in the Colloid Form. G. A. Stephens.
9 Etiology of Iritis. W. M. Beaumont.
10 *Normal Orthograde Posture. R. H. Scanes-Spicer.

2. Also published in the *Lancet*, Dec. 10, 1910. See abstract No. 11.

3. Also published in the *Lancet*, Dec. 10, 1910.

7. **Variation Among Bacteria.**—Wilson isolated a bacillus from the urine of a patient, which is interesting from the fact that it possesses characters intermediate between those possessed by the *B. typhosus* and the *B. coli communis*. The patient was probably an "effective" typhoid bacillus-carrier. Four years ago an epidemic of typhoid occurred in a fashionable district of Belfast, and the cases were centered around a certain milk supply. On investigation, it was found that one of the milkers had recently suffered from "influenza," complicated with jaundice, and her blood gave a well-marked positive Widal reaction in a 1 to 50 dilution. When the supply of milk from this dairy was stopped, the epidemic came to an end. There were thirty cases reported, several of which terminated fatally. This woman developed Bright's disease from which she died. Wilson obtained a specimen of the urine a week before she died, and it was from it that he isolated a bacillus which formed acid but no gas in glucose media, and which fermented lactose at 22 C. but not at 37 C. In not developing gas in glucose media but forming some from mannite it resembled certain colon bacilli of the "anaerogenes" class previously described by Wilson, and which form connecting links between the *B. coli* and the *B. typhosus* group of microorganisms.

10. **The Normal Orthograde Posture.**—The normal orthograde posture is defined by Scanes-Spicer as that in which the center of gravity of the head is vertically over the center of the base of support. The vertical plumb-line joining these points bisects the median transverse occipito condyloid axis, and also the intercotyloid axis, passing through also the center of gravity of the mass made up of the trunk and upper limbs. The center of gravity of the head, that of the trunk, and the center of the base of support, are actively distanced as much as possible from each other by fullest possible extension of the vertical axis in which the above points lie with each in-breath until the extension becomes automatic and unconscious. This posture, Scanes-Spicer says, should be the basis of all physical education for the young. It is the ideal we should seek for every child, the one we should endeavor to get stereotyped by growth in form and structure, the one to which such child should automatically return after action or relaxation. The subject trained thus has an easy and graceful carriage, a straight back, well-poised head, a raised, expanded and mobile thorax well distanced from the pelvis, a flat abdomen, and all the internal organs in constant correct position for best work. The postures permitted and taught by some physical culturists with retracted head, stiff neck, protruded abdomen, hollowed back, and bent knees, do not comply with this definition, and are absolute caricatures of the normal erect posture, and directly produce deformity and disease. Moreover, the normal erect posture is the fundamental essential for all efficient respiration, correct voice production and speaking. Lastly, the influence of the normal erect posture in the prevention and treatment of disease is of a potency as yet but barely suspected.

Lancet, London

December 10

11 *Cancer. A. P. Gould.
12 Results of Bronchial Obstruction. G. N. Pitt.
13 Theory and Practice of the Treatment of Syphilis with Salvarsan ("606"). J. McIntosh and P. Fildes.
14 *A Pedigree Showing Biparental Inheritance of Webbed Toes. H. P. Newsholme.
15 *An Obscure Case of Peritonitis. R. H. Norman.
16 Uterine Cervical Polypus Undergoing Malignant Degeneration. H. Macnaughton-Jones.

December 17

17 The Aftermath of Eyestrain. S. Stephenson.
18 *Specific Diagnosis of Pulmonary Tuberculosis. A. C. Inman.
19 Tuberculous Meningitis. W. B. Warrington.
20 Etiology of Beriberi. H. Fraser and A. T. Stanton.
21 Primary Carcinoma of the Appendix. A. M. Kennedy.

11. **Cancer.**—Gould makes a brief review of the present status of research into the cause and treatment of cancer, discusses earnestly the so-called cancer immunity, which is evidenced in one or more of the following ways: (1) the power of living cells to conform to the law of normal development and to avoid that increased multiplication, defective differentiation, and tendency to intrude themselves into, and grow in, neighboring cell territories, which together connote cancer; (2) opposition to the intrusion of cancer cells into, and their development in, heterologous tissue; (3) inhibition of the growth of cancer or destruction of living cancer cells. Thus the public has been depressed by the oft-repeated statement that one out of every eight women who reach the age of 35 dies from cancer; and of the men who attain 35 years, one of thirteen dies from cancer. This no doubt is true, but why, asks Gould, not express the same facts in terms of immunity, and say that seven out of the eight women and twelve out of thirteen men of 35 years of age will not die from cancer.

Of the second kind of immunity—the opposition to the intrusion of the cancer cells into the heterologous tissue—there is plenty of evidence. There is, first of all, the difficulty in cancer grafting, and then the fate of many of the cancer cells and minute cancer emboli that get into lymphatics and blood capillaries; the majority of them are overwhelmed by the opposing influence of the endothelial cells, and only one here and there is ever able to survive. There is a force of immunity which can protect, against the chief mischievous power of malignancy.

The third form of immunity is what is popularly known as the "cure of cancer"—the disappearance of cancerous growth. Those who are studying the disease in mice report that in these animals it is quite a frequent occurrence for a grafted cancerous growth, after attaining some size, to slowly shrink and disappear, and in some series of experiments a large proportion of the grafts that have "taken" have, after a period of growth, spontaneously vanished. In human pathology, it is a still less frequent fact, but it undoubtedly is observed. It is most frequently seen in the absorption and disappearance of small secondary nodules in the skin and subcutaneous tissue. It is occasionally witnessed on a grander scale. Gould cites nine such cases which occurred in his own practice.

14. **Biparental Inheritance of Webbed Toes.**—It was discovered accidentally by Newsholme, during a routine examination, that the second and third toes of each foot of patient were webbed as far as their terminal phalanges. Further inquiry showed that this deformity occurred through three generations and involved twenty-two members of a family of twenty-nine.

15. **Peritonitis.**—Norman's patient, a man, aged 33, complained of severe continuous pain in the epigastrium, both hypochondria, and the right iliac region. There was no point of special tenderness. He had vomited several times that day, the vomit being gastric only. The abdomen was distended and moved with respiration. Nothing abnormal could be felt. The temperature was 102 F. The bowels were constipated. On the next day he was in much the same condition, the pain being a little less after some small doses of opium. The temperature at 9 p. m. was 104 F. The bowels had been opened by enema, and subsequently two loose, bright yellow motions were passed. The color of these motions suggested typhoid, but no other symptom pointed to that diagnosis. He had been ailing a week or ten days, feeling languid and having a poor appetite, but he kept at his business. A positive Widal reaction was reported. On the third day, the abdomen was much distended, with little or no movement in respiration, general tenderness, but no rigidity. Norman suspected perforative peritonitis, but could not satisfy himself that this was so, the liver dulness being normal. The grave abdominal condition pointed to the immediate need of a celiotomy. This was done but the patient never rallied. A mass of inflamed tissue was found behind the stomach in which were several broken-down caseous glands. There was a cavity in this mass, and from it one sinus led into the stomach. The ulcer in the stomach was not a recent one. Another sinus led to a caseous mesenteric gland, and two others led into the peritoneum. The openings into the peritoneum were apparently recent. There were a number of caseous mesenteric glands, and acute peritonitis was present. The right lung was bound down by old adhesions. There was no evidence of typhoid fever. Fourteen or fifteen years ago tuberculous glands had been removed from the neck.

18. **Pulmonary Tuberculosis.**—Of twenty-six adults examined by Inman, eighteen had tubercle bacilli in the sputum; and of these, sixteen had tubercle bacilli in the feces; in two cases, examination of the feces gave a negative result. Eight of the patients examined had no tubercle bacilli in the sputum, and of these, seven had none in the feces, while in one case tubercle bacilli were found in the feces. Inman believes that these results suggest that the appearance of tubercle bacilli in the stools of early cases of pulmonary tuberculosis, and in the absence of intestinal tuberculosis, results from the swallowing of sputum secreted in an open tuberculous focus in the lungs. Reviewing, as a whole, the positive results of examinations of the opsonic index made with a view to diagnosis, the following four types of variation are defined: A. An index low before, but rising after exercise. B. An index low before and after exercise (insufficient exercise). C. An index high before and falling after exercise. D. An index high before and after exercise.

Taking 250 cases of doubtful pulmonary tuberculosis in which the tuberculo-opsonic index was estimated before and after exercise for diagnostic purposes: The index remained within normal limits in ninety-one cases. The index started low and rose after exercise in fifty-six cases. The index started low and remained low after exercise in forty-one cases. The index started high and fell after exercise in fifty-four cases. The index started high and remained high after exercise in eight cases. So that we have this very striking result: Of 159 cases in which the index varied outside the normal limits, ninety-seven started low, and of these, fifty-six rose as the result of exercise, and forty-one remained low after exercise; sixty-two started high, and of these, fifty-four fell after exercise, and eight remained high. By examining four specimens of blood—the first being taken at rest, the second immediately after exercise, and two more during subsequent rest—it was found that the positive curves conformed in the majority of cases to two types. Those whose index was high in the morning before exercise gave a curve with the apex downward as the result of the exercise, while those with an index starting low in the morning made a curve with the apex pointing upward as the result of exercise.

Inman suggests that the groups A and B point to a localized chronic tuberculous infection, which, however, calls for treatment and must still be regarded as active. The high indices of groups C and D may be regarded as significant of greater activity of disease in that they imply an increase in the elaboration of protective substances in the serum. Inman concludes that in the early diagnosis of pulmonary tuberculosis the recent methods of concentration should always be employed for the exposition of tubercle bacilli in the sputum and feces. The difficulty of interpreting the results of the various tuberculin tests seriously limits their value in the diagnosis of active pulmonary tuberculosis. A positive opsonic index test is of undoubted value in the diagnosis of active pulmonary tuberculosis. A negative opsonic index test must be taken with reserve. The interpretation of the result rests with the clinician, who can take into consideration all the additional factors in the diagnosis of the case.

Journal of Tropical Medicine and Hygiene, London

November 15

22 Experiences in Yucatan. H. Seidelin.
23 Filariasis in Morocco. G. Breeze.
24 Development of "Green-Bottle Fly" at Sierra Leone, West Africa. R. W. Orpen.
25 *Fasciolopsis Buski* in Natal. B. Nicol.
26 Duration of Infection of Malaria. G. C. Low.

Clinical Journal, London

November 23

27 Typhoid. W. H. White.
28 Secondary Cancer of the Ovary. J. Bland-Sutton.
29 Pathology of Certain Ovarian Tumors. B. H. Spilsbury.

November 30

30 Gynecologic Therapeutics. F. McCann.
31 Hemorrhoids. A. Baldwin.
32 Common Operations. H. S. Pendlebury.

Glasgow Medical Journal

December

33 Recent Advances in Hematology. W. K. Hunter.
34 Prophylaxis in Obstetrics. A. W. Russell.
35 Education of the Very Young Deaf Child. J. K. Love.

Medical Press and Circular, London

November 23

36 Common Juvenile Acne. P. Rostaine.
37 *Value of a Restricted Diet in Certain Acute Inflammatory Diseases of the Skin. L. D. Bulkley.
38 *A Dermatitis Among Flower-Pickers in the Scilly Islands, the So-Called "Lily Rash." D. Walsh.
39 Dyspepsia and Gastritis. J. A. Gibson.

November 30

40 Diagnosis of Prolonged Pyrexia. F. Taylor.
41 Tumor in the Region of the Corpora Quadrigemina. R. T. Williamson.
42 Fever from Doubtful or Unknown Causes. H. Plehn.
43 Tabard Street and Grotto Place Unhealthy Homes. F. J. Waldo.

37. This is an abstract of a paper read before the Dermatological Section of the British Medical Association and published in full in the *British Medical Journal*, Sept. 24, 1910.

38. Also published in the *British Medical Journal*, Sept. 24, 1910.

Annales de Gynécologie et d'Obstétrique, Paris

December, XXXVII, Nos. 11-12, pp. 721-864

44 *Uncontrollable Vomiting of Pregnancy. (Pathogénie et traitement des vomissements incoercibles de la grossesse.) G. Fieux.
45 Relations Between Cholelithiasis, Pregnancy and Delivery. J. Audebert and R. Gilles.

44. **Pernicious Vomiting of Pregnancy.**—Fieux declares that the vomiting for which the pregnancy is directly responsible seems to be restricted to the first weeks up to the end of the fourth month. The vomiting which occurs toward the end is due to an entirely different form of toxemia, he thinks. Hypotension is the rule in the early vomiting, while those women developing an eclamptic condition have hypertension. His experiments suggest that the villi of the chorion in the first months of pregnancy induce the production of an antibody which can be revealed by the complement-deviation test during the second and third months, but the findings are negative after the fourth. In certain cases, the tendency to vomiting persists from a psychic automatic action; the neuropath continues to vomit because this early symptom, combined with the idea of being pregnant, has induced a kind of obsession. It is in such cases, he declares, that institutional treatment and isolation are specially useful. In all cases, he continues, the diet should be carefully supervised; sometimes

milk by the teaspoonful may tide the patient past the danger point, or vegetable soups may be better tolerated. In some cases he has had patients retain and thrive on a little sheep brain, thoroughly boiled, mashed and mixed with a lemon-water-ice (*sorbet*), when milk was not retained. Fluids should be supplied in abundance even if infusion is necessary. The main point is to give the patients time to conquer the tendency to vomit by their own reactional resources, as the physician has no direct means of curing the evil tendency. Retention of urine and possibly also a pulse-rate persistently over 100, are important signs that the patient must be relieved at once of the pregnancy. Signs of polyneuritis or jaundice compel immediate evacuation of the uterus, he declares, as they show that the toxemia is getting the upper hand, and he advises against waiting too long. He warns that vomiting during pregnancy must not be confounded with the vomiting of pregnancy; some intercurrent affection may be discovered. He thinks that Copeman's method acts by suggestion; it aims to change conditions by slight dilatation of the uterine cervix with the fingers, detaching the inferior pole of the ovum. He advocates emptying the uterus even in the most apparently desperate cases, as he has witnessed actual resurrections when all seemed lost.

Annales de Médecine et Chirurgie Infantiles, Paris

November 15, XIV, No. 22, pp. 689-724

46 *The Dwelling and the Health of Children. P. Lassablière and E. Schatzmann.
47 School Desks. (Le mobilier scolaire au dernier congrès d'hygiène scolaire.) F. de Courmelles.

46. **The Dwelling and the Health of Children.**—Lassablière and Schatzmann give the details resulting from careful study of conditions in fifteen families of the working classes. The morbidity was in inverse proportion to the size and number of rooms, and the absence of sunlight and defective ventilation give the results that might naturally be expected.

Bulletin de l'Académie de Médecine, Paris

November 22, LXXIV, No. 37, pp. 339-357

48 Reportable Infectious Diseases in the French Colonies. H. Vincent.
49 Necessity for Compulsory Notification of Paratyphoid Fever. H. Vincent.

Presse Médicale, Paris

November 30, XVIII, No. 96, pp. 897-904

50 *Syphilitic Mediastinitis. M. Dieulafoy.

December 3, No. 97, pp. 905-920

51 Tarsalgia in the Adolescent Not an Attenuated Tuberculosis. A. Broca and E. Levy.

December 7, No. 98, pp. 921-928

52 History of Endocarditis with Acute Rheumatism. A. Chauffard.
53 *Minor Signs of Malta Fever. P. Darbois.

50. **Syphilitic Mediastinitis.**—The only testimony as to the syphilitic nature of the puzzling syndrome observed was the prompt recovery under mercury. There were no signs or history of syphilis and the symptoms indicated severe compression of organs by a tumor in the vicinity of the superior vena cava. The patient was a man of 63, supposedly healthy until the last year. The symptoms from the assumed tumor in the mediastinum growing worse, an operation was decided on but was preceded by a tentative course of mercury; in less than a month there was complete recovery. The case is another example, the author states, of the protean manifestations of ignored syphilis. Dieulafoy makes it a rule now to give mercury in every organic lesion whose cause cannot be detected, regardless of the Wassermann findings.

53. **Minor Signs of Malta Fever.**—Among the symptoms which are not generally known are a mild orchitis; four or five sweats during the night, the sweat frequently being fetid and soaking the mattress; constipation, sometimes alternating with profuse diarrhea the moment the sweats stop; fleeting pains or the pain may be localized in the heels, sacro-iliac articulation or epigastrium; there may also be falling of the hair, both on the head and body, and in the intervals between the acute exacerbations there may be desquamation without preceding erythema. When the disease drags along for months, there may be localized edema and the limb involved feels intensely cold or the patient may feel chilly all over most of the time. Darbois calls attention to these minor signs of the infection as an aid when the diagnosis is dubious.

Semaine Médicale, Paris

December 14, XXX, No. 50, pp. 585-594

54 *Paraplegic Dementia from Chronic Cortical Encephalitis. (Nouveau syndrome anatomo-clinique.) G. Deny and J. Lhermitte.

54. **Non-Senile Paraplegic Dementia.**—Deny and Lhermitte report the clinical and anatomic details of a case of dementia with progressive paraplegia due to a chronic cortical encephalitis. The lesions and symptoms resembled those of paraplegic dementia resulting from patches of softening of the brain, and they differ completely from the lesions of senile paraplegic dementia. The patient was a woman of 48 and the first symptoms had been observed nearly two years before death.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 1, pp. 1-173. Last indexed Dec. 10, 1910, p. 2100

55 *The Two Weak Points in the Mediastinum. (Die "schwachen Stellen" des Mediastinums und ihre klinische Bedeutung bei pleuritischen Exsudat with Emphysema.) G. Nitsch.
56 Spontaneous Pneumothorax with Emphysema. H. Bach.
57 *Quantitative, "Titration" Cutaneous Tuberculin Reaction. W. Mirauer.
58 *Artificial Pneumothorax in Pulmonary Tuberculosis. K. Wellmann.
59 Experimental Research on Effects of Artificial Pneumothorax. (Zur Kollapstherapie der Lungentuberkulose.) E. Ruediger.
60 *Comparative Value of Cutaneous and Conjunctival Tuberculin Tests in Children. E. Feer.
61 *Inefficiency of Tuberculin Test by the Mouth. (Interne Tuberkulindarreichung zu diagnostischen Zwecken.) F. Hell.
62 *Action of Functional Rest of the Lung on the Extent and Course of Pulmonary Tuberculosis. A. N. Rubel.
63 Immunity of Tuberculous Animals to Tuberculosis Infection by Inhalation. F. Hamburger and T. Toyofuku.
64 The Advantages of the Picrin and Antiformin Methods for Microscopic Examination of Sputum. W. Polugorodnik.

55. **The Two Weak Points in the Mediastinum.**—Nitsch refers to the region back of the upper part of the sternum, where the thymus has retrogressed, as the first weak point. The second region is bounded by the spine and aorta at the back and the esophagus and heart in front. He discusses the significance of these weak points in development of pleural effusions and pneumothorax.

57. **Titration Tuberculin Test.**—Mirauer's experience, he states, has confirmed the simplicity and superior advantages of the serial quantitative method for the tuberculin local test, according to the Ellermann and Erlandsen technic. (It was described in THE JOURNAL, May 15, 1909, page 1634.) He declares that it seems to be the best method at our disposal for estimating tuberculous infection in adults, but that as yet, it is scarcely adapted for introduction into general practice. Its chief advantage lies in the possibility of more exact prognosis.

58. **Pneumothorax in Treatment of Pulmonary Tuberculosis.**—Wellmann summarizes the experiences with this measure in twenty-seven cases at the clinic in charge of Matthes at Cologne. The indications were for chronic pneumonia or pulmonary tuberculosis; in thirteen of the cases it was impossible to restrict the pneumothorax solely to the diseased lung. In one case the sound upper lobe of the lung was compressed also without apparent injury. It resumed its function without showing any functional disturbances afterward. On the ground of the experiences related, Wellmann commends this measure for wider adoption; it is liable, he thinks, to prove serviceable while the final judgment can be made only on the basis of more extensive and longer experience.

60. **The Cutaneous and Conjunctival Tuberculin Tests in Children.**—Feer states that the v. Pirquet cutaneous tuberculin test has been applied to 2,000 children at the clinic for children's diseases at Heidelberg, and that its value has been appreciated more and more in the course of this experience. It is especially instructive between the ages of 3 and 5. The reaction is rarely positive at this age but it indicates an active process when it does occur. The conjunctival test was applied in 371 cases: the reaction was positive in only 28 per cent. of the cases of inactive tuberculosis, while it was positive in 78 per cent of the active cases. Thus it points more exclusively to the active processes than the cutaneous reaction,

but this advantage is counterbalanced by the fact that conjunctivitis with phlyctenæ developed in 5 out of the 101 cases giving a positive reaction to the conjunctival test. The lesions all healed in two or three weeks but the fear of this complication led to abandonment of the ocular technic, although in one case phlyctenæ developed after the cutaneous test alone. There were no signs of scrofula in any of these children with phlyctenæ. On the other hand, he has never encountered a typical case of scrofula in which the cutaneous tuberculin test failed to induce a positive reaction.

61. **Internal Tuberculin Test.**—Hell was unable to obtain any evidence of a reaction for diagnostic purposes in twenty-five persons given tuberculin internally, even in amounts up to 80 mg. The Moro tuberculin salve test, applied later, gave a positive reaction in nearly every instance.

62. **Influence of Functional Rest of the Lung on Pulmonary Tuberculosis.**—Rubel's experiments were made on rabbits and dogs, and he immobilized the lung without compression. This was accomplished by passing a wire into the pleural cavity and out again two or three interspaces below. The wire was then drawn tight and tied; this squeezed the enclosed ribs close together, obliterating the interspaces. The result was that this side of the chest lagged behind the other side in respiration and its excursions were hampered. The animals were then infected with tubercle bacilli injected into a vein in the ear. The difference between the operated and unoperated side was striking when the animals were examined after death. Control experiments with uninfected animals and with a dog infected by injection of the culture directly into the lung tissue, all confirmed the fact that functional rest of the lung was responsible for a pronounced retrogression of the tuberculous inflammatory infiltration and that it evidently favored cicatricial transformation of the tubercle. The bacilli seemed to locate on and penetrate into the tissues more readily in the less active lung. The blood-supply to the lung seems to be more profuse the greater the respiratory excursions, and the more active the movements of the lung the greater the dissemination of bacteria from it as the more abundant blood-supply washes them along. The results of the research reported throw light on the question as to the retention and burrowing into the tissues of infectious material brought to the lung in the venous blood, and as to the local anatomic changes that develop in the comparatively quiescent lung.

Berliner klinische Wochenschrift

November 28, XLVII, No. 48, pp. 2177-2224

65 *Progress in Knowledge and Treatment of Necrosis of the Pancreas. H. Coenen.
66 *Buttermilk for Infants with Acute Indigestion. (Säuglingsernährung bei akuten alimentären Störungen.) J. Ritter and W. Buttermilch.
67 The Movements of the Heart and the Electrocardiogram. E. Rautenberg.
68 Improved Gastroscope and Its Findings. H. Elsner.
69 Theory of Anaphylaxis. U. Friedemann.
70 Baseless Claims for a "Non-Toxic Tuberculin." (Das Endotin.) A. Wolff-Eisner.
71 *Kaolin and Carbon Dioxid Snow in Therapeutics. (Erfahrungen über die therapeutische Verwendung von Bolus alba und Kohlensäureschnee.) M. Klotz.
72 Proposed Legislation on Confinement of the Insane. H. Lieske.

65. **Necrosis of the Pancreas.**—Coenen comments approvingly on the increasing tendency toward early operating in acute pancreatitis. Dreesmann found on record in 1909, 118 cases in which an operation was done, with recovery in 45 per cent. The proportion of recoveries was 80 per cent. in the forty cases in which the pancreas had been exposed and tamponed early. Recent research suggests that the necrosis is the result of autolysis from activation of the pancreatic secretion by bacterial action, the bacteria penetrating into the pancreas in infected bile or intestinal juice. The resulting autolysis entails necrosis and the toxic substances then generated seep into the surrounding tissues and induce the severe general symptoms as they are absorbed. The aim in treatment is to expose the diseased pancreas as soon as possible and by packing with gauze to prevent the toxins generated from finding their way into the abdominal cavity. He reports five cases in which treatment on this line proved promptly effectual except in one case in which the pancreas trouble was secondary to a perforated gastric ulcer. The pancreatic secretion drained away in this case amounted daily to a liter or a liter and a half. A gaseous abscess in one of the patients contained nearly 2 liters of gangrenous masses, and in a case reported by Fasano, fully 4 liters. There is no doubt that mild acute pancreatitis can heal spontaneously; the conditions are about the same as with appendicitis. The same surgical principles should prevail for both affections, although early differentiation is more difficult with pancreatitis. The syndrome generally suggests ileus or perforation peritonitis at first.

66. **Feeding of Infants with Acute Indigestion.**—A number of case histories and curves are given to show the advantages of feeding infants suffering from severe acute indigestion with buttermilk, when breast milk is unattainable. The tolerance for carbohydrates seems to suffer first and most, and buttermilk, free from both fat and carbohydrates, seems to be assimilated even by the youngest infants. In the cases reported, it was sweetened with saccharin in some cases and preceded or accompanied by weak tea. The buttermilk must not be either too young or too old, the acidity ranging from 31.6 to 24 (Soxhlet-Henkel) and no peptonizing bacteria should grow on the first plate with the dilution technic. The buttermilk is given unmodified according to indications.

71. **Kaolin and Carbon-Dioxid Snow.**—Klotz found kaolin—bolus alba—superior to other dusting powders for many skin affections on account of its exceptional absorbent properties. It proved especially useful in eczema with much secretion, intertrigo, vulvovaginitis, etc. The experiences with it for internal use were not satisfactory. He also reports the successful application of carbon-dioxid snow in treatment of excessive granulation and subcutaneous tuberculids, tuberculous fistulas and nevus. For small teleangiectasia one minute's application is the limit, and the tolerance of the skin should be cautiously tested.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 1, XL, No. 34, pp. 1129-1176

73 Internal Secretion and Autolysis. K. Kottmann.
74 Recovery After Removal of Spinal Cord Tubercle. (Subpialer makroskopisch intramedullärer Solitärtuberkle in der Höhe des vierten und fünften Cervicalsegmentes—Operation. Genesung.) O. Veraguth and H. Brun.

Deutsche medizinische Wochenschrift, Berlin

December 1, XXXVI, No. 48, pp. 2225-2272

75 Treatment of Diseases of the Teeth. (Allgemeine Behandlung der Zahnkrankheiten.) W. Dieck.
76 *Recent Progress in Topical Diagnosis of Diseases of the Pons and Medulla Oblongata. A. Wallenberg and O. Marburg.
77 *Technical and Biologic Experiences with Salvarsan. H. C. Plaut.
78 *Cutaneous Bovine Tuberculin Reaction. (Perlsuchtreaktion nach Pirquet.) E. Klose.
79 Dilatation Treatment of Phimosis. (Stumpfe Behandlung der Phimose im Kindesalter.) C. Stuhl.
80 Oxygenated Baths. (Das Sauerstoffbad, seine Wirkungsweise und seine therapeutische Verwendung.) F. Scholz.

December 8, No. 49, pp. 2273-2320

81 Brain Surgery. (Zur Hirnchirurgie.) O. Hildebrand.
82 Atoxyl and Its Derivatives. F. Blumental.
83 Salvarsan in Internal Medicine. L. Michaelis.
84 Salvarsan in Syphilogenous Nervous Disease. H. Oppenheim.
85 Salvarsan in Malaria, Vincent's Angina and Syphilis. T. Rumpel.
86 Salvarsan in Syphilis. C. Stern.
87 Repeated Small Doses of Salvarsan in Syphilis. E. Kromayer.
88 Manufacturers' Directions for Use of Salvarsan. (Vorschriften für die Anwendung des Ehrlich-Hataschen Mittels.)
89 *Operative Treatment of Hay Fever. (Erfolge der operativen Heufieberbehandlung durch Resektion des N. ethmoidalis anterior.) E. Blos.

76. **Topical Diagnosis of Lesions at Base of Brain.**—Wallenberg and Marburg discuss the topical diagnosis of lesions in the pons and medulla oblongata as recent research and experiences have thrown light on the subject. At the same time they say that this more exact localization shows that we can scarcely speak of local symptoms in the narrower sense; the aim is to unravel from the general phenomena those for which certain tracts and centers are responsible; the symptoms themselves are not so instructive, perhaps, as the time when they appear, the subsidence of certain phenomena, their reciprocal influence on each other, and their sequence. Wallenberg declares that further perfecting of clinical methods of investigation will lead to great precision in localization.

77. **Salvarsan in Syphilis.**—Plaut states that softening or necrosis was observed at the point of injection in the breast in eight out of twenty-six patients, and a toxic exanthem in three others, but that these by-effects are counterbalanced by the prompt action of the drug. No effect of any kind was apparent in a case in which the drug was injected in the back.

78. **Bovine Tuberculin Cutaneous Reaction According to v. Pirquet.**—Klose applied the Pirquet technic on 120 children suspected of tuberculosis. Among the seventy-five children with positive findings nearly all presented the typical reaction to both the human and bovine tuberculin; only 9.3 per cent. reacted to human tuberculin alone and only 5.34 to the bovine tuberculin alone. He theorizes on these findings, remarking that the v. Pirquet technic can be regarded as complete only when it is applied with both human and bovine tuberculin. The practical conclusion of this seems to be that the special tuberculin involved should be used in treatment or the one giving the strongest reaction when both give positive results.

89. **Operative Treatment of Hay Fever.**—Blos reports the later history of three patients who seem to have been freed permanently from chronic hay fever and hay asthma by resection of the nasal nerve as it emerges from the anterior ethmoidal foramen. He gives the details of the technic. His results apparently confirm Killian's views summarized in these columns, Nov. 12, 1910, page 1770.

Medizinische Klinik, Berlin

December 4, VI, No. 49, pp. 1921-1964

90 *Acute Heart Disease in Children. (Die akuten Herzkrankheiten im Kindesalter.) F. Göppert.
91 Transmission of Disease in Mines. (Inwieweit findet eine Verbreitung von übertragbaren Krankheiten durch den Kohlenbergbau statt?) H. Bruns.
92 *Dangers of Iodin Therapy. (Gefahren der Jodmedikation, Jodempfindlichkeit und Jodbasedow.) Römheld.
93 *Familial Ataxia. L. Wutscher.
94 Electrolytic Treatment of Atheroma. (Behandlung der Balggeschwülste mittels Electrolyse.) M. Horovitz.
95 Technic for Preparing Emulsion of Salvarsan. S. Jessner.
96 Staining Technic for Gonococci. (Bedeutung der Gramschen Entfärbungsmethode für den Gonokokkennachweis.) E. R. W. Frank.
97 Tropical and Glacial Geological Eras. (Tropenklima und Eiszeiten in der Vergangenheit der Erde.) F. Frech. Commenced in No. 48.

90. **Acute Heart Disease in Children.**—Göppert discusses principally the dubious points in diagnosis and treatment, especially those which may lead to the erroneous assumption of a heart defect in the young. Among them are the heart-lung murmurs which are not due to organic trouble, but appear and disappear during the examination and become inaudible if the breath is held in the expiration position. Lüthje has found systolic murmurs at the pulmonary orifice so often that he declares they are an almost normal occurrence in the development of the child. The murmur varies with the excitement of the child and is characterized by its localization and its inconstancy. In Göppert's experience, a slight impurity in the first sound of the heart has frequently led to the mistaken assumption of an endocarditic murmur, and a duplicated second pulmonal sound is liable to cause unwarranted concern. If no other changes can be discovered in the heart, these murmurs may be regarded as accidental. The pulse-rate is liable to be unusually high in children, sometimes being 100 and over, when the child is examined and over 90 when it is at rest, even up to the age of 10, and the apex in children between 4 and 13 or 15 years old lies farther to the left than in adults. If the child is excited, the findings may be misleading. If the pulse is good Göppert has the child run up two flights of stairs and examines him again as soon as he comes down. With normal conditions the child is only a little out of breath and the increased pulse-rate returns to normal in about three minutes and keeps strong throughout. Sometimes the heart-beat is quieter after the test than before, as the little diversion has tranquilized the child. In a recent case a boy of 10 had been unduly nervous and weakly for a year after a rescue from drowning, and repeatedly, whenever he was examined, his pulse-rate was between 130 and 140, and the apex beat lifted the chest wall in the nipple line. The child was told to run up and down a flight of stairs five times; three minutes afterward the pulse had dropped to 90 and there was not a trace of dyspnea. The boy's heart was evidently sound. In dubious cases the child can be sent up the flight of stairs twice in fifteen minutes. Only when the embarrassed breathing and weaker pulse persist longer than three minutes is the diagnosis of heart weakness from dilatation justified in these cases—not by the mere history of weakness and tendency to attacks of faintness. An hour's rest in bed during the day is generally sufficient to keep such children in good condition. their life otherwise need not be interfered with except that they must avoid long walks and athletic exercises. Göppert warns against the erroneous diagnosis of myocarditis when the pulse is slow and occasionally intermittent. This form of irregularity is comparatively frequent in children, possibly from intestinal reflexes or growth anomalies. Hirsch explains it as an extrasystole. The stair test, Göppert says, is followed by acceleration and normal regularity of the pulse, but the irregularity returns as the effect of the test subsides. This pulse anomaly is very puzzling at times, especially when the child is first seen during an attack of vomiting and constipation. It is still more liable to be misconstrued after an acute infectious disease. During the fever the pulse is regular, and the discovery of irregularity suggests myocarditic mischief. He reports a case in which a youth was dismissed from the military academy on account of the discovery of the supposed myocarditis. It was only with the greatest efforts that he was saved from becoming a "heart hypochondriac," especially as another physician had confirmed the diagnosis of myocarditis. The course of the case finally cleared up the diagnosis. When there is actual heart disease, as after scarlet fever or acute rheumatism, the physician's main task, Göppert reiterates, is to keep the children quiet in bed until all the inflammatory phenomena have subsided. Many children are allowed to be up for weeks when there is still a temperature over 38 C. (100.4 F.); they should be kept in bed until the temperature in the rectum, in bed, remains normal. After the temperature has become normal the child should be allowed to recline out of doors, but it is important to see that the back is well protected with blankets.

92. **Dangers of Iodin Medication.**—Römheld remarks that few realize that iodin and all preparations of iodin, including thyroid tablets, are liable to induce exophthalmic goiter in a patient with a personal or family tendency to goiter and obesity, even when the individual presents no signs of goiter. Every year he encounters cases of incipient or feared arteriosclerosis in which iodin has been given and serious symptoms suggesting exophthalmic goiter have developed. He reports in detail eight cases to sustain his assertion. In six of the cases a latent exophthalmic goiter was aroused and aggravated, and in the others, patients with a family history of goiter developed the exophthalmic syndrome under the iodin. The severity of the symptoms does not seem to stand in any proportion to the amount of iodin taken.

93. **Familial Ataxia.**—Wutscher reports a case in which a girl of 10 presented a typical case of Friedreich's ataxia while her brother, aged 24, developed a typical cerebellar heredo-ataxia of the Marie type.

Münchener medizinische Wochenschrift

November 29, LVII, No. 48, pp. 2505-2560

98 *Research on Saline Infusion. (Einfluss der Kochsalzinfusion.) M. Henkel.
99 Chronic Gastric Ulcer in Roentgen-Ray Picture. (Das chronische Magengeschwür und sein röntgenologischer Nachweis.) H. Rieder.
100 The Liver in Scarlet Fever. (Das klinische Verhalten der Leber bei Scharlach.) W. Hildebrandt.
101 Transmission of Anaphylaxis from Father and Mother to Child. F. Schenk.
102 Value of Relative Leukocyte Count. Hecker.
103 Technic for Intravenous Injection of Salvarsan in Syphilis. T. Hausmann.
104 Salvarsan in Syphilis. Chrzelitzer.
105 Salvarsan in Leprosy. M. Gioseffi.
106 Orthopedic Treatment of Tuberculosis of Ankle. (Fussgelenkstuberkulose.) A. Schanz.
107 Experimental Research on Secretion of Suprarenal Medulla During Gestation. (Zur Adrenämie des Blutes in der Gestationsperiode des Weibes.) M. Neu.
108 *Treatment of Ataxia. K. Uibeleisen.

98. **Influence of Saline Infusion.**—Henkel discusses some recent communications on the effect of saline infusion as liable to be injurious, but states that his experience has been

the reverse. It seems evident that animals are affected differently from human beings—all his experiences speak in favor of the harmlessness and possible benefit from salt incorporated in various ways, even when the kidneys are decidedly pathologic. Six pregnant women near term were given 10 gm. of salt daily for a month. The urine was examined daily for two weeks and then every third day. In a second group, four pregnant women were given an intravenous injection of 5 c.c. of a 10 per cent. solution, and four others a subcutaneous infusion on three occasions of 1 liter of 1.8 per cent. salt solution every third day. In none of the women was there any evidence of injury and albumin never appeared in the urine; except for increased output of urine there did not seem to be any symptom from the saline infusion. Another woman with parenchymatous nephritis but no edema was given an intravenous injection of 5 gm. of a 5 per cent. salt solution and two days later 5 gm. of a 10 per cent. solution. The Esbach findings previously had been 4 per cent., but notwithstanding the saline infusion the albuminuria constantly declined and the urine was normal in eight days. In another case of nephritis with edema during the puerperium, the 4 per 1,000 albuminuria had subsided by the nineteenth day to mere traces. The woman was then given two intravenous injections of the same amount and concentration as the other patient, but all within twenty-four hours, and no harm resulted. The edema did not return and the urine remained normal. In a still more severe case of nephritis with 8 per 1,000 albumin and changes in the retina, subcutaneous infusion of 1 liter of 1.8 per cent. salt solution increased the output of urine but did not check the progressive subsidence of the albuminuria, which sank to 0.25 per 1,000 by the second day of the puerperium, then 15 gm. of a 10 per cent. salt solution were given at one time. The albuminuria did not increase and the diuresis remained good. In another case a woman at the ninth month of pregnancy, free from albuminuria, was given an intravenous injection of 5 c.c. of a 10 per cent. salt solution, repeated three days later and after the fifth day the same amount of a 20 per cent. solution. There was no albuminuria at any time and the specific gravity of the urine increased only from 1,017 to 1,020. Weichel has recently reported that a 10 per cent. salt solution kills the bacteria of meat poisoning, and Henkel thinks that this confirms the general impression in regard to the direct disinfecting action of salt. He knows of no other disinfectant that can kill bacteria in tissues without injuring the tissue. Many have already witnessed great benefit from saline infusion and the experiences here related supply, he says, the scientific basis for the clinical facts observed. Notwithstanding, therefore, the unfavorable action of salt in experiments on animals, he thinks that there is no reason to refrain from saline infusion in the clinic, not even when there is edema, a heart defect or nephritis. He has made much use of salt in eclampsia, and has never witnessed harm but rather benefit.

108. **Treatment of Ataxia.**—Uibeleisen has found that patients with severe ataxia have more confidence and do the exercises better when standing in water nearly to the chest. The buoyancy of the water helps to make the movements easier. He has a tank set in the floor for the purpose, 4.5 m. long, 1.2 m. deep by 0.68 cm. wide (14 by 4 by 2 feet), with a railing for the stairs leading down into the tank. The railing is continued around the tank about 12 cm. from the top. This supplies a convenient support and the steps are useful when the patient wishes to sit down and rest. If the ataxia involves the arms, the patient is supported by a belt held by the attendant. He says that it is amazing to see how quickly the patients gain confidence as the water buoys up the limbs. As the patient improves, less and less water is allowed in the tank until finally the exercises are done in the empty space. Constant supervision is, of course, indispensable while there is water in the tank.

Wiener klinische Wochenschrift, Vienna

December 1, XXIII, No. 48, pp. 1703-1738

109 *Puncture of Corpus Callosum to Relieve Pressure on the Brain. (Operative Druckentlastung des Gehirnes bei Tumoren und anderen Gehirnkrankheiten.) G. Anton.

110 Defects in Development and Tumors. (Bildungsfehler und Geschwülste.) J. Bartel, K. Einäugler and V. Kollert.

111 Hypertrophy of Heart in Beriberi. (Zur Kenntnis der Entstehungsweise der Herzhypertrophie bei der Beriberi-Krankheit.) Y. Tanaka.

112 Microsporon Alopecia Areata. (Mikrosporie.) M. Schramek.

113 Subsidence of Sarcoma of Prostate Under Endovesical Radium Exposures. R. Paschkis and W. Tittinger.

December 8, No. 49, pp. 1739-1778

114 Prophylaxis of Ophthalmia Neonatorum. (Antrittsvorlesung.) F. Dimmer.

115 Sensory Disturbances in Vitiligo. H. Königstein.

116 Eosinophil Count. (Zählen der eosinophilen Zellen nach der Dungerschen Methode.) A. Galambos.

117 *The Mercury Lamp and Colored Light in Diagnosis. (Diagnostische Verwendung des monochromen und Quecksilberlichtes in der Medizin.) L. Freund.

118 Giant Cells in the Urine as Sign of Urogenital Tuberculosis. (Riesenzellen im Harnsedimente bei Urogenitaltuberculose.) H. Steindl.

109. **Puncture of Corpus Callosum to Relieve Pressure on the Brain.**—Anton summarizes the further experiences with this operative treatment of hydrocephalus, etc., since his last communication on the subject, reviewed in THE JOURNAL, Nov. 13, 1909, page 1638. Bramann has thus operated in 37 cases, the aim being to restore the communication between the anterior horn of the ventricle and the cavities of the brain, imitating the natural process of the opening of the foramen of Magendie to permit passage of fluid from one space to the other. In six cases the operation was done on account of external tumors; in seven for a tumor in the ventricle; in the hypophysis in four cases; for hydrocephalus in twelve, complicated with choked disc in one; for epilepsy in three; for syphilitic meningitis, echinococcus and steeple skull in one case each. The neuritis of the optic nerve retrogressed in twelve cases and was uninfluenced in eight. Coma and stupor subsided at once in fifteen cases. Paralysis, ataxia and contracture were favorably influenced in twenty-one cases. Vertigo and vomiting were arrested in fifteen cases but persisted unmodified in four. There was no operative fatality but one patient with tumor of the hypophysis died in a few days, and nine with brain tumors have succumbed since to other complications. Of the three epileptics, the seizures recurred in one. The results were exceptionally good in the hydrocephalus cases. In case of a brain tumor, the symptoms become much more instructive when those from pressure disappear after puncture. It postpones the danger of blindness so that time can be gained for more exact localization of the tumor. Puncture of the corpus callosum may also prove useful, he thinks, in the course of other operations on the brain, to forestall danger of hernia or laceration. Anton calls attention also to recent research which seems to demonstrate that the cerebral fluid thus dammed up acquires certain special properties which are liable to have a direct therapeutic action when drained into the general circulation. The nerve and other tissues may be suffering from the lack of special elements in the retained cerebral fluid. Experiences related by Roubinovitch suggest that the fluid released by the puncture might be reinjected subcutaneously to aid in restoring the chemical coordination of the organism.

117. **Colored Light in Diagnosis of Eruptions, Etc.**—Freund says that the blue light from a mercury lamp, the yellow light from burning soda and other monochrome lights may reveal slight changes in the skin that escape detection by other means. The colored lights are of not much use for differentiating cutaneous affections, but with them it is possible to seize the faintest, possibly briefly transient eruption or efflorescence and thus permit the correct diagnosis, unattainable in any other way. At the Vienna clinic for syphilis and skin diseases, in charge of Finger, the mercury or soda light is used to reveal red eruptions while the bluish discolorations are sought for with red lithium light or the yellow soda flame. The soda light is obtained by pouring a little soda into a grooved platinum ring fastened in a gas jet or in the flame of a Bunsen burner. Lithium gives a red, and thallium a green light; filtering the light through colored glass also gives interesting findings.

Zentralblatt für Chirurgie, Leipsic

November 19, XXXVII, No. 47, pp. 1489-1520

119 Apparatus for Positive Pressure in the Lungs During General Anesthesia. (Apparat zur Ueberdrucknarkose.) J. Schoemaker.

120 *Adrenalin-Saline Infusion and Chill. (Adrenalin-Kochsalzinfusion und Schüttelfrost.) C. Haeberlin.

November 26, No. 48, pp. 1521-1544

121 Technic for Resection of Spinal Roots. (Zur Technik der Foerster'schen Operation.) N. Guleke.
122 *Technic for Cleft-Palate Operations. (Neues zur Technik der Gaumenspaltoperationen.) C. Helbing and G. v. Lobmayer.

120. **Fatality After Adrenalin-Saline Infusion.**—Haeberlin reports a case of peritonitis in which intravenous infusion of 1,500 c.c. of salt solution to which 8 drops of adrenalin had been added gave immediate relief but was followed an hour later by severe chill and increasing pulse-rate and temperature, with death in less than three hours. He explains this as the result of washing out from the lymphatics the accumulated residual toxins. This sudden flooding of the circulating blood with toxins and their absorption readily explain the symptoms in sepsis under the vasoconstricting action of the adrenalin.

122. **Improved Technic for Cleft Palate Operations.**—Helbing says that by cutting the upper jaw away from the malar bone, it slips forward and closes the cleft. In a case described, he introduced a small chisel into the mouth and cut through the bone transversely above the second premolar tooth, driving in the chisel until its edge could be felt from without at the margin of the orbit. After removal of the chisel, strong pressure on the jaw pushed it inward until the cleft was nearly closed, and the jaw was held in this position by three wires passed through holes bored in the jaw according to Brophy's technic for closing cleft palate in new-born infants. Four days later he completed the operation on the cleft palate in the usual way, except that he used horsehairs instead of silk as they do not swell and particles of food do not cling to them. Since he has been using horsehairs for suturing, he has had no necrosis of the edges; it is impossible to draw these hairs too tight, as they break. In the case described he found that this operation on one side was sufficient, and corrected a tendency to asymmetry. There are no veins nor large vessels to be injured at the point where he applied the chisel, slanting it up toward the outer canthus. The divided jaw healed solidly in its new place, so that by the end of four weeks all was firm again.

Lobmayer stains the threads with the stains used in histologic technic, the colored threads alternating in turn with unstained thread. It is then an easy matter to tie the two ends of the threads without confusion. These stains are not discolored by blood and do not irritate the tissues.

Zentralblatt für Gynäkologie, Leipsic

November 26, XXXIV, No. 48, pp. 1553-1584

123 Tubal Sterilization. R. Asch.
124 Surgical Obstetrics. (Zum Ausbau der chirurgischen Aera in der Geburtshilfe.) E. Solms.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 10, XXXI, No. 135, pp. 1425-1432

125 Organ Extracts Unable to Neutralize Toxicity of Suprarenal Extract. (Tossicita adrenalinica ed estratti organici. A. Farini.

November 15, No. 137, pp. 1449-1456

126 *Major Operations Under Primary Ether Anesthesia. (Contributo clinico all'anestesia generale per mezzo dell'ebbrezza eterea, secondo Sudeck, anche in operazioni di lunga durata.) C. Mariani.

November 17, No. 138, pp. 1457-1464

127 Local Therapeutic Action of Protargol in Stomach and Intestinal Disease. A. Cantani.

November 20, No. 139, pp. 1465-1480

128 *Pseudotumors in the Intestines. F. Ferron.

November 22, No. 140, pp. 1481-1488

129 Flap from Sartorius Muscle to Close Inguinal Canal. (La plastica col sartorio nella cura di certe ernie inguinali.) C. Mantelli.

November 24 No. 141, pp. 1489-1496

130 *Workmen's Compensation. (Liquidazioni d'indennita per gl'infortuni sul lavoro.) G. M. de' Luna.

November 27, No. 142, pp. 1497-1512

131 *Peripleuritis and Parametritis Secondary to Peripheral Suppurative Processes. T. Fiori.

November 29, No. 143, pp. 1513-1520

132 Anaphylaxis from Influenza Toxins. E. Patrone.

126. **Primary Ether Anesthesia for Long Operations.**—Mariani regards as a great advance Sudeck's technic for operating under the first whiffs of ether, profiting by the analgesia during the condition which resembles that of alcohol intoxication so much that he calls it the ether *Rausch*. Mariani has performed thirty-five laparotomies with this anesthesia alone, never letting the patient pass from the stage of "drunkenness" to that of agitation, only giving a few drops when there are signs of returning consciousness. He has also applied this anesthesia technic in five hysterectomies, forty-five herniotomies, in transvesical prostatectomy, numerous gynecologic operations and operations on bones and joints. The advantages of this technic are obvious, he says—no fatality has been known with it since Sudeck introduced it in 1901. The analgesia can be prolonged for an hour and a half or longer. There is less danger of postoperative pneumonia as the patient can swallow as saliva collects in his mouth, while the lesser quantity of the anesthetic used reduces danger from this source. The only disadvantage is that the patients may move and disturb the operator, but a few drops of chloroform stop this.

128. **Pseudotumors in the Intestines.**—Ferron describes four cases in which an exploratory laparotomy was followed by complete cure, the trouble being inflammatory congestion instead of the supposed new growth.

130. **Workmen's Compensation.**—Luna discusses whether it is not possible to estimate with mathematical precision the objective findings after an industrial accident. The trouble has been hitherto that the subjective impressions of the examiner were the bases on which the indemnity was computed, and this led to unscientific estimation of the results of the injury.

131. **Internal Inflammatory Processes Secondary to Peripheral Suppuration.**—In Fiori's first case an abscess developed close to the pleura followed by an abscess adjoining the kidney, the first coming on about a month after a phlegmon on the hand. The patient was a woman of 50. In the second case a paranephritic abscess developed about a month after operative treatment of a felon on the hand. Both patients were cured by prompt operative measures. There can be no doubt of the connection between the peripheral and internal lesion, he is convinced.

Policlinico, Rome

November 13, XVII, No. 46, pp. 1443-1474

133 Experiences with Radiotherapy. G. Scaduto. Commenced in No. 45.

November 20, No. 47, pp. 1475-1506

134 *Implantation of Internal Saphenous Vein in Peritoneum in Treatment of Ascites. F. Fasani-Volarelli.
135 Sarcoma of Pelvic Ligaments. Two Cases. G. de Francisco.

November, Medical Section No. 11, pp. 477-524

136 Changes in Respiratory Rhythm of Nervous and Other Origin. C. Frugoni. Commenced in No. 10.
137 *Lime and Spasmophilia in Children. (A proposito della ipotesi di Stöltzner sulla patogenesi della tetania dei bambini.) A. Longo.
138 Bile Cysts in the Liver. (Studio anatomo-patologico delle cisti biliari del fegato.) A. Nazari.

November, Surgical Section No. 11, pp. 477-524

139 Retrograde Incarceration of the Intestine. (Strozzamento intestinale retrogrado.) A. Passaggi. Commenced in No. 10.
140 Blood Cysts in the Spleen. (Cisti ematiche della milza.) S. Solieri.
141 The Bacteriologic Flora in the Normal Appendix. P. Frascella.

134. **Implantation of the Saphenous Vein in the Peritoneum for Ascites.**—Volarelli reviews the five cases on record in which the internal saphenous vein was implanted in the peritoneum in treatment of ascites. The outcome was a complete success in the three cases in which the saphenous vein was of normal size and permeable. In the two other cases necropsy showed total obstruction or excessively small size of the vein.

137. **Lime in Spasmophilia in Children.**—Longo reports research on the lime content in the blood in infants. In three with pronounced tendency to spasms and convulsions the blood contained lime in a proportion of 0.1662 to 0.252 per 1,000, but it was very nearly within this range in five healthy children—from 0.1406 to 0.2116. He discusses in detail the literature on the subject of lime in connection with spasmophilia, the general consensus of opinion being against Stöltzner's assumption that the tetanoid condition in infancy is due to lime intoxication. On the contrary, lime, he declares, seems to have a beneficial action in spasmophilia.

Riforma Medica, Naples

November 14, XXV, No. 46, pp. 1261-1288

142 Gastric Ulcer. G. Rummo.
143 Hydrochloric-Acid Secretion in Nephritis. G. Tria.
144 Danger of Sowing Cholera Germs from Water-Closets on Trains. (Della seminagione del vibrione del colera lungo le vie ferroviarie.) L. Vincenzi.

Hospitalstidende, Copenhagen

November 9, LIII, No. 45, pp. 1249-1272

145 *Indications and Age for Strabismus Operations. (Skeleoperationen belyst ved Undersøgelser over den sekundære Skelens Patogenese.) H. Rønne. Commenced in No. 44.

November 16, No. 46, pp. 1273-1296

146 Proportion of Hydrogen Ions in Stomach Content. (Brintionkoncentrationen i Maveindhold.) J. Christiansen.

145. Indications and Best Time for Strabismus Operations.—Rønne's article is based on 3,865 operations for squint at the Havnegade ophthalmologic clinic during the last forty years. He advocates an early operation believing that the sooner the parts are placed in an approximately normal condition the sooner normal restitution will occur, and the tabulated outcome in his cases seems to confirm the correctness of this view. None of the arguments against it has any weight, he declares. The early operations did not entail any greater liability to secondary strabismus in his experience. The operation was done on infants under a year old in twelve cases; under 2 years in forty-two; 3 years in 193; up to 4 years in 297; up to 5 years in 355, and up to 6 in 378. From 25 to 30 the operation was done in 130 cases; up to 40 in eighty-two, and up to 50 in sixteen.

Ugeskrift for Læger, Copenhagen

November 24, LXXII, No. 47, pp. 1441-1482

147 Local Anesthesia. C. Wessel. Commenced in No. 46.

December 1, No. 48, pp. 1483-1518

148 History of Arsenic Treatment of Syphilis. (Moderne antisyfilitisk Arsenikbehandlings Forhistorie.) E. Ehlers.
149 *Fatality After Injection of Salvarsan in Case of Paralytic Dementia. A. Jørgensen.
150 Preferable Technic for Gastroenterostomy. A. Pers.

December 8, No. 49, pp. 1519-1568

151 Hospitals in Greenland. (Sygehusforhold iu Grønland.) Fischer-Nielsen.

149. Fatality After Injection of Salvarsan.—This seems to be the same case reported by Ehlers and summarized in THE JOURNAL, Nov. 26, 1910, page 1941.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

INDUCED CELL-REPRODUCTION AND CANCER. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Cropper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

A SECOND STUDY OF THE INFLUENCE OF PARENTAL ALCOHOLISM ON THE PHYSIQUE AND ABILITY OF THE OFFSPRING. Eugenics Laboratory Memoirs. XIII. Being a Reply to Certain Medical Critics of the First Memoir and an Examination of the Rebutting Evidence Cited by Them. By Karl Pearson, F.R.S., and Ethel M. Elderton, Galton Research Scholar. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 35. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

PELLAGRA. By Dr. A. Marie, Physician to the Asylums, Department of the Seine, Paris, France. With Introductory Notes by Professor Lombroso. Authorized Translation from the French by C. H. Lavinder, M.D., Passed Assistant Surgeon U. S. P. H. and M.-H. Service, and J. W. Babcock, M.D., Physician and Superintendent State Hospital for the Insane, Columbia, S. C. Cloth. Price, $2.50. Pp. 434, with illustrations. Columbia: The State Co., 1910.

ACUTE INTESTINAL TOXEMIA IN INFANTS. An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhea. By Ralph Vincent, M.D., Member of the Royal College of Physicians, London. An Address Delivered Before the Glasgow Obstetrical and Gynecologic Society on Nov. 23, 1910. Cloth. Price, 3 shillings 6 pence net. Pp. 83, with 17 illustrations. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1911.

REPORT AND APPEAL OF THE GOVERNORS OF THE ALBANY HOSPITAL. For the Year Ending Oct. 1, 1910. Including the Reports of the Treasurer of the Hospital, the Treasurer of the Endowment Fund, the Superintendent of the Hospital, the List of Annual Contributors, the Medical and Surgical Staff and of the Albany Hospital Training School for Nurses. Paper. Pp. 55. Edmund N. Huyck, Secretary, 319 State Street, Albany, 1910.

THE DETERMINATION OF THE DETERIORATION OF MAIZE, WITH INCIDENTAL REFERENCE TO PELLAGRA. By O. F. Black and C. L. Alsberg, Chemical Biologists, Drug-Plant, Poisonous-Plant, Physiological, and Fermentation Investigations. Issued Dec. 16, 1910. Bull 199, Bureau of Plant Industry, U. S. Department of Agriculture. Paper. Pp. 36. Washington: Government Printing Office, 1910.

THE ANATOMIC HISTOLOGIC PROCESSES OF BRIGHT'S DISEASE AND THEIR RELATION TO THE FUNCTIONAL CHANGES. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Cloth. Price, $5 net. Pp. 227, with 45 illustrations. Philadelphia: W. B. Saunders Co., 1910.

THREE CONTRIBUTIONS TO THE SEXUAL THEORY. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

A PRELIMINARY STUDY OF EXTREME ALCOHOLISM IN ADULTS. Eugenics Laboratory Memoirs. XIV. By Amy Barrington and Karl Pearson, F.R.S. With the Asistance of David Heron, D.Sc. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 55. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, 5 shillings. Pp. 77, with illustrations. London: H. K. Lewis, 136 Gower Street, W. C., 1911.

TRANSACTIONS OF THE EIGHTH ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS WITH THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE. Washington, D. C. April 30, 1910. Public Health Bull. 40. P. H. and M.-H. S. of the United States. Paper. Pp. 101. Washington: Government Printing Office, 1910.

A TEXT-BOOK ON DISEASE-PRODUCING MICROORGANISMS. Especially Intended for the use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp. 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

BIBLIOGRAPHIC CONTRIBUTIONS FROM THE LLOYD LIBRARY, CINCINNATI, OHIO. No. 1, January, 1911. Issued quarterly. Catalogue of the Periodical Literature in the Lloyd Library. By Miss Edith Wycoff, Assistant Librarian (in charge of the periodicals). Paper. Pp. 80. Lloyd Library, 309 West Court Street, Cincinnati, Ohio.

PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK. For Students, Surgeons and Specialists. By Hubertus J. H. Hoeve, M.D., Professor of Anatomy in the Medical and Dental College of Drake University. Cloth. Price, $5. Pp. 598, with illustrations. H. J. H. Hoeve, Des Moines, Iowa, 1910.

GYNECOLOGIC THERAPEUTICS. By S. Jervois Aarons, M.D., Gynecologist to St. Anthony's Hospital. With Foreword by Sir Halliday Croom, M.D., Professor of Midwifery in the University of Edinburgh. Cloth. Price, $2 net. Pp. 178, with 46 illustrations. New York: William Wood & Co., 1910.

THE TREATMENT OF DISEASE. A Manual of Practical Medicine. By Reynold Webb Wilcox, M.D., Consulting Physician to St. Mark's and to the Nassau Hospital. Third Edition. Cloth. Price, $7.50 net. Pp. 1023, with 11 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NURSES' HANDBOOK OF DRUGS AND SOLUTIONS. By Julia C. Stimson, R. N., Vassar A.B., Superintendent of Nurses, Harlem Hospital of Bellevue and Allied Hospitals, New York City. Cloth. Price, $1 net. Pp. 82. Boston: Whitcomb & Barrows, 1910.

SECOND ANNUAL REPORT OF THE COMMITTEE ON PREVENTION OF BLINDNESS OF THE NEW YORK ASSOCIATION FOR THE BLIND. Prevention of Blindness. No. 7. Nov. 1, 1910. Paper. Pp. 9. 105 East Twenty-Second Street, New York.

THE THIRD ANNUAL REPORT OF THE COMMISSIONER OF HEALTH OF THE COMMONWEALTH OF PENNSYLVANIA, 1908. Cloth. Pp. 1339. Samuel G. Dixon, Commissioner of Health, Harrisburg, Pa., 1909.

STUDIES IN INVALID OCCUPATION. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

HISTORY OF THE LIVERPOOL MEDICAL INSTITUTION IN SPECIAL RELATION TO THE QUESTION OF THE LEASE. By Thomas H. Bickerton. Paper. Pp. 39, with illustrations. 1910.

REPORT OF THE COMMISSIONER OF EDUCATION. For the Year End d June 30, 1910. Vol. I. Cloth. Pp. 662. Washington: Government Printing Office, 1910.

A STUDY OF ASSOCIATION IN INSANITY. By Grace Helen Kent, A.M., and A. J. Rosanoff, M.D., Kings Park State Hospital, N. Y. Paper. Pp. 142. 1910.

DESIGN AND REPRESENTATION. A Handbook for Teachers. Paper. Pp. 34, with illustrations. New York State Educational Department, 1910.

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A REPORT OF SIX CASES OF COMPOSITE ODONTOMES*

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CHICAGO

My excuse, if any is necessary, for reporting these cases at this time is: first, their rarity; second, the fact that they are occasionally mistaken for malignant growths, and consequently large sections of jaws are removed, when, had correct diagnosis been made, no such unnecessary maiming and disfiguration would have resulted; and, third, my desire to add to those previously reported by others six exceptionally interesting specimens of odontomes of the composite variety and to record them where they may be easily accessible to medical men interested in this group of tumors. The first and second of these specimens were reported in the proceedings of the National Dental Association in 1902.

Odontomes are rare in man. They are more frequently found in the jaws of the horse and other animals, but when both those found in man and those found in animals are considered, the number is relatively small. Composite odontomes are most frequently found in the mandible, but are not to be excluded from the maxilla, since two of those in this report were from the upper jaw. They seem to belong to the molar region of the jaws.

Bland-Sutton[1] has given the best classification of odontomes. He has simplified the classification by naming them in accordance with the part of the tooth germ from which they are supposed to originate. In his seventh and last class he places the growths to be described in this report under the head of composite odontomes. His reason for naming them composite odontomes is the fact that they are composed of all of the histologic elements entering into the various tissues composing the teeth, thrown together indiscriminately.

The composite odontome, as indicated, is made up of enamel, dentine and cementum. These tissues may be thrown together in a more or less homogeneous mass, plus well-formed diminutive teeth, all united by cementum, easily made out macroscopically, or the formation may appear to the eye only as a conglomerate mass with no well-marked tooth forms. As will be seen from the illustrations, however, this simple, homogeneous mass, as observed by the unaided eye, is transformed by magnification in a complex tumor of regularly formed teeth with their roots and canals all cemented into a solid and compact body.

The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth or dentary bodies, in that the dentigerous cyst contains no cement substance other than that which covers the root of the individual tooth, when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the other; besides there is a well-defined cyst wall and cyst fluid. In the composite odontomes there is no cyst wall or cyst fluid, so far as I have been able to discover.

The origin of composite odontomes has not been fully made out, but it is reasonable to attribute them to the same source as that of multilocular cysts or adamantomas, that is, to unatrophied remains of the epithelial cord; or possibly to extra buds given off from the epithelial lamina, which have become distorted in development. Black attributes supernumerary teeth to additional buds, which buds he has demonstrated.

The diagnosis of odontomes is generally spoken of as difficult. If the growth is of the composite variety and has been uncovered through absorption of bone with suppuration of the soft tissues overlying, it may be and is often mistaken for necrosed bone, since the color and general appearance is very similar, but on close examination, by means of the sharp steel probe, the texture is found different, the odontome being of a denser structure, resisting penetration, while dead bone may be penetrated to a limited degree. In addition to this difference we find in all cases of necrosis of the jaws thickening of the overlying soft tissues with induration. These conditions do not accompany odontomes. It may also, when not exposed, as before indicated, simulate osteoma, likewise that peculiar thickening of bone sometimes found about infected pulpless roots of the molar teeth. It may be confused with sarcoma of the jaw or adamantoma. If the growth can be reached with the sharp steel probe, differentiation from the before-mentioned tumors may generally be made. The surest method of differentiation of odontomes fully covered by bone is by the aid of the skiagraph. The odontome, being of dense structure similar to that of the tooth, may be skiagraphed in the jaw, as are the roots of teeth. The history accompanying odontomes is of value in diagnosis. They are of slow growth, the enlargement of the jaw usually having been noticed months or even years before the case presented to the surgeon. Such slow growths would not be the case in sarcoma. The absence of pain before the growth reaches the surface also differentiates it from most malignant neoplasms.

CASE 1.—The remarkable growth shown in Figure 1 was removed by me from the right side of the lower jaw of a young man at my clinic at Northwestern University Dental School. Figure 2 shows the reverse side of this odontome. The history of this case, as given by Dr. Charles S. Leininger of Chicago, who brought the patient to the clinic, is as fol

* Chairman's address before the Section on Stomatology of the American Medical Association at the Sixty-First Annual Session, held at St. Louis, June, 1910.

1. Bland-Sutton: Tumors, Innocent and Malignant.

lows: "Patient, aged 19, came Oct. 7, 1900, for treatment for a supposed alveolar abscess, seemingly caused by a badly decayed right lower second molar. A large quantity of pus was drained off and the roots of the tooth removed two days later. The swelling of the gums disappeared shortly afterwards and the patient had no trouble until six weeks later. The patient showed at this time a condition similar to that when first seen, except for the absence of pus. I cut a considerable portion of the gum from the enlarged jaw and packed in borated gauze, expecting to find a third root, but in this I was disappointed. The opening I made relieved

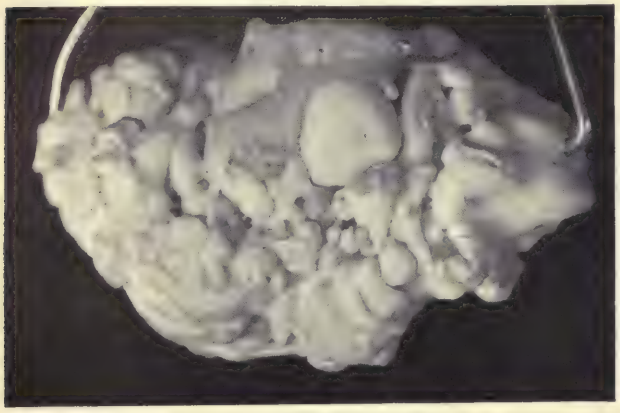


Fig. 1.—Composite odontome.

the patient of pain, but the enlargement gradually increased in size and extended buccally and distally. Two weeks after the incision in the gum was made patient returned with an acute inflammation of the part." When I first saw the patient the condition was as above described by Dr. Leininger. On probing with a sharp-pointed explorer I made out a hard, rough body, which gave the characteristic sensation received when tooth tissues are touched by an instrument. The body was too rough and large to indicate a tooth. The appearance of the gum and the discharge of pus, which was now present,

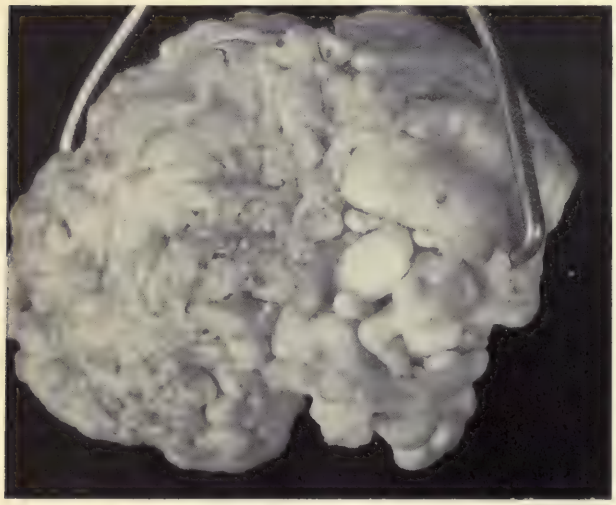


Fig. 2.—Reverse side of odontome shown in Figure 1.

indicated necrosis of bone, but the sensation communicated by the explorer clearly contradicted it. I at once concluded that an odontome was present. The first molar was in place, but loose from absorption of its roots, so was removed. The second molar had been removed by Dr. Leininger and the third molar was not yet erupted. The jaw was much enlarged buccally and lingually. I made an incision antero-posteriorly and raised flaps of gums on both sides, exposing the jaw and a portion of the growth to view. The overlying process was cut away. I found most of the bone absorbed on the buccal aspect of the jaw and but little left on the lingual surface. With drills and cross-cut fissure burs I cut away the bone on the buccal side of the growth and also a part of that left on the lingual aspect, when the tumor, with some difficulty, was pried from its bed and removed, after which I found posteriorly at the bottom of the cavity the third molar, seemingly perfectly developed. This odontome is the most remarkable one I have ever seen. It is composed of diminutive teeth (Fig. 3), more or less perfectly developed, of the incisor, cuspid and bicuspid types, with large numbers of denticles and enamel drops cemented together within this oblong, crescentic mass. This odontome measures antero-posteriorly 34 mm., bucco-lingually 18 mm., and from above downward 19 mm.

CASE 2.—Figure 4 shows an odontome removed by me from the upper jaw of a patient aged 20. All the teeth were in



Fig. 3.

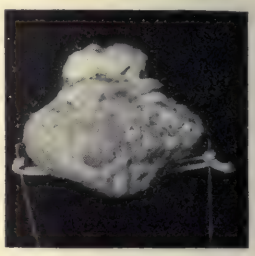


Fig. 5.

Fig. 3.—Diminutive tooth from odontome shown in Figure 1 magnified.
Fig. 5.—Odontome from lower jaw of woman aged 22.

place except the second molar. The first molar was loose from absorption of the roots, caused by pressure of the odontome. The patient was quite sure that very recently he had had the second molar removed, but I saw no positive indication of this. This is the only one of my three cases in which I lack posi-



Fig. 4.—Composite odontome which microscopically shows no tooth formation.

tive evidence of the presence of the three molars, as well as all of the normal set of teeth on the side of the jaw in which the odontome was found. This case was sent to my clinic by a practitioner for an operation for necrosis, the odontome having been mistaken for a sequestrum of bone, which was not surprising, since the body had the characteristic brown color of necrosed bone, and there was much swelling and a flow of pus. On probing the mass with a sharp steel instrument, I readily discovered that I was not dealing with dead

bone, but with tooth tissues, so made diagnosis of an odontome. The jaw was much expanded buccally and somewhat lingually, causing considerable disfigurement of the face. The loose first molar was removed and the growth removed, but not until much bone was cut from about it. Above and posterior to the growth, in the socket from which it was removed, was found the third molar, perfectly formed. This growth is spherical in form, with an irregular surface, caused by the protuberances. It measures in its greatest diameter 28 mm. and in its least 22 mm. It differs from No. 1 in that there are no definite tooth forms visible, but enamel, dentin and

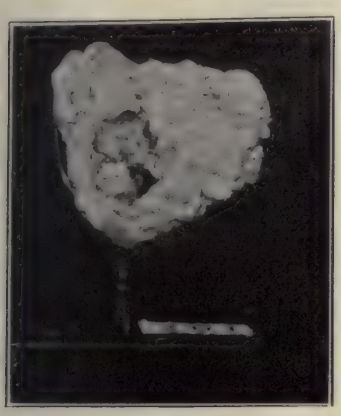


Fig. 6.



Fig. 7.

Fig. 6.—Odontome with structure similar to those shown in Figures 4 and 5.
Fig. 7.—Odontome of which history is given in Case 5.

cement irregularly placed; therefore it belongs to the third class.

CASE 3.—Figure 5 shows an odontome from the lower jaw of a young woman aged 22. She consulted me for an enlargement of the left side of the mandible. The bone was much distended bucco-lingually in the region of the first and

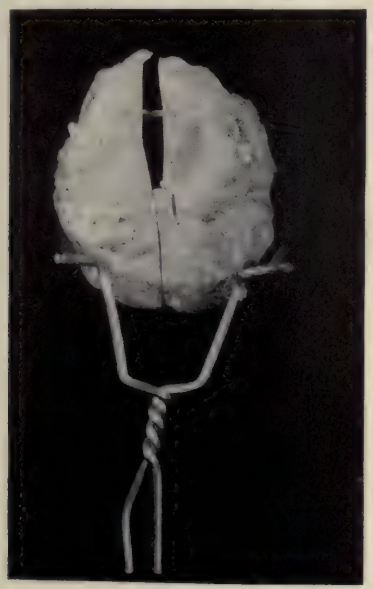


Fig. 8.—Odontome from which sections shown in Figures 9 and 10 were cut.

second molars. These teeth were quite loose and a small amount of pus was discharging at the gingival border of the gums about them. The enlargement had first been noticed two years before she visited me. At no time had there been pain, but for several months past there had been soreness of the teeth and gums overlying the growth. On passing a sharp steel probe in the interproximal space I discovered a hard substance which was rough and too dense to be bone; diagnosis, odontome. I removed the loose teeth and found their roots almost wholly absorbed. I cut the process away and removed the odontome which measured in its greatest diameter (anterior to posterior) 25.2 mm.; above downward 22.4 mm.; labially-buccally 18.4 mm.

CASE 4.—This odontome (Fig. 6) was removed by Dr. Herbert A. Potts of Chicago from the lower jaw of an 18-year-old girl in the clinic of Geheimrat A. Bier, Bonn, Germany. The patient had noticed a swelling and soreness of right side of jaw three years before; this was followed by discharge of pus into the mouth with exposure of a hard, irregular mass in the region of second molar, right side. Pus continued to discharge around this mass. The clinical diagnosis was necrosis of jaw with large sequestrum. Extensive operation from without was proposed. Closer examination by Dr. H. A. Potts revealed small nodules of enamel on the tumor and a corrected diagnosis of odontome was made. A small incision was made within the mouth. This allowed the tumor to be lifted out. Decalcification and microscopic section confirmed the diagnosis of composite odontome. The patient made an uninterrupted recovery.

CASE 5.—This odontome (Fig. 7) and history was given to me by Dr. Victor H. Fuqua. "Miss Mary M., aged 19, came



Fig. 9.—Section cut from odontome shown in Figure 8.

under my observation Feb. 14, 1903. Examination disclosed swelling of the left cheek. There was an offensive discharge from the nostril. On examination of the teeth was found what I suppose was the buccal roots of the first molar (the second molar evidently having been lost, or never having erupted). This tooth being very loose, I attempted to extract it, but was unable to do so. Nitrous oxid was then administered, the gum cut away freely, and the flaps laid back, disclosing a dense movable body, which, with difficulty, I removed with the forceps, exposing the floor of the antrum of Highmore. The antrum was cleansed, irrigated and packed with iodoform gauze. Recovery was rapid and complete. Since the removal of this odontome, the third molar has erupted."

CASE 6.—Figure 8 shows another of the third class. This case was reported by Dr. Black to the Illinois State Dental Society in 1879. It is a somewhat smaller growth, measuring 24 mm. from before backward, 20 mm. from side to side, and

14 mm. from above downward. From sections of the tumor Dr. F. B. Noyes has made photomicrographs, which show most beautifully and perfectly the characteristic composition of this class of odontomes. In the report to the Illinois Society Dr. Black said of the histologic appearance of the sections: "For the purpose of examining its structure I awed it through, halving it in an antero-postero-perpendicular direction, and cut some sections. I found all the tissues of a normally developed tooth, but in a state of confusion (Figs. 9 and 10). There is an entire absence of any proper pulp cavity. The disposition or arrangement of the tissues is peculiar and striking. It is as though there were a thousand teeth, exceedingly minute, growing as close together as they could be crowded, and the interstices between them filled up with enamel and cement. In the field of the microscope, with the sections I have, we shall often be able to see a number of these diminutive teeth at a single view. Each has its own little pulp chamber in due form, its own separate dentin

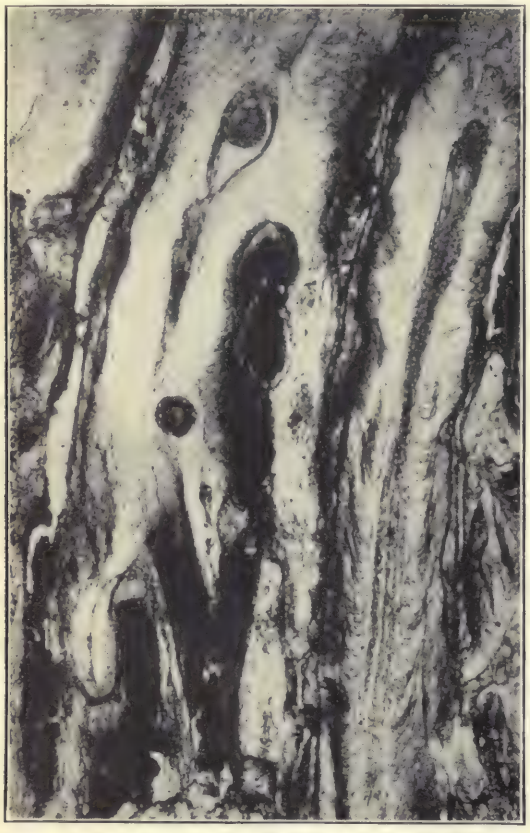


Fig. 10.—Section from odontome shown in Figure 8.

and its own enamel cap, and plastered in and about and added on to these there is a considerable amount of both enamel and cement of very irregular formation. Many of the pulp chambers are partially filled with calcospherites. These also appear in many parts of the specimen in profusion. It is interesting to note the resemblance of this odontome to the normal structure of the teeth of some of the lower orders of animals, especially some species of fishes, in which there are branching and radiating pulp cavities."

31 Washington Street.

ABSTRACT OF DISCUSSION

DR. M. H. FLETCHER, Cincinnati: I have never seen such large odontomas as Dr. Gilmer has shown without attachments. It only indicates what Nature will do when she is stimulated to action. This conglomerate mass is simply an instance of Nature's attempt to produce a new organ, as is shown in any new growth, such as carcinoma, sarcoma and various epitheliomas, which are proliferations, in a sense, of the tissue from which they arise. They grow to a size which becomes pathologic. In the case of the odontoma you do not have the bad results that often occur with malignant growths. At the same time we have evidence of tissue stimulation resulting in dentine, enamel, and cementum many times resulting badly. On the other hand, surgeons often are able to utilize Nature's method of procedure to the end of saving life. I expect to show in a paper at this meeting the reproduction of cement on the root of a tooth to a remarkable degree. Among others I shall show a section of an odontoma that I found twenty-five years ago, which shows what stimulation of any reproductive tissue will do.

DR. FREDERICK NOYES, Chicago: I want to say a word about the histologic structure of these tumors and compare the different kinds that have come under my observation. Some are very loosely put together. There are hundreds of teeth that can be seen on the surface with the unaided eye, and a great many of those wash out with the soft tissues attached to the tumor and are lost in the preparation of the specimen. That one little tooth shown was one saved out of the sink in which the washing occurred, and on it the distribution of dentine, cementum and enamel is apparently normal. In other specimens you cannot distinguish a tooth at all, but you can see little globules of enamel on the surface and portions can be recognized as dentine and cementum. But when the section is cut, ground and examined, there are different canals from which the tubules radiate, and the adjoining teeth are fastened together by cementum. The whole structure is made up of individual teeth of one form or another, fastened together by a greater or less amount of cementum. I have never seen a specimen fixed and decalcified to show the cellular elements. I should be much interested to see one. If a piece could be cut out at once, decalcified and cut so as to determine the relation of the soft tissues to the hard it would be very valuable.

DR. JAMES E. POWER, Providence, R. I.: I should like Dr. Gilmer to go into the clinical manifestations. What causes the patient first to seek relief? How much pain is connected with this condition, especially the odontoma that he reported? Was it surrounded by an alveolar process, and how much lymphatic involvement is connected with that condition? Also, especially in the lower jaw, how much loss of function was there, and what are the principal facts which would enable a clinician to make the diagnosis? What would first bring the patient to the specialist's office? There are some tumors that will develop to a large size without giving the patient much pain, and I am trying to find out whether or not the odontoma is in that class, or whether it is a chronic inflammatory process, without marked symptoms.

DR. EUGENE TALBOT, Chicago: More than thirty years ago it occurred to me that there must be a law governing these conditions, just as there are other laws governing disease, etc. I have given considerable study during the last thirty years to the etiology of these obscure diseases of the face and jaws, and I have tried to lay out a law governing their pathologic development. Here we have a splendid illustration of two conditions in the development of man which must be taken into consideration, first in the arrest of development or shortening of the jaw in phylogeny from the lower vertebrates such as fish, reptiles, etc. In these animals we have, of course, long jaws with a large number of teeth; sometimes as many as three or four hundred, and as we ascend the scale in evolution the number of teeth grows smaller and smaller. In the toothed birds we have sometimes 170, but as we ascend the scale they diminish in number. On the other hand, the human jaw has grown much smaller, and is still growing smaller. I have found many of these conditions are what might be called arrest in phylogeny, and this arrest takes place at the first uterine period of stress, when the tissues are forming. Arrest takes place owing to some condition of the mother in which the reproductive organs become tired out, and this produces arrest at phylogenetic stages, and so here we see in this epithelial cord these bodies that remain throughout life. We find in the human being, in sheep, and in many other lower animals this large collection of teeth as a result of arrest in phylogeny. There may be two or three hundred, or no more than two or three teeth.

DR. T. L. GILMER, Chicago: I was aware that this was not a subject that would call forth much discussion, but think it one that interests most of us. It is well to have as many of these cases reported as possible that we may become more familiar with them.

I will answer by saying that in all of my cases there was inflammation and pain of greater or less degree in the area involved. The soft tissues overlying have not had the appearance of those overlying necrosed bone. They are more like those accompanying chronic alveolar abscess. There is no great thickening, or hardening of the soft parts. One patient came for two reasons—first, cosmetic considerations; the face was distended in the side affected, and second, the teeth whose roots had been absorbed were loose, and there was more or less discomfort, pain and discharge of pus. I have not found lymphatic involvement. No great amount of pus is absorbed, therefore the lymphatics are not appreciably enlarged. As to loss of function, I suppose Dr. Power had reference to loss of function of the jaw. The diseased area is more localized, with much less inflammation than is found accompanying severe, acute alveolar abscesses or with impacted third molars.

In none of my cases was there trismus. Sensation of the teeth or surrounding parts has not been destroyed. I have never seen a case prior to the inflammatory stage. The jaw was enlarged. Mention has been made of the slide showing what I denominated a tumor on the tooth root, in differentiation between it and an odontoma. It seems to me that an odontoma is a tumor made up of tooth substance or small teeth indiscriminately placed, while this specimen is clearly a tumor on the root of the tooth, or we might call it a malformed tooth. It appears to me as though there had been extrusion of a part of the tooth during development.

INFECTIONS OF THE ENDOMETRIUM*

WILLIAM S. GARDNER, M.D.
Professor of Gynecology, College of Physicians and Surgeons
BALTIMORE

All that is attempted in this paper is to describe the reactions of the various cells of the endometrium to infection. It is based on the study of a large number of endometriums known to be infected. From these a few have been selected to illustrate the typical cell changes. No distinction is made between the results of the various infecting organisms. No attempt is made at a classification.

Up to the present time, writers undertaking to describe the pathologic changes in the endometrium due to infection have constantly confused them with the physiologic changes that take place during the menstrual cycle. As these physiologic changes have been recognized too recently for the profession in general to be familiar with them, it is necessary to review briefly the histology of the normal endometrium before taking up the changes that are found as the result of infection.

NORMAL HISTOLOGY

The surface of the normal endometrium is covered with a single layer of low columnar epithelium. The glands are tubular and lined by the same variety of epithelium as is found on the surface. Between the glands are the oval stroma cells that make up the mass of the tissue. They are supported by a fine net-work of connective tissue and interspersed with a few round or lymphoid cells.

Just after menstruation the glands of the endometrium are collapsed, straight and narrow; the epithelium is low, regular, in a single layer, and the nucleus takes the stain evenly and deeply. The stroma cells are regular, oval in shape and stain well. Just around the glands are a few spindle-cells. Scattered through the stroma are a few small, round cells that stain very deeply. Occasionally a group of lymphoid cells are seen. These groups can be easily recognized by the compactness and regularity of the outline of the boundary of each group. Before attempting to recognize the results of infection in the endometrium, it is absolutely essential for the observer to familiarize himself with these scattered, round cells and the groups of lymphoid cells. Individually they cannot be distinguished from the small, round cells that appear in such great numbers as a result of infection. It is a case of distinguishing between a corporal's guard and an army.

Just before menstruation the glands are found distended with mucus and very irregular in outline; but there is a certain amount of uniformity in the irregularity seen in the glands, that is, all the glands in the same portion of the endometrium have a similar appearance. A part of the irregularity is only apparent and not actual, and is due to the swelling of the epithelium lining the glands and its projection in tufts into the caliber of the glands. The stroma cells are enlarged, more rounded and take the stain less deeply. This change in the stroma-cells is more marked in the superficial portion of the endometrium. There is some, though no very great, increase in the round cells in the stroma.



Fig. 1.—Section 874; M. E., aged 25, admitted to the hospital June 25, 1909; had had two miscarriages, the last one year ago. Last menses began June 14 and flowed ten days, bleeding very freely. She complained on admission of menorrhagia, profuse vaginal discharge, frequent micturition and pelvic pain. There was present an acute salpingitis. This field shows: *a*, an exudate over the superficial epithelium; *b*, superficial epithelium disintegrating; *c*, masses of round cells in the stroma.

In the interval there is a gradual change from the postmenstrual to the premenstrual type.

PATHOLOGIC HISTOLOGY

The changes due to infection are noted in the superficial epithelium, in the stroma and in the glands.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Superficial Epithelium.—Under the influence of infection the superficial epithelium undergoes marked changes. The nuclei increase in size, become rounded, take less stain and present a granular appearance (Figs. 2 and 3). The cytoplasm disappears. A portion of the cells break down and disappear (Fig. 3). Round cells penetrate the epithelial layer and are lost in the uterine cavity (Fig.2). A fibrinous exudate

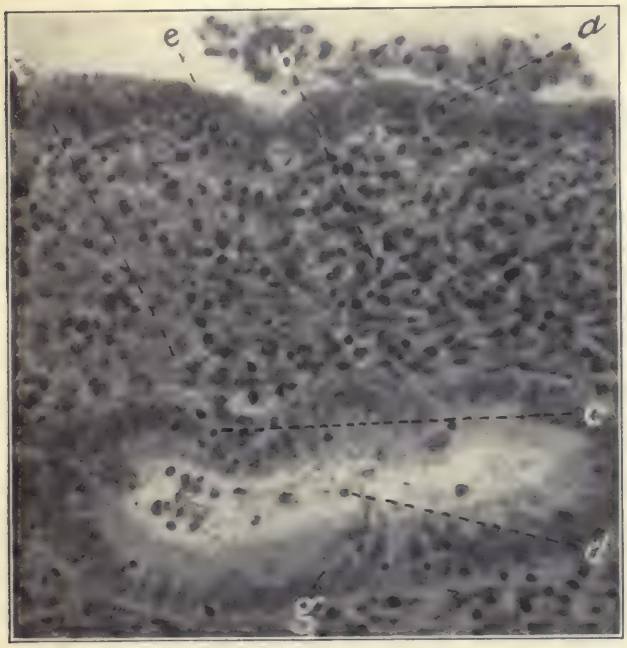


Fig. 2.—Section 836a, J. W., aged 20, admitted to the hospital May 5, 1909; had a miscarriage August, 1908. Last menses began April 20, and flowed thirteen days; since miscarriage the flow has recurred at regular intervals but has continued from ten to thirteen days. Patient had pelvic pain since August, 1908. Operation, May 7, 1909; curettement, infected tubes removed and uterus suspended. Infection probably dates from the time of the miscarriage. The field of illustration shows: *a*, round cells penetrating the superficial epithelium; *b*, round cells in the stroma; *c*, round cells penetrating the gland epithelium; *d*, round cells free in the lumen of the gland; *e*, the superficial epithelium has lost its columnar form, is rounded and swollen; *f*, the stroma cells are enlarged, rounded and approach the decidual type; *g*, the gland epithelium has lost its distinct shape and is beginning to disintegrate.

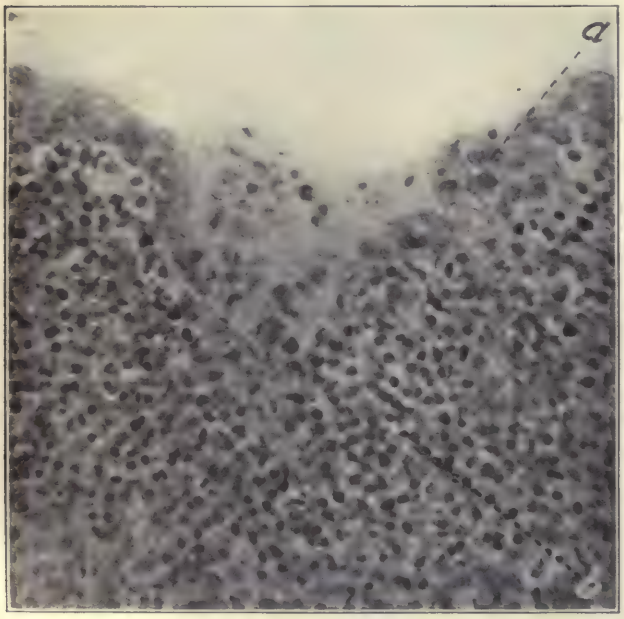


Fig. 3.—Section 836a (See clinical note to Fig. 2). This picture is from another field in the same section from which Figure 2 was made. It shows: *a*, the superficial epithelium is swollen and is breaking down; *b*, many round cells infiltrated among the enlarged stroma cells. The changes noted in these two figures were most marked in the superficial portion of the endometrium. In the deeper layers there was a very marked increase in the round-cell infiltration, but the glands were not materially affected.

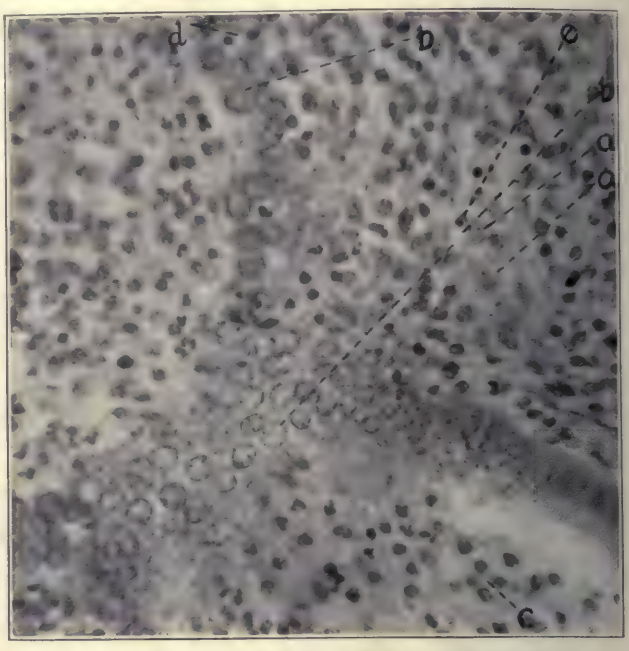


Fig. 4.—Section 872a; D. B., aged 36, admitted to the hospital June 19, 1909. Last pregnancy terminated at full term three years ago. Last menses two weeks ago, flowed seven days and very painful. Patient complains of pelvic pain and uterine hemorrhage; temperature after admission ranged from 99.5 to 101. Operation June 25, 1909; body of uterus and appendages removed. The tubes showed acute infection with much pus. This field shows: *a*, enlarged rounded stroma cells; *b*, enlarged and rounded gland epithelial cells; *c*, gland filled with round cells, leukocytes and broken-down epithelium; *d*, round cells penetrating the gland epithelium; *e*, round cells in the stroma.

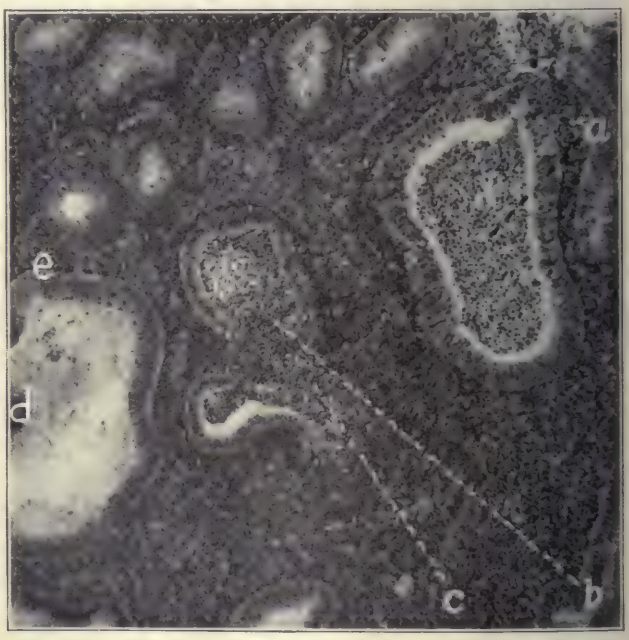


Fig. 5.—Section 431; J. E. M., aged 48, admitted to the hospital September, 1906. This patient was curetted in July, 1905, for the relief of a menorrhagia and leukorrhea that had persisted two years. The section from which the illustration was made is from the scrapings removed in September, 1906. The uterus at that time was not enlarged, was freely movable, and in normal position; the tubes and ovaries were normal. This field shows: *a*, gland filled with round cells and leukocytes; *b*, gland epithelium broken and round cells pouring into the lumen of the gland; *c*, masses of round cells in the stroma; *d*, irregular-shaped, dilated gland; *e*, heavy type of gland epithelium.

is occasionally observed, poured out over the epithelium (Fig. 1).

Stroma.—In the acute cases the first thing that strikes the observer is the extraordinary number of small, darkly staining round cells present. They cannot be distinguished individually from the same sort of cells that are present normally in the endometrium, but, instead of being scattered here and there, or collected in groups with definite outlines, they are diffused in great numbers throughout large areas (Figs. 1, 2, 3, 4, 5).

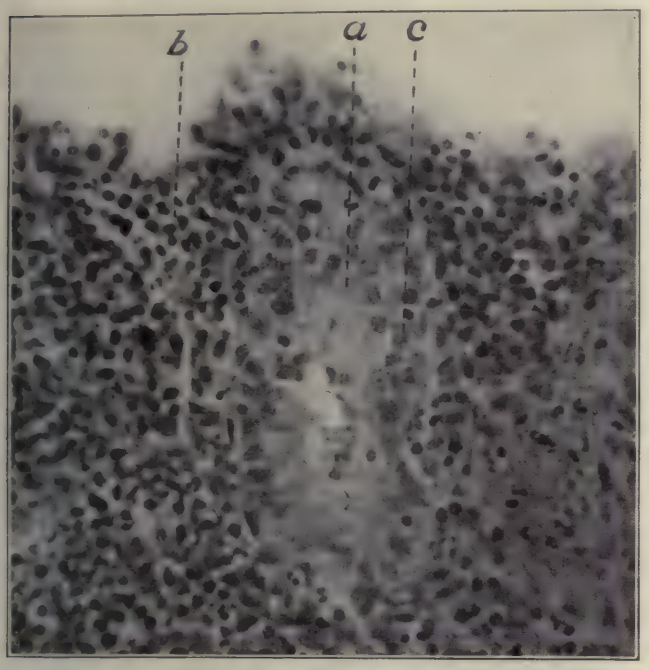


Fig. 6.—Section 846b; G. K., aged 30; admitted to the hospital May 13, 1909. Last menses began April 25, flowed seven days, regular, duration seven or eight days; leukorrhea for the past year; pelvic pain for the past five years, but suddenly increased two weeks ago. Operation May 18; supravaginal hysterectomy for infected uterus and appendages. Pus in both tubes and ovaries infected. The field here pictured shows the process of gland destruction: *a*, lumen of gland filled with disintegrating epithelium; *b*, round cells massed just outside of the gland; *c*, gland epithelium so modified that it can be recognized as such only by its position.

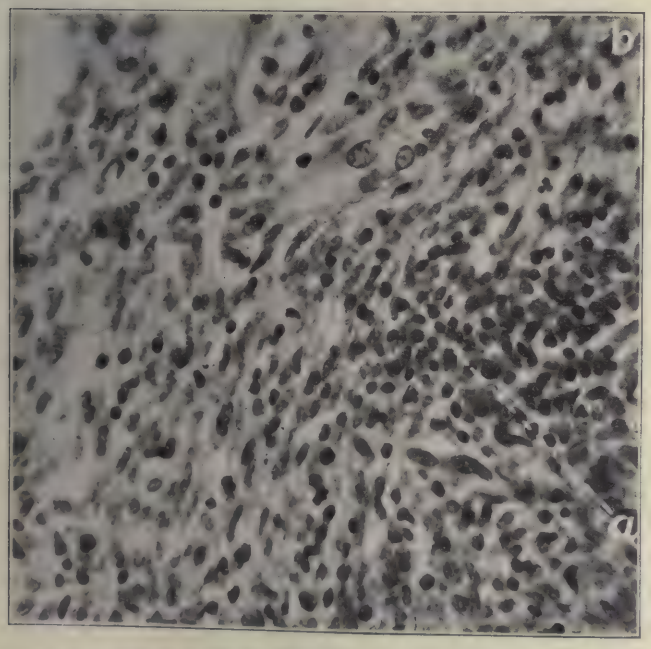


Fig. 7.—Section 846b. (For clinical notes see Fig. 6). This field shows: *a*, masses of round cells in the stroma; *b*, nearly all the stroma-cells have become spindle-shaped. These two fields from the same section show in the superficial layer (Fig. 6) a process that we recognize as an acute or recent one, while at about the middle of the depth of the endometrium (Fig. 7) are changes that are due to an older process. It is interesting to note that the clinical history indicates both a recent and an old infection.

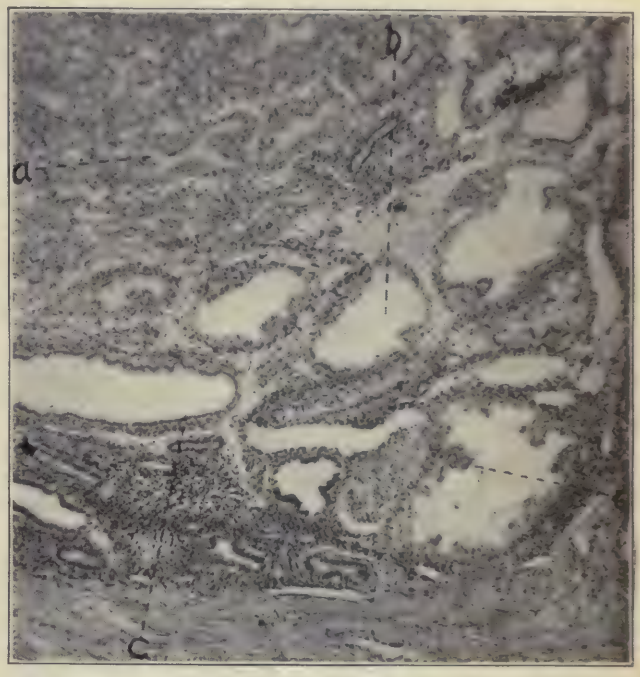


Fig. 8.—Section 662b: B. K., aged 29. Last pregnancy ended at full term seven years ago: last menses Jan. 18, 1908, scanty, irregular and painful. Patient had symptoms of an infection six years ago; cystitis three years ago. Operation Feb. 14, 1908; supravaginal hysterectomy for infected uterus and appendages. This field shows: *a*, glands in the upper layer of the endometrium, numerous, small and irregular in outline; *b*, glands in the deeper portion of the endometrium much dilated: *c*, gland epithelium consists of a single layer and much lower than usual; *d*, gland epithelium is tufted as it is in the glands of the premenstrual endometrium. Under a higher magnification the stroma is seen to be made up largely of spindle-cells interspersed with a few round cells.

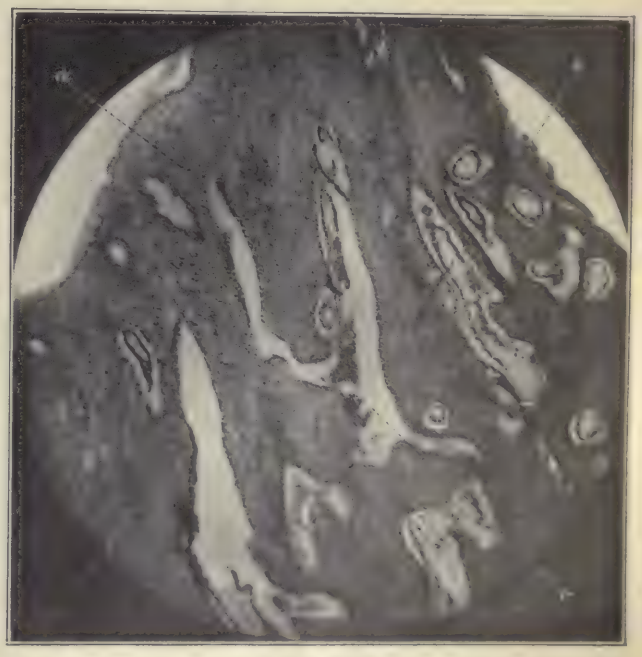


Fig. 9.—Section 688b: E. D., aged 27. One child born four years ago; last menses April 4, 1908, regular, flows three to five days, very painful. Patient has had pelvic pain, leukorrhea, dysmenorrhea and burning micturition since labor four years ago. Operation April 10, 1908; supravaginal hysterectomy for infected uterus and appendages. The tubes were full of pus. This field shows: *a*, glands in the superficial part of the endometrium contracted or absent; *b*, glands in the deeper part much dilated.

The first change that is noted in the stroma-cells is an increase in their size; they take the stain less deeply and have the appearance of the decidua-like cells so frequently seen in the premenstrual endometrium or under any condition of increased vascularity (Figs. 2, 4). As the process continues the stroma-cells elongate and become spindle-shaped. Among these spindle-cells are seen not so many round cells as in the beginning of the infection, but many more than normal (Fig. 7). If the infection continues these spindle-cells ultimately assume a fibroblastic type (Figs. 10, 11). In all cases these changes in the type of the stroma-cells are most marked at first in the superficial portion of the endometrium, but if the infection continues the entire thickness of the mucosa becomes involved.

In many instances plasma-cells can be seen, but they are so difficult to distinguish from a round cell lying over a stroma-cell that it is not thought advisable to lay much stress on their presence.

Glands.—The changes in the glands include the changes in the epithelium, changes in the gland contents and changes in the number, shape and caliber of the glands.

The gland epithelium undergoes practically the same changes as have already been noted in the superficial epithelium, except that in the glands the process is much more frequently carried to the complete destruction of the epithelium and the consequent destruction of that part of the gland or glands involved (Figs. 6, 11, 12). Not infrequently epithelial cells will be seen which can be recognized as such by their relation to each other, but which taken individually cannot be distinguished from the modified stroma cells (decidua-like cells) found in the same field (Fig. 4).

In many instances the glands become filled up with round cells, leukocytes and broken-down epithelium. The round cells and the leukocytes get into the gland either by penetrating the unbroken epithelium or by the local breaking down of the epithelium, allowing them to pour in (Figs. 4 and 5). This filling up of the glands does not take place in all of the glands of any infected endometrium, but when it is present it may be seen in from three to a dozen glands in a section. The migration of the round cells and leukocytes through the super-

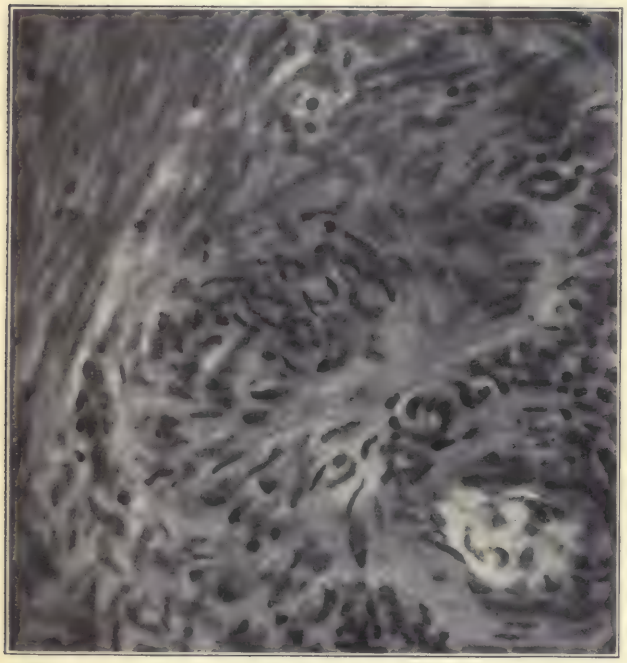


Fig. 10.—This is a higher magnification of the section shown in Figure 9. The field is about half way between the muscularis and the surface of the endometrium. There is an absence of cells that even resemble the normal stroma cells.

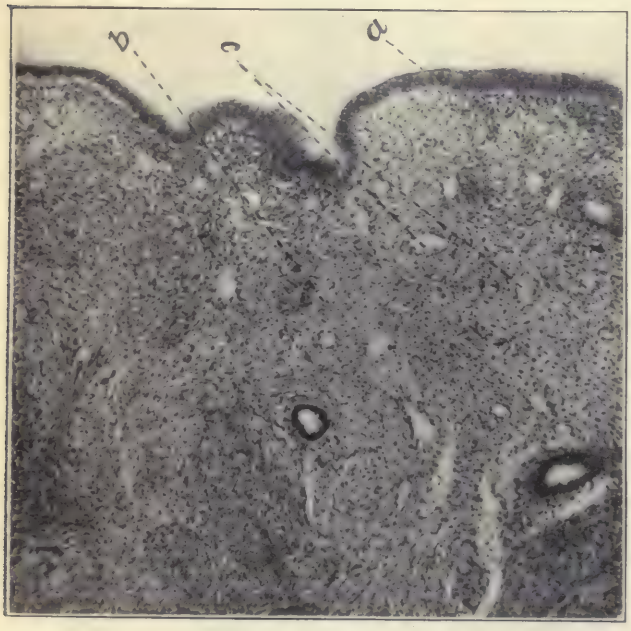


Fig. 11.—Section 799a: A. C., aged 47; admitted to the hospital Feb. 10, 1909. Last pregnancy terminated in a miscarriage eighteen years ago; last menses began January 7, and flowed sixteen days; up to three years ago menses were regular and the flow lasted seven or eight days, since then the periods have been irregular, painful and profuse. Operation Feb. 11, 1909; supravaginal hysterectomy. Associated lesions; uterine myoma, infected uterine wall, pyosalpinx, adenocystoma of the ovary. This field shows: *a*, superficial epithelium intact; *b*, almost entire absence of glands and the stroma cells are replaced by connective tissue; *c*, numerous blood-vessels. The remains of the endometrium is much thinner than the normal endometrium.

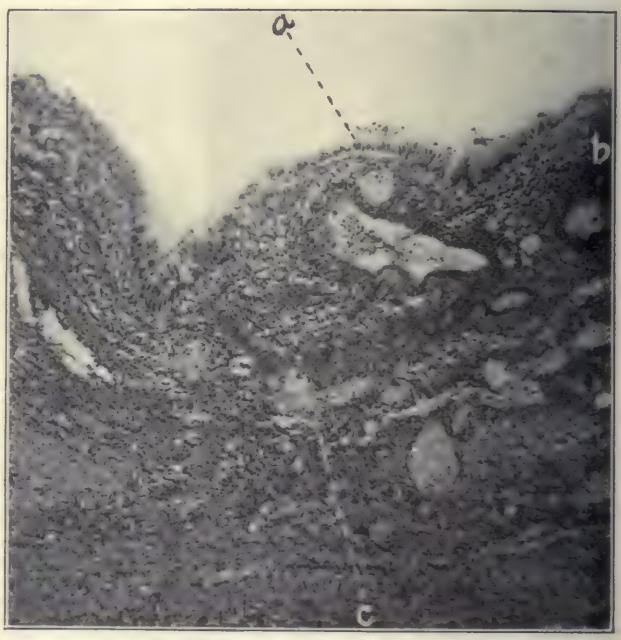


Fig. 12.—Section 680c; M. C., aged 49; last menses four years ago. First began to feel discomfort about one month before operation. This patient had an adenocarcinoma of the cervix that produced a complete atresia. The body of the uterus was larger than a man's fist and distended with pus. The section is shown to illustrate what happens to an endometrium in a pyometra; *a*, thinned out superficial epithelium; *b*, the remains of a gland; *c*, all this area is densely infiltrated with round cells which are also present in large numbers in the muscularis; very few glands remain.

ficial and gland epithelium is undoubtedly the source of the intermenstrual discharge which has so long been recognized clinically as one of the signs of infection of the endometrium.

The foregoing are the marked changes that are noted as taking place during the time that the cells of the endometrium are subject to the influence of an infection. There are, no doubt, some patients who recover so completely that no trace of the past infection remains. On the other hand, in the group of cases studied in the course of the preparation of this paper it was found that in every case in which the clinical history and local lesions pointed to an infection, either existent or preexistent, there was some recognizable lesion in the endometrium. These secondary results no doubt vary with the severity of the past infection and are not perfectly constant, but some of a very few conditions are practically always present.

The superficial epithelium, even where it has been partially destroyed, apparently is reproduced and is present as a continuous single layer (Fig. 11). In the stroma the round cells decrease to their proper proportion and the stroma-cells return to their normal ovoid shape and size, or retain a spindle shape, or assume the fibroblastic type. The glands in the upper half of the endometrium are found to be either numerous, small and angular (Fig. 8), or much fewer than normal (Fig. 9). The glands of the deeper part are frequently much dilated (Figs. 8, 9). This dilatation is quite different from the dilatation of the glands in the premenstrual endometrium. In the endometrium, after infection, the dilatation is apparently due to retention from destruction of the portions of the glands passing through the superficial part of the endometrium. The lining epithelium of these distended glands is usually thinned out by compression. In other instances the infection has been so severe that all, or nearly all, of the glands have been destroyed (Figs. 11, 12).

From this study of endometriums known to be infected we are in a position to say, with a reasonable degree of accuracy, that an endometrium under examination either is infected or that it is not infected; and usually, if there is no evidence of a present infection, whether it has been infected.

It is useless to attempt a classification of the results of infection, because it is possible to find all stages of the reaction to infection in the same endometrium.

6 West Preston Street.

ABSTRACT OF DISCUSSION

DR. EMIL NOVAK, Baltimore: That the endometrium reacts toward acute infection in much the same way as does any other tissue cannot be impressed too strongly. A more interesting and difficult problem is that of chronic infection of the endometrium and of chronic endometritis. If we assume that the endometrium reacts in the same way to a chronic process as do other structures we would expect to find in such cases a certain number of small round cells, perhaps fibroblasts, etc.

The next question is, are all cases with these findings to be classed as chronic endometritis, or, to make it even broader, are all to be considered as chronic infections? We must bear in mind that we often find fibroses of the endometrium in conditions which are probably not of an infectious nature, as, for example, after prolonged passive hyperemia. Whether or not fibroid changes in the endometrium are to be called chronic endometritis is therefore often a difficult question. I do not think we can tell in every case. It is much the same problem as if an individual is found dead on the street. One cannot tell whether he died of apoplexy, of heart disease, or of something else. We see the result, but we do not know what brought it about. So, whether there has been merely a prolonged hyperemia or an actual infection, the terminal condition in the endometrium is apt to be the same.

Another interesting question in this connection is that of the avenues of infection of the adnexa in cases of general pelvic infection. Formerly it was believed that in many tubal infections the process reached the tube through the lymphatics rather than by direct continuity. It seems to me that this paper throws light on this subject. If it can be shown, as seems to have been done, that in practically every case of tubal infection in which the endometrium was examined microscopically evidences of infection were found, it would seem that the infection must have traveled to the tube by way of the endometrium.

PERFORATION OF UTERUS AND TRANSFIXION OF CONTIGUOUS MESENTERY AND PERITONEUM BY BONE CROCHET NEEDLE

OPERATION AND RECOVERY

E. GARD EDWARDS, M.D.
LA JUNTA, COLO.

History.—A married woman residing in a neighboring town, under the impression that she was very much in need of a monthly regulator, one evening on retiring passed into the uterus a bone crochet needle, the sharp end first, from which she had previously filed the hook-like projection. This important duty performed, she went peacefully to sleep. The next morning when she made search for the regulating apparatus it was not to be found. A hurried but careful search of the bed and the room failed to show the missing article. In spite of the fact that she felt no pain at any time after inserting the needle she was somewhat concerned as to what had happened to the instrument as well as to herself. After a few hours of disturbance of mind, she called in the family physician, who made a careful examination but had no better success in finding the needle than had his patient. The patient did not at this time, nor afterward, give any sign of having punctured the uterus. Only her tearful protestations that by no possibility could the instrument have passed away persuaded her physician that it must be somewhere in her internal economy.

Examination.—In order to satisfy himself and the patient, counsel was called and under anesthesia the uterus was dilated and explored but without result, either so far as finding the missing needle was concerned, or, incidentally, any signs of conception. The day afterward she was brought by train some 90 miles to my office for examination. Her condition at this time was, temperature 99, pulse 90, slight discharge from the uterus, marked tenderness on pressure and constant soreness, but no rigidity, over the left pelvic region. On the theory that, if the article was in the abdominal or pelvic cavity, being of bone it should cast a shadow in an *x*-ray picture, a radiograph was made. The patient's weight being 120 pounds, an 8-inch W-H tube was used, with penetration No. 7 plus, giving an exposure of two minutes, using a 12-inch coil as the exciting agent. The bowels had not moved for over twenty-four hours and owing to the presence of fecal matter the resulting radiograph was not satisfactory. The bowels were accordingly cleaned out with heavy doses of salts, followed the next morning by a high enema. At this time a two-minute exposure was given, using a 7-inch Friedlander tube with penetration No. 8, with the result that the bone implement was found transfixing the mesentery and peritoneum, with the middle of the needle approximately opposite the crest of the ileum, its depth in the pelvic cavity being of course a matter of conjecture.

As neither fever nor other serious symptoms had developed at this time, four days after the passage of the instrument, it was not deemed necessary to be in any great

hurry to remove it, and the patient preferring to have the operation at her residence instead of at the hospital, she was sent home accompanied by a nurse.

Operation.—On the second day afterward she was operated on by a median abdominal incision. Immediately after opening the abdomen the needle was found as described above. It was removed, no hemorrhage following, by being grasped by the blunt end next the uterus and drawn downward. Examination of the uterus showed a punctured wound directly in the fundus, as near the center as it could possibly have been made. Two No. 1 iodin-catgut sutures were taken in the uterus to close this rent, and the abdomen closed with layers of catgut sutures. Convalescence was uneventful.

I am led to report this case because I believe it to be unique in several particulars:

First, the passage of such an instrument as is here shown through the uterus and the adjacent mesentery and peritoneum without producing pain, shock, hemorrhage or infection seems worthy of note.

Second, perforations of the uterus by instruments, even in skilled hands, is not a rare occurrence, but its perforation and the passage of the instrument through the uterus into the peritoneal cavity must certainly be.

Third, the case demonstrates the utility of the radiograph in clearing up what would have been, in the absence of subjective and objective symptoms, a puzzling case as to the proper method of procedure.

A CHRONIC ITCHING PAPULAR ERUPTION OF THE AXILLA, PUBES AND BREAST *

MARCUS HAASE, M.D.

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MEMPHIS, TENN.

Dr. George Henry Fox,[1] in 1902, described a peculiarly localized papular eruption in the axilla which was extremely itchy and resisted all treatment. In the same article Dr. Fordyce reported the histologic findings in Dr. Fox's case, but at this time no attempt was made by either to classify the condition.

In a subsequent article[2] before the thirty-second annual meeting of the American Dermatological Society in 1908, Dr. Fordyce called attention to the lack of weight given by the American dermatologists to a group of skin diseases classed by Dr. Brocq under the term "lichenification," reported more in detail, both clinically and histologically, an additional case, and tentatively classed it among those eruptions to which Brocq has given the name *nevrodermite chronique circonscrite.*

In reviewing this article, Dr. Colcott Fox,[3] after complimenting the author on his work, says: "We think many will hesitate to pronounce the condition a lichenification, as we know that state in this country."

It would seem from this that the British dermatologists, of whom Dr. Colcott Fox is one of the most painstaking clinicians and histologists, were as derelict as their American confrères in recognizing this identification of a class of skin diseases that assisted much in the simplification of the nomenclature of dermatology.

But Dr. Fordyce's classification has found a better reception in circles equally interested and no less critical, as I have seen a personal letter from Dr. Brocq to Dr. Fordyce, in which he entirely agrees with the latter that the affection in question is a lichenification and states that he has seen numerous similar cases in his practice. I have had under my observation for the past two years a case that is a clinical prototype of those reported by Drs. Fox and Fordyce.

History.—The patient is a young woman, aged 21, anemic and decidedly neurotic. Her family history is unimportant, her father having died at thirty-eight years of age of pneumonia. One brother died recently of pulmonary tuberculosis. Her mother, three sisters and two brothers are all in good health. Her past history is interesting in that she has had three distinct, severe attacks of hemoglobinuric fever at 12, 14 and 16 years of age. At 15 she contracted scabies, which lasted four or five weeks. From 14 to 17 years of age she suffered severely with periodical headaches, and the menses were not established until the latter year, and then appeared only at irregular intervals. The disease for which she consulted me began at 17 years of age while attending school, as an intense itching in the axillæ. In three or four weeks the papules appeared, and she then noticed that the hairs in that region became brittle, and as she expressed it, "dropped



Fig. 1.—Papular eruption in axilla.

off." The pubes became affected four months later in a similar manner, and not until a year later did the breasts become involved.

Examination.—When she came under my care, the disease was limited to the hairy portion of the axillæ and pubes, and about the nipples of the breasts. In the axillæ and over the pubes the eruption consisted of closely aggregated, round, smooth, firm papules, in size from a pin-head to a small pea, those in the pubic region being somewhat larger than in the axillæ. At the apex of each papule was a slight depression or a grayish plug. When the skin was put on a stretch the lines were markedly exaggerated, the papules occupying the ridge (Fig. 1). The color over the region affected was normal, or a pale pink. The lesions on the breasts were more discrete, there being not more than a dozen papules on either breast. These were deeper in color and about the size of a large pin-head. Alopecia was complete in the axilla and over the pubes. The itching was almost intolerable, frequently depriving the patient of sleep, and at times she would lose control of herself to the extent of having to be forcibly restrained by two of her sisters. It was always worse at night, and during and after any excitement, either pleasurable or otherwise. Re-

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Jour. Cutan. and Gen. Urin. Dis., January, 1902.
2. Am. Dermat. Soc., 1908, p. 118.
3. Brit. Jour. of Dermat., xxi, 269.



Fig. 2.—Edema of papillary layer of corium. Elastic fibers destroyed or so changed in character that they do not take characteristic stain.



Fig. 3.—Destruction of the epidermal cells with vesicle formation.



Fig. 4.—Epidermis showing hyperkeratosis, vacuole formation about nuclei and edema of the corium.

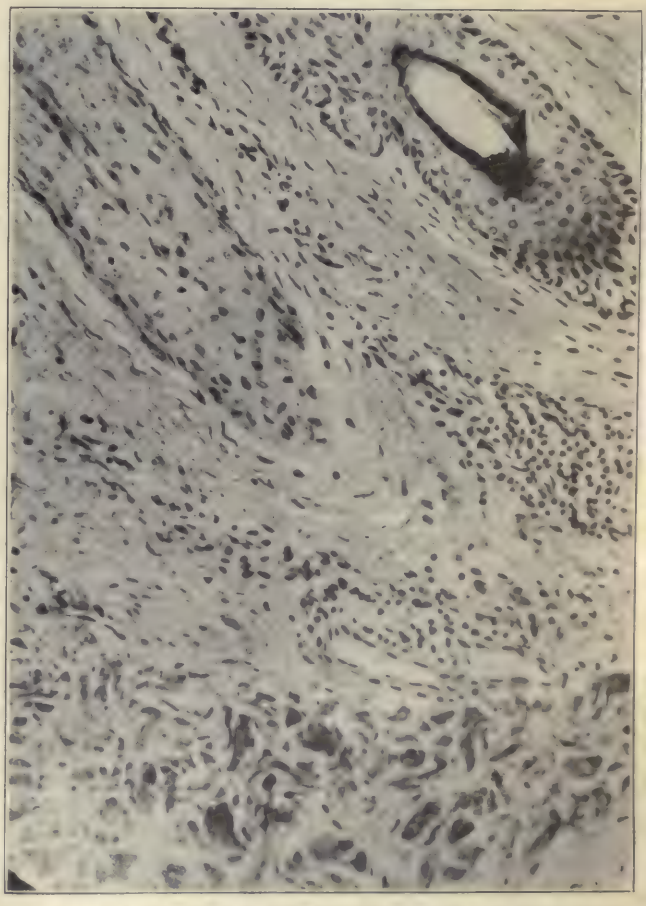


Fig. 5.—Hair follicle and epidermal projection enclosing sweat-duct with degeneration of cells. Cellular infiltration in foci in corium.

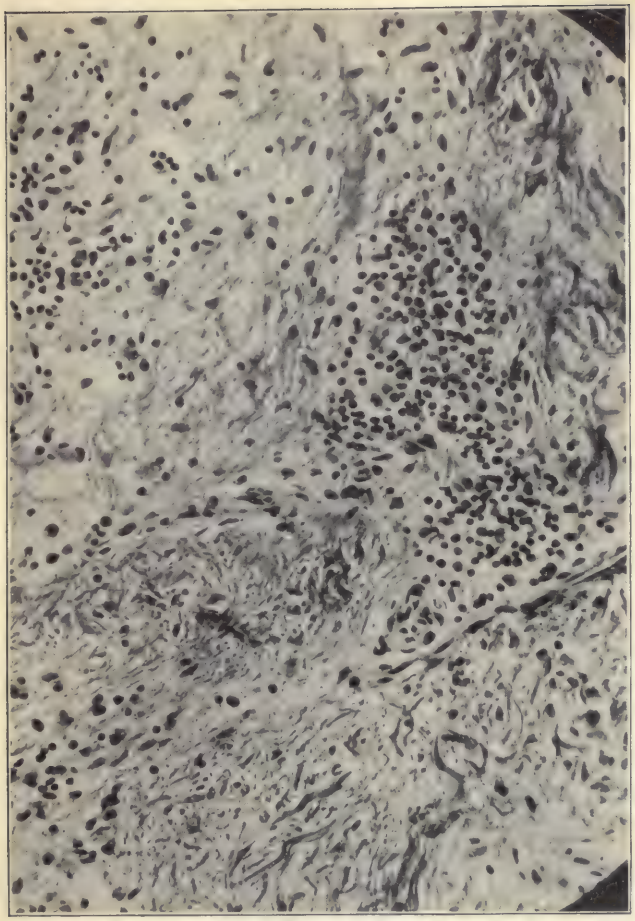


Fig. 6.—Character of cell infiltration in corium.

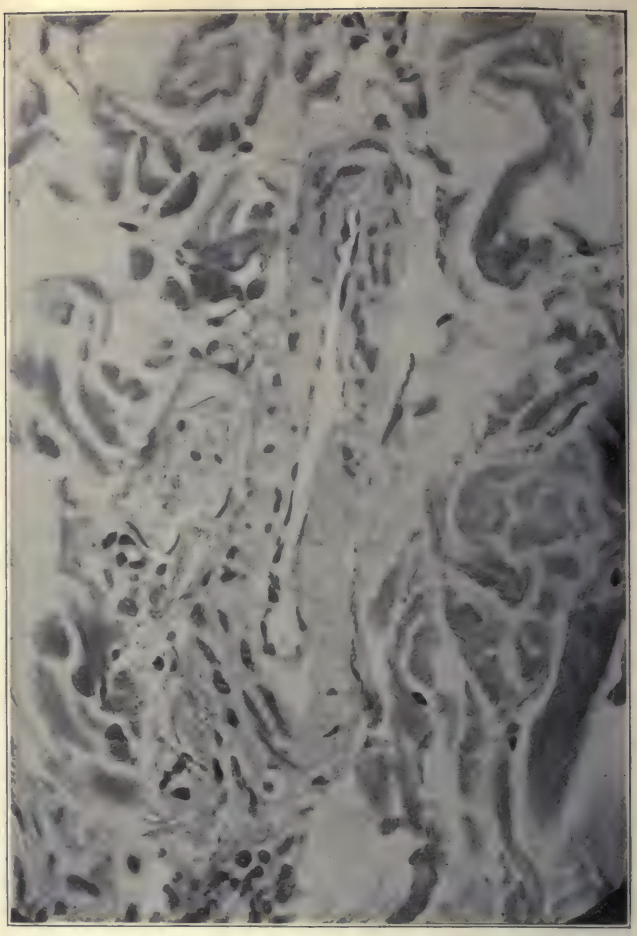


Fig. 7.—Hyaline degeneration of small artery in corium.

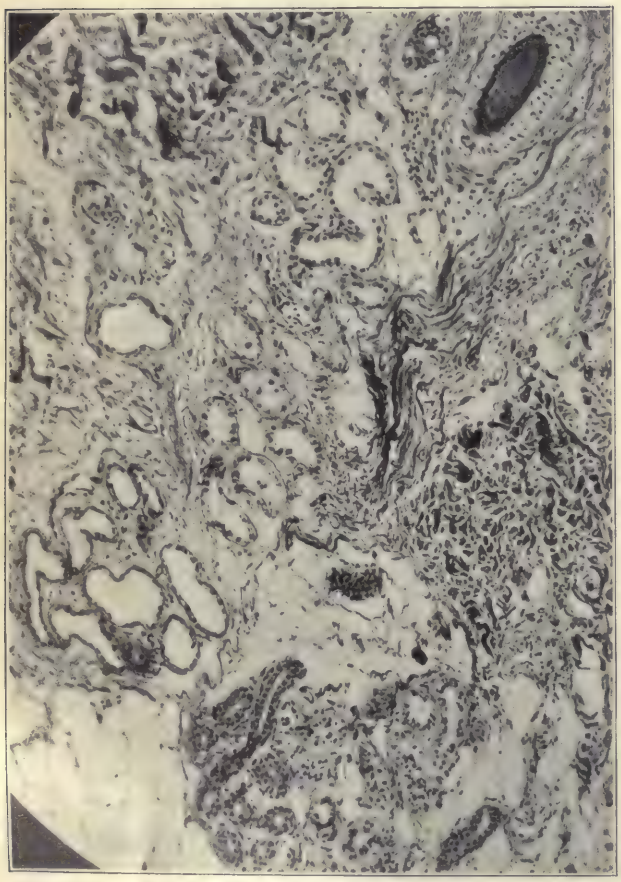


Fig. 8.—Degeneration of lining cells and dilatation of glands with adjacent apparently uninjured glands.

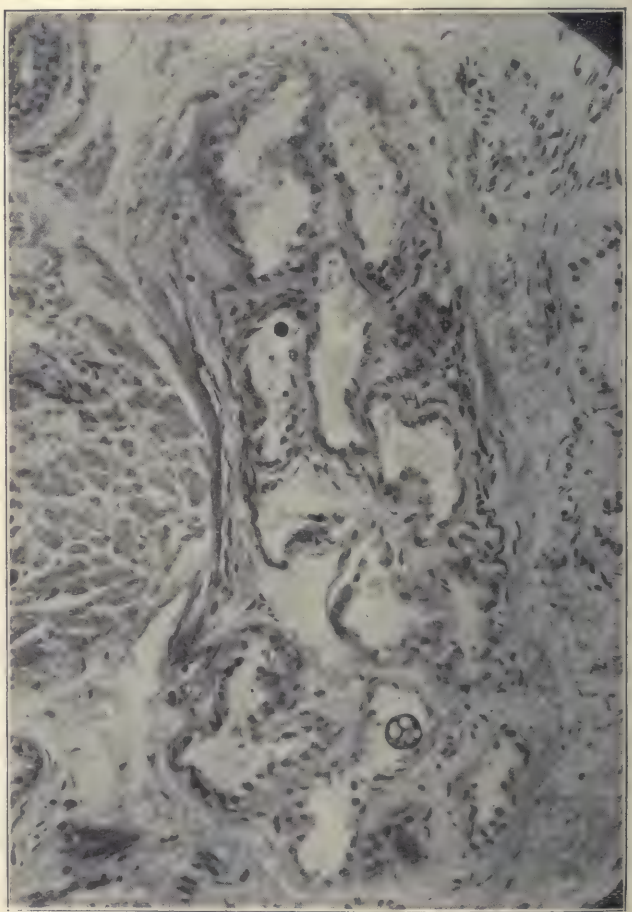


Fig. 9.—Dilatation of sweat glands showing partial casts. In two of the gland acini are concretions or bodies mentioned in text.

peated thorough examinations revealed no constitutional disturbance, blood and urine being negative.

Treatment.—Treatment in my case proved even less successful than in those previously reported. She was given innumerable antipruritics, with only temporary relief. Resorcin, pyrogallic acid, chrysarobin, and various tars, in increasing strength, were used, with no better results. The *x*-ray was very positively refused, but high-frequency currents were applied for over four weeks. Saline cathartics were administered for more than a month, as were salicin and phenyl salicylate, in increasing doses. In October, 1908, after she had been under my care for five months, the patient's condition became so deplorable that it was thought best to place her under the constant observation of nurses. For this purpose, she was sent to the Presbyterian Hospital, with a nurse in constant attendance. She was allowed from two to five hours outdoor exercise, all medication, both external and internal, having been stopped, except hot salt solutions applied to the diseased areas. Under this treatment she rested better, her mental condition improved and she gained some weight. When last seen, less than a month ago, the condition in the axilla and over the pubes showed little or no change. The papules were still present, the hair had not returned and the itching though less frequent was at times very annoying. The patient's mental condition had continued to improve, and she was devoting all her time to music and outdoor life. She still continued the use of the hot salt water packs.

Biopsy.—Sections made from a biopsy taken from the axillæ showed an extensive acanthosis, most marked about the sweat-duct, a dense hyperkeratosis at the mouth of the duct, in some instances extending deep into the duct proper. There was an extracellular and intracellular edema, with a shrinkage of the nuclei seen throughout the prickle cells, and in places small vesicles had formed. In the papillary and subpapillary layers of the corium, a marked degeneration and edema were found, and the elastic tissue in this region was so changed that it did not take the usual stains. An infiltration of lymphocytes and plasma cells was present in foci and about the vessels and sweat glands. A hyaline degeneration was seen in some of the arteries of the corium, with an atrophy of the nuclei of the wall, but by far the most marked change was the dilatation of the sweat-gland accompanied with a degeneration of the lining cells. In some of the tubules, there were partial casts, and in two there were found round concretions or bodies the nature of which is to me obscure.

The histologic picture in my case differed only in minor details from that reported by Dr. Fordyce; namely, the hyaline degeneration of the arteries and the changes in the staining quality of the elastic fibers.

In conclusion, it is apparent that Dr. Fordyce's contention is well grounded, and that as his conclusions are approved by Brocq, we may accept this peculiarly localized dermatosis as a lichenification, the etiology of which is still in doubt.

If one might hazard a guess at the cycle of histologic changes occurring in the development of the disease, I would suggest that the pathologic condition began in the sweat-glands, with a morbid change in the lining cells, followed by a destruction of the cells and a dilatation of the gland proper, and that all other changes demonstrated were secondary to this process, and due to the elimination of a toxin yet unknown.

Memphis Trust Building.

ABSTRACT OF DISCUSSION

DR. J. A. FORDYCE, New York: Through the kindness of Dr. George H. Fox of New York I saw a third case of this affection in which the eruption occurred in the identical localities, and I have had personal communications with other physicians who have described similar cases. These observations might lead one to think that we have at least a distinct clinical picture if not a definite entity. As supporting the toxic origin of such a condition, we see on other parts of the skin purplish thickened patches made up of papules which have run together and which occur in individuals who are suffering from some toxemia. This toxemia may result from the excessive use of tea, coffee, or alcohol, or possibly a combination of these agents, with intestinal fermentation. In the cases which occur on other parts of the body than the axillary or pubic region I have been unable to demonstrate changes in the sweat glands, but subsequent investigation may show them.

A REPORT OF SIX CASES OF SYPHILIS TREATED WITH SALVARSAN

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In selecting cases for experimentation with "606" an attempt was made to choose those with demonstrable lesions and those which would best represent the various stages of the disease, excepting the meta- and parasyphilitic conditions.

The list of cases includes one with primary lesion of tonsil, one with primary lesion of penis with secondary eruption, two with maculopapular secondaries, one with ulcerating secondaries of the tonsils and vocal cords, and one with gummatous lesion of forehead. Except in one instance, an alkaline solution of the drug was injected into the buttocks according to the technic developed by Lesser.[1] In this exception the same solution was injected intravenously, after being first diluted with distilled water to 200 c.c., according to Schreiber's method.[2]



Fig. 1.—Lesion in Case 6 before injection with salvarsan ("606").

The intragluteal injections gave very little pain at the time of administration except in one nervous individual. In every case the pain became quite severe within an hour after injection and in all but one case morphin was required to give relief. The pain was somewhat less the day following and the patients were able to leave their beds and to walk about, though with more or less difficulty on account of the soreness in the buttocks and pains radiating along the course of the great sciatic nerve. Local tenderness and induration developed and increased until about the fifth day, after

1. Described by Corbus, B. C.: The Value of Ehrlich's New Discovery, "606" (Dioxydiamidoarsenobenzol), THE JOURNAL A. M. A., Oct. 22, 1910, p. 1471.

2. Schreiber: Verhandl. a. d. 82 Versamml. Deutsch. Naturforscher u. Aerzte in Königsberg, Sept. 20, 1910; Deutsch. med. Wchnschr., 1910, No. 41, p. 1899.

which it gradually subsided, though the latter was still noticeable in some cases twenty days after treatment. No reddening of the skin or fluctuation at the site of injection was observed.

Following each intragluteal injection there was a gradual rise in temperature to about 101° F. reaching the maximum on the third or fourth day with the general symptoms of fever, such as headache, loss of appe-

TABULATED RESULTS OF SALVARSAN ("606") MEDICATION IN SIX CASES

Age	Infection	Previous Treatment	Condition Before Injection	Injection	Local Effects	Condition After Injection	Remarks
42	Chancre of penis 1889. Treated locally. No secondaries were noticed. Developed tertiary lesion 7/1/10.	Gumma incised and treated with antiseptic dressings. No mercury or iodids taken.	Gummatous lesion of frontal bone began about July 1, 1910. Was incised about September 1. On admission to hospital this was about 2½ by 2 in. in diameter and projected from forehead as a hard mass. There was a small incision in one portion of mass discharging pus. Loss of appetite and general feeling of ill health. Wassermann positive.	11/1/10—6 gram "606," dissolved according to Lesser's method in a 20-c.c. alkaline solution and 10 c.c. injected into each buttock.	Patient cries with pain at the time of injection and complains of pain extending down legs. Painful indurated mass in each buttock with maximum tenderness on the third day. Tender to pressure twelve days after injection. No redness of skin or softening at any time.	11/3/10 — Two days later gumma softer and slightly smaller. Improvement steady. 11/19/10 — No discharge from incision and mass less than half the original size and very soft and flat. Gain of three pounds in weight; feels well; appetite good. Wassermann positive.	11/2/10—Erythematous eruption involving flexor surfaces of arms and upper part of chest. 11/3/10—Eruption fading rapidly.
21	8/15/10—Chancre of penis. Spirochetes found. 11/15/10—Maculopapular eruption appeared.	Local for chancre only. Primary sore lasted seven weeks.	Maculopapular eruption scattered over body, more numerous in palms; mucous patches in mouth. General glandular enlargement; malaise, loss of appetite. Wassermann positive.	11/4/10—0.4 gm. by Lesser's method.	Painful induration. Left hospital ninth day, having but little local disturbance.	Mucous patches lost their irritability after fifteen hours. 11/7/10—Three days after injection mucous patches indistinctly seen. 11/6/10 — Two days after injection secondaries fading. 11/9/10—Glands becoming smaller. After eight days secondaries all gone from body. Remains of same in palms. 11/15/10—Patient looks fine and feels well.	
21	7/10/10—Chancre of penis lasting two weeks. 8/15/10—Ulcerating secondaries in throat.	Took mercury for six weeks in pill form until teeth became sore. Took liquid medicine two to four weeks. No improvement at any time. All medicine stopped two or three weeks before admission to hospital.	Excavating ulcer of each tonsil size of a dime. Enlargement and induration of glands of neck. General glandular enlargement. Mucous patches in mouth. Erosion of vocal cord with edema and injection. Gonorrheal urethritis. Gonorrheal arthritis involving both knees. Wassermann positive.	11/4/10—0.6 gm. by Lesser's method.	Painful induration. Fairly comfortable in five days.	Infiltration of tonsils less marked after fifteen hours. Mucous patches not tender. Tonsillar and laryngeal lesions healed in six days. Glands slightly smaller after three days. 11/22/10 — Wassermann positive.	
34	Extragenital infection Aug. 5, 1910. Excision of primary lesion. 10/8/10—Maculopapular eruption. Mucous patches in mouth and about anus.	Gray powder, gr. 2 t. i. d., for two weeks. Blue mass, gr. 2, every four hours for two weeks. Discontinued on account of intestinal disturbances. Nine doses of mercury given intragluteally. Slight improvement in secondaries with latter. Last dose given 11/6/10.	Maculopapular eruption scattered over body and palms; more numerous over forehead. Mucous patches about anus. Moderate injection of conjunctivæ, especially of right eye. General malaise with loss of appetite. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Local effect in this case more marked than in others. Swelling more extensive from beginning and more painful. Cramps in calves of legs, especially at night. These still occurred eight days after injection. Sleeplessness requiring morphin and later chloral and trional.	11/10/10 — Mucous patches not sensitive. 11/11/10 — Secondaries fading. 11/16/10—Seven days after injection eruption almost gone; few lesions on back and forehead. 11/18/10 — Secondaries practically disappeared.	Herpes labialis on fourth day.
19	Exposed 8/20/10 — Sore throat developed about one month later.	None.	11/5/10 — Deep excavating ulcer of left tonsil with overhanging edges and infected base. Tonsil enlarged and indurated. Regarded as primary lesion. Submaxillary and surrounding glands enlarged. Axillaries and epitrochlears enlarged. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Painful induration. Discharged on seventh day, and walked with but slight limp at that time.	11/10/10 — Fifteen hours after injection ulcer was not so deep or crater-like in appearance and was not painful on swallowing. Tonsil smaller. 11/21/10—Lesion entirely healed.	
24	10/3/10—Chancre, which was treated locally. Macular rash appeared 11/10/10.	Two doses sodium cacodylate, hypodermatically. Oct. 22, 10.1 gr.; Oct. 22, 1910, 1 gr.; Oct. 25, 1910, 2 gr.; Oct. 25, 1910, 10.2 gr.	Two large indurated sores on penis (see photo). 11/10, macular rash over body. Wassermann positive.	11/12 — 0.4 gm. "606" given intravenously, according to Schreiber's method. After a portion of the fluid was injected a small amount ran beneath the skin, so a new site was chosen, with perfect result.	Very slight irritation where small amount of fluid ran under skin. This disappeared the following day. No soreness where technic was good	Chill, nausea and vomiting two hours later. Temperature rose to 101.5° F. in six hours and had one diarrhoeic stool. Primary lesion markedly improved on second day. Healed in thirteen days. (Figs. 1 and 2.)	Six hours after injection rash much brighter and more extensive. (Herxheimer reaction?) Herpes labialis on third day.

tite, general malaise, and leukocytosis. In the case in which the drug was given intravenously there was a rather marked but very transient general reaction. There was a marked chill two hours after the injection and the temperature arose in six hours to 101.2° F. Associated with the increase in temperature there was headache, vomiting and one diarrheic stool. When the temperature was highest this patient showed a distinct increase in the already existing rash which became more intense and more extensive, covering the whole of the trunk and the extremities (the so-called Herxheimer reaction).



Fig. 2.—Lesion in Case 6 thirteen days after injection with salvarsan ("606"). The induration is much less marked and the ulcer has entirely healed.

The most interesting result of the use of the remedy was the rapid onset of the improvement after the administration. The primary lesions began to heal within two days. The mucous patches lost their irritability in fifteen hours. The ulcerating secondaries of the tonsils manifested an improvement in the same length of time, the first changes being a decrease in the infiltration of the surrounding tissues and a subjective lessening of the stiffness which caused difficulty in swallowing.

All of the patients are still under observation and subsequent serum examinations will be made to determine the ultimate results of the treatment.

AN INTERESTING CASE OF CONFUSIONAL INSANITY

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INGLESIDE, NEB.

The following case presents several features of unusual interest to the student of mental diseases. In the first place, it is a rather rare type of mental derangement, as I have found in reading the meager descriptions given in available texts; secondly, the etiologic factor is interesting as well as unusual; third, the duration of the attack, and last, the peculiar disappearance and abrupt recovery.

The patient in question, a German-American, was admitted Nov. 17, 1910. Examination showed a man of healthy appearance, though rather thin; age 38, height 5 feet, 11¾ inches, weight 160; pulse 68, regular and full; temperature 98.2; respirations 17; motor symptoms none; all functions fair. His hereditary history was negative—father and mother living and in good health; no history of mental trouble in collaterals.

The patient was quiet and unobtrusive; talked freely when addressed, and frequently mentioned soldiers, woodmen and doctors; would give his correct name when asked but could not spell it. Given pencil and paper, he attempted to write, but gave up, laughing, and remarked that he could neither read nor write. He was cleanly in his habits, not violent in any way and obeyed when told to do anything. He complained of no symptoms, ate heartily and slept well. The commitment papers described him as a well-to-do business man, of fair education, married and the father of four children. He had never suffered from mental trouble, serious injury or disease, was temperate in his habits, and of mild disposition.

In October, 1909, he went with a brother to Omaha to be operated on for appendicitis, ether being the anesthetic used. The operation was successful and after a three weeks' stay in the hospital he returned to his home. From then on he showed a marked change of disposition; refused to recognize his wife and disowned their children. His mind dwelt incessantly on physicians and operations, and he talked continually about taking good care that no medical man would ever come near him. March 28 he disappeared, leaving some blood-stained clothes on a lake shore near the town. All search for him proved futile, and no trace of his whereabouts was found until Nov. 7, 1910. On that date he was picked up by the police of a distant city, identified and returned to his people. His peculiar actions caused him to be brought before the insanity board, which resulted in his being committed to the Nebraska State Hospital. On entering the hospital he was given an active purge and placed under surveillance, no special treatment being instituted.

On the fifth day he asked to see me privately and was brought to my office. A marked change was noticeable in his demeanor, and his face bore a look of interest and intelligence. His first remark was, "Doctor, I'm all right again." Explaining further, he stated that sometime after midnight he awoke and felt a queer pain in his head. Sitting up in bed he noticed that he was in some sort of a ward, and recalling the operation decided that he was still in the Omaha Hospital. When morning came he learned his mistake and immediately questioned an attendant as to his whereabouts and how he had reached such a place.

The last act he could recall was taking ether, previous to the operation thirteen months ago. He could describe the room, and repeat all conversation heard before succumbing to the anesthetic. As to going home after the operation, remaining there until March, and disappearing, he knew nothing. Apparently, no thought or act, during the entire year had left an impression on his mind, and he had lost completely thirteen months of his life. Strangely enough, there seems to be no trace whatever of how or where he passed the interval between March and November. Neither hands nor clothes showed signs of manual labor, and his inability to read or write, while mentally deranged, as demonstrated on entering, showed him incapable of intellectual employment. His means of support and actions during this period would certainly prove of unusual interest, but seem destined to remain a mystery.

The patient's wife was notified at once of his mental change and took him home on parole. A recent report from her states that he has been normal since his return, has taken up work where it was dropped in October, 1909, and is none the worse for his mental vacation.

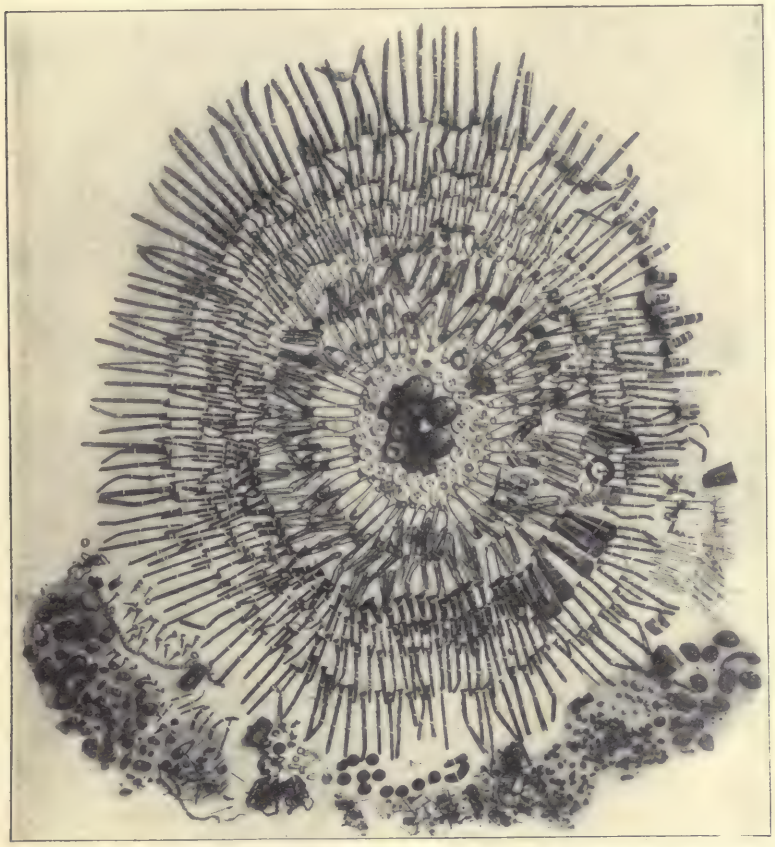
I have been unable to find, in available literature, a description of any case closely related to the above, but presume that they occasionally come under the care of mental specialists. An interesting case was reported from Toronto, Canada, several years ago, and also one in the London *Lancet* a decade ago. These cases, I believe, were diagnosed as perverted personality, and though resembling our case in some particulars, were unlike in essentials. For want of a more specific diagnosis we have classified our case as post-operative confusional insanity.

FOREIGN MATERIAL IN THE STOMACH

REPORT OF A REMARKABLE CASE

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It is not very unusual that hysterical and insane patients swallow hard and indigestible articles, and occasionally this foreign material is found in the stomach at operation or autopsy. Buttons, coins, needles, pins, hairpins, nails, false teeth, and even knives and forks have occasionally been swallowed; and at times may give rise to serious trouble by causing perforation or occlusion of the gastro-intestinal tract. It is also quite a common practice in cases of dementia for patients to pick up and swallow pieces of lint, string or hair, or even to swallow their own hair after biting or pulling it off. Bell of Montreal reported a case in which the hair-ball removed from the stomach formed a complete cast of the stomach and duodenum. We report this case because of the large number and variety of articles present and their great combined weight, with resulting distention and displacement of the stomach. The patient was an inmate of State Hospital No. 2 on the service of Dr. A. H. Vandivert. Both of us were present and conducted the necropsy.



A human hardware store—a collection of foreign bodies found at necropsy in the stomach of insane patient.

History.—Sallie R., a mulatto, aged 33, was admitted July 24, 1903, with acute mania which terminated in dementia, following the use of cocain and morphin. At the time of admission, she was somewhat emaciated, indifferent to appearance, eating and sleeping well. Her physical condition improved soon and the clinical notes made by attendants from that time until her death were always, "appetite and digestion good." She was at first often combative, and because of this tendency was frequently under restraint. During all the time of her confinement she showed a considerable degree of mental enfeeblement, losing all interest in surroundings. Most of the time she was wholly unemployed. She remained in this condition, gradually becoming quiet, less resistive and more interested in things about her, assisting on the ward by sweeping, dusting and such light duties. She was frequently seen by the attendants to pick up from the floor and lawn small articles such as nails, pins, etc., but it was not known that she was in the habit of swallowing them. Her health began to fail and her symptoms first attracted attention about Dec. 1, 1909. Examination at that time suggested kidney trouble, but analysis of the urine failed to confirm a diagnosis of interstitial nephritis, but further observation and subsequent examination did confirm the opinion that she had a nephritis. The extremities became edematous and she was much troubled with dyspnea; still digestion and assimilation continued good, with little loss of flesh or none at all. These conditions continued up to within fourteen days of her death. She never refused food until a week before her death, and then only on two or three occasions. Digestion was apparently normal. In fact, the remarkable stomach findings at autopsy were entirely unsuspected.

Necropsy.—Death occurred Sept. 4, 1910, with autopsy twenty-four hours later. Rigor mortis was complete; the body was well nourished; edema extended to the hips. Opening of the abdomen revealed a peculiar condition of the stomach. There was a slight degree of ptosis of the upper margin; the greater curvature was elongated and rested in the left iliac fossa and presented a nodular, hardened mass which was soon found to be due to a collection of foreign bodies to be described later. The stomach wall was adherent to the muscles of the iliac fossa. Around the stomach and the anterior abdominal wall over a considerable area, forming a sling supporting it and adherent to it so intimately as to be separated with some difficulty, was the greater omentum. Many points of nails, needles and other sharp objects had penetrated the stomach walls, but leakage into the peritoneal cavity was prevented by the thickened and adherent omentum. Throughout this area of adhesion were found numerous small abscesses, resulting from the many perforations, but all were firmly walled in and the general peritoneum well protected from infection.

The stomach measured in transverse diameter 1 cm., in length 33 cm. The greatest diameter was from the cardiac orifice to the lower portion of the sacculated fundus along the greater curvature. This portion extended to beneath the crest of the ileum and was fixed immovably to the anterior abdominal wall. The mass of foreign material lay in this sacculated portion, leaving only a narrow channel along the lesser curvature for the passage of food. Evidently the stomach took little part in the process of digestion, the food being conveyed directly to the pylorus, and very slightly intermingled with the foreign contents.

The stomach wall at the fundus was 14 to 16 mm. in thickness, the subserous layer being 5 to 6 mm. or about one-third of the wall's thickness. A section removed from the thicker portion for microscopic examination showed a marked atrophy of the mucous membrane. The mucous gland tubules presented frequent cystic enlargements, probably from occlusion of orifice. Over numerous small areas there was almost complete erosion of the epithelium, with subjacent round-cell infiltration, indicating the formation of ulcers. Much fibrous tissue could be seen external to and infiltrating between the fibers of the muscularis mucosa. The muscular coat was abou‘

normal except that the layers were more than usually well defined by interposed bands of connective tissue. The greatest change was noted in the subserous coat. Here was a thick layer of a dense, fibrous structure, extending over the greater part of the fundus, representing Nature's effort to assist in supporting the great weight imposed on the stomach walls and to protect the peritoneum from injury.

In a few instances there was complete destruction of the mucous membrane over a well-defined surface, apparently from pressure by one of the large foreign bodies, probably for a long period of time. Here the base of the ulcer was formed by dense scar tissues.

The mucous membrane of the esophagus was greatly eroded and numerous ulcers were found, with extensive round-cell infiltration. The muscular layers were hypertrophied and sharply defined.

Foreign Bodies.—The weight of the stomach contents removed at autopsy, after repeated washings to remove all food material, was 2,268 gm. One needle was found in the esophagus and one in the lower border of the left lung. Below is a classified list of the articles removed, as shown in the illustration:

NAILS

20-penny	5	
16-penny	21	
10-penny	24	
8-penny	80	
5-penny	113	
3-penny	210	
Total	453	453

SCREWS

2 1/2 in.	4	
1 1/2 in.	11	
1 1/4 in.	5	
1 in.	9	
3/4 in.	6	
1/2 in.	7	
Total	42	42

BOLTS

3/8 x 1 in.	3	
3/8 x 1 3/4 in.	1	
5/16 x 2 1/2 in.	1	
1/4 x 2 in.	1	
5/16 x 1 in.	3	
Total	9	9

MISCELLANEOUS

Teaspoon handles	5	
Nail-file, 3 1/2 in.	1	
Pieces of steel, 2 3/4 in.	3	
Thimbles	5	
Salt-shaker tops	3	
Taps for 3/8 in. bolts	10	
Buttons	63	
Safety-pins	105	
Hairpins	115	
Carpet-tacks	52	
Common pins	136	
Large white-headed pins, 21/3-1/2	16	
Needles	37	
Broken coat-rack hooks, 2 x 1/4 in.	7	
String beads, small, 4 ft. long	1	
Larger beads, loose	70	
Small stones and pieces of glass	85	
Prune seeds	7	
Pieces of metal, combined weight 3 oz.	54	
Hooks and eyes	19	
Grape and other small seeds	148	
Total	942	942
Making a combined total of		1,446

This case is remarkable for the number and weight of the articles removed as well as for the size and peculiar forms of some of them, especially so when considered in connection with the fact that there had never been any symptoms suggesting trouble with the stomach.

Jaundice not Pathognomonic in Cholelithiasis.—The impression is prevalent that jaundice is pathognomonic of gall-stone. This is not so and much valuable time is lost in waiting for its appearance in patients suffering from cholelithiasis; 80 per cent. do not have it.—A. L. Wright, in *Iowa Medical Journal.*

THE DIAGNOSTIC VALUE OF LOCAL TUBERCULIN REACTIONS*.

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Three years ago, on May 15, 1907, von Pirquet announced, at a meeting of the Berlin Medical Society, his discovery of the cutaneous tuberculin test, which consists of a superficial scarification of the skin through a drop of the old tuberculin and the subsequent appearance (in those afflicted with tuberculosis) of a characteristic papule at the point of the inoculation.

The demonstration of this new diagnostic procedure was made possible by the researches of von Pirquet (and B. Schick) into the general law of "allergy" or the altered reaction of the organism toward infective agents on their reintroduction.

The "early vaccinal papule" appearing on revaccination, as well as the cutaneous papular reaction, following the application of tuberculin to the skin of tuberculous individuals, were both ascribed by von Pirquet to the contact of the infectious agent with "antibodies" lodged in the integument as the result of previous infection. The "hypersensibility" of the infected organism, displayed on reinfection, was shown to be a factor in the production of the reaction, the mechanism of which is supposed to consist of the digestion of the introduced virus by the antibodies and the liberation of a toxic substance, with its inflammatory effect on the skin at the point of inoculation. While this and Wolff-Eisner's explanation of the local reaction (substituting "bacteriolysins" for "antibodies") are at present quoted by various writers, the entire question, in its theoretical and practical aspect, is still a subject of extensive investigation.

Contemporaneous with the announcement by von Pirquet of the cutaneous tuberculin reaction, came the demonstration by Wolff-Eisner and Calmette of a similar phenomenon in the conjunctivæ of tuberculous individuals, and this was soon followed by various modifications of the original von Pirquet test by a number of investigators, as Moro (percutaneous test with salve containing 50 per cent. tuberculin), Lignières (rubbing 5 to 6 drops of undiluted tuberculin into the skin), etc., all these tests being based on the now accepted idea of the wide distribution of specific antibodies in the organism of the infected individual.

The specific character of these local reactions found considerable substantiation: (1) in the post-mortem statistics of von Pirquet (demonstrating tuberculous lesions in 123 out of 124 children reacting to the cutaneous tuberculin test, and 161 negative post-mortem findings in 190 children with negative reactions) and in the post-mortem statistics of Wolff-Eisner, Calmette and others; (2) in the almost constant occurrence of these reactions in clinically tuberculous individuals, barring a large number of very advanced cases, miliary tuberculosis, complications by other diseases (as measles) and a few other conditions still unexplained.

The percentage of the positive conjunctival reactions in the clinically tuberculous is given as 92 by Calmette (2,894 cases), 90 per cent. by Wolff-Eisner (435 cases) and 80 to 95 per cent. by numerous other observers; the percentage of the positive cutaneous reactions in tuberculous adults is given by von Pirquet as 90.

* Read at the Sixth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 2-3, 1910.

Considerable difference between the occurrence of the conjunctival and cutaneous reactions was observed in the "apparently healthy" class, the cutaneous reaction being positive in 70 per cent., even at the age of 10 (von Pirquet), while of the apparently healthy adults only 15 per cent. respond to the conjunctival test (Wolff-Eisner).

This observation led to Wolff-Eisner's and Calmette's interpretation of the positive conjunctival reaction as occurring only in active cases of tuberculosis, the comparative infrequency of the positive conjunctival reaction in the "apparently healthy" class being used by Wolff-Eisner as one of the chief arguments in favor of this contention.

The relation between the positive conjunctival reaction and the activity of the tuberculous process has not been, however, so far established (neither has it been absolutely disproved) and the most that can be said, in the light of the present experience, is that a positive local tuberculin reaction, conjunctival or cutaneous, signifies probably in all cases a preexistent tuberculous infection, without furnishing any conclusive information as to the active or latent character of the process.

The cutaneous test is recommended by von Pirquet for diagnosis of tuberculosis in children under 2 years of age, a positive reaction signifying an active tuberculous process, latent tuberculous lesions being rare in this period of life. The test, in his opinion, is not appropriate for adults, in whom positive reactions occur in a large percentage of cases, corresponding to the increasing frequency of latent tuberculous lesions, from childhood up to maturity and old age.

The percutaneous (Moro's) test has no material advantage over the v. Pirquet procedure (as stated by Bandelier and Roepke and others), and is less reliable because of such drawbacks as (1) the variable power of absorption of the skin of different individuals, and (2) a number of conditions varying with each operator (force used in application, etc.). The last objection is equally applicable to the cutaneous test; the manner of its application in all its details must be agreed on, the scarification never to exceed the mere removal of the superficial layer and all unnecessary injury to the skin to be avoided.

The conjunctival test, because of the possibility of its harmful effect in a certain percentage of cases, is not employed at present as extensively as before. With certain precautions, the occurrence of untoward developments may be reduced, however, to a minimum or possibly excluded altogether. In 6,303 conjunctival tests, as reported by Calmette at the International Tuberculosis Congress in Washington in 1908, he encountered three cases of phlyctenular keratitis, twenty of conjunctivitis and seventy-two prolonged reactions. Wolff-Eisner observed very few harmful effects with the use of a 1 per cent. solution of the old tuberculin in a large number of cases. Similarly, with the use of a 1 per cent. solution of old tuberculin in 500 cases (187 positive reactions; physiologic salt solution employed as diluent; cases of ocular disease and conjunctivitis, chronic or acute, excluded) I have seen only two instances of prolonged violent reactions, and these without any permanent injury to the eye. Further research as to the utility of the conjunctival test may, however, be well carried on in the future, particularly by animal experimentation, until all conditions determining the conjunctival reaction are more or less fully established and a harmless method of its application is evolved.

The local tuberculin reaction is but a link in a chain of evidence pointing to the tuberculous character of a suspected lesion and the value of its occurrence can be adjudged only by a comprehensive study of the entire evidence in each individual case; the clinical history, physical signs, etc.

Considerable clinical study and further extensive autopsy experience is still needed in order to establish the relation of the local reaction to the active and latent tuberculous processes and the various types of tuberculous disease. The conditions determining the reaction itself as well as the rapidity and degree of its development in various types of cases are still a fruitful field for research, if the local reaction is to gain the position of a practical diagnostic procedure.

During the last two years I have employed (at the Edward Sanatorium, at Naperville, Ill., and in my dispensary and private practice) the local and subcutaneous tuberculin reactions in a variety of tuberculosis cases. For the conjunctival test a drop of a solution of Koch's old tuberculin in an 0.8 per cent. sterile physiologic salt solution was used; for the cutaneous test, undiluted old tuberculin; dilutions of old tuberculin of various strengths (in 0.5 phenol solution) were employed cutaneously for differential study of results with various dilutions in the same individual. For the percutaneous test (Moro) an ointment consisting of equal quantities of Koch's old tuberculin and hydrated wool fat was employed.

In applying the conjunctival test the technic, as recommended by Wolff-Eisner, was closely followed; for the cutaneous reaction the superficial layer of the skin of the forearm (anterior surface) was gently scarified, by turning the von Pirquet inoculation needle through a drop of the old tuberculin; in applying the percutaneous (Moro) test a piece of the ointment the size of a pea was rubbed into the anterior surface of the forearm. The results were generally observed at the end of twelve and twenty-four hours and, after that daily for several days.

The conjunctival reactions were classified in their degree according to the scheme of Citron.[1] Similar classifications are offered by Comby, Edward R. Baldwin, and others. In this scheme + = means reddening of the caruncle and palpebral conjunctiva; + + = means intenser reddening with involvement of the ocular conjunctiva and increased secretion; + + + = means intense reddening of the whole conjunctiva with chemosis, much fibrinous and purulent secretion, small ecchymoses, etc.

For the results of the percutaneous test, Moro's classification was used.[2] It is as follows: Slight reaction: single, isolated, more or less distinct, reddened spots, visible twenty-four to forty-eight hours after the inunction and only on careful inspection, disappearing in a few days; well-marked reaction: papules indistinguishable in degree of hyperemia and exudation from those of the cutaneous inoculation, or coalescing red nodules on inflamed base; intermediate: thirty to fifty or more discrete, miliary nodules with reddened areola. The size of the papule, the degree of redness and elevation were recorded in describing the cutaneous reactions.

This paper deals with some of the features of the local tuberculin reactions, as influenced by the site of

1. Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 24.
2. Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 17.

the inoculation, the degree of the tuberculin dilution, the stage of the disease and the state of resistance; in a group of cases the local tuberculin reactions are compared with the results of the subsequent subcutaneous injections of tuberculin.

THE SITE OF THE LOCAL TUBERCULIN INOCULATION AS A FACTOR DETERMINING THE DEGREE OF THE REACTION

In applying the von Pirquet test to the skin, the degree of the reaction varies frequently, according to the site selected, in its extent, injection, elevation and rapidity of development. Exceptions, however, occur to the observations stated below, the reaction at times being more marked in locations where the reverse is usually the rule.

In all, 140 applications of tuberculin were made in fifty-five cases of pulmonary tuberculosis (mostly in the first stage of the disease). In ten cases tuberculin was applied simultaneously to the anterior surface of the arm and the interscapular space, the dilutions of 10 and 25 per cent. and undiluted tuberculin (2 inches apart) being used in a straight line in both locations. In five of these cases the reactions were slightly more pronounced in size in the interscapular space; in three there was practically no difference; in two the reactions were slightly more marked on the arm.

In twelve cases undiluted tuberculin was applied to the anterior surface of the forearm and the interscapular region on the same side. Invariably the reaction in the interscapular region was more extensive, generally redder and in two cases more elevated (the average diameter of the interscapular reaction 16.5 mm., forearm 10 mm.).

In twelve cases undiluted tuberculin was applied to the posterior surface of the left leg and anterior surface of the left forearm, with a resulting more marked reaction in the first-named location in nine cases (average diameter 12.5 mm., forearm 9.5 mm.). Slightly more marked reaction was observed on the left forearm in four cases, in which undiluted tuberculin was simultaneously applied to the anterior surfaces of left and right forearm.

In twelve cases, a 25 per cent. dilution of tuberculin was simultaneously used on the anterior surfaces of the thigh and arm, with a resulting more marked reaction on the thigh in nine cases (average diameter 12.5 mm., arm 9.5 mm.). More marked reactions were also observed below the mammary gland than on the anterior surface of the forearm.

It is evident from observations made by numerous investigators that the anatomic conditions of the skin and mucous membrane in various locations of the body (the histologic structure, circulation, lymphatic system, nerve-supply, etc.), as well as greater cutaneous sensitiveness displayed by some individuals to the slightest mechanical or chemical irritation, have their influence in determining the degree of the reaction; they are factors of importance and an accurate interpretation of the local reactions is impossible without giving due consideration to these varying conditions.

THE STRENGTH OF THE TUBERCULIN SOLUTION AS A FACTOR DETERMINING THE DEGREE OF THE CUTANEOUS REACTION

One hundred and four cutaneous applications of tuberculin, of various dilutions, were made, according to von Pirquet's directions, in forty-six cases of pulmonary tuberculosis (twenty in the incipient stage, twenty-six moderately advanced). In thirty-four of these cases, a 25 per cent. solution and one of undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm, 2 inches apart, the scarification being made with a separate instrument through a drop of each dilution. The resulting reactions were as follows: (1) size of the papule with undiluted tuberculin decidedly larger in fourteen cases (with undiluted tuberculin the diameter was 12.5 mm.; with 25 per cent. it was 7.5 mm.); smaller in twelve (with 25 per cent. 13.5 mm., with undiluted 9.5 mm.); same size with both dilutions in eight cases; (2) elevation of the papule, with undiluted tuberculin, greater in ten cases, smaller in six, same in eighteen; (3) redness, with undiluted tuberculin, more pronounced in four cases, same in thirty.

In twelve cases, a 10 per cent. dilution, a 25 per cent. and undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm. The resulting papule was larger in size, with undiluted tuberculin, in six cases; larger, with 10 per cent. in four; the same with all dilutions in two. The elevation was more marked with undiluted tuberculin in six, with 10 per cent. in two, the same in four. Redness was more pronounced with undiluted tuberculin in eight, with 10 per cent. in two, the same in two.

The manner of the application and the actual amount of tuberculin absorbed are seemingly important factors in determining the degree of the reaction.

In all our cases, an attempt was made to make the scarification superficial and uniform, with all dilutions. The drop was left undisturbed for five minutes after the inoculation, the excess of tuberculin around the point of inoculation being removed at the end of that time.

A more reliable interpretation of the cutaneous reaction may be possible with an improved technic, in which a small, measured quantity of tuberculin should be used for cutaneous inoculation, under conditions facilitating its complete absorption.

THE ANATOMIC EXTENT OF THE DISEASE AND THE STATE OF RESISTANCE OF THE INDIVIDUAL AS FACTORS DETERMINING THE DEGREE OF THE LOCAL TUBERCULIN REACTION

From the experience of numerous observers we know that, as a general rule, reactions on application of tuberculin grow less pronounced and occur less frequently with the anatomic progress of the disease from the incipient to the far-advanced stage. The "antibody" theory of tuberculin reactions explains this by the gradual failure of the organism to respond to tuberculin stimulation. The anatomic extent of the disease is, however, not always indicative of the coexistent state of resistance of the individual. In numerous cases, with most extensive signs, particularly in those in which the process is very chronic and the general condition is favorable, the local tuberculin reaction is frequently very pronounced, while the reaction fails or is very slight in a certain percentage of anatomically incipient cases.

In statistics covering thousands of cases, the classification "first," "second," "third" stage is synonymous of course with the gradual impairment of resistance and decline of response to tuberculin, from stage to stage (as various factors counterbalance each other in large groups of cases). In observation of individual cases, however, this power or failure of response to local tuber-

culin application is frequently at variance with the stage of the disease.

I append here, as an example, an experience with a group of cases classified according to stage[3] and observed for periods of one to two years subsequent to tuberculin application. This group included a number of advanced cases characterized by chronicity of process and favorable general condition.

In 165 cases of pulmonary tuberculosis (ninety-nine incipient, thirty-six moderately advanced, thirty far advanced), the conjunctival reaction was positive (traces of reaction included) in 67 per cent. of the incipient, in 33 per cent. of the moderately advanced and 67 per cent. of the far advanced; the cutaneous reaction was positive (diameter above 5 mm.) in 69 per cent. of the incipient, 41 per cent. of the moderately advanced and 67 per cent. of the far advanced.

The average diameter of the inoculation papule in the first stage cases was 12 mm.; second, 13 mm.; third, 11.5 mm.; the comparison showing very little variation for the three stages of the disease.

With the conjunctival test, more pronounced reactions were obtained in the second stage (48.5 per cent. of the positive cases more than +) than in the first (28 per cent. more than +). Very slight difference in the degree of the percutaneous reaction was observed in forty first stage cases and twenty-nine second. These figures have reference of course only to a limited number of cases divided according to stage; their analysis suggests, however, that the mere anatomic extent of the disease does not give a definite idea of the resistance of the patient and sensibility that may be displayed on application of tuberculin.

Dividing these 165 cases into three groups, regardless of the anatomic extent of the disease—(1) progressive cases, good general condition, (2) stationary, good general condition, (3) far advanced, hopeless—the percentage of the positive reactions is readjusted in the following way: first class, conjunctival, positive in 75 per cent., cutaneous in 70 per cent.; second class, conjunctival, positive in 35 per cent., cutaneous in 82 per cent.; third, conjunctival, trace in 10 per cent., cutaneous, positive in 33 per cent.

Observations on various groups of cases lend support to the general idea that the tuberculin reaction fails with the gradual exhaustion of the defensive elements of the organism, and the anatomic extent of the disease is important only in the measure in which it is operative in producing this condition. This is offered as an observation, familiar to many, without any attempt at evolving a general diagnostic or prognostic scheme based on the degree of the local tuberculin reaction. Experience, however, tends to substantiate in a large number of cases the dictum of Wolff-Eisner, that a negative local tuberculin reaction, in the presence of decided physical signs, is of unfavorable augury, pointing as it does to the inability of the organism to counteract the toxins of the tubercle bacilli; while a positive reaction means simply that the defensive elements still exist, the battle is still being fought, but the result cannot be predicted.

REPETITION OF THE LOCAL TUBERCULIN TEST DURING THE COURSE OF THE DISEASE: INTERPRETATION OF THE RESULTING REACTION

It is evident from the consideration of the conditions determining the occurrence and the degree of the local reaction, that various factors influence the result of the repeated local tuberculin test. Of these the following may be considered:

1. The hypersensibility occasioned by a previous inoculation of tuberculin into the skin or conjunctiva is a factor of considerable importance. Fritz Levy[4] was the first in Germany to call attention to the fact that, on the second application of the conjunctival test, hypersensibility is manifested in 70 per cent. of cases, the condition becoming operative three days after the first instillation; this phenomenon was observed also on repetition of the cutaneous reaction. The exact duration of this hypersensibility is still undetermined. Experience shows that in a large percentage of cases the conjunctival test repeated in the other eye is positive, while the first reaction was negative, and the same is true of the cutaneous test. To what extent and in what manner the first introduction of tuberculin influences the result of the second application at another site, is still a question open to further investigation. We know, however, that the local changes produced by the first application of tuberculin are operative for a considerable period of time, as manifested by the reinflammation of the local tuberculin reactions on subcutaneous injection of tuberculin, months after the local test was performed. In 90 subcutaneous injections of tuberculin in a corresponding number of incipient closed cases of pulmonary tuberculosis, with the resulting characteristic constitutional reaction in 80 cases (doses O.T. from .0002 c.c. to .005 c.c.), reinflammation of the conjunctival reaction occurred in 54 cases, cutaneous in 74. The reinflamed conjunctival reaction was more pronounced than the original in 46 cases, same in 6, slighter in 20; cutaneous, more pronounced in 46, same in 8, slighter in 20. The size of the reinflamed cutaneous spot in many cases was two to five times larger than the original, and this with the injection done two to four months after the application of the local test. Approximately the same experience was obtained with the percutaneous (Moro) test. The reinflammation of the reaction spots may be due to the presence of a larger number of antibodies or bacteriolysins near the cutaneous or conjunctival focus of deposited tuberculin. In what measure or manner this focus of deposited tuberculin influences the result of subsequent tuberculin inoculation at another cutaneous or conjunctival site is still a matter of speculation.

2. The interval between the first and second applications of tuberculin. Improvement in the general condition of the patient as a factor influencing the degree of the repeated reaction. With the progress of a large proportion of tuberculosis cases under sanatorium or home care toward improvement, it is interesting to note the difference between the results of the first and the following local tuberculin tests as applied at various intervals. In 52 cases of pulmonary tuberculosis (34 incipient, 10 moderately advanced and 8 far advanced) the conjunctival test was repeated in the other eye at intervals not exceeding one month from the date of the first application, with the resulting increase in the degree of the reaction over the first test in 30 cases out of 52 (this includes also cases found negative on the first application and positive on the second); of 26 cases, in which the second instillation was performed from one to six months later, an increase in the degree of the reaction was noted in 8, suggesting the explanation that the larger number of more pronounced second reactions in the first month following the first application is dependent on the hypersensibility resulting from the first instillation, a hypersensibility, the duration of which is yet undefined.

Approximately the same result was obtained with the cutaneous test: increase in the degree of the reaction in 22 cases out of 38, with repetition of the test during the first month; and in 18 cases among 42, with the second test applied from one to five months later.

In analyzing the effect of the improvement of the general condition of the patient on the result of the repeated

3. Provisional Scheme of the National Association for the Study and Prevention of Tuberculosis.

4. Wolff-Eisner, Alfred: The Ophthalmic and Cutaneous Diagnosis of Tuberculosis. Chapter on the Repetition of the Reaction.

local tuberculin test, the proximity of the dates of both tests shows itself again to be a factor of great importance. With a gain of less than 10 pounds in weight, subsequent to the first tuberculin application, the second conjunctival reaction was more pronounced in twenty cases out of thirty-two; with a gain of 10 to 30 pounds, in fourteen out of thirty-eight; an increase in the degree of the cutaneous reaction occurred in the first class of cases in eighteen out of thirty-six, in the second class in twelve out of twenty-six, the smaller increases in weight occurring in the first few weeks subsequent to the first tuberculin application, the greater increases in the following four to five months.

A proportionately larger number of more pronounced second reactions was observed in incipient cases; the least deviation in the far advanced, regardless of gain in weight.

It may be expected that the improvement in the general condition of the patient, presumably productive (always?) of an increase in the defensive elements of the organism, would show itself in a more vigorous reaction on the introduction of tuberculin, and this is probably the case; in many instances, however, a mere increase in weight may not be coincident with a greater production of defensive antibodies, as shown by the progressive course of a large percentage of tuberculosis cases regardless of enormous increases in weight.

The relative influence of (1) the state of hypersensibility resulting from the first tuberculin application, and (2) of the increased resistance (as suggested by improved nutrition, recession of the physical signs, etc.), on the result of the repeated local tuberculin test, is still a matter in need of further investigation.

In studying the results of the local tuberculin tests, when applied (1) to various groups of tuberculosis cases (differing in extent and activity of the process, state of resistance, previous use of tuberculin, etc.) as well as (2) at the various stages of improvement or further progress of individual cases, it becomes evident that numerous conditions operate in determining the occurrence and the degree of the resulting reaction. If the present theory of the local tuberculin reaction (based on the assumption of the wide distribution of specific antibodies or bacteriolysins in the infected organism) is correct, all the above-mentioned conditions are factors to the extent to which they stimulate the production of these specific substances and influence the sensibility of the organism to the infectious agent and its toxins.

THE DIAGNOSTIC SIGNIFICANCE OF THE LOCAL TUBERCULIN REACTION AS CONTROLLED BY A SUBSEQUENT SUBCUTANEOUS INJECTION OF TUBERCULIN

1. In 30 incipient pulmonary closed cases in which the conjunctival reaction was positive (21+, 9++), and the cutaneous at the end of forty-eight hours fully developed and strong (average diameter 13.5 mm., pronounced redness and distinct elevation in 60 per cent.), the percutaneous positive in 14 out of 18 (4 slight, 4 intermediate and 6 marked), the subcutaneous test was positive in all: six responding to 0.2 mg. O.T., eighteen to 1 mg., six to 3 mg.; average rise of temperature, 0.9 F.; symptoms in 24; focal reaction in 4; average dose of O.T., 1.2 mg.; marked reinflammation of the conjunctival and cutaneous reaction in 30 (18++, 12+; average diameter of the reinflamed cutaneous spot, 27.5 mm.).

2. In 12 cases of the same class, with the conjunctival = trace in 12, the cutaneous rapid and marked in all (average diameter 13.5 mm.), the percutaneous positive in 9 (3 slight, 4 intermediate, 2 marked), the subcutaneous test was positive in ten: 9 cases responding to 1 mg. and 1 to 3 mg.; focal reaction in 1; symptoms in 8; average rise of temperature after the injection, 1.5 F.; average dose of tuberculin used, 1.4 mg., still showing that regardless of the doubtful conjunctival reaction in these cases, the subcutaneous test was positive with approximately the same dose of tuberculin as in the first group of cases; reinflammation of 6 conjunctival reactions (6+) and 9 cutaneous (average diameter 42 mm.).

3. In 24 cases of the same class, with the conjunctival trace in 24, the cutaneous slight (average diameter 7.5 mm.), the percutaneous positive in 2 out of 7 (one trace, one slight), the subcutaneous test was positive in 21 cases (6 responding to 1 mg., 6 to 3 mg., 6 to 5 mg. and 3 to 10 mg.); average dose of tuberculin, 4 mg.; average rise of temperature after the injection, 0.6 F.; focal reaction in one, symptoms in 15; reinflammation of 8 conjunctival reactions (3 traces, 5+) and 13 cutaneous (average diameter, 12.5 mm.).

4. In 12 cases of the same class, with the conjunctival positive in all (7+ and 5++), the cutaneous positive in 6 (average diameter 6.3 mm.) and negative in 6 (positive on repetition; average diameter 9.5 mm.), the percutaneous applied to 3 (3 traces), the subcutaneous test was positive in 9 cases (one responding to 0.1 mg., 2 to 0.5 mg., 2 to 3 mg. and 4 cases to 5 mg.); average rise of temperature after the injection, 1.5; average dose of tuberculin used, 3 mg.; no focal reactions observed; symptoms in 7; reinflammation of 6 conjunctival (3+, 3++) and 4 cutaneous (average diameter, 25.4 mm.).

5. In 9 cases of the same class, with the conjunctival test negative (6+ on repetition in the other eye), the cutaneous rapid and marked (average diameter 16.9 mm.), the percutaneous applied to 3 (3 slight), the subcutaneous was positive in 9 (3 cases to 1 mg. and 6 to 3 mg.); focal reaction in 2; symptoms in 9; average rise of temperature after the injection, 0.9 F.; average dose of tuberculin, 2.3 mg.; reinflammation of 4 conjunctival reactions (3+, 1++) and 6 cutaneous (average diameter, 25.4 mm.).

6. In 12 cases, with the conjunctival negative in 9, trace in 3 (6 of the negative+ on repetition); the cutaneous negative in 9, trace in 3 (5 of the negative became positive on repetition, with 9.5 mm. as the average diameter); the percutaneous positive in one out of 4, the subcutaneous test was negative in 6 (to 5 mg.) and positive in 6 (one to 1/5 mg. and 5 to 5 mg.). The average rise of temperature after the injection was 1.6 F.; average dose of tuberculin, 4.7 mg.; symptoms in 4; focal reaction in one (with 1/5 mg.); reinflammation of 5 conjunctival (2 trace, 3+) and 4 cutaneous (average diameter, 9.5 mm.).

An analysis of these cases points to the high probability of positive subcutaneous reaction with correspondingly smaller doses of tuberculin in a large number of cases reacting promptly and distinctly to the cutaneous test; hence the relative value of the marked cutaneous reaction as a positive test in cases in which the subcutaneous test cannot be applied for various reasons.

The focal reaction occurred in only 10 per cent. of cases tested subcutaneously; adding to this number an experience with thirty more positive hypodermic tests in incipient pulmonary cases, we get in all 12 per cent. of focal reactions under the average conditions of observation.

In the light of the autopsy experience of von Pirquet, Wolff-Eisner, Calmette and others, the cutaneous tuberculin reaction in adults discloses tuberculosis only in the anatomic sense; the test, with its present method of application, sheds little or no light on the active or latent character of the tuberculous lesion.

Where a focal reaction is desired (and that can be obtained in only a certain percentage of cases) the cutaneous test cannot supplant the hypodermic. It can be used, however, as a preliminary diagnostic measure, being absolutely harmless, compared with the conjunc-

tival test, and more reliable than the percutaneous reaction, which fails in a large number of cases.

CONCLUSIONS

1. A vast amount of clinical experience, gathered by numerous observers and substantiated in a proportion of cases by post-mortem findings, points to specificity of the local tuberculin reactions.

2. The verdict of to-day is that a positive reaction, following the local application of tuberculin (conjunctival or cutaneous) signifies the existence of a tuberculous focus somewhere in the organism, without giving a definite idea of the active or latent character of the process.

3. Reactions occurring on application of tuberculin differ in their degree according to various sites of the body selected as points of inoculation; a comparative study of the results obtained by numerous observers is possible only with a clear description in each individual case of the site practiced on.

4. The results of cutaneous tests performed with various dilutions of tuberculin contribute to the belief that the actual amount of absorbed tuberculin is a factor of importance in determining the degree of the reaction.

Sufficient evidence has not been produced so far to substantiate the claim that a positive conjunctival reaction signifies active tuberculous disease. The possibility, however, exists, that activity of a tuberculous process may be a factor in causing a positive local reaction with a minimal dose of tuberculin, under certain conditions of the power of response. Hence the failure of the conjunctival test in the clinically healthy and its uniform occurrence in the clinically tuberculous (barring the very advanced cases, etc.).

If this contention has any foundation, a positive cutaneous reaction ought to be possible in active cases of tuberculosis, with minimal doses of tuberculin (greater dilutions).

Further experience with the cutaneous test, with various dilutions of tuberculin, applied to various groups of cases, with a perfected technic, assuring thorough absorption of a definite quantity, may possibly lead to some method of differentiation of active and latent cases.

5. Cases of suspected tuberculosis, in which the cutaneous reaction is rapid in development and marked in degree, generally respond readily to the subcutaneous injections of minimal doses of tuberculin; hence the relative value of the cutaneous tuberculin test in cases in which the employment of the subcutaneous test is for some reason contraindicated.

6. The subcutaneous test remains the decisive diagnostic procedure in doubtful cases of tuberculosis, particularly if a focal reaction is desired. The possible unfavorable effects of this test in some cases may be avoided by the use of small doses of tuberculin (initial 1/5 or even 1/10 mg.), according to the age and condition of the patient.

7. The work of von Pirquet, Wolff-Eisner and Calmette opened a new field for further clinical and laboratory research, out of which may be evolved a safe, reliable method of diagnosis of the obscure and the very incipient cases of tuberculosis.

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Chancre.—The syphilitic chancre should never be cauterized. The destruction is often extensive and the result frequently undesirable.—A. G. Nadler, in *Yale Medical Journal.*

THE MODERN TREATMENT OF SYPHILIS, WITH REFERENCE TO THE RECENT SYNTHETIC PREPARATIONS*

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The enormous number of cases of late syphilis and parasyphilis prove that the classical treatment of lues by the old remedies, as usually employed, is inadequate. This cannot altogether be attributed to a lack of potency on the part of the drugs, but rather to a combination of factors referable to the physician or the patient, or both. It is not my desire to discuss the shortcomings of my colleagues, but rather to call attention to some of the causes which contribute to the failure to control this disease. Of these, there are two which should be especially emphasized, namely, the tendency to regard syphilis as a mild infection with laxity in carrying out its treatment, and secondly, the lack of familiarity with the possibilities of the specific drugs.

For years it was taught in one of our large institutions that the malady is an insignificant one. The dissemination of such teaching among hundreds of students certainly was not in the interest of luetic patients. Views on the benign nature of syphilis are often promulgated by men who are familiar with only one side of the affection. They encounter, for example, chronic ulcerative processes of the skin in patients otherwise in good health and parents of healthy children, and entirely forget that there is a more serious side. An observation of a large number of cases in private and hospital practice from various parts of the country has impressed me with the want of familiarity of the general practitioner with the manifestations of the disease. This is emphasized by the surgical operations frequently performed for luetic affections of the joints, tongue, larynx, testicle, etc., under the mistaken diagnosis of tuberculosis, malignant disease or some other infection. Again, ulcerating and destructive lesions are permitted to proceed to extensive deformity or loss of function before the nature of the trouble is even suspected. This is perhaps due to the fact that we do not give students in our medical schools a comprehensive knowledge of syphilis. Its teaching is scattered through so many departments that when the graduate leaves his school he is possessed, it is true, of a fragmentary knowledge of the cutaneous, nervous, surgical and visceral manifestations he has been taught by the respective chairs, but he has altogether failed to appreciate its significance or to obtain a grasp of the subject. It would seem that the establishment of a chair in syphilology, which would enable one to teach in a comprehensive manner what the infection may do, would be a decided advance in our pedagogic methods.

In seeking to account for the vast amount of uncured syphilis, we must remember, too, that the patient often is culpable in his lack of cooperation. He either fails to carry out properly directions as to treatment and hygiene, falls a prey to the various quacks, pathies, etc., or after outward manifestations disappear neglects all treatment and reverts to his old habits and indulgences.

In addition, there is the fairly large group of so-called unrecognized syphilis, which, according to Fournier's

* Read before the Society of the Alumni of St. Luke's Hospital, New York City, Dec. 17, 1910.

statistics, forms 3.1 per cent. of the men and 17.9 per cent. of all women infected. This is due to the possible absence or insignificance of the primary sore, the absence of induration, multiform and atypical lesions simulating other conditions, chancres in unusual or out-of-the-way localities, and to syphilis acquired in pregnancy, in which cases the initial lesion, and often the secondary symptoms, are wanting. In these cases, in which the primary stage is ignored, the secondary stage may be so mild that it is entirely overlooked and the diagnosis of infection is not made until years after when some lesion of the nervous system or ulcerative lesions of the skin develop.

After eliminating all the foregoing factors ranged on the negative side of treatment, there still remains a percentage of patients who develop these so-called parasyphilitic manifestations and obstinate cutaneous and mucous membrane lesions in spite of treatment extending over a period of years. The treatment of syphilis, however, is not a matter of years or the administration of a certain quantity of mercury and potassium iodid, but is one of controlling the lesions and serum reaction until after the cessation of all treatment, a persistent negative Wassermann reaction is obtained. The old method of administering mercury internally in small doses over long periods of time is not only inefficient, but, in the light of recent developments, is harmful in the possible cultivation of mercury-fast strains of spirochetes. This may account for the failure, in many old cases, to respond to this drug, and for a large proportion of the nervous and other affections in subjects who claim to have taken the remedy over intervals of years.

It is impossible from its course in the early part of the infection to predict the outcome of this disease. It was for a long time thought that severe late symptoms often followed mild early attacks, but from an analysis of a large number of cases it is seen that all forms antedate the severe nervous affections. The so-called benign type has probably been overlooked in the early stages or had inadequate treatment or none at all. In those cases which develop, even after vigorous specific treatment, early lesions of the nervous system, there may be a predisposition on the part of the individual or a congenital lack of resistance referable to the tissue. It is rare, in acquired syphilis, to see the severe involvement of more than one system. In the individual with extensive cutaneous or osseous lesions the nervous system usually escapes and the converse is equally true. Whether the symptoms are benign or malignant, it should be borne in mind that we are dealing with one of the gravest infections, the ramifications of which extend to every branch of medicine, and affect not only the original sufferer, but the family and state. The expense to the state alone for its institutional care of subjects suffering from one form or another of this disease is enormous, while personal and business loss are incalculable. The immense number of mental, physical, and moral defectives, the issue of luetic parents, are a reflection on the diagnostic powers and therapeutic skill of the medical profession.

Fortunately, with such aids to diagnosis as the dark-field illumination and the Wassermann test, the time has gone by when we wait for the development of secondary symptoms to establish the true nature of the affection. The Wassermann reaction in some cases becomes positive as early as three weeks after primary infection, and Hoffmann has demonstrated the spirochetes in the blood three weeks before the outbreak of the constitutional disease. It is, however, simpler to demonstrate the organism in the lesion itself either by means of the dark field or the Burri (India ink) stain. The intensity of treatment in the first six months determines probably the future outcome of the infection. We find that the Wassermann becomes negative much more quickly in patients treated from the very beginning than in those seen later.

Numerous attempts have been made to abort syphilis either by local treatment or by the injection of arsenical compounds. With the former method French investigators have been successful in several instances, but the results have not been sufficiently uniform to warrant its general practice. In 1907 Metchnikoff stated that three injections of atoxyl of 10 grains each would prevent the further development of chancre. To verify this, Lambkin, of the British Army, injected every second man who was infected, with atoxyl or soamin, but failed to control the development of the disease. Greater, although not constant, success has been obtained from the use of the Ehrlich-Hata preparation, but this will be dealt with later.

In the treatment of syphilis with mercury, a vast number of practitioners still rely on the ingestion method, giving bichlorid or protoiodid pills, gray powder, or even mixed treatment in the early stage. Experience has proved that this method is wholly inadequate and that the best results are obtained when the drug is administered by intramuscular injection or by inunction or a combination of both. As a rule, when a rapid effect is desired, it may be obtained by injections of bichlorid of mercury given every other day, but when this is not imperative, it is of advantage to the patient to use the insoluble salt. In my opinion success in treatment depends on a knowledge of the possibilities of the preparation one is using. Every physician should become familiar with some one of the products of mercury, whether it be the salicylate, bichlorid, calomel or gray oil. Practitioners are so besieged by agents of new preparations that before they have learned the use of one they abandon it for another and never become familiar with any. Mercury having been in use for about four hundred years, syphilologists know its possibilities and limitations. It is, therefore, a little premature to depose it from its rank of first specific, notwithstanding recent therapeutic advances and the almost magical effects produced by some of the arsenical compounds, especially salvarsan. Without discrediting Ehrlich's discovery we must not, in our anxiety for a remedy which shall fulfill his ideal, ignore the fact that mercury, too, yields clinical results which sometimes border on the marvelous. Its action on the *Spirochæta pallida* is beyond question, and its rapidity is illustrated by Lambkin's observation that the organisms, which were very numerous before, disappeared from the lesion in about two days after an intramuscular injection of one grain of metallic mercury. In addition to this direct action, mercury is believed to increase the defenses of the body by the formation of alexins to neutralize the specific virus. This influence of the drug on the disease is seen when treatment is begun early, not only in its control but in its preventive action. The important thing to determine is the degree of intensity in the treatment of each individual. In some patients one grain of salicylate of mercury given at weekly intervals

will cause a rapid disappearance of the lesions, while others will yield only when two grains or more are administered. We must learn the dose for each individual without the production of bad effects.

Although it has been taught for years that potassium iodid is not a specific in the true sense of the word, and that it has no indications in the early stage except in malignant forms, one sees it given only too frequently alone or in mixed treatment for early cutaneous and mucous membrane lesions which would disappear under a properly directed course of mercury. Potassium iodid is a valuable adjunct to mercury, by virtue of its power to bring about absorption of the specific infiltrate, and is indicated in those lesions of the late secondary and tertiary stages which do not yield to mercury alone. This refractoriness may be explained on a histologic basis, for under the microscope we find in these syphilomas many giant cells, the result of vascular changes, as well as simple thrombosis of the vessels. The assumption, then, is that the iodid brings about a resolution of the partially organized tissue and infiltrate, the vessels again become pervious and the mercury is able to penetrate to the spirochetes. As the same organisms are present in both early and late syphilis, there is no logical reason why mercury, if it gains access to the organism, should not prove as efficacious in one stage as in another.

Before the introduction of the arylarsonates, arsenic was for years given by dermatologists and syphilologists in syphilis, not only for its supposed specific action on certain obstinate cutaneous manifestations, as the scaling syphilid of the palm, but because of its tonic and alterative effect. In these cases it was given in the form of Fowler's solution, Donovan's solution and arsenious acid. With the discovery of atoxyl by Béchamp and its successful employment in sleeping-sickness by Thomas and Kopke, the use of arsenic in syphilis received a renewed stimulus. This preparation, incorrectly asserted to be a meta-arsenic-anilid, containing about 25.7 per cent. arsenic, was successful in the cure of syphilis in animals, and in the human subject had a marked effect on some of the lesions. It was soon found, however, that the remedy was unsafe and that severe toxic symptoms might follow its administration, such as nausea, vomiting, gastro-intestinal pains, neuritic pains in the limbs, and, chief and most serious of all, optic neuritis followed by blindness. Of 1,633 patients with sleeping-sickness treated by Koch, twenty-two became blind—a percentage of 1.5. Steindorff has collected from the literature reports of ninety-five cases of blindness which followed the use of this drug. The toxic symptoms have been ascribed to impurities in the drug and to the large amount of arsenic introduced into the system. Salmon, who reported very favorable results, advised 0.75 gm., two days later 0.6 gm., three days after 0.5 gm., and then a period of rest. Kurdener gave as much as 50 gm. in seven weeks. Schlect administered 2.4 gm. to a patient in one week; severe toxic symptoms developed on the eighth day, followed by death. The eye symptoms usually appear early; that is, within a few weeks of treatment; exceptionally after a number of months. Nonne treated a woman, aged 37, the subject of general carcinosis, with slowly increasing doses of only 0.06 to 0.35 gm. After four weeks visual disturbances set in which quickly led to blindness; the patient suffered also from headache, vertigo and nausea. When necropsy was performed, a short time afterward, a parenchymatous degeneration of the optic fibers was found. In another patient, a hereditary syphilitic, aged 54, with arteriosclerosis, nephritis and disseminated chorioiditis, treated by Coppez, amblyopia developed after a single injection of 0.05 gm., five injections culminating in complete blindness.

The first ocular symptoms appear to be a scintillation, cloudiness and diminished vision; the visual field becomes concentrically contracted, often more on the nasal than on the temporal side. With the appearance of the first subjective symptoms the ophthalmoscopic examination is negative or the retinal arteries may be more or less narrowed; the veins may be hyperemic or contracted; after a few weeks the papillæ become pale and with amazing rapidity complete atrophy sets in. The pupils, which react for a long time, become dilated and then rigid.

From the observations of Nicolle, Mesnil and Nierenstein, the arsenical compounds owe their efficacy not to the arsenic but to the amido group, which is also present in various dyes as trypan red, parafuchsin, etc., which do not contain arsenic but have a similar action on trypanosomes as atoxyl. According to Ehrlich, atoxyl owes its action to a reduction substance in the body, which he called para-amido-phenyl-arsen-oxid. A preparation, chemically identical with atoxyl, sodium amino-phenyl-arsonate, was placed on the market under the name of soamin. It contains 22.8 per cent. of organic arsenic and its toxicity is believed to be one-fortieth that of arsenious acid. A fresh solution of this preparation is made before use and given intramuscularly every other day in doses of 10 grains each until 100 grains are administered. Lambkin reported that he treated seventy patients, all of whom did well and immediately gained in weight. He found the most beneficial effects of the drug in ulcerations of the mouth, tongue, throat and vegetating condylomas, and said there had been a noticeable absence of sore throat since this treatment was begun. While he had no accidents, blindness, as in the case of atoxyl, is reported from other sources. Lane mentions four supervening after this treatment. Other by-effects are intestinal cramps, nausea and vomiting. I was advised, in a personal communication from a physician in New York, that in a patient who was given daily doses of 1 to 10 grains for rheumatism until a series of 100 grains was administered, blindness resulted, which was, however, only transient. This same physician also treated ten patients with syphilis with a dosage varying from 5 to 9 grains until the course of 100 grains was given, which was then repeated after a period of rest. Except in the case cited, he had noted no other ocular disturbances.

The substitution product arsacetin, introduced by Ehrlich, under the chemical name of sodium-acetyl-phenyl-arsenate, was also employed in solution, in a dosage of 8 to 10 grains every other day until a total of 100 grains was reached. It was superseded by arseno-phenyl-glycin, which was found to be very effective in the atoxyl resistant trypanosomes in mice. From Alt we learn of its effects in syphilis, as he used the drug most extensively. The sequel to this in the attainment, as it was believed, of Ehrlich's ideal in a *therapia sterilisans magna*, is now so well-known that a repetition of the history of arsenobenzol or salvarsan, its commercial name, will be omitted.

Experience in the treatment of syphilis with the Ehrlich-Hata preparation has now been sufficiently extensive to enable us to draw certain conclusions

regarding the effects of the drug and to cause us to modify some of the very enthusiastic early reports as to its curative properties. The impression so widely prevalent when Ehrlich first announced his discovery, that it would be possible with one dose thoroughly to eradicate the infection, may be true in a limited number of cases, but the relapses which have taken place in a certain percentage have proved that this opinion was premature. Furthermore, the opinion that patients might acquire a susceptibility to the drug is likewise erroneous, since it has been repeated in some cases as many as seven times, not with an increased intolerance, but on the contrary with a diminished reaction to each dose.

Including the first series treated by Dr. Nichols and me at the City Hospital, the drug has been administered in eighty-four cases. Of these there were:

Two patients with initial lesion only, seven with chancre and secondaries, eighteen with early secondaries, nine with late secondaries, seventeen with tertiaries, eighteen cases of tabes, two cases of cerebral endarteritis, three cases of optic neuritis, one case of paresis, three cases of hereditary lues, four latent cases with a positive Wassermann reaction.

The dose employed has varied from 0.3 to 0.6 gm. In the early cases treated at the City Hospital the minimum dose was administered, in some, with brilliant results. These cases were treated with the alkaline solution injected into the gluteal muscles; the next twenty-seven patients were treated with the neutral suspension according to Wechselmann. Objections to the latter mode of administration, such as the persistence of the swelling for weeks, the slow absorption and less rapid effects, turned the scales again in favor of the original method of giving the remedy in alkaline solution. In the majority of cases the injection is followed by pain, which is usually severe enough to require morphin for its control. After twelve hours, however, patients are quite comfortable, although in some instances the pain may persist for three or four days or longer. The pain is especially severe in tabetics and is often generalized; in some cases it is absent, probably on account of anesthesia. The general reaction is manifested by a rise of temperature from normal to 101 F., and a corresponding increase in the pulse-rate. The cases in which the local and general reaction are unusually severe have been attributed by Wechselmann to a tissue or general susceptibility to the drug. An illustration of the latter was met in a woman who was treated with 0.6 gm. Her temperature on the first and second days followed the typical curve, but on the sixth day it suddenly rose from 99 to 102.4 F., and continued until the next day, when it reached 102.8 F., and she developed a generalized scarlatiniform eruption. A patient admitted to the hospital who had taken rough-on-rats developed at the same time a similar eruption with a temperature running about the same course. The suspicion of intercurrent scarlatina in both cases was so strong that a representative of the health board was called in for a diagnosis. Both cases were interpreted as toxic erythemas due to arsenic. Similar ones have been reported by other observers.

Within the last two weeks I have administered the drug intravenously and have been much impressed by the entire absence of pain following this method. In some of the cases the reaction has been very slight, the temperature not going above 100.5 F., and gastro-intestinal symptoms were absent. In one case, within two hours after the administration of the remedy in this manner, a severe chill developed, followed by a rise of temperature of 105 F. and vomiting which persisted for several hours. On the following day, however, the temperature was normal and no further symptoms were noted. A comparison of the intravenous with the intramuscular method shows the superiority of the former, not only in the comfort of the patient, but in the rapidity of its action; and I believe that this mode of administration will have the preference in future.

The effects of salvarsan on primary lesions are very striking. In a young man with three labial chancres, treated on June 2 with 0.3 gm., the lesions disappeared in ten days and his Wassermann reaction is still negative. The only other treatment he had had was two injections of salicylate of mercury. A physician who had infected both hands while operating showed little trace of the lesions one week after the injection. In another physician with a fungating chancre of the finger, a communicating lymphangitis and an enormous mass of lymph-nodes in the axilla, together with a maculopapular eruption of the body, all manifestations disappeared in about two weeks. If the drug is administered early in the primary stage it may be possible to abort the disease. This is illustrated by a patient who received an injection of 0.6 gm. for a primary sore one week old. The erosion healed in two or three days, no secondaries have appeared and his Wassermann reaction is negative.

The most brilliant results with salvarsan, however, are seen in mucous membrane lesions, which show an effect as early as twenty-four to forty-eight hours. In a patient with papules on the tongue, tonsils and pillars of the fauces, rendering deglutition very painful and requiring the use of a local anesthetic, relief was obtained in forty-eight hours, and in a week the mucous patches had all disappeared. This patient had taken mercury for months, under which the lesions would heal temporarily, but if it was omitted for two or three days they would return. Since the use of salvarsan they have remained away up to the present time. Of the cutaneous manifestations, a marked macular eruption was seen to disappear in one week and papular lesions to flatten down in a few days. Scaling syphilids of the palm and sole, which are notoriously obstinate to mercury, respond very quickly to salvarsan. These are the cases in which the combined use of arsenic and mercury is more beneficial than the old treatment. The action of the drug on gummatous lesions is equally impressive, healing often taking place in a week. In one patient with an ulcerating nodular lesion of the leg, of the size of a hand, cicatrization was practically complete at the end of three weeks. In another patient with a gummatous infiltration of the leg of six years' duration and pseudo-elephantiasis of the foot and ankle, after a single injection of 0.5 gm. the infiltration was absorbed in two weeks and the leg returned practically to its normal size.

Bone lesions also undergo resolution very quickly, but as they also disappear rapidly under mixed treatment, it is difficult to draw a fair comparison between the two remedies. The comparison is more apt in the case of malignant syphilis with multiple bone involvement, which did not yield to mercury but was markedly influenced by the arsenical preparation.

The treatment of eighteen cases of tabes has not been very encouraging. The majority of these were, however, of the degenerative type, and the drug was given only at the urgent solicitation of the patient In several there was a marked improvement in the pains, which

had been very distressing before. It is not at all improbable that in certain tabetic cases in which benefit was reported, a combination of active specific process and secondary degeneration, as suggested by Nonne, was present. In these the meningeal infiltration would be affected, but the degenerative changes would remain uninfluenced. In a case of gumma of the meninges involving the lateral columns, coming on within two years after infection, with marked spastic gait, sensory disturbances on the left side, motor disturbances on the right and atrophy of the muscles of the right lower extremity, betterment in his station, gait and strength was very considerable, but as only two weeks have elapsed since the drug was administered, there is strong hope that his improvement will continue. A similar result in these cases is often observed after bichlorid injections.

In two cases of optic neuritis a temporary arrest in the progress of the affection was noted, but subsequently the disease pursued its course to complete blindness. A very satisfactory result, however, was obtained in a case of acute development within the first year of infection. The patient had been treated with injections of mercury every other day, with intermissions, for nine months. November 16 he developed sudden loss of vision in the left eye. Ophthalmoscopic examination made by Dr. Holzapfel, November 19, was as follows:

"Left eye: Vision equals fingers at one foot; central scotoma about 20 degrees, striated hemorrhages above macular region between macula and disk; nerve-head swollen, edematous, and outlines indistinct; retinal arteries small, veins large and tortuous; in other words, choked disk." November 23 the patient was injected with 0.6 gm. arseno-benzol. December 8 Dr. Holzapfel's report reads: "Left eye: Vision 20/60, fundus normal; total absence of scotoma; circulation in nerve normal; usual sequel, namely, optic atrophy, seems impossible; no evidence at present of previous hemorrhage or of eye having been affected in any way. Normal vision in a short time will not be a surprise."

In view of the fact that the organic arsenical compounds may lead to the production of optic atrophy, an observation of the development of that condition in the early stage of lues is a matter of exceeding interest. It is difficult to obtain from text-books on the eye or on syphilis any very definite data as to the time after infection when these cases develop. The optic atrophies which occur in the late stages of syphilis and usually precede tabetic manifestations by years, probably belong to the parasyphilitic group, while those which occur in the early stage are the result of an acute inflammatory process.

Mott noted a commencing optic neuritis as early as ten weeks after infection, and Wilbrand and Saenger relate the case of a man, aged 20, who suffered with severe headache five months after infection; a month later he became blind in the left eye, and ten days later blind in the right eye.

In this connection I wish to report the case of a physician who was treated on October 7 for a digital initial lesion and secondary eruption with 0.6 gm. of the Ehrlich-Hata preparation. Prompt regression of his symptoms took place, but in the latter part of November he suddenly developed a choked disk, closely simulating the condition in the man cited above who had been on mercurial treatment for nine months. It would be just as fair to assume in the latter case that the neuritis was due to the mercury as that the arsenic was at fault in the former. Still, the suspicion that it may have been responsible cannot wholly be allayed in view of visual disturbances reported from Finger's clinic. As this is a very important and perhaps the only dangerous phase of the treatment, the following cases, reports of which have already been published, will be quoted in detail:

CASE 1.—A robust peasant girl of 19; infection 8 weeks old; multiple scleroses and beginning roseola. August 2 she received 0.45 gm. neutral suspension intragluteally. The clinical manifestations disappeared quickly and by September 30 the Wassermann reaction was negative. October 5 she returned with headache, vertigo, visual disturbances, right-sided oculomotor paresis, beginning optic neuritis of the left eye; Wassermann again positive. Her condition was considered a recurrence, for which she was given October 12, 0.45 gm. in acid solution subcutaneously. October 28 she was placed on mercury and potassium iodid but without result, and neuritis of the right optic nerve set in.

CASE 2.—Girl, aged 19; infection of two and one-half months' duration, for which she received, July 20, 0.4 gm. neutral suspension. By August 5 all clinical manifestations had regressed, but she returned October 18 with visual disturbances and abducens paresis.

CASE 3.—Man, aged 22; infection two years. He had been treated with mercury and potassium iodid, thirty injections of arsacetin and 18 of enesol. July 6 he was given 0.4 gm. for gummata of the nose and pharynx. September 5 he had a recurrence; October 5 visual disturbances, sluggish pupils, bilateral concentrically contracted field and beginning atrophy.

CASE 4.—Man aged 28; lues five months. He was given an injection of 0.45 gm. August 8; October 3 the Wassermann reaction was negative. November 10 he developed chorioiditis of the right eye.

As he has not noted similar manifestations after the use of mercury, Finger is very much puzzled as to the interpretation of these cases. He believes there is either a direct relationship between the arseno-benzol and the eye symptoms or possibly a combination of lues and action of the drug.

Fehr, according to Wechselmann, examined a large number of patients with syphilis during the early secondary period and found in 2 to 3 per cent. of them neuritis, without any subjective visual disturbance. An incomplete cure of these specific changes it is thought later lead to degenerative processes of the nerve. Wechselmann is inclined to look on the ocular conditions developing after the administration of salvarsan as recurrences of the disease, as it has been suggested that after such treatment relapses show a predilection for the eye. Kowalewski reports the case of a woman treated with the Ehrlich-Hata remedy in May; in July she developed severe headache and ten days later ocular disturbances. A month later the ophthalmoscope showed a typical descending perineuritis. This he regarded as a recurrence of the disease, and under inunctions her vision was restored to practically normal. It has just come to my knowledge that a patient treated by me October 24 for an early secondary eruption developed an iritis about a week ago, which is now yielding to injections of bichlorid.

A number of ophthalmologists with whom I have discussed the effects of the arsenical preparations on the eye have expressed the opinion, almost unanimously, that one would expect rather a primary degeneration of the optic nerve, similar to that which follows after methyl alcohol, than an acute inflammatory process. When choked disk and retinal hemorrhage are present the condition would favor the diagnosis of a luetic process. It was thought that the serious objection to the other arsenical products in their action on the optic or vestibular nerves had been entirely removed in salvarsan,

as no degenerative changes were found in any of the animals experimented on. It is not unusual in cases of syphilis to see active manifestations develop during the administration of mercury. I have noted in a patient who was treated with large doses of mercury by inunction the development of iritis in one eye, and in spite of its continued use, as much as 3 drams being rubbed in, the other eye became affected in a similar manner. The use of a specific drug, therefore, does not always safeguard the patient against relapse during its administration.

With the publicity that has recently been given to twenty thousand or more cases of syphilis, as closely observed as these have been, it would not be surprising if a good many more cases of optic neuritis or other ocular affections were brought to light than after the older methods of observation and treatment. The predilection of the syphilitic virus for the various structures of the eye should always be borne in mind, and the results of the disease not confused with those of the drug.

In hereditary syphilis, the remarkable therapeutic effect of the remedy is, perhaps, best illustrated by citing the following case of a little girl, aged 11. From the history, when she was 11 months old she had a bullous eruption of the feet; when 2 years old apoplexy of the right side which lasted ten months; she recovered and had a second attack. Epileptiform seizures began one year previously to being seen. In March, 1910, she developed a keratitis and her hearing became affected. She had a marked osteochondritis of the wrists and dactylitis of the left index and right middle and ring fingers. Her teeth were of the Hutchinson type; knee-jerks slightly exaggerated; Babinski present, more marked on the right side; Wassermann reaction strongly positive. An acute attack of keratitis developed just before the injection was given. On December 16 she received 0.35 gm. On the seventeenth there was a marked improvement in her eye and pain was absent from her fingers and wrists, which had been exquisitely tender before. When she returned home on the twenty-third her eye had practically cleared up, her hearing was improved and the swelling of the joints was reduced one-half.

In a hereditary syphilitic, aged 23, with an old keratitis and positive Wassermann reaction, no objective improvement occurred, although the patient maintained that her vision had materially increased.

In a cachectic infant with scaling syphilids of the palms and soles, the lesions disappeared and the nutrition was considerably improved with a dose of 0.06 gm.

The results with the Wassermann reaction have varied within very wide limits. As the majority of patients treated have been out-of-town patients, it has been impossible to follow them carefully serologically, and therefore a satisfactory estimate cannot be given. In general, a change took place in four to five weeks. Six days is the earliest period recorded for a patient who had had mercurial treatment before. Another case, although two injections had been given, did not become negative until the end of fifty-two days; a second case with two injections was still positive after seventy-four days, and in a third with a second dose 102 days have elapsed without obtaining a negative reaction. A reaction that became negative in twenty-six days, later was positive again. A patient with an early initial lesion with a weakly positive reaction before treatment, became strongly positive after, but is now negative and no secondary symptoms have developed. Several cases showed alternating negative and positive phases.

SUMMARY

Except in a limited number of cases, salvarsan in a single dose has not fulfilled its promise of a specific in human syphilis. It is, however, a most efficient agent in controlling the early manifestations of the disease and in limiting the contagious stage. As mucous patches and condylomata are the active carriers of the contagion, and most of the cases of infection occur through them, the value of the drug in cutting short this period cannot be overestimated. A therapeutic blow struck in the early stage when the spirochetes are numerous must have a marked effect on the subsequent development of the disease.

The result of one injection is fully equal to that of a prolonged course of mercury in the early stage and to a combination of mercury and potassium iodid in the later stage, with the advantage that we avoid the unpleasant by-effects of mercury, such as salivation. It is especially valuable in combating emergencies, as illustrated in the case of choked disk; in malignant syphilis; in hereditary syphilis; and in those cases which are refractory to mercury.

The objections to its use are the pain which immediately follows the injection, the hospital care necessitated, and the present uncertainty in regard to its possible injury to the eye. Administration by the intravenous method entirely obviates the first objection and it will doubtless be the method of choice in the future. It is, however, more difficult and requires more technical skill.

Where an intensive treatment of syphilis is indicated some authorities are advocating two intravenous injections of salvarsan at intervals of a week followed by an intramuscular injection of an oil suspension.

There is an impression among physicians that it is desirable to avoid mercury for a period before and after the administration of salvarsan. This is without foundation, as in the majority of cases patients who have been treated with mercury do better than when the remedy is given alone. A previous or subsequent mercurial treatment also influences the Wassermann reaction more favorably. This supports Ehrlich's contention that the organisms have more than one chemoreceptor and that the contagion can be attacked from more than one side. In cases in which the Wassermann reaction does not become negative at the end of four or five weeks, and it is not practicable to give a second dose of salvarsan, I am now advising a course of mercury.

If, by combining the mercurial treatment with salvarsan, we can accomplish a cure of this infection in six months and obtain repeated negative serum reactions, our views regarding the length of time that must intervene between the onset of this disease and marriage may be materially modified. We are not yet, however, in a position to issue any dogmatic rules regarding this very vital question.

Until we know more of the possibilities of the drug with regard to the eye, an attitude of conservatism should be preserved. It would be better, therefore, for the present not to employ it as routine treatment, but only in cases in which it is especially indicated, observing carefully the precautions laid down by Professor Ehrlich. Every patient should be examined by an ophthalmologist before the drug is administered, and

patients should have hospital care for four days to a week after. In the light of cases recently reported from Lesser's clinic, in which the general reaction did not appear until the ninth and twelfth day, it would be safer to lengthen the interval of hospital observation rather than to shorten it.

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TREATMENT OF THE PAINS OF ACUTE ANTERIOR POLIOMYELITIS

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Formerly, pain was not considered an important symptom of infantile paralysis; but in the recent epidemics in Europe and America it has been a prominent feature in many cases. The New York committee reported that it was marked in 50 per cent. of the cases they analyzed, and that it was sometimes excruciating, and often lasted for weeks.

As meningitis is emphasized in the report of this committee as a feature of the morbid invasion, it might be inferred that the sole cause of the pain manifested is irritation of the meninges. It is to be regretted that the committee is not explicit on this point; but it may be inferred from the emphatic recommendation of suspension in a warm bath in order to remove the pain, that meningitis cannot be the explanation of certain of the pains at least, for no mechanical measures are capable of allaying the irritations of inflamed meninges.

My observations during the present epidemic in Washington have shown me that there are two distinct types of pain resulting from poliomyelitis. The first is that due to meningitis, of which I have nothing further to say. The second is due to the nutritional and mechanical effects which follow destruction and interference with the neurons which govern the muscles. It finds its analogy in the normal pain and tire which result from cramped positions or prolonged exertion. It is due to stretching and sagging of muscles and joints, and can be experimentally produced very easily in shoulder, elbow and wrist by holding in the hand a heavy weight while the muscles are relaxed. The atony of the muscles is further favored by this passive stretching which, too, increases the pain.

The best proof that this is the real nature of the majority of the prolonged pains after poliomyelitis is afforded by the methods which most readily relieve them. These all depend on the principle of relieving stretching and sagging of muscles, tendons and joints with their fasciæ.

The methods used are galvanic electricity, suspension and support. Of these galvanic electricity is the most efficacious because it responds to the most insistent physiologic need, that for exercise of paralyzed muscles. The passive exercise afforded by massage does not excite the contractile function of the muscle fibers, and when this function is in abeyance, atrophy of the muscle cells occurs. Galvanic electricity is the only means by which it can be prevented when there is degeneration of the motor nerves; no other therapeutic measure excites contractility.

I am aware that many text-books and electrotherapists advise the postponement of electricity for two months. This is an error due to a misconception of the pathology of the disease from a vague idea that electricity should not be applied in inflammatory states. But there is no inflammation either of muscle or nerve in this disease: these structures are affected by a degeneration secondary to an inflammation which implicates their cells of origin and which itself is interstitial, the cells being involved only on account of their contiguity to the diseased process. The pathology is unlike that of multiple neuritis, in which a toxin causes an active inflammation of the nerves themselves, which is of course aggravated by the functional activity excited by electrical currents or other stimuli.

To these considerations, I wish to add my experience in the application of galvanic electricity in the first week of the disease. So far from irritating, as inexact thinkers would have us believe on *a priori* grounds, it has afforded great relief, enabling the patient to pass into a tranquil sleep from a condition in which his most imperative desire is frequent change of position. After the paralyzed muscles of the limb have been made to contract by galvanism, positions which before were intolerable can be maintained with ease. In this way the prevention of contractures is much facilitated. The reason of this should be obvious enough; for contractures not due to weight of the parts are caused by the overcoming of a paralyzed muscle group by the tonicity of its antagonists.

Suspension in water also acts by relieving the torsions, stretchings and involuntary tightenings which are the accompaniments of even the best-devised supports in the most comfortable bed. Indeed the excess of these tensions has been invoked by some observers as a factor in neurasthenic states, and much benefit has accrued some patients through the adoption of a method of intentional relaxation during repose. But in no way can this be attained so completely as by the even pressure exerted by a surrounding fluid medium. So that, as it is not often expedient to galvanize the muscles more than once a day, the value of suspension in a warm bath is not exaggerated in the report of the New York committee. The third means of relief of abnormal tensions of muscles and fibrous tissue is the suspension or support of the trunk and limbs by a jacket, in slings and cradles or by pads and tilting of the bed.

Vibration, massage, passive movements and hydrotherapy, of course, maintain a place in the treatment as aids to nutrition and as imperfect substitutes for exercise and its substitute galvanism; but these measures are subsidiary only.

Remembering that degeneration commences within three days and is decided by the tenth day, and knowing that regeneration is a matter of months, the physician will be prepared for more and more recovery of voluntary movement for a prolonged period. But observers are agreed that the earliest possible utilization of each recovering or unimpaired muscle bundle is of great advantage. To this end, it is most important to encourage the patient to make efforts. In young children muscular control is poorly developed, and a determination to overcome difficulties has not become a characteristic. Hence, it is often the case that when only a few muscle bundles of one group are spared, the child will cease to innervate that from which he receives no result. To overcome this tendency the child's limb must be placed in the best possible position to manifest a movement visible to himself. The best of all situations is suspension in water; and this re-educational measure is the second advantage of systematic use of the warm bath.

But there is another factor in this re-education. A child will soon cease to engage himself in what he conceives to be an imposed task. But if it is made interesting for him, it will become a game; and he will per-

severe in it without an irksome supervision or, what is even worse, a compulsory exaction of a task which would render the whole matter distasteful. Hence, all kinds of games must be devised and taught to the child; and these should be adapted to the needs imposed by the distribution of the paralysis.

Psychologic considerations are of great importance also in the after-care of a patient who remains paralyzed. A tendency to reticence and diffidence may have to be counteracted by providing active interests demanding social adjustments, the opportunity for which is apt to be curtailed in the case of a disabled child. On the other hand selfishness and the desire for unreasonable exactions may have to be overcome. Contact with the social environment must be fostered in every possible way. A small country town perhaps affords the best opportunity for these cases. The stagnating tendency which sometimes rules these patients may be neutralized by stories of men who have overcome physical infirmities; for, after all, the range of opportunity for a cripple in good health is not so limited as may appear at first sight. Of course, when a sedentary life has to be led every possible means must be used to obtain physical exercise and to avoid the cramped attitudes which favor poor oxidation and tuberculosis.

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SIMPLE COMPLETE TONSILLECTOMY

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That complete removal of the faucial tonsil with its investing capsule is the most satisfactory procedure, is the teaching of our best operators to-day. It is not my purpose or my pleasure to depart from this teaching, but on the other hand, after fourteen years of experience and the performance of almost every tonsil operation that seemed at all rational, I commend it the more.

This being the case, it is my intention only to emphasize the simplicity with which this operation can be performed with a vertical snare, and at the same time accomplish the desired results.

In using the word "complete," I mean all the term implies, viz., freeing the tonsillar space by removing all the tonsil with its investing capsule intact. Anything short of this is bad surgery and should not be practiced, as clinical observations have clearly shown it to be of little or no permanent benefit.

The first thing to do is to ground oneself in the anatomic relations of those special parts of the throat, and the second, to keep inside the tonsillar space. The most prolific cause of hemorrhage is failing to get all of a fibrous tonsil, cutting the muscles with sharp instruments, or lacerating them with the finger or some dull instrument. A clear knowledge of the possible sources of hemorrhage will enable the operator to largely prevent its occurrence. Therefore note the following blood-supply:

The tonsillar artery, a branch of the facial, is the chief vessel to the tonsil, though the ascending palatine, a branch of the lingual, sometimes takes its place. The tonsillar artery passes upward on the outer side of the superior constrictor muscle to the tonsil and soft palate. The palatine artery also sends branches through the superior constrictor muscle to the tonsil. The ascending pharyngeal passes upward outside of the superior constrictor and gives off a correspondingly larger branch when the palatine artery is small.

The dorsalis linguæ, a branch of the lingual artery, ascends to the base of the tongue and sends branches to the tonsil and pillars of the fauces. The descending or posterior palatine artery, a branch of the inferior maxillary, supplies the tonsil and soft palate from above, forming anastomoses with the ascending palatine. The small meningeal artery sends branches to the tonsil, though they are of minor importance.

The fact, then, that the three principal arteries, viz., tonsillar ascending pharyngeal and ascending palatine, which supply the tonsil and pillars, pierce the superior constrictor muscle in their ramification to these parts, makes it important that the technic should be such as not to injure those muscles bounding the sinus tonsillaris by pulling them through the instrument and by cutting out sections with instruments cutting on the horizontal, by piercing them with sharp instruments, such as knives or scissors, or by lacerating them with blunt or dull instruments as previously stated. Hemorrhage, the dread of tonsil surgery, will be thus avoided.

There are a few, a very few, who can dextrously use the finger to dissect or divide the tonsil from the muscles without injury to the muscular structures, but I should advise, if you do not already know how, not to take it up, as too many throats will be sacrificed, at least to some extent, in learning.

In my judgment, tonsillectomy is a hospital, an office or a home operation, and I have had equally as good results when it was performed in office or home as when performed in the hospital. I certainly have no objections to the hospital, but have never deemed it necessary to impose this extra expense on patients unless I was fearful of their not receiving the proper care and attention at home.

Anesthesia may be local or general. I prefer local anesthesia, except for obvious reasons, to be decided by each surgeon, as personal elements enter largely into its consideration. For general anesthesia, I use ether exclusively, and for local use a 10 per cent. solution of cocain applied once or twice is sufficient, as too frequently applied, some toxic effect may result.

For injecting the tissue around the tonsil, solution of epinephrin and codein has given me good satisfaction. It should be injected at the upper, middle and lower portions of the anterior and posterior pillars respectively, and also in the supratonsillar fossa, one or two minims at each point, with an ordinary hypodermic syringe having an extension.

I generally prepare one tonsil and while it is becoming anesthetized, prepare the other, and by the time the second is prepared, the first is ready to be removed.

TECHNIC

Antiseptic precautions having previously been employed, I grasp the tonsil first prepared with tissue-vulsella forceps of my own design, one blade in the supratonsillar fossa and the other under the tonsil proper, and then by pressing the handles together a firm hold is secured on the tonsil. This special forceps gives a double hold and a tonsil is rarely, if ever, so friable as to allow the hold to tear out. If the tonsil is fibrous, there is both surface and deep hold which makes it doubly secure. I pull the tonsil inward and forward and if the fibrous bands are not united too densely to the anterior and posterior pillars no dissecting is necessary; but I release and insert the forceps through the tonsil snare, which is also of original design. Then I grasp the tonsil as previously stated, and pull it inward and forward, at the same time pushing the fender, which carries a No. 9 piano wire, backward and outward so as to bring the top of the fender in the supratonsillar fossa; in the meantime, the shaft acts as a tongue depressor and does away with the necessity of an assistant. I grip the handles of the snare, and as soon as

the wire is released its tendency is backward and outward, following the tonsil back and cutting it off at its base, the point of least resistance. At the same time it does no possible injury to the anterior and posterior pillars or superior constrictor muscle, and avoiding the injury of these muscles, alarming hemorrhages need not be feared.

If the uvula, by accident, should have been pressed back by the fender, it will be released before the tension on the wire has become great enough to cut. Should the tonsil be fibrous and densely adherent, I dissect it loose from the borders of the anterior and posterior pillars with a wave-edged knife, so as not to impede too much the circuit of the wire in its course to the base of the tonsil, and proceed as previously stated, thus freeing the tonsillar space of all the tonsillar tissue with scarcely a trace of hemorrhage.

I have found this method most efficient and simple in performing *complete tonsillectomy.*

AFTER-TREATMENT

I swab the throat with a 12 per cent. mixture of phenol (carbolic acid) and glycerin. Ten to fifteen drops of phenol in eight ounces of water, to be used as a gargle as often as patient desires, makes a grateful wash. Ice held in the mouth or applied to the throat also makes a very grateful and beneficial means of allaying the pain and inflammation which naturally follows.

Liquid diet should be ordered for the first three or four days, and quietude observed for the same length of time.

A CASE OF TABES DORSALIS WITHOUT ATAXIA *

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While not, as a rule, an early symptom, motor incoordination, as manifested in ataxia, is one of the most significant and distinctive phenomena of tabes dorsalis. Usually manifesting itself after months or years, it may appear in the course of days or weeks. The disturbance in function is in marked contrast with the preservation of gross muscular power, the strength of any individual movement being retained, at any rate for a considerable length of time, before wasting from disuse sets in. Almost invariably the lower extremities are involved first, exceptionally the upper extremities. The muscles of the trunk also may suffer, and rarely those of the face, lips and tongue. The muscles of the vocal bands are said to be involved not infrequently.

The case to be reported is of interest because of a total absence of ataxia, although the disease of the spinal cord appears to be at least of several years' duration.

A shirt-ironer, aged 30, married five years, came under observation Dec. 18, 1909; complaining of weakness and pain in the lower extremities, present for two and a half years, together with stabbing pain all over the body of only a few weeks' standing. The knee-jerks were absent, even with reinforcement, and the pupils were unequal (the right being the larger), contracting in accommodation, but remaining immobile on exposure to light. Station was steady, gait good, and coordination in the upper extremities was preserved. Sensibility appeared to be unaffected, and sexual desire and vigor were active. No visceral disturbance and no symptoms of mental derangement were present. A lymphatic gland was palpable in the left epitrochlear region and glands in the groin were enlarged. A shallow but extensive scar was visible on the head of the penis. The eye-grounds were normal, the disks oval and slightly pallid, and the balance of the ocular muscles was preserved. The patient admitted having had an attack of gonorrhea at the age of 23, but he denied knowledge of syphilitic infection. His wife has borne a child, now 4 years old. She had had no miscarriage and she was at the time of examination advanced five months in pregnancy.

Varied treatment had been employed, but without success. The case was considered possibly one of tabes, but the demonstration of the complement serum-reaction by Dr. E. P. Corson-White seemed to remove any diagnostic doubt, and a course of vigorous antisyphilitic treatment was instituted. Whether symptoms of general paresis will develop later cannot, of course, be foreseen.

Apart from the fact that motor incoordination may be due to causes other than disease of the posterior nerve-roots or sclerosis of the posterior columns of the spinal cord, this case exemplifies the wisdom of employing the term "tabes dorsalis" in preference to locomotor ataxia.

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* Read before the Philadelphia Neurological Society, Nov. 25, 1910.

WHAT BECOMES OF THE SPIROCHETES IN THE SECRETIONS?

A QUERY SUGGESTED BY EHRLICH'S "606" AND OFFERED AS A SUBJECT FOR INVESTIGATION

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This query may properly apply to other diseases and their therapy, but most particularly and by clearer illustration to syphilis: What becomes of the spirochetes on the free surfaces not reached by the remedy, or, perhaps it would be better to say, in the retained secretions and excretions?

Varying with the different stages of the disease, a certain number of the spirochetes will be found throughout the mucous surfaces. This means the mouth, the gastro-intestinal and rectal areas inclusive, and the Eustachian tubes. The vagina and endometrium must carry countless numbers. The seminal vesicles and prostatic follicles are to be borne in mind. Endothelial sacs such as the pericardium, the pleura, it is fair to assume, contain many of these wandering forms.

The spirochete has been demonstrated repeatedly in most of these secretions or excretions. Negative findings have been reported from the spinal fluid alone in the studies published. This does not by any means prove positively that the spirochetes are not present in the spinal fluid. It simply is an illustration of the fact that, if present, they are difficult of demonstration—a fact most easy of acceptance and comprehension to those familiar with the difficulties of such work. It is a perfectly fair and reasonable assumption, and on most points already proved, that the spirochete is in certain numbers present on all of these surfaces.

We know from many reported studies that the milk of a syphilitic mother to whom "606" has been administered, carries an almost imperceptible dose of arsenic to the nursing child. How much arsenic, if any, is to be found in the vaginal or pharyngeal mucus? How much in the seminal vesicles or the pleura? At best, there is not likely to be found more present than in the milk. The serous membranes belonging to the lymphatic circulation are probably theoretically well within the sweep of the *therapia sterilisans magna,* but this can hardly be true of the bronchi or uterine tract.

Now given body heat and moisture in some mucous cul-de-sac, how long may not this spirochete survive? Surely until long after the last of the "606" has been

eliminated, which when given intravenously is in four days; with a longer time when administered intramuscularly.

This, then is the substance of the query. The spirochete does exist in such localities. These localities offer favorable opportunity for shelter and growth. It is not a wild assumption that they may survive in such a culde-sac many days after the elimination of their antidote. What then becomes of them? Do they not possibly often reinfect the patient? Perhaps this has been an overlooked point in all the years of our treating syphilis by the old methods as well as new. Or do the increased antibodies meet and dispose of each surviving spirochete? It is a question that I have not seen touched on and one that certainly merits the careful consideration of some of our competent biologists.

TWO APPENDICES IN ONE PERSON

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On Nov. 7, 1910, I was called out of town to see Miss C. D., aged 21. She had been suffering intense abdominal pain accompanied with vomiting for three days. The abdomen was distended and tense; pulse 140; temperature 101. A diagnosis of acute suppurative appendicitis with peritonitis was made, and an operation advised. On opening the abdomen I found pus in the peritoneal cavity with no walling off; there were two appendices containing pus; one was ruptured. One appendix measured 3 by ⅜ inches, the other one 3½ by ⅜ inches. Their bases were 1¼ inches apart, and each had a mesoappendix. Drainage was instituted, the patient placed in the Fowler position and continuous rectal saline by the drop method was employed for five days. The patient made a slow recovery; at present is able to walk about the room.

Therapeutics

POSTOPERATIVE ROENTGENIZATION IN CANCER

Cancer is the most dreaded disease afflicting humanity to-day, because of its frequency, its resistance to the commonly accepted methods of management, and the pitiable condition to which it inevitably reduces its victims in the majority of cases. Any measure, therefore, which promises to increase our power over cancer is deserving of thorough trial, and when such a promise has been developed into a certainty that curative power is exhibited by such a measure, even if only in an occasional case it has vindicated its claim to be applied in every case, unless positive contra-indications exist.

The fact that the *x*-ray, when skilfully applied, has demonstrated such curative influence, only the most obtuse will deny to-day. Every radiotherapeutist who has attained sufficient knowledge and had sufficient experience to entitle him to the designation, endorses the above statement and recommends that the *x*-ray be applied, *as a routine measure,* without waiting for recurrence to take place, in conjunction with every operation for the removal of cancer. There is found some difference of opinion as to whether the application should be made before the operation, after the operation, or both before and after, but all agree that it should be made sometime, and that such application should sustain a more or less intimate time relation to the ablative procedure. The doubters of the curative power of the *x*-ray are not found in the ranks of those who know the agent.

But the surgeons are to-day the men who issue the supreme dicta as to how these cases shall be managed, and, unhappily, the vast majority of them are not sufficiently familiar with skilfully applied postoperative roentgenization in cancer to place their judgments above question. As a matter of strict fact, the average surgeon knows vastly less about the beneficent possibilities of this measure than does the roentgenologist or internist about those of ablative surgery. Whether the question involves the management of pneumonia, leukemia, the applicability of physiologic therapy, or the opening of an abscess, the surgeon often assumes a judicial attitude and issues an ultimatum. When an internist or physiologic therapeutist ventures to assume that he is qualified in any degree to pass on a surgical problem, he is often treated condescendingly or with dignified aloofness. And yet the judicial problems with which the internist is confronted in the average case of pneumonia, typhoid fever, nephritis, etc., require, for their efficient solution, nicer mental poise, greater wisdom and experience, and wider knowledge, than nine-tenths of those involved in the most brilliant surgical procedures. The physiologic therapeutist spends his life in a field which is practically unknown to the average surgeon. The early training of both, and their experiences and observations, have familiarized them to a large extent with the theory and practical results of surgical operations. In spite of this, however, the surgeon maintains his attitude of gentle but insistent superiority, and many a patient is thereby condemned to death or invalidism who could be restored to useful and happy activity if the therapeutic vision of the surgeon were less circumscribed: if he could but appreciate that the internist and the physiologic therapeutist are just as capable of sometimes affording him help which is valuable to his patient, as he is of affording them assistance. And with all this, the average surgeon is undeniably entirely honest in his position. He is merely looking through the large end of his telescope.

The foregoing, while apparently more or less irrelevant to the subject, perhaps has a weighty and vital bearing thereon. When the average surgeon is told that every patient who has been operated on for cancer should be roentgenized, as a routine measure, just as soon as the operation wound has healed, he assumes one of three possible attitudes: first, frank skepticism regarding the utility of roentgenization in any but superficial cancerous lesions, an attitude usually provoked by failures which have come under his observation which have discouraged him from seeking further enlightenment from competent sources or from investigating the causes of these failures; second, agnosticism, accompanied by an indifference—sometimes due to his absorption in a large practice—profound enough to prevent him from taking the trouble to look up the therapeutic results of some good roentgenologist; or third, a challenge to discussion opened by such queries as: (1) "Why should a patient be roentgenized before recurrence has manifested itself?" (2) "Why should every patient be subjected to the extra expense involved in routine postoperative roentgenization, when we know that many will be radically cured by extirpation alone, and that recurrence will not take place in such cases?" (3) "Why roentgenize many patients unnecessarily?"

Those who assume the first-mentioned attitude are almost hopeless as far as conversion is concerned; those who assume the second are entirely hopeless; but those

who assume the third are usually open to conviction, and are the men to whom cancer sufferers must look for the realization of their hope for a mitigation of the dismal outlook to which they are doomed by unsupported extirpation. Such queries "put it up" to the roentgenotherapeutist, and he can satisfy any reasonable person of the propriety of routine roentgenization, if his knowledge and experience are sufficient to justify his assumption of the designation.

1. The reason why roentgenization should not be delayed until recurrence has taken place is that by the time recurrence has manifested itself the malignant process will, in many cases, have progressed so far that neither *x*-rays nor anything else can reach it effectively. The most dangerous recurrences are internal; they frequently take place with terrifying promptness, and without giving any outward and visible sign of their presence until they are well developed. The first visible indication of recurrence may transpire months after the fatal internal lesion has insidiously and firmly established itself. Immediate, routine, postoperative roentgenization, when it is effective, eliminates this danger.

Again, it is a well-established fact that recurrences are frequently far more vicious and resistant to the *x*-ray than the original lesion. It is also a well-established fact that roentgenization is utterly powerless to arrest many recurrences. Why subject any patient, then, to the gloomy chance of developing such a recurrence when the catastrophe could be so easily forestalled in, at least, many cases, by immediate postoperative treatment?

Finally, in a disease so difficult of control as cancer, conditions should, when possible, be manipulated so that only the minimum expenditure of therapeutic force will be required of any agent, however much power it may seem capable of exhibiting, because, in some instances, even all that it can do will not be enough. Immediately after thorough extirpation of a cancerous focus, such malignant elements as may remain are microscopic in size; after recurrence the lesions are relatively large. The destruction of a recurrence, then, demands much more remedial efficiency and activity on the part of the *x*-ray, to say nothing of the greater metabolic, resistive, and eliminative efficiency and activity demanded of the patient's organism, than is required when the lesions are microscopic. Immediate postoperative raying constitutes attack on the menacing factors when they are smallest and weakest, and when, if recurrence is imminent, the resistive power of the healthy tissue surrounding these foci is at its best.

2. As far as the extra expense involved in routine postoperative roentgenization is concerned, a moment's thought will demonstrate how slight is its claim to consideration. The desirability of preventing recurrence is too great for adequate expression; on its prevention depends the success of the whole operative procedure. If it obtains, the original operation might just as well—in most cases much better—not have been performed at all, because recurrence is usually more vicious in its course than the primary lesion. Therefore, the expenditure of the fifty or one hundred dollars involved in postoperative roentgenization assumes such slight relative importance, *per se*, as to become entirely negligible.

Concerning the justifiability of advising the patient to incur the extra expense for a remedy which may not be effective, the same logic applies as in the case of advising the original operation. The *x*-ray has demonstrated that it can prevent recurrence in some cases, and the ablative procedure has done the same. The *x*-ray has failed in some cases, and so has extirpation. Therefore, if it is justifiable to recommend the operation it is also justifiable to recommend postoperative radiation. In either case the patient is paying his money for the purpose of securing the most effective means of curing his trouble, and he desires to have his cure made complete and dependable, if possible. He knows that he cannot be guaranteed a cure, however much is done, but he wants all possible reasonable precautions taken. Postoperative roentgenization gives him the best chance for obtaining a radical cure. If the combination of measures is not effective, both patient and surgeon are conscious that everything possible has been done, and neither will have occasion to reproach himself, when it is too late, for having omitted a vital point in technic because of hesitation concerning the expenditure of a few dollars at the opportune moment.

3. This procedure should be applied in every case, even though many patients are treated unnecessarily, because it is never possible to determine which are going to need it previous to recurrence; hence, in order to be sure that all of those threatened receive its benefits, all patients must be rayed. The same logic applies again, as in the case of the ablative procedure. We cannot tell which patients will be radically cured by operation until time has demonstrated that recurrence does not obtain. It has, however, become a well-established principle of surgical practice that extirpation is the proper management for cancer, unless the disease has extended so far as to render operation palpably useless.

As a matter of logic, the argument favors the routine postoperative application of the *x*-ray more than it does the routine adoption of extirpation, because unnecessary or unsuccessful roentgenization does the patient no harm, if skilfully applied, whereas unsuccessful extirpation increases the malignancy of the growth, and the last condition of the patient who is operated on and suffers recurrence is usually worse than the first.

The foregoing paragraph suggests another situation in which postoperative roentgenization sometimes enables ablative surgery to overcome otherwise hopeless cancer, and when the application of either alone would probably be ineffective, viz., when the malignant process is so extensive that it cannot be completely extirpated. A lesion of this character offers no prospect whatever of recovery under ablative procedures alone, and but slight prospect under roentgenization alone, probably because the local and general toxemia induced by the breaking down of large cancerous masses by *x*-radiation, is frequently profound enough to depress the patient's local and general resistive and recuperative powers seriously. Indeed, there can be little doubt that many patients have succumbed to such toxemia. And yet, up to very recently, the treatment of this class of cases has constituted about the whole extent of the field that the average surgeon has been willing to allow the roentgenotherapeutist. The dictum taught and written has been, "use the *x*-ray in inoperable cases," and, for the reason just stated, the *x*-ray did not derive much credit from its use in these cases. It is, indeed, a tremendous tribute to its actual power that it derived any at all. By first extirpating as extensively as possible in such cases, however, the amount of work to be demanded of the *x*-ray, and the amount of contingent toxemia are tremendously lessened, and both measures are given an opportunity to do their utmost under the most favorable conditions obtainable in the given case.

PREOPERATIVE ROENTGENIZATION

This measure cannot properly be considered in this discussion, but just a word in reference thereto will not be out of place, as mention of the postoperative procedure naturally suggests the preoperative application. Its advocates assert that it eliminates the malignant elements from the region surrounding the tissue to be removed, and that this is of great advantage.

This may, of course, be true, but that it actually does so eliminate malignant elements is more or less theoretical and it seems to some roentgenotherapeutists that, even on theoretical grounds, whatever advantage might accrue is more than counterbalanced by the dangers which the measure may precipitate. These are three in number: (1) the danger of depressing the patient's vitality immediately before he is about to need all of his strength for the operation, through the probable induction of more or less toxemia caused by retrogressive changes brought about in the original disease focus by the radiation; (2) the danger of so influencing the trophic functions of the part as to interfere with healing after the operation; and (3) the danger of delaying the operation long enough for sufficient preoperative radiation to be applied.

1. It is, of course, true that in the majority of instances enough toxemic depression will not be induced by preoperative radiation to influence seriously the patient's progress. It is just as true, however, that in many cases what little is induced will be sufficient to turn the scale against recovery. In a disease as refractory as cancer no factor should be permitted to enter into the problem which threatens to imperil, in any degree, the therapeutic outcome, unless a positive compensating advantage is secured thereby. That such an advantage is conferred by preoperative roentgenization is yet to be proved.

2. That vigorous *x*-radiation markedly retards, and sometimes entirely inhibits, reparative processes is so well known as not to require discussion. Under the circumstances we are considering, especially when it is going to be necessary to apply the ray again just as soon as healing has taken place, no measure should be tolerated which tends, in any degree, to impair the promptitude of such healing. It can, of course, be argued that preoperative radiation should not be applied with sufficient intensity to influence the trophic functions to this extent, and, theoretically, this sounds plausible and reasonable at first thought. Experience demonstrates, however, that two insuperable difficulties render such regulation impossible in any given case, viz., individual idiosyncrasy toward *x*-ray effects, and the fact that no exact, universally efficient, reliable method of measuring *x*-ray volume is available to-day. The existence of either one, alone, would render it impossible to secure precise adaptation of *x*-ray volume to the needs of the individual case.

To be of any use at all, preoperative roentgenization should be vigorous enough to inhibit the malignant elements, and as the relative vital resistance capacity of these varies in different cases, what would be a sufficient radiation in one case would not be sufficient in another, would be more than sufficient in still another, and, in an occasional case, would be enough to inflict serious harm. The only efficient method, then, would be to give the maximum radiation always so that every case would be sure of having enough, and, as we have seen, this involves certain injury to many cases. If the maximum is not always given, however, injury will just as certainly be inflicted on those for whom anything less than the maximum is not enough.

Another fact which tends still further to increase the uncertainty regarding the dose, hence the danger, of preoperative radiation, is that the indication that radiation has been excessive (dermatitis) does not usually appear until two weeks after the injury was actually inflicted. A beautiful course of preoperative radiations, then, might be perpetrated, the operation be performed, and just at the height of the healing process a severe *x*-ray necrosis develop with all its vicious potentialities for one who has demonstrated his vulnerability to cancerous degeneration.

The same argument applies against postoperative raying before the wound has healed. Gangrene of healthy flaps has been caused by raying too soon. When it is not attempted to secure union, as after curettement, when seizable open wounds are left to heal by granulation, radiation may, in most cases should, be commenced immediately. But when union within a reasonable time is probable the application should be delayed until it is practically complete.

3. If effective preoperative radiation were devoid of danger, the delay of operation involved would not be objectionable, but we have seen that this is not the case. Just so long as the ablative procedure is put off, by just so much will the time period during which sound tissues are threatened, be increased. This factor of delayed operation will not be important in many cases, perhaps, but it will in some; hence, as little, if any, demonstrable advantage accrues therefrom, it would seem as though little could be urged in favor of submitting the patient to the extra risk.

A final word may properly be said regarding the operator who is to be selected to apply the *x*-ray therapeutically. A good radiographer is by no means necessarily a good radiotherapeutist, any more than a good house-carpenter is necessarily a good cabinet-maker. The two use the same tools, to be sure, and have to use them with high degrees of skill, but the temperamental requirements and the technic involved in the two callings are vastly different. The efficient radiotherapeutist needs to be endowed with a fund of clinical knowledge and a faculty for clinical observation, and with a courage, patience, and good judgment that apply in but slight degree in connection with the good radiographer. Then, again, the radiographer, in the city, has so much diagnostic work to do that he cannot devote sufficient time and study to radiotherapy to get the best out of it. The radiotherapeutist, in the city, is similarly situated as regards radiography. The country districts do not furnish enough material to develop first-rate specialists in either line. As a matter of fact it may be interesting to know that those competent to judge estimate the number of competent radiotherapeutists in the United States to-day as less than forty.

Great pains, then, should be taken to send patients who are to be roentgenized to some one who is profoundly versed in the technic, and thoroughly experienced in the practice of roentgenotherapy. If any other has been entrusted with its application in a given case and good results have not followed, the method should not be blamed, but the responsibility placed where it belongs and a competent operator selected the next time.

TRANSMISSION OF A MALIGNANT NEW GROWTH BY MEANS OF A CELL-FREE FILTRATE*

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A tumor of the chicken, histologically a spindle-celled sarcoma, has been propagated in this laboratory since October, 1909,[1] and in the past few months has developed extreme malignancy.[2] From a bit inoculated into the breast muscle of a susceptible fowl there develops rapidly a large, firm growth; metastasis takes place to the viscera; and within four to five weeks often the host dies. The behavior of the new growth has been throughout that of a true neoplasm, for which reason the fact of its transmission by means of a cell-free filtrate assumes exceptional importance.

EXPERIMENTS

For the first experiments on the point use was made of ordinary filter-paper and the ground tumor suspended in Ringer's solution. It was supposed that the slight paper barrier, which allows the passage of a few red blood-cells and lymphocytes, would suffice to hold back the tumor and render the filtrate innocuous. Such has been the experience of other workers with mouse and dog tumors. But in the present instance characteristic growths followed the inoculation of small amounts of the watery filtrate, and followed also the inoculation of the fluid supernatant after centrifugalization of a tumor emulsion.

These results led to more critical experiments, which will be here detailed. Tumors of especially rapid growth and young, well-grown, barred Plymouth Rock fowls were used throughout.

EXPERIMENT 1.—Tumor material from the breast of Chicken 92 (tumor generation 6 A) was ground with sterile sand, suspended in a considerable bulk of Ringer's solution, and shaken for twenty minutes in a machine. The sand and tumor fragments were separated out by centrifugalization in large tubes for five minutes at 2,800 revolutions per minute. Of the supernatant fluid a little was pipetted off, and this centrifugalized anew for fifteen minutes at over 3,000 revolutions per minute. From the upper layers sufficient fluid for inoculation was now carefully withdrawn. The pure-bred fowls were injected in one breast with 0.2 c.c. of the fluid, in the other with a small bit of tumor tissue. All developed sarcoma at the site of this latter inoculation, and in seven the same growth slowly appeared at the point where the fluid had been injected.

EXPERIMENT 2.—Tumor from Chicken 90 (tumor generation 6 A) was ground, suspended, and shaken as before. But after one centrifugalization the fluid was passed through a Berkefeld filter No. 2 (coarse). Before filtration, it was pinkish-yellow, cloudy; afterwards, faintly yellow, limpid. Nine fowls were inoculated with 0.2 c.c. of the filtrate in each breast, and twenty-two more received filtrate in one breast, a bit of tumor in the other. Of the nine, one slowly developed a sarcoma in each breast, and later microscopic growths were found in its lungs. Of the twenty-two receiving both filtrate and tumor, five developed sarcoma where the filtrate had been injected, and these five showed especially large growths from the tumor bit.

The Berkefeld filter employed was later found slightly pervious to *Bacillus prodigiosus*.

EXPERIMENT 3.—The filtrate was similarly prepared except that a small Berkefeld filter (No. 5 medium), impermeable to *Bacillus prodigiosus*, was used. As before, the filtration was done at room temperature. Fowl 124 (generation 7 A) furnished the material. Twenty chickens were inoculated in each breast with the filtrate, but none have developed tumors.

EXPERIMENT 4.—In this experiment the material was never allowed to cool. About 15 gm. of tumor from Chicken 140 (generation 7 B) was ground in a warm mortar with warm sand, mixed with 200 c.c. of heated Ringer's solution, shaken for thirty minutes within a thermostat room, centrifugalized, and the fluid passed through a filter similar to that used in Experiment 3. Both before and after the experiment, this filter was found to hold back *Bacillus prodigiosus*. The filtration of the fluid was done at 38.5 C., and its injection immediately followed. In four of ten fowls inoculated with the filtrate only (0.2 to 0.5 c.c. in each breast) there has developed a sarcoma in one breast; and though the growths required several weeks for their appearance their enlargement is now fairly rapid. Pieces removed at operation have shown the characteristic tumor structure.

CHARACTERS OF THE TUMOR

As has been pointed out, the special significance of these results lies in the growth's identity as a tumor. The original sarcoma was found as a unique instance in a flock of healthy fowls; and, though susceptible normal chickens and others with the tumor have since been kept together in close quarters for long periods, no instance suggesting a natural infectivity of the growth has occurred. When inoculated, it is at first a local disease, very dependent on the good health of the host. At this time intercurrent illness of the fowl will check the nodule's growth or even cause it transiently to disappear. For long the sarcoma could be transferred only to fowls of the same pure-bred variety in which it arose, and this only in an occasional individual; but like many tumors, it has gained on repeated transplantation a heightened malignancy, and the power to grow in other varieties of the same animal. Yet in these it does not do well; and it has not been successfully transplanted to other species.

Histologically, the growth has always consisted of one type of cells, namely, spindle-cells in bundles, with a slight, supporting, connective tissue framework. The picture does not in the least suggest a granuloma; and cultures from the growth remain sterile as regards bacteria. At the edge of the invading mass there is often practically no cellular reaction, but lymphocytes in small number may be present, as is common with tumors in general. Metastasis takes place early, through the blood-stream, and the secondary nodules have the same character as the primary. Several instances of the sarcoma's direct extension into vessels have been encountered. The secondary growths are distributed especially to the lungs, heart and liver, and in the last organ are sometimes umbilicated. The host becomes emaciated, cold and drowsy, and shortly dies.

Transplantation experiments with the tumors resulting from the filtrate are at present under way. The tumor of Experiment 2, which arose in the fowl that received filtrate alone, has already been successfully transplanted.

Sixty-Sixth Street and Avenue A.

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. Jour. Exper. Med., 1910, xii, 696.
2. Rous, Peyton: Metastasis and Tumor Immunity: Observations with a Transmissible Avian Neoplasm, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1805.

Length of Treatment of Syphilis.—The first two years' treatment is the most important period for the patient and on its thoroughness depends largely his future well-being. Treatment should be actively pursued for at least five years; that is, the treatment should be persistent for three years, less energetic during the next two. The patient should be under observation the next several years. In fact, it is best for the patient to undergo treatment for three or four weeks each year during his lifetime.—A. G. Nadler, in *Yale Medical Journal*.

PYELITIS GRAVIDARUM

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Although pyelitis gravidarum is not a very rare disease, it occasionally presents certain difficulties in differential diagnosis, for which reason the following case may be of interest:

History.—Mrs. P., aged 35, a sextipara, had easy and normal pregnancies and labors with the first four children; in the fifth and sixth pregnancies, however, she was severely ill, and to judge from her history the complications of the two pregnancies were identical. The patient came under my observation in the last two months of the sixth pregnancy. She said that she had had pneumonia and brain fever in the fifth month of the preceding or fifth pregnancy, and was confined to her bed until after her delivery, which occurred prematurely about the eighth month. She coughed incessantly throughout that time, and had periodical pains of excruciating character over the left side. She also had severe intestinal symptoms, as vomiting and tympanites. The pain in the left side was remittent and not intermittent. While she had "pneumonia" (?) she stated that she never expectorated blood or rusty sputum. Four weeks before delivery labor pains set in and with the gradual progress of labor there was a corresponding subsidence of her pains and intestinal trouble.

Present Illness.—Concerning the history of her present trouble, all I could learn was that the patient felt perfectly well during the interval and during first five months of pregnancy. In the sixth month the patient commenced to have pains, paroxysmal in character, in left side, occasionally accompanied by chills and fever. Before she came to the German Hospital her main symptoms were vomiting, chills, fever and pain. On admission, patient was greatly emaciated, with a hectic flush, severe, dry cough, and great dyspnea. Cough and dyspnea she had had only a few days. She also had retention of urine, later involuntary urination and defecation, and partial blindness, lasting a week. She asserted that she had the amaurosis in the previous attack also. Headache, and pain in the left hypochondrium, running down along the ureter, were present most of the time.

Examination.—Taking the left kidney between one's hands and making pressure, exquisite tenderness could be found. The same tenderness could be elicited by pressing along the course of the ureter at its lower part, of course intravaginally. Widal proved negative. Of great importance were the urinary findings: specific gravity, 1,010; urea, 0.5 per cent.; there were pus cells, epithelial cells, red blood cells, and almost pure cultures of the *Bacillus coli communis* present. I examined a great many specimens, with the same result. The colon bacillus was so predominating that its pathologic importance with regard to the etiology of this disease seemed obvious. Hemoglobin, 70 per cent.; whites, 14,600; reds, 5,752,000. Unfortunately, a bacteriologic examination of the blood was not made. I should not have been surprised if the colon bacillus had been found in the blood and the scanty sputum.

Treatment.—This was symptomatic; saline enemas, hexamethylenamin (urotropin) with distilled water. Buttermilk was the first article of diet which the patient retained, commencing with small quantities—2 ounces—and gradually increasing to 8 ounces three times daily. As soon as the head of the fetus descended, symptoms abated, and with commencement of labor, lasting twenty-four hours, which also in this instance was premature, the patient improved rapidly, and appeared past the crisis, as it were, as soon as the child was delivered. She was able to nurse her child, which weighed 4¾ pounds at birth, and left the hospital sixteen days after confinement, practically well. The urine was found to be normal soon after labor.

We have two varieties of pyelitis in connection with pregnancy: first, the pyelitis occurring during pregnancy, often of ascending gonorrheal origin, or caused by cystitis existing before pregnancy, and possibly also caused by the colon bacillus which ascended from the anus, as Scheidemandel pointed out; second, pyelitis of pregnancy, pyelitis gravidarum, having pregnancy as its exciting cause, and with, in the majority of instances, complete recovery after labor.

There are two theories as to the avenue of infection of the kidneys. One is that the infection ascends from the external genitalia through bladder and ureter; the other that the infection is carried in the blood and localizes in the kidney as a *locus minoris resistentiæ*.

That the gastro-intestinal disturbances (regular symptoms of this disease, and unusually prominent in this case), are of etiologic importance, is beyond peradventure. A great many observers lay much stress on the mechanical state of affairs during pregnancy as a contributing factor, namely, pressure on the ureter, especially the right, by the head of the child. The fact is that in most cases on record, as also in mine, the symptoms left the patient as the head descended and pressure was relieved.

The terrific cough, lasting two and a half months in the former and one month in last pregnancy, and quickly leaving the patient on delivery, possibly was due to colon bacillus infection of the respiratory tract. In most cases the right kidney was affected, which was explained by the fact that the uterus leans toward the right side, the sigmoid protects the left ureter, and the presentation is mostly occipito-left anterior.

Whether the presentation in my case, occipito-right anterior, had anything to do with the left kidney being affected, I would not venture to say. The diagnosis is, of course, more difficult in dextrolateral pyelitis, the disease being very apt to be mistaken for appendicitis, gall-stones or typhoid. The tenderness over the kidney and along the course of the ureter, especially the pelvic portion, felt through the vagina, and the urinary findings, especially presence of the colon bacillus, ought to be sufficient to clear up the diagnosis.

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ABDOMINAL DIPHTHERIA

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A case of abdominal diphtheria recently reported is of interest because of its rarity; it reminds me of a case of mine which presented similar symptoms.

The patient, a boy, age 6, was in my care for nasopharyngeal diphtheria, from which he was apparently convalescent at the seventeenth day of the disease. At that time his pulse was 96 and his temperature 99.2. On this day he vomited twice. One ounce of castor oil was given and retained, but vomiting returned and became almost constant. The pulse was 158; temperature 103 F. Six hours later the temperature was 104.5 F., and pulse 170. The abdomen was distended and tender, especially below the navel. The patient vomited a dark green material. An enema was given and followed by much gas and only a slight coloring to the returned fluid. At this time, most alarming respiratory and circulatory symptoms appeared. The respirations were hurried and regular, and then suddenly ceased, while the pulse and heart-sounds became imperceptible and the face cyanotic, the whole attack lasting one to two minutes. Two doses of antitoxin were given, followed by rapid abatement of symptoms. Two days after the last dose of antitoxin, following a dose of calomel and an enema, the patient passed a large amount of foul and bloody feces, containing a necrotic membrane, 3 inches long, having the appearance of a cast of some part of the gastro-intestinal tract below the pharynx. The patient made a slow recovery, developing an extensive paralysis with a persistent high pulse-rate and obstinate constipation.

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EXPERIMENTAL CIRRHOSIS OF THE LIVER

Perhaps no disease presents more difficult problems in its etiology and pathogenesis than does cirrhosis of the liver. Experiments have shown that various toxic substances administered to animals produce degenerative changes in the liver, and that when this administration is prolonged for a considerable period, increase of the interstitial tissue follows. Nevertheless, the results of such experiments have been inconstant, and the lesion which has been obtained has rarely possessed the clinical and anatomic characters of the cirrhosis common in man. Alcohol, particularly, although its abuse has been recognized clinically as a cause of cirrhosis in man, has not been found to produce experimentally in animals the pathologic condition of the liver found in human cirrhosis.

E. L. Opie[1] in his experiments has shown that bacteria in association with toxic substances having a special affinity for the liver, such as chloroform and phosphorus, may produce changes which neither the poison nor the bacteria can cause when acting alone. The possibility that disturbances of metabolism in man may produce changes in the liver similar to those caused by such poisons is well illustrated by the toxemia of pregnancy, in which persistent vomiting is associated with central necrosis of the hepatic lobule similar to that caused by chloroform. The experiments show that the activity of a hepatic poison may be so intensified by bacterial infection that a quantity of the poison which alone produces little change, may, in combination with *Bacillus coli* and *Streptococcus pyogenes,* cause destruction of almost the entire hepatic parenchyma. Some bacteria (*e. g.,* colon bacilli), which have little pathogenicity for the normal animal are virulent for the animal whose liver has been injured by chloroform or phosphorus. It is possible that those instances of acute yellow atrophy which accompany infection with *Streptococcus pyogenes* are dependent on some disturbance of metabolism or other form of intoxication which has rendered the liver unusually susceptible.

1. Opie, Eugene L.: Proc. Path. Soc. Philadelphia, September, 1910.

The experiments, furthermore, show that bacterial infection can influence and even determine the development of cirrhosis of the liver. Degenerative changes which usually undergo rapid repair may cause sclerosis when combined with bacterial infection. Whereas cirrhosis may be caused by chloroform without bacterial inoculation, the introduction of bacteria hastens the progress of the chronic change. The poison in large quantity rapidly causes death, but a much smaller quantity in association with a relatively non-pathogenic microorganism produces a lesion from which recovery is possible. Such insults repeated at intervals produce the chronic changes of cirrhosis. By the administration of chloroform, accompanied by intravenous inoculation with *Bacillus coli,* it has been possible to produce advanced hepatic cirrhosis accompanied by active new formation of bile-ducts within a period of twenty-three days. The experiments have shown that in this way it is possible to produce a portal obstruction comparable to that which occurs in the atrophic cirrhosis of man.

This experimental work suggests the explanation of the fact that some alcoholics escape cirrhosis, while temperate persons and even total abstainers sometimes develop the disease. In the latter cases we may assume that the toxic element of the etiologic combination arises from the production of poisons inside the body.

PASTEURIZATION OF MILK

The present wide-spread campaign for a clean milk-supply has brought about a more or less heated controversy between those favoring and those opposing the pasteurization of milk. The former contend (1) that there is protection from pathogenic bacteria; (2) that the reduction of numbers lessens infantile mortality; and (3) that the keeping qualities of the milk are thereby enhanced. The opponents contend that (1) pasteurization kills all acid-forming bacteria, which would, according to their view, protect the milk from pathogenic changes; (2) that bacterial toxins are not destroyed by pasteurization temperature; (3) that careless methods of handling milk are encouraged and dirt in milk is covered up; (4) that bacteria increase more rapidly in pasteurized milk than in raw milk; and (5) that undesirable changes take place by pasteurization.

Bulletin 126 of the U. S. Agricultural Experiment Station, Bureau of Animal Industry, recently published, reports a mass of work which throws new light on many phases of pasteurization and overthrows many prejudices against it. The samples for the experiments were collected from commercial pasteurized milk, and the results, therefore, are of eminently practical value. The bacteria in pasteurized and raw milk were studied by grouping them into three classes: (1) acid-forming bacteria; (2) peptonizing or liquefying (putrefactive) bacteria; (3) inert bacteria.

It was found that many acid-forming bacteria are not destroyed below 75.6 C. (168 F.), so that pasteurized milk turns sour the same as raw milk, although the process is somewhat delayed. Liquefying bacteria, which form spores and therefore survive pasteurization, have been believed by some to produce toxins detrimental to health. The bulletin shows that there are fewer bacteria of this kind in pasteurized milk than in raw milk, and that they do not multiply rapidly. The numerical relation of the three groups is practically the same as in raw milk, and the cleaner the milk the more closely does this relation resemble that in pasteurized milk. Acid-forming bacteria are scarce in certified milk and can be found only by special methods. The same condition is found in pasteurized milk. The acid development in an efficiently pasteurized milk is about the same as in clean raw milk, but in less efficiently pasteurized milk the position of the groups is more like the relation in dirty milk.

No investigation is reported on the influence of pasteurization temperature on toxins, but it is not known that toxins are formed under ordinary conditions; many toxins are destroyed at relatively low temperatures. Careless methods need not be encouraged by pasteurization, if an adequate dairy inspection is provided for. No milk should be used under any conditions if it comes from a dairy with a score of less than fifty points, according to the method of rating dairies adopted by the government.

The objection that bacteria multiply more rapidly in pasteurized milk than in raw milk is shown to be erroneous. Comparisons between both kinds of milk with approximately the same numbers of bacteria show an equal rate of multiplication. It seems that the smaller the number of bacteria present the more rapid the multiplication, whether it be in raw or pasteurized milk. As to the objectionable changes taking place during pasteurization, there is no evidence of such changes, unless the milk is heated far beyond the temperature necessary for pasteurization. The authors conclude that pasteurization which holds the milk at a temperature of 145 F. for thirty minutes is the most practical method. This is known as the holding process, in distinction from the flash process, which heats the milk momentarily to 185 F. The latter method has many disadvantages and is not so effective as the former.

Considering the low counts of bottled pasteurized milk, and the similarity of the bacterial group proportions to those of clean raw milk, the authors think that the former not only cannot be classed, from a bacteriologic point of view, as inferior to commercial raw milk, but that it presents distinct advantages over the raw product in the keeping qualities of the milk, in the protection from pathogenic bacteria and consequently in the lessening of infant mortality. The last of these considerations, of course, is the most important, since it represents the object to be attained.

THE CRIMINAL CLASS AND THE SO-CALLED CRIMINAL TYPE

It is scarcely more than a year since Lombroso died. Within a week or two of the anniversary of his death, the International Prison Commission sitting in Washington listened to a sweeping repudiation of the theory that criminals are members of a distinct class, marked with certain atavistic physical characteristics, and endowed with an innate tendency toward crime. Sir Evelyn Ruggles-Brise,[1] president of the British Prison Commission and president-elect of the International Prison Commission, says that examinations of three thousand of the worst convicts in England, including measurements, family history and mental and physical characteristics, have failed to confirm the existence of a criminal type; "and in fact," he says, "both with regard to measurements and the presence of physical anomalies in criminals, these statistics present a startling conformity with similar statistics of the law-abiding classes."

The disagreement between penologists like Ruggles-Brise and the Italian school of criminal anthropology seems to be in part a matter of nomenclature and definition. The "criminal anthropologists" are trying to cram a new concept, scientific *ex hypothesi*—but not yet so defined that he who runs may read—into the word "criminal," meanwhile unceremoniously ignoring its accepted legal definition and meaning. When Lombroso says[2] that crime among savages is not the exception but the rule, and that in its origins crime is mingled with the least criminal actions, those who have the accepted legal concept of crime in mind at once reject the statement as false; and the cautious nonpartisan, lacking an authoritative statement of the Lombrosan criterion of crime, is reluctant to draw any conclusion more final than that Lombroso certainly did not intend the legal definition. The current non-legal meaning, of course, is too vague and unscientific to be of use.

According to the only precise accepted definition, the word "criminal" denotes a person who has committed a public offense, or crime. The word thus makes no pretension to being scientific, but it is practical and indispensable. But nothing is a crime in any exact sense except what the law declares to be such; and therefore the content of the word "crime," while roughly constant along certain main lines, varies in detail according to the age in which and the people by whom it is applied. As Wines says,[3] "that which is permanent and abiding in human nature constitutes its larger part; but there is enough that is evanescent to impart a transitory character to many alleged crimes." At the period when it was a crime for an English laborer to

1. Ruggles-Brise, E.: The New World and Crime, Survey, Nov. 5, 1910, p. 181.
2. Lombroso, C.: L'homme criminel, second French edition, Paris, 1895, Félix Alcan, i, 35.
3. Wines, F. H.: Punishment and Reformation, New York, Thomas Y. Crowell & Co., p. 23.

catch fish in preserved waters, and for an English tradesman to attempt to corner the market, piracy might be legalized by letters of marque issued by any civilized state, and therefore was not necessarily a crime. These instances, extreme as they seem, are drawn from a not very remote past; and probably few would assert that even now our criminal laws present anything like scientific consistency. The law is a bludgeon of defense, rather than an instrument of scientific precision.

Penologists, however, deal, not with criminals as such, but with convicted criminals—that is, with prisoners. For them, the word "criminal" practically means a person to whom twelve totally unskilled persons have applied that somewhat arbitrary and altogether unscientific definition. One might naturally expect prisoners to exhibit points of inferiority when compared with useful members of society; but, since the accepted definition of the criminal is no more scientific than the definition of the butcher, the baker or the candlestick-maker, and since prisoners are selected from among criminals by a process scarcely more scientific than that by which jurors are selected from among law-abiding citizens, *a priori*, why should we expect the inmates of prisons to present common biologic characteristics even if they do present common social characteristics? The relief with which Ruggles-Brise greets evidence tending to overthrow what he calls the "vulgar superstition" that the criminal is a being of a special type may therefore be appreciated, even by those who still reserve judgment on the question of hereditary defect as one cause of antisocial conduct.

Lombroso, it will be remembered, never asserted that born or atavistic criminals constituted the mass or even the majority of lawbreakers; he admitted the existence of criminals who were developed by opportunity. He claimed to find the "criminal type" in 40 per cent of criminals; but, we believe, he reduced this percentage still further before his death. The question which he assumed to answer in the affirmative may be formulated, for lack of a more authoritative statement, in some such words as these: Is there a definite type of individual in whom exists, correlated with certain atavistic physical characteristics, a tendency to revert to types of conduct once usual and normal, but now generally reprobated as antisocial? Individuals of such type might be expected naturally, though not necessarily or inevitably, to come into conflict with the law; and similarly the law-breaking classes might be expected to comprise more of such retrograde individuals than do the law-abiding classes; but the problem presented by such degenerates is not identical with the problem of the criminal in the legal sense. Confusion between the material and the terms of the scientific problem of the "criminal anthropologist," on the one hand, and the material and the terms of the practical problem of the penologist, on the other, is a misfortune for which the former is apparently responsible through his unrightful appropriation of the term "criminal."

Ruggles-Brise asserts that the idea that the criminal is the product of heredity—of the remote past—has paralyzed efforts at reform. On this account especially, the disentanglement of the two problems—the practical problem of the lawbreaker and the scientific problem of the degenerate—seems desirable and important. Whether Ruggles-Brise is right in his rather harsh and peremptory denial of the whole of Lombroso's theory is a question for the anthropologists to settle. Meanwhile, it is to be hoped that the adoption of the more fruitful and hopeful conception of criminality (in the non-Lombrosan sense) as the product mainly of environment, and hence of forces within reach here and now, may give an impetus both to reform of the criminal and to prevention of crime.

Current Comment

CENTRIFUGAL EDUCATION

A recent address by Professor Osborn[1] contains truths which are quite as equally applicable to medical education as to any other department of learning. Professor Osborn uses the term "centrifugal" education in speaking of the training of students to give out, to construct or to develop new ideas, as compared with the mere learning and memorizing of facts, which he designates as "centripetal" education. The real object of education is certainly better fulfilled by the former method. The value of education, a genuine culture, does not depend on what one takes in, but on the use one makes of what he learns, on what he gives out. "One little idea of your own well-expressed has a greater culture than one hundred ideas you absorb." So the man of true culture will always be the man who is using his learning, his reason and his observations in an effort "to add something of his own to the stock of the world's ideas." Clearly the chief object of education should be to develop productive thinking, to get the student to make practical use of what he has learned. Such constructive thinking should be encouraged at the very beginning of the student's career and not postponed until after his graduation. Instead of interfering with the student's learning and memorizing of facts, centrifugal education will lead him on to greater effort and, by an inductive process, enable him better to grasp other related facts. Not only will the student better appreciate the value of knowledge, but he will also be able more easily to memorize what he reads if at the same time he is taught to make use of that knowledge. To stimulate this constructive thinking different methods have been employed. Some teachers, like the great embryologist, Francis Blair of Cambridge, England, write joint papers with their students. Others urge their students to do original research and to write original articles, the best of which are read before some special society and published in its transactions. Following the method of Langdell in teaching law, Professor Osborn has his students in turn give the lectures

1. Huxley on Education, Columbia Univ. Quart., December, 1910.

while he listens and makes comments. After all, "the measure of a teacher's success is the degree in which ideas come, not from him, but from his pupils." In no profession is the possession of fully developed powers of observation and of prompt, logical and productive thinking more important than in the practice of medicine. A centrifugal education for everyone who enters the medical profession would insure, not only more prompt and accurate diagnosis, but also the selection and use of the most rational and beneficial means of treatment.

THE "FITTING" OF GLASSES

The author of a recent article[1] describes her experience in visiting fifteen five-and-ten-cent stores in a large city where a pretense is made of fitting glasses by means of test cards. The card contains type of different sizes, the largest at the top, each line numbered. The customer was directed to hold the card about fourteen inches from the eye and to read down until she reached the finest type that could be read without glasses. Then the glasses corresponding to the number opposite the line were the ones said to be required. The author describes her case as one of "unsymmetrical myopic astigmatism with subnormal accommodation," for which she had already been given the proper correction by an ophthalmologist. The glasses purchased varied from a + 6.75 to + .50 and were, of course, the same for both eyes, except in one instance, in which the pieces of glass were so badly ground that "they represented one thing in one spot and something quite different in another." It is needless to say that this patient could see nothing with any of the glasses; all of them were for far-sighted eyes, whereas her eyes were myopic. She concludes that perhaps she is not a fit subject to buy ten-cent-store glasses. Investigation showed that large numbers of people were "fitted" with these glasses. One store reported selling as many as six dozens a day. Though we may not subscribe to the long list of ailments which some ascribe to eye-strain, the positive injury done and perpetuated by allowing such absurd methods to be employed on so important an organ as the eye is a rather serious matter.

THE PREVARICATOR'S PREDICAMENT

Physicians the country over are familiar with a little publication that is sent to them at more or less regular intervals called *"La Tribune Médicale* (American Edition)." The only apparent mission this "journal" has is that of advertising the products of Fougera & Co. from which house, presumably, it emanates. In its January, 1911, issue, which contains no other advertisements than Fougera's, is an editorial discussing the federal Food and Drugs Act. The remarkable attitude is taken that, since the pure food law will not permit lying statements to be made (on the label) about medicinal preparations, therefore, therapeutic progress is greatly hampered. A case is described of a firm which is alleged to have put out a preparation "in an ultra-ethical manner." "No exaggerated statements were made, its chemical formula and its properties were given," etc. But, alas, the conservatism and moderation —for, of course, it could not be lack of merit—were such as to prevent the preparation becoming a success. As a result "the firm in question, therefore, withdrew their product from the market in disgust." The moral of all this is summed up by the editorial writer in the following peroration:

> **"This shows, we think, that, much as we must deplore it, it is necessary, even with such trained men as physicians, to make dogmatic statements and actually to magnify claims in order to get attention, and if this is so with the medical profession, how much more will it be necessary with the public? Mild, reasonable and modest statements fall flat, and since no exaggerated statements will be tolerated in the future on account of the 'misbranding clause' of the Food and Drugs Act, it looks very much as if enterprise and progress in this direction must cease."**

It seems then, that, in the United States, "enterprise and progress" are incompatible with truth and honesty. Prevarication is the price of progress! Honesty is the worst policy! Now we understand, perhaps, why in the past Fougera & Co. advertised that Santal Midy "cures in 48 hours" and that diabetes is "surely and rapidly cured by Vin Uranè Pesqui." Evidently this firm's desire to aid ailing humanity—and incidentally increase the box receipts—was strong enough to overcome any scruples it may have had against lying. It was a case of choosing the less of two evils. We are glad to say that we have sufficient confidence in the ultimate status of drug therapy to hold the opinion that any remedy of real merit may safely count on coming into its own without being introduced by means of the persuasive fiction of the prevaricating press agent. That many a worthless product has enjoyed a vogue and helped swell the profits of its manufacturers simply because an artificial demand was created by the use of printer's ink, we must sorrowfully admit. In fact, it is a sorry commentary on modern methods of introducing medicinal products that it should be thought necessary not only to apologize for untruthfulness in exploitation but also to insist that only by falsehood can success be assured. The outlook for therapeutics must seem very black to the editor of this advertising periodical, for, in spite of the cramping restrictions put on pharmaceutic houses by making it actually illegal to lie about their products (on the label), we believe that the Food and Drugs Act meets with pretty general approval and that it is here to stay. We are optimistic enough to believe that pharmaceutic manufacturers generally will meet the exigencies of this case in the true American spirit which always finds a way around or over obstacles. To such firms as feel hampered by the requirements of the pure food law we respectfully suggest a remedy: Tell the truth about your products and let therapeutic progress take care of itself. The results, we venture to say, will be as much a surprise to the firms themselves as their change of attitude will be to the medical profession. Great is truth and it shall prevail!

1. Greene, Lilla A.: Eye-Strain and the Ten-Cent Store, The Survey, Nov. 19, 1910, p 299.

Medical News

ILLINOIS

Personal.—Dr. Charles L. Patton, Springfield, has succeeded the late Dr. John A. Prince as a member of the staff of the David Prince Sanitarium.——Dr. Robert H. Bell, Carlinville, has been chosen physician of Macoupin County.——Dr. James L. Funkhouser, Chrisman, sustained painful bruises in a runaway accident, January 5.

Occupational Poisons.—The report of the Occupational Diseases Commission, which has been sent to the general assembly, states that thirty distinct poisons constantly menace the life and health of factory workmen of Illinois. Lead is by far the most important industrial poison, but risk from this cause may be almost entirely eradicated by the prevention of dust, by prohibiting eating with unwashed face and hands, and by preventing workmen from going home with lead on their clothing and bodies. Reports are also included on the effects of brass fumes and carbon monoxid gas.

The Governor's Message.—The governor, in his biennial message, suggests that the legislature give the matter of a state sanatorium for consumptives careful consideration; recommends that a law be enacted providing for better methods of registration of vital statistics to be in conformity with those adopted by the leading states and the provisions of the census bureau of the United States government; calls the attention of the general assembly to the need of the revision of that section of the medical practice act of Illinois which enables the board to revoke certificates of physicians for unprofessional or dishonorable conduct, recommending that an amendment be now enacted empowering the board to revoke licenses of any practitioner whether licensed prior to or subsequently to July 1, 1899. He also repeats the recommendation made to the previous general assembly that appropriations for the free distribution of diphtheria antitoxin be continued.

KANSAS

Hospital Cornerstone Laid.—The cornerstone of the new Bethany Hospital, Kansas City, was laid recently with appropriate ceremonies. The building is to cost $160,000, will be five stories and basement in height, and will accommodate 153 patients.

Personal.—In a fire at Moline, January 11, which destroyed property valued at $50,000, Dr. John W. Farrow suffered the total loss of his office.——Dr. A. L. Shelton and family, formerly of Anthony, have returned after a seven years' sojourn in West China and Thibet.——A fire, January 2, in Wichita, caused damage of $135,000, and destroyed the office and equipment of Drs. Ernest E. Hamilton and Harry A. Johnson. ——Dr. George W. Davis, Ottawa, is reported to be seriously ill.——Dr. Lincoln W. Griffin, Fort Scott, sustained serious injuries in a runaway accident, December 26.——Dr. George M. Covert, Arkansas City, is reported to be seriously ill.

KENTUCKY

Hookworm in Kentucky.—To ascertain whether the hookworm thrives in Kentucky, the State Board of Health has decided to extend the Rockefeller Commission an invitation to send a representative to the state.

Physician Secures Verdict Against Physician.—Dr. Robert E. Gatz, Louisville, is said to have secured a verdict of $777 against Dr. Clarence H. Harris, Louisville, whom he sued for $25,027. The plaintiff claimed that he had him arrested for malice in a dispute over a street car case.

Favors Milk Fund.—An ordinance introduced at the meeting of the Louisville City Council, January 4, appropriating $1,500 to the Babies' Milk Fund Association was referred to the health committee, which reported favorably at a meeting, January 10, but so amended it as to increase the appropriation to $2,000.

Personal.—Dr. William A. Jenkins, Louisville, has been elected visiting physician to the School of Reform, vice Dr. William Bailey, resigned.——Dr. J. Rowan Morrison has been appointed a member of the Louisville Milk Commission, vice Dr. John W. Blanton, deceased.——Dr. Thomas W. Gardiner, Hopkinsville, has been reappointed a member of the State Board of Control of Charitable Institutions.

The Distillery Slop Question.—The State Board of Health has issued an order that all distilleries feeding slop to cattle must so regulate it that none of the pollution can run into a stream of even the smallest size, provided that stream finally reaches a river or other stream from which water is taken for drinking purposes. A committee from the board has been appointed to decide how long a time constitutes a reasonable time in which to comply with the rules of the board. Frankfort is the city most vitally interested in the enforcement of this rule as the water from the Kentucky river is contaminated by distilleries located above the city.

MARYLAND

Scarlet Fever Prevalent.—Dr. Warren P. Morrill, Baltimore, superintendent of the Sydenham Hospital for Infectious Diseases, reports that the institution is full and that further cases must be refused. Scarlet fever has been exceedingly prevalent since the first of December and cases of that disease only have been admitted to the institution.——A second outbreak of scarlet fever is reported at Western Maryland College, with six cases. The college was closed on account of the first outbreak, December 1.

Personal.—Among physicians recently elected bank directors are the following: Drs. Charles S. McCauley, J. McPherson Scott, Edward A. Wareham and O. H. William Ragan, Hagerstown.——Dr. Thomas R. Boggs, formerly chief resident physician at Johns Hopkins Hospital, Baltimore, has assumed the duties as physician-in-chief at Bayview Asylum; Dr. Gordon Wilson, as physician-in-chief of the Tuberculosis Hospital; Dr. H. D. Purdon, as physician-in-chief of the Insane Hospital, and Dr. Milton C. Winternitz, as pathologist-in-chief.——Dr. Henry M. Baxley has been appointed assistant house physician, and Drs. Edward E. Mackenzie and Edmund A. Munoz, assistant physicians on the staff of the Baltimore General Dispensary.——Dr. John M. T. Finney has been appointed a member of the Baltimore school board.

MICHIGAN

Honor Dr. Burr.—A dinner was given by the Genesee County Medical Society, December 20, in honor of Dr. Colonel B. Burr, Flint, president of the state medical society, in honor of his recent election and in recognition of his labors in the local organization. About fifty physicians were present.

To Save Medical Building.—The alumni of the University of Michigan are endeavoring to raise $50,000 to preserve the old medical building, one of the oldest on the campus, as a memorial to the medical department. The amount required will practically reconstruct the building from the inside without changing the outside appearance. The intention is to make the building a medical library and museum.

The Governor's Message.—Governor Osborn, in his inaugural address, notes the multiplication of state boards. There are eight boards whose titles, at least, relate to the public health, and most of these could be incorporated in the State Board of Health. The Board of Examiners of Barbers should, he believes, be abolished, and its work put in the hands of the State Board of Health. He approves of state legislation holding publishers accountable for printing palpably dishonest and fraudulent announcements.

Personal.—Dr. Ross U. Adams, Kalamazoo, was accidentally shot in the left arm in a restaurant in Kalamazoo, December 30.——Dr. Louis Barth, Grand Rapids, was the guest of honor at a birthday dinner, January 3, at which a silver loving-cup, on which the autographs of the donors had been engraved, was presented him.——Drs. James F. Rumer, Davison, and Rowland H. Conner, Saginaw, have resigned from the State Pardon Board.——Dr. Oliver B. Campbell is about to open a private hospital in Ovid.——Dr. William P. Scott, Houghton, has been appointed local physician for the Duluth, South Shore and Atlantic Railroad, vice Dr. Henry W. Jones, resigned. ——Dr. James L. Passmore, Saginaw, who has been ill with septicemia, is reported to be convalescent.——Dr. Thaddeus H. Ames, Kalamazoo, has sailed for Europe.

MINNESOTA

Goldthwait in Minnesota.—Dr. Joel E. Goldthwait, Boston, made a short visit to Minnesota last month, delivered a lecture before a union meeting of the Ramsay and Hennepin County Medical Associations on "Our Present Conceptions of Rheumatoid Disease;" gave a clinic at the City Hospital, and was given a supper at the Town and Country Club by Dr. Alexander R. Colvin, St. Paul, the next evening.

Personal.—Dr. Howard Lankester has been appointed health officer of St. Paul, vice Dr. Gustav A. Renz. Dr. Lankester will assume office in March.——Dr. John E. Campbell has been reelected health commissioner of South St. Paul, and Drs. Llewellyn D. Peck, Hastings; James A. Sanford, Farmington; Thomas J. Gaffney, Lakeville, and Ernest W. Hammes, Hampton, physicians for Dakota County.——Dr. James Hynes, Minneapolis, has been appointed physician of Hen-

nepin County, vice Dr. Thomas T. Warham.——Dr. F. F. Wesbrook, dean of the faculty of medicine of the University of Minnesota, has resigned as director of laboratories for the State Board of Health.

Health Board Election.—At the annual meeting of the State Board of Health, held in St. Paul, January 10, Dr. William A. Jones, Minneapolis, was elected president, vice Dr. Henry Hutchinson, St. Paul, deceased.——Dr. Burton J. Merrill, Stillwater, vice-president; and Dr. Robert H. Mullen, Minneapolis, head of the state laboratory, vice Dr. Frank F. Wesbrook, resigned.——Dr. Henry M. Bracken, the secretary, in an address delivered before the Woman's Club of Minneapolis, January 3, gave an outline of the legislation which the board endorses. This includes a list of proposed legislative acts as follows: "Medical inspection in the public schools of the state; power to condemn unsanitary school buildings; compulsory reporting of tuberculosis; state aid for county sanatoria; clean bill of health required for children from homes where there is tuberculosis; segregation of tuberculous persons living in almshouses; to permit county commissioners to employ visiting nurses; increased salaries for superintendents of state institutions; state dog license law; and control of water and sewerage system."

MISSISSIPPI

Personal.—Dr. Hyman M. Folkes, Biloxi, has leased the Gulf Coast Health Resort on the Gulf of Mexico to Dr. William R. Card, his former associate, for three years. Dr. Folkes will continue to have a surgical service in the institution.——Dr. Robert L. Turner, Meridian, was shot and seriously wounded, December 3, by a nurse who had applied for, and had been refused, the position of superintendent of the institution.——Dr. George H. McNeill has been elected a member of the city council of Newton.

Society Meetings.—The Newton-Neshoba-Winston County Medical Society at its meeting in Newton, elected the following officers: president, Dr. Joseph N. Whittle, Union; secretary-treasurer, Dr. Sidney A. Majure, Dixon, and delegates to the state association, Drs. Inman W. Cooper, Newton; Daniel J. Rush, Philadelphia, and William W. Hickman, Noxapater. ——Harrison County Medical Society met at Gulfport and elected the following officers: Dr. George F. Carroll, Biloxi, president; Dr. Duke G. Mohler, Gulfport, vice-president; Dr. Benton Z. Welch, Wool Market, secretary-treasurer; Dr. Hyman M. Folkes, Biloxi, censor; and Drs. Edward C. Parker, Gulfport, and Walter H. Rowan, Wiggins, delegates to the state medical association.——At the annual meeting of Jefferson County Medical Society, held in Fayette, Dr. John C. McNair, Fayette, was elected president; Dr. Colon L. Simmons, McBride, vice-president, and Dr. John H. Carradine, Fayette, secretary-treasurer.——Warren County Medical Association, at its meeting in Vicksburg, January 10, elected the following officers: president, Dr. Hollie B. Wilson; vice-president, Dr. Charles E. Edwards, Jr.; secretary-treasurer, Dr. Ewing F. Howard; censor, Dr. George Y. Hicks, and delegate to the state association, Dr. William B. Dougherty, all of Vicksburg.

MISSOURI

Building for Physicians.—A thirteen-story building is being constructed in Kansas City at a cost of $600,000. The building is intended especially for the use of physicians and dentists, and will be ready for occupancy in the summer.

Antituberculosis Society Election.—At the annual meeting of the Buchanan County Society for the Relief and Prevention of Tuberculosis, held in St. Joseph, Dr. Oliver C. Gebhart was reelected secretary-treasurer, and Drs. Daniel Morton and Emmett S. Ballard, directors, all of St. Joseph.

Personal.—Dr. Addison M. Harrison, Lees Summit, has been appointed superintendent and physician of the Jackson County Home, vice Dr. G. Cleveland Hall, Lees Summit.——Dr. Alice Graham, Kansas City, superintendent of Mercy Hospital for Crippled Children, has taken a vacation for one year on account of ill health and has started for California.——Dr. Justin W. Lampson, superintendent of State Hospital No. 3, Nevada, has resigned on account of ill health and will return to his home in Neosho.——Dr. Michael R. Balliet, Pleasant Hill, was run over by a passenger train, January 10, sustaining injuries to the legs which necessitated amputation at the ankles.

Half a Million for Charity Hospital.—At a meeting of the congregation of the Independence Boulevard Christian Church, Kansas City, January 9, $519,000 was donated for a nonsectarian charity hospital. Of this, $400,000 is a conditional gift of R. A. Long, distributed as follows: $200,000 for grounds and initial buildings, provided $150,000 for endowment is raised on or before April 1; for years 1914 to 1917, inclusive, investment of $50,000 a year in additional improvements and equipment, provided there is raised from other sources an average of $62,500 a year. Among the principal contributors to the fund are Dr. William E. Minor, Kansas City, $20,000; Dr. John Bryant, Independence, $5,000; Dr. Harry H. Temple, Kansas City, $2,500, and Dr. Jabez N. Jackson, Kansas City, $1,000.

St. Louis

Alumni Dine.—The annual banquet of the Medical Society of the City Hospital Alumni was held January 5, at which the following officers, elected at the annual meeting, December 1, were installed: president, Dr. William H. Luedde; vice-president, Dr. Louis J. Oatman; secretary, Dr. Frederick C. Simon, and treasurer, Dr. Percy H. Swahlen.

Physicians Charged with Withholding Reports.—Suit has been entered against six physicians charged with failing to report cases of contagious disease.——For failure to report an alleged case of chicken-pox, Dr. Allie B. Wilburn is reported to have been fined $25 and costs, December 30. Dr. Wilburn declared the case one of urticaria and filed an appeal.

Personal.—Dr. Paul Y. Tupper, while attempting to cross the Mississippi River at Elsberry, broke through the ice and narrowly escaped drowning.——Dr. Edgar M. Senseney drove his automobile over a 40-foot sloping embankment into a ditch, December 25, but fortunately escaped injury.——Dr. F. E. Guibor, mayor of Maplewood, is ill with diphtheria.

Dr. Hare in St. Louis.—The Jefferson Medical College Alumni Society of St. Louis will hold its annual banquet January 28. Dr. Hobart Amory Hare, Philadelphia, will be the principal speaker. Dr. Hare will also address the St. Louis Medical Society on the same evening on "The Bearing of Old and New Facts on Our Conceptions of Cardiovascular Disease."——The Pennsylvania Society of St. Louis will hold its annual dinner, January 27, at which Dr. Hare will be present.

NEW YORK

In Memory of MacDonald.—In honor of the late Dr. Willis Goss MacDonald, Albany, it has been decided to erect a permanent memorial in the form of a laboratory building for scientific research to be a part of the equipment of the Albany Medical College in its new location.

Infantile Paralysis.—In the investigation of this disease in the state the State Health Department has secured the aid of the federal government and Passed Assistant Surgeon W. H. Frost of Washington has been detailed to investigate and make a report. Df. Frost recently conducted the investigation of this disease for the government in Iowa.

In Memory of Pioneer Women Physicians.—The Woman's Medical Association of New York will meet on January 25 at 8:30 p. m. at the Academy of Medicine to honor the memory of Dr. Elizabeth Blackwell and Dr. Emily Blackwell. Addresses will be delivered by Drs. Stephen Smith, Abraham Jacobi, William H. Welch, William M. Polk, Dr. Emma B. Cuthbertson and Miss Alice Stone Blackwell.

Personal.—At a meeting of the managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, January 10, Dr. John Joseph Nutt, New York City, was elected surgeon-in-chief of the hospital, vice Dr. Newton M. Shaffer, New York City, resigned, to become chairman of the executive committee of the board of managers.——Dr. William B. May, Buffalo, has been appointed director of the division of communicable diseases of the State Board of Health.——Dr. Theodore C. Janeway, for eight years physician of the City Hospital, Blackwell's Island, has resigned.

Carnegie Laboratory Anniversary.—New York University celebrated the completion of the first twenty-five years of the work of the Carnegie Laboratory and the formal opening of the Carnegie Laboratory extension to which Mr. Carnegie contributed $75,000. Among the speakers were Drs. William H. Welch, Hermann M. Biggs and Jerome D. Greene. Dr. Egbert Lefevre, dean of the University and Bellevue Medical College, on behalf of the college, presented Mr. Carnegie with four volumes containing researches which have been published by members of the staff during the last few years. Mr. Carnegie intimated that an additional benefaction might be had for the asking. The new laboratory is six stories high and occupies a lot 25 by 100 feet.

OHIO

For Study of Bacteria.—The city council of Toledo has appropriated $1,000 for a bacteriologic outfit for the city health department.

Medical College Building Burns.—Fire, caused by an overheated furnace, completely destroyed the Toledo Medical College building, January 8. The loss is estimated at $25,000.

Personal.—Dr. James S. Berry, Peebles, is reported to be critically ill.——Dr. Edward W. Misamore, Cygnet, has been appointed coroner of Wood County, vice Dr. Dwight R. Canfield, Perrysburg.——Dr. Joseph W. Chetwynd, for four years an assistant physician at the Massillon State Hospital, has resigned and will practice in East Liverpool.——Dr. Ada Ford has resigned as assistant physician in the Athens State Hospital and will locate in Mansfield.

State Board Election.—At the annual meeting of the Ohio State Board of Medical Registration and Examination, held in Columbus, January 3, Dr. Sylvester M. Sherman, Columbus, was reelected president and treasurer; Dr. James A. Duncan, Toledo, vice-president, and Dr. George H. Matson, Columbus, secretary. A resolution was adopted that all applicants for reciprocity certificates must be bona fide residents or recent graduates of colleges in states from which the applicants come, and that they must make declaration of their intention to become residents of Ohio.

Medical Teachers Convene.—At the sixth annual meeting of the Ohio Association of Medical Teachers, held in Columbus, December 27, a number of interesting papers were read and discussed. At the evening session the association adopted a resolution that the State Board of Medical Examination and Registration be requested to join with the Ohio State Medical Teachers Association and the Ohio College Association in petitioning the state legislature to pass a law requiring two years of work in a college of liberal arts as preliminary to entrance into a medical college. Starling-Ohio Medical College gave a banquet in honor of the association, following which President William Oxley Thompson, of the Ohio State University, delivered an address on "Ethics of the Profession." The following officers were elected: president, Dr. Kennon Dunham, University of Cincinnati, Medical Department; vice-president, Dr. William D. Inglis, Starling-Ohio Medical College, Columbus; secretary, Dr. Elmer I. McKesson, Toledo University Medical College; treasurer, Dr. Charles W. McGavran, Starling-Ohio Medical College, Columbus, and executive committee, Drs. F. C. Waite, Western Reserve University Medical Department, Cleveland; Lyman Watkins, Eclectic Medical College, Cincinnati; F. H. Staples, Cleveland-Pulte Homeopathic Medical College, Cleveland; James U. Barnhill, Starling-Ohio Medical College, Columbus, and E. Otis Smith, University of Cincinnati Medical Department.

Cincinnati

Playground for Children's Hospital.—The Episcopal Hospital for Children has been presented by Mrs. Lars Anderson with a lot 65 by 250 feet, adjoining the hospital property, and this will be used as a playground for the children.

Personal.—Dr. William M. Withrow has been appointed a member of the Union Board of High Schools and trustee of the Woodward High School.——Dr. William G. Strietmann has been appointed assistant health officer.——Dr. Stephen B. Marvin has been reelected president of the board of education. ——Dr. Daniel M. Denman has been elected district physician, vice Dr. William T. Lindsay, resigned.——Dr. William W. Bailey has been appointed district physician, vice Dr. Arthur Vos, resigned.——Dr. Christian R. Holmes has been called on to act as advisory expert in the preparation of plans for the new Louisville Hospital.

Academy Election.—At the annual meeting of the Cincinnati Academy of Medicine, January 9, the following officers were elected: president, Dr. William D. Haines; vice-presidents, Drs. J. Ambrose Johnson and Robert C. Jones; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander G. Drury; librarian, Dr. Arch I. Carson; trustee, Dr. E. Gustav Zinke; censor, Dr. Albert H. Freiberg; delegates to the state association, Drs. George Strohbach and William Gillespie; alternates, Drs. Samuel Iglauer and John H. Landis, and member of auxiliary committee on public policy and legislation, Dr. Charles A. L. Reed.

PENNSYLVANIA

Philadelphia

Memorial to Founder of the University Medical Department.—The school of medicine, founded in this city by Dr. John Morgan, eventually became the Medical Department of the University of Pennsylvania, known to be the first medical school in this country. It has been proposed to erect a memorial to Dr. Morgan in which his remains may be laid. A meeting was held at the office of Provost Smith, January 13, at which a circular was framed which will be sent out in a short time.

Antitoxin Reduces Diphtheria Mortality.—According to statistics prepared by Dr. Andrew A. Cairns, chief medical inspector of the Bureau of Health, it is shown that prior to 1896, the death-rate from diphtheria was more than 30 per cent., but that since the use of the antitoxin became general, the death-rate has never exceeded 20 per cent. In 1909, it was 13.2 per cent. and in the year just closed it was 12.93 per cent. The figures for 1910, which have just been completed show 3,804 cases of diphtheria reported with 492 deaths. In 1909, there were 2,329 patients in the Municipal Hospital, of whom 243 died, a percentage of 10.43, while last year 2,235 patients were taken to the city institution, where 203, or 9.08 per cent, died.

FOREIGN NEWS

International Congress for Psychiatry.—The next international congress for psychiatry is to be held at Moscow, Russia, in 1912.

Professional X-Ray Injury.—Dr. Fischer, chief of the Roentgenologic service at the general hospital at Copenhagen, has had two fingers of his left hand amputated on account of Roentgen-ray ulceration.

Industrial Diseases.—Italy has taken the lead in inaugurating a clinic especially for study and treatment of occupational affections, as already mentioned. It is at Milan, but five other Italian cities are giving courses of lectures on industrial diseases and are training specialists in this new branch of medical science. The third international congress on prevention and treatment of industrial diseases is to be held at Vienna in 1914.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 7, 1911.

Lead Poisoning from Soda Water

An inquest has been held on a physician's wife who died at Scarborough, Yorkshire, from lead poisoning due to drinking contaminated sodawater; she had been in the habit of drinking the contents of about two syphons weekly. Evidence was given that the Scarborough water-supply contained no trace of lead, but that the contents of three syphons of sodawater supplied to the deceased, of which she had partly used one, contained lead in the following proportions: In the last there was lead in the proportion of 1/16 grain per gallon, in another the same amount, and in the third 1/20 grain per gallon. The taps of the syphon were made of block tin and contained lead. Drinking water which contains lead in the proportion of more than 1/50 grain per gallon is not considered fit for use. On the other hand, the saloon proprietor who supplied the syphons gave evidence that he supplied many families and used three syphons a week himself and had never known of any ill effects.

Schools for Mothers

A most useful institution of recent development is the school for mothers. Most schools have been established within the last three years. They have arisen mainly for the purpose of diminishing the high infant mortality which prevails, a purpose intensified by disquiet at the declining birth-rate. Ignorance of infant needs is prevalent among a large proportion of the mothers of the working class, who during adolescence have been engaged in industrial work and therefore have had little experience of domestic life. The essential of a school for mothers is a physician, or at least a nurse, from whom instruction and advice are obtainable and to whom the infant is regularly taken for inspection. Around this central notion may cluster many other activities—home visiting, classes in hygiene, cookery, dress-cutting, provision of dinners for expectant and nursing mothers, provident clubs, etc. The treatment of sick infants is beyond the scope of the school; the mother is referred to a physician, dispensary, or other agency, according to the circumstances of the case. Many schools are administered by societies specially formed for the purpose. In several cases existing health societies have taken up this branch of work. Thus at Birmingham the work is carried on by a maternity hospital among the women who live near enough to attend with their infants. A well-conducted school endeavors to secure the attendance of its members once in two weeks, at least for the inspection of the

infants. This "consultation" gives opportunity for pointed instruction. In addition there are at many places regular classes for cookery, hygiene, infant care, sewing, knitting, etc. The benefit of the instruction is diffused beyond the members of the school, for mothers who have been instructed become centers of enlightenment for their neighbors. Leaflets of instruction are also frequently distributed. Some schools have a large number of members. Thus 765 mothers attend the Birmingham school, 600 the Kensington, 400 the Leeds. Systematic home visiting is always combined with class-room instruction. Much that is taught in a class-room seems unreal to the poorer and sometimes the well-to-do classes, and it is necessary to apply it in the actual conditions of home life to make it a vital subject for them. There is also systematic provision for looking up mothers who fail to attend regularly at consultations. At a few places, in all cases of childbirth in the district in other than the well-to-do classes the mothers are vistied for some time. In some cases the school is run by the municipality; in others, by private philanthropic societies, which occasionally are assisted by municipal grants. In some places the school is practically a branch of the public health work and is superintended by the health officer and the municipal health visitor. In other places voluntary helpers visit under the oversight of public health authority. The salaried officers employed by the schools are few, several schools have no paid officials at all; few have paid superintendents or health visitors. Excluding municipal schools, in only two instances are payments made to physicians. In some cases private schools have the services of health visitors in the employ of the local health authority. Voluntary workers are numerous, there are twenty or more in as many institutions. As many as 300 give their services to the Glasgow Corporation Infant Consultations, a number which is not approached at any other place. Records are kept by the schools showing the weight and general condition of the child, and a card is given to the mother containing directions. Most schools restrict their work to children under the age of 12 months. Adequate data do not yet exist to show the results achieved, but in many reports reference is made to improved conditions in the neighborhood in which the work is carried on, and to a lower death-rate among the infants who are brought to the school than among infants in the district generally.

The Journal of Meat, Milk and Hygiene

Specialization in medical journalism has shown a new development in the appearance this month of a periodical with the above title, which is also described as "A Monthly Review Devoted to Securing an Efficient Supply of Meat and Milk." The first number gives promise of a high standard. There are three original articles: "Meat Poisoning; Its Nature, Causation and Prevention," by Professor McWeeney of Dublin; "Actinomycosis in Cows' Udders," by J. H. Patterson, bacteriologist; "The Public Slaughterhouse System in Scotland," by Dr. Dittmar, Medical Inspector. Notes and abstracts follow on such subjects as "Phlegmatous Inflammation of the Stomach of a Pig," "Cysticercus Bovis," "'Worm Nests' in Cattle Due to the Filaria Gibsoni" and "Microbes Isolated from an Egg." Under Annotations "A Uniform System of Meat Inspection," "Foreign Meat Regulations" and other topics are discussed.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, Jan. 6, 1911.

Salvarsan (606) In Syphilitic and Parasyphilitic Nervous Disease

On January 3, at the Académie de médecine, Dr. Weiss read a communication from Dr. Ehlers of Copenhagen, reporting the case of a general paralytic, who on August 10 received an injection of 0.05 cg. of salvarsan. Some days afterward, trembling and crises of perspiration, loss of strength and fever occurred. Five days after the injection the patient died of cardiac paralysis. Autopsy revealed only parenchymatous degeneration of all organs. Dr. Ehlers does not hesitate to attribute the death to arsenical poisoning. [This fatality was mentioned in THE JOURNAL, Nov. 26, 1910, p. 1941.]

Following Ehrlich's directions, Dr. Ehlers treated with salvarsan seven syphilitics who had malignant tertiary lesions which were refractory to mercury. These seven cases were followed up after the injection and it was ascertained that the often miraculous improvement obtained in most of these patients is sustained only from eight to fifteen days in severe cases, and as long as a month in others. Among these seven patients there were relapses, the condition of most being as serious as before the treatment.

Moreover, Dr. Sicard, *agrégé* professor at the Paris medical college, communicated to the Société médicale des hôpitaux the results that he, with Dr. Marcel Bloch, obtained by means of salvarsan on forty-three patients affected with syphilitic or parasyphilitic diseases, such as tabes, general paralysis, cerebrospinal syphilis and syphilitic hemiplegia and paraplegia. From these results, it may be inferred that salvarsan is efficacious in syphilitic nervous diseases, including tabes, only when these are of recent date. In these cases the action of Ehrlich's remedy is superior to that of mercury, not only from the specific point of view, but also because arsenic medication, even in heavy dosage, has not the depressive effect of mercurial medication. On the contrary, among general paralytics treated with salvarsan, even at the first appearance of the signs of the disease, the result was nil, and likewise in long-standing cases of syphilitic hemiplegia and paraplegia.

The technic of choice appears to be intravenous injection, which permits the passage of salvarsan into the cerebrospinal fluid, followed some days later by injections of salvarsan in an oil medium into the gluteal muscles according to the method of Lévy-Bing and Lafay (THE JOURNAL, Dec. 3, 1910, p. 1994).

The Wassermann reaction, contrary to observations in the course of cutaneous and muscular syphilids, is only exceptionally modified after the treatment, even in patients who have received benefit from it.

Limitation of the Number of Liquor Licenses

The Senate has passed, by 156 votes against 59, the first clause of the bill to limit the number of liquor licenses. According to this clause the number of cafés, etc., selling alcoholic liquors or *apéritifs* other than those with a base of wine titrating at less than 23 degrees, to be consumed on the spot, is fixed at three for a commune of 600 inhabitants and under and at one for each 200 inhabitants above this number. A necessary distinction has thereby been established between hygienic and other drinks; the vendors of wine, beer, cider, coffee and tea are not limited; a restriction is placed only on establishments for the sale of alcohol, alcoholic drinks and beverages containing poisonous essences. At present there are in France more than 500,000 places licensed to sell drinks, that is to say, one for each eighty inhabitants or one for each thirty adults.

Glycosuria and Surgical Intervention

At the Academie de Médecine, on December 20, Dr. Bazy read a paper tending to show that glycosuria, even if it does not disappear completely under appropriate treatment, is not a contraindication to operation. Dr. Bazy reports observations on several patients affected with more or less intense glycosuria, who successfully underwent serious operations, such as excision of the tongue, internal urethrotomy, transvesical prostatectomy, exploratory laparotomy, total abdominal hysterectomy. Moreover, an increase in the quantity of sugar in the urine after the operation has been decided on, instead of being a contra-indication, may be really an indication for operation.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Dec. 23, 1910.

German Physicians in 1910

According to the medical directory (*Reichsmedizinalkalender*) published by Professor Schwalbe, the number of physicians in Germany last year was 32,294. As according to official statistics Germany has a population of 64,775,000, there are 5.01 physicians to 10,000 inhabitants. The number has increased by 480 over the previous year and the increase in the number of physicians slightly exceeds the increase in population. That in the next few years a relative increase is to be expected, is shown by the fact that the number of medical students has rapidly risen. In the summer of 1905, 6,032; 1906, 6,570; 1907, 7,574; 1908, 8,250; 1909, 9,239; 1910, 11,125. Foreign students are included in these figures and their number has also slowly risen. Also the number of physicians licensed in the last three years has increased. In 1906-07 it was the lowest, 553; the following year it had grown to 829, and in 1908-09, 942 physicians were licensed (*approbiert*). As usual the increase in physicians is most notable in the large cities. Relatively to the population, however, the number of physicians in the large cities has receded somewhat.

The number of licensed women physicians in Germany has undergone a remarkable relative increase. In 1908 there were only 55, in 1909, 69, while at present there are 102; in Berlin alone, there are now 32. The number of women medical students has also remarkably increased. In the winter of 1909-10 there were 371, in the summer of 1910, 512, including the foreigners. The number of specialists is still increasing. In 1906, 6.952=20.2 per cent. of all physicians; in 1910, 7,272=22.40 per cent. The most of these are gynecologists, principally in the large cities; in the second place come the oculists, and, third, specialists in ear, nose and throat. The largest percentage of specialists, is found as in former years in Dresden, 44.2 per cent. The following have over 40 per cent.: Stuttgart, Leipsic, Frankfort a. M., Plauen and Nuremberg; Greater Berlin has only 32.8 per cent. The smallest percentage, 18.5 per cent., is found in Kiel.

Reduction of the Birth-Rate in Prussia

For the entire state of Prussia there has occurred a reduction in the ratio of fertility, that is, in the number of births per 1,000 women capable of child-bearing, between the ages of 15 and 45. This ratio has declined from 174.60, in the quinquennium from 1876-80, to 161.85 for 1896-1900, and 154.83 in the period from 1901-1905. In the cities the ratio has declined from 160.64 to 129.12. In the rural districts, the ratio of fertility for 1876-80 was 182.93, which figure was even exceeded by the rate of 183.06 for 1896-1900 and even the figure for 1901-1905 remained at 178.72, only a little behind the initial ratio. It is the falling birth-rate in the cities which occasions the marked diminution of the general fertility. This phenomenon is especially notable in Berlin and the cities of the province of Brandenburg. The fertility ratio in Berlin sank from 149.21 in 1876-80 to 88.78 in 1901-05, a reduction of more that 40 per cent.

At the same time the ratio in the cities of the province of Brandenburg fell from 169.06 to 109.21. In the cities of Posen, West Prussia and Westphalia, the ratio has been well maintained. The lowest fertility outside of Brandenburg is exhibited by cities in Hesse-Nassau in which the ratio has fallen from 134.27 to 106.23. The country district of Brandenburg shows a marked reduction, from 174.87 to 137.61. Also in Pomerania the ratio has sunk from 185.85 to 171.09, in Saxony from 183.03 to 162.36, and in Hesse-Nassau from 177.67 to 153.60. Schleswig-Holstein and Hanover have lost from 2 to 3 per cent. The other six provinces, however, show a rise of the country fertility, most marked in Westphalia (190.29 to 205.10) and Silesia (181.66 to 192.23).

Marriages

JOHN WILLIAM EKBLAD, M.D., to Miss Elda Downing, both of Scandia, Kan., January 4.

JAMES HAMSON WOLVERTON, M.D., to Miss Ruth Grant, at Balmorhea, Tex., December 25.

WILL DANA SHELBY, M.D., to Miss Elizabeth Carter, both of Canton, China, November, 1910.

CARL C. VOGEL, M.D., Elroy, Wis., to Miss Delia M. Droshos of Milwaukee, Wis., December 24.

JOHN HERR MUSSER, JR., M.D., to Miss Marguerite Hopkinson, both of Philadelphia, January 7.

SAMUEL PILGRAM GERHARD, M.D., to Miss Laura May Kaufmann, both of Philadelphia, January 12.

HENRY GLOVER LANGWORTHY, M.D., Dubuque, Ia., to Miss Bertha Schmidt, in Chicago, December 29.

GEORGE WASHINGTON MITCHELL, M.D., Peoria, Ill., to Miss Myrtle McKee of South Dakota, January 3.

EDWARD WARWICK PINKHAM, M.D., New York City, to Miss Bessie Leverett Ray of Alton, Ill., January 3.

JAMES ELMER DONNELL, M.D., Cuba City, Wis., to Miss Aruba A. Blades of Dubuque, Ia., December 28.

CHARLES E. RAGAN, M.D., Clinton, Ind., to Miss Evangeline Trotter of Danville, Ind., in Chicago, December 25.

ANDREW LEONARD SKOOG, M.D., Kansas City, Mo., to Miss Anna Belle Gordon of Pueblo, Colo., December 21.

THOMAS VAUGHAN CRANDALL, M.D., Philadelphia, to Miss Clara L. Dorr of Dorchester, Mass., December 31.

HENRY ARTHUR GEITZ, M.D., to Mrs. Helen Marie Steer, both of St. Louis, at Rockaway Park, Long Island, N. Y., January 2.

Deaths

Charles John Kipp, one of the most prominent specialists on diseases of the eye and ear of the United States, died at his home in Newark, N. J., January 13, aged 72. He was a native of Germany, graduated from the College of Physicians, New York City, in 1861; entered the army a year later as acting assistant surgeon; in 1863, he became an assistant surgeon, U. S. V., major and surgeon in 1864, and was brevetted lieutenant colonel in 1865, resigning from the medical corps of the army in 1868. He was a member of the American Medical Association, and second vice-president in 1909; formerly president, and later chairman of the board of trustees of the Medical Society of New Jersey; president of the American Ophthalmological Society in 1907, and of the American Otological Society in 1908. He had served as surgeon to the Newark Eye and Ear Infirmary since 1880, as president of the board of managers of the New Jersey Sanatorium for Tuberculous Diseases from 1901 to 1906, and as consulting surgeon to many hospitals. Dr. Kipp was the author of numerous articles in medical journals and of sections in medical encyclopedias on subjects connected with his specialty.

Horace Smith Fuller, M.D. College of Physicians and Surgeons, New York City, 1865; for many years medical examiner of Hartford, Conn.; died suddenly in that city, December 30, from heart disease, aged 75. Immediately after graduation, Dr. Fuller became an acting assistant surgeon in the United States Army and continued on duty until August, 1865. He was for many years a member of the American Medical Association. From 1877 to 1884 he served as coroner and chairman of the health committee of Hartford and thereafter as medical examiner under the new law. For more than twenty-five years he was visiting physician and surgeon at the Hartford Hospital and later consulting physician and surgeon to the hospital. He was a member of the State Board of Medical Examiners since its inception, and for four years its president. In 1879 and 1880 he was surgeon-general of the state, and from 1873 to 1885 a member of the local board of pension examiners. On January 3, 1910, at the annual meeting of the Hartford Medical Society, Dr. Fuller was presented with the Gurdon W. Russell loving-cup which is retained by the dean of the profession in the city.

Darwin Colvin, M.D. Geneva (N. Y.) Medical College, 1844; a member of the American Medical Association, and second vice-president in 1887; one of the founders of the New York State Medical Association and its president in 1896; president of the Wayne County Medical Society, and Medical Association of Central New York in 1878; president of the village of Clyde from 1865 to 1867, and 1877; health officer and member of the board of education; a surgeon of volunteers during the Civil War; surgeon in the National Guard in 1866 and 1867; died at his home in Clyde, January 9, aged 88.

John Spottswood Wellford, M.D. University of Pennsylvania, 1846; one of the oldest members of the Richmond Academy of Medicine; a surgeon in the Confederate service during the Civil War; for nearly half a century professor of diseases of women and children in the Medical College of Virginia, Richmond, and later emeritus professor; died at his home in Richmond, January 1, aged 85. At a meeting of the faculty of the college of which he was so long a member, resolutions of sorrow and sympathy were unanimously adopted.

Charles James Curran, M.D. New York University, New York City, 1882; a member of the North Berkshire Medical Society; a member of the Board of Health of North Adams, Mass., from 1881 to 1887; town physician in 1887 and 1888; for several years a member of the local pension board; from 1891 to 1896, a member of the State Board of Lunacy and Charity; city physician in 1905 and 1906; a member of the staff of the North Adams Hospital; died at his home December 30, from cerebral hemorrhage, aged 49.

John Bartley Fleming, M.D. Washington University, St Louis, 1899; a member of the Missouri State Medical Association; secretary of the Lawrence-Stone County Medical Society; local surgeon at Aurora for the Missouri Pacific Railway; consulting physician to the Missouri State Sanatorium for Incipient Tuberculosis; died in the Deaconess Hospital, St. Louis, January 6, a week after an operation for appendicitis, aged 34.

Oliver A. Rea, M.D. Hospital College of Medicine, Louisville, Ky., 1883; a member of the American Medical Association, and for three years president of the Marshall County Medical Society; surgeon to the Culver (Ind.) Military

Academy, and formerly president of the Plymouth (Ind.) Pension Board; a veteran of the Civil War; died in Rochester, Ind., recently, after a surgical operation, and was buried January 9, aged 67.

Oscar Samuel Roberts, M.D. Medical College of Vermont, Burlington, 1864; University of Pennsylvania, Philadelphia, 1869; medical cadet during the Civil War; a member of the American Medical Association; consulting physician to the House of Mercy Hospital, Pittsfield, Mass; secretary of the local pension board since 1884, and for several years a member of the Pittsfield Board of Health; died at his home, January 4, aged 73.

Rufus Chambers, M.D. University of Louisville, Ky., 1882; Washington University, St. Louis, 1884; a member of the American Medical Association; lecturer on principles of surgery in the Medical Department of Fort Worth University; city physician of Fort Worth from 1901 to 1905, and thereafter physician of Tarrant County; died in St. Joseph's Infirmary, Fort Worth, December 29, from pneumonia, aged 50.

Cornelius Cole Bradley, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the American Medical Association; attending ophthalmologist to St. Joseph's Orphan Asylum and St. Joseph's Institute, and consulting ophthalmologist to the Home for Incurables, New York City; died at his home in New Rochelle, N. Y., December 30, from septic endocarditis, aged 48.

Edward Hamilton Trickle, M.D. Miami Medical College, Cincinnati, 1870; a member of the Ohio State Medical Association, and formerly president of the Washington County Medical Society; a veteran of the Civil War; for twenty years local pension examining surgeon; local surgeon of the M. C. and C. Railroad; died at his home in Cutler, January 8, from pneumonia, aged 74.

George Roberts Moore (years of practice); of Three Rivers, Mich.; a member of the Michigan State Association of Railway Surgeons; at one time division surgeon for the Chicago, Milwaukee and St. Paul Railway at Oxford Junction, Ia.; died at a hospital in Omaha, December 21, from pneumonia, following a compound fracture of the tibia caused by a runaway accident, aged 75.

William H. Krause, M.D. New York Homeopathic Medical College, New York City, 1873; consulting physician to the Hahnemann Hospital, New York City; a surgeon in the German service during the Austro-Prussian and Franco-Prussian wars; attending physician to the Bond Street Dispensary and examiner in lunacy; died at his home, January 7, from nephritis, aged 69.

William F. Davis, M.D. Jefferson Medical College, 1876; a member of the American Medical Association; for three years resident physician of the Charity Hospital, Philadelphia; a member of the local pension examining board of Dover, Del.; died in Jefferson Hospital, Philadelphia, December 31, aged 65, as the result of injuries received nine days before by the kick of a horse.

Edwin Lacy Gibson, M.D. University of Maryland, Baltimore, 1894; a member of the American Medical Association; physician to the Staunton (Va.) Military Academy; a member of the city council and local surgeon to the Baltimore and Ohio Railroad; died at his home, January 6, from typhoid fever, aged 41.

James Preston Watkins, M.D. College of Physicians and Surgeons, Baltimore, 1897; a member of the American Medical Association, and president of the council of the Chattahoochee Valley Medical and Surgical Association; died at his home in Opelika, Ala., August 18, from nephritis, aged 41.

James B. Tennell, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Piqua, O.; a practitioner for fifty-two years; and a member of the Ohio State Medical Association; died in the Cass County Infirmary, Logansport, Ind., December 31, from mental disease, aged 77.

John Abbott Prince, M.D. University of Michigan, Ann Arbor, 1887; a member of the American Medical Association; one of the proprietors of the David Prince Sanitarium, Springfield, Ill.; died suddenly at his home, January 1, from heart disease, aged 47.

Martin Van Buren Lonergan, M.D. College of Medicine and Surgery, Keokuk, Ia., 1877; a member of the Illinois State Medical Society; of Decatur; died from suffocation in a fire that destroyed the St. James Hotel, Pana, December 31, aged 58.

Walter C. Fulkerson, M.D. Kansas City (Mo.) Medical College, 1891; a member of the American Medical Association; for five years surgeon of the Denver, Enid and Gulf Railway at Marshall, Okla.; died in Guthrie, Okla., November 2, from dysentery, aged 41.

Charles Heil Hunsicker, M.D. Jefferson Medical College, 1900; a member of the American Medical Association; and associate in genito-urinary surgery Jefferson Medical College; died in Philadelphia, January 8, from carcinoma of the intestines, aged 34.

Robert J. R. Tilton (license, thirty-nine years practice, 1893); a member of the Kentucky State Medical Association, and for several years president of the Nicholas County Medical Society; died at his home in Carlisle, January 6, aged 79.

William J. Hodges, M.D. University of Louisville, Ky., 1890; a member of the American Medical Association; of Pineville, Ky.; died January 4, aged 43, as the result of injuries sustained by being struck by an L. and N. train a week before.

Willis Hall Vittum, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; a nose and throat specialist of St. Paul; died suddenly in his office in that city, December 29, from cerebral hemorrhage, aged 61.

Monmonier Rowe, M.D. College of Physicians and Surgeons, Baltimore, 1881; major of the First Battalion of the Fourth Infantry, Maryland National Guard; died suddenly at his home in Baltimore, December 31, from nephritis, aged 51.

James Cutler, M.D. Starling Medical College, Columbus, O., 1857; a veteran of the Mexican and Civil wars; local U. S. pension examining surgeon; died at his home in Richwood, O., December 19, from cancer of the stomach, aged 79.

Horace J. McDonald, M.D. American University of Pennsylvania, Philadelphia, 1876; a veteran of the Civil War; at one time pension examining surgeon; died at his home in LaCrosse, Wis., December 31, from cerebral hemorrhage, aged 71.

Frank Avery Coates, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the American Medical Association; died at his home in Mystic, Conn., September 11, from cancer of the throat, aged 59.

Jefferson B. Scearce, M.D. Jefferson Medical College, 1858; a member of the Ohio State Medical Association and Chillicothe Academy of Medicine; died at his home in Chillicothe, January 8, from angina pectoris, aged 73.

Harold D. Fitch, M.D. Miami Medical College, Cincinnati, 1908; of Cincinnati; a member of the Ohio State Medical Association; died in the Good Samaritan Hospital, Cincinnati, January 3, from pneumonia, aged 26.

George Valentine Hann, M.D. New York University, New York City, 1851; a member of the Medical Society of the State of New York; died at his home in New York City, September 20, from diabetes, aged 65.

Samuel Alonzo Davis, M.D. Harvard Medical School, 1862; a member of the Massachusetts Medical Society; a veteran of the Civil War; died at his home, Winter Hill, Boston, January 3, from pneumonia, aged 73.

Frank Henry Haskins, M.D. Harvard Medical School, 1899; a member of the Massachusetts Medical Society; died at the home of his mother in Springfield, December 30, from carcinoma of the liver, aged 39.

Albini Joseph W. Dufault, M.D. Laval University, Quebec, 1905; a member of the Union Médicale of Fall River, Mass.; died at his home in Fall River, September 23, from multiple infectious arthritis, aged 28.

George Harvey Doane, M.D. College of Physicians and Surgeons, Chicago, 1908; a member of the American Medical Association; died at his home in O'Fallon, Ill., January 6, from pneumonia, aged 27.

Frederick Larkin, M.D. Central Medical College of New York, Syracuse (Hon.); for more than sixty-two years a practitioner; died at his home in Randolph, N. Y., November 21, from paralysis, aged 97.

Edward Emmitt Haworth, M.D. Kentucky School of Medicine, Louisville, 1894; a member of the Indiana State Medical Association; died at his home in Claypool, January 2, from anemia, aged 44.

Benjamin Bently Bacon, M.D. Eclectic Medical Institute, Cincinnati, 1858; for nearly sixty years a practitioner; died at the home of his son in Leavenworth, December 9, from heart disease, aged 85.

John L. Hale (license, thirty years of practice, Kentucky, 1896); of Wickliffe, Ky.; formerly a member of the American Medical Association; died in Cairo, Ill., December 30, from cancer, aged 75.

Alfred M. Critz, M.D. Indiana Medical College, Indianapolis, 1877; a resident of Ballard, Wash., for eighteen years; died in that city, December 19, from cerebral hemorrhage, aged 58.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

FORMUROL

Report of the Council on Pharmacy and Chemistry

Formurol, Citrocoll and Aspirophen were submitted to the Council by the Cellarius Company of San Francisco. The manufacturers having failed to substantiate the claims they make for these products, the Council has voted that the preparations be refused recognition. The Council also authorized the publication of the following report, which deals particularly with one of the preparations—Formurol.

W. A. PUCKNER, Secretary.

Formurol is the product of the Chemische Fabrik Falkenberg, Falkenberg-Gruenau, near Berlin, Germany. The Cellarius Company, San Francisco, acting as selling agents for the United States, submitted Formurol (along with Aspirophen and Citrocoll, also made by the same firm) to the Council, with the statement that it is "hexamethylentetramin-sodium-citrate," and that it has the following composition: "$C_6H_7O_7Na.C_6H_{12}N_4$."

Zernik,[1] who examined these products, reported that Aspirophen, Citrocoll and Formurol do not have the composition that is claimed for them by the Fabrik Falkenberg. Formurol, he states, is not a definite chemical compound, but a mixture of hexamethylenamin and sodium citrate. The agents were advised of this fact by the Council and were asked to submit evidence to substantiate their claims. No such evidence was submitted.

Since a compound having the composition that is claimed for Formurol is theoretically possible, the Council requested that the product be examined in the Association Laboratory to determine whether it still was the simple mixture reported by Zernik, or whether, perhaps, it now possessed the formula claimed for it. The following report was made by the Association chemists:

> Formurol, as submitted to the Council, was in the form of tablets weighing about 1 gm. each and appeared to be composed of a fine white substance interspersed with some transparent particles. The tablets were readily soluble in water, were odorless and possessed a slightly acid taste. The aqueous solution responded to tests for hexamethylenamin, citrate and sodium. To determine whether hexamethylenamin was present in the free or the combined state, the method of Zernik was employed. This consists in the extraction of Formurol with chloroform, which dissolves out hexamethylenamin, leaving insoluble sodium citrate. As the use of the solvent, chloroform, would seem to preclude decomposition of such a hypothetical compound as "hexamethylenamin-sodium-citrate," the extraction of hexamethylenamin from Formurol may be taken to demonstrate its presence in the free state.
>
> That Formurol is not a compound of hexamethylenamin, but a mixture of hexamethylenamin and sodium citrate, was further indicated by the appearance of the crushed tablets described above. Further, under the low-power microscope the powder was found to be composed of transparent crystals and white opaque particles which appeared to be masses of minute crystals. When treated with chloroform the transparent crystals dissolved, leaving the white masses intact, demonstrating the presence of two distinct substances, one soluble and the other insoluble in chloroform. It having been demonstrated that the residue obtained by evaporation of chloroform could not be weighed as hexamethylenamin, due to enclosed chloroform, the amount of this substance in the residue was determined.
>
> The method used has been described in the Report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, and depends on the decomposition of hexamethylenamin by means of sulphuric acid to form ammonium sulphate and formaldehyd. From this solution the ammonia is liberated, distilled and determined[2] by titration and from the ammonia found the amount of hexamethylenamin is calculated. By this method Formurol was found to contain (*a*) 35.42 per cent. and (*b*) 35.32 per cent., or an average of 35.37 per cent. hexamethylenamin. The residue insoluble in chloroform was shown to consist essentially of disodium hydrogen citrate by determining[3] the amount of sodium (Na) contained in Formurol. The percentage of sodium calculated from the amount of sodium sulphate found was (*a*) 11.38 per cent. and (*b*) 11.20 per cent., or an average of 11.29 per cent., equivalent to 62.50 per cent. disodium hydrogen citrate.
>
> As a check on this determination, the amount of material contained in Formurol which is insoluble in chloroform was determined.[4] It was found to be (*a*) 63.23 per cent. and (*b*) 63.49 per cent., making an average of 63.36 per cent., and thus agreeing fairly well with the results obtained when the sodium content was assumed to be disodium hydrogen citrate. From this analysis it appears that Formurol is not a definite compound of hexamethylenamin and sodium citrate, but instead is a mixture of these substances consisting approximately of hexamethylenamin 35.37 per cent. and sodium acid citrate (disodium hydrogen citrate) 63.36 per cent., practically a mixture of 1 part hexamethylenamin and 2 parts sodium acid citrate. These results agree with those reported by Zernik and show that the product now, as then, is not true to claims.

In view of the findings of the laboratory, it is recommended that Formurol be refused recognition. As the exploitation of well-known remedies under false and misleading names is detrimental to the progress of medicine, it is recommended that publication of this report be authorized.

EDITORIAL NOTE: This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past, many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

1. Zernik: Arb. a. d. Pharmazeut. Inst. d. Univ. Berlin, 1907, iv 46.

2. Determinations were made, following the details of the method described in the report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, with the following results: (*a*) 1.0769 gm. Formurol yielded an amount of ammonia requiring 10.96 c.c. normal sulphuric acid for neutralization, indicating the presence of 0.3815 gm. or 35.42 per cent. hexamethylenamin. (*b*) 1.1178 gm. Formurol required 11.36 c.c. normal sulphuric acid, equivalent to 0.3952 gm. or 35.32 per cent. hexamethylenamin, making an average of 35.37 per cent.

3. Sodium was estimated by converting to sodium sulphate in the usual way, with the following results: (*a*) 1.0319 gm. Formurol yielded 0.3621 gm. sodium sulphate, equivalent to 11.38 per cent. sodium. (*b*) 0.8783 gm. Formurol yielded 0.3035 gm. sodium sulphate, equivalent to 11.20 per cent. sodium; average, 11.29 per cent., equivalent to 62.50 per cent. disodium citrate ($C_6H_6O_7Na_2+H_2O$).

4. The matter insoluble in chloroform was determined by weighing Formurol to a tared filter, which had been washed with chloroform and dried at 100 degrees, and percolating with chloroform till the dried filter and contents became constant in weight. By this method (*a*) 1.0769 gm. Formurol yielded 0.6826 gm. or 63.23 per cent. matter insoluble in chloroform; and (*b*) 1.1178 gm. Formurol yielded 0.7079 gm. or 63.49 per cent. insoluble matter; average, 63.36 per cent.

5. Therap. d. Gegenw., February, 1909.

Correspondence

Niemeyer's Pill

To the Editor:—I have long felt certain that the term "Niemeyer's pill" was being erroneously applied to the well-known pill of calomel, squill and digitalis, but while I have availed myself of frequent opportunities to correct students regarding its use I did not think that the matter was sufficiently important to demand public notice until several months ago I found THE JOURNAL of the American Medical Association, I think in its therapeutic department, making the same error. Then it seemed to me time to speak out.

The true Niemeyer's pill was suggested by Felix von Niemeyer about 1886 and 1867 with a view to combating the pyrexia of pulmonary consumption. The following is the language on page 68 of his little classic brochure entitled "Clinical Lectures on Pulmonary Consumption," translated by the New Sydenham Society in 1870:

"Among the remedies which are in many cases successful in reducing the increased production of heat and the temperature of the body, although the original disease continues, digitalis and quinin justly enjoy a great reputation.

"We employ them very frequently in phthisical patients, if we have not succeeded in subduing the pyrexia by the means above alluded to; and pills which contain 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and of which one is taken four times a day, are one of the most frequent prescriptions of our clinic."

Niemeyer says further:

"At times, when I am much consulted by phthisical patients, I often prescribe these pills three or four times on the same day. In the hospital we discontinue the pills as soon as a marked decrease of the temperature and of the frequency of the pulse is noticeable, and we return to their use as soon as their effect has again disappeared. In my consulting practice I have repeatedly seen that patients quickly learn to judge by their own experience when it is time to discontinue the pills and when to return to their use."

Not every one has made this mistake. Thus, Osler in the seventh edition of his "Practice," section on syphilis, p. 281 says: "If there is ascites, Addison's pill (as it is often called) of calomel, digitalis and squills will be found very useful. Again in the section on diseases of the valves of the heart by Osler and Gibson, vol. 4, p. 268, of "Modern Medicine," we read: "Powdered digitalis is of great service in combination with squills and mercury, 1 grain of each, in the form of the Addison's or Guy's pill." Dr. A. O. J. Kelly in his new book on the "Practice of Medicine," p. 477, also refers to it as Addison's, Guy's or Niemeyer's pill. It is evident that the pill of calomel, squills and digitalis far antedates the time of Niemeyer.

The author who comes nearest to identifying the Niemeyer pill is Clifford Allbutt, who refers to a pill of powdered digitalis leaves and quinin. Dr. Kelly tells me also that Allbutt refers to it as the Leipsic pill.

Let us not forget, the Niemeyer pill is composed of 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and was prescribed by v. Niemeyer for the fever of pulmonary tuberculosis, and if any name is applied to the pill of calomel, digitalis and squills it should be that of Addison or of Guy.

JAMES TYSON, Philadelphia.

Medical Milk Commissions

To the Editor:—Permit me to congratulate you on the publication of the editorial "Clean Milk Production" (THE JOURNAL, January 7, p. 48).

I have one regret—that the excellent summary of the subject did not mention the American Association of Medical Milk Commissions, what it stands for and the good work it is doing in spreading this gospel of clean milk throughout the country. Largely through the efforts of this organization, the number of component milk commissions has increased in number threefold in three years, and now number more than sixty in widely scattered parts of the United States and Canada.

The work of members of milk commissions and of the American Association is altruistic in its best meaning. The national body needs financial assistance to spread this gospel of clean milk broadcast, to have a competent representative in the field constantly to present the cause before medical associations and assist in the formation of medical milk commissions; for it is the "moral influence of milk commissions that has been a large factor in bringing about an improved general supply."

The Association of Milk Commissions feels that this work should receive the active support of the American Medical Association, and it is hoped that eventually its active cooperation can be secured. In no way can the conservation of the infant population of the country be secured so effectually as by making clean milk a possibility in every community.

HENRY ENOS TULEY, Louisville, Ky.
Chairman of the Council.

Sodium Cacodylate in Syphilis

To the Editor:—Dr. A. T. Caffrey becomes enthusiastic over sodium cacodylate in syphilis (THE JOURNAL, Dec. 24, 1910, p. 2211), because by this drug he has healed (?) a syphilitic lesion of the lip in twenty days, though the patient still possesses evidences of a hard chancre and is still under treatment.

In our cases at Dr. F. Bierhoff's clinic, luetic sores on lip and elsewhere heal very rapidly under the action of the soluble salts of mercury (oxycyanid), rarely consuming a larger period than two weeks, intramuscular injections being used in ascending dosage and patient seen every other day.

It is inconceivable that a patient with such a strong arsenical breath as described by Dr. Caffrey should display no disagreeable symptoms. To my mind, it is a classical symptom of poisoning—it is well to remember that arsenical poisoning is a very insidious process and a persistence of arsenic under the circumstances may lead to unpleasant results. It is respectfully suggested that the healing over of an initial lesion (and this in reality is the only apparent result of the treatment), is no evidence of a cure of the syphilis, and that it might be of scientific interest to give the result of an ophthalmoscopic examination, a test of renal functions, and a Wassermann blood examination, which last might disappoint Dr. Caffrey keenly. In conclusion, I ask: Wherein lie the advantages over the mercurial treatment, as compared by scientific investigation, in view of the apparent dangers of cacodylate of sodium?

L. L. MICHEL, New York City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CENTIGRADE AND FAHRENHEIT SCALES

To the Editor:—In THE JOURNAL, Jan. 7, 1911, p. 81, is an abstract of an article by Japha in which "Rhythmic Compression of the Heart for Apparently Moribund Children" is treated and "temperature of 43.3° C." is given as corresponding to 110° F. This is incorrect, and should read approximately 107.19° F. I feel sure that this temperature is incorrectly reported and I send this protest only from the belief that THE JOURNAL would not wish to report a mistaken observation.

ALBERT N. BLODGETT, Boston.

ANSWER.—We are gratified to see that the columns of THE JOURNAL are scanned so closely for possible mistakes. THE JOURNAL is glad to have its attention called to any mistakes and will promptly correct them.

In this case, however, the figures given were entirely correct and our correspondent has fallen into error. The rule for transposing temperature from Centigrade to Fahrenheit is based on the fact that a degree of Centigrade equals 1.8 degrees Fahrenheit and that the zero point of the Centigrade scale is at 32° F. Hence, if we multiply the figures of the Centigrade by 9/5 and add 32, we obtain the figures on the Fahrenheit scale. In the present example $43.3 \times 9 = 389.7$; $389.7 \div 5 = 77.94$; $77.94 + 32 = 109.94$. A very convenient

method for obtaining these figures is to get nine-tenths of the number, multiply the result by 2 and then add the 32. Thus, 43.3 minus 4.33 (one-tenth of the same) equals 38.97. This multiplied by 2 equals 77.94; adding 32 gives 109.94.

ARTICLES ON MEDICINE IN THE PHILIPPINES

To the Editor:—Medical matters in the Philippines are constantly becoming of greater interest to the practitioner in the United States. Doubtless you have published articles on the subject. Can you give me a list of recent ones? H. D.

ANSWER.—The following articles on the subject have appeared within the last few years:

Ashburn, P. M., and Craig, Charles F.: Study of Tropical Diseases in the Philippine Islands, THE JOURNAL, Feb. 27, 1907, p. 691.

Dudley, F. W.: Prevalence of Cancer in the Philippine Islands, THE JOURNAL, May 23, 1908, p. 1663.

Dudley, F. W.: Prevalence of Hydrophobia in the Philippine Islands, THE JOURNAL, Dec. 19, 1908, p. 2143.

Heiser, V. G.: Sanitation in the Philippine Islands Since the American Occupation, THE JOURNAL, Jan. 9, 1909, p. 97.

McLaughlin, A.: The Suppression of a Cholera Epidemic in Manila, THE JOURNAL, April 10, 1909, p. 1153.

Musgrave, W. E.: Ten Years of American Sanitation in the Philippine Islands, THE JOURNAL, Feb. 6, 1909, p. 442.

Rochester, A. S.: The Care and Treatment of Opium Smokers in the Philippine Islands, THE JOURNAL, Jan. 30, 1909, p. 351.

Strong, R. P.: Combating Tropical Diseases in the Philippine Islands by Scientific Methods, THE JOURNAL, Feb. 13, 1909, p. 524.

TREATMENT OF SOLITARY CASEOUS LYMPH-GLAND

To the Editor:—What is the recognized treatment for a solitary caseous lymph-gland of the anterior cervical region, in a woman with a family history of tuberculosis, but without other signs of the disease? The patient is pregnant. SHELBY.

ANSWER:—Our correspondent does not state the size of the lymph-gland, how long the condition has been present, whether it is active or latent, or whether it is giving rise at present to any trouble. If the condition is latent or inactive it should be let alone for the present. If it is active, the gland should be removed notwithstanding the fact that the patient is pregnant.

AUTOMOBILE DATA WANTED

To the Editor:—Will the readers of THE JOURNAL who have had any experience with the Brush runabout, now selling at $450.00, and with the Dayton Airless Clincher Tire, please write me whether or not they give satisfaction. Any one interested, who may want to know the reports from this inquiry, may have same by writing and enclosing stamp. L. C. OYSTER, Lumberport, W. Va.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 14, 1911.

Arthur, William H., lieut.-col., granted three months' leave of absence about April 20, 1911.

Fisk, Owen C., lieut., Dec. 31, leave of absence extended ten days.

Birmingham, Henry P., lieut.-col.; Kean, Jefferson R., major; Winter, Francis A., major; appointed members of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination and promotion.

Miller, Albert L., M.R.C., January 9, relieved from Fort Meade, S. D., about February 1, and ordered to his home, and on expiration of leave of absence for one month, to take effect about February 1, will stand relieved from active duty in the Medical Reserve Corps.

Thearle, William H., lieut., ordered to Jefferson Barracks, Mo., for temporary duty.

Van Horn, James B., M.R.C., relieved from further treatment at Army General Hospital, San Francisco, and ordered to the Army General Hospital, Fort Bayard, N. Mex., for observation and treatment.

Lyster, William J. L., major, on expiration of leave is assigned to temporary duty as attending surgeon in Philadelphia until June 1, 1911.

Church, James R., major, sick leave of absence extended twenty days.

Crum, Wayne H., lieut., granted twenty days' leave of absence, to terminate at such time as will enable him to report at Fort McKinley, Me., for duty with troops to Philippine Islands.

Scott, H. O., D.S., left Fort Hamilton, N. Y., en route to San Francisco, on one month and ten days' leave, and for annulment of contract.

Winter, Francis A., major, ordered to New York City on business connected with the purchase of medical supplies.

Lyon, William C., M.R.C., resignation accepted by the President to take effect January 14.

Hammond, William G., D.S., contract annulled January 14.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 14, 1911.

Dunbar, A. W., surgeon, detached from the naval dispensary, Washington, D. C., and ordered to continue other duties.

Fitzsimmons, P., medical director, detached from duty as a member of the naval retiring board, navy yard, Washington, D. C., and ordered to continue other duties.

Field, J. G., medical inspector, ordered to the navy yard, Norfolk, Va.

Von Wedeking, L. L., surgeon, detached from command of the naval hospital, Annapolis, Md., and ordered to special duty in connection with the marine recruiting rendezvous, Chicago.

Pickrell, G., medical inspector, ordered to command the naval hospital, Annapolis, Md.

Guest, M. S., surgeon, transferred to the retired list from Jan. 6, 1911.

Strite, C. E., P. A. surgeon, ordered to the Naval Medical School Hospital, Washington, D. C., for observation.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 11, 1911.

White, J. H., surgeon, granted one month's leave of absence, without pay, from Jan. 5, 1911.

Irwin, Fairfax, surgeon, granted one month and ten days' leave of absence from Feb. 18, 1911.

Fricks, L. D., P. A. surgeon, granted fourteen days' leave of absence from Dec. 27, 1910.

Rucker, W. C., P. A. surgeon, detailed to join the "Mine Rescuing Car" and proceed to the several mines in West Virginia for special temporary duty. Granted three days' leave of absence en route.

Herring, R. A., asst.-surg., directed to proceed to Stapleton, N. Y., and report to the chairman of board of medical examiners, to determine his fitness for promotion to the grade of passed assistant surgeon.

Coffee, J. H., A. A. surgeon, granted seven days' leave of absence from Jan. 15, 1911, under paragraph 210, Service Regulations.

DeForest, C. M., A. A. surgeon, granted thirty days' leave of absence from Jan. 24, 1911, and a further period, without pay, of two months from Feb. 25, 1911.

Moncure, J. A., A. A. surgeon, granted fourteen days' extension of leave of absence from Dec. 17, 1910, on account of sickness.

White, R. C., A. A. surgeon, granted twenty-two days' extension of leave of absence from Dec. 10, 1910, on account of sickness.

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Jan. 16, 1911, to conduct a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed-Assistant Surgeon M. K. Gwyn, recorder.

Board of medical officers convened to meet at the Marine Hospital, Port Townsend, Wash., Feb. 6, 1911, to conduct physical examinations of officers of the Revenue-Cutter Service. Detail for the board: Surgeon P. M. Carrington, chairman; Passed-Assistant Surgeon B. H. Earle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Jan. 16, 1911, for the examination of Assistant-Surgeon R. A. Herring, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Hiram W. Austin, chairman; Passed-Assistant Surgeon W. A. Korn; Passed-Assistant Surgeon George L. Collins, recorder.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Third Weekly Meeting

LOCAL ANESTHESIA—COCAIN

PHYSIOLOGIC ACTIONS: Applied locally to mucous surfaces, to skin.

HYPODERMICALLY: Strength and dose of solution, indications, dangers.

INFILTRATION METHOD: Schleich's solution, combination with epinephrin, Braun's method. Indications, disadvantages.

SPINAL ANESTHESIA: Corning, Bier, Jonnesco. Technic in detail. Indications, dangers and after effects.

NEURAL ANESTHESIA: Corning, Oberst, Crile. Technic of nerve-blocking, solutions, advantages, difficulties.

SUBSTITUTES FOR COCAIN: Eucain, tropacocain, stovain, novocain, holocain, acoin.

ANESTHESIA BY FREEZING: Agents used, indications, disadvantages.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House. Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Washington July Report

Dr. F. P. Witter, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Seattle, July 5-7, 1910. The number of questions examined in was 11; total number of questions asked, 110; percentage required to pass, not less than 60 in any one subject. The total number of candidates examined was 104, of whom 79 passed, including 4 osteopaths, and 25 failed, including 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Cooper Medical College	(1905)	1
University of Southern California	(1907)	1
Howard University, Washington, D. C	(1907)	1
Gross Medical College	(1898)	1
Denver and Gross College of Medicine	(1907) (1909)	2
Rush Medical College	(1897) (1906)	2
College of Physicians and Surgeons, Chicago (1893) (1900) (1901) (1905)	(1910)	5
Northwestern University Medical School (1888) (1898 (1902) (2, 1907) (3, 1909)	(1910)	9
Chicago College of Medicine and Surgery	(1909)	1
Hahnemann Med. College and Hospital, Chicago.	(1910)	1
State University of Iowa, College of Medicine (1901) (1906) (1907)	(1910)	4
State Univ. of Iowa, Coll. of Homeo. Medicine	(1905)	1
Keokuk Medical College	(1897)	1
Hospital College of Medicine, Louisville	(1905)	1
Johns Hopkins University	(1902)	1
Tufts College Medical School	(1904) (1908)	2
Harvard Medical School	(1905)	1
Boston University	(1909)	1
Michigan College of Med. and Surgery.	(1896) (1905)	2
Detroit College of Medicine	(1901)	1
Univ. of Mich., Coll. of Med. and Surg.	(3, 1908) (1909)	4
Saginaw Valley Medical College	(1902)	1
Hamline University	(1902)	1
Univ. of Minn., Coll. of Med. and Surg.	(1902) (1909)	2
University of Minn., Homeopathic College	(1897)	1
Marion Sims College of Medicine	(1897)	1
Kansas City Hahnemann Medical College	(1909)	1
Barnes Medical College	(1910)	1
Washington University, St. Louis	(1907)	1
Creighton Medical College	(1907)	1
Columbia University, College of Physicians and Surgeons (1906) (1908)	(1909)	3
New York University Medical College	(1896)	1
Long Island College Hospital	(1897)	1
Medical College of Ohio	(1871)	1
Miami Medical College	(1881)	1
University of Oregon	(1910)	2
Willamette University	(1910)	1
Western Pennsylvania Medical College	(1901)	1
Medico-Chirurgical College, Philadelphia	(1903)	1
Jefferson Medical College	(1900) (1908) (1910)	3
University of Pennsylvania	(1903) (1910)	2
University of Manitoba, Winnipeg	(1897)	1
Trinity Medical College, Canada	(1902) (1903)	2
Western University, London, Ontario	(1910)	1
Owen's College, Manchester, England	(1904)	1

FAILED College	Year Grad.	Total No. Examined.
Bennett Medical College, Chicago	(1909)	1
Rush Medical College	(1899) (1901) (1903)	3
Northwestern Univ. Woman's Medical School	(1887)	1
Chicago Homeopathic Medical College	(1883)	1
College of Physicians and Surgeons, Chicago.	(1910)	1
Indiana Medical College	(1898)	1
State University of Iowa, College of Medicine.	(1884)	1
Kansas Medical College	(1896)	1
Kentucky School of Medicine	(1904)	1
Medical School of Maine	(1910)	1
College of Physicians and Surgeons, Baltimore.	(1893)	1
Baltimore Medical College	(1907)	1
Saginaw Valley Medical College	(1899)	1
Barnes Medical College	(1907)	1
Missouri Medical College	(1883)	1
St. Louis University	(1904)	1
Jefferson Medical College	(1895)	1
University of Pennsylvania	(1907)	1
University of Nashville	(1902)	1
College of Physicians and Surgeons, Dallas	(1908)	1
Marquette University, Milwaukee	(1909) (1910)	2

Missouri September Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Jefferson City, September 20-22, 1910. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 58, of whom 38 passed and 20 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	84
Chicago College of Medicine and Surgery	(1910)	77.8
Northwestern University Medical School	(1909)	81.2
Rush Medical College	(1910)	82.4
Drake University	(1910)	77.9
University of Kansas	(1910)	77.2, 80.4
Kansas Medical College	(1908)	81.2
Louisville Medical College	(1903)	75.3
University of Louisville (1902) 75; (1910) 75, 80.6, 82.4, 84.1, 84.2, 86.9.		
Johns Hopkins Uuniversity	(1910)	84.5, 88.2
Ensworth Medical College, St. Joseph.	(1908) 75.3; (1910)	75
St. Louis College of Physicians and Surgeons (1899) 75; (1908) 75, 78.3; (1910) 75.2, 75.8, 76.9, 78.4, 83.5, 85.1, 86.2.		
University Medical College, Kansas City	(1910)	75
Kansas City Hahnemann Medical College	(1910)	75
Barnes Medical College	(1910)	75
St. Louis University	(1910)	80.5
Columbia University, Coll. of Phys. and Surg.	(1907)	89.5
Starling Medical College	(1892)	81.2
Vanderbilt University	(1910)	78.2
University of Texas	(1910)	89.4

FAILED College	Year Grad.	Per Cent.
University of Louisville	(1910)	57.2, 65.1
Ensworth Medical College	(1909) 37.5; (1910)	63, 66.8
St. Louis College of Physicians and Surgeons (1906) 63.8; (1909) 66.8, 67.1; (1910) 66.7, 68.8.		
Barnes Medical College	(1907) 49.3; (1910)	66.2, 68.4, 69.1
Homeopathic Medical College of Missouri	(1909)	68.9
American Medical College, St. Louis.	(1909) 63.3; (1910)	65.2
University Medical College, Kansas City	(1910)	60, 62.8
Meharry Medical College	(1910)	65.3

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, October 11-13, 1910. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and not less than 50 in any one subject. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
American Medical Missionary College	(1910)	83.4
Tufts College Medical School	(1907)	84.6
Harvard Medical School	(1904)	85
Detroit College of Medicine	(1910)	75.5, 77.2, 77.9
University of Michigan, Dept. of Med. and Surg.	(1893) 87.8; (1910) 77, 85.7.	
Detroit Homeopathic College	(1910)	75, 78.2
University of Paris	(1899)	88.1

FAILED College	Year Grad.	Per Cent.
Detroit Homeopathic College	(1908)	43.4

Montana October Report

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written and oral examination held at Helena, October 4-6, 1910. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 52, of whom 36 passed and 16 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	78.9
Rush Medical College (1897) 78.4; (1904) 82.9; (1907) 79; (1909) 77.5; (1910) 84.7.		
Hahnemann Medical College and Hospital, Chicago (1883) 78.6; (1895) 75.5.		
Northwestern University Medical School	(1910)	75.1, 77.3
College of Physicians and Surgeons, Chicago	(1909)	75.2, 80
Bennett Medical College	(1906)	75
Chicago Homeopathic Medical College	(1896)	75.1
University of Kansas	(1909)	75.1
Indiana University	(1910)	79.3
College of Physicians and Surgeons, Baltimore	(1910)	77.1
Johns Hopkins University	(1910)	76.7
Baltimore Medical College	(1906)	75.4

University of Michigan, Dept. of Med. and Surg. (1903) 76.9; (1910) 76.4, 79.8.
University of Minnesota, College of Med. and Surg. (1902) 75; (1904) 77.4.
Hamline University ..... (1902) 75.4
Creighton Medical College ..... (1910) 75.8, 78.9
Kansas City Hahnemann Medical College (1909) 75.2; (1910) 79.3.
Cornell University Medical College ..... (1900) 75.1
Albany Medical College ..... (1906) 75.7
Jefferson Medical College ..... (1910) 76.2
Memphis Hospital Medical College ..... (1903) 75
Vanderbilt University ..... (1908) 75
University of Toronto, Ontario ..... (1908) 75.2
University of Christiania, Norway ..... (1906) 76.7

FAILED

Rush Medical College ..... (1904) 71.3
Northwestern University Medical School ..... (1908) 62.4, 65.6
Indiana Medical College ..... (1896) 51
University of Iowa, College of Medicine ..... (1910) 65.3
Keokuk Medical College ..... (1907) 60.4
College of Physicians and Surgeons, Keokuk ..... (1907) 49.3
Hamline University ..... (1908) 70.7
University Medical College, Kansas City ..... (1881) 42.3
Barnes Medical College ..... (1910) 71
Ensworth Medical College ..... (1905) 51
Marion-Sims Beaumont College of Medicine ..... (1903) 50.8
Memphis Hospital Medical College ..... (1910) 71.1
University of the South ..... (1905) 64.9
University of Nashville ..... (1906) 63.2
College of Physicians and Surgeons, Dallas ..... (1908) 68.1

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written and oral examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 24, of whom 16 passed and 8 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Yale Medical School	(1910)	80.1, 82.1, 83.4
Louisville and Hospital Medical College	(1908)	83.9
Baltimore Medical College	(1909)	81.2; (1910) 77.8, 79.2
Medical School of Maine	(1903)	78.5
Johns Hopkins University	(1900)	90.6
Dartmouth Medical College	(1910)	88.4
University and Bellevue Hospital Med. College	(1910)	85.7
University of Pennsylvania	(1910)	89.9
Jefferson Medical College	(1903)	77.2
University of Vermont	(1893)	75.5
University of Virginia	(1908)	75.4
Queen's University, Kingston, Ontario	(1908)	80.3

FAILED

Maryland Medical College	(1910)	73.4
Baltimore Medical College	(1907) 12.2; (1909)	74.2
University of Maryland	(1906) 74.3; (1908)	63.5
College of Physicians and Surgeons, Baltimore	(1910)	72.8
College of Physicians and Surgeons, Boston	(1910)	61.2
University of the South	(1904)	62.8

West Virginia November Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Morgantown, Nov 14-16, 1910. The number of subjects examined in was 9; the total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 29, of whom 24 passed, including 1 osteopath, and 5 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1904) 82; (1910)	83
Georgetown University	(1910)	86
George Washington University	(1908)	92
College of Physicians and Surgeons, Chicago	(1910)	80
University of Louisville (1910) 80. 81, 82, 83, 85.		
Louisville and Hospital Medical College	(1908)	89
Woman's Medical College of Baltimore	(1910)	88
University of Maryland	(1910)	83, 86
Eclectic Medical College, Cincinnati	(1910)	80
University of Pittsburg	(1908) 92; (1910)	87
Women's Medical College of Pennsylvania	(1906)	85
Western Pennsylvania Medical College *	(1907)	82
University of Pennsylvania	(1909) 90; (1910)	91
Meharry Medical College	(1910)	81
University of the South	(1908)	86

FAILED

University of Louisville	(1909)	65
Maryland Medical College	(1909)	76
Baltimore University	(1900)	63
Eclectic Medical College, Cincinnati	(1910)	76, 77

* Name changed to University of Pittsburg, Medical Department, in 1908

Connecticut Homeopathic November Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Boston University	(1904) 90; (1906)	80, 88
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	84

Book Notices

NEPHROCOLOPTOSIS. A Description of the Nephrocolic Ligament and Its Action in the Causation of Nephroptosis, with the Technic of the Operation of Nephrocolopexy, in Which the Nephrocolic Ligament is Utilized to Immobilize Both Kidney and Bowel. By H. W. Longyear, M.D., Professor of Gynecology and Abdominal Surgery, Detroit Post-Graduate Medical School. Cloth. Price, $4. Pp. 251, with 86 illustrations. St. Louis: C. V. Mosby Company, 1910.

The author of this work was dominated by a central idea. This idea is that movable kidney is produced by the sagging of the colon drawing on and pulling out of place the kidney, the weight of the colon being transmitted to the kidney through bands of connective tissue which the author calls the nephrocolic ligament. In order to explain the fact that the right kidney alone is affected in the large majority of the cases, the author assumes that the colon, in attempting to move its contents up the ascending colon, pulls down on the right kidney and that no such downward pull on the left kidney is present while the contents are moving down the descending colon. A glance at Figures 4 and 6, showing a long ascending limb of the transverse colon passing up to the splenic flexure, would be sufficient to shake one's belief in the theory, even if there were not many other reasons for hesitating to accept it. Concerning the nephrocolic ligament, on page 29 we find the following: "The last two observers—surgeons of long experience [Reed and Zuckerkandl]—are emphatic in their opinion regarding the strength of the tissue. Both believed its volume and strength to be of inflammatory origin and thus abnormal and adventitious. Billington's observation that this condition is peculiar to cases of nephroptosis coincided with that of the author and seems to cover a valuable point in the anatomic experience of some others who, failing to find the ligament as described, base their opinions on the examination of subjects which have had no displacement of the kidney."

If these bundles of connective tissue or nephrocolic ligament are perceptibly present only in cases of movable kidney and colon it is infinitely more probable that they are the result and not the cause of the abnormal mobility. The author admits on page 37 that "whether this increase of tissue over the average is cause or effect is not known." Yet on page 50 he states that the ligament is the most important factor in the cause of movable kidney as, "by it the prolapsing colon pulls the kidney out of place," There is one more important fact in connection with movable kidney which the author's theory does not explain, and that is that movable kidney is extremely common in women and extremely uncommon in men.

The contents of the colon must be moved up the ascending colon in men just the same as in women, and there must be the same downward pull, yet it does not pull the kidney down in men, so there must be some other factor in the etiology of movable kidney which the author's theory fails to explain. However, that the author appreciates this fact is well shown in his description of the prophylactic treatment which contains much good sense on how to develop strong, healthy bodies in young girls. The key-note is struck on page 81. "Breathing exercises should be conducted in ways to develop the intercostal muscles and diaphragm and cause broadening and increase of capacity of the lower part of the thoracic cavity." (It should read upper abdominal cavity, as that is where the organs are located.) This is not only good prophylactic treatment but good in well-developed cases.

The author is too enthusiastic in regard to the benefits of operative treatment. In the great majority of the cases movable kidney produces no special symptoms and therefore its fixation by operation in those cases relieves none.

The work is a very readable one, and, aside from the fact that the author takes a rather narrow view of the cause of movable kidney, contains many good points.

HANDBUCH DER NEUROLOGIE. Herausgegeben von M. Lewandowsky. Vol. I, Allgemeine Neurologie. Paper. Parts I and II. Price, 68 marks. Pp. 1606, with 322 illustrations and 12 plates. Berlin: Julius Springer, 1910.

This work, dealing with the general principles of neurology, constitutes the first volume of a handbook which, when completed, is to embrace the entire practice of neurology. In its preparation forty-six authors, each an authority on the subject assigned him, have contributed to make this the most exhaustive treatise on practical neurology to be found in any language. The value of each article is greatly enhanced by the good bibliography which accompanies it—a feature not found in any other neurologic text-book. The subject-matter is treated of in five chapters and many subchapters.

Chapter 1, by Bielschowsky, comprises about 90 pages, with 6 colored plates. The histology and histopathology receive masterly treatment by the well-known author of the new fibril-stain, by means of which greater insight has been afforded into the histology of the nervous system. The writer, though a follower of Apathy and Bethe, both of whom have labored hard to overthrow the neuron theory, discusses the neuron doctrine with no rancor and suggests a modification according to the latest research.

Chapter 2, dealing with the anatomy of the nervous system and really a text-book in itself, is up to date and contains in 218 pages and a splendid bibliography the essentials of the entire subject.

Chapter 3, on the experimental physiology of the nervous system, was written in individual articles by R. du Bois-Reymond, Otto Kalischer, M. Lewandowsky and Ernst Weber. The last-named author contributed the article on "Physiologic Accompaniments of Psychic Processes" in 22 pages, and one regrets that not more space was devoted to this interesting and entirely new topic; but what there is of it is excellent. The entire chapter is one of the best in the book.

Chapter 4, the longest, is devoted to general pathology, symptomatology and diagnosis of nervous diseases. Among the many splendid articles the one on the nervous disorders of the cochlea and vestibule by Robert Bárány of Vienna, must be particularly mentioned. In the short space of 40 pages he gives a summary of pioneer work done in this new field, largely his own, which must attract the attention of neurologists and otologists.

Chapter 5, on the general therapy, covers almost everything of importance pertaining to the treatment of this class of disorders. The surgical, orthopedic, electric and mechanical methods are fully discussed by such experts as W. Braun, Oscar Vulpius, and Toby Cohn. The subchapter on the treatment by drugs is well handled by S. Kalischer. Though the article on psychotherapy by Fritz Mohr is fairly complete, yet in our opinion disproportionate space is given to hypnotism—more than one-half—when this space could have been profitably devoted to a fuller discussion of modern methods of psychic treatment.

MANUAL OF HUMAN EMBRYOLOGY. By Many Writers. Edited by Frank Keibel, Professor in the University at Freiburg i. Br., and Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University, Baltimore. In Two Volumes. Volume I. Cloth. Price, $7.50. Pp. 548, with 423 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

As appears from the title, a number of German and American embryologists have collaborated in the production of this important work, which appears simultaneously in Germany and in America. The chapters originally written in German have been translated by Professor McMurrich and the chapters originally written in English have been translated by Professor Keibel. The work is in two imperial octavo volumes. The text is handsomely illustrated.

The chapters in Volume 1 are as follows: F. Keibel: "Introduction;" "The Germ Cells"; "Fertilization"; "Segmentation"; "Young Human Ova and Embryos up to the Formation of the Primitive Segment"; "The Formation of the Germinal Vesicle and the Problem of the Gastrula"; "Summary of the Development of the Human Embryo and the Differentiation of its External Form."

F. P. Mall: "Determination of the Age of Human Embryos and Fetuses"; "The Pathology of the Human Ovum."

Otto Grosser: "Development of the Egg Membranes and the Placenta"; "Menstruation."

Felix Pinkus: "Developmental History of the Skin."

Charles R. Bardeen: "Developmental History of the Skeleton, Including the Histogenesis of the Supporting Substances of the Connective Tissue Group."

Warren H. Lewis: "Developmental History of the Muscular System, Including the Histogenesis of the Smooth and Cross-striped Muscle Fibers."

F. P. Mall: "Celom and Diaphragm."

The existing text-books of human embryology, many of them of high excellence, are based, as is well known, for the most part, on other than human material, having been written from the point of view of comparative embryology. In the present work, however, the account of the development of the human body is based mainly on human material. Whenever comparative embryology and anatomy are drawn on in order to render intelligible special developmental processes in man, the considerations are printed in smaller type so that a clear distinction between facts and deductions is apparent. In the introduction Professor Keibel traces the development of human embryology up to the present time when the materials needed for a full exposition are practically available, with the exception of the earlier stages in the development of the germ layers and the first steps of placentation. The authors are all masters of the subject of which they write and the result is a fine example of literary cooperation, the necessary similarity of treatment being secured by the common purpose and by editorial supervision. Greater uniformity in the bibliographic references at the end of many chapters is desirable. This is an authoritative work of great value and of special interest to physicians because it deals with the development of the human body itself.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Second Edition. Cloth. Price, $3 net. Pp 594, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1910.

In our review of the first edition of this work we said: "It is destined to occupy a large field of great usefulness because it meets the needs, not only of the medical student, but also of the general scientific student and reader who is interested in the relations of microbes to disease and in their growing importance to agriculture, to sanitation, and to many industries." That our prophecy has been already fulfilled is evidenced by the appearance of this second edition in such a short space of time.

The subject-matter has been brought fully up to date by inclusion of the most important features of the research of the last few years. While bacteriology, in the narrower sense, must be regarded as an all-important branch of medical science, yet one must not forget that this science has done much for the various industries, in many cases having almost created new industrial conditions. It is, therefore, especially refreshing to find in this work so much more stress laid on the medical aspects than is usually the case in such works; and this, too, without slighting the many other fields in which bacteriology is of great importance.

The subject-matter of this volume leaves little to be desired, either as to content or as to arrangement. The facts, which have been established by many years of earnest research, are marshalled in such an array that even the most casual reader cannot fail to realize the great importance of this branch of science. The style is clear, concise, and, especially, scholarly—characteristics too often sacrificed by the scientific writer on the altar of abstruse statement. The illustrations are numerous and excellent. We heartily commend this work to those who wish to become *en rapport* with the various phases of general bacteriology without being compelled to go over the enormous mass of detail, which is, necessarily, a part of the equipment of the specialist in this great field.

EUTHENICS. THE SCIENCE OF CONTROLLABLE ENVIRONMENT. A Plea for Better Living Conditions as a First Step Toward Higher Human Efficiency. By Ellen H. Richards, author of Cost of Living Series, etc. Cloth. Price, $1 net. Pp. 162. Boston: Whitcomb & Barrows, 1910.

The title of this book explains its motive and defines the new word it introduces. It deals with race improvement through environment, while eugenics, the corresponding term which suggested the present one, deals with race improvement through heredity. Euthenics, therefore, the author says, precedes eugenics, developing better men now and thus inevitably creating better men in the future. While eugenics has to await investigation and see its results in the future, euthenics has present opportunities. The author might have added that eugenics deals with only one form of prophylaxis or evil and is as yet largely tentative in its methods and recommendations, while the proper use of good environment is a means always at hand and corrective as well as preventive. The name is the most original part of the work, which, however, gives a large amount of wholesome advice on sanitation, education, and the relations of science and education to human welfare. There are some omissions: the author seems to steer clear of the ethical side of education; the school, she says, "is not the best place to teach ethics." This may be so, but it is a good place nevertheless, and for some pupils the only one. There is much good counsel given about housing, diet, nutrition, etc., but the abuses of drink, drug habits, etc., which are among the most fruitful causes of human degeneracy, receive hardly any mention. Probably the author thought these matters had received sufficient emphasis elsewhere, but they, as well as some other social problems, are certainly important enough to be considered or at least mentioned under the general head of euthenics, as defined.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Assistant Professor of Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University, New York. Fourth Edition. Cloth. Price, $5.50 net. Pp. 908, with 601 illustrations. Philadelphia: Lea & Febiger, 1910.

This edition is a half larger and contains a third more illustrations than the first edition, issued only nine years ago. Comparison of this with the earlier editions shows, in text, bibliography, and pictures, thorough assimilative revision and supplementation. The regional plan (with some general chapters), the conservative orthopedic scope, the inclusion of statistics, the annotation by exact references, the consideration of treatment chiefly by local means—operation, apparatus, and posture and exercise—and the representative rather than the personal attitude are retained. The book, therefore, continues to be peculiarly valuable, and this edition makes it again standard.

PSYCHE. A Concise and Easily Comprehensible Treatise on the Elements of Psychiatry and Psychology. For Students of Medicine and Law. By Dr. Max Talmey. Cloth. Price, $2.50. Pp. 282. New York: Medico-Legal Publishing Company, 1910.

Despite the fanciful title, this book contains much of value to the medical student and the general practitioner. The introductory chapter on the psychology of physiology of the mental functions is well written and sufficiently exhaustive for the medical student. The succeeding three chapters are too meager in content and the last chapter, on special pathology of insanity, the most important for the medical reader, is entirely inadequate. There can be no doubt that the author's expectations will be fulfilled with reference to the value of his treatise to the layman and to the attorney.

NORMAL HISTOLOGY, WITH SPECIAL REFERENCE TO THE STRUCTURE OF THE HUMAN BODY. By George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania. Eighth Edition. Cloth. Price, $3.50. Pp. 418, with 438 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

A new edition of this text-book has been prepared on the lines indicated in the original preface. It is intended to be used at the beginning of the medical curriculum, and therefore sufficient information on gross anatomy is included to enable the student to grasp the subject. The book admirably fulfils its purpose. The text is well illustrated, a considerable number of colored pictures being introduced. The present edition is well fitted to sustain the reputation which previous ones have achieved.

THE FAMILY HEALTH. By Myer Solis-Cohen, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Price, $1. Pp. 267. Philadelphia: The Penn Publishing Co., 1910.

Cohen covers the field of household medicine, including housing, water, heating, bathing, clothing, exercise, eating, stimulants, childhood, care of sick, accidents, etc. His style is terse and dogmatic, yet not objectionally so. It enables him to cover a great deal of ground and to avoid confusing the reader. Statements that deserve criticism are few and these are not important, as, for instance, "Stoves do not assist at all in ventilation." The book may be recommended as a sensible guide to health and right living.

HYPNOTISM AND SUGGESTION IN DAILY LIFE, EDUCATION AND MEDICAL PRACTICE. By Bernard Hollander, M.D. Cloth. Price, $1.75. Pp. 295. New York: G. P. Putman's Sons, 1910.

The book will be interesting reading both to the physician and to the layman. It is an orderly, calm discussion of the subject, but adds nothing new of scientific value. There is no adequate consideration of the questions raised by the school represented by Freud and Jung; these questions are of the greatest importance where suggestion in any way enters into the problem.

Medicolegal

Validity and Construction of Provision in Medical Practice Act for Licensing Itinerant Vendors of Nostrums—Powers of State Board of Health—Advertising Matter Around Bottles as Evidence

The Supreme Court of Illinois, in People for use State Board of Health vs. Wilson, interprets and holds constitutional section 8 of the medical practice act of 1899, and holds that said section was not repealed by the pharmacy act of 1901. Said section 8 provides: "That any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, who shall, by writing or printing, or by any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license of one hundred dollars ($100) per month into the treasury of the board, to be collected by the board in the name of the People of the State of Illinois, for the use of said board. And it shall be lawful for the State Board of Health to issue such license on application made to said board * * * but said board may, for sufficient cause, refuse said license. * * * *"

It was contended that the section was unconstitutional for the reason that it delegated legislative and judicial powers to the State Board of Health by giving it the right to refuse a license for sufficient cause without laying down any rule for its guidance. And the court says that it is the province of the legislature, alone, to enact law, and that power cannot be delegated to any other body. A law must be complete in all its terms and conditions when it leaves the legislature, so that every one may know, by reading it, what his rights are and how it will operate when put into execution. But this section is complete in all its terms, and it does not confer on the State Board of Health any power to legislate or to make any law. The only powers delegated to the board pertain to the execution of the law. Had this section given the board arbitrary power, in its discretion, to refuse to issue a license in any case it would then be open to the objection urged. As it stands, this section merely confers on the board, by express terms, that power and authority which it would have possessed had the clause complained of been entirely omitted.

This statute is designed to protect the public health and is a proper exercise of the police power of the state. The practice of medicine, which includes the itinerant vending of drugs and nostrums, is subject to legislative regulation and control. Had the clause, "but said board may, for sufficient cause, refuse said license," been omitted from this section of the act, the board would have possessed a discretion, which it might exercise to safeguard the public health, in granting or refusing a license. By the insertion of this clause the board is given no greater power. In the absence of either

express restriction or authority the board would have been vested with a reasonable discretion, which it might exercise, when necessary, to safeguard the public health. If the board would possess such power without express authority it certainly cannot be said that the granting of that power in express terms renders the act void. Should the board abuse the discretion thus vested in it the party aggrieved has his remedy. If such discretionary power is exercised with manifest injustice the courts are not precluded from commanding its due exercise. They will interfere where it is clearly shown that the discretion is abused. Such abuse of discretion will be controlled by mandamus.

Under this act the State Board of Health is not vested with an arbitrary discretion, but on the contrary, is only authorized to refuse a license for sufficient cause. Should the board exercise this discretion unreasonably or unfairly its action would be subject to review by the courts. The act is not subject to the objection that it confers legislative powers on the State Board of Health.

Nor does the court agree with the contention that, even though this act be valid, section 8 was repealed, by implication, by the pharmacy act of 1901, so far as it applies to the itinerant vending of patent or proprietary medicines. The drug or nostrum sold in this case ("Porter's Pain King") was a proprietary preparation and bore a trade-mark. It was sold by the defendant in the original and unbroken package, and it was not claimed that it contained cocain or any other of the interdicted substances enumerated in the pharmacy act. The second proviso of the first section of the pharmacy act exempts from its provisions the sale of patent or proprietary preparations which do not contain cocain and other enumerated substances, and, so far as that act is concerned, leaves those preparations free to be sold by any one when sold in original and unbroken packages. The pharmacy act is not in reference to the same subject-matter as section 8 of the medical practice act. The pharmacy act merely provides that one who sells certain patent or proprietary preparations need not be a pharmacist, and that the provisions of that act do not apply to the sales of such preparations. It contains nothing which in any way modifies or repeals the provisions of the medical practice act regulating the vending of drugs and nostrums, whether such drugs and nostrums be patent, proprietary or other preparations.

It was urged, however, that, as by the pharmacy act the legislature removed all restrictions from the sale of certain patent or proprietary preparations, that act must be held to operate to repeal said section 8 in order to prevent unjust discrimination between vendors of the same patent or proprietary preparations, and it was insisted that it cannot be made unlawful, on the ground of regulating the practice of medicine, for a citizen to sell medicine from a wagon or by traveling from house to house when the same medicine can be lawfully sold by the proprietor of a grocery or drug store. This argument was based on the assumption that itinerant vendors of patent and proprietary preparations fall within the same class as vendors of the same preparations who have a fixed and permanent place of business. This assumption is without foundation. A merchant with a permanent place of business deals, as a rule, with his regular customers and sells wares to such as come to buy. He is not a stranger in the community, and his character, reliability and reputation are known. He has a business reputation to maintain and has a fixed abiding place at which he may be found. An itinerant vendor, on the other hand, is not bound by any of the rules which govern the local merchant. He may be an entire stranger to every member of the communities in which he plies his trade. He has no business reputation to sustain. He is bound by no restraint in the representations he may make as to the particular drug or nostrum he offers for sale. He is here to-day and to-morrow is gone, perhaps never to be heard of again. The local dealer and the itinerant vendor of patent medicines are of separate and distinct classes. To regulate the practice of medicine is clearly within the police power of the state, and to discriminate between peddlers or itinerant vendors of medicinal preparations and local dealers in the same preparations is not an abuse of that power. The pharmacy act in nowise repeals any of the provisions of the medical practice act.

It was finally contended by the defendant that there was no proof that he was an itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of disease or injury, or that he did, by writing or printing or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application. The evidence disclosed that the preparation sold by him was contained in bottles. Around each bottle was wrapped a printed circular, and bottle and circular were inclosed in a pasteboard box. The circular or pamphlet gave specific directions for external and internal use in the treatment of almost every ailment known to science with which man, beast or fowl may be afflicted, representing that "Porter's Pain King" was the best known remedy for all such ailments and guaranteeing satisfaction. The pamphlet also contained copies of a number of testimonials by various persons, in which wonderful cures of various ailments were claimed to have been effected by the use of the preparation. This pamphlet was delivered, with the preparation, to the purchaser. Such professions, although made only to those who purchased the nostrum, come within the clear meaning and intent of the statute. On this question the evidence on the part of the People made out a case against the defendant as an itinerant vendor of a nostrum, in violation of the statute.

Society Proceedings

COMING MEETINGS

American Medical Association. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Assn. of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

(*Continued from page 67*)

Primary Sarcoma of the Appendix

DR. EVERETT O. JONES, Seattle, Wash.: Primary sarcoma of the appendix is an extremely rare condition. An accurate diagnosis before operation appears to be impossible. In every case the symptoms are those of some type of appendicitis. Pathologically the round-cell sarcoma predominates; next to this, the spindle-cell type. Inflammatory changes, either chronic or acute, very frequently accompany the growth. The immediate prognosis and prospect of freedom from recurrence are very good. The fact that primary sarcoma of the appendix may arise in an inflammatory process forms a very strong additional argument for the removal of all appendices which show evidences of inflammation.

DISCUSSION

DR. A. E. HERTZLER: I have no hesitation in referring to this case as one of desmoid of the appendix, because I do not know what a desmoid is, and I do not know the nature of the appendix removed in this particular case. It is common to have microscopic pictures in these chronic intestinal inflammations which look very much like sarcoma; hence the greatest care possible is necessary to make the differentiation.

DR. S. C. BEEBE, David City, Neb.: In the department of pathology of St. Mary's Hospital, Rochester, Minn., of 5,000 appendices removed, there were only twenty-two cases of carcinoma, and not a single case of primary sarcoma.

DR. WILLIAM C. MCCARTY, Rochester, Minn.: Among 10,000 appendices removed in Rochester, I have not seen one case of sarcoma. In the first 5,000 cases examined, there were twenty-two cases of carcinoma. Two of these I had previously diagnosed as endothelioma, which shows that the differential diagnosis between endothelioma and sarcoma is a difficult one. These were all very early cases, and in only one out of seventeen was the serosa involved.

DR. DONALD MACRAE, Council Bluffs, Ia.: I have had eight or ten cases which from macroscopic appearances and the sensation imparted to my fingers appeared to be sarcoma. Unfortunately in the cases I have had, the disease was not entirely confined to the appendix, but involved the cecum, and there were adhesions which tore away like frozen meat, and the mass had a sarcomatous feel.

DR. ARNOLD SCHWYZER, St. Paul, Minn.: A few years ago, while on a visit to Switzerland, a patient presented himself with a large tumor of the diaphysis of the femur. Professor Kocher was to operate on this patient, believing the tumor was malignant. Sections were taken from it, and examined by Professor Langhans, who made the positive report that the tumor was a round-cell sarcoma. In the meantime, while waiting for the report, Kocher observed the tumor and found some grayish little dots here and there which appeared to him to be deteriorated tissue, and came to the conclusion that it was a case of infectious granuloma. He acted accordingly, left the femur, and saved the patient's leg. No recurrence took place. It is difficult to make a differentiation between infectious granuloma and sarcoma.

DR. EMERSON F. ROOT, Salt Lake City: About seven years ago I had a case of what I thought was primary sarcoma of the appendix. The patient had had a chronic appendicitis for more than a year. The appendix was found to be 5 or 6 inches long, and 1 inch or more in diameter, with its lumen almost occluded. It was rather hard, and very loosely attached. The cecum was not involved to any great extent. The appendix was removed together with a small portion of the head of the cecum. The wound healed by primary intention. Two or three months later the patient died. In this case the microscopic diagnosis was made of round-cell sarcoma of the appendix.

DR. WILLIAM JEPSON, Sioux City, Ia.: I am averse to coining new terms that do not express anything. The term desmoid tumor arises from the fact that prior to our histologic conception of what these tumors were like, they were classed as having developed from band-like masses found in the rectus muscle or in the transverse fascia. The term desmoid means band-like. Is there any reason why we should adhere to such a term when these tumors are strictly fibromas?

A New Principle in the Action of Antiseptics

DR. M. G. SEELIG, and DR. C. W. GOULD, St. Louis: Effectiveness in the action of a germicide is dependent on the inherent power of destroying germ life, and the power of penetrating tissues, blood-clot or exudate, in order to reach the bacteria.

Germicidal drugs such as mercuric chlorid, phenol, cresol and compound solution of cresol, in watery solution of various strengths, have no apparent effect on organisms that are separated from the germicide by a thin layer of celloidin, an excellent osmotic membrane. Iodin in watery solution is an exception. It osmoses through the celloidin and destroys the organisms. With animal membranes, excepting a 3 per cent. watery solution of phenol, the same results were secured as with celloidin membranes. Alcohol, above 60 per cent. strength, penetrated the celloidin membranes with a degree of rapidity and effectiveness proportionate to its strength. Ninety-five per cent. alcohol kills the organisms in from three to ten minutes. Eighty per cent. in about an hour and a half; 70 per cent. in about seven hours, whereas 50 per cent. did not kill in twenty-four hours. Ninety-eight per cent. was not perceptibly more efficacious than 95 per cent. The addition of bichlorid or phenol did not increase the osmotic power, or intensify the germicidal action of alcohol. The addition of iodin to the alcohol made a solution of heightened osmotic power and increased the germicidal power. The fatty constituents of the tissues, the skin for example, render them better osmotic membranes for alcohol and tincture of iodin, for the reason that alcohol is soluble in these fats. This phenomenon underlies the fact that thorough washing of the skin interferes somewhat with the germicidal effect of the subsequent application of alcohol. The generally accepted explanation that washing the skin is a disadvantage because it softens and swells the epidermis is incorrect.

Primary Suture of Subparietal Rupture of the Kidney

DR. F. GREGORY CONNELL, Oshkosh, Wis.: Owing to the rapid recent increase in the number of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe. Shock, injury to other organs and external evidence of trauma are frequently absent. History of an abdominal contusion, followed by rigidity and hematuria, is sufficient to lead to exposure of the organ. Slight lesions, and complete rupture of the kidney cannot be differentiated by clinical signs or symptoms. Proof of the absence of serious rupture is called for before instituting the so-called expectant treatment. Nephrectomy should be reserved for very extensive disintegration of the organ. Conservative treatment, preferably by suture, is indicated in the majority of cases.

DISCUSSION

DR. WILLIAM J. FRICK, Kansas City, Mo.: Heavy falls or blows striking on or about the lumbar region should always be regarded as serious. The appearance of hematuria following such injury should be sufficient evidence on which to make a diagnosis of rupture of the kidney, although the absence of hematuria following such injuries is not always absolute proof that the kidney has not been injured. In one case of subparietal rupture of the kidney, hematuria was very slight, although the damage to the kidney was apparently beyond repair. The patient did not live very long. The wound about the kidney was simply packed. In a case of gunshot wound of the kidney there was not a trace of blood in the urine, macroscopically at least, although the perirenal space was filled with blood. When a diagnosis of rupture of the kidney is made, the kidney should be exposed by a lumbar incision, especially if it be an uncomplicated rupture of the kidney, as it is the only means we have of determining the extent of damage done to the kidney. We cannot depend on the amount of hematuria or any other sign. Knowing the ability of kidney tissue to repair itself, we should attempt conservative surgery in these cases. Nephrectomy should not be done unless the injury to the kidney parenchyma is so extensive as to make it impossible to save enough of it to be of functional value, and unless the injury to the renal vessels is so great as to interfere seriously with the organ's nutrition.

DR. GEORGE N. KREIDER, Springfield, Ill.: By means of the Roentgen ray we can definitely outline the kidney, differentiating the pelvis from the substance of the kidney. Another valuable point is to give the patient methylene blue, which would cause staining of the tissues about the injured kidney.

DR. B. B. DAVIS, Omaha, Neb.: A great many nephrectomies have been done unnecessarily. We are beginning to realize the wonderful reparative power the kidney possesses. In one case I removed about one-third of the kidney, putting in a mattress suture below, with recovery of the patient. I believe that in many cases the suture is very much to be preferred to gauze drainage or gauze used to control hemorrhage.

DR. F. A. DUNSMOOR, Minneapolis: It is not the mere escape of blood which causes death in these cases, but it is the mixture of urine with the blood and its absorption into the tissues which causes death, particularly in these complicated cases in which the abdominal cavity is contaminated.

DR. ARNOLD SCHWYZER, St. Paul: As to the diagnosis, blood in the urine may be very scant. The first urine should be examined not only by the eye, but microscopically.

DR. A. W. ABBOTT, Minneapolis: I wish to speak of some experiments made by a Minneapolis physician for the purpose of determining the ultimate results of injury to the kidney. In the first place, where the kidney has been injured and the capsule only sewed together, if there was much hemorrhage left in the kidney, it was followed by inflammatory trouble usually, and then by a scar, and a large part of the kidney was rendered useless. The same results followed packing. The best results were obtained by a suture which passed through the kidney directly at about the outer limits of the pyramids.

DR. DANIEL N. EISENDRATH, Chicago: I want to endorse the position taken by Dr. Davis in contradistinction to that taken by Dr. Connell and Dr. Frick. My experience is based on a personal observation of fifteen cases of subparietal rup-

ture of the kidney. The conclusion has been forced on me that the more conservative we are in the treatment of subparietal rupture of the kidney, the greater will be our percentage of recoveries, and I think that is the tendency one sees in the foreign literature on this subject. I have seen some extremely severe cases in which I thought I would do a nephrectomy, but I have watched these patients bleed and bleed, and when left alone they have recovered. Why do they recover? Granted that the kidney is extensively destroyed, we know these patients are not good objects for operation; they are suffering from considerable shock, and the manipulation necessary to find and grasp the bleeding artery, which perhaps has already become partly or completely occluded by blood-clot, and then start up hemorrhage in a fresh field, is attended with more harm than if we let these patients alone. We know from our experimental work on the kidney that if we tie off the renal vessels, and leave the kidney *in situ*, that kidney undergoes complete atrophy, and within a period of a few months the kidney will be a mass of cicatricial tissue. That condition undoubtedly takes place in a certain proportion of cases where the kidney has been severely injured.

DR. E. W. ANDREWS, Chicago: I have seen a man with a ruptured kidney on whom I had operated, and declined to remove the kidney because I thought I had successfully ligated the bleeding point, three days afterward get another severe, violent hemorrhage and die within a few minutes. We cannot get away altogether from the old teaching that a ruptured kidney is apt to cause death when conservatively treated, that is, nothing being done in the way of interference. I do not think we should stand by and let these patients with ruptured kidney have one hemorrhage after another without doing something for them; but it does not necessarily follow that nephrectomy is the only operation of choice in these cases, for sometimes, in addition to ligating the bleeding points, we can close the injured kidney with rows of mattress stitches, and if such an operation is done under aseptic conditions, it might give a percentage of successful results which would compare favorably with nephrectomy as a life-saving measure.

DR. WALTER COURTNEY, Brainerd, Minn.: I have seen many cases of injury of the kidney. If the surgeon will wait a few days, as he may in most cases, provided hemorrhage is not alarming and secondary anemia has not taken place, a large number of these cases will gradually clear up, and it will be found that the kidney has only been contused.

DR. JAMES E. MOORE, Minneapolis: It is only in exceptional cases that a nephrectomy is justified for rupture of the kidney. A patient was brought into the University Hospital recently, thirteen days after he had been thrown in a runaway accident, and presumably had sustained a ruptured kidney. He was brought to us in a moribund condition with his bladder full of clotted blood. He died. At the post-mortem examination we found that he had sustained a rupture of one of the terminal branches of the renal artery just before it entered the kidney, and the presence of blood in the urine was accounted for by the fact that through pressure the blood was transmitted along and had broken through into the pelvis of the kidney at a point below and finding its way down the ureter into the bladder.

DR. DONALD MACRAE, Council Bluffs, Ia.: It seems to me, it is well to take a middle ground in dealing with injuries of the kidney. If we make a positive diagnosis of post-peritoneal rupture of the kidney or of contusion, the case is not fraught with as much danger as other forms of injury to this organ. But if we find a patient is failing, we should resort to incision, with drainage, or whatever is necessary to be done at the time. It is better, however, not to fuss with the kidney if we can help it.

Commissions and Division of Fees

DR. JOHN P. LORD, Omaha, Neb.: Realizing that the practice of fee-division, joint fees and giving commissions is increasing at an alarming rate among the younger element, and that in many cities and towns it is the usual thing, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this problem and will yield to the general trend of practice unless some moral force within the profession or the effect of publicity checkmates this menace to professional honor, dignity and decency. I agree with those who favor publicity as the speediest and most effective remedy. We should maintain a professional and public sentiment against any countenance of graft. The practitioners who have for years adhered to an inelastic fee bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is something of a law unto himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's faculty of fee getting and ask him to add a sum for them, as the people would object to paying them a proper amount.

Our medical schools have been remiss in their ethical instruction to students. The subject has been eschewed in some faculties for fear of engendering feeling, developing strife and endangering the integrity of the organization. The same silence has prevailed in medical societies because it might cost something to speak. There has already been more harm done than can be overcome for a generation. Delayed action means more sacrifice. The organized profession should busy itself in reformation and take its stand in our medical colleges, hospitals and societies, and as individuals, and educate the public and reform our own members. The most hopeful view may be taken of the result. Any practice which even smacks of graft, or of obtaining money under false pretenses, cannot endure before a righteous public opinion. Nor will it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority during all the ages of the history of medicine.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 14, 1910

The President, DR. HENRY LEFFMANN, in the Chair

Surgical Pathology of Chronic Constipation

DR. L. J. HAMMOND: The surgical problem involved in chronic constipation concerns itself with those forms of constipation the result of mechanical factors which act either by inducing organic changes or local disease of the bowels. Chronic constipation is not a disease but a manifestation of disturbance or disease which alters intestinal function. Improvement follows the correction of such alteration. The surgeon frequently notes the existence of all sorts of variations from the normal relation and position of the abdominal viscera directly responsible for many cases of chronic constipation. The treatment of a person presenting the chain of symptoms resulting from mechanical obstacle to free intestinal drainage should be palliative only so long as is necessary to determine the character and extent of the pathology. In the majority of cases, to secure permanent benefit, the surgical treatment need go no further than the correction of malformation and faulty positions, division of bands, breaking up of adhesions, the removal of tumors, the replacement of the displaced viscera and removal of cicatricial strictures. If a stricture involves a greater portion of the intestinal wall than the serous coat, excision and anastomosis may be required. The more radical operation of colopexy advocated by Lane may be left to that extremely small group of cases in which, from long standing ptosis, the viscera have become so hopelessly displaced, angulated and dilated that it is impossible to restore drainage sufficient to empty the loaded sacculated loops.

Symptoms and Complications of Constipation

DR. DAVID RIESMAN: Strictly speaking, constipation is in itself only a symptom, and not a disease entity, and thus imposes on the physician the obligation to search out its cause. A thorough physical examination may reveal doughy masses in the abdomen, a contracted colon or ptosis of the viscera. Hyperchlorhydria is present in many cases and the constipation yields with the cure of the gastric condition. Anal fissure or hemorrhoids may be present either as cause or effect.

Constipation may be due to poisons, especially lead. In the majority of ordinary cases of constipation assimilation is probably too good, so that there is not enough residue to ferment under the influence of bacteria or mechanically to stimulate intestinal peristalsis. To this fact the constipation of many infants may be ascribed. The proof of auto-intoxication of gastro-intestinal origin is not conclusive. Indicanuria is not a correct measure of intestinal putrefaction; neither is the estimation of the amount of conjugate sulphates in the urine. A considerable quantity of such substances is eliminated in the feces and would have to be estimated if the degree of intestinal putrefaction is to be determined. Intestinal auto-intoxication is a possible condition but there is no clinical test by which it can be measured. Various forms of constipation due to organic causes are discussed, especially those of malignant tumor, perisigmoiditis, chronic appendicitis; also those produced by hernia, fibrous bands, Meckel's diverticulum, stricture and ovarian disease, and by pressure from without. Whether constipation *per se* increases blood-pressure has not been definitely determined, but the benefit accruing to an apoplectic patient from a free evacuation of the bowels would point in that direction.

Discussion on Constipation

DR. FREDERICK J. KALTEYER: From a clinical point of view it should be our aim to study carefully the various clinical symptoms of constipation. Laboratory methods will not suffice in determining the degree of intestinal symptoms present. We should endeavor to treat patients as much as possible without drugs, having recourse rather to the hygienic, and to ingestion of foodstuffs with a large residue. The lower bowel is often at fault, and in such cases there should be cleansing with enemas of water or oil.

DR. LEWIS H. ADLER, JR.: It is important that the diet should contain food products allowing enough residue to stimulate peristalsis. In the matter of treatment, I direct the patient to go to the closet at a regular time each morning. If there is lack of tone, as is usually the case, I have them come to my office and use an injection. Another method of treatment used with excellent results is the use of a bag inserted at the sigmoidal junction inflated with air which tends to stimulate peristalsis. Exercise and the effort of proper breathing are helpful factors in treatment. I am opposed to the use of very large injections in the ordinary functional case of chronic constipation.

DR. ERNEST LAPLACE: We should remove all possible causes, surgical and organic, that lead to constipation. There are certain forms of intestinal stasis resulting from long-continued malnutrition which should be corrected.

DR. GEORGE ERETY SHOEMAKER: Much of the failure in treatment is due to the lack of persistence on the part of the patient. There are few who will give the time, money and effort to the overcoming of this troublesome condition. We tell the patient to go to the closet at a fixed hour, but this may mean the establishment of a separate toilet for the patient. Then, too, the patients must not be hurried for fear they will be seen, or otherwise made uncomfortable. Attention to the diet, the ingestion of a sufficient amount of water and the carrying out of proper methods of exercise for a sufficient length of time will often work a wonderful cure, but it takes time.

DR. ALFRED HAND, JR.: I agree with those who have advocated conservative treatment, and yet I would emphasize the fact that a number of patients need surgical treatment. Many cases are due to definite inflammatory changes in the abdominal cavity and in these conservative treatment does not avail.

DR. DAVID RIESMAN: I agree with what has been said about the value of habits and food. One article of food which has given satisfactory results is an apple eaten at night, thoroughly masticated, and taken with a glass of water. Another measure of value is the massage roller, the applications following the line of the colon. Low injections of cottonseed oil at night and held in all night have effected cures in a certain proportion of cases of the ordinary type of constipation.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 7

1 Treatment of Gonorrhea in Women. H. J. Boldt, New York.
2 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
3 Nervous Affections and Adjustments of the Eyes. G. T. Stevens, New York.
4 Optic Nerve Changes and Cranial Malformations. A. Gordon, Philadelphia.
5 Twilight Talks with the Doctor. G. F. Butler, Chicago.
6 *Lymphoid Degeneration of the Conjunctiva. H. W. Wandless, New York.
7 Eosinophilia and Anaphylaxis. E. Moschcowitz, New York.
8 Manic-Depressive Insanity or Recurrent Insanity. M. Talmey, New York.
9 *End-Results of Surgical Operations on Nervous Women. S. T. Rucker, Memphis.
10 Diphtheria of the Vulva in a Child of Three. L. L. Smith, Washington, D. C.

6. Lymphoid Degeneration of the Conjunctiva.—It is Wandless' belief that trachoma is a non-specific disease; that it is in reality a lymphoid degeneration of the conjunctiva, a title he proposes for trachoma as being far more expressive. The principal lines of thought embodied in his paper are: (1) trachoma is non-specific and non-contagious; (2) follicular conjunctivitis and trachoma are one and the same disease; (3) pannus must be regarded as reparative; (4) trachoma is evidently chronic and self-limited in its nature; (5) predisposition and susceptibility are important causative factors; (6) trachoma may be caused by one or more of a number of agencies; (7) digestive disturbances, including auto-intoxication, are potent in the cause of trachoma; (8) errors of refraction deserve careful consideration as contributing causes of trachoma; (9) adenoids of the nasopharynx and trachoma are similar processes; (10) heredity, which has been practically excluded from causation, is undoubtedly an important factor.

9. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2005.

Medical Record, New York

January 7

11 Increasing Frequency of Inherited Syphilis and Importance of Its Early Recognition from the Standpoint of the Ophthalmologist. C. S. Bull, New York.
12 Hints for the General Practitioner on the Nature, Etiology and Early Diagnosis of Insanity. C. F. Macdonald, New York.
13 Pellagra. J. Collins and L. Sheldon, New York.
14 Ventilation of Kitchens and Bakeries. W. A. Evans, Chicago.
15 Surgical Anatomy of the Abdominal Wall with Reference to Appendectomy. W. E. Tobie, Portland, Maine.
16 Theory as to the Untoward Effects of Diphtheria Antitoxin; Prophylaxis in Suspicious Cases. R. Wallace, Chattanooga, Tenn.
17 The American Game of Football: Is It a Factor for Good or Evil? M. J. Clurman, New York.

Boston Medical and Surgical Journal

December 29

18 *Principles Underlying the Study and Treatment of Chronic Arthritis. H. W. Marshall, Boston.
19 Radium Therapy. L. Wickham, Paris.
20 *The Care and Management of the Tabetic Bladder; Etiology. J. D. Barney, Boston.
21 Biography of Charles Spon, M.D. C. G. Cumston, Boston.

January 5

22 *Prevention and Treatment of Typhoid with Antityphoid Vaccine. F. F. Russell, Washington, D. C.
23 *Antityphoid Inoculation as Introduced into Certain Training Schools for Nurses in Massachusetts. M. W. Richardson and L. H. Spooner, Boston.
24 The Fresh-Air School. J. Perkins, Providence, R. I.
25 *Care and Management of the Tabetic Bladder: Prognosis and Treatment. J. D. Barney, Boston.

18. Treatment of Chronic Arthritis.—Marshall considers arthritis a symptom of many diseases. The most severe deforming types that stubbornly resist treatment and the mildest kinds that are easily controlled and permanently cured, he thinks, have similar origins. They differ only in the degree of severity with which the underlying causes act. Arthritic disease in every stage may often be modified by treatment, sometimes only slightly, and sometimes to a great degree, permitting permanent cures not infrequently. Proper

application of simple hygienic measures and correction of defective personal habits are the most adequate means of treatment in the early stages. Increased efficiency in treatment depends on greater clearness in understanding normal physiologic conditions that control health of joints, and also increased skill in treating diseases of other organs and infections that act as causes.

20. **Causes of Urinary Disturbances in Tabes.**—It is pointed out by Barney that the urinary disorders of tabes are dependent on (a) a disturbance in the transmission of sensory impulses from bladder, (b) incoordination of the muscles of micturition, (c) urinary infection.

22 and 23. **Antityphoid Inoculation.**—The authors of these two papers favor antityphoid vaccination. They claim that the inoculated individuals have acquired an increased resistance to typhoid infection which will last for several years at least.

25. **Treatment of Bladder Infection in Tabes.**—According to Barney, infection of the urinary tract occurs in over 50 per cent. of patients with tabes dorsalis. The mortality from such an infection is nearly 60 per cent. Catheterization and irrigation of the bladder, at regular and frequent intervals, combined with the constant use of an efficient urinary antiseptic will (a) delay, prevent or reduce the activity of urinary infection; (b) postpone the appearance of residual urine, or diminish its amount if present; (c) relieve symptoms. Reeducation of the muscles of micturition, combined with local treatment, will cure or relieve most of the symptoms which harass the life of a tabetic. It is, therefore, of the utmost importance. Barney urges that the combined treatment of the nervous system and of the urinary tract is essential for the welfare of the patient.

Lancet-Clinic, Cincinnati

December 31

26 Pathology and Etiology of Dysmenorrhea. J. W. Rowe, Cincinnati.
27 Cardiac Weakness, Its Causes and Treatment. J. H. Honan, Bad Nauheim, Germany.

Medical Fortnightly, St. Louis

December 26

28 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
29 Spina Bifida. W. L. Crosthwait, Holland, Texas.

American Medicine, Burlington, Vt.

December

30 Pyelitis in Pregnancy, Its Etiology and Cystoscopic Diagnosis. E. McDonald, New York.
31 Clinical Observations on Blood-Pressure with Special Reference to the Effect of Prostatic Massage. D. M. Cowie, Ann Arbor, Mich.
32 A New and Safe Method for the Submucous Removal of the Deflected Bony Septum. O. Glogau, New York.
33 Tuberculous Pericarditis and Myocarditis. F. O. Manning, New York.
34 Peritonsillar Abscess with Description of a New Instrument for Opening and Irrigating the Abscess Cavity. H. Hays, New York.
35 Results Obtained with Intravenous Medication. J. F. Sommes, Vincennes, Ind.

University of Pennsylvania Medical Bulletin

December

36 A Case of Patent Ductus Arteriosus Botalli. E. H. Goodman, Philadelphia.
37 Early Operation for Psoas Abscesses. J. K. Young, Philadelphia.
38 The Medical Side of Benjamin Franklin. W. Pepper, Philadelphia.

New York State Journal of Medicine

December

39 *Control of Typhoid in the Army by Vaccination. F. F. Russell, U. S. Army.
40 *Relation of the Interstitial Cells of the Testicle to Its Internal Secretion. A. M. Pappenheimer and B. Schwartz, New York.
41 *Latest Experiences with Salvarsan (606). W. Wechselmann, Berlin.
42 Early Diagnosis of Syphilis Through the Living *Spirochæta Pallida*. E. W. Ruggles, Rochester, N. Y.
43 Gonorrheal Arthritis Treated by Gonococcus Vaccines. G. R. Satterlee, New York.
44 The Objects and Aims of Medical Education. J. Van Duyn, Syracuse.

39. Also published in the *Boston Medical and Surgical Journal*, Jan. 3, 1910; see Abstract No. 22.

40. **Relation of Interstitial Cells of Testicle to Its Internal Secretion.**—Illustrations are cited by Pappenheimer and Schwartz to show that the orderly development of the primary and secondary sexual characters is controlled by complex factors—some of which at least, lie without the genital sphere itself. While the authors do not deny that the testicle exerts a definite chemical influence on the whole organism, they are unwilling to admit that the evidence at hand is sufficient to connect the interstitial cells specifically with the supposed internal secretion. Not only has it been impossible for them to eliminate the Sertoli cells from consideration, but it has been shown that the interstitial cells may be abundantly present in cases of arrested or incomplete development of the sexual characters. They believe that it is highly probable that further research will reveal correlations and antagonisms between the genital organs and other glands of internal secretion, and that the too simple theory which ascribes the entire complicated series of changes attending the development of the sex characters, to the interstitial cells alone, will have to be modified or abandoned.

41. **Experiences with Salvarsan.**—The first attempts at the cure of hereditary syphilis in the new-born were in the patients afflicted with pemphigus and who were no doubt doomed to an early death. In some a dose of 0.3 gm. produced symptoms which could be ascribed to toxemia produced by the destruction of a large number of spirochetes from the internal organs. Wechselmann then gave doses of from 0.015 to 0.02 gm. which was repeated in from eight to twelve days. The first patient was cured after having received 0.015 gm. on April 4 and on April 15. No recurrence has taken place thus far. But, because the Wassermann reaction, which had become negative, again became positive on June 27, another injection was given which resulted in a negative reaction. Wechselmann has in this way treated five other cases of syphilis in the newly-born, and in all the infants the symptoms have been arrested without any harmful after-results. This encouraged him to reinject with a stronger dose patients with most malignant syphilis previously reported, who had shown brilliant results, but in whom small remaining ulcerations showed that a complete cure had not been effected, owing no doubt to too small doses. These second injections were made when complete elimination of the first dose could be safely expected. The number of partial failures is infinitely small compared to the large number of prompt cures; Wechselmann has now treated 1,050 cases.

The number of reinjections for recurrence is also remarkably small. In the majority of cases only very small foci could be detected; the exception to this was two cases. In one patient with originally severe syphilis, Wechselmann found fifteen small and much softer infiltrations and in another, injected on June 29 with 0.5 gm., a second injection was given, because the Wassermann reaction was still positive on August 23 and the man was suffering at that time from impetigo capitis. Other reinjected cases were. one of periostitis; two of iritis; one of chorioiditis; one a slight trochlear paralysis; one case of abducens paralysis and one case of angina. In another rather unusual case the patient received a second injection. This patient was a strong, otherwise healthy man who had received 0.5 gm. acid solution on June 16 for a primary lesion and papular syphilides, and who had on August 24 a curious attack of an aura ascending from the legs accompanied by loss of consciousness and biting of tongue. The Wassermann reaction was positive at the time of the second injection. In two patients, in the second and third months respectively after the injection, and with a negative Wassermann reaction, occurred severe headaches which did not yield to usual headache remedies, but which were promptly cured by a second injection. In some of these cases a previous mercury treatment was unsuccessful.

Recognizing fully the severer lapses observed by others, Wechselmann is of the opinion that these relapses were probably due to the setting free of encapsulated deposits by the remedy. These observations have been made in the late stages of cases treated with mercury, in which the repeated courses of treatment had removed most of the spirochetes in

the body. He believes that we should not exceed the well-established curative dose of from 0.5 to 0.6 gm. for men and 0.45 for women, which may be repeated in the infrequent relapses. Wechselmann has now treated more than 1,000 cases by the subcutaneous or intramuscular injection of doses from 0.45 to 0.6 gm. and has never seen any toxic effects. Slight degrees of arsenic poisoning have occurred in a few cases, such as gastric symptoms and atonica of the intestine, which may be explained by the well-known effects arsenic has on the contractile tissues of the mesenteric vessels.

Among the contra-indications to the use of salvarsan have been mentioned weak heart and organic cardiac disease. Wechselmann has treated two patients with dilatation of the aorta with small aortic aneurysm at first with doses of 0.3 and 0.1 gm. respectively, without doing any damage. He has also treated successfully a man, aged 85, with extensive arteriosclerosis, suffering from a primary sore of the prepuce and papular syphilitic skin eruption, the dose being 0.4 gm. He has grave doubts about treating patients with very weak and flabby heart-muscle, such as we often find in tabes; equally so, patients with stenosis, because he is afraid of the depression of arterial blood-pressure which takes place in arsenic poisoning. But a weak heart is furthermore a contra-indication on account of the hypersensitiveness to the medicine found in some patients. The second important fear about the new remedy was in regard to damage to the optic nerve, on account of such effect by other arsenic derivatives. This fear has, however, so far not been confirmed. At first all patients with diseases of the optic nerve were excluded; later, in some doubtful cases, they were treated. Wechselmann has, in six cases of either beginning or advanced optic nerve disease, used the remedy in the hope of arresting the progress of the atrophy. In none was the nerve condition made worse, so that further careful trials in such cases should be made.

New Mexico Medical Journal, Las Cruces

December

45 Surgical Progress in the Past Ten Years. J. W. Colbert, Albuquerque.
46 Treatment of Wounds. F. de la Vergne, Albuquerque.
47 Operative Treatment of Uterine Retrodisplacements. C. M. Yater, Roswell.

Montreal Medical Journal

December

48 Medicine of the Earlier Days of Montreal. W. G. Stewart, Montreal.
49 The Cure of Syphilis. F. McK. Bell, Ottawa.
50 Typhoid Perforations and Perforations of the Gall-Bladder. G. E. Armstrong, Montreal.
51 Double Radical Frontal Sinus and Antrum Operation. E. H. White, Montreal.
52 Miliary Tuberculosis of the Chorioid. G. H. Mathewson, Montreal.

Northwest Medicine, Seattle

December

53 Bilateral Renal Calculus. E. O. Jones, Seattle.
54 The Fibroid Uterus. A. E. Rockey, Portland, Ore.
55 Clinical Cases of Pellagra. R. E. Dunlap, Portland, Ore.
56 Etiology of Cholecystitis. J. E. Else, Pullman, Wash.
57 *Tochil, or Endemic Hemoptysis. M. M. Null, Seattle.
58 Facts Concerning Myopia of Children. E. E. Maxey, Boise, Idaho.
59 Surgical Treatment of Cancer of the Prostate. G. S. Whiteside, Portland, Ore.
60 Vaughan's Typhoid Residue. H. E. Coe, Seattle.
61 Is a High Total Acidity of the Urine Pathognomonic of Cardiac Disease? A. M. Smith, Tacoma, Wash.
62 Should Cobwebs Cover the Obstetric Forceps? G. S. Wright, Friday Harbor, Wash.

57. Tochil, or Endemic Hemoptysis.—Tochil, or endemic hemoptysis, is an endemic disease, caused by a distomum or flat worm that burrows in the tissues, characterized by a chronic cough, a rusty, brown pneumonia-like sputum, hemoptysis, anemia and toxemia. It is limited in its geographic distribution. So far as Null knows, it is found only in Korea, Formosa, and parts of Japan. A doubtful case has been reported in China. No cases have been reported in America. Null's patient was a Korean who came from Seoul five years before; for two years he had been coughing, and for one year he had been spitting blood. He was 26 years old, large and well built. His pulse was 80, respiration 22, temperature 98.5 F. He did not complain of pain, and his appetite was moderately good. Physical examination showed the apices sunken on both sides, slight dulness on the right side, with a small cavity in the upper lobe. Expansion was normal. Urine was normal. Blood-examination showed Hg 60 per cent., erythrocytes 4,800,000, leukocytes 10,000. He was weak—not able to do normal labor. Having seen many cases of the disease in the Orient, Null at once recognized it and an examination of the sputum proved it to be tochil.

Null regards the occurrence of tochil, or endemic hemoptysis in Seattle as a very important matter to the Pacific Coast states, as the conditions here are almost identical with those of central Korea and parts of Japan as regards climate, mountains and valleys, temperature and water supply, so that if the disease once gets a foothold in this country we can hardly expect to eradicate it. One patient in the course of a day can throw out indiscriminately thousands of eggs from his lungs, enough to infect a village or a whole valley. Therefore, it is important for boards of health to look after the matter in time to prevent it gaining an entrance into the country. Most frequently the victims of tochil live a long time, and become anemic and weak, being scarcely strong enough to move about. They are then called indolent, the infection producing very much the same conditions socially as the hookworm in the South. If one man out of four is an invalid, as in some sections of Korea, then we can see to what extent the ravages of this disease may spread.

Old Dominion Journal of Medicine and Surgery, Richmond

December

63 Service in the Navy Medical Corps. W. S. Thayer, Baltimore.
64 Diagnosis and Pathogenesis of Acute Anterior Poliomyelitis. A. Gordon, Philadelphia.
65 Diagnosis of Syphilis by Demonstration of *Spirochæta Pallida*. L. T. Price, Richmond.
66 Budd of Chatham. H. A. Royster, Raleigh, N. C.

Long Island Medical Journal

December

67 Relation of Flies to the Transmission of Infectious Diseases. H. D. Pease, New York.
68 Eradication of the House-Fly. F. Overton, Patchogue, N. Y.
69 *Surgery Among the Insane. W. W. Skinner, Geneva, N. Y.
70 Treatment of Fractures of the Lower End of the Radius. A. H. Baker, Elmira, N. Y.
71 Methods of Study and Treatment of Diabetes Mellitus. J. R. Williams, Rochester, N. Y.
72 Abdominal Contusions. M. Figueira.
73 Use of Desiccated Liver Extract in Diabetes and Chronic Gastro-Intestinal Auto-Intoxication. O. L. Mulot, Brooklyn, N. Y.

69. Surgery Among the Insane.—Regarding the mortality rate of operations on the insane, it has been Skinner's experience that in the purely psychic states operations are borne as well as among the sane. To be sure, he says, operations should be avoided during periods of excitement, since in those periods the vital powers are at their lowest ebb and the tendency of the disease itself to a downward or fatal course is a factor always to be borne in mind. In the forms of mental disease accompanied or caused by degenerative changes throughout the nervous system, such as paresis and cerebral syphilis, there is little doubt but that operative measures, with or without anesthesia, may hasten the terminal period. In these forms of disease, abdominal operations are especially hazardous, since the relaxations of muscle fiber render intestinal paralysis and obstructions much more frequent in occurrence, and resistance to infections more feeble. One fact which has impressed itself vividly on Skinner in his work the past seven years in the state hospital is the frequency of intestinal obstructions, especially of the volvulus type, in the insane. Both paretics and dements seem extremely liable to this accident; and, owing to the mental condition of these patients, the recognition of the trouble is extremely difficult until after gangrenous or peritonitic changes have so emphasized the symptoms as to call attention to the true state of affairs. In four cases he found parts of large portions of the intestine literally black with gangrene, and in one of these sloughing and escape of fecal contents had occurred. He says that in the purely depressive types of insanity benefit mentally may be expected, when, and only when, the local condition is the active factor in the causation of the health depression which underlies the insanity. The female paranoiac dement neither loses her obsessions nor gains her logical power on losing the uterus. For these reasons Skinner emphasizes

the absolute necessity of making accurate diagnoses of the mental disease before making roseate prognoses in operations on the insane.

St. Louis Medical Review

December

74 Gonorrhea in Its Relation to Puerperal Morbidity. D. Longaker, Philadelphia.
75 Iritis: Symptomatology, Diagnosis and Treatment. J. Clothier, Philadelphia.
76 Early Detection of Tuberculosis. J. C. Blossom, Richmond, Ind.
77 Medical Treatment of Chronic Interstitial Nephritis. G. B. Lake, Wolcottville, Ind.
78 Referred and Reflected Symptoms of the Abdomen. H. E. Randall, Flint, Mich.
79 Conditions Governing the Choice of Operation for Vesical Calculus. W. L. Munro, Providence, R. I.
80 Treatment of Rheumatism. W. F. Barclay, Pittsburg.

The Journal of Cutaneous Diseases, New York

November

81 Bacteriotherapy in Certain Diseases of the Skin. M. F. Engman, St. Louis.
82 Vaccine Therapy as Applied to Skin Diseases. T. C. Gilchrist, Baltimore.
83 Vaccine Therapy in the Treatment of Diseases of the Skin at the Massachusetts General Hospital. H. P. Towle, Boston, and G. P. Lingenfelter, Denver.
84 *Lichen Nitidus. R. L. Sutton, Kansas City, Mo.
85 Dermatitis Vegetans. D. K. Smith, Toronto.
86 Scrofuloderma Treated with the Roentgen Ray. A. G. Nadler, New Haven, Conn.

December

87 The Nature of Eyelid Xanthoma. S. Pollitzer, New York.
88 *Cancer in Tar Workers. J. F. Schamberg, Philadelphia.
89 *Granuloma Pyogenicum. U. J. Wile, New York.

84. **Lichen Nitidus.**—Lichen nitidus is described by Sutton as a chronic, papular disease of the skin, probably tuberculous in origin, which is characterized by the presence of minute, painless, flat-topped, shiny, flesh-colored lesions which do not exhibit a tendency to grouping and never become confluent. Histologically, the lesion is a granuloma (not a tubercle), which originates in the tip of a papilla, and as it gradually increases in size, follows the lines of least resistance and grows upward into the epidermis, shutting off and enclosing any projecting cell masses that may result from pressure or cell overgrowth. Sutton reports one case.

88. **Cancer in Tar Workers.**—Schamberg examined about twenty men whose work caused them to become besmeared with tar. In the manufacture of tar paper the men's arms are soiled with tar and their clothing is more or less saturated. Most of the men stated that they suffered from time to time from outbreaks of "yellow heads" on their arms, but these soon passed away. In a number of workmen, he saw mild acneiform eruptions on the arms, representing a folliculitis. Five workmen were found showing evidences of beginning or well-developed tar-cancer.

89. **Granuloma Pyogenicum.**—Wile cites two cases of granuloma pyogenicum, a condition clinically characterized by a pedunculated, rapidly growing, slightly painful, easily bleeding tumor, which, microscopically, can be regarded as simple hypertrophic granulation tissue. At times the tumor is painful, as often not so. Almost without exception these tumors are pedunculated, there is marked tendency to recurrence after removal, provided cauterization of the base has not been done. Superficial ulceration occurs in about half the number of cases, and when present gives rise to frequent and easily induced hemorrhage. Histologically, too, there is a great uniformity in the findings. In all cases, the tumor is one primarily of young connective tissue; in all, the presence of blood-vessels in greater or less number is noticeable. The plasma cell content of the tumors was in no case sufficiently striking to attract marked attention, although present to a degree in all cases. Wile believes that the entire group of so-called pseudo-botryomycosis, granuloma simplex, granuloma telangiectoides, and granuloma pyogenicum, may be placed in one class, and may be regarded as ordinary granulation tissue, appearing, for as yet undetermined reasons, in the unusual form of a tumor. The etiologic factor is not a fungus, but probably the *Staphylococcus aureus*, perhaps in an unfavorable soil or in an attenuated form. The histologic changes are essentially the same for all forms, minor differences being simply in degree of vascularity and inflammation. In no instance is there any connection between these tumors and the sweat-glands. Although never malignant, the growths tend to recur, unless cauterization of the base is practiced. The treatment consists in removal and cauterization.

Journal of Ophthalmology and Otolaryngology, Chicago

December

90 Lymphangiectasis Multiplex. J. F. Burkholder, Chicago.
91 Salvarsan: Its Therapeutic Possibilities in Ophthalmology. W. O. Nance, Chicago.
92 An Unusual Sequestrum Resulting from Suppurative Otitis Media. A. H. Andrews, Chicago.
93 Cocain as a Local Anesthetic. B. H. Breakstone, Chicago.

Proctologist, St. Louis

December

94 Treatment of Painful Fissures and Hemorrhoids by High-Frequency Currents. A. Tierlinck, Ghent, Belgium.
95 Sepsis of the Rectum Due to Trauma. C. H. Wintsch, Newark, N. J.
96 Colica Mucosa. E. H. Thrailkill, Kansas City, Mo.
97 Colitis. W. H. Stauffer, St. Louis.

Buffalo Medical Journal

January

98 *Intussusception in Infants. H. E. Hayd, Buffalo.
99 Epilepsy, the Neuropathic Diathesis and Heredity. G. M. Gould, Ithaca, N. Y.
100 *Case of Intraperitoneal Hernia. W. L. Wallace and J. S. Allen, Syracuse, N. Y.

98. Abstracted in THE JOURNAL, Oct. 15, 1910, p. 1403.

100. **Intraperitoneal Hernia.**—In the case cited, all the small intestines, except the first and last three inches, with the entire mesentery, were contained in a hernial sac. The intestines passed behind a band in the free border of a fold which formed an inferior duodenal fossa, and then pushed anteriorly, distending the double layer of the inferior duodenal fold to form a sac which filled the peritoneal cavity. The sac hung loosely, connected with the posterior abdominal wall by a comparatively narrow neck or pedicle, having a mouth above and to the left which was a little larger than a silver dollar. The intestines were carefully withdrawn and when the sac was half emptied, the mass was delivered outside the abdomen. The remainder of the intestine now having been withdrawn, the collapsed sac, which was then about six inches long, hung from the posterior abdominal wall just below the duodeno-jejunal flexure. The band in the neck of the sac contained no blood-vessels of any size, and the sac which was formed by a double layer of peritoneum was tied off and removed. The wound was closed without drainage. Three weeks later the patient had recovered and left the hospital.

Journal of the Indiana State Medical Association, Fort Wayne

December

101 *Serodiagnosis of Syphilis. J. P. Simonds, Indianapolis.
102 Tubo-Ovarian Hematocele Simulating Extrauterine Pregnancy. P. F. Martin, Indianapolis.
103 *Fracture of the Patella. P. J. Barcus, Crawfordsville.
104 Sketches of the Medical History of Indiana. G. W. H. Kemper, Muncie.

101. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1670.

103. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1837.

Journal of the South Carolina Medical Association, Charleston

November

105 Psychology of Pellagra. J. W. Babcock, Columbia.
106 Pain as a Symptom of Disease Involving the Right Half of the Abdomen. B. B. Steedly, Spartanburg.
107 Poliomyelitis, Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.
108 *Amebas as the Cause of Pellagra. W. B. Young, Rock Hill.

108. **Amebas as the Cause of Pellagra.**—It is Young's belief that pellagra is caused by one of the protozoa (amebas) which infects the large bowel, because, wherever amebas are found in the South, pellagra is also found, for amebas are found in every case of pellagra at some stage of the disease. It may require a severe saline purge and warming stage, but they can be found when the stools are properly searched. At autopsy, he says, ameba lesions can be found in every case of pellagra. The lesion may only be limited to a hyperemia, but that can be found. In all cases treated as amebiasis the patients improve of pellagra symptoms, if treatment is properly kept

up. Pellagra prevails in the months of April, May and June, on account of the ingestion of fruits and vegetables which contain quantities of sap. Thus the mucous membrane of the intestine becomes irritated and a more fertile field for the amebas is furnished. In July and August the trouble subsides in proportion as vegetables are less sappy. With the return of cooler weather in September and fresh crops of sappy vegetables, we have a return of the symptoms noticeable in the spring. Pellagra is more generally prevalent among poorly nourished people, and those with low vitality. Also its presence is to be noted in localities where the water is contaminated, where the hygienic surroundings are poor and the use of surface water is general.

Bulletin of the American Academy of Medicine, Easton, Pa.

December

109 The Teaching of Therapeutics. W. F. Waugh, Chicago.
110 Relation of the Individual to the Social Organism. J. H. McBride, Pasadena, Cal.
111 The Parent, the Strategic Point of the Present. C.-E. A. Winslow, Boston.
112 *Reduction of Infant Mortality in New York. T. Darlington, New York.
113 *Three Years' Experience of the Babies' Dispensary and Hospital of Cleveland in the Education of the Mothers. H. J. Gerstenberger, Cleveland.
114 *Outline for the Study and Prevention of Infant Mortality for Boards of Health of Small Cities. S. M. Gunn, Orange, N. J.
115 *Fit and Unfit Matings. C. B. Davenport, Long Island, N. Y.
116 *The Limits of Eugenics. A. G. Keller, New Haven, Conn.
117 *Responsibility of the Physician for Public Education in Physiology and Hygiene. J. M. Tyler, Amherst, Mass.
118 *The Foundations of Prevention. W. T. Sedgwick, Boston.
119 *The Concentration Plan of Teaching Medicine. H. A. Christian, Boston.
120 *The Medical Curriculum. W. H. Welch, Baltimore.
121 *State Boards and Entrance Requirements. H. Harlan, Baltimore.
122 *Teaching Ophthalmology. A. R. Baker, Cleveland.
123 *The College Association Standard. A. Flexner, New York.

112, 113, 114, 115, 116, 117 and 118. Abstracted in THE JOURNAL, Jan. 1, 1910, pp. 72, 73, 74 and 75.

119 and 123. Abstracted in THE JOURNAL, April 9, 1910, pp. 1228 and 1229.

120, 121 and 122. Abstracted in THE JOURNAL, April 16, 1910, pp. 1332 and 1333.

Journal of Nervous and Mental Diseases, Lancaster

December

124 *Seroreactions in Cases of Nervous and Mental Diseases. E. P. Corson-White and S. D. W. Ludlum, Philadelphia.
125 *Visual Disturbances in Multiple Sclerosis. T. Klingmann, Ann Arbor, Mich.
126 Case of Amyotonia Congenita. E. M. Hummel, New Orleans.
127 *Difficulties Encountered in Making a Diagnosis of Paralysis. G. H. Schwinn, Washington, D. C.

124. Abstracted in THE JOURNAL, July 16, 1910, p. 249.

125. **Visual Disturbances in Multiple Sclerosis.**—Klingmann says that prolonged visual disturbances without ophthalmoscopic changes are extremely rare in cerebral syphilis, but frequent in multiple sclerosis. Unilateral appearance of visual disturbances is common to both cerebral syphilis and sclerosis *en plaques*. Unilateral central, definitely circumscribed scotoma, with a normal field of vision in the opposite eye, is most likely to be due to syphilitic disease, it is always due to organic disease. Papillitis almost never occurs in multiple sclerosis, although hyperemia of the papilla at the beginning of sclerosis *en plaques* is not unusual, it is present in 14 per cent. of cases of cerebral syphilis. An absolute central scotoma is relatively rare in multiple sclerosis, frequent in neuritis axialoris. A central scotoma is not infrequent in both acquired and congenital syphilitic disease of the central nervous system. An unilateral, paracentral scotoma is indicative of a lesion in the optic nerve in the neighborhood of the foveal fibers and is most frequent in syphilis. Visual disturbances without ophthalmoscopic changes almost never occur in organic lesions of the opticus; and in most chronic diseases of the optic nerve and chiasma, the fundus, the visual field and central visual acuity are abnormal, except in sclerosis *en plaques* where negative ophthalmoscopic findings are frequently associated with abnormal visual acuity. Scotomata due to functional nervous disease are relative, never absolute. Hysterical scotomata are so infrequent that they should always suggest organic disease. In true multiple sclerosis early in the disease the most frequent symptom complex referred to the vision is: blurring or cloudiness of vision, negative ophthalmoscopic findings, absolute paracentral scotomata, normal peripheral field with little or no disturbance of central visual acuity. This combination is indicative of multiple sclerosis and when associated with exaggerated tendon reflexes is sufficient to establish this diagnosis. If the scotomata are but relative, hysteria would still be a possibility. If, however, the Babinski toe reflex is present on one or both sides, it can positively be eliminated. Klingmann cites twelve cases.

127. **Making a Diagnosis of Paresis.**—Schwinn urges that in all cases presenting clinical evidences of paresis, and in all cases in which there is an element of doubt as regards diagnosis, a cytologic and chemical examination of the cerebrospinal fluid should be made. Also, an examination of the blood and cerebrospinal fluid for the Wassermann reaction should be made. Further, all cases of paresis, or suspected paresis coming to necropsy should be studied histologically, as the brain does not always present the typical picture described when viewed with the naked eye. Paresis is a diffuse process, and all parts of the cortex are more or less involved, presenting an infiltration which presents numerous plasma cells. This differentiates it from other meningo-encephalides which are more focal in character. Schwinn believes that with a negative Wassermann reaction one can positively exclude paresis.

Archives of Pediatrics, New York

December

128 Need of More Complete Registration of Births. J. H. M. Knox, Baltimore.
129 Nasal Diphtheria. E. E. Graham, Philadelphia.
130 *Cold Air in Treatment of Acute Respiratory Conditions. J. P. C. Griffith, Philadelphia, and L. E. LaFétra, New York.
131 A Present-Day View of Infant Feeding. T. N. Gray, East Orange, N. J.
132 Relation of Orthopedic Surgery to Pediatrics. S. A. Twinch, Newark, N. J.
133 *Nephritis in Children. A. W. Bingham, East Orange, N. J.
134 Mechanical Injuries of the Head in Infants and Children. H. Illoway, Cincinnati.
135 *Congenital Goiter. E. W. Mooney, Detroit.

130. Abstracted in THE JOURNAL, May 21, 1910, p. 1712.

133. **Nephritis in Children.**—The main object of the treatment of nephritis in children, says Bingham, is to rest the diseased kidneys and give Nature a chance to restore them to their proper function. The child should be kept in bed on a light diet, consisting either of milk alone or milk and a moderate quantity of some farinaceous food. The bowels are kept active and the skin encouraged to assist in the work of the kidneys. Warm baths and hot packs are valuable aids, as also saline injections per rectum. The skin must be kept warm. Only mild diuretics should be used in order not to irritate the already inflamed kidneys. Potassium bitartrate in the form of lemonade or orangeade is a valuable means of increasing the quantity of urine when necessary, for besides acting as a mild diuretic it is one method of getting the child to drink the desired amount of water. It is well to change the flavor of this drink, or the child may soon tire of it. When the pulse is of very high tension only a moderate quantity of water should be taken. The return to a general diet must be slow, and it is difficult to regulate this satisfactorily in all cases, as these children are always calling for a greater variety of food. Bingham emphasizes the importance of more regular examination of the urine in children, especially following the acute infectious diseases. By doing so, he says, we will be able to detect the disease in its incipiency and save a certain percentage of cases from chronic nephritis and death.

135. **Congenital Goiter.**—Six cases are reported by Mooney. The following points are of interest in these cases: All six mothers were goiterous. Five mothers were multiparæ. One mother was a primipara. One mother had sugar in urine before labor. In one case the mother and grandmother were goiterous; in another the mother and two of her sisters were goiterous. In a third case there was a history of infection in the family. One child was born dead; one baby died two days after birth; one died two years after birth of bowel infection. Two were living when last heard from; another, 18 years old, was goiterous.

Laryngoscope, St. Louis

December

136 Present Status of Otolaryngology. J. F. McKernon, New York.
137 Nasal Phenomena of Neurasthenia. C. P. Grayson, Philadelphia.
138 Respiration for Tone-Production. F. V. Laurent, Philadelphia.
139 A Fatal Case of Quinsy in an Adult. J. J. Thomson, New York.
140 The Straight Method of Laryngoscopy. R. H. Johnston, Baltimore.
141 Method by Which an Open Safety-Pin Was Removed from the Bronchus Without Closing the Pin. O. W. Turner, Augusta, Maine.
142 Scleroma of the Upper Air Passages. J. W. Durkee, Brooklyn, N. Y.
143 Symptoms of Temporo-Sphenoidal Abscess. L. W. Dean, Iowa City, Iowa.
144 Apparatus for Administration of Ether and Chloroform Vapor. C. C. Collier, Chicago.

Journal of the Medical Society of New Jersey, Orange

January

145 *The Alienist as an Expert Witness. W. H. Hicks, Newark.
146 *Relation of Water to Malarial Fevers. J. Walters, Wharton.
147 Fracture of the Internal Condyle of the Humerus. J. J. Mooney, Jersey City.
148 *New Operation for Complete Vesical Hernia in Women. J. M. Rector, Jersey City.
149 Etiology, Pathology and Treatment of Concomitant, Convergent Strabismus. L. Emerson, Orange.
150 Refracting Opticians. J. Thorington, Philadelphia.

145, 146. Abstracted in THE JOURNAL, Aug. 6, 1910, pp. 527 and 528.

148. **Operation for Complete Vesical Hernia in Women.**—Operating through the abdominal wall, Rector first divides the peritoneum on the anterior surface of the uterus almost at the fundus, dissecting laterally, right and left, sufficiently far so as not to form a medium ridge with lateral valleys when the denuded bladder floor is brought upward. The floor of the bladder is dissected from its bed, pulled up until the sacculation disappears and sutured to the anterior uterine fundus and wall. Uterine fixation to abdominal wall is done, by three sutures, one posterior to the fundus, one to the fundus, and the third at or near the junction of sutured surfaces. In some cases there has followed, for a few days only, some pain and bladder irritation from the changed position. This has been transitory only and need cause no alarm. Any repair work necessary to vagina or vulva can be done at the same time. Patients are catheterized every four or six hours and the bladder is irrigated if necessary; they are kept in bed two to three weeks. The usual care to feeding and bowel action is given.

Woman's Medical Journal, Cincinnati

December

151 Word Tests for Complexes in Four Cases of Disturbed Mentality. M. K. Isham, Columbus, Ohio.
152 Servants as Carriers of Disease. E. W. Young, Boston.
153 "Nervousness" and Education. The Rôle of the Teacher. T. A. Williams, Washington, D. C.

Journal of the Michigan State Medical Society, Battle Creek

January

154 Problems in Sanitary Science. G. L. Kiefer, Detroit.
155 *Scopolamin and Morphin. W. H. Morley, Detroit.
156 Chloroform and Ether. N. N. Wood, Ann Arbor.
157 Technic of Anesthesia in Obstetrics. J. B. Whinery, Grand Rapids.
158 Anesthesia in Its Relation to Postpartum Hemorrhage. J. N. Bell, Detroit.
159 Administration of Inhalation Anesthetics. C. E. Boys, Kalamazoo.
160 *Proposed Solution for Certain Phases of Contract Practice. W. H. Haughey, Battle Creek.

155. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1674.

160. **Solution for Phases of Contract Practice.**—In self-protection, Haughey deems it wise for county societies to elect committees whose duties should be to arrange terms and fees with workmen and factories, whereby injured employees would be cared for by members of the county society. A concession in fee rate should be granted, and a guarantee of payment obtained. Such an arrangement would secure to the injured employee his choice in professional services available in his community, and ensure to the surgeon his entire fee instead of merely for the first call. Advantages, first, to the patient: assurance of interested attendance throughout the entire case. Second, to the factories: assurance that the injured would receive competent surgical aid. Third, to the physician: assurance of not being robbed of professional acquaintance that he has labored years to establish.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 24

1 *Rest and Movement in Tuberculosis. R. W. Philip.
2 "Eye" in Sport. R. W. Doyne.
3 *Influence of Diet on the Formation and Healing of Acute Gastric Ulcer. C. Bolton.
4 Thyroid Grafting and the Surgical Treatment of Exophthalmic Goiter. E. W. H. Groves and C. Joll.
5 Common Causes of Discharge from the Ears, and Its Treatment. W. M. Mollison.

1. **Rest and Movement in Tuberculosis.**—While rest is helpful in the treatment of pulmonary tuberculosis, and indeed essential, at certain times, Philip emphasizes that the prolonged continuance of resting treatment is fraught with unsatisfactory results. In many instances the patients may seem to improve. Perhaps they put on weight in large amount. Often they become heavy and corpulent, but it is commonly mere fat; the skin textures remain pallid and toneless; the muscular tissue remains soft and flabby, and the individual himself is far from physiologically fit. So long as the tuberculous process is in active operation, toxins are readily elaborated and passed freely to the muscles with resultant progressive dystrophy. This dystrophy affects not only the muscles of the trunk and extremities, where it is evident, but affects likewise the heart-muscle, the muscles of the vessels, and the muscles of other viscera. At this stage the indication for treatment is mainly rest. Rest has the double advantage of tending to stay the active local lesion and of limiting the output of energy by the dystrophic muscles. On the other hand, when the tuberculous lesion is less active or in process of arrest, and the production and carriage of toxins is correspondingly less abundant and rapid, the dystrophic muscles tend to recover themselves physiologically. Nothing repairs muscular tissue so certainly as natural movement. This is the motif and guide in the institution of regular activity. As recovery proceeds further, the aim comes to be the restoration of physiologic function, both locally, so far as the respiratory function of the lung is concerned, and generally, so far as the circulation and the musculature are concerned. The process of repair is most readily traceable in the muscles of the trunk and extremities. By the institution of natural movements, the physiologic cure or "recreation" is assisted, and there follows a gradual return toward the normal condition of health of every organ. While natural repair is thus hastened by carefully adjusted movement, there is reason to suppose that at the same time a degree of relative immunization to tuberculosis is secured. It may be that under the influence of activity a process of autoinoculation is instituted. That is to say, by reason of the accelerated circulation a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react, and to produce certain opposing elements or antibodies. The amount of activity allowed must in every case be determined with exactness. Regard must be paid not vaguely to the nature of the case of the so-called stage of disease, but adjustment must be guided by the needs of the individual patient. Activity in excess may serve to aggravate the local process. The lung trouble may once more take on an acute character, and an especially significant point is that excessive discharge of toxins through the system may be recommenced. In other words, an exaggerated autoinoculation may ensue with corresponding retardation of cure.

3. **Diet and Gastric Ulcer.**—Following careful experimentation by Bolton, the theory with regard to the part played by the gastric juice in the production of gastric ulcer receives further confirmation, because ulceration is the more rapidly produced in proportion as the gastric juice is allowed a longer period of contact with the wall of the stomach. The epithelium grows over the base of an ulcer more rapidly when the animal is given a milk diet than when it is given a meat diet.

In the case of a milk diet the base of a moderate-sized ulcer is usually completely covered by the twentieth day, while in the case of a meat diet, the same-sized ulcer would in most cases be uncovered in the center in that time. Frequently, in the case of meat-fed animals, the ulcer is completely uncovered on the twentieth day, the granulation tissue of the base of the ulcer having become necrotic. Such an ulcer may be only one-fifth of the size of the original ulcer owing to the contraction of the fibrous tissue in the base, although healing has only commenced at the edge. In the treatment of a case of ulcer of the stomach, Bolton holds that the following principles should be observed: (a) During the early stages of the healing of acute ulcer the patient should be given a food which does not stay long in the stomach and which does not excite a copious flow of the gastric juice. (b) The period of treatment in bed should be at least three weeks. (c) The starvation diet of the older physicians is not necessary, because the general nutrition suffers too much, and because ulcers heal well on some diet such as the above. (d) In the case of acute ulcers which are extending, or chronic ulcers, healing cannot be expected to occur in three weeks, because the ulcer must first be got into a suitable condition for healing, and then, owing to its size and thickness, the healing must take some weeks longer to be completed, so that the treatment in bed is to be conducted like that of simple acute ulcer, but extended over a period twice as long. (e) Since in many cases of gastric ulcer there is hyperacidity of the gastric juice, and when the gastric juice is acting destructively hyperacidity increases this destructive tendency, this high degree of acidity should be controlled by the administration of alkali. This is not so necessary in acute ulcer as in the more chronic forms, because the few estimations that have been made of the gastric secretion in acute ulcer show that it is not hyperacid, and it has been found experimentally that the effect of acute ulcer is to diminish the secretion in the early stages, and that secretion becomes normal as the ulcer heals.

Lancet, London

December 24

6 The Disorder of Medical Charity. L. E. Shaw.
7 Medical Students and Medical Practitioners. G. H. Colt.
8 *Treatment of Splenic Anemia by Splenectomy. G. A. Sutherland and F. F. Burghard.
9 Surgical Treatment of Cancer of the Vulva and Its Precancerous Stage. F. J. McCann.
10 Value of Vaccination and Revaccination. F. M. Sandwith.
11 *Fatal Case of Anemia in Which the Widal Reaction was Obtained. P. Gully.
12 Use of Pituitary Extract in Obstetrics and Gynecology. S. J. Aarons.
13 Practical Sterilization of Potable Waters by the Ultraviolet Rays. J. C. Thresh and J. F. Beale.

8. **Treatment of Splenic Anemia.**—The authors report two successful cases of splenectomy for splenic anemia. One patient, a girl aged 12 years, was in very bad condition when operated on, the blood examination showing red corpuscles, 2,420,000; hemoglobin, 56 per cent., and white corpuscles, 9,800. A differential count of the white cells showed nothing abnormal. The spleen with the contained blood weighed 2 pounds, and showed general hyperplasia of all the tissues. There was no marked shock after the operation, and when the effects of the anesthetic had passed off, the patient made a rapid recovery. Three days after the operation it was found that the red cells had increased from 2,500,000 to 4,700,000, and the hemoglobin from 40 per cent. to 76 per cent., an improvement which was maintained until at the end of another week the red cells were normal in number. This alteration was also visible in the appearance of the child; the yellow tinge of the skin had gone, the cheeks were pink in color, and the lips had taken on a healthy red hue. There was no compensatory enlargement of the lymphatic glands. Four years after the operation, she was a well-grown girl in service as a nursemaid. There were no marked signs of anemia in her appearance. Blood examination showed red blood-corpuscles, 3,600,000; hemoglobin, 78 per cent., and white blood-corpuscles, 6,400.

The second patient was a girl aged 6 years. Examination of the blood gave the following result: Red blood-corpuscles, 1,870,000; hemoglobin, 30 per cent.; white blood-corpuscles, 2,400, and color index, 0.8. The red corpuscles were various in size, megalocytes, microcytes, and all intermediate gradations being present. There was a little polychromatophilia in some of the corpuscles, but it was not marked, and there was no punctate basophilia. The red cells were normally shaped, poikilocytosis being absent. Nucleated red cells, all normoblasts, were present to the extent of about 600 per cubic millimeter. Among the white cells there were large hyalines (0.4 per cent.), myelocytes (1.2 per cent.), and mast cells (1.2 per cent.). The patient stood the operation well, there was no marked shock, and after the effects of the anesthetic had passed off she had no untoward symptoms of any kind. Four days after the operation, the patient's color had decidedly improved, the lips were redder in color, and the yellow tint of the conjunctivæ and skin had gone. A blood-count gave red blood-corpuscles, 4,000,000; hemoglobin, 52 per cent; white blood-corpuscles, 10,800, and color index, 0.6. There were no abnormal red corpuscles, nucleated or degenerated forms, seen, and no abnormal leukocytes. The child improved daily. There was no compensatory enlargement of the lymphatic glands. On the seventeenth day after the operation the red corpuscles were 5,200,000, the white corpuscles 3,400, and the hemoglobin was 65 per cent. The patient, seven weeks after the operation, was well.

11. **Fatal Case of Anemia.**—Gully reports a case of pernicious anemia complicated by typhoid fever, in which the Widal test was positive in dilutions of 1 in 30 and 1 in 50 within one hour.

Medical Press and Circular, London

December 7

14 Diagnosis of Prolonged Pyrexia. F. Taylor.
15 Prostration Following Sea-Sickness, and Associated with Acetonuria. T. Bushby.
16 Soluble Milk Albumin in Infant Feeding. F. S. Toogood.

December 14

17 Three Cases of Duodenal Ulceration. F. de Havilland.
18 Acute Miliary Tuberculosis Simulating Appendicitis: Phagocytosis of Tubercle Bacilli by Cells in Cerebrospinal Fluid. F. X. Callaghan.
19 Cancer of the Larynx in the Light of a New Theory. R. H. T Scanes-Spicer.
20 Poliomyelitis: Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.

Journal of Tropical Medicine and Hygiene, London

December

21 Mossman Fever. O. Smithson.
22 West Africa and Insurance: A Plea for Routine Blood Examation. T. F. G. Mayer.

Journal of Laryngology, Rhinology and Otology, London

December

23 Education of the Specialist in Laryngology, Rhinology and Otology. P. W. Williams.
24 Deafness and Diseases of the Ear in Relation to the Public Services and Insurance. J. Horne.
25 Mnemonic Tabes for Normal Labyrinthine Nystagmus. J. Adam.

Bristol Medico-Chirurgical Journal

December

26 The Medical Aspect of Boswell's "Life of Johnson," with some Account of the Medical Men Mentioned in That Book. B. M. H. Rogers.
27 *Surgical Aspect of Gylcosuria and Diabetic Gangrene. C. A. Morton.
28 Hyoscin and the Mydriatic Alkaloids. J. M. Fortescue-Brickdale.
29 Excision of Strictures of the Urethra. E. W. H. Groves.
30 An Old-Time Syphilidiater. H. J. Norman.

27. **Surgical Aspect of Glycosuria.**—Morton reports three cases of diabetic gangrene, in which amputation was successfully performed at the joint, under spinal anesthesia.

Clinical Journal, London

December 7

31 Typhoid. W. H. White.
32 Ateleiosis (Hastings Gilford's Form of Essential Infantilism). H. B. Shaw.
33 Roentgen-Ray Examination of the Digestive System. R. Morton.

Practitioner, London

December

34 Vaccine Therapy of Bronchitis. A. Latham.
35 Vaccine Therapy of Tuberculosis. H. B. Shaw.
36 Vaccine Therapy. E. v. Ofenheim.

37 Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Mental Diseases. R. Jones.
38 Diagnosis and Home Treatment of Scarlet Fever. F. G. Crookshank.
39 Gallstones. J. Kirkland.
40 Salvarsan. L. F. Knuthsen.
41 Efficacy of Blood-Letting. J. W. Milne.
42 Erythromelalgia. E. A. Chill.
43 Blood Contamination in Organismal Diseases. S. J. Ross.
44 Acute Pyelonephritis of Unusual Severity. S. Kent.

Archives Générales de Chirurgie, Paris

November, IV, No. 11, pp. 1101-1210

45 Cervical Ribs and Their Complications. Report of Five Cases. (Les côtes cervicales.) R. Frœlich.

Archives Internationales de Chirurgie, Ghent

V, No. 1, pp. 1-116

46 Experimental Cancer Research. (Recherches expérimentales sur le cancer.) F. Fichera.

Archives des Maladies du Cœur, etc., Paris

December, III, No. 12, pp. 705-787

47 Embryologic Study of Interauricular Defect. (Coexistence d'une communication interauriculaire et d'une anomalie de la valvule de Thébésius.) C. Lesieur, J. Froment and R. Crémieu.
48 Hemolytic Jaundice. (Ictère hémolytique acquis général et purpura, avec ictère hémolytique local, au cours d'une infection indéterminée.) H. Gougerot and H. Salin.

Bulletin de l'Académie de Médecine, Paris

November 29, LXXIV, No. 38, pp. 359-402

49 *Angina Pectoris. (Le repos au lit et les crises hypertensives dans l'angine de poitrine organique.) C. Fiessinger.

49. Angina Pectoris.—Fiessinger emphasizes the importance of rest in bed as the most effective measure in treatment of angina pectoris. It acts by reducing the arterial tension, while it is a tonic for the heart and reduces its excitability. In order to have the maximum effect, the patient should be kept in bed for from two weeks to two months, the diet being restricted at first to water and milk, gruels, etc., being gradually allowed. The rest in bed should be supplemented with the usual drugs. Nothing can compare in efficacy, he says, with simple rest in bed; the benefit is most apparent in the elderly and those inclined to corpulence who fall off a little in weight. Patients may be classed as (1) those whose arterial tension during the pain keeps normal or below—repose does not modify it; (2) those in whom the tension is high and is not influenced by repose—this is very rare; (3) those in whom the high arterial tension subsides under the influence of the rest in bed—this is the rule in two-thirds of all the cases; (4) those in whom the tension does not subside, but even increases during repose, although the pain does not increase. Among twenty patients from 45 to 73 years old with angina pectoris, he found three with normal or low arterial tension. The tension was unmodified by repose in three other cases, but the pains subsided, showing that the tension was not the cause of the pains during effort. In eleven other cases the rest in bed reduced the arterial tension at once. One patient was a man of 64 with maximal tension of 28 (Pachon) during an attack. Under bed rest, ice to the heart, restriction of his food to water and milk and three injections of 2 mg. of morphin, the tension dropped to 19 and the patient felt like a new man. Another patient had long been having attacks of angina pectoris at the slightest effort. A course of rest in bed and restriction to a milk diet, with a loss of about 14 pounds in weight, restored normal conditions to such an extent that he has been in good health during the eight years since to date, with no recurrence of the angina pectoris. Coronary lesions are not encountered in every case; the aorta or the myocardium may be involved rather than the coronaries. Bed rest is least effectual, Fiessinger adds, in case of concomitant aortic insufficiency.

Lyon Médical, Lyons

November 27, CXV, No. 48, pp. 885-924

50 Should We Fight Fever? (La fièvre est-elle curative?) R. Lépine.
51 *Inheritance of Tuberculosis. Piéry.

December 4, No. 49, pp. 925-980

52 *Fixation Abscess in Treatment of Bronchopneumonia in Infants. Montagnon.
53 Facial Paralysis Symptomatic of Lesions in Pons. L. Bériel.

51. Inheritance of Tuberculosis.—Piéry concludes from his study of the inheritance and spread of tuberculosis that the offspring of tuberculous parents are peculiarly liable to tuberculosis, and that the inflammatory tuberculosis (Poncet) should be included in estimating the tuberculosis in the parents. Contagion alone is insufficient, he declares, to explain the great variety in the manifestations of tuberculosis in tuberculous families. The so-called inherited predisposition and prepared soil are generally the result of actual existing infection. The assumption of a tardy hereditary tuberculosis seems to harmonize best to date with the clinical facts observed.

52. Fixation Abscess for Infants.—Montagnon reviews the literature on Fochier's turpentine fixation abscess, and states that he has applied this method in treatment of twenty-six children from 4 months to 5 years old. He used .33 c.c. (5 or 6 minims) of turpentine for the purpose in infants under a year old, and 0.5 c.c. (8 minims) in infants from 1 to 5. He finds it most convenient to inject the turpentine in the abdominal wall on a level with and about three fingerbreadths to the left of the umbilicus. An abscess forms and is evacuated about the seventh day; healing is generally complete by the end of the second week. The abscess is not only curative, he asserts, but serves as a valuable index of the child's reacting powers. If there is little or no suppuration, the prognosis is grave. In every case in his experience in which there was no febrile reaction to the injection of the turpentine, the bronchopneumonia proved to be of a tuberculous nature. If in bronchopneumonia the fever persists high and the child still has difficulty in breathing after mustard baths and inhalation of oxygen, he applies the turpentine on the third or fourth day of the disease. The only deaths among the children were in the three tuberculous cases, while the disease had been exceptionally severe in ten of the children who recovered. He gives the curves of several typical cases, illustrating the favorable influence of the fixation abscess.

Obstétrique, Paris

November, III N. S., No. 11, pp. 889-1000

54 *Vaginal Cesarean Section. A. Dührssen.
55 *Rapid Delivery with Undilated Os. E. Hauch.

54. Vaginal Cesarean Section.—Dührssen here presents a summary of his arguments for and his experiences with vaginal Cesarean section, or, as he specifically terms his method, metreurynter hysterotomy, and delivery *à la Buddha*. No fatality is known for which the operation was responsible in his forty-two cases nor in Seitz' seventy operations of the kind.

55. Rapid Delivery with Undilated Os.—Hauch states that the patients had to be delivered without delay in 212 cases out of 22,000 lying-in cases at the Copenhagen maternity, and he reviews 500 similar cases from other maternities, discussing indications, methods and outcome for mother and child. The tabulated findings afford opportunity for comparison of the various technics. Vaginal Cesarean section requires institutional environment, he says, and, lacking this, instrumental dilatation is the only resource if manual dilatation and the hystereurynter are inapplicable. Instrumental dilatation is liable to induce hemorrhage, but in the cases reported it never proved serious. There is liability to rupture and the consequences of the rupture may give trouble later in a small number of cases. The result for the children is not very good, but the fetus must be already suffering from the effects of the mother's condition for which the urgent delivery is required. In any event, Hauch continues, the dangers from instrumental dilatation are not serious enough to restrict its application at need. The factors for success are the elasticity and suppleness of the tissues of the cervix, and it is difficult to estimate this beforehand. The danger is less the more the cervix gapes, but the danger increases with the size of the fetus. The position of the instrument must be carefully supervised during the entire course of the dilatation, and delivery must follow at once. It is better, he thinks, to do podalic version and deliver the fetus than to attempt a very difficult forceps extraction. Instrumental dilatation failed in 16 out of the 363 cases on record in which this method of

delivery was applied, but in most of the unsuccessful cases the pregnancy was not very far advanced and the cervix was less elastic than at term.

Presse Médicale, Paris

December 10, XVIII, No. 99, pp. 929-936

56 Histomicrobiology of Syphilitic Arteries. A. Sézary.
57 Re-enforcing Screens to Reduce Length of Roentgen-Ray Exposures. (Diminution de la pose en radiographie par les écrans renforçateurs.) A. Laquerrière and L. Delherm.
58 Liver with Floating Lobe. (Le foie à "lobe flottant.") M. Letulle.

December 14, No. 100, pp. 937-944

59 *Streptococcus Peritonitis. L. Boidin and L. Douay.
60 Abram's Method for Percussion of Heart. A. Abrams (San Francisco).

59. **Streptococcus Peritonitis.**—The special features of the case reported were the sudden onset in a girl of 18 of a peritoneal syndrome with diarrhea, semicomatous prostration, suggesting appendicitis at first and later tuberculous peritonitis. Contrary to the usual fatal course of streptococcus peritonitis, an operation nearly a month after the first symptoms was followed by recovery, notwithstanding that the pus filled nearly the entire abdominal cavity, and that there were pulmonary symptoms for a week or so—crepitant râles and mucopurulent sputum, with numerous pneumococci. Only streptococci and colon bacilli could be cultivated from the abdominal pus.

Berliner klinische Wochenschrift

December 5, XLVII, No. 49, pp. 2225-2276

61 *Intravenous Salvarsan Treatment in Syphilis. A. Géronne.
62 Indications for Artificial Interruption of Pregnancy. (Indicationen zur künstlichen Unterbrechung der Schwangerschaft.) S. Hammerschlag.
63 Hysteropexy and Pregnancy. S. Solieri.
64 Symptomatic Myotonic Disturbances with Inflammation in Muscles. M. Salzberger.
65 Pathologic Urinary Pigment. (Neuer pathologische Harnfarbstoff.) F. Lehmann and W. Zinn.
66 Pathologic Ferment Activity. (Pathologische Fermentwirkung.) J. Wohlgemuth. Commenced in No. 48.
67 Medicolegal Aspect of Dazed Conditions. (Forensische Beurteilung der Dämmerzustände.) E. Forster.

61. **Salvarsan in Syphilis.**—Géronne thinks that the intravenous route is the most reliable. The Wassermann reaction became negative in only fifty-seven out of 124 patients examined repeatedly after treatment with salvarsan. One patient in the primary stage gave a negative reaction soon after the injection, but it became positive again six months later, although no secondary symptoms had developed in the interim. In eighteen other primary cases recurrence has been observed since in five, but all the symptoms seem to have permanently subsided since a second injection. He has given salvarsan in 350 cases of syphilis, making about 500 injections in all, and the only toxic phenomena witnessed were slight transient by-effects in a few cases after intravenous injection of the drug. A toxic exanthem developed eight days after the injection in one case, but it was not accompanied by malaise. He intends hereafter to give the drug in intermittent intravenous injection of medium doses, that is, repeating the injection after four or five weeks, especially in the patients with persisting positive Wassermann reaction.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

November 26, XIII, No. 21, pp. 801-848

68 *Tetany from the Surgical Standpoint. K. Wirth. Commenced in No. 20.
69 Radiotherapy and Electrotherapy of Carcinoma and Palliative Operations. E. Venus. Commenced in No. 6.

68. **Tetany.**—Wirth discusses tetany from the standpoint of operative treatment, and tabulates the details of the twenty-one cases of gastric tetany in which an operation was done. The consequences were seventeen complete cures and one material improvement; three of the patients succumbed, notwithstanding the operation. This is a mortality of 15 per cent., while the mortality was from 71 to 77 per cent. and over in Loeb's and Albu's recent compilations of cases in which reliance was on internal measures alone. Wirth advocates operating without further delay when the dilatation of the stomach is due to organic changes; extreme stenosis of the pylorus is frequently accompanied by tetany. A gastroenterostomy puts an end at once to the stagnation of the ingesta, with the consequent irritation of the vagus, entailing continuous hypersecretion, and thus does away with the irritation liable to start the tetany. The moment that the patient begins to lose weight and the amount of urine diminishes, notwithstanding appropriate dieting, bed rest and internal measures, such as lavage of the stomach, a course of bismuth and infusion of fluid by the rectum or subcutaneously, the obstruction preventing the normal emptying of the stomach should be removed or a new passage provided. The slightest indication of tetany at this time is an urgent indication for prompt operative interference. Any delay increases the intoxication of the whole system and magnifies the risks of operation. An operation after the tetany has long been installed with other signs of serious intoxication—delirium, stupor, acetonuria and albuminuria—has far less prospect of success. Fleiner warns against attempting to operate in such conditions, but Albu advises operating in every case unless the condition of the heart, liver or kidneys, apart from the tetany, contra-indicates any intervention. The early operation—prophylactic gastro-enterostomy—gives the best chances. In Warbasse's case a simple gastrostomy answered the purpose. Wirth discusses further the few cases on record in which the tetany developed in connection with some minor surgical measure, in two cases from tapping the abdominal wall with the percussion hammer. The patients in both cases had long suffered from dilatation of the stomach. In another case the tetany came on after introduction of the stomach tube to relieve dilatation. The tetany proved fatal in these patients, a woman of 44 and two men, aged 42 and 64, respectively. In another case a woman of 28 developed tetany after puncture of the abdomen for ascites, but recovered; a man of 35 also developed tetany following puncture for ascites, but existing peritonitis and a pancreatic cyst may have been responsible for the fatality in this case. A number of cases are on record in which tetany came on after injection of some drug or glandular extract or stovain spinal anesthesia (Curschmann). In another case the tetany developed from the pressure of a traumatic retroperitoneal hematoma. Tetany accompanying gall-stones has been observed in a few cases, and also following acute suppuration in the thyroid. Several authors have reported tetany complicating exophthalmic goiter; Wiebrecht found that improvement followed parathyroid treatment in his case of this kind. Narbut has reported the case of a young soldier with tetany resisting all other measures until 50 c.c. of spinal fluid under high pressure was released by spinal puncture. In Levi's case the tetany developed in a young artisan after venesection. Further research will determine whether operative treatment of tetany should be supplemented by administration of parathyroid extract or tissue, internally or by implantation. This might be considered especially in the cases in which marasmus, atrophy or cicatricial tissue suggests the possibility of permanent pathologic changes in the parathyroids.

Deutsche medizinische Wochenschrift, Berlin

December 15, XXXVI, No. 50, pp. 2321-2368

70 *Robert Koch. (Gedächtnisrede.) G. Gaffky.
71 Pneumonia. (Pathologie und Therapie der Lungenentzündung.) C. Hirsch.
72 Salvarsan in Syphilis. (Behandlung der Syphilis mit Arsenobenzol, bes. die Dauerwirkung des Präparates und die Methoden seiner Anwendung.) W. W. Scholtz, Salzberger and Beck.
73 Salvarsan in Syphilitic Eye Disease. (Arsenobenzol gegen syphilitische Augenleiden. II.) E. v. Gross.
74 *Epiphanin Reaction in Serodiagnosis of Syphilis. G. Seiffert.
75 Pregnancy and Tuberculosis. J. Hofbauer.
76 Derivatives of Peruvian Balsam in Treatment of Tuberculous Fistulas. (Behandlung tuberkulöser Fisteln mit Zimtsäureallylester, nebst Bemerkungen über die Hetolbehandlung und einen neuen Gesichtspunkt in der Tuberkulintherapie.) E. Blos and K. Kronstein.
77 Double Extension for Fractures. A. Heermann.
78 Geographic Tongue, Hereditary and Familial. (Ist die Landkartenzunge erblich?) W. Lublinski.

70. See Berlin Letter, January 14, page 161.

74. **Epiphanin Reaction in Serodiagnosis of Syphilis.**—Seiffert has modified somewhat Weichardt's original technic for this serologic test. It is based on the same principle as Ascoli's meiostagmin reaction, namely, the change in the composition or drop-forming properties of the blood-serum under the influence of antibodies generated in the course of disease. In the serum from seventy-five patients the epiphanin reaction par-

alleled the Wassermann reaction in sixty-four, both being positive in forty-three and negative in twenty-one cases. In eleven cases in which the Wassermann reaction was negative, the epiphanin test gave positive findings in nine, and there were clinical signs of syphilis in all. The results of the epiphanin test were constantly negative in patients with non-syphilitic affections, including twelve typhoid, two paratyphoid, eight tuberculous and two scarlet fever patients. Seiffert's technic for the test is based on the change of tint of a phenolphthalein solution, while the meiostagmin reaction is estimated by the stalagmometer. Weichardt uses the diffusiometer. Seiffert adds a drop of an alcoholic solution of phenolphthalein to the mixture of syphilitic serum and extract of a syphilitic organ: 0.1 c.c. of a 10 per cent. solution of the serum in physiologic salt solution is mixed with 0.1 c.c. of an alcoholic extract of a syphilitic fetal liver. To this is slowly added 1 c.c. of decinormal sulphuric acid and 1 c.c. of a solution of barium hydroxid of the exact concentration needed to neutralize the sulphuric acid solution. On the addition of the drop of the stain, the fluid turns red when the serum is from a syphilitic, while there is no change in tint with non-syphilitic serum.

Medizinische Klinik, Berlin

December 11, VI. No. 50, pp. 1965-2004

79 Psychology Applied in Gynecology. (Einiges über die Verwertung von Psychologie in der Frauenheilkunde.) H. Sellheim.
80 *Transient Disturbance in Vestibular Nerve After Salvarsan. (Ueber transitorische Fasererkrankung des Nervus vestibularis bei mit Ehrlich-Hata 606 behandelten Kranken.) O. Beck.
81 Salvarsan in Treatment of Tertiary Syphilis. (Zur Behandlung der tertiären Syphilis mit Ehrlich's Arsenobenzol.) J. Fabry.
82 Salvarsan in Syphilis. (Erfahrungen mit Ehrlich 606 bei subkutaner und intramuskulärar Anwendung.) R. Ledermann.
83 Electricity in Tabes. F. Walzer.
84 Case of Landry's Paralysis. Wadsack. Commenced in No. 49.
85 Cancer Extract in Experimental Sarcoma. (Ueber Heilungsversuche bei einem Rattensarkom.) F. Blumenthal.

80. **Transient Disturbance in Vestibular Nerve Under Salvarsan.**—Beck has encountered four cases in which an isolated disturbance in the vestibular branch of the auditory nerve became evident after injection of salvarsan on account of syphilis. The features of the disturbance, in three cases at least, indicated, he thinks, that it was a phenomenon forming part of the Herxheimer reaction. It persisted longer than the skin manifestations, but subsided by the end of two weeks at most in every case. The hyperemia and serous imbibition of the nerve in the reaction caused the trouble on account of the peculiarly narrow channel in the bone in which these nerve fibers run. The possibility of a vestibular disturbance of the kind should be borne in mind in administering salvarsan to patients with existing ear trouble.

Münchener medizinische Wochenschrift

December 6, LVII, No. 49, pp. 2561-2616

86 *Sacral Anesthesia in Gynecology and Obstetrics. H. Schlimpert and K. Schneider.
87 Physiologic Puerperal Bradycardia. A. Hamm.
88 Healthy Dysentery Bacillus-Carriers. (Zur Bekämpfung gesunder Ausscheider von Dysenteriebazillen.) O. Mayer.
89 *Postdiphtheritic Paralysis and Repeated Diphtheria. C. Kayser.
90 Toxic Action of Sugar After Feeding with "Albumin Milk." (Ueber toxische Zuckerwirkung nach Eiweissmilchernährung). J. Braumüller.
91 The Physiologic Rôle of the Calcium Salts. O. Loew.
92 Urobilin in the Blood. W. Hildebrandt.
93 Practical Application of Wassermann Reaction, Especially in Stern's Modification. F. Hayn and A. Schmitt.
94 Reacting Power of the Organism and Treatment of Syphilis. H. Hecht.
95 Salvarsan in Syphilitic Eye Disease. (Ehrlich-Hata bei luetischen Augenerkrankungen.) C. Hirsch.
96 Salvarsan in Syphilis. D. Montesanto (Athens).
97 *Treatment of Ankylosis of the Knee. (Behandlung der Kniesteifung.) T. Müller.
98 Chloroform-Oxygen General Anesthesia. H. Ziegner.
99 Diseases in Japan Caused by Animal Parasites. Y. Tanaka.

86. **Sacral Anesthesia in Gynecology and Obstetrics.**—Recent modifications of the epidural technic have improved this method of anesthesia so that Schlimpert and Schneider commend it as an excellent means to control labor pains and for surgical anesthesia in operations on the genital and anal regions. It seems to be harmless, but the technic is difficult to master in case of corpulent patients. They generally combined it with the scopolamin-morphin technic.

89. **Postdiphtheritic Paralysis.**—Kayser reports that three children in one family developed paralysis after diphtheria; the mother had diphtheria also during the same epidemic. It was learned further that the father had had paralysis after diphtheria at the age of 5. The four children in this family were accustomed to the use of alcohol. One of the children had had diphtheria before, several years before the present attack. Kayser discusses whether such cases of recurring diphtheria and recurring after-affections may not be regarded as an allergy reaction.

97. **Treatment of Ankylosis of the Knee.**—Müller has obtained good results by mobilizing the knee in profound anesthesia, then immobilizing it in extreme flexion for twenty-four hours, then suspending the knee in a sling during the day from a high crossbar in such a way that the leg below the knee hangs free and its weight helps to correct the ankylosis. At night the suspending sling is removed and the leg left free. There is nothing to interfere with massage of the leg. The article is illustrated.

Wiener klinische Wochenschrift, Vienna

December 15, XXIII, No. 50, pp. 1779-1830

100 *Cause of Cancer. (Die Ursache der Krebserkrankung.) A. Jaeger.
101 *Lead Poisoning. Pathologie und Frühdiagnose der Bleivergiftung.) M. Sternberg.
102 *Electric Accidents. (Electropathologica.) S. Jellinek.
103 Ineffectual Action of Preparations of Tubercle Bacilli Administered by the Mouth. T. Pfeiffer and J. Leyacker.
104 Salvarsan in Private Practice. (Zur Anwendung des Arsenobenzols in der Privatpraxis.) E. Glass.

100. **Cause of Cancer.**—Jaeger declares that it is high time to give up all claims that cancer can ever be of infectious origin and contagious. Everything speaks against this assumption, he asserts, and presents arguments to prove that cancer is a disease of the intracellular metabolism.

101. **Early Diagnosis of Lead Poisoning.**—Elimination of lead in urine or stool and the blue line on the gums are the most important and obvious signs of lead poisoning, but others are the peculiar worried expression or a drawn smile, anemia, slight tendency to jaundice, dyspepsia, hematoporphyrin in the urine, punctate red corpuscles, alimentary dextrosuria and levulosuria, increased blood-pressure and exaggerated tendon reflexes.

102. **Electric Accidents.**—Jellinek reports a case of suicide from electricity, and a case in which the victim of an electric accident was able to rescue himself. The man was standing on a ladder working at an electric wire carrying a weak current; near his feet ran the wire of the trolley-car service. He was mounting two brass tubes, when one, bent at a right angle, hit the live wire below and the street current of 540 volts passed through this tube in his right hand to the other tube in his left hand. Notwithstanding the intense contracture and spasms induced in his hands and arms, he succeeded in bringing the two metal tubes into contact, thus short-circuiting the currents through the tubes; he escaped with scarcely any injury except the burns where the metal tubes were partially fused by the current. The characteristic injury on the hands was an irregular circular defect, about half an inch in diameter, extending into the subcutis, of a grayish-white to yellow color, the edges of the wound were raised and were hard and tough to the touch, without any relative redness around and were non-sensitive. Especially characteristic was the button-like, shallow, hard elevation of epidermis on the right thumb with a shallow hollow in the center, and dirty brown in color. It was non-sensitive even to needle pricks, but the sense of touch was retained. The forensic importance of such injuries is shown by a recent case of sudden death in which the discovery of a similar lesion first suggested that the man had been the victim of an electric accident, further investigation confirming the correctness of this assertion. It is the first case on record, Jellinek believes, in which the cause of death was revealed by this means. In the case reported, neither the heart nor respiration seemed to be affected by the current; the man screamed for help but was not heard on account of noises around. In a suicide case a

young farm-hand gambled away all of his savings one night and wrote a letter of farewell to his father and fiancée. He then tied a weight in a handkerchief, fastened a long wire to the handkerchief, and holding the wire in one hand must have thrown the weight with the other hand over the trolley wire carrying 20,000 volts, as he was found lying dead in the road still holding the wire. Jellinek also mentions a case in which a man wrapped up his hand and then touched with it a live wire to induce injuries entitling him to "workmen's compensation."

Zentralblatt für Chirurgie, Leipsic

December 3, XXXVII, No. 49, pp. 1545-1576

105 Long Clamp for Hemostasis in Trephining. M. Makkas.
106 *Bloodless Operations on the Liver. (Blutlose Leberoperationen.) A. Baron.
107 Toxic Action from Scarlet-Red Salve. S. Gurbski.

December 10, No. 50, pp. 1577-1600

108 *Diagnosis of Injury of Spleen. (Zur Diagnose der Milzverletzungen.) L. Levy.
109 Shutting Off Part of Circulation as Aid in General Anesthesia. (Die Extremitätenstaung, eine einfache Methode zur Blut- und Chloroformersparnis bei Operationen an anderen Körperstellen.) H. Hans.

December 17, No. 51, pp. 1601-1632

110 Acute Hemorrhagic Pancreatitis Induced by Experimental Stasis in Pancreatic Duct. H. Seidel.
111 Roentgen-Ray Diagnosis of Renal Tuberculosis. (Nierentuberkulose im Röntgenbilde.) A. Hofmann.

106. **Bloodless Operations on the Liver.**—Baron found it possible to operate on dogs without any loss of blood by the technic which he describes. He first clamps the portal vein, hepatic artery and common bile duct with a clamp with soft blades, the liver is then drained toward the heart until free of blood, and the desired operation can be done on it without loss of blood. He then seizes arteries, veins and bile ducts with clamps, draws them out and ligates them. Examination of the parts at various intervals afterward, up to three months, failed to reveal any gross or microscopic injury from the compression. Air embolism and after-hemorrhage were not observed in any case. The blades of the clamp are slipped in rubber tubing, and the hepatoduodenal ligament is clamped as the first step in the operation. He thus resected more or less of the liver in ten dogs and no signs of peritonitis, thrombosis or after-hemorrhages were observed in any instance. The method is particularly useful, he believes, in case of injury of the liver. The clamp can be applied as soon as the abdomen is opened; there is no further bleeding. This method is also promising for operations on the gall-bladder or malignant disease, and it would also much facilitate anastomosis between the liver and bile duct. The conditions in regard to the blood-supply in the dog are similar to those in man, so that he is confident that the procedure will be found serviceable in the clinic.

108. **Diagnosis of Injury of the Spleen.**—Levy calls attention to the sharp pains in the shoulder region which differentiated the injury of the spleen in the case of abdominal contusion reported. The area of dulness over the spleen was not enlarged but the pains in the shoulder region confirmed the assumption that the spleen had been injured; it was found lacerated at two points and was removed. The patient rapidly recovered and not long after passed successfully through an explosion with severe burns. The loss of the spleen did not interfere with recovery from this second injury; the bone marrow must have vicariously done the work of regeneration of red corpuscles after the severe burns.

Zentralblatt für Gynäkologie, Leipsic

December 3, XXXIV, No. 49, pp. 1585-1608

112 *Suggestion Anesthesia and Hypnosis. J. Kocks.
113 *Vaginal Cesarean Section in Russia. S. Rosenfeld.

December 10, No. 50, pp. 1609-1640

114 *Mammary Gland as Source of Eclampsia Toxin. (Die mammäre Theorie über Entstehung des Eklampsiegiftes.) H. Sellheim.
115 Direct Application of Heat to Interior of Uterus. (Thermische Uterussonde.) L. Seitz.
116 *General and Local Anesthesia in Gynecology. W. Losinsky.

December 17, No. 51, pp. 1641-1672

117 Immunization Against Puerperal Infection. E. v. Graff.
118 Two Cases of Repeated Extra-Uterine Pregnancy. M. Gerschun.
119 *Easy and Rapid Mechanical Reposition of Retroflexed Uterus. O. Goldberg.

112. **Suggested Anesthesia.**—Kocks does not hesitate to say that hypnosis is mostly humbug; the hypnotizer is self-deceived and also the public, he declares, and he gives a number of personal experiences to sustain this view. At the same time he has found that it is possible to tranquilize patients with a suggestion of anesthesia which is extremely useful. It does not prevent the experiencing of pain when sensitive tissues are incised or pulled, but it removes the dread and excitement. In some cases he makes use of the chloroform apparatus without any chloroform or ether; the mere sight of the apparatus and its being set to work quiets the pulse, but there is no hypnotic suggestion. He tells the patient that no pain will be felt or so little that it will be bearable; operative measures in the vagina and uterus seldom induce pain. In other cases he injects a few drops of a solution of phenol, which the patient thinks is cocain, and under this local anesthesia the operation can be tranquilly entered on and completed. A few drops of chloroform may reinforce the tranquilizing measures but he scoffs the idea of its being hypnotic suggestion.

113. **Vaginal Cesarean Section in Russia.**—Rosenfeld has found records of fifty-one cases in which vaginal Cesarean section has been done in Russia and adds to this number two cases from his own practice. The results were satisfactory. Anterior vaginal hysterotomy was the preferred method, and the operation was done for various indications, eclampsia, rupture, endometritis, placenta prævia and hemoptysis at the seventh month. Some of the authors did not hesitate to operate in this way during the first half of pregnancy, and for evacuation of the uterus after abortion with complications.

114. **Eclampsia Due to Intoxication from Mammary Gland.**—Sellheim discusses various facts in relation to eclampsia which seem to sustain the assumption that the mammary gland may be the source of the intoxication, and relates the details of three cases in which he operated in accordance with this view. In the first case severe eclampsia persisted long after the uterus had been emptied. None of the usual measures having any influence on the convulsions, he then injected potassium iodid directly into the breast tissue. Immediately a change for the better was apparent, and the patient rapidly recovered. In a more recent case a robust primipara was unconscious when first seen, numerous convulsions preceding and following extraction of a dead seven-months' fetus by vaginal Cesarean section. Every hour or so afterward severe convulsions followed, growing constantly worse, the coma becoming deeper, the pulse 160 and weak, the cyanosis more pronounced. Sellheim then injected potassium iodid into the breast, pushing the needle deep into the gland tissue, pointing it in different directions, and pumping with a bulb until 1,000 c.c. of a 0.9 per cent. salt solution containing 1.5 gm. of potassium iodid had been thus injected. The injection took about fifteen or twenty minutes. As he then looked again into the patient's face he saw a decided change for the better, the tint was less livid and it rapidly grew more natural while the pulse became stronger. An hour later the patient sweat profusely; the same amount of the iodid solution was injected again into the breast four hours later and again after another four hours. The urine had been bloody and contained large amounts of albumin before the first injection of potassium iodid, but it soon became normal in tint, with only 1 per 1,000 albumin by the end of twenty-four hours, and recovery was soon complete. In a third case, a primipara of 24 developed severe eclampsia six hours after normal delivery, and Sellheim excised the mammary gland on both sides through a curving incision below each breast. He gives the pulse and other curves in this case to show the immediate turn for the better that followed. Subcutaneous excision of mammary-gland tissue is a far simpler operation than forcible delivery and decapsulation of the kidneys, and in desperate cases, in which no other organ can be incriminated, he is confident that this operation may prove of supreme importance.

116. **Anesthesia in Gynecology.**—Lobinsky concludes from the experience at Kiev that local anesthesia by the infiltration method is the best for plastic operations on the perineum and

vagina, and that epinephrin should be used only in the smallest amounts and weakest concentration in operations on the female genitals.

119. **Reposition of Retroflexed Uterus.**—Goldberg introduces a Hodge pessary, pushing the broader end well up into the posterior vaginal vault; the smaller end of the pessary is then pushed farther back into the vagina. The displacement is corrected by this maneuver or it only requires a little further manipulation to restore the organ to its normal place. The reposition is the effect of the leverage from the pessary and the induced tension of the ligaments. He summarizes reports of twenty cases to show the efficiency of this simple method.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 1, XXXI, No. 144, pp. 1521-1528

120 Diagnostic Importance of Lipase in Urine. G. Tanfani.

December 4, No. 145, pp. 1529-1544

121 Hydrogen Dioxid in Hyperchlorhydria. (Il perossido d'idrogeno nell' ipercloridria.) P. Girardi.

December 6, No. 146, pp. 1545-1552

122 *Iodin Sterilization of the Skin. (Il metodo Grossich per la disinfezione della pelle.) C. Mantelli.

December 8, No. 147, pp. 1553-1560

123 Temporary Excessive Contraction of the Heart Just After Compensation is Complete. (Sulla ipersistole.) A. Bruno.

December 11, No. 148, pp. 1561-1576

124 Pathogenesis of Purpura Hemorrhagica. T. Di Guiseppe.

122. **Iodin Sterilization of Wounds and Field of Operation.**—Mantelli states that Grossich's technic has been applied in 700 aseptic operations at Bajardi's clinic in the last year, and the wounds have healed by primary intention without a single exception and without dermatitis in any instance. He reports bactericlogic research to determine the thoroughness of the sterilization that follows painting the region with tincture of iodin, the results being convincing in the extreme.

Policlinico, Rome

November 27, XVII, No. 48, pp. 1507-1538

125 *Tuberculin Skin Reaction in Syphilis and in Metasyphilitic Disease. F. Costantini.

December 4, No. 49, pp. 1539-1570

126 *Latent Malaria. G. Ianni.

December 11, No. 50, pp. 1571-1602

127 *Castration and Thyroidectomy. T. Silvestri.
128 Subcutaneous Injection of Phenol in Tetanus. (Il metodo Baccelli sulla cura del tetano.) A. Bellussi.
129 Prevention of Spread of Venereal Disease. V. E. Ovazza.

125. **Local Tuberculin Reactions in Syphilis.**—Costantini obtained a positive response in all but three out of forty-seven syphilitics tested with the intradermal technic according to Mantoux, and the Wassermann reaction paralleled the positive skin findings. In twelve patients with paralytic dementia both findings were also positive in 76 per cent. He comments that these local tuberculin reactions cannot be utilized for differentiation of syphilis and tuberculosis, but that, if tuberculosis can be excluded, positive findings are strong presumptive evidence in favor of syphilis.

126. **Healthy Malaria-Parasite Carriers.**—Ianni has examined the blood of over 2,000 transient or permanent inhabitants of endemic foci of malaria, and found the malaria plasmodia in the blood of fifty-three out of 146 persons free from the slightest indication of malarial disease. This large percentage of healthy carriers he thinks is extremely important from the standpoint of general prophylaxis of malaria. When no parasites were found in the peripheral blood, he gave a single therapeutic dose of strychnin, and found that in from thirty to sixty minutes the parasites ensconced in internal organs were driven out by the action of the drug and could then be discovered in the peripheral blood. Not until the findings were constantly negative after this test was the individual regarded as free from the germs.

127. **Castration Plus Thyroidectomy.**—Silvestri found that young rabbits, dogs and guinea-pigs and the male adult animals after castration reacted to removal of the thyroid and parathyroids the same as normal animals, but female adult animals after castration seemed to bear without injury the removal of the thyroid and parathyroids. The appetite remained good and there were no signs of disturbance from the loss of the glands, except possibly an increase in weight. The age and sex seem to determine the outcome.

Riforma Medica, Naples

November 21, XXV, No. 47, pp. 1289-1316

130 *Is Kala-Azar Transmitted by Inoculation? (Intorno al kala-azar.) U. Gabbi.
131 Peptone in the Urine. (Indagine chimico-fisica del peptone nell'urina.) G. Moscati.

November 28, No. 48, pp. 1317-1344

132 Gastric Motor Disturbances. (Gastropatie dinamiche ed organiche. XIII.) G. Rummo.
133 Action of Quinin on the Autolysis of Spleen and Liver. G. Moscati.
134 Plastic Operation with Cremaster Muscle in Treatment of Inguinal Hernia. O. Marchetti.

December 5, No. 49, pp. 1345-1372

135 Albumosuria in Albuminuria. L. Marenduzzo.
136 Research on Absorption from Gall-Bladder. (Sulla permeabilita della cistifellea.) G. Moscati.
137 Graphic Registration of Action of Left Auricle. (La grafica dell' atrio sinistro: il suo significato e la sua importanza diagnostica.) W. Janowski.

130. **Kala-Azar.**—Gabbi has encountered twenty more cases this year and others fifty more, the patients being all children in southern Italy. He believes that if the disease were always recognized it would be found that several hundreds die annually from it in southern Italy and Sicily. It is almost invariably fatal, and he believes that it is inoculable, for reasons which he cites, and that the bedbug is probably the intermediate host, not the dog as Nicolle has recently stated. The disease seems to occur in the spring; only one case is on record as late as August and only one as early as February. Recently he called attention to the difference between the febrile and the afebrile forms of infectious splenic anemia in children and ventured the assertion that the former was true kala-azar. It seems to be invariably restricted to the families of the working classes while the afebrile form is encountered among the well-to-do. Puncture of the spleen or bone marrow is the only means to reveal the parasites, the Leishman bodies, causing the syndrome, which in many respects resembles chronic wasting malarial fever.

Hygiea, Stockholm

November, LXXII, No. 11, pp. 1169-1296

138 History of Inoculation Against Small-Pox. (Ur koppympningens historia.) V. Djurberg.
139 Combination of Albuminous Substances in the Blood with Iodin After Administration of a New Iodin Preparation, a Derivative of Tannic Acid. C. J. Enebuscke (New York).
140 Chemical Study of Swedish Oil of Pine. (Bidrag till kännedomen om svensk tallbarrsolja.) T. Ekecrantz.

Norsk Magazin for Lægevidenskaben, Christiania

December, LXXI, No. 12, pp. 1267-1378

141 *Foreign Bodies in the Esophagus. (Om fremmedlegemer i øsofagus og deres behandling.) V. Uchermann.
142 *Hemolytic Jaundice. (Hæmolytisk ikterus.) G. A. Haus.
143 *Old Primiparæ. (Om ældre Istegangfødende.) T. Hesselberg.
144 Ten Years' Experience with Sanatorium Treatment of Pulmonary Tuberculosis. (En tiaarsstatistik fra Reknes sanatorium for tuberkuløse.) I. F. Lorentzen.

141. **Foreign Bodies in the Esophagus.**—Uchermann has had a few patients die from this cause in his service at Christiania, and discusses some of the lessons learned from this experience. Among them is the necessity for examining the opposite side of the esophagus when the foreign body is removed from without. When it is large and has been impacted for some time the tissues are likely to be injured all around, and especially at both ends of the foreign body, so that the perforation may be double and infection may occur from the side opposite the incision. It is sometimes wise to open into the esophagus from the opposite side to explore the other side; he found this of great advantage in one case which certainly would have terminated fatally without it. The first point to be ascertained is the nature of the foreign body that has been swallowed, whether it has smooth or sharp edges. In one case the family related that the child had swallowed a cloth-covered button from her father's underdrawers, and as there was not much disturbance, and the child was able to swallow fluid food and did not seem much incommoded, while the Roentgen picture showed the button lodged not far down, several days were allowed to elapse while a suitable button-

catcher was being made, with which the button was finally safely removed. But instead of being as described, the button was of another kind and had sharp edges which had burrowed into the walls and the child died of sepsis two days later. Another lesson learned from his experience is that the Roentgen-ray examination should be done by an expert; in one case the radiograph was said to show the foreign body in a bronchus, and tracheotomy and bronchoscopy followed at once but no trace of the foreign body could be found. Another radiograph showed the foreign body in the cecum. It had evidently been in the esophagus when first seen. The foreign body is liable to induce spasmodic contraction which renders dangerous any attempt at instrumental exploration. In two cases the patients succumbed to sepsis from perforation of the esophagus by the instrument used in the attempts at extraction, remote from the actual site of the foreign body.

142. **Hemolytic Jaundice.**—Haus reports a typical case, the chronic jaundice continuing for three years till death. The findings suggest that this hemolytic form of jaundice should be classed with essential, possibly with pernicious anemia, as essentially a disease of the blood. He compares the clinical course and necropsy findings in his case with the few similar ones on record. His patient was a factory hand, 36 years old, whose sister and child had died from tuberculosis.

143. **Elderly Primiparæ.**—Hesselberg tabulates the age, duration of labor and other particulars of the first delivery of 200 women over 30, comparing them with an equal number of primiparæ under the age of 20. Twelve of the women were between 40 and 44. There was no mortality among the elderly parturients but there was a febrile morbidity of genital origin in 14.1 per cent., while the younger women under 20 had a febrile morbidity of genital origin in 20.6 per cent. The primary and secondary fetal mortality among the children amounted to 10.2 per cent., in the older and 4.8 per cent. with the young women. In 9.3 per cent. of the older women the uterus had to be evacuated by hand, while this was necessary in only 4.3 per cent. of the young women. Labor lasted for from twenty-one to twenty-nine hours in the older women and only fifteen hours in the younger.

Ugeskrift for Læger, Copenhagen

December 15, LXXII, No. 50, pp. 1569-1606

145 *Duodenal Ulcer. (Om Diagnosen og Behandlingen af det ikke-perforerede Duodenalsaar.) S. Kemp. Commenced in No. 49.

145. **Diagnosis of Duodenal Ulcer.**—In addition to the signs and symptoms generally emphasized, Kemp calls attention to the fact that in his ten operative cases gastric hypersecretion was a constant finding and in a degree seldom encountered under other conditions, not even with gastric ulcer. Hypersecretion therefore suggests either gastric or duodenal ulcer, and when excessive speaks strongly for the latter. Two of his patients vomited about a liter of extremely acid fluid from the fasting stomach and all but two had more or less fluid in the fasting stomach and generally considerable acidity. Gastric motor insufficiency was also the rule with duodenal ulcer in his experience; three of the patients had continuous retention, one considerable retention eight hours after an Ewald test meal, one after six hours and two after five hours. Three of his six patients without continuous retention had pylorospasm, and all those with continuous retention. Great variations in the amount of fluid found in the fasting stomach may be regarded as evidence of occasional transient pylorospasm. He has a record of pylorospasm in only three of his seventy patients with gastric ulcer, while it was manifest in seven of his ten patients with duodenal ulcer. Examination of the stomach functioning will often throw light on the dubious cases of duodenal ulcer. In regard to treatment, he says that the same principles apply as to gastric ulcer only that the hemorrhage from a duodenal ulcer may be harder to control. Medical measures should be the routine treatment; operative treatment should be instituted only when they fail. He operated on account of stenosis in two cases; for repeated, chronic bleeding in another, for results of pylorospasm in three and for recurrence of symptoms after an at first apparently successful course of medical treatment in three cases. With duodenal ulcer there is less danger of cancer later than with gastric ulcer; cancer of the duodenum seems to be extremely rare.

Upsala Läkareförenings Förhandlingar

N. S. XVI, Nos. 1-2, pp. 1-136. . Last indexed Nov. 12, 1910, p. 1772

146 *Râles After Tuberculin Injections Not Always Sign of Specific Focal Reaction. (Rassel efter tuberkulininjektion, som icke äro uttryck for specifik härdreaktion.) G. Bergmark.

147 Swedenborg as an Anatomist. (Om Emanuel Swedenborg som naturforskare och i synnerhet hjärnanatom.) M. Ramström.

148 Swedenborg's Conception of the Functioning of the Brain. (Hvarpå grundar sig Swedenborgs åskit om hjärnans funktion, och särskildt om hjärnbarken som själsverksamhetens säte?) M. Ramström.

146. **Râles After Injection of Tuberculin Not Necessarily a Focal Reaction.**—Bergmark applied the subcutaneous tuberculin test to a girl of 9 who had a small, old and evidently calcified apical tuberculous process, and a recent acute bronchopneumonia, involving the other apex; the rest of both lungs was apparently intact according to the Roentgen-ray findings. An intradermal injection of tuberculin induced a lively reaction and a subsequent subcutaneous injection of tuberculin was also followed by a still more intense reaction including a pronounced exanthem and enanthem in the mouth with conjunctivitis—all these developed some time before changes in the focus indicated a focal reaction. At the same time as the exanthem and enanthem developed, râles were evident in the lower part of the lungs, and Bergmark presents evidence and arguments to prove that these râles were part of the early enanthem reaction, and that they had nothing to do with the true focal reaction later.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. REPORT ON AN OUTBREAK OF TYPHOID FEVER AT OMAHA, NEB. (1909-1910). By L. L. Lumsden. II. THE WATER SUPPLY OF WILLIAMSON, W. VA., AND ITS RELATION TO AN EPIDEMIC OF TYPHOID FEVER. By W. H. Frost. Hyg. Lab. Bull. 72, November, 1910. U. S. P. H. and M.-H. S. Paper. Pp. 94, with illustrations. Washington: Government Printing Office, 1910.

MEDIZINAL-BERICHTE ÜBER DIE DEUTSCHEN SCHUTZGEBIETE: Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen, Marshall-Inseln und Samoa für das Jahr 1908-1909. Herausgegeben vom Reichs-Kolonialamt. Paper. Price, 9 marks. Pp. 522. Berlin: Ernst S. Mittler und Sohn, Königliche Hofbuchhandlung, Kochstrasse 68. 1910.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 East 59th St.

INTERNE KLINIK DER BÖSARTIGEN NEUBILDUNGEN DER BAUCHORGANE. Von Dr. Rudolf Schmidt, k. k. Primararzt am k. k. Kaiserin Elisabeth-Spital, Wien. Paper. Price, 14 marks. Pp. 355. Vienna: Urban und Schwarzenberg (American Publishers: Rebman Co., New York), 1911.

THE WORK OF THE EDWARD SANATORIUM. An Institution for the Treatment of Incipient Pulmonary Tuberculosis. Jan. 15, 1907, to Sept. 1, 1910. Including the Annual Report for 1909. Founded Jan. 15, 1907. Paper. Pp. 78, with illustrations. Naperville, Illinois.

REPORT OF THE CHIEF OF THE BUREAU OF ANIMAL INDUSTRY FOR 1910. By A. D. Melvin. (From Annual Reports of the Department of Agriculture.) U. S. Department of Agriculture. Paper. Pp. 83. Washington: Government Printing Office, 1910.

THE HARVEY LECTURES. Delivered under the Auspices of the Harvey Society of New York, 1909-1910. By various authors. Cloth. Price, $2 net. Pp. 276, with 48 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

BIENNIAL REPORT OF THE DAIRY AND FOOD COMMISSIONER OF WISCONSIN. For the Period Ending June 30, 1910. J. Q. Emery, Dairy and Food Commissioner, Madison, Wis. Cloth. Pp. 368, with illustrations. 1910.

UNIVERSITY OF BOMBAY CALENDAR FOR THE YEAR 1910-1911. Cloth. Volume I, price, 3 rupees. Pp. 969. Volume II (Examination Papers of 1909-1910), price, 2 rupees. Pp. 342. Bombay, 1910.

CONSTITUTION, BY-LAWS, OFFICERS AND LIST OF MEMBERS OF THE SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL. 1910-1911. Cloth. Pp. 74. Dr. J. J. Nutt, Secretary, 2020 Broadway, New York.

DIÄTETIK INNERER ERKRANKUNGEN ZUM PRAKTISCHEN GEBRAUCHE FÜR AERZTE UND STUDIERENDE. Von Dr. Theodor Brugsch. Paper. Price, 4.80 marks. Pp. 245. Berlin: Julius Springer, 1911.

THIRTY-SECOND ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF LAWRENCE, MASS. For the Year Ending Dec. 31, 1909. Paper. Pp. 64.

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OCCLUSION OF LARGE SURGICAL ARTERIES WITH REMOVABLE METALLIC BANDS TO TEST THE EFFICIENCY OF THE COLLATERAL CIRCULATION

EXPERIMENTAL AND CLINICAL OBSERVATIONS *

RUDOLPH MATAS, M.D.

AND

CARROLL W. ALLEN, M.D.

NEW ORLEANS

The chief object of this inquiry has been to determine whether the large arteries can be occluded long enough to make it possible to observe the effect of the arrested circulation in the territory supplied by the occluded vessel, without irreparably damaging the artery during the period of observation. How long can an artery be occluded so as to arrest all flow of blood through its lumen without permanently obliterating it? What is the utmost limit of time that compression with a removable metallic band can be maintained before permanent damage, leading to thrombosis, occurs in the intima? What are the changes that occur in the vessel after occlusion has been maintained for a certain number of hours, or days, at the time of the constriction and after constriction has been removed?

The importance of testing the efficiency of the collateral circulation before permanently obstructing or obliterating an important surgical tract in regions where permanent occlusion of the main regional trunk may be followed by disastrous consequences (such as the carotid, subclavian, innominate, iliac, aorta, etc.), was the chief incentive to this investigation. Hence the term "prophylactic" or "test" occlusion of arteries, may be given appropriately to this procedure.

The steadily widening field of the surgical treatment of malignant disease and the growing importance of testing the efficiency of the collateral circulation in the treatment of aneurysm and other vascular lesions, has led one of us (Dr. Matas) for several years to experiment clinically with methods that would afford the much-needed information in determining the efficiency of the collateral circulation. In connection with this subject the work of W. S. Halsted, Stratton of Oakland, Cal., Crile, Jordan of Heidelberg, Doberauer, Saiger and Riess, but especially of Halsted, with his characteristically thorough and ingenious experiments in the partial and progressive occlusion of the arteries, with rolled metallic bands, are most stimulating and suggestive. In addition to our prime object, which was to devise a satisfactory means of testing the efficiency of the collateral circulation, we have been especially concerned with the kind of material best suited for the compression of the arteries, combining the features of tissue tolerance, facility of application, ease of removal, with a minimum of trauma to the artery. To this end a series of experiments on dogs was undertaken in the laboratory of operative surgery of the Tulane University. In the first series, 1908 and 1909, 168 experiments were performed on forty-two dogs, but of these only forty-three experiments were available, on account of infections, deaths and escape of animals. These forty-three experiments, involving the carotid and femoral arteries, may be grouped as follows: In seven the artery was occluded one day; in seven the artery was occluded two days; in fourteen, three days; in eight, four days; in four, five days; in three, six days. In twenty-two of these cases the vessel and clamp were excised together at the expiration of the stated period of observation; in twenty-one, the clamp alone was removed, the vessel remaining *in situ*, to be taken out subsequently. After the removal of the vessels, the gross changes presented by the artery were noted and photographs made showing the site of the occlusion. A series of sixteen additional experiments were undertaken (Dr. Allen), Nov. 21, 1909, to May 6, 1910, for purposes of histologic study. The carotid and femoral arteries of dogs, as in the previous series, were utilized for the work. Ten cases in which the band and vessel were removed together were as follows: One, twelve hours; one, thirty-six hours; three, forty-eight hours; three, seventy-two hours; one, 120 hours; one, 144 hours. Six in which the clamp was removed after the number of hours stated and the clamped section of the vessel was removed four to ten days later, were as follows: Two, twenty-four hours; one, forty-eight hours; three, seventy-two hours. The results obtained in the above sixteen cases confirm the conclusions reached in the first report, as previously announced by one of us (Dr. Matas) in a preliminary report submitted to the Society of Clinical Surgery, Rochester, Minn., November, 1909. In all, including the first and second series, fifty-nine available experiments were utilized in this research. A separate inquiry into the application of complete and partial occlusion to the thoracic and abdominal aorta by various methods, not described in this report, is now being carried out and will form the basis of a separate report when the investigation is completed.

Three forms of bands were used, all about as wide as one diameter of the vessel operated on; first, fine silver wire strands soldered together so as to constitute a flat surface of the thickness of the single wire; second, thin aluminum bands held around the vessel by clamping their free ends with soft lead clips; third, aluminum

* Read in the Section on Surgery of the American Medical Association at the Sixty-first Annual Session, at St. Louis, June, 1910.

bands, stout enough to maintain the desired degree of compression by simply pressing and molding them to the vessel. The silver bands which had been used on the human subjects (Dr. M.) before the experimental work began were soon discarded for the aluminum bands (No. 20, Brown & Sharp's sheet-metal gauge), which retained their hold on the artery without the aid of the lead clips.

These bands are cut long enough to be used as aneurysm needles, bent and curved in the shape of a flat hook, which can be readily insinuated between the blood-vessel and its sheath; after the band has been carried around the circumference of the vessel, it is gently compressed by the fingers of the operator until the pulse on the distal side becomes imperceptible; the excess of band which remains is cut off with stout scissors, or preferably small wire clippers.

In placing the bands around the small arteries of the dog in attempting complete occlusion, it is very easy to crush them and set up traumatic changes not directly due to the use of the band. To avoid this, one end of the band is doubled on itself, arranged somewhat like a clothespin and the vessel slipped down between the opposing surfaces of the band, until the pulse can no longer be felt. The excess of band is then cut away; in this way danger of crushing by excessive force is reduced to a minimum.

Each band should be prepared for use by paring the sharp angles of the free end that is to be carried around the artery with scissors, the sharp edges should also be softened with a file; this is what Professor Halsted has aptly described as "manicuring a band."

If it should become necessary to remove the band at any time, on account of ischemic disturbances in the territory supplied by the occluded vessel (e. g., when cerebral disturbances occur after occlusion of the common carotid), the point of a sharp instrument inserted between the approximated ends of the band and slightly twisted accomplishes the separation and releases the vessel, allowing the circulation to be restored.

The bands have now been applied in the human subject fourteen times, seven times by Dr. Matas: (1) to the right common carotid and right subclavian, (third division), for innomino-aortic aneurysm; (2) to right common carotid and right subclavian for innominocarotid aneurysm; (3) as a preliminary to extirpation of a tumor of the upper carotid region, followed in three days by simultaneous extirpation of the tumor with the common carotid, including its bifurcation; (4) to right common carotid, as a preliminary to extirpation of tumor of lower jaw and submaxillary region; (5) to left common carotid as a preliminary to extirpation of pharyngeal, palatine and tonsillar neoplasm; (3) to right common carotid and right subclavian for innomino-aortic aneurism; (7) by Drs. Matas and Allen: to the internal and external carotids, just above the bifurcation, for innomino-aortic carotid aneurysm; (8) by Drs. Gessner and Matas, to the right common carotid at point of election for aneurysm involving carotid bifurcation; (9) by Dr. Allen, as a preliminary to extirpation of parotid tumor; (10) by Dr. I. Cohn, to the right common carotid and right subclavian for innomino-aortic aneurysm; (11) by Dr. Cohn, to left common carotid, as a preliminary to extirpation of carcinoma of neck, jaw and cheek; (12) by Dr. Gessner, to right common carotid, as a preliminary to extirpation of carcinoma of root of tongue; (13) by Dr. Matas, on the common carotid to control bleeding and starve a carcinoma of right parotid region. In all these cases the bands were applied as "test occlusions," but, as in no instance did cerebral or other disturbances in the peripheral circulation develop, the bands were allowed to remain undisturbed and in this way permanently occluded the vessels to which they were applied.

The only case (No. 14) in which the prophylactic value of this method of occluding the arteries was demonstrated, was a case of pulsating exophthalmos, in which ligation of the right carotid had been done twenty years previously.

The case was reported by Dr. Charles H. Mayo at the recent meeting of the American Surgical Association, Washington, May 3-5, 1910. The patient, a woman over 60 years of age, had suffered from a relapse of all the exophthalmic symptoms, complicated with general cirsoid enlargement of the vessels of the cranium and face.

The patient came to him after the common carotid on one side had been ligated for arteriovenous aneurysm [presumably traumatic rupture of internal carotid in the cavernous sinus. R. M.].



Fig. 1.

Fig. 1.—Femoral, clamped twenty-four hours. Small collateral given off above point of compression. Removed ten days later. All illustrations 1 to 12 represent a magnification of 3½ times. The small transverse markings seen in some at points away from the clamps were produced by slight shrinking of vessel.



Fig. 2.

Fig. 2.—Carotid, clamped forty-eight hours; absolutely uninjured.



Fig. 3.

Fig. 3.—Femoral clamp removed after forty-eight hours, and vessel removed ten days later. Small pits seen are openings of collaterals.

In this operation an attempt was made to ligate the dilated vessels around the orbit, resulting in the loss of an eye. When the patient came to Dr. Mayo there was an enormous protrusion of the left eye and pulsating veins on that side of the head. He determined to occlude the common carotid by the method we have described, and proceeded to do so under cocain anesthesia, using a little clip of block tin about three-quarters of an inch long and the width of the artery. When he was almost through with the operation, the patient remarked that she could not see anything; "the light was

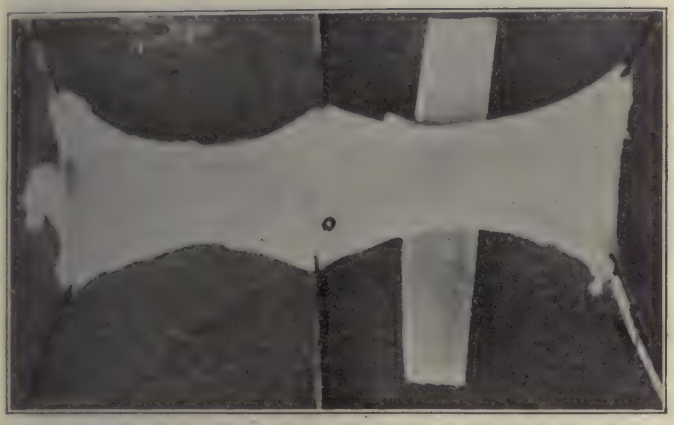


Fig. 4.—Carotid, clamped seventy-two hours; absolutely uninjured.

going out."[1] He immediately began to loosen the clip until the vision returned. This was done six months ago, and last week (end of April, 1910) the clip was still on her common carotid and her vision was better than before the operation.[1]

This was a brilliant and convincing demonstration of the superiority of the band over the ligature.

If a ligature had been applied, irremediable damage to the artery would have followed.



Fig. 6.—Carotid, clamped ninety-six hours. Intima adherent and vessel walls slightly corrugated at that point.

In all our cases the perfect tolerance by the tissues of the band, when properly applied, was demonstrated; without exception the bands remained permanently encysted in a fibrous sheath, without causing the slightest irritation.

1. See report of the proceedings of the American Surgical Association, May 3-5, 1910, Washington, D. C., Ann. Surg., July, 1910, p. 130.

As a result of this experimental inquiry, the following conclusions were arrived at:

1. It is possible to compress a vessel to the point of obliterating the pulse and maintain this pressure for from three to four days before obliterative endarteritis occurs.

2. All the vessels clamped in this manner stand compression seventy-two hours without recognizable gross visible changes; some begin to show decided changes in ninety-six hours.



Fig. 5.—Femoral, clamped seventy-two hours; removed ten days later. Note collaterals.

In a report of the examination of the fifteen specimens of dogs' arteries (femoral and carotid) made by Dr. Frazer B. Gurd, demonstrator in the Laboratory of Surgical Pathology at Tulane, he concludes:

> Unless trauma be sufficiently marked to crush the tissues throughout the entire thickness of the vessel walls, no changes will be noted, either in the endothelial lining or in the inner layers of the muscular coat in the vessels which have been clamped for seventy-two hours or less. In vessels which have been subjected to clamping for four days or more, there does not appear to be the same tendency to return to normal conditions. The lumen remaining obliterated, but little evidence of degenerative change is seen and thrombus formation is, apparently, not prone to take place.



Fig. 7.—Femoral, clamped 120 hours; removed thirteen days later. Obliteration; staining from adherent thrombus.

Finally, there is seemingly no reason why in ligating the great vessels at the root of the neck and at the limbs, in continuity, these removable bands should not be substituted for the circular ligature, which permanently damages the artery, even when carefully applied. The

ligature cannot be released when fatal ischemia threatens in the peripheral parts, as in the brain, without almost absolute certainty of thrombus formation or embolism starting at the seat of the ligation. The advantages of this simple method of arterial occlusion which interrupts the circulation without damaging the arteries permanently, can be readily appreciated by all those who realize the practical importance of first testing the efficiency of the collateral circulation.



Fig. 8.—Carotid, clamped 144 hours. Vessel removed eighteen days afterward. Complete obliteration with adherent thrombus.

REPORT OF THE HISTOLOGIC EXAMINATION OF THE ARTERIES CLAMPED WITH METALLIC BANDS, BY DR. F. B. GURD

The specimens supplied by Drs Matas and Allen for histologic examination consisted of small portions of dogs' arteries, carotid and femoral, but chiefly carotid. Altogether fifteen such specimens were examined. The tissues were fixed in Zenker's solution, and in 10 per cent. dilution of liquor formaldehydi, in order to have better material for the determination of elastic tissue changes. They were imbedded in paraffin and sections stained by hematoxylin-eosin, Mallory's connective tissue stain, phosphotungstic-acid-hematein and Weigert's elastic tissue stains.

Since the changes in practically all the vessels are similar, a detailed description will be made of only those which show more important variations. The specimens, in general, fall into two groups, the first of which, containing twelve arteries, is composed of sections from vessels removed immediately after taking off the clamps after these had been in position for periods varying from twelve to 144 hours. The second group consisted of three specimens in which following



Fig. 10.—Early model of band made of silver strands held in place with clip (obsolete).

the application of the clamps during periods of twenty-four, forty-eight and seventy-two hours, respectively, the vessels were left, *in situ*, for seven days in order that late changes might be studied.

As a general statement it may be said that no intimal or endothelial changes appear in any of the sections from vessels which had been clamped for seventy-two hours or less, with the exception of two which will be described in detail. In practically all specimens there is a more or less marked change in the adventitia and in the outer portion of the muscular coat. These changes consist, in the less marked cases, of a swelling of the collagenous fibrils together with an edema present in the adventitia and between the muscle bundles in the outer muscular layer (Fig. 15). In the other vessels about the situation of the clamp there is an infiltration with lymphoid and plasma cells, together with a slight increase in the number of vessels in the adventitia. In two instances the adventitia and the surrounding tissues are the site of an acute inflammatory process as evidenced by the presence of polymorphonuclear leukocytes and fibrin, evidently the result of infection.

It is noteworthy that, in the three vessels in which the clamps had been removed seven days prior to removal of



Fig. 9.—Carotid, clamped 168 nours; removed fifteen days later. Complete destruction of intima. Difficult to re-establish lumen of vessel.

the vessel itself, there is found, practically, an absolute return to normal conditions, a slight increase in the number of lymphoid and plasma cells in the adventitia alone being noted.

In two instances the inner coats of the vessel showed changes caused by excessive pressure, which crushed the vessel wall. One of these occurred in a specimen removed thirty-six hours after the application of the clamp. The adventitia in this case is the site of an acute inflammatory process, there being moderate numbers of polymorphonuclear leukocytes, as well as fibrin and serum present in the outer portions of the adventitia. The lining endothelium in one area has apparently been destroyed and the removal of the clamp has not resulted in the return of the vessel to its normal tubular shape. Lying between the separated muscle bundles in the inner part of the muscle coat are collections of red blood

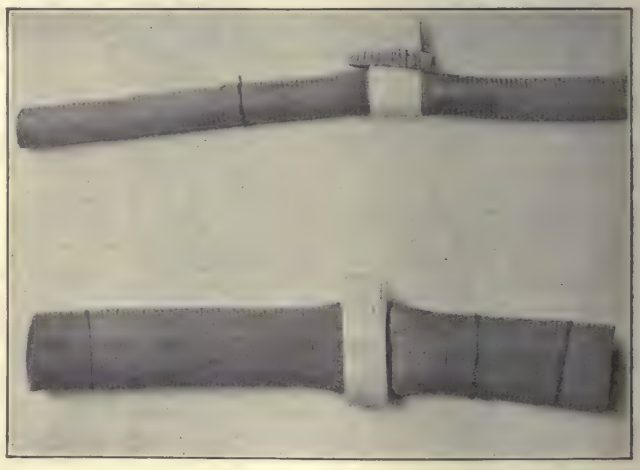


Fig. 11.—Two solid aluminum bands above, old model, thin metal, held in place with lead clip (obsolete); below, latest model, thicker (20 Brown & Sharp's sheet-metal gauge), soft enough to be moulded by digital pressure and thick enough to compress vessel without clip.

cells together with a few polymorphonuclear leukocytes. Lying within the lumen and attached to the wall of the vessel at a point proximal to that area at which the walls are adherent is an oval thrombus containing numerous polymorphonuclear leukocytes (Fig. 16).

The other case is of even greater interest in view of the difficulty which has been constantly experienced in producing

aneurysms experimentally in lower animals by mechanical means. The specimen is a portion of a carotid which had been clamped for a period of seventy-two hours, the vessel being excised shortly after the removal of the clamp. When viewed with the unaided eye this section consists of a vessel 9 mm. in length, having a wall 1 mm. in thickness. The lumen of the vessel at either end measures 2 mm. in width. In the center, however, there is a fusiform dilatation 3.5 mm. in length and 3 mm. in width. Examined microscopically, it is noted that, with the exception of that portion of the vessel surrounding the dilatation, the wall is normal. This dilated portion shows a complete destruction of muscle fibers with



Fig. 12.—Mode of applying aluminum band to artery (rubber drainage tube used as model). The bands are originally cut long enough to be handled and used as aneurysm needle.

the exception of a few nuclei in the outer zone which stain poorly. The tissue in this area is composed of a hyaline or slightly granular staining material, practically devoid of cellular elements. The wall is about half the thickness of that in the more normal-looking portions of the vessel. The endothelium is intact throughout the entire length of the vessel including that portion showing the aneurysmal dilatation (Fig. 17).

Three specimens which were removed after five or six days' clamping show a similar condition to one another. None show marked degenerative processes, but in all the continuity of the lumen has been destroyed, the vessel not having returned to its tubular form. The endothelial lining, however, so far as it can be identified, appears normal, the obliteration of the lumen being due apparently to a loss of



Fig. 14.—From photograph of vessel-wall after application of clamp for seventy-two hours. Note normal appearance. M, media; A, adventitia. Magnified sixty times.

elasticity of the wall rather than to any cohesion of the opposed surfaces. All vessels show a moderate destruction of the muscular tissue and replacement by edematous fibrous tissue, but in none is this process extensive.

CONCLUSIONS

To sum up, it may be stated that unless trauma be sufficiently marked to crush the tissues throughout the entire thickness of the vessel wall, no changes will be noted either in the endothelial lining or in the inner layers of the muscular coat in vessels which have been clamped for seventy-two hours or less. Exactly what may have been the determining factor in the complete degeneration in the musculature preceding the production of the aneurysm described in the last specimen apart from pressure atrophy does not appear evident from the examination of the specimen histologically; the process has apparently progressed very rapidly since we find at the end of seventy-two hours a complete destruction of all the muscula-

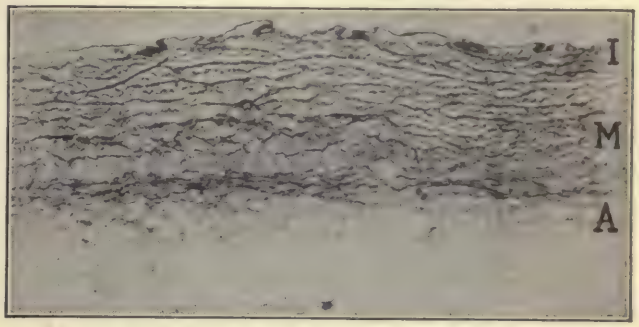


Fig. 13.—From photograph of vessel stained with Weigert's elastic tissue stain, showing normal arrangement of fibers following application of clamp for forty-eight hours. I, intima; M, media; A, adventitia. Magnified fifty times.

ture of the vessel wall. In vessels which have been subjected to clamping for four days or more there does not appear to be the same tendency to return to normal conditions. The lumen remains obliterated, but very little evidence of degenerative changes is seen; thrombus formation is, apparently, not prone to take place.

ADDENDUM.—While this paper is going through the press we have had an additional opportunity to test the value of our removable bands in the occlusion of the common carotid. The results have confirmed so strikingly the argument advanced in the text that we feel amply justified in supplementing it by appending a brief detail of the observation. On Nov. 16, 1910, a white laborer, aged 62, entered our surgical service (Ward 69) in the Delgado Memorial Charity Hospital, pre-



Fig. 15.—From photograph of vessel-wall removed after having been clamped forty-eight hours. Note normal intima and acute inflammatory process in adventitia. M, media; A, adventitia. Magnified fifty times.

senting an advanced carcinoma of the left upper maxilla. The tumor projected as a disfiguring mass from the cheek and was complicated by a large aggregation of glands which filled the left submaxillary and upper carotid regions. As these glands were immovable and adherent to the carotid sheath, as low down as the bifurcation of the carotid, we concluded that a radical operation would be impossible without a block dissection of the glands, which would in all probability neces-

sitate the extirpation of the carotid branches, including the bifurcation and the upper internal jugular. We therefore decided to limit our first occlusion of the common carotid at the point of election in order to test the efficiency of the collateral circulation in the brain. This procedure was carried out at our regular clinic on Monday, November 21. The artery was readily exposed after a preliminary local cocain (Schleich No. 1) and epinephrin anesthesia which was in every way satisfactory. An aluminum band was adjusted to the common carotid, the band being molded and pressed on the vessel with the fingers until the pulse on the distal (cerebral) side ceased to beat. Before this was done, careful note was taken of the pulsation of the opposite right carotid and of the pulses in the peripheral branches (facial and temporal) which

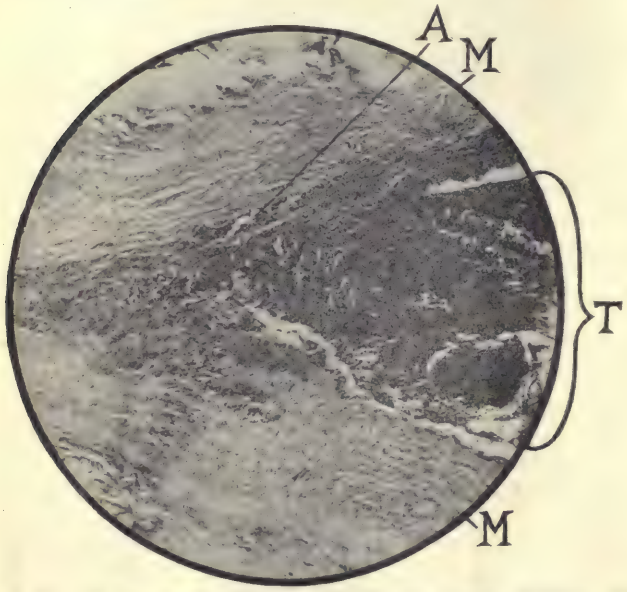


Fig. 16.—From photograph of vessel-wall after clamping for forty-eight hours. Note hemorrhage between muscle fibers in inner third of vessel (A); also, destruction of endothelium and adherent thrombosis (T). M, media. Magnified thirty times.



Fig. 17.—Aneurysmal dilatation produced by clamping artery of dog for seventy-two hours with crushing force; the only example of dilatation obtained in our extended work; *a*, appearance same section with low amplification; *b*, actual size of dilated vessel.

were distinctly felt. After the occlusion, it was noticed that the temporal and facial pulses on the corresponding (left) side had practically ceased; while those on the opposite side remained undisturbed. The patient stood the operation perfectly, assisting us in changing the position of the head to suit our purposes. We watched carefully for cerebral symptoms after the occlusion, but the patient never complained; the pupils remained symmetrical, there was no syncopal feeling or dizziness and only a little pallor on the affected side. The patient drank a toddy with relish. The wound was then closed in the usual manner. The artery was occluded at 10:30 a. m., and the patient was on his way to the ward at 11 a. m. Instructions were given to watch carefully for cerebral symptoms. The patient was reported doing well and comfortable until about 6 p. m. when it was noticed that he had become aphasic and very somnolent and almost completely hemiplegic on the right side of the body. We were quickly notified of the occurrence by the intern of the service and one of us (Dr. Allen) at once proceeded to the bedside. He found the condition of the patient as above stated; the stupor amounting almost to coma, with vomiting, marked dyspnea and rapid, weak pulse 120, temperature subnormal.

All these manifestations came on rather suddenly. After some unfortunate delays, the wound was reopened with aseptic precautions and the band removed at 7:30 p. m. about one hour and a half after the brain symptoms had been recognized. After the removal of the band, the circulation in the carotid and its branches was quickly restored. The peripheral pulses in the facial and temporal could be felt, and the artery pulsated where the band had previously compressed it. No damage had been done to the artery apart from a slight edematous indentation. The wound was closed with sterile adhesive strips and occluded with sterile dressings. During the night that followed the patient roused more easily, the pulse fell to 90 and the respiration improved. The next day, Tuesday, November 22, the patient was still more lucid, though aphasic, and less paretic in the right arm and leg.

He swallowed well and maintained a good state of nourishment. On Wednesday, November 23, there was marked and decided improvement in speech; no somnolence or stupor; the hemiparesis of arm and leg was rapidly disappearing. Thursday, November 24, patient's mental state was practically normal. Speech was no longer impaired; there was no aphasia; he had regained full control of arm and leg. All that remained was a tingling and slight numbness in the right arm and leg. Here, then, we have a conclusive demonstration of the complete recovery of the brain after a period of ischemia in the left hemisphere lasting about nine hours, and a complete functional recovery in about sixty-two hours after the removal of the occluding band. It is probable that if the band had been removed immediately on the appearance of the first symptoms the period of repair would have been shortened considerably.

As it is, the value of the band as a preliminary test of the competence or incompetence of the cerebral collaterals has been convincingly demonstrated. Had the artery been ligated in the old-fashioned way it is more than probable that irreparable damage would have followed and that we should have had to deplore a calamitous fatality instead of rejoicing at a happy rescue from a most menacing situation.

It is also significant that this is the second time in our experience with fifteen carotid occlusions in which grave cerebral complications have been avoided by the timely removal of our metallic band.

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ABSTRACT OF DISCUSSION

DR. GEORGE W. CRILE, Cleveland: Since hearing Dr. Matas' paper in Washington, I have had an opportunity to test his methods in two cases. In some instances one knows from the symptoms present precisely the point of election for amputation of an extremity, but when there is doubt as to the point of election this method of Matas and Allen is an excellent one. The extremity is blanched up to the pelvis with an Esmarch bandage, making the limb ischemic, and then the femoral artery is compressed to let the operator watch the collateral circulation. In that way one gets a definite line, a blush or erythema, which marks the point of election for the amputation. In operations on the brain, or in operations requiring closure of the carotid artery, the brain must be considered, and here it is a matter of extreme value to us to have this method. In operations on the head and neck, I have closed temporarily the carotid artery more than one hundred and fifty times. I have found among these observations many things bearing on the points made by Dr. Allen. In younger subjects one almost never observes unfavorable symptoms, but in aged subjects I have seen rather marked phenomena. For instance, in operations with closure of the common carotid artery, in a patient over 70 years old, I have seen slight

delirium for a day after the occlusion of the artery for half an hour. We now know exactly what has happened, thanks to the investigations on anemia of the brain. The brain cells do not endure a total anemia lasting more than six or seven minutes. When they are subjected to anemia lasting longer than that, a permanent degeneration of certain cells occurs. They are the cells of the cortex. It therefore becomes necessary that the collateral circulation be tested under certain circumstances before we dare hazard the closure of the common carotid artery. This is particularly true when one is obliged to make permanent closure of the artery. It is by methods of this kind that one can test the collateral circulation of the brain to see whether or not such a permanent occlusion can be made.

Whenever the circulation of the brain is impaired by old age or other reasons, temporary occlusion of the common carotid artery produces some interference with cerebration. Such a case is not a safe one for permanent occlusion, and we know very well that in permanent occlusions of the common carotid artery softening of the brain is a sequence, depending on the age of the patient—in young patients not more than 10 per cent. If one were to tie the common carotid artery in 100 patients over 70 years of age, one would probably find impairment of the cortex of the brain, up to complete softening of one side, at least in 90 per cent. Therefore, I regard closure of the common carotid artery in older subjects as a very hazardous procedure.

DR. D. N. EISENDRATH, Chicago: The field which this paper has opened up is coming to be of considerable practical surgical importance. Dr. Strauss and I have been carrying on a series of experiments during the past winter, endeavoring to imitate as closely as possible the temporary closure of the arteries and veins of the kidney during the removal of renal calculi. In order to imitate these conditions as closely as possible, we undertook a series of experiments on rabbits, compressing the renal artery and vein for 15 minutes, then for 30, then for 45 minutes, 1 hour and 2 hours. The results of our experiments, in brief, are these: With the rabbit's kidney, which is very sensative (there is scarcely any animal whose organs are more sensitive to arterial anemia than those of the rabbit), at the end of 15 minutes there was a slight amount of cell infiltration. At the end of 30 minutes this had slightly increased. At the end of an hour the parenchyma of the kidney showed marked signs of parenchymatous degeneration and of calcification. After 2 hours the changes were profound. These animals were killed at the end of 4 weeks. The animals killed after 48 hours showed very slight changes indeed. This emphasizes the fact that one can keep up compression on these arteries without very much influence on the parenchymatous structure of the organs, for at least a short space of time.

DR. C. W. ALLEN, New Orleans: Dr. Crile brought out a very important point—the age limit of the patient. The nearer the patient to 45 years of age, the greater the danger of closing either of the carotids. We have found, however, that this was not always reliable, as demonstrated in several cases in which anomalies have occurred. In these cases, the circle of Willis was not competent to supply both sides of the brain, the communication between the two sides not being sufficient. In conditions of this kind, trouble is likely to arise, no matter how young the patient. The determination of these conditions before permanent occlusion of the carotids was one of the needs that stimulated our developing this method. Another point which Dr. Eisendrath's remarks suggested is that we have found the bands extremely useful in operating in a limited space, where it is necessary to secure hemostasis and very little room is found available for the application of a clamp, even the size of a Crile clamp; in these cases the band will take up almost no room.

Comatose Malaria.—H. L. Sutherland states that the treatment of this condition may be summed up in plenty of quinin hypodermically and ice-caps to the head. To attempt to give medicine by mouth is, he says, worse than useless, as the jaws are locked in nearly all cases, and deglutition is very uncertain.—*Memphis Medical Monthly.*

ARTERIOSCLEROSIS OF THE UTERINE VESSELS

WITH A CONSIDERATION OF THE CAUSE OF HEMORRHAGE AND REPORT OF CASES *

SIDNEY A. CHALFANT, M.D.
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In the history of this condition we find a cycle such as is common in many medical subjects. At first only the changes in the uterine muscle and blood-vessels were considered. After Olshausen's introduction of the curette attention was centered on the endometrium. All irregular bleeding was attributed to changes in this structure, and an almost infinite number of classifications and varieties of endometritis resulted. The work of Adler and Hitschmann,[1] which was later verified by Norris and Keene,[2] has shown that much of that which was formerly considered pathologic in the endometrium is simply the normal change that occurs in the menstrual cycle.

But long before this work on the endometrium was done, attention began to be directed again to the changes in the blood-vessels and uterine muscle. I shall not attempt to review all the literature on this subject but shall refer to only a few of the more important articles. Findley[3] in 1901 was one of the first in America to write on this subject, notwithstanding operators had been removing the uterus for this condition for several years before. The case he reports was one of the so-called "apoplexia uteri" due to an embolism of the uterine arteries, which was probably cardiac in origin. In his later paper[4] he attributes the hemorrhage to a muscular insufficiency, and this in turn to an overgrowth of the fibrous tissue, both between the muscle bundles and about the arteries. With these conclusions I do most heartily agree concerning the value of the uterine muscle in the control of hemorrhage. Anspach[5] demonstrated that the increased connective tissue in and about the arteries was very largely elastic rather than fibrous tissue. He suggested that, as this elastic tissue was so commonly found in the uteri of multiparæ, its presence was physiologic rather than pathologic and that the hemorrhage in these cases was due to a lack rather than an excess of elastic tissue.

Goodall[6] has made another and very decided advance in our knowledge of these cases. He has shown that the uterus after each pregnancy develops a complete new set of arteries; that where the difference in size between the old artery and the new one is great as in the placental area, a complete new vessel with three complete new coats is formed within the lumen of the old one; but where the difference in size is less marked, part of the old vessel is retained and is incorporated as a part of the wall of the new vessel. Normally the unutilized portions of the walls of the old vessels undergo hyaline degeneration and are completely absorbed. This is the ideal involution. But when some local disturbance or constitutional condition complicates the puerperium, the change is less perfect and the muscularis of the old ves-

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Adler and Hitschmann: Monatschr. f. Geburtsh. u. Gynäk., xxvii, part 1.
2. Norris and Keene: Surg., Gynec. and Obst., x, No. 1, p. 44.
3. Findley, Palmer: Am. Jour. Obst., xliii, 30.
4. Findley, Palmer: Am. Jour. Obst., lii, 71.
5. Anspach: Univ. Penn. Med. Bull., xviii, No. 12, p. 322.
6. Goodall: Am. Jour. Obst., lx, No. 6, p. 921.

sel, after the hyaline degeneration has taken place, is replaced by elastic tissue instead of muscle. This is in accordance with Nature's law to do the best thing possible under the conditions present. Where the disturbing factor is very severe, and particularly in patients past 35 years of age, instead of elastic tissue, Nature produces a structure even lower in the scale, that is, fibrous tissue.

Pankow,[7] in an effort to find some definite pathology for these cases, examined fifty-two uteri, excluding all benign or malignant new formations and fresh or old inflammation. He says:

From a comparative anatomic examination of uteri from bleeding and non-bleeding multiparæ and nulliparæ there is no evidence of anatomic change to account for hemorrhage. All the changes in the myometrium considered in causal relation with bleeding are found only in part of the clinical bleeding cases, and are found in others having no clinical history of bleeding.



Fig. 1.—Normal vessels from girl aged 18. Never pregnant. Uterus removed on account of double pyosalpinx.

He concludes that "there is therefore nothing characteristic for bleeding uteri."

In his later paper Anspach[8] minimizes the influence of the arterial and muscular changes in the causation of hemorrhage and suggests that the cause is some other condition, as endometritis, lacerations, displacement of the uterus, pelvic inflammation or pelvic congestion from disease of the heart or kidneys. The objection to considering these conditions as the primary cause is the fact that they are so commonly found without any accompanying disturbance of the menstruation.

Out of twenty-five patients who have had a hysterectomy for hemorrhage in the past five years, I have studied the uteri of eleven. These were all in which I was able to find both the specimen and a history sufficiently detailed to justify examination. In addition to these I have studied the uteri from three other multiparæ which had been removed for other causes; one an enlarged uterus that had been causing pain, one a complete prolapse, and one for a very hard suspicious cervix, although curettings and pieces of the cervix were reported not malignant. The patient, one year past the menopause, had no hemorrhage, but a slight leukorrhea.

7. Pankow: Ztschr. f. Geburtsh. u. Gynäk. lxv, 336.
8. Anspach: Surg., Gynec. and Obst., lx, No. 3, 315.

Specimens were taken from just below the level of the tubes, about the internal os and from the cervix where it had been removed. Sections were made to include the entire thickness of the uterine wall, and were stained with hematoxylin and eosin, Van Giesen, Weigert and Van Giesen and Weigert carmin.

Gross Pathology.—On account of the hardening and shrinkage, it was very hard to draw conclusions concerning the size of the uterus, particularly as many of them had been removed by a supravaginal hysterectomy. Those that had been removed recently all showed an enlargement of varying degree. On cut section the vessels stand out quite prominently and appear to be larger in size and more numerous than normal. I was able to be more certain of this in three cases in which operation had been performed recently. In the specimens that had been in preservation for a long time, this feature was not so apparent.

It would seem that this increase in number and size of the vessels had some etiologic relation to the hemorrhage.

Endometrium.—One patient had a polypoid endometritis with a history of a curettement two years previously and removal of a polypus at that time. The endometrium in the other ten showed varying degrees of thickening, depending on the relation to the menstrual period, but nothing that was characteristic of hemorrhage could be found.

Muscle.—There was in all the cases some increase in connective tissue. In some the fibrous tissue predominated, in others the elastic. The development of elastic tissue between the muscle bundles did not seem to bear any relation to the severity of hemorrhage either for or against it, *e. g.*, in Case 1 with a moderate development of elastic tissue there was very severe hemorrhage, and in Case 2 with equally severe bleeding there was a very marked increase of elastic tissue. The same can be said of the fibrous tissue. No difference could be detected by the pathologic examination between the cases with hemorrhage and those having no such history.

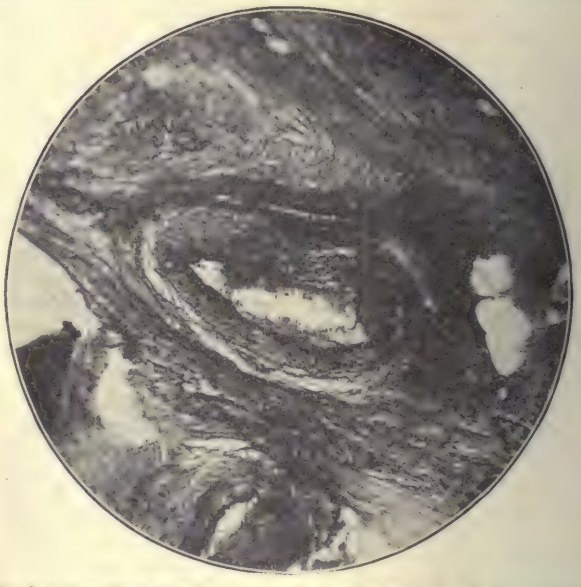


Fig. 2.—Case 8—Moderate hemorrhage. Moderate arteriosclerosis.

Blood-Vessels.—The arteries all show some increase of elastic tissue, particularly around the vessel. This, I take it, is the subinvolution to which Goodall called attention.

But I could not trace any connection between the amount of elastic tissue and the severity of the hemorrhage, or its presence or absence.

There is one class of cases to which little attention has been given. That is those in which there is a marked dilatation or varicose condition of the veins of the uterine wall.

The only case I have been able to find in which there has been a hemorrhage from a rupture of such a vein is the one reported by Dr. Simpson, in 1905.[9] But I have records of four others in which there was a very decided dilatation of the veins, particularly of the cornu of the uterus and a varicose condition of the veins of the broad ligament.

In all but the first of these cases the diagnosis was made before operation by Dr. Simpson. In all the uterus was very soft and there were varicose veins of the vagina or labia; so that it would seem possible to make at least a tentative diagnosis before operation where the patient gives a history of menorrhagia or metrorrhagia, where a very soft uterus is found on examination and the curet shows carcinoma not present. Such patients are likely to have varicose veins in other parts of the genital tract.

Microscopic examination in these eleven cases failed to show anything present in the cases of hemorrhage that was absent in the ones without such a history, or the converse; so that I must agree with Pankow, who concludes that it is impossible to tell from the history what the microscopic picture will be, and also that it is impossible from the miscroscopic examination to construct a clinical picture.

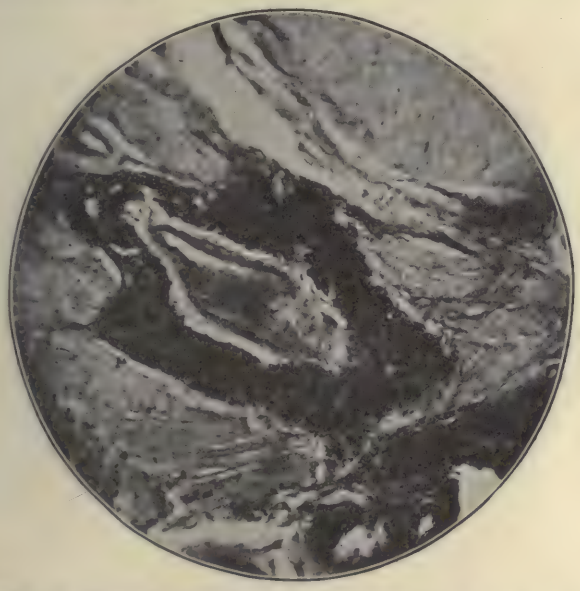


Fig. 3.—Case 5—Quite severe hemorrhage. Marked arteriosclerosis.

It has long been known that proper uterine contraction is the chief factor in the control of normal uterine bleeding.

Attention was directed to this again by Findley,[10] and recently by Norris and Barnard.[11] These writers called attention to the fact that the menstruating uterus is larger and has a larger cavity than the non-menstruating one. Bell and Hicks[12] have shown a regularly recurring contraction in the menstruating uterus of rabbits which were absent at other times. This leads us to believe that during the interval between menstrual periods the uterine muscle is in a state of tonic contraction and that there is during the menstrual period a relaxation and consequent hemorrhage. The relaxation and coincident hemorrhage that occurs at times during a curettement is a common experience, and the necessity of securing proper uterine contraction post partum is well known. The influence of ergot in the control of hemorrhage is equally well known.

With our present pathologic methods it is impossible to estimate the functional power of muscle tissue, so



Fig. 4.—Case 9—Very severe hemorrhage. Moderate arteriosclerosis.

that it is not possible to demonstrate loss of functional power of the uterine muscle.

But it is now known that the increase of elastic and fibrous tissue in the multiparous uterus, although very common, is pathologic and due to some disturbance during the puerperium. It would seem reasonable to infer that there has been some loss in strength in the muscle, either from the same condition which caused the increase in connective tissue, or as a result of its presence. This would seem to me to furnish the predisposing cause for hemorrhage.

From the fact that this disturbance must have been active and produced its effect during the last puerperium, which in many cases was a number of years before the onset of the hemorrhage, we must look to something other than these puerperal changes for the immediate cause of the bleeding.

I would suggest that the increase in size and number of the vessels seen has some and possibly a very decided influence.

Whether this is an actual increase in vessels or merely a dilatation of those already present we do not know. The latter is more probable.

As I have stated, lacerations and displacements without excessive bleeding are so common that they do not seem to be an adequate cause of hemorrhage. One of my cases had a prolapse fourteen years before the beginning of her menorrhagia, and this was the only one of a moderately large series of prolapse cases in which bleeding of any moment occurred.

9. Simpson: Am. Jour. Obst., lii, No. 5.
10. Findley, Palmer: Am. Jour. Obst., lii, 71.
11. Norris and Barnard: Am. Jour. Obst., lxi, 753.
12. Bell and Hicks: Brit. Med. Jour., 1909, i, 517.

Four of my eleven patients had probably had chronic nephritis as shown by the urinary findings. Two patients had had recent operations for repair of laceration, and bleeding became so severe while they were in bed that hysterectomy was necessitated. Another one had had a recent abortion and mild infection with a consequent local congestion. The other five gave no history of anything that would seem to be an adequate exciting cause except that they were all in the neighborhood of 40 years of age, when it is common to find general arteriosclerosis and a general rise of blood-pressure. This would seem to be worth investigating carefully.

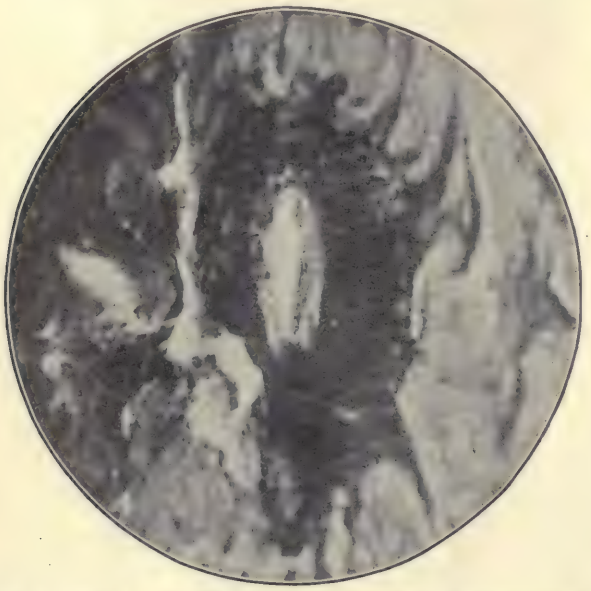


Fig. 5.—Case 2—Moderate hemorrhage. Marked arteriosclerosis.

Although I admit that my cases are too few to permit definite conclusions to be drawn, yet I would suggest as immediate causes for hemorrhage, (1) the increase in size and number of the blood-vessels, (2) a general increase of blood-pressure from kidney disease or general arteriosclerosis, (3) local acute congestions, (4) and anything that causes a general or local loss of muscular tone.

Treatment.—One cannot pass these cases without mentioning the necessity of excluding carcinoma. This can usually be done only by the examination of curettings and in some a section from the cervix. Even a history of hemorrhage for a number of years previous is not sufficient, as carcinoma may be a later development. This was the case in No. 3 of my series. There was a history of menorrhagia for four years, with the onset of metrorrhagia fifteen months before. At the time of operation a border-line case of carcinoma of the cervix was found.

The majority of the cases come finally to hysterectomy and we would agree with Gardner and Goodall[13] that we should be even more radical in advising this course than we have been in the past.

CONCLUSIONS

1. Proper uterine contraction is essential to the control of uterine bleeding.

2. There is no definite pathologic condition present in these cases that is not found in others not giving any history of hemorrhage, with the probable exception of the increase in number and size of vessels.

3. Some loss of functional power of the uterine muscle is the predisposing cause of bleeding in cases of arteriosclerosis.

4. This loss of functional power is due either to the development of fibrous and elastic tissue from subinvolution, or to the condition which caused this subinvolution.

5. The exciting causes are probably many. I would suggest the increase in size and number of vessels, general increase in blood-pressure from kidney disease or general arteriosclerosis, passive congestion from heart disease, local congestions, or general muscular weakness.

I want to take this opportunity to express my indebtedness to Dr. Simpson for the privilege of studying these cases from his clinic, and to Dr. Proescher for his help with the pathologic work.

REPORT OF CASES

CASE 1.—Mrs. B., aged 29, admitted June 3, 1907; married, two children, two abortions; last seven weeks ago; recent menstrual history, profuse and irregular; almost constant and profuse bleeding since last abortion; dilatation and curettage on admission; bleeding not controlled; very severe hemorrhage two weeks later.

Operation.—June 21, 1907, a supravaginal hysterectomy and bilateral salpingo-oöphorectomy were performed.

Gross Pathology.—Uterus about three times normal size, very soft and flabby; palpable arteriosclerosis of uterine arteries; endometrium not thickened; tubes closed, ovaries slightly cystic.

Microscopic Examination.—Endometrium normal; moderate, diffuse increase of fibrous tissue throughout the muscle; moderate increase of elastic tissue around vessels and in the subperitoneal layer.

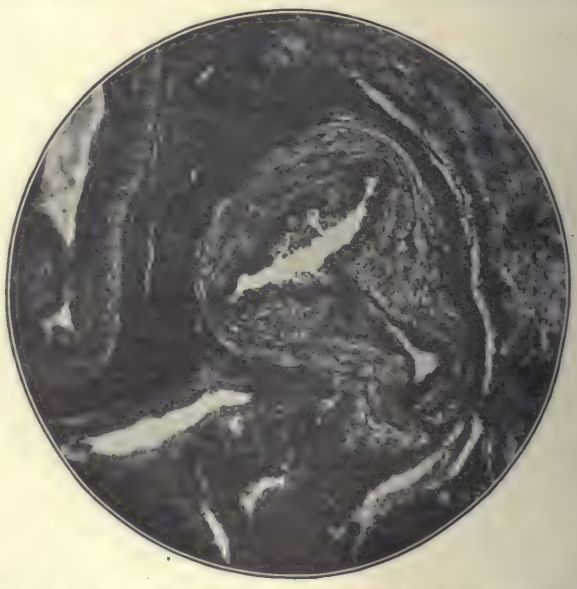


Fig. 6.—No hemorrhage. Very marked arteriosclerosis about vessels. Patient aged 50; 6 children. Uterus removed on account of chronic metritis and cervicitis. Menopause 1 year before.

CASE 2.—Mrs. F., aged 40, was admitted Sept. 7, 1907. Puberty occurred at 15; menstruation was regular, lasting from three to six days; married at 19; seven children, youngest 5 years old; no abortions. For the last two years patient had been menstruating irregularly at eleven to twenty-four-day intervals, period lasting from three to six days and being very profuse, leaving her weak after each period; no interval bleeding.

Operation.—Sept. 9, 1907, dilatation and curettage perineorrhaphy, supravaginal hysterectomy and left salpingo-oöphorectomy were done.

13. Gardner and Goodall: Brit. Med. Jour., 1906, ii, 1176

Gross Pathology.—Endometrium appeared normal, and reported not malignant from frozen section; uterus size of five weeks' gestation; palpable arteriosclerosis of uterine arteries; in fundus and particularly in both cornua are large veins 2 to 4 mm. in diameter; tubes normal; both ovaries slightly cystic.

Microscopic Examination.—Marked increase of fibrous tissue and of elastic tissue about vessels, most pronounced in vascular layer.

CASE 3.—Mrs. O., aged 42; puberty at 15; menstruation was regular each twenty-eight days, lasting from four to five days; amount moderate. Married at 24; three children; last twelve years ago; no abortions; repair of laceration one year ago; moderate menorrhagia the past year.

Operation.—May 4, 1908, combined vaginal and abdominal hysterectomy, bilateral, salpingo-oöphorectomy and appendectomy.

Gross Pathology.—Uterus slightly enlarged; palpable arteriosclerosis; tubes normal; ovaries cystic.

Microscopic Examination.—Very marked, diffuse increase of fibrous tissue; marked increase in elastic tissue about the vessels.

CASE 4.—Mrs. W., aged 48, admitted May 11, 1908; puberty at 12; menstruation regular each twenty-eight to thirty days, lasting from three to seven days; irregular past two years; moderate menorrhagia. Married at 29; one child 16 years old; no abortions.

Operation.—May 13, 1908, combined vaginal and abdominal hysterectomy and right salpingo-oöphorectomy.

Gross Pathology.—Uterus enlarged, twice normal size; palpable arteriosclerosis; right tube normal; right ovary cystic.

Microscopic Examination.—Diffuse increase of fibrous tissue through all layers, more marked in vascular and submucous layers; marked increase of elastic tissue about the vessels and vascular layers.

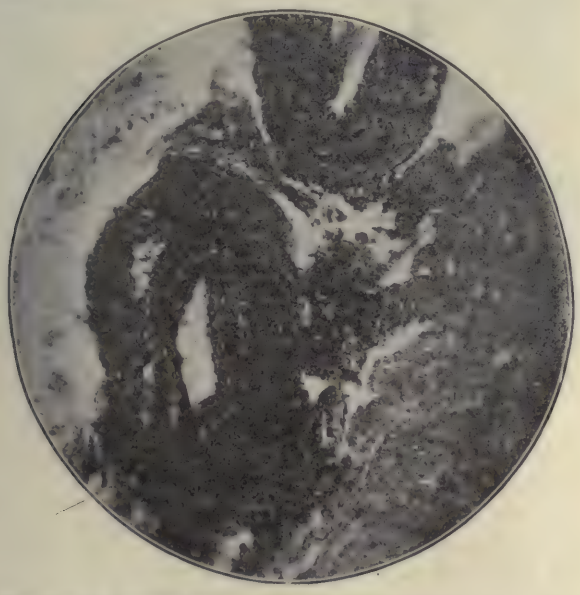


Fig. 7.—No hemorrhage. Quite marked arteriosclerosis. Excess of elastic tissue in vessel walls. Patient aged 41. Menstruation normal. Prolapse of uterus.

CASE 5.—Mrs. E., aged 47, admitted Jan. 11, 1909; puberty at 14; menstruation irregular. Married at 26; four children, youngest 14; no abortions; menstruation irregular for eleven years; for past two years menorrhagia and metrorrhagia quite severe.

Operation.—Jan. 15, 1909, supravaginal hysterectomy.

Gross Pathology.—Uterus normal size; palpable arteriosclerosis; tubes normal; left ovary slightly cystic (not removed).

Microscopic Examination.—Endometrium not thickened; chronic interstitial endometritis; marked increase of fibrous tissue through all layers; marked increase of elastic tissue around vessels and submucous and vascular layers.

CASE 6.—Mrs. T., aged 42, admitted Jan. 24, 1909; puberty at 12; menstruation irregular; each four to seven weeks; lasting from seven to ten days; one child; menorrhagia past six years. Two years ago dilatation and curettement for cervical polyp and perineorrhaphy were done. Menorrhagia has continued.

Operation.—Jan. 27, 1909, combined vaginal and abdominal hysterectomy, bilateral salpingo-oöphorectomy and appendectomy were performed.

Gross Pathology.—Polypoid endometritis; varicose veins of both cornua of uterus, diameter 2 to 4 mm.; tubes adherent, closed; ovaries cystic.

Microscopic Examination.—Marked increase of fibrous tissue and vascular layer, chronic interstitial endometritis; not glandular, but hypertrophic. Slight increase in submucous layer; slight increase of elastic tissue about the submucous layer, no increase in vascular layer; slight diffuse increase in subserous layer.

CASE 7.—Mrs. W., aged 43, admitted Feb. 4, 1909; puberty at 18; menstruation regular every twenty-eight days, of five-days' duration; moderately profuse. Married at 21; seven children; last, eight years ago; one abortion ten years ago. First noticed prolapse of uterus seventeen years ago; for past two and one-half years menstruation irregular; every two to five weeks, lasting five days; profuse menorrhagia.

Operation.—Feb. 6, 1909, vaginal hysterectomy and perineorrhaphy.

Gross Pathology.—Hypertrophy of the cervix; uterus normal size; palpable arteriosclerosis.

Microscopic Examination.—Endometrium thickened; interstitial endometritis; no increase of glandular tissue; marked increase of fibrous tissue throughout, and of elastic tissue about all vessels.

CASE 8.—Mrs. A., aged 44; puberty at 12; menstruation regular every twenty-eight days, three to four days' duration. Married at 22; four children last nine years; all died in infancy; four miscarriages; last five years ago; for past six months moderate menorrhagia and metrorrhagia.

Operation.—Sept. 14, 1906, perineorrhaphy, supravaginal hysterectomy and appendectomy.

Gross Pathology.—Endometrium about normal; uterus two and one-half times normal size; palpable arteriosclerosis; varicose veins in both cornua; tubes and ovaries normal.

Microscopic Examination.—Marked diffuse increase in fibrous tissue in submucous and vascular layers; slight increase in elastic tissue in vascular layer.

CASE 9.—Mrs. P., aged 31; puberty at 17; menstruation regular, lasting from six to seven days. Married at 20; three children; last, two years old; one miscarriage, four weeks ago; for past year patient has had a profuse menorrhagia, lasting two or three weeks; very severe bleeding for nine weeks, about six months ago; stopped for a short time, but has bled almost constantly and in variable quantity since.

Operation.—Feb. 1, 1910, supravaginal hysterectomy and appendectomy.

Gross Pathology.—Endometrium normal; uterus normal size; palpable arteriosclerosis; varicose veins of both cornua, 3 to 6 mm. diameter; tubes and ovaries normal.

Microscopic Examination.—Endometrium normal; marked increase of fibrous tissue in all layers; moderate increase of elastic tissue about the vessels and vascular layer.

CASE 10.—Mrs. G., aged 50, admitted Jan. 26, 1910; puberty at 15-16; menstruation regular, of from three to four days' duration. Married at 18; eleven children, youngest 12; one miscarriage, fourteen years ago; four years ago patient noticed menstruation became more profuse and irregular, at two or three weeks' intervals; duration, one week; fifteen months ago she noticed slight metrorrhagia; severe hemorrhage, Nov., 1908, lasting ten days; almost constant bleeding since.

Operation.—Jan. 27, 1910, combined abdominal and vaginal hysterectomy and bilateral salpingo-oöphorectomy.

Gross Pathology.—Carcinoma of cervix with involvement of the right broad ligament; uterus enlarged twice normal size; palpable arteriosclerosis; tubes normal; ovaries slightly cystic.

Microscopic Examination.—Squamous carcinoma of the cervix; endometrium normal; marked diffuse increase of fibrous

tissue; marked increase of elastic tissue, particularly about the vessels.

This illustrates the necessity of investigating these cases carefully, as undoubtedly the bleeding of the arteriosclerosis had antedated for some time the development of the carcinoma.

CASE 11.—Mrs. E., admitted March 3, 1910; puberty at 12; menstruation regular, lasting from three to five days. Married at 23; seven children, youngest three years old; two miscarriages, last eight months ago; menorrhagia began two years ago; dilatation and curettement eleven months ago; bleeding controlled for three months; since last abortion there has been profuse menorrhagia and metrorrhagia, almost constantly.

Operation.—March 6, 1910, supravaginal hysterectomy and perineorrhaphy.

Gross Pathology.—Uterus slightly enlarged; endometrium normal; palpable arteriosclerosis; large vein, 5 mm. diameter, in left cornu; tubes normal; ovaries normal.

Microscopic Examination.—Mucosa thickened; slight increase in glandular tissue; marked diffuse increase of fibrous tissue; marked increase of elastic tissue around the vessels.

ABSTRACT OF DISCUSSION

DR. EMIL NOVAK, Baltimore: It seems to me that the special importance of the study of arteriosclerosis of the blood-vessels of the uterus lies in the possible relation which it bears to uterine bleeding. That, I think, has been well emphasized by Dr. Chalfant. I agree that in certain cases uterine bleeding may be due to such conditions. Furthermore, we also recognize the fact that uterine bleeding is influenced to a considerable degree by the condition of the muscular tissue of the uterus. This seems to be pretty well demonstrated by the manner in which post-partum hemorrhage may be controlled by producing strong uterine contractions. It is not difficult to believe that the fibrous tissue of the uterus may also have some influence on uterine bleeding, as urged by Theilhaber. The point to be emphasized is that in a considerable number of cases—how large no one knows—uterine bleeding is present in the absence of any demonstrable pathologic lesion. It is unjustifiable to strain the imagination into believing that a slight increase in fibrous tissue, or perhaps a slight thickening of the arteries, is the cause of the bleeding, when these conditions, as a matter of fact, may represent normal variations. It seems to me that in a considerable number of cases of uterine bleeding we must invoke, not alone anatomic explanations, but also physiologic causes. Morris has referred to the present as the physiologic era in surgery. We may say also that this is the physiologic era in gynecology. In the explanation of uterine bleeding, we must bear in mind the normal physiology of menstruation. This concerns not only the myometrium, the endometrium and blood vessels, but also some underlying cause which most of us believe to be an internal secretion of the ovary. The importance of the internal secretions of the body has been greatly emphasized within recent years, but not sufficient stress has been laid on their relation to the physiology of the female genital organs. That there is such a relation permits of no doubt. I would like, if time permitted, to speak of the influence in this connection of the pituitary bodies, as has been shown experimentally by Dr. Cushing and others, and also to emphasize the importance of the thyroid hormone or hormones in connection with menstrual physiology and pathology.

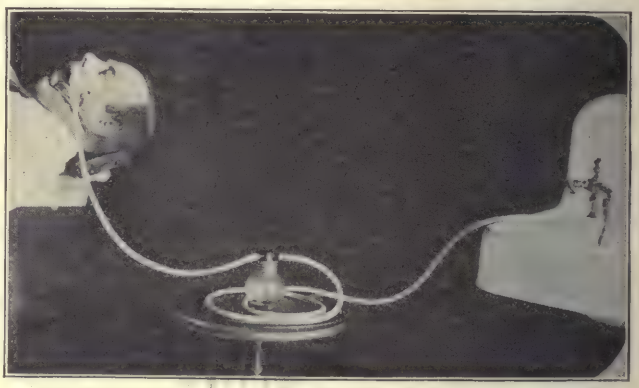
In many cases of arteriosclerosis there is no uterine bleeding, and in many cases of uterine bleeding in which arteriosclerosis is given as a cause, such a condition does not exist. In many cases the so-called arteriosclerosis is really a normal process. This has been very well shown by Dr. Goodall and others, in the fact that we find thickening of the arteries in the uteri of women who have borne children. I would like, in short, to re-emphasize the point that in many of these cases of uterine bleeding there is no local anatomic cause whatsoever to which we can assign this symptom.

DR. COLLIN FOULKROD, Philadelphia: The discussion of arteriosclerosis, coming after the discussion of endometritis, makes a very pertinent point come up: Is not the bleeding coming from the same cause coming from two different points in the uterus? In the first place the arteriosclerotic bleeding is due, no doubt, to some cause within the patient's body. Contrary to Dr. Novak, if it is not due to the intima, there must be some cause which acts on the intima of the vessels and causes a condition, which is either anemia of the structures, which will not permit strong contraction of the blood vessels, or some other condition which precludes the possibility of contraction of the blood vessels. The result is the same. The few cases that have been classified have been those which we have not attributed to the arteriosclerosis or the general condition. There are few cases in which you do not find some demonstrable lesion either in the system or in the uterus itself.

AN ASPIRATING DEVICE

J. H. WILLIAMS, M.D.
CINCINNATI

The idea here illustrated is an addition to the siphon used by dentists; the water, passing rapidly down the specially constructed metal tube attached to the faucet, produces suction in the rubber tubes and glass container. The blood, mucus, and some air in the patient's throat, pass into and through the hard rubber mouth attachment and are continued along the rubber tube to the glass container, where the blood and mucus are deposited, the air going on through the second tube from the container to the faucet, and out with the passing water.



Hydraulic aspirator, for keeping the mouth and throat clear of blood and secretions in operations about those parts.

In all operations within the mouth or throat under general anesthesia, especially the removal of adenoids and tonsils, this apparatus is designed to keep the field of operation clear; to obviate the necessity of sponging, thereby reducing the number of assistants, and also to preclude the possibility of the patient aspirating or swallowing the exuded blood, etc.

25 Groton Building.

Infant-Feeding.—T. N. Gray, in *Archives of Pediatrics*, states that no amount of study and observation will equip a physician to treat any baby but the one which he can see, handle and examine. He believes that the artificially fed child has as much to fear from falling into the hands of a physician who has never thought of his individuality, or from a mother who is willing to feed it a modification advised by one who has never seen it, as it has from bacterial contamination of milk.

COUGH DURING AUSCULTATION IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

A PLEA FOR ITS ROUTINE EMPLOYMENT TO ELICIT FINE RÂLES:—TECHNIC AND CONVENIENT SIGNAL

F. C. SMITH, M.D.
Passed Assistant Surgeon, Public Health and Marine-Hospital Service
FORT STANTON, N. MEX.

The diagnosis of active pulmonary tuberculosis by the average clinician depends quite frequently on the finding of fine râles. There are earlier physical signs, but in the absence of bacilli none is of so much significance.

The râles most important in diagnosing pulmonary tuberculosis are not heard during ordinary respiration. A light cough at the end of expiration may reveal, during the inspiration following, fine adventitious sounds, indicating a lesion, before the Röntgen rays will cast a shadow of it, long before the percussion note is impaired, and frequently before the normal respiratory murmur is modified. This simple expedient is described in most text-books on physical diagnosis and is resorted to by all expert clinicians. Its omission is even noticed at once by an experienced patient. But it is believed that the average busy doctor sometimes neglects it. The following description of the technic employed for several years by officers of the Public Health and Marine-Hospital Service at the Fort Stanton Sanatorium, is given, therefore, not with the idea that it is new, but rather to emphasize the importance of a well-established diagnostic procedure:

The usual inspection of the chest is first made, measurements taken, palpation and percussion completed and the gross pathology auscultated during quiet breathing and with spoken and whispered voice.

Breathing.—It is best in beginning auscultation to give no instructions as to breathing, because some will need no correction and are rendered so self-conscious by it that their normal rhythm is disturbed. In a large number of cases it will transpire that instruction must be given and it can be adapted to the individual case. Instances in which deep breathing is required are very exceptional, and, since it produces confusing muscular crackles, it is rarely useful in eliciting fine adventitious sounds.

Cough.—Just at the end of a normal expiration, at the signal, the patient gives a short and easy but audible cough. This expels part of the residual air and will be followed instantly by an inspiration, the first part of which will naturally be involuntarily accentuated. With stethoscope on the subject's chest the examiner disregards the muscular noises produced by cough and concentrates his attention on adventitious sounds during the inspiration immediately following. In some cases the first part of this inspiration is most fruitful in fine râles; sometimes they appear only near the close of the act.

Signal.—A signal system is necessary in directing the patient, because the examiner's voice will cause vibrations in his stethoscope. As the physician stands or sits opposite the erect form of his patient one hand naturally rests on the subject's shoulder or arm to afford the steadiness necessary in delicate use of the stethoscope. One finger of this hand can be used to give the signal to cough, with no more preliminary instruction than, "Cough once when I tap you." This may have to be supplemented a little later by, "Do not take a breath before you cough," or "Cough just as soon as you get the signal," and occasionally by the admonition, "Do not swallow after you cough," this act producing peculiar gurgles and coarse sounds. In exceptional cases a proper amount of residual air is not expelled in this way; in that case the instructions may be modified to, "When I tap you blow out your breath and cough." Advice is not usually required concerning the inspiration following. If part of the residual air has been expelled it will be right if naturally taken. But occasionally in a thick-walled, or poorly expanding chest, or in one in which a thickened pleura masks the situation, it may be desirable to accentuate the inspiratory sounds, and one may direct the subject to take a quick breath after the cough, or when signaled by two taps of the finger or by pinching the skin of the shoulder with the free hand. It may be repeated that a deep, muscle-stretching, rib-cracking inspiration is not desired to elicit râles.

Nothing is more painful to witness than a subject who has been directed to "cough" or to "take deep breaths." A very few minutes of such gymnastics are sufficient to exhaust even the most robust. But if such movements are under easy control the examiner can order them at appropriate times and judicious intervals without tiring his patient.

The physician who looks only for those gross lesions which manifest themselves by dulness, cavernous breathing, whispered pectoriloquy, coarse râles, etc., may err both in diagnosis, when these are absent, and in prognosis when the advent of new areas of involvement are



Technic by which to have patient cough at the desired time, during auscultation. A tap of the finger is signal for a short cough, at the end of expiration; a pinch, or two taps, for a quick inspiration.

overlooked while the older lesions are under observation. Those who give too much significance to some of the ultrarefined and doubtful physical signs, frequently make the opposite mistake. The amateur may be confused by a dry or hairy skin if he neglect to oil or shave the part, but the same man will elicit dulness over a healthy chest if he percuss it close to a wall, or miss an area of consolidation because he allows his plexi-meter finger to bridge two ribs. In fact, if he allows no garment between his stethoscope and the skin and no folds of clothing near enough to move on the chest with squeak and rustle at every respiration, there is less chance of error in a properly elicited fine râle than in anything else the examiner sees or hears.

Burns and Acidosis in Children.—In children, burns and scalds are frequently followed by acidosis and acid intoxication, particularly if the burn be superficial and extensive.—E. R. White, in *Australian Medical Journal.*

PELLAGRA, WITH THE ANALYTICAL STUDY OF FIFTY-FIVE NON-INSTITUTIONAL OR SPORADIC CASES

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Pellagra is a disease which has been known in Italy and other European southern countries for nearly three hundred years. It has since been reported from most semitropical countries from Asia Minor to Texas. In the United States isolated cases were several times reported, but the disease was not known to occur in quantity until 1907, when it was recognized independently by Merrill, Searcy and Babcock. Up to the present time probably five thousand cases have been recognized in the United States, chiefly confined to the south Atlantic states and one or two states in the middle west. The disease is unquestionably rapidly increasing in the United States and although it might have existed in this country unrecognized for many years, still it must have been extremely rare until 1907. It now bids fair to become a national problem.



Fig. 1.—Author's case of pellagra, with lesions of the hands, forehead and alæ of the nose.

As pellagra is so frequently reported in numbers from the institutions for the insane, a fact to be positively ascertained is whether in these institutions the pellagrins were not admitted with the disease, either in the stage of remission or with its lesions unrecognized. The fact that pellagra has been considered a disease beginning in rural districts makes this question of great practical importance. Assuming that the disease does originate in rural districts, the cause must be looked for in these localities. On the other hand, if we can prove that the disease frequently originates in institutions, then there must be local, demonstrable and correctable causes to be found in these institutions.

The maize theory of causation has certainly not been proved. Taylor[1] quotes Palidino's observation that the use of good maize did not decrease pellagra in Mantua. Sambon and others state that pellagra is found where corn is neither grown nor eaten. Thorington[2] says that if spoiled maize was the cause of pellagra there would not have been enough southern soldiers left after the Civil War to rehabilitate the South. He believes it parasitic in origin. Among the theories of cause advanced Reed[3] gives the fungus *Diplodia zeæ* as a possible factor; Sambon believes the sand-fly to be the carrier of the infective agent; Rohrer[4] thinks it due to the fungus *Aspergillus fumigatus;* Auld[5] attributes the disease to a magnesium infiltration from the ingestion of maize; Tizzoni and Wood[6] have isolated a bacillus which they believe is the cause; Long[7] believes that amebas in the stools have a definite relation to pellagra, while Raubitschek[8] thinks the cutaneous lesions due to an alimentary poison, probably a lipoid constituent from corn, plus the chemical rays of sunlight.

Hyde, Lavinder and Griffin do not believe that pellagra is communicable and this view is generally accepted. As far as I have been able to learn no physicians, nurses or attendants have ever contracted the disease outside or inside of an institution from having attended patients with pellagra.

Pellagra occurs in two forms, one an acute fulminating form, and the other a chronic form with seasonal recurrences. The fulminating form runs a course of from a few weeks to a few months and is frequently fatal. If apparent recovery takes place the disease returns again the following year and may then be classed as chronic. The fulminating form has been called "typhoid pellagra," but for obvious reasons it is best not to use the word "typhoid." The chronic form occurs in two types. In one the disease appears in the spring, runs a course more or less severe during the summer, has almost a complete remission in the winter and recurs the following spring. In the other, a rare type, exacerbations occur both in the spring and in the fall with summer and winter remissions. In the chronic form the spring recurrences usually become more and more severe and the disease is usually fatal in from two to seven years. As the seasonal recurrences take place regardless of the ingestion of maize, this seems to be an argument against the zeist theory. It would seem only reasonable, if the disease was caused by maize toxemia, that when this toxin became so eliminated that a complete arrest of symptoms occurred there could be no recurrence.

SYMPTOMS

The symptoms of pellagra are numerous and will be taken up in detail in the analysis of the cases to follow. In general it may be said that they consist of three sets, the exact relation of which to each other has never been satisfactorily explained. The symptom-groups are gastro-intestinal, cutaneous, and nervous and mental. Most writers do not put them in this sequence but mention the cutaneous manifestations first. I feel confident, however, that this is erroneous, and the reason for it is that the majority of reported cases have been from institutions of the insane where diarrhea and gastritis are so common that the date of their onset in pellagra cases has not been noted.

Special examinations of the blood, urine, feces, eyes and temperature have thrown but little light on pel-

1. Taylor, J. H.: New York Med. Jour., Dec. 18, 1909, Vol. xc, No. 25, p. 1208.
2. Thorington, Chilton: Pellagra—Not Established that It Comes from Bad Meal, Gulf States Med. and Surg., January, 1910, p. 48.
3. Reed, Howard S.: The Fungus *Diplodia* as a Possible Factor in the Etiology of Pellagra, New York Med. Jour., Jan. 22, 1910, p. 164.
4. Rohrer, C. W. G.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 94.
5. Auld, John: New York Med. Jour., Dec. 4, 1909, p. 1142.
6. Wood, E. J.: The Appearance of Pellagra in the United States, THE JOURNAL A. M. A., July 24, 1909, p. 281.
7. Long, J. D.: Pellagra, THE JOURNAL A. M. A., Aug. 27, 1910, p. 734.
8. Raubitschek, Hugo: Pathogenese der Pellagra, Wien. klin. Wchnschr., June 30, 1910, p. 963.

lagra. A moderate degree of secondary anemia is almost a constant finding in the blood of pellagrins, and leukocytosis is not found unless there is secondary infection, as shown by the reports of Lavinder[9] and others. Fox[10] has found that the Wassermann reaction is not of value in the diagnosis of pellagra. Cole and Winthrop[11] have reported cases of transfusion of blood of supposedly cured pellagrins into patients with active manifestations with apparently good results.

Nothing typical has been found in the examination of the urine of pellagrins. In regard to fecal examination, Nichols[12] in the examination of the stools of eighty-eight patients found amebas in 37.5 per cent., while in 101 control cases they were present in only 11.8 per cent. There were 85.3 per cent. of cases with protozoa, while in the control cases there were 48.6 per cent. None of the fecal findings have been of positive value either as to the diagnosis or etiology. Hookworm disease, although having in the United States very much the same geographic distribution as pellagra, is in no way associated with pellagra. Pellagra patients may also have hookworm, but this is simply a coincidence.

The eye symptoms of pellagra have not been at all constant. Welton[13] examined the eves of fifty-five patients and reached the following conclusion: "In none of the cases presenting eye symptoms could the character of the eye changes be regarded as pathognomonic of pellagra." Other observations are in accordance with this statement.

There is no variation in the temperature of uncomplicated cases of pellagra except during the late stages, when there may be an elevation. It is at least probable that this elevation may be accounted for by mental excitement or secondary infection in many cases.

PATHOLOGY AND DIAGNOSIS

The pathology of pellagra has not been put on a very definite basis and those interested are referred to the very interesting review of the subject by Harris of Georgia.[14] In reference to the pathology of the nervous system, he states that there may be noted degenerative changes in the chromophilic cells of the cortex of the cerebrum. In the cerebellum the cells of Purkinje undergo degeneration, which may account for the ataxia observed in some cases. In the cord cell-degeneration is noted and at times this goes on to cell-destruction. We have no positive evidence of alterations in the peripheral nerves.

The diagnosis of pellagra is easy in most cases if this disease is borne in mind. A positive diagnosis should not be made unless gastro-intestinal and typical cutaneous symptoms are present. *Pellagra sine pellagra* is an impossible diagnosis because in many cases of mental disorders there are gastro-intestinal disturbances. Noticeable nervous and mental symptoms may not appear until late and the disease may occasionally be diagnosed before their appearance. Conditions which may really be confused with pellagra are syphilis, in certain of its forms, and insanity with gastro-intestinal disturbances in which true sun-burn has occurred. I saw a patient with syphilis at the City Hospital, Richmond, presenting the symptoms of stomatitis, diarrhea, erythema, and nervous and mental disturbances, and diagnosed the case as syphilis because the eruption occurred on the palms as well as the extensor surface of the hands. On investigation the history of syphilis was elicited and the lesions and other symptoms disappeared in a short time under the mixed treatment.

There are some conditions which more or less resemble pellagra, the most prominent of which are leprosy, alcoholic polyneuritis and beriberi. In leprosy the skin lesions of certain forms constitute the most marked resemblance to pellagra. In alcoholic polyneuritis there may be gastro-intestinal, nervous and mental and cutaneous disturbances, but there is no seasonal remission and the skin lesions are those of neuritis and are not similar to pellagra.



Fig. 2.—Lesions of the hands in a case of pellagra. (Courtesy of Dr. Paul N. Anderson, Morganton, N. C.)

ANALYSIS OF CASES

Having thus discussed the disease in general I shall now proceed with the analysis of fifty-five non-institutional or sporadic cases. A form containing over one hundred questions was used by me in obtaining these histories and this form was sent to physicians who were known to have patients with pellagra under their charge. Many of these patients were also seen by me. Thanks are due to Dr. Ennion G. Williams, chief health officer of Virginia, for the distribution of many of these forms, and I am especially grateful to the physicians who so cheerfully and carefully answered these questions. In this report all doubtful cases have been excluded and many control questions asked in order to take every possible precaution against error. It is to be regretted that complete laboratory studies were not made of more cases, but these cases occurred, for the most part, in rural districts where facilities were lacking and the cases often infrequently visited. This study was undertaken with the idea in mind that the analysis of cases occurring outside of institutions might be of especial value because the earlier symptoms, and at times, the onset of the disease, could be noted, and because light might be thrown

9. Lavinder, C. H.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 33.
10. Fox, Howard: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 33.
11. Cole, H. P., and Winthrop, G. J.: Pellagra: Transfusion in Eleven Cases, THE JOURNAL A. M. A., April 22, 1910, p. 1354.
12. Nichols, Henry J.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 60
13. Welton, C. B.: Eye Symptoms of Pellagra: Preliminary Report of Examination of Eyes of Fifty-Five Patients, THE JOURNAL A. M. A., Nov. 13, 1909, p. 1636.
14. Harris, H. F.: Tr. Nat. Conference on Pellagra, Columbia, S. C., Nov. 3-4, 1909, p. 86.

on the epidemiology, the priority of certain sets of symptoms and because of the probability of a more intelligent history from patients who were not inmates of an institution for the insane.

GENERAL HISTORY

Age.—In fifty-four of the fifty-five cases the age of the patient was given, the oldest being 76 and the youngest 6. The average age was nearly 37. The most frequent decade for the occurrence of the disease was between thirty and forty years, sixteen out of the fifty-four cases occurring in this decade.

Sex.—Thirty-nine patients were female and sixteen male.

Nationality.—Forty-two patients were stated to be white American, three others white, American or foreign birth not stated, and one white born in Ireland. Only nine of the patients were negroes.

Married or Single.—Thirty-seven of the patients were married, four widowed and fourteen single.

Epidemicity.—In ten instances there were other cases in the immediate neighborhood, in one instance the second patient was a sister of the first. The cases as a rule were widely separated geographically. In the state of Virginia, in forty-five consecutive cases, pellagra occurred in one county only in nineteen cases, two cases in a county in eight instances, three in two instances and four in one instance.



Fig. 3.—Lesions on the back of the hands and neck in a case of pellagra in a negro. (Courtesy of Dr. William F. Drewry, Petersburg, Va.)

Month of Onset.—Forty of the fifty-five patients stated the month of the onset of symptoms, four simply stated that the disease began in the summer, four others that it began in the spring and in two cases no date was given. In the forty-five cases in which the month was given two began in January, two in February, ten in March, nine in April, seven in May, nine in June, four in August, one in October, one in November, and none in July, September and December.

Priority of Symptoms.—Diarrhea was the first symptom in thirty-five cases, stomatitis in one and diarrhea and vomiting in one, making thirty-seven cases in which gastro-intestinal symptoms occurred first. Gastro-intestinal and skin lesions are stated to have begun simultaneously in seven cases. Cutaneous symptoms began first in ten cases, and in two cases it was unknown which was the first set of symptoms. In three cases the nervous and mental symptoms were stated to have been the first to appear, but on investigation these people were found to have been neurotic for many years. Where exact dates could be ascertained it was found in thirty-five cases that the gastro-intestinal symptoms preceded the cutaneous from one day to seven years; in twenty-seven of these cases three months or less, and in eight one month or less. In seven cases the cutaneous preceded the gastro-intestinal symptoms from two weeks to twenty-eight months; in six of the seven cases one month or less.

Hygienic Condition.—The hygienic condition was said to be poor in fifteen, fair in sixteen, good in twenty-one and excellent in three.

Ingestion of Maize.—Maize products were eaten regularly and formed the chief article of diet in twenty-nine cases, were eaten moderately in thirteen, very rarely in nine and in four cases it was stated that the patients never ate corn products in any form. It might be said that in one form or another maize is the staple article of food throughout this section. Eight of the patients drank corn whisky and four of these to excess. Of the thirteen patients who very rarely or never ate corn products only one drank corn whisky at all. Bread, batter bread, cakes and hominy were the most frequent forms in which corn was eaten. Forty-five answered the question as to whether corn syrup was used and if so whether it was fermented. It was used in eighteen of the cases and was said to be fermented in three. Of the eighteen patients who used corn syrup two of them rarely ate maize products in the other forms and one did not take corn in any other form. In the three cases in which the corn syrup was known to be fermented the patients ate maize products in other forms to excess.

Condition of Corn-Meal.—In twenty-two cases the meal was said to be good, in twenty-two it was unknown whether it was good or not, and in six it was known to be bad or spoiled. Some of the patients used store or shipped meal exclusively and others home meal exclusively.

Pernicious Habits.—One patient was addicted to opium, one to opium and tobacco, five used tobacco alone to excess, three used tobacco and whisky to excess, and five whisky alone to excess. This gives a total of fifteen patients whose constitutions may have been affected by these habits.

Constitutional Diseases.—Twenty patients had constitutional diseases in the past, nine had rheumatism, five malaria, two had syphilis alone, one syphilis and malaria, one malaria and rheumatism, one was paralyzed and one had tuberculosis. None of the patients had hookworm disease.

CUTANEOUS SYMPTOMS

All the patients had cutaneous symptoms.

Distribution of Skin Lesions at the Beginning.—In forty-four of the fifty-five patients the skin lesions began on the back of the hands and forearms alone, in forty-three of these cases simultaneously on both hands or forearms, and in one it began first on the right hand followed in a few days by involvement of the left hand. In seven patients the lesion began on the back of the hands, forehead and alæ of the nose and in three on the back of the hands and dorsum of the feet and in one on the back of the hands and neck. In all of the cases, or 100 per cent., the back of the hands and forearms were affected at the beginning.

Extent of the Cutaneous Lesions.—In twenty-eight of fifty patients who answered, the cutaneous lesions remained confined to the hands and forearms; in four cases the hands and feet were involved; in four hands, face and neck and in twelve hands, face, feet and neck. Two patients stated that the eruption was "all over the body," but in one of these the case was complicated with impetigo which seemed to be responsible for this involvement.

Character of Skin Lesions.—The epidermis was red and more or less rough in the beginning in practically all of the cases but turned dark in twenty-seven cases. In a few cases there was swelling and thickening of the skin and fissuring. Desquamation took place in fifty-one cases out of the fifty-five. The time of the appearance of desquamation varied from two weeks to six months after the appearance of the skin lesions, the average time being one month. Sloughing occurred in fifteen of the cases in from one to six months. In eighteen cases there was bullous formation. The lesions were stated to resemble eczema at the beginning in twenty-one cases, sunburn in twelve, erythema in three, dermatitis in two and syphilis, ring-worm, impetigo and poison-ivy in one case each.

After the lesions healed the appearance of the surface was noted in nine cases. It was glistening and usually reddish, in one case pale and in two dark or brownish in color.

Secondary infection occurred in seven of the fifty-five cases, furuncles in three instances, impetigo in one and ulceration in two; in one the character was not stated.

Remission in the skin lesions occurred in twenty-nine cases.

Exposure to the Sun.—The patients were exposed to the sun in thirty instances and in twenty-one cases this exposure was known to make the skin lesions worse.

MUCOUS MEMBRANE INVOLVEMENT

Stomatitis was present in forty-seven of the fifty-five cases. In seven cases other mucous membranes were involved, usually the anus or vagina.

GASTRO-INTESTINAL SYMPTOMS

These symptoms occurred in every case but one; vomiting in thirty-four cases, diarrhea in fifty-four cases, obstinate constipation in one case and diarrhea alternated with constipation in thirty of the cases.

Remissions occurred in the diarrhea in thirty-six cases. In some cases the remissions were very short.

Forty-three patients mentioned the macroscopic appearance of the stools, which varied from light gray to dark brown or green in color. In most instances they were watery. Mucus was noted in five and blood in one. (For examination of the stools see laboratory findings further on.)

NERVOUS AND MENTAL SYMPTOMS

Fifty-four of the fifty-five patients had nervous and mental symptoms. The onset of these was from a few days to a year and a half after the first appearance of the disease, the average time being six to eight weeks. In several patients who had been nervous for years it was noticed that the nervousness was made worse by pellagra.

Emotional Manifestations.—The temper was stated to be bad in twenty-eight cases, the patients were depressed in forty-four, and cried to excess in thirty-three. In twenty-one cases the patients were stated to have ceased laughing since the onset of the disease.

Memory was affected in forty-two cases.

Hallucinations and Delusions.—These were noted in seventeen cases, in five cases delusions alone, in four cases hallucinations alone and eight cases both. In the delusion cases all were of persecutory character but one. This patient had pleasant delusions. The hallucinations were the usual ones of sight and sound.

Homicide and Suicide.—None of the patients committed homicide or suicide; one patient attempted both, and five threatened suicide.

Nervous Symptoms.—Forty-nine patients were said to be nervous, forty-three restless and forty-six had insomnia.

Paralysis.—Four patients were paralyzed. One of these had hemiplegia, one paralysis of the sphincter ani and two partial paralysis of the lower extremities.

Tremor.—In twenty-eight cases tremor was noted, tremor of the hands in eight cases, of the tongue in two, of the hands and tongue in five, of the hands and lips in two, of the hands, face and tongue in one, of the body one, and nine patients did not state where the tremor was observed.

Trophic Disturbances.—In only five cases were trophic disturbances noted, unless we include skin lesions, and these consisted of thickening and roughening of the nails.

Station.—The station with the eyes closed was unsteady in twenty cases, normal in twenty and untested in fifteen.

Gait.—The gait was abnormal in twenty-four cases, variously described as slow, ataxic, weak or staggering. It was normal in twenty cases and unobserved in eleven.

Knee-Jerks.—In forty cases the knee-jerks were present, they were absent in six and untested in nine. In twenty of the forty cases the knee-jerks were exaggerated on both sides, in one exaggerated on the right and normal on the left, in four diminished and in fifteen they were normal.

Anesthesia.—Areas of cutaneous anesthesia were observed in twelve cases, in two of which they were only noted over the lesion. There was no anesthesia found in thirty cases and it was untested in thirteen.

Cramps.—Twenty-eight patients suffered with cramps in various places. Nine had cramps in the abdomen, legs and abdomen one, abdomen and arms one, legs six, back and legs one, legs and hands one, hands one, in the sides one, cramps general, three, and location of cramp unstated in four. In twenty-four cases no cramps occurred and in three cases it was unknown whether or not they had cramps.

Muscular Wasting and Weakness.—Muscular wasting was present in thirty-five cases, not present in seventeen and unobserved in three. Muscular weakness was present in forty-nine cases, not present in four and unstated in two.

Contraction of the Hands and Limbs.—In four cases there was contraction of the thumb across the palm, in one there was contraction of the index finger and in fifty there was no contraction of the hands. The extremities were said to be contracted a few days in one case, permanently contracted in one case, in two cases the question was unanswered and in fifty-one cases there was no contraction.

Tenderness over the Spine.—The spine was tender in nine cases, not tender in thirty-four and untested in twelve.

EYES

Size of Pupils.—Pupils were normal in twenty-eight cases, contracted in eleven, dilated in nine, right dilated and left normal in one, and untested in six.

Reaction.—In forty-three cases the pupils reacted normally to light, in six the reaction was untested, in five there was no reaction to light and in one the pupils were sluggish.

Exophthalmos.—Only one patient showed exophthalmos and that was said to be congenital.

Cataract.—Three of forty-five patients had cataract. (Also see sight under special senses.)

SPECIAL SENSES AND FUNCTIONS

Sight.—Change of sight was noted in eight cases; in one of these there was diplopia, in one photophobia and in the others simply diminished vision. In forty-one cases there was no change in sight and in six the condition of the sight was not noted.

Taste.—In twenty-one cases taste was diminished; it was "coppery" in one; there was no change in twenty-four and the matter was unobserved in nine cases.

Touch.—Patients noticed change in sensation when they touched objects in fourteen of the cases, sensation being diminished in thirteen and increased in one. Touch was normal in thirty and unobserved in eleven.

Smell.—Sense of smell was diminished in six cases, normal in thirty-eight and untested in eleven.

Hearing.—Hearing was diminished in five cases, normal in forty-one and untested in nine.

Sexual Power.—This was lost in five cases, diminished in one, normal in seventeen and the question unanswered in thirty-two.

Speech.—Difficulty of speech was noted in twenty-two cases, three of which resembled mutism; in four cases the speech was weak and in the rest the speech defect was not described. In thirty-three cases there was no speech difficulty.

GENERAL SYMPTOMS

Malaise.—Forty-nine patients suffered from malaise, in four there was no malaise and two cases did not answer.

Vertigo.—Thirty-six patients had vertigo, thirteen no vertigo and six did not answer.

Headache.—Thirty-five patients had headaches, but in most of these it was noted that the headache was slight or occasional.

Pain.—In thirty-four cases pain was noted; in seven of these cases pain in the back, eight pain in the abdomen, one back and abdomen, one extremities and abdomen, seven in the extremities, one pain all over, one pain in the side and one in the mouth. In the rest the location was not stated.

Pulse.—Pulse was normal in twenty-seven cases, rapid in seventeen and slow in one. The highest pulse-rate was 142 and the lowest 65. The question regarding pulse was unanswered in ten.

Temperature.—The temperature was normal in twenty-one cases, elevated in twenty-five, subnormal in four and unstated in five. In one case toward the end, the temperature was 106 F., but usually it was very slightly elevated and only elevated in severe cases.

Salivation.—An increase of saliva was noted in twenty-eight cases, the question unanswered in two cases and in twenty-five cases saliva was not increased.

Thirst.—Excessive thirst was noted in eighteen cases, diminished thirst in four; the question was unanswered in three; and thirst was normal in thirty.

Anemia of Mucous Membranes.—This was noted in forty-two cases, the question was unanswered in six; and in seven cases no anemia of the mucous membranes was observed.

Hair.—The hair over the body was normally grown in forty-one cases, scantily grown in eight, and two cases occurred in children in which the hair on the body had not developed. The question was unanswered in four cases.

Weight.—Fifty-two of the patients lost weight, in two mild cases the patient did not lose weight and in one case the question was unanswered. The loss of weight from the time of the appearance of the disease varied from 5 to 75 pounds.

Perspiration.—This was diminished in thirty-two cases, increased in three cases, normal in fourteen cases; and the question was unanswered in six cases.

ORGANIC DISEASES

Heart Disease.—The heart was examined and found normal in fifty-three cases and two patients had heart trouble.

Lung Disease.—The lungs were normal in fifty-one cases, in two examination was not made, in one tuberculosis was present and one case was suspicious of tuberculosis.

Genito-Urinary Disease.—In forty-five cases there was no history of genito-urinary disease; four patients had had gonorrhea in the past; one had had syphilis; in one case retention of urine was present, in one cystitis and in three cases the question was not answered.

LABORATORY FINDINGS

Urine.—The urine was not tested in twenty-seven cases, tested and found normal in twenty cases. In eight cases the urine was abnormal as follows: In one case specific gravity was 1,032 and indican increased, in one a trace of albumin, in one specific gravity was 1,040 and abundant phosphates, in one pus-cells, in one a moderate quantity of albumin, in one indican increased, in one indican increased and specific gravity was 1,031. Other than as mentioned the urinary examinations were negative.

Feces.—The feces were not examined in forty-seven cases and the stools were examined and found negative for parasites in eight cases.

Blood.—Partial or complete blood-examinations were made in eight cases. The hemoglobin was tested in five of these cases and ranged from 65 per cent. to 95 per cent. The red cells were counted in these five cases and ranged from 2,750,000 to 4,952,000. Three of these patients showed secondary anemia, one showed no anemia at all and in one case the hemoglobin was 70 per cent. and the red cells 2,750,000 giving a minus color-index, indicative of essential rather than a secondary anemia. This case gave only the usual clinical manifestations. The white cells were within normal limits in the four cases in which they were counted. The polynuclears were practically normal in the six cases counted, ranging from 68 per cent. to 80 per cent.; the lymphocytes and large mononuclears were normal in the six cases and the eosinophils were increased in one case only. All of the blood-examinations were negative for malaria.

Gastric Contents.—Gastric analysis made in one case showed nothing abnormal.

REMISSIONS AND MORTALITY

Of the fifty-five patients, eight are in their first year of the disease and alive, twelve died the first year of the disease, twenty-eight had remissions, three continued over a year without remission and it is unknown in four cases whether remissions occurred or not. Of the twenty-eight patients who had remissions sixteen have had only one each and the rest have had from two to five each. All the remissions were in the winter, but one patient had one remission in the fall and another in the late winter and one patient had three remissions, all of which were stated to have been in the summer. Most of the twelve patients who died the first year of the disease, died within the first six months. One died in five weeks.

TREATMENT

These patients were given various treatments, arsenic being the most popular. Some patients died while taking the arsenic and others had remissions. It is impossible to say whether the remissions occurred because of, or in spite of, treatment. Various local applications were applied to the cutaneous lesions but without beneficial results. Bismuth, opium, etc., were given for the diarrhea but in many cases it persisted while these remedies were being taken. In five cases I gave or suggested hexamethylenamin, with apparently very striking results. After three or four days the gastro-intestinal, cutaneous and nervous and mental symptoms began to clear up and the patients shortly went into a state of remission.

CONCLUSIONS

From these statistics the following are some of the conclusions which may be reached:

1. Pellagra may occur at any age from childhood to old age.
2. In the Southern states, although the negro forms the majority of the lower class, yet pellagra is most common in the white.
3. The disease, while affecting chiefly the lower classes, is occasionally seen among those of good hygienic and social surroundings.
4. The disease is widely spread and did not occur in local epidemics.
5. The disease in the cases reported is more common in rural districts than in the cities.
6. The majority of cases occurred in the spring and early summer.
7. The gastro-intestinal symptoms, especially the diarrhea, are usually the first manifestations of the disease.
8. The ingestion of maize or maize products, whether spoiled or not, is not alone the cause of pellagra.
9. Patients whose constitutions are depleted by pernicious habits or chronic diseases are not rendered thereby more susceptible to pellagra than those not so affected.
10. The backs of the hands are always affected in the cutaneous lesions of pellagra and the lesions are always symmetrical.
11. Exposure to the sun cannot account for the cutaneous lesions.
12. Stomatitis is almost a constant symptom.
13. The nervous and mental symptoms conform to no known nervous disease or form of insanity.
14. The nervous and mental symptoms form no distinct clinical entity.
15. The eye symptoms are not pathognomonic.
16. Emaciation is practically constant.
17. The special senses are only occasionally affected.
18. Pellagra is not *per se* a febrile disease, and when an elevation of temperature occurs it may frequently be accounted for by a complication.
19. A moderate anemia is found in most of the cases.

20. The heart, lungs and genito-urinary organs do not seem to be particularly affected by pellagra.

21. Examinations of the urine, feces and blood show nothing pathognomonic of pellagra.

22. The cause of pellagra is unknown and the study of these cases throws no positive light on the etiology. Patients may have pellagra who do not eat corn products. Sunlight does not account for the condition. In these cases no parasite, toxin, bacteria nor insect has been isolated as being the causative factor.

23. The disease is not communicable by ordinary contact.

24. Three great systems are affected: the digestive tract, the cutaneous surface and the cerebrospinal and peripheral nervous systems and their involvement seems to be in the order, named.

25. Remissions occur in over half of the cases.

26. Death frequently occurs in the first attack.

27. It is too early in the study of the disease in this country to estimate the mortality. Probably 50 per cent. die during the first two years.

28. In these cases it cannot be said that any patient is more than apparently cured as it may simply be a remission.

29. No specific cure for the disease has been found, and the remedies in general use are of doubtful value. Hexamethylenamin may possibly have curative properties.

SOME STATISTICS OF OTHER CASES

Return postals were sent to various institutions in which pellagra was thought to exist. Replies were received reporting 598 cases. The question was asked, "How many of your patients are known to have died of pellagra?" It was found that 226 of the 598 patients had died, leaving 372 living or unaccounted for.

Another question asked was, "How many living patients failed to show symptoms the following year?" Replies indicated that there were 157 which showed no symptoms to Aug. 1, 1910.

A third question was in regard to the best remedial agencies. Iron and arsenic, especially atoxyl, were used in most of the cases. The administration of these preparations, however, was not followed by brilliant results.

REMARKS

The cause of pellagra remains a mystery; the prognosis is grave, and as yet treatment is inadequate. The disease is one of problematic interest to the hygienist, the internist, the dermatologist, the neurologist and the alienist. We can not believe that a disease so serious and with such striking characteristics can have existed in the United States for more than a few years without recognition. It therefore behooves us to investigate all theories as to its cause from an impartial standpoint, until the cause is absolutely proved, and to adopt as far as practicable such suggestions for its treatment as may seem reasonable. In regard to the latter, it would be advisable to send pellagra patients to the far north before spring sets in and see if the colder climate would prevent recurrences. Several patients have told me that in the winter remission they felt ill on warm days, and one stated that the back of the hands would redden temporarily on these days. We might also try protecting exposed parts with gloves and veils.

The hexamethylenamin treatment was tried by me because of its property of forming formaldehyd in the body secretions and because of the probability of pellagra being an infectious disease, the exact character of which is unknown. Hexamethylenamin was given to five patients in doses of from 5 to 7.5 grains four times a day over a period of about three weeks, and all other treatment discontinued. Two of the cases were so severe that it looked as if death would be the only outcome while the other three cases were of moderate severity. Such prompt and striking improvement followed the administration of hexamethylenamin that although the number of cases in which it was used is very small I feel that it deserves a more extensive trial.

208 East Franklin Street.

DISCUSSION ON PELLAGRA

At the St. Louis Session of the American Medical Association, June, 1910, the Section on Dermatology devoted Wednesday and Thursday mornings to the presentation of cases of pellagra and the discussion of that disease.

WEDNESDAY MORNING SESSION

LR. R. P. PRICE, Nevada, Mo.: I take pleasure in presenting two patients, both inmates of State Hospital No. 3, Nevada, Mo. They were treated for some time before we were aware of the character of the disease. The first case began with malaise and loss of appetite, followed in a short time by diarrhea and stomatitis and inflammation of the backs of the hands; there was also a small girdle extending around the wrists. These symptoms were treated symptomatically with little avail. I put the patients on iron, quinin and strychnin, Fowler's solution, with fruits and lemonades every two hours. This seemed to clear up the symptoms for a while; however, they returned in two or three weeks. The second patient has been in the hospital a little more than a month. The only symptom on admission was an inflammation on the backs of the hands. The diagnosis of her mental condition was maniac depressive insanity. She has run a subnormal temperature throughout the entire course. At this time she has developed diarrhea and stomatitis. I have two other cases at the hospital which developed in the same wards that these patients were in.

DR. A. RAVOGLI, Cincinnati: Pellagra is most commonly observed in Italy among the poorer classes and has been called a disease of poverty. It is supposed to be due to the fact that during certain seasons of the year these people are compelled to subsist on decayed or unripe maize which takes a greenish appearance. This, in many families, forms the staple article of food during the winter months. Under the microscope, this unripe green maize shows a peculiar fungus which has been called *Sporisorium maydis*, and it is to this that the occurrence of pellagra has been attributed. These patients after a time take an aversion to this article of food, and complain of burning of the throat. This is followed by gastric and intestinal symptoms, usually diarrhea. This constitutes, practically, the first stage of the disease. Afterward, there is an erythema of a deep, brownish color, affecting the backs of the hands and the forehead and neck—usually the parts exposed to the sun. The eruption becomes scaly in character and disappears in the cold weather, leaving atrophic scars. This skin manifestation is characteristic of the disease. These patients usually improve during the summer, when the quality of their food is better. In the more advanced cases the mental faculties begin to fail, and many of these patients commit suicide, usually by drowning. Others die of some complication or from the intestinal symptoms, colliquative diarrhea. The prognosis of the disease in the early stage is not so bad, and I have seen many patients improve under better hygienic surroundings and tonic treatment. In the later stages, the prognosis is absolutely bad and only death can relieve the patients from their miserable condition.

DR. JAMES W. BABCOCK, Columbia, S. C.: We are all inclined to regard pellagra as a new disease in this country.

As a matter of fact, it was reported in the United States as far back as 1864, and since then it has been observed in many institutions. Cases have now been reported from 28 states. It is prevalent in some of the asylums in California, and recently a number of cases have been found among the inmates of Blockley Hospital, Philadelphia. To-day, pellagra in this country presents a very momentous question. As to the etiology of the disease, I do not think that Americans are quite prepared to accept the maize origin of the disorder. The theory that it is due to a specific infection by a parasite has been advanced notably by Sambon of London and the strong resemblance that has been noted between this disease and sleeping sickness is suggestive that it is communicated by a gnat or sand-fly. One of the striking features of the American type of pellagra is its high mortality. In Alabama, in one asylum, the mortality was 68 per cent. In one of the public institutions in Columbia, South Carolina, out of 605 admissions, 92 had pellagra, a percentage of 15. Another interesting feature is the variety of mental symptoms shown by these patients. They are usually described as those of melancholia, although they may manifest themselves in many forms, from simple neurasthenia to manic-depressive insanity, and may even simulate general paresis of the insane. It has been truly said that when we know what pellagra is, we may have a much better understanding of insanity itself.

DR. WILLIAM T. CORLETT, Cleveland: The cases of pellagra that I have seen in this country have been of a severe type; much more severe than I have seen in other countries. Most patients here find their way into asylums, while in some foreign countries, notably the West Indies and Egypt, one sees more cases outside of institutions—in short, there the affection seems less severe. In this regard it may correspond to many other diseases which at first, when new in a country, manifest themselves in a more severe type. As to the distribution of the disease in this country, in Ohio we have had one case of pellagra, so far as is known, and in the clinics of the large American cities, men who are familiar with the disease have not reported it, except in one or two instances. This shows that pellagra in America is mainly confined to certain localities. In the recognition of the disease, we must remember that pellagra is a constitutional disorder, and that one cannot with safety make a diagnosis from one symptom alone.

Many cases of pellagra, even those shown here, although in one the skin lesions are typical, could scarcely be recognized from the cutaneous lesions alone. Other skin eruptions, such as simple erythema, inflammation, or eczema, may resemble the skin lesions of pellagra so closely that even the most skilled are liable to be mistaken. In the first case shown to-day, the condition of the mucous membranes is also typical, but the simple pigmentation of the skin is not sufficient to rest a diagnosis on, because it may be due to various causes. I have a colored photograph of a case of eczema which might well be mistaken for pellagra, but in my case we have only cutaneous symptoms.

Dr. Ravogli has stated that the poorer classes in Italy subsist largely during certain seasons of the year on damaged corn, and this has long since been advanced as the chief etiologic factor of pellagra. In this country, however, so far as we can trace, the disease is not limited to communities where corn is freely used as an article of diet. We have no positive proof thus far that Indian corn is responsible for the disease in this country. It may be that the use of corn in large quantities predisposes to the disease, but we are not in a position to condemn Indian corn as the sole etiologic factor of pellagra.

DR. JAMES W. BABCOCK, Columbia, S. C.: Pellagra in this country is by no means confined to institutions, nor is it limited to the poorer classes. A number of cases have been reported among well-to-do people. The disease, so far as we know, is not communicable in the ordinary sense of that word, although there are instances in which several members of the same household were affected. There is no doubt that there is an extraordinary relationship between pellagra and insanity. Preexisting insanity is apparently a predisposing factor. The skin lesions of pellagra are not confined to the exposed surface, and many of these patients have lesions about the thighs, vulva, and anus. Cases have been reported in which women who have been operated on for relief of neurasthenic conditions have immediately afterwards developed the lesions of pellagra. There is still a great deal of mystery about this disease. We have just learned enough about it to warn us not to be too dogmatic in our assertions regarding it. I have seen a few cases in which there was glandular enlargement; in a case which I saw recently the parotid was enlarged before the appearance of the dermatitis. It is claimed that the disease is always associated with neurotic symptoms, although these may not be pronounced. As to the time of its occurrence, there is no age limit: I have seen it in a child in arms and in very old people.

DR. J. M. KING, Nashville: We do not know how pellagra is transmitted, nor whether the germ is a fungus or a protozoon. With reference to communicability we have had some very interesting cases in the south. In one institution, a Baptist orphanage, 17 cases have developed, the disease being introduced by a child 3 years old. That child was a member of a family of four, and all four later developed the disease. Following this, 12 or 13 other children in the institution became similarly affected. Whether the mode of transmission is by a fly or some other insect or through the food, we do not know. In the country, several miles from Nashville, a woman developed the disease, and shortly afterward her husband became similarly affected. In another case, the disease was apparently transmitted by the washing of clothes and I have heard of several instances in which the disease affected two persons who were intimately associated. In the family of a Methodist minister the wife and daughter contracted the disease in rapid succession. I have seen the disease among the very best classes—white people in the better walks of life. In treatment, for the stomatitis I have found that a solution of silver nitrate, from 10 to 15 grains in glycerin and water, together with applications of peroxid of hydrogen, gave the best results, and internally I give a tonic mixture of iron, quinin and strychnin. This treatment should, of course, be combined with good food and a hygienic environment.

Of the 17 cases that developed in the Baptist orphanage, 2 patients have died, and one is now in the terminal stages of the disease. The others are at least temporarily free from the disease. From the observation of our cases and the postmortem findings, we have come to the conclusion that this is primarily a disease of the alimentary tract. The skin becomes so susceptible to the rays of the sun that an erythema is produced. I recently saw one patient who had the disease for 2 years, and in whom the skin manifestations did not appear until a week or so before death. It is unquestionably a constitutional disorder, and probably of gastro-intestinal origin. The diagnosis rests on the skin lesions and the patient's mental condition.

DR. JOHN D. LONG, Washington, D. C.: During the past few months, I have been making some studies and observations of pellagra in South Carolina, and have been particularly interested in the microscopic findings in the stools of pellagrins, namely, muscle fibers, starch, crystals of various kinds, fats, oils, mucus, pus, blood, vegetable cells and fibers, and parasites, such as amebas, flagellates, ascaris, uncinaria, trichuris, oxyuris, etc. These findings are of interest in connection with the possible etiology of the disease. I was inclined to believe that the disease was due to some intestinal toxin, and this view was strengthened by the fact that in the milder cases, those that were not too far advanced, the mental symptoms were relieved very markedly by free elimination through the intestinal tract. In the more advanced cases the patients who were actually insane did not respond so well to treatment. The result of *x*-ray findings in these cases showed the presence of a number of spinal deposits, with pressure on certain spinal nerves and consequent interference with the function of those nerves. The presence of these spinal deposits was verified in one case which we had an opportunity to examine post mortem.

THURSDAY MORNING SESSION

DR. GEORGE A. ZELLER, Superintendent State Hospital, Peoria, Ill.: It is through the courtesy of the Governor and the Board of Administration of the State of Illinois that I am able to show these seven cases of pellagra. In 1908, roundly speaking, about 1,000 cases of pellagra were reported in this country; in 1909, 5,000 were reported, and this year the number seems to be increasing in the same proportion. The disease is characterized by slow but constant extension. It has been known in Italy for over a century and a half, and has been the object of careful study there by Lombroso and others. In the patients brought here this morning, the pigmentation of the skin, especially on the backs of the hands, which is usually very characteristic of the disease, is not very pronounced at this season of the year. While it is not believed that pellagra in this country has existed in the past to the same extent as it does now, still there were probably many cases that went unrecognized, especially in public institutions, and in retrospect now we see that in the insane patients in whom we had to apologize for the condition of the hands and arms we were really dealing with cases of pellagra. The public is gradually waking up to the importance of this disease, and in Great Britain, the king has recently appointed a commission to study the spread of the disease throughout the empire. The Governor of the State of Illinois has also appointed a commission, headed by Dr. Frank Billings. Many who have given this subject their consideration are taking a middle ground between the unconcerned and the alarmists. I represent the latter. I really feel that the situation is alarming. These patients have been brought here for study and instruction. All have been officially declared insane, and they have been in the hospital for varying lengths of time. In these patients, at present, the intestinal symptoms are lacking, but they will come later.

Pellagra (Italian, *pelle*, skin, and *agra*, rough) was first described by Frapolli in 1771. It has also been known as Alpine scurvy and sunstroke of the skin. It has been confused with leprosy, eczema of the hands and other cutaneous affections. Many unsuspected cases have recently been discovered in various public institutions. The U. S. Government, through Captains Siler and Nichols of the War Department and Dr. C. H. Lavinder, of the Public Health and Marine-Hospital Service, is now investigating the subject abroad, and Dr. John D. Long, of the latter service, has been pursuing investigations along similar lines in the South. In a city of 75,000 people, I recently saw a woman who had this disease for 7 years. She had been treated, at various times, by 12 physicians for supposed eczema and other conditions. Finally, she consulted a physician who had seen some of these cases at our institution, and he was able to make a correct diagnosis. She died recently with an undisputed history of the disease dating back 7 years. There are doubtless many similar cases in various cities throughout this country—cases of pellagra that have gone unrecognized, and the disease may be extending gradually, as has been the experience in Italy. Illinois was the fifteenth state in this country to report pellagra, and since then, cases have been reported from ten additional states. There has been some talk of a national congress for the study of pellagra this summer, but I question whether this would be an opportune time for such a meeting. I think it would be better to wait until the men who are studying the disease abroad are prepared to give us the results of their investigations, and in the meantime those men who have the opportunity should take up this work as a special study and learn what they can in regard to this mysterious malady.

As to the treatment of pellagra, we have had the best results with arsenic. On the theory that the causative factor of the disease was intestinal and due to the presence of a parasite or ameba, it has beeen suggested that the bowels be flushed through an appendicostomy wound, but so far nothing has been done along that line.

DR. JAMES W. BABCOCK, Columbia, S. C.: Dr. Zeller and I can tell you frankly that anyone who shows special interest in pellagra, or who tries to direct the attention of the medical profession to this important subject, is going to be criticized not only by the laity, but by our own profession as well. In the South Carolina asylum there were last year 605 admissions, and of these, 92 patients had pellagra, and because I have attempted to call attention to the importance of this subject, a brother physician, a fellow member of the South Carolina State Medical Society—who happened to be also a member of the state legislature, announced before that body that "Babcock is crazy on pellagra."

The subject of pellagra is a momentous one, particularly to the alienist. Two and a half years ago it was generally unrecognized in the United States. We are frequently told that it is a new disease, but when we look back to the musty records of the past, we find that two cases were reported by asylum physicians as far back as 1864; one by Dr. Tyler, of Somerville, Mass., and one by Dr. John P. Gray, of Utica, N. Y. Dr. W. J. W. Kerr, now of Corsicana, Texas, who was assistant physician of the Andersonville Prison during the Civil War, is satisfied that one of the causes of the mortality in that institution was due to pellagra. In 1883 a case was put on record by Dr. Samuel Sherwell of Brooklyn, N. Y. Subsequent to that, other cases were reported again by Dr. Sherwell and by Dr. Harris of Georgia. The first epidemic was reported by Dr. George H. Searcy, of Alabama, in 1907, who discovered a number of cases in the state insane asylum for negroes at Mt. Vernon, and in the same year I independently reported the presence of pellagra cases in the South Carolina Hospital for the Insane. Since then, patients suffering from this disease have been found in many other asylums, and to-day we have records of pellagra cases in 28 states, including California, where the disease is believed to have existed in one institution for the past 7 years. I have no doubt that there are at least 5,000 cases of pellagra scattered throughout this country, from the Atlantic to the Pacific, and from the lakes to the gulf. If I did not know from personal experience what unkind things have been said of physicians who have directed attention to this subject, I should be unwilling to admit that one medical man would raise his voice in criticism of another who is making an effort to emphasize the importance of the situation we are facing to-day. If pellagra has existed in this country for some years why was it not recognized earlier? Simply because the great medical authorities told us that it was an Italian disease. Osler, in the edition of his "Practice of Medicine" prior to the latest, says that pellagra has never been observed in the United States. I know a brother physician who recognized pellagra in the South Carolina penitentiary in the eighties, but abandoned his diagnosis for lack of authority from the medical writers he consulted. Five years ago, at a meeting of the South Carolina State Medical Society, an unmistakable case of pellagra was brought before one of the very best diagnosticians in the United States; he studied the case for an hour and then said the patient had "glossitis." Yet, in the face of all this, we are told that we are crazy about pellagra; but after a physician has seen patients die of this prevalent and loathsome but unrecognized disease. and at last thinks that he has light upon a dark subject, he is bound to raise his voice in warning in regard to this insidious and fatal malady. Let me say in passing that Dr. Walter Wyman, the head of the U. S, Public Health and Marine-Hospital Service, more than anyone else in the United States, deserves our gratitude for the manner in which he has taken hold of the pellagra problem. He was broad-minded enough and strong enough to say, in 1908: "Yes, we will investigate this disease," and he has never taken a backward step, although, like the rest of us, he has doubtless been subjected to criticism for the continued activity he has shown. Captains Siler and Nichols of the U. S. Army have also been very active in the matter.

DR. MARCUS HAASE, Memphis, Tenn.: My experience with pellagra has been limited to 23 cases last year, and 6 cases so far this year. They have all been outside patients—not institutional cases. They either came to the hospital, or else I saw them in consultation outside with their physicians, and they were not cases in which the mental sym-

toms were pronounced. Of the 23 patients whom I saw in 1909, 5 died. The age of the youngest of my patients was 3 years, and the oldest was 70. I would hesitate to make the diagnosis in these cases from the skin lesions alone: other symptoms are necessary for a diagnosis. As to the causative factor in these cases, the corn theory has not been taken into consideration at all, excepting that cereals have been excluded from the diet of these patients.

DR. TINSLEY BROWNE, Hamilton, Mo.: I wish to report a case of pellagra that occurred in Northwestern Missouri, of about 3 years' standing. It was the first case of the kind I had seen, and I did not know what it was. The patient's hands first broke out with what was supposed to be sunburn. Then he developed an uncontrollable diarrhea and gradually became insane. The eruption on the hands recurred the following year. The man was a dentist, 55 years old, and had been a great user of the corn products.

DR. OLIVER S. ORMBSY, Chicago: The commission appointed by the Governor of the State of Illinois to investigate pellagra is engaged in various ways getting information both clinical and experimental but has nothing to report as yet. During the winter while the disease has been in abeyance, the work has been directed largely toward investigation of the corn and other food products. There is a special hospital at Kankakee where pellagra patients are kept under observation and it is hoped to accomplish something in this study. We all feel greatly indebted to men like Dr. Zeller and Babcock who through their enthusiasm and knowledge have awakened both the official and lay public to the importance of the subject and thereby made such an investigation possible. In regard to the diagnosis of pellagra, some mistakes have of course been made. Cases of eczema and other skin conditions have been erroneously diagnosed as pellagra. When this subject first came up, physicians visited the hospitals and saw these patients, and then went over the records, thinking that perhaps some cases might have escaped notice, but in this respect their experience was different from what it had been in connection with other new diseases. In the early experience, in blastomycosis, for example, we were able to recall unrecognized cases in the past, and the same is true of sporotrichosis, but it was not so of pellagra. We could not find the record of a single case in the past that we felt sure was an example of this disease.

DR. HOWARD FOX, New York: It is perhaps presumptuous for a New York man to discuss pellagra on this occasion as in New York we have seen almost no cases of the disease. The interest which pellagra has excited among physicians in New York was shown at one of our meetings last fall when Dr. Babcock and Dr. Watson read papers on the subject. Reference has already been made to the two cases that have been seen and reported by Dr. Samuel Sherwell of Brooklyn. Dr. C. H. Lavinder has also seen a case at the Marine-Hospital on Staten Island. Another case of pellagra has been seen at Ward's Island and still another recently at Newark, New Jersey. The subject is of particular interest to me from its dermatologic aspect. From the descriptions in the text-books and especially from the excellent volume of Ludwig Merk there is no question in my mind that many of the cases seen in this country are identical with the cases of pellagra abroad.

DR. ISADORE DYER, New Orleans: I had the privilege of studying the cases of pellagra which were investigated by Dr. Searcy during the first outbreak which was noted in this country, and which was, perhaps, the chief cause of inciting interest in this unusual disease. Since then, the city of New Orleans has produced a considerable group of cases of pellagra derived from the neighboring cities and located in the Charity Hospital. Comparatively few cases have occurred in the State of Louisiana proper. There are two insane asylums under the public direction, and in both of these a number of cases have been observed in the past few years. The statement that pellagra exists in this country I wish to endorse as a dermatologist, and say that in my opinion, it is a new disease. The first case I saw was sent to me by a country physician of Alabama who recognized it as pellagra. This was prior to the study of the Mount Vernon cases by Dr. Searcy. I did not concur in the diagnosis of the case sent, regarding the condition as a toxic erythema and treating it as such. This patient ultimately recovered, which strengthened me in my belief that the disease was not pellagra. My later observations of other similar cases led me to change my opinion of this original case, and to accept the diagnosis of the country physician that the case was one of pellagra. In regard to the care of this disorder, my experience has been limited to about 10 cases. I have seen patients in New Orleans in various stages of the disease, largely under the direction of Dr. Bass, who has done a great deal of work in connection with pellagra in Louisiana, and who has observed more cases than any one else in the city.

I am not an alarmist in relation to pellagra; I am a conservative. I believe that this is a disease which may be cured, and I am prompted to make this statement from my own results. In some of my cases, the disease was so far advanced that the patients made their own diagnosis. While there are certain skin diseases which are liable to be confused with pellagra, I differ with those who claim that the skin lesions of this disease are not distinctive and cannot be differentiated from ordinary sunburn. While there are atypical cases which it would be difficult to recognize, there are classical cases in which the skin lesions are characteristic. In my investigation of this disease, which has been limited, I have learned to class these cases as belonging to the erythema group, and the internal or other evidences which they present argue in favor of that belief. I consider a persistent erythema limited to the hands, neck and chest as almost as strong a diagrammatic confirmation of pellagra as are the lesions of leprosy or those of tubercular syphilis. In the treatment of all my cases of pellagra I have used quinin hydrobromate, and even in advanced cases, with stomatitis and diarrhea, I have often given 10 grains 3 times daily, and have kept it up until those symptoms have been controlled. The dose can then be reduced. In addition, I have used arsenic, which I believe is of distinct service. None of my patients has died, and some are now free from the symptoms of the disease. I believe that quinin is of great service in the treatment and cure of pellagra.

DR. A. J. VANCE, Harrison, Ark.: Pellagra is described as a disease of Southern Europe, and until recently it has been considered foreign to our list of ills. The first report of the disease was in Spain in 1735, about 40 years after the introduction of Indian corn. Frapolli of Milan was the first to describe the disease and to call it pellagra (in 1771). He declared it had existed since 1578, and since then Italy has been a hotbed for it. In 1884 the mortality was 13 per cent. In 1905 it had been reduced to 4.3 per cent. and in 1907 it had been still further reduced to 0.7 per cent. Marzari was the first to call attention in 1810, to the relationship between the use of corn and pellagra. Vincenzo Setti in 1826, asserted the main cause of pellagra to be a fungous growth on the corn, producing decomposition of the oils in the corn. In 1776, an ordinance was passed in Venice prohibiting the sale of corn having a bad taste or odor. There is nothing to indicate that pellagra is caused by corn *per se*, but by corn not fully matured and which has been stored in damp places and allowed to mold.

With the limited experience of physicians in the United States, the prognosis is considered grave. Statistics are meager and unsatisfactory, based on asylum cases which give a mortality of 67 per cent. of the patients; 10 per cent. become insane and these rarely ever recover. Pellagra is essentially a chronic condition. Pellagrins are said to live from 20 to 30 years. The disease is also liable to recur months after recovery seems to be complete, and death frequently follows the second or third attack. In addition to the eruption on the dorsal surface of fingers and hands which is very much like sunburn, we find diarrhea, sick stomach, stomatitis, and ulcers on mucous surfaces, in mouth, rectum and vagina; later the patient is nervous and probably delirious.

Has Dr. Babcock observed a peculiar odor of the feces so characteristic that a diagnosis can be made? Dr. Cole of

Mobile has been getting good results from the transfusion of blood from cured pellagrins, and even from healthy persons who have never had pellagra. If Dr. Babcock and Dr. Zeller are crazy on the subject of pellagra, we should be thankful for such insanity. This is a serious problem, one which many of us will be required to meet.

DR. JAMES W. BABCOCK, Columbia, S. C.: Physicians are waking up to the fact that pellagra is a big subject, and to the asylum physician it is a different problem from what it is to the dermatologist. To the asylum physician it is a very serious question. We deplore the notoriety the subject has received through the newspapers, and we are willing to admit that there is at present in this country more or less pellagraphobia. Still, it may not after all be entirely unfounded. Dr. J. D. Long recently visited Blockley Hospital in Philadelphia, in consultation with the local staff and among the patients there he recognized 9 cases of pellagra, and 16 suspects. This shows that the disease is gradually being observed north of Mason and Dixon's line. Some French authorities have stated that there were probably only certain classes that were susceptible to this unknown toxin, those who eat maize, alcoholics and the insane. Dr. Vance referred to the peculiar odor of the stools of these patients. There may be some grounds for this belief, and I know nurses who state that such is the case. There is perhaps as much foundation for it as for the belief that smallpox has a peculiar and characteristic odor.

DISCUSSION ON THE SANITARY OUTHOUSE

At the St. Louis Session of the American Medical Association, June, 1910, in the Section on Preventive Medicine and Public Health, Dr. Charles W. Stiles, Washington, D. C., exhibited some models of privies, such as have been illustrated in his article issued by the government.

DR. CHARLES W. STILES, Washington, D. C.: The average privy in the country districts is ventilated between the boards and every other way, is open in the back, and is not over an excavation. From it there is bound to be a spread of the various soil pollution diseases: typhoid fever, amebic dysentery, bacillary dysentery, hookworm disease, etc. It is the exception that I find a privy of a better type than that on the farms. It is my belief that I do not usually find, medically speaking, a better type of privy in the suburbs of cities; although, from the standpoint of construction, the suburbs usually have a much better type. One can readily see how disease can spread from such a structure.

After studying the matter from several points of view, I have prepared a design for a sanitary privy. It must be private, must prevent the spread of disease, and must be cheap. My design can be built, so far as the material is concerned, for from $5 to $10, the cost varying according to the price of material in different localities. It is closed in the back, and underneath is a water-tight pail, tub or barrel. There should be cleats, so that that pail will always center; and it is best to have the top of the pail come snugly up to the seat. By using a fluid disinfectant, or simply water, with a cup of kerosene oil on top of it, the flies can be kept away from the excreta. If a fluid is used, the pail must be deep enough to protect from splashing.

One of the great problems of the outhouse is to make the privy as little disagreeable as possible. One reason why people avoid the privy in hot climates is that it is a disagreeable place. To overcome that point I have put in five ventilators. The door should close of its own accord, with a spring. Most house privies have from two to four seats. I see no advantage in that; and the expense can be reduced by having a single seat. There should be a lid to the seat, so arranged that as soon as a person rises the seat will fall of its own accord. For children, a separate smaller seat can be used, shoved into place according to necessity.

This privy is protected against flies in various ways: first, by the screens, by the automatically closing door and cover-lid, by a tight door in the rear and by the use of a fluid disinfectant. The fly protection can be carried one point further by painting the privy dark. Flies are attracted by light colors, mosquitoes by dark colors; but I think the flies are amply guarded against by the ventilation, the fluid in the pail, the screens, the automatically closing doors, and the rear door (for removal of pail) falling down so that it has to be raised.

The Public Health and Marine-Hospital Service issues a reprint giving the carpenter's estimate for the lumber, showing the lumber sawed up into the proper shapes, and giving full instructions from beginning to end, so that any schoolboy of 12 or 14 years of age can construct a sanitary privy for his home. Recently I have induced some of the schools in the South to introduce the sanitary privy as one of the regular objects to be constructed in the manual-training classes. They can just as well build a privy as anything else.

DR. J. N. HURTY, Indianapolis: I hope that the papers of the land will soon—say within the next year or two—commence to appreciate the work of sanitarians. As we know, there are 2,000,000 people in the South rendered inefficient, made burdens on the states in which they live, and all because of a preventable disease. When first pointed out by Dr. Stiles, his first reward was ridicule. I don't know that the papers have ceased ridiculing it yet; I would not be surprised to find that they are still making fun of this great discovery of the cause of so much misery, so much inefficiency, so much sickness and so much shortening of life; but let us hope that they will get hold of the idea presently. This is not a savory or beautiful subject, but it is very important.

DR. CHARLES W. STILES, Washington, D. C. [Replying to questions asked by several members]: As to the destruction of infection by disinfectants, sufficient studies have not yet been made. Any thing which will keep oxygen from the hookworm eggs acts toward destroying them. At the same time, we must recall that in the dry-earth system the night soil is not sufficiently covered with dirt, and we cannot get people to keep them covered. I am coming to the view that a fluid disinfectant, if only water and kerosene oil, is perhaps after all the safest; but that point is still *sub judice*.

As for the final disposition of the night soil, any farmer can put a pail like that on two stones, make a fire under it and thoroughly disinfect the foul material. If two pails are provided instead of one, one pail may be utilized for a week and then be set aside to ferment; this is an additional safeguard against the spread of disease, because fermentation breaks up the fecal material entirely, and the ova are so destroyed.

I recommend a privy raised from the ground to avoid rats. A privy which is built down to the ground all the way around provides a breeding place for rats. This is avoided by the opening under the floor.

Vaccine Therapy in Skin Diseases.—T. C. Gilchrist, in *Journal of Cutaneous Diseases*, states that in the treatment of cutaneous affections vaccine therapy is a distinctly valuable adjunct to our therapeutics. The *Staphylococcus albus* vaccine is of undoubted value in all pustular affections of the skin but especially in treatment of relapsing furunculosis, staphylococcus dermatitis, sycosis vulgaris, in certain forms of eczema, pustular rosacea and in acne when the disease is mostly secondarily infected with the *Staphylococcus albus*. He has also found vaccines of value in erythema multiforme, especially of the relapsing bullous type, and in rosacea, where the flushings were decreased by the vaccine therapy. It was also helpful in dermatitis herpetiformis and pityriasis rosea. He would recommend that vaccine therapy be tried when the disease does not yield to the usual method of treatment. *Bacillus acne* vaccine be found of value in the chronic nodular relapsing types of acne vulgaris, and in his hands, in a great many cases it has proved a curative agent.

THE MAKING OF A SURGEON

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It is a good principle in life, no doubt, for every one to be charitable in the judgment of others, and it is also commendable to look well to our own preparation and worthiness before we criticize or find fault with the work of others. But there is a kind of professional patriotism that prompts one to take pride in his calling, and a true humanitarianism that leads us to consider the rights and claims of our fellow beings to the best that can be given them. With this spirit, let us for a few moments consider the requirements that might reasonably be made of one who makes pretenses to the practice of surgery. We recognize that certain standards have to be reached by every one before a license to practice any branch of medicine can be obtained: a diploma from a recognized medical college, and a successful examination before a board of state examiners. A certificate thus obtained gives the candidate the legal right to practice all branches of medicine, whether they be surgery, gynecology, ophthalmology or internal medicine, without interference.

But should not the question of special fitness be raised, especially with regard to those who pretend to hold positions in public institutions, or those of a private character, receiving state aid? In these cases it is not only the right, but the duty of hospital managers, trustees, or directors, to inquire definitely into the ability of their appointees to do the work to which they are assigned. In private life the patient exercises this right, the right to choose his physician, surgeon, oculist, or any other specialist, but to patients in hospitals this right does not come. They must take the physician or surgeon chosen by the governing board, and the responsibility these boards incur may be inferred from a very imperfect knowledge of the kind of work that is done in many hospitals.

The reasons that actuate hospital boards in choosing members of their staffs are various and sometimes very interesting. It is the wish of some boards to extend the benefits of the hospital to as many physicians in the neighborhood as possible—to have a kind of open shop; hence a very large staff and a short term of service. In other cases appointments are made for political reasons, to represent various nationalities, or different religious creeds: "Could the force of folly any further go?" you ask, but we know that just such conditions do exist. Rarely is the question raised of special ability to do the work to which the applicant is assigned.

We know that this is all wrong. All over the country there are men acting as surgeons to hospitals who never do any surgery except during the few months in which they are assigned to hospital duty. Furthermore, these so-called surgeons never go away to learn from real surgeons how the work should be done; they are so self-sufficient that they cannot be taught.

The question is pertinent, why this mad desire to be surgeons should possess so many men on entering the profession. The brass-band enthusiasm by which public journals herald the results of modern surgery turns their heads and leads them to overlook the equally wonderful conquests of internal medicine. Good physicians are needed in greater numbers than good surgeons. Rarely a human being lives for a great length of time without requiring the services of a physician, but many —indeed, the great majority of the human family—never stand in need of a surgeon. And the wonderful triumphs of modern medicine: robbing diphtheria of its terror; the fight against tuberculosis; and the signs of promise in the horizon, the triumph over malarial diseases and yellow fever enabling the government successfully to dig the Panama canal—these are some of the wonders of internal medicine that are equal, if not superior, to anything accomplished by surgery.

It was my pleasant duty a short time ago to address a letter to a number of eminent surgeons of the country, asking each to give me briefly what he considered the essentials in the making of a surgeon. To this letter I have had the following replies:

DR. WILLIAM L. RODMAN, Philadelphia: Some one has said that a surgeon should have the heart of a lion, the eye of an eagle, the hand of a woman. But valuable as these assets undoubtedly are, they are inadequate. In the first place, I consider a thorough anatomic foundation most necessary. Many of the best surgeons and teachers of surgery have previously taught anatomy. At this time, when there are so many good hospitals and experienced surgeons needing assistants, there is no excuse for one contemplating a surgical career not to have had from one to three years as first assistant to a surgeon of recognized standing. In this way will he learn not only what to do and how to do it, but also that which is vastly more important, what not to do. Good judgment, or "horse sense," is both the rarest and most essential quality in a surgeon. "Fools rush in where angels fear to tread." A very large percentage of the ill-advised operations in surgery are done by those who have never had a careful surgical training.

A successful surgeon should of course be a liberal reader of current literature, should be active in societies, and above all things, visit the clinics of other men. It is so easy to be narrow, so difficult to be broad. Lastly, I consider that surgeons of this day, superior as they are in many respects to the former generation of surgeons, could with advantage imitate them in the careful preparation and intelligent post-operative treatment of their patients. Too much is left to house surgeons and nurses. There are many good operators, but fewer surgeons. The words "operator" and "surgeon" are frequently used synonymously, but alas, what a difference!

DR. J. WILLIAM WHITE, Philadelphia: Surgery is a highly technical occupation resting fundamentally on the general principles of biology—normal and pathologic—and requiring, not only clear thinking based on broad knowledge—as do all medical pursuits—but also a certain degree of manual dexterity. In the making of a surgeon these essentials should, so far as possible, be complied with.

A young man or boy, destined to be a surgeon, should be familiarized with the principles of evolution and of natural science and the general laws of plant and animal life, and should be especially instructed in comparative zoology. He should be taught at least elementary physics and chemistry, and it would be of distinct advantage if during this period his eye and hand were educated by animal dissection and experimentation in a biologic laboratory.

It is axiomatic, however, that his work with animals should inflict on them no pain or suffering. While this may be necessary in rare instances, when a trained experimenter is investigating problems related to the welfare of the whole human race, and indirectly to that of the lower animals themselves, the student who is taught by precept or example to disregard it will lose something that will be of far more value to him later in life than even facility in recognizing structures and tissues, in tying blood-vessels, and in differentiating normal and diseased conditions, serviceable as such knowledge would be to him when he begins his real surgical labors. Practical work in a physical and in a chemical laboratory would aid materially in the combined training of hand, eye and brain that is aimed at.

He should have such general education in addition as will enable him to understand and to write his own language, and, if that is English, to read French and German also.

The latter languages are desirable, not only because of the storehouse of useful knowledge that is thus opened up to the student of surgery, but because acquaintance with them leads to clear and precise use of English in speaking and writing, an accomplishment the value of which it would be hard to overestimate.

With this equipment, the graduated theoretical and practical courses in medical schools of the first class would meet the next indications, would be infinitely more valuable to the average student than they ordinarily are, and would leave him at the time of taking his degree ready for the next and final stage of his education as a surgeon. This will last throughout life and may be divided, as Gaul was, into three parts: first, experience; second, experience; third, experience!

DR. J. F. BINNIE, Kansas City, Mo.: 1. Material to work on, viz., a gentleman in good health and blessed with common sense.

2. Preliminary training: good school education, with preferably some manual training. College training, with special courses, if possible, in physics and biology.

3. Good professional training for general practice.

4. Term as intern on medical side in a good hospital.

5. Term as intern on surgical side of a good hospital.

6. Experience as assistant to a good surgeon and as much dispensary work as possible.

7. Membership in a good review club and hard work in it.

8. Preservation of the common sense originally present.

9. Preservation of the health by being temperate in all things, and not too much dignity to permit indulgence in proper amounts of tennis, golf, open air, trashy novels and fun.

DR. GEORGE EMERSON BREWER, New York: The surgeon should, primarily, be a man in the broadest sense of the word. He should possess by inheritance, or acquire by early training, a broad philanthropy and uncompromising integrity. In addition to his technical training, he should cultivate a habit of accurate observation, prompt decision, and logical action. While tolerant of the opinions of others, and amenable to reasonable argument, his training and experience should be such as to enable him to rely on his own judgment in moments of grave responsibility.

DR. HOWARD KELLY, Baltimore: I believe that the training for a surgeon should come through several years of hospital work, under good men. The young surgeon should begin at the bottom, and learn every detail that has to do with surgical work, up to the doing of operations. This presupposes laboratory work, ward work, reading, assisting at operations, operating, first in simple, then in more difficult cases. I believe a training of this kind can be secured only by four or five years' hospital work.

DR. GEORGE W. CRILE, Cleveland: While I think "surgeons" may be made, yet I have thought that they are largely born. The making part of them, in my opinion, consists most effectively in the development of a deep interest in the work; accuracy of observation; industry, and infinite patience. I would recommend these merely as essentials, but after all it is work, work, work, that counts.

DR. ALBERT J. OCHSNER, Chicago: First, the man to start with must be a tremendous worker. He must have the quality of thoroughness and patience, and he must be studious. Then he should have a thorough pre-medical course of at least four years, specializing in languages and science, particularly in German and French; in biology, physiology, comparative anatomy, and he should take a long laboratory course in bacteriology; a fairly thorough course in zoölogy, botany, and chemistry, histology, and embryology.

His medical studies can be accomplished in any one of a dozen of the best schools in the country equally well. He should then serve as an intern in a hospital in which there is a good medical and pathologic service for at least two years. Then, he should become an assistant to a real surgeon for at least five years, giving all of his time to examination of cases, assisting in operations, and after-treatment, examination of pathologic tissue, and research work. Later on he should spend at least one month every year seeing other surgeons work.

DR. JOHN B. MURPHY, Chicago: First of all you must have the man; that is, an individual of strong moral courage, positive convictions, sterling integrity, and a keen recognition of a sense of obligation to his fellow-man. To make a surgeon of him he should have a good medical education. After graduation, he should have an internship of at least one and one-half years in a large general hospital, and work in all of the departments of the hospital. Then he should spend one to three years assisting a surgeon and diagnostician. All of this time his attention should be devoted keenly to surgical pathology.

DR. JOHN C. MUNRO, Boston: 1. Good health.

2. An ingrained regard for the truth; patience and the willingness to make sacrifices without self-consciousness.

3. Education in a school that grounds its pupils well in fundamentals.

4. Training for a year or more in a general hospital that affords opportunities to gain a broad training in internal medicine, as well as in the surgical wards, laboratory diagnosis, and the handling of aH classes of people.

5. Special work in acquiring a fundamental knowledge of anatomy and physiology.

6. Apprenticeship in the service of a skilled surgeon for from one to five years, supplemented by research work in animal experimentation, or literary investigation, as seems best.

7. The ability to discriminate the useful from the useless when observing the work of other surgeons, and to modify one's own work thereby.

8. A working knowledge of the principal advances in medicine, therapeutics, etc., and as intimate a knowledge as possible of all definite surgical advance.

9. A reading knowledge of German, French, and Italian.

10. Study abroad only after several years of practice, when certain subjects can best be investigated. Especially charity towards the work of others, modesty in respect to one's own work, and sympathetic honesty toward the sick that apply for aid.

DR. WILLIAM J. MAYO, Rochester, Minn.: 1. A broad premedical education.

2. A good medical education.

3. A year as medical intern.

4. A year in pathology, not neglecting gross pathology for a minute.

5. A surgical internship.

6. Five years as an assistant to some active hospital surgeon, all the spare time in general practice, with especial reference to general diagnosis.

7. A life of hard work with frequent trips to visit surgical clinics, attend medical societies, and take part in discussions.

8. Not less than one hour a day with journals and books, and a credit and debit account of time.

From the above permit me to generalize and point out what seem to be some of the essential elements in the making of a surgeon:

First, the man. It is axiomatic that some individuals, if not all, are fitted by Nature, or Nature's God for certain kinds of work.

Our spoken language recognizes the truth in the word "calling." "Avocation" means the same thing. May not this be the way the Great Creator calls men to do His work in the various walks of life?

Poeta nascitur non fit, is a very old and trite saying, but a true one. Happy is the man who recognizes this calling, or interprets it aright and prepares himself accordingly.

"What's a' your jargon o' your schools—
Your Latin names for horns an' stools?
If honest Nature made you fools,
What sairs your grammars?
Ye'd better taen up spades and shools,
Or knappin-hammers.

"A set o' dull, conceited hashes
Confuse their brains in college-classes!
They gang in stirks, and come out asses,
Plain truth to speak;
An' syne they think to climb Parnassus
By dint o' Greek!"

Thus does Burns characterize the pretenders who would obtrude themselves into the sacred realms of poetry.

What are some of the characteristics which we may reasonably look for in one designed by Nature for the work of a surgeon?

As quoted by Dr. Rodman, an old writer says that the surgeon must have the eye of an eagle, the hand of a woman, the heart of a lion; in other words, far-seeing, quick perception, manual dexterity, and courage. Manual dexterity is of great importance: the surgeon must be a handy man. A man with a hand like a ham may become a skilful surgeon, but that is not likely. Some have regarded this work as mechanical; it is that, but much more. The surgical mechanic will never get very far. Marion Crawford says that "surgery is a fine art." That is a more fitting definition, but it does not cover the ground.

There is no kind of work that calls for such a display of physical and mental activity as that under consideration. Every day of his life—yes, many times a day—the surgeon must be the court, the jury, and attorneys on both sides of the case—for what else is a diagnosis?

He must carefully elicit the evidence on all sides, must sift the same by careful cross-examinations, must render the verdict, and finally must pass sentence and carry the sentence into effect.

Added to these physical and mental characteristics, he must be a normal man mentally and physically, possessing cheerfulness, hopefulness, inspiring confidence, and the most perfect optimism. He must be healthy, tireless in his industry, and conscientious, for all science is dependent on conscientious uprightness, and the Golden Rule is applicable in no walk of life more than in practicing surgery.

Second, as to the surgeon's education, the curriculums of the best medical colleges have been so extended and are so complete that their graduates all have a well-grounded preparation for work, and we have no right to complain or to criticize. The preliminary requirements for entering are yearly becoming more and more complete: several of our best schools require a degree of A. B., or its equivalent.

To the preliminary requirements, and the education the student receives in college, there is no objection to be urged. On the other hand, they should receive words of commendation only, and this brings me to the third and final topic.

Third, as to training for work, granting, now, that we have the man fitted by inheritance, endowed by Nature with all the inborn traits above referred to, that the future surgeon's preliminary preparation has been of the best, that he has completed the requirements of graduation in the best medical colleges, and has served a term of one or two years in a general hospital, wherein he may have a wide experience in medical and surgical work, under the care and direction of chiefs of the various departments, is he now prepared to do the work of a surgeon? Many eminent writers have urged that in addition to this hospital practice the young surgeon should have several years' experience in private practice, for it is urged that the conditions are very different in private life from those observed in hospital work. This may or may not be important, according to the kind of training he may have had in his hospital life: a general hospital with a large medical service may be sufficient, though I think that the discriminating judgment that comes from several years of general practice renders him a better balanced man in the matter of diagnosis.

But, now, is the surgeon fitted to do operations of importance? Let me quote from surgeons named above as to requisites.

Rodman says: "One to three years as first assistant to a surgeon of recognized standing.

White: Experience, experience, experience.

Binnie: "Experience as assistant to a good surgeon."

Kelly: "Several years of hospital work under good men. I believe that training of this kind can only be secured by four or five years of hospital work."

Ochsner: "Assistant to a real surgeon for at least five years."

Murphy: "He should spend one to six years assisting a surgeon and diagnostician."

Munro: "Apprenticeship in the service of a skilled surgeon from one to five years."

Mayo: "Five years as an assistant to some active hospital surgeon."

One of the most eminent surgeons of the West acted as assistant to a real surgeon for a period of nine years, rarely or never receiving a fee for his services; but that man to-day is a power wherever he goes. In his clinic, which is one of the largest and most interesting in the country, you will find visitors from all parts of this country and Europe, and in the deliberations of the Surgical Section of the American Medical Association, or the American Surgical Association, crowds hang on his words of wisdom, and attest their respect for his skill and great surgical knowledge.

Were surgery nothing more than a trade, the apprenticeship should extend over several years: a machinist must have at least three years' training before he is permitted to do a machinist's work; and is the human body of less importance than a machine?

Surgery has been called a fine art. What years the young painter or sculptor must spend in training before his work can command respect, or appreciation! Surgery is more than a trade or a fine art. It is the grandest warfare the world knows about: the conflict of the forces of scientific skill and training against the wickedest foes to human life, in which the battlefield is the sentient, quivering, suffering human body.

And finally, several of the eminent men quoted above advise the surgeon to go out and see the work of his fellows.

"He should spend at least a month every year seeing other surgeons work," says the wise Ochsner: "Frequent trips to visit surgical clinics," says the dominant Mayo. And those who have acted on this advice know only too well what the benefits are: the inspiration, the mental uplift that comes makes one feel that he has been associating with the immortals.

109 South Franklin Street.

Gastric Capacity of Infants.—The gastric capacity at birth is reckoned as 1 per cent. of the body weight, so if the child weighs 100 ounces, its gastric capacity is 1 ounce, and during the early months 1/30 of an ounce is added for each day of life.—N. Winslow, in *Hospital Bulletin of the University of Maryland.*

HOOKWORM DISEASE IN MINES OF CALIFORNIA

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The occurrence during the past year of several cases of hookworm disease in miners in California led me, under the auspices of the California State Board of Health, to investigate the subject for the purpose of determining whether or not the infection had become endemic in the mines.

While imported cases of hookworm disease are not infrequently observed in this state, sixty having been reported by me over five years ago,[1] its occurrence among miners had not previously been noted here. Attention was first drawn to the occurrence of the disease in Jackson, Amador County, by Dr. F. F. Sprague, and later by Dr. E. E. Endicott. Both of these physicians believed that the infection occurred in the adjacent gold-mines, but as the cases observed were all either in persons who had been exposed to infection in other parts of the world or in foreigners of not many years' residence here—Italians, Austrians or Cornishmen—many of whom we know are infected with hookworm before coming to this country, it was necessary to obtain more conclusive evidence before it could be considered that the disease had gained a foothold here. Further, the fact that the disease has not been reported as originating in any mines in the United States, made it appear that we were dealing, in all probability, with imported cases only.

In order to prove conclusively that the disease occurred endemically in a mine it would be necessary to demonstrate the larvæ in the soil from the workings, or to find the disease in a person who had not been exposed to infection elsewhere for at least seven years and preferably ten years. On account of the wandering habits of many of the miners, and the very small number of Americans employed, very few men were available for the purpose of such investigation.

In Mine 1, the results were as follows:

CASE 1.—F., American, native of California, never out of this state; health good except for occasional attacks of abdominal pain, due, it was believed, to chronic appendicitis. Ova of hookworm present; eosinophilia 15 per cent.

CASE 2.—M., American, native of California, never out of state; mining for past two years, always in this mine; health good. Ova of hookworm present; eosinophilia 13 per cent.

CASE 3.—K., nativity not known; not out of California during past forty-eight years; resident of Jackson for last seventeen years; health good except for eruption on leg extending over considerable surface, a typical ground itch. Ova of hookworm present; eosinophilia 12 per cent.

CASE 4.—N., native of England; resident of California for twenty-five years; employed in this mine for fifteen years; according to his own statement health had not been good for some time; shows evidence of moderate anemia. Ova of hookworm present in feces; blood not examined.

CASE 5.—L., nativity England; nine years in Jackson; health, according to his own statement excellent; anemia quite apparent, however. Ova of hookworm present; eosinophilia 5 per cent.

CASE 6.—F., Italian; eight years in California; five years in Jackson; unable to work for past five months on account of weakness. Ova of hookworm present; eosinophilia 12 per cent.

Specimens of earth were taken from various parts of the mine where conditions of heat and moisture were suitable for the development of the parasite, and in one from a cross-cut at the 1,600-foot level hookworm embryos were demonstrated.

In Mine 2 it was impossible to obtain feces for examination. Larvæ of hookworm were demonstrated in specimens of soil taken from the workings.

In Mine 3 several cases were found, but none had been in California a sufficient number of years to be of any positive value for the purpose of this investigation. No examination was made of the workings of the mine.

EXTENT OF INFECTION

The men were looked over in mines 1 and 2 after they had finished work, and were bathing and changing their clothes. Evidence of the disease was everywhere to be seen. The peculiar color of the face, which is so often found in this disease, even when the blood shows but slight reduction in the hemoglobin, was observed quite generally. Quite a number showed moderate anemia, while occasionally it was quite pronounced. It should be borne in mind that we are now considering only those men who were able to work; those so ill that they were unable to work will be referred to later. Several cases of ground-itch were observed, the arms and hands being the most frequently affected parts.

On account of the difficulty of obtaining a sufficient number of stools to form an estimate of the percentage of infected persons in the mines, blood-smears were taken and the eosinophils counted with the following results:

MINE 1.—Specimens were taken from eighteen miners. Some men were selected who showed evidence of disease. In all examinations 100 cells were counted and Wright's stain, or Oliver's modification of it, was used.

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per cent. of Eosinophilia.
1	13	10	13
2	24	11	21
3	17	12	9
4	12	13	10
5	18	14	18
6	7	15	3
7	15	16	20
8	13	17	11
9	5	18	12

Number 9 was referred to previously as an infected subject with nine years' residence in Jackson, so that the probabilities are that all of the eighteen are infected, except possibly Number 15, who shows an eosinophilia of 3 per cent. Stools were also obtained from the following on this list and all contained ova of hookworm: Numbers 4, 7, 8, 20.

Feces from eight individuals in this mine showed seven positive. The negative stool came from an assayer whose work until comparatively recently had been entirely above ground. The infection in this mine, it would appear, is close to 90 per cent.

MINE 2.—Men showing evidence of the disease were in some cases selected.

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per cent. of Eosinophilia.
1	8	8	4
2	3	9	7
3	0	10	8
4	6	11	4
5	5	12	24
6	2	13	8
7	3	14	15

It was impossible to obtain stools from any on this list. The conditions in this mine were very good, there being less moisture throughout most of the workings than in the other mines. Yet from the appearance of the blood, ten out of the fourteen examined, or 70 per cent., should be looked on with suspicion.

1. California State Jour. Med., April and August, 1905.

MINE 3.—Blood was taken from the first eleven men who happened along. No selection was made in any case, with the following result:

Number of Patient.	Per cent. of Eosinophilia.	Number of Patient.	Per cent. of Eosinophilia.
1	5	7	20
2	11	8	14
3	7	9	0
4	14	10	15
5	6	11	5
6	14		

Here it would appear that all but one are infected, or over 90 per cent. In Number 10 and Number 11, the only ones on this list from whom stools could be obtained, ova of hookworm were found present. Of course it should be remembered in considering the increase in the eosinophils that such might be due to infection with other parasites, but in the examinations of all the stools that could be obtained, evidence of other parasites was generally lacking. In one case *Strongyloides stercoralis* was present, and in another, *Trichocephalus dispar*.

CONDITIONS IN THE MINES RELATIVE TO DEVELOPMENT OF THE DISEASE

1. *Temperature.*—It has been shown that in mines with a temperature below 70 F. the disease makes but little headway. In the mines of Jackson, in portions where the men are working, the temperature is usually kept, by forced draft, below 70 F., but in abandoned portions and adjacent cross-cuts, the only places where a man would be likely to deposit his excrement, the temperature was often as high as 80 or 90 F.

2. *Moisture.*—A sufficient amount of moisture was found in portions of all of the levels visited.

3. *Disposal of Excrement.*—Although there are rules in force against the contamination of the workings with feces, it was not very difficult to find evidence that these rules had been broken. The arrangement of tanks in the shafts for the use of the men is open to criticism and is believed to be one of the modes of infection.

ECONOMIC ASPECTS

There is no question but that the general efficiency of the men is noticeably impaired. At one mine, employing about 300 laborers, it was stated that a reserve of about twenty-five men had to be available to replace those who, on account of sickness, did not appear for work. Many of the men have to take time off now and again to recuperate. Several who were unable to work stated that when they arrived in Jackson they were perfectly strong and well. A large number of these men were encountered on the streets, some of them presenting marked degrees of anemia.

The greatest loss to the mine operators is occasioned by the large number of those moderately affected. In one mine a superintendent who was infected ascribed his somewhat poor physical condition to the results of an illness which occurred a couple of years ago. Another man occupying a responsible position had to be given a vacation every now and then on account of declining health. He presented a quite noticeable anemia, and on examination of the stools, showed a heavy infection. Any number of similar cases could be cited but these examples should be sufficient to show very clearly that the average miner infected with hookworm cannot do the work of a normal man. A loss of 20 per cent. in the efficiency of those infected would be a conservative estimate. That would mean in Mine 2, for instance, where over 300 men are employed at an average of about $2.50 per day, estimating the number of those infected as low as 50 per cent., a loss of over $20,000 a year.

When it is remembered that nearly 30 per cent. of all deaths in Porto Rico are due to hookworm disease, it is safe to say that directly and indirectly many have died from the infection contracted in these mines.

The danger of the disease being spread in the neighboring valley should be considered, especially as the sanitary arrangements for the disposal of sewage in the town of Jackson are very poor, and as many of the infected miners who are too ill to work in the mines, live on near-by farms until recuperated.

The extent of infection throughout the gold-mines of California can very readily be estimated. The conditions of heat and moisture necessary for the development of the larvæ are more or less the same in all of the mines and all employ the same class of labor. It is believed that it will be found that all of the mines of California are more or less infected, and that probably conditions will approximate those found in Jackson.

The same statement can be made for Virginia City, Nevada. While the mines of Sutter Creek, near Jackson, were not visited, cases which undoubtedly were contracted there were seen. The origin of the infection of the California mines undoubtedly extends back many years. It was probably introduced by laborers from Cornwall, Austria or Italy, in which countries the disease occurs extensively in the mines.

SUMMARY

It may be stated in summary that:

1. Hookworm disease is endemic in certain mines of California.

2. From 50 to 80 per cent. of those working in these mines are infected.

3. The infection undoubtedly is present in practically all of the gold-mines of California, and in those just over the border of Nevada.

In conclusion I wish to express the belief that hookworm disease is endemic in many mines in various parts of the United States. In many of the so-called cold mines, portions are found where the temperature is constantly high and moisture is present. In all probability most of the mines of this country have been exposed to infection, for in nearly all of them may be found Hungarians, Austrians, Italians or Cornishmen, some of whom are certain to have brought the infection with them from the mines of their countries.

240 Stockton Street.

REPORT OF A CASE OF SPLENIC ABSCESS

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This case presented a variety of symptoms which, as far as the spleen itself was concerned, were absolutely negative and it was not until autopsy that a large splenic abscess was discovered. In view of the extreme rarity of this condition and of the lack of symptoms indicating splenic trouble it is believed a full report of the case would be not only instructive but of historical interest.

History.—M. P. V., fireman first class, U. S. Navy, was admitted to U. S. Naval Hospital, Philadelphia, March 2, 1910, with a diagnosis of appendicitis. (Case paper No. 67.) The patient was aged 29 years and 2 months, unmarried and denied syphilis; did not use alcohol or tobacco; had always been in robust health, and, about a year previous to admission,

had two months of tropical service. Although the skin had been noticeably bronzed since childhood nothing indicating gall-bladder trouble could be elicited. A careful inquiry as to gastro-intestinal disturbances and family history was also negative. Heart, lungs and kidneys were apparently normal.

Examination.—On admission to this hospital there was marked rigidity of right abdomen and extreme tenderness over the appendix; temperature 100.4 F.; pulse 78, regular and full; respiration normal; tongue coated and bowels costive. The attack began with epigastric pain and nausea on the day before admission, the pain in a few hours being centered over the appendix; patient vomited before reaching the hospital; white count 13,000. An immediate operation was decided on.

First Operation.—The abdomen was opened by the Battle incision and the appendix found greatly distended, with a small gangrenous perforation at its base, through which fecal matter had escaped. There was also a gangrenous spot on the cecum surrounding the base of the appendix. The appendix was removed, and in addition the gangrenous spot on the cecum was surrounded and buried by a purse-string suture, over which a continuous Lembert suture was introduced. The parts were dried and cleansed by mopping with gauze and a cigarette drain of iodoform gauze brought out through the wound. A rubber drainage tube was passed down into the pelvis and the wound closed with the exception of a small opening for the drains. The patient was placed in Fowler's position and Murphy's proctoclysis started.

Subsequent Course.—On March 10 there was a free discharge of pus from the cecal drain which had a fecal odor. This gradually lessened and the patient passed through an uneventful convalescence with the exception of the development of a small abscess in the rectus muscle, the result of a stitch becoming infected. On March 24 the sinus had completely closed, one of Bier's hyperemia cups being used for five days.

April 1, 1910, the patient had a slight chill in the afternoon followed by profuse sweating. The temperature ranged from 99 F. to 103 F., and a slight pain developed over the gall-bladder region, but the liver dulness was not increased. For seven days after this there was an afternoon chill, fever and sweat, the temperature reaching usually 104 F. Daily white counts never ran above 8,000 and numerous differential counts were normal. The test for iodophilia was negative at this time as were also the urine, sputum and feces. The tongue was thickly coated and anorexia was marked. Repeated blood examinations were negative for the malarial parasite and several Widal reactions were also negative. The Cammidge reaction was negative, as was also a culture of the blood. Iodophilia now began to be positive and patient developed a slight cough, though no lung involvement could be made out. The pulse at times reached 100 but was usually between 70 and 80. Although there was no pain or tenderness in the loin or operation scar the latter was incised and probed but nothing unusual found. The pain over the gall-bladder region increased somewhat and at this time there was quite a perceptible deepening of the bronzed condition of the skin. The lungs and entire abdomen were repeatedly examined but, with the exception of the tenderness over the gall-bladder region, nothing abnormal could be found. At no time could the spleen be palpated nor was there ever the slightest pain elicited by the deepest pressure in this region.

Second Operation.—April 8, a Bevan incision was made over the gall-bladder and the latter found to be imbedded in a rather dense mass of adhesions and these when liberated disclosed a very much thickened and dwarfed gall-bladder. This was incised and explored, as were also the ducts, but no stones were found. The head of the pancreas seemed to be enlarged and harder than normal. The gall-bladder was drained with a Mixter tube and for two days there were no chills or fever, but at the end of that time the pyemic condition began again. The gall-bladder drained well but the symptoms were practically the same as before operation with the exception of the development of a systolic murmur heard loudest at the base. April 31 an aspirating needle was introduced in the eighth intercostal space in the axilliary line and the liver was needled in five different directions without locating pus. The symptoms of marked sepsis continued and the patient finally died of exhaustion on June 9.

Necropsy.—Cutaneous surface was deeply bronzed; emaciation marked; adhesions in right iliac fossa broken up and revealed small, firm, smooth scar in cecum at the site of the excised appendix; ascending colon dissected up to right kidney pouch with no indication of any previous inflammatory condition; gall-bladder firmly adherent to abdominal wall at site of operation wound. On palpating in left abdomen it was found that a mass of small intestine and omentum was closely adherent over the spleen, which could hardly be felt through the distended intestine. The intestinal adhesions were carefully broken up, showing the spleen to be about two and a half times as large as normal and closely adherent to the stomach and diaphragm. In breaking up the diaphragmatic adhesions a large pus sac was opened in the discolored, friable spleen. This sac was located in the center of the spleen and was about the size of a goose-egg. Two smaller abscesses about the size of a pigeon's egg, were located at the periphery. The splenic vein was thrombosed up to the vena cava. On sectioning the liver, which was slightly enlarged, there was to be seen widespread fatty degeneration, with here and there small necrotic spots about the size of a pea. Both ventricles of the heart were dilated and the left ventricle very much thinned. There were to be seen greenish-yellow nodules and patches on the flaps of the mitral valve and left ventricular endothelium, shewing the presence of endocarditis. Lungs and pleuræ were apparently normal. The head of the pancreas was enlarged and nodular. Both kidneys were slightly enlarged and showed minute areas of fatty necrosis. The small intestine was blanched and contained a small quantity of tenacious greenish yellow material.

The post-mortem findings clearly indicated a widespread pyemic condition with a primary focus in the spleen, and it would seem that the lesson to be learned from the history and findings in this case is that the splenic condition could only be diagnosed by exclusion. Systematic writers on this subject invariably refer to pain in the left side high up. At no time was there the slightest pain in this region, nor could the spleen be palpated. It is believed that the splenic abscess resulted from the gangrenous pyogenic condition of the appendix and cecum. Had there been the slightest suspicion that the spleen was diseased a splenic puncture would have been done. It is further believed that the splenic puncture should have been done shortly after the gall-bladder operation, in view of the fact that everything but the spleen had been excluded. Had this been done the abscess in the spleen could have been drained posteriorly with a possible chance of saving the patient. Of course this latter conjecture is not free from the criticism that the patient could not have lived any way on account of the pyemic condition which was in all probability present at that time, but there is no question as to the fact that at least the patient's chances of recovery would have been greatly improved had the abscess been located and drained, and of course the sooner this was done the more favorable the prognosis.

IDIOSYNCRASY TO ASPIRIN

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In THE JOURNAL I recently read a communication[1] in regard to idiosyncrasy to aspirin, of which I had an almost parallel case on November 19.

On the advice of a friend a young man took a five-grain tablet of aspirin for headache. In about one hour, still suffering, he took another, and then lay down on a cot in his office. In a few moments he arose and remarked to some one present,

1. Berl. klin. Wchnschr., 1893, No. 19.

"I feel mighty queer, and can hardly see." He then looked in the mirror and exclaimed, "What is the matter with my face? I am going to a doctor!" He walked nearly two blocks to my office, and in attempting to walk up to the door (just three steps up from the pavement) fell, and then had to be assisted into my office. He hurried in without waiting to knock, and in a voice which indicated great distress, exclaimed, "Doctor, some one has poisoned me." This was probably about half-past one, and about an hour and a half after taking the first tablet. The mucous membranes of his eyes, nose and mouth were very edematous. The eyelids and lips were everted and swollen to twice the normal size, the conjunctivæ very much congested; the patient could hardly breathe through his nose at all. Tonsils and uvula were in a state of congestion, the articulation was very indistinct, and when the patient attempted to raise his voice to a higher pitch, it had a peculiar metallic sound, which would end with a muffled tone. The veins in his temples and throat were knotted, and in places were standing out like hard cords. I found his circulation 136, respiration 24, afterward going down to 12, temperature normal. His face was greatly flushed, and this, with the eversion and swelling of eyelids and lips, made him a ghastly-looking object.

I made him lie down on a cot, and as he seemed to have considerable trouble in breathing, removed his collar and opened his shirt. I had the nurse give him a hypodermic injection of digitalin, bathe his face, neck and head with hot water, and apply continuous hot towels, and keep him quiet. Later, as he complained of great pain in the shoulders and neck, I also applied continuous hot pack to those parts, and, as the circulation remained weak, ordered hypodermic of strychnin. At half-past two he suddenly fell into a profound sleep; his circulation slowed down and became stronger, but respiration continued very slow, and seemed almost to stop at times. His slumber was so profound that the removal and the replacing of the hot towels did not seem to disturb him at all. I allowed him to sleep until nearly four o'clock, when I awakened him and had him conveyed to his home, which was about three miles in the country. He stood the trip all right, and after getting into bed he almost immediately fell asleep again. In about three days the edema had disappeared from face, nose, eyelids and mouth, but the throat remained irritated for at least ten days longer, and the patient was slow in regaining his strength.

The report of H. E. W. and this case show that some have a decided idiosyncrasy to this drug, and that it should be listed as one of the dangerous drugs, which should not be retailed indiscriminately to the laity.

THE USE OF CYLINDRICAL GAUZE AND COTTON DRAINS IN DISCHARGING EARS

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AKRON, O.

Aural surgeons must have witnessed the efficiency of gauze drainage in the ear following mastoid operations. The pus is constantly carried by the moist gauze packing in the external auditory meatus to the preferably wet gauze protective dressing. The solution with which this dressing is moistened should not be strongly antiseptic or irritating. Normal saline is excellent, although to encourage osmosis I sometimes employ a heavy sterile solution of magnesium sulphate. The packing in the auditory canal should be carried down to the tympanic membrane. There should not be any space left to serve as a reservoir for pus. This obliteration of space may be readily accomplished by placing over the outer end of the auditory canal a few folds of the end of a narrow 1 inch or 2 inch strip of gauze packing which has no loose threads on its margin, and then with a rough or screw-ended probe pressing the gauze directly in, until it touches the drum head. If a smooth probe is used or no fold made in the gauze the probe is likely to slip through the single layer of gauze, irritating the canal or injuring the ear-drum instead of carrying the gauze before it.

In acute or chronic otorrhea, a gauze drain is also very useful, but requires changing once or twice a day, which must be done by the surgeon, since such a drain cannot be inserted safely by untrained attendants. A few aurists, in certain cases, advocate gauze drainage but the patient must be in a convenient hospital or make frequent visits to the aurist's office which in practice is likely to be either too inconvenient or too expensive, or both. To overcome these objections I employed for some time a drain which my office assistants made by rolling a narrow strip of gauze doubled on itself on the end of a sterile toothpick, giving it stability by wrapping its central part with thin gutta-percha gummed together by any unirritating sterile ointment. It presented the appearance of a diminutive cigarette, ¾ to 1¼ inches long, about ⅛ inch in diameter, with the gauze projecting about ⅛ inch beyond the surrounding gutta-percha and with a toothpick sticking in the ravelled end of the gauze. The drain was made loose on the toothpick before being introduced. After its partial introduction the toothpick was withdrawn and its opposite dull end was used to press the gauze drain well into the ear. The outer end of the canal was then packed with gauze to help retain the drain in place and to absorb any excess of discharge when there was more than the drain could contain. Gauze is much more serviceable than cotton for this purpose.

Similar drains are now being manufactured. At first drains made altogether of gauze tightly wrapped by machinery were tried, but they were too stiff, hurting the patient on introduction. Drains made wholly of cotton were not stiff enough to be introduced. The cylindrical gauze and cotton drains which I recommend consist of cylinders of cotton wrapped in gauze, which is both soft and pliable, so as not to injure the delicate tissues of the ear, although sufficiently firm so that they can be readily introduced. They are supplied sterile, ten in an envelope, each six inches long. They may be cut by sterile scissors to any desired length, depending on the depth of the external auditory canal, and are supplied, of proper length, to the patient, in dry sterile two-dram vials or wrapped in sterile gauze. These drains are also very useful in draining small abscesses or cavities anywhere, and are easily introduced. They may be used any desired length. Several, side by side, may also be employed for drainage, as in some mastoid wounds.

They are easily introduced into and removed from the external auditory meatus by any simple forceps. They may also be introduced by first impaling them on the end of a sterile toothpick, using the latter as a handle. When there is much discharge I have the patient keep one in the ear day and night, putting a fresh one in every morning and evening; but after the discharge is much lessened it is employed only at night. After its removal, if there is any excess of discharge, it should be wiped away with cotton on the end of a sterile toothpick. Any drops which the aurist may wish to employ, *e. g.*, 5 or 10 per cent. phenol in glycerin, compound tincture of benzoin, boroglycerid solution, or boric acid and alcohol solutions in different strengths, may be warmed and poured into the upturned

ear and allowed to remain for several minutes, when the excess may be removed and a fresh drain introduced. In order to protect the skin and prevent excoriation by the discharges, once or twice each week a small amount of some ointment, *e. g.*, zinc oxid or calomel, 2 per cent., may be smeared by a cotton-wrapped applicator on the outer two-thirds of the canal, or a very little may occasionally be placed on the sides of the drain but not on its ends.

Dry gauze will absorb more discharge than wet gauze, but the latter, especially if a heavy salt, *e. g.*, magnesium sulphate, has been dissolved in the water, will encourage free osmosis and more readily absorb and carry away the discharge. If the outer gauze pad retainer is used moist, as I think in certain severe cases it should be, the whole should be covered by a large thick dry gauze pad to protect the ear from changes in temperature and infection from without. This pad may be readily fastened in place by a binder similar to Beck's, made of gauze with three tapes, one over the head meeting the others, which are first tied around the neck.

I think that the drain is particularly serviceable in acute cases and in chronic cases with much discharge. When the pus is carried away from the inner end of the auditory canal drainage from the middle ear is encouraged. The gauze pads over the outer end of the drains should be removed whenever saturated with pus, and in many cases the drainage is so free that they must be changed very frequently. I have never experienced any trouble in having patients use the drains, and have had no accidents with them. I do not think that more granulation tissue has appeared than in corresponding cases with inferior drainage, if as much.

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MUST THE TINCTURE OF GUAIAC BE FRESHLY PREPARED?

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ST. LOUIS

Since Weber's modification of the guaiac-turpentine test for occult blood in the feces and stomach contents,[1] every writer on this subject has uniformly insisted on using only the freshly prepared tincture of guaiac. Many have advised that the interior of a fragment of guaiac should be selected. During the past two years, I have experimented with older tinctures, controlling the reaction by the freshly prepared tincture. To my surprise, I found no evidence of deterioration; in fact, I often observed a more sensitive reaction from the older tinctures.

The method of preparing the tincture is as follows: Rub the guaiac resin in a mortar to a fine powder, slowly adding 95 per cent. alcohol. Be sure to have a residuum of guaiac in the mortar, thus insuring a strong tincture. Filter and keep in a glass-stoppered bottle. Dilute a portion of this stock tincture with 95 per cent. alcohol (tincture 1 part, alcohol 5 parts) and keep in smaller glass-stoppered bottle for daily use.

The stock tinctures used varied in age from two months to eight months. The diluted tinctures were kept only several weeks, but never showed any loss in the delicacy of the reaction.

The advantages secured by this method are obvious. The daily preparation of the tincture is a nuisance; moreover, the guaiac resin contains many insoluble particles. Therefore the daily prepared small quantity of the tincture must vary much in strength. The tincture made in larger quantities is more uniform and in my experience is more sensitive and does not quickly deteriorate.

1. Berl. klin. Wchnschr., 1893, No. 19.

AN EASY AND PAINLESS METHOD OF REMOVING ADHESIVE PLASTER

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Such a frequent and simple procedure as the removal of adhesive plaster from the skin of a patient is not infrequently accompanied by considerable pain and discomfort. Especially is this true if the plaster has been placed over hairy surfaces, or if the hair has grown subsequent to the application of the plaster. The usual methods of aiding the removal of the plaster by the use of benzin, alcohol and peroxid of hydrogen are not particularly effectual while, in themselves, these agents often add to the patient's discomfort.

I discovered by accident that oil of wintergreen when applied to adhesive plaster removed completely the adhesive elements in a very short time and since that time I have found this agent a most useful one for this purpose. It is necessary only to use a small amount of the oil, which is applied directly to the plaster and easily spreads itself throughout the adhesive material. As far as I am aware this agent is not in common use for this object and as the aim of a physician or surgeon is to relieve instead of causing pain it seems well to call the attention of the profession to the value of the method. When extensive areas of plaster are to be removed the application of an ointment of adeps lanæ hydrosus with 10 per cent. of oil of wintergreen incorporated is even more useful than the oil alone.

THE TREATMENT OF EXOPHTHALMIC GOITER WITH SPECIFIC ANTISERUM

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Several years ago I prepared what may be termed anti-thyroid serum, according to the directions of Beebe, and had the serum given a trial in the treatment of exophthalmic goiter, with negative results. The results were not published at the time on account of the feeling that possibly the negative character of my results might have been due to slight variations in technic as compared with that of Beebe, and I did not wish to cast a doubt on positive work of this nature so long as the subject was in a state of active experimentation. Since that time negative results have been noted by several observers and it is felt that my results should be published.

The work was done in the University of California. The preparation of the thyroid protein was done strictly according to the published procedure of Beebe. The material was fresh thyroid glands removed by surgical operation from patients with subacute active exophthalmic goiter, the glands being used fresh from the operating-table. The animals selected for immunization

were Belgian hares, for reasons connected solely with the internal administration of the animal house. These animals were subjected to increasing doses of the thyroid protein, until the serum of one of them on being tested gave a good precipitation with the material used in the immunizations. The thyroid protein is quite toxic to rabbits. We lost several, and all lost weight during the period of immunization. The total final number of rabbits, eight in all, were bled to death and the serum carefully collected, freed of corpuscles and filtered through a thin infusorial filter. It was then tested for its specific reaction, which at 1 to 10 gave a large precipitation within a few minutes. From this point I made a radical change in the technic. I was not able to bring myself to feel that it was safe to dispense this native serum, on account of the possibility of the presence of tetanus spores, without chemical sterilization. I therefore added trikresol to it precisely as is done in the manufacture of diphtheria antitoxin, and allowed the serum to "lager" for six weeks. When it was tested again for its specific reaction at the end of this time, I was able to observe no change. This serum was then kept at low temperature until dispensed.

Dr. P. K. Brown, of San Francisco, tried this serum in several cases of active exophthalmic goiter, with absolutely negative results. Not only did the serum produce no change or amelioration of the symptoms or signs of the disease, but large amounts of the serum could be injected without the causation of any results whatever. In other words, the serum was neither curative nor toxic.

Observations on the serum were occasionally made after the determination of its negative value in the treatment of exophthalmic goiter. The specific reaction gradually decreased, and finally within a year after the serum was prepared, it could no longer be elicited. Evidently the precipitating protein is denatured on standing, probably through a reaction of hydrolysis.

4522 Locust Street.

CHRONIC INFLUENZAL RHINITIS PROMPTLY IMPROVED BY VACCINE THERAPY

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The following case of chronic influenzal rhinitis seems to merit report because of the prompt and decisive curative effect of inoculations with heated influenza bacilli.

About four years ago the patient, a physician aged 54, had an attack of influenza and ever since there has been a more or less profuse discharge from the nose, at times so abundant that several handkerchiefs would be soiled during the forenoon, even when nasal washes were frequently used. At the time of the first examination (Aug. 4, 1910) there was a very profuse mucopurulent or purulent nasal discharge which contained many polymorphonuclear leukocytes and some bacteria, including a Gram-staining coccus and a Gram-negative bacillus. On plates of blood-agar (human), the discharge gave rise to some large white colonies composed of staphylococci, and surrounding these, many small dewdrop-like colonies which were difficult to see and which were composed of bacilli. Pure cultures were obtained on slanted blood-agar. The bacillus was not motile and was regarded as an influenza-like bacillus because it was small, Gram-negative and grew in symbiosis, forming minute colonies. A few days later, plates were again made from the discharge with practically the same results. At this time, the patient's opsonic index for the bacillus was 0.3. Contrary to expectations, this bacillus was not subject to much spontaneous phagocytosis,[1] and no difficulty was experienced in estimating the opsonic index. A vaccine was prepared from the bacillus, by heating at 56 C., for thirty minutes, and 12,000,000 bacilli injected hypodermically without any apparent effect, except that the opsonic index now became normal; on the second day the index was 3; on the third day 5; and on the fourth day 12. Four days later 50,000,000 bacilli were injected and on the following day the patient felt sick and could not eat or sleep; the discharge did not seem quite so abundant and smears showed that leukocytes had taken up a great many bacilli; very few cocci were present in the smears, and on plating a loopful of the discharge on blood-agar, only three colonies of cocci developed, as compared with a large number of colonies of the influenza-like bacillus. Six days later the discharge as ordinarily obtained did not contain any bacteria; on sneezing, however, the material produced contained many bacilli, most of which were inside of leukocytes, some leukocytes being crowded to the utmost with bacilli. The patient was now given an injection of 100,000,000 bacilli, which did not cause any symptoms, and on the following day the nasal discharge had diminished very much. From now on the discharge decreased daily and in two weeks it had practically ceased.

The patient went to his home in Colorado August 28, and the injections could not be continued regularly after that time. In a letter dated November 4 he wrote that he had been in the best of health, but that there was still a little discharge.

1743 West Harrison Street.

RÖNTGENOGRAPHIC EXAMINATION OF THE BLADDER

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BUFFALO

Considerable progress has been made of late in the diagnosis of displacements of the stomach and large intestines and in demonstrating irregularities in their walls by means of the Röntgen rays, following the ingestion or injection of bismuth solutions. It has occurred to me that distention of the urinary bladder with bismuth solution and immediately taking a Röntgenograph would be of value in outlining its (a) position, (b) size and (c) conformation and that irregularities in the vesicle wall as, (d) projection of tumors, (e) diverticula or pouching and (e) anomalies could all be diagnosticated and the approximate size and shape of the deformity would be shown in a permanent record.

It is not always easy or advisable to use the cystoscope in certain diseases of the bladder, and in some forms of prostatic hypertrophy it is practically impossible to insert the instrument; while in some instances it would be an absolutely dangerous procedure. In most cases there is no objection to it, and it is easy to insert a sterile catheter through which passes the solution used to bring about the distention. The process is completed by taking the Röntgenograph.

TECHNIC

Pass a sterile, soft catheter and irrigate the bladder with boric acid solution. When the washings come away clear, measure its capacity, with the bladder empty, distend with the measured quantity of the following solution:

℞	Gm. or c.c.
Bismuthi subcarbonatis	50.
Kaolini	250.
Aquæ destillatæ	1000.

(Formula of Dr. Haenisch of Hamburg, Germany, and used by him in examination of the large intestines.)

1. Tunnicliff and Davis: Spontaneous Phagocytosis of Fusiform Bacilli and Influenza Bacilli, Jour. Infect. Dis., 1907, iv, 66.

Take at least two Röntgenographs, one in the ventral recumbent position with the anode centered over the sacrococcygeal articulation; this should be a standard exposure for the bladder, always preserving the same distance from anode to plate. Center as above and a Röntgenograph will result from which reliable comparison as to size, position and conformity can be made. The second exposure can be taken at any desired lateral or dorsal angle. The proper angle found, stereo-Röntgenographs would be of great value.

The bismuth solution is well borne by the bladder. In one patient with cystitis it was the only injection which he could retain with comfort. The solution can be removed by irrigation after the exposures have been made, or allowed to pass off naturally. The danger of bismuth poisoning from absorption is practically nil.

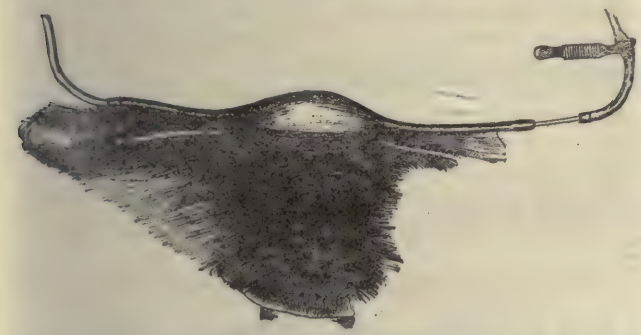
URETEROTUBAL ANASTOMOSIS

A PRELIMINARY REPORT

AXEL WERELIUS, M.D.
CHICAGO

Owing to the rather discouraging results following partial excision of bladder for malignant disease, the complete removal of the organ is, as a rule, the only procedure that holds out any hope of lasting cure. The all-important problem in such radical work is, of course, to establish an outlet for the urinary secretion, and one that combines the greatest insurance against ascending infection with the least annoyance to the patient.

Several more or less ingenious methods have been devised. Watson proposes preliminary nephrotomy and permanent drainage through the loin. This method may afford fairly good protection against kidney infection, but must be frightfully annoying to the patient.



Ureterotubal anastomosis.

Maydl's[1] plan of ureteral implantation into the intestine has been used. This method, or its modifications, originally devised for exstrophy of bladder, permit of control of urinary secretion, and would be excellent were it not for the great danger of ascending infection. The death-rate from this source has been 50 per cent. This is higher than when used for its original purpose, as in exstrophy of bladder, from long exposure to the exterior, ureters have acquired some degree of immunity to ordinary types of infection. The danger of infection in above operation is not only immediate, but threatened at any subsequent enteritis.

Pawlik[2] implanted the ureters into the vagina, Sonnenberg[3] into the urethra and Rovsing[4] with others, left ureters in the skin opening, all with good immediate results.

Thus it seems that operations that aim to give the patient the greatest comfort are also associated with the greatest danger. The genital system, closely related as it is to the urinary apparatus, both in the early embryo and throughout life, should, it seems, be the ideal outlet for the urinary secretion. Through this route secondary infection ought to be reduced to a minimum. The only drawback is, of course, lack of control, but this is somewhat counteracted by the favorable location for wearing of a urinary receptacle.

Working along the above theory, I am now endeavoring to anastomose ureters with the tubes, as in the accompanying illustration and also to implant them into the uterus. The immediate results in dogs seem very promising. Besides a trial dog, thus far only two dogs have been used of a coming series.

Dog 1.—Brown and white, large bitch. Operation, January 4. Anesthesia, ether. The ureters were dissected up and cut off close to the bladder and distal end tied. Bladder was left intact. Both tubes were then cut off about 4 cm. from the uterus and proximal end tied. A through-and-through purse-string suture was then inserted in the distal end of the tubes, into which the ureters were drawn, as in the illustration, and the purse-string lightly tied around the tubes and reinforced by two interrupted sutures.

Dog 2.—Grayish-white bitch. Operation, January 9. Same technic as above. Both dogs are so far doing well, passing urine through the uterus and vulva.

The trial dog mentioned above was very small, with minute ureters, and consequently, very difficult to operate on, especially as the operation had not been thoroughly planned. Owing to recent pregnancy there was a great disproportion between the tubes and ureters, the caliber of tubes being many times larger than that of the ureter. In making the anastomosis, I foolishly used interrupted sutures, which made the union very imperfect. The dog died on the sixth day, urine having leaked at the anastomosis.

It is, of course, too early to report any results or give any conclusions, as the work has just begun, but the operation seems feasible, at least in dog.

1230 Sixty-Third Street.

1. Maydl: Wien. med. Wchnschr., 1894, Nos. 25-29; 1895, No. 28.
2. Pawlik: Wien. klin. Wchnschr., 1891, xli, 1814, 1815.
3. Sonnenberg: Verhandl. d. Deutsch. Gesellsch. f. Chir., 1881, vol. x, No. 11.
4. Rovsing: Hospitalstidende, 1907, xv, 709.

THE FUNCTION OF THE CHORIOID PLEXUSES OF THE CEREBRAL VENTRICLES AND ITS RELATION TO THAT OF THE PITUITARY GLAND *

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The secretory organs for the cerebrospinal fluid are the chorioid plexuses of the third, fourth and lateral ventricles. These are highly vascular projections of the pia mater into the ventricles, covered with villous-like projections about 1 to 2 mm. in diameter. Under the microscope these villi are seen to be made up of a number of secondary villi about 0.25 mm. in diameter, which again show grape-like projections. Through the center of the villi run comparatively thick-walled blood-

*Read before the Cincinnati Neurological Society, and the Cincinnati Society for Medical Research, Jan. 5, 1911.

*For reasons of space, part of the illustrations are omitted. All appear in the author's reprints.

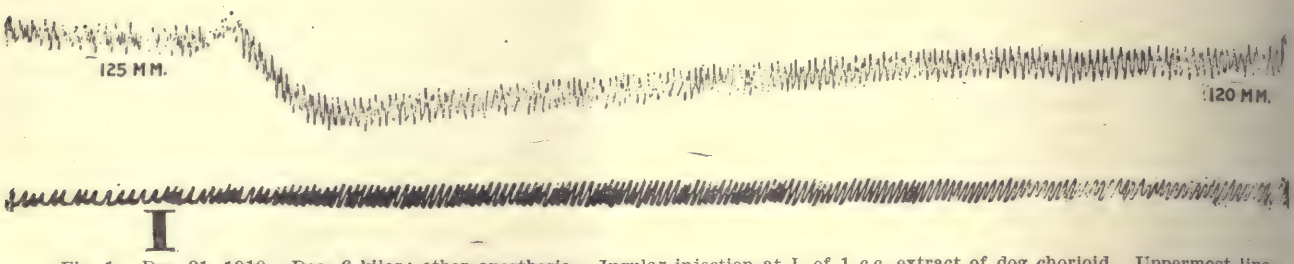


Fig. 1.—Dec. 21. 1910. Dog, 6 kilos; ether anesthesia. Jugular injection at I, of 1 c.c. extract of dog chorioid. Uppermost line, timer marking seconds; second line, blood-pressure; third line, respiration.

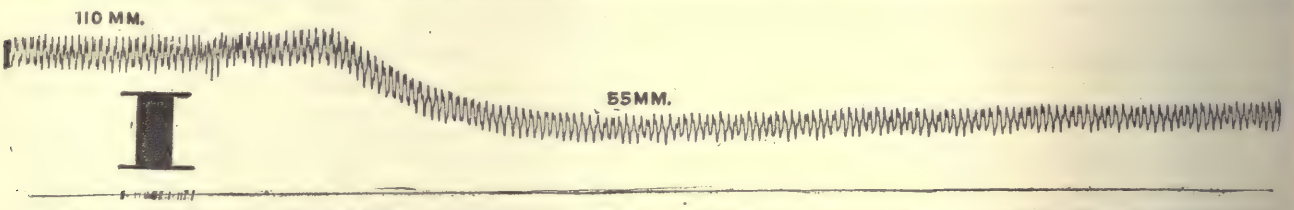


Fig. 4.—Dec. 28, 1910. Dog, 12 kilos; ether anesthesia. Jugular injection, at I, of 12 c.c. cerebrospinal fluid from a patient with cerebral edema of traumatic origin. Lines as before.

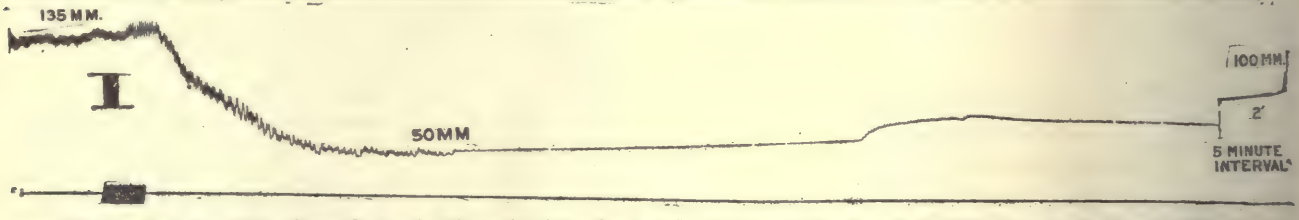


Fig. 6.—Dec. 31, 1910. Same dog as in Figure 5. Injection, at I, of 10 c.c. cerebrospinal fluid from same case (Fig. 5) of delirium tremens. Lines as before.

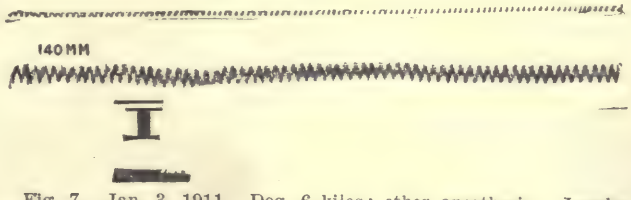


Fig. 7.—Jan. 3, 1911. Dog, 6 kilos; ether anesthesia. Jugular injection, at I, of 30 c.c. cerebrospinal fluid from an individual recovering from mild attack of delirium tremens. Lines as before.

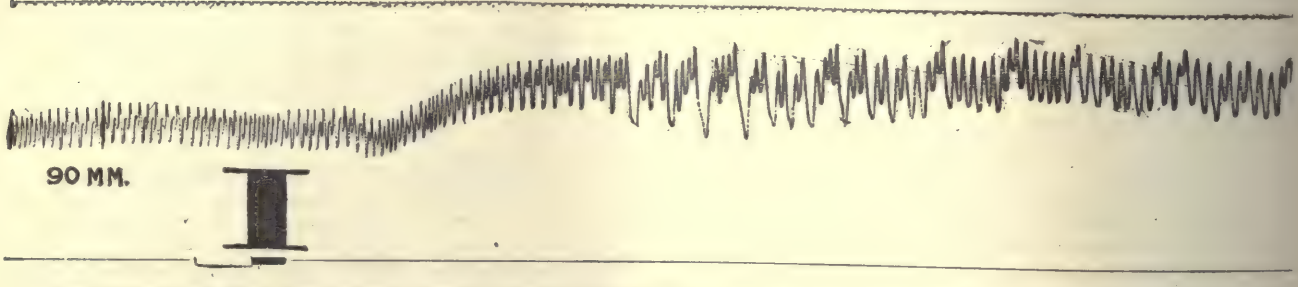


Fig. 8.—Dec. 10, 1910. Dog, 11 kilos; ether anesthesia. Jugular injection, at I, of 0.75 c.c. pituitary extract. Lines as before.

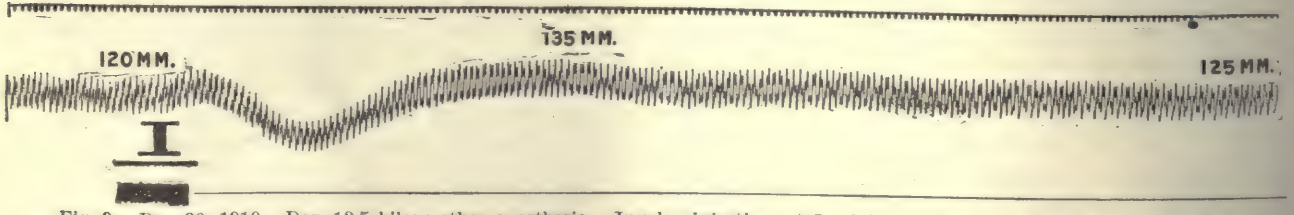


Fig. 9.—Dec. 30, 1910. Dog, 12.5 kilos; ether anesthesia. Jugular injection, at I, of 1 c.c. extract of human chorioid plus 1 c.c. of pituitary extract. Lines as before.

vessels, giving the entire organ a highly vascular appearance. The connective tissue of the villi is that of the pia mater. Covering the villi of the plexuses is a layer of large spheroidal cells, in each of which may be seen, in addition to the nucleus, yellowish granules. These cells are probably the secretory cells of the organ. The appearance of the plexuses strongly suggests an inverted gland which, instead of pouring its secretion into a series of ducts, empties directly into the ventricular system of the brain.

If one strips the chorioid plexuses from both the lateral ventricles of a dog recently killed by bleeding, and rubs them up in 2 c.c. of normal saline solution and injects the filtrate into the jugular vein of another dog, it will be found that this extract causes a marked fall in the blood-pressure. This effect was found to be constant in ten experiments.

Figure 1 is from a tracing of such an experiment. The blood-pressure was obtained by connecting the carotid or femoral artery of the animal with a mercury manometer. The respirations were recorded by means of a Paul Bert pneumograph connected with a Marey tambour, so arranged that the up-stroke represents inspiration, the down-stroke expiration. The time of injection was recorded by an electric signal. The injection was made into the jugular vein. In all experiments the animals were under light ether anesthesia administered through a tracheal tube. This animal received 1 c.c., or half the total extract made from the chorioid plexuses of the lateral ventricles of another dog killed by bleeding. The drop in blood-pressure, which in this experiment was preceded by a slight momentary rise (not constant), began fifteen seconds after the beginning of the injection, reached its maximum (that is, 50 mm.) twenty-eight seconds after the beginning of the injection, and returned to within 5 mm. of the original pressure in two minutes and twenty-five seconds. The rate of the heart-beat was apparently unchanged. The respiration was increased in rhythm from 40 to 60 per minute. Extracts made from the chorioid plexuses of the human brain show the same effects in even smaller doses.

Figure 2 is a tracing obtained by injecting into the jugular vein of a dog 1 c.c. of an extract made by rubbing up the plexus from one lateral ventricle in 10 c.c. of normal saline solution. The brain was removed from a man 35 years of age, five and one-half hours after death from pneumonia.

Extracts made from the chorioid plexus of the fourth ventricle produce the same reaction.

The reaction exhibited in Figure 3 is independent of the action of the vagus nerves, since the same effect is obtained when both vagus nerves have been divided.

The thought suggested itself that possibly in certain cerebral affections, particularly in such as were associated with hypersecretion of cerebrospinal fluid, the fluid might contain an excess of this depressant evidently secreted by the chorioid plexuses. Accordingly experiments were made with cerebrospinal fluid obtained by lumbar puncture in three such cases.

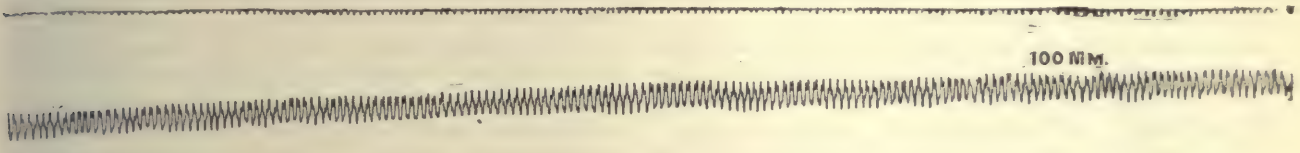


Fig. 4, continued.

Figure 4 is a tracing obtained from a dog into whose jugular vein were injected 12 c.c. of cerebrospinal fluid obtained by lumbar puncture from a patient with edema of the brain following a blow to the head producing a subtentorial hemorrhage. It will be seen that the injection caused a marked (55 mm.) and prolonged fall in blood-pressure, followed by an exceedingly slow and incomplete recovery. The cerebrospinal fluid in this case evidently contained a great excess of the "chorioid depressant."

Figure 5 is a tracing obtained from a dog into whose jugular vein were injected 5 c.c. of cerebrospinal fluid drawn from a marked case of delirium tremens. This fluid was much more depressant than that from the previous case.

The injection of 10 c.c. of the same fluid fifteen minutes later into the same dog produced a most violent and prolonged depression, from which the animal incompletely recovered only after an interval of eight minutes. This is shown in Figure 6.

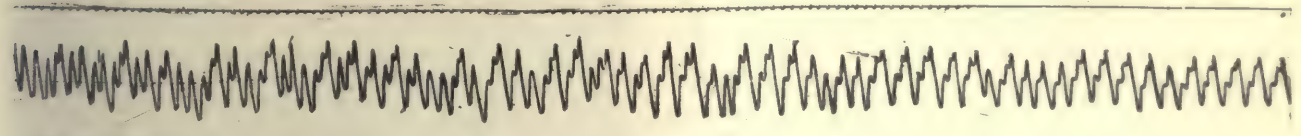


Fig. 8, continued.

Figure 7 is a tracing obtained by injecting 30 c.c. of cerebrospinal fluid drawn from a subject who had recovered from delirium tremens. There was but little depressant effect, a fall in blood-pressure of not more than 5 mm., which was quickly recovered. The individual from whom this cerebrospinal fluid was obtained had had a mild attack of delirium tremens which had lasted only forty-eight hours, and, at the time the fluid was withdrawn, the patient's pulse was normal again and the attack of delirium tremens had disappeared.

The patient died from whom the fluid used in Experiments 5 and 6 was obtained, and at autopsy a marked cerebral edema was found. The ventricles were filled with fluid which, when injected into dogs, was markedly depressant.

It also occurred to me that if such a depressant were secreted by the chorioid plexuses and poured out into the ventricular system it would meet there whatever was given off by the pituitary body, and it seemed wise to determine, if possible, what action these two principles might have on each other. As has been abundantly shown, the infundibular lobe of the pituitary gland contains a substance which causes a marked elevation in blood-pressure lasting for some time and accompanied by a marked slowing of the heart and an increase in the force of the cardiac systole.

Tracing 8 was obtained from a dog into whose jugular vein was injected 0.75 c.c. of an extract of the infundibular lobe of the sheeps' pituitary gland. The well-known effect is here nicely shown.

When an injection was made of a mixture of the pituitary extract just mentioned and an extract of the human chorioid plexus it was found that these substances tend to counteract each other, though incompletely. Of course, it is difficult to determine the completeness or incompleteness of such a counter-action in the absence of known dosage.

If we examine a tracing (Fig. 9), of such an experiment we shall find it very interesting. The depressant effect of the chorioid is shown, but lessened in amount and only transitory in time. This is succeeded by a rise in pressure due to the pituitary extract but this also is lessened in amount (15 mm.) and greatly shortened in time of duration. At the end of two minutes and thirty seconds the blood-pressure was within 5 mm. of that which obtained before the injection. The slowing of the heart is present but also reduced. It is evident then that these two principles which, we presume are poured into the cerebrospinal fluid have a tendency to counteract each other in so far as their effect on the circulatory apparatus is concerned. It will be a matter for future investigation to determine, if possible, under what circumstances the one or the other gains the supremacy.

A further report on the nature of the chorioid "depressant" will also be made in the future.

4 West Seventh Street.

OPTIMISTIC THERAPEUTICS

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Some months ago the Hon. Joseph Choate, at a celebration commemorating the landing of the Pilgrim Fathers, suggested that it might not be amiss to extol the Pilgrim Mothers also, who not only had to endure equally the hardships and privations undergone by the Pilgrim Fathers, but also had to endure the Pilgrim Fathers.

Along this line the thought has occurred to me that, while tomes have been written concerning the psychic attitude of our patients—how they should be lifted from the slough of disease and despond, and their feet planted on the solid ground of health and right thinking; how to combat the demon of introspection; how to stem the increasing tide of "Americanitis," and so on *ad infinitum*—but little has been said about the psychic attitude of the physician who has these problems to shoulder as well as the mental foibles of the sick. He has to not only bear with the disease, but also bear with the changing, the complaining, and often repining personality of "experienced invalids," who know how to run up and down the gamut of symptomatology like an expert pianist, or who can argue from obscure cause to mysterious effect like a trained advocate.

We all have them: the surgeon hears of minor injuries entailing dreadful and far-reaching consequences; the gynecologist is regaled with lurid accounts of horrible ovarian and uterine pains; the ophthalmologist or aurist is told of ringing and singing sounds in the ears, or remarkable spots before the eyes assuming all manner of fantastic shapes; the internist hears of jumping and bumping hearts, of existences eked out with one lung completely gone, and the other one nearly out of commission, or of fierce pains in the back, denoting of course serious kidney disease; while the gastro-enterologist, I imagine, hears the most bizarre recitals of all. I am told sometimes of phenomena following the ingestion of simple articles of food which are neither explainable by physiology nor pathology, and which would make Sindbad the Sailor or Baron Munchausen turn green with envy. A prosaic piece of bread or an ordinary slice of roast beef, when deposited in the alimentary tract of some of these nervous dyspeptics, immediately becomes almost endowed with life, assuming a gastronomic importance anywhere from romantic to tragic. The wholesome meat of to-day becomes the poison of to-morrow, while some now despised viand may at the next visit be a longed-for delicacy.

Scientific diagnosis is being well taught at present by practically all the medical colleges. Each institution is vying with the other in furnishing thorough laboratory and clinical instruction, so that every medical graduate who lives up to his opportunities is amply equipped to diagnose disease as it comes before him. I am also glad to observe a healthy revival in therapeutic instruction. The belief in the efficacy of many forms of therapeutics—drug and otherwise—has been much undermined by the German school of therapeutic nihilists, aided and abetted, I regret to say, by one of our most eminent American physicians, who has recently taken up his abode in England.

Etiology, pathology, morbid anatomy, and symptomatology of disease have their essential place; but what the patient is interested in is the treatment and prognosis. When I read page after page of pathology, etc., and finally find the treatment briefly and inadequately expressed in a few lines, I feel that I have asked for bread and been given a stone.

Differential diagnosis appeals to the average lay mind, even though it be an intelligent one, about as much as the anatomic difference between a dinosaurus and an anthropoid ape. The question "What is the matter with me, Doctor?" is overshadowed by the more pointed ones "How long shall I be sick?" or "Shall I get well?" and the doctor who gets busy at once doing something, whether it be an important therapeutic procedure or only a measure to relieve symptoms and render the patient more comfortable, until he can learn "where he is at," acquires an immediate influence not to be despised.

Far be it from me to decry any of the niceties of diagnosis, or the judicial poise of mind necessary to correct discrimination, where lines of diagnostic demarcation

are dimly drawn. What I do contend, however, is that it is the physician's duty, for both material and psychic reasons, to inaugurate some form of treatment as soon as possible after taking charge of a case of illness; and the patient has a right to it. Furthermore (and now I reach my subject), the therapeutics should be of an optimistic nature *to* the sufferer and *from* the physician. The confident frame of mind assumed by the medical attendant, the determination on his part to "win or bust," the abiding hope that the *vis Naturæ medicatrix*, that wonderful handmaiden, may "pull him out of the hole" regardless of the present outlook, will, more often than we realize, change a probable gloomy prognosis into a favorable one.

It is of course proper to be cautious and conservative, to preserve a loophole through which human fallibility may escape the blame, in case conditions do not assume the aspect that we anticipate. We must be ever on the *qui vive* that we allow not the plaints of some chronic complainers to render us careless as to possible underlying organic troubles, but this caution need not and should not dampen our optimism, or dull that keen edge of cheerfulness and hope with which our every prescription should be leavened.

Even in the graver maladies we should be extremely slow to give a fatal prognosis, for none of us, as yet, fully comprehend the influence of mind over matter, nor do we comprehend the influence of the higher psychic centers over the lower centers of metabolism, upward or downward. True optimistic therapeutics tends at all times toward exalting the activities of the organism, and not toward depressing them; therefore every point gained on some perhaps isolated nerve center may exert an unexpected beneficent effect on the very center responsible for the ills we are seeking to remedy.

I believe that in only the rarest and most exceptional instances, or where the patient is actually *in articulo mortis*, have we the right to shut the door of hope. Few there are whose absolute wisdom justify them in pronouncing the dictum as of a supreme court. I recently saw a picture entitled "The Death Sentence," in which was portrayed an austere physician facing a flat-chested, despairing young man. The physician had evidently informed this youth that his case was hopeless, and nothing was left but to supinely lie down and expire. Such a picture should be blotted out of existence.

Individually I would not accept the *ipse dixit* of any man or set of men that any disease, or complication or combination of diseases would place me beyond the pale of hope. And, if I so decidedly take this stand for myself and those who are near and dear to me, why should I not be fired by the same optimism and never-say-die determination in the treatment of my patients, no matter what the apparent outlook may be? The most successful politicians are those who never give up till the last ballot is counted, for a seeming defeat may, by some turn of fortune's wheel, be changed into victory at the last moment. Similarly, in a physician's work, an invincible determination to find the door to hope and to use the key, may be the deciding factor in success. I well remember an incident occurring in the career of a highly respected physician, now passed to his reward. His patient, the only son of a widow, seemed in the throes of dissolution; and this medical man informed the mother in the hearing of the son (who, by the way, was conscious), that nothing else need be done, as death was inevitable. Leaving her, with breaking heart, to close the eyes of her only support, he retired for the night in an adjoining room. On awaking six hours later, Nature having busied herself in the meanwhile, he found a remarkable change for the better, which ended in a speedy recovery. The mortal remains of that doctor now molder in the ground, while the supposedly dying young man is at this time one of the most active citizens of South Georgia, and his name is borne by a thriving town.

Can we blame some sufferers from real or imaginary ills, who, becoming discouraged under the attitude of inert pessimism assumed by some physicians, stray into the alluring arms of the various cults, which despite their ridiculous concepts, at least ring an optimistic note? What a patient comes to a doctor for is treatment. He desires it—yea, he demands it. If, therefore, we are to be capable therapeutists, alert to meet every changing manifestation of disease, watching for danger-signals, listening for every warning voice of Nature, though it be still and small, let us, I beg, not clothe our professional efforts with the somber habiliments of pessimism, nor withdraw into the gloomy caverns of therapeutic nihilism; but, imbued with a spirit of cheerful resolution, let us receive with conscientious optimism every class of disease, organic or functional, injecting a word of hope or a ray of spiritual sunshine into every prescription, into every procedure, cultivating at all times an attitude that incites both hope and courage in the invalid's breast.

If we can but add to our knowledge works, and to our works the charming garments of an unfailing optimism, verily we shall receive our reward.

Therapeutics

PERICARDITIS

Pericarditis, like inflammation of any other serous membrane, may be acute, subacute or chronic, and, like any other serous membrane inflammation, may cause a fibrinous, serous, hemorrhagic or purulent exudate, and simple serous exudate, and there may be subsequent adhesions.

Primary pericarditis is very rare. It is almost invariably a secondary condition, with rheumatism as its most frequent cause. Bright's disease (chronic interstitial nephritis), infectious fevers (including cerebrospinal meningitis), pneumonia, and tuberculosis are other prominent causes. Traumatism is also a not infrequent cause. When it occurs as a complication of acute articular rheumatism, it most frequently occurs during the second week. Some statistics have seemed to show that it occurs as frequently as once in every seven cases of articular rheumatism. This is, however, probably an exaggerated frequency, unless a slight friction or occasional cardiac pain are termed pericarditis. Pericarditis may also occur during chorea, which is probably an infection and is closely allied to rheumatism. Pericarditis next most frequently occurs as a terminal condition in the last stage of Bright's disease.

While acute pericarditis may begin insidiously and escape detection, unless the heart is frequently examined during rheumatic and other fevers, still it is not so likely to be overlooked as endocarditis, as pain, sharp and lanc-

inating, is generally complained of. The pain is referred to the region of the heart and to the epigastrium. It seems to be not entirely due to the friction of the inflamed surfaces of the pericardial sac, as it may continue after a fluid exudate has separated these surfaces. There generally is a slight rise in temperature; the pulse becomes weak and small and perhaps irregular, with more or less cardiac dyspnea. There is generally from the very first a good deal of restlessness and mental anxiety, the patient reflexly or actually realizing the seriousness of the condition. In other words, there is cardiac anxiety, a condition so well understood by the physician who sees many patients with heart affections. As the disease progresses the patient desires to lie with the head higher and higher, this depending on the amount of exudate. If there is much exudate, so that the heart is much pressed on, the least exertion will cause dyspnea and cyanosis. If the exudate were very large and the pericardial sac greatly dilated, the recurrent laryngeal nerve might be so interfered with as to paralyze the vocal cords and cause aphonia. An exudate should not be allowed to become so great as to cause this condition. In other words, paracentesis should be done before such a dilatation of the upper part of the sac could occur. Even when the exudate is small, possibly from continuity, irritation of the diaphragm may occur, and a consequent hiccough becomes a troublesome and dangerous symptom. Probably reflexly, owing to disturbance of the pneumogastric nerve, nausea and vomiting are often present.

The physical signs of this inflammation are, first, to-and-fro friction fremitus; second, when there is effusion, increased cardiac dulness, absence of cardiac impulse, and muffling of cardiac sounds. The amount of exudate of course determines the size of the pear-shaped dulness.

The pathology of pericarditis is simply that of an inflammation of a serous membrane, with the addition of the physical fact that there is no opportunity for rest. The duration of the acute form varies from two to several weeks, with the exudate, if there was exudate, gradually diminishing. If the exudate was withdrawn, there may be some recurrence. The inflammation may become chronic. This is, however, rare, except as an adherent pericardium, unless pus forms and there is a purulent inflammation of the pericardium. In other words, a heart could not long stand a continued and repeated pressure from exudate, while if it is a purulent pericarditis, operation and drainage is immediately necessary.

The prognosis of pericarditis occurring during rheumatism, during acute infections, or from injury, is generally considered good, patients not frequently dying of this condition alone, although it is a serious complication if the patient is otherwise seriously ill. However, patients with fibrinous pericarditis may develop myocarditis and later acute dilatation. Sometimes after the patient is apparently well, adventitious sounds may be heard in the region of the apex, which are due to adhesions in the pericardium. Also, sometimes these sounds are heard at the base of the heart. Such sounds show adhesions that interfere with perfect cardiac action, and under exertion or sudden heart-strain may cause sudden death. When pericarditis occurs during an acute exacerbation of nephritis, especially chronic interstitial nephritis, the prognosis is bad. It is generally a terminal condition. It should not be forgotten that when there is a large exudate in the pericardial cavity sudden death from overwhelming of the heart may occur at any time during the course of the disease.

The indications for treatment are:

1. To treat the underlying cause of the inflammation.
2. To relieve pain.
3. To inhibit the progress of the disease and prevent exudate if possible.
4. To quiet the heart.
5. To remove the exudate, medicinally if possible, surgically if the amount is at all large.

1. If the cause of the pericarditis is rheumatism, salicylic acid in some form should be continued unless it has been proved in this particular patient not to inhibit or control the disease. Alkalies, best in the form of sodium bicarbonate and potassium citrate, should be administered in full doses, so that the urine is distinctly alkaline. If the pericarditis is caused by some infection, whatever is necessary to treat the infection properly should be continued, with perhaps the addition of the above alkalies, as it should be remembered that whenever a patient is seriously ill, and but little or insufficient food is taken, or if there is much vomiting, and especially when there is nephritis, there is increased acidity of the body tissues and a decreased alkalinity of the blood readily occurs; in other words, acidosis is always imminent and is probably the final cause of many deaths.

2. Pain must be absolutely stopped with sufficient morphin. There can be no question of the seriousness of pain in this region and from this cause. With the stopping of the pain the heart is slowed and quieted, the nervous restlessness and anxiety is lessened, and the patient may obtain quiet, restful sleep, which is absolutely essential for the condition to improve.

If there is salicylism from the salicylates which it seems best or necessary to administer, it is well to reduce the amount, as it would take more morphin to cause sleep if the cerebrum is thus excited. While pain is in evidence and morphin is necessary, the amount of food administered should be very small, as it will not digest when the patient is under the influence of morphin.

Fortunately, this pain will generally be mostly relieved when the exudate occurs, if it is to occur. The repetition of the morphin should be according to the amount or continuance of the pain. The morphin should, of course, be stopped the moment the pain is abated.

The pain having ceased and morphin not being longer necessary, the patient should receive the diet that is the best for the disease which caused the pericarditis, with the exception that food should be given frequently and in small amount, as any distention of the stomach, which is likely to cause more cardiac dyspnea, should be avoided. Any particular food that causes gastric flatulence should also be avoided. The bowels should be moved by the drug and method found easiest and best.

3. The best treatment to inhibit the inflammation and possibly prevent exudate is the local application of the ice-bag or cold coil. If tolerated for the first hour, the patient will often not object to the cold, and if it quiets the heart, as it generally does, the application is grateful rather than objectionable. The cold rubber should not be directly applied to the skin, but should be separated from it by two layers of an ordinary handkerchief. A towel is generally too thick. The bag should not be so full as to be too weighty, and it is well to suspend it from some sort of a cradle so that the whole

weight will not press on the heart. Young children will often, of course, not tolerate the cold. There is no question that moist warmth will often relieve the local pain, and whether or not it will increase the tendency to exudate is undecided. Theoretically it is best avoided. Moist heat, however, is probably better than dry heat, as tending more to relax the surrounding surface circulation.

If an exudate occurs, the advisability of small fly-blisters must be considered. Simple counter-irritation from mustard often seems to be of benefit, but the fly-blister is much more valuable. They should not be large, and are perhaps well placed at the border of the heart rather than directly over it. Small blisters on different parts of the border-line of the cardiac dulness may be used on different days. Cantharides is, of course, the best blistering medicament, but should not be used if nephritis is present.

4. This indication is met by absolute rest and quiet in the position found most comfortable for the patient. Every movement of the patient must be slow; no movement must be quick. He must not be allowed to see anyone but his immediate attendants; he should not be allowed to talk, except concerning his immediate needs. The more he comfortably sleeps, the better, all of these factors tending to decrease the frequency of the heart-beats, and the less the frequency the less the irritation.

If the salicylates are not given, or the condition is not caused by rheumatism, and the heart is not weak, and the pulse is strong, aconite for twenty-four hours, to quiet the heart, may be given, unless the local ice treatment quiets the heart sufficiently. If it is necessary to give the patient a hypnotic such as chloral or one of the synthetic hypnotics, the aconite should not be given, as these drugs will quiet the heart. Unless there has been a prolonged infection which could have caused a myocarditis besides the pericarditis, the heart will not stop on account of lack of inherent strength, but may stop on account of the pressure from an exudate. Therefore, myocardial weakness need not ordinarily be feared, although in children, especially, sudden dilatation may occur.

If the pulse is weak, irregular, and perhaps intermittent, and degeneration of the heart muscle from prolonged infection or illness is not present, digitalis will be of great benefit. It will strengthen the individual beats and reduce the frequency. If the number of beats, by any method, is reduced twenty per minute, this would mean 1,200 beats less an hour, or 28,800 less in twenty-four hours. If the number of beats were reduced only half this amount, the value can easily be seen to be enormous. If digitalis is used, the dose should not be large, perhaps five drops of an assayed fat-free tincture once in six to eight hours.

5. Whether or not an exudate may be diminished and removed by medicinal treatment is a question that may be decided within a few days. Strenuous efforts to remove liquid from the body to prevent this serous exudate could probably not be inaugurated on account of the underlying sickness or cause of the pericarditis. Much purging is out of the question on account of its weakening effects. Profuse diaphoresis is generally totally out of the question. The efficiency of diuretics is always doubtful. The administration of potassium citrate and bicarbonate of soda, above suggested, will probably cause some diuresis. If digitalis is deemed advisable, it will doubtless cause more. The amount of liquid taken into the system should be somewhat restricted. It is possible that by these measures the amount of exudate may be limited and the exudate already present may become gradually absorbed. The local blisters above described also seem to cause resorption of the fluid.

Whether or not the exudate must be immediately removed depends not so much on its bulk as on the amount of dyspnea or cardiac distress that it is causing. Some patients tolerate a larger amount of exudate than others. It is well for an exploratory puncture to be made first to decide the character of the fluid in the pericardium. This will determine the size of the aspirating needle that is necessary. Perhaps the most frequently recommended point of puncture is in the fourth or fifth intercostal space, about an inch to the left of the sternal margin. Others advise doing paracentesis exactly in the region of the normal apex beat. The patient during this operation should lie down as nearly flat as he can. The fluid should be withdrawn very slowly and the pulse carefully watched. If the exploratory needle discovers pus, and there is great dyspnea, a larger aspirating needle should be inserted than for a simple serous exudate, and some of the pus withdrawn. A second more radical surgical procedure, of course, must take place as soon as possible.

If there is a sudden attack of dyspnea, and the heart seems about to fail, venesection has been recommended and done, and it is certainly justifiable. Strychnin may be used in a dose not exceeding 0.02 gm. (1/30 of a grain) once in six hours, hypodermatically, if deemed advisable, often with advantage. Too much strychnin, with dire results, has often been used in cardiac failure. It should not be used early in the disease, as excitation of the nervous system and the heart should be avoided. If the heart seems to be failing, intramuscular injections of an aseptic ergot in a dose of one ampule once in six hours, or two ampules at once in an emergency, often is the best possible heart treatment.

When the exudate has nearly disappeared and the acute inflammation seems over, there are doubtless considerable amounts of fibrin still in the bottom or in other parts of the pericardial sac, and as there is still the general belief that an iodid will aid in resorbing such kinds of exudates, it is good treatment to give a small dose of iodid three times a day, after meals. The best form is the sodium iodid, in small doses, not more than 0.20 gm. (3 grains).

As soon as there is slight improvement, the nutrition should be pushed carefully but surely, as the better the nutrition the more complete will be the resorption of the exudate. If during the active inflammation the patient can take but little nourishment, egg albumin must be given in considerable quantities, and if it is feared that the patient is failing from lack of nutrition, there should be no hesitation in giving a teaspoonful of brandy or whisky, properly diluted, once in three hours. This small amount will rarely increase the frequency of the heart beat, and will furnish something for the nutrition. Alcohol is not advisable and it is not necessary as a medicament in this disease, but it may be necessary to tide over a period of defective nutrition.

The convalescence of an acute pericarditis should be slow and careful. The longer before the heart is allowed to do extra work, the more complete is the removal of the fibrin, and the less likely that dangerous adhesions will form.

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SATURDAY, JANUARY 28, 1911

UNCINARIASIS IN THE MINES OF CALIFORNIA

In this issue appears an important article by Dr. Herbert Gunn, who reports that hookworm disease is found in 50 to 80 per cent. of the miners working in certain mines in California, and that the infection is present in Nevada mines also. This article is especially timely just now, when certain organizations interested in mining are making arrangements for an investigation as to the presence and prevalence of hookworm disease among American miners.

As early as 1902, Dr. Charles Wardell Stiles of the Public Health and Marine-Hospital Service determined that the infection was present among the copper-miners of the Virgilina district, the coal-miners of the Cumnock district, and in the region of the Haile gold-mines. In 1904 Wainwright and Nichols[1] examined 400 anthracite miners selected from fifteen different mines in Pennsylvania, and found one case of the infection. Since the discovery of the wide-spread distribution of hookworm disease in the United States, the men engaged in this investigation have repeatedly brought forward the point in their public addresses that, while in general the Potomac and Ohio Rivers may be looked on as the northern border of the endemic infection, we must be prepared to find cases farther north, more especially in our mines, and that unless rigid rules in mine sanitation are enforced, there is danger that at any time the hookworm problem in our American mines may become as important as in the mines of Europe. Considering the large numbers of southern negroes employed in some mines and the large numbers of immigrants from Europe in others, it seems strange indeed that the disease has not already been reported more frequently among American miners. The data now accessible call for a prompt and rigid investigation into the subject in all mining localities of the country.

If the experience of other countries be taken as a criterion, the indications are that in northern mining localities the infection will be found chiefly among the men who work underground, and relatively much less frequently among the women and children of the districts in question. In this respect, the age and sex distribution may be expected to differ from that noticed in the warmer agricultural regions.

So far as it is possible to prophesy at present, it seems probable that, in the greater part of the north, the European immigrants and the southern miners who go north will be the chief elements who will spread the infection, while in the far west the Asiatics must be held in mind as possible contributing factors. In all probability many of the hookworm cases which will be found among our miners in the North will be found due to the Old-World hookworm (*Ankylostoma duodenale*).

It is especially the humanitarian side of this question which interests us. At the same time, the economic side is one which we cannot afford to ignore. Gunn's estimate, therefore, that in one California mine the loss due to the infection is over $20,000 per year is worthy the attention of mine-owners. Let us not forget that it has already cost European mines hundreds of thousands of dollars to institute a campaign against this disease. The situation for the American mines was summarized[2] in 1907, as follows: "Whether the American coal-mines will experience a repetition of the sad and expensive history European mines have had from hookworm disease, will depend primarily on the sanitary regulations they enforce." It might be well for mine-owners to consider this warning, in connection with the statement by Wainwright and Nichols that "none of the anthracite mines of this country. . . has any privy facilities under ground. The men deposit their excreta in any chamber or gangway handy."

Until recently the Public Health and Marine-Hospital Service seemed to be the only federal bureau which really grasped the significance of the hookworm situation in this country, although the Medical Corps of the U. S. Army, because of the important work by Dr. B. K. Ashford, had for some years pointed out the importance of the disease in Porto Rico, and Ashford and King had made heroic efforts for its suppression on the island. About two years ago, the Bureau of Labor became interested in the problem, and it is reported that the present Commissioner of Labor, Mr. Neill, is thoroughly aroused to its importance. It is now reported also that the newly established Bureau of Mines is turning its serious consideration to the subject. The southern state boards of health have been doing most praiseworthy and efficient work in the campaign, and during this last year the educational interests have taken up the subject and are cooperating in a manner that is deserving of the highest praise.

Up to the present the agricultural organizations of the country in general, with some few exceptions, notably two southern agricultural journals, have not become aroused to the importance of hookworm disease on the farms, and statistics recently published, to the effect that a census of over 4,800 American farm homes shows

1. Med. News, April 23, 1904.

2. In Osler's Modern Medicine, i, 592.

that less than one-half of them are provided with a privy of any sort, should arouse our agricultural stations, bureaus, societies, etc., to immediate interest and action.

FERMENT ACTION IN PATHOLOGIC PROCESSES

That vital activity, in the broadest sense of the term, is most intimately associated with enzyme action, is a matter of common acceptation. In view of this, the investigation of the part played by ferments in pathologic processes has become of no small significance. In a recent article, Wohlgemuth[1] outlines the general progress that has been made in this direction. To review in detail the great amount of valuable work being done on this subject, both here and abroad, would be impossible at this time, and the present review is based solely on the account just cited. Practically only the borderland of this enormous field has been entered, and yet results have been obtained that indicate unmistakably the value of further work.

As would be expected *a priori,* different ferments occur in different tissues in varying proportions. So, for instance, oxidase appears to occur in proportion to the presence in a tissue of polynuclear leukocytes or their decomposition products. But whatever the tissue, one enzyme at least seems to be invariably present—the autolytic ferment. Enzymes other than those inherent in the tissue cells themselves not infrequently play a part in self-digestion, however. Thus, the autolysis in the pneumonic lung is greatly accelerated by the presence of the so-called leukocytic ferment, a proteolytic ferment limited apparently to the polynuclear leukocytes. The importance of such a ferment becomes at once evident when we consider the share it must take, for example, in such processes as the resolution of pneumonia or the absorption of fibrinous exudates. Non-contaminated tuberculous abscesses, characterized by infiltration with lymphocytes, do not possess such a ferment, until an immigration of polynuclear cells is induced, as by an irritant paste, and it is probably in this direction that the explanation of the therapeutic value of the latter is to be found. This leukocytic ferment is believed by Wohlgemuth to be the source of the great variation in the post-mortem clotting of blood. Of the three factors chiefly concerned—thrombogen, thrombokinase and fibrinogen—delayed clotting has been found to be mainly due to absence of the last. And Wohlgemuth believes that it is the proteolytic ferment liberated from decomposed leukocytes that causes disappearance of the fibrinogen. In this connection, the contradictory fact is of interest that in pneumonia, eminently a disease characterized by leukocytosis, we usually have a markedly increased coagulability of the blood.

Accelerated autolysis may result in other ways as well, as in such conditions as phosphorus poisoning and acute yellow atrophy. So, too, it is believed, though on uncertain evidence, that the shrinking of the puerperal uterus is of this character. Malignant tumors for the most part show the phenomenon in a marked degree, possessing also the property of hastening autolysis of the normal tissue, frequently with the production of abnormal cleavage products.

On the other hand, tumor cells may lack ferments present in normal cells, and may even produce changes in the enzyme content of normal cells of their host. So it has been found that at times the demonstrated ability of normal liver cells to digest carcinomatous tissue may disappear. Serum, also, which normally has a lytic action on carcinoma cells, may lose this in carcinomatous individuals—a phenomenon which throws light on the problem of hetero-inoculation and auto-inoculation of malignant growths.

Some attempts, only partially successful, have been made to simulate the abnormal ferment action of malignant growths. Particularly has this been done with melanosarcoma, and melanin-like substances have been produced in several ways—by the action of both vegetable ferments and of melanoma extracts on tyrosin and epinephrin. Inasmuch as little is known of the composition of melanin itself, such attempts must necessarily be inconclusive. The addition of the vegetable ferments to the inoculable sarcoma of mice has been found to cause pigmentation, though atypical in distribution, of the tumors *in vitro,* but not in the living animal.

Fat necrosis (in reality necrosis of tissue with fat-splitting)—the peculiar lesion produced by the escape of the juice of the pancreas into adjacent structures—has commonly been held to be the result of backing up of bile or of duodenal secretion into the pancreatic duct, with resultant activation of the pancreatic proferments and digestion of neighboring tissues. Since such necrosis often occurs at the tail of the pancreas, the portion which would be the last to be reached by an influx of intestinal secretion through the duct, this theory scarcely suffices. It has recently been found that the amino-acids resulting from proteid decomposition may produce activation of the secretions; so that slight local inflammatory processes, with subsequent autolysis, may be the true source of the activation and abnormal action of the secretion.

EXCEPTIONAL MEN AND HIGHER STANDARDS OF MEDICAL EDUCATION

In the discussion of educational standards, references are frequently made to physicians who have reached distinction, although they received their education at a time when lower standards prevailed. It is sometimes argued that the adoption of higher standards of preliminary education would prevent such men from studying medicine. Such exceptional men, however, were almost bound to succeed under any circumstances, and the fact is apparently overlooked that probably they succeeded

1. Wohlgemuth: Berl. klin. Wchnschr., 1910, xlvii, 2182.

in spite of their inferior advantages. How many more physicians of such marked success would there be, it may be asked, had the medical colleges of twenty or more years ago held to higher standards of admission and possessed better teachers, better-equipped laboratories and more ample clinical facilities? Even so, however, the graduate in medicine of twenty years ago was not so heavily handicapped as the graduate of to-day with the same inferior equipment, for the disparity between their attainments and the summit of medical knowledge was far less twenty years ago than it is to-day. Of course, at that time, the preliminary requirements which are exacted to-day were not necessary—scarcely possible.

Those who question the value of a thorough preliminary education apparently fail to see that, after all, formal education is largely a device for saving time and labor, and that, as the volume of knowledge increases, the difficulty of mastering it increases likewise until the aid of such educational devices becomes indispensable. Mathematical knowledge, for instance, was scanty in Pythagoras' day; he spent the years of his mature life laboriously constructing and arranging the mathematical arguments which the modern schoolboy is expected to learn in a few months; and he gained his reputation as a mathematician without having heard of logarithms. No one to-day can attain even respectable mediocrity in mathematics, or any other science, without mastering more knowledge than the world once contained on that subject. Pythagoras and Euclid, if they were living to-day and were still without a modern mathematical education, would be no better qualified to cope with modern mathematics than the Chaldean astronomers would be to pass on the work of Newton and Herschel. And likewise, no one can now be considered passably well informed who is not acquainted with a range of subjects undreamed of by the intellectual giants of other days.

It seems scarcely more than yesterday that the very names of many of the sciences which to-day are subsidiary or auxiliary to medicine were unknown. There is no alternative: those who would keep abreast of the times must start on the journey equipped with the condensed experience of their predecessors; they must start as nearly as possible where their predecessors left off. It is a cruelty rather than a kindness, even to the students themselves, to foster the idea that the educational standards of yesterday are sufficient for to-day.

Incidentally, the requirement of higher preliminary standards to-day is not unreasonable, since there has been a corresponding increase in the opportunities for obtaining this higher training. Instead of hindering men of true worth from entering on the study of medicine, insistence on higher standards will have the most desirable result of weeding out the ignorant and unqualified, and of bringing about a higher degree of competency in the rank and file of the medical profession. With the present abundant oversupply of physicians, any reduction in the number resulting from higher educational standards will not be a serious matter, either for the public or the profession itself. At the same time, the number of well-trained and competent physicians will be materially increased. Clearly, the interests of the public, of the profession, and of individual practitioners will be best conserved by the adoption of higher standards in medical education.

Current Comment

AN INTERESTING BULLETIN ON STATE HYGIENE AND PROPHYLAXIS OF DISEASE

The Bulletin of the Ohio State Board of Health for the last quarter of 1910 contains seventeen papers presented at the conferences of village and township boards of health held at Cleveland in June and at Cincinnati in October. Such subjects are included as the control of contagious and infectious diseases, disease-carriers, facts and fallacies regarding the transmission of infectious diseases, a number of papers on typhoid fever and its prevention and management from the standpoint of the sanitarian, several papers on milk and its production, a paper on sanitation in villages without sewers, on school inspection, on abatement of nuisances, and others, and a report of contagious and infectious diseases. There are seldom gathered together in one pamphlet so many valuable papers on the important subjects of public health and sanitation as in this one. The several papers afford an almost complete program for the municipal health officer covering the prevention, control and eradication of infectious and communicable diseases.

REFORM IN ADVERTISING

While pharmacy is a profession, economic conditions, to a large extent, have made a tradesman of the owner of a drugstore. As such he is obliged to sell many things which, in view of his professional training, he knows the public would be better off without. In the same way, the drug journals advertise many things which the editor knows to be valueless or worse. Further, the editor must conduct his reading pages in such a way as not to give offense to his advertising patrons. Thus, while editors of drug journals like to talk about the ethics of pharmacy and are prone to indulge in glittering generalities as to the need of pharmaceutic advance, these editors have as a rule carefully refrained from noting the exposures of fraudulent medicines that have appeared in the columns of THE JOURNAL—exposures that supplied information which the pharmacist should have and must have if he is to be true to his profession; information that would enable him to protect the public, the physician and himself from the harm which ensues from the use of dishonest medicines. While thus, in general, drug journals have done little to spread THE JOURNAL'S propaganda for reform, there have been two notable exceptions—the *Druggists Circular* of New York and the *American Journal of Pharmacy* of Philadelphia. These

journals have not only kept their reading pages up to date, but they have kept their advertising pages practically free from all objectionable matter. We believe that, through the work initiated by THE JOURNAL, assisted by such drug journals as those mentioned, the nostrum-makers have been put on the retreat, and that the business will continue to be a dwindling one. Other pharmaceutic journals will not lose in the long run, even from a purely commercial standpoint, by taking the position assumed by the *Druggists Circular* and the *American Journal of Pharmacy*. In fact, we confidently expect them, one by one, to adopt the same policy. By so doing they will not only gain the respect of their own profession and of the medical profession, but—equally important—they will also be able to respect themselves.

THE POOR BOY AND MEDICAL EDUCATION

Much ostensible sympathy has been lavished on the poor boy who wants to get a medical education; and it would appear that the "poor boy's" chances are going to be slimmer still if the low standard or the night colleges cease to exist. Poor boy! Of course there is some basis for these arguments in the case of students who are poor in scholarship. Such students, however, have no place in modern medicine. The arguments are not only untrue regarding students of limited means, however, but they are also unfair to those students. As a rule, the student of limited means who is ambitious and energetic enough to work his way through college is the one who knows and seeks the best—who best knows the value of a good training as well as the value of money. This is evidenced by the fact that in our best medical colleges are many students who are not only working for most or all their expenses but who at the same time are attaining a high standard of scholarship. As a rule, these students do not need sympathy, but do arouse admiration. The only need of sympathy is for the occasional energetic, deserving student who is misled by the shrewdly worded announcement of some inferior college which not only provides him with an inferior medical training, but which may actually charge him larger fees[1] than he would have to pay in a first-class medical school. As a matter of fact the opportunities for the energetic student of limited means in high-grade medical schools were never so great as at the present time. Not only has a greater demand for student help been developed in our universities through the use of stenography, the typewriter, the mimeograph, and the like, as well as through the development of university printing plants and other modern activities, but also a larger number of scholarships are available for energetic students. Of more importance, probably, is the fact that for graduates of first-class medical colleges the chances for obtaining internships in good hospitals are rapidly increasing, and by this means even the student of limited finances may round out and complete his medical training. The student of limited means—the "poor boy"—will find that it is possible for him to get the best, and that the best pays.

1. THE JOURNAL A. M. A., Aug. 20, 1910, p. 695.

UNITED STATES PUBLIC HEALTH SERVICE

Elsewhere in this issue[1] we print the bill recently introduced into both the House of Representatives and the Senate; in the former by Mr. Mann of Illinois, and in the latter by Senator Martin of Virginia. As will be noticed, this bill contains three provisions; the first, to change the title of the United States Public Health and Marine-Hospital Service; the second, to enlarge the functions of this service; and the third, to increase the salary of its officers. No one will deny the desirability of all three of these provisions. The only question is whether or not the passage of this bill will prevent further legislation, looking to a national department of health, or at least an independent bureau. The first provision would be the second step in eliminating the words "Marine-Hospital" from the title. Until 1902 the title was the "Marine-Hospital Service"; in that year a measure was passed which changed the title to the present one. If the present bill passes, the title will thereafter be the "United States Public Health Service." In the second place, the bill contains a provision to enlarge the functions by giving the service the authority to investigate "diseases of man" and the conditions that cause the spread of such disease, including sanitation and sewage, and the pollution, "either directly or indirectly," of all navigable streams or lakes. At the present time the service can investigate only certain contagious diseases and has no authority to investigate navigable waters. To the third provision, that to increase the salary of the officers, there can be no objection. In practically all the other departments of the government, the salary of the medical officers has been increased, and for several years attempts have been made to increase the salary of the men in this service, but without avail. Whatever may be the fate of this bill, continued efforts should be made in the way of constructive legislation, looking to a national department of health; we should stop at nothing short of this.

THE AUTOMOBILE NUMBER

The Fourth Annual Automobile Number of THE JOURNAL will be issued early in the spring. Numerous inquiries concerning it indicate that this year, as before, it will be warmly greeted. In the process of evolution, the automobile has become such an essential part of the business equipment of the active practitioner, and such a satisfactory means of recreation for one possessed of the necessary means and leisure, that the extensive discussion of previous years as to whether or not the physician should use a motor car will no longer be necessary. Furthermore, the previous automobile numbers are still available for consultation. That they are thus used is evident from the orders continually received for them and for the little folder giving the names of the cars. Space in the coming automobile number, therefore, can be used more appropriately for the discussion of roads, accessories, garages, tires and various other items of equipment, the proper care of the car, interesting, humorous—and sad—experiences,

1. Department of Medical Economics, page 293.

and other appropriate talk of the road. The question of upkeep is especially of importance; methods of reducing expenses are of vital interest. All owners of automobiles should keep itemized accounts of outlay; few do. It would be interesting to hear from some of the "few" as to the best method of keeping tab on what was once an expensive luxury but has now become an expensive necessity. As before, this will be an illustrated number, and sharp, clear pictures are desired to add to the interest and value. These may portray, not merely the car, but the physician also, with perhaps his house or garage, a sample road, the county hospital, etc., in the background, or else some interesting complication or difficult situation. Drawings of home-made devices, mechanical aids, garage plans, etc., are worth reproducing. Unless otherwise specially arranged by correspondence, manuscripts and photographs ought to be received during February; but in order to enable us to plan for the issue intelligently, all who intend to offer pictures or articles or both are asked to notify us by February 10.

PREVENTIVE MEDICINE AT WASHINGTON UNIVERSITY

Since the future progress in medicine will doubtless be more along the line of preventing than of curing diseases, the recent action of Washington University, St. Louis, in creating a special chair in preventive medicine is both important and timely. Not only is it intended to give the usual didactic courses in this subject, but special clinics and special research courses will be conducted. At these clinics patients having infectious diseases, diseases due to social conditions, occupations, nutritional causes and the like, will be shown. Particular attention will be given to the etiology and the means of preventing such ailments. Of greater significance, however, is the fact that Dr. David L. Edsall, Professor of Medicine in the University of Pennsylvania, has been selected for this special chair in preventive medicine. Washington University is probably the first institution which has given such marked recognition to this subject. If the old adage is correct, an ounce of instruction along this particular line will be more productive of good than a pound of work along curative lines; and concentrated, well-directed effort in the study and teaching of preventive measures should bring excellent results. Meanwhile, the establishment of this special chair on so generous a plan is another proof of the determination of Washington University to build up in the middle west a medical school fully equipped to teach medicine along modern lines.

Tendon Transference in Poliomyelitis.—Tendon transference has failed in many hands because the mechanism of the condition has not been thoroughly understood. In the first place, the transferred muscle must be a strong, healthy muscle, and no attempt should be made to use one that is paretic even to a slight degree; secondly, the tendon must be made to parallel for a considerable distance the tendon for which it will in future act; thirdly, it must tunnel the subcutaneous fat, so that no adhesions will form.—W. G. Campbell, in *Memphis Medical Monthly*

Medical News

ARIZONA

State Association Meeting.—The next annual meeting of the Arizona Medical Association will be held in Los Angeles, Cal., June 26. All of the business of the House of Delegates will be finished that day. The oration and a few papers will be read before the general meeting. The association will then adjourn to attend the meeting of the different sections of the American Medical Association. The annual banquet of the association will be held on the same evening.

County Society Meeting.—At the annual meeting of Cochise County Medical Association, held in Bisbee, January 7, the following officers were elected: president, Dr. Morris D. Cohen, Bisbee; vice-presidents, Drs. Harry A. Reese, Douglas, and Lucien L. Miner, Bisbee, and Lynn Tuttle, Douglas; secretary-treasurer, Dr. Thomas Watkins, Bisbee; censors, Drs. George A. Bridge, Bisbee, and Edward W. Adamson, Douglas; and delegate to the state association, Dr. Francis E. Shine, Bisbee.

CALIFORNIA

Election.—At the annual meeting of the Los Angeles County Medical Association, the following officers were elected: president, Dr. W. Jarvis Barlow; vice-president, Dr. Orville O. Witherbee; secretary-treasurer, Dr. George H. Kress; and councilors at large, Drs. H. Bert Ellis, William W. Richardson and Albert Soiland, all of Los Angeles.

Preparation for the A. M. A. Meeting.—It is announced that thus far Pasadena has made the best comparative showing in raising funds for the annual session of the A. M. A. next June. Extensive arrangements are planned for the entertainment of the visiting physicians and their families, including a trip to Catalina Island.——The directors of the Board of Trade of Pasadena have authorized the appointment of a committee of three to have in charge the entertainment of the American Medical Association at its meeting in Los Angeles in June.

ILLINOIS

State Sanatorium Bill Introduced.—Senator Glackin has introduced into the senate a bill appropriating $300,000 for a state sanatorium for tuberculosis.

"Helper of Mankind" Sentenced.—Julius Sefler, posing as a "Helper of Mankind," who uses the same kind of medicine for various ailments, passing his hands over the forehead and along the neck of his victims, is said to have been found guilty by a jury in the municipal court, Chicago, of practicing medicine without a license, and fined $100 and costs.

Elgin Hospital Charges Unfounded.—According to the report of Hon. A. L. Bowen, executive secretary of the State Charitable Commission, and Dr. J. L. Greene, alienist of the State Board of Administration, charges published in one of the Chicago daily papers, January 7, that a patient at the Elgin State Hospital had been beaten by the attendants, were without foundation. The investigation of the charges was made at the request of State's Attorney Dady of Lake County and was conducted in the presence of the patient's wife and the state's attorney, by the two officers above named. As stated, after a thorough investigation and physical examination, the charges were declared by State's Attorney Dady to be unwarranted and entirely unfounded, concurring in every respect with the opinions of Dr. Greene and Secretary Bowen. The wife of the patient also agreed to this finding, and refused to have her husband removed to the Kankakee State Hospital, preferring to have him remain at Elgin. The management of the institution under Dr. Sidney D. Wilgus was praised by State's Attorney Dady, who said it was as good as could be expected under all the surrounding conditions.

Chicago

Gift to Hospital.—The Maimonides-Kosher Hospital received a gift of $10,000, January 16, from Abraham Slimmer of Waverly, Iowa.

Schools Named after Physicians.—In addition to the Nicholas Senn high school, the site for which has been secured, Chicago schools are named after the following physicians: Daniel Brainard, William H. Byford, Nathan Smith Davis and Charles Warrington Earle.

Ophthalmologists Hold Meeting.—At the annual meeting of the Chicago Ophthalmological Society, held January 16, Dr. Harry W. Woodruff, Joliet, was elected president; Dr. Edwin V. L. Brown, vice-president; Dr. Willis O. Nance, secretary; and Dr. Thomas A. Woodruff, councilor.

New Tuberculosis Dispensary Opened.—The work of the Municipal Tuberculosis Dispensary is to be extended to negro residents of the city. At a meeting of the directors, January 11, it was decided to open a clinic for tuberculosis at Provident Hospital, West Thirty-Sixth and Dearborn Streets.

Personal.—A reception and banquet, in honor of the eightieth birthday anniversary of Dr. Nils T. Quales, was given January 17. A silver loving-cup was presented to Dr. Quales by Chicago Norwegians.——Dr. Matthew Karasek has been appointed temporary medical superintendent of the Iroquois Memorial Hospital, pending the permanent appointment by the Civil Service Commission.——Dr. and Mrs. Philip Frank Shaffner sail for Europe, January 28.

Work of the Winfield Sanatorium.—The record of the first two years' work of the Chicago-Winfield Tuberculosis Sanatorium, thirty miles from Chicago, conducted under the auspices of the Associated Jewish Charities of Chicago, a nonsectarian institution for the treatment of curable cases of pulmonary tuberculosis, shows that since the opening of the institution 224 patients have been admitted, forty-six of whom were children. Of these, 164 had been discharged up to Jan. 1, 1911, and sixty were at the institution on that date. Of the 164 discharged patients, 101 were in the incipient state of the disease on admission, forty-two moderately advanced state, and one far advanced. At the time of the discharge, in 82 per cent. of the incipient cases, the patients were apparently cured or the progress of the disease was arrested, and in eighteen improvement had taken place. Of the moderately advanced patients, in 52 per cent. the disease was arrested or apparently cured, 38 per cent. were improved, and 10 per cent. unimproved. The one patient in the far advanced stage is reported to be improved. Of the discharged incipient patients 94 per cent. have full or partial working capacity at present. Of those in the moderately advanced stage of the disease, 69 per cent. have at present full or partial working capacity, making a total of 86 per cent. of the discharged whose capacity for work is either full or partial. The sanatorium, which at first had a capacity of only twenty patients, now can accommodate sixty-eight, and this is shortly to be increased.

KANSAS

Medical School Located.—By unanimous vote of the regents of the state university, Kansas City has been selected as the proper site for the State Clinical Hospital and School of Medicine. The legislature will be asked to appropriate $150,000 for the school, of which $50,000 is to be applied to building a medical college and $100,000 for the erection of a hospital. The site must finally be decided by the legislature.

Elections.—Reno County Medical Society, at its annual meeting, held in Hutchinson, elected Dr. Charles S. Evans, president; Dr. Harry H. Heylmun, vice-president; Dr. John W. Young, secretary; Dr. William F. Schoor, treasurer, and Dr. M. Claude Roberts, censor, all of Hutchinson.——Wyandotte County Medical Society has elected the following officers: president, Dr. James W. May; secretary, Dr. J. Albert Fulton, and treasurer, Dr. Anna Roberts, all of Kansas City.——Montgomery County Medical Association met at Independence, recently and elected Dr. George McK. Seacat, Cherryvale, president; Dr. Joel N. Strawn, Elk City, vice-president, and Dr. James A. Pinkston, Independence, secretary.——At the seventh annual meeting of Bourbon County Medical Society, held in Fort Scott, Dr. Charles A. Van Velzer, Fort Scott, was elected president; Dr. James S. Cummings, Bronson, vice-president; Dr. John D. Hunter, Fort Scott, secretary, and Dr. Charles F. Harrar, Fort Scott, treasurer.——Douglas County Medical Society, at its annual meeting, held in Lawrence, January 10, elected Dr. George W. Jones, president; Dr. Harry L. Chambers, vice-president; Dr. Leon Matassarin, secretary, and Dr. Eugene Smith, treasurer, all of Lawrence.——At the annual meeting of Leavenworth County Medical Society, January 9, the following officers were elected: Dr. Harley J. Stacey, president; Dr. Charles J. McGee, vice-president, and Dr. Jacob L. Everhardy, secretary-treasurer, all of Leavenworth.——Neosho County Medical Society has elected Dr. William E. Royster, president; Dr. William E. Barker, vice-president; Dr. Andrew M. Davis, secretary, and Dr. Ralph A. Light, treasurer, all of Chanute.——Shawnee County Medical Society, at its annual meeting in Topeka, elected Dr. Melancthon C. Porter, president; Dr. Samuel A. Johnson, vice-president; Dr. H. Milton Connor, secretary, and Dr. John N. Beasley, treasurer, all of Topeka.

KENTUCKY

Officers Selected.—At the annual meeting of Christian County Medical Society, held in Hopkinsville, the following officers were elected: president, Dr. Oscar E. Wright, Hopkinsville; secretary, Dr. William S. Sandbach, Casky; censor, Dr. John H. Rice, Hopkinsville, and delegate to the state association, Dr. Austin Bell, Hopkinsville.

Cocain Recommended in School Text-Book.—At a recent meeting of the State Board of Health, held in Louisville, action was taken on a text-book in physiology used in the public schools of the state, condemning it because it recommends the use of cocain in toothache. A committee was appointed to draft a bill for presentation to the next legislature empowering the State Board of Health to act in conjunction with the State Board of Education in selecting textbooks on physiology, chemistry, anatomy and hygiene for use in the public schools.

Louisville Temporary City Hospital Located.—The hospital commission has definitely decided the question of the location of the temporary hospital in which are to be housed the patients of the City Hospital during the building of the new hospital. The vote was a unit in favor of the University of Louisville Medical Department building at 517 S. Sixth Street. The engineer of the commission reported that the building can be made to accommodate 201 beds and that the probable cost of converting it into a temporary city hospital would be from $12,000 to $15,000. A letter will be sent to each architect in Louisville inviting plans for the new building.

MARYLAND

Election.—At the annual meeting of the Anne Arundel County Medical Society, held January 12, the following officers were elected: president, Dr. Thomas H. Brayshaw, Glen Burnie; vice-president, Dr. Jesse O. Purvis, Annapolis; secretary, Dr. Louis B. Henkel, Jr., Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis; censors, Drs. Harry B. Gantt, Millersville; William S. Welch, Annapolis, and John T. Russell, Annapolis; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Charles R. Winterson, and alternate, Dr. Samuel H. Anderson, Woodwardville.

Baltimore

Conference on Mental Hygiene.—During the week ending February 6, a national exhibit and conference on mental hygiene will be conducted in the hall of the Medical and Chirurgical Faculty of Maryland. A publicity committee has been appointed, of which Dr. Harvey G. Beck is chairman. The exhibit will be under the charge of Dr. Marshall L. Price, secretary, secretary of the State Board of Health.

MICHIGAN

Location for County Sanatorium Fixed.—The Houghton County Tuberculosis Sanatorium will be located on the grounds of the County Poor Farm, overlooking Portage Lake.

Bequest.—Harper Hospital, Detroit, has received a bequest of $35,000 for the endowment of free beds for men, women, boys and girls in that institution by the will of the late Octavia Bates Williams of Baltimore.

Sanatorium Opened.—The Detroit Tuberculosis Sanatorium, situated on Twelfth Street, just north of the city limits, was formally dedicated January 15. Dr. William A. Spitzley has been appointed attending surgeon of the institution.

Personal.—Dr. Warren H. Taylor, Flint, has been selected as physician for Genesee county.——Dr. Roy T. Urquart, Grand Rapids, sustained painful injuries by crushing his thumb in a car door in South Bend, Ind., January 13.

The Late Small-Pox Epidemic.—The cost of the late small-pox epidemic to the city and county of Saginaw has been about $75,000.——A bronze medal is to be presented to each member of the National Guard of Michigan who did duty at the Michigan Home for the Feeble-Minded, LaPeer, during the recent enforced small-pox quarantine.

Gubernatorial Appointments.—Governor Osborn, on January 5, sent to the senate his list of appointments, which includes Dr. Leartus Connor, Detroit, as member of the State Board of Health; Dr. Charles W. Hitchcock, Detroit, as member of the board of trustees of the Eastern Michigan Asylum, and Dr. Joseph B. Griswold, Grand Rapids, as a member of the board of trustees of the Michigan Soldiers' Home.

Illegal Practitioners Fined.—George W. Lands, East Gilead, convicted in the circuit court at Coldwater of practicing medicine without a license, is said to have been found guilty

and sentenced to pay a fine of $75 and costs, amounting to a similar sum, or imprisonment in jail for fifty days.——Albert Churchill, Pellston, is said to have been fined $35 recently for the unlawful practice of veterinary medicine.

Regulates Admission of Patients to Hospital.—The Board of Regents of the University, on the recommendation of the medical faculty, has limited admission of patients to University Hospital to those whose admission is provided for by statutes; students in actual attendance at the university, emergency cases and patients sent to the hospital by a legally qualified physician. All other persons seeking admission to the hospital must make affidavit that they are not able to pay the ordinary charge of a physician. The abuse of the facilities of the hospital has not been extreme but has been sufficient to justify this action of the Board of Regents.

Farm School for Deficient Children.—At a meeting called by the Board of Education of Detroit, January 16, to arouse public sentiment in favor of establishing a farm training school for mentally deficient children, Dr. Henry H. Goddard and the superintendent, E. R. Johnstone of the New Jersey School for the Feeble-Minded, Vineland, delivered addresses. It was shown that on the average 3 per cent. of the children are imbeciles of various grades or idiots, making about 1,600 in Detroit at present; that nine-tenths of these are uncared-for children who cannot keep up in regular schools, notwithstanding the employment of special rooms for backward children; that these children largely recruit the criminal and pauper classes; that it is cheaper for the state to care for these patients in an institution which can be made largely self-supporting than to support them as criminals and paupers; and that heredity is the great cause of mental deficiency. It was urged that mentally deficient children be differentiated from simply dull children, by modern psychologic tests, and that these children be kept for life in a suitable public farm institution, that there they would be happier and more useful than at home, and would be prevented from propagating their kind.

MINNESOTA

Freed of Responsibility.—In the suit against Dr. Alexander R. Colvin, St. Paul, for damages alleged to have been received by a patient in the use of a defective brace, the jury decided in favor of Dr. Colvin.

Damages for Autopsy.—A jury in Minneapolis, January 13, is said to have returned a verdict of one dollar against Dr. S. Marx White, in a suit in which the plaintiff sued to recover $5,000 on the ground that a number of physicians had entered his home without permission and had dissected the body of his 2-year-old daughter who had died from anterior poliomyelitis, with the view to determine the manner in which the child had contracted the disease.

Elections.—At the annual meeting of the Minnesota Valley Medical Association held in Mankato, the following officers were elected: president, Dr. Louis A. Fritsche, New Ulm; *vice-presidents, Drs. Herbert B. Aitkens, LeSueur Center, and John J. O'Hara, Janesville; secretary, Dr. Adolph G. Liedloff, Mankato, and treasurer, Dr. George F. Merritt, St. Peter.——Blue Earth County Medical Society held its annual meeting in Mankato, recently, and elected the following officers: president, Dr. Adolph G. Liedloff, Mankato; vice-president, Dr Charles E. Bigelow, Madison Lake; secretary, Dr. Thomas C. Kelly, Mankato; treasurer, Dr. Lida Osborn, Mankato, and censors, Drs. John W. Andrews and Edward W. Benham, Mankato.——The annual meeting of Park Region District and County Medical Society was held in Fergus Falls, January 12. Dr. Otto M. Haugan, Fergus Falls, was elected president; Dr. Andrew J. Gilkinson, Osakis, vice-president; and Dr. Luther A. Davis, Dalton, secretary-treasurer,

MISSOURI

Personal.—The governor of Missouri has refused to accept the resignation of Dr. Daniel Morton, St. Joseph, colonel and chief surgeon of the National Guard of Missouri.

Charge Dismissed.—Dr. James R. Hull, Monroe City, accused fourteen months ago of the murder of Prof. John T. Vaughn, was freed of the charge in the Circuit Court of Lancaster, January 2.

Bequest to Hospital.—By the will of the late Edward Knell, Carthage, $1,000 is bequeathed to the Carthage Hospital Association as a trust fund, the proceeds to be used in giving hospital benefits to poor and needy individuals of Carthage.

Health Board Election.—The State Board of Health, at its annual meeting in Jefferson City, January 9, elected Dr. Ernest F. Robinson, Kansas City, president; Dr. Frank B. Fuson, Springfield, vice-president; and Frank B. Hiller, Kahoka, secretary.

St. Louis

Donation for Hospital.—Joseph Shoenberg, L. D. Shoenberg and August, members of the Jewish Charitable Educational Union, have each given $25,000 toward the erection of a National Hospital in Denver.

State Masonic Sanitarium.—The Board of Directors of the Masonic Home has decided to erect a sanitarium, to cost $100,000, on the grounds of the home, Delmar Avenue, providing accommodation for forty-two patients.

Hospital Saturday and Sunday.—As the result of the collection on Hospital Saturday and Sunday, fourteen checks, making a total amount of $42,009.30, have been sent to fourteen hospitals of the city, the amounts varying from $11,719.33 to the St. Louis Children's Hospital, to $250 to Provident and St. Louis Maternity hospitals.

Antituberculosis Society Elects Directors.—At the annual meeting of the St. Louis Society for the Relief and Prevention of Tuberculosis, January 12, thirty-five directors were elected, including the following physicians: Frances L. Bishop, James Stewart and John C. Morfit. Dr. Morris C. Tuholske, secretary, and Dr. Theodore W. Conzelman, treasurer of the society, presented their resignations.

NEBRASKA

Physician Goes to Penitentiary.—The supreme court, on January 11, affirmed the sentence of the lower court, which charged Dr. William H. Johnson, Lincoln, formerly of Wymore, with complicity in the death of Amanda Mueller who died from the effects of a criminal operation, and sentenced him to two years imprisonment in the penitentiary.

Personal.—Dr. William B. Kern, Grand Island, has been appointed superintendent of the State Hospital for the Insane, Hastings, Dr. John T. Hay, Lincoln, of the institution at Lincoln, and Dr. Andrew Johnson, Omaha, of the institution at Norfolk.——Dr. William Edmond, Nebraska City, has been appointed physician at the Institute for the Blind, vice Dr. Frank S. Marnell, Nebraska City, resigned.——Dr. Charles A. Oaks, Seward, has been appointed a member of the staff of the Hastings State Hospital.——Dr. Lewis A. Fairchild, Peru, who has been seriously ill, is reported to be convalescent.——Dr. Henry S. Bell has been appointed physician to the State Industrial School, Kearney.——Drs. Frederick H. Kuegle, Westpoint, and H. R. Carson, Omaha, have been appointed physicians to the State Hospital, Hastings.——Dr. James G. Muir has been appointed surgeon of the Soldier's Home, Milford.——Dr. Harry J. Wertman has been appointed physician of the Industrial Home, Milford.

Society Meetings.—At the annual meeting of the Omaha-Douglas County Medical Association, held in Omaha, January 10, Dr. Leroy Crummer was elected president; Dr. Burton W. Christie, vice-president; Dr. Robert R. Hollister, secretary (reelected); Dr. Millard Langfeld, treasurer (reelected); and Dr. John E. Summers, Jr., member of the board of censors (reelected), all of Omaha.——Fillmore County Medical Society, at its annual meeting in Fairmont, elected Dr. Joseph Bixby, Geneva, president; Dr. Frederick L. Beck, Geneva, vice-president; Dr. Jesse M. Carr, Fairmont, secretary-treasurer; and Dr. V. V. Smrha, Milligan, censor.——Webster County Medical Association, at its annual meeting, reelected the following officers: president, Dr. Robert Damerell, Red Cloud; secretary, Dr. Hugh S. Reed, Guide Rock; and treasurer, Dr. Ira A. Pace, Guide Rock.——Elkhorn Valley Medical Society, at its annual meeting, held in Norfolk, January 11, elected the following officers: president, Dr. William R. Peters, Stanton; vice-presidents, Drs. Anders P. Overgaard, Fremont, and William L. Crosby, Beemer; and secretary, Dr. Harry L. Wells, West Point.

NEW JERSEY

State Medical Society Meeting.—At a meeting of the board of trustees of the Medical Society of New Jersey, January 12, it was decided to hold the annual meeting of the society at Spring Lake, June 13-15.

Gaynor Memorial.—The Gaynor Memorial Fund, amounting to $15,184.73, has been presented to St. Mary's Hospital, Hoboken. Of this amount, $5,000 is to endow a bed in the hospital to be known as the Gaynor bed. The balance will be applied toward the reduction of the debt on the hospital.

Officers of Home for Incurables Elected.—At the annual meeting of the Bide-A-Wee Home, held in Atlantic City, Jan-

uary 4, the following were elected as members of the medical board: Henry T. Harvey, Philadelphia, and Bernard R. Lee, Elisha C. Chew, Arthur E. Ewens and W. Edgar Darnell, consulting surgeons, all of Atlantic City. The Bide-A-Wee Home is a state institution for incurables and is located in the lower part of Longport.

Elections.—At the annual meeting of the Passaic City Medical Society, January 12, Dr. George T. Welch was elected president; Dr. Leo H. Joyce, vice-president; Dr. Joseph H. Oram, secretary, and Dr. Thomas Glasgow, treasurer.——Monmouth County Medical Society, at its annual meeting elected Dr. Peter P. Rafferty, Red Bank, president; Dr. Joseph T. Welch, Long Branch, vice-president; Edwin Field, Red Bank, secretary, and Dr. Isaac S. Long, Freehold, treasurer.

NEW YORK

State Hospital for Cancer Patients.—After ten years of research work supported by state funds, Dr. Harvey Gaylord has announced that he is prepared to supply a serum which has been shown to be effective in treating cancer. Senator Loomis has introduced a bill into the legislature appropriating $65,000 for the erection of a hospital adjoining the laboratory in Buffalo. The land for the building is to be donated to the state and the bill names as trustees of the institution, Drs. Roswell Park, William H. Gratwick and Charles Cary, Buffalo, John G. Milburn and Charles S. Fairchild, New York City, and Frederick S. Stephens, Attica.

State Tuberculosis Hospital Report.—During 1910 the State Hospital for Incipient Tuberculosis at Raybrook received 128 patients. Of these ninety, or 73.13 per cent. were discharged apparently recovered, meaning that examination showed that all constitutional symptoms or expectoration of bacilli had not been seen for a period of three months, and that physical signs indicated healed lesions. Of the remaining incipient cases, in twenty-four patients, or 19.53 per cent., the condition indicated arrest of the disease. Of the seventy-nine received in moderately advanced stages of the disease, four, or 5.43 per cent., apparently recovered, and forty-one, or 56.14 per cent., showed arrest of the disease. Of the twenty-five patients received in advanced stages of the disease, five, or 20 per cent., were benefited to the extent that the progress of the disease was arrested. Of the total number of patients treated and considered medically during the year 42.29 per cent. were classified as apparently recovered, and 84 per cent. had derived appreciable benefit.

New York Hospital Buys New Site.—This institution has bought as a site for a new home the entire block bounded by Fifty-Fourth and Fifty-Fifth Streets and Eleventh and Twelfth Avenues at a cost of about $1,000,000. This site was chosen because it provides amply for light and fresh air, being bounded on the west by the Hudson River and on the south by De Witt Clinton Park. It is stated that the proposed group of buildings will surpass any similar group in the city, but ground will not be broken for a year. The New York Hospital is the oldest hospital in the city, having been chartered by the authority of King George III in 1771. In 1775, when the first building was complete, it was nearly destroyed by fire and it was not until 1791 that the hospital was enabled to begin its work. Among the governors of the institution in bygone days were John Adams, Aaron Burr, Thomas Buchanan and John Jay. During the past year the hospital and associated institutions treated about 70,000 patients and answered 9,000 ambulance calls.

New Commitment Plan.—At the convention of the State Bar Association in Syracuse on January 20 the report of the special committee on the commitment and discharge of the criminal insane was discussed and the following was offered in the place of Section 20 of the penal law:

> If on the trial of any person accused of any offence it appears to the jury on the evidence that such person did the act charged, but was at the time insane, so as not to be responsible for his actions, the jury shall return a special verdict, "guilty, but insane," and thereupon the court shall sentence such person to confinement in a state asylum for the criminal insane for such term as he would have had to serve in prison but for the finding of insanity; and if on the expiration of such term it shall appear to the court that such person is still insane, his confinement in such asylum shall continue during his insanity; and further, when such a verdict of "guilty, but insane," is returned in a case where the penalty for the verdict of guilty against a sane person is death, such sentence for the insane person thus found guilty shall be for life, and in all such cases the governor shall have the power of pardon after such inquiry as he may see fit to institute, on the question whether it will be safe to the public to allow such person to go at large.

The report will be circulated broadcast throughout the state for the purpose of arousing public opinion.

Buffalo

Election of Officers.—At the annual meeting of the Erie County Medical Society, held in Buffalo, the following officers were elected: president, Dr. Daniel V. McClure; vice-president, Dr. Thomas H. McKee; secretary, Dr. Franklin C. Gram; treasurer, Dr. Albert T. Lytle; censors, Drs. John H. Grant, Francis E. Fronczak, Arthur G. Bennett, George L. Brown and Lawrence Hendee; and delegates to the state society, Drs. John H. Pryor, Frederick C. Busch, Edward Clark, George J. Eckel and Eli H. Long.——The Buffalo Physical Education Society has elected the following officers: president, Dr. James W. Putnam; vice-president, Dr. Lesser Kauffman, and secretary-treasurer, Miss Alta J. Wiggins.

Hospital Situation in Buffalo.—A report submitted by invitation to the joint hospital committee of the Buffalo Common Council by the standing Committee on hospitals of the State Charities Aid Association summarizes the situation as follows:

1. The present hospital situation in Buffalo is such that a new hospital must be built either by the county or by the city.
2. This new hospital should be separated entirely from any connection with the poor department and the almshouse. It is not meant for paupers, and it requires different standards of administration.
3. This hospital should provide for a minimum of 720 beds: 200 for tuberculosis, 200 for chronic cases, 100 for acute cases, 200 for contagious cases and 20 for detention cases.
4. It will be more economical for the community to build and maintain one general hospital than to build and maintain two separate institutions under different management.
5. A general municipal hospital should be built by the city, which is the logical body to have control, inasmuch as it furnishes 85 per cent. of the money and 90 per cent. of the patients.
6. The construction and management of the hospital should be entrusted to a board of managers as provided by Chapter 558 of the laws of 1910.
7. The hospital should be centrally located to insure better attendance by physicians, avoid long transportation of the patients, and secure better service and more convenience for the people.
8. The hospital should be built in accordance with a comprehensive plan adequate for the rapidly increasing needs of the growing city.

New York City

Brooklyn Hospital Out of Existence.—The Long Island Throat Hospital and Ear Infirmary has turned over its building, valued at $15,000, to the Brooklyn Eye and Ear Infimary as it felt that the latter institution was better prepared to carry on the work.

Italian Medical Society.—The officers of the New York Italian Medical Society for the current year are as follows: president, Dr. Antonio Stella; vice-presidents, Drs. Paolo Virdone, Brooklyn, and Giuseppe DiSanti; secretary, Dr. Rocco Bellantoni; and treasurer, Dr. Antonio Vernaglia.

Office Building for Physicians.—Plans have been filed for a new office building on Madison avenue, twenty-five stories in height, to be occupied exclusively by physicians and dentists. ——The Physicians' Building, 40 East Forty-First Street, was opened for inspection, January 13. The space in the building is said to be almost entirely rented to physicians.

Finances of Academy of Medicine.—The report of the treasurer of the New York Academy of Medicine for the year ended December 15, shows the following assets: building and land, $504,426.59; mortgages, $117,500; savings banks, $7,226.36; library, $80,000; unpaid dues, $535; rents due, $125; cash on hand, $14,859.17; total, $724,672.12. The liabilities show the following: trust funds, $629,152.95; unexpended balances in trust funds, $3,433.85; prepaid dues, $165; total, $632,751.80. Excess of assets over liabilities, $91,920.32.

Bellevue Alumni Prizes.—The two annual prizes of $100 each offered by the society of the Alumni of Bellevue Hospital to the members of the house staff for the best papers based on observation and clinical study have been awarded this year to Drs. Alexander Hunter Schmitt for his essay on "The Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Fallopian Tubes," and to Dr. Frederick Lane Brown for his "Report of a Case of Infective Endocarditis Associated with an Unidentified Liquefying Bacillus."

Campaign to Supply Milk for Babies.—The Committee on Infant Mortality, of which Dr. Godfrey R. Pisek is chairman, started its campaign to raise $300,000 for the yearly maintenance of sixty milk stations throughout the Borough of Manhattan at a meeting held at the Plaza Hotel. On this occasion it was announced that the city budget for 1911 contains an appropriation of $40,000 for the support of milk stations. Dr. Abraham Jacobi argued that more could be done to lessen infant mortality by sending nurses into the home to explain to mothers than by lengthy lectures from eminent doctors.

Child Welfare Exhibition.—After a year's work by 300 specialists and 1,500 other persons interested in children, the Child Welfare Exhibit opened on January 18 in the Seventy-First Regiment Armory at Park Avenue and Thirty-Fourth Street. The primary object of the exhibit is to educate parents in the proper upbringing of children, considered from every possible point of view. Conferences are held every afternoon and evening and the subjects discussed embrace education, homes, recreation, work, health, law and the child and private philanthropy. Experts and specialists from all parts of the country will take part in these conferences. The exhibit will continue for several weeks.

Scholarship in Ophthalmology.—A scholarship in ophthalmology has been founded by the sons and daughter of Abram DuBois, who have presented Columbia University with $18,000 for a fund to be known as "The Dr. Abram DuBois Memorial Fund." The scholarship is open to graduates of the College of Physicians and Surgeons who have satisfactorily completed a term of service in an eye hospital, and have given evidence of serious intention of pursuing ophthalmology as a specialty. The income from the fund amounts to about $700 a year, and the holder of the scholarship is expected to devote himself to postgraduate study in foreign and American universities, preferably of a scientific character in connection with ophthalmology.

Anniversary Meeting.—The Society of the Alumni of Bellevue Hospital will celebrate its twenty-fifth anniversary February 28. There will be a reunion at the hospital in the afternoon with a staff reception, visits to wards and operating rooms and opportunity for examination of the present work of the institution. In the evening a reception will be held, followed by a banquet. The society numbers 332, each of whom must possess diploma showing his service on the hospital staff, with the exception of the permanent associate members, those who have been on the visiting staff for at least five years, and honorary members, of whom there are three, Drs. William T. Councilman, Boston, William J. Mayo, Rochester, Minn., and William Osler, Oxford, England.

Bequests to Charity.—The will of the late George L. Fox of Brooklyn bequeaths almost his entire estate valued at more than a million dollars to various charities. The following institutions have received gifts: Eastern District Hospital and Dispensary, $100,000; St. Catherine's Hospital, $25,000; Brooklyn Hospital, $20,000; St. Mary's Hospital, $25,000; German Hospital, $25,000; Jewish Hospital, $25,000; Home for Consumptives, $10,000; St. John's Hospital, Long Island City, $20,000, and New York Ophthalmic and Aural Institute, $10,000. The residuary estate, the value of which has not yet been computed, is bequeathed to the Brooklyn Bureau of Charities and the Brooklyn Association for Improving the Condition of the Poor. A substantial part of the residue is to be used for the benefit of crippled and blind children.——The will of the late Isaac Stern gives Mount Sinai Hospital, of which Mr. Stern was the president, $10,000 for the creation of the Isaac and Virginia Stern Endowment Fund.

The Prevention of Insanity.—The first public meeting in the campaign for the prevention of insanity was held at the New York Academy of Medicine, December 23. The meeting was conducted by the committee on mental hygiene of the State Charities Aid Association. Homer Folks advocated a campaign of publicity and education similar to that employed in the fight against tuberculosis. Dr. Albert Warren Ferris, president of the State Commission in Lunacy, stated that there was one insane person to every 279 of the population. He considered the use of alcoholic beverages the greatest cause of insanity and thought that immigration was also responsible for filling insanity wards. Dr. M. Allen Starr thought that many of the external causes of insanity could be controlled and urged the establishment of more dispensaries for the treatment of this form of disease. Pamphlets pointing out the causes of insanity and describing the early symptoms have been prepared for general distribution.

The Gibbs Memorial Prize.—The New York Academy of Medicine announces that five of its members will constitute a permanent committee of award for the Edward N. Gibbs Memorial Prize for Research on Diseases of the Kidney. The committee will also select the candidates. The award is to be advertised at intervals of not less than two years in medical journals and otherwise. Candidates must be physicians of not less than three years' experience, must be residents of the United States, and must furnish evidence of research already performed and of ability to prosecute the special work required. The research is to comprise original work on the causation, pathology, or new methods of treatment of diseases of the kidney. From the applicants the committee selects the one offering the best credentials, who shall from time to time be awarded the income of the prize fund for a term not to exceed three years, but it at all times retains the power to reject any unsatisfactory work. The completed research is to be presented in the form of a thesis bearing an appropriate title.

NORTH DAKOTA

Personal.—Dr. Howard A. LaMoure, superintendent of the State Hospital for Feeble-Minded, Grafton, has resigned and has been succeeded by Dr. Arthur R. T. Wylie, first assistant in the Minnesota Home for Feeble-Minded, Faribault.——Dr. and Mrs. N. Oliver Ranstad, Bismarck, have returned from Europe.——Dr. P. J. Weyrens, Sheldon, has been appointed physician of Ransom county.

Society Meetings.—Medical men of Hettinger County met in New England recently and organized the Hettinger County Medical Association and elected the following officers: president, Dr. James W. Stribling, New England; vice-president, Dr. J. Hamilton, Bentley, and secretary-treasurer, Dr. Fred T. Rucker, Mott.——At the annual meeting of the Stutsman County Medical Society, Dr. Gustave Goldseth, Jamestown, was elected president; Dr. Gilbert D. Todd, Medina, vice-president; Dr. William W. Wood, Jamestown, secretary-treasurer; Dr. W. Albert Gerrish, Jamestown, censor, and Dr. Adolphus W. Guest, Jamestown, delegate to the state society.

OHIO

Midwives Arraigned.—During the last week seven midwives of Cleveland were arraigned and fined for illegal practice. The fines were suspended and the women warned to obey the law in the future.

In Penitentiary.—Among the prisoners received at the state penitentiary, Columbus, December 27, was Dr. Andrew A. Pew, Dayton, recently convicted of performing an illegal operation and sentenced to five years' imprisonment.

Isolation Hospital Opened.—Cleveland has just opened a contagious disease hospital which has cost $135,000, and is said to be one of the finest and most modern in the country. The building is divided into four distinct sections and can accommodate 100 patients and 22 nurses.

State Meeting-Place and Date Fixed.—The Council of the Ohio State Medical Association, at its meeting in Cleveland, January 12, decided to hold the next meeting of the association in Cleveland, May 8 to 11. The Chamber of Commerce and the Engineers' Auditorium are selected as meeting places.

Barker in Cleveland.—Dr. Lewellys F. Barker of Johns Hopkins University gave an address before the Cleveland Academy of Medicine, January 16, under the auspices of the Western Reserve Chapter of the Alpha Omega Alpha Medical Fraternity. Following the meeting a smoker was held in honor of Dr. Barker at the University Club.

Gift to Hospital.— The Babies' Dispensary and Hospital, Cleveland, has received a donation of $100,000 from Mr. and Mrs. J. H. Wade as a memorial to Mrs. Anna R. Wade. This gift will enable the hospital to pay in full for the new dispensary and milk laboratory now under construction, and also for the purchase of sufficient land to give a frontage of 175 feet on East Thirty-Fifth Street. The new building will be ready for occupancy February 1.

Elections.—At the annual meeting of the Portage County Medical Society, held in Ravenna, January 12, the following officers were elected: president, Dr. Joseph H. Krape, Kent; vice-president, Dr. Eugene B. Dyson, Rootstown; secretary, Dr. Cyrus O. Jaster, Ravenna (reelected), and treasurer, Dr. Emily J. Widdecombe, Kent (reelected). At the annual banquet given by Dr. Wilford W. White, Ravenna, the retiring president, Dr. T. Clarke Miller, Massillon, delivered an address on "The Conservation of Human Life."——The Cleveland Academy of Medicine, at its annual meeting, elected the following officers: president, Dr. Walter B. Laffer; vice-president, Dr. William W. Holliday; secretary, Dr. Oliver A. Weber; treasurer, Dr. John E. Darby, and trustees, Dr. William T. Corlett and Clyde E. Ford.

OKLAHOMA

State Board President Acquitted.—Dr. William T. Tilly, Muskogee, president of the State Board of Medical Examiners, was charged with criminal libel on complaint of Dr. J. D. Hensley, Oklahoma City; the jury, on instruction from the court, found that the information was insufficient to sustain the charge, returned a verdict of not guilty.

Personal.—Dr. John Dice McLaren, of the State University, of Oklahoma, Norman, professor of physiology and experimental medicine, and secretary of the Medical School of the State University of Oklahoma, Norman, has resigned to accept the professorship of physiology in the Oregon State University Medical Department, Portland.——Fire in Lawton, December 30, caused $1,400 damage to the office of Dr. Henry A. Angus, and $250 to the office of Dr. John W. Malcolm.

Physician Wins Libel Suit.—Dr. G. F. Border, chief surgeon of the Border Hospital, Mangum, is said to have recovered judgment in the case brought in the Greer County District Court for $50,000 against Drs. Milton M. Dearmon, Thomas J. Dodson and Porter Norton, who are said to have written a libelous letter to the Pottawatomie County Medical Society, January 11, 1909. The presiding judge instructed the jury that the communication complained of was libelous and unprivileged.

Annual Elections.—The sixteenth annual meeting of the Central Oklahoma Medical Association was held in Enid, January 10. The following officers were elected: president, Dr. Fred H. Clark, El Reno; vice-presidents, Drs. Edwin D. Ebright, Enid, and Charles E. Thompson, Kremlin, and secretary-treasurer, Dr. M. M. Rollin, Oklahoma City.——Canadian County Medical Association, at its annual meeting in El Reno, elected Dr. Ralph F. Koons, president; Dr. Stephen S. Sanger, Yukon, vice-president; Dr. James T. Riley, El Reno, secretary-treasurer; Dr. Thomas M. Aderhold, El Reno, delegate to the state association, and Dr. Ralph E. Runkle, El Reno, censor.——Garfield County Medical Society, at its annual meeting in Enid, elected Dr. Mahlon A. Kelso, Enid, president; Dr. Jones, secretary; Dr. Wallace A. Aitkin and Chanley J. Lukens, Enid, censors.——At the annual meeting of the Oklahoma County Medical Society, at Oklahoma City, Dr. Robert M. Howard was elected president; Dr. John A. Reck, vice-president; Dr. William R. Bevan, secretary, and Dr. Arthur A. Will, censor, all of Oklahoma City.——Comanche County Medical Association, at its annual meeting, held in Lawton, elected the following officers: president, Dr. Jackson Broshears, Lawton; vice-president, Dr. T. J. Gipson, Taupa, and secretary-treasurer, Dr. David A. Meyers, Lawton.——The annual election of officers of the Tulsa County Medical Association resulted as follows: president, Dr. Ross Grosshart; vice-president, Dr. Paul R. Brown; secretary, Dr. Walter E. Wright, and treasurer, Dr. Seth De Z. Hawley.

PENNSYLVANIA

Philadelphia

Failed to Register Births.—Information charging sixteen physicians of the city with failure to register births were made by the state health authorities, January 11. The arrests are only formal.

Institute of Anatomy.—The old Philadelphia Dental College at Eleventh and Clinton Streets, which was purchased several months ago by Jefferson Medical College for $45,000, is to undergo extensive remodeling, and on completion will be conducted in connection with the college, as the Daniel Baugh Institute of Anatomy.

Personal.—Dr. Edgar Fahs Smith was the guest of honor at a dinner given by his associates In the chemical laboratory of the University of Pennsylvania, at the University Club on January 11.——Dr. Gwilym G. Davis has been made professor of orthopedic surgery in the University of Pennsylvania.——Dr. Alfred Heineberg has been made chief of the gynecologic clinic of Mount Sinai Hospital.——Dr. H. Brooker Mills has been elected assistant professor of pediatrics in the Medico-Chirurgical College of Philadelphia.

Officers Elected.—At a meeting of the Philadelphia Pediatric Society, January 10, the following officers were elected: president, Dr. James T. Rugh; vice-presidents, Drs. Theodore Le-Boutillier, Arthur Newlin and William N. Bradley; secretary, Dr. Maurice Ostheimer; treasurer, Dr. Howard C. Carpenter, and librarian, Dr. Charles F. Judson.——Philadelphia County Medical Society, at its meeting, January 18, elected the following officers: president, Dr. Christian B. Longenecker; first vice-president, Dr. Levi J. Hammond; associate vice-presidents, South Branch, Dr. William N. Bradley; Kensington Branch, Dr. Thomas R. Currie; West Branch, Dr. Henry D. Jump; Northeast Branch, Dr. Frank Embery; Southeast Branch, Dr. Aaron Brav; secretary, Dr. William S. Wray; assistant secretary, Dr. Herbert B. Carpenter; treasurer, Dr. Collier L. Bower, and censor, Dr. Lewis H. Adler, Jr. The society passed resolutions urging an investigation by a state commission of the appropriations from the state treasurer to hospitals, and also suggested the appointment of a joint committee of the senate, house of representatives, the State Board of Charities, and licensed physicians to investigate state institutions.——The South Branch of the Philadelphia County Medical Society, at a meeting December 30, elected Dr. Stuart C. Runkle, president; Dr. William N. Bradley, vice-president; Dr. Paul B. Cassidy, secretary.——West Philadelphia Medical Society, at a meeting, January 2, elected Dr. Hiram L. Lutz, president; Dr. Charles P. Pike, vice-president; Dr. Henry G. Munson, corresponding secretary; Dr. Walter M. Miller, financial secretary, and Dr. Edmund L. Graf, treasurer.——At the annual meeting of the College of Physicians and Surgeons, January 4, Dr. George E. deSchweinitz was reelected president; Dr. James C. Wilson, vice-president; Dr. Thomas R. Neilson, secretary; Dr. Richard H. Harte, treasurer; Dr. Frederick P. Henry, honorary librarian; Dr. Francis X. Dercum and William T. Shoemaker, councilors; and Drs. Richard A. Cleemann, S. Weir Mitchell, Arthur V. Meigs and James Tyson, censors.

UTAH

Medical Journal Changes.— The *Utah Medical Journal* announces that it has become an independent journal, with none of its past affiliations. The editorial management is in the hands of Dr. Frederick Clift, Salt Lake City. The associate editors are Dr. Eugene H. Smith, Ogden; Horace G. Merrill, Provo, and Russell J. Smith, Logan.

Personal.—Dr. Charles G. Plummer, Salt Lake City, who has been seriously ill with septicemia at the L. D. S. Hospital, is reported to be improving.——Dr. R. E. Worrell, who underwent operation for septicemia at the Dee Memorial Hospital, Ogden, January 1, is reported to be convalescent.——Dr. John A. Hensel, Eureka, has been appointed physician of Jurab County.

New County Officers.—At the annual meeting of the Utah County Medical Society, held in Provo, Dr. David Westwood, Provo, was elected president; Drs. Oscar A. Grau, Pleasant Grove, vice-president, and Horace G. Merrill, Provo, secretary-treasurer.——At the annual meeting of Salt Lake County Medical Society, Dr. Eugene W. Whitney was elected president; Dr. T. Catlett Gibson, vice-president; Dr. W. Brown Ewing, secretary (reelected); Dr. Robert R. Hampton, treasurer (reelected), and Dr. Robert W. Fisher, censor (reelected).

WASHINGTON

Sanitarium Established at Pasco.—Dr. William W. Watkins, Pasco, has established a sanitarium in that place.

Unlicensed Practitioner Fined.—Fanny Leake Cummings, Seattle, said to have been convicted of practicing medicine without a license, has been fined $250 and costs.

Health Board Election.—At the annual meeting of the State Board of Health, held in Olympia, January 9, Dr. Edwin L. Kimball, Spokane, was elected president, and Dr. Elmer E. Heg, Seattle, was reelected secretary.

Physicians in House of Representatives.—The House of Representatives of Washington has three physicians as members: Drs. Walter T. Christensen and James A. Ghent, Seattle, and Dr. William M. Beach, Shelton.

Beriberi in Seattle.—One man is said to have died, another to be dying in a hospital, and four others to be seriously ill with beriberi due to an outbreak on the British steamship *Beachy*, which arrived at Seattle recently from China.

Personal.—Dr. Stephen D. Brazeau, Spokane, has returned after a year abroad.——The Cle Elum-Roslyn Hospital Board has elected the following staff: Dr. Edward W. Stimpson, Roslyn, chief surgeon; and Drs. H. H. Keenan and H. Quaife, Roslyn; W. E. Keehl and Julius G. Newgord, Cle Elum, and E. Heston, Jonesville.

Tuberculosis Notes.—The state supreme court has ruled that tuberculosis sanatoriums are nuisances and should not be established in the residence portion of a city. This ruling was made on appeal from the superior court of King County which refused to grant a restraining order against a tuberculosis sanatorium in Seattle.——The Fort Spokane Indian Sanatorium has been closed and the eighteen patients and nurses have been sent to sanatoriums in Phoenix, Ariz., Lapwai, Ida., Ogema, Minn., and Tacoma.

WISCONSIN

Abduction Charge Fails.—Dr. John B. Spalding, health commissioner of Kenosha, who was arrested on a charge of kidnaping, December 23, was exonerated at his trial in Chicago, January 17.

Charges Dismissed.—Charges against F. L. Mertens and Dr. Nelson Washington, charged respectively with practicing med-

icine without a license and with malpractice, were dismissed by stipulation in the circuit court at Milwaukee, January 12.

Fined for Unlawful Practice.—B. W. Kinzie, Milwaukee, charged with unlawful practice of medicine, is said to have been fined $50 and costs. Sentence was suspended on two counts charging E. R. Binte and B. H. Binte with similar offenses.

Medical Board Wins.—In the case of S. R. Jansheski, Milwaukee, a so-called chiropractic, charged with advertising himself as a physician, the trial consumed five days, and the jury returned a verdict of guilty within thirty minutes. The case was prosecuted by the attorney of the Wisconsin State Board of Medical Examiners.

Personal.—Dr. Frederick W. Byers, Monroe, who has been seriously ill with cerebral hemorrhage, is reported to be gaining slowly.——Dr. Warren B. Hill has been elected president of the trustees of the Emergency Hospital, Milwaukee.——Dr. Robert W. Blumenthal, Milwaukee, who was operated on recently for appendicitis at the Milwaukee Hospital, has recovered.——Dr. Herman L. Nahin has been elected coroner of Milwaukee County, and has appointed Drs. Arthur Reitman and R. O. Friederich as his assistants, all of Milwaukee. ——Dr. James R. Kellogg has succeeded his father, Dr. Alonzo C. Kellogg, as a member of the advisory board of the State Tuberculosis Sanatorium, Wales, both of Portage.

GENERAL NEWS

School Hygienists to Meet.—The fifth Congress of the American School Hygiene Association will be held in the Academy of Medicine, New York City, February 2-4, under the presidency of Dr. Luther H. Gulick, New York City. Among the titles on the program are "The Problem of Teaching Sex Hygiene," "Vital Results of Open-Air Kindergarten," "The Relative Communicability, Dissemination and Prevention of Contagious Diseases," "Studies in Fatigue," "The Work of the Public Health Education Committee of the American Medical Association," "What Cities are Doing for the Health of Children," "The Physical Condition of Country as Compared with City Children," "School Instruction in Sex Hygiene" and "Individual Instruction in Personal Hygiene."

Meeting of Medical Reserve Corps.—The officers of the Medical Corps and Medical Reserve Corps of the Army met in Chicago, January 21. Col. L. Mervin Maus, Medical Corps, U. S. Army, presided, and Brigadier-General Bernard J. D. Irwin, Medical Corps, U. S. Army, retired, was the guest of honor. Representatives from the Medical Corps of the Army and Public Health and Marine-Hospital Service were also present. The object of the meeting was to bring together members of the Medical Reserve Corps in Chicago, and get them in closer touch with the medical officers of the united services. Addresses were made by Drs. Arthur D. Bevan, Albert J. Ochsner, Charles L. Mix, E. Wyllys Andrews, George W. Webster and others. It is expected that the next meeting of the corps will be held at Fort Sheridan during the summer.

Fraternity Meets.—The annual meeting of the Phi Chi Medical Fraternity was held in Louisville, December 29-31. The fraternity decided to hold its next meeting in Indianapolis. The resolution proposing to grant charters to no medical school not in Class A, according to the reports of the American Medical Association and the Rockefeller Foundation was not adopted, but it was resolved that hereafter no medical school, not recommended by the American Medical Association, will be given a charter. The following officers were elected: Dr. George W. Leavell, Louisville, grand presiding senior; Dr. J. A. Price, Atlanta, Ga., grand presiding junior; Dr. Thomas B. Pearson, editor-in-chief of the *Phi Chi Quarterly;* Drs. A. B. Elkins and Charles L. Koontz, Louisville, honorary editors; Dr. T. Elmer Grubbs, Los Angeles, associate editor; and Dr. Charles W. Hibbett, chairman of the executive trustees.

Association of American Medical Colleges.—The twenty-first annual meeting of this association will be held in Chicago at the Congress Hotel, February 27-28. The association will consider for adoption the report of the curriculum committee submitted last year, and any amendments which may be proposed, such as the more perfect regulation of the administration of entrance requirements and the elimination of conditions. The report of the committee on pedagogics will consider some very essential phases of medical teaching. The report of the committee on education will contain many recommendations for action. Papers will be read by the following: "Requirements for Admission to the Medical Course," George E. McLean, president, University of Iowa; "The Fifth or Hospital Year," Dr. F. F. Wesbrook, University of Minnesota; "Administration of Entrance Requirements," Dr. B. D. Harison, Michigan State Board of Registration in Medicine; "The Medical Library," Dr. C. M. Jackson, University of Missouri; "Unity of Purpose; Unity of Action," Dr. J. A. Witherspoon, Vanderbilt University. The secretary is Dr. Fred C. Zapffe, 3431 Lexington Street, Chicago.

Dr. Ashford's Work on Hookworm.—Major Bailey K. Ashford, Medical Corps, U. S. A., who has had charge of the fight against the hookworm in Porto Rico, arrived in New York, on December 26 on the steamer *Caracas.* He called attention, remarks the *Army and Navy Journal,* to the out-of-the-wayness of Porto Rico, as shown by the fact that the medical officers of the army had been fighting the hookworm long before the discovery of the disease in the southern states, and yet the press heralded that discovery as something new. Since 1904 there have been 300,000 cases of hookworm on the island. The Porto Ricans at last awakened from their lethargy when the army medical men proved to them that thousands were dying needlessly through a preventable disease contracted in most cases through the contact of healthy skin with infected earth, the coffee districts appearing to be the most infected. In the five years up to and including a part of 1909, of the thousands of patients treated only 426 have died. Major Ashford will return to his important work as soon as the health of his wife permits. The unflagging zeal of Major Ashford, his untiring enthusiasm and inspiring confidence in the ultimate victory of his crusade have been one of the most striking and beautiful evidences of the personal interest which officers of the service have taken in the work which the results of the Spanish War suddenly threw on them. The very quietness of his campaign against the disease indicates that he finds his reward in results rather than in the applause and notoriety of newspaper laudation.

FOREIGN NEWS

Ten Years of the German Society for Protection of the Economic Interests of the Profession.—This imposing title is generally shortened to the Leipziger Verband. This association is now exactly ten years old and numbers 23,500 members. The Verband has been involved in 1,700 disputes between the compulsory sickness insurance societies and their medical officers, and has carried all but a few to a successful outcome. It has also been instrumental in securing positions or locations for 17,000 physicians. This organized force has become a power in Germany, the effects of which are far-reaching and enduring.

Plague in Manchuria.—Cable reports of January 23 state that the epidemic of bubonic plague in Manchuria threatens international danger and that the Chinese government is instructing its ministers abroad to invite the governments to which they are accredited to send experts to the affected districts to study the plague and means for its extermination. The government offers to bear the expense of the crusade. Fudziadian, a suburb of Harbin and the particular plague spot of Manchuria, is to be isolated as the first systematic step to be taken toward exterminating the plague that has grown more threatening every day. This was decided on at a conference of the taotai and English and Chinese physicians said to have been brought about by pressure from the Russian government. The cable dispatch adds that a Russian physician who has just completed an inspection of Fudziadian, discovered three plague sources in the neighborhood of which 7,000 persons reside. Corpses are piled high in the streets and in the yards adjoining the homes. Last week there were 1,500 deaths in Fudziadian, and twenty-four bodies have been picked up in the streets of Harbin. Mukden, Kirin and Tieling have been invaded by the disease. Deaths among the Chinese employees of the Harbin mills are likely to result in the infection being carried in the foodstuffs exported to Amur and the maritime provinces. In the suburbs of Fudziadian the Chinese and European physicians are said to have been beaten by the soldiers.

Festschrift for Kernig's Seventieth Birthday.—The issue of the *St. Petersburg. Wochenschrift* for November 19 is a large *Festnummer* in honor of the seventieth birthday of Woldemar Kernig, the leading internist of Russia. It contains twenty-six articles in German from prominent Russian clinicians who have studied under him in the course of his thirty years' connection with the Obuchow Hospital at St. Petersburg. The list includes Cholzoff's report of his technic and results with suprapubic prostatectomy in two sittings, which he claims is such a harmless operation that even decrepit patients, with the kidneys in bad condition, bear it without injury. The interval between the opening of the bladder and the removal

of the prostate varies from three weeks to three months according to the condition of the patient. He lost three out of eleven patients with prostatectomy done at one sitting, but only one out of the twenty in which this two-sittings technic was followed. Another article is by Wladimiroff on the diagnosis of glanders by the anaphylaxis reaction. Another by L. Krewer discusses the diagnosis of brain syphilis, the very baffling manifoldness of the symptoms being, he says, the clue to the syphilitic origin of the syndrome observed. Among his fifty-nine patients with cerebral syphilis, thirty-five were cured by antisyphilitic treatment and all the others were materially improved except five, that is, 8.48 per cent., who succumbed. In all the fatal cases there had been epileptiform seizures. The absence of an aura with these epileptiform seizures, developing in adults, speaks further for the syphilitic origin, especially when the attacks occur in series, and the convulsion seems to be limited to certain groups of muscles and the consciousness is not entirely lost and does not seem quite intact during the intervals. Abelmann reports experiences which sustain the importance of determination of the ferments in the stools and the antiferments in the blood as an aid to differential diagnosis in children. A historical sketch of cholera in Russia, by F. Dörbek, states that cholera was unknown in that country until 1830, when the first epidemic of cholera invaded Europe, and here, too, by way of Russia, starting in Astrachan, after it had been smouldering in India for fourteen years.

MANILA LETTER

(*From Our Regular Correspondent*)

MANILA, Dec. 13, 1910.

Plague in Shanghai, China

The health authorities of Manila have been closely watching the development and spread of an epidemic of plague in Shanghai, China, which is reported to be still progressing.

There seems little doubt that plague has been effectually stamped out in the Philippines. It has been so long since a case has occurred here that probably no one, however pessimistic, can be found who would venture to make a statement to the contrary. The Bureau of Health is proud of this achievement and resents any statement tending to suggest that the disease still exists here.

The epidemic at Shanghai is of a serious nature and has greatly alarmed the foreign population. The disease is mostly confined to the thickly crowded Chinese section of the town but the inability of the health authorities to cope with the situation, due mostly to the opposition of the Chinese, places the large foreign section in an apprehensive situation. In the beginning of December, it was reported that the Chinese and the foreigners were cooperating in the eradication of the pestilence and were doing effective work quite harmoniously, but now we are informed by cable that "the plague is still taking great toll from the Chinese section of the city but native resentment against the strict attitude of the authorities is proving a great obstacle to its extermination." Deaths from plague are no longer reported because the Chinese are up in arms against sanitary measures. There have been a number of disturbances in the affected districts—shortly after the sanitary measures were first put on there was more or less serious rioting and several persons met death by violence. This seems to have been due to the autocratic attitude of the foreign health authorities in trying to force stringent regulations of modern western sanitation on the Oriental through the medium of the Occidental. As a result they have been compelled to back up and begin again at the proper place but with a serious handicap. It behooves Manila, and perhaps San Francisco and Seattle, to increase their vigilance in regard to inspection of commerce and passengers from or via Shanghai.

The plan of the campaign of eradication of plague as given by the *National Review* (Shanghai) is as follows: "A house-to-house inspection is carried on by women inspectors accompanied by Chinese doctors, both the ladies and the physicians being fully qualified according to western standards. The campaign is under the supervision of Dr. Cox of the health department of the British settlement of Shanghai, at the invitation of the leading Chinese.

"Whenever a case of suspected plague occurs in a house the inmates are sent to the Chinese Isolation Hospital and there are kept under observation, their clothing being meanwhile fumigated and disinfected and their house, immediately they have left it, barricaded off by means of a corrugated iron fence sunk 2 feet deep in the soil and so erected as to leave no loophole through which rats can escape. While the barricading is going on, the interior walls and floors are sprayed with a disinfectant by means of the hand spray. This operation being over, a quantity of sulphur is placed in iron bowls, and these bowls set floating in tubs of water, one in each room of the house, or block of houses, and when this sulphur is lighted all doors and windows are closed, all crevices and open joints in doors, walls or windows are plastered over with tough brown paper, so that the houses, so far as possible, are without ingress for outside air or egress for the sulphur fumes. Fumigation is allowed twenty-four hours, at the end of which time the doors are opened, and then all hollow ceilings or walls are broken down, when a number of dead rats are always found and these are so disposed of as to prevent their being a source of further infection. When the hollow walls have been destroyed they are replaced by solid brick walls; and in the case of the uptorn hollow floors the several inches of rattery, in which has collected the almost indescribable filth that has found its way through the crevices of the frequently rotten floor, are filled up with clean ashes and rubble, to the original level of the floor beams. On this basis of ashes and rubble a layer of cement or asphalt is laid and the floor thus becomes quite solid and too poor to feed a church mouse, let alone a rat. To finish off the work the walls and ceiling are thoroughly whitewashed and then the house becomes habitable again."

The outcome of these measures will be watched with interest for it is the first time that western sanitary measures have been put into effect on so large a scale in time of peace in any Chinese community. Although there seems to be a growing demand for modern medicine in China, still medicine is so closely bound up with religion, superstition and the so-called Oriental philosophy that western medical standards will at best be but slowly adopted.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, Jan. 6, 1911.

Cremation in France and Abroad

From the official report on funerals it appears that in 1909 there were fewer cremations in France than in 1908. Abroad, the progress of cremation has been marked. In 1909 there were 13,500 cremations in the whole of Europe.

France and Belgium Agree in Regard to the Practice of Medicine on the Common Frontiers

France and Belgium have just come to an agreement according to which practitioners in medicine, surgery and obstetrics, as well as midwives and veterinarians residing in the border communes on either side of the frontier, are authorized to practice in the bordering communes across the line in which there are no resident physicians. The right of practicing in bordering communes of the neighboring country, however, does not give the right of being on a permanent footing there, of becoming domiciled there or of maintaining offices there.

Mineral Waters and Table Waters

To put an end to the numerous abuses in the sale of the so-called mineral waters, the superior council of hygiene of France has just decided that (1) "mineral water" is a water to which therapeutic properties are ascribed; it should be recognized as such by the Académie de médecine of Paris, authorized by the government and exploited under the conditions specified by the official organization; (2) "natural mineral water" in bottles is labeled so that it may be distinguished from other bottled waters; (3) in the exploitation of other waters, especially table waters, the employment of descriptive terms implying therapeutic properties is to be forbidden.

The Will of Dr. Henri Huchard

The late Dr. Huchard has bequeathed to the Académie de médecine a sum of $20,000 (100,000 francs) to found an annual prize to aid young students, who like his son, Marcel Huchard, in whose memory the prize is founded, are victims to professional devotion and to enable them to continue their studies.

An Institute of Infantile Hygiene

The general council of the department of the Seine has just voted to establish an institute of puericulture, which is to be both a popular center for the dissemination of knowledge of infantile hygiene, and a scientific center for the study of all questions related to infant-feeding, open to students, phy-

sicians, teachers, midwives, etc. Each year, more than 2,500 new-born infants are abandoned in Paris. These infants are to be examined by physicians and some selected to be entrusted to nurses who come regularly from the country to seek the little protégés of the city of Paris. The weakest and most undeveloped infants, and those which have contagious diseases or hereditary taint, are retained. They offer an ample field of study for physicians and students who wish to observe the growth of normal and feeble infants, to study the methods of artificial feeding, etc. But in order that the institute may serve for the popularization of infantile hygiene, Dr. Variot, the superintendent, proposes to install in the asylum a milk station in which unmarried mothers who wish to keep their children will receive aid and medical advice, if they nurse their children themselves, and good sterilized milk, if they are obliged to use the bottle. The new institute also will arrange conferences for teachers, who, according to the new programs, are obliged to give to young pupils the most elementary ideas of the care of children.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 5, 1911.

University Study in Germany

After the foundation of the German empire, the number of matriculates at the German universities increased from about 13,000 at such a remarkable rate that in the eighties the number had doubled and in 1904 had tripled. In the current semester 54,822 are enrolled as opposed to 52,407 in the previous year.

The yearly increase, 2,415, is somewhat smaller than that of the previous year, 3,670. The attraction of the university is moreover felt in neighboring countries; the French universities last year had 42,000 students. Of the entire number at present attending German universities, 52,404 are men and 2,418 women as compared with 50,557 and 1,850 in the previous year. At the ten Prussian universities, there are enrolled this winter 28,675 students (27,244 last year), in the three Bavarian, 9,341 (9,082); in the two Baden, 4,254 (4,101); and in the other six, including the imperial at Strasburg, 12,552 (11,980). The forward movement of physicians has continued, the number being 11,240 (as compared with 10,135 last year and 8,088 five years ago). Also with philologists, philosophers and historians, the marked increase of late years has not yet ceased. The smaller number of Protestant theologic students shows some improvement, as their number has increased to 2,535. There are 1,766 Catholic theologic students. Law students have diminished to a slight extent, their number being 10,890 (12,160), also dentists and students of pharmacy, the former from 1,395 in the previous year to 1,146, the latter from 1,279 to 954. It is interesting to determine the distribution of the German student body among the individual state universities and the changes that have lately occurred in this respect. Erlangen, Würzburg and Giessen have fallen off and the most marked increase has occurred at Halle, Jena, Kiel, Tübingen and Rostock. The University of Berlin retains its prominence, standing at the head with 9,686, and Munich holds the second place with 6,905.

If among the students attending the German universities there are also reckoned the so-called "Gastzuhörer," 3,528 men and 1,772 women, there are at the present time 60,122 persons receiving instruction at the German universities, a number not hitherto reached. The increase of the Berlin university which amounts to 883 students above the previous year is especially to be attributed to the attraction of the jubilee exercises.

In this increase of attendance, women have contributed proportionately more than men. In the various departments, the increase in attendance has been proportionally the greatest among theologic and medical students, the medical including 1,705 men and 159 women. European foreign countries send 841 men and 103 women; and those outside of Europe 145 men and 65 women; 69 more than last year come from America and 69 men from Asia. The Kaiser Wilhelm Academy for instruction in military medicine has this winter 414 students. Study by women has increased so that this winter there are 2,412 women, representing 4.4 per cent. of the German student body, as opposed to 2,169 (3.5 per cent.) last summer. This marked increase depends on an increased attendance from the empire itself and especially from Prussia; there are only 320 foreign women, of whom about half come from Russia and a third from America. In the different departments of university study, the present women students are distributed as follows: philosophy, philology, history and related studies, 1,370 as compared with 975 last year, medicine by 527, last year 476; natural science and mathematics 356 (287), dentistry 49 (46), civics and agriculture 60 (27), evangelical theology 7 (5) and pharmacy 5 (3).

Every year more and more, the educated women are devoting themselves to two fields; higher work in teaching and medicine. A third of all the female students are found at the University of Berlin, 806 (as compared with 626 last summer). At the ten Prussian universities 1,671 women are enrolled, at the three Bavarian 236, at the two Baden 370 and at the six remaining only 235. In the increase of women students, the Prussian universities have a much greater share than those in southern Germany. With the 1,772 women who are admitted this winter to the university lectures as listeners, the number of women attending the German universities at present amount to 4,184.

Carnegie Foundation for Life-Saving

As you already know from the newspapers, your great philanthropist, Andrew Carnegie, has contributed $1,250,000 to Germany for the purpose as expressed in his letter to the Kaiser, of diminishing the misfortunes connected with heroic efforts of saving human lives throughout the German empire and on its waters which have as a result the death or the invalidism of the life-savers. As may easily be understood, this new proof of magnanimous philanthropy has produced a great impression in Germany and especially with the emperor, who is peculiarly appreciative of all humanitarian efforts of this sort. In his letter of thanks, the emperor said: "The foundation will contribute to a large extent to the fulfilment in future of the duty of mankind to care for the victims of noble self-sacrifice in a way that has not before been possible. It will arouse in noble men the wish to perform acts of life-saving as they will lose all anxiety for the future of those they leave behind." Among those who are considered especially worthy of assistance are physicians. These are to be represented in the board of trustees of the foundation. The Kaiser himself has assumed the honorary protectorate.

International Exposition of Cripple Aid

An international exposition of aids for cripples will be held in connection with the International Hygiene Exposition in Dresden in 1911 and will have its own pavilion under the charge of the German association for the aid of cripples which will give any required information regarding the exposition through its business bureau (Berlin W. Bayreuther St. 13). Everything dealing with the care of cripples will be arranged in a systematic way in six different groups: (1) historical, developmental, statistical and literary data; (2) medical activity in the care of cripples; forms of disease, methods of treatment, results; (3) schools for cripples, ethical and religious education, practical instruction by schools; workshops; (4) social, legal and economic aspects; (5) building and arrangement of cripple homes and aid stations; (6) the cripple in art and literature. Each group will be arranged by a special overseer so that a complete supervision will be secured.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 3, 1911.

Child Labor in Austria

In a report by the school physicians, attention was called to the fact that the majority of working school children showed a very bad standard of physical fitness for the requirements of life. The matter was investigated by a committee under the auspices of a political party, and the results thus obtained are now brought to the knowledge of legislators with a view to obtaining adequate laws for the protection of children. In Vienna alone, 111,622 children under 14 years were engaged in work at home; 17,355 were employed in other households; 11,100 were working partly at home and partly out of the house, and 1,281 children were, so to say, independent workers, street vendors or the like. That this labor is not harmless is evident from its duration; 23 per cent. of all such children worked less than four hours a day, 37 per cent. were busy for four hours, 20 per cent. for eight hours, 1 per cent. for ten hours daily, 0.3 per cent. even more than that, while the remainder had no definite working hours. These figures

hold good for the winter half year. In summer time the conditions are worse, for the children have to work longer, 7.6 per cent. having a working day of over ten hours. The work is always done by school children. The mental work must be added to the physical work in order to find out the real amount of labor thus demanded of undeveloped individuals. The number of working hours thus arrived at amounted to fifty hours per week on an average; while 8 per cent. had more than sixty hours per week in winter, and more than 72 per cent. of the children in the summer had over sixty weekly work hours. This gives one the impression that the underfed children had longer working hours than the grown-up people.

Attempts to reduce the hours of school attendance for children employed otherwise have resulted only in increase of other work for them. In our country, school attendance is compulsory for all children between 6 and 15. Therefore, they have to sacrifice a good deal of the night to do the work demanded of them. Twenty-three per cent. of all working children had night work too; some had only from two to four weeks per year; some sixteen weeks; others even a longer period and 16 per cent. had night work too all the year round. The financial result of such "sweating" hardly counterbalances the detrimental effects of this system. The reports of the school physicians mention that the health of 103,877 children (75 per cent.) of those examined was unsatisfactory. The effects of physical work on cerebration were manifestly bad. Such a condition naturally affects national health and national power, for in our country military service is also compulsory; the overworked children cannot grow into fit soldiers. Therefore public interest is deeply involved in the proper solution of this problem.

Antituberculosis Campaign at Budapest

Since the International Medical Congress met in Budapest, the public authorities have become attentive to the necessities of modern hygiene, which hitherto have been somewhat neglected in the city. The latest scheme deals with the prevention of tuberculosis. A far-reaching campaign has been worked out by two men who already have done much to bring the public to an understanding on this point, Dr. Tauszk and Dr. Ruthy. One of the most radical features of the plan is the compulsory removal of infected persons into a special tuberculosis district, to be laid out in the hilly northeastern parts of the kingdom. Apart from that, the erection of a sufficient number of sanitariums is also planned. Tuberculosis is very frequent in the capital because of the congestion of the people in a small area. In Budapest, overcrowding is the result of a shameless policy by the houseowners, who have pushed up rents to a prohibitive height for smaller lodgings. In fact, several instances of a lodgers' strike have been witnessed there. The effects on the health of the poorer classes can be easily imagined. Mortality among children is high especially; 30 per cent. of all infants in the poorer population do not reach the end of their first year.

Attempted Organization of Hungarian Contract Practitioners

The contracts which hitherto have been the basis for apportionments of physicians to the industrial work are now being revised by a committee of physicians, who are trying to bring about an organization of the practitioners for this purpose. A strike which broke out recently ended unfavorably for the physicians, owing to the lack of discipline. A quiet but radical agitation is now working to bring about the required and desired union of physicians in Hungary, after which a renewed attempt will be made to improve the present condition of contract practice.

Marriages

PAUL L. ASHLEY, M.D., Wibaux, Mont., to Miss Mabel Reid, at Cleveland, January 16.

PHILIP FRANK SHAFFNER, M.D., to Miss Beatrice Melanie Weil, both of Chicago, January 18.

FREDERICK AUGUSTUS WASHBURN, M.D., to Miss Amy Silsbee Appleton, both of Boston, January 9.

ELMER ELLSWORTH KEPNER, M.D., to Miss Mamie Katherine Smith, both of Cleveland, January 3.

JAMES G. LAMB, M.D., Fisher, Ill., to Miss Elnora Larson of Voorhies, Ill., at Bement, Ill., January 4.

CHARLES RANSOM REYNOLDS, M.D., U. S. Army, to Miss Jane Boyd Hurd of Watkins, N. Y., December 26.

Deaths

William Grier, M.D. Surgeon-General, U. S. Navy, retired, died at his home in Washington, January 11, aged 94. Dr. Grier received his medical education in Baltimore and was appointed assistant surgeon, U. S. Navy, March 7, 1838; was made passed assistant surgeon in 1852; served during the Mexican and Civil Wars; was afterward a member and later president of the Naval Examining Board, and in 1877 was made surgeon-general, chief of the Bureau of Medicine and Surgery with the rank of commodore, and was retired on account of age, Oct. 5, 1878, after seventeen years and seven months of sea service and seventeen years and seven months of shore or other duty.

Harvey Lyman Rosenberry, M.D. Starling Medical College, Columbus, 1883; a member of the American Medical Association; formerly president of the Marathon County (Wis.) Medical Society; president of the Ninth Councilor District Medical Society; physician to the Marathon County Asylum for the Chronic Insane, and Marathon County Home and Hospital; president of the local board of pension examiners; medical director of the Great Northern Life Insurance Company; died at his home in Wausau, Wis., January 11, from cerebral hemorrhage, aged 53.

William Smith Ely, M.D. College of Physicians and Surgeons, New York City, 1867; a member of the American Medical Association and New York Academy of Medicine; formerly president of the Medical Society of the State of New York; for twenty years a member of the State Board of Medical Examiners; assistant surgeon of the One Hundred and Eighth New York Volunteer Infantry during the Civil War; for many years a trustee of the University of Rochester; died at his home in Rochester, January 15, from angina pectoris, aged 69.

John Flint, M.D. Harvard Medical School, 1903; passed assistant surgeon, U. S. Navy; a member of the American Medical Association; died in the Naval Hospital, Chelsea, Mass., January 11, from pneumonia, aged 34. After his service in the Massachusetts General Hospital, Dr. Flint entered the navy as an assistant surgeon in April, 1904, resigning in September of the same year. He then practiced in Chicago for a time, but reentered the medical corps of the navy in 1906, and was promoted to passed assistant surgeon in February, 1909.

Francis P. Casey, M.D. College of Physicians and Surgeons, New York City, 1864; of Auburn, N. Y.; from 1862 to 1864 medical cadet in the army and afterwards assistant surgeon of the Eighth New York Volunteer Artillery during the Civil War; who after the close of the war, went abroad and entered the Roumanian service and later served for one year as surgeon during the Russo-Turkish War; died in a hospital in New York City, January 3, from erysipelas, following an operation for a growth on the forehead, aged 69.

Lewis A. Querner, M.D. Medical College of Ohio, Cincinnati, 1867; a member of the Ohio State Medical Association and Cincinnati Academy of Medicine; formerly workhouse physician of Cincinnati; surgeon for the fire department for eight years, and for the police department for three years, and for one term coroner of Hamilton County; a hospital steward during the Civil War; died at his home in Cincinnati, January 7, from valvular heart disease, aged 65.

William Hull Ramsey, M.D. Beaumont Hospital Medical College, St. Louis, 1897; Medical Reserve Corps, U. S. Army; attending surgeon headquarters Department of the Missouri, Omaha; division surgeon for the Missouri Pacific System; associate professor of anatomy in the University of Nebraska; died suddenly in his hotel in Omaha, January 14, from chronic interstitial nephritis, aged 38.

Clarence Wright Heath, M.D. College of Physicians and Surgeons, Chicago, 1900; a member of the American Medical Association; oculist to the Erring Woman's Refuge of Reform and St. Joseph's Hospital; instructor in ophthalmology in the Chicago Policlinic; died in Mercy Hospital, Benton Harbor, Mich., January 16, from pneumonia, aged 40.

Charles Edward Inches, M.D. Harvard Medical School, 1865; a member of the Massachusetts Medical Society; assistant surgeon of the Thirty-Seventh and later of the Twentieth Massachusetts Volunteer Infantry during the Civil War; for several years physician to the North End Dispensary; died at his home in Boston, January 11, aged 70.

William Wolfe Lesem, M.D. College of Physicians and Surgeons, New York City, 1903; a member of the American Medical Association; and visiting physician to the City, Children's and Mount Sinai Hospitals; a specialist on nervous and men-

tal diseases; died at his home, January 10, from cerebral hemorrhage, aged 32.

Charles Baeder Williams, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Medical Society of the State of Pennsylvania, and resident physician of the Pennsylvania Hospital for the Insane, Philadelphia; died in the Pennsylvania Hospital, January 9, three days after a surgical operation, aged 45.

Mary Ann Holbrook, M.D. University of Michigan, Ann Arbor, 1880; for six years a medical missionary of the A. B. C. F. M., in Tung Cho, North China; and later teacher of science in the Kobe (Japan) College for Women; died in East Haven, Conn., December 2, from pneumonia, aged 56.

John Perrine Gilbert, M.D. New York University, New York City, 1856; assistant surgeon U. S. Navy, and later surgeon of volunteers during the Civil War; at one time postmaster of Long Island City; health officer of the town of Lyons, N. Y.; died at his home, January 7, aged 81.

James Monroe Graham, M.D. Maryland Medical College, Baltimore, 1902; a member of the Medical Society of Virginia; of Sidney, Neb.; formerly of Willis, Va.; died in the Methodist Episcopal Hospital in Omaha, January 9, from tuberculosis of the kidneys, aged 32.

Warren G. Priest, M.D. Washington University, St. Louis, 1878; for eight years chief dispensary physician and since that time chief vaccine physician of the St. Louis Health Department; died in the Koch Hospital, St. Louis, January 11, from tuberculosis, aged 56.

Edward Kirkland Shelmerdine, M.D. University of Pennsylvania, Philadelphia, 1900; of Germantown, Philadelphia; surgeon to the Philadelphia Rapid Transit Company; died in the Germantown Hospital, January 10, after an operation for appendicitis, aged 39.

Fred Smith Hutchinson, M.D. University of Vermont, Burlington, 1882; a member of the Vermont State Medical Society; died at his home in Enosburg Falls, January 6, from internal injuries resulting from being thrown from his sleigh three days before, aged 49.

Albert Joseph Mayer, M.D. Tulane University of Louisiana, New Orleans, 1902; a member of the American Medical Association; a member of the staff of the Touro Infirmary; died at his home in New Orleans, January 14, from influenza, aged 33.

William S. Leiter, M.D. College of Physicians and Surgeons, Chicago, 1890; of Claypool, Ind.; a member of the American Medical Association; is said to have committed suicide by hanging himself in his home in Claypool, January 12, aged 45.

John Wesley Harrison, M.D. Atlanta County (Ga.) Medical College, 1859; Medical College of Virginia, Richmond, 1860; a Confederate veteran; died at his home in Kempner, Tex., November 27, from pneumonia, aged 72.

Berwick Bruce Lanier, M.D. University of Maryland, Baltimore, 1892; for several years associate professor of principles of surgery in his alma mater; died at his home in Baltimore, January 1, from disease of the liver, aged 41.

John P. Lave, M.D. New York University, New York City, 1878; a member of the American Roentgen-Ray Society; first police surgeon of Chicago; died at his home in that city, January 15, from locomotor ataxia, aged 54.

Laban Langstaff Bradshaw, M.D. Bellevue Hospital Medical College, 1880; a member of the American Medical Association and New York Academy of Medicine; died at his home in New York City, January 9, from hemophilia, aged 57.

Edwin H. Botts, M.D. Fort Wayne (Ind.) College of Medicine, 1893; formerly a member of the American Medical Association; died at his home in Zanesville, Ind., January 10, from cerebral hemorrhage, aged 52.

Percy William Shedd, M.D. New York Homeopathic Medical College, New York City, 1904; of New York City; died in a hotel in Newark, N. J., January 10, from the effects of an overdose of morphin, aged 41.

William Aloysius Oberle, M.D. Baltimore Medical College, 1906; of Newark, N. J.; died in St. James Hospital in that city, January 5, from septicemia, contracted in performing a surgical operation, aged 28.

A. K. Kinne (license, Vermont, 1888); a member of the Vermont State Medical Society; for thirty years a practitioner; died at his home in Middletown Springs, January 7, from pneumonia, aged 73.

Theodore F. Fienup, M.D. St. Louis University School of Medicine, 1904; a member of the American Medical Association; died at his home in St. Louis, December 31, from pneumonia, aged 39.

R. Burdett Hoyt, M.D. Albany (N. Y.) Medical College, 1903; a member of the Medical Society of the State of New York; died at his home in Schenectady, January 11, from pneumonia, aged 29.

Samuel B. Junkin (license, Indiana, 1897); for nearly half a century a practitioner of North Webster; surgeon of volunteers during the Civil War; died at his home in that place, January 10, aged 82.

Charles Alfred Greene, M.D. University of Buffalo, N. Y., 1873; a member of the American Medical Association; died at his home in Windom, Minn., November 10, from heart disease, aged 65.

Louis H. Stoeffhaas, M.D. Rush Medical College, 1899; of Chicago; a member of the American Medical Association; died in St. Anthony's Hospital, Chicago, July 7, from endocarditis, aged 33.

David R. B. Greenlee, M.D. University of Pennsylvania, 1852; a member of the Arkansas Medical Society; a Confederate veteran; died at his home in Mayflower, January 1, aged 81.

Charles R. Watkins (registration, Texas, 1907, Twenty-Fifth Judicial District Board, 1894); died suddenly at his home in Floresville, December 31, from cerebral hemorrhage, aged 51.

James Oscar Breech, M.D. Barnes Medical College, St. Louis, 1906; assistant to the chair of gynecology in his alma mater; died at his home in St. Louis, December 30, from nephritis; aged 50.

Joseph Camille Gariepy, M.D. Laval University, Quebec, 1890; a member of the Fitchburg (Mass.) Medical Club; died at his home in Fitchburg, December 26, from heart disease, aged 45.

Nelson Ingram, M.D. Bellevue Hospital Medical College, 1865; surgeon in the navy during the Civil War; died at his home in Atlantic City, N. J., January 5, from acute gastritis, aged 67.

William Edward Curd, M.D. University of Nashville, Tenn., 1900; a member of the American Medical Association; died at his home in Copan, Okla., January 11, from typhoid fever, aged 37.

Daniel Buttrick Woodward, M.D. Harvard Medical School, 1865; a member of the Medical Society of the State of New York; died at his home in Ellenburg Corners, recently, aged 75.

William Sloan Creveling, M.D. New York University, New York City, 1851; a life member of the Medical Society of New Jersey; died at his home in Valley, January 1, aged 81.

Allison O. Douglass, M.D. Long Island College Hospital, 1876; a member of the American Medical Association; died at his home in Rome, N. Y., January 11, from pneumonia.

Robert L. Wood, M.D. University of Louisville, Ky., 1846; one of the oldest residents of Leavenworth, Kan.; died at his home in that city, January 1, from senile debility, aged 89.

William Jerome Doyle, M.D. Vanderbilt University and University of Nashville (Tenn.), 1892; died at his home in Greeley, Neb., December 26, from heart disease, aged 51.

William T. Grissom, M.D. University of Tennessee, Nashville, 1878; a member of the Kentucky State Medical Association; died at his home in Bliss, January 1, aged 57.

George Armstrong Hill, M.D. Jefferson Medical College, 1870; a member of the Medical Association of the State of Alabama; died at his home near Sylacauga, January 4, aged 61.

John Clark Spinks, M.D. Tulane University of Louisiana, New Orleans, 1857; died at his home in Shubuta, Miss., December 24, from cerebral hemorrhage, aged 79.

William Clark Griffith, M.D. Jefferson Medical College, 1888; of Mystic, Ia.; died in St. Joseph's Mercy Hospital, Centerville, Ia., January 9, from exposure, aged 67.

S. M. Lewis (license, Arkansas, 1903); for forty years a practitioner of the state; died at his home in Barren Fork, December 19, from pneumonia, aged 77.

Claiborne C. Stivers, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; died at his home in Horton, Kan., January 8, from pneumonia, aged 69.

Aneillio Preziosi, M.D. College of Physicians and Surgeons, Baltimore, 1909; died at his home in Stamford, Conn., May 23, from lobar pneumonia, aged 27.

Asa Brayton, M.D. Medical College of Ohio, Cincinnati, 1857; Bellevue Hospital Medical College, 1870; died at his home in Carey, O., January 11, aged 79.

James M. Kercheval, M.D. University of Pennsylvania, Philadelphia, 1858; died at his home in Nashville, Tenn., January 3, from influenza, aged 75.

Ernest Robertson McGregor, M.D. University of Georgia, Augusta, 1910; died at his home in Athens, Ga., December 19, from hemophilia, aged 32.

Newton Emmer Heath, M.D. Albany (N. Y.) Medical College, 1883; died at his home in Lee, Mass., January 7, from heart disease, aged 50.

Byron E. Webster (license, years of practice, Illinois, 1878); died at his home in Benton, December 13, from cerebral hemorrhage, aged 71.

William Edward Pole, M.D. Jefferson Medical College, 1900; died at his home in Philadelphia, August 29, from sarcoma of the liver, aged 42.

Hugh C. Discus, M.D. Physio-Medical Institute, Cincinnati, 1863; died at his home in Utica, O., January 8, from pneumonia, aged 76.

John Icilius King, M.D. Bellevue Hospital Medical College, 1873; died at his home in Burghill, O., January 3, from pneumonia, aged 62.

Thomas M. Carpenter (registration Greene County, Pa., 1884); died at his home in Deep Valley, Pa., August 28, aged 68.

J. P. Eichler, M.D. Germany; for sixty years a practitioner; died at his home in Fayetteville, O., September 19, aged 87.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE INCOMPATIBILITY OF ANTIPYRIN, CALOMEL AND SODIUM BICARBONATE

An inquiry has been received from a correspondent concerning the incompatibility (thought to be dangerous) of a mixture of antipyrin, calomel and sodium bicarbonate in the following prescription:

R	Mild mercurous chlorid	2 grains
	Antipyrin	6 grains
	Sodium bicarbonate	q. s.

Mix and divide into 12 powders.

On account of lack of authoritative information on the subject the matter was referred to the Association laboratory, which made the following report:

"The literature contains little definite information concerning the incompatibility of a mixture of these substances.

"Holland[1] states that antipyrin is incompatible with many substances, among which calomel and sodium bicarbonate are mentioned, but nothing is said concerning its incompatibility with a mixture of the two salts. Another writer[2] reports that antipyrin is incompatible with the chlorids of mercury, while another[3] declares that 'antipyrin is almost universally incompatible.' It is frequently stated that antipyrin is incompatible with calomel, mercuric chlorid, mercurous oxid and metallic mercury being formed. This assertion, which is made by Werner[4], needs experimental confirmation. One writer[5] says that there is but little danger in dispensing calomel and antipyrin when the former is prescribed in small doses, as but a small part of the calomel (one-tenth or less) is converted into corrosive sublimate.

1. Med. Chem., Ed. 2, 1908, p. 482.
2. Stark: Am. Pharm. Assn. Proc., 1893, xli, 506.
3. Fantus: Prescription Writing, 1906, p. 219.
4. Pharm. Ztg., 1896, xli, 395.
5. Critic and Guide, 1910, xiii, 117.

"As it seemed worth while to obtain some experimental data on the point involved, a mixture was prepared having the following composition:

Calomel	2 parts
Antipyrin	6 parts
Sodium bicarbonate	12 parts

"By qualitative tests it was demonstrated that when this mixture is treated with water a bluish-gray residue remains undissolved and a soluble mercury salt is found in solution. The composition of the insoluble residue was not determined, but there was considerable evidence that it is largely composed of metallic mercury and unchanged calomel. If the prescription powder be treated with an excess of 0.2 per cent. hydrochloric acid the reaction noted above does not occur; no mercury is found in solution and the calomel appears to be unchanged. If a mixture of calomel and antipyrin be suspended in water no reaction appears to take place at once. The calomel retains its natural color and no mercury salt is found in the solution. If to this aqueous solution of antipyrin containing suspended calomel some sodium bicarbonate be added the calomel immediately changes color and the mixture becomes of the same appearance as does the original mixture when treated with water.

"Preliminary determinations indicated that from one-sixth to one-fourth of the calomel present is converted into a soluble mercury salt. If the entire quantity prescribed be administered the patient would receive a soluble mercury salt equivalent to from ⅓ to ½ grain of corrosive sublimate.

"The incompatibility of the mixture will be apparent to any physician who will take the trouble to pour a few drams of water on a small portion of the powder; and that it is dangerously incompatible is shown by the large proportion of the mercury salt which is rendered soluble. If the mixture be administered in a capsule the danger would be lessened somewhat, as the acidity of the stomach would tend to neutralize the sodium bicarbonate, on the presence of which the reaction appears to depend. Since medical and pharmaceutical textbooks contain so little definite information concerning the incompatibility of this combination, too much blame should not be attached to those who have prescribed it and to pharmacists who have filled such prescriptions. However, if used at all, it should be in the most cautious dosage."

ONE DRUG JOURNAL'S ATTITUDE ON NOSTRUMS

A correspondent wrote from Hawaii to the *Druggists Circular* making the following request:

"In the interest of a suffering public, we desire to obtain from you information as to the highest class and most efficacious cure for the disease of asthma, and the name of the firm or house who manufactures same, with the purpose of securing the sole agency of the remedy for sale in this Territory of Hawaii.

"Also . . . an emmenagogue which has stood the test of clinical experience and recognized as the standard.

"Trusting to receive this information at your hands at the earliest convenience, and thanking you in advance for humanitarianism . . . "

The *Druggists Circular's* reply is admirable and we give it in full; it needs no comment:

"We are sorry to have to say that we are unable to supply the desired information, and the reason for our inability should suggest itself to any druggist who gives the matter serious thought for a few moments.

"Asthma is a manifestation which frequently baffles the skill of the best physicians who are called on to treat patients suffering with it, and perhaps no two cases should be treated exactly alike, for not only the varying phases of the disease itself, but the idiosyncrasies of the patient must be taken into consideration if the best effect is to be obtained. If, then, a competent physician, who is familiar with the case and sees the patient from time to time and uses his best judgment in varying the treatment as necessity arises, does not always get results which are satisfactory to all concerned how can it be possible for some nostrum manufacturer who has never seen the sufferer and knows nothing about the peculiarities of his case, to be able to prescribe a single remedy which will fit it and thousands of others partly like it and partly different?

"The same question might be asked with at least as much if not even greater propriety concerning the other remedy requested and the complaint for which it is to be used.

"'In the interest of a suffering public'—which has already suffered too long at the hands of nostrum manufacturers whose principal asset is public ignorance—we suggest that druggists use their influence to send sufferers from asthma and other ills to those who are legally authorized and presumably professionally equipped to diagnose their cases and prescribe remedies for their relief. The man who undertakes to diagnose and prescribe when he has not completed a course of study which entitles him to legal recognition as an expert in the practice of medicine, thereby becomes a quack and may justly be regarded as a faker; and his status is not changed by his surroundings, no matter whether they be the luxurious fittings of a suite of offices in a large manufacturing establishment, rows of bottles over a prescription counter, or the gaudy trappings of a mountebank's cart at a county fair."

Correspondence

Bacteriologic vs. Clinical Control of Diphtheria Quarantine

To the Editor:—Dr. Simonds in his article on diphtheria (THE JOURNAL, Jan. 7, 1910, p. 37) said: "It is evidently unjust to . . . the patient . . . to place him in quarantine on a clinical diagnosis of diphtheria, which in over 40 per cent. of the cases is proved by bacteriologic examination to be incorrect."

It seems to me that this is assuming an infallibility for bacteriologists that is unwarranted. No careful and experienced physician would consider even half a dozen bacteriologic examinations as proof of error in a case diagnosed as diphtheria from clinical evidence such as the presence of a membrane and a rise of temperature. Negative evidence must always be uncertain, and, while a positive diagnosis based on bacteriologic examination should be taken as conclusive even where the clinical evidence is negative, it does not follow that the reverse is true. In other words, the presence of the characteristic membrane is quite as conclusive as a positive bacteriologic finding.

THOMAS J. TURPIN, Corpus Christi, Tex.
Health Officer Nueces County.

[The above was referred to Dr. Simonds, who writes:]

To the Editor:—It must be borne in mind that the statement quoted by Dr. Turpin referred solely to the regulation of quarantine in diphtheria. It was not intended to apply to the treatment of the disease. When the clinical symptoms are reasonably clear, the physician who administers antitoxin without waiting for a bacteriologic examination is to be commended. The harmlessness of antitoxin and the more favorable results obtained from early injections render its use on clinical grounds alone perfectly justifiable. But in the case of quarantine I insist that it is unjust to a patient, especially to an older child or adult, to confine him for an arbitrary period of time on clinical grounds alone when a bacteriologic examination is obtainable. It is just as unfair to the community to release such a patient merely because all symptoms of diphtheria have disappeared.

It is true that a small percentage of positive cases are negative on first culture—at the Boston City Laboratory something more than 6 per cent. This simply means that neither clinical nor bacteriologic examinations are absolutely infallible, but that the percentage of error in the latter, especially where single negative cultures in suspicious cases are followed by second cultures, is so small that we are justified in relying entirely on this method for the regulation of quarantine.

I cannot agree with Dr. Turpin that "the presence of a characteristic membrane is quite as conclusive as a positive bacteriologic finding." For the control of treatment such a principle is very good; but from the standpoint of public health it is exceedingly bad for two reasons: First, when the people of a community are taught that a membrane is characteristic of diphtheria it will be difficult to convince them that the patient may still be a source of danger after the membrane has disappeared. Second, such people will also refuse to believe that a perfectly healthy person may be a carrier of virulent diphtheria bacilli and thus be a menace to his associates. It is from patients released too early and from healthy carriers that the disease is kept alive in a community.

To sum up the whole matter, the control of treatment by clinical manifestations is entirely justifiable; but the regulation of quarantine should be based solely on the results of bacteriologic examinations, when such are obtainable. Every suspicious case should be held in temporary quarantine until the result of the bacteriologic examination is known. Such a method, while not absolutely infallible, is far more accurate than clinical observation; it will certainly insure better protection to the community.

J. P. SIMONDS, Indianapolis.

Gonorrhea and Ophthalmia Neonatorum

To the Editor:—I am in receipt of a circular letter from the Ohio State Board of Health and the Ohio Commission for the Prevention of Blindness, stating that more than one-fourth and nearly one-third of all blindness of infants in Ohio is due to ophthalmia neonatorum, urging the necessity of preventive treatment of the new-born and also announcing the free distribution of silver nitrate solutions to physicians and midwives. While this is a laudable effort and one to which we should all lend a helping hand, we must go a step farther, it seems to me, if we wish to strike at the root of this evil. For every child born with this disease there is a mother who is infected with gonorrhea. For nearly every mother so infected there is a father who married with an uncured case of gonorrhea. While it may be true that in many instances the man has made no effort to obtain a cure, or what is worse, has been self-treated or treated by a druggist, it is equally true that in the majority of cases he has been treated and discharged as cured by a practicing physician. It is high time to call a halt and to ask that the treatment of this disease be given the same serious consideration as is granted to other much less serious and far less disastrous diseases. The presence or absence of a visible discharge seems to be the only determining factor that is used by the majority of men in diagnosing the presence or absence of gonorrhea. This is utterly fallacious. In the same category may be placed a single determination of the presence or absence of the gonococcus in the discharge. Of course the use of such means leads to the discharge from treatment of thousands of men who are still suffering from the disease and who will, in the majority of instances, infect their innocent partners. Instances of this kind have come to the notice of every practicing physician in this country. The following item, clipped from a Cleveland daily paper, illustrates the frequency of such cases:

TO PROSECUTE MIDWIFE—SOCIETY CHARGES THAT WOMAN NEGLECTED BABY'S EYES

A warrant was yesterday issued from the police prosecutor's office for the arrest of Mrs. Rose Natrefa, charging her with failing to report soreness of a child's eyes. Mrs. Natrefa, who is a licensed midwife, lives at 2253 East Eighty-Third Street.

Officers of the Society for the Promotion of the Interests of the Blind found Luretta Sovenski, 3 days old, 7610 Stanton Court, S.-E., infected with what physicians say is an extremely virulent case of sore eyes. The baby was at once removed to Lakeside Hospital, where the physicians say there is only a slight chance of preserving its sight. The midwife, officers who made the investigation say, told the mother of the child that the case was nothing more than a cold in the baby's eyes.

I have not touched on the morbidity in the patient himself, which, as we all know, is of alarming frequency, and, in the case of women especially, is attended with such dire results. Let me repeat, the time has come for intelligent, serious and persistent treatment of gonorrhea to prevent the consequences of present-day methods.

DR. W. E. SAMPLINER, Cleveland.

Action of One Society on the Secret Commission Evil

To the Editor:—The subject of fee-splitting and commission-giving by surgeons has come up in the Western Surgical Association, and the society has taken some definite steps to eliminate the practice. Dr. John P. Lord, in his presidential address, read a paper on this subject. The executive council

eliminated a number of applicants for membership from the list of those eligible to election, because of authentic knowledge of such practice on their part.

The executive council went a step further than this, however, and considered the question in connection with some of those who are already members of the association. A number of members were dropped in order to increase the efficiency of the society. They were stricken from the list for various reasons; a few of them for the practice of fee-splitting and commission-giving.

A. T. MANN, Secretary, Minneapolis.

Transmission of Bubonic Plague

To the Editor:—In THE JOURNAL (December 24, 1910, p. 2258), in an abstract of a report on bubonic plague in California by an officer of the United States Public Health and Marine-Hospital Service, occurs the following:

> The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings, but by its bite infects the rat, which in turn, acting as a germ-carrier, bites and infects a human being, who in due course comes down with bubonic plague.

The latter presumably then bites his fellow-men and thus passes the disease along, and this would argue the necessity for muzzling every person afflicted with plague! But, seriously, what has become of the rat-flea which recently figured so largely as an indispensable factor or link in the spread of this disease? And an answer to this question is required by what follows the above quotation, namely, "as all that is necessary to start a season of bubonic plague anywhere is an infected ground-squirrel or human being."

Is this orthodox teaching concerning the science of sanitation as applying to bubonic plague, or is it merely an instance of misquoting or bad reporting? For, if the latter, it is too serious to pass uncorrected.

GEORGE HOMAN, St. Louis.

[COMMENT:—The error was due to a mistake of the reporter. The sentence should read: "The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings. Squirrel-fleas transmit the plague germs to rats, and rat-fleas in turn bite and infect human beings."—ED.)

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ACUTE THYROIDITIS

To the Editor:—I was very much interested in the report in THE JOURNAL (Nov. 12, 1910, p. 1732) of a case of acute thyroiditis, because of having encountered, a few years ago, my first and, so far, my only patient suffering from this condition, and because of the apparent rarity of the condition, the suddenness of onset, the difficulty of determining the etiology, at least in my patient. I cannot see valid reasons for attributing the thyroiditis, in the case of Drs. Lewis and O'Neill, to the infection of their patient from the horses suffering from epizootic. While it could not be disproved, I cannot but feel that it is possibly a coincidence, especially because of the rapid and complete recovery. My patient had a slight recurrence a few weeks later, which, I understand, may be expected in these cases. I did not see him in the second attack, which was mild, giving him but little trouble, he said.

Another thing which has impressed me is the slight mention of the condition in the literature, many of the text-books not referring to it at all. I am quite sure that the well-developed case of much severity, confronting for the first time the young practitioner who perhaps has never heard of the condition or has forgotten it, will occasion some serious and anxious thought on his part.

A German farmer, of good habits, aged 65, had been in his usual good health, doing no hard work, although still a very active man. On Aug. 9, 1904, he had gone to the elevator, some five or six miles from his home, and was returning shortly before noon in an open lumber wagon. When nearing home he suddenly noticed a sensation of pressure in the throat, increasing to choking, with dyspnea and dysphagia. Putting his hand to his neck, he found an immense tumor. He managed to get home and was brought immediately to my office. These symptoms came on very rapidly, reaching their acme, he says, in less than an hour. I saw him within two or two and a half hours of the onset.

The patient was somewhat nervous and excited, cyanotic, hoarse and suffering great difficulty in speaking, with great dyspnea and dysphagia. The thyroid gland was immensely enlarged, distended and distinctly outlined, the overlying skin flushed. He was put to bed and morphin and cathartics administered and an ice-bag applied over the thyroid gland. The condition began to improve in a few hours and passed off in two or three days, with no trouble since, except as stated above. This patient has developed in the meantime cardiac symptoms, that is, within the last two or three years, apparently due to myocarditis.

I have talked with a friend in St. Louis who has encountered three or four cases of acute thyroiditis in his practice. One of the patients died in an attack; I think, a second attack.

I should like to hear from others and to have references to literature on this condition.

G. L. ARMSTRONG, M.D., Taylorville, Ill.

ANSWER.—Our correspondent reports a very interesting case, although perhaps some doubt may be thrown on the diagnosis of thyroiditis, inasmuch as swelling occurring so suddenly would suggest hemorrhage or some other cause than inflammation. Little is given in text-books on this subject and literature is scanty. The following are some of the principal articles on acute non-suppurative thyroiditis:

Kyle, D. B.: Simple Acute Thyroiditis with Report of Two Cases, *Ann. Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Illoway, H.: Case of Acute Thyroiditis of Rheumatic Origin, *Ann. Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Secord, E. R.: A Case of Acute Thyroiditis, *Canada Lancet*, February, 1903.

Garbini, G.: Acute Thyroiditis, *Arch. ital. di otol.*, 1903, xiv, No. 1.

Quervain, F. de: Acute, Non-Suppurative Thyroiditis, *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1905, xiii, Supplement; *Semaine méd.*, 1905, xxv, No. 44; abstr. in THE JOURNAL, Dec. 2, 1905, p. 1765.

Lublinski: Acute Iodin Intoxication and Acute Inflammation of the Thyroid, *Deutsch. med. Wchnschr.*, 1906, xxxii, No. 8; abstr. in THE JOURNAL, April 14, 1906, p. 1147.

Lamb, S. D.: Case of Acute Thyroiditis, *Washington Med. Ann.*, 1907-08, vi, 243.

Dunger, R.: Acute Non-Suppurating Thyroiditis, *München. med. Wchnschr.*, Sept. 8, 1908; abstr. in THE JOURNAL, Oct. 17, 1908, p. 1381.

Schwerin, H.: Acute Non-Suppurative Thyroiditis, *München. med. Wchnschr.*, Oct. 13, 1908; abstr. in THE JOURNAL, Nov. 21, 1908, p. 1826.

Lecène, P., and Metzger: Acute Thyroiditis in Puerperal Infection, *Ann. de Gynéc. et d'Obst.*, February, 1910; abstr. in THE JOURNAL, April 2, 1910, p. 1174.

Parisot, J.: Acute Thyroiditis and Cardiovascular Complications, *Presse méd.*, May 7, 1910; abstr. in THE JOURNAL, June 11, 1910, p. 2007.

Lewis, J. P., and O'Neill, B. J.: Acute Thyroiditis with Edema of the Glottis, THE JOURNAL, Nov. 12, 1910, p. 1732.

DOSE AND VALUE OF SALVARSAN AND OTHER ARSENIC COMPOUNDS

To the Editor:—Please answer the following questions:

1. What per cent. of arsenic does each of the following contain: arsenous acid; sodium arsenate; sodium cacodylate; salvarsan?
2. What is the maximum single dose, by mouth, of arsenous acid, sodium arsenate, sodium cacodylate?
3. What is the maximum single dose, hypodermically, of sodium cacodylate; salvarsan?
4. Would it not be possible to introduce into the system with sodium cacodylate as much arsenic as it is possible to do with salvarsan, and in as short a period of time and with as little or less danger to the patient? If so, what advantage has salvarsan over sodium cacodylate in the treatment of syphilis?

G. W. SHRIVER, Sistersville, W. Va.

ANSWER.—1. Arsenous acid (arsenic trioxid) contains 75.74 per cent. of arsenic; sodium arsenate (crystallized) contains 24.01 per cent. of arsenic; sodium cacodylate (crystallized) contains 35.64 per cent. of arsenic; salvarsan should contain 34.16 per cent. of arsenic.

2. The dose of arsenic trioxid is given as from 0.002 to 0.004 gm. (1/30 to 1/15 grain). It may be increased gradually as tolerated by the patient, and it is impossible to state the maximum dose that can be given, except that we know the fatal dose is as small as 2 grains, and probably 1 grain may be fatal in some patients. The compounds of arsenic acid, like sodium arsenate, are not so poisonous as those of arsenous acid, hence sodium arsenate can be given in larger doses. The dosage is stated to be 0.003 to 0.008 gm. (1/20 to 1/8 grain). The dose of sodium cacodylate is from 0.03 to 0.13 gm. (1/2 to 2 grains).

3. The maximum dose of sodium cacodylate, hypodermically, would appear to be 0.13 gm. (2 grains). According to the experiments of Dawes and Jackson (THE JOURNAL, June 22, 1907, page 2090), sodium cacodylate appears to have only a very slight toxic action. They found that 0.5 gm. did not kill a rabbit, while 0.8 gm. did. The toxic dose of salvarsan has been estimated to be 0.15 gm. per kilo, which would correspond to 10.5 gm. for a man weighing 70 kilo. The maximum dose of salvarsan may be put at 0.6 gm., although possibly more might be given without serious results. A dose above 0.6 would, however, be attended with risks.

4. This question cannot be answered positively at present. The important question is, rather, how much arsenic becomes available to the system without danger to the patient. In the case of sodium cacodylate at any rate, it is probably only the arsenic which is reduced to the inorganic form that is therapeutically active.

JOURNALS ON OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY

To the Editor:—Please inform me as to the best eye, ear, nose and throat journals for a specialist.

C. W. BANKES, Reading, Pa.

ANSWER.—The following are representative journals:

Annals of Ophthalmology, Mermod-Jaccard Bldg., St. Louis; quarterly; $4 a year; with *Annals of Otology, Rhinology and Laryngology,* $7 a year.

Annals of Otology, Rhinology and Laryngology, Mermod-Jaccard Bldg., St. Louis; quarterly; $4 a year.

Archives of Ophthalmology (Am. ed.), New Rochelle, N. Y., bimonthly, $5 a year.

Journal of Laryngology, Rhinology and Otology, Bartholomew Close, London, E. C., England; monthly; $5 a year, including postage.

Journal of Ophthalmology and Oto-Laryngology, 100 State St., Chicago; monthly; $2 a year.

Laryngoscope, 3858 Westminster Place, St. Louis; monthly; $3 a year.

Ophthalmic Record, 72 Madison St., Chicago; monthly; $40 a year.

Ophthalmology, 411 White Bldg., Seattle, Wash.; quarterly; $5 a year.

REQUEST FOR SPECIMENS FROM CASES OF HYPERTHYROIDISM

To the Editor:—I am anxious to obtain specimens of tissue from those dead of hyperthyroidism (exophthalmic goiter) with a view to securing more definite and accurate knowledge concerning the tissue changes induced by hyperthyroidism. Portions of heart muscle, liver, pancreas, kidneys, suprarenals and pituitary gland are especially desired. Tissue from patients dying without operative measures of any kind are preferred. I would greatly appreciate any such specimens sent me together with a concise statement of the case, and will gladly remit postage for their carriage. The fresh specimens should be covered with a proper preserving fluid and placed in a mailing-case, which I will supply on request.

JOHN D. SINGLEY, 812 North Highland Ave., Pittsburg, Pa.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 21, 1911.

Dade, Waller H., M.R.C., and Patterson, Edwin W., M.R.C., relieved from duty in the Philippines division and will proceed from Manila, P. I., about May 15, to San Francisco, for further orders.

Wilson, William H., major; Lewis, William F., major; Duncan, Louis C., captain; Brewer, Issac W., M.R.C., and Smith, Herbert H., M.R.C., relieved from duty in the Philippines division and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, for further orders.

Kirkpatrick, Thomas J., major; Coffin, Jacob M., captain, and Tuttle, Arnold D., lieutenant, relieved from duty in the Philippine division and will proceed from Manila, P. I., about Aug. 15, 1911, to San Francisco, for further orders.

The following named officers of the Medical Reserve Corps are relieved from duty at the stations designated after their names and will proceed at the proper time to San Francisco and take the transport to sail May 5, 1911, for duty in the Philippines division: Baker, Charles L., first lieutenant, presidio of San Francisco; McCown, Thomas B., first lieutenant, Fort Barrancas, Fla.

The following named officers are relieved from duty at the station after their names and will proceed at the proper time to San Francisco and take the transport to sail from that place about June 5, 1911, for duty in the Philippine division: Lynch, Charles, major, office of the surgeon-general; Roberts, William M., major, Fort Thomas, Ky.; Bastion, Joseph E., lieutenant, Company C., Hospital Corps, Walter Reed General Hospital, Takoma Park, D. C.; Austin, Thomas C., Company B, Hospital Corps, Army General Hospital, San Francisco; Wheate, J. Marshall, M.R.C., Fort Lincoln, N. Dak.; Mills, Frederick H., M.R.C., Fort Missoula, Mont.

The following named officers are relieved from duty at the stations after their names and will proceed at the proper time to San Francisco and take the transport to sail from that place about July 5, 1911, for duty in the Philippines division: Deshon, George D., major, Army and Navy General Hospital, Hot Springs, Ark.; Haverkamp, Charles W., lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo.; Reynolds, Royal, lieutenant, Company B, Hospital Corps, Army General Hospital, San Francisco; Bell, Leonard P., M.R.C., Fort Riley, Kan.

The following named officers are relieved from duty at the stations after their names and will proceed at the proper time to San Francisco and take the transport sailing from that place about August 5, for duty in the Philippines division: Stark, Alexander N., major, Fort Adams, R. I.; Wolfe, Edwin R., major, Medical Supply Depot, New York City; Gosman, George H. R., major, Fort Barrancas, Fla.; Cooper, Wibb E., lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo.; Brown, Polk D., M.R.C., Fort Sam Houston, Texas.

Carr, William B., lieutenant, left from temporary duty, Fort Myer, Va., on ten days' leave of absence.

Lambie, John S., Jr., lieutenant, relieved from duty as surgeon of the transport Sherman on arrival at San Francisco, about Sept. 12, 1911, and will then report to the adjutant general of the Army for further orders.

Schlanser, Adam E., lieutenant, relieved from duty with Company C, Hospital Corps, Walter Reed General Hospital, Takoma Park, D. C., and ordered to Fort Shafter, H. T., for duty on transport sailing from San Francisco about July 5, 1911.

Smith, William H., lieutenant, relieved from duty at Fort Shafter, H. T., and on arrival in Honolulu of the transport to sail from Manila about August 5 will proceed on that transport to San Francisco and report to the aqjutant general of the Army for further orders.

Hayne, James A., M.R.C., on departure 3d Battalion, 2d Infantry, from Fort Assiniboine, Mont., will proceed to his home, and on arrival there will report by telegraph to the adjutant general of the Army. Lieutenant Hayne will stand relieved from further active duty in the Medical Reserve Corps, to take effect on his arrival at his home.

Deshon, George D., major, ordered to Washington, D. C., on April 3, 1911, for examination for promotion.

Kilbourne, E. D., captain, on arrival at San Francisco will proceed to Columbus Barracks, Ohio, for duty.

Morse, Charles F., captain, on arrival at San Francisco will proceed to the Army General Hospital, San Francisco, for duty.

Scott, George H., captain, on expiration of his present leave of absence will proceed to the Army General Hospital, Fort Bayard, N. Mex., for duty.

Clarke, Joseph T., major, relieved from duty at Fort Crook, Neb., and ordered to Vancouver Barracks, Wash., for duty.

Dale, Frederick A., major, relieved from duty at Fort Lincoln, N. Dak., and ordered to Fort Crook, Neb., for duty.

Brechemin, Louis, Jr., captain, relieved from duty at the Army General Hospital, San Francisco, and ordered to Fort Lincoln, N. Dak., for duty.

Rukke, Guy V., lieutenant, relieved from duty at the Army General Hospital, San Francisco, and ordered to Jefferson Barracks, Mo., for duty.

Bloombergh, H. D., captain, on arrival at San Francisco will proceed to Fort Yellowstone, Wyo., for duty.

Fife, James D., captain, granted two months' leave of absence.

Stone, Frank P., D.S., will proceed from Hobart, Okla., to the presidio of Monterey, Cal., for duty.

McCornack, C. C., lieutenant, left Vancouver Barracks, Wash., for duty at target range near Proebsted, Wash.

Clark, John A., captain, ordered to proceed to West Point, N. Y., for temporary duty.

Fauntleroy, P. C., major, relieved from duty at Fort Benjamin Harrison, Ind., May 1, 1911, and will proceed to New York City to familiarize himself with the methods pursued in the Medical Supply Depot in the purchase and inspection of supplies. He will proceed from New York June 1, 1911, to St. Louis and relieve Major Henry D. Snyder as medical supply officer in that city. Major Snyder after being relieved will proceed to New York City and assume charge of the Medical Supply Depot in that city, relieving Major Edwin P. Wolfe, Medical Corps.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 21, 1911.

Rennie, W. H., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to duty at the naval hospital, Boston.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 18, 1911.

Cofer, L. E., assistant surgeon-general, directed to report to the chairman of board of medical examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of surgeon.

Wertenbaker, C. P., surgeon, reassigned for duty at Norfolk, Va., effective Dec. 26, 1910.

Young, C. B., surgeon, detailed to represent the service at the annual meeting of the Association of American Medical Colleges at Chicago, Feb. 27-28, 1911.

Cumming, Hugh S., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners for examination to determine his fitness for promotion to the grade of surgeon.

McMullen, John, P. A. surgeon, granted seven days' leave of absence from Jan. 13, 1911.

Foster, M. H., P. A. surgeon, granted fifteen days' leave of absence from Jan. 21, 1911.

Lumsden, L. L., P. A. surgeon, directed to return to Washington, D. C. via St. Paul, Minn., for conference with State Board of Health.

Schereschewsky, J. W., P. A. surgeon, directed to proceed to Washington, D. C., and report at bureau for conference.

Francis, Edward, P. A. surgeon, directed to proceed to New York and Otisville, N. Y., on special temporary duty.

Burkhalter, J. T., P. A. surgeon, leave of absence for one month from Dec. 17, 1910, amended to read twenty-eight days from Dec. 17, 1910.

Frost, M. H., P. A. surgeon, directed to proceed to Albany, N. Y., on special temporary duty.

Moncure, J. A., A. A. surgeon, granted ten days' extension of leave of absence from Jan. 1, 1911, on account of sickness; granted fifteen days' leave of absence from Jan. 11, 1911.

Schuster, B. L., A. A. surgeon, granted nine days' leave of absence from Jan. 11, 1911.

Board of medical officers convened to meet at the Bureau, Jan 23, 1911, for the examination of Assistant Surgeon-General L. E. Cofer and Passed Assistant-Surgeon Hugh S. Cumming, to determine their fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General J. D. Long; Passed Assistant-Surgeon Joseph Goldberger, recorder.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Colorado October Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, Oct. 4-8, 1910. The number of subjects examined in was 8; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 16, of whom 15 passed and 1 failed. Twenty-nine candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine, (1910)*	(1910)	77.9, 80.6, 81, 82.9, 83.7, 84.4.
University of Colorado, (1910) 77.4, 79.5, 85.5.		
Rush Medical College	(1910)	85.4
University of Louisville	(1910)	78
Ohio-Miami Medical College	(1910)	88.7
Vanderbilt University	(1909)	83.9, 83.9

FAILED College	Year Grad.	Per Cent.
St. Louis College of Physicians and Surgeons	(1906)	70.6

REGISTERED ON CREDENTIALS College	Year Grad.	State Licenses
Rush Medical College, (1894) Indiana;	(1895)	Iowa
Northwestern University Medical School	(1891)	Kansas
College of Phys. and Surgeons, Chicago (1893)	(1899)	Illinois
Central College of Phys and Sur., Indianapolis.	(1905)	Indiana
University of Iowa, College of Medicine	(1890)	Iowa
University of Kansas	(1906)	Kansas
Louisville Medical College	(1885)	Kentucky
College of Physicians and Surgeons, Baltimore.	(1897)	W. Virginia
	(1900)	Penna.
Baltimore University, (1896) Ohio;	(1903)	Penna
University of Missouri	(1908)	Missouri
St. Louis College of Physicians and Surgeons	(1891)	Missouri
Kansas City Medical College	(1897)	Kansas
Missouri Medical College	(1898)	Missouri
St. Louis University	(1905)	Illinois
University of Nebraska, Homeopathic Dept.	(1886)	Ohio
University of Nebraska, College of Medicine	(1907)	Nebraska
Columbia University, College of Phys. and Sur.	(1870)	Illinois
University of Wooster	(1890)	Ohio
Pulte Medical College	(1884)	Kansas
Miami Medical College	(1907)	Ohio
Starling Medical College	(1888)	Ohio
Hahnemann Medical College and Hospital, Phil.	(1897)	Penna.
Medico-Chirurgical College, Philadelphia	(1908)	Penna.
University of Tennessee	(1892)	Tennessee
University of Vermont	(1904)	Vermont

* No grade given.

Georgia October Report

Dr. I. H. Goss, secretary of the Regular Board of Medical Examiners of the State of Georgia, reports the written examination held at Atlanta, Oct. 11-12, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 80. The total number of candidates examined was 32, of whom 26 passed and 6 failed. Ten candidates were licensed through reciprocity and 1 under the exemption clause. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Birmingham Medical College, (1908) 89;	(1910)	86
George Washington University	(1906)	99
Howard University, Washington, D. C. (1907) 81;	(1909)	83.5
Tulane University of Louisiana, (1910) 88, 89,		89.5
Flint Medical College	(1910)	85.5
University of Maryland	(1910)	83
Leonard School of Medicine, (1910) 81.5, 82.5, 83,		83
Columbia University, College of Phys. and Sur.	(1906)	91
Medical College of the State of South Carolina	(1910)	83
University of the South, (1901) 87.5; (1906) 88;	(1908)	80
University of Nashville	(1910)	83.5
Meharry Medical College, (1908) 83.5;	(1910)	82.5
Chattanooga Medical College	(1910)	84.5
Vanderbilt University	(1910)	81
Gate City Medical College	(1903)	85
Marquette University, Milwaukee	(1919)	89.5

FAILED College	Year Grad.	Per Cent.
Leonard School of Medicine, (1905) 77;	(1910)	78
Meharry Medical College, (1907) 75;	(1910)	72
Chattanooga Medical College	(1905)	74.5
Knoxville Medical College	(1908)	74.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville	(1876)	Kentucky
Johns Hopkins University	(1907)	Maryland
University of Pennsylvania	(1870)	Tennessee
Vanderbilt University	(1901)	Tennessee
Tennessee Medical College	(1904)	Tennessee
University of Nashville	(1909)	Tennessee
Meharry Medical College	(1902)	Iowa
Chattanooga Medical College	(1909)	Tennessee
University College of Medicine, Richmond	(1907)	Virginia
McGill University, Montreal	(1910)	Maine

LICENSED UNDER THE EXEMPTION CLAUSE

College	Year Grad.
Southern Medical College, Atlanta	(1889)

Florida November Report

Dr. J. D. Fernandez, secretary of the Florida Board of Medical Examiners, reports the written examination held at Palatka, Nov. 9-10, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 66, of whom 56 passed and 10 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Alabama, (1909) 75, 90;	(1910) 75, 75.1	81
Atlanta School of Medicine, (1909) 81, 87;	(1910)	78, 84
Medical College of Georgia, (1900) 83;	1906	75
Atlanta College of Physicians and Surgeons, (1909) 85;	(1910) 75, 75, 75, 75, 75, 80.6, 87.	
Howard University, Washington, D. C.	(1910)	86.3
Rush Medical College	(1892)	84
Northwestern University Medical Coll. (1889) 83;	(1901)	96
Louisville National Medical College	(1910)	77
Tulane Univ. of Louisiana, (1909) 75;	(1910) 82, 85, 87, 91, 91	
Medical School of Maine	(1897)	87
University of Maryland, (1909) 87;	(1910)	87
Harvard Medical School	(1887)	80
University of Michigan, Dept. of Med. and Surg.	(1910)	82
Barnes Medical College	(1910)	75
Missouri Medical College	(1897)	78
University of Nebraska	(1903)	87
Albany Medical College	(1877)	91
Leonard School of Medicine	(1910)	79
Medico-Chirurgical College of Philadelphia	(1904)	85
University of Pennsylvania (1882) 88;	(1902) 84; (1910)	83
Memphis Hospital Medical College	(1910)	89
Vanderbilt University, (1887) 80;	(1908)	81
Medical Coll. of the State of South Carolina, (1909) 75;	(1910) 81	
Meharry Medical College, (1901) 75;	(1908) 76.4; 1909)	80
University of Nashville, (1909) 88;	(1910)	75
University College of Medicine, Richmond	(1909)	90
Medical College of Virginia, Richmond	(1908)	85

FAILED College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1910)	65
Atlanta College of Physicians and Surgeons, (1905) 63;	(1909) 56; (1910) 56.1	
Indiana Medical College	(1908)	64
Kentucky University	(1906)	68.6
Creighton Medical College	(1910)	60
Medical Coll. of the State of South Carolina, (1909) 65;	(1910) 52	
University of Tennessee	(1909)	58.6

Nevada November Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, November 7-9, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 9, all of whom passed. Seven candidates were licensed through reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Cooper Med. College, San Francisco, (1904) 82.9;	(1910) 84.8, 87.8	
Northwestern University Medical School	(1894)	78.9
Rush Medical College	(1893)	78.2
College of Physicians and Surgeons, Chicago	(1893)	83.2
Johns Hopkins University	(1908)	88.2
University of Würzburg, Germany	(1892)	89.4
University of Naples, Italy	(1893)	83.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1905)	Illinois
University of Maryland	(1895)	Maryland
University of Michigan, (1890) Nebraska;	(1893)	Minnesota
Marion-Sims College of Medicine	(1902)	Illinois
Cincinnati College of Medicine and Surgery	(1884)	Michigan
Jefferson Medical College	(1894)	Nebraska

Book Notices

A MANUAL OF MIDWIFERY. For Students and Practitioners. By Henry Jellett, M.D., King's Professor of Midwifery in the School of Physic, Trinity College, Dublin. With the Assistance in Special Subjects of W. R. Dawson, M.D.; H. C. Drury, M.D.; T. G. Moorhead, M.D., and R. J. Rowlette, M.D. Second Edition. Cloth. Price, $6 net. Pp. 1210, with 557 illustrations. New York: William Wood & Co., 1910.

The improvements in this edition consist in important changes in the illustrations as well as in the text. A complete new set of drawings illustrates the chapter on obstetric anatomy and also the application of forceps, pubiotomy and Cesarean section, as well as the mechanism of labor. The anatomy and pathology of eclampsia, hyperemesis gravidarum, extra-uterine pregnancy, chorio-epithelioma and surgical fevers of childbed have been revised by Dr. Rowlette, pathologist to the Rotunda Hospital. New matter has been added and the text generally revised.

The book may be commended without hesitation as one of the best text-books on obstetrics in the English language. It is well arranged, complete, clearly written, up to date and well illustrated.

The chapters on obstetric anatomy, and especially those on the ovum and fetus, are concise but clear. One regrets only the absence of a method of determining and denoting the station of the fetus in its passage through the obstetric canal.

In the chapter on obstetric asepsis and antisepsis, the author is rather more dogmatic in denying the possibility of auto-infection than is justified. The rules for the prevention of sepsis are very good, but the statement is somewhat surprising that for a douche "in private practice it is seldom possible to obtain sterilized water, and consequently we must use the next best substitute, which will be furnished by water to which an antiseptic has been added." Why a vaginal douche should be given with the patient in the awkward lateral position is also difficult for an American to understand.

In the most excellent chapter on the physiology of labor we would dissent only from the author's preference for chloroform to ether in all degrees of anesthesia. Those who have used ether will not agree that it has any disadvantages compared with chloroform, while recent investigations show that chloroform may have remote toxic effect on the fetus or child as well as on the mother.

We are disappointed to find the important subject of exercise practically ignored in the discussion of the physiology of the puerperium and definite directions in regard to getting out of bed omitted. Considerable attention has been given in the last ten years in America and Germany to the importance of a proper management of the puerperium in order to obviate the results of imperfect involution of the uterus and ligaments and the abdominal wall, including the frequent occurrence of enteroptosis. This subject is well worth the attention of our English and Irish colleagues.

In the numerous important subjects of pathology of pregnancy, labor and the puerperium, the author gives clear pictures of the pathologic conditions and describes his own and other methods of treatment, with satisfactory definitions. It is not possible to describe, in the short limits of a review, the views of the author on even the most important subjects as for example, placenta prævia, accidental hemorrhage, etc. In general, it may be said that the reader will follow the clear presentation of the subjects with much interest and find the methods of treatment safe and in accordance with the present state of obstetric science.

A PRACTICAL GUIDE TO THE NEWER REMEDIES. By J. M. Fortescue-Brickdale, M.D., Physician to Clifton College. Cloth. Price, $2 net. Pp. 273. New York: William Wood & Co., 1910.

The author makes a comparison and an estimate in the light of experience of the merits of the newer remedies; classifies the remedies discussed on the principle that they have been introduced as substitutes for already well-known remedies, in order to overcome the obvious disadvantages of some of these. With few exceptions, the numerous synthetic remedies introduced in the last few decades have not embodied any new therapeutic actions, but have merely presented the essential principles of the older remedies in a new form. In some cases the advantage has been illusory, since the new combination has only the effects of a mixture and its advantages could have been secured by administering the individual ingredients of the new compound.

These facts are set forth by the author, and he takes pains to point out in several cases that the synthetics possess no real advantage over the simpler and older remedies. Thus the various substitutes for the iodids are described in some detail; the author points out that many of these substitutes contain only a small amount of iodin and hence cannot be used to secure a powerful and rapid effect, so that "unless intolerance is well marked, there does not seem to be any reason for adopting a method of administration, the object of which is, in fact, to obtain a minimal dosage." He does not, however, agree with Ehrenmeyer and Stein that the organic iodin compounds possess no advantage at all.

Still less credit is given to the bromid substitutes, as the author says: "None of these preparations present any real advantage over the alkaline bromids; any tendency to irritate the stomach in the latter can always be met by prescribing a sufficiency of water." The arsenic, sulphur, phosphorus and iron compounds are critically considered and the advantages of some of the newer preparations admitted. The inefficacy of intestinal antiseptics as a class and of the uric acid solvents is emphasized. Throughout the book the reader is impressed with the occasional grain of wheat which is to be secured from the winnowing of much chaff, and the need of conservatism is clearly shown. This shifting of the claims of manufacturers, often too optimistic, is a difficult task which seems to have been satisfactorily performed. The book is free from technicalities and no time is wasted in useless description. These very desirable qualities recommend the work to the favorable consideration of every student and practitioner of medicine.

DISEASE OF THE PANCREAS. Its Cause and Nature. By Eugene L. Opie, Professor of Pathology, Washington University, St. Louis. Second Edition. Cloth. Price, $3. Pp. 387, with 47 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Since the first edition of this book appeared in 1903, extensive studies of the pancreas have cleared up many of the moot questions concerning this important organ. Many points in the histology, and even the anatomy, have been made clearer, and the secretions, both internal and external, are better understood, as well as many of the pathologic conditions which affect this organ, notably hemorrhagic and other forms of pancreatitis; the formation of cysts; tuberculosis and syphilis; the relation of the pancreas to carbohydrate metabolism and diabetes mellitus, as well as the relation of the hepatic function and the gall-ducts to pancreatic disease. All of this is reflected in this new edition. This greater knowledge has brought the pancreas more within the domain of the surgeon, and the organ is now much more frequently attacked surgically. The author still adheres to his theory that the essential lesions in diabetes mellitus is in the islands of Langerhans. He feels that this point has now been established, both by his own experiments and by the work of others, which he cites, the disease occurring when this portion of the organ is affected, just as though the whole organ were extirpated. The author is not dogmatic on this point, but gives the evidence on both sides. He draws freely from the literature concerning the pancreas, giving a bibliography that very well covers the whole field. The book is well illustrated. The work is authoritative, and an extremely interesting one on a subject in which great progress has been made, but which is not yet entirely cleared up.

DIE WASSERMANN'SCHE REAKTION. Mit besonderer Berücksichtigung ihrer klinischen Verwertbarkeit. Von Dr. Harald Boas, Privatdozent an der Universität. Mit einem Vorwort von Prof. A. Wassermann. Paper. Price, 5.60 marks. Pp. 186. Berlin: S. Karger, 1911.

In his preface, Professor Wassermann emphasizes the fact that the results given by Boas correspond very closely with the results obtained by himself. The technical reliability of the results published by Boas would seem to be well established and the conclusions drawn on the basis of the results thus obtained consequently acquire great force. The conviction arises, as one looks over these results, that at the present time repeated Wassermann tests are necessary in order to determine whether the patient really is cured or whether he simply has passed

into a stage of latency, and that persistent positive reactions indicate the presence of spirochetes. If full advantage is taken of the test, large numbers of cases of latent syphilis should be discovered and the patients probably cured; the great benefit thus obtainable is easily understood when we call to mind the number of women who know nothing of their syphilitic infection, the importance of protecting nurslings against the effects of hereditary syphilis, and against infection by wet-nurses, etc. The Danish government has recognized these highly important practical aspects of the Wassermann test and there has been organized a complete serodiagnostic service for physicians in the State Serum Institute at Copenhagen. The book is to be highly recommended.

FOOD AND FEEDING IN HEALTH AND DISEASE. A Manual of Practical Dietetics. By Chalmers Watson, M.D., Assistant Physician, Royal Infirmary, Edinburgh. Cloth. Price, 10 shillings 6 pence. Pp. 638, with illustrations. New York: William Wood & Co., 1910.

The fine summary of the general principles of nutrition and of the physiology of digestion, absorption and metabolism that appears in the initial chapters of this book is to be unreservedly commended. The author has not adopted the modern classification of foods, but retains the old classification—"animal and vegetable" foods. Because of this there is no symmetrical harmony between his food-classes and food-uses. The work is thoroughly abreast of the latest and best investigations in its presentation of the physiologic effects of alcohol on the animal body, as well as the therapeutic uses of that substance.

The detailed and just treatment of the matter of patent, proprietary and predigested foods will appeal to the practitioner and will be valuable to him for reference. Especially valuable will the practitioner find the chapter on "Diet at Different Periods of Life" (childhood, school age, old age, pregnancy). The chapters on infant-feeding are excellent. While there is nothing noteworthy in that part of the work devoted to diet in disease, it is up to date and reliable. The republication in the appendix of reports of the author's researches on meat diet is a novel feature in such a book and adds much to its value.

GEHIRN UND RÜCKENMARK. Leitfaden für das Studium der Morphologie und des Faserverlaufs. Von Dr. med. Emil Villiger, Privatdozent für Neurologie und Neuropathologie an der Universität Basel. Second Edition. Cloth. Price, 12.80 marks. Pp. 278, with 224 illustrations. Leipzig: Wilhelm Engelmann, 1910.

This work gives in a brief yet fairly detailed form the information and illustrations generally divided between an atlas and a text-book on the anatomy of the brain and cord. Part I is devoted to morphology, or rather topographic anatomy; Part II to the course of the different fiber tracts. Most of the illustrations are schematic and clear; at the end of the book there are forty-nine full-page reproductions of sections through the brain-stem, at suitable intervals, from the genu of the callosum to the caudal end of the bulb. Only the normal brain and cord are considered, not the peripheral nerves or pathologic conditions. The clear text, everywhere illustrated by schematic drawings, will recommend the book to the student or physician looking for elementary information, and the anatomist or neuropathologist will secure the work on account of the serial sections mentioned.

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY. By Dr. Johann Fein, Privatdocent at the University of Vienna. Translated by J. Bowring Horgan, M.B., Late House Surgeon at the Hospital for Diseases of the Throat, Golden Square, London, W. Cloth. Price, $1.50. Pp. 223, with 42 illustrations. New York: Rebman Co., 1910.

In this brief work the author, without attempting to make either a text-book or a work of reference, has drawn from his large experience as a clinician and teacher in his special line, and has given much useful information for the general practitioner in the affections of these special regions which come clearly within his province. He attempts to draw rather distinct lines between the diseases which the general practitioner may treat and those which belong to the specialist. Though there may be differences of opinion as to the methods of handling the various troubles, yet the principles laid down in the diagnosis and treatment are practical, and the book will be of very material assistance to the general practitioner. It is well illustrated, and the translation has been well done.

ANDREAS VESALIUS, THE REFORMER OF ANATOMY. By James Moores Ball, M.D. Paper. Price, $5. Pp. 149, with illustrations. St. Louis: Medical Science Press, 1910.

This work, evidently the result of much painstaking and industrious study, contains an account of the life and works of Vesalius himself, and a survey of medical science up to his time, with brief sketches of earlier and contemporary anatomists. The book is typographically attractive, and is illustrated with excellent reproductions of curious and interesting old engravings. It is doubtless through inadvertence rather than error that the author refers to the Emperor Charles V as the "Spanish emperor," and as "Charles V of Spain." Charles was German in disposition, education and appearance and only half a Spaniard by descent, while as sovereign of Spain, of course, he was Charles I, not Charles V.

THE MICROSCOPICAL EXAMINATION OF FOODS AND DRUGS. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs, in the Entire, Crushed and Powdered States. By Henry G. Greenish, F.I.C., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain. Second Edition. Cloth. Price, $3 net. Pp. 386, with 209 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This, the second edition of this well-known and popular text, is the same as the first, with the exception of the addition of a chapter on the more commonly occurring adulterants of powdered foods and drugs, and the addition of descriptions of saffron, almond and fennel fruit, licorice and calumba. This edition is supplemented by a brief general scheme of examination, which should prove a desirable addition. The work is well illustrated.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A NEW PUBLIC HEALTH BILL IN CONGRESS

On January 5 Mr. Mann introduced the following bill in the House of Representatives. This bill is H. R. 30292. A similar bill has been introduced in the Senate by Senator Martin of Virginia as S. 9909:

A BILL: To change the name of the Public Health and Marine-Hospital Service to the Public Health Service, to increase the pay of officers of said service, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Public Health and Marine-Hospital Service of the United States shall hereafter be known and designated as the Public Health Service, and all laws pertaining to the Public Health and Marine-Hospital Service of the United States shall hereafter apply to the Public Health Service, and all regulations now in force, made in accordance with law for the Public Health and Marine-Hospital Service of the United States shall apply to and remain in force as regulations of and for the Public Health Service until changed or rescinded. The Public Health Service may study and investigate the diseases of man and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States, and it shall from time to time issue information in the form of bulletins and otherwise for the use of the public.

SEC. 2. That beginning with the first day of July next after the passage of this act the salaries of the commissioned medical officers of the Public Health Service shall be at the following rates per annum: surgeon-general, $6,000; assistant surgeon-general, $4,000; senior surgeon, of which there shall be ten in number, on active duty, $3,500; surgeon, $3,000; passed assistant surgeon, $2,400; assistant surgeon, $2,000; and the said officers, excepting the surgeon-general, shall receive an additional compensation of 10 per cent. of the annual salary as above set forth for each five years' service, but not to exceed in all 40 per cent.: Provided, That the total salary, including the longevity increase, shall not exceed the following rates: assistant surgeon-general, $5,000; senior surgeon, $4,500; surgeon, $4,000: Provided further, That there may be employed in the Public Health Service such help as may be provided for from time to time by Congress.

PUBLIC HEALTH EXHIBITS UNDER THE SUPERVISION OF THE AMERICAN MEDICAL ASSOCIATION

Frank B. Wynn, A.M., M.D.
INDIANAPOLIS

In the field of preventive medicine, no method of instructing the laity on hygienic and sanitary questions has proved more

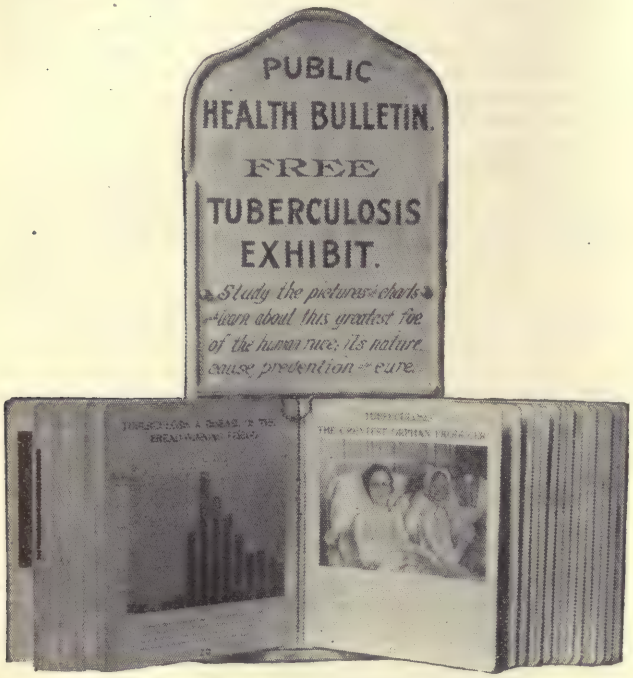


Fig. 1.—Public health exhibit for placing in postoffices and other public places.

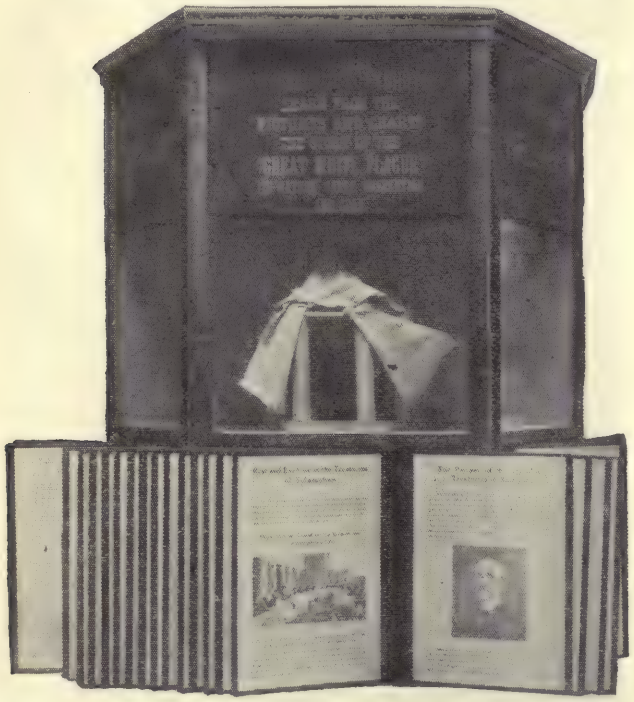


Fig. 2.—A public health bulletin, medium size.

effective than well-conducted exhibits. For several years the Committee on Scientific Exhibit of the American Medical Association has sought in various ways to stimulate the development of model public health exhibits. Considerable study has been given to exhibits of this character, leading to the conclusion that as ordinarily devised and conducted they are open to the following objections:

1. They are cumbersome, heterogeneous and often unsystematic in arrangement.
2. Their initial cost is large; and the expense of installing, housing and supervision is great.
3. They are available only for cities.
4. The exhibition is spasmodic: they are shown for only a day or two in a community.

PERMANENTLY INSTALLED PUBLIC HEALTH EXHIBITS

To overcome the above objections it has been sought to devise cheap, compact, and durable health exhibits for permanent installation in public places, such as railway stations,

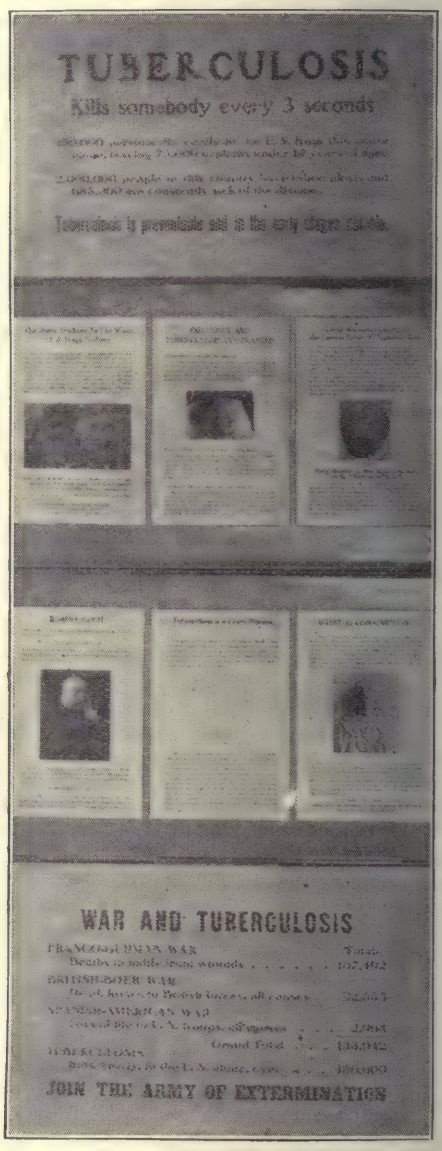


Fig. 3.—Portable, folding tuberculosis charts for use in lectures, etc.

court-houses, post-offices, and the like, where people come and go. I have designed four models which were shown in the Scientific Exhibit at the St. Louis meeting.

Model 1.—Small Wall Exhibit (Fig. 1).—Cost, $15. May be fastened to any wall. Material, galvanized iron and tin; enamel or gun-metal finish; printed matter varnished to make it durable and sanitary. Dimensions, 9 by 30 inches. Contains thirty removable, hinged leaves on which are mounted sixty pictures, charts, and data relating, in this particular cabinet, to tuberculosis. While tuberculosis is made the standing issue of public instruction, the "tuberculosis" sign at the top may be slid out and a "typhoid" sign introduced, substituting at

the same time a group of leaves relating to the latter. In this way a local health officer may at any time inaugurate a campaign of instruction on a prevailing epidemic. Fifty of these small exhibits have been installed in public places about the city of Indianapolis, by the Department of Public Health.

These small exhibits are particularly well adapted for use in village railway stations or post-offices. Their small cost enables their purchase by clubs, medical societies, and health authorities. The price quoted might be still further reduced if they were made in large numbers.

Model 2.—Medium-Sized Wall Cabinet (Fig. 2).—Cost, $20. Material, same as foregoing. Dimensions 24 by 30 inches. Designed for larger railway stations, court-houses, etc. The leaves are arranged in three groups in order to permit simultaneous inspection by several persons. It is intended that the central group should be devoted to tuberculosis; the lateral ones to other sanitary and hygienic topics. Small compartments for models of shacks, etc.

Model 3.—Large Octagonal Cabinet.—Cost, $100. Mounted on a pedestal. Same materials as in the foregoing. Designed especially for large railway stations, or any public place where large numbers of people congregate. Contains models of shacks. sanitary cuspidors, etc. Removable hinged leaves on all sides.

Model 4.—Compact Portable Exhibit (Fig. 3).—Cost, $15. This consists of enameled metallic leaves 13 by 20 inches, which are hinged in groups of four or more, and may be dropped from a picture molding in a minute's time. These may be used in connection with oral presentations, or they may be permanently installed; especially adapted to hanging on the walls in school buildings. The tuberculosis set contains twenty-four leaves.

ADVANTAGES OF THE PLAN OF PUBLIC HEALTH EXHIBITS UNDER THE ASSOCIATION CONTROL

1. Compactness, neatness and stability: They take up but little room and may be placed with safety in any public building where crowds assemble.

2. Completeness: Although compact, they contain as much as the large exhibits—all that is necessary for the instruction of the public.

3. No supervision required. They tell their own story graphically.

4. Continuity of educational effort: The lessons of hygiene and sanitary science are taught day by day.

5. Exhibits do not arouse local jealousies and criticisms from the profession; nor is there risk of bungling public presentation.

6. Supervision of the data by the Association would insure sane and judicious instruction of the laity on public health problems.

PROBLEM OF PRODUCTION

In order to secure the widest possible educational effect from such exhibits, it is desirable that they be sold at the lowest possible figure, thus insuring general use. It lies within the power of the Association to develop cheap, compact and yet complete exhibits relating to all the problems of the public health, and this it undoubtedly will do. It would be possible in this way to standardize to a large extent public health methods throughout the country. The wise hand of the Association would guard against erratic efforts in the field of preventive medicine, and seek on every hand to cooperate with and aid existing forces working for the public health and comfort.

[A number of the tuberculosis exhibits have been made up by Clark and Roberts Co., 315 Holton Place, Indianapolis, Ind. Single cabinets (Model 1) will be furnished for $15.00, or in lots of one to four dozen at $12.00 each. Larger quantities at a reduction. These prices do not include freight or express charges. Orders may be sent direct to the maker or to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Avenue, Chicago. The purchase of these exhibits is strongly recommended to state and municipal boards of health, women's clubs, county medical societies and local health leagues.]

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Fourth Weekly Meeting

SURGICAL SHOCK

PHYSIOLOGY OF SHOCK: Vascular shock, cardiac shock. Depression or inhibition. Relation of cardiac and vascular shock. Blood-pressure in shock. Effect of stimulation of depressor nerve-fibers. Effect of alkaline solutions on experimental shock.

ETIOLOGY OF SHOCK: Sensory impulses in operation, hemorrhage, general anesthesia, extent and duration of operation, heat and cold, psychic influences. Predisposing conditions; anemia, alcoholism, diabetes, nephritis, local and general infections. Traumatism in production of shock.

SYMPTOMS AND DIAGNOSIS OF SHOCK: Pulse, blood-pressure, temperature, perspiration, pallor, respiration, reflexes. Differentiate shock from collapse.

TREATMENT OF SHOCK: Prophylactic: Effect of operative manipulations on organs and tissues; sensibility of different structures. Character and amount of anesthetic. Preparation for anesthetic. Vaso-constrictors: Compression of abdomen and extremities, salt solution, epinephrin.

Monthly Meeting

ANESTHESIA—SURGICAL SHOCK

The Choice of an Anesthetic.
Indications and Contra-Indications for Chloroform and for Ether.
Local Anesthesia in General Surgery.
The Prevention and Treatment of Surgical Shock.

Medicolegal

One Trial for Illegally Practicing Medicine Not a Bar to Another

The Supreme Court of South Carolina, in State vs. Van Buren (68 S. E. R. 568), reverses a judgment sustaining a plea of former jeopardy and acquittal in a prosecution for practicing medicine without the license required by statute. It says that the first indictment, on which the defendant was tried and acquitted, charged that he practiced medicine, without a license, on October 10, and November 5, 1908, by prescribing for the physical ailment of another; while the second indictment charged that, on Oct. 28, 1908, he unlawfully practiced medicine by prescribing for and treating the physical ailments of Mary Crim. The statute contemplates that every violation of its provisions shall be a separate offense. The question was whether it appeared from the faces of the indictments that the offenses charged were the same, so that an acquittal under the first would be a bar to a trial under the second.

It will be observed that the charge in the first indictment was entirely indefinite, except as to the time. No person or place was mentioned, and no circumstances or particular description, except the dates of the alleged offenses. For this reason the time mentioned was a material part of the description of the offense, and it was necessary to prove the dates as alleged. The state, therefore, on the trial under that indictment, was limited in its proof to showing that the defendant practiced medicine without a license on October 10 and November 5, 1908. This being so, it seems perfectly clear that the defendant was never tried and was never acquitted of any charge except that of practicing medicine without a license on the days named. Whether he had practiced on other days in violation of the statute, not being a question in issue, could not have been decided.

The test laid down as useful and generally adequate, though not infallible, by which it may be decided whether two indict-

ments charge the same offense, is: "Would the evidence necessary to support the second indictment have been sufficient to procure a legal conviction on the first?" Apply this test. Obviously evidence to support the second indictment, charging the practice of medicine without a license by prescribing for the physical ailments of Mary Crim on Oct. 28, 1908, could have been introduced which would have been entirely insufficient to produce conviction on the first indictment; for no evidence would have supported the first indictment except evidence of practicing medicine on the days therein named, while the evidence necessary to support the second indictment could have been of practicing medicine by prescribing for Mary Crim on other days than those to which the first indictment was confined. The circuit court, therefore, erred in laying down as a legal inference that the second indictment necessarily charged the same offense as the first.

On a trial on the second indictment no evidence of practicing medicine without a license on the days named in the first indictment would be admissible, because the defendant had been tried for those alleged offenses and acquitted; but he had not been tried for a like offense committed at any other time, and therefore the first trial and acquittal was ineffectual as a plea against the charge alleged in the second indictment to have been committed at a different time.

Private Tuberculosis Sanitariums As Nuisances—Unfounded Fears

The Supreme Court of Washington reverses, in the case of Everett and wife vs. Paschall (111 Pac. R. 879), a decision in which a lower court denied an injunction against the maintenance of a private tuberculosis sanitarium in a residence neighborhood. More particularly, the question, which is thus answered in the negative, was stated to be: "Can a tuberculosis hospital be maintained in a residential portion of a city, where its maintenance depreciates the value of contiguous property from 33⅓ to 50 per cent., and where its existence detracts from the comfortable use of such residential property?"

The lower court went on the principle that, the danger being only in the apprehension of it, a fear unfounded and unsustained by science, a demon of the imagination, the courts would take no account of it. But if dread of the disease and fear induced by the proximity of the sanitarium, in fact, disturbed the comfortable enjoyment of the property of the plaintiffs, the supreme court questions its right to say that the fear was unfounded or unreasonable, when it was shared by the whole public to such an extent that the property values were diminished. The question was, not whether the fear was founded in science, but whether it existed; not whether it was imaginary, but whether it was real, in that it affected the movements and conduct of men. Such fears are actual, and must be recognized by the courts as other emotions of the human mind. That fear is real in the sense indicated, and is the most essentially human of all emotions, there can be no doubt. The theories and dogmas of scientific men, though provable by scientific reference, cannot be held to be controlling unless shared by the people generally.

Besides, the lower court found that the bacilli of the disease might be carried by house flies. Thus every house fly that might drone a summer afternoon in the drawing room or nursery would be a constant reminder to the plaintiffs of their neighbor, tending to disquiet the mind and render the enjoyment of their homes uncomfortable.

The only case the court finds holding that fear alone will not support a decree in this class of cases is Anonymous, 3 Atk. 750, where Lord Hardwicke said: "And the fears of mankind, though they may be reasonable ones, will not create a nuisance." The Washington statute modifies, if indeed it was not designed to change that rule. Under the facts, the supreme court cannot say that the dread which was the disquieting element upon which the plaintiffs' complaint was made to rest was unreal, imaginary or fanciful. In so doing, it is not violating the settled principles of the law, but affirming them.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CHICAGO GYNECOLOGICAL SOCIETY

Regular Meeting, held Dec. 16, 1910

The President, DR G. A. KOLISCHER, in the Chair

Legal Aspects of Post-Mortem Cesarean Section

DR. CHARLES S. BACON: The law of Numa Pompilius, the lex regia, provided that no pregnant woman who died should be buried until her child had been removed from the uterus, if alive. In some countries, Austria, for example, and Germany, the lex regia is still in force. Post-mortem section is required after the sixth month, or after the child is viable. In some countries the decision is left with the physician. In this country there is no statute to cover this point, nor is there a decision on record. Most important is it to decide that the mother is dead, because the law requires that if she is unconscious, consent to operate must be obtained from the husband. A Cesarean section done under such circumstances without the consent of the husband or against his wishes would be actionable. Therefore, it is essential to establish that death has occurred. Next of importance is it to determine whether the fetus is alive or dead. This is by no means always an easy thing to do, because of the position of the fetus, the presence of hydramnion, and thick or edematous abdominal walls. If the heart tones were heard a few minutes before death, post-mortem auscultation may be omitted. That, I believe, may be accepted as a positive and imperative indication for the operation. If evidence of fetal life is lacking, we are still justified in hoping that it exists for a brief period post mortem. Numerous observations have shown that the fetus may live for from fifteen to twenty minutes after the death of the mother. The cause and manner of death of the mother doubtless has considerable bearing on the subject. In order that no chance of saving a life may be lost and to avoid hurting the feelings of relatives and friends, I think that we may safely adopt a limit of twenty-five minutes after death as the longest time that a fetus can live and the latest moment that a section is justifiable. It is hardly necessary to add that the fetal life should be sufficiently developed to give a chance for continued existence. A fetus that could have no hope of living outside of the body of the mother more than a few hours cannot have a reasonable claim. Hence, the section should be made only when the pregnancy has advanced twenty-eight weeks. These two questions, whether the woman is really dead and whether the fetus is alive and viable, are all that need to be considered in establishing a rule of practice or a legal mandate.

As to the legal aspects of this question, I maintain that the operation is right for the following reasons: 1. The husband's right to determine whether an operation shall be performed on his wife ceases with her death. 2. The right of the husband to the custody and control of the body of his dead wife does not extend to preventing such disposal of it as may be necessary to keep it from injuring another human being. There is no property right in the dead body, and any action taken to save life cannot be classed as unlawful. The obligation to save the life of the fetus when it can be done without destroying or jeopardizing another life is absolute. Certain rights have been accorded to the fetus. The law, both statute and common, and its interpretation by the courts, is dependent on the sentiment of the community and registers in a general way the advance in knowledge and morals. This is well illustrated by the history of the laws concerning abortion. Certain civil rights of the infant "in ventre sa mère" have long been recognized, as, for example, in the right to obtain an injunction to "stay waste." More recently a number of cases have been decided in the highest courts in which the decision showed the existence of a tendency to a greater recognition of the legal rights of the fetus. That a viable fetus has the same right to live as any other human being is in accord with moral,

ocial and scientific laws, and should become a legal proposi-ion. This does not imply that it has greater rights than the nother. If she is endangered by it, she may protect herself, ven to the extent of destroying it, just as anyone has the ight to self-preservation, when attacked by an irrational erson. This rule would require a post-mortem Cesarean sec-ion or in rare cases a post-mortem delivery operation through he natural passages in every case when the fetus of at least he twenty-eighth week of gestation is known to be living at he moment of the death of the mother. It would also prob-bly require the physician to use his judgment when he could ot positively determine that the fetus was living, with the nderstanding that after twenty-five minutes from the death f the mother no operation should be done.

DISCUSSION

MR. A. F. REICHMANN: From the earliest times in England t was the established law that there was no such thing as roperty right in the body of a dead person, and, as a neces-ary corollary, no liability could arise either civilly or crim-nally from the taking, handling, mistreatment or mutilation f a body. On the death of a person the disposition of his ody became a matter for the public, and was in charge of ublic officials. The next of kin, or surviving husband or wife, had no claim which the law recognized. At the beginning the courts of this country were inclined to follow the doctrines and precedents laid down by the English courts. The common law of England and this country, however, is a matter of evolution. It is continually expanding with the progress of civilization and adapting itself to the changed conditions of society, busi-ness and public sentiment. The duty to give bodies burial and to pay the incidental expenses was imposed by law on the surviving husband or wife or the next of kin. It is now the settled law of this country that the possession of a dead body belongs to those most intimately connected with the deceased by domestic ties, for the purpose of decent burial, and that this right belongs primarily to the surviving husband or wife, and then to the next of kin. However, any unlawful mistreatment or mutilation of a corpse will give rise to an action for damages against the guilty person or persons and in favor of those who have a legal right to the possession of the body.

The question still remains, however, whether such an action will lie in case of the justifiable performance of a Cesarean section done without the consent or even against the protest of those who are entitled to the possession of the body. In my judgment, it does not by any means follow that such an action will lie. While the law now recognizes a legal right to the possession of a dead body, and gives a legal remedy for the violation of that legal right, the legal right is, after all, merely a relative and not an absolute one. Various elements and con-siderations may under proper circumstances materially affect and diminish this right or even totally supersede it. In the interest of public health, states and municipalities in the exer-cise of their police power have the right to regulate the places of burial, and to disinter human bodies and reinter them in other places without the consent and even against the protest of those in whom the primary legal right to their possession is vested. Legislatures and municipalities may prescribe regu-lations for burial and it has been held that the attending physician or a foreigner has the right to hold a post-mortem examination on a body if he cannot otherwise issue the certifi-cate of death required by law.

As to the probable attitude of the law toward the preserva-tion of human life through the instrumentality of a Cesarean section, we are told that it was decreed by the Romans that no pregnant woman should be buried until the fetus had been removed by a Cesarean section, and I understand that the Italian laws at one time, if indeed they do not now, required this intervention. The law and public policy look with favor, and in some instances actively and affirmatively encourage the marital relationship, and by its means the creation of human life and the upbuilding of the family. It is not likely, there-fore, that the law will frown on any effort to promote its policy. The preservation of human life is of the greatest con-cern and solicitude of the law and public policy. Self-defense is a legal justification for the killing of another human being, and the law justifies the killing of another, not only to save the slayer's own life, but that of one intimately related to him. Therefore, it is not likely that the law will look with favor on one who, from considerations at best merely sentimental, despite the advice of men learned in medicine and surgery, would prefer to see a human life lost that might be saved, rather than permit the disturbance of an inanimate body. Suppose a woman far advanced in pregnancy within a short period of the delivery of her child, in good health, met with a sudden accident resulting in her death, but not in the death of her child. Her physician knows that the child is there and knows that it is about to be born. Would it be likely that the law would be a party in abetting the husband or next of kin in refusing a post-mortem section? If the surgeon performs the operation without the consent of the husband or the next of kin, or even in spite of their protests, it is very reasonable to believe that he will be protected by the law, providing he is acting within the limitations of demonstrable scientific knowl-edge with regard to these cases. To interfere under such cir-cumstances would be murder. What moral or legal right have they to refuse consent? If the consent of the husband is unnec-essary, and his refusal of no consequence in the eyes of the law, then *a priori* this must be so of the others. The mere fact that he is in part the author of the life in jeopardy gives him no superior right when the question of life and death is involved. The father has no property in his child. He has at most merely the right to its custody, and this to enable him to dis-charge toward his child certain active and affirmative duties imposed on him by law, for the violation of which penalties are imposed. He can be punished for its mistreatment and hanged the same as anyone else for causing its death. His custody of the child may be terminated by law when its well-being requires it. The child belongs to the state. Will it then be said, in the light of these considerations, that the father has the right by withholding his consent to cause the loss of a life which, after all, belongs not to him, but to the state and society, and in which his proprietary interest is so slight? I can only answer this most emphatically in the negative. Reviewing the entire situation, I cannot escape the conclusion that, given a case in which, in the light of existing scientific knowledge, the belief is reasonably justifiable that the infant may be rescued and its life saved, a Cesarean section will be justified by the law on grounds of public policy, and the per-son performing it will be fully protected both civilly and crim-inally though it is performed without the consent or even against the protest of those in whom the law has recognized a legal right to the possession of the body of the deceased, provided, of course, that the operation is performed in good faith and with due skill and without unnecessary injury.

DR. FRANK CARY: Some years ago, a woman was suffering from uremic convulsions and the question was whether or not an immediate delivery should be instituted. I was a consultant and urged an immediate delivery. In the meantime the woman died and I advised a Cesarean section. There was considerable argument as to the propriety of such an operation. Finally, the husband left the matter in my hands, I made the section and delivered a living child, demonstrating that that was the proper thing to do.

DR. ROBERT T. GILLMORE: In November, 1905, Dr. T. J. Watkins published a paper narrating a case of post-mortem Cesarean section done by him in 1904, following the death of the mother from eclampsia. The operation was performed five minutes after the death of the mother. The child was alive, is now well and strong, and, so far as I know, is the only living child in Chicago born by post-mortem Cesarean section.

DR. GEORGE SCHMAUCH: In Germany the physician is obliged to do a post-mortem Cesarean section. The law requires this, when there is a conviction that the child is alive. Several men have reported about four or five hundred cases all told with 20 or 25 per cent. of living children.

DR. CHARLES E. PADDOCK: I would perform that operation on any woman dying during labor or at term if the child is strong and viable.

DR. RUDOLPH W. HOLMES: I have twice done a post-mortem Cesarean section. In one case I knew the baby was dead. I

believe that it is the physician's duty to do this operation even when he knows that the child is dead. I am convinced that the law would sustain him in this.

DR. GUSTAV KOLISCHER: In all European countries the law prescribes that it is absolutely the duty of the attending physician to do a post-mortem Cesarean section. No time limit is set on the operation. The law assumes that the physician is competent to decide whether or not the mother is dead. The law also requires that after the operation is done the uterus and abdomen must be closed, because the woman might be alive. It is the intention of the law to protect the child in utero the same as it would a living child. If the husband prevents the physician from performing the section, he commits the same misdemeanor as if he failed to call in competent medical assistance when his child was ill.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

(Concluded from page 219)

Acute Suppurative Appendicitis

DR. WILLARD BARTLETT, St. Louis: I operate for this condition as follows: The abdomen is opened through a gridiron incision immediately over the dull area if one can be made out, otherwise at McBurney's point. It is very rarely the case that this incision has to be enlarged, which can be done though with slightly greater difficulty than is the case in ordinary through and through openings. Immediate search for the appendix is made. I always remove it if it can be found without unnecessary loss of time or disturbance of many adhesions. I do not often go so far as to turn out the head of the cecum in order to find the appendix, but consider this advisable where this carries with it the adherent viscera which completely surround a collection of pus, to be opened outside of the abdomen at the removal of the appendix. It is rarely my custom to do much or any so-called walling off with gauze in the search for the appendix. Harm is done by gauze packs, and ready access to the viscera is interfered with. While in clean work I make a peritoneal autoplasty when working on the appendix or any other viscus covered by peritoneum, in these pus cases I simply tie a strand of catgut around the base of it, including the mesenteriolum, and cut it off. Drainage is instituted in every case in which exudate is found, tying at its middle a strip of rubber dam or a ribbon cut from an old rubber glove in the catgut ligature on the base of the appendix. Drainage is further aided by placing the patient in bed on the face directly after the operation. In a few days the catgut ligature is absorbed and the drainage comes out of its own accord. Suture of the deeper layers of the abdominal wall is never attempted unless the muscle-splitting incision has been considerably enlarged. The drain practically fills the small dead space resulting from the spontaneous closure of such incisions, thus reestablishing intra-abdominal pressure sufficiently for our purpose. In the middle of the skin wound are placed one or two clips, at each side of which one-half of the rubber drain emerges, its two ends being fastened together by a clip which prevents the possibility of its being drawn into the abdomen. Thus one has practically coated the edges of an infected wound without any danger of pus retention in the depths or under the skin. After the two drains have been removed at the end of a week, the resulting defects in the skin are closed with adhesive plaster, and in two weeks after the operation most of these patients are out of bed with a solid abdominal wall and with the skin wound completely healed or almost so.

Intussusception in Adults

DR. ELLSWORTH ELIOT, New York City: Intussusception in adults is of more importance than previous study would indicate. The rarer causes are foreign bodies and parasites, the less rare, ulceration from diarrheal diseases, tuberculosis, fecal masses, etc. A more common cause is trauma, especially severe muscular effort. The most frequent cause is a tumor, especially the benign polyp, with constricted base. The clinical course varies from one most acute to the very chronic. Of the individual symptoms there is a great variety. Constipation is the rule, but normal stool or diarrhea may occur. Blood or mucus in the stools is less frequent and usually signifies a tumor. A tumor varying in size and shape, especially during the attacks of pain and changing its position along the course of the colon, is characteristic. The tumor appears first in the right lower quadrant, but should be looked for in the pelvis or in a position covered by the liver or spleen. Distention, general or focal, is variable. The course of the attack is usually very severe, especially in those cases with Meckel's diverticulum. In the protracted cases the natural processes may cause sloughing of the intussusceptum which is passed by rectum. Hope for such relief should not encourage conservative measures of treatment, for in usually less than eighteen months secondary obstruction occurs. I suggest, therefore, that after the acute symptoms have disappeared lateral anastomosis be done, connecting the bowel above with that below the affected portion. Treatment should in most cases be radical. With conservative measures complete reduction is never certain; recurrence is likely, and the initial manipulation lowers the resistance in subsequent operation. Reduction in the first twenty-four hours is accomplished by combined expression and contraction in from ten to fifteen minutes, reduction by either alone being dangerous. Recurrence is avoided by anchorage of the cecum to the abdominal wall, by plication of the mesentery or by long longitudinal endoplication of the cecum along the anterior longitudinal muscular band. Gangrenous intussusceptum and intussuscipiens demand resection followed by anastomosis or temporary enterostomy. A viable sheath may be split along longitudinally and through this the intussusceptum resected. Temporizing measures are enteroanastomosis and artificial anus. The procedure of choice is to reduce gently as far as possible and then resect. Complete reduction followed by resection is employed only where a tumor or the like is concerned.

Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum

DR. CHARLES H. MAYO, Rochester, Minn.: The stomach suffers from many reflex conditions; only one patient in ten with gastric symptoms shows actual lesions. Many bowel conditions, as obstructions, appendiceal concretions, stimulate symptoms of ulcer. The development of the mid-intestine extends from below the common duct to and including the part of the transverse colon. Ten inches of the ileum is pelvic, was originally fixed to the cecum, and becomes detached at first, except for a lateral opening. When this fails to take place obstruction is more liable to occur. In extensive appendiceal operations in cases with obscure symptoms, Mr. Lane has noted an intestinal kink near the ileocecal valve. He believes this to cause obstruction, often non-inflammatory, and probably resulting from traction of the loaded cecum to the pelvis. The symptoms often simulate those of appendicitis, ulcer and various forms of constipation. We have seen many cases of this nature, both of inflammatory and non-inflammatory origin, and producing reflex symptoms. Therefore, with the present increased facilities for intestinal exploration, the 4 terminal inches of the ileum should be examined, when possible, in obscure cases of digestive disturbance.

Choice of Operation for Inguinal Hernia

DR. ARCHIBALD MACLAREN and DR. HARRY P. RITCHIE, St. Paul: In 123 operations on 97 individuals no extraordinary measures, such as filigrees, flaps of the recti, were found necessary to obtain satisfactory repair. During the first decade, the operation without the most positive indications is often questioned. It is no odd experience to have the truss obliterate the sac and when recurrence does come it will usually result in a less complicated form of hernia. During the second decade and beyond our advice is positive as the presence of the hernia is then permanent. All cases suffering from an inflammation of any degree are instructed particularly as to the possibility of recurrence.

Of the ninety-eight operations on men, there is one Halstead with cure, fifty-five Bassinis with one return, and forty-two Fergusons with three returns. Previous to 1905, there were two cases in which from their description the cord was not

displaced, but in all others (thirty-four in number) a Bassini was done. One relapse had occurred and had been reoperated, but the remembrance of the technic of the first operation was such that the failure was ascribed to this rather than to the principle. Beginning in February, 1905, we were influenced to use of the Ferguson operation. This was done as a routine operation forty-two times. The three returns have all been repaired, and the conditions found were identical in each case. There was no sign of the old hernia, but a new one had formed at the most dependent part of the canal. The sac came directly through to the inner side of the cord. When the sac was removed, it was easily demonstrated that if the tissues were replaced as before, this defect would be uncorrected and there seemed to be no reason why the sac would not immediately recur. The only possible procedure was the use of the conjoined tendon and the displacement of the cord, thus performing a Bassini. The percentage of our success as to the displacement or non-displacement is in favor of the former. In view of the formation of an entirely new kind of hernia which comes without displacement of the cord. and which we are powerless to prevent, it has swung the pendulum back in favor of the Bassini, and our present feeling is that if there is a recurrence, we will call it an operative fault and do it over again.

Typhoid Cholecystitis

DR. JOHN E. SUMMERS, Omaha, Neb.: Much discussion has taken place as to the mode of invasion of the gall-bladder by the typhoid bacilli. According to Chiari, the route of infection is not by ascension from the intestinal tract. His theory of gall-bladder infection by the typhoid bacillus is, first, the intestine, thence the blood, and then the gall-bladder. I had one pure case of typhoid cholecystitis, the gall-bladder involvement giving symptoms at the beginning of the first relapse. The absence of any history of gall-stones prior to the illness can fairly fix the initiation of the formation of the stone found in the common duct as taking place probably during the first part of the attack. The time from the beginning of the attack to the time of removal of the stone was from April 1 to August 22—sufficient time for its formation. So far as I know this is the first case of typhoidal cholecystitis with probable formation of the stone during the attack in which the stone was removed from the common duct. Cultures from the center of the stone were sterile—a finding which does not negative the origin of the stone as due to typhoid cholecystitis. Cholecystostomy on typhoid carriers should be done whenever there is evidence of any infection in the gall-bladder or ducts. In cases in which no signs of inflammation can be found, it might be considered that possibly the nesting-place for the bacilli was in a diverticulum and operation is not indicated. There is favorable evidence for the carrying out of cholecystostomy in these dangerous persons.

Plication of the Anterior Broad Ligament for Retrodisplacements

DR. A. W. ABBOTT, Minneapolis: The round ligament is not a natural support of the uterus, while the broad ligament is. Suture of the broad ligament just below the round ligament makes an efficient support and conforms to the natural anatomical requirements. The operation is rapidly done. The failures are less than by other methods, and there is less pain after the operation.

Abdominal Exclusion of the Fundus in Procidentia Uteri

DR. JOSEPH RILUS EASTMAN, Indianapolis: The question of whether the uterus in its normal state is suspended by its ligaments and thus secured in position or is supported or upheld by the muscles and fasciae of the pelvic floor, the ligaments serving only as guides, becomes in the presence of complete procidentia a question of lessened importance, for in these extreme cases hysterectomy or the abdominal operation with fixation is absolutely necessary, in addition to a thorough repair of the vaginal supports, with amputation of the elongated portio vaginalis and curettage. The fixation I make is one in which the uterine fundus is drawn quite through the abdominal wound, the entire fundus being excluded and secured with a large transfixing pin. The pin is allowed to remain in place for two and one-half weeks. In excluding the fundus in cases of complete procidentia, the aim has been to fix the uterus higher than can be done by an ordinary fixation, to provide for firm attachment of the peritoneum, muscles and aponeurosis at a low level on the anterior, posterior and lateral aspects of the uterine body. All of the layers of the abdominal coverings are drawn snugly around the uterine body and sutured to that organ anteriorly, posteriorly and laterally. Two patients thus operated on, though they were past 50 years of age, had not passed the menopause, and in one of these the uterine appendages were removed and in the other the tubes were divided and the peritoneal screen suggested by Ries interposed. In three cases I have seen the abdominal operation was preceded by curettage, amputation of the cervix, anterior and posterior colporrhaphy and perineorrhaphy. In each case the fundus was covered over with skin, growing centrally from the periphery within two or three weeks. Owing to the firmness of the attachment and the elevation given by the transfixing pin, the possibility of sagging or detachment is minimized. The method offers the greatest possible uterine surface for fixation in the abdominal coverings. It makes possible reduction of deformities caused by extreme relaxation as a simple intraabdominal fixation could not do because the uterus is drawn higher and the firmer fixation prevents a yielding ligamentous fixation or a complete sundering of the attached structures, an accident which is perhaps less rare than is imagined.

Lesions of the Hip-Joint and Their Treatment

DR. JOHN B. MURPHY, Chicago: In my recent work in connection with fractures in attaching the upper end of the femur frequently I found a definite condition occurring, namely, absorption of the neck. No such absorption takes place in fractures in any other part of the body. It never occurs when there is a fracture in the upper end of the humerus. This absorption is due to the primary condition of the circulation in the neck of the femur. When there is a fracture, a lesion or disease, the repair of that lesion depends more on the condition of the circulation in the neighborhood than on any other one thing, taking into account always the regenerative potency of the individual structure. In fractures that occur close to the head of the femur, there is practically no absorption at all; no fatty degeneration, no breaking down, no liquefaction of bone. When a fracture occurs close to the base of the neck and there is attachment to the trochanter, it does not tear off the blood-vessels in the capsule inside. That capsule goes down and out and back in again, and the blood-vessels go in a proximal and distal direction, but the bone for a certain distance, in a great majority of cases, is absorbed. If there is a fracture of the neck of the femur which does not tear off the blood-vessels, then the portion between the trochanter and the head remains, and it is capable not only of revascularization, but of ossification, regeneration and of sustaining the neck. In the management of fractures of the femur, it has been the custom to dress them with a straight external splint. What does this do? It tends to shortening by shortening of the adductors, and shortening of the gluteal group of muscles attached to the trochanter, and not only that, the tendency of the adductors is to draw the limb inward, and there is shortening in that position. What the surgeon wishes to do is to reduce to a minimum contraction during the process of absorption of this portion of the head of the femur, so that when absorption has taken place and the tissues are ready for regeneration, it is essential to have the parts in apposition. They can be best maintained in apposition by relaxing the group of muscles which did so much to cause shortening. The ambulatory management of tuberculosis of the head of the femur is wrong. An ambulatory apparatus is applied to prevent motion, and as far as it inhibits motion in a joint it is valuable. But what should it be applied for? To prevent pressure on the inflamed part. When the products of infection are held under tension there is rapid destruction of tissue. This tension should be relieved. The first main principle should be to separate these articular surfaces by an extension apparatus, and then build up the patient to stimulate the process of repair.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

January 12

1 Acute Poliomyeloencephalitis. J. L. Morse, Boston.
2 *Treatment of Acute Poliomyelitis. W. E. Paul, Boston.
3 A Review of Sanitation in Panama. F. P. McCarthy, Boston.
4 Diseases of the Upper Abdomen That May Require Surgical Intervention. J. W. Keefe, Providence, R. I.
5 Mongolian Idiocy. W. N. Bullard, Boston.

2. **Treatment of Acute Poliomyelitis.**—The treatment employed by Paul may be summed up as follows: First are the patients with weakened muscles, and in these the order of value in treatment is: (1) voluntary exercises, (2) electricity, (3) massage. Second are the patients with paralysis, moderate atrophy and reaction of degeneration; in this class the order of value in treatment is : (1) electricity, (2) massage, (3) passive exercise. Third are those with absolute paralysis, complete reaction of degeneration, extreme atrophy and cold extremity; in this class the order of value in treatment is as follows: (1) massage, (2) passive exercises, (3) electricity.

Medical Record, New York

January 14

6 Recent Experiences with Salvarsan. S. W. Lambert, New York.
7 *Practical Points in Treatment of Diseases of the Heart. E. E. Cornwall, Brooklyn, N. Y.
8 Treatment of Chronic Appendicitis with High-Frequency Currents. W. H. King, New York.
9 *Future of Psychotherapy. T. Klingmann, Ann Arbor, Mich.
10 Duodenitis. M. Gross, New York.
11 *Gastric Roentgenology. E. H. Skinner, Kansas City, Mo.

7. **Treatment of Diseases of the Heart.**—The conclusions arrived at by Cornwall are as follows: Make the diagnosis before prescribing treatment. Do not give heart stimulants to restore compensation when rest in bed alone will do it, except in cases occurring in middle or later life in which prolonged rest in bed might prove injurious. Do not give heart stimulants after compensation has been restored. Remember that children and young people should be kept in bed for at least one month after compensation in chronic valvular disease has been completely restored, and that they should be kept in bed for some time after an attack of acute endocarditis, with or without loss of compensation. Learn how to use the best remedies and forget the rest. Do not give digitalis to children or to old people, and always bear in mind the limitations and contra-indications to the use of this drug. Do not exceed 3 minims of tincture of strophanthus at a dose, except in extraordinary cases and when tolerance has been established. If you prescribe mechanical methods of treatment see that the dose is right; they can do harm in overdose as well as drugs. Do not expect to get compensation in a badly decompensated case of valvular disease too soon; be satisfied for a while if, under treatment, the patient does not get worse; improvement in many of these cases must be slow if it comes at all and attempts to hurry it unduly only exhaust the heart. Use the smallest dose of any remedy that will do the work. Rarely tell a patient with serious heart disease how grave is his condition, for such patients easily lose hope and become despondent, which aggravates their condition. The family, however, should always be told, and the patient should be informed of his true condition if that is the only way to secure his cooperation in treatment. Be slow to give up hope, at least of improving the patient's symptoms in apparently desperate conditions, and especially beware of giving too definite a prognosis. Cardiac therapeutics is in the majority of cases a fight against odds, but by the exercise of patience, perseverance, and especially judgment, many may be accomplished.

9. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1674.

11. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1582.

New York Medical Journal

January 14

12 Treatment of Fractures, Especially Those of the Leg. C. Beck, New York.
13 How Pure Milk Cultures of Lactic Acid Ferments May be Obtained. F. S. Mason, New York.
14 Stereoscopic Photography with a Single Camera. W. G. Elmer, Philadelphia.
15 *"Grams"—Radiographs—in Three Dimensions. M. Girsdansky, New York.
16 Identification of the Tubercle Bacilli by Antiformin. D. Felberbaum, New York.
17 Diet, Nutrition and Growth in Children. E. M. Sill, New York.
18 The Heart in Lobar Pneumonia and Its Treatment. E. E. Cornwall, Brooklyn, N. Y.
19 *Fatal Case of Toxic Hematoporphyrinuria Complicating Septic Perforation of the Uterus. S. Wiener, New York.

15. **"Grams" in Three Dimensions.**—Briefly stated, Girsdansky's procedure is as follows: The Roentgen-ray apparatus and the photographic plate are adjusted in the usual manner. Assuming that the object is of such a size as to enable one to photograph it twice on the same plate, put the object over one-half of the plate, while the free half of the plate is protected with a sheet of lead, and a picture is taken. The operation is now reversed; the lead is put over the already exposed part; the object is moved over the still unexposed part, with the utmost care so that it maintains a position as symmetrical as possible to the source of light and to its own former position, and the picture is taken again. When the plate is developed, it shows a picture which resembles one taken with an ordinary stereoscopic camera. A print from such a plate differs from the commercial stereogram in that it is, in relation to the commercial picture, a transposed one, i. e., opposite to the right eye occurs the picture as would be seen by the left retina, and opposite the left eye occurs the picture as would be seen by the right retina. A Roentgenogram from such a plate is placed at a convenient distance from the eyes; a card board of a convenient size is prepared, and in the center of it a window is cut out which is about equal in size to any one individual picture of the twin Roentgenogram. The fenestrated screen is held in front of the print and at such a distance and in such a position that the right hand picture is in its entirety visible to the left eye, and the left hand picture to the right eye. When both eyes are focussed on the brim and frame of the card board window, the Roentgenogram appears at the plane of the window, as an image in three dimensions. If any difficulty at all is experienced at the beginning in the focussing of the eyes at the place of the empty window, one or more microscopic slides are fastened to the windowed card board by means of adhesive plaster, so as to cover it completely or in part and the observer proceeds as before. The image in three dimensions seems to appear on or between the glass slides.

19. **Toxic Hematoporphyrinuria.**—In this case the patient took repeated doses of saffron to induce abortion. Several similar cases are recorded in the literature. The symptoms of saffron poisoning, besides the hematoporphyrinuria are colic, vomiting, purging and convulsions, followed by delirium and coma.

Lancet-Clinic, Cincinnati

January 7

20 Smith's Cataract Operation. (Continued.) D. T. Vail, Cincinnati.
21 Physiologic Measures in Treatment of Nervous Diseases. T. A. Williams, Washington, D. C.
22 Seasickness. H. R. Carroll, Cincinnati.

January 14

23 Smith's Cataract Operation (Concluded). D. T. Vail, Cincinnati.
24 *Pain in Abdominal Disease. W. M. Harsha, Chicago.

24. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1132.

Surgery, Gynecology and Obstetrics, Chicago

December

25 *Surgical Treatment of Ulcers Along the Lesser Curvature of the Stomach. R. C. Coffey, Portland, Ore.
26 Use of the Finger in Rhinoplasty. T. A. McGraw, Detroit.
27 Ligation and Partial Thyroidectomy for Hyperthyroidism. C. H. Mayo, Rochester, Minn.
28 Brain Tumor with Impaction in Foramen Magnum Following Lumbar Puncture. W. W. Hamburger, Chicago.
29 Cerebral Hernia Following a Decompression Operation for Tumor of the Brain. C. A. Parker, Chicago.

30 Indications and Technic of Vaginal Cesarean Section. H. M. Stowe, Chicago.
31 The Newer Conservative Treatments for Pelvic Infection. R. T. Gillmore, Chicago.
32 *Diagnosis of Postoperative Insanity. J. C. DaCosta, Philadelphia.
33 Sarcoma of the Uterus. H. C. Dalton, St. Louis.
34 Use of Corpora Lutea in Gynecology. C. A. Hill, Pittsburg.
35 Traumatic Rupture of Pus Tubes, Causing Diffuse Peritonitis. C. M. Echols, Milwaukee, Wis.
36 Cesarean Section for Mechanical Obstruction; Ovarian Fibroma. G. Link, Indianapolis.
37 *A Popliteal Aneurysm of Unusual Size. J. R. B. Branch, Macon.
38 Technic of Nerve Alcoholization in Treatment of Spasticity and Muscle Group Overaction. N. Allison, St. Louis.
39 *Prostatectomy by the Perineal Route Without Opening the Bladder, with Immediate Suture. A. E. Hertzler, Kansas City, Mo.
40 *Extirpation of Upper Rectum and Sigmoid; the Noble Anastomat Modified. J. F. Baldwin, Columbus, Ohio.
41 Technic of Operations for Dilating the Os Uteri at or Near Term. C. B. Reed, Chicago.
42 *New Technic for Keeping Count of Gauze Pads. C. W. Barrett, Chicago.
43 *New Forceps for End-to-End Intestinal Anastomosis. L. J. Pollock and W. C. Speidel, Chicago.
44 *New Apparatus for Fracture Fixation. F. J. Cotton, Boston
45 An Intravesical Ureterorenal Tumor. W. H. Luckett, New York.

25. **Surgical Treatment of Ulcers of the Stomach.**—The fact that very little has been said as to the surgical treatment of ulcers along the lesser curvature, and less as to the proper technic for excising an ulcer, prompts Coffey to report briefly five cases in which the patients were operated on during the year and in which a complete symptomatic recovery took place. These cases illustrate the various forms and locations of ulcers along the lesser curvature, and the variety of technic used. In Case 1, excision of the lesser curvature was done. This patient made a complete recovery, and five months after operation is well. Case 2 was one of long-standing ulcer which had finally healed and contracted the middle of the stomach down to a small tube with a caliber not larger than a lead pencil. Coffey excised the constricted portion of the stomach and duodenum, and did an end-to-end anastomosis between the two pouches. The clinical results were perfect, and the patient was well five months after the operation. In Case 3 the cicatrix of an old ulcer had almost completely closed the pylorus, and another large ulcer, located about the middle of the lesser curvature, was still active and bleeding but had contracted and formed sufficient scar tissue to make an hour-glass stomach. Only a narrow tube of healthy stomach remained on the greater curvature, therefore the only operation which offered hope of cure without incurring too much risk, was a gastrogastrostomy connecting the two pouches, and a gastrojejunostomy connecting the pyloric pouch with jejunum. The patient began to take nourishment on the third day and within two weeks was eating full meals and was well and fat when last heard from, seven months after the operation. Case 4 was one of ulcer well up toward the esophagus on the lesser curvature, which had gradually contracted producing almost complete stenosis near the esophagus, a small stomach tube passing with difficulty. The ulcer was excised and the wound closed transversely. The patient was symptomatically well five months after operation. In Case 5, a hard indurated ulcer was located in the posterior wall near the lesser curvature. The thick ragged edges of the ulcer were excised and the wound closed. The patient made an uninterrupted operative recovery.

32. Abstracted in THE JOURNAL, Dec. 10, 1910, p. 2093.

37. **Popliteal Aneurysm of Unusual Size.**—In Branch's case the left leg was the seat of a tumor, extending from within a few inches of the great trochanter to midway between the knee-joint and ankle. There was no motion at the knee-joint. The tumor was tender, especially behind the knee. The presence of fluid was demonstrated by a sensation of fluctuation at this point, and also over the small area about 2 inches internal to the patella and behind. A slight pulsation was seen and a slight murmur heard. The circumference of the right knee was 13 inches and of the left knee, 27.5 inches; right calf, 14 inches; left, 18 inches. A hip-joint amputation was done, but the patient never rallied from the operation, and died the following day.

39. **Prostatectomy by the Perineal Route.**—Elimination of the open wound, avoidance of perineal fistula, and prevention of incontinence are the ends Hertzler seeks to attain by his operation. By means of a modified Young's tractor, small enough (26 F.) to pass through the urethra without injuring it, the prostate is controlled and pushed into the wound so as to be accessible through the perineal incision. The bladder is moderately distended with water injected through the tractor, which is made hollow for the purpose. An inverted-V incision is made, beginning over the bulb and extending laterally on each side to the ischial tuberosities. The soft parts are incised down far enough to expose the median raphé. A Young's forked retractor is placed in position and strong traction is exerted. The raphé and levator are not incised, the urethra is cleared down to the prostate and the lower and posterior surfaces of the gland are exposed. Care must be taken to separate the rectum from the posterior surface as far as the bladder. As the dissection is done, all freely bleeding points are clamped and ligated. The capsule of the prostate is incised and separated from the gland on the lateral side as far back as the bladder. The dissection of the prostate from the urethra is then begun. If a median lobe exists it may be pressed into the wound after the lateral lobes have been removed. The opposite lobe is treated in the same way. When the lobes have been removed complete hemostasis is secured by making a purse-string suture in the depth of the wound, including the remains of the capsule and the rectum. The water is then drained from the bladder through the tractor, and if it is not blood-stained it may be assumed that the mucosa of the bladder and urethra has not been injured. The wound may then be closed, care being taken to obliterate all dead spaces by buried catgut sutures. The structure external to the cavity occupied by the prostate may be closed by sweeping silkworm gut sutures which pass through the skin after the manner of obstetric repairs of the perineum. The bladder is again irrigated and the blades of the tractor are closed while the bladder is distended, in order to avoid catching the wall between the blades of the tractor. The water may be allowed to escape before the tractor is removed. The wound which results, resembles that produced by a perineorrhapy. If the urethra is intact, healing is complete in a week. Should the method fail, the necessary number of silkworm sutures may be removed and the wound treated as an open one just as though no primary union had been attempted. The operation as described, or a modification of it, has been done by Hertzler eight times. Infection requiring a complete opening of the wound occurred in one case, and partial opening was required in two other cases.

40. **Extirpation of Upper Rectum and Sigmoid.**—Baldwin has modified the Noble "anastomat" by making a curved tube, and by adding a spring device, to maintain the parts in apposition, as in the Murphy button. The inner tube is cut into a spiral, so as to furnish a spring of proper tension. To this is attached a hook which catches over the lower end of the outer tube. This hook can easily be caught with a hemostat, or with a special device. The inner tube being made flexible by the cutting of the spring enables one to bring the parts into position with less traumatism of the mesosigmoid than is possible with a rigid tube. Three of Baldwin's patients were women, and in these three he opened the cul-de-sac and passed gauze from above into the vagina so as to offer an additional protection in case of any leakage at the point of union in the bowel. In one of these cases this feature of the technic doubtless saved the patient's life, as a fecal fistula developed into the vagina; it had closed, however, when the patient left the hospital.

42. **Keeping Count of Gauze Pads.**—To laparotomy pads of all sizes, Barrett attaches a small, smooth, inexpensive snap through the medium of an 8 or 10-inch tape. To the laparotomy sheet a large horse-blanket pin, such as is now commonly used to group instruments, is attached a little distance from the wound. When each sponge comes to the field of operation it is snapped to the safety pin and is then introduced, the number of snaps indicating at all times the number of pads in the wound, and the tapes furnishing a ready means

of reaching the pads. The snaps are fixed, are not needed for other purposes, and are not to be confused with other instruments used and so remain at their task. Any sponge may be detached at will.

43. **Forceps for Intestinal Anastomosis.**—The instrument devised by Pollock and Speidel consists of a forceps shaped so as to form at its end an oblong square having at the center of its distal side two rings which may be approximated; these rings are inserted into slots, whereby rings of several sizes may be used in the instrument, the sizes being ½, ⅝ and ¾ inches on their outside diameter. These rings are hinged, and the halves of the rings are held together by means either of a spring or a ball-and-socket lock. After the application of intestinal clamps, the mesenteric arteries are tied, the mesentery incised, and the intestines resected or divided in the usual manner. Each end of the intestines is then drawn through the rings by a fine tissue forceps, and the ends turned back over the rings as a small cuff. The forceps is then closed, thereby bringing the mucosa of the two ends of the intestines into apposition. There is no difficulty in turning back the mesenteric border and with it a small amount of the mesentery; the first suture, including the mesentery and the mesenteric border of the intestines, allows no subsequent bleeding. The severed ends may then be sutured by any of the various methods in vogue. The forceps is then removed by opening the rings and the mesentery is sutured in the usual manner.

44. **New Apparatus for Fracture Fixation.**—In certain old or new fractures (usually approximately transverse fractures) of the femur that cannot be brought into place by ordinary methods, in a certain few fractures of the upper arm, and some few fractures of the lower leg, Cotton uses an apparatus which consists of steel screws of a diameter of 5/16 inch, with a screw thread of 24 turns to the inch cut on the fore end for a distance of 1¾ inches, and at the butt for a distance of 3¼ inches. This leaves a smooth polished shank at the point where the skin must eventually lie in contact with the screw. Each screw is cut at its tip into the shape of a "diamond-point" drill, at the other end it is so squared and tapered that it may be held firmly and squarely in a "drill chuck." The drill handle used is one furnished with such a "chuck," operating on the same principle as the more familiar "automatic" screw-driver. All that is necessary is to set the drill screw in the handle squarely, to set the point against the bone, and then alternately press on and release the "automatic" handle. Two screws are inserted into each fragment. The next step is accurate reduction of the fracture fragments. On each screw is spun a nut. Then over the whole set of screws comes a perforated oak board and then the washers. These nuts and washers are not steel, but iron, soft enough so that they can be "jammed" or "froze" in the setting up, giving a peculiarly rigid fixation. The advantage of this arrangement is said to be that an absolutely rigid fixation may be secured in this way without the least tendency to twist the screws (and with them the bones) out of the proper alignment.

Military Surgeon, Washington, D.C.

January

46 Enzootic Plague in the United States. W. C. Rucker, Washington, D. C.
47 Experiments on Relative Absorption of Solar Heat by Olive-Drab and Khaki-Colored Drilling. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. Army.
48 Report on the 1910 Camp of the Division of the Pennsylvania National Guard at Gettysburg, Pa. A. S. Stayer, N. G. Pa.
49 Lessons Learned at Maneuver Camp. C. D. Center, I. N. G.
50 Report of the Chief Sanitary Officer of the Division, Camp of Illinois National Guard, at Peoria, Ill., 1910. D. W. Rogers, I. N. G.
51 The Army and the National Guard from the Viewpoint of a National Guard Officer. H. I. Jones, Ind. N. G.
52 Flat-Foot: A Possible Cause of Back-Ache. E. C. Hill, U. S. Army.
53 Ankylostomiasis. C. L. Cole, U. S. Army.

Quarterly Bulletin Northwestern University Medical School

December

54 *Perforating Duodenal Ulcer with Fat Necrosis. H. M. Richter, Chicago.
55 Significance of the Apex-Beat in Diagnosis of Cardiac Conditions. A. F. Beifeld, Chicago.
56 *Unusual Action of Acetyl-Salicylic Acid. W. H. Buhlig, Chicago
57 *Bacteriology of the Stomatitis of Pellagra. W. H. Buhlig, Chicago.
58 *A Stable Anilin Gentian-Violet. W. H. Buhlig, Chicago.
59 *A New Theory Regarding the Mechanism of Skull Fractures. F. A. Besley, Chicago.
60 Diaphragmatic Hernia. J. H. Hess, Chicago.
61 Six Cases of Intestinal Obstruction. C. M. Fox, Chicago.
62 Quinin and Urea Hydrochlorate as a Local Anesthetic. V. D. Lespinasse, Chicago.
63 Mixed Hypercytosis, Its Nature and Significance. J. F. Hultgen, Chicago.

54. **Perforating Duodenal Ulcer with Fat Necrosis.**—Attention is called by Richter to an infrequent source of fat necrosis, the escape of duodenal contents into the peritoneum. In his case, on opening the abdomen, there immediately presented itself a widespread peritonitis, with considerable effusion, and with areas of fat necrosis widely distributed. The pancreas was immediately exposed, and found to be normal, though the injected overlying peritoneum suggested momentarily acute pancreatitis. Attention was then directed toward the duodenum, and a small perforation was found on its anterior border, about two inches from the pylorus. On retracting the liver and gall bladder, bile could be seen pouring through the opening. A thick inelastic ulcer could be made out in the bowel wall. The perforation was closed with sutures, and a posterior gastrojejunostomy made. A suprapubic peritoneal drain was inserted. The patient recovered.

56. **Unusual Action of Acetyl-Salicylic Acid.**—In Buhlig's case, about four hours after the ingestion of 10 grains of acetyl-salicylic acid, the face, particularly the lips and around the eyes, began to redden somewhat and swell, and shortly was so edematous and stiff that it was an effort to move the lips or eyelids. The bloating was so extreme as to give the impression of a local action of some poison. All over the body there was an urticarial eruption and a hoarseness developed, which a laryngologist asserted was due to edema. The maximum effect was reached in about an hour and a half, after which the edema and the eruption gradually receded.

57. **Bacteriology of the Stomatitis of Pellagra.**—In twelve out of fourteen cases in which direct smears were examined by Buhlig, there was found a combination of spindle-shaped bacilli and long wavy spirochetes. It is Buhlig's opinion that these symbiotic organisms, so common in ulcerative conditions, were one factor in the origin of the stomatitis. Both spirochetes and bacilli were Gram-negative, the latter sometimes only partially so. Cultures on Loeffler's serum were made from a number of these mouths. This particular medium was selected because there often were slight exudates in the mouths near the ulcerations. In these cultures many Gram-negative organisms were found which, from their size and their irregular staining with Loeffler's methylene blue, suggested that they probably were colon bacilli. As a matter of interest only, one of these cultures was plated and some of the colonies carried through the various media. Buhlig secured two Gram-negative organisms, one which corresponded nearly to the *Bacillus lactis aerogenes*, and the other was the *Bacillus cloacæ*, so far as could be judged from cultural and microscopic methods.

58. **A Stable Anilin Gentian-Violet.**—Briefly, this is accomplished by excluding light and air as much as possible from the solution after it is prepared. Buhlig never filters anilin gentian-violet and, therefore, in addition to allowing the minimum action of air and light, he never disturbs or shakes the bottle containing this solution. This is practically carried out by putting the anilin gentian-violet into a syphon bottle of very dark brown glass. The intake for air is cut down to a capillary bore of such size that will still allow a flow of liquid, and the delivery tube is painted black to the tip with asphaltum paint. The lower part of the intake tube for air is also painted, to be quite certain of excluding light. This arrangement affords convenience as well as assuring a dependable stain.

59. **Mechanism of Skull Fractures.**—On investigation, Besley found that the fractures of the base bear a marked similarity in point of direction and location, regardless of where the blow is struck on the vault. These fractures do not follow the lines of least resistance, as to thickness or tensile strength.

The frequent occurrence of fractures in the middle fossa just anterior to the condyles, he believes, is confirmatory evidence of the inbending factor, due to counter force applied at the condyles.

American Journal of Urology, New York

December

64 A Case of Renal Calculi. F. C. Walsh, San Antonio, Texas.
65 Toxic Anuria Due to Bichlorid of Mercury. L. Gross, San Francisco.
66 Traumatic and Postoperative Retention of Urine. C. G. Cumston, Boston.
67 Normal Urine in a Patient with a Right Pyonephrosis. G. W. Warren, New York.

New Orleans Medical and Surgical Journal

January

68 Extrauterine Pregnancy. J. D. Bloom, New Orleans.
69 *A Simple Expedient in Treating Complicated Fractures of the Lower Jaw Forbidding Intrabuccal Prosthetics. L. H. Landry, New Orleans.
70 *Diabetes Mellitus Among Negroes. I. I. Lemann, New Orleans.
71 Gunshot Wounds of the Abdomen. C. Wilson, Birmingham, Ala.
72 Post-Diphtheritic Paralysis. L. L. Gazenavette, New Orleans.
73 Treatment of Syphilis of the Nervous System by Mercurial Inhalations in a Thermo-Diaphoretic Room. S. Schiro, New Orleans.
74 Neuralgia Pain in Distribution of Nerves Pressed on by Inflammatory Exudate and Scar Tissue. E. M. Hummel, New Orleans.
75 Study of the Blood in Certain Acute Infectious Diseases of Childhood and Their Diagnostic Value. J. J. Robert, Baton Rouge.
76 Treatment of Chorea. L. R. DeBuys, New Orleans.
77 Nephritis in Children. E. D. Fenner, New Orleans.

69. **Complicated Fracture of the Lower Jaw.**—The type of case considered by Landry is the case in which the splint is contra-indicated; that is, in multiple fractures of the jaw or marked compound cases with separation of the alveolar process, or cases with marked swelling and hematoma forbidding any intrabuccal appliance owing to pain and inability of keeping the mouth clean, etc. Landry has had occasion to study and observe two such cases. After reducing the fracture as much as possible, five or six turns of a thin Esmarch elastic bandage were taken around the head and chin, bringing the crowns of the teeth of the lower jaw in contact with those of the upper, and at the same time favoring and promoting the reduction and absorption of the hematoma and edema. The patient complained of inability to swallow, but this was due to the swelling and reactionary edema of the parts following the traumatism. Special attention was given to the cleaning of the mouth, particularly with the immobilizing bandage in place, which favored salivary stagnation and putrefaction. An irrigating can armed with a douche nozzle was attached to the head of the bed, and the patient instructed to use it himself, every hour, while awake, allowing the solution to go in as far back as possible and flow outward. In two or three days the swelling had subsided enough to allow him to take soft food. In four or five days, all the acute symptoms having subsided, the patient was allowed to walk about. The bandage was removed and readjusted whenever necessary to wash and freshen the skin. After seventeen days the patient was allowed to leave the hospital, with only a slight deformity and a good functioning jaw.

70. **Diabetes Mellitus Among Negroes.**—Among about 3,000 negroes Lemann found five cases of diabetes, four of which were severe. He says that there is no great difference in the frequency of the disease among whites and among negroes. The etiologic importance attributed by many authors to syphilis and alcoholism loses weight when viewed in the light of the statistics. The widespread existence of syphilis and alcoholism among the race has had no great effect in producing diabetes among them. In Lemann's series of negro diabetics neither of these factors seemed to have played any part in the causation of the disease. Another interesting point worthy of attention is the diet of the negro race. It is often preponderatingly carbohydrate with its hoecake, rice, hominy, and sugar cane. On the sugar plantations during the fall and winter months, sugar cane is an extremely important part and often a major portion of a day's dietary among the laborers. Certainly their carbohydrate function must be capable of caring for huge quantities if it can stand this strain.

Journal of Advanced Therapeutics, New York

December

78 Electricity in Treatment of Gout. F. de Kraft, New York.
79 Roentgen-Ray Treatment of a Case of Lymphoid and Myeloid Leukemia, with Blood Findings of Each. J. W. Torbett, Marlin, Texas.
80 A Pendulum for Interrupting the Static Wave Current. G. E. Pfahler, Philadelphia.

American Journal of Physiology, Boston

January

81 *Physiology of Cell Division. R. S. Lillie, Philadelphia.
82 *Effects of Pressure on Conductivity in Nerve and Muscle. W. J. Meek and W. E. Leaper, Madison, Wis.
83 Effects of Stretching the Nerve on the Rate of Conduction of the Nervous Impulse. A. J. Carlson, Chicago.
84 Production of Glycosuria by Adrenalin in Thyroidectomized Dogs. F. P. Underhill, New Haven, Conn.

81. **Physiology of Cell Division.**—The chief experimental results of Lillie's work proved that the addition of small quantities of calcium chlorid to isotonic solutions of sodium salts (1) prevents the rapid increase in permeability produced in the unfertilized eggs of asterias and arbacia by the pure solution, (2) produces at the same time a marked decrease in the toxicity of the solution, and (3) prevents the membrane formation and initiation of cell division which are typically induced by the pure solution. The view is thus confirmed that both the toxic action of the pure salt solution and its action in initiating cell division are due primarily to the production of a condition of increased surface permeability. This increased permeability is, however, temporary in normal or favorable parthogenetic fertilization. Treatment with hypertonic sea-water after the formation of fertilization membranes by salt solutions results in an increase in the proportion of favorably developing eggs, especially in the case of arbacia, of which the majority of the eggs thus treated may reach active larval stages. Since hypertonic sea-water thus prolongs the life of the egg—an effect comparable to that of calcium in the above antitoxic action—and since prolonged life implies a practically normal permeability, the inference is drawn that the essential effect of such after-treatment is to bring the permeability—which has been increased by the initial membrane-forming treatment—again to the normal. An artificially induced increase is thus followed after a favorable interval by an artificially induced decrease of permeability. Without such after-treatment few eggs succeed in developing beyond an irregular early cleavage stage and development is abnormal.

82. **Effect of Pressure on Conductivity in Nerve and Muscle.**—The average time required to block the time impulse in the sciatic nerve of a frog by means of a constant pressure of 40 pounds was found by the authors to be 7.5 minutes. Under the same conditions 4.4 minutes were required to establish block in fresh sartorius muscles, and 2.4 minutes in curarized muscle. In both nerve and muscle the time necessary to interrupt conduction was proportional to the pressure applied and the strength of the stimulus. Immediately after the application to nerves of pressures not exceeding 20 pounds, stimuli of a given strength frequently caused an increased height of contraction in the recording muscle. There was probably a summation in the muscle of impulses set up in the compressed area with those due to the electrical stimulus.

Pennsylvania Medical Journal, Athens

December

85 *Past, Present and Future of Surgery. J. B. Deaver, Philadelphia.
86 *Significance of Transient Cerebral Crises and Seizures as Occurring in Arteriosclerotics. J. D. Heard, Pittsburg.
87 Symptomatology and Pathology of Tumors of the Pituitary Body. J. H. W. Rhein, Philadelphia.
88 Brain Abscess in Frontal Region; Operation; Death, with Necropsy Findings. T. Diller and J. K. Everhart, Pittsburg.
89 Trachoma and Facts Concerning Its Existence in Pennsylvania. C. M. Harris, Johnstown.
90 Progress of the Trachoma Campaign in Pennsylvania. C. P. Franklin, Philadelphia.
91 *Infant Mortality. S. G. Dixon, Harrisburg.
92 Urgent Need of More Adequate Care and Treatment for the Indigent Insane of Pennsylvania. T. Diller, Pittsburg.
93 Fear, as It Is Manifested in Psychoses, and Its Bearing on Treatment. W. K. Walker, Pittsburg.
94 *Acute Dilatation of the Stomach. E. Laplace, Philadelphia.
95 *Chronic Gastromesenteric Ileus. G. P. Müller, Philadelphia

85, 94 and 95. Abstracted in THE JOURNAL, November 19, p. 1837.

86 and 91. Abstracted in THE JOURNAL, Oct. 29, 1910, pp. 1580 and 1581.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

January 1

96 *The Heart in Disease of the Thyroid. J. S. Gilfillan, St. Paul.
97 Sinus Inflammation and Its Effect on the Eyes. T. McDavitt, St. Paul.
98 Epidemic Poliomyelitis: Prevention, Diagnosis and Treatment. W. A. Jones, Minneapolis.
99 A Case of Abdominal Pregnancy. F. A. Dunsmoor, Minneapolis.

96. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1832.

Kentucky Medical Journal, Bowling Green

December 15

100 Heart Block. F. C. Askenstedt, Louisville.
101 Movable Kidney. I. Abell, Louisville.
102 The Wassermann Reaction. E. S. Allen, Louisville.

American Journal of Diseases of Children, Chicago

January

103 *Anatomic Features of the Child's Thorax and Their Practical Application in Physical Diagnosis. G. Fetterolf and J. C. Gittings, Philadelphia.
104 *Three Hundred Cases of Acute Meningitis in Infants and Young Children. L. E. Holt, New York.
105 *Constant Presence of Tubercle Bacilli in the Cerebrospinal Fluid of Tuberculous Meningitis. J. Hemenway, New York.
106 *Influenza Meningitis and Its Experimental Production. M. Wollstein, New York.
107 Amaurotic Family Idiocy. I. A. Abt, Chicago.
108 *Atypical Scarlet Fever. C. G. Kerley, New York.

103. **Anatomic Features of the Child's Thorax.**—This work consisted of making dissections and sections of the bodies of infants which had been injected with a 10 per cent. dilution of liquor formaldehydi and then frozen. The results of the author's study of these preparations are embodied in this paper.

104. **Acute Meningitis in Infants and Children.**—The observations included in Holt's paper relate to 300 cases of acute meningitis seen in children for the most part under 3 years of age. Of this number 197 were observed during the lumbar puncture period and are available for more careful analysis. He says that apart from epidemics of cerebrospinal meningitis, 70 per cent. of the cases of acute meningitis occurring in young children are tuberculous. Etiologically, the 197 cases were divided as follows: Tuberculous, 138 cases; pneumococcic, twenty-two cases; meningococcic (sporadic), twenty-four cases; staphylococcus or streptococcus, ten cases; influenzal, four cases; due to colon bacillus, one case. Two of these cases were mixed infections. Holt urges that lumbar puncture should be employed in every suspected case. It is only with very rare exceptions that to a skilled observer it gives uncertain results. In tuberculous meningitis, bacilli are always present in the cerebrospinal fluid; although difficult to find in the early stages, in later stages a careful examination should discover them. The v. Pirquet test in most cases gives positive results. In infants and very young children tuberculous meningitis occurs usually as an early manifestation of a general tuberculosis, and generally causes death before the lesions elsewhere are far enough advanced to give definite signs or symptoms. Pulmonary lesions are present in nearly all cases. Tuberculous meningitis is of human origin. Altogether the most frequent cause is exposure to adults with pulmonary tuberculosis. The age incidence and the seasonal occurrence are points which are not yet fully explained. Pneumococcus meningitis usually occurs in younger patients, and is associated with pneumonia. Clinically it resembles meningococcus meningitis but usually the course is shorter and it is almost invariably fatal. Influenza meningitis is infrequent and also resembles the cerebrospinal form; it, too, is almost invariably fatal. Streptococcus and staphylococcus meningitis are very rare forms in infancy, usually occur in the new-born and are often associated with spina bifida (but seldom follow mastoid disease); under such circumstances they are always fatal. Meningococcus meningitis is really the only variety in which at present there may be said to be any hope of recovery. The results in this variety of meningitis have been greatly improved by serotherapy.

105. **Tubercle Bacilli in the Cerebrospinal Fluid.**—In all but 2 of the 137 cases of tuberculous meningitis, tubercle bacilli were demonstrated in the cerebrospinal fluid. The fluid is collected in several test tubes, allowing about 20 c.c. to a tube. The last fluid withdrawn after the child has been raised to the sitting posture is considered the most important, as the bacilli are usually found more readily in this. Care must be taken not to shake the tubes. It has been found that a fibrin coagulum, the so-called film, forms oftener in tubes which have not been agitated. The fibrin coagulum is at first very delicate and friable. It forms with greater regularity and becomes firmer in fluids which have been placed in the incubator over night. After ten hours it is usually so firm that the entire film can be removed with a platinum loop. It is then carefully spread with fine needles on a glass slide. This is stained by the carbol-fuchsin Gabbett method. Bacilli were found with comparative ease in every case in which the film formed. In several cases in which the question of immediate diagnosis was extremely important, there was a sufficient coagulum after the fluid had stood three hours to enable one to find the bacilli.

106. **Influenza Meningitis.**—There have come under Wollstein's observation, within the past year, eight cases of influenza meningitis, from which the influenza bacillus was isolated in every case from the fluid removed by lumbar puncture, and the cultures studied in respect to their biologic reactions. All the cases terminated fatally.

108. **Atypical Scarlet Fever.**—Kerley cites a number of instances to prove that many cases of scarlet fever are so atypical as to go unrecognized until a sequela makes its appearance. He says that it is a disease of direct infection; it is rarely carried by a second person or object. The most contagious period is early in the disease during the period of angina, rash and temperature, therefore, the danger of transmitting the disease during the desquamation period is much exaggerated. Wrongly diagnosed and unsuspected cases are the great transmitters of the disease. During a scarlet fever epidemic, every suspect must be quarantined until he gives reasonable proof of innocence. The most constant symptom is the angina, a deep general congestion of the fauces, but even this may fail. In its symptomatology, scarlet fever is the most inconstant of the exanthemata. In its severity there are the widest possibilities.

Bulletin of the Manila Medical Society

November

109 Mortality Among Filipino Infants as Compared with Mortality Among European and American Infants. J. Albert, Manila.
110 Relation Between Physical Condition of Cattle and Their Resistance to Cattle Plague. E. H. Ruediger, Manila.
111 Medical Notes from French Indo-China. E. R. Whitmore, U. S. Army.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January

112 Abnormal Implantation of Placenta. W. H. W. Knipe, New York.
113 *Should Eclamptic Mothers Nurse Their New-Born Infants? J. R. Goodall, Montreal.
114 Factors Concerned in Spontaneous Rupture of the Uterus. W. R. Wilson, Philadelphia.
115 *Value of Local Treatment in Gynecologic Cases. J. V. Young, New York.
116 *Pelvic Reflexes. R. T. Morris, New York.
117 *Two Cases of Perforated Gastric Ulcer. T. B. Noble, Indianapolis.
118 *Importance of Public and Private Hospitals in the Education of Young Physicians and Nurses, and the Clinical Instruction of Practitioners. J. Price, Philadelphia.
119 *High Operations in Cesarean Section. W. H. Humiston, Cleveland.
120 "Apical Pregnancy," a Pregnancy in the Horn of a Normal Uterus. H. Grad, New York.
121 *Fibromyomata of the Uterus, Complicating Pregnancy, Labor and the Puerperium. R. W. Lobenstine, New York.
122 *Treatment of Obstruction of Bowels Due to Malignant Neoplasm. M. J. Rosenthal, Fort Wayne, Ind.
123 Torsion of the Great Omentum. W. J. Gillette, Toledo, Ohio.
124 *Secondary Repair of Complete Perineal Laceration; Its Technic and Results. E. J. Ill, Newark, N. J.
125 *Cesarean Section, the Pregnant Uterus Being Within an Umbilical Hernia. J. H. Carstens, Detroit.

113. **Should Eclamptic Mothers Nurse Their New-Born Infants?**—This paper was also published in the *Montreal Medical Journal*, November, 1910.

115. **Local Treatment in Gynecologic Cases.**—The cases in which Young regards local treatment as of value may be outlined as follows: inflammation of the external genitalia, infections and inflammations of the urethra and bladder, many conditions of the rectum and anus not mentioned in this paper, inflammatory and infectious conditions of the vagina, cervix, and endometrium, erosions, ulcerations or cystic degeneration of the cervix, cervical stenosis, uterine and pelvic congestion, local peritonitis, tubal infection, retroversion and the inoperable uterine prolapse of elderly patients. Preparatory to operation, local treatment has seemed to Young to be of great value both in private and hospital practice. In the relief of postoperative pain, and absorption of exudate left after operative procedures where infection had existed, the results have been most satisfactory.

116, 117, 118, 119, 121, 124 and 125. Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1402, 1403 and 1404.

122. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1311.

Western Medical Review, Omaha, Neb.

January

126 Insanities of the Puerperal Period. J. M. Aiken, Omaha.
127 Anterior Poliomyelitis. M. A. Ames, North Platte, Neb.
128 Preparation for and Operation of Appendicitis and Appendiceal Abscess. W. L. Sucha, Orleans, Neb.
129 Postoperative Acute Gastric Dilatation. H. M. Hepperlin, Beatrice, Neb.
130 The Emergencies of Hemorrhage and Eclampsia. A. E. Mack, Omaha, Neb.

Ophthalmology, Seattle, Washington

January

131 *An "Unlearnable" Vision Test Card for Use in the Naval Service. E. J. Grow, U. S. Navy.
132 Cyclophoria. A. A. Bradburne, Southport, England.
133 Etiology, Pathology and Treatment of Concomitant, Convergent Squint. L. Emerson, Orange, N. J.
134 *Trachoma Treated After the Coover Method. H. H. Martin, Savannah, Ga.
135 An Unusual Factor in Amblyopia. F. M. Ruby, Union City, Ind.
136 Treatment of Dacryocystitis. G. Goldseth, Jamestown, N. Dak.
137 Traumatic Subconjunctival Dislocation of Cataractous Lens in Its Capsule. F. P. Maynard, Calcutta.
138 Presence of Non-Inflammatory Exudates in the Aqueous Humor. B. Chance, Philadelphia.
139 Marginal Ring Ulcer of the Cornea. S. H. Brown, Philadelphia.
140 A Case of Ulcerous Scleritis. H. Rönne, Copenhagen, Denmark.
141 Electrolysis in Treatment of Indolent Ulcers and Fistulas of the Cornea. F. Cornwall, San Francisco.
142 Anterior Chamber Irrigation After Cataract Extraction. E. T. Smith, Queensland, Australia.
143 Rupture of the Chorioid. G. F. Keiper, Lafayette, Ind.
144 Spasm of the Retinal Arteries. H. D. Bruns, New Orleans.
145 Spontaneous Thrombosis of the Central Vein of the Retina Following Parturition. A. Brav, Philadelphia.
146 Vaccine Therapy and Serotherapy in Ocular Tuberculosis. G. S. Derby, Boston.

131. Also published in the *United States Naval Bulletin*, August, 1910; abstracted in THE JOURNAL, Aug. 6, 1910, p. 534.

134. **Trachoma Treated by Coover Method.**—The first fifteen of the sixty patients seen by Martin were treated after Coover's method unmodified, the remaining forty-five were treated after the Coover method modified as follows: Instead of burning alcohol or making any other attempt to sterilize the sandpaper, he used the sandpaper just as it came from the shop, but immediately after the operation, the conjunctival sac was copiously irrigated with normal salt solution in order to clear the sac of any loose grains of sand; the lids were then everted and thoroughly scrubbed with gauze sponges and a 1 to 5,000 bichlorid solution (this was done also in the first fifteen). In the entire sixty cases there was no evidence of infection having occurred during the operation. Martin is convinced therefore that any attempt to sterilize the sandpaper is troublesome, unsatisfactory and entirely unnecessary. Immediately after the operation, the patients were kept in bed until they had recovered from the anesthetic, but no dressings or local applications were used.

Mississippi Medical Monthly, Vicksburg

January

147 Quinin in Malaria. J. T. Longino, Jonestown.
148 Fractures of the Skull. M. H. Roberts, Eberneezer.
149 A Case of Malarial Congestion. L. D. Harrison, Clarksdale.
150 Use of Gonococcus Vaccine in Chronic Gonorrheal Affections. S. T. Wells, Alligator.

Annals of Surgery, Philadelphia

January

151 Testing the Efficiency of the Collateral Circulation as a Preliminary to the Occlusion of the Great Surgical Arteries. R. Matas, New Orleans.
152 Anatomic and Surgical Desiderata in Exposure and Removal of the Hypophysis Cerebri. A. E. Schmitt, New York.
153 Treatment of Roentgen-Ray Ulcer. R. C. Turck, Jacksonville, Fla.
154 Posterior Gastro-Enterostomy, Three Years After Anterior Gastro-Enterostomy. M. A. Fauntleroy, U. S. Navy.
155 Non-Prostatic Urinary Retention of the Senile Bladder. M. W. Ware, New York.
156 Bone Abscess Treated with Moorhof's Bone Wax. C. C. Simmons, Boston.
157 Laceration of the Axillary Portion of the Capsule of the Shoulder-Joint as Factor in Etiology of Traumatic Combined Paralysis of Upper Extremity. T. T. Thomas, Philadelphia.
158 Disinfection of the Skin by Tincture of Iodin. C. L. Gibson, New York.
159 *Dry Iodin Catgut. A. V. Moschcowitz, New York.

159. **Dry Iodin Catgut.**—Ordinary catgut, just as it is bought from the dealers, is wound onto the well-known glass spools, in a single layer, and fastened at both ends, so as to prevent unravelling. It is then placed for five days in a 5 per cent. alcoholic solution of iodin in a tightly closed vessel (museum jar). On removal it is spread out on a sterile towel, covered by another sterile towel to faciliate drying, and is finally kept in a sterile container. Moschcowitz has proved to his own satisfaction, clinically as well as experimentally, that this dry iodin catgut is absolutely sterile. It is impossible to infect it by ordinary means. Its imbibition with iodin is not sufficient to act as an irritant on the tissues. Its tensile strength is superior to catgut prepared by other methods, and it is absorbed only after it has served the purposes for which it was intended.

Denver Medical Times and Utah Medical Journal

January

160 Case of Subglenoid Dislocation of the Shoulder (Erect Type), Avulsion of the Arm. M. E. Preston, Denver.
161 A Case of Strangulated Hernia. C. B. Dyde, Greeley, Colo.
162 Pericardium Penetrated by Needle. G. W. Miel, Denver.
163 A Tuberculous Muscle Tumor. F. C. Buchtel, Denver.
164 Some Passing Practices and Better Methods. B. O. Adams, Pueblo, Colo.
165 New Spinal Needle. C. G. Parsons, Denver.
166 Delayed Union of Fractured Limbs. H. G. Wetherill, Denver.
167 Repair of Fractures. G. F. Roehrig, Denver.
168 Diagnosis of Ureteral Problems. C. E. Tennant, Denver.
169 The Surgeon vs. the Physician. J. M. DeWeese, Denver.
170 Is Syphilis a Contagious Disease? F. Clift, Salt Lake City, Utah.
171 The Oral Hygiene Movement. E. C. Fairweather, Salt Lake City, Utah.

Memphis Medical Monthly

November

172 *Bacterial Vaccines a Factor in Therapeutics. W. Litterer, Nashville.
173 Injection Treatment of Infected Joints. M. G. Thompson, Hot Springs, Ark.
174 *The After-Care of Anterior Poliomyelitis. W. C. Campbell, Memphis.
175 Poliomyelitis. W. J. Wadlington, Memphis.

172 and 173. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2007.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 31

1 *Hyperchlorhydria and Its Complications. W. Russell.
2 *Distribution of Appendicitis, and Its Relation to Diet. O. T. Williams.
3 Clinical Study of Chronic Movable Kidney. P. Hicks.
4 *Use of Old Tuberculin Ointment in Diagnosis and Treatment of Lupus Vulgaris. A. Verge.
5 Cancer of the Breast. W. Mitchell.
6 *Cleft Palate Operations. T. S. Kirk.
7 A Case of Dwarfism. A. A. Jubb.

1. **Hyperchlorhydria.**—Russell summarizes the position by saying that if chronic gastric and duodenal ulcer be excluded, the question of operation depends on, first, the determination of the position of the inferior border of the stomach to the pyloric outlet; and second, on the prospect of being able to restore the sagged lower border. The first of these conditions is, in his experience, easy of attainment; the second depends on there being no natural or acquired barrier to the

passage of food through the pylorus or duodenum. On the accuracy of the answer to this last problem depends the accuracy of the prognosis, and it will determine the important question whether it is wise or not to try to restore a proper relation of stomach axis to outlet. It is, however, clearly stated by Russell, that many cases are most amenable to suitable medical treatment, but the attempt to cure all cases of ptosis —either partial or complete—can only end in loss of prestige to the physician. Physical laws hold here as elsewhere; and there are physical barriers to the emptying of some stomachs by the natural outlet—it is so impossible that it is simply fatuous to try to bring it about. Accuracy of diagnosis is not unattainable and on such accuracy or inaccuracy the physician's prestige naturally depends. If he attempts to cure what correct diagnosis would tell him he cannot cure, and the patient is driven by force of his misery into the hands of the willing operator, only one result can follow—namely, discredit to himself and the art he professes.

2. **Distribution of Appendicitis.**—A study of statistics has convinced Williams that appendicitis has a markedly different incidence in various countries, and that this different incidence may be largely a question of diet. Statistics show that where there is a large meat-eating population, appendicitis is a common disease, whereas in those countries where little meat is eaten, appendicitis is rare, if not almost unknown. There is no doubt that apart from improved diagnosis, appendicitis has greatly increased in the British Isles in the last few decades. Very little evidence has so far been advanced in explanation of this. The greatest change in the diet of the people has undoubtedly been the marked increase in meat eating. With the amount of foreign meat and canned food the poorer classes even are now able to supply themselves in fair quantity with meat of varying kinds, more particularly mutton. The fat of meat, more particularly that of mutton and beef, is characterized by the small amount of unsaturated fatty acid it contains. That the fat in the food determines the nature of the fat in the tissues is well known. From the clinical and chemical work quoted by Williams, it would seem that this factor determines the nature of the soaps to be found in the wall of the intestinal tract (probably as a manifestation of their excretion), and when these soaps are the calcium soaps of saturated fatty acids, there is usually some evidence of disease, either a mucous colitis or an intestinal lithiasis. In appendicitis, with which these two conditions are clinically associated, there is the same occurrence of these calcium soaps in the wall or in the lumen. In Williams' opinion, therefore, there is some evidence to connect the nature of the fat in the food with the incidence of the disease.

4. **Old Tuberculin Ointment in Lupus.**—As a means of diagnosis, Verge regards the application of tuberculin ointment of undoubted value. Numerous control tests were made by him in many other forms of skin diseases, such as psoriasis, lichen planus, sycosis, various forms of syphilis, dermatitis seborrheica, eczema, etc. In none of these did the typical reaction occur in the lesion, and the Moro reaction in the surrounding healthy skin was entirely absent. Therefore he thinks it may be fairly claimed to be a specific reaction occurring only in lupus. Several cases of doubtful diagnosis were cleared up, and so useful has the method proved that it is now employed in the skin department of the Royal Infirmary wherever there is any doubt as to the lesion not being lupus.

6. **Cleft Palate Operations.**—Kirk has used a continuous suture (No. 1 or 2 silkworm gut) in cleft palate operations with satisfactory results during the last three years. The operation he performs is the ordinary one with mucoperiosteal flaps in the case of the hard palate, and in the soft palate the latter is freed from the posterior margin of the bony palate and its muscles are divided. Apart from the ultimate good results obtained, he says that it will be found that this continuous suture can be inserted more rapidly and easily than the interrupted one, and that the necessity for great care to insert the stitches exactly opposite each other and to tie the sutures with the correct amount of tension is obviated. The ease and rapidity of operation makes the operation less serious, and it can easily be done when the child is 18 months old. The amount of tension to be put on this suture must be sufficient, after it has been put in and before it is finally tied, to prevent the escape of any bubbles from the nose to the mouth in any part of the line of suture, when the patient is breathing quietly. The suture is put in close to the edges of the flap, only taking up enough tissue to give a firm hold and not enough to invert the margins. The suturing is most easily done from before backward. The form of needle Kirk uses is a small Durham's cleft-palate needle, bent at a right angle to the right, and he inserts it from below on the right side and from above on the left side, usually rethreading before each introduction. Only about ½ inch of the silkworm gut should be passed through the eye of the needle, as the gut is apt to get frayed by the constant threading and unthreading. The suture can be left in for ten days or longer. He claims for a continuous suture that it gets rid of two of the causes of failure of union in cleft palate operations, namely, (1) imperfect apposition of the flap edges; (2) necrosis of the flap edges from stitch pressure; and that it considerably shortens the operation, thus materially diminishing the risk.

Lancet, London

December 31

8 Obesity and Certain Changes of Metabolism. O. Rozenraad.
9 *Simple Serodiagnosis for Tuberculosis: a Method of Obtaining an Immunity Index. V. B. Nesfield.
10 Clinical Aspects of Juvenile General Paralysis. J. J. Abraham.

9. **Serodiagnosis of Tuberculosis.**—With a view to discovering traces of immune substance in the serum of tuberculosis patients, Nesfield carried out a series of tests, taking as his basis the fact that the immune body combines with its specific bacterium or toxin, and that this bacterium-immune compound unites with complement. It is the principle employed by Wassermann for the diagnosis of syphilis. The procedure is described fully.

Australian Medical Journal, Melbourne

October

11 Acidosis and Acid Intoxication in Children. E. R. White.
12 Acetonuria and Acidosis. A. C. H. Rothera.
13 Sporadic Cerebrospinal Meningitis. M. Williams and R. Fowler.
14 Serotherapy of Epidemic Cerebrospinal Meningitis. G. A. Paton.
15 Brachial Neuritis Caused by Pressure of First Rib. T. Murphy.
16 Direct Examination of the Larynx, Trachea, Bronchi, and Esophagus. J. Murphy.
17 Quinsy. T. K. Hamilton.
18 Hemorrhagic Conjunctivitis. M. A. Schalit.
19 Hemorrhagic Mole. W. A. Wood.
20 Hemorrhagic Glossitis. R. A. Stirling.

Dublin Journal of Medical Sciences

December

21 Physiologic Effects of Alcohol. W. H. Thompson.
22 Tendencies of Modern Research in Veterinary and Human Medicine. E. J. McWeeney.

British Journal of Children's Diseases, London

December

23 Gangrene of Leg Following Diphtheria. J. D. Rolleston.
24 Chloroma. F. Tresilian.
25 Vaccine Therapy of Acute Infective Osteomyelitis. A. G. L. Reade.

Journal of Obstetrics and Gynecology of the British Empire, London

December

26 *Intraperitoneal Hemorrhage in Cases of Fibromyomata of the Uterus. A. J. Wallace.
27 *Torsion of the Fallopian Tube as a Factor in the Etiology of Hematosalpinx Apart from Extrauterine Pregnancy. A. L. McIlroy.
28 *Treatment of Eclampsia. J. W. Ballantyne.

26. **Intraperitoneal Hemorrhage.**—Wallace divides these cases into three classes: (1) the acute, in which the shedding of a large amount of blood is followed by a severe peritoneal crisis and general collapse; (2) the subacute or chronic, in which small or very moderate amounts of blood are shed at intervals, evidenced by mild signs of peritoneal disturbance of short duration, or by advancing anemia that is not explained by external losses or by general disease; (3) cases in which intraperitoneal bleeding occurs without evidence of its existence. In such cases the bleeding may have been pro-

voked by some exertion on the part of the patient. He reports seventeen cases in which the patients were submitted to operation. Death occurred in six cases—a mortality rate of 35.29 per cent.

27. **Torsion of the Fallopian Tube.**—The conclusions to be drawn from McIlroy's paper are that there is no one definite cause for the rotation of the pedicle, but that when torsion does take place followed by strangulation, there is an effusion of blood into the tissues and cavities of the organ or tumor involved. We may take it as proved in the majority of cases of hematosalpinx apart from ectopic pregnancy, that the cause is to be looked for in a torsion of the tube, as a rule at the uterine end. Predisposing causes such as congestive conditions, weakness of the vessel walls and tumors of the tube are to be taken into account. The exciting cause of the rotation may be found in the mobility of the tube in conjunction with increased intra-abdominal pressure. Peristaltic action of the lower bowel has undoubtedly some influence in favoring axial rotation. That torsion should occur in a perfectly healthy tube must be of rare occurrence, although histologic examination of series of tubes in the various stages of fetal development shows us that flexions of these organs are frequently present. The direction of the torsion and the number of twists are of little importance clinically, the degree of strangulation is what should be looked for on examination of the tube.

28. **Treatment of Eclampsia.**—For six years (1905-1910) Ballantyne has acted as physician in charge of the Edinburgh Royal Maternity Hospital during the autumn quarter, and in these eighteen months 2,214 patients were under his care. Thirty-eight of the patients suffered from eclampsia, or 1.7 per cent.; and five died, giving a maternal mortality of 13 per cent. During the autumn quarters of 1905, 1906 and 1907, there were twelve cases of eclampsia with three maternal deaths, or a mortality of 25 per cent.; while during the corresponding quarters of 1908, 1909 and 1910, there were twenty-six cases of eclampsia with two maternal deaths, a mortality of 7.6 per cent. The treatment employed in the latter period of time differed very markedly from that in vogue in the former. During the autumn quarters of 1905-1907, Ballantyne was still trusting in some measure to rapid emptying of the uterus, while in the corresponding quarters of 1908-1910, labor was hardly at all expedited. In the former years the maternal mortality was 25 per cent., in the latter it was only 7.6 per cent.; in the former years the fetal and infantile mortality was 75 per cent., and in the latter it was 42 per cent. Whether the eclampsia develops during pregnancy, during labor, or in the puerperium, Ballantyne orders venesection, transfusion with saline solution into the vein, washing out of the stomach with bicarbonate of soda solution, the introduction into the stomach of a large dose of magnesium sulphate, the use of a copious enema of soap and water and castor oil, and the hot pack. Obstetric interference has been put more and more into a secondary position.

Clinical Journal, London

December 14

29 Abortion. G. E. Herman.
30 Tuberculin Dispensaries and Sanatoria. A. M. Fraser.

December 21

31 Tuberculosis and Its Prevention. J. E. Squire.
32 Lymphadenitis. H. A. T. Fairbank.

Journal of Tropical Medicine and Hygiene, London

December 15

33 Recent Progress in Antityphoid Inoculation. R. H. Fox.
34 Growth of the Fungus of Tinea Imbricata on Artificial Media. A. Castellani.
35 Yaws. A. B. Duprey.

Medical Press and Circular, London

December 21

36 Primary Chronic Nephritis in Children. A. B. Marfan.
37 Fringes of the Cancer Problem. W. S. Handley.
38 Modern Ideas on the Pathology of Syphilis. W. D. Emery.
39 Tonsillar Abscess: a Historical Note. J. Knott.

Journal of Hygiene, London

November

40 Reports on Plague Investigation in India. M. Greenwood and S. Rowland.

Annales de Médecine et Chirurgie Infantiles, Paris

December 1, XIV, No. 23, pp. 725-760

41 Curable Forms of Acute Tuberculosis in Children. Aviragnet and L. Tixier.
42 *Index of Child's Physical Development. (Les divers indices numériques d'appréciation clinique de la robusticité chez l'enfant.) E. Gaujoux.
43 Perforated Duodenal Ulcer in Girl of 14. H. Bichat.

42. **Index of Child's Physical Development.**—Gaujoux thinks that a reliable estimate of the child's robustness can be obtained by dividing the weight by the length, using the metric system. The average normal weight at birth, 3 kg., divided by the average length, 50 cm., gives the index as 0.06 at birth. At 1 month, 3.75 kg. divided by 54 cm. equals 0.069; at 1 year, 9 kg. divided by 71 cm. equals 0.12; at the age of 5, 15 kg. divided by 100 cm. equals 0.15; at 10 years, 25.5 kg. divided by 130 cm. equals 0.19, and at 14, 35 kg. divided by 154 cm. equals 0.23. The index thus regularly increases with the child's growth, and he gives the index computed for each year of a child's life by this and other methods; no other formula, he says, seems to give such an instructive insight into the child's actual physical condition.

Bulletins de la Société de Pédiatrie, Paris

November, XII, No. 8, pp. 417-500

44 *Landry's Paralysis in Course of Epidemic Poliomyelitis. A. Netter.
45 Positive Wassermann Reaction in Rachitis. (Rachitisme syphilitique et séro-diagnostic.) H. Dufour and A. Huber.
46 Senile Type of Dwarf Growth Possibly of Suprarenal Origin. (Progeria de Gilford.) G. Variot and Pironneau.
47 Hydrocephalus as Sequel of Acute Meningitis. (Rapports de l'hydrocéphalie et des méningites aigues.) P. Harvier and G. Schreiber.
48 Syphilis as Common Cause of Adenoid Vegetations. H. Abrand.
49 *Serodiagnosis of Whooping-Cough by Hemolytic Test. (Diagnostic de la coqueluche fruste par la réaction de Bordet-Gengou.) Delcourt.
50 *Gastro-Intestinal Disturbances in Children from Standpoint of Tropical Pathology. J. L. Duenas.

44. **Epidemic Poliomyelitis.**—Netter states that recently he has encountered a number of cases of acute poliomyelitis in Paris, in which the children developed paralysis of the Landry type. He admits that the virus is transmitted generally in the nasopharyngeal secretions, and that healthy germ-carriers or those with only slight symptoms of the infection are mainly instrumental in carrying contagion. Prophylaxis, he says, should be based on these apparently well-established facts, with isolation of the sick and exclusion from school of children from families in which a case has occurred. The nasal passages should be disinfected. Other children in the family and other inmates of the house are rarely affected, although a few cases are known in which from four to seven children in the family developed the disease, and not always in unhygienic homes.

49. **Hemolytic Test for Suspected Whooping-Cough.**—Delcourt applied the complement-deviation test in a recent epidemic of whooping-cough and was able to reveal by this means a number of cases so mild that the infection was not suspected. He is confident that such cases of masked pertussis are common in children and adults, and that serodiagnosis may be important from the standpoint of prophylaxis.

50. **Gastro-Intestinal Disturbances in Children in Cuba.**—Duenas remarks that the influence of a tropical climate on children is shown most decidedly in Cuba by the frequency of gastro-intestinal disturbances even more than by the mortality. The long persistence of the heat is responsible for their development both in adults and children and the children seem to be born with a predisposition for various gastro-intestinal disturbances. At Havana are encountered, he says, all forms of digestive affections known and described by the classic writers of all countries. The abundance and toxicity of intestinal putrefactions, in connection with the enhancing of the virulence of infectious germs by the heat, compel especially energetic therapeutic measures.

Lyon Chirurgical, Lyons

December, IV, No. 6, pp. 513-612

51 Malignant Lipoma. (Classification de certaines tumeurs malignes.) L. Bériel.
52 *State of Other Kidney in Renal Tuberculosis. H. Fayol.

52. **Condition of Kidneys in Renal Tuberculosis.**—Fayol concludes from his research on this subject and clinical experience that incipient tuberculous lesions in the other kidney, but with normal functioning, permit the removal of the first kidney with pronounced tuberculosis. Delayed or refused operation is inevitably fatal, while, on the other hand, incipient lesions in the other kidney seem to be arrested by nephrectomy for a long time at least. Nonspecific lesions, albuminuria, etc., do not contra-indicate nephrectomy unless the albuminuria is excessive and accompanied by numerous tube-casts; signs of insufficiency of the kidneys indicate that parenchymatous nephritis is already installed. When one kidney is unmistakably, irreparably tuberculous and the other kidney is functioning badly, nephrostomy or exploratory nephrotomy should be done and the patient supervised for four or six weeks. During this time the true functioning of both kidneys can be estimated and secondary nephrectomy may become possible; in any event the primary nephrotomy is liable to give relief and improve conditions for the major operation later. With advanced tuberculous lesions in both kidneys even an exploratory nephrotomy may entail fatal anuria. At the last international surgical congress the mortality of nephrectomy after functional tests of the other kidney was reported as averaging now only 2.85 per cent., and Albarran's mortality is below 2 per cent.

Presse Médicale, Paris

December 17, XVIII, No. 101, pp. 945-960

53 *Idiopathic Curvature of the Neck of the Femur in Adolescents. (Les fausses coxalgies.) M. Savariaud.
54 Radiographic Diagnosis of Oxycephaly and Other Conditions with Excessive Pressure within the Skull. M. Bertolotti.

December 21, No. 102, pp. 961-968

55 Removal of Certain Bladder Tumors by Natural Passages. G. Marion.

December 24, No. 103, pp. 969-976

56 *Serotherapy of Typhoid Fever. A. Rodet and Lagriffoul.

December 28, No. 104, pp. 977-984

57 Serodiagnosis of Pott's Disease. (Réactions du liquide céphalorachidien au cours de la pachyméningite Pottique.) J. A. Sicard, Foix and Salin.
58 Technic for Injection of Salvarsan. P. Ravaut.
59 Technic for Preparing Albumin Milk. (Le lait albumineux.) G. Schreiber.

53. **Coxa Vara of Adolescents.**—Savariaud discusses cases of what he calls "false coxalgia," the curvature of the neck of the femur causing pains for which no inflammatory origin can be discovered. He has encountered seven cases in the last few years and calls attention to the three instructive signs of the condition, namely, the shortening of the leg with the great trochanter unduly high, the rotation of the tip of the foot outward with adduction of the knee, and the non-interference with the movements of the leg except with abduction and inward rotation. This triad of symptoms, he states, is seen only in spontaneous coxa vara and in old fractures of the neck of the femur, improperly called traumatic coxa vara. The hip joint may be ankylosed or not, and the shortening of the limb may be more or less pronounced. The trouble is due generally to defective growth of the bones—some parts developing too rapidly for the rest, and the persons thus affected are usually tall and lanky, with a tendency to flat-foot, genu valgum and poor circulation in the extremities. On this soil any overexertion, too long standing, etc., are liable to develop the false coxalgia. When the curvature of the femoral neck is recognized early, treatment should be mainly prophylactic—relieving the limb of the weight, having the youth change work if need be to relieve him from too much standing, or arranging his work so that he can sit. If there is concomitant arthritis, treatment should be by rest and continuous extension. If the deformity is well established, resection of the head and neck of the femur might be considered, but the ultimate outcome scarcely justifies such extensive interference and the wearing of a higher sole usually answers the purpose. On the other hand, when abduction is much limited and radiography shows that this is due mainly to the encroachment of the great trochanter on the ilium, resection of the enlarged trochanter is a good palliative operation.

56. **Serotherapy of Typhoid.**—Rodet and Lagriffoul have used an antityphoid serum of their own make in sixty-five cases of typhoid and the results, they state, have been gratifying. The serum acts best when given early, within eight or nine days or up to the eleventh day, and the infection must be pure, without associated infection. The serum seemed to abort the disease under these conditions in many cases, they state, and to render it much milder in the others and to shorten convalescence. The patients treated were in the Montpellier and Lyons hospitals; some were also given baths, others not.

Revue de Chirurgie, Paris

December, XXX, No. 12, pp. 1081-1248

60 Bismuth Paste in Treatment of Cold Abscesses. (Traitement conservateur des abcès froids.) E. G. Beck.
61 *Technic for Ligation of Subclavian Artery. (Technique opératoire de la ligature de la sous-clavière en dedans des scalènes et dans le médiastin.) P. Duval.
62 *Isolated Fracture of the Transverse Processes of the Lumbar Vertebræ. J. Tanton.
63 *Ulceration of the External Iliac Artery from Pressure of Drain in Appendiceal Abscess. Caraven and L. Basset.
64 *Origin of Hypertrophy of the Prostate. E. Marquis.

61. **Ligation of Subclavian Artery.**—Duval has successfully ligated the subclavian in three recent cases, and states that Monod found no fatalities among the last ten cases he has compiled from the literature. There is, therefore, he thinks, no need to regard the measure as exceptionally serious if done after temporary resection of muscle and bone to give access to the region. The skin is incised so as to permit temporary resection of the inner third of the clavicle, the left half of the manubrium and the first costal cartilage in one block. Resection of the clavicle is indispensable to ligate the subclavian properly, he declares. The article is illustrated.

62. **Isolated Fracture of Transverse Processes.**—Tanton refers in particular to the transverse processes of the lumbar vertebræ. This lesion is one of the latest to be revealed early by radiography, and the disturbances resulting from it are generally mistaken for other traumatic or post-traumatic affections of the lumbar region. Only fifteen cases of the kind have been reported, he believes, and he adds two to the list. Pain is the chief aid to diagnosis; it may be more or less localized and more or less severe, with sometimes pain in moving the legs. The local pain is usually intense at the moment of the fracture and it may radiate into the adjoining parts or follow the sciatic nerve; or the anterior abdominal wall may be tender. When the fracture involves the transverse process of the first lumbar vertebra the pain may be so severe as to interfere with respiration and immobilize the diaphragm. The patient generally lies on his back and efforts to raise the leg on the side of the fracture are usually extremely painful, as is also bending the trunk forward. When the trunk is flexed, the lumbar curvature increases in case only one process is fractured, while the curvature flattens out if several are involved. There is little if any pain as the trunk is bent backward, unless the fracture involves the fifth transverse process. The patient picks up an article from the floor like a person with Pott's disease; the gait is also characteristic, the knees are bent, the arms akimbo. The lesion generally heals in about a month without leaving appreciable traces, but in two of Haglund's cases the pains persisted for two years, and in Hoffmann's case an ossifying myositis developed. If the disturbances persist, the fractured process may be removed, as has been done in one case; in two others the hematoma in the region suppurated. In the first, the necrotic broken-off piece of the process maintained a purulent fistula, requiring two operations before recovery. In the other case the trouble was ascribed to a retrocecal abscess, and notwithstanding two operations the patient succumbed to suppurative psoitis and pneumonia. Any contusion of the lumbar region leaving persisting pain and functional disturbances should be examined for isolated fracture of one or more of the transverse processes.

63. **Ulceration of Iliac Artery in Contact with Drain Tube.** Caraven and Basset report a case of hemorrhage from this cause after an operation for an abscess of appendicitic origin. Immediate ligation of the artery saved the patient, but this was not always possible in the four or five other cases of which they have learned. Only for two of these patients was immediate surgical relief possible, and these were the only patients who recovered; another survived the hemorrhage, but succumbed to resulting peritonitis. In one case the hem-

orrhage was internal. Such complications should be prevented by not letting the drain reach in far enough to touch the artery.

64. **Hypertrophy of the Prostate Often a Suburethral Tumor.**—Marquis reports research on the pathologic anatomy of so-called hypertrophy of the prostate, which confirms the clinical conclusions to the effect that in the majority of cases the apparent enlargement of the prostate is in reality an extraprostatic, suburethral reaction to traumatisms of the region in the course of micturition or to infections by way of the urine or both. Comparison of the findings in 949 prostatectomies on record, shows, he says, that Freyer's method of enucleating the benign suburethral tumor, paying no attention to its source of origin, gives better results than perineal prostatectomy. The latter has a record of orchitis in nearly 25 per cent., of perineal fistula for more than three months in about 13 per cent., of incontinence in 10 per cent., and of complete retention or rectal fistula in 6 per cent., while none of these complications and little, if any, impairment of the sexual function occur with the transvesical technic except orchitis in 1 per cent. and retention in less than this proportion. The greatest argument in favor of the transvesical route, however, is that some of the most ardent advocates of the perineal route, a few years ago, seem now to have abandoned it completely.

Semaine Médicale, Paris

December 21, XXX, No. 51, pp. 595-608

65 Viscosity of the Blood and Its Clinical Significance. (Valeur clinique de la viscosité du sang.) L. Cheinisse.

December 28, No. 52, pp. 609-616

66 *Salpingitis and Laminaria Tents. R. de Bovis.

66. **Salpingitis in Relation to the Use of Tents.**—De Bovis discusses a recent communication on the frequency of evidences of salpingitis in women who have had the os uteri dilated with tents preliminary to curetting. He does not believe that the tents introduced germs, but that by obstructing the outlet to the uterus they induced stasis which favored the development of otherwise harmless germs already present, the germs rapidly acquiring virulence and setting up inflammation in the tubes. Amersbach thus found microscopic traces of inflammatory processes in the tubes in 42 per cent. of twenty-six women operated on for tubal sterilization. The inflammation seemed to have been transient and harmless, and even this was absent in the non-puerperal cases, but de Bovis reports a case of pelvic peritonitis evidently resulting from the tent dilatation in a non-puerperal case. There is a possibility of pre-existing gonorrheal inflammation in this case, but no one can guarantee against this in any case. On the whole, it is much safer, he says, to refrain from the use of tents.

Archiv für Gynaekologie, Berlin

XCII, No. 2, pp. 279-605. Last indexed Dec. 17, 1910, p. 2187

67 Etiology of Hematoma in Vulva or Vagina. C. Wimpfheimer.
68 Inflammatory Processes in the Adnexa. (700 Fälle von entzündlichen Adnextumoren.) L. Goth.
69 Dermoid Cysts and Their Metastasis. S. Boxer.
70 *Pregnancy Liver and Atypical Eclampsia. (Zur Physiologie und Pathologie der Schwangerschaft.) G. Schickele.
71 *Heart Defects and Pregnancy. (Die Prognose von Schwangerschaft, Geburt und Wochenbett bei Herzfehlern.) R. T. Jaschke.
72 *Eclampsia Possibly an Anaphylaxis from Fetal Albumin. J. Thies.
73 Phlegmasia Alba Dolens. (Entwicklung des Begriffes und die Bedeutung der Phlegmasia alba dolens.) P. Kroemer.
74 Case of Peritoneal Pregnancy. J. F. M. Hammacher.

70. **Eclampsia.**—Schickele has become convinced by his clinical experience and study of the literature that eclampsia occurs in various forms and degrees, ranging from the typical manifestations with convulsions, through the atypical form without convulsions and the severe, sometimes fatal, uncontrollable vomiting of pregnancy, to a condition in which there may be only a few symptoms showing that something is wrong. These symptoms are peculiarly violent, including salivation, exanthems, peripheral neuritis, vomiting, disturbances in vision, "pregnancy disturbances," etc. Jaundice may occur alone or with any of the above conditions. The liver may be specifically pathologic without any of these symptoms. It is probable, he thinks, that the changes in the liver and other organs in eclampsia are the result of an intravital autolysis of the liver due to some still unknown eclampsia toxin. Chemical research on urine, etc., has not afforded any bases for better knowledge of the nature of eclampsia, to date.

71. **Heart Defects and Pregnancy.**—Jaschke analyzes the experiences with 1,548 women with heart defects delivered at von Rosthorn's clinic at Vienna; this was 1.47 per cent. of the total 37,014 deliveries during the last ten years. On the basis of this extensive material, his conclusions are more favorable than those of most writers on the outcome of a pregnancy with a pre-existing heart defect. He even declares that a heart defect should be regarded and estimated during a pregnancy exactly the same as outside of a pregnancy. The mortality was from 0.32 to 0.39 per cent., and in all the fatal cases the heart defect was exceptionally serious or combined with myocarditis. In seven-eighths of the cases the pregnancy proceeded to normal delivery at term. In only 4 per cent. was there spontaneous abortion, and spontaneous premature delivery in only 4.5 per cent. No special influence from the nature of the valvular defect was apparent, but failing compensation favors premature interruption of the pregnancy. In some cases the women seem to become accustomed to the heart defect with recurring pregnancies. Artificial interruption of the pregnancy was necessary in 1 per cent. of the cases on account of severe failing compensation. Functional tests of the heart decide the question as to whether the patient can stand the strain of delivery or not, especially Katzenstein's test (described in THE JOURNAL, July 9, 1904, page 159), and the Koranyi test (described Oct. 2, 1909, page 1141). In the severer cases operative sterilization of the woman may be advisable if the condition renders further pregnancies too dangerous. An undisturbed course of the pregnancy may be counted on in 96 per cent. of all cases; danger need be feared, as a rule, only when the heart defect is particularly severe, or the myocardium involved, or when there is complicating nephritis. Even with slightly failing compensation the delivery proceeded without disturbance in 98 per cent. of all his cases; there was no special tendency to atony and no special indications—on account of the heart defect—were encountered at any stage of labor. The delivery must be supervised by the obstetrician with exceptional care, however, especially in the period of expulsion in order to act immediately if any procedures become necessary. No operative procedure, he insists, is contra-indicated by the heart defect in itself. Scrupulous asepsis is more imperative in case of heart defect than under other conditions, as puerperal infection has special dangers for such patients. During the puerperium, the woman with a heart defect is not exposed to any more dangers on this account than the healthy, but she should be kept in bed a little longer to reduce the demands made on the heart. There is nothing to contra-indicate breast nursing. Any involvement of the myocardium naturally renders the prognosis graver. Age is also an unfavorable factor, as likewise the depressing influences of a large number of pregnancies occurring at short intervals.

72. **Etiology of Eclampsia.**—Thies injected rabbits with serum from fetuses and found that the gravid animals reacted with a kind of anaphylactic syndrome suggesting the symptoms of eclampsia. The same effect was obtained also to a very slight degree and much more slowly in the non-gravid animals. He thinks that the results of his research suggest that eclampsia is a kind of anaphylaxis induced in the maternal organism by the alien albuminous substances in the serum of the fetus.

Archiv für Verdauungs-Krankheiten, Berlin

December, XVI, No. 6, pp. 627-804

75 Ferments in Testing Gastric Functioning. (Experimentell-vergleichende Untersuchungen über den klinischen Wert der neueren Magenfermentproben und die Wesenseinheit von Lab und Pepsin.) P. Cohnheim.
76 Secreting Cells in Small Intestine. (Ueber die Panethschen Zellen des Dünndarmes.) L. Fischl.
77 Amebic Dysentery. E. Axisa.
78 Favorable Influence of Hydrogen Dioxid on Hyperchlorhydria. (Klinische und experimentelle Erfahrungen über den Einfluss des Wasserstoffsuperoxyds auf Hyperchlorhydrien und auf die Magensekretion.) F. Poly.
79 Palpation of Appendix. N. M. Rudnitzki.
80 Digestion of Cellulose. (Celluloseverdauung bei dem Menschen.) F. Schilling.

81 Membranous Enteritis in Typhoid Fever. N. Ortner.
82 *Pain in Diagnosis of Gastric Cancer. (Zur Diagnose des Magenkarzinoms mit besonderem Hinweis auf das Schmerzsymptom.) B. Erlanger.

82. Pain in Chest or Shoulder as Early Sign of Gastric Cancer.—Erlanger describes five cases in which attacks of pain, diagnosed in some instances as intercostal neuralgia, were the only or the principal sign of an unsuspected gastric cancer. The first patient was an elderly man whose violent pains in the left side of the thorax were accompanied by the tender points characteristic of intercostal neuralgia. The pain occurred at first spasmodically, but later became more continuous and was increased by movements of the body. The patient was sometimes kept awake at night by the pains, and began to grow thin; no improvement followed courses at various sanatoriums for the supposed neuralgia, but tests of stomach functioning revealed a lack of free hydrochloric acid and abnormally low total acidity. The stomach tube encountered a slight obstruction near the cardia, and the possibility of a neoplasm at this point was suggested, but the pains then subsided and did not recur under bed rest. The suspected cancer made itself manifest a few months later. There was evidently a carcinomatous lymphangitis in this case with infiltration of the paravertebral tissue, inducing the neuralgiform pains. The second patient was a man of 37, healthy until slight gastric disturbances were noted, and at one time an attack of pain in back and upper abdomen so severe that he consulted a physician who prescribed codein. The stool was black one day about this time. The "neuralgia" returned occasionally and the patient was put on a special diet. Not long after this a very severe attack of pain came on one night, leaving the abdomen tender. As the attacks of pain kept recurring and with great intensity, the patient consulted several physicians, but none made any special diagnosis, until Erlanger tested the stomach functioning, finding no trace of free hydrochloric acid. Necropsy later revealed a gastric carcinoma that had developed on the basis of an old gastric ulcer. During the clinical study of the case there had been nothing to suggest malignant disease except the lack of free hydrochloric acid. The clinical picture had been solely attacks of pain resembling in some respects gallstone colic. In the third case an apparently healthy man of 32 developed symptoms of gastric ulcer, subsiding spontaneously, but returning about a year later for a brief period. Some time after this he had severe pains in the back, which were most severe when reclining. The pain was not continuous, but at times so severe that the man screamed. The attacks generally lasted an hour or two, and sometimes required morphin. The pains radiated to the shoulders and leg at times, but there were no signs of a tumor; the patient could not eat meat and had no appetite, while the increasing weakness and depression suggested malignant disease, but there were no signs to localize it except one enlarged gland in the left supraclavicular region. Necropsy disclosed a carcinoma in the lesser curvature of the stomach extending into the paravertebral tissue. There had never been fever, but sweat crises had been frequent toward the last. In the third case a manifest cancer in the stomach was accompanied by intense pain at times in the back and sacral region. It is assumed that the cancer in this case has also spread to the posterior wall of the abdomen, or there is metastasis in the tissues adjoining the spine, but the patient is still living. The fifth case is that of a man of 40 whose father and mother had both died of cancer, and a brother has cancer of the rectum. The objective findings suggested benign stenosis of the pylorus on the basis of an old gastric ulcer, especially as the stomach chemistry appeared to be normal. The patient consented to a gastro-enterostomy, but a carcinoma was found at the pylorus with metastasis in the greater omentum. There were no special pains in this case; but the extreme weakness and loss of appetite dominated the clinical picture. Erlanger discusses in conclusion what has been written on the pains with gastric cancer—they are generally described as nothing well defined or characteristic—and reviews the points that differentiate the pain from other causes. The main point is to think of the possibility that the neuralgiform pains may be due to cancerous involvement of the regions innervated by the intercostal, lumbar or sacral nerves.

Beiträge zur Geburtshilfe und Gynäkologie, Leipsic

XVI, No. 1, pp. 1-198. Last indexed Aug. 27, 1910, p. 809

83 Placenta Marginata and Placenta Implanted in the Cornua. (Placenta marginata und Verhalten der Tubenecken in der Schwangerschaft.) H. Bayer.
84 *Cesarean Section for Placenta Implanted Between Body and Cervix. (Isthmusplacenta und Kaiserschnitt.) O. Pankow.
85 The Isthmus of the Uterus. O. Büttner.
86 Pelvis Deformed from Trauma of Articulations. (Ueber ein Lazerationsbecken.) A. Sitzenfrey.
87 Origin of Cystic Tumors in the Ovary. (Herkunft cystischer Gebilde der Ovarien.) G. Schickele.
88 *Hysterectomy for Puerperal Sepsis. (Zur Frage der Exstirpation des septischen Uterus.) G. Schickele.

84. Cesarean Section for Placenta Implanted Between Body and Cervix.—Pankow advocates abdominal Cesarean section with placenta prævia, and states that he had no mortality among the twenty-three women treated in this way, while eight died of the forty-nine others, and he is convinced that six might have been saved by prompt abdominal Cesarean section. The children were delivered in good condition in the twenty-three Cesarean section cases, except one who had inhaled amniotic fluid.

88. Hysterectomy in Puerperal Sepsis.—The great question, of course, is whether the puerperal septic process is limited to the uterus or not. The only way to learn how to recognize these cases, Schickele affirms, is to examine the uterus after its removal and compare the anatomic changes with the preceding clinical course in every case without fail, striving to obtain premises for certain general conclusions. At necropsies also the anatomic findings in the uterus should be studied and compared with the record of the clinical course. He describes a number of typical cases from his own experience, which demonstrate, among other things, that severe puerperal infection may develop without the uterus itself becoming diseased. The pathogenic germs may penetrate through the intact uterus wall into the general circulation, and general symptoms of sepsis and metastasis are then the first signs of trouble. In this group of cases, hysterectomy would be useless, as the uterus itself is not diseased. High fever for several days suggests a possible progressive inflammatory process inside the uterus, and this suspicion is strengthened by development of symptoms of peritonitis. The indications are especially urgent when there has been some preceding intra-uterine intervention. The vicinity of the uterus should be free from infiltration, and there should be no signs of general infection for the indications in this class of cases to be beyond question. The third category includes the cases in which fever persists after some intra-uterine procedure, and soon afterward chills follow or germs are found in the blood, or both occur together. In these cases the uterus should be removed without delay in the hope of forestalling general infection. If a few days have elapsed before the chills and sepsis develop, then the hysterectomy comes too late, especially if signs of metastasis have manifested themselves in the meanwhile. At the same time, Schickele continues, if the chills and sepsis do not follow the intra-uterine intervention until after several days, with continuous fever in the interim, hysterectomy is indicated without delay in the hope that the mischief may be confined to the uterus, or at least that removal of the primary focus may bring relief. This applies also to cases in which the uterus has been injured. The trend of the times, he believes, is unmistakably toward operative treatment of puerperal fever. One of the cases reported in detail shows the importance of the slightest signs of peritonitis as an indication that the process is spreading beyond the uterus and that in immediate hysterectomy lies the only salvation of the patient. It was not done in this instance, and this lesson was learned from the necropsy findings in this and in some other cases. Another case teaches that signs of severe infection still persisting after manual separation of the placenta are an indication that the process is spreading, but that the immediate removal of the uterine focus may abort it. The general condition is the criterion in puerperal infection almost more than in any other circumstances. In one case of febrile abortion requiring intra-uterine intervention entailing considerable laceration, the general condition was good and the patient rapidly recovered. In two cases with signs of severe general infection in the first week, including swelling of a finger and decubitus, there were no signs of local

trouble in the uterus after the intra-uterine intervention, and necropsy in both revealed the uterus in good physiologic condition; the puerperal infection had penetrated the walls and set up fatal sepsis, leaving the uterus unmolested. Most of the various cases reported are instructive, because the necropsy findings are compared with the clinical records and clinical impressions, and Schickele urges others to do this at every opportunity as the best means to obtain light on this important subject of puerperal infection.

Berliner klinische Wochenschrift

December 12, XLVII, No. 50, pp. 2277-2328

89 *Treatment and Diagnosis of Progressive Paralysis. K. Bonhoeffer.
90 *Tardy Reaction After Salvarsan. Goldbach.
91 *Eventual By-Effects on the Cranial Nerves from Salvarsan. J. H. Rille.
92 *Salvarsan in Therapeutics. (Praktisches und Theoretisches vom Arsenobenzol Ehrlich-Hata 606.) K. Touton. Commenced in No. 49.
93 Importance of Salt for Metabolism. (Bedeutung des Kochsalzes für den Stoffwechsel.) H. Strauss.
94 Epidemic Poliomyelitis. (Neuere Erfahrungen über die akute spinale Kinderlähmung.) R. Cassirer.
95 *Urine Findings in Diagnosis of Cancer. (Verwertung des Harnbefundes zur Carcinomdiagnose.) E. Salkowski.
96 *Drainage into Abdomen of Spina Bifida and Hydrocephalus. B. Heile.
97 Otosclerosis. G. Brühl.
98 Theory of Anaphylaxis. E. Friedberger.

89. **Progressive Paralysis.**—Bonhoeffer does not think that the recent achievements in serology and the introduction of salvarsan have been of much service in the diagnosis and treatment of progressive paralysis. In fully 15 per cent. of the cases, he says, we may anticipate remissions in the course of the disease during the early stages. A patient entering on a phase of remission should not be reported as "recovered" under the drug that he happened to be taking at the time. If the weight begins to increase, a suspicion of a remittent phase is justified. He further emphasizes the point that true syphilitic processes may coexist with the changes responsible for the paralysis, and consequently benefit will follow as the former subside under specific antisyphilitic measures.

90. **Tardy Reaction to Salvarsan.**—Goldbach reports that at the clinic for cutaneous skin diseases in charge of Lesser, several cases have been observed in which an eruption, angina and gastro-intestinal disturbances developed in from seven to ten days after injection of salvarsan for syphilis. The phenomena were observed, together with an extremely violent reaction at the point of injection, the whole picture suggesting a toxic syndrome due to the arsenic or to the production of antibodies in consequence of the medication.

91. **By-Effects of Salvarsan Involving the Cranial Nerves.**—Rille states that recurrence has been observed in fourteen of the forty syphilitics kept under observation since treatment with salvarsan. He further reports three cases in which patients with recent infection developed severe symptoms on the part of the cranial nerves. In the first, deafness came on four weeks after the injection, facial paralysis two weeks later, and choked disc a week and a half later. The patient was a robust girl of 21. The second patient was likewise a previously healthy girl of 18, infected with syphilis about four months before the injection of the drug. Nearly eight weeks afterward headache and vertigo developed, followed three weeks later by right facial paralysis and after another week by bilateral optic neuritis and right fourth nerve paralysis. In the third case a blacksmith became deaf nearly thirteen weeks after the injection, given three months after primary infection. Only one of these patients had recovered entirely at date of writing. Rille adds that complications of this kind have never been observed after mercurial treatment, but he does not venture to decide whether they are manifestations of the Herxheimer reaction or the result of an especial affinity of the drug for the nerve tissue.

92. **Action of Salvarsan.**—Touton explains the failure of salvarsan to kill all the spirochetes as due to the fact that it is unable to reach all of them. In order for it to display its destructive action on the spirochetes, they must be mobilized and brought out from their lurking places so that the drug can act on them. He suggests that this might possibly be accomplished by preliminary treatment with some drug which would mobilize the spirochetes, seeking them out and driving them out into regions accessible for the salvarsan. This may be done by means of the ordinary physical measures, exercise, massage, baths and sweating procedures, or they may be supplemented by iodids. He regards the intravenous technic as best for administration of the salvarsan, and reports some cases in which it seemed to display therapeutic action on spirochetes other than the pallida.

95. **Urine Findings in Diagnosis of Cancer.**—Salkowski and Kojo have worked out a simple method for determination of the nitrogen precipitated by salts of the heavy metals in relation to the total nitrogen output. The average in the urine of ten healthy persons was 1.22 per cent., while in ten cancer patients it averaged 3.03 per cent., the maximum being 4.62 per cent. The minimum, 2.15 per cent., was never reached in healthy urine. These facts are suggestive, but further experience is needed to determine whether the different findings are pathognomonic of malignant disease. The technic is simple; the filtrate corresponding to 100 c.c. of urine is neutralized with acetic acid and precipitated with lead subacetate; the precipitate is then quantitatively collected, rinsed and its nitrogen content ascertained. The figure representing this is then compared with the total nitrogen from 100 c.c. of urine to show the percentage of the latter represented by the former. The phosphoric and sulphuric acids in the urine must first be removed by the ordinary barium-chlorid process. Zinc chlorid or zinc sulphate can also be used for determination of the nitrogen precipitation with or without preliminary removal of the phosphoric acid with calcium chlorid or hydrate.

96. **Surgical Treatment of Spina Bifida with Hydrocephalus.**—Heile reported last year his attempt to ensure permanent drainage of the cerebrospinal fluid into the abdomen in a case of this kind. He sutured a loop of small intestine, drawn out near the spina bifida, to the open dural sac, and the drain answered its purpose perfectly, but so much fluid was thus drained away so abruptly that the child succumbed to this and the effects of the laparotomy necessary to draw out the bowel. To avoid these drawbacks he now drains the fluid into the abdomen by means of a wick of six silk threads introduced into the dural sac at one end and carried through a subcutaneous passage into the side of the abdominal cavity, into which it protrudes near the costal arch. The minute incisions rapidly healed in the case reported. The 2-days-old infant was kept lying on his back with the pelvis raised for a time to prevent too rapid drainage. The child has no further signs to date of the spina bifida and hydrocephalus for which the operation was done. The various steps of the operation are shown in three illustrations.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 1-2, pp. 1-208. Last indexed Dec. 24, 1910, p. 2274

99 The Heart Sounds and the String Galvanometer. (Aufzeichnung von Herztönen mit dem Einthoven'schen Saitengalvanometer und Untersuchungen über Galopprhythmus.) W. v. Wyss.
100 Lymphosarcomatosis and a Positive Wassermann Reaction. F. Trembur.
101 Prevention and Treatment of Catarrh. W. Ebstein.
102 Improved Spirometer. (Zur spirometrischen Methodik.) R. Siebeck.
103 Blood and Heart Findings with Nitrobenzol Intoxication. R. Massini.
104 Hemoglobinuria with Muscular Paralysis. (Eigenartiger mit Muskellähmungen verbundenen Fall von Hämoglobinurie.) F. Meyer-Betz.
105 The Nucleus Test of Digestive Processes. (Die Grundlage der Ad. Schmidt'schen Kernprobe.) F. W. Strauch.
106 Internal Drug Antisepsis. (Zur Frage der inneren Desinfektion.) A. Knick and J. Pringsheim.
107 Action of Albumin Bodies and Albuminoids on Coagulation of Blood. (Einwirkung von eiweissartigen und Eiweisskörpern auf die Gerinnbarkeit des Blutes.) H. Grau.
108 Roentgen-Ray Diagnosis of Gastric Cancer. (Bedeutung der Röntgenuntersuchung für die Diagnose des Magencarcinoms.) M. Faulhaber.
109 Velocity of Blood Stream in Anemia. (Zur Frage der Blutgeschwindigkeit bei Anämie.) V. Weizsäcker.

Deutsche medizinische Wochenschrift, Berlin

December 22, XXXVI, No. 51, pp. 2369-2416

110 *Obstetric Version. (Indikationen und Technik der Wendung.) K. Baisch.
111 Diabetic Lipemia. G. Klemperer.
112 Salvarsan in Syphilis. J. Jadassohn.
113 Action of Salvarsan on Spirochetes in Mouth. P. H. Gerber.
114 Emotional Instability of Blood-Pressure. (Psychogene Labilität des Blutdruckes und ihre Bedeutung in der Praxis.) P. Schrumpf.

115 Cultural Differentiation of Paratyphoid and Enteritis Bacteria. R. Müller.
116 Cholera Not Result of Nitrite Poisoning. (Zur Emmerichschen Theorie des Choleragifts.) H. Schidorsky.
117 Blood-Count Technic Applied to Organized Elements in Urine. (Zur Methodik der Zählung organisierter Harnelemente.) A. Kakowski.

110. **Indications and Technic for Version.**—Baisch cites statistics from Döderlein's and other clinics which show that version is applied on an average in about 1.5 per cent. of deliveries and forceps in about 2.4 per cent. In the clinics forceps and version are applied in 4 per cent., that is, in about one-third of all the operative births, while in general practice they are applied in two-thirds of all the operative deliveries. Decapitation and perforation, he declares, amount to 0.8 per cent. of all operative deliveries in the clinic and 0.1 per cent. in general practice. These figures confirm his impression that the mutilating operations are far too rare in private practice, as these alone are harmless for the mother, while the operations which presumably spare the child, but are fraught with danger for the mother, are far too frequent. His statistics show further that the mortality of the children with version amounts to 50 per cent., not including the infants who die soon after birth, which brings the total mortality from version up to 70 per cent. With this imposing mortality of the children with version, we are fully justified, he says, in seeking to restrict its application in favor of perforation of the fetus. If half of all the versions were omitted and in their place a mutilating operation done, the results for the children would be the same, he declares, but for the mothers it would be incomparably better. In a recent case, a physician doing version for a supposedly living child, found it had been dead for some time, and he then perforated the fetal head and tried to express the placenta by the Credé method, but found it impossible, and then discovered that the uterus had been completely ruptured. The woman died from peritonitis and the physician was sued for malpractice. Even though such results of version are extremely rare, yet difficult version is liable to induce severe injury, infection and long illness; think of the consequences of injury of the bladder or rectum, he exclaims. In the interests of the mother we must select with the greatest care the cases in which version is indicated.

Medizinische Klinik, Berlin

December 18, VI, No. 51, pp. 2005-2044

118 *Gastric Ulcer. (Behandlung des runden Magengeschwürs.) G. Singer.
119 Moving Pictures as Aid in Studying and Teaching Nervous and Mental Diseases. H. Hennes.
120 Value of Combining Suggestion with Physical Measures in Treatment of Heart Disease. M. Herz.
121 *Insfficiency of the Vertebræ. G. Zuelzer.

118. **Gastric Ulcer.**—Singer reviews his experience with gastric ulcer, and says that feeding by the rectum is the only safe method in cases complicated with severe hemorrhage. In two such cases the attempt to commence the Lenhartz diet brought on serious hemorrhage anew, but restriction to nutrient enemas soon placed the patients on the road to recovery, and then the Lenhartz diet was tolerated without inconvenience and the final outcome was unusually good. He emphasizes the importance of rest and refraining from violent exertion for months and years; patients who have had a gastric ulcer must regard themselves as constantly liable to bring on new disturbances by errors in diet and overexertion. Two patients had had repeated small hemorrhages from a duodenal ulcer, but all disturbances ceased after a Lenhartz course, and the health was apparently perfect for months, when lifting a heavy weight or pushing a heavy table brought on the whole train of symptoms again. The patient should keep in touch with his physician for years and return at the slightest symptom suggesting the flaring up of the trouble. Singer calls particular attention to an early sign which he has found practically constant; this is a sensation of discomfort or pain radiating from the epigastrium toward the costal arches and thence along the intercostal nerve routes to the spine. The regularity of the appearance of this pain or sense of discomfort, especially in connection with eating, is characteristic, and almost pathognomonic of gastric ulcer, even when there is scarcely any dyspeptic disturbance.

121. **Insufficiency of the Vertebræ.**—Zuelzer calls attention anew to the disturbances which Schanz has described as resulting from insufficiency of the vertebræ analogous to the condition with flat-foot. Schanz' description was given in THE JOURNAL, Oct. 12, 1907, page 1318, and Zuelzer's experience has confirmed its accuracy in every detail. He found it associated with flat-foot in twenty-three cases. Rest and relief from weight-bearing are the main points in treatment, with massage in the milder cases, but the parts should be left at peace to recuperate in the severer cases. An expensive supporting corset is not necessary. Zuelzer has two long elastic strips of steel run into an ordinary corset, parallel to the spine, and has found that this answers the desired purpose.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 2, pp. 173-310. Last indexed Nov. 19, 1910, p. 1852

122 *Blowing Out the Pleural Effusion and Other Pathologic Accumulation of Fluids Instead of Aspirating Them. (Ausblasung anstatt Aspiration von Pleuraergüssen.) I. Holmgren.
123 Neuralgia of the Base of the Fourth Toe: Morton's Metatarsalgia. (Die Mortonsche Form der Metatarsalgia.) G. C. Bolten.
124 Anemic Gangrene and Ulceration in Intestine as Result of Simple Distention. (Experimentelle Untersuchungen über die Entstehung von sogen. Dehnungengeschwüren des Darmes.) K. Shimodaira.

122. **Blowing Out Instead of Aspirating Pleural Effusions.**—This article first appeared in *Hygiea*, Stockholm, September, 1910. Holmgren's experience now includes seventeen cases in which he has applied this measure. His technic differs considerably from that previously used for evacuation of pathologic effusions. Air is pumped in at an opening above to take the place of the effusion as it is forced out below by the pressure of the in-streaming air. This technic prevents the slightest change of pressure in the chest as the pressure is automatically regulated, and there are no manipulations to discommode the patient. The pumping in of the air is done with a double bulb in the hands of an assistant, the interposed tube being several feet long to make it more convenient for the patient. The operator watching over the two puncture needles can inspect and regulate the inflow of air and outflow of fluid. The pleural effusion can thus be forcibly blown out to the last drop without the patient's feeling the slightest discomfort. The puncture is made in the tenth interspace between the scapula and axillary line, the region being first painted with iodin and the patient being seated. The spot where the lower cannula is to be introduced is anesthetized by injection of a 1 per cent. solution of cocain. By this means it proved possible to remove 3,200 c.c. of a tuberculous pleural effusion without the patient's feeling anything more than an agreeable sense of relief. In another case 3,100 and 2,000 c.c. were thus removed at two sittings. The technic described has the advantage that the procedure of evacuating the pleura can be supplemented by pumping air or gas into the cavity to induce therapeutic pneumothorax as indicated.

Münchener medizinische Wochenschrift

December 13, LVII, No. 50, pp. 2617-2672

125 Action of Salvarsan on Experimental Infection of Rabbits. (Wirkung des Dioxydiamidoarsenobenzols auf die experimentelle Vakzineinfektion des Kaninchens.) L. H. Marks.
126 *Lethal Dose of Salvarsan in Acid Solution. (Experimentelle Erfahrungen über die letale dosis der sauren Lösung von Ehrlich-Hata 606.) H. E. Hering.
127 *Salvarsan in Syphilis. (Behandlung der Syphilis mit Arsenobenzol.) F. Weiler.
128 *Thrombosis After Intravenous Injection of Salvarsan. T. Hausmann.
129 *Paget's Disease of the Nipple. (Krebsekzem der Brust.) G. Hirschel.
130 *Serodiagnosis of Typhoid. (Praktische Erfahrungen mit der serodiagnostischen Typhusreaktion nach Mandelbaum.) F. Ast.
131 *Paraffin Injection in Treatment of Chronic Constipation. I. Lipowski.
134 Improved Therapeutic Roentgen-Ray Technic. (Eine neue Methode der Röntgenbestrahlung.) J. Schwenter.
135 Improved Inhalation Therapy. T. Christen.
136 *Stenosis of the Larynx. (Seltene Verengerungen des Kehlkopfes.) H. Graff.
137 Facial Paralysis from Food Poisoning. (Fäzialislähmung bei Nahrungsmittelvergiftungen.) F. Erben.
138 Causes Starting Delivery. (Untersuchungen über die Ursachen des Geburtseintrittes.) F. Sauerbruch and M. Heyde.

126. **Lethal Dose of Salvarsan.**—Hering experimented with the acid solution of salvarsan in intravenous injection in five rabbits and five dogs. The results showed that the fatal

dose per kilo for the rabbits was 0.0045 gm. and for the dog from 0.01 to 0.02 gm. This is equivalent to a lethal dose of 0.315 gm. for a man of 70 kilos (about 150 pounds), estimated from the rabbit and of 1.15 gm. estimated by the dog. Fränkel and Grouven have reported the death of a patient injected intravenously with 0.4 gm. of salvarsan in 15 c.c. water with 1 c.c. 1/10 normal sodium hydroxid. Hering thinks that his experiments show that this was above the lethal dose for man, but he is inclined to believe that the acid reaction is mainly responsible for the toxicity of the solution. In an alkaline solution the rabbits were able to bear twenty times the otherwise lethal dose, and the dogs ten times.

127. **Salvarsan in Syphilis.**—Weiler reports experiences at the Leipsic dermatologic clinic in 206 cases of syphilis. Forty of the patients have been under continued observation and recurrence has been noted in fourteen. In three of these cases symptoms on the part of the cranial nerves have been noticed, but as yet it is impossible to say whether they are manifestations of the syphilis or by-effects of the medication. In seventeen cases eruptions developed, accompanied by jaundice in two cases. In two other cases the eruption and temperature resembled typical scarlet fever. In another case hemorrhagic nephritis developed a few weeks after the injection. On the whole, Weiler states that salvarsan undoubtedly works more rapidly than the usual measures in many cases, in some also much more powerfully, but we have as yet no criterion as to whether the drug is able to eradicate the disease. Weiler never used the intravenous route.

128. **Thrombosis After Intravenous Infusion of Salvarsan.**—Hausmann recently stated that he had never observed thrombosis in several hundred intravenous infusions of salvarsan, but now reports a case. It confirms his previous statement that infection is responsible for the thrombosis as in this case, by an accident, the injection was made elsewhere than in the area sterilized for it. The patient was a young man who had had veins punctured for the Wassermann test five times and also for a second infusion of salvarsan, without mishap. The thrombosed vein was resected a month after the infusion, and the *Streptococcus albus* was cultivated from it. In another case Hausmann in trying to obtain blood for cryoscopic investigation in a patient with a stab wound in the kidney, entailing great loss of blood, punctured the vein in various places before he could obtain enough of the very thick blood for the test, and yet there was no tendency to thrombosis. These two cases show the importance of infection in the development of thrombosis.

129. **Paget's Disease of the Nipple.**—Hirschel has encountered two cases during the last year in which an eczematous affection of the nipple and breast proved to be secondary to carcinoma beneath. He previously reported a similar case and here insists on the necessity for discarding the term, Paget's disease of the nipple, and calling this affection by its true name, cancerous eczema of the breast. In both of his cases the eczema had been noticed over a year before its malignant character was recognized. In one case the physician then consulted sent the patient at once to the surgeon. In the other case the patient consulted a physician four weeks after the first sign of the affection was observed. He treated it for simple eczema, and a second and third physician the same during the course of the disease. The patient finally applied to a dermatologist who advised an operation at once. Notwithstanding extensive amputation and Roentgen exposures, multiple recurrences are now manifest, six months later. Hirschel knows of about one hundred cases in the literature, and emphasizes that the trouble is not cancer developing on chronic eczema but eczema secondary to cancer.

130. **Mandelbaum's Reaction in Typhoid.**—THE JOURNAL, March 5, 1910, page 827, gave an illustrated description of the Mandelbaum technic. Ast has been applying the test to 106 persons and found it extremely sensitive, revealing typhoid agglutinins in some cases even when the agglutination test was negative. It seems to be especially useful for detection of bacillus carriers. On the other hand, a slight tendency to a positive reaction was obtained in some of the apparently healthy.

131. **Treatment of Chronic Constipation by Injection of Paraffin.**—Lipowski's attempt to prevent absorption of fluid in the rectum by injection of paraffin was mentioned in THE JOURNAL, Sept. 4, 1909, page 822. He makes the injection in the evening and his further experiences have confirmed, he says, the benefit of this treatment as the most certain means at our disposal for removing the cause of chronic constipation, while it is the simplest and easiest. The injection is made in the knee-elbow or side position, the tube and funnel being warmed and the paraffin warmed until it is fluid. He has found the method useful for children and especially for infants. The paraffin injection is proving further, he declares, an effectual means for aiding in the cure of hemorrhoids, fissures, proctitis and hemorrhagic or inflammatory changes in the rectum. The consistency is that of a salve at the temperature of the body.

136. **Stenosis of the Larynx.**—In Graff's first case the stenosis was the result of lordosis of the cervical vertebræ in a man of 60, the disturbances coming on gradually in the last two years. In the second case a young man awoke one morning with signs of stenosis ascribed to angina and laryngitis and a tuberculous process was assumed at first. The dyspnea became so intense that by the end of six weeks tracheotomy had to be done and the patient had to wear a cannula permanently. An inflammatory process was treated in various ways with no effect and attempts to dilate the stenosis proved ineffectual. In order to exclude an inflammatory process in the vertebræ, the patient was examined with the Roentgen rays when a foreign body was discovered, which proved to be the metal stopper of a mineral-water bottle. When the patient was shown the foreign body, he remembered that he had been drinking mineral water the night before the first sign of trouble and felt that he had swallowed something like a crumb at the time, but had quite forgotten it. The foreign body had penetrated the wall of the trachea and lay close to the spine, without injury of the esophagus. It took over two years to relieve the patient from the necessity of wearing the cannula.

Policlinico, Rome

December, Surgical Section No. 12, pp. 525-568

139 *Early Diagnosis and Radical Treatment of Laryngeal Cancer. T. Della Vedova.
140 Structural Changes in Partially Transplanted Nerves. (Istopathologia degli impianti nervosi centrali parziali.) D. Maragliano.
141 Modification of Krause's Cholecystenterostomy. O. Marchetti.
142 Parathyroid Tumors. S. Gussio. Commenced in No. 11.

139. **Laryngeal Cancer.**—Della Vedova pleads for an earlier diagnosis of cancer of the larynx by the general practitioner and says that this is possible even without specialist skill. The ultimate outcome of the various methods of treating laryngeal cancer seems to be far better in the cases in which laryngotomy was done than in those with a more radical operation. About the first sign of the tendency to cancer is a change in the voice, which too often is referred to a harmless catarrh, but the change in the voice persists unmodified and isolated, even when the general health seems to be continually good. When the voice is hoarse the cancer is generally located in the region of the glottis, involving the vocal cords or their vicinity. A guttural tone suggests a cancer lower down. The change in the voice gradually grows more pronounced or complete aphonia may follow, especially if the cancer is located on the true vocal cords. Other signs that should arouse suspicion are an uncontrollable cough, a little pain radiating to the ear, blood streaks in the sputum and more or less difficulty in breathing after effort. There may be slight spasm of the glottis, especially after coughing. In this early stage there is no tendency to lose weight or grow weak and no infiltration of glands, so that the patient may feel constantly well for months and years until the symptoms of advanced malignant disease become manifest. As laryngotomy is commended as the best operative technic, the practitioner, Della Vedova says, should feel less hesitation in advising immediate operation, this being a comparatively simple measure.

Riforma Medica, Naples

December 12, XXVI, No. 50, pp. 1373-1400

143 Inflammatory Processes Around the Sigmoid. (Meso- e perisigmoidite fibrosa adesiva. Laparotomia liberatrice. Guarigione.) O. Cignozzi.

144 Paradoxic Bulging of Interspaces During Inspiration. (Sui rigonfiamenti inspiratori paradossi deglie spazi intercostali.) A. Signorelli.

Hospitalstidende, Copenhagen

November 23, LIII, No. 47, pp. 1297-1328

145 Abnormally Increased Respiration from Lack of Oxygen and Its Importance for the Organism. (Om Iltmangelpolypnoen.) C. Sonne.

November 30, No. 48, pp. 1329-1360

146 Chronic Subphrenic Abscess Presumably of Duodenal Origin. Videbech. Commenced in No. 47.

December 14, No. 50, pp. 1393-1432

147 Intra-Ocular Pressure and Blood-Pressure in the Elderly. (Undersøgelser over det intraokulære Tryk og Blodtryk hos gamle Folk.) H. B. Christensen.

December 21, No. 51, pp. 1433-1480

148 *Duodenal Ulcer and Its Treatment. A. Blad. Commenced in No. 48.

149 *The Cutaneous Tuberculin and the Wassermann Reactions in 228 Scrofulous Children. R. Hertz and O. Thomsen.

December 28, No. 52, pp. 1481-1504

150 *Horseshoe Kidney. Symptomatology, Diagnosis and Treatment. (Hesteskonyren.) T. Rovsing.

148. **Duodenal Ulcer.**—Blad gives the details of sixteen cases in which he operated on account of duodenal ulcer, and reviews 144 articles on duodenal ulcer and its surgical treatment. Medical treatment had been applied in all his cases once or more and had given apparently good results, but sooner or later the symptoms returned. His patients were thus all in a late stage of the disease. For twelve years Tuffier has been urging immediate operation as soon as the ulcer is diagnosed, but Blad does not advocate it until after medical treatment has been given a fair trial.

149. **Cutaneous Tuberculin and Wassermann Reactions in Scrofulous Children.**—The v. Pirquet test gave a positive reaction in 86 per cent. of the 228 children tested and the further course of the cases confirmed the absence of tuberculosis in a number of the cases with a negative response. The Wassermann reaction was positive in eight of the children; in four in this group it was quite slight and these children continued to improve without other measures than those against tuberculosis in general, the v. Pirquet test being positive also in them. The four other children with positive Wassermann reaction presented it in a lively form and mercurial treatment was instituted with the result that the children who had not been thriving before were cured of all disturbances in a short time. Hertz and Thomsen conclude from these experiences that both reactions are of great importance for the differential diagnosis of "scrofulous" affections.

150. **Horseshoe Kidney.**—Rovsing has operated in four cases of horseshoe kidney, but it was not diagnosed beforehand in two of the cases. The complaints of the patients were alike in all, referring to a sense of oppression and dragging down in the region below the stomach, and pains extending to the lumbar region or radiating upward. The discomfort and pain disappear when the patients recline or are at rest, but recur constantly during physical exercise and are especially pronounced if the patient bends over backward. This latter symptom was particularly noticeable in one of the patients, a young man who had to handle heavy lumber at his work. Whenever the spine is bent backward the horseshoe kidney is forced against the spine and not only is this painful but there is liable to be a nervous shock as was observed in one of his cases. The palpation findings confirm the diagnosis, sustained by the subsidence of all discomfort when the patients recline. Rest and refraining from physical overexertion are the main points in treatment, but when this is impossible he suggests operative separation of the kidney into the normal two organs. He performed this operation in his third case with complete success, the young man being relieved from all former disturbances and now having two apparently normally functioning kidneys. Rovsing thinks that he is the first to perform this operation and the gratifying results in his case commend it for wider adoption when the patients are unable to spare themselves physical exertion. He operated by the transperitoneal route and commends this technic as the best; he entered the abdomen outside the colon and duodenum, fearing that the pressure of the kidney might have made the mesentery abnormally thick and tough in the center. He severed the isthmus by the same technic as for resection of the liver.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A TREATISE ON DIAGNOSTIC METHODS OF EXAMINATION. By Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with Additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York. Second Edition. Authorized Translation from the Fifth Revised and Enlarged German Edition. Cloth. Price, $6.50 net. Pp. 1229, with 471 illustrations. Philadelphia: W. B. Saunders Co., 1911.

BISMUTH PASTE IN CHRONIC SUPPURATIONS. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago. With an Introduction by Carl Beck, M.D. And a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M.D. Cloth. Price, $2.50. Pp. 237, with 90 illustrations. St. Louis: C. V. Mosby Co., 1910.

OM THYMUSINVOLUTIONEN EFTER RÖNTGENBESTRÅLNING JÄMTE NÅGRE IAKTTAGELSER OFVER LEUKOLYSEN I ÖFRIGT HOS RÖNTGENBESTRÅLADE DJUR. Akademisk Afhandling. Medicinska Fakulteten I Uppsala For Vinnande Af Medicine Doktorsgrad. Af Hans Rudberg, Med. Kand. af Smålands Nation. Paper. Pp. 106, with illustrations. Uppsala: Almqvist & Wiksells Boktryckeri-A.-B., 1909.

PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 40 cents net. Pp. 184, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

PRINCIPLES OF PUBLIC HEALTH. A Simple Text-Book on Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, M.D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth. Price, 50 cents net. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

THE END OF DARWINISM. Not Change but Persistence is Characteristic of Life; Every Change is Essentially a Persistence; Only What Persists Can Change. An Essay by Alfred P. Schultz, M.D., Author of "Race or Mongrel." Paper. Price, 50 cents. Pp. 19. Monticello (Sullivan County), N. Y.: A. P. Schultz, 1911.

BIDRÄG TILL DE CEREBRALA FÖRLAMNINGARNAS SYMPTOMATOLOGI. Akademisk Afhandling. Medicinska Fakulteten I Uppsala För Vinnande Af Medicine Doktorsgrad. Af Gustaf Bergmark, Medicine Licentiat af Göteborgs Nation. Paper. Pp. 205, with illustrations. Uppsala: Almqvist & Wiksells Boktryckeri-A.-B., 1908.

DISEASES OF THE ANUS, RECTUM AND SIGMOID. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Cloth. Price, $5 net. Pp. 476, with 152 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

THE HISTORY OF MEDICINE. Philosophical and Critical, from Its Origin to the Twentieth Century. By David Allyn Gorton, M.D. In Two Volumes. Volumes I and II. Cloth. Price, $6. Pp. 436 and 497, with 37 illustrations. New York: G. P. Putnam's Sons, 1910.

EDUCATION: HOW OLD THE NEW. By James J. Walsh, M.D., Dean and Professor of the History of Medicine and of Nervous Diseases at Fordham University School of Medicine. Cloth. Price, $2 net. Pp. 459. New York: Fordham University Press, 1910.

PROCEEDINGS OF THE NORTH DAKOTA PHARMACEUTICAL ASSOCIATION. Twenty-Fifth Annual Meeting, held at Fargo, Aug. 9, 10, 11, 1910. Roll of Members, etc. Paper. Pp. 160. W. S. Parker, Secretary, Lisbon, N. Dak.

VAGINAL CELIOTOMY. By S. Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Price, $5 net. Pp. 443, with 148 illustrations. Philadelphia: W. B. Saunders Co., 1911.

THE INFLUENCE OF STORAGE AND VARIOUS PRESERVATIVES ON THE DISSOLVED OXYGEN IN WATERS. By Dr. Arthur Lederer. Paper. Pp. 14. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

THE PRESERVATION OF SEWAGE BY THE AID OF CHLOROFORM AND COLD STORAGE. Dr. Arthur Lederer and Harry B. Hommon. Paper. Pp. 16. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

THE DAWN OF THE HEALTH AGE. By Benjamin Moore, D.Sc., M.R.C.S., L.R.C.P. Cloth. Price, $1.40 net. Pp. 204. London: J. & A. Churchill (Philadelphia: P. Blakiston's Son & Co.), 1911.

PRACTICAL PHYSIOLOGY. Edited by M. S. Pembrey. By Various Contributors. Third Edition. Coth. Price, $4 net. Pp. 480, with 255 illustrations. New York: Longmans, Green & Co., 1910.

THE CARE AND TRAINING OF CHILDREN. By Le Grand Kerr, M.D., Author of "Diseases of Children," etc. Cloth. Price, 75 cents net. Pp. 233. New York: Funk & Wagnalls Co., 1910.

REPORT OF THE MERCY HOSPITAL, PITTSBURG, PA. From May 31, 1908, to May 31, 1910. Paper. Pp. 154, with illustrations.

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THE OPERATIVE TREATMENT OF CANCER OF THE BREAST *

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BOSTON

The only treatment of breast tumors which as yet gives any real hope of permanent cure is thorough removal. Operable cancer of the breast must not be subjected to any other method, because of the loss of precious time. I am obliged, at the beginning of my paper, to give the greatest emphasis to this opinion, because I have seen so many preventable disasters caused by this source of delay in resorting to the knife. And it is not at the hands of the inexperienced or of the empirics that I see these disasters, but in the hands of men experienced in the treatment of cancer, who have become convinced of the efficacy of non-operative methods and who cannot perceive the most glaring failures of their methods. The most pathetic instances of this kind of failure have been through months or years of *x*-ray treatment, during which the patients have gone from operability to glaring hopelessness.

Let non-operative means be used only in those cases which are by situation or extent hopeless. I say this in the strong belief that we are soon to discover an effective and permanent non-operative cure.

I realize fully my own deficiencies in trying to present before this body the operative part of the subject. I can plead only a large experience in breast tumors—an experience in which I have encountered many disasters as well as many successes. From the beginning, the worst of these disasters has been the result, first, of overconfidence in the diagnosis of benignancy, either on my part or on the part of the attending physician, by which overconfidence the most favorable moment for extirpation has been delayed or lost. I have therefore been strongly impressed by the importance of early diagnosis.

Another disaster has been the result of inadequate methods of operation. A third worthy of mention has been the result of a disregard of the contra-indications to operation, or the failure to detect them.

To consider adequately any one of these sources of failure—diagnosis, operative treatment, or indications—would exceed the limits of a single paper.

In confining my remarks to the operative treatment of breast cancer, I cannot but feel that the most important things to consider are timeliness and thoroughness of intervention. I therefore introduce the subject of operative treatment by the most important factor for its success—the early, invariable, and thorough extirpation of all breast tumors in which the expert diagnosis of cancer is more than a possibility. At the cancer age a diagnosis of benignancy even by an expert surgeon does not always mean safety to the patient. Even in such favorable cases, there will be made too many disastrous errors, by which the most favorable moment for extirpation will be lost.

The one important consideration in the treatment of breast cancer is that the surgeon is not to be carried away by new methods in the hope of non-operative cure, lest the favorable moment for the successful mechanical extirpation of the disease be lost.

Though, as I have said, I fully believe that we are on the verge of discovering a means of treating cancer before which the disease will disappear absolutely and permanently, I feel that we have innumerable opportunities for using such methods on the hopeless and non-operable tumors. *All non-operative methods must be strictly confined to the inoperable cases.* In our hope and enthusiasm, or even in the face of some apparently extraordinary cures, we must not in the least relax our vigilance, or postpone operation a single day. We have all seen too many so-called "improvements" follow new methods to allow ourselves to be carried away by them; for have not our "improvements," from the days of condurango to the present, ever proved ephemeral and disappointing? And has not the wish been father to the thought? I have seen the rise and fall of all these methods, and many have been and now are their victims. As in the end I have found nothing but failure and despair, so I look forward to more failures and renewed despair. The earlier and more favorable the tumors for surgical extirpation, the greater the failure and the more blameworthy the disaster; and yet I am full of enthusiasm in the hope that the near future or the next method will solve the problem. One single total disappearance of undoubted breast cancer, under any form of non-operative treatment, will presage success, just as surely as a successful man-flight presaged aviation; but in the meantime, as I say, we must not in the least relax our vigilance.

DIAGNOSIS

The diagnosis of breast tumors on which the surgeon plans his operation may be so positive that he can safely extirpate the tumor by the broadest margin, and carry the axillary dissection to its farthest limitations. But can he always be thus positive? May he not unnecessarily remove a breast, and subject the patient to an unjustifiable danger through an error in diagnosis? May not certain cases of benign tumor resemble so closely cancer that the surgeon is mistaken?

One varies, perhaps, in the positiveness of one's opinion. One's diagnosis may be an absolute conviction. I have often said—and I here repeat—that the diagnosis of cancer by gross appearances, plus the history, made by

* Read in the Section on Surgery of the American Medical Association at the Sixty-First Annual Session, at St. Louis, June, 1910.

an experienced surgeon, is more worthy of credence in some cases than the microscopic examination alone. But it is certainly true that before operation the most experienced may be mistaken. One illustrative case will suffice:

A woman[1] of the cancer age (46), seen in December, 1907, had received a blow on the right breast. A black-and-blue spot followed, with a "little lump" which soon entirely disappeared. Later the bunch reappeared. It was tender and painful. The patient's physician in New York told her that the only safe thing was its removal—advice in which I strongly concurred. I did not think operation likely to cure permanently, for there was a large, hard, infiltrating tumor of the right breast, and my diagnosis was medullary cancer.

The following letter, written to the physician who was to operate, shows how serious a view I took of the case:

"Dear Doctor S.: I regret to say that in the case of your patient, Mrs. M., the diagnosis is medullary cancer of the breast. It belongs to the group of rapidly growing and excessively malignant forms of cancer. I can find nothing in the axilla, but the axilla is undoubtedly involved. I concur in your advice of immediate and extensive operation. I should remove the breast and all the skin over it and dissect the axilla up to the first rib. I should remove the pectoralis major and the pectoralis minor, and, if there are any glands above the clavicle, I should dissect the subclavian triangle. Even with the most thorough and extensive dissection that can be made in this case, it is one of those excessively malignant forms which will be followed by an almost immediate recurrence. It is your duty, however, to give this poor woman every chance."

The physician himself operated, removed by an extensive margin the breast and muscles, and dissected the axilla. He had with him a surgeon of experience, who, from the gross appearances of the tumor, agreed with the diagnosis of cancer. The specimen was to me clearly non-malignant. Dr. Whitney's diagnosis was fibroma. The growth was easily removable, and extirpation of the breast, with even its slight dangers and disabilities, entirely unjustifiable.

Although my part of this symposium is strictly the operative treatment, an important element in the operation itself is the demonstration of the diagnosis at the operating-table. The operation demands, before removal of the pectorals and dissection of the axilla, a confirmation of the diagnosis. And this is an essential step of the operation. Neglect to determine, by renewed examination, the nature of the growth, "tumor in hand," may result in an unjustifiable severity of operation. I do not mean necessarily section of the tumor, but I do mean examination between the fingers after the skin incision has been made, the muscles exposed, and the axilla opened. The following case illustrates the difficulty of telling, even after exposure of the tumor, its nature:

(The paragraphs descriptive of this case were written while the patient was being etherized and while my assistant was closing the wound, when the question of error in diagnosis and of the proper treatment under doubt, were most vivid.)

The patient is 47 years of age, and has a tumor in the breast which she noticed two months ago. The disease in this case is, I think, medullary cancer, but I am not positive. Shall I make sure by first incising the tumor, or shall I extirpate breast and dissect axilla on the strength of my diagnosis? I decide first against exploring the tumor *in situ*, because of the risk of auto-infection. I remove breast, pectoralis major, and axillary contents *en masse*. Section of the tumor shows a chronic mastitis, with a single large cyst in the center of the mass. Fluctuation before operation was obscured by the thickness and induration of the breast. There is perhaps a little suspicion of malignancy, but that question awaits the pathologist. The operation has been on the safe side, both for recurrence and for malignancy, and, whatever the diagnosis, the patient ought hereafter to be well.

In this case the axillary lymph-nodes showed to the naked eye every sign of cancer, and I was quite convinced of the cancerous nature of the growth, before removing the whole. The pathologist's report was as follows:

Dear Dr. Richardson: The specimen from Mrs. —— (T. 106—7), June 2, consisted of a large breast, diffusely fibrous, and contained a small cyst. There were lymph-nodes in the axilla which were normal in character.

Microscopic examination showed a diffuse growth of fibrous tissue in which were slightly proliferating gland acini with cystic dilated ducts.

DIAGNOSIS:—Fibrous and glandular hyperplasia with retention cysts.

W. F. WHITNEY.

The opinion which I venture to offer, and the rule which in doubtful diagnoses, especially at the cancer age, I would lay down, is that that operation should be performed which would be indicated were the diagnosis of cancer positive. It is better, I think, to follow this course than first to explore the tumor to make the demonstration of cancer clear. To perform an unnecessarily extensive operation is preferable to subjecting the patient to the dangers of auto-infection.

In this case, with the whole breast in my hands, I could get unmistakable fluctuation in the tumor; but, had I known the tumor to contain fluid, should I have been justified in assuming that the fluid was from a benign cyst? I should not, for it is not uncommon to find collections of fluid in connection with cancer, nor is it uncommon to find malignant degeneration of cysts.

I learned a good lesson a few years ago at a breast operation in Racine, Wisconsin. I found benign tumors of both breasts, and favored extirpation of the tumors alone. Dr. Zeit of Chicago was on hand with his freezing apparatus, and reported malignancy in what seemed to me non-malignant tissue. His diagnosis was "endothelioma in both breasts." With the approval of Dr. Dudley of Chicago, I removed both breasts, and the patient remains well to this day. Dr. Whitney, after a careful examination of both breasts made at his leisure, confirmed the bedside diagnosis of Dr. Zeit. Had I not followed the advice of Drs. Zeit and Dudley, I should have performed an inadequate operation.

In a few cases, reports of which I have already published, carcinoma has developed after the removal of cysts. The percentage, in the whole number of cysts, is extremely small, but it is not a negligible number. The only rule to lay down that would cover such cases would be based on the procedure at Racine—removal of the cyst by a margin sufficiently broad for the immediate microscopic demonstration of the breast tissues. In this way error in diagnosis would be avoided, and immediate radical operation could be performed.

But this question is perhaps a little beyond the scope of my contribution to this symposium. Suffice it to say that, when in doubt, the safe side for the patient demands the more rather than the less extensive operation.

A reasonable accuracy in the diagnosis of cancer of the breast is implied by the opinion of an experienced surgeon that the tumor is cancer. In a word, however positive one's own opinion may be as to benignancy, a single experienced contrary opinion is enough to indicate exploration.

The more I consider the question of reasonable accuracy in the diagnosis of breast tumors, and the larger

1. Office Records lxx, 161.

my experience becomes, the more I am inclined to advise operations on all breast tumors, whether the diagnosis points toward malignancy or not, provided the patient is of the cancer age.

A diagnosis of benignancy is positive enough to contra-indicate operation if the patient is not of the cancer age, and if the history and signs favor that benignancy. But if the patient *is* of the cancer age, a reasonably certain diagnosis of benignancy is not strong enough to justify the postponement of operation, unless there are contra-indications to operation other than in the tumor itself. There is perhaps one exception to this rule: when a second tumor appears precisely like one that by this rule has been removed, and has proved benign—a cyst, for example. I have several such cases under observation, in which I am ever anxious lest I overlook cancer. But even when, at a former operation, a similar tumor has been excised, does not the occurrence of any tumor, no matter if it is benign, show a tendency to tumor growth which the next time perhaps will show malignancy? My own opinion and observation go to show that cancer is no more likely to form in a breast subject to benign tumors than in one not subject to them. But as the cancer age approaches, does not human fallibility offer a reasonable doubt of *any* diagnosis? I believe that at the cancer age it does offer a reasonable doubt, and one that justifies if it does not demand operation. Indeed, why is it not common sense, in view of human fallibility and the fact that we are formulating rules for the guidance of men of widely varying experience and skill in diagnosis, to group together all breast tumors under the heading of uncertainties, of things beyond human skill and subject to all the frailties of human prognosis, and to extirpate them all?

I must admit that I have too little faith in my own opinion—or that of any one else—to let one dear to me run the awful risk of error, when certainty is so easy and permanent cure so sure.

I use the words "without reasonable doubt" in connection with the diagnosis of benignancy to express in the strongest way a human and therefore fallible opinion; and I use these words because of their well-known application in law. The law, in trying to express the justification of a jury's verdict, on which punishment is based, requires on the evidence a unanimous opinion, "beyond reasonable doubt." In surgery a similar freedom from reasonable doubt should prevail when on the opinion may depend health, happiness, and even life itself. And that doubt must be absent in those cases in which, if a necessary operation is deferred or omitted on the strength of it, disaster will follow.

I should not apply this rule to the diagnosis of malignancy. Were only those breast tumors excised in the case of which there is no reasonable doubt of malignancy, much harm would follow. The slightest suspicion of malignancy should demand operation, especially at the cancer age. If there is room for the slightest suspicion of malignancy in the tumor, then it cannot be pronounced benign beyond a reasonable doubt. On the other hand, unless the diagnosis of benignancy is overwhelming, there is no justification in the palliation of benign tumors.

In trying to present my views as to the operative treatment of breast cancer, I find great difficulty in expressing in words my thoughts. I could show this audience, individually, on the patient, what I am trying to say; and I could, I think, show them the tumor which to my mind, being benign beyond a doubt, I should dissect from the breast, or leave alone, and the tumor which without exploration I should remove with the breast, axillary contents and all. But as clearly as I can express my opinion by words whose significance we all understand, it is this: We should remove, breast and all, those tumors in the diagnosis of which there is enough uncertainty to call that uncertainty a reasonable doubt. We should remove from the breast or explore those tumors in the benignancy of which we have enough indecision to call that indecision a reasonable doubt. We should leave untouched only those growths in which we are so positive that we would let them go in the case of our nearest and dearest.

In all cases of great importance a consultation is advisable; but, whatever the number of surgeons and whatever their experience, a single dissenting voice as to the diagnosis should constitute a reasonable doubt, whether as to malignancy or non-malignancy, and the verdict of operating or not should be decided accordingly. On him who decides against extirpation in the presence of such a doubt lies a heavier responsibility than the surgeon, in the present days of safe operating, should be called on to bear. The verdict of a discussion like this, of a body of distinguished surgeons like this, should help him to bear that responsibility.

What constitutes a reasonable doubt of benignancy? The "beyond reasonable doubt of benignancy" is the complement of the slight doubt as to malignancy. When a breast tumor is benign beyond reasonable doubt, there is not left evidence enough of malignancy for the most radical to base indications of operation on. If any man of experience, examining a breast tumor in a case in which I had the responsibility of decision, should say, "I am by no means sure of this being benign; I am afraid it is cancer," I should call that enough doubt of benignancy to justify operation on that tumor. If, for example, everything favors a benign growth but the feel of the tumor, I should say that the slight doubt founded on the feel demanded operation. If the time of life were favorable for cancer, pain, perceptible axillary lymph-nodes, a marked family history of cancer, short duration, rapid growth, adherent and dimpling skin, retracted nipple—any one of these favoring cancer, the other evidence favoring benignancy—would lead me to operate. Of all the signs of cancer, the one that alone indicates operation most strongly is that which fails, through the *tactus eruditus*, to satisfy the surgeon of benignancy, or to remove his last fear of cancer.

In the diagnosis of benignancy, therefore, reasonable doubt is found in any sign or symptom favoring in the least cancer. The evidence of all kinds—the history, family and personal, and the results of physical examination—must be without the least flaw.

But even then, in view of the slight risk of operation, does not the absolute safety of the patient demand operation—after all has been said and done to justify or to postpone operation? Is there any valid reason against the operative investigation, at least, of breast and axilla, except in the clearly hopeless cases?

In trying to lay down rules for guidance in the surgery of breast tumors, am I not trying to sustain a position which, after all, is beyond human power, and therefore subject to human fallibility? Am I not substituting for certainty and safety, uncertainty and danger, and would not a rule of universal operation prevent those disasters, happily infrequent, which cannot but blot the record of even the most experienced and skilful surgeon who endeavors to discriminate between the benign and the malignant?

The only absolute certainty, then, is removal of the tumor and demonstration of its nature. By this means certainty will be established. But the reasonable doubt that I am speaking of is so slight a doubt that the dangers of acting on it are less than even the slight risks and disadvantages of operation.

I would say, finally, that the broadest and firmest foundation on which to base a reasonable doubt of its nature is that of experience. With men of small experience, the diagnosis is, from the limitations of their experience, open to a much greater doubt than would be called reasonable.

I have learned to beware of the swelling in the breast that is only "glandular"; of the "obstructed milk-ducts"; of the "fatty" tumor, the tuberculous, or even the sarcoma. Such diagnoses, except when made by men of great experience, raise always in my mind the presumption of malignancy. Indeed, I do not know how I can better close this part of my paper than by saying that in all tumors of the breast the presumption should be that they are malignant until they are proved benign—guilty until proved innocent—and that the treatment should be that appropriate to the disease which, unoperated on, is the more dangerous to health and comfort.

OPERATION

The first consideration in the radical operation for breast cancer is a reasonable thoroughness of extirpation. To this all other considerations should be subordinate. The main thing in the operation is to get all of the disease out. The more extensive the operation, the better the result, provided the dissection is extended in the same direction as the disease, and provided the patient lives; but there should be reason in all things. The direction in which the dissection should be far-reaching is along the line of the lymphatics, along the line of the great vessels. This line of metastasis after breast operations accounts for by far the greater number of failures; and yet in many cases the recurrence is in the immediate anatomic vicinity of the tumor-seat in the breast. These local recurrences, without recurrences in the lungs or above the clavicles, suggest the inadequacy of local extirpations. It is probably true that the local recurrences are blamed for the fatal results, because they occur first and kill before internal late metastases are detected. I am not, however, advocating any lessening of the present radical operative measures: I am advocating rather, if it were possible, increasing in breadth and depth the dissection. I recommend a reasonable thoroughness of dissection, and one that varies according to the extent and situation of the disease.

I admit that there would be less likelihood of recurrence after breast operations that included a girdle amputation of the upper extremity; but there would be, on the whole, less good to the greater number than after common-sense limited dissection. A reasonable thoroughness requires the removal of the tumor by a broad margin, and of its route of extension by a broad margin. The tumor itself may be removed by a satisfactory margin, when it is small, by including the breast and everything possible in close relation with it. This is accomplished by taking the whole breast and the skin about its margin; the pectoralis major and the subjacent tissues down to the thoracic wall; the axillary contents as far back as the latissimus dorsi, as high up as the first rib, and as deep as the posterior border of the scapula. The upper axillary dissection requires the removal of the pectoralis minor.

AUTHOR'S TECHNIC

The method that I use is an elaboration of one that I first employed in the early eighties, the principle of which is a dissection of the breast and axilla with knife and forceps, made as thorough and as clean as a dissecting-room preparation. Up to that time the only axillary dissections had been made with the fingers, by means of which the glands affected enough to be perceptible to the fingers were rooted out, as it were. Small glands just beginning to be infected were not then perceptible, and the method, though better than no axillary dissection at all (for there were not a few complete and permanent recoveries in demonstrated cancer) was of course inadequate.

From that time I have gradually added to the extent of the tissues removed, and now include the pectorals and make a very thorough and painstaking dissection of the axilla. I never cut through the clavicles, and seldom subject to any but palliative operations the patients with extension of disease above the clavicle. The removal of the skin in my cases is, I think, as extensive as that in any one's; but I contrive to close the wound effectively with skin. I wish to make here my acknowledgments to Halsted for the suggestion and example of thorough and wide removal of the disease. Except in a few minor points, there is nothing original in the method that I use; but in the elaboration of this method I have followed a definitely progressive line, taking one suggestion here and another there, and perhaps adding a detail of my own. The value of my own contributions to the evolution of this operation will, I dare say, be regarded as trivial, but I have learned to rely on them enough to repeat and now and then to elaborate them.

The mortality for operation is practically nothing. Deaths from shock are unknown in my statistics. On the average, the time from the first incision to the completion of the dressing is one hour. This method, which I have gradually elaborated in many hundred operations for breast cancer, seems to me reasonably thorough. In but few cases has it been necessary to graft the resulting wound. When the breast and the skin over it are so extensively infiltrated that the skin beyond the breast margin is stiff with disease, the patient is, in my judgment, beyond a rational hope of cure, and should be operated on only as a palliative measure preliminary to non-operative treatment.

The first incision goes from the insertion of the pectoralis major to the ensiform cartilage, passing to the sternal side of the breast and including as much of the skin outside the breast margin as is deemed advisable. The sternal skin-flap is next dissected from the subjacent fatty tissues, upward toward the clavicle. When the margin of the other breast is reached, that breast is dissected from the pectoralis major a sufficient distance to permit considerable displacement toward the affected side. If necessary, the other breast is dissected wholly free from the pectoralis major.

The second incision is made from the beginning to the end of the first, but passing well to the axillary side of the breast. The skin-flap is dissected back from subjacent tissues till it is well beyond the posterior fold of the axilla, and exposes a sufficient surface—say three or four inches—of the latissimus dorsi muscle.

The next step is the separation of the clavicular from the sternal portion of the pectoralis major. With the fingers of the left hand lifting the belly of the muscle, its sternal and costal attachments are cut close to the bone. The skin between the breast and epigastrium is

then dissected, with its underlying fat, down to the upper surface of the rectus and obliquus externus muscles. Sometimes the fascia covering these muscles is also taken with the skin. The mass containing the tumor now sags down and away from the axilla, and the opportunity for a careful and clean dissection is given. In most cases—but not always—I next remove entirely the pectoralis minor. To insure a safe and rapid dissection along the great vessels, I next find and expose the vein. For satisfactory dissection the assistants must be careful to do all sponging with gauze that has not been bloodied. By snapping all arteries and veins with two pairs of forceps and cutting between; by snapping all vessels at once as they begin to bleed and wiping with fresh gauze, the dissection may be kept so bloodless that there will be no chance for error. I begin usually at the first rib, and, with the knife, and without fingering, pulling, or hauling, make a complete axillary clearing from the first rib to the anterior edge of the latissimus dorsi, from its insertion to and along the posterior border of the wound; from the depths of the axillary space to the digitations of the serratus magnus. Nothing is left except the main trunks of the axillary vein and artery and the important motor nerves.

As soon as an absolutely dry wound is secured, I close without difficulty the whole in a straight line from the humerus to the ensiform cartilage.

The time of actual dissection is about twenty minutes; of the whole operation, from ether to the end, sixty minutes.

The speed or slowness of an operation seems to me to affect the amount of shock. As far as I can judge from what I have myself seen, a very much prolonged operation adds materially to the dangers, both by shock and by liability to infection. I have not attained that perfection in technic, or confidence in human infallibility, that would make me unwilling to give some consideration to the question of infecting clean wounds. And as I believe that the occasional wound infection is due primarily to exposure of that wound to unseen, unknown, and therefore humanly unpreventable causes, I like to limit that exposure to as little time as practice in dissecting and familiarity with anatomy will make possible. And yet I dare say that I am wrong, and that, as Halsted says, the severity of the shock depends entirely on the amount of blood lost. A rapid and extensive dissection sometimes has seemed to produce more or less impression on the patient, shown chiefly by slow and feeble pulse and by a deathly look to the face; but as I say, the patients, with practically no exception, recover from this shock and from the operation.

My mortality in fifteen hundred breast operations, of all kinds, is but four; and of those deaths, wound infection accounted for two. No patient has died from the immediate effects of the operation, unless suppression of urine be deemed the result of an extensive dissection.

I prefer this method of removing the breast to all others that I have seen. I do not say that it is any better than any other—perhaps it is not so good as many; but I have developed it in my own way and am familiar with its smallest details.

From the skin cut to the thoracic wall the amount of tissue removed increases in breadth. I have seen operations in which the breadth of tissue removed diminishes as the operation proceeds: there will be a broad skin removal, and a narrower portion of muscle and fat, as the thoracic wall is reached. The only way in which the mass removed can be made more extensive is by increasing the amount of skin removed, and by carrying the dissection above the clavicle. Nothing is easier than to make this more extensive dissection when it is deemed advisable. I do not attempt it often, because the operation at best seems but a palliative one; and to subject a patient to dissections which are sure to be ineffective as to permanency seems to me unjustifiable. Let the broad and deep methods be limited to cases in which the disease is limited and in which the dissection extends far beyond the perceptible part of the tumor.

It will ever be a disputed question as to what constitutes a reasonably thorough operation for breast cancer. My opinion is that an operation, to be reasonably thorough, does not demand the most extensive possible removal of tissues, or even of the skin alone, for the most extensive possible means a girdle amputation. Nor does it often mean so extensive a skin removal that grafting is necessary. Nor does it require resection of the chest wall. Perhaps one gets unduly discouraged in operations for breast cancer; perhaps, indeed, a large percentage of recurrences is *prima facie* evidence of inadequate tissue removal. Whatever the reason, two recurrences in three cases—or the very smallest percentage of recurrences ever published—are but too discouraging.

CONTRA-INDICATIONS

I regard as contra-indications to extensive operations in the hope of permanent cure the presence of metastases above the clavicle, of beginning skin infiltrations (*carcinome en cuirasse*), of beginning chest wall growths. In a word, in extensive disease even the most extensive operation is unjustifiable; in limited disease, extensive operation is unnecessary. Yet in some cases of disease so extensive as to be almost forbidding I have been surprised by long immunity from recurrence; and in some of limited disease, by its speedy return after a radical operation. In either case let the extirpation be reasonably thorough, but not beyond common sense. There remain a few cases on the border-line of the hopeless in which the surgeon may or may not select the most mutilating operation, but in which, if his experience is like mine, he will perform the operation with little if any hope.

PROGNOSIS

The difficulty of establishing the prognosis as to recurrence after radical operation lies in our failure to establish definitely the extent and virulence of the case—in the impossibility of making out the type as it were, of the disease—the standard by which all results must be measured.

Nothing is more evident to me than that, in the hands of good surgeons, the results of operative treatment of similar lesions throughout the world are about the same. There is but a slight ratio for or against this or that operation, this or that clinic. Were all surgeons to operate on patients with the same class of some certain special lesion, the results in the long run would be about the same.

In breast cancer it seems to me by no means difficult to separate the cases in which there is no reasonable expectation of cure from those in which the expectation is good. Each operator, as his experience widens, can group his cases roughly into the hopeful and the hopeless, with an intermediate class difficult of grouping. And there should be, it seems to me, such a rough grouping, according to the prognosis of good, bad, or uncertain. Not that the prognosis after operation is ever anything but uncertain, but some cases are more uncertain than others.

When we are talking of prognosis as to recurrence, we are for the most part wasting our time and that of our audience—are we not?—if one of us includes in his statistics cases of conspicuously bad prognosis and another does not; if one of us operates on every tumor that permits an attempt at extirpation, whereas another excludes all that do not permit removal of the whole by a wide margin; if one publishes the results of a selected group of operations, whereas another publishes every case, including the doubtful or even those proved by operation hopeless.

When every case is published—whatever the findings of the operation—the prognosis will then depend on what the operator deems adequate indication for operation. I am very sure that what I regard as an adequate indication, another will regard as inadequate, and *vice versa*.

My opinion is that, in trying to establish the prognosis, only those cases should be included in the statistics which have about the same attributes—and that the surgeon himself is the sole judge. It behooves us, therefore, in trying to tell the prognosis, to be as rigidly unbiased as to the facts as it is possible for us to be. The only really reliable way, considering the impossibility of excluding bias from our own observations, would be to have the patient, the tumor, the operation, the microscope, under the control of an unprejudiced commission.

But perhaps, roughly, we can get a fair idea of the prognosis by the accumulation of large series of results, including all operators of large experience. The first thing that we wish to know is the average prognosis; the second, why one operator has a large percentage of permanent recoveries and another a small; and especially if that difference depends on methods of operating, and if it does so depend, what ratio to the whole the operative dependence is.

As it is, grouping together all cases, a large number of them show the surgeon, long before he completes his operation, that they will fail of permanent cure.

I am, I must admit, so little impressed by the value of statistics that I am not much given to collecting my own, especially in cases of cancer, to establish my ratio of permanent cures. In some fields they are, I dare say, too good to be accepted; in some, too bad to be questioned. In cancer of the breast they are about the same, I think, as those of most operators, and for the same reasons.

If in my immediate mortality I include, as I have here, every breast case I ever operated on, there will be a reliable percentage of recoveries and deaths. Unless I so include every case operated on in the *hope* of radical cure—whatever the hopefulness or hopelessness of the operative demonstration—I am open to the criticism of selecting my cases.

But some of my best results have followed the extirpation of the disease in somewhat discouraging cases.

The statistics—or my statistics (which, however, I have not as yet collected)—of cancer operations may be regarded as an accurate presentation of results after radical operation on cancer that seemed at least to present enough hope to justify that operation. Farther than that, statistics cannot go; and in estimating this, their real value, one must be able to take into account the operator's personal equation, as it were, in judging the operability and prognosis of his cases.

What do we mean by a permanent cure? For purposes of comparison, I accept the three-year limit, without sign or symptom of recurrence anywhere in the body. But has such a brief period of apparent immunity any real significance? And when that period of time has elapsed can we feel sure that there will be no further trouble? I regret to say that the successful passage of three years means no assurance that the original disease will not later—perhaps many years later—show itself. Not five years, or ten, of perfect health means absolute cure; for have I not seen recurrences in the spine later than that?

For these discouraging views I can only plead the truth. Fortunately, the three-year limit indicates the likelihood that more years will pass without perceptible recurrence. So, as time passes, the dread of recurrence is displaced by an ever-increasing confidence in permanent cure. For its encouraging effect on the patient, I am grateful to this arbitrary, if misleading, period of immunity; for its value in establishing a standard by which one's own results may be measured, I make use of it; but, as far as sure indications of permanent cure go, I have long since abandoned it.

Now what constitutes a reasonable expectation of radical cure in operations for breast cancer—a reasonable hope that the given case will be the one of three or four to be permanently cured?

It is perhaps easier to pick out the cases in which there will surely be a recurrence.

In all cases there is the possibility of remote and internal metastases that makes the outlook discouraging. I regard the slowly growing tumor, with but few perceptible glands in the axilla—and those small—as the most favorable form of the disease, especially after middle life. Rapidity of growth, or the slightest sign of infiltration or of edema in the breast, makes recurrence after any operation for cancer of the breast almost certain. A peculiar thickening of the skin over the breast, gradually shading off at the periphery, is a grave sign.

A breast that is solid with the disease and its edema, with the skin over it stiffened as far as the margin, whatever the condition of the axilla, makes the case practically hopeless. When the disease has burst through the skin, as it were, and appears as a discolored mass amid a surrounding of normal skin, the prognosis is not necessarily bad. It is the infiltration in all directions from the central focus that makes unreasonable the expectation of radical cure.

Close attachment of the breast or of the tumor to structures that cannot be removed, of course means hopelessness. A tumor so close to the periosteum of the rib that it can be separated only by peeling it off—periosteum and all—with a bone scraper; or so close to the intercostal muscles that they, too, must come with it, is beyond the reasonable hope of permanent cure. A tumor that is so closely attached to or grown into the thoracic wall that resection of the ribs is necessary, is beyond the hope of cure, and should not be removed in that hope alone.

The same word "infiltration," as applied to the axillary contents, expresses, I think, hopelessness of radical cure. I, for one, never dissect the glands from veins, or other structures, with much hope, unless they are separated by loose connective tissue. When they are separable only by a sort of cleavage from the vein, from the chest wall, from the fascia, hope of permanent success must be abandoned.

Enlarged glands above the clavicle are always, in my belief, so significant of an already existing internal metastasis that I do not operate in such cases with much hope of permanent cure. For other reasons I remove these supraclavicular glands.

The only cases of breast cancer that can be reasonably included in the statistics for the cure of the disease by operation, are those in which the tumor is freely movable, and in which there is no infiltration or close attachment to tissues that cannot themselves be removed. There must be a margin of clear, uninfiltrated, healthy tissue—in a word, the tumors have been, as far as we can tell, completely removed. Furthermore, the glands affected must not reach above the first rib, and there must not be the least sign of internal metastasis.

Only the most favorable cases, then, offer a reasonable expectation of radical cure.

Is there, in those cases which present one or more of the above unfavorable aspects, any hope of radical cure? If so, how much hope must there be to justify a radical operation?

Before operation many of these unfavorable things will not be apparent. In most cases hopelessness is a matter of operative demonstration, for, of course, we do not attempt radical operation on tumors that are clearly hopeless. If any of these unfavorable things can be detected before operation, almost the only justification of an operation for radical cure is human fallibility—the chance that the case may not be as bad as it seems. There is one other justification, however, and that lies in the experience, not uncommon with me, of an occasional extraordinary success when the outlook, such as I have described, has been bad. This is frequent enough to offer a distinct hope, and to justify operation in the doubtful case.

In any case, to take away pain; to relieve discomfort; to keep up the patient's hope; to permit a better application of non-operative measures; to take the blessed chance of mistaken prognosis and human fallibility—to accomplish any one of these things seems an ample justification in breast cancer for so safe an operation.

ABSTRACT OF DISCUSSION

DR. WILLY MEYER, New York: Diagnosis generally is easy because we see these patients too late. Sanguinolent discharge from the nipple, even in the absence of tumor formation, should lead us to observe the patient most carefully. If infiltration within the breast is found, we must think of a beginning cancer and act accordingly. In suspicious cases, I prefer the radical operation to an exploratory incision. In the last five or six years there have appeared in journals, text-books and monographs so many conflicting statements regarding the radical operation for cancer of the breast, that I think that it is but timely to lay down a few historical facts regarding this operation. The radical operation for cancer of the breast is an American operation. It has been worked out and the description published on American soil. There are two distinct advances in this operation. The one works from the chest toward the shoulder, and the other from the shoulder toward the chest. There is no intermediate operation. The one from the chest toward the shoulder, in which the trunks of the feeding blood-vessels and the tendons of the pectoral muscles, with the axillary lymphatics and glands are attended to later on in the course of the operation, has been worked out by W. S. Halsted, of Baltimore. The description was published in the *Annals of Surgery*, October, 1894. The operation in which the surgeon works from the shoulder toward the chest, in which the tendons of the pectoral muscles are primarily met and cut, and the blood-vessels leading toward and from the breast are primarily clamped at their base, and divided, and the axillary fat with glands removed toward the sternum, was worked out in New York and the description published in the *Medical Record*, December, 1894. It was but natural that surgeons should follow the leadership of Halsted, and I am sure that I would have done the same thing had I not seen independently at the operating table the advantages of working in the opposite direction, making the operation a more typical and anatomic one, saving time and blood.

The publications that have appeared in the last five or six years point to the fact that surgeons are gradually coming to do the operation from the shoulder toward the chest. Warren of Boston and Jackson of Kansas City do not favor grafting toward the end of the operation and have therefore modified the operation by making dermatoplasty. In every other essential point the Boston and Kansas City operations are identical with that described in New York sixteen years ago. Rodman, of Philadelphia, also lately has done the operation from the shoulder toward the chest. He is afraid of continuing the incision onto the arm, fearing cicatricial band formation which might interfere later with the function of the arm and therefore he makes his skin incision transversely near the axilla. I have not seen such an occurrence in the ordinary case. Of European surgeons only Rotter, of Berlin, needs consideration. More than one year after the description of the New York operation was published he brought out an operation similar to it. Kocher, of Bern, has never devised an operation of his own for cancer of the breast.

With reference to final results: I still believe that, first, the virulence of the infection in a given case determines the fate of the patient; second, the time of the operation, and third, the situation of the tumor. With the radical operations in the hands of all surgeons, no matter in which direction we advance in operating, between 40 and 50 per cent. of the patients operated on pass the three-year mark; between 30 and 40 per cent. pass the five-year mark, and yet these patients are not always cured. Many have seen the trouble recurring after eight or ten years, and longer. Further improvement in our statistics will come when operations are done early, and when the cause of carcinoma has been found.

DR. PARKER SYMS, New York: We have learned much about cancer of the breast during the epoch which began in 1894, and can now take a hopeful view of the subject. Rodman has stated that it is possible to cure 80 per cent. of the patients with the ideal application of our present methods. This would be dependent on early diagnosis, and an early, radical and properly performed operation. There is, of course, much difficulty in making an early diagnosis in certain doubtful cases; but when we bear in mind the fact that between 80 and 90 per cent. of all breast tumors are cancers, and when we remember that there is a precancerous stage, we may expect to get much better results. Between 10 and 20 per cent. of tumors, though benign at one time, are precursors of cancer and must be regarded with suspicion. Every tumor of the breast should be removed. If a reasonable suspicion exists as to its malignancy, we should perform the most radical operation.

There is one early sign of cancer of the breast, which precedes retraction of the nipple, and which I have never seen mentioned in print. In a large proportion of cancers the nipple of the affected breast is on a higher level than the nipple of the healthy breast, owing to a shortening of the trabeculæ. In a benign tumor the nipple of the affected breast will be lower than that of the healthy breast as a result of simple gravitation. I am glad of this opportunity to supplement what Dr. Willy Meyer said because modesty prevented him from saying what he should. By a coincidence the work of Meyer and Halsted appeared in the year 1894, and it was not till then that we attained satisfactory results in our treatment of cancer of the breast. Prior to that time I had an experience of ten years in the New York Cancer Hospital and in my own experience, as well as in that of my colleagues, I am sorry to say that it was almost unknown to cure a cancer of the breast. We all know what change there has been in our results since these admirable operations were given us. The operation of Meyer is one that I have always favored. I regard it as one of the most important operations in surgery. It is such a beautiful, classic, anatomic removal of all the affected parts, and, if properly done, it is a safe operation requiring but little time to perform. Although it is one of the largest operations we do in the domain of surgery, it is quite possible to shock the patient so little that she may be out of bed in from twenty-four to forty-eight hours. Meyer's operation has, as a particular advantage, the working from the shoulder to the chest,

against the direction of the flow of the lymph and venous channels, so that we are working toward the tumor and not from it, in that way very materially diminishing the chance of a recurrence by dissemination. There have been many modifications of the Meyer and Halsted methods. Of all incisions devised, those of Jackson are the most ingenious. They should certainly be employed whenever the tumor is not too high so that the quadrilateral flap may be taken from a part well above the growth. The obliteration of the axillary fossa is important. The outer flap should be brought tightly against the chest-wall, so that it will heal there by primary union. The method of dressing deserves special attention. The flap should be held snugly to the chest-wall by means of flat gauze pads, firmly secured with adhesive plaster. The arm should not be included in the dressing, but should be left perfectly free; the patient should be able to assume the "statue of liberty" attitude. If these details are carefully attended to there will never be limitation of motion.

DR. HERMAN TUHOLSKE, St. Louis: I have for the past fifteen years removed all tumors of the breast, whenever I could persuade the patient to let me do it. I have done that in many cases in which I was positive that the tumor was not malignant. These tumors should not remain in the breast, because we never know when they will become malignant. A frozen section was always made in those cases in which I was not quite sure that the tumor was not malignant. The reason for using the microscope is not to assist in deciding on removal of the tumor, but to determine whether radical operation or the usual elliptical incision and removal of the mass is called for. I believe that a tumor, small and round, a fibroma, may be removed safely without amputating the breast; but my experience has taught me that in the majority of cases a tumor occupying much space will in time necessitate the sacrifice of the whole breast. The eye and the hand will always decide the malignancy of the tumor. The patient should always be examined in the horizontal position. It is only then that the hand, moving the breast over the thorax, will discern every little inequality and discover nodules and whether they are hard or soft. In that way and with a careful history you can make a fairly correct diagnosis, and if the tumor is malignant the most radical operation should be performed. My plan has always been to go from the shoulder into the axilla, exposing the large vascular bundle and emptying the axilla of its contents as far as the posterior border of the scapula. I make the cut forward, passing down along the sternum so as to cut the upper part of the external oblique fascia. There something to be removed might be encountered. Then, when the skin is undermined extensively, it will do away with tension of sutures or with the necessity of skin grafting. In all these radical operations not only the pectoralis major but the pectoralis minor should be removed; the latter, because it facilitates the operation greatly.

DR. MILES F. PORTER, Fort Wayne, Ind.: After all known diagnostic skill has been exercised, what is there left? Uncertainty as to the final results. That means that all tumors of the breast should be removed. Doubt can be dispelled by microscopic examination made by an expert only, and that should be done in all cases of tumor of the breast. It has been my fortune or misfortune to encounter four cases of breast trouble in none of which was there any tumor to be discovered on close examination, and in two cases I was assisted in the examination by men who are recognized as being among the best men in the country. In two cases we had to deal with a malignant condition. In two cases the condition was benign. I would call attention, therefore, to the possibility of the existence of carcinoma of the breast without tumor formation. Two of these cases occurred in women at or after the menopause; two occurred in younger women. One of these had a carcinoma, and one of the older women had a non-malignant trouble. The occasion for looking at the breast in three of the cases was a sanguineous discharge from the nipple, without any tumor whatsoever. In the fourth case there was retraction of the nipple with eczema. I am firmly convinced that surgical removal of tumors before diagnosis is possible can cure more individuals and add more to human life and human usefulness than can any other measure. The surgeon should remove the tumor and make the diagnosis from the specimen.

DR. WILLIAM L. RODMAN, Philadelphia: I want to emphasize the last statement Dr. Porter made. If better results are to come at all they must come from earlier diagnoses. It must be admitted by everybody that operative measures have been carried to the extreme limit. We must make earlier diagnoses if we are to get better results. I understood Dr. Porter to say that this can be done only by making frozen sections at the time of operation. Macroscopic appearances are valuable, and experienced men are usually able to hit the nail on the head, particularly those who work in laboratories; but it is simply impossible, and beyond the ken of any surgeon, no matter how experienced he may be, or how sharp in acumen, to diagnosticate a case of abnormal involution which is just changing into a condition of malignancy. And yet this is a very common condition. At least 10 per cent., perhaps 25, of such cases end in malignancy. Therefore the only safe thing to do is to employ frozen sections in all cases of doubt. There is no danger in such a practice if a hot iron is used at the time, even if the case is cancerous. It has been stated that it is not absolutely certain. Of course it is not. Dr. Porter said yesterday that the *x*-ray was the best means of diagnosticating stone in the kidney, and yet he and others admit that occasionally it will fail to detect the stone. We should use all and certainly the best means at our command, at the same time admitting that none is absolutely infallible.

DR. MAURICE H. RICHARDSON, Boston: I believe in the invariable extirpation of a tumor which is a cancer; yet we are not yet so proficient in our diagnosis as to be able to tell always when a tumor is a cancer. In the case of a young girl I do not believe that there is any danger in leaving a small fibroma in the breast, provided that we can see the patient often enough. In performing this operation, I employ a method which has proved entirely satisfactory to me. It is an operation by which the breast wound is closed. I make the Warren incision and the old-fashioned elliptical incision, starting in high up, going beyond the margin on one side and lower on the other down to the ensiform cartilage. That takes in all of the skin of the breast to the distal and to the proximal side. The next step in the operation is to undermine well over to the other side and back to the border of the latissimus dorsi and down to the margin of the obliquus externus. The pectoralis muscles are then removed. There is nothing original about the operation, as I have only followed the lead of others, but I like to do the operation in this way. I do not know that it makes any difference at which end you begin, except for the reasonable argument that you work away from the current of the blood and lymph instead of toward it.

DISTURBANCES OF LACTATION *

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If an apology were necessary for the presentation of this subject I would merely refer to the vast amount of clinical and experimental work and the great number of able papers recording observations and deductions along the line of substitute feeding.

During the past two decades medical literature has teemed with contributions on the subject of artificial feeding of infants, and the world is informed of the awakening of the profession to the necessity for a more exact knowledge of infants' dietetics. That there is good reason for this activity is evident in the high rate of infant mortality from dietetic disorders.

Research, observation and clinical evidence beget research, observation and clinical evidence. Ideas and

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theories find champions, patents are secured for artificial foods and methods of feeding, the mercenary spirit is aroused, and the money power enlisted, chemists, clinicians and practitioners enroll under the different banners and the merry war is on.

Just now a lull in the conflict allows us to look over the field and observe that the leaders of the "exact percentage feeding" idea have gained signal points of vantage in the population centers while their opponents are sullenly withdrawing to the woods with the evident intention of continuing the struggle in the rural districts. Each faction claims a victory and statistical bulletins announce the delivery of the human infant from nutritional disorders.

The observer can hardly refrain from indulging the conjecture that, if the originator of the plan of genesis could have secured for Rotch or Beidert or Lehman or Professor Gaertner access to the ear of the First Great Cause, Grandmother Eve's pectoral function might have been arranged more in conformity with modern laboratory ideas.

"What!" exclaims Mother Partington; "is it true they are about to abolish the mammary gland? that the maternal lactiferous fount is to be relegated to a condition of innocuous desuetude? Are the sufferings of our good old maternal progenitor, great-grandmother Marsupiala, in vain? Is the adjustment of her pectoral integuments to the assaults of the cruel mandibles of her ornithorhynchous progeny to count for naught? Is that wonderful mechanism by which the female mammal supplies nutriment for the infant a failure? Is the human mammary gland inadequate to meet the requirements of civilization? If so, why? Wherein is it inadequate? What long stride in our evolution has taken us beyond the reach of compensatory development?"

The lower orders of mammalia, both free and domesticated, nourish their young by lactation with success to a degree that, by comparison, seems to place instinct above intelligence when contrasted with the failures in the human being. In all candor let us inquire whether it is not expedient that we should devote a portion of that vast energy now expended in the search for substitute foods to the subject of "disturbed lactation and its causes." Let us face this question squarely. Have we exhausted the resources of the human mammary gland as a milk laboratory? I beg leave to emphasize the importance of careful clinical and analytic work towards a determination of the causes of disturbances in the equilibrium of mother's milk.

Before entering on this subject the physiologic process by which milk is produced should be considered briefly, in order that some of the influences which affect these changes may be better appreciated. A peculiarity of the function of the mammary gland is that it persists during a more or less definite time and then subsides. Exceptions are seen in some cases of prolonged lactation, and in curious instances in which the function is established in women who had never conceived, under stimulation of the nipple by sucking, a point of clinical value.

Without taking time to review the structure of the gland, attention is called to the fact that the alveoli are lined with columnar epithelium, and it is by means of these cells that this composite emulsion is produced.

The exact mode of its production from the circulating fluids has been a subject of much discussion and extended research. The older belief that the cells of the glands operate as a sort of filter, the milk being derived directly from the blood, has been rejected as unscientific. To-day three theories claim attention.

Stated briefly, the first explains the production of fat by an actual breaking down of the lining cells—a fatty degeneration—a process which, it is estimated, would require the renewal of the epithelium of the alveoli at least five times in the twenty-four hours. This is held by some to be preposterous. The second theory is a modification of the first, as only the free ends of the cells, after a stage of increased activity, appear to break down, liberating their products of metabolism, the fixed ends with the nuclei remaining to renew the process. The third attributes to the cells of the mammary gland, through the agency of protoplasm, a power analogous to that of other secreting structures, viz., the power of elaborating from the fluids a secretion peculiar to themselves, cell destruction being no more necessary than in other secreting glands. More exact knowledge on this subject would be valuable in its bearing on the subject of changing the constituents of the milk by physiologic methods, as feeding, etc., a matter which has hitherto been determined exclusively by clinical observation and experiment. Were the glands mere filters, as was formerly taught, it is reasonable to suppose that the quality of their products would partake of the nature of the blood constituents, and that changes in the latter would produce corresponding changes in the milk, a result which repeated observations have disproved.

No secretory nerves have yet been demonstrated in the mammary gland, but, were clinical data wanting, analogy would compel the acceptance of the hypothesis of nerve influence and control in the secretion of milk, probably through the cranial and sympathetic nerves. It is a fact of such common observation that mental conditions influence the milk-supply that no teacher denies it. Violent emotion, excitement, shock, fatigue, may alter any or all the secretions. Secretory glands may become vicariously excretory, etc.

Milk secretion is subject to variations in quantity as well as in quality. In the majority of cases it is regulated to meet the requirements of the infant, although instances are common in which the quantity is insufficient. On the other hand, it frequently occurs that the mother may successfully nurse two infants, as in the case of twins, or in wet-nursing in foundlings' homes, etc. From this it may be inferred that in some mysterious way, to a limited extent, the supply is regulated by the demand. It is believed that the surplus, if not drawn, is reabsorbed.

It is a question whether the daily quantity of milk can be increased by any medicinal agent. It is well known, however, that the mammary secretion, both as to quantity and composition, is quite sensitive to many influences. The secretion is usually diminished by a so-called "dry diet," in which there is a deficiency of water, while, on the other hand, it may be increased by a liberal allowance of fluids.

Attention is directed to the mental attitude of the mother during nursing as influencing the quantity of milk. It must not be forgotten, however, that over-anxiety to produce may defeat its object. Loss of fluids from any cause—as copious perspiration, menstruation or diarrhea—may lessen the amount.

The secretion of milk, when scanty, may be increased by any agency that increases normal metabolism—as diet, exercise, massage, electricity, fresh air, sunlight, congenial surroundings, freedom from discomfort and an equable temperament. Sudden emotion—as grief, anxiety, anger, fear, or anything that produces shock or profoundly impresses the nervous system—may not only

diminish the secretion, but occasionally may cause total suppression.

It is accepted that the constituents of milk may be influenced by variations in the hygiene, especially in the diet of the mother. The former belief that the fat of the milk was increased by the fat ingested has been repeatedly disproved by actual experiment, although Winternitz claims to have demonstrated its truth in lower animals. It is believed to-day that the proportion of fat in the milk depends largely on the amount of protein in the mother's food, increase or diminution in the latter causing a like change in the former. This relation of proteins in the food to fats in the milk is a matter of daily observation. A mere ingestion of albuminoids, however, is not sufficient to produce a "rich milk," since thorough digestion and assimilation are essential to fat elaboration. Fat may be scanty in the milk, not only from an insufficiently nitrogenous diet, but also as a result of excess of fats in the food. Examples are not wanting of mothers who, in their efforts to enrich their milk, defeat this object by inordinate ingestion of cream.

The proteins are rarely low, except in cases of exhaustion or debility, as from sickness or insufficient food. In this condition the milk is poor and watery, there being a deficiency in all the solids. It may occur that the mother's milk, in cases of debility, shows an excess of proteins with a deficiency of other constituents. Excessive proteins may appear also in the milk of the overfed mother of sedentary habits.

Sudden disturbances in the digestion of a healthy nursling leads the physician at times to startling conclusions in his search for their etiology. Violent agitation of the nervous system of the mother may change the quality of the lacteal secretion almost instantly; the milk quite frequently, under these circumstances, resembling colostrum in its changed proteins, low fat, and colostrum corpuscles. Instances are known in which convulsions and even death to the nursling have followed.

The analysis of the mother's milk frequently leads to the discovery of the cause of the infant's indigestion. The secretion of colostrum milk has been known to follow undue fatigue, excitement, anger, grief, coitus, also menstruation and conception. In fact, disturbances of digestion in the infant are frequently the first intimation of another pregnancy in the mother.

Both the quantity and the quality of the milk are influenced by the frequency of nursing. Poor milk frequently results from prolonged or irregular intervals in nursing. The more frequently the breasts are emptied the higher will be the percentage of solids, especially the proteids.

Among many probable influences that operate to the disadvantage of normal lactation I would suggest as worthy of immediate study (because apparently most ignored) (1) the return of maternal menstruation and (2) the indulgence in coitus during lactation.

Pregnancy in the nursing woman has long been regarded by the majority of observers as a contra-indication to suckling, but, as to the effect of menstruation and coitus wide differences of opinion are apparent and the paucity of reported observations concerning their influence on lactation is, to say the least, quite startling.

The lame excuse that the subject is delicate and the facts hard to get at because (for obvious reasons) our sources of information are unreliable, is just as valid along other lines, and was formerly considered a bar to the clinical study of anatomy, physiology and gynecology. The gynecologist found it necessary to know of and to control the exercise of sexual function in his patient ere he secured satisfactory results. Shall the pediatrician be expected to work in ignorance of conditions of possible vital importance to the welfare of his nursling patient? Must he be handicapped in his control of certain important elements in the hygiene of lactation?

The prevalent modern uplift movement in social hygiene is facing some startling facts and theories and is becoming familiar with very plain language largely in the interest of the unbegotten progeny. Shall lack of candor concerning sexual hygiene sacrifice the already born nursling?

With all due appreciation of the high degree of success attained by our rapid advance in substitute feeding, I protest against the too frequent early resort to the artificial, before the possibilities of the natural mode of feeding have been exhausted. I believe that there are moral and prudential, as well as physiologic and sanitary reasons, why the rapidly increasing tendency towards abrogation of this maternal function should be checked.

These and kindred considerations have impelled me to look up the literature as to the effects of menstruation, and more especially coitus, on maternal lactation. A review of over ninety books on diseases of children, obstetrics, physiology, physiologic chemistry and about 200 magazine articles on infant-feeding and allied subjects, shows not more than a dozen authors who directly referred to effects of sexual intercourse during lactation. Time will allow but a few references to older writers.

Bouchut[1] quotes an aphorism of Galen: "I order all women who are nursing children to abstain from venery."

Chevasse[2] says: "If the mother begins to menstruate, she should refrain fromcoitus, from probability of conception."

Bouchut quotes Platner: "Certain it is that unsatisfied desires are worse and more harmful than a rare and moderate use of venery." Routh[3] in treatment of defective lactation refers to great sympathy between breasts and genitalia, states that proper functional use of the one will influence the other and advises occasional reunion to improve and excite flow of milk.

Hartman[4] says that sexual intercourse may be allowed the mother moderately; it should be forbidden only from danger of ensuing pregnancy.

Trousseau[5] says that conjugal intercourse is not injurious to nurse or nursling provided it is regulated by great moderation.

Laurent Joubert in "Curiosities," advocated moderation from personal experience in his own family.

Vogel[6] says, "Whether a coitus, on which no gestation follows, is in itself injurious, I am unable to say; but it does not seem probable."

Bouchut says that nothing positive is known concerning the influence of coitus, but that wet-nurses should be forbidden it from danger of conception following and the consequent diminution of milk. He recites a case of a young woman whose child fell into violent convulsions each time she gave herself up to coitus, but says that numerous examples on the other hand demonstrate that influence not always so injurious.

1. Bouchut: Diseases of Children, 1855.
2. Chevasse: Advice to Wife and Mother, 1877.
3. Routh: Infant-Feeding, 1879.
4. Hartman: Diseases of Children, 1853.
5. Trousseau: Clinical Medicine, 1871.
6. Vogel: Practical Treatise of Diseases of Children, 1806.

Routh ("Galactorrhea") says that there can be no doubt that irritation in the uterus itself, or its immediate appendages causes profuse secretion. Undue excitement has been known to produce a jet of milk from both breasts, which has subsided only with the cessation of the stimulus. He says nothing concerning the quality of such milk.

Busey[7] says that excessive sexual indulgence during the period of lactation seriously deteriorates the nutritive qualities of the milk. This influence has not been definitely determined. The unwholesome and sometimes pernicious changes produced in the mother's milk by sudden bursts of passion, menstruation and excessive sexual indulgence are too well established by clinical observations, if not by chemical analysis, to be considered mere coincidences unworthy of the attention and careful scrutiny of the scientific physician. Woman is the highest type of the breeding female, yet she is the only one not exempted from the approach of the male by a natural interval between the periods of estrum. It is a law of the physical economy that excessive indulgence of any animal passion, or the overwork of any function or organ, is detrimental to the whole organism.

The "Dictionary of Medical Sciences" reports a case of a woman whose milk gushed out with force and abundance during coition; the quality is not mentioned. Herodotus refers to this long-known effect.

Engelmann[8] says that the negroes of Loango of Central Africa are a fair type of the black race. With them women are prohibited from sexual intercourse during lactation, which averages from twelve to fourteen months. Among the northern tribes of Russia the mother dwells apart for several months after confinement. On the slave-coast, when women become mothers, they are sent away for three years to nurse the infant and to prevent cohabitation. If the act should be accomplished they believe that the evil spirit takes away the milk and the child dies. A woman is chosen for the husband by the wife during her own period of lactation. The Japanese employ "by-wives." Native women of Africa, Asia and many of our Western territories are not only kept apart from the husband during confinement but for weeks afterward. With them as with Hebrews there is the idea of uncleanliness. But by this isolation, rest and non-exposure the women escape numerous uterine troubles.

Regarding the Jewish custom[9] of a longer period of uncleanliness for a "maid child" than for a male, Kotelman believes it was because females were weaker, more despised and believed to be more unclean. For a boy the period of lochia rubra was seven days and twice that period for a girl. The lochia alba lasted thirty-three days for a boy and sixty-six for a girl, before their burnt offerings could be made.

Arabs do not deprive themselves of sexual intercourse during the course of lactation. The Prophet, however, without expressly forbidding this practice, lets it be understood that it must not be an injury to the nursling. According to Sue, Mohammed commanded a widow who was nursing a child not to remarry before two years, counting from the day of birth of the child, unless he should die or her milk be dried up.

Busey-Caseauz suggested a "relation of causality between rickets of the infant and the frequent occurrence of the menses during the greater part of lactation"; but Tilbury Fox was the first to assert and prove the direct relation of cause and effect. From numerous observations carefully recorded, he deduced the important conclusions that when rickets attacks a child entirely dependent on the mother's milk, the mother will be found to have menstruated during lactation regularly for several months and the degree of rickets will be in direct ratio to the frequency, duration and amount of menstrual flow. My own observation fully corroborates the testimony of Fox.

Hirst[10] says that return of menstruation will sometimes affect the quantity and quality of milk but not as often as popularly supposed. Zweifel, Winckel, Joux, Tilt, Becqueril and Vernois state positively that the return is without influence on lactation. Tilt obtained these results; of 100 women whose menstruation returned, forty-five retained milk unchanged; in eight it was diminished; two lost the milk altogether; twenty-four had large flow during and fifteen after menstruation. In six the percentage of solids decreased.

Rotch[11] gives few analyses, but suggests the probability of a deficiency in fats and increase of proteins.

Holt[12] says that the effect is exceedingly variable, depending on individual and ease of menstruation. Meyer in 685 cases noted disturbances in over one-half. At the present time sufficient observations have not been made. Monti believes that the fat is not constantly affected.

Schlichter[13] arrived at conclusions after careful watching and chemical analyses; the increase in weight during menstruation in many cases was extraordinary. Increase in weight is greater during and directly after the appearance of menstruation than before. Metrorrhagia before the sixth week may retard development.

Diseases in the nursing child, as dyspepsia, colic, enteric catarrh, occurring during menstruation, should be regarded as coincidences.

The "American Text-Book of Obstetrics" (1895) says that the presence of colostrum corpuscles after the eighth or tenth day indicates qualitative changes in the milk which may disagree with the child. This has been observed when the mother has been affected by some profound nervous impression, such as excessive grief, fright, fatigue, or sexual excitement, anemia, and occasionally the return of menstruation.

Jacobi[14] says that pregnancy is incompatible with lactation. It is rare for a woman to have strength and blood in sufficient quantity to sustain herself, nursling and an embryo. Therefore as early as 1758, a law was passed in France, according to which wet-nurses had to inform their employers of the occurrence of another conception. Not very rarely will the uterus not be able to resist the persistent mammary irritation kept up by nursing and the fetus is expelled. The milk of a pregnant woman undergoes a certain number of changes. Milk assumes the nature of colostrum. Changes brought on by menstruation are analogous, though not so complete. Opinions differ as to whether it contra-indicates nursing; for it is true that there are many observations of colic, vomiting and acid diarrhea, but just as many of entire euphoria. Sutils[15] records an investigation of the influences of pregnancy on nursing women as shown in weight of infants. In twenty-six cases, on the nurse's becoming pregnant, there was retardation in child's gain.

7. Busey: Mortality of Young Children, 1881.
8. Engelmann: Labor Among Primitive Peoples, 1883.
9. Leviticus, xii, 2, 5.

10. Hirst: Abnormalities of Milk Secretion.
11. Rotch: Text-Book, J. B. Lippincott, 1908.
12. Holt: Text-Book of Diseases of Children, D. Appleton, 1909.
13. Schlichter: Wien. klin. Wchnschr., 1889.
14. Jacobi: Influence of Menstruation, Pregnancy and Medicine on Lactation.
15. Sutils: L'Obstetrique.

That the early appearance of menstruation is a frequent result of coitus during lactation I believe to be true. I am satisfied that disturbances of lactation on the recurrence of menstruation is the rule with few exceptions.

Unlike Schlichter's, my own observations show that the child gains weight occasionally toward the close of and nearly always immediately following menstruation. Exceptions to this are seen in those cases in which the digestive disturbances of the nursling are unusually marked, such disturbances most frequently occurring during the approach of or in the early days of the menstrual molimen.

My own observations lead to the conclusion that gestation, menstruation and copulation in the large majority of cases are inimical to the highest perfection of lactation; that there are apparent exceptions to this may only prove the rule.

I believe that primitive woman attained to the highest degree of perfection in the exercise of but one of these functions at a time; that primarily menstruation did not recur during lactation nor during gestation; that woman's period of estrum ceased with conception and remained quiescent throughout gestation and lactation; that coitus out of the period of estrum was forced on the primitive female as the price of monogamy; that one of the results of the compromise is menstruation during the primal period of rest.

The price of civilization includes other items of compromise with natural laws which tend to prevent or deteriorate healthful function. As a result of these misplaced or superinduced reproductive functions I have noted the injurious effects on the nursling in varying degree from retarded weight gain, loss of weight, athrepsia, marasmus, and acute gastro-intestinal disturbances to sudden death in convulsions or coma from acute intoxication.

Truly, it is claimed that menstruation and especially coitus are factors difficult of isolation in the etiology of disturbed lactation. The alert observer, however, will encounter not infrequently cases in which this factor is obvious; as, for instance, the normal lactation in maternity hospitals disturbed on returning to the husband reestablished on reentering hospital; the cases of impoverished or perverted lactation which improve under relief from sexual duties as a result of sickness, absence, injury to or death of the husband, or the hygienic visit to grandmother's; not to mention the authentic occurrences of dyspepsia, convulsions or even death of the nursling following the return of the commercial drummer to the bosom of his family.

The gynecologist has demonstrated that cohabitation is in many instances inimical to successful treatment, and he learned to supervise the sexual relation of his patient. Are we willing to admit that the matter is too difficult for the pediatrician?

If then in all possible cases of indigestion or disturbed nutrition in the nursling, in which other cause is not apparent we add to our routine of weighing and milk analysis a careful supervision of the nurse as to the physical and functional condition of the generative organs with exact knowledge as to her sexual habits, we shall undoubtedly arrive at more definite conclusions. The field promises to be too fruitful to remain much longer fallow. If just a moiety of the energy and ingenuity now expended on the problem of how to rob the baby of his birthright through the substitution of unnatural foods were applied to the question of normal lactation the resultant betterment of both mother and nursling, the lowered infant mortality and diminished child morbidity would, in my opinion, prove a most profitable harvest.

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COMPLEMENTAL FEEDING OF THE INFANT AS AN EFFECTIVE AID IN MAINTAINING MATERNAL NURSING *

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Possibly no subject to-day is attracting more serious attention among the thoughtful members of society in various civilized countries than that of the necessity of devising measures to reduce infant mortality. While the phases of this question are legion, and the remedies complex, there is at least uniformity in the opinion that maternal nursing furnishes one of the chief aids in the solution of the problem, provided the breast-milk already is, or can be made to be, competent. I have already addressed this body concerning measures directed to the nutrition and health of the mother, which may be employed to assist in maintaining or reestablishing a sufficient flow of breast-milk, and it is not my intention to dwell on this phase of the subject.

While such measures have proved to be often most helpful, it would be absurd to assert that they are always completely successful. However, even in less successful instances there is often some undoubted gain both in quantity and quality of the mammary secretion, although the total secretion may not at best suffice to satisfy all the needs of the infant, as shown by its inadequate increase in weight. It is, nevertheless, a definite strategic gain, measured by the future chances for the infant's life, if the threatened loss of breast-milk can be stopped or even delayed. The continuance of a moderate amount of breast-milk ensures a greater probability that the newborn infant will not suffer from serious disturbances or retrograde rapidly into a condition of malnutrition. Such delay at least enables us to introduce, with necessary caution, and without undue or disturbing haste, the additional nutriment which the infant requires. This may be done with more confidence, because of the recognized aid which the natural ferments of human milk seem to offer in the digestion of other forms of milk.

This paper is presented to draw attention to the available methods of supplementing a more or less deficient secretion in order to bring about normal development in infants who at best can only receive a somewhat deficient breast-milk. The far too common course with such infants is to abandon the idea of utilizing the breast-milk, and immediately or rapidly to substitute bottle-feeding. This step is based on failure to gain weight, the evident dissatisfaction of the infant, apparent abnormality of the infant's stools, and the traditional assumption that these phenomena are caused by unsuitable breast-milk. It is exceedingly probable that much that has been accepted concerning the frequent occurrence of poor or injurious breast-milk must be corrected in the light of more recent investigation of these matters.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

DEFICIENT NUTRITION NOT INDIGESTION

After years of misapprehension, we should now recognize the simple truth that mucoid and somewhat frequent stools, varying in hue from dark green to golden brown, and containing but little fecal residue of milk, are the stools of a relative starvation, and indicate a scanty intake of breast-milk, and not digestive disturbance caused by a breast-milk of abnormal chemical composition. When this view assumes its place in medical teaching and practice, more infants will be started smoothly on the road to normal increase of weight, instead of being switched off in the direction of

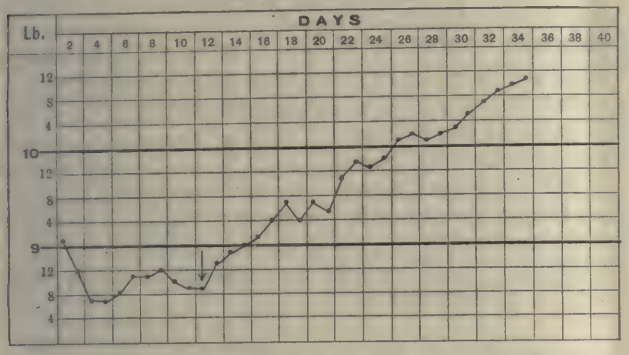


Fig. 1.—Daily weight chart of C. D., male. On eleventh day use of whey was begun, one ounce being given after each nursing. Across top, figures indicate days; down left side, weight in pounds.

marasmus by early weaning and utterly misguided efforts to correct a digestion that only demands more breast-milk to digest. That the import of such stools, so easily confirmed by any open-minded investigator, should have escaped general recognition so long, seems almost incredible; yet it is the key to the right management of many infants.

IMPROVE THE MOTHER'S NUTRITION

If the trouble be not due to the simple failure of the infant to draw the milk from the breast, with few and rare exceptions, breast-milk which is considered poor or injurious is only the deficient secretion, possibly, of ill-functioning breasts, but more commonly of those of a human body which is improperly nourished or physically below par in other ways. It is irrational to suppose that such a body can always produce good and abundant milk; on the contrary, it is a matter of surprise that it does so as often as it does; but it is rational to the same degree to assume that, with a favorable diet and the restoration to bodily vigor, the quality and quantity of the secretion should improve. That this cannot be accomplished at once, and that in many cases a perfectly normal quantity of milk cannot be produced is but natural, yet the value to the infant of the available, even though somewhat inadequate, natural nourishment, should be neither underestimated nor forgotten. We may not at all times feel justified in waiting for this improvement in the breast-milk to take place, and pending a final judgment on its possibilities, something further may be necessary for the welfare of the infant.

EARLY PERIOD IMPORTANT

Of the various periods of infancy in which a stationary weight is a menace to the infant, that of the first few weeks of life is preeminent. While standing still it is really losing ground, because it is not acquiring the vigor and capacity to make the increased demands to which the breast, by normal physiologic adjustment, endeavors to respond. We need not search for any special dispensation of Providence which enables many a mother of twins to nurse both of her babies. The explanation is to be found in the response of the breast to the larger demand.

There is a further reason why breast-milk, even if somewhat deficient, should be utilized to the utmost in order that the infant may secure a good start. The worst type of marasmic infants, by common consent, is often found in those who have failed to receive breast-milk in the first weeks or months of life. This is undoubtedly because the digestive system, having only reached a certain stage of its development at birth, cannot without further growth of the body, receive its natural increment of digestive and absorptive power.

DEVELOPMENT SHOULD BE PROGRESSIVE

After the initial loss of weight in the newborn, which Hirsch's[1] careful studies show to be practically equal to that of the meconium and fluids voided, the development of the immature body should normally be progressive. When this does not occur for any considerable length of time, or having begun, ceases, experience teaches us that the matter may have a more serious aspect than that of a merely stationary weight, for where progress is lacking there may be also an actual deterioration in assimilative power. This seeming paradox reaches its full demonstration in the marasmic bottle-fed infant which, having long failed to gain, is often with the greatest difficulty brought to a point where it will renew its assimilation of food in sufficient quantities to resume normal growth. This should not be construed as meaning that there is an immediate danger to the infant in our continuing for a reasonable period every effort to bring about the mutual physiological adjustment between mother and child, so often delayed on the side of either by temporary and remediable factors, but that the policy should not be continued indefinitely.

During the waiting period, which may continue for ten days or two weeks, attention should be paid to the diet and hygiene of the mother, and weaning should not be lightly decided on if there be reasonable expectation of success. Nevertheless, in our management of these babies it is of the highest importance to conserve as far

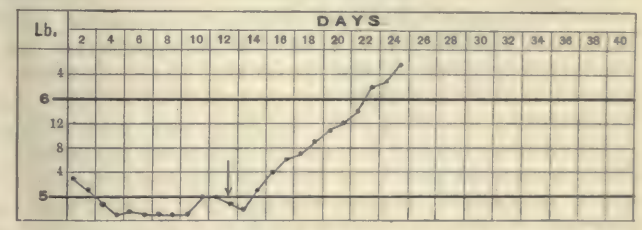


Fig. 2.—Daily weight chart of E. J., male. On twelfth day use of whey was begun, one ounce being given after each nursing.

as possible and utilize the initial impetus to growths which is possessed by every newborn infant. The greatest aid is obtained from breast-milk, which contains, or may elaborate, principles which stimulate digestion and absorption. But to accomplish this end, it is rational that when the breast-milk of the mother for any reason, temporary or otherwise, proves insufficient to supply all the material needed for normal continuous growth, we should make up this deficiency by giving in addition some form of supplementary feeding.

1. Berl. klin. Wchnschr., Jan. 3, 1910.

SMALL COMPLEMENTAL FEEDINGS

Most striking in my work along this line has been the discovery of how simple may be the food and how small the quantities which often serve under such circumstances to inaugurate a gain in weight. As little as half an ounce of barley water given before or after nursing has repeatedly proven sufficient to start the line upwards on the weight chart. This experience has shown conclusively how small a margin exists at times between insufficiency and sufficiency of the mammary secretion, and is worthy of serious consideration by those who have long been in the habit of jumping to the conclusion

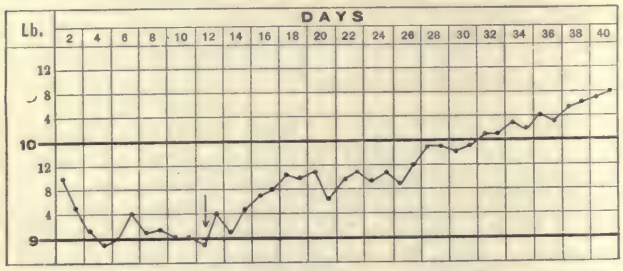


Fig. 3.—Daily weight chart of A. B., male. On eleventh day use of whey was begun, half an ounce being given after each nursing.

that because the infant did not gain there must necessarily be something seriously wrong with the breast-milk, and have consequently discarded the breast-milk entirely for the more hazardous use of exclusive bottle-feeding.

It has been my duty and the privilege to impress the folly of the latter course on the profession in several papers dealing with other phases of this subject; but while the doctrine of the conservation of maternal breast-milk has made considerable and gratifying progress, it is evident that it is not widely practiced and that its importance and its simplicity must be made clearer to the profession at large.

Knowing that the margin between insufficiency and sufficiency of the mother's milk is often a narrow one, and granting for the moment that suitable attention to the mother's diet does not promptly overcome the difficulty, I deem it often unwise while continuing these efforts to lose further precious time in awaiting the result, but would advise supplementing the maternal breast with small artificial feedings. It makes little difference whether this is done with the expectation that the secreting power of the maternal breasts will eventually be entirely sufficient for the infant or whether the probabilities are that only an important part of the infant's nourishment can be derived from the mother. The purpose at this time is to sustain the natural impetus to growth, increase the infant's weight, and so continue the development of the digestive system. Every half pound and pound of weight gained at this time increases the infant's chance of life.

While later in lactation it may be necessary to make this supplementary food take the place of the breast at one or more of the nursing periods, this is not the best course with the recently born infant. For these infants, where it is of supreme importance to maintain the frequent periodical suction of the infant at the breast in order to furnish the full natural stimulation to increased secretion, it is better to give small bottle feedings as soon as the baby has finished nursing. These *post-cibum*, or "p.c." feedings I prefer to designate as "complemental feedings," to distinguish them more readily from "supplementary feedings," inasmuch as the latter term has by long usage been applied to those bottle feedings which are given occasionally during the day to nursing infants, instead of the breast.

REQUISITES OF COMPLEMENTARY FEEDINGS

There are two chief requisites to be considered in giving complemental feedings, and these are: first, that they shall furnish food in such simple and assimilable form that they will not disturb the digestion of the infant; and, second, that they shall be so small in quantity as not to exceed, when added to the previously ingested breast-milk, the normal capacity of the stomach at this age. A transgression of either of these principles may readily defeat our purpose, which, as the term complemental implies, is simply to fill out the nutritional value and quantity of a partially deficient breast-milk.

For this purpose, complemental feedings after each nursing, of one-half ounce, or later one ounce, are usually sufficient for recently born infants. The increase to one ounce may be made when the growth and age of the infant indicate a larger stomach capacity, or earlier if the residue in the stools or the weight of the infant before and after nursing demonstrates a larger deficiency in the breast-milk.

MATERIALS FOR COMPLEMENTAL FEEDINGS

Materials for these small complemental feedings which have met the indications have been barley water, whey, or one of the proprietary combinations of maltose, dextrose, and dry condensed milk—the latter in the proportions of one-half of a fairly level teaspoonful to one-half ounce of boiled water. Of these, barley water is naturally limited in its usefulness to instances in which the deficiency of the breast-milk is not very great, and since its food value is small, it cannot be used alone for a very long period. It is, however, not only an aid to the proper digestion of certain over-rich breast-milks, but is also an excellent medium for the addition of cows' milk, if the subsequent progress of the case proves that with further failure of the breast-milk more food is necessary. Moreover, nursing infants so fed make the

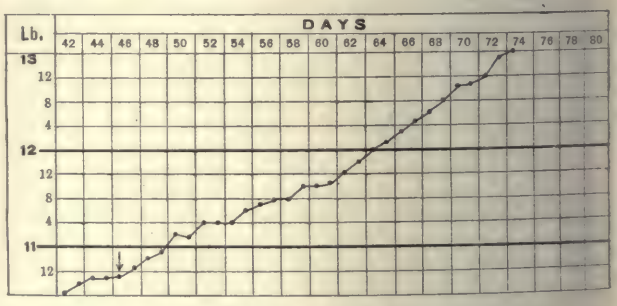


Fig. 4.—Daily weight chart of A. B. (Fig. 3), continued. Whey discontinued after forty-fifth day, the child being given the breast only.

transition from breast to bottle feeding without noticeable difficulty.

Whey and the maltose-dextrose-milk preparations have proved most useful in my hands, inaugurating prompt gains without attendant disturbances of digestion, and may be continued for considerable periods if the breast-milk holds its own. They may, not infrequently, be discontinued when it seems probable that the mother is able to furnish all the breast-milk needed, but if the nursing gradually fails they should, of course, be replaced by suitable modifications of fresh cows' milk,

since neither is suitable to maintain well-rounded development when given exclusively.

Not only is weaning often undertaken on mistaken and insufficient grounds, but the argument is frequently advanced that where success in breast-feeding appears to be doubtful, better results are obtained by beginning total artificial feeding soon after birth. This argument can obtain only when the artificial feeding of the infant is in the most expert hands, and the infant can remain under close supervision for a long period. With the vast majority of infants such supervision, for many reasons, is not possible. The pitfalls of unsupervised bottle-feeding are many and the danger of subnutrition or overfeeding great. The safer progress of the infant receiving breast-milk needs no argument. Breast-feeding, at least in competent part, can be established in many cases which at first seem rather unpromising, and any method which enables us to promote the normal growth of the infant by utilizing the physiological nutriment from the mothers' breasts while we are endeavoring to establish its permanency, is worth trying.

Since it will undoubtedly be admitted that to inaugurate a gain in weight in the newly-born infant is a long step toward its ultimate welfare and subsequent expectation of life, these measures are submitted for your consideration at this time.

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FEEDING OF FATS TO INFANTS AND THE DIFFICULTIES ENCOUNTERED *

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DETROIT

A great deal has been written during the last three years regarding the propriety of feeding fats to infants during the first year. When the percentage method of feeding was introduced all the teaching was on a plan of imitating very largely the percentages of fat protein and sugar in human milk. Many elaborate formulas were made and appeared in pediatric text-books showing how low and high percentages of each of these ingredients could be combined in a milk formula. In the more recent text-books fewer of these formulas appear. All physicians who are paying close attention to feeding young infants during the first year soon come to realize that the percentages of each food must be adjusted to the infant's digestive power rather than that the infant should be adjusted to some formula which may be thought suitable for an infant's dietary.

Experienced pediatrists realized that the first idea of imitating with cow's milk the proportions of fat protein and sugar in human milk would rarely give success. Consequently they found it necessary to give to each infant only that amount of each ingredient which the results, as shown by the infant's comfort and growth, were found to be suitable. Having once seen this necessity it soon became apparent that the amount of fat which could be fed to infants varied very much with their digestive power, their age and previous disturbances of the intestinal mucosa.

About three years ago occasional articles appeared in the pediatric journals reporting instances in which an infant could digest no fat and its dietary consequently was constructed entirely of protein and carbohydrates. These articles continue to appear occasionally. It is not my object to report more of these cases, but rather to consider the digestion of fat in its various proportions and the bad effects resulting from imperfect digestion of fats and the foods containing them. Consequently these foods must be limited or avoided entirely.

Some ten years ago, when trying to follow the teachings on percentage feeding, I encountered great difficulties in feeding infants with the 4 per cent. proportion advocated so much at that time, it being the proportion in human milk. Nearly all physicians had the same experience, yet some continue it still. A great wave of high percentage fat feeding was spread through the country by physicians generally, who read this teaching, but had little opportunity to practice it. The result was that all pediatrists found the parents soon thoroughly imbued with the necessity of feeding cream liberally to their infants on the ground that, as they thought, it was the best part of the milk, and they were also taught that the free use of it would overcome the constipated condition of the bowels so much to be contended with in hand-fed infants. This practice still continues among the laity, and a large part of the medical profession also, and is the source of a great deal of harm to the little ones, and in only rare cases is it beneficial from a cathartic point of view. On the contrary, in most infants it causes a very obstinate constipation.

Newly born infants generally digest fat more perfectly during the first few weeks of their lives than they do in later months. Very rarely will an infant digest perfectly more fat after the second month than it has done prior to that time. In my experience there are very few of them who will at any time digest more than 2 per cent. As I do no obstetrical work, I have only a very limited number of infants to feed continuously from birth. Most of my patients are infants who have been imperfectly nursed or improperly fed for several weeks before I see them. I find that these infants have almost invariably been fed with a too high percentage of fat and that either they were born with imperfect fat digesting power or very rapidly acquired it through overfeeding of it. My experience shows that over-feeding either fat, protein or sugar will very soon materially limit or entirely destroy the power to digest that food. In most of these cases which come to me I have been compelled for many years to reduce the fat to less than 1 per cent. and in very many of the cases to remove it entirely as far as it can be removed from milk by the gravity process. The amount left in gravity milk after many hours' exposure to ice or cold air of winter is less than one-half of 1 per cent. Even this amount causes difficulty to some infants, and I have found that the fat-free milk obtained by the separator process was preferable in some families to that obtained by the gravity process. This appears to me to be due to a lesser amount of fat in the separated milk and the better condition of the sugar in the newer milk from the separative process. I always find less difficulty in feeding fat to normal infants during the first months than to those who are older.

It is a serious mistake to increase the proportion of fat in food for its laxative effect. If a small increase of one-half of 1 per cent. does not promptly produce some softening effect on the stools no further increase should be made, as usually it decomposes in the bowel and poisons the child or forms crumbly, dry, soapy stools, which increase the constipation. It is very desirable that

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

each infant should receive the highest percentage of fat which it can digest properly. It is equally important that the fat should not be increased when there is the slightest evidence of its imperfect digestion. There is no food the digestion of which is so quickly destroyed as fat. There is also no food which will so completely check the growth and development of an infant when it is imperfectly digested. It requires less than one-half of 1 per cent. of imperfectly digested fat in an infant's dietary to prevent it from growing, to disturb its sleep, to destroy its color and to pave the way for marasmus and other forms of malnutrition.

The early and prompt recognition of fat indigestion is absolutely necessary for successful infant feeding. The physician must have clear ideas on this subject and have the strength of his convictions in order to overcome the strong desire of all mothers and nurses to feed cream too freely to their infants. Imperfect digestion of fat is shown by the variable and lessened appetite of the infant, by the gassy condition of the stomach and bowels, by the disturbed sleep, by the pale-yellow color of the skin, by the tendency to vomit from one-half to one hour after feeding, by the offensive odor of the stools, by their pale, greasy, rancid-butter, or dry, crumbly appearance, and by the failure of the infant to grow. Any one of these symptoms is enough evidence to the experienced pediatrist that the proportion of fat in the food is too high and that success demands its reduction or entire removal. In the young infant during the first few months this difficulty of fat feeding applies to the milk fat only. As infants become older and able to take other foods the proportions of fat which these other foods contain will usually govern their suitability in preparing the infantile dietary. In the nitrogenous line experience shows that the poor milk fat digestor cannot take the yolk of egg or the fat of oatmeal.

Where an infant's milk digestive power has been reduced through over-feeding of milk it often becomes necessary to substitute egg-albumen for this deficiency. Care must always be taken to commence with the albumen only and avoid the yolk, as the latter contains the fatty part of the egg. In feeding broths to such infants care must always be taken to remove all fat by cooling it before feeding, or, better still, to feed beef juice made by the cold-water process. The same difficulty applies to the use of cod-liver oil in most cases.

In selecting a suitable carbohydrate for these infants with defective fat digestive power, experience shows that oatmeal can rarely be fed, as it contains over 6 per cent. of fat. My experience is that the fat of oatmeal acts similarly on the child's digestive organs to the fat of milk. There is scarcely an infant who has lost the power to digest milk fat who can take any proportion of oatmeal.

Barley contains over 2 per cent. of fat. These infants do not show the same difficulty in digesting barley fat that they do with the oatmeal fat, but there is a large number of them who are unable to appropriate the fat of barley, and consequently fail when fed barley flour as a part of their dietary. These facts are very much to be regretted, as these two carbohydrates are very valuable and give excellent results in those infants who can digest them perfectly.

My experience is that these infants with feeble fat digesting power succeed better when fed rice starch than they do with any other. Rice contains less than one-half of 1 per cent. of fat, a low percentage of protein but a high and easily digested proportion of starch. After several years' experience in using the different forms of starches I find very few of these infants with weak or damaged digestive glands who cannot metabolize a proper proportion of rice in their daily dietary.

When an infant cannot appropriate fat it is compelled to exist and grow on two foods only—proteins and carbohydrates—when Nature designed three as necessary for growth and development. The result is that these infants always make slow progress during the first six to eight months of life. As their dietary must be made up of proteins and carbohydrates it is important to select those containing the least fat.

The most suitable proteins are found in nitrogenous foods, skimmed milk, white of egg and meat juice. In these the fat is separated with little difficulty; but when we look for a carbohydrate free from fat we instantly meet with difficulty, as Nature has so mingled fat with the protein and carbohydrate in all cereals that it is impossible of such separation as can be accomplished in the nitrogenous foods. The best we can do is to select that cereal which contains the least fat with no other objectionable food feature.

A look at the chemical composition of the cereals suitable for infant foods shows the following, according to the latest reliable analyses of Wiley, Bryant, Atwater and others:

	Proteins, per cent.	Fat, per cent.	Carbohydrates, per cent.	Crude fiber, per cent.
Wheat flour	14.	1.90	71.20	.....
Rye	12.25	1.50	71.75	2.10
Barley	11.00	2.25	69.55	3.85
Oats	11.73	6.04	55.43	10.83
Corn	10.00	4.25	71.75	1.75
Rice	7.50	0.40	78.80	0.40

These figures show that rice contains the least fat and largest amount of starch of all cereals. It also shows the smallest percentage of crude fiber. As delicate infants usually show a tendency to loose, soft stools, which are inimical to growth, this latter feature is important, as crude fiber increases the activity of the intestine and consequent watery stools. Experience shows that rice starch is the most easily digested of all starches and equally nutritious with the best of them.

989 Jefferson Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. COTTON, DOUGLAS AND SOUTHWORTH

DR. JOHN ZAHORSKY, St. Louis: For many reasons the mother's milk is deemed inadequate and the mother is advised to give the infant one or two bottle feedings a day. Of course, it is convenient for the mother, but I think this giving of one or two bottles a day is the chief cause for producing a lack of breast-feeding. It gives a long interval in which the ducts of the breast become distended, resulting in a lessening of the activity. For several years I have insisted on having the mother nurse the baby every time, and if the mother's milk is deficient I order a complemental feeding after nursing. This conserves the normal maternal nursing better than supplemental feeding. If a breast is deficient in activity, we must keep up the stimulus to that breast.

We have been taught to give the new-born infant low proteid and comparatively high fat, and this method is frequently a success; but recently we have been trying to get the nutritive ratio much higher and the difficulty we encounter is due to the fact that an excess of casein will lead to soap stools, in that it diminishes the digestion of fat. Now, shall we try to give the young baby a low protein and

comparatively high fat percentage, or a high protein and a comparatively low percentage of fat? European authorities deny that there is such a thing as a casein stool. I am convinced that American investigators are correct, that rarely there is "curd" in the stool which has casein as a central nucleus. The most common coagula in stools are those of soaps or fatty acids.

DR. EFFA V. DAVIS, Chicago: I agree with the practical point brought out by Dr. Southworth; I have used this method several years. In the last few years I have discovered that it is in the afternoon and evening that the mother gives the least milk; frequently in the morning she will give a sufficient quantity. In such cases I compromise with the patient and ask her to give complemental feeding in the afternoon. That can be determined, if there is any doubt about it, by weighing the baby before and after nursing.

I want to compliment Dr. Cotton on some of the points brought out in his paper. It seems to me that civilization is hardly civilization if it deteriorates the race. Environment has much to do with development, and I hardly care to take the time to go into a discussion of monogamy, but there is a necessity for pointing out these facts in their influence on breast feeding. It is an easy matter to tell patients what to do, but the difficulty is to have these things done, for there are two members in the family, the husband and the wife. If Dr. Cotton is right then we must take into consideration the sexual relations in the result to the nursing infant, and what sexual relations have to do with the degeneration of the child. I try to convince my families that these things must be taken account of and that they should not be heedless in reproduction without realizing what it means. One Chicago physician illustrated the point that frequent reproduction does not necessarily imply higher intelligence or physical ability, by citing the conditions that exist among tame and wild ducks. The keen, clever, courageous wild duck reproduces its kind once in a season, but the tame duck, which procreates the year round, is a stupid, lumbering creature that can hardly fly over the garden wall.

DR. J. P. SEDGWICK, Minneapolis: I think that those of us who have tried complemental feeding have found it of great value. I think we can well use even more accurate methods, in difficult cases, *i. e.*, weigh the children before and after nursing and then supplement the breast milk with enough food to come somewhere near the caloric requirement. I do think that is a valuable check, although we cannot feed the child exactly according to its caloric need. The French have recently done much along this line and they state that if we want to keep up breast feeding we must keep up the evacuation of the breasts by the complemental method. If we wish to stop the flow of milk we should give supplemental feedings.

DR. JOHN LOVETT MORSE, Boston: I want to come to the rescue of supplemental feeding. There is no doubt that all Dr. Zahorsky has said is perfectly true, but there is another side to the question. I have found that the modern woman, with all her social and family duties, has to have more than two or two and a half hours at one time away from home, and I have found that she does better and can nurse her baby longer with a supplemental feeding than if she tries to nurse it every time.

In considering the disturbance of the digestion of fat in babies we must take into consideration whether we are dealing with a well baby or with a sick baby. The conditions are entirely different. We have heard a great deal from the Germans about the dangers of fat. In the last article I saw in a German magazine it was claimed, however, that the primary cause of disturbance was the carbohydrates and that the disturbance of digestion of fat was secondary.

DR. C. F. WAHRER, Fort Madison, Ia.: While I agree with Dr. Zahorsky, I want to sound a note of warning. It is so much easier to put some food in a bottle and turn it over to some member of the family to feed the baby while the woman is thus allowed to go about her various duties, that there is great temptation to use this method of feeding. In case the child dies, we are taught that administration of 20 grains of citrate of potash 3 times daily will aid in drying up the milk. Now careful observers at Johns Hopkins advise doing nothing at all, but let it dry up, and careful experiments have shown that if let alone thus the breasts dry up sooner. There is danger in supplemental feeding. Let us teach the mother to give the child all she can give and then, if necessary, give it complemental feeding. We have lazy mothers, incompetent mothers, and mothers who are bound up in their social duties, who are only too glad to turn the child over to the supplemental bottle. In rural districts many people bring up their babies on cows' milk and add half as much again of cream and the children do well. It is wonderful on what things some children will thrive and grow fat.

DR. JULES M. BRADY, St. Louis: Since the publication of Czerny and Keller's paper, I have made observations along this line and the clinical results prove conclusively that babies fed low fat percentage, particularly during the first two months, do far better than those fed on a comparatively high percentage of fat. The use of top milk in making dilutions has not been so successful in my hands as the use of skim milk, with its 0.5 per cent. of fat. As to the curds in infants stools the fat alone and proteid alone seem not responsible, both must be present. When fat-free acidified milk is given curds never occur, as the proteid being in the form of the lactate is not coagulable.

DR. C. G. KERLEY, New York: In almost every discussion on nursing and infant-feeding, the supposed indifference of the young mother, the so-called educated young mother, or the young mother in good society, whatever this may mean, is strenuously berated. By those who know little or nothing of New York City, all sorts of vice and corruption are supposed to abide in that city, but my observations of the mothers of New York City are very extensive, and I have found that the young mother who has had the best opportunities in life, makes the best mother, and when this young woman does not appreciate her duties in the matter of nursing and supervision of her children, it is usually the fault of her physicians and other advisers. Such a young woman has been educated sufficiently to appreciate scientific principles, and when it is explained to her that a baby's stomach is intended to digest mothers' milk and not cows' milk, and how the organ is adapted to human milk, or how human milk is made to fit the organ, no one will appreciate it more quickly and act on it more satisfactorily than the educated young mother; but the physician must be sufficiently well informed to explain this. Then this so-called high-strung mother will nurse her baby, or if she is unable to do it, she will see to its every want and fulfill her function in every respect to the best of her ability. It is difficult for me to understand why a young woman, with all the finer instincts of culture and education, should, on the advent of a child, be transformed into a creature who neglects her offspring, ranking her lower than the lower animals. In a very active work for twenty-two years among every possible class of mother, I cannot understand why I have not seen some of this supposed indifference and neglect.

If you wish one of these young mothers to discontinue her nursing function, then have her discontinue her former method of life. Tie her down to the baby and keep her there and very likely the nursing will be short-lived. She has been accustomed probably to an active girl's out-of-door life, as every girl should who has an opportunity. I have these mothers continue their activities, horseback riding, golf, afternoon teas, the theater, surf-bathing; in fact, one of the secrets of continuing a reasonably good milk-supply in a nursing mother, regardless of station, is to have her lead a happy and congenial life, in both a social and an occupational way. The diet practically should be the diet to which she was accustomed before she became a mother. One cannot take a high-class young mother and make a drudge and an animal out of her with success, just because she happens to have a baby. In order that she may be a successful mother, there will have to be one or two supplemental feedings a day. The statement that one bottle or two bottles a day, supplied the baby in order that the mother may be given more freedom, is a means of gradually curtailing the milk

supply or cutting short the nursing period is absolutely without foundation. On the contrary, by this method I am able to have the mother continue nursing longer by 2 or 3 months than when she is required to nurse the child at each feeding.

DR. A. C. COTTON, Chicago: I never listened to a discussion on infant-feeding where there was so much good sense manifest and so little foolishness. I don't know of anything that was overlooked except that perhaps there might have been a little more emphasis laid on the utilization of mother's milk, even if it be in extreme reduction. There should always be an effort made to stimulate the lacteal secretion; even though there be but two or three grams of it, it is worth saving. I think many of you will remember a paper presented by Dr. Wentworth, of Boston, on the exciters of secretion; it was very suggestive. It is fair to assume that there is something in mother's milk which acts as an exciter to the digestive functions that we cannot imitate in any artificial food. Even only a gram or two of mother's milk may be sufficient to promote digestion. That was the only point that I did not think received sufficient emphasis.

As to the digestion of fats. I presume we shall never come to an agreement. Dr. Morse hit it exactly on the head when he said enough was enough and too much was too much. No exact rule can ever be laid down for the individual baby. The differences between the fat of cows' milk and the fat of maternal milk are sufficient to prevent any comparison as to quantity ever being attempted.

DR. CHARLES DOUGLAS, Detroit: I use complemental or supplemental feeding according to the needs of the woman. I may use the supplemental method until the woman recovers her strength and is able to do the whole work herself. The point of stimulating the breast at intervals is good, but that stimulation may be once in 2 hours, or once in 4 hours, or once in 6 hours, and if the woman is worn out or exhausted, I think she does better with 4 or 6 hours' rest. In a strong woman I think two hours is better. But the woman herself usually argues that substituting every alternate meal is better for her. I think that as a regular practice it is not good, although I continually do it with women who have to get away from the house a few hours. Putting a young woman in the house and in charge of a baby when she is not educated along that line is a great tax, and if she can get a certain amount of rest it is a great advantage.

DR. T. S. SOUTHWORTH, New York: I employ supplementary feeding in many cases and should limit the use of complemental feedings to the first few weeks of life, while trying to get the child started on the upward road of growth and nutrition. I make the largest use of supplementary feedings later. I am glad Dr. Davis spoke of a fact that has not been mentioned in certain text-books, namely: that in the afternoon and evening the nursing mother is liable to have the least milk. Any one who follows this out can easily recognize the fact by weighing the children in the morning and in the afternoon and evening, both before and after nursing. It is a matter we should remember in giving nourishment to the mother in order to improve the breast milk and also with reference to the needs of the infant itself. When with deficient milk it is necessary to substitute bottle feedings in part for the breast, I am accustomed to have the mother nurse, particularly in the afternoon, each time from both breasts, thus maintaining the stimulation of the breasts. This is satisfactory in keeping up the flow of the breast milk so long as the number of bottles does not exceed the number of nursings. The mother nurses from both breasts at one nursing and gives the bottle at the next feeding. The only difficulty with Dr. Sedgwick's method, which would be excellent where one could weigh the child before and after nursing and adjust the amount accordingly, is that it would be too complicated to employ in very many cases.

Creosote in Bronchopneumonia.—Creosote is indicated in all stages of the disease. It should be prescribed in small doses several times a day. The tent made of bed-sheets hung around the bed and moistened with creosote, oil of eucalyptus and the like is of service, especially in tracheobronchitis.—H. B. Sheffield, in *Merck's Archives.*

YERSIN-ROUX SERUM IN THE TREATMENT OF PLAGUE*

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A. A. Surgeon U. S. Public Health and Marine-Hospital Service; Superintendent Leahi Home; Member of Territorial Board of Medical Examiners

HONOLULU, T. H.

By permission of Dr. Ramus, chief quarantine officer of the Territory of Hawaii, I submit for consideration the following report on the treatment of three cases of plague, by Yersin-Roux serum.

The action of Yersin-Roux serum in the treatment of this disease has been so greatly a matter of dispute among those who have used it that this report is given in the hope of causing at least a revision of opinion among those who condemn it as useless.

My first experience in the treatment of plague by means of this serum, in 1907, caused me to regard its use most favorably. Unfortunately, the records of those cases, about 20 in number, were thought by me to be in the possession of the Territorial Board of Health, but cannot now be found. But the three cases I am about to report show admirably the chief points observed at that time, and I am enabled to use them as types illustrative of the action of the serum in cases of plague.

The three patients were Russian immigrants, all of the same family: the father aged 45, one daughter aged 15, and another daughter aged 8.

For the purpose of classification I have designated the older daughter as Case 1, the father as Case 2 and the younger daughter as Case 3.

CASE 1.—Russian girl, aged 15.

History.—I first saw this patient at the Immigration Station on June 7, 1910, at about 11 a. m. She had complained of headache and nausea the day before, with some fever, and her illness was attributed to the eating of preserved eggs, which her father had brought with him from Siberia. When I saw her, at the request and in consultation with Dr. Ramus, she was in bed, feeling too ill to be about. The facies at once impressed me as suggestive of plague: the wrinkled brow, half-closed eyes, and drooping mouth united in producing that "worried look" so frequently accompanying plague.

Examination.—A swelling was made out in the neck, under the angle of the jaw. The tumor was about the size and shape of a hen's egg—indurated, but uniformly smooth to the touch, and showing no evidence of its multiglandular structure. It was exceedingly painful on manipulation, although there was but little redness or edema of the skin. I have repeatedly noticed that the skin over a cervical bubo is not nearly so frequently affected with redness and edema as the skin over plague buboes in other situations. Temperature was 102 F., and in view of the fact that the girl's father was in a similar condition (but with a bubo in the right groin, in which a bacillus resembling that of plague had been found), a provisional diagnosis of plague was made. The gland was not punctured or incised for examination, however, as owing to the difficulty in securing healing, or even preventing sloughing, in buboes so treated, I have long since avoided tampering with a bubo in the cervical region, where the occurrence of sloughing can so easily endanger so many important structures.

Treatment.—The patient was removed to Quarantine Island, and on June 8 I was detailed by Dr. Ramus to take charge of her and the other patients. On this date her condition was much more serious, the hebetude having increased, and there being considerable pain in the chest on the left side. The percussion note over the whole of the front of the chest as far down as the cardiac dulness was diminished in reson-

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* Read before the Hawaiian Territorial Medical Society, July, 1910.

ance, there was a shortening of the expiratory murmur, and some fine subcrepitant rales. The advisability of administering serum was decided on, and at 6 p. m. she received an injection of 30 c.c. The supplementary treatment consisted of a tablespoonful of whiskey in a glass of milk every 4 hours, alternating every two hours with 5 minims of tincture of digitalis and 1/40 grain of strychnin.

Course of Disease.—June 9: She slept well, and her temperature had fallen from 102.2 (the evening before) to 99.6 F., the pulse, however, remaining the same, 120, and the respiration increasing from 32 to 36. By evening, the temperature had risen to 103 F., and pulse was 128 and respiration 38. The progress of the involvement of the lungs was not much further than the day before, although the left apex was involved.

June 10: There was no marked fall, as occurs in the mornings in favorable cases, instead there was a fall of but two-tenths of a degree; pulse was 120, respiration 36. By evening the temperature had risen to a higher point than it had yet reached, 104 F.; pulse was 140, respiration 38. The patient became delirious about 8 p. m., muttering and picking at the bedclothes.

June 11: At 6 a. m., temperature was 105.6 F., and she died about 8 a. m.

Autopsy.—Post-mortem examination showed macroscopic evidences of plague. The enlarged cervical gland was removed; it was deeply infiltrated with a hemorrhagic exudate, being very dark-red in color, and extremely friable.

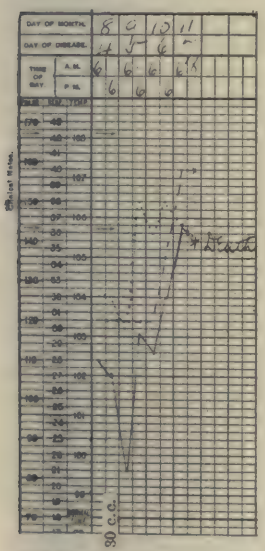


Chart 1.—Temperature chart in plague (Case 1), showing effect of serum, as described in text.

The pleura was adherent to both lungs by a fibrinous exudate, and so firmly attached that some difficulty was experienced in removal of the lungs.

The greater part of the lower lobe of the right lung was congested, but not entirely so, the evidences being of a lobular rather than a lobar pneumonia. The upper lobe of the left lung, while not so extensively involved, presented similar conditions. The pericardium was distended with bloody serum. The left ventricle of the heart was empty except for the presence of small chicken-fat clots, which condition also obtained in the right ventricle. The liver was congested, but presented no mottled areas on its surface, although evidences of fatty degeneration were evident on section. The spleen was greatly enlarged, deeply congested, and friable. The kidneys were enlarged, with undue prominence of the pyramids, which were congested. There were evidences of glomerular hemorrhage under the capsule, which stripped easily.

Bacteriologic Examination.—Smears from gland, lungs and spleen showed typical plague bacilli. A guinea-pig was inoculated with a piece of lung and another with a piece of spleen, both on June 11, 1910. Both pigs died on June 16, and from them the bacillus was recovered in pure culture.

During the progress of the disease the condition of the lungs did not present the characteristics of a plague pneumonia. There was not the rapid and progressive involvement of the lungs I have found to occur in cases of plague pneumonia not treated with serum, and in which, from the involvement of a single or few lobules with a pneumonia of the bronchopneumonic type, there is in 24 or 36 hours an involvement of a whole lung (or both lungs), with transition to the lobar form of pneumonia. This failure of transition I have noticed before in cases treated by serum.

In 1905 I read a paper in which I pointed out this rapid involvement and transition from a lobular to a lobar pneumonia in from 24 to 36 hours (with the characteristic sputum: "islands of bright red blood, about the size of a quarter, floating in a copious frothy liquid") as being, to me, diagnostic of plague pneumonia.

I advanced the theory that at first the pneumonia was due to an infection through the bronchial tubes, thus producing a bronchopneumonia; but a systemic infection soon supervenes and there is a transition from the lobular to the lobar type of pneumonia.

To me it is a very interesting fact that if serum is given in pneumonic plague, before the lobar form of pneumonia has developed, it frequently happens that the pneumonia retains its lobular type throughout the course of the disease. Furthermore, in fatal cases of bubonic plague (with involvement of the lungs) it is customary for the disease to lose its bubonic type, and to assume the characters of the pneumonic type—death resulting,

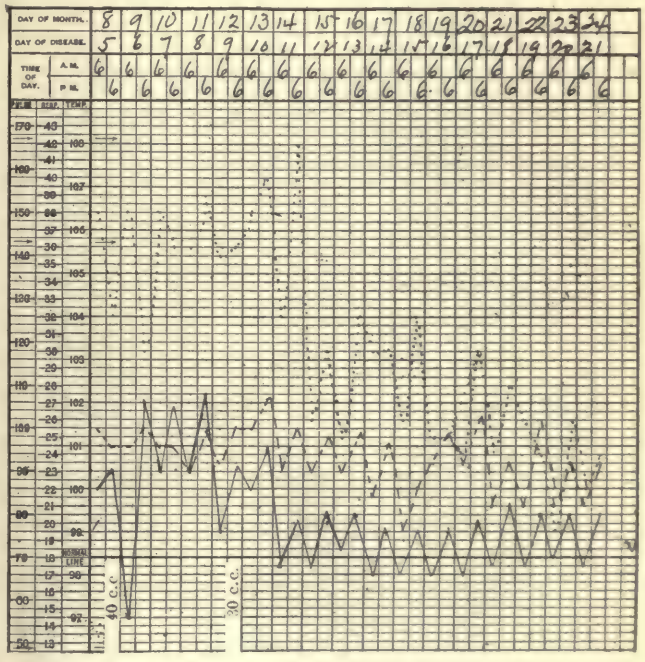


Chart 2.—Temperature chart in plague (Case 2).

as I suggested some years ago, as much from lack of lung tissue, to carry out its function, as from toxemia. When serum has been administered in these cases, however, it frequently happens that the disease, though ending fatally, retains its bubonic type, death resulting from toxemia. Both these occurrences seem to prove that the serum prevents a systemic infection of the lungs, by its action on the circulating blood.

That a patient with lung involvement should invariably die, in spite of the use of the serum, is not difficult of explanation, even when as much as 100 c.c. are administered. The lungs afford such an extensive and easy means of entrance to the circulation, for toxins, that an explanation is thus offered.

CASE 2.—Russian man, aged 45.

History.—Was first seen by me at the Japanese Hospital on June 7, where he had been taken from the Immigration Station. He presented the facies, and decubitus of bubonic plague—lying on the affected (the right) side, with the right thigh flexed on the abdomen.

Examination.—A bubo, about the size of a hen's egg, was found in the right groin, directly over the femoral muscles,

and involving the horizontal chain of glands. The bubo was very tender, and some redness and edema existed in the skin over it. There was slight hebetude and fever, 102 F. A history was given of his having been ill for several days, and of having had an epistaxis on the preceding day. The occurrence of epistaxis, with a febrile condition, has been seen by me as commonly in plague as in typhoid fever. The bubo had been aspirated twice for bacteriologic examination with negative results. The case, however, was so suggestively one of bubonic plague that Dr. Ramus and I decided it would be advisable to remove a portion of the affected gland for examination. This was done, and when taken to the laboratory, and a smear made, the specimen showed the presence of typical plague bacilli.

Experiments.—A portion was inoculated in a guinea-pig (1), which died on June 15, and the bacillus of plague was found in the spleen. A portion of the spleen of guinea-pig (1) was inoculated into a mongoos (1) and into a guinea-pig (2). The mongoos (1) died in 48 hours—on June 17—and the bacillus was recovered from its spleen. Guinea-pig (2) died on June 17, and the bacillus was recovered from its spleen. A portion of the spleen of guinea-pig (2) was inoculated in a mongoos, which died in about 8 hours, and the bacilli were recovered from its spleen.

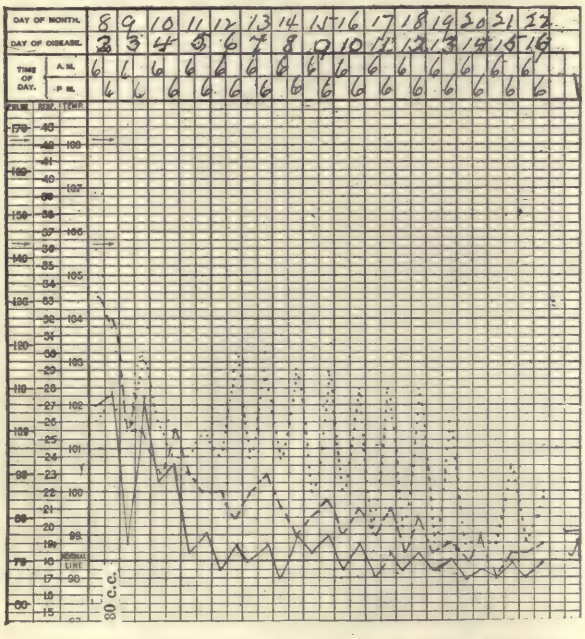


Chart 3.—Temperature chart in plague (Case 3).

Treatment.—When next seen by me, on June 8, the man's condition was considered serious—there was more restlessness and increasing hebetude, and it was deemed advisable to administer serum; 40 c.c. were injected at 6 p. m. At that time his temperature was 100.4 F., pulse 96, respiration 32.

Course of Disease.—June 9: He had a very good night, sleeping most of the time, and in the morning his temperature had fallen to 97 F., the pulse remaining at 96, but the respiration increasing to 38. There was, however, no involvement of the lung, as was feared from the increased rate of respiration. The same supplementary treatment was adopted in Case 2 as in Case 1. In the evening he had a temperature of 102 F. and pulse 98, the respiration falling from 36 to 30.

June 10: He had a good night, sleeping most of the time, but in the morning his temperature was still high, 102 F., and on the morning of June 11 the temperature was slightly higher, 102.2 F., pulse 90, respiration 36. Serum was ordered given on this date, but there was none on hand, and as it was a holiday none was procurable, so the serum was not given till the following day.

June 12: Although in the morning the temperature had fallen to 99 F., the pulse was bad, with slight dicrotism and still rapid, 94; respiration was 36, but no further involvement of the lungs was manifest. There was in addition increasing hebetude, so that the man's condition was alarming. Thirty c.c. of serum were given at 4:30 p. m.

June 13: While the temperature remained high (100.8 F.) the general condition was improved. The man was brighter, and had slept fairly well. The reaction to the serum did not take place till the succeeding morning (or about 36 hours after administration), a delay in its action which I have often observed.

June 14: The temperature fell to normal, pulse to 90, and the respiration from 42 on the night before to 26.

After this second crisis, the patient has steadily improved, and has had no adverse complications beyond some slight sloughing of the bubo.

CASE 3.—Russian girl, aged 8.

History.—This patient was seen by me at the Immigration Station, in consultation with Dr. Ramus, on June 7, 1910, at the same time as Case 1. She complained of headache and lassitude, sufficient to confine her to bed. Her temperature was 103.5 F., and she had only felt ill that morning.

Examination.—A small bulla, about the size of a ten-cent piece, was found on the inner side of the right ankle. Its characteristic smoky blue color, and surrounding areola of redness, left no question in my mind that it was the site of inoculation of plague by a flea or other agent. There was some tenderness over the glands in the right groin, although no definite bubo could be made out, simply a doughy thickening, such as occurs when a bubo is forming. Some serum was taken from the bulla and, as intimated, it was found to yield the plague bacilli as perfectly as if a pure culture.

Experiments.—A guinea-pig was inoculated from the serum, and it died on July 12, but gave in smears from glands (which were enlarged) and spleen only amorphous forms of the plague bacillus. A culture was made from the spleen, which on examination after 24 hours showed typical bipolar-staining bacilli. A second guinea-pig was inoculated with this culture on June 15 and it died on June 20, showing typical plague bacilli in specimens from the spleen.

Course of Disease.—When the patient was again seen by me on June 8, her temperature was 102 F., pulse 130, respiration 26. There was then a definite bubo in the right groin. There was increasing lassitude and headache, and she was given 30 c.c. of serum at 6 p. m.

June 9: She slept well, and her temperature had fallen to 98.8 F., pulse to 102, respiration 26. There was no involvement of the lungs. Supplementary treatment was carried out as in the other cases. In the evening her temperature again rose to 102 F., but the pulse remained at 102, respiration being 30.

June 10: There was a fall in temperature to 100.2 F., pulse 90, respiration 26. There was a slight rise that evening, but on the next morning (June 11) the temperature had fallen to 98.6 F., and thereafter continued, with remissions of half a degree, almost normal. She had no complications, beyond some pain in the bubo, but felt perfectly well after June 11. The bubo resolved without suppuration.

These three cases present so perfectly the three groups into which fall the vast majority of cases I have treated with serum, I believe their report to be of value to every physician liable to be called on to treat a case of plague.

Case 1 illustrates that group in which the serum fails to accomplish a cure; Case 2, that group in which a second injection is of value; Case 3, that group in which one injection is sufficient.

Furthermore, these three cases presented points which I considered valuable for another reason. Many authorities contend that the serum is of no value; that it is useless to administer it. It seems to me that a study of its effects on these three cases should modify such wholesale condemnation.

In the first place, it will be observed that each of these 3 cases was at a different stage of progress when the

serum was administered. In Case 1 the patient had been ill 4 or 5 days; in Case 2, about 2 days, and in Case 3, about 36 hours. Yet in each case the temperature was markedly lower on the morning after administration—falling about 3 degrees; and as each case was in a different stage of progress, this fall of temperature could not have been a pseudocrisis of the disease. Surely no one can contend that the fall was not produced by the serum; and if we have a remedy producing such a beneficial effect, is it not worthy of a trial in all cases unless the patient is moribund?

I have observed this fall in temperature in all cases in which the serum treatment has been adopted, although it may sometimes be delayed for 36 hours, even on a first administration, as on the second in Case 2.

By referring to Chart 1 it will be noticed that in Case 1, while there is a reaction to the serum, the temperature falling almost 3 degrees the morning after administration, at 6 p. m., however, there is a rise to a temperature almost a degree higher than before the serum was given; and on the second morning after a rise to 105.4 F. The rise on the second morning, after administration, has always heralded a fatal issue; the patient has failed to respond, in these cases, to as great a dose as 100 c.c. But I have never observed this failure in bubonic cases as early in their course as Case 2, unless the lungs have been involved.

In Case 2 (Chart 2) it will be noticed that while there is a rise in the evening temperatures for 3 days after administration from the temperature of the preceding morning, there is on each occasion a corresponding fall in the respective morning temperatures, so that no evening temperature greatly exceeds that on administration. But at no time did the morning temperature fall below 100 F., and, although it fell to 99 F. on the day of the second injection, yet the patient's general condition was bad. In fact, so serious was his condition that I have not the least doubt he would have died had serum not been given a second time.

I desire to again call attention to the fact that, in my opinion, the serum should be given a second time when the temperature is above 100 F. for three evenings after the first dose.

The looked-for fall after the second dose in Case 2 did not take place till 36 hours after the injection. A delay for this length of time, however, need not cause doubt as to the reaction occurring. I have repeatedly seen this time required even after a first dose.

Case 3 is an illustration of that group of cases most favorable for treatment by serum. In fact, the serum has acted similarly in all cases of uncomplicated bubonic plague which have been treated within 48 hours of its inception.

Usually on the morning after administration, but it may be delayed till the second morning, as already alluded to, there is a fall in the temperature to almost normal, in the evening a rise to almost its former height (in this case to 102 F.), the next morning a fall to a temperature about midway between the highest and lowest temperatures of the day before, followed by a slight rise (here 0.4 of a degree) in the evening, the temperature reaching within half a degree of normal on the third morning after injection, and with variations of but half a degree thereafter.

The serum used in these cases was that known as "dry serum," and was made by the Pasteur Institute. I believe that this is far superior to the liquid serum, and it may be that the liquid serum is responsible for the poor results reported by some observers. The dry serum is difficult to dissolve if one is not familiar with it. The main point is to have a test-tube with just sufficient water to moisten its sides—no more. The dry serum is dropped from the glass capsule, in which it comes, so that the particles of the serum, which adhere readily, form a layer of only one particle in thickness on the sides of the tube. Then sufficient water is added to make the necessary 10 c.c. of serum. Heat should never be employed, but as much time taken to cause the particles to dissolve by gently shaking as is necessary. A stirring rod should not be used unless the tube is held over another vessel to catch the serum, and preparations are made to filter broken glass from the solution.

In conclusion I wish to say that I do not offer these cases as an attempt at a clinical description of plague, a disease as variable in its aspects as the fabled god Proteus. Nor do I wish to be interpreted as considering myself as entitled to acceptance as some authorities who have reported unfavorably on the use of antipest serum.

All I have aimed to do is to present the effects of the serum in these three cases, supplemented by what observations of its benefit I have made in a limited use of the remedy, in the hope that in the event of anyone being called on to treat a case of plague he will at least give it a trial—with this assurance: you can do no harm with it, and you may do incalculable good.

NOTES ON TRIFACIAL NEURALGIA TREATED BY DEEP INJECTIONS*

V. P. BLAIR, M.D.
ST. LOUIS

For the privilege of observing and treating these cases I am indebted to the courtesy of Drs. Baker, Behrens, Bliss, Boislinière, Butler, Falk, Fry, Graves, Hauck, Hoge, Kennerly, and Remme.

It is important that the surgeon who intends to treat this form of neuralgia be able to diagnose the condition when present and to differentiate it from other painful affections, which might more or less closely counterfeit the genuine tic douloureux; otherwise he will miss appropriate cases or will throw obloquy on a valuable procedure by using it under inappropriate circumstances.

A very slight acquaintance with the symptoms of the disease will exclude the possibility of not recognizing it when present. The recognition of its counterfeits is in most cases quite as simple, but may be so difficult as ultimately to baffle the most skilful and painstaking neurologists.

There were certain common features present in all of the true trifacial tics that have come under my observation. Within certain limits the clinical picture in the individual cases varied considerably, but by excluding from operation cases that varied beyond these limits, I was able to eliminate all except one, possibly two, out of a number of cases of other conditions which have been referred to me. These cases will be mentioned later. The clinical features common to all of the cases were:

1. The neuralgia was confined to the distribution of one or more branches of the fifth nerve on the affected side, but it is my belief that the exact limits of the area to which this nerve is distributed varies slightly in individuals. This belief is based on the observation of

* Read before the St. Louis Medical Society, February, 1910.

the anesthesias that have resulted from the injections. In one case the pain crossed the bridge of the nose and in two cases it extended behind the ear, but in no case did the pain extend into areas unmistakably known to be entirely innervated from other sources.

2. The pain in all cases came on in a definite spot, from which it radiated in various directions over the area belonging to the fifth nerve.

3. Whether its first intimation was a severe pain or a paresthesia so slight as to be compared to the touch of a feather, and whether in the later stages the patients had but occasional twinges, or the pains followed each other so closely as to destroy all rest and drive the sufferer almost to desperation, the pain was always, in all stages of the disease, paroxysmal. If the first twinge was severe, the patient might have thought that he had been struck or stung, but, whether severe or almost imperceptible, in all but one case it lasted but a second or a few minutes and returned—that day or the next, or in a week, a month or a year—but it returned; and the subsequent history was that the intervals between pains

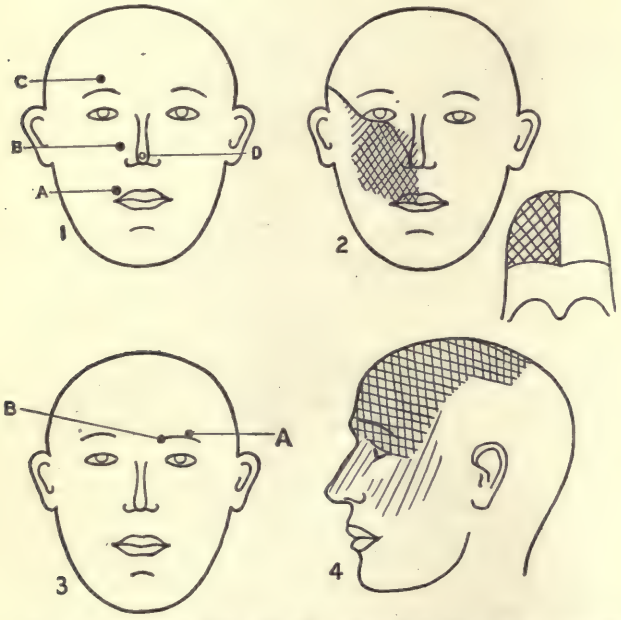


Fig. 1.—Case of woman aged 65. Pain came on at A in 1905 and at B some time in 1905 after the appearance of pain at A. Pain at A was relieved by an operation on the infra-orbital nerve in 1908. Pain came on at C in March, 1908. Touching the spot D will start pain in A and B.

Fig. 2.—Diagram of the anesthesia that resulted in subject of Figure 1 from a deep injection of the second division of the fifth nerve on May 13, 1907. In the lower right-hand corner the right half of the palate is shown. All pain, including that at C, was relieved.

Fig. 3.—Man, aged 53. Pain came on at A in 1884, and was somewhat relieved by cutting the supra-orbital nerve in May, 1908. Pain came on at B after the supra-orbital nerve was cut, in May, 1908. A painful spot appeared over the temporal branch of the orbital nerve.

Fig. 4.—Diagram of the anesthesia that resulted in subject of Figure 3 from the injection of the first and second division of the left fifth on April 26, 1909. The chart was made on April 27, 1909. It will be seen that a much more complete anesthesia was obtained over the first than over the second division. Note that partial anesthesia extended into the area of the nasal branch of the first division. There was some diplopia and dimness of vision after the operation, but it cleared up in a week.

shortened and the length and intensity of each twinge usually increased as time went on. In the exceptional case referred to the first paroxysm lasted four hours.

To the paroxysmal character was later added an irregular periodicity, which might be evidenced by the twinges being present or more frequent on alternate days or during indefinite stretches of time that might last for weeks or months, alternating with periods of comparative freedom.

4. When the pain returned it was in exactly the same spot, and, though it might radiate, the pain was always most sharp in the one certain place that could often be covered by the end of a lead-pencil. Later other such painful areas might develop, but they were in turn usually equally definite. The pain might come in the several spots at once, or in one or the other by turns, or play from one to the other. The pain might remain confined to the distribution of the branch over which it first appeared, or it might involve other branches or divisions successively.

5. The neuralgia was usually confined to one side, but in two of the cases the pain involved both fifth nerves, and in a third, there was a typical tic in the first division of the left fifth years after the Gasserian ganglion had been removed on the right side.

6. For the greater part the trunks and branches of the affected nerves were not tender, but in almost all cases there were spots over the distribution of the nerve, stimulation of which caused a twinge in the pain spots. The touch of a finger, a breath of cold air, the taking of food or liquids, in the mouth or swallowing, or a sudden movement, any or all of these might bring on the pain. One old lady could not let a bright light fall on the eye on the affected side without a sharp pain in a spot to the outer side of the ala of the nose. Another could not take sweet or sour things and a third suffered a supra-orbital pain whenever food touched the velum. It was pitiful to observe the extremes to which these patients would resort to avoid the stimuli that they knew would produce pain. Some of them would talk from or take food or drink in only one side of the mouth. One patient would go for days without swallowing even water, and others would not enter a room until sure all windows were closed. Some for months at a time would not wash one side of the face or brush the teeth.

7. In the older cases, though there was evidence of extreme pain during the attack, the patient seemed to have become used to it and seldom made outcry or demonstrative complaint.

8. Contrary to my previous idea that trifacial neuralgia was essentially a disease of middle or later life, it appeared in all decades from the second on. In one out of the twenty cases here considered it came on at 19, in one at 29, and one at 35 years, but in most instances it appeared between the ages of 45 and 60 years.

9. All previous forms of treatment with the exception of removal of that part of the Gasserian ganglion from which the affected branches sprung, had been but temporarily effectual.

In some cases, various forms of medicinal treatment had for a while controlled or modified the pain. Among these quinin was prominent in one case; in another, the continued use of castor oil, while in others the coal-tar sedatives were helpful.

In a large number of cases, one or a number of teeth had been extracted with but little benefit, and in most cases, with none. In five cases, excision of a portion of the affected nerve trunk had been resorted to with relief lasting from two weeks to eight months, but in all these pain returned with equal, or increase of, severity.

In four cases, injection of alcohol into the peripheral distribution of the nerves or at their superficial foramina of exit had given relief varying from a few weeks to nearly a year, and in one the removal of a piece of dead bone from the jaw had given relief for six months; but in all the pain eventually returned.

In sixteen cases a record was made of the time which had elapsed since the pain first came. In one it was two months, in one six months, in two it was two years, in one two and a half years, in one three years, in one four years, in one nine years, in one twelve years, in one fourteen years, in one fifteen years, in one seventeen years, in one twenty-five years. In one patient it had started twelve years previously on one side, and he had had it for one year on the other, while another had had it for fifteen years on one side and thirty on the other.

10. The pain might have come on, in the first place, with or without apparent cause, but removal of the apparent cause but temporarily controlled the pain. In one case it was associated with a necrosis of the mandible; in two, with pulp-stones, and in three cases with a dental caries. One patient gave a history of a doubtful local cause in a severe blow on the nose received three years previously. Some of the cases seemed to be associated with some more general disturbance. In one there was a marked auto-intoxication, in one malaria may have been the cause, and a third was in a rheumatic individual. Two of the cases were associated with a high blood-pressure. In the others no assignable cause could be found.

From the local findings and the clinical histories of these cases, the following conclusions would seem tenable in regard to the diagnosis:

If pain comes on suddenly in one spot on one branch of the fifth nerve; if it is paroxysmal and returns always in that spot, whether or not other spots on the same or other branches of the nerve are later involved; if subsequently it not only comes on spontaneously, but can be elicited by certain definite stimuli peculiar to the individual case; and if with the pain there are no primary anesthesias over the involved nerve area and no general tenderness of the trunks of the involved nerve, it is a genuine major trifacial neuralgia. This does not necessarily exclude all cases that do not present this exact picture.

In fifteen of the twenty cases of true tic on which this review is based, the patients were subjected to deep injections, the object being to reach one or more of the divisions of the fifth nerve just at the point where it emerged from the cranial cavity. The other five were not subjected to injection, partly for the reason that when I first took up this study I was rather timid about putting this procedure into operation and did so only when urged by the patient and the physician; and later, even since becoming convinced of the efficacy and comparative safety of the operation, I have encountered one case that was so mild that I did not encourage the patient to have the injection made, and in two cases that were rather recent, I suggested further trial of other measures. In six out of the fifteen that were subjected to injection, only the third division of one fifth nerve was injected. The second and third nerves were injected in three patients; the first and second were injected in four patients; the first alone was injected in one patient, and in one patient the second and third division on one side and the second on the other side were injected. The fluids injected varied, but in all alcohol was the basis. At first I used 70 per cent. alcohol, later 70 per cent. alcohol with cocain. Then I used the formula recommended by Dr. Patrick, of Chicago, but in the later cases I have used for the second and third division a mixture of 2 per cent. novocain, 6 per cent. chloroform, 22 per cent. water, 70 per cent. alcohol, and for the first division the same formula with but 2 per cent. chloroform. This reduction of chloroform is in deference to the optic nerve. The quantity of the fluid injected was about 2 c.c. for each nerve; in some cases a less amount sufficed. The locating of the nerve trunks depends on the ability to recognize with the point of the needle certain bony points on the base of the skull and the information furnished by the patient that the nerve is reached. To do this, I use a needle that is straight, strong and inflexible, and graduated in centimeters.

Before undertaking to perform the operation upon the patient, I made use of the opportunity I had of making experiments on the cadaver when working in the anatomic laboratories at the Washington University. These experiments consisted in seeking the nerve trunks by various routes before the students dissected the head, and injecting a little blue gelatin at the supposed site of the nerve and then in observing the accuracy of the injection later when the heads were dissected. These experiments were carried on for three dissecting terms. In the first two patients on whom I operated, in deference to precedent, I attempted to follow the French method of injecting from within the mouth. In this

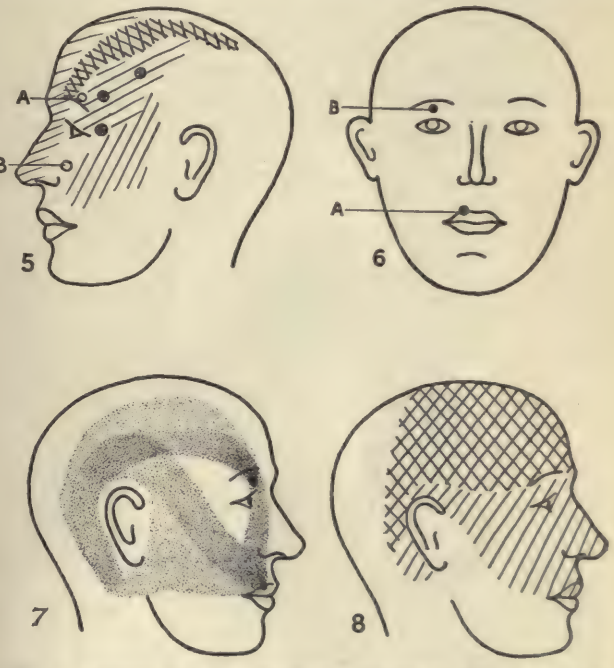


Fig. 5.—Diagram of the anesthesia in subject of Figures 3 and 4 on May 1, 1909, four days after the injection. In October, 1908, the whole of the frontal nerve had been removed back to the sphenoidal fissure, which probably accounts for the streak of absolute anesthesia that has persisted. The other anesthetic spots are probably due to some damage to the nerve fibers during injection. Spots A and B were tender, owing probably to the beginning of the return of protopathic sensibility. The pain in this case returned in one month, but not as severely as before operation. The anesthesia had not entirely disappeared six months after the injection.

Fig. 6.—Man, aged 68. Pain came on at A December, 1906. Since May, 1909, touching B causes exquisite pain.

Fig. 7.—Diagram of the direction and distance that the pain radiated from the pain spots in subject of Figure 6. The fact that the pain radiated behind the ear tended to cast some doubt on the diagnosis before the injection was made.

Fig. 8.—Diagram of the anesthesia in subject of Figures 6 and 7 resulting from a deep injection into the first and second division of the fifth nerve on July 2, 1909. From the anesthesia it will be seen that the area behind the ear is supplied in this case by the first division of the fifth nerve, which accounts for the fact that the pain radiated behind the ear in this case. This is not the average distribution.

procedure the needle enters to the outer side of the last molar, the external plate of the pterygoid process is followed until its junction with the under surface of the great wing of the sphenoid is encountered. By working the point of the needle backward, the foramen ovale, which gives exit to the third division, is reached. By

working forward, the sphenomaxillary fossa, the foramen rotunda and the sphenoidal fissure, which give exit to the second and first division, are found. On the first patient, who had an involvement of the third division, I succeeded, after three attempts made at intervals of a week, in getting a complete anesthesia over the distribution of the nerve and of giving complete relief from the pain. It is possible that in this case I reached the Gasserian ganglion.

In the second patient, who had an involvement of the second and third division, I succeeded in reaching the third division, but after two unsuccessful attempts at reaching the second, the patient left me in disgust and I then abandoned the intra-oral route for the much easier external route, which has the further advantage that the asepsis is surer.

In the external route the needle enters the cheek a little below the zygoma, and passing through the sigmoid notch of the mandible, the pterygoid process is encountered and its junction with the great wing of the sphenoid recognized. By working backward the third division is reached, and by working forward the second is found either in the sphenomaxillary fossa or as it courses around the back part of the maxilla.

The first division is injected by making the needle enter just below the external angular process of the frontal bone and by following along the malar maxillary

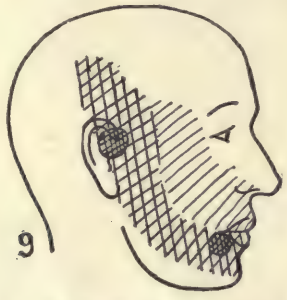


Fig. 9.—Diagram of anesthesia after injection in another case of many years' duration. The second division was injected on March 2, 1909, with almost total anesthesia resulting. The third division was injected March 24, 1909. It was charted on March 25, 1909. It will be seen that the anesthesia to pain and touch over the second division has considerably lessened between the time of injection and the time of charting. At the time of charting it was found that on the right side, the lingual and labial surfaces of the lower gum, the superior, inferior and lateral surfaces of the anterior two-thirds of the tongue, and the inner surface of the cheek below the occlusial line, were completely anesthetic to touch, pain and temperature, and sense of taste was lost in the anterior two-thirds of the right half of the tongue. The whole of this area was completely anesthetic to heat and cold. This anesthesia persists longer than does the anesthesia to touch and pain. The anesthesia had not entirely disappeared nine months after the injection. Pain had persisted for fifteen years before injection and had not returned two years after injection.

frontal suture for a distance of 3 or 3.5 cm., where the outer end of the sphenoid fissure is reached. It will be remembered that the optic foramen is above the inner end of this fissure. When the nerve is first touched by the needle, and when the first few drops of the fluid is injected, the pain is great, but no worse than an ordinary twinge of a severe neuralgia. When novocain is used in the injection fluid, severe pain usually very quickly ceases and the rest of the injection is very much less painful.

The effect of the successful injection was in all cases an immediate complete cessation of the pain, with or without a more or less complete anesthesia over the area of distribution of the nerve, and in most cases more or less paresthesia in the form of jerking or crawling sensation in the skin or mucous membrane. This paresthesia is rather persistent, wearing off in from six to nine months in most cases. It is not objected to at all by normal individuals, but I could well imagine that a neurotic person might magnify it into as great an evil as the original pain. This is one reason why I dislike to give injections in mild cases.

In summing up the late results, I shall divide the cases into two classes: First, those in which the injection was followed by a demonstrable anesthesia, and second, those in which it was followed only by a subjective feeling of numbness. There were twelve of the former and in eight of these the patients had no return of the pain whatsoever, when last heard from at periods of three weeks, three months, six months, seven months, eight months, ten months and three years. The latter patient, whom I know to have gone three years, had suffered intensely for nine years and had become a wanderer but has since settled down comfortably.

Of the four patients who had an anesthesia following the injection, but in whom the pain afterward returned, one had complete relief for a month when the pain returned with full intensity, but the paroxysms have not been nearly so frequent.

In one the pain returned in three weeks but, to quote the patient's own words, "it is not half so severe as it was" and not nearly so frequent. One has had very slight occasional returns, and the fourth, in whom I was permitted to inject only one of two painful trunks, had already learned the use of morphin; she has been injected by another surgeon, and now has a syringe of her own, but not for alcohol.

The anesthesias and the paresthesias gradually disappeared. There were three patients in whom a subjective numbness, but no demonstrable anesthesia, followed the injection. From two of these I have not received reports, but one of them, at least, I am sure would have returned for further treatment had she again suffered. The third patient reported to me ten months afterward with very slight occasional twinges, which caused her little inconvenience.

Of course this procedure cannot be absolutely free from danger, but it is probably less dangerous than a Gasserian ganglion operation, and, from some cases that have come to my notice, quite as successful as some of the latter operations have been.

The injection causes a real sufferer little extra pain or inconvenience and many will submit to it who have refused the Gasserian ganglion operation. At least it seems worthy of a trial before resorting to the latter. The only ill effects I have observed are the paresthesias and a soreness lasting for several days. In two cases there was diplopia and dimness of vision, lasting less than a week, and in one case there was an orbital hemorrhage, which had been diffused by the next day and never gave any subjective symptoms.

A study of the histories of these cases and of the results of the injections seems to warrant the conclusion that the more definitely a paroxysmal pain has been confined to certain spots, especially on the second and third divisions, the greater is the promise of relief from deep injections.

Before closing, I wish to cite two cases which are not included in the above series, but which give point to some of the conclusions:

CASE 1.—A man over 60 years of age suffered intensely with a pain in one spot on the tragus of the ear for four months. Since the pain came on it had been a steady ache with no paroxysms. The latter feature gave rise to doubt

whether or not it was a true tic, but I injected the third division in hopes of giving the patient relief and obtained a definite anesthesia, including the pain area, without giving any relief. The mouth was examined at this time, but no local cause for the pain was found. Six months later the patient returned with pain in the same spot, radiating to the top of the head. Examination of the mouth revealed an almost hidden ulcerating carcinoma, under the side of the tongue over the lingual nerve. Evidently the injection had not reached the part of the trunk from which the lingual springs.

CASE 2.—This patient was seen with Dr. Fry since these notes were written. A woman of 50 years had a paroxysmal neuralgia of six months' duration, which came on in the second division, but which very soon involved the first and third divisions very generally. There was subjective numbness, disturbances of taste, odd paresthesias, an inability to locate exactly the pain and tenderness over the nerve trunks. On account of the general distribution of the pain, the usual sensory disturbances and the inability of the patient to locate the pain definitely, a very guarded prognosis was given before an injection was made into the second and third divisions of the nerve. This injection was made eight days ago, and, in spite of a very definite anesthesia in the second division, the pain continues in the anesthetic area. Since then the paroxysms in the second and third divisions have been less severe, but now the patient is complaining of the paresthesias as much as she did of the original pains, and has some general pains in the abdomen.

The cases in this series were selected because of the opportunity there had been of studying each. Some of them were selected for study because of the very accurate and complete notes that were made on them before and after injection, and others because they illustrate special points. In the larger series that goes to make up my experience in this line nothing was observed that is at absolute variance with the observations or conclusions here set forth.

Metropolitan Building.

A REPORT OF THE TUBERCULOSIS SITUATION IN PENNSYLVANIA IN 1909

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PHILADELPHIA

INTRODUCTION

The subject of this paper is discussed under two heads: first, the extent of tuberculosis in Pennsylvania in 1909, and second, the measures in operation in our state last year to control the disease. In reviewing the control measures in force in Pennsylvania last year, it should be borne in mind that the antituberculosis movement in general has been wholly experimental in nature. It has not proceeded from well-determined principles which have been applied from the first to the guidance of effort, but rather it has had historical development. It is impossible to make any categorical statement as to the relative value of preventive measures; the body of experience is not yet sufficiently large to warrant that. We have, however, as the result of ceaseless and varied experimentation, the knowledge of what has practically worked for the prophylaxis and cure of tuberculosis, and the general tendency of the movement is the only standard that can be applied to the measurement of local effort.

I. THE EXTENT OF TUBERCULOSIS IN PENNSYLVANIA IN 1909

There were 111,062 deaths from all causes in Pennsylvania last year. Of this number, 10,122, or 9 per cent., were from tuberculosis.

1. *Where the 1909 Deaths from Tuberculosis Occurred.*—A study of the tuberculosis death-rate in the various counties of our state in relation to the proportion of the inhabitants of each county living in cities of 8,000 or over, discovers the fact that those counties having the greatest proportion of urban population have the highest mortality from tuberculosis; while conversely, the rural counties as a rule have a much lower death-rate.

Potter, for example, is a sparsely settled, rural county. The death-rate from tuberculosis was less than 6 in 10,000. Westmoreland is another entirely rural county, but more thickly settled than Potter. The death-rate in Westmoreland was 9.5. In Berks and Erie counties, about evenly divided in character between urban and rural, the tuberculosis death-rates were respectively, 10.8 and 9.9. In all of these counties the rate is below the rate for the state; while Allegheny and Philadelphia counties with population, in the one case 79 per cent. and in the other all urban, sustained a mortality

TABLE 1.—TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

	Population	—All deaths— No.	%	T. B. deaths No.	%	T. B. deaths per 10,000
Total	7,137,315	111,062	100	10,122	100	14.1
Urban	3,387,401	54,265	47.6	5,676	56	16.6
Rural	3,749,914	56,797	52.4	4,446	44	11.6

TABLE 2.—DECLINE OF TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

Death-rate per 10,000	Pennsylvania All	Pennsylvania T.B.	New York All	New York T.B.	Massachusetts All	Massachusetts T.B.	Maryland All	Maryland T.B.
1906	165	15.5	170	20.0	165	18.3	157	20.4
1907	164	15.3	175	19.7	174	18.3	161	20.0
1908	157	14.3	162	19.4	165	17.2	154	19.7
1909	157	14.1	160	18.6	161	16.8	151	19.8
Rate of decline	8	1.4	10	1.4	4	1.5	6	.6

from tuberculosis of 14.8 and 22.1, both of which are above the state average.

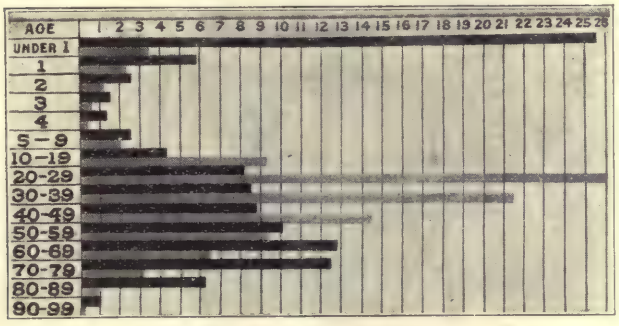
From the first table it will be seen that the state death-rate from tuberculosis in 1909 was 14.1; the urban 16.6 and the rural rate 11.6. Rural districts with over 52 per cent. of Pennsylvania's population had but 44 per cent. of the deaths from tuberculosis; and 56 per cent. of the deaths occurred in cities representing less than 48 per cent. of the state's population. The preponderance of deaths from tuberculosis in the urban parts of Pennsylvania is further emphasized by the state's two largest cities. Philadelphia and Pittsburg with 29 per cent. of the population show 40 per cent. of all tuberculosis deaths in 1909.

What we have found with respect to the greater death-rate from tuberculosis in Pennsylvania cities than in the rural districts is true of the United States generally and also of England, Scotland and other countries.

2. *At What Age Tuberculosis Killed.*—The diagram exhibits by age periods the number of deaths from tuberculosis in Pennsylvania in comparison with the number of deaths from all causes. The numerals at the top of the chart represent thousands in the case of total deaths, and hundreds for tuberculosis. Thus there were over 25,000 deaths from all causes under one year of age, and over 2,500 deaths from tuberculosis between the ages of 20 and 29. By far the greatest single period of general mortality was under one year of age;

from tuberculosis it was between the ages of 20 and 29; 64 per cent. of the deaths from tuberculosis took place between the ages of 20 and 50, while but 22 per cent. of the general mortality for the year occurred between these ages. Therefore, since tuberculosis in practically seven cases out of ten took human life at precisely that period when it represents economic surplus, it must be regarded as of all preventable diseases the one which entailed most serious economic waste. Applying Prof. Irving Fisher's estimate of $1,700 as the average value of the lives sacrificed by preventable diseases to the number of tuberculosis deaths in Pennsylvania last year, we find that our loss in potential earnings was $17,207,400.

3. *Is the Tuberculosis Death-Rate Declining in Pennsylvania?*—Unfortunately, statistics for our state are not available further back than 1906, but let us see what took place during the four years for which we have the necessary data. From Table 2 it will be seen that the general death-rate for Pennsylvania declined between 1906 and 1909 from 16.5 to 15.7. In other words, eight less persons per 10,000 died at the end than at the beginning of the four-year period. The decline from tuberculosis has been proportionately greater—as fourteen is to eight. But, it appears that substantially the same thing happened in New York,



Number of deaths from tuberculosis in comparison with number of deaths from all causes, at various ages. The solid black horizontal bars indicate deaths from all causes; the gray bars, deaths from tuberculosis. The numerals at the top represent thousands in the case of total deaths, and hundreds for tuberculosis.

Massachusetts and Maryland, in all of which states the general death-rate declined, while the decline from tuberculosis was somewhat greater, save in the case of Maryland, where the decrease from tuberculosis did not exceed the general decrease. Therefore, it would seem that whatever causes operated to produce the decline in Pennsylvania were also operative in the other states mentioned.

4. *Is It to be Supposed that the Decline in the Tuberculosis Death-Rate Has Been Caused by Human Effort, Directed Specifically Against the Disease?*—It would be rather absurd to attempt to draw conclusions from a study covering so brief a period as four years; but for the United States for a twenty-seven-year period, (1880–1907) the rate declined from 326.2 to 183.6 per 100,000 living, and for Massachusetts during a term of thirty-five years (prior to 1905) the decline was from 347 to 156; while for England and Wales the rate dropped in forty-six years from 348.7 to 172.2. Dr. Arthur Newsholme associates the declining death-rate from tuberculosis in England and also in Germany exclusively with the increase in facilities for segregating advanced cases. Dr. Robert Koch, too, held this view. In our country, however, provision for segregating the advanced cases, has been, until recently, so meager as to be almost *nil*. The declining death-rate from tuberculosis antedates by many years the spread of agencies for segregation; and since the establishment of such agencies the decline can not be said to have been greatly accelerated. It is therefore probably fair to conclude that only to a very limited extent has human effort to control tuberculosis actually operated to reduce the death-rate. This should be qualified, however, by the statement that the very marked reduction in the death-rate from tuberculosis in certain cities in the United States—notably in New York city—is probably due in no small degree to the facilities for segregating intensely infectious cases. In Philadelphia last year, 1,074 deaths—nearly one-third of all deaths from tuberculosis—occurred in institutions, and it is natural to suppose that the segregation, even though brief, had an important effect in eliminating infection.

5. *Morbidity from Tuberculosis.*—The amount of sickness as well as the number of deaths is an index to the extent of disease. What, then, was the morbidity from tuberculosis in Pennsylvania last year? Since tuberculous disease is one of which notification of the public health officials is required, it might be supposed that to learn the number of persons so afflicted, one had but to consult state or local morbidity statistics. Actually, however, this will not yield the desired information. It may be said at once that no report on morbidity statistics for Pennsylvania later than 1907 has as yet been issued. In 1906, however, 5,234 cases of tuberculous sickness were reported, and in 1907 6,109 cases, or an increase of 16 per cent. were reported; and yet in 1907 there were over 4,700 less cases reported than there were deaths from the disease. For that year, tuberculosis was the only communicable disease of which the cases reported numbered less than the deaths. The reasons advanced by the state registrar for this lamentable discrepancy, are: the protracted character of the disease, the tendency of the afflicted to dispense with medical service, the frequent shifting of habitation, the fear of restriction as regards habits and employment, and the failure of a large part of the medical profession to grasp the vital importance of registration. It needs but the simple statement—not proof—that without adequate registration all efforts to control tuberculosis are seriously lamed. In Philadelphia last year 5,288 cases of tuberculosis were reported. In Pittsburg the house-to-house canvass by the tuberculosis commission of about two-thirds of the city spotted nearly twice as many cases as were reported to the health authorities during the year. Williamsport had no registration earlier than 1908. Since then only 83 cases have been reported; but there were, a few months ago, 221 cases under treatment at State Dispensary, 33 in that city, and the health officer estimates that there are 500 living cases in the city.

On the commonly accepted supposition that for each death from tuberculosis there are at least three other persons sick from the disease, there were probably no less than 40,000 cases in Pennsylvania last year.

II. PENNSYLVANIA'S EQUIPMENT AGAINST TUBERCULOSIS

6. *Number of Beds in Pennsylvania in 1909 for the Treatment of Tuberculosis.*—Turning now to a review of the state's equipment against tuberculosis, it will be seen from Table 3, representing Pennsylvania tuberculosis hospitals and sanatoriums, that there were in 1909, nineteen such institutions, with a total bed capacity at

the beginning of the year of 1,736, which was increased by 258 beds before the year's close. Of the 1,994 beds, 756 were provided by the state at Mont Alto, and 490 by the cities of Philadelphia and Pittsburg. In ten philanthropic sanatoriums (by which is meant institutions either partially or wholly charitable in foundation, although patients may be pay or free) there were 592 beds. Five of these agencies are in or near Philadelphia, and one each in Pittsburg, Scranton, Oil City, Bradford and White Haven. Six sanatoriums conducted for profit had 156 beds. The number of patients treated by each class of institution and the average length of patients' stay is also shown. Three state hospitals for the insane provided an additional 131 beds.

The 100 increase in municipal beds was in Philadelphia, while the largest increase for the year was in the number of state beds, due to the expansion of the South Mountain Sanatorium at Mont Alto. The present size

TABLE 3.—PENNSYLVANIA TUBERCULOSIS HOSPITALS AND SANATORIUMS IN 1909

	No.	Capacity	Increase	Treated	Average stay (mos.)	%
State	1	598	158	1,089	4 1/2	38
Municipal	2	390	100	2,286	1 1/2	25
Philanthropic	10	592	...	1,725	4 1/4	29
Private	6	156	...	507	3 1/3	8
Total	19	1,736	258	5,607	3 2/5	100

TABLE 4.—BEDS FOR TUBERCULOSIS IN PENNSYLVANIA, NEW YORK, MASSACHUSETTS, OHIO AND INDIANA

	State		County		Municipal		Philanthropic and private		
	No.	%	No.	%	No.	%	No.	%	Total
Pennsylvania	756	38	.....	..	490	25	748	37	1,994
New York	350	5	1,016	15	2,781	40	2,776	40	6,923
Massachusetts	1,100	44	.....	..	587	23	778	33	2,465
Ohio	220	17	276	22	583	47	173	14	1,252
Indiana	100	32	40	13	52	16	120	39	312

TABLE 5.—ESTIMATED COST OF BUILDING AND MAINTAINING COUNTY HOSPITALS IN CERTAIN COUNTIES IN PENNSYLVANIA

County	Population	T. B. deaths	Beds needed	Estimated cost	Maintenance
Adams	35,305	47	25	$12,500	$11,406.25
Bucks	71,650	111	60	30,000	27,375.00
Cambria	135,606	157	80	40,000	36,500.00
Cameron, Elk and Potter	85,225	50	25	12,500	11,406.25
Delaware	110,826	195	100	50,000	45,650.00
Lackawanna *	111,265	104*	55	27,500	25,093.75
Westmoreland	198,059	190	100	50,000	45,650.00

* Exclusive of Scranton.

of Mont Alto, 756 beds, makes it the largest state tuberculosis sanatorium in the country. Massachusetts has 1,100 state beds but they are divided among five institutions, the largest of which has not more than 350 beds. In Connecticut the tuberculosis commission pointed out the inadvisability of establishing institutions of more than 150 beds each; and Prof. Karl Petren of Sweden regards a sanatorium of 100 beds as a large institution.

There were but 778 free beds for advanced cases in the state last year. Pennsylvania's total equipment in hospital and sanatorium beds for the tuberculous, represents a provision for institutional treatment of less than 20 per cent. of the number that died of the disease in 1909. New York had bed provision for over 42 per cent. of all 1909 deaths.

7. *Pennsylvania in Comparison with Other States in the Number of Beds for Tuberculous Patients.*—Table 4 is a comparison of the number of beds for tuberculosis in Pennsylvania with the number in New York, Massachusetts, Ohio and Indiana, together with a classification on a percentage basis of the proportion of the beds in each state, under state, county, municipal or philanthropic control. As has already been stated, Pennsylvania had 1,994 beds, and it will be seen that New York state had considerably more than three times that number. Massachusetts had 2,465, Ohio 1,252 and Indiana 312 beds. The figures exhibiting the proportion of each class of beds for the various states are of especial interest. It will be seen that 38 per cent. of Pennsylvania's beds were under state control, 25 per cent. were municipal beds, and the balance philanthropic or private. In New York only 5 per cent. were state beds. Three times that many beds were in county institutions, and the remainder were equally divided between municipal and philanthropic. The suburb equipment of New York City, of course, greatly swelled the state total of municipal and philanthropic beds. Massachusetts had both numerically and proportionately the largest number of state beds. The figures for Ohio and Indiana speak for themselves. It should be noticed in passing, however, that in both of these states, county beds furnish no inconsiderable proportion of the total equipment.

8. *Tuberculosis Dispensaries.*—The number of dispensaries for treating tuberculosis in operation in Pennsylvania in 1909, was 123—113 state dispensaries, and ten others. Eight of the state dispensaries were added, and two dispensaries of private foundation were closed during the year. Twelve of the dispensaries were in Philadelphia, and seven in Allegheny County. The remainder, all health department dispensaries, are scattered throughout the state, at least one in each county. In this respect, the dispensary situation in Pennsylvania is unique.

Last year 22,084 patients were treated—16,321 in the state dispensaries, and 5,763 in other dispensaries. Milk (1,402,000 quarts) and eggs (190,600 dozen) were given out through the state dispensaries, and 106,600 quarts of milk by all other dispensaries. There was a tendency on the part of the private dispensaries to diminish or entirely to eliminate the supply of milk and eggs to patients. The distribution on the part of the state dispensaries, on the other hand, was greatly in excess of 1908. There were 187 physicians and 110 nurses in the state dispensary service on Jan. 1, 1910.

On account of the dispensaries provided by the health department, Pennsylvania has a far greater number of dispensaries than any other state. New York state, including New York city, has but fifty, Massachusetts seventeen, and the number is even less in other states. Delaware is the only other state besides Pennsylvania having tuberculosis dispensaries under state control. Some consideration was given in Massachusetts to the advisability of establishing dispensaries under the control of the state, but the abandonment of the idea was strongly urged on the ground that the dispensary, essentially a local agency, should be under local control. The local health boards were held to be the proper agencies to conduct dispensaries. The special tuberculosis commission in Connecticut also held the dispensary to be without the sphere of state responsibility.

9. *Tuberculosis Classes.*—If my source of information is reliable, there were but two tuberculosis classes in Pennsylvania in 1909, both in Philadelphia. There were formerly four such classes, but two had been discontinued prior to last year. The Presbyterian Hospital class numbered 130 and the University of Pennsylvania class twenty members. Physicians were in charge

of both classes, a nurse aiding in the work of the former class, and a social worker from the University of Pennsylvania assisted in the university class work.

10. *Antituberculosis Associations.* — Of antituberculosis associations, there were besides the state society, fifteen local societies. Three more have been added since 1909 as a result of effort which had its beginning in that year. A variety of work was undertaken by these societies. The Berks County Tuberculosis Society founded the Neversink Mountain Sanatorium as a result of a remarkable campaign which culminated in the autumn of 1909. The Pittsburg League maintains a hospital, a dispensary, a farm for cured patients and patients with arrested tuberculosis, an open-air school and a research laboratory, besides doing educational work which will receive later mention. The Scranton Society maintains West Mountain Sanatorium, which cared for fifty-four cases last year. The Wyoming Valley society during the summer of 1909 cooperated in a better-milk campaign, to which is attributed the 41 per cent. reduction in infant mortality which vital statistics of Wilkes-Barre show took place last year.

Several of the societies supplemented the work of local dispensaries by furnishing food, clothing, rent, etc., to dispensary patients, or by paying the railroad fare of patients to sanatoriums. Efforts to abate the spitting nuisance also formed part of their activities.

Without critical intent, it may be said that if some of the local societies concentrated on preventive work, it would probably be productive of more lasting results than has some of the work in which they have engaged in the past.

During the closing months of 1909, the Christmas stamp sale directed by the state society yielded a fund of over $12,000. The major part of this was used locally as a stimulus to antituberculosis work.

11. *Educational Work.*—The antituberculosis propaganda should spread in three directions: to the public; to the patient; to the profession. Last year the educational work of Pennsylvania was directed particularly at the public, and more particularly at the child in the school. The thousands of patients of sanatoriums and dispensaries were, of course, instructed, both by printed literature and by oral advice from nurse and physician, and this educational process was undoubtedly of great preventive value.

The health department by lectures and its exhibit, which was constantly itinerant throughout the state, estimates that it reached 210,000 persons last year. Many of these were school children. The state antituberculosis society in addition to its work of organizing and directing local effort, distributed over 150,000 pieces of literature, treating of personal hygiene and preventive measures. Its exhibit and lectures reached 102,000 persons, 80,000 of whom were Philadelphia school children, and 7,000 factory employees. In cooperation with the national association, fortnightly news articles were supplied to over 250 Pennsylvania newspapers. In Pittsburg the Tuberculosis League not only provided lecturers for the schools, but issued booklets on tuberculosis, especially adapted to the respective needs of pupils and teachers.

Pennsylvania was surpassed only by New York in the amount of literature distributed, and the number of patients treated.

12. *Legislation.*—The following tuberculosis legislation was enacted last year: An act of May 11, 1909 to provide "For the further protection of the public health by prohibiting spitting in public places" was passed by the Pennsylvania legislature, after a propaganda which had been initiated by the Pennsylvania Society for the Prevention of Tuberculosis. A test of the law was subsequently made by the arrest of an offender. The conviction of the violator indicates that the law will be upheld by the courts.

In 1909 legislative appropriations subsidized five charitable tuberculosis agencies. The sum of $94,500 was devoted to this purpose, as against $366,500 to seven agencies in 1907. Two million dollars was appropriated to be used by the State Department of Health for two years' tuberculosis work, as against $1,000,000 in 1907. The appropriation in 1909 leaves the expenditure of the two million to the discretion of the commissioner of health, subject to the approval of the governor.

Many states passed important tuberculosis legislation in 1909. A hasty survey of a few representative acts will serve to indicate the attitude of other states in the administrative control of tuberculosis. New York, Ohio, Minnesota and Connecticut all passed laws in 1909 providing for the establishment of county hospitals for consumptives. The New York law authorizes boards of county superintendents to erect, equip and maintain county institutions, giving power to levy taxes for this purpose. Residents of the county suffering from tuberculosis, or of other counties (on compliance with certain conditions), are eligible for admittance. The cost of maintaining indigent patients is chargeable to the county. Wherever possible, patients or legally responsible relatives are required to pay, but not to exceed the average *per capita* cost of the patient's support. With minor differences the laws of Ohio and Minnesota are the same in effect. The segregation (in county infirmaries) of persons suffering from pulmonary tuberculosis, is mandatory in Ohio; and both states provide for counties uniting to establish such institutions. The principal difference in Connecticut is, that the state bears the cost of building and equipping, and shares in the cost of maintaining patients.

13. *Significant Features of the Year's Work.*—As has been said, $2,000,000 was appropriated in 1909 for tuberculosis work. In no other state has such an immense sum been set aside for tuberculosis purposes. The appropriation of $1,000,000 a year for tuberculosis was a momentous event in the history of the movement, and the expenditure of this fund to control the disease constitutes an experiment which is being watched with keen interest.

Of municipal activities the Pittsburg Tuberculosis League's effort to secure a city tuberculosis plan is perhaps the most significant. A municipal tuberculosis commission was appointed, and the result of the investigation of that body made clear the need of coordination of the work of Pittsburg's tuberculosis agencies; of the centralization of the work in the board of health; and of hospital provision for indigent cases. A house-to-house canvass of a large portion of the city discovered over 4,000 suspected cases, in 73 per cent. of which the patients were in need of aid or instruction. The subsequent effort to secure a $250,000 bond issue for a tuberculosis hospital unfortunately failed.

In Berks County the founding of the tuberculosis society, the raising of a fund of $18,000 and opening of the Neversink Mountain Sanatorium, caring for twenty-one patients, was all accomplished in a year. The institution is designed especially to care for Berks

County patients; all the beds are free, and support is derived solely from voluntary contributions, mostly small. This furnishes a striking example of what can be accomplished by a people aroused to a sense of responsibility for meeting local tuberculosis needs.

A recognition of this responsibility and an attempt to provide for local needs, was made on somewhat different lines in Luzerne County. The Wyoming Valley society initiated an agitation to provide a hospital for indigent tuberculous cases, through the directors of the central poor district, which includes the city of Wilkes-Barre. The movement was eagerly supported by the church, the press, the profession, trade organizations and tax-payers. A committee of the poor board reported in favor of the project. The directors, however, refused to act, declaring that they could find no law giving them the right to erect such an institution, and insisted on waiting to see if the next legislature would pass enabling legislation.

Whether or not counties in Pennsylvania have the right under existing legislation to erect and maintain hospitals for indigent consumptives, in view of the zealous effort on the part of residents of Luzerne County to secure such an institution, and of the general need throughout our state for segregation of advanced, indigent consumptives, is a matter of the utmost importance. It has therefore seemed worth while to obtain legal opinion regarding this, but in view of the limited space at my disposal, only the following bare conclusions can be quoted:

> With regard to the counties in general, therefore, as provided by the general law of the state, buildings can be erected for the maintenance and employment of the poor under the act of June 4, 1879, and hospitals to prevent the spread of infectious diseases (including tuberculous disease) may be erected by the commissioners of the county, by following the provisions and procedure of the Act of April 17, 1866, to the effect that where such hospitals are to be erected the construction thereof shall be recommended by the directors of the poor, a grand jury and the court of quarter sessions of the proper county.
>
> Throughout the state prior to the passage of the general acts above referred to, a number of poor districts, including that of Luzerne County were created by special act. In the case of any such district created prior to the passage of the general act of 1866, providing for the construction of hospitals, the special act is not repealed by the provisions of the general acts subsequently passed. It is the practice of the court to harmonize the provisions of the two, making the provisions of the general act apply to the conditions under the special act. It is, therefore, our opinion that in a case such as the central poor district of Luzerne County, created by the act of 1860, that the law provides for the erection of hospitals for the care of indigent consumptives. It is highly improbable that additional legislation would be made because general laws already exist.

At present any discussion of county hospitals would be incomplete without reference to the situation in New York state. In the autumn of 1909, following the enactment of the law permitting county supervisors to build hospitals for the care of consumptives, the state department of health and the state charities aid association instituted a campaign of education to show the need of such institutions. As a result of a half year's agitation, eight counties made appropriations, aggregating $233,000. Two county institutions are already receiving patients, and construction is under way in others; while fourteen county boards have appointed committees to study the subject. The campaign will speedily be carried into every county in the state.

The appropriations in New York state have been on the basis of a cost of $500 per bed for construction, and $1.25 per day, or $456.25 per patient per year for maintenance. Let us apply these figures to a few counties in our own state, using the number of deaths from tuberculosis last year as a basis. In Bucks County there were 111 deaths; but it is not to be supposed that all of this number required, or could have been persuaded to accept hospital care. Assuming that 111 deaths represent the annual average of deaths from tuberculosis for Bucks County, and that about one-half that number of patients could be induced to accept hospital care, then the number of beds needed would be approximately sixty, the first cost of the hospital would be $30,000 and a year's maintenance would cost $27,375. In some instances counties might unite to support a hospital. This possibility is illustrated on the table by Cameron, Elk and Potter counties. In others there are cities large enough to assume responsibility for municipal care, as for example, Scranton, in Lackawanna County.

III. CONCLUSION:—PENNSYLVANIA'S TUBERCULOSIS NEEDS

As a result of a survey of the tuberculosis situation in our state last year, certain apparent needs emerge. Among these, both for the state as a whole and for particular communities, is the need of coordination of effort on the part of all agencies engaged in antituberculosis work. At present, state, city and philanthropic agencies are working to a large extent as though on each devolved the whole responsibility for putting into effect every measure known to be efficacious in the control of the disease.

There should be tuberculosis planning, both state and city. To secure efficiency there must be a rational division and direction of labor. The lines of attack on tuberculosis should meet, but not cross.

Unquestionably the most pressing need in our state is for hospital provision for advanced cases, particularly those of indigent patients, since these constitute the greatest menace. This is essentially a local problem. It is not for the state to make such provision, since that would involve the transportation of the consumptive to a great distance from home, and not only is the transportation most detrimental to the patient, but many patients cannot be persuaded to leave home at all. Furthermore, the policy in Pennsylvania seems to be for the state to care for early cases. On the other hand, city hospitals would make no provision for rural cases. It would therefore seem that it is the function of the county to provide for such cases, and we have seen that not only has this been done in other states, but that there seems to be a growing sentiment in favor of such provision in certain parts of our own state. When Pennsylvania possesses such means for the isolation of its advanced consumptives, the most pressing need will have been met, and the best step taken to secure control of tuberculosis.

Hemolytic Test for Tuberculosis.—P. Bermbach calls attention to the fact that horse erythrocytes are dissolved by lecithin and tuberculous serum, but not by normal human serum. If serum from a tuberculous individual is added to a 1 per 10,000 solution of lecithin, the combined action of the two will dissolve horse erythrocytes in a concentration in which neither alone is able to induce hemolysis; normal serum has no such action. His communication on the subject was published in the *Zeitschrift für Tuberkulose.*

LOCALIZED EDEMA IN THE LUMBAR REGION FOLLOWING THE USE OF SALVARSAN (606)

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At present, while our knowledge of the effect of the Ehrlich-Hata preparation on man is still in the making, a careful tabulation of the various phenomena that occasionally develop after its administration is often of value and always of interest. Since the latter part of October, 1910, I have employed salvarsan in forty-two cases of syphilis and one case of chronic pemphigus. Up to this time, I have noted no untoward action in any instance. The method of administration employed has been that of Alt,[1] phenolphthalein being used as an indicator; and all of the injections have been made in the interscapular region.

In three instances an urticarial eruption, confined to the trunk, resulted, and in one case a scarlatiniform rash developed. These manifestations were quite evanescent, and completely disappeared in the course of eighteen or twenty-four hours. In two of my cases, however, a peculiar subcutaneous elevation, which I have not seen described by other writers, appeared in the lumbar region forty-eight hours after the administration of the drug. In each instance the tumor was oval in outline, and measured 4 by 10 cm., its long axis being parallel with that of the spine, and its lower border on a level with the top of the sacrum. The two were of the same height, about 2 cm. The lesions appeared suddenly, and attained their full size in five or six hours. They were painful, and very tender to the touch. At no time could fluctuation be obtained. They gradually disappeared, in the course of five or six days, leaving no trace. In each instance, the drug had been injected at a point 30 cm. or more from the tumor site, and there was no traceable connection between the needle-wounds and the elevated area.

The first case occurred in a married woman, housewife, aged 43. The disease was of six years' duration, and there were present numerous tubercular syphilids on the face and chest. The initial Wassermann reaction (the serum tests were made by Dr. W. K. Trimble) was decidedly positive, while the second, made ten days after the administration of 0.6 gm. of salvarsan, was negative. No albumin or casts could be found in the urine at any time. The temperature rose to 101.5 F. on the second day, and the patient suffered considerable pain.

I at first thought the lesion was one of "giant urticaria," but the symptoms and course were not those of Bannister's disease. The subjective symptoms were practically *nil*.

The second patient was a man, sales agent, aged 38. The affection had been acquired fifteen years previously, and there were no visible lesions. The first Wassermann test was positive, and the second, made nine days after the injection of the drug, was negative. In this instance also the patient suffered rather severely, and there was considerable fever (101 F.) forty-eight hours after the treatment was administered. Urinalyses made before, during and after the attack showed nothing abnormal.

In neither instance was there any tenderness over or on either side of the spine in the space intervening between the injection wounds and the tumor. The skin overlying the mass appeared normal. Permission to do a biopsy could not be obtained in either case.

I am at loss to account for the cause of these edematous tumors, unless we consider them as lesions of urticaria gigans. The explanation accepted for Herxheimer's phenomenon is hardly admissible here, unless there was present a subcutaneous luetic focus in the affected region prior to the use of the drug. The severity of the reaction that followed the administration of the agent in both cases, however, together with the brevity of the space intervening between the injection of the salvarsan and the occurrence of a negative serum test, are very suggestive of the results that sometimes follow the sudden liberation of large amounts of treponemal endotoxins.

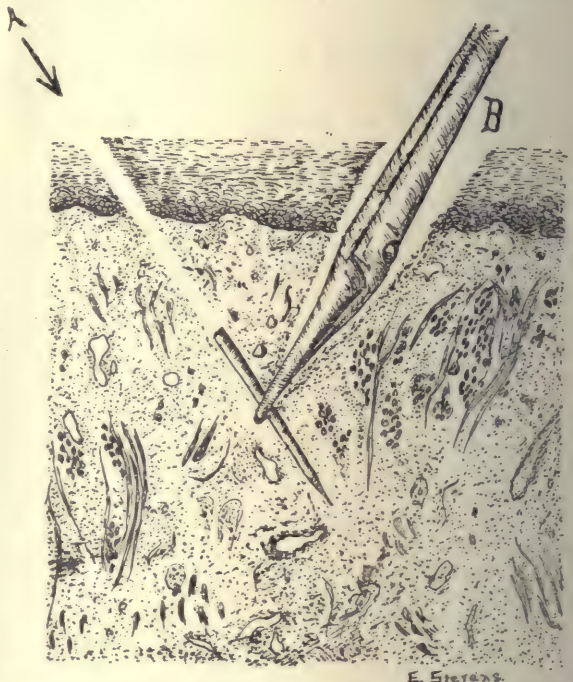
610 Commerce Building.

1. Alt: München. med. Wchnschr., 1910, lvii, 1774.

THE REMOVAL OF SEWING-NEEDLES FROM SUBCUTANEOUS TISSUES

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BISMARCK, N. D.

The removal of a sewing-needle, or other similar sharp-pointed foreign body, from the soft subcutaneous tissues becomes, at times, a more complicated procedure than the simple injury would seem to indicate. A local anesthetic is usually injected, and an incision made through the punctured wound with the hope of seeing



Method of removal of sewing-needle or other sharp-pointed foreign body from the tissues. A, long axis of needle; B, incision through which forceps is introduced to grasp the foreign body.

or feeling the broken end of the needle in the bottom of the incision. Often one is surprised at the difficulty encountered in the search for the needle. Even after the end of the needle is located with the finger, it is not always readily grasped with a forceps and pulled out.

The broken end of the needle is blunt and rough. In making the incision considerable pressure is brought to bear against this end of the needle, and the sharp point at the other end is pushed still farther ahead, if the tissues in front be easily penetrable. After the incision is made, a forceps is usually pushed down as far as possible in an effort to grasp the end of the needle. It may succeed. More often, however, it is found necessary to push the forceps repeatedly into the tissues in various directions, each time pulling up nothing but small

lumps of fat and a few connective tissue fibers, and each time pushing the needle in a little farther. The soft parts, which are raised with the forceps, and then let go when it is found that the bite did not contain the needle, also help to protect the broken end and to push it still deeper. The finger introduced to feel for the needle is apt to have the same effect.

The following procedure has served me well, and is now the one of choice in emergencies of this kind:

The position of the broken needle should first be determined. It may not be perpendicular to the skin, but may have taken a slanting course and lie nearer the surface on one side of the punctured wound than on the other. The history of the injury, together with careful palpation, will aid in this examination, but in the *x*-ray we have the most valuable adjunct in determining the position of the needle. After this is settled, a local anesthetic should be injected and an incision made some little distance from the point where the needle entered, and on that side toward which it traveled when entering. The distance may be one-half inch or more, depending on the depth and slant of the needle. The incision should be made so as to strike the long axis of the needle in a plane approaching as nearly as possible a right angle. The knife will thus cut down on the side of the needle, which is readily made out and grasped by means of a small forceps.

It is often impossible to extract the needle through this right-angled incision without danger of breaking it, or of causing anatomic injury. The needle should then be held firmly by the forceps while another small incision is made through the skin at the point where the needle entered. It will be found an easy matter to push the needle out through this opening by means of the forceps.

THE USE OF COLOPHONIUM IN DIFFERENTIATING THE EOSIN-METHYLENE-BLUE AND OTHER STAINS *

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BOSTON

One of the most important of the regressive staining methods used for general histological work is the eosin-methylene-blue method, hitherto only applicable to tissues fixed in Zenker's fixative. A successful stain by this method yields better results for cell-differentiation and the study of fine structures than any other single staining method. Its use has been limited because of the difficulty of securing constant results. Inquiries made in various laboratories, and the results of personal experience in a number of laboratories, have shown that the one uncertain step in the staining method is that of differentiation. It has been generally known that alcohols from different sources do not act alike when used for differentiation. The result of an attempt to determine the variable ingredient in the commercial 95 per cent. alcohol has yielded a method for differentiation which has given uniform results over a period of one year with a large number of alcohols.

The eosin-methylene-blue stain is fully described elsewhere.[1] In brief, the method is that of overstaining with eosin and then with alkaline methylene blue, followed by differentiation with 95 per cent. alcohol. The commonest failure is an imperfect eosin stain. Experiments made with absolute alcohol diluted with distilled water show that a pure alcohol abstracts the eosin too rapidly. The same results were obtained with freshly prepared methyl and ethyl alcohols furnished to the laboratory by a Canadian distillery. In the attempt to obtain an alcohol that would yield constant results, the addition of small quantities of organic and inorganic acids was tried. Similarly, minute traces of alkali were tried, and while it was found that the reaction of the alcohol had an appreciable effect, the results were not satisfactory. As most of the alcohol used in the United States has been kept in bond for a considerable time, it was thought that substances extracted from the wood might affect the behavior. Accordingly, the addition of colophonium in varying amounts was tried, and it was found that the presence of this substance furnished a certain method for obtaining any desired effect achievable by the eosin-methylene-blue stain. Furthermore, the addition of colophonium in large amounts has made the eosin-methylene-blue method applicable to tissues fixed either with formaldehyd solution or alcohol, and permits the use of commercial grades of methyl alcohol and methylated spirits in place of the more costly 95 per cent. ethyl alcohol used in differentiation. For these reasons it was decided to publish this apparently trivial laboratory "wrinkle."

At first, only carefully selected pale colophonium was used; later the darker variety has been used with ordinary methylated spirits, and the results are fully as satisfactory as those given by the more expensive materials. As far as could be learned from one year's experience, the permanency of the stain is not affected. The amount of colophonium necessary naturally varies with the length of time that the alcohol has been in the wood. For general tissue staining, the best results have been obtained by the addition of 0.75 to 1.5 per cent. of colophonium by weight; for special purposes the addition of larger amounts is necessary. In general, it may be stated that the greater the amount of colophonium in the alcohol, the more intense is the eosin stain, so that, by varying the amount of colophonium, we can attain any desired effect; a useful procedure, when one becomes interested in structures that stain faintly with one or the other stain.

For the differentiation of tissues fixed in formaldehyd solution or alcohol, the amount of colophonium required is much larger; 10 per cent. by weight has given the best results for general purposes. It is believed that the use of methylene blue and eosin method with tissues fixed with formaldehyd solution offers many advantages for the study of cells indifferently preserved by Zenker's fixative. As examples, in formaldehyd-fixed tissues, mast cells are brought out prominently and the contents of mucus-secreting cells are clearly defined, and in the early stage of secretion appear as deeply stained, bright blue granules. The only difference in the application of the stain to tissues fixed in formaldehyd solution and alcohol, is a slight reduction in the time that the methylene blue is allowed to act. As a rule, as soon as the sections have become deep blue in color, they are sufficiently stained.

Very good results have been obtained in staining Gram-negative bacteria in tissues fixed with formaldehyd solution. Ten per cent. of colophonium in acetone has given slightly better results than the corresponding alcoholic solution. It is possible to obtain deeply stained bacteria in tissue, such as the typhoid bacillus, and still preserve a fair nuclear stain in a deep eosin tissue-stain.

* From the Pathological Laboratory of the Montreal General Hospital.

1. Mallory and Wright: Pathological Technic, Edition 4, 1908.

In differentiating with the colophonium, alcoholic or acetone solutions, the sections may be transferred directly from water into the solution. The white precipitate that results rapidly dissolves. After the differentiation is completed the sections are washed rapidly in absolute alcohol, cleared in xylol and mounted in balsam. The differentiating solution may be used over and over again, as long as it remains clear, or until too much water has been carried into it by the sections. Some samples of colophonium give a cloudy solution in alcohol, and in this case it is necessary to allow the solution to settle and decant or filter.

Whether the action of the colophonium is a chemical or physical one has not been determined. It has been suggested that its action depends on the presence of organic peroxids,[2] but the results cannot be duplicated by the addition of hydrogen peroxid or by gum guaiacum, which is richer in peroxid than colophonium.

Another application of the colophonium method is in the differentiation of sections stained by Giemsa's method.[3] In place of the mixtures of xylol and acetone, which Giemsa gives for differentiation, a solution of colophonium and acetone may be used that enables us to control accurately the relative intensities of the red and blue elements. For general purposes, the addition of 20 per cent. of colophonium by weight gives the best results. After staining, the sections are transferred to the acetone-colophonium mixture, and when sufficiently differentiated, are washed rapidly with a 5 per cent. solution of xylol in acetone, cleared in xylol and mounted in cedarwood oil. The amount may be increased or decreased according to the effect desired. As in the other staining methods, the greater the amount of colophonium, the deeper the resulting eosin stain.

Still another use of colophonium and alcoholic mixtures is in the application of Gram's method for bacteria in tissues. The solution, in amounts between 5 and 10 per cent. by weight, seems to be a more energetic tissue decolorizer than pure alcohol, and yet leaves the bacteria stained a deep blue-black. It does not act so energetically as anilin oil, but gives more constant results.

240 Longwood Avenue.

AN IMPROVED TONSIL-KNIFE

G. L. KING, M.D., ALLIANCE, O.

In this day of development of the comparatively new operation of tonsillectomy, an instrument which simplifies the operation or hastens its completion, is of advantage to the profession.

I have devised for the purpose of quickly and more easily enucleating tonsils a knife of small size with both angles sharp, as shown in the illustration. Its small size assists very greatly in its manipulation within the mouth. It can be used with dispatch for dissecting in almost any direction and is usually the only knife I find necessary in preparing for the snare, and it can even be used with advantage to complete the enucleation of the tonsil either under local or general anesthesia.

It will be noticed that the distal end is patterned somewhat after Dr. Douglass' knife, with a probe point, but instead of this joining a straight handle, it joins at nearly a right angle, an equal cutting surface, which greatly facilitates its use in this difficult location.



An improved tonsil-knife.

2. Alsberg, Carl (personal communication): Bureau of Plant Industry, Washington, D. C.
3. Giemsa: Deutsch. med. Wchnschr., 1910, No. 12, p. 5507.

CEREBROSPINAL MENINGITIS

VENTRICULAR PUNCTURE WITH INJECTION OF SERUM

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ATHENS, GA.

In reporting this case it is not my object to go into a full description of the condition which existed up to the time of the puncture of the ventricle, but a few words will give a clearer insight into the condition which existed before the operation.

History.—The patient, J. J. C., aged 16, was admitted, on Oct. 4, 1910, to St. Vincent's Hospital, New York, where I was then house surgeon, and a day or two later developed a typical case of cerebrospinal meningitis with classical symptoms. Examination of the spinal fluid corroborated the diagnosis. On admission the temperature was 105 F., pulse 90. respirations 26. Delirium developed in a few hours and continued up to the time of the operation, with short intermissions.

The temperature fluctuated between 101 and 104 F. until October 20, when I opened the skull. From the date of admission, October 4, to October 20, seventeen spinal punctures were done by Dr. Walters, house physician, to whom I am indebted for the above information. The first puncture showed the fluid to be cloudy with a marked amount of pus; on each succeeding aspiration the amount of fluid and pus diminished, until finally Dr. Walters was unable to obtain any fluid after several punctures on different days. In all, he removed one and three fourths pints of fluid and injected one pint of serum.

Operation.—At this point in the case I decided to go into the ventricle. After consulting a number of authorities I found that the previous operations were performed by using a small bore, going through the skin and skull without incision. As this necessitated working to some extent in the dark, I concluded that a regular trephine operation would be better, and therefore, after the usual precautions for opening the skull, I selected a point an inch and a quarter posterior to the external auditory meatus, on Reid's base line, and from this point I drew an imaginary line vertically, and took a point one and a quarter inches above my original point. I next made a horseshoe flap, opening down and trephined the skull, removing a small button one inch in diameter. With a large three-inch aspirating needle, as used in spinal punctures, I went through the dura, the needle being directed towards a point 3 inches above the opposite external auditory meatus. At a depth of two and a quarter inches I aspirated about half an ounce of very cloudy cerebral fluid, which, on examination, showed a large number of pus cells. In all I removed an ounce and a half of fluid and injected 20 c.c. of antimeningitic serum, closing the wound without drainage.

Postoperative History.—The patient's condition showed marked improvement and when asked how he felt, he answered

very distinctly, "I feel a hundred per cent. better." His speech was more coherent and he was much quieter than before the operation. His pulse, which was 140, dropped to 120; his temperature showing a marked reaction, rising from 101 to 103 F. in a few hours, but on the following day it had dropped to 100.4 F., the lowest for some days. The improvement was only temporary, for on the twenty-fourth, four days later, he became markedly worse and died with a temperature of 104.6.

Autopsy.—An hour after death an autopsy was performed by the hospital pathologist and an interesting condition was found. The right ventricle, into which I had injected the serum, was in a fairly good condition and contained only a slight amount of cerebral fluid, which was practically clear. The ependyma showed only a very faint trace of a previous inflammatory condition, proving conclusively that the serum had worked wonders, but, sad to relate, the left ventricle told a different story. It was filled with a seropurulent fluid of the same appearance as that which I had removed at the time of the operation; the ependyma was inflamed and covered with a thick purulent exudate.

At the time of the operation, little did I realize my mistake, so forcibly brought before me later, for had I trephined the other side of the skull also, the latter part of this report might never have been written. I learned the lesson well, and, if another opportunity offers, I shall not overlook the other ventricle, and I trust that some who have read this paper may profit by this mistake.

SYMPTOMS SUGGESTIVE OF BRAIN TUMOR RELIEVED BY THE CORRECTION OF A REFRACTIVE ERROR

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PITTSBURG

The case is that of a man 50 years of age, a railroader by occupation, who consulted me Aug. 24, 1909. During the last two and a half years he had suffered four severe accidents on the railroad. In one of these accidents the left side of the head was severely injured, but he apparently recovered from all of these accidents.

The symptoms for which the patient consulted me dated back three months and consisted of headache and dizziness of increasing frequency and severity. The headaches were located chiefly in the occipital region, although they were occasionally frontal. There was a good deal of pain in the temples. On a number of occasions the patient vomited before breakfast, and this vomiting did not seem to stand in any relationship to food ingested. He complained of double vision, and stated that within the last three months his sight had steadily failed, and that now he could read only headlines in the newspaper and count fingers.

The above symptoms, related here in the briefest manner, at once suggested a brain tumor. When I sent the patient to see Dr. J. E. Willetts I fully expected that he would report the presence of an optic neuritis; but on the contrary he found the eye-grounds perfectly normal and reported a marked refractive error.

I consequently turned the patient over to Dr. Willetts that he might go over his eyes and correct the refractive error. This he did and reported to me the following:

"Examination of patient's eye-grounds shows a normal fundus. There is no optic neuritis or other pathologic changes. He has a refractive error which I think is responsible for the symptoms presented, and have prescribed the following lenses for constant wear:

"R+2.00D=½° Pr. B. Out=20/20
L+2.50, D=20/20"

Oct. 23, 1909 (two months later) the patient reported to me that he was then free from headache and had been for a month past. He stated, indeed, that he was greatly relieved from the time the "drops" (belladonna) were put in his eyes. He has had no further attacks of vomiting. He looks brighter and better in every way. In short, it would appear as though his symptoms were due to the refractive error and had been entirely relieved by the glasses.

Westinghouse Building.

SOME "DON'TS" IN THE USE OF SALVARSAN

JAY F. SCHAMBERG, M.D., AND NATE GINSBURG, M.D.
PHILADELPHIA

The most recent advice from authoritative sources as well as our own experience, favors, in general, the employment of salvarsan by intravenous injection.

1. Don't use salvarsan in myocarditis, in advanced cases of tabes dorsalis and general paresis, in nerve syphilis affecting vital centers, in grave kidney disease, in cachectic and debilitated persons (unless the condition is due to syphilis), in aneurysm, in optic neuritis, and in persons with lesions (such as gastric ulcer) in whom increased blood-pressure may produce hemorrhage.

2. Don't use intravenous injections of salvarsan until you have fully qualified yourself and possess a detailed knowledge of the technic. Deaths have occurred and more will occur from unskilful administration.

3. In the preparation of the drug for intravenous use, don't use a solution made with common salt or undistilled water (such as is often supplied in hospitals), but use a specially prepared sterile physiologic salt solution made with chemically pure sodium chlorid; otherwise you may find it impossible to obtain a clear solution.

4. Don't under any circumstance inject into the veins a solution which is not *perfectly clear;* a flocculent or cloudy liquid may produce alarming symptoms of collapse or even death.

5. Don't use a solution any more alkaline than is absolutely necessary to secure a clear solution.

6. Don't inject the salvarsan into the veins without previously running in physiologic salt solution; if the needle is not in the vein you will infiltrate the surrounding tissue with the salvarsan solution and cause subsequent inflammation and unnecessary pain.

7. Don't infuse the solution into the vein too rapidly; it is best to have a needle of such a caliber as will require 8 minutes to introduce 200 c.c. of fluid. With the gravity apparatus, the rapidity of inflow can also be governed by the height of the receptacle.

8. Don't infuse a cold solution; the liquid should be about the temperature of the blood.

9. Don't use "glass pearls" in the mixing jar as is often recommended: we have found that minute particles of glass chip off which might cause embolism.

10. Don't use a routine dosage of the drug; the dose should be gaged according to the weight of the patient and the character of the condition to be treated.

11. Don't employ intravenous injections in your office or in a dispensary. The patient should be treated in a hospital and put to bed and carefully observed for a period of not less than three days.

12. Don't persist in the intravenous injection if the patient should show signs of collapse during the administration, but stop at once.

1922 Spruce Street—340 South Fifteenth Street.

Therapeutics

TRICHINOSIS

It is just half a century since Zenker, at the post-mortem examination of a girl, who had been admitted to the Dresden Hospital, on Jan. 12, 1860, supposed to be suffering with typhoid fever, found the muscles full of living trichinæ. This was the beginning of the pathology of the disease in the human race. Tiedeman, in 1822, noted the presence of white, stony concretions in the muscles, and other observers subsequently described similar concretions, and Owen showed that they contained a worm, coiled up inside, to which he gave the name of *Trichina spiralis,* but Zenker was the first to examine a patient who had died from an acute attack of the disease. He found living trichinæ in the muscles, and trichinæ in the flesh of the pig, of which she had probably eaten two weeks before and which had apparently caused a similar, but not fatal, illness in three other persons.

To-day this disease is occasionally diagnosed, and probably many mild cases are never detected. Every physician should be acquainted with the symptoms in order that, if a patient comes to him suffering from the disease, he may not overlook it, and leave it for some other physician or a consultant to detect.

The symptoms which are usually noted in a case of trichinosis of ordinary severity are loss of appetite, malaise, headache, fever, nausea or vomiting, diarrhea, tenderness of the epigastrium, cramps in the abdomen and limbs, great prostration, swelling and soreness of the muscles and indisposition to move them, increased rapidity of respiration, swelling of the eyelids and feet, and sometimes of the knees, elbows, and ankles.

The two diseases for which it is most frequently mistaken are typhoid fever and articular rheumatism. The headache, fever, and diarrhea naturally suggest typhoid. The height and duration of the fever often make the resemblance to typhoid very striking; but the muscular cramps, the vomiting, the prostration and muscular weakness, out of proportion to the fever, the slight mental impairment, also not so great as is usually seen in typhoid with an equal degree of fever, the muscular soreness, and the edema of the feet and eyelids, when present, will generally enable the distinction between the two diseases to be made with reasonable certainty. If the disease is typhoid, the Widal reaction should soon be in evidence. In the cases with considerable fever, and in which swelling of the joints and soreness of the muscles are conspicuous, the trouble is sometimes mistaken for either articular or muscular (myalgia) rheumatism. When this occurs the limited number of joints affected, the edema of the eyelids, if present, the rapid respiration, and the absence of improvement under the use of the salicylates are generally sufficient to disprove the diagnosis of rheumatism.

When the pains in the limbs are troublesome and there is considerable weakness, without high fever, it might be suspected that multiple neuritis is present, but in trichinosis it can generally be determined that the soreness and pain are localized in the muscles rather than in the nerves, that the impairment of motion is due to the painfulness of voluntary muscular contractions rather than to paralysis. Also the headache, dyspnea, and edema of the eyelids will generally enable one to exclude disease of the nerves.

If vomiting, diarrhea, and muscular cramps in the abdomen and limbs are present, the disease may be mistaken for cholera morbus or other forms of cholera, or for ptomain poisoning, but the continuous fever, the headache, the muscular soreness, the continued prostration, and the edema will soon lead to a change of diagnosis. When the presence of trichinosis is suspected but cannot be definitely determined from the subjective and objective symptoms observable, microscopic examination of the blood will usually afford important aid in deciding the question. The blood examination, as a rule, shows a distinct leukocytosis, which, however, is not so great as is often seen in purulent infections and pneumonia. But the most striking feature observed in the blood is the marked eosinophilia which was pointed out by W. S. Thayer and Thomas R. Brown, in 1897, and which has since proved to be of great diagnostic importance. The percentage of eosinophils was found to be more than 20 in over half of William Gilman Thompson's series of fifty-two cases, and has been found to be above 80 per cent. in some cases. Thompson (*Am. Jour. Med. Sc.,* August, 1910) sums up the conditions that may cause an increase in the eosinophils as follows: A moderate increase above the normal of from 1 to 4 per cent. in adults, has been observed in pneumonia before the crisis, in some skin diseases, particularly dermatitis exfoliativa, dermatitis herpetiformis, pemphigus, psoriasis, prurigo, eczema and leprosy, in other intestinal parasitic affections, such as tapeworms, roundworms, and uncinariasis, in bronchial asthma, and sometimes after large doses of camphor, iodid of potassium, and salicylate of sodium. But in none of these conditions is it usual to see so large a degree of eosinophilia as in trichinosis and, furthermore, none of these conditions is likely to be mistaken for that disease.

Rarely, if ever, can the trichinæ be found in the stools or in the blood of patients who have the disease. But the crucial test, when it is practicable to make it, is the finding of the trichinæ in a fragment of the patient's muscular tissue removed by a harpoon designed for this purpose.

The symptoms usually appear about two weeks after the ingestion of the infected meat; sometimes a few days earlier, occasionally a week later. This corresponds to the time consumed in the development of the trichinæ in the intestine, the production of a new generation, and their migration to the muscles.

The fever may rise as high as 104 F., or even higher, and subsides gradually. It usually lasts for several weeks, but may disappear in less than one week, and has been known to persist for two weeks. After it has entirely disappeared it may return again, simulating the relapse of typhoid fever.

The increased rapidity of the respiration is probably due to involvement of the diaphragm by the trichinæ. Besides the edema of the eyelids, which is seen in about one-fourth of the cases, other ocular symptoms are not uncommon. Among them may be mentioned pain and burning in the eyes, distinct from the headache, corneal hemorrhage, diplopia, tenderness of the eyeball on pressure, pain on moving the eye, and photophobia.

Death is not a common result of the disease, and recovery is attended with calcareous degeneration of the capsule, which may be followed by fatty degeneration. Loss of flesh accompanies the disease, and anemia is a striking sequel.

The most important treatment is prophylactic. The disease is contracted by eating pork which contains the trichinæ encysted in the muscular fibers. As these are digested the worms are set free in the intestinal canal, where reproduction takes place with wonderful rapidity. The new worms pass from the intestine through and into the various tissues of the body, and finally lodge in the muscles, where they ultimately become encapsulated, although they may retain life for many years.

Uncooked pork, sausage, bacon, and ham are the principal things to be avoided, if one desires to escape trichinosis. The last few years have witnessed such an agitation over tuberculosis that government inspection has been largely directed toward the detection of this disease in the meat used for food, but there is no systematic inspection of pork intended for domestic consumption for the presence of trichinæ, although it is estimated that 2 per cent. of hogs are infected with this parasite. This would indicate the desirability of government inspection of all pork intended for domestic use as well as that for export, and gives great importance to the question of how the trichinæ can be certainly destroyed. Salting and hot smoking will generally kill them, but the only reliable prophylactic procedure is thorough cooking. It has been stated that a temperature of 140 F. will destroy the trichinæ, but, on the other hand, it has been found that they may survive a temperature of 180 F. The practice of the large packing houses is said to be to cook hams at a temperature of from 170 F. to 212 F., a general rule being to continue the cooking for thirty-eight minutes for each pound of weight of the ham. Perfect safety undoubtedly demands that they should be boiled at a temperature of 212 F. for several hours.

When infection has occurred and has been detected early, the first step in treatment is thorough evacuation of the bowels so as to remove any of the worms which may still remain in the intestines, for the trichina reaches its full development after it has been in the intestine for three days, and may continue to bring forth young during a life of some weeks. For this purpose probably nothing is better than a 5-grain dose of calomel, followed in six hours by half an ounce of sulphate of magnesium. It is good practice to cause two free movements of the bowels daily, for a week, to insure, if possible, the elimination of all the embryos of the worm. Also, thymol, in capsules each containing 0.10 gram (about 2 grains) should be administered four or five times in twenty-four hours as an anthelmintic and bowel antiseptic.

℞ Gm.

Thymolis ..... 2| or 3ss

Fac capsulas siccas 20.

Sig.: A capsule four times a day, taken with plenty of water.

At the end of a week, if there is any gastric or intestinal irritation, the following prescription is of value:

℞ Gm.

Bismuthi subcarbonatis.....20| 3v

Phenylis salicylatis ..... 5| or gr. lxxv

M. et fac chartulas 20.

Sig.: A powder, three times a day, before meals.

The stools should be examined at the end of a week for the worms, and then once every week for several weeks.

The above intestinal treatment is generally efficient. There is probably no good reason for giving several or repeated doses of male fern or santonin, which have been recommended to eradicate this worm.

Glycerin has been recommended, given internally, on account of its supposed ability to kill the worms by its hygroscopic properties. As it must be taken very well diluted not to cause nausea, it is a question of what value this treatment is. If well diluted it can do no harm, and may be used as an additional medicament. It acts also as a laxative. The dose would be a tablespoonful two or three times a day.

The diet should depend on the amount of fever, and under any circumstances for several days should be liquid: [illegible] cereal gruels.

There is supply out of the hands of [illegible] the larvæ or trichinæ in the muscles by state inspection. The ma[illegible] commended as possibly having the power to destroy the larval forms that are circulating in the blood. This is perhaps doubtful. The internal dose is 0.03 to 0.10 gram (½ to 2 grains) dissolved in alcoholic solution and taken well diluted. It is intensely bitter. It would seem unwise to use picric acid, which is likely to cause severe gastro-intestinal irritation, nervous irritation, and perhaps irritation of the kidneys, when there is such a large element of doubt as to its therapeutic value in this disease. There may be some justification for administration of large doses of quinin.

As after several weeks, perhaps six, the localizations of the worms in the muscles become encapsulated and permanently external to the body, so to speak, and forever after harmless to the host, it might be well to saturate the system with calcium salts, such as lime water, or perhaps better, the glycerophosphate of lime, in order to hasten the deposit of calcareous matter in the capsules surrounding the worms. Therefore, as soon as the active intestinal medication is over and the patient recovering, the glycerophosphates of lime should be administered. The patient also generally requires iron.

During the height of the fever, the patient may be restless and sleepless and require hypnotics or sedatives. On account of the muscle irritation the bromids or chloral are very valuable.

Although there may be considerable muscular weakness for some time after the acute symptoms are over, it would seem inadvisable to resort to massage or electricity, as these would tend to interfere with the normal isolation of the germs by Nature's methods.

The Culture of Human Lepra Bacilli.—F. W. Twort reported results of experiments in cultivating the lepra bacillus of man (*Nature*, Nov. 24, 1910). On account of the close relation between the tubercle and lepra bacilli it occurred to him as probable that they would require the same chemical substances for building up their protoplasm; which, however, could be elaborated from the ordinary media by the tubercle bacillus only. If these then could be furnished already made to the lepra bacillus it might be cultivated, and the easiest way to do this would be by adding to some good culture medium a proportion of ground-up bodies of tubercle bacilli containing them. He therefore made up a culture medium consisting of egg, 3 parts; 0.8 per cent sodium chlorid, 1 part; ground tubercle bacilli, 1 per cent.; and glycerin, 5 per cent. or less, mixed, placed in tubes, sterilized and set in slopes. Leprosy bacilli, previously treated to kill contaminating organisms, are inoculated on the tubercle medium. They grew as a delicate colorless streak and showed the typical morphologic and staining characters of the lepra bacillus. He proposes to follow up the work with experiments to make a lepra vaccine and to grow the lepra bacillus of rat.

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[*For other information see second page following reading matter*]

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ALCOHOLISM AND HEREDITY

Recently several studies of a statistical nature and dealing with the effects of alcoholism have been published by Professor Karl Pearson and his associates in the Francis Galton[1] Laboratory of Eugenics in the University of London.[2] The essential conclusions drawn by these investigators from their studies have been subjected to vehement criticism, especially by the outspoken friends of temperance, and a rapid-fire discussion has been carried on, the echoes of which we still hear. Like nearly all discussions of the alcohol question, this is marked by considerable extravagance of statement and by sharp personal conflict; nevertheless it will serve a highly useful purpose in bringing into wider prominence, and securing larger recognition for, the need and importance of unbiased and scientific study of the problems of alcoholism. Everyone will agree, it is believed, with Sir Clifford Allbutt when he says that "much of the literature of alcoholism is of a rhetorical rather than a scientific order, and the sooner scientific order and method are introduced the better."

Now the particular conclusion with regard to heredity which is drawn by the Eugenics Laboratory workers from the materials they studied and which has met such violent attack, is in substance that alcoholism in the parents does not *per se* result in deterioration of the physique and mental powers of the offspring. The critics, notably Sir Victor Horsley in association with Dr. Mary D. Sturge, assert that the evidence is altogether too slender to support so heavy a burden as this startling and revolutionary view. They charge the authors of the report with errors that invalidate completely not only this particular conclusion but also other conclusions from the same series of studies. It is probably altogether unnecessary to point out that Professor Pearson and his co-workers do not assert that alcohol may be taken with impunity or that it promotes evolution in an upward direction. They simply give the results reached through the study by their methods of certain data. Whatever the value of their statistical researches in the establishment of actual facts may be—and we must bear in mind that at present the data available for this kind of study necessarily suffer from incompleteness and other shortcomings—they bring us face to face with problems of the nature of the association of alcoholism and degeneracy.

It is customary to attribute to parental alcoholism many mental and physical defects; for example, epilepsy, mental and moral enfeeblement, certain forms of insanity, stunted growth, deaf-mutism, etc. But what about the possibility of an underlying hereditary defectiveness in these alcoholic parents which gives rise to defective offspring? And what about the view that alcoholism itself is the symptom or result of degeneracy rather than the cause thereof? Because degeneracy is associated to such an evident extent with alcoholism, it becomes necessary to exclude the subtle influences of hereditary degenerative tendencies before it can be shown conclusively that parental alcoholism uninfluenced by other factors exercises a determining effect on heredity and results in physical and moral degeneration of the offspring.

In his helpful address on "The Ancient Foundations of Heredity,"[3] A. B. Macallum points out that many of those vitally interested in these questions assume that heredity can be modified by accidental influences much more easily than is believed to be possible by most biologists. The problem of the hereditary influences of alcoholism as well as the closely related problem of such great import in study and prevention of inebriety, namely, whether alcoholism is an antecedent or a consequent of degeneration, are exceedingly difficult ones, on the correct solution of which much depends and which we can hope to solve only by means of the methods of general science.

MILK LEGISLATION

A bill, concerning the production and distribution of milk, which is of more than local interest has been introduced into the Illinois legislature. It seeks to place the inspection of dairies under state authority, and would prohibit cities from enforcing the tuberculin test or otherwise specifying the conditions under which milk should be produced. Incidentally, it may be remarked, the bill illustrates a certain well-defined tendency in American politics to keep cities and other local governing bodies as impotent as possible to perform services needed by the citizens—an impotence which never hampers the activities of the practical politician, as many good people innocently hope it may. The bill is the outcome of an investigation by a committee consisting of ten members of the state legislature, four senators and six representatives, none of whom claims to have expert knowledge of the conditions under which clean milk should be produced. The opposition of milk-pro-

1. A notice of the death of Sir Francis Galton, with a brief summary of his scientific work, appears in the London Letter, this issue.

2. Eugenics Laboratory Publications, 1910, xiii, x. For further references see Sturge and Horsley, Brit. Med. Jour., 1911, i, 72.

3. Canad. Med. Jour., 1911, i, 1.

ducers to the tuberculin test is largely responsible for this investigation and for the existence of the state commission.

Almost at the same time, a committee was appointed by the Mayor of Chicago to investigate the milk-supply coming to Chicago. This committee, which has not yet made its report, is composed of a physiologic chemist, a veterinarian, a pediatrist, a bacteriologist, representatives of the Chicago Health Department, one member from the Public Health and Marine-Hospital Service, one from the City Law Department, a member of the State Milk Commission, a member of the Milk Dealers' Association and one from the milk-producers, with one of the aldermen of Chicago as chairman.

On account of the difference in the character of the two committees and the methods of procedure in the investigation, a comparison of their reports should be of interest. The city committee is investigating the milk question from a scientific as well as from a practical point of view. Literature regarding milk-production has been studied, and tours of inspection have been made to see the practical production, handling and pasteurization of milk. The investigations have not yet been completed, but from the character of the committee and the methods followed the results should be of value.

An entirely different procedure has been adopted by the state committee. Experts and so-called experts have been examined and their opinions collected. The value of this sort of investigation would depend on the competency of the witnesses as experts, and, as will be seen, this is perhaps open to some question. Under this committee, the chief points considered were the bacteriology of milk, pasteurization and the tuberculin test. The competency of some of this expert testimony may be judged from the following instances:

One witness stated that he had pasteurized a sample of market milk in his laboratory and found tubercle bacilli surviving. On cross-examination, it was brought out that in his method of examination he had not taken the precaution to avoid the formation of a film, which, as Theobald Smith has shown, is a protection to tubercle bacilli. Evidence that they were really tubercle bacilli was based on microscopic examination alone and not on the results of animal inoculation, which is the only safe means of differentiating tubercle bacilli from other acid-proof bacilli frequently found in milk.

Another witness stated that his unfavorable opinion of pasteurization was based on bacterial counts made by several thousand "chemical" examinations. The third witness was also able to distinguish different species of bacteria by microscopic examination. He was opposed to pasteurization because he found that the serum of pasteurized milk kept at room temperature for seven days killed a guinea-pig, while serum of raw milk kept seven days did not. This single experiment on two guinea-pigs convinced him of the toxicity of pasteurized milk. He did not consider the fact that neither raw nor pasteurized milk is usually consumed after seven days. The tuberculin test was condemned by many "experts" whose competency was not established on cross-examination. The results of such an investigation would hardly be convincing to scientific men or to men having a real knowledge of clean milk production and the menace of a tuberculous infection of cows.

As intimated by the chairman of the committee previous to the completion of the investigation, however, the committee in its report favored the abolishment of the tuberculin test and the taking of the control of the milk-supply out of the hands of cities and providing for its regulation by state inspection. The matter of pasteurization was ignored altogether by the committee in its report. These recommendations have been embodied in the bill introduced in the legislature. If this bill becomes a law, cities must accept the milk as delivered by the producers without authority of examination.

A law of this nature might be effective if a large and competent force of expert inspectors, veterinarians, chemists and bacteriologists were employed. This force would have to be sufficient to control the milk at the point of production, at the receiving and delivery stations, at the railroads, at the distributing stations, on the delivery wagons, etc. This would be an enormous task, one of much greater magnitude than would be necessary if cities were permitted to control their own milk-supplies.

Such a system of state supervision is in force in Pennsylvania. At a recent meeting of a county farmers' association in that state, a resolution was passed criticizing the system of dairy inspection instituted by the state board of health, because, as the members believed, it was not accomplishing the purpose intended, but had resulted unsatisfactorily, as might be expected. The selection of inspectors under the pay and allowances made by the state legislature had resulted in many of the positions being filled by men wholly without training or special ability for such serious and important work. The results would probably be no different in Illinois. But the significance of this criticism lies in the fact that it was made by the farmers, the milk-producers, the class in whose interest the legislation in Illinois was primarily instigated.

Other states have enacted or are contemplating the enactment of similar laws, and this makes the action of the Illinois commission and of the state legislature of more than state interest. Unfortunate conditions have arisen in Iowa on account of legislation which would prevent the city of Des Moines, the largest city in the state, from controlling its milk-supply. The law is being tested in the courts.

The value of the tuberculin test is accepted by men who are competent to express an opinion. Pasteurization of milk is also of undoubted value in the absence of the compulsory tuberculin test. The cattle-owner does

not realize that not only is the presence of tuberculosis in his herd a menace to public health, but his herd cannot be as profitable as a healthy herd, and that, moreover, one tuberculous cow will spread disease rapidly to healthy cows. The production of clean milk is wholly a scientific and not a political or commercial question, and the mere idea that the lives of innocent babies should depend on political or commercial considerations is a monstrous one.

PREVENTION OF FOURTH-OF-JULY TETANUS

The duty of the medical profession in the matter of Fourth-of-July tetanus is distinctly threefold. First, it has an important function in securing legislation which shall prevent injuries from explosives; secondly, it must prevent tetanus and other serious complications resulting from such injuries; last, it has the almost hopeless task of trying to prevent a fatal outcome in those cases of tetanus which have been produced by Fourth-of-July injuries. Certainly the most logical point of attack is the celebration itself. That this foolish habit of an annual orgy of gunpowder and bloodshed is not one which cannot be broken has been shown in a number of communities. Last year, the city of Trenton, N. J., which previously had suffered severely in proportion to its population, adopted a prohibitive ordinance, suppressed the gunpowder celebration, and totally eliminated Fourth-of-July injuries; the previous year there had been fifty-nine injuries reported, with one death. In 1908, Cleveland had 105 injuries with twelve deaths; a prohibitive ordinance reduced the casualties to four in 1909 and one in 1910, with no fatalities. Baltimore by the same means has kept down the list of injuries, while Washington has had no injuries for two years. These examples, and many others that might be cited from the experience of smaller cities and towns, show that it is perfectly possible to eliminate all the physical injuries which we have so long associated with the Fourth of July, to say nothing of the loss by fire, nervous strain, squandering of money, and the inculcation into impressionable youths of bad ideas as to the free use of firearms and explosives.

Restrictive measures give results in direct proportion to the vigor with which they are enforced, but, like most compromises, are satisfactory to no one. New York by this means reduced the number of injuries from 552 in 1909 to 185 in 1910, six of the latter being fatal; in Chicago the usual number of accidents was cut to less than half, but still there were sixty-six injuries with four deaths. Evidently, then, it is the plain duty of every community which has permitted the use of explosives in Independence Day celebration to put an absolute stop to the practice. While an ordinance prohibiting the use of blank cartridges, firearms and giant crackers would, if enforced, abolish most of the dangers of the Fourth, yet experience shows that such an ordinance cannot be enforced. Only when the sound of any explosive means a violation of the law can the more dangerous explosions be prevented; furthermore, hundreds of accidents, many fatal, are annually caused by the so-called harmless fireworks. If boys are given a mild taste of the joys of noise and devastation which gunpowder can produce, they will seek and discover ways of getting more; but if for a very few years this sort of celebration can be prevented, the demand for it will vanish with the coming in of a new generation of small boys who know not what they have missed. During the transition period, substitution in the way of parades, picnics, sports and other wholesome means of entertainment may be advantageously employed, and in time these things will undoubtedly develop in a way to make our great national holiday fully as memorable and a much more appropriate day in the calendar.

In bringing about this change there is every opportunity for medical men, and especially for medical societies, to do much for public welfare, and this is the time of year in which to begin work which will secure results. If local medical organizations will use their opportunities to influence public opinion through the press and personally, in nearly all communities they can make it possible to secure legislation which will abolish the Fourth-of-July carnage. Through properly directed efforts medical societies can secure the introduction and passage of suitable ordinances, and can greatly assist in their enforcement. Probably there are few directions in which concerted action can accomplish so much immediate good as this, and it is a service which every medical society should seek to perform for its own community. THE JOURNAL stands ready and prepared to furnish data on the results of past celebrations, and advice as to the prevention of future harm.

THE INFLUENCE OF THE PRINCIPLE OF SPECIFICITY ON MODERN MEDICINE

The term "specificity" has come into such every-day use that we are in danger of losing sight of its broader significance among the countless special points of application which are closer to our eyes. It is the opinion of Wassermann, expressed in a recent address on this subject,[1] that it is recognition and investigation of this fundamental biologic principle which characterize the present era of medical science and to which its progress is most largely due. We owe to Robert Koch its first definite statement, in the declaration that every infectious disease is caused by a definite agent, and that this agent is found always in that special disease, and that no other disease is produced by that agent; in other words, the causal organism is specific for the disease. The next step came with von Behring's discovery that in response to invasion by the bacteria or their poisons the body reacts with the production of

1. Wassermann: Deutsch. med. Wchnschr., 1910, xxxvi, 1860.

substances which are specific for the products of these bacteria. For some time the idea of specificity was associated only with bacteria, but after a time it was found to apply equally to the proteins of the higher forms of life, whether of animal or vegetable nature, and now we recognize that a certain degree of specificity may exist even between different tissues and fluids of the same individual. Under certain conditions we can distinguish by biologic reactions between the milk and the blood-serum, or between the egg proteins and the tissue proteins, and possibly also between the proteins of different organs of the same animal. An interesting special case is furnished by the crystalline lens protein, which is so sharply differentiated from the other proteins of the animal that it acts to the animal which formed it as an entirely foreign protein; it is said to be possible to sensitize a guinea-pig with the lens from one of its own eyes so that it will be intoxicated when injected with an extract of the lens from the other eye.

Recent developments would seem to indicate that the phenomenon of specificity is not limited to the proteins, but may also be exhibited by the fatty substances, as in the relation of the lipoids to the serum reactions of syphilis. In echinococcus infection, we find the blood of the host developing substances which react specifically with the lipoids of the echinococcus, and not with similar lipoids from the tissues of the host.

The classical demonstration that tetanus toxin is fixed by nervous tissue, taught us that there exist specific relationships between body cells and poisons as well as between the blood-serum and poisons, and led us to an understanding of how toxins do their work. From this has in turn developed the appreciation that there are two possible ways of approaching our task of preventing harm from injurious agents: we may reduce or remove the specific affinity of the cell for the toxic substance, or we may turn toward the "noxa," as the Germans say, and render it incapable of combining with the cell. Of these two methods only the latter has received much attention or given much encouragement. Here we must place, not only our few efficient antiserums, but also the parasiticidal drugs. It was through his early appreciation of the generality of the laws of specificity that Ehrlich came, over twenty years ago, to develop the principle of specific chemical agents which should act on specific cells, this being before the discovery of specific serum therapy. From this has grown the new science of chemotherapy, based on the principle that the affinity of the drug shall be greater for the parasite or its poisons than it is for the cells of the infected individual; in other words, chemotherapy seeks for substances that combine specifically with the parasite or with its poisonous products, a requirement which had already been fulfilled through empiricism in at least one case, that of quinin and the sporulation forms of malaria parasites.

The growth period of medical science, which immediately preceded the present period, developed about the central thought of the dominance of the cell in structure, function and disease. Concerning itself largely with post-mortem material, and observing chiefly the steps leading away from physiologic integrity, medical thought inevitably took a pessimistic turn, and therapeutic nihilism was the logical outcome. But the central idea which in recent years has guided investigation is, Wassermann contends, that of specificity. Under its influence therapeutics comes again into its own, and optimism takes the place of nihilism as we cease to limit our faculties to the contemplation of the ravages of disease and turn our attention toward the living being, and the search for substances which have specific affinity for the cause of the disease, or for the organ we wish to affect.

The doctrine of specificity now dominates medical science, and we look for happier results from the new régime, trusting that as pathologic anatomy under the influence of the cell doctrine gave us a better understanding and more accurate diagnosis of disease, the study of specificity will add as much to our ability to control and cure it.

Current Comment

JOURNAL OF THE CANADIAN MEDICAL ASSOCIATION

With pleasure we note the advent in the field of official medical journalism of the new *Canadian Medical Association Journal,* representing the organized profession of Canada, the first number of which appears with the new year. The increase in the number of medical journals connected with and representing medical organizations is but an expression of the demands and the ideals of a modern conception of medicine, of which the passing of the proprietary medical school is still another phase. A journal which is unhampered and uninfluenced by commercial considerations, which receives the support and encouragement and the contributions of the best of the profession, and which may use its prestige, its wide circulation and the able services at its command to foster and carry out the ideals and objects of the profession, is the one that is in position to accomplish the most and best for both the public and the profession. For the modern conception of medicine is not only to elevate the profession, to make better educated, more skilful physicians, but also to discover methods and measures of prevention and to promote the public health. To do this requires education, legislation and the united support of the profession. As an aid in the creation of a perfect organization and in carrying out the measures proposed by such organization, the publicity made possible by an official journal is a most important and, indeed, an essential factor. Many of the state societies have established official organs which are a power for good in their respective fields. We are glad to see the national organization of Canada adopt this plan by taking over the *Montreal Medical Journal.* The editorial direction of the new journal remains the same, and the journal will continue to be issued from Mon-

treal. The first number sets a very high standard, both in the character of the papers and editorially. A noteworthy improvement over the journal which it succeeds is the exclusion of numerous advertisements of objectionable proprietary preparations which have been shown to be fraudulent, misbranded or downright nostrums. In this respect the new journal sets a wholesome example, which might be followed with credit by its contemporary in the mother country, the *British Medical Journal*. We offer our felicitations to the *Canadian Medical Association Journal*.

MEDICAL EDUCATION AND PRACTICE IN JAPAN

According to a report from the American Consul at Nagasaki, commented on in the 1910 Report of the U. S. Commissioner of Education, Japan has two grades of medical colleges. To enter the ordinary medical colleges, eleven or twelve years of work in the elementary and middle schools are required, but for admission to the medical colleges of Tokyo, Kioto and Fukuoka universities, three additional years of higher preliminary training are required. The medical course extends over four years. Graduates from the imperial universities and other approved medical schools must secure a license from the minister of home affairs before they begin to practice. A graduate of a foreign medical school or a holder of a physician's license, coming from a country that licenses Japanese physicians without examination, may be licensed by the minister of home affairs. No person may practice medicine who has been sentenced to imprisonment or fined in connection with medical practice. Books must be kept by physicians for ten years, and the names, ages, residence, professions, and the names of diseases of patients and the method of treatment applied to them must be entered therein. Physicians may not make a false advertisement by boasting of their talents, nor may they advertise as having secret methods of treatment.

PREVENTING TUBERCULOSIS AT ITS FOUNTAINHEAD

Childhood, says A. W. Jones,[1] is the period of life in which the greatest susceptibility to tuberculosis infection exists, and adult tuberculosis is generally an after-result of childhood infection. The true field of prevention in antituberculosis work, then, is obvious. Jones restates the opinion that the tuberculous infection of the individual does not occur by direct entrance into the blood through the air cells of the lungs, but always through the glandular system, either in the respiratory or alimentary tracts, and that in the vast majority of cases it occurs in infancy. If the infection occurs before the second year the patient promptly dies; if after the age of 2 the disease is more likely to become latent, and from this age up to puberty this tendency to latency increases with each year of age. What is called early tuberculosis in adults is generally the second stage or the beginning of the third, and at best it can be spoken of only as the early stage of pulmonary tuberculosis. Jones says that it should be the business of preventive medicine to forestall this stage. Logically, the upbuilding of the individual at the time of the true incipiency of the disease will give to Nature the greatest amount of assistance at the most applicable moment in the life of the disease. And as childhood is also the constructive period of the individual, the time when the tendency to normal cell-growth is at its highest, we may naturally expect the greatest returns for efforts expended, and the greatest percentage of absolute recoveries possible. Jones designates the public school as the "unworked field of preventive medicine" wherein most effective work in this line can be done. While this cannot be said to be a wholly "unworked" field—witness the active movement for the betterment of school hygiene, medical inspection, the establishment of open-air schools, etc.—yet it is no doubt a vulnerable point of attack in the eradication of this disease.

1. Jones, A. W.: An Unworked Field of Preventive Medicine, Jour. Minn. State Med. Assn., Oct. 1, 1910.

THE KISS OF DEATH

A better understanding of the sources and methods of transmission of infectious diseases has resulted in many changes in matters of personal and public hygiene. Mediate and immediate personal contact is found to account for many of such infections, and this has resulted in such measures as the abolishment of the public drinking-cup and of the use of slates by school children, greater care in the disposal of the sputum of the tuberculous, and the sterilization of bacillus-carriers. The transmission of such infections as diphtheria, syphilis and tuberculosis, have in some cases undoubtedly been due to methods used in certain industrial occupations, such as the use of blowpipes by jewelers and glass-blowers, and perhaps the sticking of the wrappers of cigars by the saliva in the cigar industry. Among these "relics of a more careless age" is a custom in the cotton factories necessitated by the old-fashioned weave-room shuttles, grimly called the "kiss of death." This shuttle, which requires the sucking of the thread through a hole by the operative, has doubtless been responsible for the carrying of tuberculosis and other infections throughout all the generations in which it has been used, and is, indeed, a veritable "kiss of death." A shuttle has been devised which does away with this lip contact, and a bill has been introduced into the Massachusetts legislature to compel mill-owners to abandon the use of the old shuttle. Popular knowledge of infectious and contagious diseases and the way they are carried should be all that is necessary to abolish at once all such contrivances. Unfortunately, it is sometimes easier for a camel to go through the eye of a needle than for a "practical" man to recognize facts, the corollary to which, if acted on, might possibly shave profits more or less; and this bias is illustrated by the fact that there is no market in the United States for certain life-saving devices which are manufactured here. These devices are sold only abroad—where the law compels their use. It is a sad commentary on our civilization and appreciation of what is humane that any legislation should be needed to compel the employers of labor to eradicate from the industries all forms of the "kiss of death."

THE SEPTIC TANK

A particularly clear and authoritative statement of the modern view of the septic tank will be found in an editorial by Rudolph Hering in the November, 1910, number of the *American Journal of Public Hygiene*. The reasons for the decline in the favor with which the septic tank was once regarded are stated under six heads. A few sentences will bear quoting: "The great reduction in the amount of sludge to be handled as promised by the advocates of the septic tank has not been realized." "A reduction of bulk by drainage is very much greater than a reduction by septic action, the latter referring only to solid matter." "The odor about a septic tank is frequently offensive." "It was found that the septic effluent was less fit for subsequent oxidation of the sewage by biologic filters or bacteria beds than fresh settled sewage." "The sludge which has to be removed from septic tanks is often foul when taken out and its removal is connected with more or less of a nuisance." The article cited is not confined to a discussion of the septic tank, but deals with other methods of sewage disposal in the light of the most recent investigations along both practical and theoretical lines.

THE DECREASING GERMAN BIRTH-RATE

The race-suicide question is beginning to come to the front in Germany. Last year's birth-rate was only thirty-three per thousand, as against thirty-six for the decade ending with 1890, and forty-two in 1875. It is highly probable that this decrease will continue. The phenomenon is the natural consequence of increasing thrift and prosperity and changed social conditions. It is asserted that the higher standard of living tends to produce physiologic conditions which in themselves decrease fertility. Economic and social reasons, however, including the tendency to delay marriage under modern conditions of life, are ample to account for the gradual decrease in highly civilized countries at the present time. The birth-rate does not decrease rapidly among the members of an improvident proletariat.

Medical News

COLORADO

Trades Union Hospital.—The Denver Union Hospital Association has opened headquarters and is raising funds for the erection of a hospital especially for members of allied trades unions.

Hospital Saturday and Sunday.—The Hospital Saturday and Sunday Association, Denver, collected on Tag Day $6,080. During last year the association gave hospital care to 266 persons.

Personal.—Dr. Elizabeth Cassidy, Denver, has been elected a member of the Board of Commissioners of Denver County.——Dr. Leonard Freeman was operated on for appendicitis and is reported as doing well.

State Society Meeting.—The Colorado Society for the Prevention and Control of Tuberculosis, at its annual meeting in January, reelected Dr. G. Walker Holden as president and Dr. Poulterer Morris as executive secretary.

Home for Mental Defectives.—The State Home and Training School for Mental Defectives now under construction at Ridgeway will be ready for occupancy in the spring. Its completion will remove from county institutions all public charges of this class.

House-Warming.—On January 2 a house-warming was given by Drs. Melville Black, Leonard Freeman, Josiah N. Hall, Samuel D. Hopkins, Robert Levy and Charles B. Lyman at their office on the fourth floor of the Metropolitan building. The good fellowship manifested on this occasion was such that it was felt to be a great success.

Gift to Consumptive Hospital.—Mr. Jacob August, Cleveland, has given $25,000 to the National Jewish Hospital for Consumptives, Denver, the interest to be used for the maintenance of the trades school.——Mrs. Lewis Schoenberg, Cleveland, has provided $25,000 for the purchase of a farm near Denver to provide supplies for the inmates of the hospital.

Denver Deaths in 1910.—Dr. W. H. Sharpley, Commissioner of Health of Denver, reports that during the year, 3,518 deaths occurred, of which 1,224 were from general diseases; 300 from nervous diseases; 380 from circulatory diseases; 412 from respiratory diseases; 325 from digestive diseases; 262 from genito-urinary diseases and 238 from external causes. Tuberculosis in all forms caused 690 deaths and pneumonia 328 deaths.

Sanitarium for Colored.—The National Lincoln-Douglas Sanatorium and Consumptive Hospital Association has begun a series of meetings to promote interest in an institution for the care of colored individuals suffering from tuberculosis.——James Polk Taylor, formerly a slave, and his wife have donated 480 acres of land at Calhan, forty miles east of Colorado Springs to the Charles Sumner Tuberculosis Association, as a site for a national tuberculosis sanatorium for negroes of the United States.

ILLINOIS

Money for Medical School.—The budget of the University of Illinois, which amounts to $3,551,000 asked to be appropriated by the present legislature, includes an item of $200,000 for the maintenance of the college of medicine.

Tuberculosis Dispensary Open.—The new free dispensary organized by the Springfield Tuberculosis Association, was formally opened, January 23. The dispensary will be open from 10 to 11 on Monday, Wednesday and Friday mornings, and at the same hour on the first and third Saturdays of each month, children will be examined and treated.

Personal.—Dr. Joseph M. Wallace, Aledo, is reported to be seriously ill with pneumonia.——Dr. Franklin N. Odbert, Indianola, is ill at his home with influenza.——Dr. Walter F. Wessels, Mendon, sailed for Germany, February 1.——Dr. Green E. Hill, Girard, is ill at his home with influenza.——Dr. Lemuel L. Silverthorn, Charleston, who has been seriously ill is reported to be improving.

Elections.—At the annual meeting of the Winnebago County Medical Society, held in Rockford, January 10, Dr. William H. Fitch was elected president; Dr. Allen C. Eakin, vice-president; Dr. Frank W. Hanford, secretary-treasurer; Dr. William E. Park, censor; and Dr. Charles E. Crawford, delegate to the state society, all of Rockford.——At the annual meeting of Sangamon County Medical Association, held in Springfield, January 9, Dr. George F. Stericker was elected president and delegate to the state society; Dr. William A. Young, vice-president and alternate delegate to the state society; and Dr. Otto H. Deichmann, secretary-treasurer, all of Springfield.

Chicago

Personal.—Dr. Thomas O'Malley has been appointed a member of the Chicago school board.——Dr. Earl J. Brown was attacked near his home, January 23, beaten into insensibility, and robbed of money and jewelry.

New Hospitals.—The Missionary Sisters of the Sacred Heart of Jesus are erecting a new hospital to be known as the Columbia Extension Hospital for the free use of the deserving poor, regardless of race, creed or color. The institution is located at Lytle and Polk Streets and will be dedicated, it is expected, in April or May.——An ordinance was passed, January 30, providing for the purchase of land at North Fortieth and Bryn Mawr Avenues on which to construct a tuberculosis hospital.

INDIANA

Public Drinking Cups.—Dr. Charles S. Woods, secretary of the Indianapolis Board of Health is preparing an ordinance prohibiting the use of public drinking cups.

Expelled from Medical Society.—The LaPorte County Medical Society is said to have expelled Dr. Johann H. William Meyer, charged with the performance of criminal abortion.

Anniversaries.—On January 17, Dr. William H. Wishard, Indianapolis, celebrated his ninety-fifth birthday.——Dr. General W. H. Kemper, Muncie, celebrated on Dec. 31, 1910, the fiftieth anniversary of his entrance into the practice of medicine.

State Board Election.—The Indiana State Board of Medical Registration and Examination, at its meeting held in Indianapolis, elected the following officers: president, Dr. William A. Spurgeon, Muncie (reelected); vice-president, Dr. James M. Dinnen, Fort Wayne; secretary, Dr. William T. Gott, Indianapolis (reelected, and treasurer, Dr. Moses S. Canfield, Frankfort.

License Revoked.—The State Board of Medical Registration and Examination at its meeting, January 18, is said to have revoked the license to practice medicine of Dr. Charles D. Pettigrew, Logansport, for alleged fraudulent advertising, the complaint being made by Dr. Rodney E. Troutman, Logansport, president of the Cass County Medical Society. Dr. Pettigrew has taken an appeal from the action of the board.

Personal.—Dr. Thomas L. Taylor, Indianapolis, has been appointed physician to the Indiana School for Feeble-Minded Youths, Fort Wayne.——Dr. William F. Houk, Crown Point, Deputy Coroner of Lake County, was seriously injured, January 14, in an automobile explosion, and it is feared may lose his sight.——Dr. Harry B. Leavitt, Worthington, has been elected superintendent and Dr. W. A. Gekler, Indianapolis, assistant superintendent of the State Tuberculosis Hospital, Rockville.——Dr. George E. Clements, Crawfordsville, is spending the winter in Berlin and Vienna.——Dr. Walter J. Mitchell, North Vernon, has been elected clerk of the circuit court of Jennings County.——Dr. George Murphy, Leo, is reported to be critically ill in St. Joseph's Hospital, Fort Wayne.——Dr. Frank M. Morrison has been reelected president of the Board of School Directors of Indianapolis.——Dr. Richard B. Wetherill, Lafayette, sustained serious injuries in an automobile accident, January 9.——Dr. Victor V. Cameron, West Marion, has succeeded Dr. George R. Daniels as coroner of Grant County.——Dr. Walter H. Peters, Lafayette, recently underwent operation at Rochester, Minn., and is reported to be convalescent.——Dr. Kent K. Wheelock, Fort Wayne, has returned from abroad.

IOWA

Upholds State Board.—The attorney-general ruled, January 3, in refusing Dr. J. W. Crofford, Decature, a renewal of his license to practice medicine in the state, that the State Board of Health had acted rightly in refusing to cancel the revocation of Dr. Crofford's license.

Acquitted.—Dr. Arnold Jolly, Hamburg, accused of causing the death of Mrs. Fanny Noblett, May 13, 1910, by a criminal operation, was declared not guilty by the jury, January 14. The defendant was returned to the county jail, however, to answer to a rather similar indictment.

Staff for Children's Home.—At the annual meeting of the medical staff of the Iowa Children's Home, Des Moines, January 5, the following officers were elected: president, Dr. James W. Cokenower; secretary, Dr. Bernard J. Callahan; oculists, Drs. William W. Pearson and Charles M. Werts; surgeon, Dr. James W. Osborn; dermatologist, Dr. Edward R. Posner; neurologist, Dr. Francis A. Ely and members of the attending staff, Drs. Nellie S. Noble, Joseph A. Goodrich, Bernard J. Callahan, Robert L. Parker, L. M. Nourse and R. G. Davis.

Personal.—Dr. Francis E. McGlone, Mason City, was seriously injured by falling on an icy walk near that town, January 10.——Dr. and Mrs. George H. Stanger and daughter, Boone, sailed for Europe, January 25.——Dr. Frank H. Hanson, Magnolia, was seriously injured in a runaway accident, January 4.——A recent fire in Marengo destroyed the office fixtures, instruments and books of Dr. Edgar B. Henderson. ——By a fire in Albia, Dr. Taylor R. Jackson sustained a loss of $1,000.——Dr. Irenarch S. Buzzard, Russell, has returned from abroad.

KENTUCKY

Election.—The Nicholas County Medical Society, at its meeting in Carlisle, elected Dr. Benjamin F. Reynolds, president; Dr. Malcolm Dills, vice-president and Dr. John M. Wells, secretary-treasurer, all of Carlisle.

Tenement House Law.—The first case to be tried in the ordinance court under the new tenement-house law will come up February 2. The health officer has sworn out a warrant against the owner of a tenement house, stating that there is no light on the stairway; that the house is without water on the different floors and that garbage cans are not provided.

Personal.—Dr. Stephen Sharp has been appointed bacteriologist of the Covington Health Department, vice Dr. John Batte, resigned.——Dr. Thomas J. Slaton, Greenville, has been appointed health officer of Muhlenberg County.——Dr. William A. Wright, Corn Creek, has been appointed health officer of Trimble County, vice Dr. Charles P. Harwood, Milton, resigned.——Dr. Clarence P. Burnett, Paducah, has been appointed city health officer and registrar of Paducah and registrar of McCracken County, vice Dr. Shandy Z. Holland, resigned on account of ill health.

MARYLAND

Election.—At the meeting of the Cumberland Academy of Medicine, January 18, Dr. James T. Johnson was elected president; Dr. Edwin B. Claybrook, vice-president, and Dr. John F. Littlefield, secretary-treasurer.

State Hospital Report.—During the fiscal year ended Nov. 1, 1910, 672 patients were treated in the Maryland Hospital for the Insane near Catonsville. Of these, twenty-seven were discharged, eighteen of which were recovered, five improved and four unimproved. During the year there were forty-seven deaths.

Personal.—Dr. McPherson Crichton, Washington, D. C., was acquitted in the circuit court, Rockville, Md., January 23, of the charge of manslaughter, as a result of an automobile accident in August last. So weak a case was made out that the judge did not allow the case to go to the jury.——Dr. Thomas Z. Offutt, Granite, is reported to be seriously ill.——Dr. George Wells, for several years chief of the staff of the Annapolis Emergency Hospital, has resigned and Dr. James J. Murphy has been appointed in his stead. Dr. W. S. Welch has been appointed secretary of the staff and Drs. J. Oliver Purvis, Louis B. Henkel and James J. Murphy, have been made the executive committee.

Baltimore

Small-Pox on Steamer.—The steamship *Main*, from Bremen via New York, was detained at Quarantine, January 23, on account of the existence of a case of small-pox in one of the passengers.

Enlargement of Hospital.—Plans are being made for the addition of another story to the Maryland General Hospital which will give accommodation for seventy-five additional patients and will add to the institution, two operating rooms and a sun-parlor.

Personal.—Dr. Hugh H. Young gave a reception, January 21, to Seymour Thomas, a portrait painter of Paris, when a portrait of Dr. William Osler, by the latter, was exhibited.——Dr. Thomas Harris Cannon is reported to be critically ill with uremia at the University Hospital.

Gift to Crippled Children's School.—Mrs. William Paint has added $10,000 to her donation to the Crippled Children's School near Catonsville, making her entire gift $30,000. This will enable the institution to remain open the year round instead of being closed in the winter as at present.

Dental Dispensary for Children.—On October 1, Mrs. Henry Barton Jacobs will open a dental dispensary exclusively for children at the Robert Garrett Hospital for Children. This is said to be the first dental dispensary to be established in the country and it will be under the charge of Dr. D. Edward Duff.

MASSACHUSETTS

New Site for Hospital.—The trustees of the Foxboro State Hospital for Inebriates have chosen a site for the new institution in the town of Norfolk, containing 640 acres, and the governor and executive committee have approved this choice.

Society Centennial.—The Boylston Medical Society celebrated its centenary by a dinner at the Harvard Union, January 6. Dr. John L. Morse, the president, was toastmaster and the speakers included many prominent professional men of New England.

Fined for Failure to Report.—Dr. George Reinherz, East Boston, and Dr. Elmer L. Brine, Boston, are said each to have been fined $50 for failure to report cases of ophthalmia neonatorum within six hours of birth of children so afflicted. In the latter case, the sentence was suspended and the defendant placed on probation.

Mental Disease Clearing House.—Massachusetts has begun at a cost of $500,000 the erection of a State Psychopathic Hospital in Boston which is expected to be in full operation in about a year. The institution is to be the receiving, classifying and distributing center for patients ill with mental diseases. The hospital expects to keep about one hundred patients, regularly in the wards, the other 1,400, which

expects to receive, being sent elsewhere for treatment suited to the separate needs of the individual.

Personal.—Dr. Osmyn Baker has been reelected city physician of Northampton.——Dr. George G. Sears, Boston, is recuperating in Los Angeles after a severe illness.——Dr. Thomas F. Leen has been elected a member of the school committee of Boston.——Dr. Thomas F. Harrington has been appointed physician in chief of St. Elizabeth's Hospital, Boston; Dr. Michael J. Cronin, assistant; Dr. William A. Brooks, head of the surgical staff, and Dr. Edward A. Supple, assistant. A new site has been purchased for the institution in Brighton.

Money to Hospitals.—A bequest of $25,000 to the Holyoke City Hospital is contained in the will of the late William Whiting.——Mrs. Sarah H. Swan has in her will bequeathed $5,000 to the Cambridge Hospital.

MICHIGAN

Free Beds for Students.—Dr. Frank W. Smithies has placed two beds in his private hospital, Ann Arbor, at the disposal of needy students of the University of Michigan. The only restriction is that patients with contagious diseases will not be admitted.

Health Officer Fined.—Dr. Myron A. Patterson, health officer of Flint, is said to have been convicted, January 21, of wilfully and maliciously exposing Under Sheriff Frank Green to "small-pox," during the epidemic in November, and to have been sentenced to a fine of $25 with the alternative of imprisonment in jail. Dr. Patterson resigned as city health officer, January 23, and the resignation was accepted to take effect January 30.

Personal.—Dr. G. Carl Huber, professor of Histology and embryology in the University of Michigan, Ann Arbor, resigned as secretary of the Department of Medicine, January 1, to accept the headship of the new department of embryology for the Wistar Institute of Anatomy, Philadelphia. Dr. Charles W. Edmunds, professor of therapeutics and materia medica, has succeeded Dr. Huber as secretary of the department.——Dr. John F. Byington, Battle Creek, who has been seriously ill with erysipelas, is reported to be improving.——Dr. Bion Arnold, Denton, while crossing the car tracks in the village, January 22, was struck by a car and seriously injured.——Dr. Elmer L. Eggleston, Battle Creek, has returned from Europe.——Dr. Burt R. Shurly has been elected vice-president of the Detroit Tuberculosis Sanatorium and Drs. Charles G. Jennings, Burt R. Shurly and Herbert M. Rich have been elected members of the board of directors.

MISSOURI

Suit Dismissed.—By agreement, the suit of the state, at the instance of Dr. William F. Kuhn, against the board of managers of State Hospital No. 2, St. Joseph, for $250 and living expenses as superintendent of the hospital was dismissed, January 17, at the defendant's cost.

Personal.—Dr. William G. Cowan, formerly of Sedalia, is reported to be critically ill with pneumonia at his home in Carlsbad, New Mexico.——Dr. John Ashley, Bloomfield, has resigned as a member of the State Board of Health.——Dr. Milton P. Overholser, Harrisonville, has been elected superintendent of State Hospital No. 3, Nevada.

Conviction for Abortion.—In the case of Dr. G. Emil Darz, Kansas City, charged with the performance of a criminal operation, which caused the death of Mrs. Marion Hawkins, last September, the jury in the criminal court is said to have found the defendant guilty and a sentence of imprisonment in the county jail and a fine of $50 was imposed, January 13.

NEW YORK

To Have Women Interns.—Women have been substituted for men in the Hempstead Hospital, of which Mrs. O. H. P. Belmont is president.

Election.—The Fulton Physicians and Surgeons' Association, at its annual meeting, January 18, elected the following officers: president, Dr. Edward M. Anderson; vice-president, Dr. Harriet M. Doane; secretary-treasurer, Dr. Sylvester D. Keller, and censors, Drs. Frank E. Fox, Willis M. Wells and Harvey Threpening.

Personal.—Charles F. Wheelock, who was formerly chief of the examinations division of the state Department of Education, Albany, has been promoted to the position of second assistant commissioner of education. The new chief of the examinations division is Mr. Harlan H. Horner, to whom all requests for information regarding state license examinations should be addressed.——Dr. Thomas W. Salmon, passed assistant surgeon, U. S. P. H. and M.-H. Service, has been appointed a member of the board of alienists by the New York State Commission in Lunacy.

New York City

Harvey Society Lecture.—The fifth lecture in the Harvey Society course, by Dr. Thomas B. Osborne of the Connecticut State Agricultural Experiment Station, February 4, is on "Chemistry of the Proteins."

Personal.—Dr. Joseph L. Hicks, Flushing, L. I., has been appointed physician emeritus to the Flushing hospital. Dr. Hicks is about to retire from active practice.——Dr. Elizabeth A. Bruyn, Brooklyn, has been appointed ambulance surgeon to the Williamsburg hospital.

Sanatorium for Hebrew Children.—At the annual meeting of the officers and directors of this institution it was reported that 3,680 mothers and children were cared for during the last summer and 11,476 mothers and children were taken on boat and railroad trips to summer resorts. Although so many were treated during the summer there were only six deaths in the institution.

Verdict Against Physicians.—A verdict was returned, January 10, against Dr. George T. Steward, formerly superintendent of the Metropolitan Sanitarium, Blackwell's Island, and Dr. Ralph W. Thompson, for performing an autopsy without authority. The plaintiff admitted signing a permit for the autopsy, but said that the physicians had told her that this was necessary before she could remove her sister's body.

Bequests.—The appraisal of the estate of John Stewart Kennedy, who died Oct. 31, 1909, shows the amount to be distributed as $65,659,000 of which $2,858,000 is given to the Presbyterian Hospital.——William F. Wardwell, formerly president of the New York State Red Cross Society, in his will bequeaths $100,000 to the New York Red Cross Hospital, contingent on the death of his widow, and on condition that the hospital use no alcohol in any form in the treatment of its patients.

NORTH CAROLINA

Laboratory for Sanatorium.—The Charlotte Sanatorium has obtained a permit for the erection of a clinical and pathologic laboratory.

Personal.—Dr. Joseph Graham, Durham, announces his retirement from general practice and his intention to devote himself entirely to surgery.——Dr. Edwin G. Moore, Elm City, has resigned as director of the State Hospital for Colored Insane, Goldsboro, and has been appointed a director of the State Hospital for Insane, Raleigh.——Dr. Thomas A. Mann, Durham, was seriously injured by coming in contact with a barb-wire fence, January 16.

Hookworm.—Dr. John A. Farrell, assistant secretary of the State Board of Health in charge of the hookworm work in the state, has issued a summary of his work up to January, which shows that 14,000 cases of the disease have been treated; approximately 50,000 people have been informed in public lectures of the symptoms and the effect of hookworm infection; 34,000 school children have been visited and inspected and reports have been received from 838 practitioners relative to the existence of hookworm in their practice. Of 5,552 microscopic examinations of human feces, 42 per cent. were found to be infected with hookworm.

NORTH DAKOTA

District Society Meeting.—At the annual meeting of the Northwestern District Medical Society, held in Minot, January 21, the following officers were elected: president, Dr. Archibald D. McCannel, Minot; secretary-treasurer, Dr. G. Roy Ringo, Minot; censor, Dr. Joseph T. Newlove, Minot; delegates to the state society, the president, and Dr. E. W. Blatherwick, Drake, and alternates, Drs. Andrew Carr, Minot, and F. A. Brugman, Drake.

OHIO

Personal.—Dr. Lewis Kahn has been reappointed a member of the health board of Columbus.——Dr. Thomas E. Craig, Sabina, has retired from practice and gone to Florida to recuperate.

Tablet Unveiled.—On the occasion of the semi-annual clinic at St. Vincent's Hospital, Toledo, January 19, the memorial tablet to Dr. James Donnelly given by the medical staff of the hospital was unveiled.

Failure to Report Diseases.—Nine physicians of Cleveland have been summoned to appear before the health board to explain their failure to report cases of communicable diseases. In most instances, the disease not reported was pneumonia.

Cincinnati

Clinical Society Meeting.—The Clinical Society of the Cincinnati Hospital at its first meeting, January 19, elected Dr. Frederick Forchheimer, president, and Dr. Simon P. Kramer, secretary-treasurer.

Personal.—Dr. Christian R. Holmes has been appointed a member of the commission to build the new city hospital.——Dr. August C. Busch, Hyde Park, has been elected state medical director of the Catholic Knights of Ohio.——Dr. Asa B. Isham has been elected president; Dr. Byron L. Stanton, vice-president; and Charles L. Bonifield, secretary of the board of medical directors of the Cincinnati Hospital.

PENNSYLVANIA

Philadelphia

Tuberculosis Talks in Public Schools.—The Board of Education has arranged for a series of lectures, through the generosity of the Pennsylvania Society for the Prevention of Tuberculosis, to be given in several elementary schools. The lectures will deal with personal and civil hygienic measures necessary in order to eradicate the disease.

Open-Air Schools Postponed.—Plans for the establishment of the open-air schools in Philadelphia for children, affected with tuberculosis, have been given up for the time, because of lack of funds. However, physicians are making an inspection of the public school children to ascertain the number affected with tuberculosis in any stage, as well as anemic and undernourished children, who would be fit candidates for such schools.

Personal.—Samuel Bell, Jr., was elected a trustee of the Medico-Chirurgical College, January 16.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, was the guest of honor at the annual smoker of the alumni of Scranton December 27.——Dr. J. Chalmers DaCosta has been appointed visiting surgeon to St. Joseph's Hospital.——Dr. Alfred Stengel has resigned as visiting physician of the Philadelphia General Hospital, and Dr. William Pepper has been appointed his successor.——Dr. Samuel G. Dixon has been elected a trustee of the University of Pennsylvania.

Blockley Short of Funds.—When Councils' Finance Committee appropriated $75,000 to the Department of Health and Charities for the labor roll at the Philadelphia General Hospital and Almshouse, it provided nothing for material, and this will necessitate laying off about 75 employees. The same condition existed last year but later Councils appropriated $10,000 for materials. The sum of $150,000 was asked for the construction of a new boiler house and boilers, but only $15,000 was given. Councils did give the department money for the installation of new automatic fire alarm system for the general hospital.

UTAH

Official Organ for State Association.—The Utah State Medical Association has completed arrangements with *Northwest Medicine* by which the latter—instead of the *Denver Medical Times*—will serve as its official journal for the ensuing year. The association, therefore, will not have a separate official organ as THE JOURNAL was at first informed.

WASHINGTON

Elections.—King County Medical Society, at its annual meeting, January 2, elected the following officers: president, Dr. George B. McCullough; vice-president, Dr. Harrison A. Wright; secretary-treasurer, Dr. Herbert E. Coe, and delegates to the state association, Drs. Frank M. Carroll, George B. McCullough; George N. McLoughlin, Frank T. Maxson, Richard J. O'Shea, Richard W. Perry and C. Benson Wood, all of Seattle.——Whatcom County Medical Society, at its annual meeting in Bellingham, elected the following officers: Dr. Fred V. Shute, Bellingham, president; Drs. Frank A. Wheaton, Bellingham; Eugene S. Clark, Sumas, and Charles S. Hood, Ferndale, vice-presidents; Dr. Ernest D. Hatch, Bellingham, secretary; Dr. Edward C. Ruge, Bellingham, treasurer, and Drs. Lemon R. Markley and Hays A. Compton, Bellingham, delegates to the state asociation.

WISCONSIN

Personal.—Dr. Edward C. Schnittker, Milwaukee, sentenced to imprisonment for six years and revocation of license in February, 1908, on account of the performance of a criminal abortion, has been on parole for a year past and was unconditionally pardoned by the governor, January 12.

The Hospital Question in Milwaukee.—The Milwaukee County Medical Society disapproves of the proposed purchase of the Schandein house as a maternity hospital on account of the impossibility of remodeling the building into a modern hospital. An isolation hospital for children suffering from contagious diseases is considered the great need of the city, and Pabst Park has been suggested as a site for this institution.

Medicine Sample Kills.—The jury in the case of Martin O'Donnell, Oconto, versus the M. W. Marshall Medicine Company, Fond-du-Lac, is said to have returned a verdict for $666 for the plaintiff, and also to have found that a relative of the defendant had been guilty of contributory negligence. An agent of the defendant company had distributed samples of a rheumatism medicine in Oconto, and a small daughter of the plaintiff fed an infant the contents of the bottle left at the house by the distributor, resulting in the death of the baby.

Society Meetings.—The Seventh District Medical Association, at its annual meeting in LaCrosse, December 22 and 23, elected Dr. Eugene H. Townsend, New Lisbon, president; Dr. Edward F. Christian, LaCrosse, vice-president; Dr. Charles H. Marquardt, LaCrosse, secretary.——At the annual meeting of the Eau Claire District Medical Society, Dr. Ralph R. Chase, Eau Claire, was elected president, and Dr. Everett L. Mason, Eau Claire, was reelected secretary-treasurer.——Rock County Medical Society, at its meeting in Beloit, December 27, elected Dr. George W. Fifield, Janesville, president; Dr. William J. Allen, Beloit, vice-president; Dr. Eduards B. Brown, Beloit, secretary-treasurer, and Dr. Frank W. Van Kirk, Janesville, censor.——Twin City Medical Society, at its annual meeting in Menasha, January 3, elected the following officers: president, Dr. Samuel G. Todd, Neenah; vice-president, Dr. Frank M. Corry, Menasha, and secretary-treasurer, Dr. Samuel D. Greenwood, Neenah.——At the annual meeting of Douglas County Medical Society, held in Superior, Dr. Fred G. Johnson, Iron River, was elected president; Dr. Thomas J. O'Leary, Superior, vice-president; Dr. Royal K. Lohmiller, Superior, secretary-treasurer, and Dr. Charles H. Mason, Superior, censor.

FOREIGN NEWS

The Indian Ambulance Gazette.—With the beginning of the new year the Indian branch of the St. John Ambulance Association began the publication of an official organ named the *Indian Ambulance Gazette*. This association, under the emblem of the white cross, has organizations throughout the world for rendering public first aid in time of pestilence, great disaster or war, similar to the organization of the Red Cross. The Indian branch was organized in 1887 and has grown encouragingly so that an official organ became necessary in carrying out its purposes. The gazette will be published quarterly. The first number contains a considerable fund of information, historical and otherwise, as well as the late news of the organization in India and other parts of the world.

Plague in the Far East.—Cabled news in the daily papers indicates that the plague situation in China has become no worse during the past week. The state department is said to have cabled the American minister at Pekin to ask medical missionaries to volunteer in response to the invitation of China to the leading powers of the world to send commissions of medical experts to study the plague and help combat it. The department is also to take up the question with the navy and treasury departments with a view of obtaining the services of naval surgeons and members of the Public Health and Marine Hospital Service. The Pacific coast of the United States is being vigilantly guarded and the Japanese are also on the alert. The work of fighting the plague is said to have fallen almost entirely on the foreign medical missionaries in China and they are bravely grappling with the task. In the two northeastern provinces of China, where Pekin is situated, there are said to be thirty-seven hospitals and thirty-five dispensaries in charge of foreign medical missionaries; fifty are Americans, including twenty-four women. The two districts have a long and diversified coast frontage and are bounded on the northeast by Manchuria where the plague is raging. The two districts extend about 700 miles north and south and about 500 miles east and west, an area nearly four times that of New York state, with a population six times that of the state. The hope of a racial immunity to the plague is proving unfounded, two European physicians had died at Harbin from pneumonic plague, the type prevailing there now, and one Japanese physician by January 28.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 21, 1911.

A Clean Milk Campaign

The National League for Physical Education and Improvement has started a "clean milk campaign." Recognizing that few matters are of greater importance in promoting the health of the nation than a pure milk-supply, the association has determined to make an effort to impress on farmers, milk retailers and consumers alike the necessity for certain precautions with regard to the distribution and consumption of milk. A series of leaflets addressed to each of these classes has been adopted for circulation by a considerable number of public bodies.

Sir Francis Galton

Sir Francis Galton, F.R.S., died at Haslemere, Surrey, January 17, in his 89th year, from bronchitis complicated by congestion of the lungs. He was born in Warwickshire and was a cousin of the author of the "Origin of Species." While second only to Charles Darwin in eminence as a biologist he surpassed him in versatility. Taveler, meteorologist and anthropologist, he made his mark as a writer on all these subjects. On his father's side he was of ancient Quaker stock. To the wishes of his parents he studied medicine but at the age of 22 he found himself, on the death of his father, with a fortune sufficient to render him independent and began traveling. He went through Egypt and explored a large part of Africa for which he was rewarded with the gold medal of the Geographical Society. In 1855 he wrote "The Art of Travel, or Shifts and Contrivances Available in Wild Countries," which has been a *vade-mecum* to travellers ever since. In 1861 he turned his attention to meteorology and described a method of recording the state of the weather over a wide area by means of charts, and this method has been used by meteorologists ever since. In 1862, he introduced the term anticyclone which figures so frequently in modern meteorologic reports.

His name, however, is best known in connection with anthropology. The distinguishing feature of his work was the use of statistical methods. In 1869, he published "Heredity and Genius" in which he aimed to show that genius was mainly a matter of ancestry. In 1874, appeared "English Men of Science: Their Nature and Nurture" which was suggested by De Candolle's book analyzing the salient events in the history of 200 men who had lived in the preceding two centuries. In the next year he drew up two sets of forms which he hoped would lay the foundation of the practice of maintaining trustworthy life histories that would be of medical service in after-life to the person keeping them, and would promote the registration of much information at present wasted, and assist future inquiries into the problems of heredity. One of these, the "Record of Family Faculties," contained tabular forms to facilitate the collection of facts which are important to a family from a hereditary point of view and which may be used to forecast the mental and bodily development of future generations. The other, a "Life History Album," afforded a continuous register of the principal biologic facts of its owner. In 1904, appeared a study of the distribution of successes and unnatural ability among the kinsfolk of fellows of the Royal Society. In 1901, he initiated the science which he termed "eugenics." He applied his studies in heredity to a discussion of the possibility of improving the human race under existing conditions of law and sentiment. He aimed at putting the problem of race improvement on a scientific basis, and showed statistically that economy of cost and labor in improving the race must depend on attention to parentage. He also applied himself to many other statistical and anthropologic studies. For example, he carried out a statistical inquiry into the efficacy of prayer and came to a decidedly negative conclusion. The question of visions also engaged his attention. He concluded that, however obscure and ill-explained they may be, they belong for the most part if not altogether to "an order of phenomena which no one dreams in other cases of calling supernatural." He further suggested that in view of the vast multiplicity of mental operations in simultaneous action, much of what passes for supernatural is merely the result of one part of the mind being contemplated by another part, as if it were that of another person. His system of composite portraits, which is a process of pictorial statistics which yields an average analogous to that of arithmetic, is now well known. Thus, if the portraits of a number, say of consumptives or criminals of a particular kind are optically superimposed, individual peculiarities are eliminated and the result may be looked on as the type of the class.

To the study of finger prints with which his name is so closely associated his attention was drawn while preparing a lecture on Bertillon's anthropometric method in 1888. He realized the importance of the papillary ridges as anthropologic data. He analyzed the forms and patterns of the ridges, discussing their evidential value by the laws of probability, and investigated their significance (which was far less than he expected) as indications of race and temperament. In 1895, appeared "Finger-Print Directories" in which he showed how finger prints might be used to identify a person. This method, combined with Bertillon's primary measurements, has been adopted for criminals by many governments.

A Doctor's Heroism in a Railway Accident

Details have reached England of a disastrous railway accident at Gaika's Loop, Cape Province, South Africa, in which twenty-three persons were killed. A crowded holiday train, the passengers being chiefly women and children, was returning from East London. The train was traversing a curved embankment about 15 feet high across a gully, when six coaches toppled over to the bottom of the embankment, the couplings snapping. The accident occurred in inky darkness in a wilderness miles from help. Rescuers worked with hand lamps from the train and a bonfire made of the débris of the wrecked coaches. One of the passengers was Dr. Robertson of Cathcart, who had three ribs broken. Despite this he was carried from place to place directing the treatment of the injured until he fainted from pain and exhaustion. The survivors declare that he deserves the Victoria Cross. There was another physician in the train but he was pinned down and helpless for three hours.

The Abuse of Hospitals by Out-Patients

The perennial grievance of the profession that the out-patient departments of the hospitals are largely attended by patients able to pay for medical advice at last is to receive systematic investigation by hospital authorities. The King's Hospital Fund (an institution founded by the late King Edward to raise money for the hospitals, which annually dispenses hundreds of thousands of pounds and has considerable influence over hospital administration) has appointed a committee to consider and report generally regarding circumstances and conditions under which patients are admitted to the casualty and out-patient departments of hospitals, and especially the precautions taken to prevent admission of unsuitable patients. In connection with this investigation the London and County Medical Protection Society (a society of physicians for defending actions brought by unscrupulous patients for the recovery of damages for alleged malpractice, and otherwise protecting professional interests) has issued a circular requesting its members to supply evidence on the following points: (1) abuse of out-patient departments by persons able to pay for medical services; (2) attendance of patients whose ailments are unsuitable for treatment in that department; (3) difficulties experienced by suitable patients in obtaining within a reasonable time admission to the medical officer on duty in that department; (4) loss caused to physicians by the competition of out-patient departments. Full, accurate and detailed statements as to specific cases are requested and not vague generalities.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 13, 1911.

First-Aid Societies and Physicians

For some time there has been a certain ill feeling in the medical profession toward the societies for rendering first aid in emergencies. The practitioners reproached these societies with having departed from their original aims to enter into an improper competition with the medical profession. The Société française de secours aux blessés militaires has founded, in Paris, a hospital-school and a series of fifty-one dispensary schools in Paris and in the provinces. These establishments, while intended to prepare their pupils to be of service in time of war, are meanwhile doing a philanthropic work. According to the reports of the society more than 300,000 free dressings were distributed among the poor by the dispensary schools; but physicians are informed that, in reality, it is not the poor alone who receive dressings and care of all kinds and for all diseases, but any one whatever. Moreover, ladies with diplomas from such societies give electric treatments or vaccinations, make injections of physiologic serum or of sea-water, treat whitlows or give advice which

may at least embarrass the physician, by directly or indirectly diminishing his patients' confidence.

Salvarsan in Ocular Syphilis

Dr. de Lapersonne, professor of clinical ophthalmology at the Faculté de médecine de Paris, on January 10, made, with Dr. A. Léri, a report on the use of salvarsan in ocular syphilis. Their results tend to show that there is no reason to magnify the harmful effects of salvarsan on the eyes. One of the principal reasons is that the mode of application in one or in several injections, at intervals, when the elimination through the kidneys is finished, is altogether different from that of the other arsenical preparations, such as atoxyl, which are used in repeated doses and which produce more or less rapid toxic retrobulbar neuritis. As for the efficacy of the drug, Drs. de Lapersonne and Léri agree that salvarsan acts very favorably and very quickly in certain simple cases of iritis or of interstitial keratitis, but that it is powerless, as might be supposed, in those forms of iridochorioiditis of which the causes are frequently multiple and of which the consequences are so serious to all parts of the eye. In recent cases of optic neuritis and of ocular paralysis, these observers are encouraged to inject large quantities in view of the remarkable but transitory amelioration that they have obtained. Since this improvement did not persist, there would have been reason to renew the injection, if the examination of the urine, made after the first injection, had shown the permeability of the kidneys. Like many other observers, Drs. Lapersonne and Léri have observed after a single injection, sometimes relapses, sometimes new outbreaks of ocular neuritis, in particular, two months or even a month after the treatment.

Death of Dr. Hocquart

Dr. Hocquart, director of the Ecole du service de santé militaire de Lyon, has just died, aged 58. Dr. Hocquart served in the campaigns of Tongking and Madagascar. He was director of the service of military hospitals at Clermont-Ferrand.

The Refilling of Medical Prescriptions

In one of my previous letters (THE JOURNAL, Aug. 7, 1909, p. 468) I mentioned the case of á certain Vallanet, a self-styled doctor who illegally practiced medicine without a diploma in Paris for more than ten years. Vallanet has recently been sentenced to pay damages of $400 (2,000 francs) each to the Syndicat des médecins de la Seine and to the Syndicat médical de Paris, both of which were civil parties to the prosecution. The pharmacist who filled his prescriptions was also prosecuted, and the question of refilling prescriptions, especially those calling for poisonous substances, came up. The pharmacist in his defense cited the common practice of refilling prescriptions. The court did not admit this line of defense. Even though there exists among pharmacists a regrettable custom of refilling old prescriptions which contain only harmless substances, according to the French law, poisonous substances can be sold for use in medicine only by pharmacists and on the prescription of a physician, which must be dated. The pharmacist was fined $100 (500 francs) for delivering poisonous substances without a new prescription. The decision is an important one, as it tends to restrain the practice of refilling prescriptions.

Reorganization of the Medical Course

A delegation from the Association corporative des étudiants en médecine called on the minister of public instruction and the director of higher education to learn the conditions of the application of the decree of Jan. 11, 1909, with regard to the reorganization of the medical course (THE JOURNAL, March 13, 1909, p. 902), to which a fifth year has now been added. The first question is whether the students of the P. C. N. (certificate of physical, chemical or natural studies required as a preliminary of medical candidates) are students in medicine. If they are, it would be difficult to demand that P. C. N. students who enter the medical schools at the time when the new régime is put in force should take five years, as this would make the new decree retroactive. If those who are now students for the P. C. N. are not yet medical students, they should take five years.

In regard to the hospital *stage*, nothing will be changed in Paris. At present there are in Paris twenty professors of various clinics, but thirty physicians or surgeons of the hospitals are authorized to receive *stagiaires* and to accept fees. The students would like to have the privilege of enrolling themselves in any of the hospital services. The director of higher education believes that this desire can scarcely be reconciled with the necessities of instruction. He says that the reform will be put in force as soon as the sum of $300,000 (1,500,000 francs) becomes available for the needed increase of the equipment of the laboratories and of the auxiliary teaching force.

Epilepsy and Constipation

On December 27, Dr. E. Doumer, professor at the Faculté de médecine de Lille, made an interesting report to the Académie des Sciences, on the rôle of constipation in the pathogenesis of epilepsy. Professor Bouchard had expressed a belief in a very close relation between epileptiform phenomena and imperfect intestinal functioning, and Doumer reported some cases in which therapeutic results seemed to confirm this belief. A child of 7, who for a year had had crises of epilepsy almost every day, suffered also from a very pronounced condition of mucomembranous enterocolitis, for which a severe régime had been carried out for six months without result. Doumer gave the little patient abdominal treatment by intense percutaneous galvanization, and after the third treatment, not only did the stools become normal, but the crises of epilepsy became less frequent and disappeared at the end of three weeks. The cure has been maintained for several years.

The result was equally good in two other epileptics, aged 19 and 21 respectively, who also suffered from constipation. It goes without saying that the administration of bromid was stopped entirely from the time the electric treatment was begun on the three patients, Dr. Doumer confining himself to prescribing as adjuvant treatment a diet rich in vegetable and poor in meat and entirely cutting off alcohol.

The Medical Direction of Insane Asylums

At a recent session of the general council of the department of the Seine, the council was reminded that long ago it passed a resolution that each asylum should have a physician as its head, as is the case in most foreign countries. In France, by a curious anomaly, the superintendency of these asylums is considered by the ministry of the interior, which has the power of nomination, as a resource to provide for political derelicts. Hence it happens that the men appointed to these posts frequently have none of the special knowledge requisite for the work. Because of the disadvantages which arise from the division of responsibility, the necessity was conceded of uniting the medical and administrative directorship in superintendents chosen from among specially qualified physicians selected by special examination. To make this resolution effective, the general council has adopted the course of voting the salary of the administrative superintendent for only six months of 1911. Thus if a position of administrative superintendent becomes vacant, the government may, if it wishes, appoint a non-medical man, but he will not be paid, for the general council will vote the second part of the salary to the acting superintendent, but will refuse to pay the new superintendent.

Budget of the Public Charities

The budget of the Public Charities this year amounts to $16,200,000 (81,000,000 francs), a sum much greater than those of preceding years. The floods in 1910 occasioned an outlay of $348,500 (1,742,500 francs). In 1910 the increase in cost of provisions was felt, the results being naturally more considerable because they affect an enormous consumption. The same condition will have to be reckoned with in 1911. The strictest economy is recommended; and it is believed that there are abuses which a more rigorous oversight would check; for instance, the consumption of gauze for dressings in 1909 was six times what it was in 1890.

Liability of a Pharmacist for Damages for Having Given Medical Advice

A cook, having fallen on her shoulder, went to a pharmacist for a lotion and the address of a physician; the pharmacist's clerk gave her the first, but persuaded her that she did not need the second. He also assured the cook's employer that there was no reason for anxiety and that the cook would be able to return to work in eight days. After eight days, however, the swelling had not diminished and a physician was sent for who diagnosed a luxation of the shoulder, necessitating a surgical operation because of the length of time that had elapsed since the accident. The cook therefore brought suit against the pharmacist, first for the reimbursement of the expenses which she had incurred, amounting to over $400, and a similar sum as damages. The court sustained her claim.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 12, 1911.

Personal

Professor Mosler, formerly director of the clinic for internal medicine in Greifswald, died January 7, aged 79. He joined the faculty of Giessen as privat-docent in 1858 and was chosen in 1864 as regular professor at Greifswald. In 1899 he retired, not voluntarily but at the request of the minister of education because it was established that Mosler's activity in investigation and in teaching did not any longer meet the necessary requirements. The scientific studies of Mosler were carried on in various fields but none of them produced any notable results. He treated the subject of diseases of the spleen in Ziemssen's "Handbok of Special Pathology," and of animal parasites in Nothnagel's "Practice."

A Woman Not Admitted as Privat-Docent

Membership in the faculty as privat-docent is not permitted to women in the states of the German federation. Heretofore there has been scarcely a request of this sort, but recently a lady, first assistant in the hygienic institute at Bonn, who had lately received the honorary title of professor from the minister of education, was sustained in her request for permission to become a lecturer by the medical faculty of that university. In spite of this, however, the department refused the request.

Protection of Medical Professional Secrets in Hospitals

A short time ago attention was called in the press to the fact that the medical secret was infringed by the writing of the diagnosis on the history sheets to be found at the head of the beds in the hospital wards, inasmuch as it is easy for the relatives of the patient or strangers to find out the meaning of the Latin name of the disease and use this knowledge to the injury of the patient. Recognizing the justice of this complaint, the city authorities have ordered that in the internal department of the municipal hospitals the diagnosis shall not be written on the card. In the surgical department the disease shall be indicated with the initials of the Latin names.

Kaiser Wilhelm Society for the Advancement of Science

The society for the erection of institutions for the investigation of natural sciences announced by the Kaiser on the occasion of the centennial of the Berlin university, was founded January 11, under the name of Kaiser Wilhelm Gesellschaft zur Förderung der Wissenschaften. The endowment fund so far available amounts to $2,640,000 (11,000,000 marks). First there will be erected a chemical and a chemicophysical institute at Dahlem near Berlin for which the State of Prussia gives the land. The first institute will be under the supervision of Prof. E. Beckmann of Leipsic and the second under that of Prof. Dr. F. Haber of Carlsruhe. Both institutes will be devoted to pure research and will not serve any immediately practical purpose; their directors are under no obligation to teach. The entrance fee for every member of the new society is $5,000 (20,000 marks) and the yearly dues $250 (1,000 marks).

Workingmen's Insurance in Europe

The report just published with reference to workingmen's insurance in Europe and the present situation of legislation includes the data of the various kinds of insurance and permits a comparison of the expense entailed on trade and commerce by the social insurance in various states. From this review, it appears that only the small state of Luxemburg can be placed on the same plane as Germany in its workingmen's insurance against illness and accident. Invalid and old age insurance is also soon to be inaugurated in Luxemburg. Obligatory insurance for illness exists outside of Germany only in Austria-Hungary, Norway and Luxemburg. France has compulsory insurance for miners only. The rest of the states, particularly Italy, Great Britain, Belgium, Sweden, Denmark, Finland, Spain and the Netherlands have voluntary sick insurance for wage-earners and employees. In Germany, Austria-Hungary and Luxemburg the employers bear one-third and the employees two-thirds of the burden, while with voluntary insurance, the expense is principally borne by the laborers with state aid, as in Italy, France, etc.

Norway has an obligatory sick insurance for laborers and employees of all trades with a yearly wage up to $390; the expense is borne six-tenths by the laborers, two-tenths by the state, one-tenth by the municipality and one-tenth by the employers.

The data regarding accident insurance are not so complete. Compulsory insurance against accident in Germany extends to all laborers and employees with a yearly wage to $750, in industry and agriculture. In a population of 63,000,000 in 1908, there thus were 23,700,000 persons insured against accident. Besides Germany, Austria-Hungary, Italy, France, Norway, Denmark, Finland and the Netherlands have industrial and agricultural accident insurance, the income limit ranging from $150 in Finland to $750 in Luxemburg; it is $500 in Germany. As is well known, invalid and old age insurance was until lately provided only in Germany. By a law passed April 5, 1910, it was also introduced into France. It will extend to all wage-earners and employees with a yearly wage up to $600 (2,400 marks). The expenses will be borne as in Germany half by the employers and half by the employees. In addition the state will provide a contribution of $12 (48 marks) for every annuity. The number of those compulsorily insured will amount to about 11,000,000. In Germany 15,200,000 or 24.1 per cent. of the entire population are insured against old age and invalidism. The expenses are $46,100,000 (184,400,000 marks), or $3 (12 marks) for each insured. Of the remaining European states only Austria-Hungary and Belgium have a compulsory insurance for miners. In Italy, Great Britain, Finland and Spain, there is also voluntary insurance; the expense is met by the premiums of the insured with additional sums paid by the state.

Infant Mortality in Germany

The infant mortality in 1909 in Germany was unusually favorable; 335,436 children of less than one year of age died, while the number in 1908 was 359,022, in 1907, 351,046 and in 1906, 374,636. There was a reduction compared with the previous year of 23,586. Among the deaths there were 288,202 (in 1908, 308,630) legitimate and 47,228 (50,342) illegitimate children. It might be assumed that the reduction of infant mortality could be referred to the general decrease of births, but a comparison of the number of births with that of deaths in the first year shows that the deaths have proportionately been very much reduced. Of a hundred born living in 1909, 17 died the first year as compared with 17.8 in 1908, 17.6 in 1907 and 18.5 in 1906. Among legitimate children, the proportion was 16 as compared with 16.8, 16.6 and 17.5; among illegitimate 26.8 as compared with 28.5, 28.0 and 29.4. The fact that even among illegitimates the infant mortality has been so much reduced is a gratifying sign of the success of infant hygiene. The fact that boys are more liable to die than girls is confirmed by the figures for 1909. The percentage of deaths among boys for a hundred births was 18.4 (1908, 19.4), of girls 15.4 (16.2). Considering the individual states, Bavaria presents the most unfavorable statistics, 21.7 in 1908, and Lippe the most favorable, 10.5 (11.1). In Berlin the rate was 15.6 as compared with 16.8 in 1908, 16.3 in 1907, and 17.7 in 1906.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 19, 1911.

The New Tax on the Dispensing of Drugs

A short time ago the so-called *Arzneitaxe* (tariff for pharmaceutic substances) was promulgated by the government. This official tariff is compulsory for all apothecaries in this empire, and in accordance with the increased cost of living, its items have been raised a little. The *Taxe*, as it is called, divides the consumers of the articles sold by the apothecaries into two groups. The larger group—the general public—must not be charged less than the tariff stipulates, so as to insure a uniform dealing with all customers. The other group consists of charitable institutions and sick-benefit clubs which may obtain 10 to 30 per cent. discount. For each dispensing (selling) the chemist must charge 20 hellers (4 cents); for each mixing of liquids or ointments double that amount; for dividing a substance into ten powders at least 50 hellers (10 cents); and as much for each infusion, while all manipulations, including the boiling of substances, must be charged for at the rate of 80 hellers (16 cents) as well as the rolling of pills up to 100. For the weighing of quantities of centigrams a slight additional tax is charged, and for smaller quantities than that, the additional tax is doubled. A certain charge is fixed for the containing vessels, jars, boxes, bottles of different sizes and colors and for paper bags. As the sale of remedies after a doctor's prescription is confined to the apothecaries and certain—or rather most—of the potent drugs may not be sold at a usual chemist's shop, the apothecaries are controlled by the state and are subject to the tariff. Therefore, the making up of a prescription is fairly expensive here and public opinion is much opposed to the present system.

The Austrian Census

On Dec. 31, 1910, a census of the population of Austria was taken, as is here the custom every ten years. The results are not yet known for the whole empire, but those pertaining to Vienna are already published. The most noticeable fact is that the increase in the population has not been as great as was calculated. The actual figures for the day mentioned above was 2,004,921, which gives an increase of 302,212 over that found in 1900. The yearly increase of population in the ten years 1880-1890 was 2.51 per cent.; in the years 1890-1900 it was 2.28 per cent., while from 1900 to 1910 it was less than 2 per cent. per annum. This is due to two reasons: the diminution of immigration into the capital and the diminution of the natural increase of population by the surplus of births over deaths. The more important factor is the latter. In 1900 the number of living children born was 52,000. This figure shows a constant fall till last year it was only 45,000. The number of deaths, however, has been fairly constant, in spite of immigration. In 1900 it was 34,672. This in spite of improved sanitation—the Vienna water and drains rank first class among corresponding arrangements of European cities—which saved many a life otherwise endangered. The increase of the population has been chiefly dependent on the birth figures. The bad social and commercial conditions prevailing since 1902 have undoubtedly combined with other factors to bring about the unsatisfactory effect.

A Physician's Fate

Some time ago, a Dr. Franz in an Austrian village reported a case of typhoid fever and had the patient removed to a hospital for infectious diseases. Unluckily, just at that time maneuvers of the army were to take place in this district, and the village of Reidan, where the above-mentioned case occurred, was to have been the headquarters. On account of the typhoid patient this plan was altered and the villagers lost the prospect of pleasure and profit due to the temporary occupation. The grocers and inn-keepers of the village therefore instituted a veritable boycott against the physician. Their influence caused him to lose his appointment as district physician and his practice with the population. Finally his life, his family and his house were exposed to the greatest danger. The people wanted to starve him and his family out for having done his duty. When the infuriated peasants failed to drive the doctor away, actions for damages were brought against him. The excitement was too much for the poor doctor; he suddenly died at the age of 36 from paralysis of the heart. But now the organization of medical practitioners has cooperated and the village is under boycott. It can get no doctor until full provision has been made by the local authorities for the family of the outraged doctor. Furthermore, the government has turned its attention to the matter, so that the guilty will receive punishment. In order to prevent a recurrence of similar events, strict regulations will be made in all cases of appointments of country physicians, in which the duties of the doctor towards public health will be clearly defined. The incident shows what a doctor can expect if the population is of a low standard of enlightenment.

Marriages

DANIEL W. SCOTT, M.D., McDonough, Ga., to Mrs. A. Jennie Utz of Fincastle, Va., January 10.

HERBERT THEODORE WAGNER, M.D., Indianapolis, to Miss Helen F. Bond of Chicago, January 26.

HOWARD ANDREW KNOX, M.R.C., U. S. Army, to Mrs. Gladys Barnett Reed, at Brooklyn, January 10.

BUELL F. MENEFEE, M.D., Jonesburg, Mo., to Miss Flora Baker of Montgomery, Mo., January 17.

CLARENCE R. FARMER, M.D., Elm City, N. C., to Miss Laura Wohlsen of Lancaster, Pa., January 17.

ASHER CADDEN BIDDLE, M.D., Lewistown, Mont., to Miss Mary Besse Allen of Athens, O., January 25.

WILLIAM FLEGENHEIMER, M.D., Guineys, Va., to Miss Meta Huger de Saussure, at Fredericksburg, Va., January 19.

AMOS WILLIS BALL, M.D., Rushville, Ill., to Miss Dorothy M. Chatham of Watertown, Ill., at Princeton, Ky., January 14.

GRAY CHANDLER BRIGGS, M.D., St. Louis, to Miss Louise Edwards of Chicago, more than a year ago, but just announced.

A. H. VAN VOORHIS, M.D., Morgantown, W. Va., to Miss Dannie Protzman of Sabraton, W. Va., at Uniontown, Pa., January 17.

Deaths

Joseph Hill Hunt, M.D. College of Physicians and Surgeons, New York City, 1873; first president of the Department of Mineralogy of the Brooklyn Institute; noted as an archeologist; formerly a member of the Board of Education at Brooklyn; and president of the Kings County Medical Society in 1899; instructor in histology and pathology and assistant in surgery in Long Island College Hospital; associate editor of the *Brooklyn Medical Journal;* professor of materia medica, botany and pharmacognosis in the Brooklyn College of Pharmacy; for six years a member of the Brooklyn Board of Pharmacy; surgeon to the Central Throat Hospital, and pathologist to St. Mary's Hospital; died at his home in Newton, N. J., January 15, from heart disease, aged 62.

George Roswell Dean, M.D. Jefferson Medical College, 1868; a member of the American Medical Association, and Southern Surgical and Gynecological Association; a Confederate veteran; at one time president of the South Carolina Medical Association and Southern Railway Surgeons Association; local surgeon for the Southern Railway Company; medical director of the South-Eastern Life Insurance Company; representative in the South Carolina Legislature in 1886; a member of the State Board of Health and a director of the Spartanburg (S. C.) Hospital; died at his home in that city, January 17, from heart disease, aged 66.

Frank Harcourt Koyle, M.D. Medical Faculty of Queen's University, Kingston, Ont., 1888; M.C.P. and S., Ont.; a member of the American Medical Association, and American Laryngological, Rhinological and Otological societies, and American Academy of Ophthalmology and Oto-Laryngology; oculist and aurist to the Steuben Sanitarium, Hornellsville, N. Y., and to the Erie Railway Co.; special examining surgeon for the United States Department of the Interior; died at his home in Hornell, New York, January 17, from pneumonia, aged 46.

Benoni O. Reynolds, M.D. Rush Medical College, 1851; a member and once president of the Wisconsin Medical Society; surgeon of the Third Wisconsin Volunteer Cavalry, during the Civil War; president of the local board of pension examiners of Lake Geneva for eight years; member of the State Board of Health for nine years; for several terms a member of the Wisconsin General Assembly and Senate; died at his home in Lake Geneva, January 19, from cerebral hemorrhage, aged 86.

Michael Harvey Hennel, M.D. Eclectic Medical Institute, Cincinnati, 1891; a member of the Medical Society of the State of North Carolina; of late years a specialist in tuberculosis; died at his home in Asheville, January 8, from spinal meningitis, aged 42. At a special meeting of the Buncombe County Medical Society, January 9, a committee was appointed to prepare resolutions on the death of Dr. Hennel.

William Joseph Furness, M.D. University of Michigan, Ann Arbor, 1891; a member of the American Medical Association; physician to the Manhattan State Hospital, Ward's Island, N. Y.; and visiting surgeon to St. Joseph's Hospital; died in New York City, January 17, as the result of an accident whereby he backed his automobile into the elevator well of a garage, and was crushed under it, aged 40.

John Upton Riggs, M.D. University of Michigan, Ann Arbor, 1868; Bellevue Hospital Medical College, 1873; a member of the American Medical Association, and formerly president of the Williams County (O.) Medical Society; surgeon to the Cincinnati, Jackson and Mackinaw Railway at Bryan, O.; died in the Mounds Park Sanitarium, St. Paul, Minn., January 17, from nephritis, aged 65.

John Heaton Rerick, M.D. University of Michigan, Ann Arbor, 1853; surgeon of the Forty-fourth Indiana Volunteer Infantry during the Civil War; for eight years clerk of LaGrange County, Ind.; and during President Harrison's administration, postmaster of LaGrange; publisher of the *LaGrange Standard* since 1867; died at his home, January 22, from pneumonia, aged 81.

Charles Olney Ballou, M.D. Harvard Medical School, 1877; a member of the Rhode Island Medical Society; a veteran of the Civil War; for two years a representative to the General Court, Concord, N. H., and also justice of the peace; medical director of the Department of Rhode Island, G. A. R., for two years; died at his home in Providence, January 18, from pneumonia, aged 80.

Susanna Way Dodds, M.D. New York Hygieo-Therapeutic College, New York City, 1864; Dean of the St. Louis Hygienic College; founder and for half a century superintendent of the Dodds Hygeian Home, St. Louis, but for the last seven

years a resident of Yellow Springs, Ohio; died at Long Beach, California, January 20, from senile debility, aged 80.

Francis Augustine Harris, M.D. Harvard Medical School, 1872; since 1877 medical examiner of Suffolk County; demonstrator of medico-legal examinations in his alma mater for 10 or 12 years and for several years professor of surgery in the Boston Dental College; died at his home in Winthrop, January 18, from cerebral hemorrhage, aged 65.

Joshua J. Sweet, M.D. New York University, New York City, 1859; formerly a member of the American Medical Association; who served during the Civil War as an acting assistant surgeon, U. S. Army; pension examiner at Unadilla, N. Y., for thirty-five years; died at his home, January 13, from carcinoma of the stomach, aged 76.

Edwin Faxon Vose, M.D. Boston University School of Medicine, 1876; president of the Maine State Homeopathic Society in 1895; a member of the Maine Academy of Medicine and Maine Board of Registration in Medicine; for six years a member of school board of Portland; died at his home, January 13, from diabetes, aged 60.

Tullio Antonio Rottanzi, M.D. Cooper Medical College, San Francisco, 1877; a member of the medical society of the state of California; formerly a member of the board of supervisors of San Francisco and acting mayor; city physician from 1904 to 1907; died at his home, January 20, from pneumonia, aged 43.

Joseph H. Wills, M.D. University of Pennsylvania, Philadelphia, 1880; a member of the Medical Society of New Jersey; formerly a member of the State Board of Health; district physician of Camden, and a member of the staff of Cooper Hospital; died at his home, January 16, from pneumonia, aged 66.

William Francis McCormick, M.D. Cleveland University of Medicine and Surgery, 1889; for twelve years chief surgeon of the Pacific Coast Coal Company at Franklin and Black Diamond, Wash.; died at his home in Black Diamond, Dec. 22, 1910, from acute dilatation of the heart, aged 52.

Emmett Lee Irwin, M.D. Tulane University, New Orleans, 1888; a member of the American Medical Association; a representative in the Louisiana legislature from 1900 to 1904, and state senator in 1908; died at his home in Clinton, January 15, from acute gastritis, aged 47.

Charles Edward Clark, M.D. Harvard Medical School, 1877; for many years a practitioner of Lynn, Mass.; ferry commissioner of Boston in 1885 and 1886; died at the home of his wife's parents in Passaic, New Jersey, January 20, from acute dilatation of the heart, aged 60.

James S. Berry, M.D. Starling Medical College, Columbus, 1870; a member of the Ohio State Medical Association; one of the organizers and president of the Adams County Chautauqua; died at his home in Peebles, January 15, from heart disease, aged 66.

Jay C. Lovejoy, M.D. Eclectic Medical College of the State of New York, 1879; for several years justice of the peace of the town of Edinburg, N. Y.; died at his home in Batchellersville, N. Y., January 17, from hemorrhage of the lungs, aged about 60.

Edward F. Raymond, M.D. Berkshire Medical College, Pittsfield, Mass., 1859; surgeon of the Thirteenth Battalion, Virginia Artillery, C. S. A., during the Civil War; died at his home in Frankford, W. Va., January 18, from angina pectoris, aged 75.

George A. Beltz, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the Medical Society of the State of Pennsylvania; of Greensburg; died in the Allegheny General Hospital, Pittsburg, January 14, from abscess of the brain, aged 28.

John Woodward Gould, M.D. Albany (N. Y.) Medical College, 1880; who has been connected with the Delaware, Lackawanna and Western Railroad for twenty years; died at his home in Newark, N. J., January 18, from angina pectoris, aged 72.

Charles Elmer McCormick, M.D. Pulte Medical College, Cincinnati, 1899; a clerk in the Columbus Post Office; formerly a practitioner of Wellston, Ohio; died at his home in Columbus, January 20, from purpura hemorrhagica, aged 46.

Joshua R. Morton, M.D. University of Pennsylvania, Philadelphia, 1871; president and for several years a member of the Allentown, Pa., school board; died at his home in that city, Oct. 9, 1910, from tuberculosis of the lungs, aged 60.

Charles Lewis Anderson, M.D. Indiana Central Medical College, Greencastle, 1852; an authority on marine botany; for many years a school trustee of Santa Cruz, Cal.; died at his home Dec. 22, 1910, from senile debility, aged 82.

Charles William Schwartz, M.D. Hahnemann Medical College, Philadelphia, 1880; from 1877 to 1889 district physician of Albany County, N. Y.; died at his home in Whitehall, January 17, from cerebral hemorrhage, aged 51.

William Rollo Kinmouth, M.D. College of Physicians and Surgeons, New York City, 1872; a member of the Medical Society of New Jersey; died at his home in Farmingdale, January 11, from pneumonia, aged about 70.

Charles Francis Boyden, M.D. University of Michigan, Ann Arbor, 1896; for several years assistant physician of the Gilbert Sanitarium, Evansville; died in that institution, January 20, from pneumonia, aged 38.

William Racoosin, M.D. Long Island College Hospital, Brooklyn, 1904; a member of the American Medical Association; died at his home in Centerville Station, N. Y., January 1, from pneumonia, aged 40.

John Henry Finch, M.D. College of Physicians and Surgeons, Baltimore, 1886; a member of the Medical Association of the State of Alabama; died at his home in Birmingham, January 11, from paresis, aged 52.

Norman Powell Lake, M.D. University of Virginia, Charlottesville, 1908; a member of the American Medical Association; died at his home in Rectortown, Va., January 7, from typhoid fever, aged 34.

James Thomas Black, M.D. University of Tennessee, Nashville, 1901; of Elroy, Tex.; a member of the American Medical Association; died in Driftwood, Tex., Nov. 9, 1910, from abscess of the liver, aged 35.

George A. Binder, M.D. University of Minnesota, Minneapolis, 1892; a member of the American Medical Association; died at his home, Dayton's Bluff, St. Paul, January 15, from typhoid fever, aged 45.

Francis Marion Monroe, M.D. Medical College of the State of South Carolina, Charleston, 1861; a Confederate veteran; died at his home in Latta, S. C., Oct. 21, 1910, from senile debility, aged 72.

Robert McCready, M.D. Bellevue Hospital Medical College, 1869; for more than fifty years a practitioner of Sewickley, Pa.; died at his home in that place, January 17, aged 80.

Richard Mentor McGuffin, M.D. University of Pennsylvania, Philadelphia, 1872; died at his home in Bramwell, W. Va., Sept. 7, 1910, from cerebral hemorrhage, aged 63.

Frederick Lowell Crandell, M.D. Rush Medical College, 1882; formerly a police surgeon of Chicago; died at his home in Denver, January 5, from pneumonia, aged 56.

John P. Brown, M.D. University of Southern California, Los Angeles, 1902; died at his home in Rogers, Ark., January 12, from tuberculosis of the liver, aged 43.

William Haggerty, M.D. New York University, New York City, 1868; died at his home in Scranton, Pa., Dec. 29, 1910, from general nervous breakdown, aged 69.

Elihu H. Ayers, M.D. Rush Medical College, 1859; for many years a practitioner of Dallas, Tex.; died at the home of his daughter in that city, January 5, aged 77.

Columbus D. Smith, M.D. University of Pennsylvania, Philadelphia, 1851; formerly of Newnan, Ga.; died at the home of his son in Atlanta, January 12, aged 83.

Albert B. Barker, M.D. Eclectic Medical College of the City of New York, 1863; died at his home in Cincinnati, January 20, from cerebral hemorrhage, aged 73.

Charles E. Quail, M.D. University of Maryland, Baltimore, 1867; of Auburn, Pa.; died in Harrisburg, Pa., Dec. 21, 1910, from angina pectoris, aged 69.

William H. Richards, M.D. Miami Medical College, Cincinnati, 1872; of Hicksville, O.; died at the Angola (Ind.) Hospital, January 2, aged 72.

Frank Bostwick Lundy, M.D. Toronto School of Medicine, 1880; died suddenly at his home in Portage la Prairie, Man., Dec. 26, 1910, aged 53.

Franklin Bedford, M.D. Rush Medical College, 1873; a practitioner since 1865; died at his home in Maple Park, Ill., January 15, aged 81.

Matthew B. Drake, M.D. Cumberland University, Memphis Medical College, 1856; died at his home in Ladonia, Tex., January 9, aged 78.

Albin Vincent Wright (license, Navarro County, Tex., 1874); died at his home in Corsicana, July 1, 1910, aged 72.

A. J. Swindell (license, Texas, 1902); died at his home in Hermleigh, January 11, from pneumonia, aged 43.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

NATURE'S CREATION—A SEQUEL

Some Testimonials That Have Been Published and Some That Have Not

Nature's Creation, a "consumption cure" fraud of the vicious type, was pretty thoroughly exposed in THE JOURNAL, March 5, 1910. As will be remembered, this nostrum was exploited originally as a "cure" for syphilis and was switched over into the "consumption cure" class after an awakened public interest in tuberculosis had made the sale of such "cures" increasingly profitable. It was then advertised "for tuberculosis only." As a syphilis "cure" it was recommended with stupendous effrontery as a substitute for the "potash" treatment against which the patient was warned. Examination of the stuff in the Association laboratory indicated that it was "essentially a *solution of potassium iodid* in a weakly alcoholic medium containing vegetable extractives and flavoring matter and small quantities of inorganic salts." And this potash solution was exploited as a means of avoiding the "potash treatment" and, furthermore, was sold as a product "made entirely from vegetable matter!"

THE "BLIND" ADVERTISEMENT

Nature's Creation has in the past been given publicity by means of large display advertisements in the newspapers. Recently the method of using a "blind" advertisement in the classified columns of the newspapers has been adopted. The following is appearing (Fig. 1) in the "Personal" column of papers all over the country:

> PERSONAL—TO CONSUMPTIVES: I possess information which cost me a fortune, and feel that I should let every consumptive know about my experience. Mrs. J. M. Reynolds, Central National Bank, Columbus, Ohio.

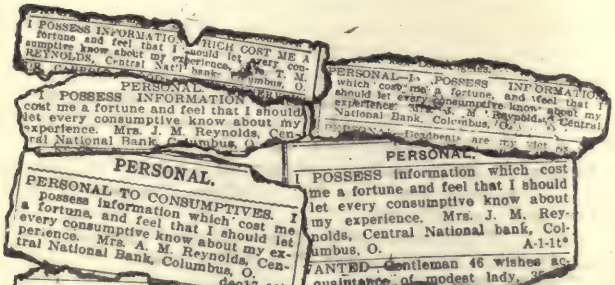


Fig. 1.—Photographic reproduction (reduced) of some of the numerous advertisements of Nature's Creation appearing as "blind ads." under the "Personal" columns in the classified advertising sections of newspapers all over the country. The advertisements here shown are taken from the Mobile (Ala.) *Register*, the Peoria (Ill.) *Star*, the Boston (Mass) *American*, the Los Angeles (Cal.) *Examiner*, the Montgomery (Ala.) *Advertiser*, the Binghamton (N. Y.) *Press* and the Chicago (Ill.) *Daily News*. Notice that the first letter of the initials prefixed to Mrs. Reynolds' name varies in different papers. This is done by the company as a means of checking up the number of inquiries obtained from a given advertisement.

The victims who answer this advertisement receive a letter written on pale blue stationery such as is used for social correspondence. The letter is signed—not always in the same handwriting—"Mrs. J. M. Reynolds" and the initials J. M. R. are embossed, monogram style, in gilt on the paper and also on the envelope. In this letter Mrs. Reynolds states she has cured herself, "in defiance of the world's scientists," by the discovery of "a combination of certain roots and herbs." Whether she cured herself of syphilis or consumption, she does not state, but she does say that in the joy of being well, "I am now devoting my life to saving others."

The recipient of this social epistle is further told by Mrs. Reynolds that as it is impossible for her "to attend personally to the multitude of inquiries" that reach her, "I am referring your request to my Secretary—Mr. Campbell—you will no doubt hear from him soon." By the next mail comes a letter from the Nature's Creation Company signed "H. W. Campbell, Sec'y." It was the H. W. Campbell Company, then of Chicago, that exploited this same fake as a syphilis cure a few years ago.



Fig. 2.—Photographic reproduction (reduced) of three pages from the Nature's Creation testimonial booklet. In each case the person testifying to his "cure" of tuberculosis by Nature's Creation has died of that disease. In the case of George Schwenke, this record of his "cure" is being sent out, a year after his death!

Mrs. Reynold's solicitude for the welfare of the sick may be understood when it is known that she is the president and a director of the Nature's Creation Company, capitalized at $200,000.00—a concern engaged in exploiting a discarded syphilis "cure" to consumptives at $5.00 a bottle.

CHARGES NOT DEFINITE ENOUGH

When the previous article appeared exposing Nature's Creation, the concern said that THE JOURNAL's charges were vague and so carefully worded as to avoid legal reprisal. The public was told in sensational advertisements that the editor of THE JOURNAL did not dare to say that Nature's Creation "was a fake or fraud, or that it did not cure." Since, apparently, we did not make ourselves clear in the previous article we may summarize our findings more specifically at this time:

First.—Nature's Creation *is* a fake.

Second.—Nature's Creation *is* a fraud.

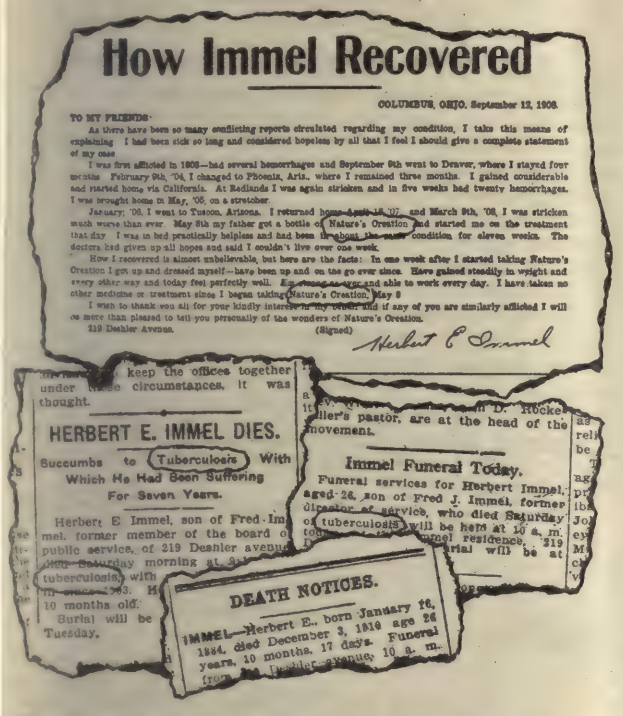
Third.—Nature's Creation will *not* cure consumption.

TESTIMONIALS

No "consumption cure" is complete without its testimonials. The worthlessness of such testimony, from a scientific stand-

point, has repeatedly been shown, and this, too, without assuming that the letters are fraudulent. That many of the letters published by fake medical concerns are documentarily genuine there is no doubt; that is to say, the letters were actually written. How valueless they are is made evident by looking into the cases of the individuals giving them. On investigating "consumption cure" testimonials, one of two things is practically always found: Either the writer of the testimonial did not have tuberculosis and recovered from his indisposition in spite of the nostrum, rather than because of it; or, the poor victim, in the first flush of optimism that comes whenever a new remedy is tried, deluded himself into believing that the stuff actually helped him.

We are reproducing (Fig. 2) three testimonials taken from the Nature's Creation advertising. In all three cases the poor victims who wrote them are dead. But the testimonials still live to delude other unfortunate sufferers from a disease which no drug can cure—in fact, Nature's Creation booklet in which the testimonial of George Schwenke appears, is still (January, 1911) being distributed—nearly a year after George Schwenke died!



How Immel Recovered

COLUMBUS, OHIO, September 12, 1908.

TO MY FRIENDS:

As there have been so many conflicting reports circulated regarding my condition, I take this means of explaining. I had been sick so long and considered hopeless by all that I feel I should give a complete statement of my case.

I was first afflicted in 1903—had several hemorrhages and September 9th went to Denver, where I stayed four months. February 9th, '04, I changed to Phoenix, Ariz., where I remained three months. I gained considerable and started home via California. At Redlands I was again stricken and in five weeks had twenty hemorrhages. I was brought home in May, '05, on a stretcher.

January, '06, I went to Tucson, Arizona. I returned home April 15, '07, and March 9th, '08, I was stricken much worse than ever. May 8th my father got a bottle of Nature's Creation and started me on the treatment that day. I was in bed practically helpless and had been in about the same condition for eleven weeks. The doctors had given up all hope and said I couldn't live over one week.

How I recovered is almost unbelievable, but here are the facts: In one week after I started taking Nature's Creation I got up and dressed myself—have been up and on the go ever since. Have gained steadily in weight and every other way and today feel perfectly well. Am strong as ever and able to work every day. I have taken no other medicine or treatment since I began taking Nature's Creation, May 8.

I wish to thank you all for your kindly interest in my behalf, and if any of you are similarly afflicted I will be more than pleased to tell you personally of the wonders of Nature's Creation.

219 Deshler Avenue. (Signed) Herbert E. Immel

keep the offices together under these circumstances. It was thought.

HERBERT E. IMMEL DIES.

Succumbs to Tuberculosis With Which He Had Been Suffering For Seven Years.

Herbert E. Immel, son of Fred Immel, former member of the board of public service, of 219 Deshler avenue, died Saturday morning at 8:... tuberculosis, with ... 3. He was ... 10 months old. Burial will be Tuesday.

... D. Hocker, ... pastor, are at the head of the movement.

Immel Funeral Today.

Funeral services for Herbert Immel, aged 24, son of Fred J. Immel, former director of service, who died Saturday of tuberculosis, will be held at 10 a. m. ... residence, 219 ... Burial will be at ...

DEATH NOTICES.

IMMEL—Herbert E., born January 16, 1884, died December 3, 1910 age 26 years, 10 months, 17 days. Funeral from ... Deshler avenue, 10 a. m.

Fig. 3.—These reduced photographic reproductions of a testimonial and three newspaper clippings tell their own sad story. The testimonial was published as an advertisement in the Columbus *Dispatch*, and later reproduced as an advertising circular by the Nature's Creation Company. The death and funeral notices also are taken from Columbus newspapers.

SOME TESTIMONIALS HITHERTO UNPUBLISHED

So much for testimonials that are favorable to the nostrum; now for the reverse of the shield. As has been said before, the Nature's Creation concern has its headquarters at Columbus, O. The local medical profession in that city is much alive to the viciousness of this fake and has taken active steps to combat it. For some time the Board of Health of the City of Columbus has been collecting data relative to the use of this nostrum. The matter that follows is from official sources, from the records of the district medical service, the district nurses' service and from the reports of the tuberculosis hospital. We submit a few testimonials that the Nature's Creation Company has, so far, not published and probably will not want to. And it should be remembered that the information here given deals, practically, with but one locality, that of Columbus, Ohio:

NO BENEFIT

March 23, 1910.

"I took Nature's Creation one year ago without benefit. Gave up taking it and came to the hospital, and am greatly improved since coming here. Have gained more than twenty-five pounds and feel much better than for two years.—*Emanuel Lewis.*

NOT WORTH NINE CENTS

March 23, 1910.

"I took Nature's Creation last summer because it was claimed a cure for tuberculosis. Took two bottles without benefit. Wish I could get my $9 back. They gave me two bottles for $9, but I do not consider that the two bottles were worth 9 cents.—*E. M. Deveraux.*"

UNABLE TO LEAVE BED AFTER TAKING

March 23, 1910.

"I took Nature's Creation in the spring of 1909 on advice of a friend. Took three bottles. I was far worse off when I quit than when I started taking it. I decreased in weight and felt worse generally. I was able to be up and about when I commenced taking it, but was unable to leave my bed after taking two bottles . . . Wish that I could recover $15 they took from me without benefit.—*Mrs. Herron.*"

UPSET HIS STOMACH—HASTENED HIS DEATH

"My son, Gussie Jones, was suffering with tuberculosis for about a year. Nature's Creation was recommended to him as a cure, and finally he began taking it. He took two bottles of the medicine, but before he had finished the first he suffered terribly with his stomach as a result of it . . . I firmly believe that it did him more harm than good, and hastened his death, and I am free to make this statement of the facts of the case.—*Mrs. H. C. Jones.*"

FIVE BOTTLES—NO BENEFIT

March 23, 1910.

"To Whom It May Concern: This is to certify that my sister, Mrs. J. E. Kibby, deceased, while living at 537 West Rich Street, and who was suffering from pulmonary tuberculosis, bought and used as per directions, five bottles of Nature's Creation. She did not gain in strength or appear to be benefited whatsoever by its use.—*J. Redman.*"

BELIEVED THE ADVERTISEMENTS—IS NOW DEAD

March 21, 1910.

"My daughter, Carrie, went South for her health about May, 1908, having been advised to go there by our family physician. To keep her from becoming lonesome I subscribed for the *Dispatch* (Columbus), in which she saw the advertisement for Nature's Creation, and would not be satisfied until she had tried it. She came home for the express purpose of taking this remedy, believing that the advertisements were true and that the remedy would cure her.

"She went to the Nature's Creation Company, was examined and told by them that the remedy would cure her and that she would have a 'speedy recovery.' . . . She took the medicine as advertised by the company, but no improvement was noticed. . . . She gradually grew worse and died on Oct. 14, 1909, and we believe that her death was hastened by the use of this medicine. . . .—*Charles H. McGuire.*"

The attention of those gentlemen of the daily press who feel that their responsibility extends no further than their editorial columns, is respectfully called to Mr. McGuire's letter. No fine-drawn sophistries can excuse such papers as carry advertisements of fake consumption cures, from the moral guilt involved. Without the aid of the press these vicious frauds would die, for without publicity they would cease to be profitable and it is for profit only that they exist.

THE TESTIMONY OF RELATIVES

One of the officers of the Board of Health, Columbus, sends in statements from various individuals whose relatives had taken Nature's Creation. Here are two of them:

"Mrs. Homer Eggleston, who formerly lived at 203 S. Belle Street, stated that her husband died of tuberculosis after taking four bottles of Nature's Creation. She stated that she did not think it did him any good whatever."

"Mr. J. N. Schilling, 438 Naghten Street, stated to me that his daughter took from ten to twelve bottles of Nature's Creation; that it was of no benefit whatever to her and really did her more harm than good; she died several months ago."

SOME ADDITIONAL REPORTS

The Columbus Society for the Prevention and Cure of Tuberculosis, through its visiting nurses, has had excellent opportunities for obtaining first-hand information about the use of this cruel fake. Some of the reports made by the nurses are here given:

John Woods: Took Nature's Creation and insisted that he was improving. This was not apparent to the visiting nurse. Died March 14, 1910.

Miss Ford: Took Nature's Creation when first taken ill. Died March 24, 1910.

Louis Goodwin: An incipient case, when he began taking Nature's Creation. Took from eight to ten bottles before death. Died Jan. 9, 1909.

Mrs. Mack: After taking two bottles of Nature's Creation, went up to the office of the company and demanded an examination. A man in the office said she was looking so well that they would pronounce her cured. Died May 23, 1910.

Joseph Kessler: Was a hopeful case. Lost valuable time taking Nature's Creation until it was too late for other treatment to be of any benefit. Failed steadily. Died June 2, 1909.

Ira May: Took Nature's Creation for a time, during which period he sat in a closed room huddled over a fire. Died March 3, 1910.

Joseph Steele: Took Nature's Creation until bedridden. Died Dec. 26, 1908.

Mrs. Geyer: Took several bottles of Nature's Creation, but as considerable stomach disturbance followed, discontinued. Died Dec. 4, 1909.

A GRUESOME LIST

The following classified list has been collected by the Columbus Board of Health. It consists of the names of those persons who have taken Nature's Creation—advertised to "check at once further progress of the disease"—but who, nevertheless, died:

SOME COLUMBUS, OHIO, PERSONS WHO HAVE TAKEN NATURE'S CREATION

NAME	DIED	NAME	DIED
William Malinhoff...	7-20-1908	Chas. W. Davis....	1-15-1910
R. J. Jones.....	8-25-1908	C. F. Higginbotham.	2- 4-1910
Myrtle M. Furrow..	9-23-1908	George Schwenke*..	2- 8-1910
William Snyder	9-27-1908	Ira May	3- 4-1910
Anna Philos	10-19-1908	Casper Herman	3- 5-1910
Edward Stock	10-26-1908	Howard A. Denune..	3- 6-1910
Anna Barbara	11-24-1908	Ned L. Evan.....	3-13-1910
Irene A. Freeman...	12- 9-1908	John Woods	3-14-1910
Almeda E. Irwin...	12- 8-1908	B. F. Segines.....	3-18-1910
J. Steele	12-26-1908	John J. Jenkins....	3-19-1910
George Wertz	1-15-1909	Mary I. Ford	3-24-1910
Carl Hasbrook	2- 2-1909	Forrest J. Greenlee..	3-31-1910
Joseph Kessler	6-12-1909	Sarah R. Ross.....	4- 5-1910
Chas. Wm. O'Day..	6-29-1909	Samuel Robinson ..	4-30-1910
Mrs. J. Kibby.....	7-31-1909	Mrs. Mack	5-23-1910
Florence Underwood.	9- 2-1909	John C. McAfee....	8- 9-1910
Theresa Harst.....	9- 3-1909	George H. Howell...	8-11-1910
Lucy Fultz	9- 3-1909	Daisy Sherman	11-10-1910
Christina Shilling ..	9- 8-1909	Herbert W. Immel*.	12- 3-1910
Carrie McGuire	10-14-1909	Anna S. Smith.....	12- 3-1910
G. W. Johnson.....	11-26-1909	Mrs. Geyer	12- 4-1910
George Smith	11-28-1909	Maud Peters	12-20-1910
Sheldon Harsh	12-21-1909		

* See Figure 2 for copies of testimonials by George Schwenke and Herbert Immel.

CONCLUSION

As has already been stated, the information just given deals with but one locality—Columbus, O. When it is realized that this iniquitous stuff is being advertised and sold from Maine to California the misery left in its wake may be imagined. While what precedes is but a part of the damning evidence which has been submitted against Nature's Creation we believe it is sufficient to convict this cruel fake at the bar of public opinion.

How much longer will the sale of this humbug be permitted? Its continued existence will depend on two things—the gullibility of the public and the willingness of the press to share in the company's blood-money by accepting advertisements of the nostrum. It is little less than criminal that men without even the pretence of medical training and with more capital than conscience should be free to exploit a valueless mixture of drugs as a cure for a disease which no drug can cure.

It is hoped that physicians will make it their duty to call the attention of the public to the facts here presented. Nature's Creation is but a type; if it goes out of existence there still remain scores of fakes just as vicious and just as cruel. And as they, too, die, others will spring up to take their places. So long as the credulity of ignorance is a human attribute, so long will the "consumption cure" and "cancer cure" fakes thrive. The only remedy is enlightenment and it is a fact, as notorious as it is pathetic, that a vast section of the public is densely ignorant of the limitations and possibilities of drugs.

Unfortunately, the medium through which the public could so easily be reached and enlightened—the newspapers—is, to a large degree, unavailable. Many of these publications are still too deeply under the blighting influence of the "patent medicine" advertisers ever to print the truth about these frauds. But the number of newspapers whose silence cannot be purchased increases yearly and their power is slowly but surely making itself felt. In the meantime it is the physician's duty to the public to give it the enlightenment which it needs for its own protection against "consumption cure" swindlers and other frauds equally vicious.

Correspondence

A Case of Blepharospasm: Information Wanted

To the Editor:—An interesting case came to my notice some time ago which, among other things, presented a most peculiar condition. I will not report it in full at this time as I hope to make a more thorough study of the case before a final report.

The patient has tonic blepharospasm, which has been present daily for about twenty-five years. The spasm is very painful and is accompanied by rolling of the eyeball into its position of rest; and the patient experiences a sensation of contraction in the region of the ciliary muscle. A peculiar feature of the case is that, since beginning to menstruate at the age of 14, the patient notices absolute relief from the painful symptoms during the menstrual period, whereas before the flow begins the spasm is more severe, and following the period the spasms for two or three days are much less severe. In the ordinary acceptance the patient could not be considered a nervous patient.

Perhaps some of my colleagues may have seen such a case, and from those to whose attention this brief statement may come I should be very glad to hear as I have so far found no similar condition recorded.

ROBERT SCOTT LAMB, M.D., Washington, D. C.
The Cecil.

Gonorrhea and Ophthalmia Neonatorum

To the Editor:—Dr. Sampliner's letter in THE JOURNAL last week directs attention to a subject of such great importance that it merits special emphasis. Almost every case of infantile blennorrhea sufficiently severe to cause blindness is of gonococcal origin and the result of an uncured gonorrhea in the father. There are not many men base enough to be wilful purveyors of an infection which carries in its train blindness, mutilation and death; so it must be that the mother of the child who develops ophthalmia neonatorum is infected because the father has not been forewarned by his physician of his possibilities as a disease-carrier. The truth should be made more clear to our students in the colleges that gonorrhea is not a simple affair to be treated with the nonchalance of a cold; that it is often exceedingly obdurate; and above all, that it is a source of danger as long as any infective germs are present. Nor is it as generally known as it should be that the absence of a discharge at the meatus following the treatment of an active gonorrhea is by no means proof positive that gonococci may not be found in the deeper parts of the urethra. A little beer taken in the evening, followed by gentle massage of the prostate in the morning, will in some cases bring to view a drop or two of a secretion which will be found to be loaded with gonococci and capable of developing an acute gonorrhea in the female. By proper treatment

this condition can be cured and the man be made safe. There is a temptation, even while a visible discharge remains which taxes the patience of both the patient and doctor, for the latter finally to say in desperation, "Oh, that's all right, you are practically cured," thereby giving a false sense of security which the conditions do not warrant. It should be made clear, beyond the possibility of misunderstanding to the patient that *so long as any discharge from the urethra can be secured it may be safely assumed in the absence of microscopic examination that infection is present and that marriage should be absolutely forbidden.* It is these unfinished cases that are responsible for the vast amount of misery caused by gonorrhea. It is hoped that the state departments of health may soon make this one phase of the valuable preventive work in which they are engaged and that other states may follow the lead of Indiana in giving our daughters legal protection from an avoidable infection which in so many cases is followed by frightful disasters.

F. PARK LEWIS, Buffalo, N. Y.

Phenolphthalein May Cause Pink Stools

To the Editor:—The following recent incident may be as pharmacologically interesting and instructive to others as it was to me:

I was called to see a child on account of an alleged bloody stool with severe abdominal pain and tenesmus. There had been no bowel movement for two days except a little pinkish liquid, which was negative to the guaiac blood-test. In making this test, however, it was observed that the color disappeared on the addition of acetic acid. Another sample of the stool, similarly acidified, promptly regained its color on being made ammoniacal. These unsual findings led to an investigation that resulted in procuring a cathartic tablet such as the patient had taken a few hours before. A solution of this tablet gave the same color reactions as the stool, making it very probable that all the signs and symptoms were due to phenolphthalein, especially as they disappeared after free castor-oil catharsis.

H. S. BARTHOLOMEW, Lansing, Mich.

[COMMENT.—The reaction of phenolphthalein with alkalies should always be borne in mind.—ED.]

Preservation of Rubber Bulbs

To the Editor:—The difficulty of keeping rubber bulbs in long service, complained of by Dr. Goodman (THE JOURNAL, Jan. 14, 1911, p. 113), has led me to devise a contrivance which does away with the rubber bulb altogether and is much cheaper as well as more satisfactory. The device consists of an ordinary bicycle pump connected with a piece of rubber tubing by means of a Schrader valve (used in a bicycle tire). To the end of the barrel of the pump is soldered on a flat band made of sheet tin, leaving a space through which a leather strap is passed and by means of which the pump may be secured to one's leg or other convenient support. In using the sphygmomanometer the pump is attached to the apparatus and operated in the same manner as the rubber bulb. It will be found, however, that the pump gives a much nicer graduation of the force, the air under pressure being prevented from escaping by the Schrader valve. The cost of the outfit is about 50 cents, and, with slight attention to oiling and the washers, will last a lifetime.

ALBERT ROBIN, M.D., Wilmington, Del.

The Fitting of Glasses by Unqualified Persons

To the Editor:—Your comment on "The Fitting of Glasses" in 10-cent stores was read with interest. That refractions of this kind cannot be in any way accurate and that the glasses of this kind do lots of harm cannot be doubted. But in my opinion the harm done by a "fake" device of any kind is measured by the reliance put in it by the user.

The 10-cent stores do not pretend to have any great amount of skill as refractionists and charge a low price for their glasses. Their patrons will, as a rule, soon find that the glasses purchased are not right and will discard them. But the optician, "eye specialist" with his handsomely decorated "office," his prevaricating advertisements and his fee of from $10 to $20 for his services and glasses does command confidence. Therein lies the danger. His hypermetropic "patients" will continue to wear the myopic glasses he has prescribed; the impression he has made will cause no doubts in their minds as to his fitness.

Let us get at the greater evil. The man whose sign blazes out "Pawn Broker and Eyesight Specialist" doesn't do nearly so much harm as his competitor whose advertisement reads, "Dr. ————, Optometrist. No matter what is the trouble with your eyes, call on me."

The first is passed by with a laugh, the second is sought out as a man of great skill.

J. W. KIMBERLIN, M.D., Kansas City, Mo.

Value in Case Histories of Term "Jew" as Racial Designation

To the Editor:—An unintentional error in classification of nationalities in medical articles, case reports, etc., is regarded as an injustice by a portion of the community, and your aid is sought to prevent repetition. The use of the designations "Jew," "Hebrew" and "Israelite" with their adjectives is here referred to, because when so employed these terms are meaningless. City Jews may possibly be distinctively more subject to diabetes and nervous affections than the average of our population but so large a proportion of the former now live the rural life that general deductions regarding these or any other diseases no longer hold good. Then, again, so large a percentage of Jews show admixture of other race stocks that mistakes are liable to occur from this source; authoritative statistics covering the world have just been published to prove this fact. See, also, Jean Finot's "Race Prejudice" and Antoine Leroy Beaulieu's "Israel Among the Nations."

It is because of the gross legal and political wrongs sometimes suffered by communicants of the Jewish faith that redress is here asked. When the present National Immigration Commission recently made the same error, so strong a united complaint arose from the national bodies of American Jews that correction promptly followed.

A. B. HIRSH, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USES OF CHROMIUM SULPHATE IN MEDICINE

To the Editor:—What place has chromium sulphate in medicine? The manufacturing chemists are advertising it extensively and I think that many physicians would like to obtain some idea of how much to believe of "The Uses of Chromium Sulphate in Medicine."

N. F. CHEEVER, M.D., Greenfield, N. H.

ANSWER.—The subject of chromium sulphate was discussed briefly in THE JOURNAL, Nov. 6, 1909, p. 1580. At that time we stated that the only article on the subject in medical literature appeared in the *Monthly Cyclopedia and Medical Bulletin*, September, 1908, by S. Kolipinski. An article by B. O. LeBlanc appeared in the *New Orleans Medical and Surgical Journal*, November, 1910, p. 346, in which the author reports that he used this drug in a case of ataxic paraplegia after other treatment had failed to produce improvement, and that after six weeks of treatment the patient was able to walk. The case is imperfectly reported, but does not appear to have been a case of myelitis, as sensation was unimpaired and the knee-jerk reflex was increased. The same symptoms would exclude locomotor ataxia. No statement is made as to whether the paralysis was flaccid or spastic. No electric test of the muscles is reported.

In addition to this article there are a number of reports to which little credence is to be attached on account of incompleteness of observation and report. One author reports a case of epilepsy in which he thinks there was benefit, but the report was made not more than two months after the last attack. The same author reports a case of nervousness in a patient who collapsed and was compelled to go to bed. "Could not sleep and was mildly hysterical. Chromium sulphate and rest straightened her out very nicely."

The remedy is being pushed in a semi-proprietary way, but the fact that so little reliable information is obtainable indicates that the drug is probably of little value, and that Kolipinski's observations require confirmation.

DIFFERENTIATION OF SPIROCHÆTA PALLIDA FROM NON-PATHOGENIC SPIROCHETES

To the Editor:—Please describe the method of differentiating the *Spirochæta pallida* from non-pathogenic spirochetes.

J. H. SCHRUP, M.D., Dubuque, Iowa.

ANSWER.—The differential diagnosis between *Spirochæta pallida* or *Treponema pallidum* and non-pathogenic spirochetes is based on the comparative motility and the width and number of curves which the different microorganisms present. The non-pathogenic spirochetes have a somewhat rapid motility, while the *Spirochæta pallida* seems to lie lazily in the material in which it is suspended (Gurd). The principal non-pathogenic spirochetes are *Spirochæta refringens, Spirochæta dentium* and *Spirochæta buccalis.*

Spirochæta refringens is larger, thicker, more refractile; its spirals are broader and wavier; its ends are blunter; it occurs in great numbers in a smear; and it stains more easily than *Spirochæta pallida.*

The morphology of *Spirochæta buccalis* is similar to that of *Spirochæta refringens,* and the organism is easily distinguished from the treponema with its short deep curve.

Spirochæta dentium is more liable to lead to error in diagnosis; its body is finer than the other forms mentioned and the curves are shorter and placed more closely together. The body of this organism is, however, always definitely thicker than the treponema and never does one find more than five turns to the diameter of a red blood-cell, nor are the extremities drawn out in the manner of the organism of syphilis. According to Coles, there are from six to seven turns of the treponema in the length of the diameter of a red blood-cell and the total length is equal to the diameter of one or two red cells and sometimes more. The total length contains from six to fourteen and sometimes twenty or more turns of the spiral. The *Spirochæta dentium* rarely has more than four or occasionally five turns; the other organisms from two to three, possibly five, but never more.

BOOKS ON PREVENTIVE MEDICINE, HYGIENE AND SANITATION

To the Editor:—Please refer me to a book on preventive medicine or sanitation and hygiene, or some up-to-date articles on the subject.

C. E. GILLIATT, Allendale, Ill.

ANSWER.—The following are among the best books on these subjects:

Abbott: Hygiene of Transmissible Diseases, Second Ed., W. B. Saunders Co., Philadelphia; price $2.50.

Baker: Municipal Engineering and Sanitation, Macmillan Co., New York; price $1.25.

Bergey: Handbook of Hygiene, John Wiley & Sons, New York; price $1.50.

Egbert: Hygiene and Sanitation, Lea Brothers & Co., Philadelphia; price $2.25.

Harrington: Practical Hygiene, Lea Brothers & Co., Philadelphia; price $4.25.

Notter: Theory and Practice of Hygiene, P. Blakiston's Son & Co., Philadelphia; price $7.00.

Parkes: Practical Hygiene, William Wood & Co., New York; price $4.00.

Richardson: Preventive Medicine, Lea Brothers & Co., Philadelphia; price $4.00.

Sedgwick: Principles of Sanitary Science and the Public Health, Macmillan Co., New York; price $3.00.

Stevenson and Murphy: Hygiene, P. Blakiston's Son & Co., Philadelphia; price, Vols. I and II $6.00 each and Vol. III $5.00.

Whitelegge and Newman: Hygiene and Public Health, W. T. Keener & Co., Chicago; price $1.75.

Wilson: Handbook of Hygiene and Sanitary Science, P. Blakiston's Son & Co., Philadelphia; price $3.00.

The *Quarterly Bulletin of the Ohio State Board of Health,* October-December, 1910, is a very practical pamphlet on the subject. We referred to it editorially on page 274. The offices of the board are at Columbus, Ohio.

BOOKS AND JOURNALS ON INSANITY

To the Editor:—Please inform me by whom Kraepelin's work on insanity is published; also give me a list of recent standard works on insanity and state by whom published, and advise me of the best journals devoted exclusively to this specialty.

FRANCIS H. POOLE, M.D., Pocatello, Idaho.

ANSWER.—The following are some of the principal works on insanity:

Kraepelin: Clinical Psychiatry, William Wood & Co., New York; $3.50 net.

Brower and Bannister: Insanity, W. B. Saunders Co., Philadelphia; $3 net.

Bruce: Clinical Psychiatry, Macmillan Co., New York; $4 net.

Church and Peterson: Nervous and Mental Diseases, Ed. 6, W. B. Saunders Co., Philadelphia; $5 net.

The following journals are suggested:

Journal of Nervous and Mental Diseases; subscription $5; monthly; published by S. E. Jelliffe, 41 North Queen Street, Lancaster, Pa.

Brain: Macmillan Co., St. Martius Street, W.C., London, England.

American Journal of Insanity; subscription $5; quarterly; Johns Hopkins Press, Baltimore.

Journal of Mental Pathology; subscription $2.50; monthly; State Press, 28 West 126th Street, New York.

Psychological Review; bimonthly; subscription $4.50; Johns Hopkins Press, Baltimore.

Journal of Comparative Neurology and Psychology; subscription $4; bimonthly; Wistar Institute of Anatomy, Philadelphia.

RECIPROCITY BETWEEN ARKANSAS AND LOUISIANA AND TEXAS

To the Editor:—Louisiana and Texas do not have reciprocal relations, but both of these states have reciprocal relations with Arkansas. Could not a physician holding a Louisiana license, who desires to practice in Texas, first obtain an Arkansas license through reciprocity with Louisiana and then in turn, through the reciprocal relations between Arkansas and Texas, obtain a Texas license?

W. P. H.

ANSWER.—Texas reciprocates with Arkansas and other states only on the basis of a written examination. In the instance cited it is improbable that Texas would accept the Arkansas license, since it would be based, not on the Arkansas examination, but on the Louisiana license.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 28, 1911.

Sherwood, John W., M.R.C., granted two months' leave of absence.

Casper, Joseph, lieutenant, ordered to remain on temporary duty at Fort Slocum, N. Y., to Feb. 15, 1911.

Pipes, Henry F., captain, granted four months' leave of absence, to take effect about June 1, 1911.

Howell, Park, captain, honorably discharged from the service of the United States.

Patterson, R. F., D.S., returned to Fort Sheridan, Ill., from detached duty and left Fort Thomas, Ky., Jan. 20, 1911.

Scott, Harold O., D.S., reports arrival at San Francisco and departure on one month and ten days' leave.

Mason, George L., D.S., returned to Fort Snelling, Minn., from temporary duty at Fort Assiniboine, Mont.

Mabee, James I., captain, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Huachuca, Ariz., for duty.

Mills, Frederick H., M.R.C., leave of absence extended one month.

Koyle, Fred. T., M.R.C., on abandonment of Fort Mansfield, R. I., to proceed to Fort H. G. Wright, N. Y., for station and duty.

Wing, F.F., D.S., reported for temporary duty at Fort Omaha, Neb.; left Fort Crook, Neb., same date.

Worthington, Joseph A., M.R.C., on arrival in the United States from the Philippine Islands will proceed to the presidio of San Francisco for duty at that station.

Cutliffe, William O., M.R.C., sick leave of absence extended two months.

Arthur, William H., lieut.-col., relieved from duty at Walter Reed General Hospital, effective at expiration of leave of absence, and directed to proceed to San Francisco for transportation to Manila, P. I., on transport sailing Aug. 5, 1911, and on arrival report in person to the commanding general, Philippines division, for assignment to duty.

Eliot, Henry W., M.R.C., left Fort McKinley, Maine, on ten days' leave of absence.

Blanchard, R. M., captain, left temporary duty at Fort Thomas, Ky., on thirty days' leave of absence with permission to apply for thirty days' extension.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 28, 1911.

Heiner, R. G., P. A. surgeon, detached from the Naval Academy and ordered to duty at the naval hospital, Annapolis, Md.

Ransdell, R. C., P. A. surgeon, detached from the *Texas* and ordered to the *Baltimore.*

U. S. Public Health and Marine-Hospital Service

Moore, Dunlop, P. A. surgeon, granted seven days' leave of absence from Jan. 18, 1911, under paragraph 191, Service Regulations.

Schereschewsky, J. W., P. A. surgeon, directed to report at Bureau on special temporary duty.

Collins, G. L., P. A. surgeon, granted eight days' leave of absence from Jan. 24, 1911.

McKeon, F. H., P. A. surgeon, directed to report to P. A. Surgeon M. W. Glover for duty in the medical examination of arriving aliens.

Simpson, Friench, asst.-surgeon, granted one month and fifteen days' leave of absence from Feb. 6, 1911.

Slaughter, A. W., acting asst. surgeon, granted seven days' leave of absence from Jan. 8, 1911, under paragraph 210, Service Regulations.

Board of medical officers convened to meet at the Bureau on call of the chairman for the purpose of preparing a new "Nomenclature of Diseases." Detail for the board: Asst. Surgeon-General J. W. Trask, chairman; P. A. Surgeon Joseph Goldberger; P. A. Surgeon Joseph Schereschewsky, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

Legislatures are in session this winter in the following thirty-six states: Alabama, California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin and Wyoming. While many of the legislatures have been occupied so far in organization and the election of United States Senators, a number of bills of interest to physicians have been introduced relating to the practice of medicine, the regulation of public health matters, etc. As was to be expected, a number of bills providing for sectarian examining boards have been introduced. The following summary includes all of the bills that have been reported up to the time of going to press. In the case of bills of importance, further details, together with an abstract of the bill, will be given later.

ARKANSAS

Attorney-General Norwood is preparing a bill providing for a state board of health, carrying an annual appropriation of $10,000. The bill provides for a health commissioner, a bacteriologist, a bookkeeper and a stenographer. Members of the board of health are to be appointed by the governor and are to receive mileage and a per diem. The board is to have control over the health affairs of the state, outside of the cities which have their own health departments. An office in the state capital is provided for, with a laboratory for all work except water analysis, which will be done in the laboratories of the University of Arkansas as at present. The bill further provides for county and township boards of health. County commissioners are to receive one and one-half cents per capita on the population of the county. The bill also provides for registration of births, deaths, marriages and divorces. The *Pine Bluff* (Ark.) *Graphic* states that most of the legislators are in favor of the bill and that its passage is regarded as almost certain.

An optometry bill has also been introduced. This bill is similar to the optometry bills introduced into other states and is open to the same objections in that it permits those untrained in medicine to assume the care of patients suffering from diseases of the eye.

CALIFORNIA

No official reports have been received from California but the *San Francisco Examiner* states that a bill providing for a new state board of medical examiners is being prepared and will be introduced.

ILLINOIS

Senator Glackin, of Cook County, has introduced a bill (S. B. 5) providing for a state sanatorium for consumptives and appropriating $300,000 for this purpose.

A committee of the Chicago Woman's Club has prepared a bill to establish a commission for improving the condition of the adult blind in their homes. This bill provides for a state board of five persons, to be known as the Illinois Commission for the Blind, which shall act as a bureau of information and industrial aid, promote visits to the adult blind in their homes for the purpose of instruction, aid them to find employment, develop home industries for the blind, furnish them with material and tools, assist them in marketing their products, circulate books among the aged and helpless, or use any other methods it may deem expedient, except that it shall not undertake the permanent support or maintenance of any blind persons. The bill calls for the appropriation of $10,000.

The Chicago *Record-Herald* recently stated that the Chicago Homeopathic Medical Society had protested against a bill introduced, or to be introduced, to prohibit physicians from dispensing their own medicines.

INDIANA

The Indianapolis *Star* states that a bill to prohibit the sale of cocain in any form except on a physician's prescription, will shortly be introduced. The *Star* also states that the State Board of Health has formulated a legislative program which includes a weights and measures bill, a bill for medical inspection of school children, a cold storage bill, a sanitary school house bill, Pasteur Institute bill, a bill for the prevention of blindness in the new-born and amendments to the present pure food law. The bill for the medical inspection of school children, introduced by Senator McCarty, provides that medical inspection shall be optional with the school authorities but recommends inspection of the eyes and teeth and examination as to contagious diseases. This measure is endorsed by the State Board of Education.

IOWA

A bill has been introduced to create a health commission of three to take the place of the present Board of Health, this commission to be composed of a lawyer, a sanitary engineer and a physician. The three commissioners are to give their entire time to health administration. The usual bill establishing a state board of osteopathic examiners has been introduced.

LOUISIANA

A bill to prevent the unauthorized sale of habit-forming drugs has been introduced, strongly endorsed by the New Orleans *Picayune*. One of the strongest reasons urged for the passage of the bill is the prevalence of the cocain habit among negroes. District Attorney St. Clair Adams stated before the board of health that, according to police reports, there were from 20,000 to 25,000 negro cocain "fiends" in New Orleans and that morphin and cocain habitués were sent to the penitentiary or the insane asylum every week.

MAINE

A bill amending the medical practice act has been introduced, to establish a minimum preliminary educational requirement of a high school diploma or equivalent, giving the board power to revoke certificates, amending the definition of the practice of medicine, exempting all drugless methods of treatment and providing for the expenses of the board. An osteopathic bill has also been introduced.

MINNESOTA

The State Board of Health has approved a bill to be presented to the legislature, giving the board power to condemn school buildings as unsafe or unsanitary. The board has also approved a bill authorizing the state to pay one-third of the salary of a school health officer, who may give his whole time to the medical inspection of schools, and limiting the amount to be expended to $20,000 a year. The board also approved of a bill requiring licenses for all dogs, the income from the license tax to be used for the support of the Pasteur Institute.

MONTANA

The following bills have been introduced: a bill for a tuberculosis sanatorium; a bill for a pure food law; a bill to prohibit the sale of narcotics except on physicians' prescriptions; a bill providing for the medical examination of school children and two bills regulating dairy products.

NEBRASKA

A joint resolution has been introduced into the house, providing for the submission to the people of an amendment to the state constitution, creating a board of control of three members to have charge of all state institutions. The committee on medical legislation of the Nebraska State Medical Association has also recommended legislation providing suitable care for the indigent tuberculous and the tuberculous insane and for a commission of physicians to make reports to the courts on all matters connected with expert medical testimony. A bill has been introduced permitting the practice of so-called "Chiropractics," Christian Scientists and faith healers.

NEW HAMPSHIRE

A pure food bill, a bill appropriating $5,000 for a state sanatorium, a bill requiring practicing physicians to report all cases of tuberculosis, a bill prohibiting the manufacture and sale of cocain or any article containing cocain, and a bill amending the medical practice act have been introduced.

NORTH DAKOTA

A new medical practice act is being drafted which will place practitioners of all sects under the supervision of a single board.

OHIO

Bills have been introduced to amend the state pharmacy law, forbidding the sale of habit-forming drugs except on prescription of a legally qualified physician or dentist, regulating the itinerant vending of medicines, nostrums, etc.

RHODE ISLAND

The State Board of Health intends to introduce bills for the abolition of the public drinking cup and for the control of the pollution of streams. The Rhode Island Antituberculosis League has prepared a bill for the control of dairies and milk delivery.

SOUTH DAKOTA

Senator W. J. Maytum has introduced a bill to regulate itinerant physicians. A new board of health bill is being drafted to increase the power of the board and to provide an appropriation.

TENNESSEE

A bill has been introduced to amend the medical practice act by requiring a four years' course and prohibiting any person from practicing medicine under the name of any other person or firm. The term of members of the board of medical examiners is to be increased from four to six years. A vital statistics bill is being prepared along the lines of the model bill.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—First Weekly Meeting

General subject for the month: Surgical Infections *

THE NATURE OF INFECTION

DUE TO: (1) Toxic infections, snake venoms, etc., (2) bacteria.

INFECTION may be (1) local, wound infections, or (2) general, toxemia, septicemia, pyemia.

REACTION to infection may be (1) local, or (2) general.

LOCAL REACTION, INFLAMMATION: Action of bacteria due to bacteria, their toxins or endotoxins.

INFLAMMATION: (1) Disturbance of circulation with exudation; (a) congestion, (b) stasis, (c) leukocytosis, and emigration, (d) serous exudation, (e) diapedesis, (f) thrombosis. (2) Degenerative changes. Causes of necrosis and liquefaction. (3) Reparative changes: (a) cell-proliferation, (b) regeneration, (c) organization, (d) cicatrization.

SYMPTOMS OF INFLAMMATION.

TERMINATIONS.

GENERAL REACTION: Rapidity of absorption from different kinds of wounds. Virulence of bacteria. Resistance of organism. Development of bactericidal substances in tissue fluids. Complement and intermediary bodies. Agglutinins, lysins, precipitins. Leukocytosis, significance, relation of leukocyte to complement. Ehrlich's side-chain theory. Antitoxic serums, bactericidal serums. Fever. Causes of fever. Relation of fever to absorption of toxins. Aseptic fever.

INFECTED WOUNDS: Simple infected wounds. Progressive phlegmonous infiltration. Acute purulent edema. *Gangrène foudroyante.*

* Reference Books for the Seventh Month: Text-Books on Surgery, by Keen, Bryant and Buck, Lexer-Bevan, and others.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

Alabama July Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, July 11-14, 1910. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 119, of whom 73 passed, including 2 osteopaths, and 46 failed. The following colleges were represented:

College	PASSED	Year Grad.	Total No. Examined.
University of Alabama	(1908) (18, 1910)		19
Birmingham Medical College	(1909) (13, 1910)		14
Atlanta School of Medicine	(1906) (2, 1910)		3
Atlanta College of Physicians and Surgeons	(1909)		1
College of Physicians and Surgeons, Chicago	(1902)		1
University of Louisville	(1909) (4, 1910)		5
Tulane University of Louisiana	(1910)		2
Maryland Medical College	(1910)		1
Johns Hopkins University	(1910)		2
Columbia University, College of Phys. and Surg.	(1908)		1
Cornell University Medical College	(1907)		1
University and Bellevue Hospital Medical College	(1905)		1
Leonard Medical School	(1909) (1910)		2
Jefferson Medical College	(1910)		2
University of Pennsylvania	(1908)		1
University of Nashville	(1900) (2, 1908) (2, 1909)		5
Vanderbilt University	(1910)		2
Memphis Hospital Medical College	(1910)		2
Universities of Nashville and Tennessee	(1910)		3
University of Virginia	(1909)		1
University of Amsterdam, Netherlands	(1901)		1
University of Edinburgh, Scotland	(1901)		1
	FAILED		
University of Alabama	(2, 1909) (6, 1910)		8
Birmingham Medical College	(1907) (7, 1910)		8
College of Physicians and Surgeons, Chicago	(1902)		1
Atlanta College of Physicians and Surgeons	(1910)		3
Atlanta School of Medicine	(1910)		2
Tulane University of Louisiana	(1910)		1
Barnes Medical College	(1910)		1
Leonard Medical School	(1906) (6, 1910)		7
University of the South	(1907) (1908)		2
University of Tennessee	(1908)		2
Meharry Medical College	(1910)		4
Universities of Nashville and Tennessee	(1910)		1
Memphis Hospital Medical College	(1910)		4
Chattanooga Medical College	(1908) (1909)		2

Kansas October Report

Dr. H. A. Dykes, secretary of the State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 13, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 13, of whom 5 passed, 6 failed and 2 withdrew. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Louisville	(1910)		79
St. Louis University	(1907) 93; (1908)		85
Kansas City Medical College	(1892)		80
University Medical College, Kansas City	(1910)		86
	FAILED		
Eclectic Medical University, Kansas City	(1904)		56
Kansas City Medical College	(1900) 70; (1904)		62
Kansas City Hahnemann Medical College	(1909)		67
Missouri Medical College, St. Louis	(1883)		64
University Medical College, Kansas City	(1909)		62

Texas November Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Palestine, Nov. 22-24, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 35, of whom 34 passed, including 1 osteopath, and 1 failed. The college and year of graduation for two

candidates who passed were not obtained. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale University	(1909)	90.9
College of Med. and Surg., Physiomedical, Chicago	(1910)	80.2
Rush Medical College	(1897)	79
College of Phys. and Surg., Chicago	(1898) 84.3; (1910)	85.7
Hahnemann Medical College and Hospital, Chicago	(1910)	91.2
Central College of Phys. and Surgs., Indianapolis	(1898)	90.8
University of Louisville	(1910)	80.8, 85.2
Tulane University of Louisville	(1908) 77.4; (1910)	85.6
Barnes Medical College	(1904) 75,	77
St. Louis College of Physicians and Surgeons	(1910)	77.3, 87.5
Medico-Chirurgical College, Philadelphia	(1910)	83.1
Woman's Medical College of Pennsylvania	(1910)	85.1
University of Tennessee	(1891) 80.4; (1906)	81.7
Meharry Medical College	(1908)	75
Memphis Hospital Medical College	(1892) 76.9; (1901) 82.3; (1907) 84.3; (1910) 81.1.	
Vanderbilt University	(1909)	78.1
University of the South	(1901) 79.5; (1908)	76.8
Dallas Medical College	(1903)	77.4
Baylor University College of Medicine	(1910)	75
University of Texas	(1907)	88.9
Southwestern University Medical College, Dallas	(1910)	81.4
FAILED		
University of Louisville	(1910)	64.7

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration in Medicine, reports the written examination held at Portland, Nov. 8-9, 1910. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 14, of whom 11 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1910)	84
Baltimore Medical College	(1910)	92
Tufts College Medical School	(1910) 87,	88
College of Physicians and Surgeons, Boston	(1908)	77
Harvard Medical School	(1909) 82; (1910)	90
Hahnemann Medical Coll. and Hosp., Philadelphia	(1910)	77
University of Pennsylvania	(1910)	86
University of Vermont	(1909)	89
University of Toronto, Ontario	(1895)	91
FAILED		
College of Phys. and Surg., Boston	(1908) 70; (1910)	77 *
Tufts College Medical School	(1909)	74

* Fell below the required percentage in certain branches.

Delaware December Report

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, Dec. 13-15, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C	(1910)	89.3
College of Phys. and Surg., Baltimore	(1909) 83.8; (1910)	79.6
University of Maryland	(1909)	84.2
Woman's Medical College of Pennsylvania	(1909)	88.5
Jefferson Medical College	(1906)	86.8
University of Pennsylvania	(1906)	89.5
Medico-Chirurgical Coll., Philadelphia	(1909) 75.9; (1910)	79.2
Victoria University of Manchester, England	(1894)	89.8
FAILED		
University of Maryland	(1910)	73.7
Royal University of Naples, Italy	(1905)	73.8

Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 15-17, 1910. The number of subjects examined in was 10; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 34, of whom 19 passed, including 1 osteopath, and 15 failed, including 2 osteopaths. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
College of Physicians and Surgeons, Chicago	(1884)	1
Chicago College of Medicine and Surgery	(1910)	1
University of Louisville	(1905) (4, 1910)	5
Louisville and Hospital Medical College	(1908)	1
Kentucky School of Medicine	(1908)	1
Southwestern Homeo. Medical Coll. and Hosp.	(1910)	1
University of Michigan, Homeopathic College	(1910)	1
University of Buffalo	(1900)	1
Eclectic Medical College, Cincinnati	(1910)	1
Cincinnati College of Medicine and Surgery	(1902)	1
Medical College of Ohio	(1909)	1
Hahnemann Med. Coll. and Hosp., Philadelphia	(1908)	1
Meharry Medical College	(1910)	2
FAILED		
Kentucky School of Medicine	(1901) (1902)	2
University of Louisville	(1909) (5, 1910)	6
Kentucky University	(1910)	1
Louisville National Medical College	(1910)	1
Eclectic Medical College, Cincinnati	(1910)	1
Meharry Medical College	(1909) (1910)	2

Maryland December Report

Dr. J. McP. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, Dec. 13-16, 1910. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 53, of whom 36 passed and 17 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C	(1907) 77; (1910)	75
Atlanta School of Medicine	(1910)	95
University of Maryland	(1908) 77; (1909) 75; (1910)	77, 78, 78, 79, 80, 82, 83.
Woman's Medical College of Baltimore	(1909)	83
Johns Hopkins University	(1901) 92; (1904) 90; (1907)	83, 93; (1908) 91; (1909) 89; (1910) 84.
College of Phys. and Surg., Baltimore	(1903) 77; (1910)	80
Baltimore Medical College	(1910)	81
Maryland Medical College	(1910)	79
University of Michigan, Dept. of Med. and Surg.	(1898)	82
Columbia University, College of Phys. and Surg	(1908)	85
University of Pennsylvania	(1909) 91; (1910)	78, 79, 82, 85.
Jefferson Medical College	(1910)	85
Medico-Chirurgical College, Philadelphia	(1910)	84
University of the South	(1909)	76
University of Virginia	(1909) 81; (1910)	77
FAILED		
University of Georgia	(1909)	63
Louisville National Medical College	(1909)	54
University of Maryland	(1909) 55, 66; (1910)	69
Baltimore Medical College	(1910)	74
College of Physicians and Surgeons, Baltimore	(1910)	62
Maryland Medical College	(1904) 58; (1906) 66; (1909)	60, 67; (1910) 32, 51, 63; (——)* 66.
Leonard School of Medicine	(1907)	71
University of the South	(1909)	42

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
George Washington University	(1909)	W. Virginia
Columbian University, Washington, D. C	(1891)	Virginia
Baltimore University	(1902)	Nebraska
University of Maryland	(1878)	Maryland
	(1907)	Virginia
Johns Hopkins University	(1905)	N. Carolina
Harvard Medical School	(1893)	Dist. Colum.
University of Pennsylvania	(1892)	Dist. Colum.
	(1898)	S. Carolina
Meharry Medical College	(1900)	Kentucky
Baylor University	(1907)	Texas
University of Virginia	(1901)	N. Carolina

* No year of graduation given.

Ohio December Report

Dr. George H. Matson, secretary of the State Medical Board of Ohio, reports the written examination held at Cincinnati, Dec. 6-8, 1910. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 23, of whom 21 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C	(1910)	81.9
Kentucky School of Medicine	(1903)	77.1
Johns Hopkins University	(1908)	82.6
Ohio-Miami Medical College	(1910) 75, 77, 81.6, 81.6.	
Western Reserve University	(1910)	76.3
Miami Medical College	(1880) 76.9; (1909)	78.3
Cleveland College of Phys. and Surg.	(1903) 77.7; (1910)	81
Medical College of Ohio	(1894)	77.8
Starling-Ohio Medical College	(1909)	78.6
Medico-Chirurgical College, Philadelphia	(1898)	82.5
Western University, London, Ontario	(1910)	80.5, 82
University of Helsingfors, Finland	(1903)	76.7
University of Berlin, Germany	(1908)	84.3
Royal University of Palermo, Italy	(1904)	76.5
Royal University of Pisa, Italy	(1909)	76.9
FAILED		
Eclectic Medical College, Cincinnati	(1908) 69.3; (1910)	55.5

Book Notices

THE MODERN TREATMENT OF ALCOHOLISM AND DRUG NARCOTISM. By C. A. McBride, M.D. Cloth. Price, $2. Pp. 376. New York: Rebman Co., 1910.

McBride believes that inebriety is a disease, and makes a good argument for the validity of his views. He admits that some who drink to excess do not have a craving; these he does not regard as inebriates; they are the ones who should be brought under moral influences to be reformed. The early chapter on the pathology of alcoholism is made up of quotations from Drs. Sims Woodhead, Hale White, Lauder Brunton and John R. Bradford and so may be considered authoritative.

McBride discusses, fully and well, the causes of inebriety and the conditions under which it arises. He says of Canada and such climates that the air is so stimulating that the desire for alcoholic drinks is not so great as in England, but that if they are used they are more acutely deleterious. The correctness of the first part of this statement is doubtful. The author has probably been misled by the customs of Canadians and Americans, who drink less wine in their homes than Europeans do—not, however, because of climate.

For purposes of prognosis and treatment the author classifies alcoholics as: (1) the constant drinker; (2) the periodical drinker; (3) the dipsomaniac; (4) the voluntary drinker; (5) mixed cases. The fourth class includes those who drink sometimes even to excess because others do, or as a "stunt," but who have no habit or craving for drink. They can stop whenever they are persuaded that it is best to do so. The term "dipsomaniac" he limits to those in whom there are outbreaks of mental excitement of a maniacal kind. He believes that "every dipsomaniac is insane, but the insanity is not sufficiently marked during the intervals to attract attention, and is apparent only when the patient is excited by alcohol." The other classes are readily understood from their names. Alcoholics of the fourth class do not need medicinal treatment. The others do. The dipsomaniac should be under restraint such as is needed by the insane. Alcoholics of the other classes are amenable to medicinal treatment. Various specific treatments which have been recommended are discussed. The treatment which the author uses is fully explained. In brief, it consists in giving hypodermic injections of strychnin 3 times daily, at first 1/60 of a grain, increased to 1/30 by the end of the first week and at the same time hypodermic injections of atropin are given, which are rapidly increased until the patient's tongue is made dry and the pupils dilated. A bitter mixture containing cinchona, gentian, rheum, capsicum and more atropin and strychnin is also given six times a day. During the first week, usually during the first few days, all taste for alcohol is lost. During the second week this treatment is continued, but during the third the injections of atropin are gradually diminished and finally stopped, and the capsicum is withdrawn from the mixture taken by the mouth. Thus modified, the treatment is continued during the fourth week. At the end of that time the atropin is withdrawn from the mixture and the latter is given four instead of six times daily. During the sixth week the injections of strychnin are reduced and stopped. At the beginning of the week the cinchona is also withdrawn. The author necessarily varies this treatment with the requirements of individuals. He does not minimize the value of the personality of the man administering treatment and of the value of suggestion, but he is convinced of the value and need of medicinal treatment.

Those who have had experience in the treatment of inebriates must feel skeptical about the value of this specific treatment, but no one reading the book will doubt that in the experienced hands of its author it will effect cures. His sincerity, clinical experience and success cannot be doubted.

The portion of the volume devoted to drug treatment is a small part of the whole. It is equally worthy of consideration.

PHYSICAL CHEMISTRY: ITS BEARING ON BIOLOGY AND MEDICINE. By James C. Philip, Ph.D., Assistant Professor in the Department of Chemistry, Imperial College of Science and Technology, London. Cloth. Price, $2.10 net. Pp. 312, with 23 illustrations. New York: Longmans, Green & Co., 1910.

The increasing utilization of physicochemical methods in solving biologic and physiologic problems gives promise of a successful future for this branch of science, and makes it necessary that a student of biologicochemical problems have a working knowledge of the fundamental principles and methods of physical chemistry. As the newer physiologic and biologic literature abounds in references to physical chemistry, it is difficult to comprehend the import of such work without at least a fundamental knowledge of the laws of physical chemistry.

In order to furnish the requisite knowledge to enable medical students and practitioners to follow modern research in the biologic fields, the author has produced this volume. It is well written, and, since it is made as simple as possible and all unnecessary mathematics have been dispensed with, the material should be in an easily assimilable form for those who have not specialized in the fields of higher mathematics and physics. Examples of phenomena are taken from the fields of biology, physiology and medicine to illustrate the principles of physical chemistry, and *vice versa*. It is a timely help for those who desire to keep up with the rapid development of the biologic sciences.

ANEMIA. By Obermedizinalrat Professor Dr. P. Ehrlich, Director of the Königl. Institut. für Experimentelle Therapie, Frankfurt a.-M., and Dr. A. Lazarus, Professor of the University of Berlin, Charlottenburg. Part I., Vol. I. Normal and Pathologic Histology of the Blood. Second Edition. Revised by Dr. A. Lazarus, and Dr. O. Naegeli, privat-docent, Zurich. Translated from the German by H. W. Armit, M.R.C.S. Cloth. Price, $4. Pp. 218, with illustrations. New York: Rebman Co., 1910.

It is more than ten years since the first edition of this part of "Anemia" was published by Ehrlich and Lazarus. During this time hematology has made many advances, mostly along lines indicated or in harmony with the views expressed in the first edition, while in some details, matters now present a samewhat different aspect from the one they presented ten years ago.

The new edition has been prepared by Prof. A. Lazarus, Ehrlich's original cooperator, and Privat-Docent O. Naegeli. The book still represents Ehrlich's school and Ehrlich's views. The translator has succeeded well in securing a readable English form. Chapters 1 and 2, by A. Lazarus, contain introductory matters, such as clinical methods of the examination of the blood and the morphology of blood. The third chapter, by O. Naegeli, considers the white blood-corpuscles—the histology and classification, origin, granules and theories, and presents also the subjects of leukocytosis and leukemia. Chapter 4, by A. Lazarus, deals with the blood-platelets. At the end of each chapter is a bibliography, the references in which are not given according to any uniform style or accepted form of abbreviation; thus, what is probably the *American Journal of Medical Sciences* is referred to as *Amer. Journ.*

There is no need for any recommendation of this book. Its value as representing the teachings of Ehrlich, the founder of modern hematology, is recognized at once. It may be pointed out, however, that Naegeli's discussion of the rôle of leukocytes in infection leaves much to be desired, the issues in some cases being confused. The colored plates are good.

THE DISEASES OF CHILDREN. By James F. Goodhart, M.D., Consulting Physician to the Evelina Hospital for Sick Children. Ninth Edition. Edited by George F. Still, M.D., Professor of Diseases of Children, King's College, London. Cloth. Price, $5. Pp. 931, with 34 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

With the exception of a few interpolations, this book might have been written a quarter of a century ago. In the chapters on nutrition and its disorders, there is not a single reference to metabolism.

To illustrate the antiquated character of the volume, a few instances from the chapters on infectious diseases are chosen. Tracheotomy is given preference over intubation, in the treatment of diphtheritic laryngeal stenosis; the author states also that intubation is "but seldom adapted to the exigencies of private practice." "We are inclined to doubt whether intubation will ultimately take rank as a generally serviceable measure in diphtheria." In the treatment of scarlet fever antiseptic inunctions (phenol or "oil eucalyptus supplied by Messrs. ——— & Son") are "insisted" on. "With this treatment the

child need not be isolated" and even "the infected child may be allowed to sleep with a healthy child."

If this book reflects the current thought in pediatrics in England, it certainly does not that of the Continent or of this country.

A GUIDE TO READING IN SOCIAL ETHICS AND ALLIED SUBJECTS. Lists of Books and Articles Selected and Described for the Use of General Readers. By Teachers in Harvard University. Boards. Price, $1.25. Pp. 265. Cambridge: Harvard University, 1910.

This book is compiled to meet the needs, not of "a superficial reader nor yet a learned scholar," but of "an intelligent and serious-minded student." Some subjects are included which are of special interest to physicians, such as "Medical Aspects of Sociology," "Defectives," "Crime and Criminals," and "The Liquor Problem." The sensible plan on which the work is compiled, being applicable to bibliographies of other subjects, is worthy of mention. The general subject has been subdivided, and each subdivision has been allotted to an editor of special ability in that field, who has compiled, not an exhaustive, but a select bibliography, with critical comments, "not attempting a complete description or a final judgment, but as though answering the preliminary question of a student, 'What kind of book is this?'" As Professor Peabody says in the preface, "A perfect [that is, exhaustive] bibliography may justify pride in the compiler but may provoke despair in the reader." We commend this thought to the consideration of other compilers of bibliographies.

PHASES OF EVOLUTION AND HEREDITY. By David B. Hart, M.D., Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh. Cloth. Price, $2. Pp. 259. New York: Rebman Co., 1910.

This little volume discusses evolution and heredity in a popular style. While there is no dearth of books on this theme, most of them are too ponderous and ultrascientific and, consequently, fill one's library shelves, but usually remain unread. Such criticism cannot apply here. The book is divided into fourteen short chapters and a glossary of scientific terms, each chapter forming a rounded whole. The diction is entertaining and reminds one very strikingly of the familiar popular-science style created by the great Huxley. Respecting the subject-matter itself, we detect no inaccuracies and are surprised by several things not expected in a work of this kind. It may well be questioned why the chapters on "The Community of Bees," "A Modern Observation Hive," "The Evolution of the Honey-Bee and of Modern Bee Culture"—all very interesting in themselves—have been introduced. However, as the author shows great first-hand familiarity with bee-life, one rather enjoys reading about it.

THE SCIENCE OF LIVING, OR THE ART OF KEEPING WELL. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1.50 net. Pp. 420. Chicago: A. C. McClurg & Co., 1910.

This popular treatise on hygiene, intended for a purpose similar to that for which Cohen wrote his work recently reviewed in these columns, is far different in its style and content. Both books have their place; Cohen was concise, Sadler is discursive. This work is almost a popular physiology; the illustrations and tabulations are numerous and good. The layman will be led to read further by the interestingly argumentative way in which the sweet reasonableness of proper living is urged. Sadler is most thoroughly in earnest; he comes very near to exaggeration at some points; for example, "sunlight . . . . is immediately fatal to the tubercle bacillus." But his abundant enthusiasm will be a tonic for the reader, and so we hesitate to criticize. The book is well worthy of being recommended for popular use.

FRACTURES AND THEIR TREATMENT. By J. Hogarth Pringle, F.R.C.S. (Eng.), Glasgow. Cloth. Price, $5.50. Pp. 384, with 142 illustrations. New York: Oxford University Press, 1910.

This volume, profusely illustrated with photographs and diagrams of the various pathologic conditions of fractures, together with their diagnoses and treatments, contains an account of the mechanism by which the different fractures are produced and of the methods of treatment possible to the average practitioner without hospital facilities, trained assistants and nurses. It also contains a bibliography which includes names of some of the classical works dealing with fractures, many of which give extensive lists of the writings on the particular phase under consideration. This book will appeal not only to the surgeon but also to the general practitioner and student, for through its logical arrangement concise and comprehensive information is readily found, giving the diagnostic points and treatment of each individual pathologic condition.

URGENT SURGERY. By Felix Lejars, Professeur Agrégé à la Faculté de Médecine de Paris. Translated from the Sixth French Edition by William S. Dickie, F.R.C.S., Surgeon North Riding Infirmary, Middlesbrough. Vol. II. The Genito-Urinary Organs—the Rectum and Anus—the Strangulated Hernias—the Extremities. Cloth. Price, $7 net. Pp. 580, with 536 illustrations. New York: William Wood & Co., 1910.

The second volume of the English translation of this work includes sections on the urgent surgery of the genito-urinary organs, the rectum and anus, a separate section on strangulated hernias of the different varieties, and a final section on the extremities. This latter includes in addition to fractures, dislocations, amputations, crushing and other injuries, paragraphs on the suture of blood-vessels, nerves and tendons, beside many other subjects. While all surgery, perhaps, may be said to be urgent surgery once a case is diagnosed as a surgical one, yet the author has limited his subjects to those coming within the limits of urgent surgery in the strict sense.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. Gleason, M.D., Clinical Professor of Otology in the Medico-Chirurgical College. Second Edition. Leather. Price, $2.50 net. Pp. 563, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The revision of this manual brings the information concerning these special topics down to date and affords the physician a reliable and practical working guide in the treatment of diseases of the nose, throat and ear. The section containing formulas of remedial agents, washes, sprays, gargles, ointments, etc., has been enlarged and includes a brief statement of the action of the various agents and their therapeutic application. While much space is given to the various operations recommended in the highly important middle-ear, mastoid and accessory sinus affections, the author does not neglect medicinal and other measures to be employed in the acute stages. The book is well illustrated and of a convenient size.

ATLAS UND GRUNDRISS DER VERBANDLEHRE FÜR STUDIERENDE UND AERTZE. Von Dr. Albert Hoffa, a. o. Professor an der Universität, Berlin. Nach des Verfassers Tod bearbeitet von Privatdozent Dr. Rudolf Grashey, München, Lehmann's Medizinische Handatlanten. Band XIII. Fourth Edition. Cloth. Price, 10 marks. Pp. 152, with 170 illustrations. München: J. F. Lehmanns Verlag, 1910.

The fourth edition of Hoffa's work has been revised and brought up to date by Dr. R. Grashey, instructor in the University of Munich. The first part of the work gives detailed instruction with reference to bandage materials and methods of application, and is followed by a collection of seventy-eight plates, illustrating the various methods employed for ordinary bandaging. The second part deals with special methods of bandaging, treatment of wounds, fractures, etc., and is illustrated by a collection of ninety-two plates. There are a number of illustrations incorporated in the text.

DIE HAUPTGRUNDGESETZE DER EPIDEMIOLOGISCHEN TYPHUS UND CHOLERAFORSCHUNG. Dargelegt on Dr. med. Friederich Wolter in Hamburg. Band. Paper. Price, 24 marks. Pp. 337, with illustrations. Munich: J. F. Lehmann, 1910.

This book is a laborious defense of an outworn creed, namely, the doctrine of a local predisposition to typhoid fever and cholera. Modern bacteriologic and epidemiologic studies have made such statistical compilations as the one before us seem antiquated and almost purposeless. There is little to be gained by such a one-sided treatment.

CARE OF THE PATIENT. A Book for Nurses. By Alfred T. Hawes, M.D. Cloth. Price, $1 net. Pp. 173, with 6 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This book tells in a simple and concise way how to do practically everything that comes within the ordinary routine duties of the nurse in hospital and in private practice in caring for patients from the moment they come under her care until discharged. It is an excellent book for the beginner and will teach system and correct methods to those more advanced.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the Physician, Trained Nurse and Home Use. By Helena V. Sachse. Fourth Edition. Cloth. Price, $1.25 net. Pp 337. Philadelphia: J. B. Lippincott, 1910.

The present edition of this book has been enlarged by the addition of a chapter on the substitutes for cane sugar. The book should be useful not only to those who must prepare food for the sick and convalescent but also for housekeepers; the recipes are practical and the directions clearly stated.

Medicolegal

Law Requiring Exclusion of Unvaccinated Pupils from Schools Constitutional and Must be Enforced

The Court of Appeals, First District, California, in State Board of Health vs. Board of Trustees of Watsonville School, District of Santa Cruz County (110 Pac. R. 137) holds that it was error to sustain a demurrer to the plaintiff's petition for a writ of mandate to compel the defendant trustees to comply with the act of 1889, entitled "An act to encourage and provide for general vaccination in the state of California." That statute provides: "The trustees of the several common school districts in this state and boards of common school government in the several cities and towns are directed to exclude from the benefits of the common schools therein any child or any person who has not been vaccinated, until such time when such child or person shall be successfully vaccinated," etc.

The court says that it has no doubt as to the constitutionality of the act. The legislature must necessarily be the judge as to legislation under the police power for the public health and for the purpose of preventing the spread of contagious diseases, the means used to prevent such spread, and the diseases regarded as contagious. It is invested with a large discretion within the scope of its powers, which discretion cannot be controlled by the courts except in cases where such discretion has been plainly abused.

Nor does the court consider this statute repealed by the subsequent compulsory education act. The latter is not inconsistent with the former. The parents of children are compelled to send them to school under the latter act, but they must comply with the law as to having them vaccinated in case they desire to avail themselves of the privilege of sending them to the common schools.

The vaccination statute is not directory, but mandatory. It is the plain duty of the trustees, and they are directed by the express terms of the statute, to exclude from the public schools any child or person who has not been vaccinated. Until the child has been vaccinated he must be excluded from the schools. If the trustees could use their discretion, and of their own will at times exclude and at other times admit to the schools children who have not been vaccinated, or if the trustees could exclude some children and admit others, the law would be uncertain and of little value. It was never the intention under the terms of the act that the board of trustees should possess such discretion. By its terms all are to be excluded, and the exclusion is to continue as to all until they have complied with the law.

The duty devolves on the defendants by virtue of their office to exclude such children. They must obey and not question the law. They are not compelled to hold their respective offices as trustees; but while in office it is their duty, and the duty of each and every one of them, to see that the law is enforced, and this whether the law is popular or unpopular, or whether they believe in the vaccination of children or otherwise. The law having been passed by the people, it is the duty of the trustees and of all persons to obey it until it is repealed.

Cities May Require Annual Tuberculin Test and Authorize Summary Seizure and Destruction by Health Departments of Milk from Uninspected Cows

The Supreme Court of Minnesota, in Nelson vs. City of Minneapolis (127 N. W. R., 445), holds valid, as a police regulation, a city ordinance prohibiting the bringing into the city for sale, or offering for sale therein, of milk from cows not previously subjected to the tuberculin test and found free from disease, the test to be applied annually, and the health department being authorized to summarily seize and destroy milk from untested cows.

The court says that in this case the city council, duly authorized thereto by legislative grant, which was that it might prescribe the terms and conditions on which milk, cream and butter might be exposed for sale in the city, determined that the tuberculin test of cows was the most feasible and practicable method of insuring a pure milk supply. This involved a matter of legislative judgment and discretion, and necessarily a comparison with other methods designed to secure the same result, including the theory of pasteurization. It is probable that pasteurization, when placed on a practicable and workable basis, will be found superior to the annual tuberculin test; but the determination of that must be left to the legislative department.

It was urged that before destroying the milk the authorities should be required to ascertain whether it was in fact unwholesome and unfit for food, and that to permit them to destroy the same without regard to whether it was or was not free from disease germs authorized a taking of property for public use without compensation, and was not that due process of law guaranteed by the constitution. But the city council determined that the tuberculin test was a reasonable, and the most practicable, method of insuring purity in the milk brought into the city. To enforce the regulation the council had the power to impose such penalties as would render the regulation effective and serve the purpose intended. It provided, in addition to fine and imprisonment, a destruction of the condemned milk. The authorities sustain regulations of this character. It is in fact the only feasible method of preventing contaminated or unwholesome milk from reaching the citizens, and to enforce or compel a compliance with the ordinance. A mere fine or imprisonment of the offender would not prevent the milk reaching the consumers; but its destruction, when brought into the city, is effective for all purposes. This authority must be sustained, unless it is to be held as a matter of law that the city should either determine that the milk is in fact impure, or in the interests of the dairymen, establish and maintain a pasteurization plant, in which all milk brought into the city may be purified and rendered wholesome. But the dairymen and dealers in milk and cream, who persist in their refusal to comply with the inspection ordinance, which answers every purpose of the regulation, and entitles them to unrestricted entrance into the city with their milk, are in no position to urge the establishment of such a plant.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Jan. 6, 1911

The President, DR. CHARLES B. PARKER, in the Chair

Treatment of Heart Disease

DR. L. F. BARKER, Baltimore: The causes of heart failure are many, but, in general, the treatment resolves itself into heart protection and heart stimulation or exertion. In most cases we must resort to the former first. We have four general methods of protecting the overworked, weakened heart. The patient must be put to bed and have absolute rest. The more quickly the symptoms disappear after beginning rest, the better the prognosis. If more restful, the Dutch bed, which elevates the thighs and flexes the knees, may be used. If the patient is very dyspneic, unable to sleep, a hypodermic of morphin sulphate, every night, for three or four nights, may be of great value and cause the turning point in a broken compensation.

As to diet, food should be given in five small meals rather than in three large ones. It is not necessary to say that all food should be easily digestible. Liquids must be restricted, and it is often well to limit total liquids to 1.5 liters in twenty-four hours. In selected cases the Carroll method of giving twenty-eight ounces of milk only in twenty-four hours, for three days, may be tried. I have often seen severe cases improve, and greatly increased kidney activity result, even in spite of restricted liquid intake. If the patient is constipated,

salines should be used in the morning. When the sufferer is cyanotic and very dyspneic, the right heart dilated, jugulars jumping, I have often found venesection to be of great value—removing from 200 to 300 c.c. of blood. Often the patient will get a good night's rest following this procedure. If there is a marked ascites or hydrothorax, the patient should be tapped. Of diuretics, there are several to select from: Theocin, grains 3 to 5, four times a day, for three or four days; theobromin-sodium salicylate grains 15, four times a day, may be tried. Many rely on the old-fashioned pill, containing mercury, squills and digitalis. Others frequently find calomel of value.

When the heart has had a start of several days protection, we can bring the principle of heart stimulation or exertion into play. Of the drugs increasing heart efficiency, digitalis stands first. Strophanthin is also an excellent remedy. Strophanthus itself is not to be recommended for use by the mouth as it is very irregular and frequently dangerous in its action. Other means of heart exertion to be employed are the carbon-dioxid baths as employed at Nauheim, and the principles of mechanotherapy. However, they are rather uncertain and only to be employed by one experienced in their use.

These are only the general principles of the treatment of heart disease and each case must be studied and individualized by itself. For example, in a case of heart-block we would be very careful in the use of digitalis, and in a case of fatty heart we would be quite likely to employ the principles of heart exertion first; rather than those of heart protection.

DR. C. F. HOOVER: In the last few years the study of heart action is viewed altogether different. In a given case it is often not so much a question of the hydraulics of the heart, e. g., there may be a marked deficiency in the mass movement of blood with a normal systolic and diastolic blood-pressure.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 28, 1910

The President, DR. HENRY LEFFMANN, in the Chair

Symptoms and Complications of Lobar Pneumonia

DR. JAMES M. ANDERS: While the mode of onset is characteristic in about 80 per cent. of the cases, about 20 per cent. begin insidiously. The latter often pursue a protracted course with slow defervescence, and are apt to show complications and sequelæ. Defervescence by lysis is more commonly observed at present than formerly, but they are unattended by a decided fall in the leukocyte count, while the reverse is true of the actual crisis. A high pulse-rate implies danger in pneumonia. Leukocytosis may be slight or absent in cases in which the struggle for life is lost. I have never observed leukopenia, but this may occur; and leukocytosis is also absent in cases in which the scene is dominated by a prior infection, such as typhoid fever and certain other conditions. It is important that an examination of the lungs be made in cases of mania a potu in which fever is present, since all other characteristic features may be in abeyance. The adhesive, rusty-colored sputum is a characteristic feature, but it is sometimes absent in the pneumonias occurring in the aged, in drunkards and in those showing marked toxemia. The physical signs yield evidence of great diagnostic importance. The value of systematic physical examination of the thorax, with a view to detecting consolidation when present in suspicious cases, is of the highest importance in subjects of emphysema and in the aged, in the acute infections, as well as in the commoner chronic diseases when fever develops. Certain signs may rarely arise in the opposite or uninvolved lung, such as impaired percussion-resonance, râles over the base, and to the fact that these are readily confused with actual consolidation. If practicable, blood-cultures should be undertaken in dubious cases. Pleurisy with more or less effusion complicates pneumonia in about 50 per cent of the cases. In at least 20 per cent. heart complications are present. Pleural effusion of moderate degree is extremely apt to be overlooked during life. Needling is essential in doubtful cases and also to distinguish between serum and pus. The special bacterial agent should always be isolated.

Among the commoner complications of pneumonia is empyema. In encapsulated empyema following pneumonia, a positive diagnosis is sometimes extremely difficult. Other means failing to prove the presence of pus, an exploratory operation should be done. In consequence of the toxemia or pneumonic septicemia, cardiac exhaustion may ensue without any marked histologic changes in either of the valves or the myocardium. Acute endocarditis is present in about 10 per cent. of the cases of pneumonia. It differs from other varieties: (1) in that three-fourths of the cases are ulcerative; (2) in that women show a higher incidence than men in the proportion of 2 to 1; (3) in that the aortic cusps are more commonly involved than the mitral. Pneumococcus endocarditis generally prevents the occurrence of the crisis. Pericarditis is a more frequent complication than endocarditis. Meningitis may be associated with endocarditis or occur independently as a complication, but this is comparatively rare. It can be diagnosed only by the presence of such features as bradycardia, paralyses and neuro-retinitis, or in the absence of definite symptoms, by lumbar puncture. Acute nephritis probably occurs in about 7 per cent. of pneumonic infections. Chronic nephritis is frequently found at autopsies in cases of pneumonia (70 per cent. of the cases at the Philadelphia Hospital), so that it may be regarded as one of the commonest foregoing diseases.

Diagnosis of Pneumonia

DR. AUGUSTUS A. ESHNER: In the majority of cases the diagnosis of pneumonia is easy. With a history of exposure to cold, followed by chill, fever, pain in the chest, dyspnea, rapid, shallow breathing, irritative cough, viscid mucoid hemorrhagic sputum, labial herpes, pneumonia will suggest itself, and the diagnosis will be confirmed by physical examination. Difficulty in the recognition of pneumonia will arise principally in atypical cases. Error is to be avoided by constant vigilance, with frequent physical exploration. Among the disorders from which pneumonia requires to be differentiated are acute pleurisy, pulmonary tuberculosis, bronchopneumonia, congestion of the lungs, infarction, abscess, gangrene, bronchiectasis, actinomycosis, syphilis, malignant disease, pericardial effusion, meningitis, typhoid fever.

Surgical Complications of Pneumonia

DR. CHARLES F. NASSAU: Pneumonia is not wholly a medical disease, as is generally believed. With enormous effusion, removal by operation is the only proper course. Careful attention should be given to the cardiac condition. In a true empyema the treatment is clear: incision, with or without resection of the rib, and drainage. Abscess or gangrene of the lung is one of the most difficult propositions confronting the medical man and surgeon. The treatment of either consists in rib resection and the insertion of a drainage tube. There is a sentiment against tapping suppurative collections in the pericardium, and I believe it is very much safer to make a small rib resection, expose the pericardium, when a needle can be introduced with comparative safety. In sixteen years I have seen very few cases of arthritis complicating pneumonia. It affects chiefly the knee and occurs most frequently in children. Absolute diagnosis rests solely on bacteriologic examination of the joint fluid. When the pain in pneumonia is referred to the abdomen, the pain and tenderness may be as pronounced as in acute abdominal disease. Diagnosis is so difficult that laparotomy may be done.

The Medical Treatment of Pneumonia

DR. ARTHUR NEWLIN: Pneumonia patients should be isolated when possible. Two chief ends to be sought are the preservation of the patient's strength and the maintenance of his personal comfort. Local measures such as cupping or strapping are used for the control of pain. The use of baths is not advised in adults, but hot baths in children are frequently of value. Dyspnea and cyanosis are better controlled by cold air than by any other means. Milk remains the staple diet of pneumonia patients. The intestinal tract should be cleansed by calomel and salines. Such expectorants as creosote and ammonium chlorid are rarely necessary; respiratory stimulants such as strychnin, atropin and aromatic

spirits of ammonia are useful. They should be administered as occasion indicates. Phlebotomy has its use when the consolidated lung offers a mechanical obstruction to the pulmonary circulation. For the cardiac weakness which results from fatigue and toxemia, such stimulants as strychnin, digitalis, aromatic spirits of ammonia, caffein, atropin and camphor may be used. Of these strychnin and camphor are probably the best. Alcohol and digitalis are sometimes of use. Although there are objections to alcohol, yet in the aged and to those addicted to the use of the drug it may be used with benefit. Digitalis, preferably the fat-free standardized tincture, is given hypodermically. For lowered blood-pressure, rapid pulse and tympanites, epinephrin, 1 c.c. of a 1 to 1,000 solution, hypodermically, may be employed.

Strophanthin is a powerful cardiac stimulant and is given intravenously in milligram doses, but should not be repeated within twenty-four hours. Vaccine and serum-therapy has as yet not proved to be efficacious in the treatment of pneumonia. The treatment should be one of conservatism, relying on fresh air, various local measures and the ability to give the right drug at the right moment with the avoidance of routine administration.

DISCUSSION

DR. HENRY D. JUMP: Blood-pressure estimation in the prognosis and treatment of pneumonia is of far more value than the estimation of the respiratory rate. As has been pointed out, there is at a certain time in the toxic condition of pneumonia, a lowered blood-pressure accompanied by an accelerated pulse, which indicates a grave prognosis. This has seemed to me to offer a very distinct indication for therapeutic measures, and I am surprised that the observation has not attracted more attention in the treatment of pneumonia. Associated with this lowered tension and accelerated pulse we have, as a rule, a tympanites due to vasomotor paresis of vessels of the splanchnic. If this vasomotor paresis goes on to the greatest extent, the body becomes bled into its own vessels and active interference is called for.

DR. J. NORMAN HENRY: I have had satisfactory results with quinin, administered hypodermically, and the administration of salt solution by hypodermoclysis. In sixty-five cases of croupous pneumonia I have had ten deaths and some of these patients were moribund at the time the treatment was begun.

DR. HOBART A. HARE: In the vast majority of instances pneumonia is not a primary frank disease. To ascertain the value of any line of treatment in pneumonia we would have to have statistics covering hundreds of cases and divide them up into innumerable groups. The matter of the lowered arterial pressure and accelerated pulse-rate is one of the greatest importance in that it tells you far ahead of time that danger is impending.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 21

1 Metastasis to the Nervous System from Cancer of the Stomach and Intestine. H. L. Elsner, Syracuse, N. Y.
2 *The Organic Basis of Neurasthenia. J. M. Swan and C. C. Sutter, Watkins, N. Y.
3 *Do Medical Schools Adequately Train Students for the Prevention of Infant Mortality? I. S. Wile, New York.
4 Significance of the Bacillus-Carrier in the Spread of Asiatic Cholera. A. J. McLaughlin, Washington, D. C.
5 *Asthma and Anaphylaxis. J. H. Barach, Pittsburg, Pa.
6 Clinical Methods of Diagnosis of the Functional Activity of the Heart. J. Schneyer, Philadelphia.
7 *The Use of Albumin Milk. I. A. Abt, Chicago.
8 Phases of Asthenopia. D. W. Hunter, New York.
9 Case of Amebiasis with Abscess of the Liver in Green Island. J. B. Harvie and H. W. Carey, Troy, N. Y.

2. **Neurasthenia.**—The authors review the histories of fifty-one patients who were suffering from neurasthenia. In thirty-seven, the condition was dependent on organic disease (72.5 per cent.); in fourteen, it was apparently independent of organic disease (27.45 per cent.). Summarizing the cases the following is noted: Nineteen cases were due to cardiovascular disease; four to myocarditis with low blood-pressure; one to myocarditis with arteriosclerosis; ten to arteriosclerosis with high blood-pressure; four to beginning interstitial nephritis. Three cases were due to pulmonary disease; nine to gastrointestinal disease; three to cholecystitis, one to appendicitis, four to marked constipation, one to pyorrhea alveolaris. Four cases were postoperative; one case was due to scoliosis, and one to syphilis. Four cases were due to overwork; three to nervous shock. In seven cases the cause was undetermined. The authors emphasize the necessity for adopting the well-tried methods of examination that serve so well in plainly developed chronic disease as a routine measure in neurasthenics. Frequently one will discover underlying organic changes responsible for the disturbance in the nervous equilibrium. The relief of the former ought to be followed by relief of the latter. Such cases, they believe, should not be called neurasthenic; they should be called cardiac, arteriosclerotic, nephritic, toxic, etc.

3. Abstracted in THE JOURNAL, Dec. 24, 1910, p. 2260.

5. **Asthma and Anaphylaxis.**—The results of Barach's investigations into the anaphylactic origin of asthma are negative. If anaphylactin was present in the blood of his patient, it could not be demonstrated.

7. **Use of Albumin Milk.**—Albumin milk contains 3 per cent. proteid, 2.5 per cent. fat, from 1 to 1.5 per cent. milk sugar, from 0.4 to 0.5 per cent. mineral salts. The mixture contains 450 calories to each liter. One per cent. of malt sugar is added. Albumin milk is said by Abt to prevent abnormal fermentation in the intestinal tract on account (1) of the low content of easily fermentable sugar; (2) the low content of whey salts (the latter favor fermentation); and (3) the comparatively high proteid content (the latter counteracts fermentation). On standing, a precipitate is likely to form in the bottle containing the albumin milk. Before feeding, the bottle should be shaken well. The quantity to be fed should be warmed to the body temperature and again shaken (overheating is objectionable). The milk should be kept in a cool place. If thus taken care of it preserves its quality well, for at least five weeks.

Albumin milk is indicated, Abt states, in all infantile disorders which are associated with diarrhea, especially those cases in which breast milk is not obtainable. It is also valuable in cases of dyspepsia, entero-catarrh, cholera infantum (intoxication, Finkelstein), atrophy (decomposition, Finkelstein). As these diseases are accompanied or have been preceded by diarrheal attacks, the albumin milk is a valuable diet. The bowel movements soon improve, but the child does not at once gain in weight. As soon as the evacuations have improved, or have become less frequent, sugar in some form should be added. This should not occur too late; certainly at the end of eight days, if not before, sugar should have been added, even if the number and the appearance of the stools leave something to be desired. The albumin milk is given in increasing quantities until the stools have become less frequent. Saccharin may be added at first, so as to make the food more acceptable to the infant's taste. Children over three months of age may have starch in some form added to the albumin milk. The substance to be added is to be stirred up in a small quantity of water (2 ounces), boiled, and then added to the milk. The use of milk sugar or cane sugar is not advisable, since these lead readily to relapses. Much more certain in their action are the maltose preparations, or any of the dry malt preparations which do not contain milk in some form. At first one should add only a few grains of malt sugar to a 3-ounce mixture, but the quantity may be increased from day to day, particularly if the child does not increase in weight, adding 1 per cent. at a time. It is not advisable or necessary, at any time, to add more than 4 per cent. of sugar to the entire mixture. Children over 3 months will sometimes need the addition of starch in the form of flour; 2 or 3 drams of the latter may be added to an entire day's feeding.

Medical Record, New York

January 21

10 Memorial Address on Dr. Robert Koch. J. A. Wyeth, New York.
11 In Memory of Robert Koch. S. A. Knopf, New York.
12 Pylorospasm. M. Einhorn, New York.
13 Surgical Diseases of the Biliary Passages. A. B. Johnson, New York.
14 Oliver Wendell Holmes: His Work in Establishing the Contagious Nature of Puerperal Fever. T. W. Harvey, Orange, N. J.
15 Senile Debility. I. L. Nascher, New York.
16 *Ichthyol in Pulmonary Diseases. W. S. Barnes, New Haven, Conn.
17 Non-Parasitic Cyst of the Spleen; Splenectomy. C. G. Darling, Ann Arbor, Mich.

16. **Ichthyol in Pulmonary Diseases.**—It is believed by Barnes that ichthyol is a safe and valuable remedy in the treatment of such diseases of the respiratory tract as tuberculosis in the early stages, bronchitis in all its forms, and pleurisy. He says that ichthyol, when given in large doses, as high as 20 grains, three times a day, will produce a tendency toward frequent movements of the bowels. It diminishes the quantity of the discharge from the bronchial mucous membrane and hastens the return to a healthy condition, especially in the case of patients who have recovered from the acute bronchitis but still retain a cough, accompanied by profuse expectoration. Barnes believes that the drug is rapidly broken up in the stomach, and that it acts as a stimulant on the gastric mucous membrane, promoting a larger flow of gastric juice and increasing the power of digestion, thus aiding in the assimilation of food. Patients who have done well under ichthyol immediately begin to show a greater desire for food, and their appetites begin to increase with remarkable rapidity. In prescribing ichthyol for internal administration, Barnes' practice has been to give it in solution, and because of its objectionable taste, it is necessary to combine it with ordinary peppermint water, which makes a fairly palatable mixture. Sometimes he adds a small amount of fluid extract of licorice, together with peppermint water. It should be given after meals. A very convenient form of administration is to give it in the form of a tablet containing 5 grains.

Boston Medical and Surgical Journal

January 19

18 Sanatorium Treatment of Neurasthenia and the Need of a Colony Sanatorium for the Nervous Poor. F. K. Hallock, Cromwell, Conn.
19 Alimentary Gastric Hypersecretion and Gastric Atony. A. E. Austin, Boston.
20 *The Functional Spine. J. D. Adams, Boston.

20. **The Functional Spine.**—The symptoms of the condition described by Adams are as follows: Subjectively, the patient places his hand over the region of the lower dorsal and upper lumbar spine as indicating the area of pain. He describes it as being in the nature of an ache and a stiffness on attempting to straighten up from a stooping posture. He notices it most on getting up in the morning, it taking him some time to get limbered up, as he expresses it. Examination shows voluntary limitation of motion in the spine as evidenced by flexion in all directions being stopped by muscular spasm. Especially is this noticeable on forward and lateral bending, but hyperextension, where the spinal muscles are relaxed, is not limited. By forcing the patient to full forward and lateral bending, disregarding the pain, and, to a certain extent, overcoming the spasm, it will be noticed that the spine itself is capable of practically full motion in all directions; in other words, this is a "functional back," pure and simple. The one principle in the treatment of this class of cases is rest. This should be accompanied, if possible, by a method which does not incapacitate the patient for work. The second principle of treatment is that of counter-irritation, and the various agencies by which this may be produced are well-known. Adams reports twenty-five cases treated in dispensary and private practice. These cases were all routine, unselected; the occupation of the patients varied: teamsters, tailors, day laborers, namely, those men employed in a vocation necessitating constant use of the back. All presented the classical symptoms of pain, muscular spasm and limitation of motion in varying degrees of intensity. In all, the radiographs were negative. Five of the patients were treated three times a week with fly blisters, five with actual cautery, five with strapping, five with plaster jacket, and five with heat. The treatment was continued over a period of two months. Clinically the results showed conclusively that those treated by heat improved much more rapidly and efficiently than any of the other groups. In fact, at the end of two months all the patients were put on baking. The heat was applied to the bare skin at a temperature of 300 F., for a period of fifteen minutes. The result showed a marked hyperemia with excessive perspiration and with relief from pain. There were no burns and no untoward effects. The intervals of application were gradually lengthened in accordance with the diminution of symptoms. In nearly every case a light pelvic belt was applied as an adjunct to this treatment.

Lancet-Clinic, Cincinnati

January 21

21 Requirements and Limitations of Nitrous Oxid and Oxygen as a General Anesthetic in Major Surgery. C. K. Teter, Cleveland.
22 Cases Treated by Spengler's I. K. (Immune Bodies). W. F. Woolston, Chicago.
23 Foreign Bodies in the Esophagus in Children. W. E. Savage, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

January 13

24 Surgical Aspect of Goiter. R. P. Bell, Staunton, Va.
25 Syphilis and Nicotin as Factors in Cardiovascular Disease. A. G. Brown, Richmond.
26 The Part of Medical Men and Medical Societies in the Public Health Movement. C. R. Grandy, Norfolk.
27 Salvarsan. T. B. Leonard, Richmond.
28 Hygiene of the Eye and Throat. C. R. Dufour, Washington, D. C.

Journal of Experimental Medicine, Lancaster, Pa.

January

29 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
30 *Arteriovenous Anastomosis and the Mechanical Theory of Arteriosclerosis. I. Levin and J. H. Larkin, New York.
31 Heat-Sensitive Anticomplementary Bodies in Human Blood Serum. H. Zinsser and W. C. Johnson, New York.
32 Biochemical Studies on So-Called Syphilis Antigen. H. Noguchi and J. Bronfenbrenner, New York.
33 Variations in the Complement Activity and Fixability of Guinea-Pig Serum. H. Noguchi and J. Bronfenbrenner, New York.
34 *Comparative Merits of Various Complements and Amboceptors in Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
35 Interference of Inactive Serum and Egg-White in the Phenomenon of Complement Fixation. H. Noguchi and J. Bronfenbrenner, New York.
36 *Histologic Study of the Skin Lesions of Pellagra. F. B. Gurd, New Orleans.
37 *Pathogenesis of Icterus. G. H. Whipple and J. H. King, Baltimore.
38 Fibrinogen of the Blood as Influenced by the Liver Necrosis of Chloroform Poisoning. G. H. Whipple and S. H. Hurwitz, Baltimore.
39 Changes in the Proteolytic Enzymes and Anti-Enzymes of the Blood Serum Produced by Substances Which Cause Degenerative Changes in the Liver. E. L. Opie, B. I. Barker and A. R. Dochez, New York.

29. **Chemo-Immunologic Studies on Localized Infections.**—The experimental studies by Lamar show that the results may be reproduced in the treatment of local pneumococcus infections in human beings, particularly after an evacuation of an inflammatory exudate. He found that pneumococci treated with sodium oleate become more subject to autolysis, as is indicated both by the rapidity and the perfection of the process of self-digestion, and at the same time they become subject to serum-lysis. The inhibition of their activity, which the soaps ordinarily suffer in the presence of protein, can be prevented by the addition of an appropriate quantity of boric acid, so that suitable mixtures of serum, soap and boric acid can continue to exert a deleterious and solvent influence on the pneumococci, and the effect is greater when immune serum is employed in the mixtures. Infection can be prevented not only when the mixture of immune serum, soap and boric acid is added to the pneumococci before injection into the peritoneal cavity of small animals, but also when a therapeutic injection of a mixture of the three substances mentioned is made to follow the inoculation of normal, highly virulent diplococci. The limits of the activity of the therapeutic mixture are determined, in part by the

amount of protein to be overcome, and in part by the peculiarities of the infection occurring in highly susceptible animal species.

30. **Theory of Arteriosclerosis.**—From the author's investigation the conclusion must be drawn that arteriosclerosis cannot be induced artificially in a previously healthy blood-vessel by a change in the blood pressure alone, and that the thickening of the wall and the other changes noticed in such vessels is probably due to changes in the adventitia caused by the operative procedures.

34. **Serodiagnosis of Syphilis.**—Noguchi and Bronfenbrenner found that the maximum activity of an antihuman hemolytic amboceptor may be obtained by employing the homologous or heterologous complement, according to the variable relations existing between the species furnishing the amboceptor and the one supplying the complement. Thus, some amboceptors are best reactivated by the complement of the same species, while others may act most strongly when reactivated with the complements of certain suitable heterologous species. Certain species of animals (pig and sheep) yield sera which are comparatively poor in reactivating most varieties of antihuman amboceptors. The complements of these species deteriorate rapidly. For the fixation tests, guinea-pig complement is the most favorable. This complement is also the most active and durable of those which have been studied. The antihuman amboceptors produced in the rabbit and guinea-pig are also suitable. They are, moreover, very active and do not cause the phenomenon of non-fixation. The rabbit is the best animal for producing antihuman amboceptor, and the guinea-pig for supplying complement. The guinea-pig produces a good amboceptor, but its small size renders it second in choice.

36. **Skin Lesions of Pellagra.**—The histologic phenomena of the erythematous and bullous stage of pellagra, Gurd says, are those of a mild acute inflammatory reaction, together with a degeneration in the superficial layers of the corium. Following this degeneration, which involves not only the general connective tissue but the connective tissue of the blood-vessels, there is a reparative change, evidenced histologically by an increased cellularity of the corium and the presence of fibroblasts. The capillaries also are increased in number and much dilated. Apparently as a result of this increased vascularity of the corium, there is an increased proliferation of the epithelium resulting in a thickening of the epidermis. This increase in the thickness of the epithelial layer is especially marked in the prickle cells and the stratum granulosum. In the later stages, in an effort to secure a firm basement membrane, the epithelium is seen to dip down deeply into the rarefied connective tissue. About the blood-vessel, during the reactionary process, are found collections of lymphoid cells, a few plasma cells, but no mast cells or eosinophils. That the irritant producing the degeneration in the corium is sunlight in the presence of some predisposing factor, Gurd believes is suggested by the enormous increase in pigment formation in the epithelial cells and by the large number of chromatophores in the superficial layers of the corium. This pigmentation is autochthonous in both types of cell. There is no reason for believing that the pigment is formed in the cells of the corium and thence discharged into the epithelium, or that the reverse process takes place. The predisposing factor inducing the changes in the corium is, apparently, a lessened resistance of the epithelium to the violet and ultraviolet rays, due to some metabolic insufficiency on the part of the epithelial cells.

37. **Pathogenesis of Icterus.**—The experiments made by Whipple and King indicate that, in obstructive jaundice, the bile which escapes from the liver is absorbed by the hepatic capillaries and carried by the blood to the kidneys. The presence of a thoracic duct fistula influences in no way the development of icterus after total obstruction of the common bile duct. Bile pigments, sufficient to give a Salkowski test, may or may not appear in the lymph of the thoracic duct in such experiments, their appearance possibly depending on the rapidity of bile secretion and the amount of lymph flow. Chronic icterus developing in an animal with a thoracic duct fistula gives an interesting distribution of bile pigments in the body fluids. The lymph and pericardial fluid contain the same amount, which is much less than the content of bile pigment in the blood serum and urine. It seems clear that in both acute and chronic obstructive jaundice the lymphatic apparatus takes no essential or active part in the absorption of bile pigments from the liver. At best, the lymphatic system is a secondary factor in the mechanism of jaundice.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

January 15

40 Esophagoscopy and Bronchoscopy for Removal of Foreign Bodies. A. Schwyzer, St. Paul.
41 Economics of the Pure Milk Question. J. L. Coulter, Minneapolis.
42 Some Next Steps in Sanitation. J. T. Gerould, Minneapolis.

Maryland Medical Journal, Baltimore

January

43 *Medical and Surgical Aspects of Tumors. J. V. Bloodgood, Baltimore.
44 The Faucial Tonsil—Its Relation to Systemic Disease and the Results of Its Removal. S. Rosenheim, Baltimore.
45 Some Esophageal and Bronchoscopic Cases. R. H. Johnston, Baltimore.
46 Alcohol Injections in Treatment of Facial Neuralgia. I. J. Spear, Baltimore.
47 Sanctity of the Relations Between Physicians and Patients. E. L. Crutchfield, Baltimore.
48 Treatment of Diphtheria. E. Anderson, Rockville.

43. Also published in the *Wisconsin Medical Journal*, August, 1910; abstracted in THE JOURNAL, July 23, 1910, p. 44.

Bulletin of the Johns Hopkins Hospital, Baltimore

January

49 *Urinary Hyperacidity and Its Relations to Neuritis, Neuralgia and Myalgia. T. R. Brown, Baltimore.
50 Analysis of the Course of Labor in 100 Occiput Posterior Presentations. C. B. Ingraham, Denver.
51 Poisoning by Vapors of "C.P." Benzol. C. Glaser, Baltimore.
52 *Viscosity of the Blood in Health and Disease. C. R. Austrian, Baltimore.
53 *Case of Sarcoma and Tuberculosis. J. P. Simonds, Indianapolis.
54 Carcinoma of the Right Fallopian Tube Readily Palpable Through the Abdomen. T. S. Cullen, Baltimore.

49. **Urinary Hyperacidity and Neuritis.**—It is shown by Brown that in a certain group of cases of neuritis, neuralgia and myalgia, which for want of a better term, and in the absence of definite or sufficient etiologic factors may be called idiopathic, there is a definite increase in the acid eliminated, although no attempt has been made to determine whether this is due to an increase in the acid phosphates, or in the organic acids. He believes, however, that the latter is more likely, and hopes subsequently to investigate this phase of the subject in detail. For want of a better explanation he suggests that this hyperacidity is probably the urinary expression of some abnormality or error in metabolism, probably having little or no relationship with the gastric digestion or the degree of acid in the gastric contents, but more probably due to metabolic disturbances arising lower in the digestive tract; and that the pain and other manifestations in the nerves or muscles affected are due to some circulating poison or toxin, the condition thus probably being a form of endogenous intoxication. Why certain groups of nerves or muscles should be selected in some cases, other groups in other cases, he is unable to say, though in all probability there has been something in the past history of the patient as trauma, exposure to cold, etc., which has lowered the resistance of the especial nerve or muscle affected. Finally, it seems certain that in some patients the insistence on a simple dietary and copious water drinking and, most important of all, the administration of alkalies in sufficient amount to reduce the acidity of the urine to normal, is followed by marked amelioration of symptoms; and in a few by their complete disappearance without the aid of other remedial agents.

52. **Viscosity of the Blood in Health and Disease.**—Austrian found that the viscosity of the blood and of the plasma is reduced in anemias, either primary or secondary. With regeneration of the blood, normal values are restored. In leukemia there is hypoviscosity of the blood with hyperviscosity of the plasma. Leukocythemia may explain the hyperviscosity of the blood, which is found in a few cases. The viscosity of the blood and of the plasma is increased in polycythemia. Hypo-

viscosity of the blood and hyperviscosity of the plasma is almost constant in cases of nephritis; the former being due to the anemia, the latter to retained products of metabolism. Though in many instances hypoviscosity occurs in cases with hypertension, this interrelation is often absent. In cardiac disease without edema, no constant change in the viscosity is to be found, the coefficient apparently varying with the anemia and the carbon dioxid content of the blood. In cases with hydremia, there is hypoviscosity of the plasma. In diabetes mellitus, the viscosity of the blood and of the plasma is increased, in many cases probably the result of concentration of the blood, due to polyuria, of hyperglycemia and of lipemia. In icterus there is generally increased viscosity of the blood and plasma, probably the result of cholemia. In typhoid, the viscosity varies with anemia, is increased by hydrotherapy, and apparently is uninfluenced by diet. The $\frac{(Hb)}{V}$ quotient is more often decreased than increased. In pneumonia the viscosity is generally above normal due to cyanosis and salt retention. Here, too, the $\frac{(Hb)}{V}$ quotient is low. In malaria the viscosity of the blood is usually normal or subnormal, rarely above normal. The viscosity of the plasma is normal or increased, the last as a result of hemoglobinemia. In no disease studied could a pathognomonic alteration in the viscosity of the blood be demonstrated.

53. **Sarcoma and Tuberculosis.**—The following are suggested by Simonds as possible reasons why the two lesions are not more frequently found associated: (1) The age incidence of the two diseases is not quite the same. Sarcoma and tuberculosis affect all ages, but the former is more frequent before 20 and the latter after that age. (2) The rapidly fatal course of a sarcoma may attract attention to itself so completely that the presence of a mild tuberculosis would not be recognized clinically.

Colorado Medicine, Denver

January

55 The Pancreas; Anatomy and Experimental Pathology. R. W. Corwin, Pueblo.
56 Pathology of Pancreatitis. R. C. Whitman, Boulder.
57 Acute Pancreatitis. A. R. Peebles, Boulder.
58 Chronic Pancreatitis. W. Senger, Pueblo.
59 Surgery of the Pancreas. W. A. Jayne, Denver.
60 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
61 Operative Treatment of Hemorrhoids. H. Heath, Denver.

Journal of Ophthalmology and Oto-Laryngology, Chicago

January

62 Twitching of the Orbicularis Palpebrarum Successfully Treated with Calcium Chlorid. T. C. Burnett, Berkeley, Cal.
63 Some Unusual Magnet Cases. W. A. Fisher, Chicago.
64 Cysts of the Antrum of Highmore. J. R. Fletcher, Chicago.

Journal of the Delaware State Medical Society, Wilmington

January

65 Ideals in Medicine. P. M. Downs, Dover.
66 Erysipelas Treated with Streptococcic Bacterins. A. Robin, Wilmington.
67 Chronic Non-Malignant Disease of the Tonsils. J. A. Ellegood, Wilmington.

Surgery, Gynecology and Obstetrics, Chicago

January

68 *Stereoscopic Radiography as an Aid to the Surgeon. E. G. Beck, Chicago.
69 Cancer of the Uterus and Its Cure by the Radical Abdominal Operation. R. Peterson, Ann Arbor, Mich.
70 Kidney Displacements and Dystocia. P. Willson, Washington, D. C.
71 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
72 *Best Method of Exposing the Interior of the Bladder in Suprapubic Operations. H. A. Kelly, Baltimore.
73 Significance of the Lane Kink of the Ileum. F. H. Martin, Chicago.
74 *Hemorrhage of the New-Born Infant; Treatment by Direct Transfusion of Blood. V. D. Lespinasse and G. C. Fisher, Chicago.
75 *Experiments on the Renal Artery. V. D. Lespinasse, G. C. Fisher and J. A. Wolfer, Chicago.
76 *Treatment of Painful Feet. J. L. Porter, Chicago.
77 Acute Free Suppurative Peritonitis. J. Halpenny and J. Gorrell, Winnipeg.
78 *Value of Sulphonephthalein in Estimating the Functional Efficiency of the Kidneys. C. Goodman and L. Kristeller, New York.
79 *Pneumatic Rupture of the Intestine; A New Type of Industrial Accident. E. W. Andrews, Chicago.
80 A Malignant Lymphoma of the Small Intestine. C. L. Scudder, Boston.
81 The Roux Operation in Dilatation of the Stomach. R. E. Balch, Kalamazoo, Mich.
82 Non-Inflammable Celluloid Splints and Braces. W. G. Stern, Cleveland, Ohio.
83 Finishing the Buttonhole Stitch. J. J. Buchanan, Pittsburg, Pa.
84 Bone Wiring with Picture Wire. J. Schwinn, Wheeling, W. Va.
85 Thrombosis Postabortum of Left Ovarian Vein; Hysterectomy; Death from Continued Thrombophlebitis. R. T. Frank, New York.
86 *Modification of Usual Technic in Delivery of the First Arm in Podalic Version or Breech Presentation. D. C. Guffey, Kansas City, Mo.

68. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1584.

72. **Best Method of Exposing Interior of Bladder.**—In the method described by Kelly, the patient is put in the Trendelenburg posture, after first emptying and cleaning out the bladder, and introducing a mushroom catheter large enough to fill the urethra. A semilunar incision is made through the skin and fat of the lower abdomen about one inch above the symphysis pubis, with the concavity toward the umbilicus and about six inches long. The small bleeding vessels are controlled. The dissection of the upper skin and flap away from the deeper tissues is next made, when the deep fasciæ overlying the recti muscles and the adjacent oblique muscles out beyond the semilunar line are clearly exposed. Next the deep fasciæ are divided, also from side to side, without cutting any of the underlying muscular tissues. The fasciæ are then freed from the muscles with the blunt dissection. To effect this detachment it is, as a rule, only necessary to push the gloved finger up between the muscles and fasciæ; in the median line, however, the detachment must be made by means of scissors or a knife. When the loosened fasciæ have been drawn up and down, the underlying flaccid recti muscle bellies are exposed and easily retracted to the right and left, and this affords an extraordinary avenue of approach to all the tissues lying between the peritoneum (seen as a roll in the upper part of the wound near the point of the forceps lying across the abdomen) and the symphysis pubis. An inflating rubber bulb is now attached to the mushroom catheter in the bladder and squeezed so as to fill the bladder with air and to bring it up into the wound. The empty bladder is then caught by two guy sutures and incised in a transverse direction between them. If the opening is carefully made, there need be no contamination, as the bladder is held up by the guy sutures and will not spill its contents into the wound. As soon as the bladder is cut into, the opening is enlarged as much as may be necessary from side to side. The base of the bladder is brought perfectly into view and is easily accessible for all operative procedures. After completing whatever operation the circumstances of the case may demand, the operator closes the bladder by such method as he prefers, with or without drainage, taking care to utilize the perivesical fasciæ in the outermost row of sutures, he closes the abdominal wall down to the little suprapubic drain, if one is called for. By first uniting the recti with catgut and then uniting the deep fasciæ of the abdominal wall, leaving room in most cases for a small drain in the median line, the operation is completed.

74. **Hemorrhage of New-Born Infants.**—A review of the literature and the observation of one case have convinced the authors that direct transfusion of blood is the ideal treatment for hemorrhage of the new-born; it meets and overcomes in an ideal manner the three chief indications: hemorrhage, anemia and infection. Transfusion checks the hemorrhage at once and cures the acute anemia. Direct transfusion of blood fills the baby's veins with a plasma that is more resistant to infections than the original plasma. In the cases without syphilitic taint, direct transfusion of blood is an absolute specific. It is best performed early, but it is never too late, and the operation should be tried in every case before the child dies.

75. **Experiments on the Renal Artery.**—The technic of this method of vessel anastomosis was published in THE JOURNAL, Nov. 19, 1910, p. 1785.

76. **Treatment of Painful Feet.**—The four essentials mentioned by Porter are rest, supination, support and exercise.

In addition to these, he says, operation may be necessary, as in cases with exostoses or contracted tendons, but whatever be the condition under treatment, if the predominating symptom is pain, the first four procedures are essential.

78. **Sulphonephthalein in Estimating Kidney Function.**—According to Goodman and Kristeller phenolsulphonephthalein lends itself to accurate colorimetric measurement. The drug does not readily decompose in solution and can be sterilized by boiling. The dose required is small, 1 c.c. of solution containing 0.006 gm. of the dye. The injection is painless, and is not followed by irritation if the solution is sufficiently alkalin. It is excreted entirely by the kidneys and can be demonstrated in the urine in from three to ten minutes after the subcutaneous injection. From 50 to 70 per cent. is excreted during the first two hours. The quantity of dye recovered in a specimen within a given time is not influenced by the volume of urine. The presence of pus, phosphates, bile and indican does not interfere with the colorimetric estimation of this drug.

79. **Pneumatic Rupture of the Intestine.**—Fifteen cases are reported by Andrews in which compressed air caused an intestinal rupture. One of these cases was observed by the author; the others were collected by him through correspondence with other observers. The sigmoid colon is the viscus usually burst. Prompt evacuation of the air by emergency puncture and early laparotomy offer the only chance of saving life after this injury. Andrews warns against the dangers of practical joking or hazing with the air nozzle or even the careless use in dusting clothing.

86. **Podalic Version or Breech Presentation.**—The method proposed by Guffey consists in the delivery of the arm at the same time the body is delivered. When the feet (or the foot, if desired) have been delivered at the vulva, one hand of the operator holds them while the other is introduced into the uterine cavity and an arm seized, preferably the right, since the bringing of this arm into the left sacroiliac fossa will cause the head to engage in the more desirable right oblique with the occiput anterior. The hand of the child is then brought into the vagina and traction is made on it at the same time as on the feet or body. The hand of the operator is not removed from the vagina until the breech presents at the vulva or is actually born. As the body is grasped by the outspread hands the arm is included. The body with the first shoulder and arm is delivered, not more than one minute being required for this portion of the delivery. The second arm and the head are delivered by the usual method. The proposed method has been used by Guffey in ten cases: eight podalic versions and two breech presentations. The disadvantages of this method are said to be (1) the added risk of infection from the introduction or reintroduction of the hand into the uterine cavity; (2) the inability to introduce the hand into the uterine cavity; (3) the size of the operator's hand. The advantages of the method are: (1) much valuable time is saved; (2) lacerations of importance are less likely to occur; (3) fractures of the humerus or clavicle will be less likely to occur; (4) if cervical dilatation is not complete it may be completed manually when the hand is passed in for the arm.

Kentucky Medical Journal, Bowling Green

January 1

87 Present Status of Surgery of the Thoracic Cavity, Experimental and Applied. W. E. Senour, Bellevue.
88 *Indications and Technic of Cerebral Decompression. E. S. Allen, Louisville.
89 *Fracture of the Base of the Skull. D. C. Donan, Horse Cave.
90 *Intracranial Complications of Otitis Media. G. C. Hall, Louisville.
91 Cancer of Breast—Diagnosis and Treatment. J. T. Reddick, Paducah.
92 *Cancer of the Uterus. W. H. Wathen, Louisville.
93 *Diagnosis and Treatment of Cancer of the Gastro-Intestinal Tract. J. H. Blackburn, Bowling Green.
94 Cancer of the Urogenital Tract; Diagnosis and Treatment. C. L. Wheeler, Lexington.
95 *Inguinal Hernia. B. F. Van Meter, Lexington.
96 Diagnosis and Treatment of Enterocolitis in the Adult. E. A. Stevens, Mayfield.
97 *Neurasthenia. W. F. Boggess, Louisville.
98 Popliteal Aneurysm with Report of Matas Operation. J. R. Murnan, Covington.
99 *Family Physician Refracting as a Factor in Medical Practice, and Its Promotion During 1910. L. Connor, Detroit.

88, 89, 90, 92, 93, 95, 97. Abstracted in THE JOURNAL, Oct. 22, 1910, pp. 1493-1495.

99. Abstracted in THE JOURNAL, April 16, 1910, p. 1333.

Northwest Medicine, Seattle

January

100 *Bladder Sequelæ of Hysterectomy and Salpingo-Oöphorectomy. G. S. Peterkin, Seattle.
101 Early Diagnosis of Pulmonary Tuberculosis. R. W. Matson, Portland, Ore.

100. **Bladder Sequelæ of Hysterectomy.**—Within one year, eleven women have been referred to Peterkin because of urinary symptoms—frequent and painful urination, etc. Six patients had had hysterectomies; all had cystoceles. Two patients had never borne children so that in each the perineum was intact. Of the four remaining, only one showed a perfect repair of the perineum and all four stated that attempt at repair had been made previous to the hysterectomies. Four of the six hysterectomies had been vaginal. Peterkin concludes that vaginal hysterectomy should be considered an antiquated operation, for proper care cannot be given to the support of the bladder and thus cystocele prevented. Had the operators at the time of the operations given proper care to the bladder, cystocele would not have occurred, requiring a secondary surgical operation. Because hysterectomy is performed, there is no reason why perineal tears should not be repaired. Cystocele was the cause of the urinary symptoms complained of in these cases. Salpingectomy and oöphorectomy Peterkin regards as scientific operations only when they aim to leave the pelvic viscera in a normal position, and he also states that the man who performs nephropexy, without repair of the pelvic viscera when prolapse exists, is not a surgeon but an operator.

Journal of the Missouri State Medical Association, St. Louis

January

102 The Internal Splint in the Treatment of Fractures. H. E. Pearse, Kansas City, Mo.
103 Roentgen-Ray Localization of Foreign Bodies. R. D. Carman, St. Louis.
104 Refraction. J. W. Sherer, Kansas City, Mo.
105 Berck-Sur-Mer: A City of Hospitals for the Treatment of Bone Tuberculosis. A. E. Horwitz, St. Louis.
106 Intestinal Obstruction from Appendiceal Adhesions. C. R. Dudley, St. Louis.
107 Hypnotism as a Therapeutic Agent. J. M. Bradley, St. Louis.
108 Chronic Mastoiditis and Cholesteatoma. I. D. Kelley, St. Louis.
109 The Bladder in Inguinal and Femoral Hernias. W. T. Coughlin, St. Louis.

Texas State Journal of Medicine, Fort Worth

January

110 *Relation of Bovine to Human Tuberculosis from a Public Health Viewpoint. W. S. Carter, Galveston.
111 Comparison of the Morphologic and Cultural Characteristics of the Human and Bovine Types of Tubercle Bacilli. J. J. Terrill, Galveston.
112 Relative Importance of the Infection and Transmission of Bovine and Human Tuberculosis to Public Health. W. R. Howard, Fort Worth.
113 The Microscope in Tuberculosis. R. B. Leavell, San Angelo.

110. **Relation of Bovine to Human Tuberculosis.**—Carter holds that from experiments, as well as statistics, one is not justified in assuming that primary pulmonary tuberculosis is caused by bacilli that have been absorbed from the intestine. On the contrary, it is highly improbable that such is the case, for as yet, the bacilli of bovine type have never been recovered from the lesions of primary tuberculosis of the lungs in man and they have only been found in the sputum of two or three isolated instances, which were not free from some criticism. Bacilli of the bovine type have been recovered from a considerable number of cervical and mesenteric lymph glands in children and from the lungs in some cases of generalized tuberculosis in children. In these latter cases the resistance might have been slight, or there might have been an invasion by unusual numbers of bacilli of high virulence. However, he says our efforts should be directed chiefly against the infection from man to man, but that is no reason for neglecting the less frequent infection from cattle. Even if no more than 1 or 2 per cent. of the fatal cases of tuberculosis in man are caused by bacilli of the bovine type, the

cannot be considered a negligible quantity. The non-fatal cases of surgical tuberculosis in children must be taken into consideration. All the efforts that have been made to prevent the use of the milk and butter from tuberculous cattle have been justified, as public health measures, and should be continued. We should not, however, neglect any measures which can prevent infection by inhalation. All phophylactic measures that have been taken to prevent the spread of bovine tuberculosis among cattle have also been warranted from an economic standpoint alone, without any reference to the public health. It is perhaps impossible to completely eradicate bovine tuberculosis, but all tuberculous cattle should be eliminated from dairy herds. This could be done by systematically testing all dairy cattle with tuberculin and branding those which give a positive reaction. These cows could probably be used as beef cattle with safety, provided all tuberculous tissues are removed and all advanced cases are excluded. This seems to be a much safer plan than to use the milk for butter-making after pasteurization. Pasteurization at the diary is often not done efficiently and most of the butter is consumed without subjecting it to a temperature which would kill tubercle bacilli. In the absence of dairy inspection and the testing of milch cows by tuberculin, the only certain way of preventing infection by bovine tubercle bacilli is the pasteurization of the milk. This should be done by the individual consumer, rather than trust to the uncertain pasteurization by dairymen.

Illinois Medical Journal, Springfield

January

114 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
115 *Joint Diseases from the Orthopedic Standpoint. J. Ridlon, Chicago.
116 *Neurologic Features in Some Joint Lesions. A. Church, Chicago.
117 *Bacteriology and Pathology of Arthritis. E. E. Irons, Chicago.
118 Importance of Medical Organization in the Diffusion of Medical Knowledge and the Promotion of Ethical Relations Among Physicians. J. W. Smith, Bloomington.
119 Gastro-Intestinal Disorders of Infancy and Early Childhood. J. W. Van Derslice, Chicago.
120 *Skull Fracture. F. C. Schurmeier, Elgin.
121 *Symptoms and Treatment of Exophthalmic Goiter. C. C. Rogers, Chicago.
122 Superstitions of the Medical Profession in Regard to Contagious Diseases. J. E. Stubbs, Chicago.
123 Pleurisy from the Medical Standpoint. T. E. Macauley, Elgin.
124 Edema of the Prostate. G. Kolischer and H. Kraus, Chicago.

115, 116, 120 and 121. Abstracted in THE JOURNAL, June 4, 1910, pp. 1892 and 1893.

117. Abstracted in THE JOURNAL, May 28, 1910, p. 1808.

Journal of Cutaneous Diseases, New York

January

125 Nodular Tuberculosis of the Hypoderm. G. W. Wende, Buffalo, N. Y.
126 Mycosis Fungoides. L. G. Pardee and F. R. Zeit, Chicago.
127 *An Unusual Case of Tinea Versicolor. E. L. McEwen, Chicago.

127. **Tinea Versicolor.**—The patient in this case was a man, aged 27, with incipient tuberculosis of the lungs. The skin eruption had been present twelve years. It had never disappeared and there had been no recent treatment. Subjective symptoms were absent. The parts involved were the back from the shoulder to the buttocks, the chest and upper portion of the abdomen, the infra-axillary regions, the arms, especially the outer aspects, and the upper portions of the forearms. In places on the arms and chest the appearance was quite typical of tinea versicolor; various sized areas, non-elevated, of irregular outline, brownish in color, slightly furfuraceous. Between these areas and on the other parts affected, especially the back, the lesions were discrete, flat-topped papules, reddish-brown in color, hemp-seed to split-pea in size, follicular in location, usually pierced by a hair. The skin between the papules was normal. The elevation was distinct and could readily be seen with the eye and felt by the palpating finger. The impression given by a superficial examination of the skin was that a lichenoid follicular inflammation was present. The lesions of pityriasis rubra pilaris especially were suggested. The papules, however, could be removed with a curette; the skin beneath appeared pale and non-inflammatory, and the debris so removed showed under the microscope luxurious masses of the *Microsporon furfur.*

United States Naval Medical Bulletin, Washington, D. C.

January

128 Diphtheria Prophylaxis in the Navy. C. S. Butler.
129 Salvarsan. R. Spear.
130 Diagnostic Methods in Otology Applicable to the Naval Service. G. B. Trible.
131 *Bier's Hyperemia in Acute Gonorrheal Arthritis. H. F. Strine.
132 Mental Examination of Candidates for Enlistment in the Navy and Marine Corps. H. Butts.
133 Recent Outbreak of Cholera in Italy. C. J. Holeman.
134 United States National Museum in Its Relation to Other Government Scientific Collections. P. E. Garrison.
135 A Sanitary Garbage-Can Holder. H. C. Kellers.
136 *The Blanket Splint. F. X. Koltes.
137 Four Transfusions by the Vein-to-Vein Method with Curved Glass Tubes. A. M. Fauntleroy.
138 Bilateral Inguino-Superficial Hernia with Bilateral Undescended Testicle. H. C. Curl.
139 Larvæ in the Deep Urethra and Bladder. H. F. Strine.
140 An Extensive Razor Wound of the Throat. W. G. Farwell.
141 Two Cases of Heat Cramps on U. S. S. *Charleston.* H. A. May.
142 Fatigue and Exhaustion in the Fireroom. F. G. Abeken.
143 A Case of Diabetes Mellitus. A. C. Stanley.
144 Sciatica Incident to Physical Test. J. A. B. Sinclair.
145 Poisoning from Injection of Bismuth Paste. C. E. Camerer.

131. **Biers' Method of Treatment in Acute Gonorrheal Arthritis.**—When properly applied and controlled, Strine finds that Bier's treatment of joints acutely involved by gonorrheal infection produces definite beneficial results. Relief of symptoms is striking, the disease is cut short, and permanent damage to the joint is prevented. The hyperemia produced must be intense. Of course, the pulse must not be obliterated. Usually the fault lies in not sufficiently obstructing the return circulation. If the edema at any time becomes too pronounced, or signs of blocked circulation appear, remove the bandage, elevate the limb for one hour, then replace the bandage. Instruct the patient to test frequently the temperature of his hand or foot, as the case may be, and keep him under observation.

136. **The Blanket Splint.**—This improved appliance is made as follows: Depending on their thickness, two or three blankets are folded in such a way as to form a strip, the width of which corresponds to the length of the intended splint (if for fractured leg, the distance from 4 inches below the heel to 6 inches above the knee). The strip is rolled from both ends about pieces of broom handle which serve to give rigidity, the rolls meeting in the center and being of equal diameter. The apparatus is turned over, the rolls separated a little, allowing the intervening portion to sag, thus forming a kind of hammock. The splint is applied as follows: An assistant raises the limb (a leg in this case) to a considerable angle, while under it are laid transversely pieces of wide muslin bandage about four feet long. The splint is then placed on the strips, the injured member is laid on the hammock, and, depending on the diameter of the limb at the point of apposition, the rolls are separated or folded in as necessary, so that they may be everywhere firmly applied to the sides, and that the leg may everywhere rest on the hammock. While the surgeon holds the limb securely within the splint, the assistant brings the muslin strips around and ties them firmly in front, one below the heel, one below the knee, one above the ankle, and one above the knee, some cotton being inserted underneath for padding, if necessary. The strip below the heel serves to keep the foot at proper flexion and it may be supplemented by a piece of cardboard. In cases in which the blankets are likely to become soiled with discharges, a piece of rubber sheeting may be employed.

Iowa Medical Journal, Des Moines

January

146 The Brighter Side of Modern Surgery. I. S. Bigelow, Dubuque.
147 Cathartics in Acute Intestinal Obstruction. W. Jepson, Sioux City.
148 Diagnosis of Renal Calculus. O. J. Fay, Des Moines.
149 Intracranial Hemorrhage. G. G. Cottam, Rock Rapids.
150 Fractures of the Skull. A. M. Pond, Dubuque.
151 Woven Elastic Bandage in Simple Fracture of the Patella. A. B. Poore, Cedar Rapids.
152 Common Types of Coma. C. P. Howard, Iowa City.
153 An Epileptic Colony. G. H. Hill, Des Moines.

Journal of the Arkansas Medical Society, Little Rock

December

154 Uterine Fibromyoma; Wide Range of Complication. J. W. Smith, Hot Springs.

California State Journal of Medicine, San Francisco

January

155 Functional Periodicity in Women and Some of the Modifying Factors. C. D. Mosher, Palo Alto.
156 Salvarsan. D. W. Montgomery, San Francisco.
157 Serodiagnosis of Syphilis. L. S. Schmitt, San Francisco.
158 Insects and Medicine. C. Wellman, Oakland.
159 Epidemic Cerebrospinal Meningitis. F. G. Canney, San Francisco.
160 Renal Tuberculosis. G. S. Whiteside, Portland, Ore.
161 Cooperation of School Health Departments with Other Health Agencies. E. B. Hoag, Berkeley.
162 A Brief Account of Ludwig Pick's Work on Chorioepithelioma. D. Hadden, Oakland.
163 Heart Tonics. W. E. Bates, Davis.
164 Multiple Papillomata of the Urethra. L. Gross, San Francisco.
165 Impotentia Cœundi and Sexual Neurasthenia, and Their Treatment. A. B. Grosse, San Francisco.
166 Filariasis Treated by the Wherry-McDill Method (Cinchonization and Roentgen Irradiation). E. v. Adelung, Oakland.
167 Splenomegaly with Fatal Hematemesis. W. A. Sawyer, Berkeley.
168 Subcutaneous Injuries of the Abdominal Contents. O. D. Hamlin, Oakland.
169 Hospital Service for Railroad Construction Camps in the Pacific Northwest. W. O. Spencer, Huntington, Ore.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 7

1 Surgical Treatment of Venous Thrombosis. W. Bennett.
2 *Some of the Rarer Occurrences in the Rheumatism of Childhood. F. J. Poynton.
3 *Kidney Pain. E. H. Fenwick.
4 *Prevention of Heart Disease. W. Calwell.
5 *Treatment of Rodent Ulcer. E. G. Little.
6 *Excision of Cancer of the Esophagus. W. A. Lane.

2. **Rheumatism of Childhood.**—Among the conditions mentioned by Poynton are rashes, erythema nodosum, venous thrombosis, tachycardia, mastitis, hematemesis and epistaxis.

3. **Kidney Pain.**—Fenwick emphasizes, on physiologic and clinical grounds, the fact that the kidney is able to feel in only two areas—the pelvis and the neighborhood of the true capsule. Occasionally patients are encountered who do not have sensation in either area, and then crippling and progressive disease of the kidney may be painless from start to finish. The commonest structural change accompanying kidney pain is a distended pelvis; the commonest cause of kidney pain is dilatation of the renal pelvis. Cases in point are cited.

4. **Prevention of Heart Disease.**—Calwell holds that prevention of heart disease embraces (1) more accurate registration of deaths, so that the huge group labeled "syncope" may be analyzed; (2) the labors of the clinical bacteriologist to teach us what is rheumatic fever and how we may prevent it; and (3) a spread of real knowledge and education, so that men may learn not to treat the heart and blood-vessels as a careless and reckless schoolboy treats his bicycle, but as a skilled engineer treats a strong yet delicately balanced piece of complicated mechanism that reacts quickly, silently, mysteriously, to every touch of the skilled hand.

5. **Treatment of Rodent Ulcer.**—Little endorses the treatment of rodent ulcer by freezing. He reports eleven cases.

6. **Excision of Cancer of Esophagus.**—The principle of the operation done by Lane is to excise the portion of the esophagus affected by cancer, together with any glands, keeping well away from the diseased area, and to replace the segment of esophagus removed by means of a strip of skin cut transversely from the neck, and retaining an attachment and a blood-supply, the continuity of the esophagus being completely restored. After an interval of sufficient length for the firm union of the skin esophagus to the portion of the normal esophagus at the lines of section, the attachment of the flap of skin by its base to the skin of the neck is divided, and any lateral aperture in the skin esophagus which may remain is closed. Except when the growth involves the extreme upper limit of the esophagus or invades the upper aperture of the larynx, it would probably be possible to avoid performing tracheotomy. Till the edges of the skin esophagus have united to those of the esophagus, a tube for feeding purposes should be retained in position. In the case reported, the growth, which was very dense, was found to involve the upper 2 inches of the esophagus. In spite of the precautions of an extensive operation and subsequent treatment by radium, an indurated mass appeared in the neck in the vicinity of the operation and discharged itself externally, leaving a sinus. Through this aperture, a sudden profuse hemorrhage took place, resulting in the death of the patient six months after the operation. Necropsy showed that the growth had recurred in a small area in the left side of the neck, and that it had invaded the carotid artery, whose wall gave way in consequence. The area of esophagus made by skin did not differ in appearance from the adjacent portion of normal esophagus, with which it had become continuous.

Lancet, London

January 7

7 Report by the Education Committee Presented to the General Medical Council. H. Morris.
8 *Ultra-Chronic Pulmonary Tuberculosis. H. B. Shaw.
9 *Some of the Rarer Causes of Acute Abdominal Conditions. W. H. Battle.
10 A Case of Interstitial Pregnancy; Sac Removed Unruptured by Abdominal Hysterectomy. A. H. N. Lewers.
11 *The Cardiac Diastolic Sound and Impulse. T. Fisher.
12 British Health Resorts for Foreign Invalids. N. Wood.
13 *Iodin as a Disinfectant of the Skin Before Operations. W. Evans.
14 *Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalation. I. B. Yeo.
15 Perithelioma of the Great Omentum; Excision. W. G. Nash.
16 *Relation of Acute Phosphorus Poisoning to Acidosis. H. L. Tidy.
17 A Case of Digitalis Heart-Block. E. E. Laslett.
18 Technic of Intravenous Injection of Salvarsan. O. Grünbaum.
19 *Raw Meat and Raw Meat Juice in Treatment of Tuberculosis and Wasting Diseases (Zomo-Therapy). J. Hericourt.

8. **Ultra-Chronic Pulmonary Tuberculosis.**—Of 1,532 patients who had been found to show tubercle bacilli in the sputum and to have present signs indicative of pulmonary disease 303 were found by Shaw to have had the disease for five or more than five years. But in this number there are included some whose tuberculosis for some years existed, so far as can be ascertained, only in some part of the body other than the lungs, e. g., they may have first of all suffered from tuberculous dactylitis, adenitis or hip disease. These 303 patients include some who have had the benefit of in-patient and sanatorium treatment. Excluding these latter and also those whose tuberculosis expressed itself first in some system other than the pulmonary one, 212 cases are left, and from this number of patients observations are presented by Shaw to show how chronic may be the course of pulmonary tuberculosis subjected to the very trifling help, so far as the direct treatment is concerned, afforded in out-patient practice. These patients have succeeded in many cases in maintaining families and that under conditions which are the very reverse to those which would be chosen to help arrest the disease. The occupation of these patients shows that indoor employment does not necessarily preclude survival with the disease during a considerable number of years, because all but eight of the fifty-three patients followed vocations within doors. One patient was still living after thirty-four and one-half years.

9. **Rare Causes of Acute Abdominal Conditions.**—Battle discusses acute hemorrhagic pancreatitis, acute dilatation of the stomach, hemorrhage from the stomach and enterospasm.

11. **The Cardiac Diastolic Sound and Impulse.**—Although a diastolic sound is commonly present in association with temporary ill-health in which the heart probably suffers, Fisher says it is, perhaps, most marked in cases of organic disease. In those cases, however, the sound may be strangely inconstant; that is to say, it may be distinctly audible one hour and not the next. The character of the impulse and the character of a cardiographic tracing, as might be expected, change with the alteration of the sounds. In mitral stenosis the presence of a diastolic sound distinct from the presystolic murmur is frequently observed. The sound need not, however, be limited to the apex, like the true presystolic murmur, but may be heard widely over the heart

Fisher suggests that possibly the fact that it frequently occurs when inspiration is commencing to lend its aid to diastole of the ventricles may be considered to support the view that a diastolic sound is in some way connected with active diastole. A fact which he also urges in support of such a view is the occurrence of a diastolic sound in association with hypertrophy of the heart. The presence of the sound in the large heart of Bright's disease has frequently been the subject of comment. Another variety of hypertrophy in which the sound occurs is that associated with adherent pericardium in children. Here the sound may sometimes be so prolonged as to be readily mistaken for a presystolic murmur.

13. **Iodin as a Disinfectant of the Skin Before Operation.**—Evans endorses the use of iodin as a disinfectant—30 parts of chloroform to 1 of iodin, or half tincture strength, 1 in 80, or 1.25 per cent. He says that it is strong enough for all ordinary cases.

14. **Treatment of Pulmonary Tuberculosis by Inhalation.**—Yeo reviews some of his previous papers in which he recorded his observations on this treatment. They were, in the main, favorable.

16. **Acute Phosphorus Poisoning and Acidosis.**—Tidy emphasizes the connection of the secondary stage of acute phosphorus poisoning with acidosis.

19. **Raw Meat and Raw Meat Juice in Wasting Diseases.**—The author states that it is probably no exaggeration to say that the raw meat treatment of pulmonary phthisis yields results not approached by any other means at present available. Nevertheless, the benefits of zomotherapy are by no means limited to tuberculosis. Raw meat juice is of the greatest service in the various forms of anemia and chlorosis, in typhoid, neurasthenia, rachitis, and scurvy rickets, during convalescence, after hemorrhage, in fact, whenever it is desired to reinforce the defensive apparatus of the organism and repair the ravages of disease.

Australasian Medical Gazette, Sydney

November

20 Extraction and After-Treatment of Senile Cataract. W. O. Maher.
21 Abdominal Section. A Record of 1,400 Cases. A. J. McDonnell.
22 Diagnosis and Surgical Treatment of Malignant Disease of the Stomach. H. C. Hinder.
23 Partial Gastrectomy and Colectomy for Cancer. T. Fiaschi.
24 Cases Simulating Extra-Uterine Pregnancy. A. Watson.
25 Cause, Effect, Incidence and Prevention of the Pneumokoniosis of Quartz-Miners (concluded). J. S. Purdy.
26 Practical Application of the Symptom-Complex in Ruptured Abdominal Hydatid Cyst. A. H. Tebbutt.
27 A New Generalization in Serotherapy. D. M. Paton.
28 Malignant Endocarditis. F. S. Hone.
29 Temporary Bradycardia, with Ventricular Asystole. C. T. de Crespigny.

Clinical Journal, London

December 28

30 A Paralytic Stroke. S. Taylor.
31 Stricture of the Urethra and Its Treatment. C. A. R. Nitch.

January 4

32 Adams-Stokes Disease. F. Taylor.
33 *Septicemia Hemorrhagica. W. G. Spencer.
34 *Gastric and Intestinal Hemorrhages After Abdominal Operations. J. Hutchinson.

33. **Septicemia Hemorrhagica.**—Several cases of acute hemorrhagic cellulitis are cited by Spencer. They were (1) hemorrhagic cellulitis of the arm; (2) acute hemorrhagic cellulitis of the left buttock and thigh; (3) hemorrhagic cellulitis of the thigh; (4) hemorrhagic cellulitis round the knee; (5) acute subcutaneous hemorrhage following viper bite. A case of hemorrhagic enteritis is interesting. A young woman, aged 24, had diarrhea and, at first, occasional hemorrhages from the bowel, with vomiting and foul stools. Then she began to pass large quantities of blood by the stools, and lapsed into a state of acute anemia, with a pulse rate of 120, but at no time did the temperature vary much from normal. There was an absence of all signs of typhoid, and tuberculous enteritis. On the day preceding death there was noted for the first time a tenderness in the right iliac fossa, followed by clear signs of commencing infective peritonitis. The general condition of the patient was different from the common type of acute gangrenous appendicitis. The pulse was very rapid and weak, 130 or 140 a minute, but the temperature continued normal. The abdomen was a little tumid, but nowhere persistent or tender, except over the appendix. The appendix was removed as quickly as possible. No gangrene or pus, or sign of typhoid or tubercle, was found; there was congestion of the peritoneum around, and blood-stained fluid was sponged out of Douglas' pouch. The patient failed to react to saline infusion; she died four and a half hours after the operation; there was no post-mortem. The appendix removed was distended to the size of the end joint of the little finger by blood and mucus, but there was no evidence in the interior of gangrene or pus. The microscopic examination showed acute hemorrhagic inflammation of the mucous and submucous coats, in which were numerous cocci and rods. Several cases of renal hemorrhage are also cited.

34. **Gastric and Intestinal Hemorrhages.**—It is held by Hutchinson that hemorrhage into stomach and intestine due to small ulcers or erosions may develop after an operation, usually abdominal, has been performed. In 80 per cent. of the cases a severe septic infection with secondary anemia is present before the operation, the latter in itself having no direct influence on the hemorrhage. Similar lesions of the stomach or duodenum are found in certain cases of disease in which no operation has been performed; 80 per cent. of these cases are septic in nature. It is probable, Hutchinson believes, that a profound alteration in the blood, due in most cases to toxins of septic origin, is the chief factor in the production of these erosions. Such hemorrhage is of very grave significance, though a few patients recover from it. Operative interference does not appear to hold out much prospect of success in these cases, but further experience is needed on this point.

Indian Medical Gazette, Calcutta

December

35 Treatment of Syphilis at Aix-La-Chapelle. V. B. Green-Armytage.
36 Gynecologic Laparotomy, General and Statistical Observations Based on 150 Consecutive Operations, Performed in the Campbell Hospital, Calcutta. K. Das.
37 *Influence of Dysentery on Incidence and Mortality of Tuberculosis of the Lungs. W. Gillitt.
38 *Treatment of Amebic Abscess of the Liver by Aspiration and Injection of Quinin. L. Rogers.
39 Cholera Treated by Rogers' Method of Infusion of Hypertonic Saline Solution. T. C. Rutherfoord.
40 Suction Treatment of Abscesses. W. E. McKechnie.
41 Sanitation in the Hills. L. Reynolds.
42 Subcutaneous Injection of Quinin in Malaria. H. Stott.

37. **Dysentery and Tuberculosis.**—In order to analyze the relationship between dysentery and tuberculosis, Gillitt divides the cases into the following types: (1) Tuberculosis of the lungs terminating in an attack of acute dysentery. (2) Chronic dysentery and tuberculosis occurring at the same time both of long standing and with no evidence to show which began first. (3) Chronic or recurrent dysentery followed by tuberculosis of the lungs. Among fifty-three cases of tuberculosis, thirteen (24.5 per cent.) showed ulceration of the colon and rectum. The ulcers occurred chiefly in the large intestine, although occasionally the lower part of the ileum was also involved. In one case, chronic dysentery and tuberculosis of the lung occurred at the same time with no evidence to show which was the primary lesion. Seven patients appeared to have developed the disease after suffering for some time from chronic dysentery. In only two of these seven cases was there actual ulceration of the large intestine at the time of death, described as "chronic." In two other cases there were scars of dysenteric ulcers, while in the other four the fact that tuberculosis followed chronic dysentery, and was presumably dependent on it, was expressly stated. In another case, the patient was in the hospital for three months suffering from chronic dysentery, and at the time of death there were tuberculous cavities at both apices. The total number of cases of tuberculosis investigated was seventy-one, and of these eleven patients (15.5 per cent.) had a well marked history of recent chronic dysentery. It is probable, says Gillitt, that dysentery was a predisposing factor in a larger proportion of the fatal cases, because the fact of there having been repeated attacks of dysentery would

not be noted in a necropsy report on a case of tuberculosis, unless the connection was very strong or unless one were specially looking out for such cases. The number of cases, too, in which tuberculosis is developed before admission to jail and in which a reliable history cannot be obtained is considerable.

38. Also published in the *Philippine Journal of Science*, July, 1910; abstracted in THE JOURNAL, Nov. 5, 1910, p. 1684.

Medical Press and Circular, London

December 28

43 Differential Diagnosis of Reno-Ureteral Affections. F. Cathelin.
44 The Change of Life in Man. B. Hollander.
45 Intracranial Neoplasms. Diagnosis and Indications for Treatment. T. A. Williams.

January 4

46 Roentgen Ray Diagnosis of Urinary Calculi. M. J. Hayes.
47 Points in Urine Analysis. J. B. Smith.
48 Partial Resection of Stomach for Carcinoma. R. A. Stoney.

Glasgow Medical Journal

January

49 *The Unfit. W. J. H. Sinclair.
50 Advances in Hematology. W. K. Hunter.
51 *Graduated Labor at Bellefield Sanatorium. J. W. Allan.

49. **The Unfit.**—The term unfit is used by Sinclair in a general way, and is intended to include the always tired, the loafer and unemployable, the feeble-minded, the epileptic, the criminal and the alcoholic. He does not deal with the physically unfit, or the certifiably insane. He shows that there is a large and increasing number of unfit people. The influence of those people while at large is hurtful to the community, leading to the production of undesirable stock and to large public expense. Legislation for the care and control of the unfit in their own interest and in the interest of the race is urgently called for. Sinclair suggests that the physically capable and non-criminal among the unfit would probably be suitably dealt with in farm and labor colonies. Notification and registration is probably necessary as a preliminary to the proper care and control of epileptics. Much attention should be bestowed on the health and training of epileptic children, when possible by parents, otherwise by the state. The marriage of an epileptic should be prohibited by law. Epileptics improperly cared for by their relatives should be put under care and treatment in epileptic colonies. The shutting up for the natural term of their lives of incorrigible and irresponsible inebriates is highly desirable in their own interests and in the interests of the community. A simple and easy method of finding the feeble-minded, such as notification, Sinclair regards as probably practicable. Legislation to facilitate certification and to provide for the continued confinement of the feeble-minded is urgently required.

51. **Graduated Labor at Bellefield Sanatorium.**—Experience at Bellefield Sanatorium, Lanark, has convinced Allan of the value of moderate and graduated labor in suitable cases. It improves the appetite, tones the muscles, and improves the breathing. In the case of workingmen, it renders them more fit to return to their vocations. Four months of good feeding and absolute idleness in a sanatorium is conducive to the formation of fat and lazy habits. Besides the physical benefits, there is the psychical benefit derived from work. It puts the patients in a better frame of mind when they find that they are able to do something, and it raises their spirits, for they know when they are put on work the medical officer is satisfied with their condition. But at the same time, Allan is distinctly of the opinion that the labor should be moderate in character, and that it should be voluntary on the part of the patient. No patient should be urged to work if he expresses a decided disinclination to do so. A contrary line of conduct may be attended with very awkward or very serious consequences.

Bulletin de l'Académie de Médecine, Paris

December 20, LXXIV, No. 41, pp. 475-504

52 *Chronic Carbon Monoxid Intoxication. (Intoxication oxycarbonée lente; ses symptomes frustes.) J. Courmont, Morel and G. Mouriquand.
53 Peruvian Verruga in Madagascar. M. Letulle.

January 3, LXXV, No. 1, pp. 1-28

54 Osteomalacia of Tuberculous Origin. (Tuberculose inflammatoire du squelette.) A. Poncet and R. Leriche.

52. **Slow Carbon-Monoxid Poisoning.**—Courmont, Morel and Mouriquand report the case-histories of thirty-five persons who for years during their working hours had to breathe air containing from 1 per 10,000 to 1,000 carbon monoxid. In the course of years they all developed nervous, digestive and general symptoms varying in intensity but most severe in the workrooms with the highest proportion of the impurity in the air. The syndrome was alike in each case, commencing with headache and occasional dizziness, then lassitude, loss of appetite, insomnia varied with nightmares followed, and neuralgias, intense or slight, transient or fixed, unilateral or bilateral, intercostal, subcostal, abdominal and especially in the lumbar and sacral region. The digestive disturbances were those characteristic of hyperchlorhydria. Twelve of the patients had intermittent albuminuria, three transient glycosuria and all grew thin and pale, some being so sallow as to suggest cancer. Some epileptics were among the patients and their previously rare seizures became so frequent that institutional measures were soon necessary. All the symptoms reached their acme in winter, when the defective furnaces and heaters were at work, but became attenuated during the spring and disappeared entirely during the summer vacation at first. In later years they became more continuous with lesser remissions. In three of the youngest patients the syndrome was diagnosed as pretuberculosis and they were sent out of town, returning much improved. In another case incipient tabes was diagnosed on account of the asthenia, and psychic and neuralgic disturbances. A few other patients presented signs of congestion in the bladder and prostate. Gautier also reported the case of a physician who paid no attention to a little gas escaping in his office for a few weeks, until he developed a condition of extreme weakness, neurasthenia, and "the blues" requiring a three-months vacation to regain his normal poise. Gautier himself had attacks of faintness at night for more than a month after exposure to carbon monoxid for a short time during an operation in the open air. The syncope was so severe each time that he felt he was dying, and his weakness was extreme. Carbon-monoxid poisoning may prove fatal after a long interval, as in Bourdon's case in which a sudden fatal syncope followed several weeks after the acute monoxid poisoning from which the man had apparently recovered. The speakers all emphasized the insidious danger from slightly defective hot-air radiators and gas jets, and the emanatious from gas ranges, etc.

Obstétrique, Paris

December, N. S. III, No. 12, pp. 1001-1080

55 Hematology of Menstruation. (Les pigments utérins.) H. Keiffer.
56 Metabolism During Pregnancy. Hoffström.
57 *Non-Operative Treatment of Uterine Cancer. L. Mangiagalli

57. **Non-Operative Treatment of Cancer of the Uterus.**—Mangiagalli discusses the experiences to date with drugs, ferments, vaccines and physical measures in treatment of cancer. He thinks that the meiostagmin reaction may prove a useful guide in estimating the effect of non-operative treatment and keeping control of recurrences. He is having this test applied in all cases of uterine cancer in his service before and after operation, and is collecting the data for comparison. Although he regards the knife as still the most certain means at our disposal, yet he thinks that the clinician can regard the future with more hope as already we possess means which in certain cases may arrest the progress of the cancer and permit radical operative measures later.

Presse Médicale, Paris

December 31, XVIII, No. 105, pp. 985-992

58 *Emergency Psychiatry. (La psychiatrie d'urgence.) P. Dupré.

58. **Emergency Psychiatry.**—Dupré is in charge of the detention hospital connected with the police department at Paris and this is his opening address in the special course of lectures on mental disease given at this institution. Drink, he remarks, is the great purveyor for it—"drink, the international scourge but essentially the national scourge in France, whose ravages are constantly increasing." Especially frequent

the acute mania liable to be induced in the predisposed by an ordinary drinking bout. He reviews the various features which distinguish the rapidly curable cases of mental trouble from those requiring institutional treatment. In the former case the insanity is secondary to infections, intoxications, physical or moral shocks. The resulting mental disturbances are usually of a confusional nature, comparatively transient, subordinate to the cause determining them and amenable to medical treatment outside of an insane asylum. Unfortunately, he adds, existing hospitals are seldom equipped to isolate and care for these somato-psychoses, as he calls them. On account of the prejudice against asylums and the stigma cast on any one who has been confined in an asylum, it is especially incumbent on physicians to perfect themselves in emergency psychiatry and learn to distinguish the patients who can be safely sent to a hospital, a hydrotherapeutic establishment or treated at home.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 10, XL, No. 35, pp. 1177-1208

59 *Camphorated Oil in Prophylaxis of Postoperative Peritonitis. K. Kolb.

December 20, No. 36, pp. 1209-1256

60 *Medical Borderland Experiences. (Erfahrungen der inneren Klinik auf einigen medizinischen Grenzgebieten.) D. Gerhardt.
61 *Epidemic Poliomyelitis in Switzerland. E. Hagenbach.
62 Anatomic Bases of Mental Diseases. (Gehirn und Psychose.) E. Fankhauser. Commenced in No. 35.

59. **Prophylaxis of Postoperative Peritonitis.**—Kolb pours 10 per cent. camphorated oil into the abdominal cavity up to an amount of 50 c.c. during and just before concluding the operation to ward off threatening peritonitis. In fifty-three laparotomies for very serious conditions, nine of the patients died but only one from peritonitis. The others succumbed to tuberculosis, air embolism or pneumonia. The oil did not prevent the development of abscesses in the soft parts but there were no signs of peritonitis in the abscess cases. He used the oil also in twenty-six other cases as a precautionary measure but does not include them in his figures as peritonitis would scarcely have developed in any event.

60. **Borderland Experiences.**—Among the cases reported by Gerhardt are seventy-four of gastric cancer. An operation was advised in thirty-one of the cases but was refused in four. One of the twenty-seven patients operated on was permanently cured thereby. In eight dubious cases the stomach was found free from any signs of a tumor, but the exploratory operation did no harm in any instance. In eighteen of the sixty-six cancer cases the first disturbances had been noted less than six weeks before, and in twelve cases the growth was already inoperable; two other patients refused an operation and in two other cases the laparotomy showed inoperable conditions. In nearly half of all the cases the condition was too far advanced for a radical operation although the cancer had caused no symptoms attracting attention until within less than three months. These experiences confirm the advisability of an exploratory laparotomy as early as possible when previously healthy elderly people develop gastric disturbance more or less rapidly. In seventeen recent dubious cases ten of the patients were examined by an exploratory laparotomy and cancer was found in about half and excluded in the others. In seven cases in which the operation showed the stomach to be free from cancer, there was no free hydrochloric acid or only traces in five of the patients, while fourteen of the cancer patients had normal proportions of hydrochloric acid. In two other cases without free hydrochloric acid the patients improved so much on an appropriate diet that they increased over seven pounds in weight in three or four weeks and the presumptive diagnosis of cancer was abandoned. The patients returned, however, four or five months later with inoperable carcinoma. These cases warn that cancer patients do not necessarily always lose in weight.

61. **Epidemic Poliomyelitis in Switzerland.**—Hagenbach has noticed that the cases now reported are mostly at points where one or more sporadic cases of acute poliomyelitis have been observed in previous years. In the last fifteen years he has had in his charge seventy-seven children with acute poliomyelitis, but never more than four in one year until 1900, when the number began to increase, and in the first eight months of 1910 he had thirteen cases. The type, too, seems to have changed; in the sporadic cases he never observed such pains in the legs as now, requiring sedatives, while the symptoms now deceptively resemble those of cerebrospinal meningitis. He has also noticed that cases of the latter are more numerous at points where poliomyelitis is prevalent. In many of his cases of the latter the paralysis came on gradually instead of with the sudden onset which has been described as characteristic. He thinks there can be no doubt that the disease is epidemic in Switzerland in three districts at least.

Deutsche medizinische Wochenschrift, Berlin

December 29, XXXVI, No. 52, pp. 2417-2448

63 *Ventral Hernia. (Darmwandbruch.) B. Riedel.
64 Vital Staining of Red Corpuscles. (Ueber die vitalfärbbare Granularsubstanz der roten Blutkörperchen, ihre Natur und Beziehungen zu ihrer sog. basophilen Punktierung.) R. Hertz.
65 *Action of Transfused Blood. (Wirkung intravaskulärer Injektionen frischen, defibrinierten Blutes und ihre Beziehungen zur Frage der Transfusion.) J. Moldovan.
66 Opsonic Technic. (Opsoninbestimmung.) H. Reiter.
67 Simple Medico-Mechanical Apparatus for the General Practitioner. A. Heermann.
68 *Technic for and Action of Salvarsan. P. Ehrlich.

63. **Ventral Hernia.**—Riedel is convinced that hernia into the abdominal wall occurs much more frequently than is generally supposed. It is difficult to diagnose when the rupture is at an unusual point but serious trouble is liable to follow unless the anomaly is corrected at once by an operation. Attempts at forcible reduction are entirely contraindicated. The rupture into the strata of the abdominal wall may involve only the outer side wall of the intestine or both walls and even some of its mesentery. In his experience at Jena there were sixty-three ruptures of this kind among the 550 cases of incarcerated hernia since 1883, that is, 11.5 per cent. of the total hernia material. The slightest sign of a tumor below or above Poupart's ligament should suggest hernia into the abdominal wall if accompanied by symptoms on the part of the intestines. In two cases described, the rupture was not recognized and the patients succumbed to gangrene of the incarcerated wisp of the intestine. Riedel insists that a patient with abdominal trouble should not be examined in bed but must be placed on a table with only a single garment, for the examination. This is the only means to detect a minute hernia in the abdominal wall near the femoral or inguinal canal.

65. **Transfusion of Blood.**—Moldovan found with animals that intravenous injection of fresh defibrinated blood has a toxic and possibly a fatal action on account of the coagulation of the blood of the recipient which it induces. This coagulating property subsides and disappears by the end of about half an hour. Waiting until after this period obviated all danger from this cause in his experiments. He warns therefore, that transfusion of defibrinated homologous blood within half an hour after it has been drawn must be regarded as a dangerous procedure judging from the results on animals.

68. **Salvarsan.**—Ehrlich discusses the technic and various mishaps that have been reported following the use of salvarsan. Only one of the five deaths he mentions does he ascribe to the action of the salvarsan injected. He prefers the intravenous technic, which he considers harmless when correctly done; with skill and cleanliness, he says, even the general practitioner can use it. He reiterates that salvarsan is contraindicated in all cases of extensive disease of the central nervous system and with failing compensation in heart and vascular disease. The greatest attention should be paid to recent syphilis not older than from two to eight months. The salvarsan should be given energetically and the patient kept under continuous careful supervision, in order to combat the army of spirochetes with success. If this cannot be done with energy and under careful control, he says, it is better not to give the salvarsan. In the tertiary stage of the disease, when the spirochetes are not so numerous and local action is not so essential, such intensity of the treatment and strict control of the patients are not imperative. He adds that the curative action of salvarsan has been established, not only in syphilis but in tertian malaria, sleeping sickness, small-pox, spirillosis in animals, kala-azar, etc.

Deutsche Zeitschrift für Chirurgie, Leipsic

November, CVII, Nos. 4-6, pp. 297-620

69 Diagnosis and Treatment of Fracture of Bones in Hand. J. Fessler.
70 *Operative Treatment of Carcinoma of the Cardia. H. H. Janeway and N. W. Green (New York).
71 Ossifying Myositis After Trauma, Fractures and Arthropathies. P. Ewald.
72 *Changes in Blood Under Influence of the Thyroid and of Thyroid Treatment. (Blutveränderungen unter dem Einfluss der Schilddrüse und Schilddrüsensubstanz.) M. Turin.
73 *Spinal Anesthesia and Blood-Pressure. (Lumbalanästhesie und Blutdruck mit besonderer Berücksichtigung des Zusatzes von Nebennierenpräparaten zum Anästhetikum.) M. zur Verth.
74 Improved Automatic Closure of Tips of Forceps, etc. (Automatische und graduelle Festklemmung der Spitzen bei hämostatischen Zangen, Histotritoren, Darmkompressoren und-Okklusoren.) A. Marro.
75 Hernia of Stomach into Omentum. (Hernia ventriculi epiploica und ihre Mechanik.) M. v. Arx.
76 *Sarcoma Under Nail of Toe. (Zur Kasuistik der subungualen Zehensarkome.) G. G. Wurmbrand.
77 *Prevention and Treatment of Fat Embolism. E. Fritsche.
78 *Laryngocele. (Kehlsackbildung beim Menschen.) R. v. Hippel.
79 Epinephrin-Anemia for Operations on Skull and Spine. H. Braun.
80 Resection of the Carpus. L. Heidenhain.
81 *Operative Treatment of Typhoid Bacillus-Carriers. A. Fromme.
82 Invagination of the Intestine in Ileocecal Region. S. Solieri.
83 Retrograde Incarceration. O. Klauber.

70. This article appeared in *Annals of Surgery*, June, 1910, and was abstracted in THE JOURNAL, July 30, 1910, page 435.

72. **Thyroid Functioning and the Blood.**—This communication issues from the clinic at Berne in charge of Kocher; it reports research in this line which seems to show that the changes in the blood with exophthalmic goiter are the result of the abnormally large amounts of thyroid secretion which are produced. The myeloid system is not influenced but the lymphoid system reacts positively to the action of the hyperfunctioning of the thyroid on the blood-producing organs. The conditions in normal persons, in patients with exophthalmic goiter and in these or others before or during thyroid treatment are compared and ten pages are devoted to tabulation of the details. Ordinary colloid struma does not seem to affect the composition of the blood, but thyroid treatment brings about a condition similar to the characteristic blood-picture of exophthalmic goiter, namely, pronounced lymphocytosis and leukopenia, which is unquestionably due to the reaction of the blood-producing organs to the excessive thyroid secretion.

73. **Technic for Spinal Anesthesia.**—In this report from Bier's clinic at Berlin, zur Verth emphasizes the necessity for restricting the analgesia to the point where it is needed. When this is done, operations up to the level of the crest of the ilium can be done without any drop in blood-pressure and can thus be regarded as safe. No by-effects are observed, he states, when the analgesia is restricted to this region. In passing judgment on lumbar anesthesia, he says that we must discriminate between the effects of the analgesia in this region and the effects of the anesthetic forced up higher than is necessary. The by-effects increase in number and severity the higher the analgesia is induced. The aim should be to find an anesthetic or combination which will leave the heart-pressure uninfluenced even with high analgesia. Until this ideal is realized, it is wiser to keep the blood-pressure at its normal figure, with drugs to act on the heart, when high spinal anesthesia is attempted. Bier has been having the blood-pressure studied during the last six years and zur Verth gives his experiences with forty-four patients anesthetized by the spinal technic with or without epinephrin. A drop in blood-pressure of more than 25 per cent. was observed in eighteen cases, but the operation had been high in the rectum or on the kidney or bladder in all of these, and thus above the level of the absolutely "safe" region. The addition of a suprarenal preparation did not seem to have any influence in preventing the drop in blood-pressure, while it reduced the extent of the analgesia but seemed to prolong it. A few whiffs of ether augment the force of the heart without acting on the vessels. Epinephrin, on the other hand, acts on the tonus of the vessels; this raises the blood-pressure if the heart is working as usual, but the epinephrin acts also on the heart, reducing its energy. As the blood-vessels are contracted at the same time, the result is naturally more in the line of a collapse of the whole cardiovascular system than in the line of stimulation. That the collapse does not occur as a rule is due to the special counteracting influence of some component of the suprarenal preparation acting directly on the heart functioning.

76. **Sarcoma on the Toe.**—Wurmbrand reviews the cases on record in which an ingrowing nail or nevus has been the seat of cancerous growth and reports three cases from Hochenegg's clinic at Vienna. The patients were two men of 47 and 50 and a woman of 59, with sarcoma in the left great toe; there was a history of slight trauma in one case. In a fourth case the right great toe had been enucleated for melanosarcoma ten years before inoperable metastasis was discovered in the right calf. The affection was of slow development, several years elapsing before the pains became severe and secreting granulations developed under the nail. In all the cases months had been wasted with ordinary medical measures, inducing temporary improvement, the trouble flaring up again after a few months.

77. **Fat Embolism.**—Fritzsche has been studying the mechanism of fat embolism on rabbits and dogs, and states that cutting injuries of bones are liable to lead to fat embolism, the veins in the bones taking up the particles of fat. He found, however, that mere concussion of the bone was sufficient in some cases to induce fat embolism by the lymphatic route, the lymphatics taking up the fat particles and thus passing them along into the circulation. In these cases of lymphatic fat embolism he found that prompt drainage of the thoracic duct warded off danger when the operation was done at the first signs of fat embolism. The procedure is simple and harmless, he says, but its field of application is necessarily limited.

78. **Laryngocele.**—Hippel devotes nearly a hundred pages to this rare anomaly, his attention having been called to it by a case personally observed.

81. **Surgical Treatment of Typhoid Bacillus-Carriers.**—Fromme reviews the experiences that have been published in this line to date and reports cases in which he operated to put an end to the chronic elimination of typhoid bacilli, accomplishing his purpose in each case by cholecystectomy. The patients were four women between 38 and 46 years old, and the biliary passages were found to harbor typhoid bacilli as well as the gall-bladder. After the removal of the latter the typhoid bacilli were evidently exterminated by other saprophytic bacteria. He urges surgeons in operating on the biliary apparatus to search for possible typhoid bacilli, as undoubtedly the number of unsuspected bacillus-carriers is large. Fromme believes that many healthy bacillus-carriers might consent to operative treatment if convinced of the peril to their environment and to themselves.

Medizinische Klinik, Berlin

December 25, VI, No. 52, pp. 2045-2064 and Supplement

84 *Gonorrheal Rheumatism. (Tripperrheumatismus.) G. Hahn
85 *Early Signs of Epilepsy in Children. (Kinderfehler in Schule und Haus als Frühzeichen der konstitutionellen Epilepsie.) H. Stadelmann.
86 Tuberculosis as Indication for Arresting Pregnancy. (Zur künstlichen Unterbrechung der Schwangerschaft bei Tuberkulose.) H. Hellendall.
87 *Differential Diagnosis Between Deafmutism and Mutism from Deafness. (Taubstummheit und Hörstummheit.) E. Fröschels.
88 Percutaneous Technic for Salvarsan. H. Leyden.
89 *The Development of the Rachitis Problem in the Last Decade. F. Zybell.

84. **Gonorrheal Rheumatism.**—Hahn remarks that the lack of benefit from salicylic medication is one of the chief means of distinguishing the gonorrheal form of joint affections. Treatment generally has to be merely symptomatic but vaccine therapy may prove to have a causal action; the experiences to date seem to be promising. The gonococcus seems to have a special predilection for the periosteum and to stimulate an exuberant granulation. Especially threatening are the cases in which the swollen joint looks angry and pain and fever announce the onset of suppuration. Pyemia and death often close the scene unless operative measures are applied in time; even in the more favorable cases, the joint is liable to be left stiff. Pericardial and pleural complications are fortunately rare, as also phlebitis; endocarditis is more common. The prognosis is grave in gonorrheal endocarditis. Complications in the conjunctiva and iritic processes have

also been observed in a few cases. Hahn advocates treatment of coexisting gonorrheal urethritis as under other conditions. Rest of the joint and local application of heat for several hours a day are the main reliance.

85. **Early Signs of Epilepsy in Children.**—Stadelmann refers in particular to the naughtiness, the moodiness and brutality shown by certain children who develop epilepsy later; he regards this abnormal behavior as an early manifestation of epilepsy. Another sign is attacks of excitement at times, the child speaking hurriedly, the syllables tripping over each other, sometimes actual stuttering; or the defect may manifest itself in apathy. Disturbances in coordination in children, an impulse to keep the arms, hands or legs in motion, are defects observed in those inclined to epilepsy. Parents and teachers notice these defects before the physician sees the child, and they should be warned to be on the lookout for them as signs of a tendency to possible epilepsy. The earlier medical care can be given the child the better the outcome, the prognosis being much more favorable before the seizures are once installed. If the previous history of the child is taken into account, whether it had convulsions or diarrhea in infancy, etc., the early diagnosis may be facilitated. In the parents or brothers and sisters signs of epilepsy may also be detected, such as gastro-intestinal disturbances without preceding errors in diet, recurring manifestations suggesting geographic tongue, and also the tendency to brutality and cynicism, lack of affection and selfishness. Epilepsy must be regarded as a constitutional disease which induces a train of various symptoms; the seizure is merely the most striking and violent symptom in the train. Suspicion of epilepsy compels institutional treatment, he insists; there is no chance for a successful outcome unless the child can be kept under constant medical care and pedagogic training. Many children thus predisposed to epilepsy never develop seizures and seem to live an apparently normal life. But the tendency to epilepsy persists and in later years the individual is liable to come into conflict with the law.

87. **Differentiation of Mutism.**—Fröschels has found that deaf-mutes do not seem to feel anything tickling the inside of their outer ear while children with a normal hearing apparatus feel the tickling at this point with exceptional intensity. He introduces a bougie into the ear and twists it to and fro and found that this was borne without a trace of shrinking by ninety-four children in a deaf-mute asylum although all were extremely ticklish elsewhere. On the other hand, he found that fifty normal children tested felt the tickling with special intensity; most of them otherwise were not especially ticklish. This test is proving useful, he states, for differentiating actual deaf-mutism from mutism due to other causes, with or without hearing. Treatment based on the findings has given good results in twelve children, idiots and others, supposed to be deaf-mutes as they did not speak but who proved able to speak when trained.

89. **Rachitis.**—Zybell concludes his review of what has been learned and accomplished in respect to rachitis since 1900, with the statement that organotherapy has not displayed any specific action on rachitis, the results being more a general stimulating effect, due mostly to the hygienic measures instituted along with it. Phosphorus is the main reliance, and recent research has supplied the scientific basis for the empirical observation of the benefit from the action of phosphorus on the mineral metabolism, especially on prevention of waste of lime. It displays the greatest power in this line paired with cod-liver oil; neither alone and none of the derivates of phosphorus has the same effect. His formula is 0.01 c.c. yellow phosphorus with cod-liver oil to 100 c.c.; the dose is 5 c.c. two or three times a day. The compound should be made up fresh every week or ten days.

Münchener medizinische Wochenschrift

December 20, LVII, No. 51, pp. 2673-2766

90 *Action of Salvarsan on the Eye. (Experimentelle und klinische Untersuchungen mit Salvarsan unter bes. Berück. der Wirkung am Auge.) J. Igersheimer.
91 By-Effects of Salvarsan. K. Bohac and P. Sobotka.
92 Regeneration of Bone After Injection of Salvarsan. Therstappen.
93 Experimental Research on Epidemic Poliomyelitis. P. H. Römer and K. Joseph
94 Pupil Disturbances in Dementia Præcox. O. Bumke.
95 *Mechanical Measures for Arresting Hemorrhage from Stomach or Intestines. (Zur Stillung gefährlichen Magen- und Darmblutungen.) G. Kelling.
96 Enlarged Lymph Glands Not Always Sign of Tuberculosis. (Verwertbarkeit der subkutanen Thoraxlymphdrüsen für die Diagnose der Lungentuberkulose.) W. Schulze.
97 Action and Dosage of Epinephrin in Subcutaneous Injection. Kirchheim.
98 Hyoscyamus Poisoning in 1649. (Geschichtlicher Beitrag zur Vergiftung mit Bilsenkraut.) H. Schulz.
99 Nature and Importance of Anaphylaxis. E. Friedberger. Commenced in No. 50.

December 27, No. 52, pp. 2757-2780

100 *Serotherapy of Pregnancy Disturbances. (Versuch, Schwangerschaftstoxikosen durch Einspritzungen von Schwangerschaftsserum zu heilen.) A. Mayer and P. Linser.
101 *Action of External Application of Cold on Temperature of the Stomach. (Absinken der Kern—speziell der Magen—temperatur bei äusserlicher Kälteapplikation.) M. Riehl.
102 *Dysentery Epidemic in a Hospital. (Ueber eine Flexnerdysenterieepidemie in einem Spitale, bei welcher die Uebertragung der Keime von der Spitalsküche mittels der Essgeschirre erfolgte.) B. Bussow.
103 Technic and Contra-Indications for Administration of Salvarsan. W. Gennerich.
104 Salvarsan in Syphilis. C. Ravasini.
105 *Massage of the Nerves at Their Emerging Points. (Nervenpunktlehre und Nervenpunktmassage nach Cornelius.) A. Schüle.
106 *Local Action of Salvarsan at Point of Injection. K. Martius. Commenced in No. 51.

90. **Action of Salvarsan on the Eye.**—Igersheimer asserts that salvarsan not only has no injurious action on the eye, but in many cases in his experience had a curative effect on existing syphilitic eye affections. His experiments on animals show, he asserts, that the injurious action of atoxyl on the optic nerve is the result of phenylarsenate, and that cats and dogs are peculiarly sensitive to it. Salvarsan does not seem to contain phenylarsenate derivates and no symptoms suggesting toxic action from their presence could be detected in any of the animals tested. In the animals an accumulation of the arsenic was found in the eyeball, in one up to forty-eight hours after the last injection, but there was no Marchi reaction in the optic nerve. This demonstrates, he declares, that an organic arsenic is not split off from salvarsan, but at the same time it suggests the necessity for caution in chronic administration of the drug. There was no tendency to hemorrhage in the kidneys in the animals treated with salvarsan; this is the specific sign of atoxyl poisoning.

95. **Mechanical Measures for Arrest of Gastro-Intestinal Hemorrhages.**—Kelling was able to palpate a knobby growth in the stomach in a woman of 40 with hematemesis. It was more than probable that the bleeding issued from this ulcer and he applied mechanical compression to the spot, first with his hand and then under a tourniquet. He kept up this compression for eight hours, giving a little morphin besides. There was no recurrence of the hemorrhage. He improvises a tourniquet for such cases by laying a small tray on a pad and fastening the tray and pad with one or two towels drawn tight and fastened behind. This compression can be applied even when nothing pathologic can be palpated. The pylorus can be easily reached in this way, but the cardia requires different measures, and he suggests for this passing a tube through the nose into the stomach. A rubber cot fastened on the lower end of the tube can then be inflated and drawn back to plug the opening at the cardia. With the filling of the cavity between the cardia and the pylorus, he thinks that the hemorrhage would certainly stop. This measure might be recommended when the patient has to be taken to a hospital before operative treatment is possible. He thinks this procedure would amply suffice to arrest hemorrhage from venous congestion in this region, such as accompanies cirrhosis of the liver. These hemorrhages left to themselves are unusually dangerous; they are easily recognized by the copious vomiting of the venous blood with the liver large and hard. He seeks to promote coagulation of the blood by giving the patients pulverized chalk stirred into milk, supplemented by an intravenous injection of 5 c.c. of a 5 per cent. salt solution. He refrains from subcutaneous injection of physiologic salt solution so long as the hemorrhage persists, and combats the thirst with narcotics. Later water can be given by the rectum in small amounts, care being exercised not to increase the blood-pressure thereby. He makes a rule of giving small nutrient enemas of raw milk with nothing by the mouth for two or three days. Epinephrin by the mouth does little good

as its action is purely local and the spurting blood washes it away from the spot. Still another measure that might be applied to gastric or intestinal hemorrhage is inflation of the lower bowel by a tube introduced far up in the rectum; with a double bulb it is possible to inflate the transverse colon and thus exert pressure on the stomach and duodenum. Compression from this procedure is particularly effectual during pregnancy, the colon then lying in front of the stomach. The dilated colon prevents further entrance of blood into the stomach and its escape into the duodenum. In the three cases in which he has applied this technic the hemorrhage was arrested at once; in all the cases the stomach was above the umbilicus. In three other cases he injected oxygen into the abdomen through a trocar and the hemorrhage was arrested, as also the recurring hemorrhages in a cancer case. The necropsy findings in several cases confirm the benefit induced by compression by this means.

100. **Serotherapy of Pregnancy Disturbances.**—Mayer and Linser report the case of a woman with recurring pregnancy herpes; the entire body was covered with the eruption, and the bed linen was covered with pus. The pain was severe and the urine showed tube-casts and albumin. After failure of all other measures, at the end of two weeks, 10 c.c. of serum from another woman were injected to test the tolerance for normal human serum; three days later, 10 c.c. from a healthy pregnant woman at the eighth month, and three days later 20 c.c. from another healthy pregnant woman. The injections were made into a vein; the temperature began to subside after the second injection and became normal after the third. The influence on the eruption was equally striking; the pustules drying up and no new ones forming. The pregnancy at the fifth month was not disturbed. Five weeks later the same eruption recurred, but less pronounced and it subsided at once after injection of 20 c.c. of serum from a pregnant woman. The child was born normally at term. The tracing given shows the change for the better after the first injection of the serum from another pregnant woman. The results in this case, he declares, justify further experiences in this line of serotherapy of the dermatoses of pregnancy and possibly of all the toxicoses of pregnancy, eclampsia, pernicious vomiting, albuminuria, etc. This harmless and simple method may cure or at least improve, and he urges others with more extensive material to give it a thorough trial.

101. **Reduction of Internal Temperature After External Application of Cold.**—Riehl inserted a narrow thermometer into the lower end of a stomach tube, only the end projecting. By this means he was able to determine the temperature in the interior of the stomach before and after application of cold outside. He found that the temperature could be thus reduced by 1.8 degrees C. in the stomach and 1.1 degrees C. in the rectum. This reduction of nearly 2 degrees C. in the interior of the body may prove of life-saving value, he declares, in cases of gastric hemorrhage, the cold having a coagulating action on the blood, supplemented by the effect of the expulsion of blood from the region and the reflex action on the vasoconstrictor nerves.

102. **Dysentery Epidemic in a Hospital.**—The epidemic in the case described was traced to the dishes sent out from the central kitchen. The contagious ward had its own equipment for washing the dishes before they were returned to the central kitchen, but this was shown to be inadequate. Contagious wards should have each their own separate kitchen, with no communication of dishes between the contagious ward and the other services.

105. **Nerve Massage.**—Cornelius is in charge of the nerve massage policlinic connected with the Berlin Charité. The patients are given a thorough examination to exclude organic disease; if none is found, careful search is made for tender points anywhere in the body and these are frequently found at the points where the nerves emerge from the bone. Here Cornelius applies massage, and he has been able by this means to cure rebellious cases of migraine, traumatic neuroses, ptyalism, hypersecretion, writer's cramp, chronic sciatica and the diffuse pains of the hysteric and neurasthenic. He explains the benefit as a stimulating to normal functioning of some morbid point in the nervous system which is sending out constant pathologic irritation, the nerves thus never having a chance to rest. The morbid point is found where light pressure is able to elicit a morbidly exaggerated response, that is, more or less pain. Schüle has been studying the method with Cornelius and has seen many patients cured whose nervous ills had resisted all other measures.

106. **Local Destructive Action of Salvarsan.**—Martius reports a case in which death followed five hours after intravenous injection of 0.5 c.c. of salvarsan in a man of 39 with apparently well compensated heart disease. No thrombosis was found in this case but the kidneys showed acute necrosis of the epithelium of the convoluted tubules. He found extensive necrosis at the point of every subcutaneous or intramuscular injection of salvarsan; all the tissues in contact with the drug were totally necrotic. This necrosis involving the nerves in the region explains the neuritic phenomena repeatedly observed after the injection. Owing to the rapid decomposition of the drug, it is a question whether there may not be absorption of injurious arsenic derivatives although such absorption is hindered by the necrosis in the region. The results are liable to be very serious when infection complicates the necrosis. In one such case in his experience, there was thrombosis of the iliac vein and fatal pulmonary embolism. In one of his cases the necrosis in the gluteal muscles shows no tendency to heal although three months have elapsed. In two cases the necrotic mass had to be excised. The extension of the direct local toxic action of the drug to the sciatic nerve and sympathetic plexus explains the bladder and rectum disturbances observed in some clinics.

Therapie der Gegenwart, Berlin

December, LI, No. 12, pp. 529-576

107 Present Status of Radium Emanations in Therapeutics. F. Gudzent.
108 *Operative and Specific Treatment of Kidney and Bladder Tuberculosis. (Nieren- und Blasentuberkulose.) H. Kümmell.

108. **Tuberculosis of the Urinary Apparatus.**—Kümmell reviews his extensive experience with tuberculous kidney and bladder disease, emphasizing the insidious nature of the onset. Many of his patients had been long under treatment for supposed gynecologic or gonorrheal affections. He is convinced that gonorrhea in both sexes affords a predisposition to tuberculosis of the urinary apparatus. A number of his patients had been treated for bladder disturbances alone, the physician not thinking of examining for the causal kidney tuberculosis. The coincidence of gonorrhea and kidney tuberculosis is often misleading. He has performed 125 operations for kidney tuberculosis and states that of the eighty-four patients who survived the first six months, nine died within four years, two within thirteen years, for three the interval is not known, while four have been lost to sight. The sixty-six others are in good health to date, three of the patients having passed through a normal pregnancy since. His own experiences and those he finds recorded in the literature fail, he says, to show any curative action on kidney tuberculosis from tuberculin treatment.

Wiener klinische Wochenschrift, Vienna

December 22, XXIII, No. 51, pp. 1831-1870

109 *Functional Tests of the Autonomic Nervous System in Mental Disease. O. Pötzl, H. Eppinger and L. Hess.
110 *Diagnosis of Disease of Blood-Producing Organs by Exploratory Puncture of the Bone Marrow. G. Ghedini.
111 Serodiagnosis of Syphilis. (Auswertung luetischer Sera auf die Intensität ihrer komplementbindenden Eigenschaft gegen alkoholischen Herzextrakt.) E. Epstein.
112 Röntgen-Ray Findings with Obesity Heart. (Typischer Röntgenbefund am Herzen Fettleibiger und dessen anatomische Grundlage.) G. Schwarz.

December 29, No. 52, pp. 1871-1894

113 Cretinism Among the Jews. (Kretinismus unter den Juden.) A. Flinker.
114 *Prophylaxis of Scarlet Fever. (Scharlach und dessen Weiterverbreitung.) H. Kokall.
115 Suppuration After Contusion of the Kidney. (Beitrag zu den Eiterungen nach subkutanen Nierenverletzungen.) J. R. v. Winiwarter.
116 Diagnosis of Duodenal Ulcer. M. Gross (New York).
117 Disturbances in Hearing After Salvarsan. (Zur Frage der Erkrankung des Gehörapparates nach Behandlung mit Arsenobenzol.) O. Beck.

109. **Functional Tests of the Sympathetic Nervous System in Mental Disease.**—The research described was undertaken to decide whether the action of elective drugs became altered in

the course of certain psychoses. Over a hundred patients were thus examined, the results of the tests showing that the autonomic nervous system shares in the depression in melancholia and also in the abnormal excitability in mania.

110. **Exploratory Puncture of the Bone Marrow.**—Ghedini's further experience has confirmed his previous statements in regard to the diagnostic importance of exploratory puncture of the bone-marrow during life. He describes ten cases in detail. His findings show that severe disease of the blood-producing organs may exist without corresponding changes in the blood, either at the time or following them. In many cases disease of the bone marrow evidently runs its course unsuspected. In one case the general health has remained good and the blood-picture is approximately normal, although the bone marrow shows pronounced myeladenoid transformation and the liver and spleen are evidently infiltrated with myeladenoid elements. Notwithstanding these changes in the marrow, its function of producing red corpuscles seems to be scarcely impaired. Systematic application of exploratory puncture of the bone marrow on an extensive scale will certainly throw light on a number of affections, including malignant growths. The exploratory puncture, he says, is very easily done and is harmless.

114. **Spread of Scarlet Fever.**—Kokall states that in the last twenty-eight years 4,251 cases of scarlet fever have been reported at Brünn. His study of the mode of dissemination of the disease gives discouraging results, as the sterilization of the premises and measures to prevent infection of others failed in so many cases. It is evident, he thinks, that the virus is transmitted not only in the period of incubation but long after recovery far beyond the routine six weeks. The aim should be, he thinks, to remove the virus from the mouth by mechanical means. In a series of twenty families, fifty-eight cases of scarlet fever developed. In some instances the second case followed after an interval of fifty-seven days, when the child first affected returned from the hospital, notwithstanding all precautions.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVII, No. 2, pp. 267-601. Last indexed Nov. 12, 1910, p. 1771

118 Cicatrization of Perineal Tears. (Lässt sich Küstners Lehre von der Entstehung asymmetrischer Dammrissnarben auch durch histologische Untersuchungen stützen?) R. Stern.
119 Improved Technic for Abdominal Fixation of Uterus in Serious Displacement or Total Prolapse. (Abdominale Exohysteropexie bei schweren Lagefehlern und totalem Prolaps des Uterus.) S. Solieri.
120 Abnormally Prolonged Pregnancy. (Klinische und forensische Studie über verlängerte Schwangerschaft.) M. Ciulla.
121 Combined Version and Elastic Bag in Treatment of Placenta Prævia. (Erfolge der Behandlung der Placenta prævia bei der kombinierten Wendung und bei der Metreuryse.) Weischer.
122 Cholesteatoma in Ovary. W. Piltz.
123 Plastic Utilization of Uterus with Rectocele. A. Kraatz.
124 Leiomyoma of Uterine Cervix; Four Cases. (Leiomyome der Muttermundslippe.) K. Kolb.
125 Pathology of the Uterus. O. Polano.
126 *Tardy Hemorrhage in the Puerperium. (Spätblutungen im Wochenbett.) H. Küster.
127 Cancer of the Cervix Complicating Pregnancy and Delivery. (Komplikation der Schwangerschaft und Geburt mit Collumkrebs.) W. Beckmann.
128 Improved Technic for Laparotomy. (Zur Methodik der Köliotomie.) Harte and M. Hofmeier.

126. **Tardy Hemorrhages in the Puerperium.**—Küster announces on the basis of two cases from his experience that hemorrhage can occur from thrombi in the uterus a week after it has been completely emptied. Macroscopically, the thrombi cannot be distinguished from placenta and membrane scraps, but the microscope will reveal their true nature and microscopic examination should never be omitted in forensic cases. In prevention of hemorrhage after the first week of the puerperium, patients who have had any disturbances in the days immediately following delivery should be watched with special care. In his first case the hemorrhage came on the fourteenth day. The woman had had severe hemorrhage from atony at the birth of her last child. The clot found in the uterus resembled a bunch of tissue measuring 4 by nearly 3 cm. but proved to be nothing but a thrombus. The woman recovered under the usual measures. The puerperium had been otherwise normal, as also in the other case except for placenta marginata and considerable hemorrhage during Credé expression which had been required in both cases.

Zeitschrift für klinische Medizin, Berlin

LXXI, Nos. 3-6, pp. 165-478. Last indexed Oct. 1, 1910, p. 1239

129 Experimental Coma Induced by Sodium Oxybutyrate. (Wirkung des buttersauren Natriums auf den Organismus junger hungernder Hunde.) A. Marx.
130 Pathology of Paroxysmal Hemoglobinuria. L. Fejes and J. Kentzler.
131 Reliability of Threshold Percussion of Stomach. (Perkussion des Magens.) N. Roth.
132 Tuberculin Anaphylaxis. (Zur Frage der Tuberkulin-Anaphylaxie.) G. Kiralyfi.
133 Coagulation-Promoting Action of Rabbit Serum and Organ Extracts in Acquired Hemophilia. M. Vogel.
134 *Elimination of Drugs by Diseased Lungs. F. Falk.
135 The Urine in Pregnancy. (Ueber Ammoniak-, Aminosäuren- und Peptid-Stickstoff im Harn Gravider.) F. Falk and O. Hesky.
136 Recovery from Primary Pernicious Anemia. (Von dem weiteren Schicksal einer vor 13 Jahren geheilten perniziösen Anämie.) G. v. Dieballa.
137 Subsidence of Pernicious Anemia After Onset of Tuberculosis. G. v. Dieballa.
138 Bacteriologic Findings in Epidemic Cerebrospinal Meningitis. J. Lehmacher.
139 Influence of Radium Emanations on Purin Metabolism. (Einfluss der Radiumemanation auf den Purinstoffwechsel.) F. Gudzent and Loewenthal.
140 Influence of Radium Emanations on Gouty Tophi. (Einfluss der Radiumemanation auf Mononatriumurat im tierischen Organismus.) L. Fofanow.
141 Varying Content of Atmosphere in Radium Emanations in Relation to Biologic Processes. (Beitrag zur Erklärung klimatischer Einflüsse auf biologische Vorgänge.) P. L. E. Grabley.
142 Influence of Thyroid on Coagulation of Blood. (Zur physiologie und Pathologie der Schilddrüse.) K. Kottmann and A. Lidsky.
143 The Fibrin Content of the Blood in Connection with Thyroid Functioning. K. Kottmann.
144 The Thyroid and Autolysis. K. Kottmann.
145 *Measurement of Horse Power of Pulse: Energometry. (Neue Wege der Pulsdiagnostik.) T. Christen.
146 Diagnosis and Treatment of Pericarditis with Effusion, and Adhesive Pericarditis. K. F. Wenckebach.
147 Frictional Resistance of Blood. (Reibungswiderstand des Blutes und Poiseuillesches Gesetz.) W. Hess.
148 Case of Leukanemia. E. Magnus-Alsleben.
149 Experimental Metaplasia of the Spleen. (Zur Frage der experimentellen myeloischen Milz-Metaplasie.) R. Hertz.
150 Local Disturbances in the Circulation with Exercise of a Limb. (Lokale Kreislaufsveränderungen bei aktiven Bewegungen einer Extremität.) S. Saski.
151 Schönlein's Pioneer Work in Diagnosis. (Joh. Lucas Schönleins Verdienste um die diagnostische Technik.) E. Ebstein.

134. **Elimination of Various Substances by Diseased Lungs.**—Falk experimented with various drugs, his results confirming the assertion that salicylic acid does pass into the diseased lung and is thus eliminated by the respiratory passages; antipyrin also passes into the sputum in the same way but in far smaller proportions. Other drugs tested were not refound in the sputum at all, not even guaiacol. Thus there is no ground, he declares, for assuming any special local action on the diseased lung from administration of guaiacol, the terpene preparations, etc. At the same time he reports research which has demonstrated that intake of salt, increasing the salt content of the blood, is followed by an increase in the proportion of salt in the sputum and by an increase in the amount of the sputum. On a salt-poor diet the salt content of the sputum is reduced and the total amount drops to a third of the former quantity.

145. **The Energy of the Pulse in Horse-Power.**—Christen has applied to the study of the pulse the mechanical principle of measurement of energy by horse-power. As the heart action is such a small fraction of the accepted horse-power unit, he uses as the unit the force required to raise 1 gm. to a height of 1 cm. in 1 second. He applies the cuff to the largest part of the calf. The cuff is inflated by a hermetically connected and closed graduated syringe, and the manometer used is of the most sensitive type, working with the least possible friction and inertia. He calls the combined apparatus the energometer, and adds that the findings are not only the record of the mechanical energy of the pulse wave but that a new kind of curve results which throws light on certain elements of the pulse, especially what he calls the stasis curve (*Stauungskurve*), which is a mathematically exactly defined curve as he explains in detail. The resulting tracings record six properties of the pulse, five of which, he states, are entirely new and open new horizons for clinical research.

Zentralblatt für Chirurgie, Leipsic

December 24, XXXVII, No. 52, pp. 1633-1656

152 Lever Apparatus for Reduction of Fractures. (Hebelapparat zur Beseitigung der Dislocatio ad latus bei Knochenbrüchen.) M. Kirschner.
153 Rib for Plastic Operation on the Chin. (Kinnbildung bei Mikrognathie.) P. Esau.

Zentralblatt für Gynäkologie, Leipsic

December 24, XXXIV, No. 52, pp. 1673-1704

154 Necessity for Anaerobic Cultures in Obstetrics and Gynecology. (Notwendigkeit des anaeroben Kulturverfahrens in Geburtshilfe und Gynäkologie.) A. Hamm.
155 *Vaginal Cesarean Section in Eclampsia. O. Goldberg.

155. **Vaginal Cesarean Section in Eclampsia.**—Goldberg reports three cases of eclampsia in which the convulsions were promptly arrested by vaginal Cesarean section. One patient had had eclampsia at a preceding childbirth, the convulsions ceasing then also immediately after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 13, XXXI, No. 149, pp. 1577-1584

156 Urethroscopy in Diagnosis and Direct Treatment of Chronic Urethritis. Commenced in No. 153. F. Cuturi.

December 20, No. 152, pp. 1609-1616

157 Glycosuria and Diabetes. G. A. Pari.

December 22, No. 153, pp. 1617-1624

158 Roentgen-Ray Treatment in Internal Medicine. G. Lucibelli.

Policlinico, Rome

December, XVII, Medical Section No. 12, pp. 525-568

159 Origin of Tube-Casts. I. G. Roseo.
160 Mechanism of Epinephrin Vasoconstriction. G. Cardone.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXXII, No. 1, pp. 1-176 and Supplement

161 Salvarsan in Syphilis. C. Boeck.
162 Syphilis in Animals. (Dyresyfilis.) R. Krefting.
163 *Oxyuris as Cause of Ileus. J. Roll.
164 *The Use of Sulphuric Acid in Industrial Preparations of Food. (Om anvendelsen av svovelsyrling i nærings- og nydelsesmiddelindustrien.) S. Schmidt-Nielsen.
165 *Normal and Pathologic Anatomy of the Auriculoventricular Bundle. (Den atrio-ventriculære muskelforbindelse i menneskehjertet.) G. H. Monrad-Krohn.

163. **Oxyuris as Cause of Fatal Ileus.**—In Roll's case the patient was a young woman who did not seem to benefit by the laparotomy for the assumed perforation peritonitis. No perforation was found and the symptoms of ileus persisted. Necropsy revealed a hemorrhagic tumor, the size of an almond, in the small intestine, evidently the reaction of the tissues to the presence of a parasite, the resulting changes obstructing the lumen.

164. **Sulphuric Acid in Articles of Food.**—Schmidt-Nielsen has been investigating to find how much sulphuric acid is left in various articles of food when the acid has been used in its manufacture. In various brands of syrup he found from traces up to 84.6 mg. in 100 gm. of the syrup. This highest figure was the average from five specimens of "American glucose." He also found from traces up to 182 mg. in eleven varieties of dried fruits and up to 299.8 mg. in various other substances, gelatin, etc., the largest proportion being found in pressed hops.

165. **The Auriculoventricular Bundle of the Human Heart.**—Monrad-Krohn reports the results of study of the normal and pathologic anatomy of the bundle of His, etc., his material embracing forty-one hearts, including four with a preceding history of the Adams-Stokes syndrome, and one with a possible history of the kind. In the latter case there was fatty and vacuolar degeneration of the main bundle and a large infarct in the interventricular septum. In three of the four cases with a history of pronounced Adams-Stokes syndrome he found deposits of lime, the lime foci compressing and crowding out the muscular fibers. In the fourth case no lesion in the bundle could be discovered. The article is profusely illustrated and the author describes an improved technic for examining this region.

Ugeskrift for Læger, Copenhagen

December 22, LXXII, No. 51, pp. 1607-1640

166 Two Cases of Leukemia in One Household. V. Bie.

December 30, No. 52, pp. 1641-1660

167 *The Parathyroids Not Responsible for Tetany in Children. G. Jørgensen.

167. **The Parathyroids Not Responsible for Tetany in Children.**—Jørgensen criticizes recent communications on the connection between the parathyroids and the development of tetany. He shows that Yanase's material does not sustain his assumption in regard to the causal rôle of the parathyroids as lesions in these glands were discovered in only nine of the fifty children he examined. The other changes in the glands described were too trivial to be considered as having causal significance. In a case of tetany in Jørgensen's experience with fatal laryngospasm, the four parathyroid glands were found entirely normal even in 1,000 sections under the microscope, and he cites other authors who have found the glands normal in fatal cases of tetany.

Upsala Läkareförenings Förhandlingar

XVI, No. 3, pp. 137-230. Last indexed Jan. 21, p. 232

168 *Combination of Bronchial Asthma and Pulmonary Tuberculosis. I. Hedenius.
169 Housing Conditions in Upsala. (1907 års bostadsundersökning i Upsala.) K. A. Edin.

168. **Combination of Bronchial Asthma and Pulmonary Tuberculosis.**—Hedenius has five patients presenting this combination and discusses the means of distinguishing it from the dyspnea of pulmonary tuberculosis on the one hand and, on the other hand, from symptoms suggesting pulmonary tuberculosis with merely existing asthma. The coincidence seems to be casual except that possibly tuberculous glands may have something to do with bringing on the asthma. Neither affection seems to influence the course of the other except that the asthma may subside and disappear as the tuberculous process becomes installed in the lungs. In one of his cases the asthma of twenty years' standing subsided entirely after the onset of the tuberculosis.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

TEXT-BOOK OF NERVOUS DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

PREPARATION OF THE COD AND OTHER SALT FISH FOR THE MARKET. Including a Bacteriological Study of the Causes of Reddening. By A. W. Bitting, Inspector, Bureau of Chemistry. Bull. 133, Bureau of Chemistry, U. S. Dept. of Agric. Paper. Pp. 63, with illustrations. Washington: Government Printing Office, 1911.

NOTES ON DENTAL METALLURGY. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School. Cloth. Price, $2 net. Pp. 213. New York: William Wood & Co., 1911.

HAY FEVER AND PAROXYSMAL SNEEZING (VASOMOTOR RHINITIS). By Eugene S. Yonge, M.D., Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Cloth. Price, $2 net. Pp. 150, with illustrations. New York: William Wood & Co., 1910.

HUMAN EMBRYOLOGY AND MORPHOLOGY. By Arthur Keith, M.D., F.R.C.S., Lecturer on Anatomy, London Hospital Medical College. Second Edition. Cloth. Price, $3.50 net. Pp. 402, with 316 illustrations. New York: Longmans, Green & Co., 1910.

PROCEEDINGS OF THE FOURTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE-INSURANCE PRESIDENTS. (Robert Lynn Cox, General Counsel and Manager, New York.) Held in the Hotel La Salle, Chicago, Dec. 9 and 10, 1910. Paper. Pp. 215.

THE AMERICAN YEAR-BOOK. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

MANUAL OF DISEASES OF WOMEN. By W. E. Fothergill, M.D., Assistant Gynecological Surgeon, Royal Infirmary, and the St. Mary's Hospital. Cloth. Price, $3 net. Pp. 433, with 144 illustrations. New York: William Wood & Co., 1910.

HOW TO PREPARE A PAPER FOR PUBLICATION. Read at the Marine Biological Laboratory, Wood's Hole, Mass., July 5, 1910. By C. Bowyer Vaux. Paper. Sent Gratis. Pp. 20. Baltimore: Williams & Wilkins Co., 2427 York Road, 1910.

FORTSCHRITTE DER NATURWISSENSCHAFTLICHEN FORSCHUNG. Herausgegeben von Dr. E. Abderhalden, Berlin. Zweiter Band. Paper. Price, 12 marks. Pp. 364, with 72 illustrations. Vienna: Urban & Schwarzenberg, 1911.

DIE THERAPIE DER SYPHILIS. Ihre Entwicklung und ihr gegenwärtiger Stand. Von Dr. Paul Mulzer in Berlin. Mit einem Vorwort von Dr. P. Uhlenhuth. Paper. Price, 2.80 marks. Pp. 100. Berlin: Julius Springer, 1911.

DEUTSCHES ARZNEIBUCH. Fünfte Ausgabe 1910. Paper. Price 3.90 marks. Pp. 680. Berlin: R. v. Deckers Verlag, G. Schenck, Königlicher Hofbuchhändler, 1910.

REPORT OF THE PRESIDENT OF THE BOARD OF HEALTH OF THE TERRITORY OF HAWAII. For the Twelve Months Ended June 30, 1910. Paper. Pp. 172. K. B. Porter, Secretary.

PUBLICATIONS OF THE LIBRARY OF CONGRESS ISSUED SINCE 1897. January, 1911. Paper. Pp. 45. Washington: Government Printing Office.

THE PROCEEDINGS OF THE CHARAKA CLUB. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.

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SURGICAL DISEASES OF THE UMBILICUS *

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In the summer of 1904 I removed from a man 42 years of age an umbilical growth which on histologic examination was found to be an adenocarcinoma. Being at a loss to account for a glandular growth at the umbilicus, and at the time being unfamiliar with the fact that cancers of some of the abdominal organs sometimes give rise to metastases at the umbilicus, I started to review the literature of diseases of the umbilicus. It was my intention to present to the Section a digest of these studies, but, notwithstanding the fact that few surgeons have observed more than one or two pathologic conditions of the umbilicus, I found that the sum total gives such an abundant and varied material that to do the subject justice and to consider it carefully from all standpoints would require several hours.

Undoubtedly one of the best articles on the umbilicus is that by Reginald Fitz,[1] published in 1884. Other valuable contributions have also been published by Freer[2] and by Morris.[3]

The French have dealt with the subject in a most exhaustive manner, and especially good articles have been published by Villar,[4] Lannelongue and Frémont,[5] and by Quénu and Longuet.[6] In the German literature the articles of Kolaczek,[7] Küster,[8] Hertz,[9] Ledderhose,[10] Tillmans,[11] Pernice,[12] Siegenbeek van Heukelom[13] and Schroeder[14] stand out prominently.

On this occasion, then, I shall limit myself to the consideration of pathologic pictures due to partial or total lack of closure of the omphalomesenteric duct and to primary and secondary cancer of the umbilicus.

NON-MALIGNANT ABNORMALITIES OF THE UMBILICUS

Adenoma of the Umbilicus.—Occasionally when the cord comes away a small red, pedunculated nodule is found springing from the umbilical depression. This nodule may be the size of a pea, a small cherry or a red raspberry. It is bright red in color, has a velvety surface, secretes a small amount of mucus and is attached to the umbilical depression by a delicate pedicle. On pressure this small nodule is firm and velvety. On histologic examination the outer surface is found to be covered with mucosa identical with that lining the small intestine. There is an outer covering of cylindrical epithelium, and then come the typical Lieberkühn glands with the intervening stroma. Beneath the mucosa is a certain amount of fibrous tissue and the center is composed of non-striped muscle fibers.

Funnel-shaped Umbilicus.—Sometimes after the cord comes away the nurse notices that the umbilicus is somewhat moist and on investigation the umbilical depression is found to be deeper than usual. The outer portion is covered with normal skin, the deeper portion of the funnel has a reddish, velvety lining and partially filling the cavity is a transparent, slightly tenacious mucus. Sections from the red lining show that it consists of a mucosa identical with that of the intestine and that it has an outer coat of non-striped muscle fibers.

Cystic Cavities in the Abdominal Wall at the Umbilicus.—In a few cases there was noted a slight watery discharge from the umbilicus and on examination a small fistulous opening was detected leading directly inward for from one to several centimeters. These cavities were partially filled with mucus, and were lined with a velvety membrane which proved to be intestinal mucosa. These cystic spaces may lie external to or beneath the aponeurosis and in at least one instance the cystic cavity had no connection with the outside.

Meckel's Diverticulum.—As is well known, Meckel's diverticulum, when present, usually projects from the convex surface of the ileum a few inches from the ileocecal valve and represents a portion of the omphalomesenteric duct which has never closed. It may or may not have a mesentery. Its tip may be free or attached to the umbilicus by delicate threads—remnants of the omphalomesenteric arteries and veins or of the outer portion of the omphalomesenteric duct which has not totally disappeared. Meckel's diverticulum may extend up to and be firmly attached to the peritoneum at the umbilicus.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

1. Fitz, Reginald: Persistent Omphalomesenteric Remains: Their Importance in the Causation of Intestinal Duplication, Cyst-formation and Obstruction, Am. Jour. Med. Sc., 1884, lxxxviii, 30.
2. Freer, James A.: Abnormalities of the Urachus, Ann. Surg., 1887, v, 107.
3. Morris: Malignant Diseases of the Navel as a Secondary Complication. Ann. Surg., 1892, xv, 326.
4. Villar: Tumeurs de l'ombilic, Thèse de Paris, 1886.
5. Lannelongue and Frémont: De quelques variéteés de tumeurs congénitales de l'ombilic et plus spécialement des tumeurs adénoides diverticulaires, Arch. gén. de méd., 1884, Siegenbeek 7, xiii, p. 36.
6. Quénu and Longuet: Du cancer secondaire de l'ombilic, Rev. de chir., 1896, xvi, 97.
7. Kolaczek: Zwei Entero-Teratome des Nabels, Arch. f. klin. Chir. (Langenbeck's), 1875, xviii, 349.
8. Küster: Die Neubildungen am Nabel erwachsene und ihre operative Behandlung, Arch. f. klin. Chir., (Langenbeck's), 1874, xvi, 234.
9. Hertz: Ueber einen Fall von Adenocarcinom des Nabels bei einer 58-jährigen Frau, Inaug. Diss., Würzburg, 1905.
10. Ledderhose: Chirurgische Erkrankungen des Nabels, Deutsche Chirurgie, 1890, Instalment 45 b.
11. Tillmanns: Ueber angeborenen Prolaps von Magenschleimhaut durch den Nabelring (Ectopia ventriculi) und über sonstige Geschwülste und Fisteln des Nabels, Deutsch. Ztschr. f. Chir., 1882-1883, xviii, 161.
12. Pernice: Die Nabelgeschwülste, Halle, 1892.
13. Siegenbeek van Heukelom: Die Genese der Ectopia ventriculi am Nabel, Virchows Arch. f. path. Anat., 1888, cxi, 475.
14. Schroeder: Ueber die Divertikel-Bildungen am Darm-Kanale, Inaug. Diss., Augsburg, 1854.

Intestinal Cysts.—Intestinal cysts occasionally occur. Meckel's diverticulum may be nipped off and form a closed sac lined with intestinal mucosa having muscular walls and an outer peritoneal surface. Several such cases are on record. These cysts usually contain nothing but mucus, indicating that they have been cut off at an early period, at a time when no meconium is present in the intestine.

Patent Omphalomesenteric Duct.—A large number of cases belonging to this class have been reported. In some the cord is of unusual size at the umbilicus and shortly after it has dropped off a red mass is found. This is sometimes very small; in other cases one centimeter or more in diameter. It usually projects about 1 cm. from the surface, but in some cases is fully 4 cm. long. In the center is a depression into which a sound can be passed for several centimeters. At first only mucus escapes, but later more or less fecal matter. Where the opening is small and a projection is scarcely noticeable only a faint moisture may be noted.

In several cases in which this very small opening large existed numbers of roundworms and occasionally a tapeworm have escaped through the fistulous tract.

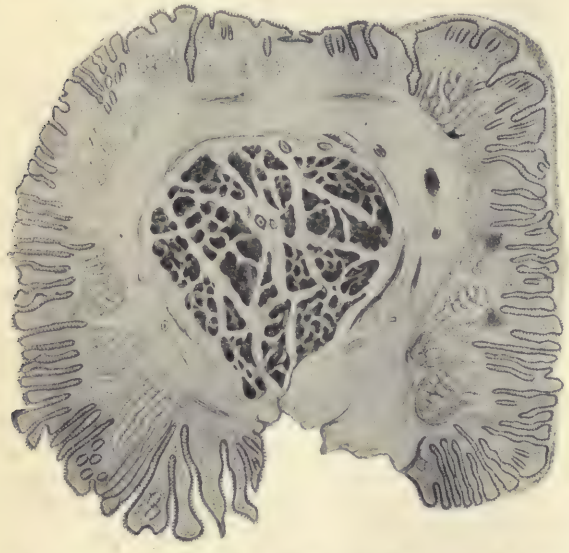


Fig. 1.—Adenoma of the umbilicus. The specimen represents a transverse section through a so-called adenoma of the umbilicus. The central stem is made up of non-striped muscle fibers cut transversely. Surrounding this is a zone of fibrous tissue and the outer surface is covered by a mucosa consisting essentially of glands of the small intestine. (Lannelongue and Frémont: Arch. gén. de méd., 1884, cliii, 62.)

Prolapsus and Invagination of the Small Bowel Through the Omphalomesenteric Duct.—If the fistulous opening be large, serious consequences usually follow. When the cord comes away a red nodule at the umbilicus is noted and fluid escapes. Fecal matter is usually passed through the rectum. In the course of a few days, when the child cries or strains, the umbilical picture changes and a little dome-like elevation is seen in the fistulous tract and in a short time a sausage-like mass several inches in length may be seen literally rolling out of the abdomen. This represents the small bowel which is being turned inside out through the fistulous opening. At either end of this sausage-like mass one finds a lumen, the upper and lower ends of the prolapsed part of the bowel. If one were able to put a hand into the abdomen the minute the bowel begins to invert and make gentle traction, the bowel would at once turn in and become straight, with the fistulous tract passing off at right angles and ending at the umbilicus. As one may surmise, fecal matter comes from the upper end of the prolapsed bowel, nothing but mucus from the lower end and sometimes mucus and possibly a little blood from the rectum. The child dies in from one to three days with signs of shock and occasionally of a general peritonitis.

Origin of Adenoma of the Umbilicus.—The term "adenoma" is a misnomer, but as the name has been used so long it has been generally accepted. When we remember the funnel-shaped umbilical depression with the intestinal mucosa in the depth, and also remember that it is the outer portion of the omphalomesenteric duct which has remained open, it is only necessary to realize what may take place when the umbilicus is gradually closing in. This funnel of mucosa may be forced outward and turn inside out. The inner lining of mucosa now becomes the outer surface and the outer muscular walls become the center of the pedicle. This is exactly the condition found when these adenomata are present.

Treatment of Remains of the Omphalomesenteric Duct.—Adenomata may be ligated. If so treated they usually drop off in a few days. They may be ligated

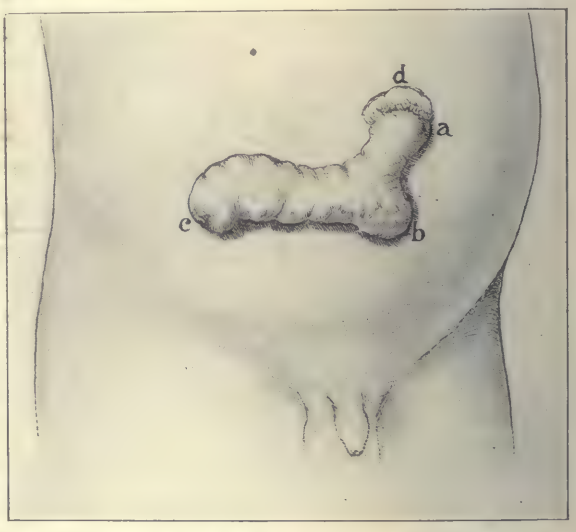


Fig. 2.—Inversion of the patent Meckel's diverticulum and its complication with intestinal prolapsus. A tumor was noticed at the umbilicus as soon as the cord came away. Through this opening fecal matter escaped. There were also normal stools by the rectum. This tumor was 1 cm. long, blood-red in color, velvety, and looked like injected intestinal mucosa. It was 1.5 cm. in diameter and a probe passed in 4 cm. Five days later the small tumor had been transformed into the sausage-like mass noted in the figure. Projecting from the umbilical ring was a cylindrical tumor 2.5 c.m. long and 1.75 cm. thick. This tumor, *a*, was continuous with the sausage-like cylindrical tumor *b*, *c*. The tumor was dark red and covered over by mucosa which bled easily. Funnel-like openings were present at points *b* and *c*. The opening at *b* passed inward through a canal in the tumor *a* and then was continuous into the abdominal cavity. From the opening at *b* fecal matter escaped. At *d* was a blind projection. The child was observed for several days and as a result of crying more loops of intestine came down. An attempt was made to carry these back into the abdomen and the bowel was injured. From this description it is seen that there was a prolapsus of the inverted intestine. The child died sixty hours after operation. (Arthur Barth: Deutsch. Ztschr. f. Chir., 1887, xxvi, 195.)

and at once cut off. It is always important to ligate, as the pedicle usually contains vessels of goodly size. In all such cases the parents should be cautioned to watch the child carefully because in a certain percentage of these children a Meckel's diverticulum exists and is firmly attached to the umbilicus. If at any time signs of intestinal obstruction develop an exploratory section should at once be performed. Several cases have been

reported in which small adenomata existed, attached by a fibrous cord to a Meckel's diverticulum.

Where a funnel-shaped umbilicus is present and the deeper portion is lined with mucosa it seems advisable to make an elliptical incision, removing the entire area and at the same time exploring to see if Meckel's diverticulum is attached to the umbilicus. If so, it should be removed.

In those cases in which a very small fecal fistula is present it may be advisable to wait a few months to see if it will not close. If it is still open at the expiration of six months it should be dissected out down to the ileum and removed. Even should it close the child should be carefully watched for signs of obstruction.

Where the fistulous opening is large it should be removed at once. With the child in good condition the danger is not very great. When prolapsus of the bowel with inversion has occurred, however, as a rule signs of shock have already supervened and the chances of success even with operation are very remote.

MALIGNANT GROWTHS OF THE UMBILICUS

These may be divided into four varieties:

1. Primary squamous-cell carcinoma.
2. Primary adenocarcinoma.
3. Sarcoma.
4. Secondary carcinoma.

Primary Squamous-Cell Carcinoma.—Cases have been reported. They are very rare and even in the majority of the supposedly authentic cases there is doubt as to the accuracy of the diagnosis. The gross appearance is identical with that of a skin cancer elsewhere. The process seems to be a slow one and on histologic examination the typical appearance of squamous-cell growth is clear.

Primary Adenocarcinoma of the Umbilicus.—This appears to be more frequent than that of the squamous-cell type. Here also much confusion exists from the fact that the umbilical growth may be nothing more than a secondary manifestation of a primary growth in one of the abdominal organs. As has been pointed out in the preceding paragraphs glandular remnants of the omphalomesenteric duct are often present at or near the umbilicus and one would naturally expect that these should occasionally undergo malignant changes.

Bonvoisin[15] observed a case in Tillaux's clinic that seemed without doubt to be a primary umbilical carcinoma. A man, 64 years old, had been ill for two months. At the umbilicus was a brawny excrescence. When the nodule was first noticed it was no larger than a pea. In fifteen days it had ulcerated and the surrounding skin was eczematous. On his admission to the hospital the umbilical zone was replaced by a shallow ulcer with a blackish crust and surrounding this was an inflammatory zone. The entire mass was as large as a five-franc piece and immobile. The nodule was removed but the man died. At autopsy no peritonitis was found and careful examination failed to reveal any primary carcinoma in the abdomen. Ducellier, who examined the specimen, came to the conclusion that the growth was a primary adenocarcinoma of the umbilicus originating from remains of the omphalomesenteric duct.

Sarcoma of the Umbilicus.—Pernice, in his splendid monograph, says that he was able to collect accounts of only six cases. On reading over the reports of these cases, however, one cannot help gathering the impression that most of the growths were in reality fibromata. The evidence of their sarcomatous nature is hardly sufficient to be convincing.

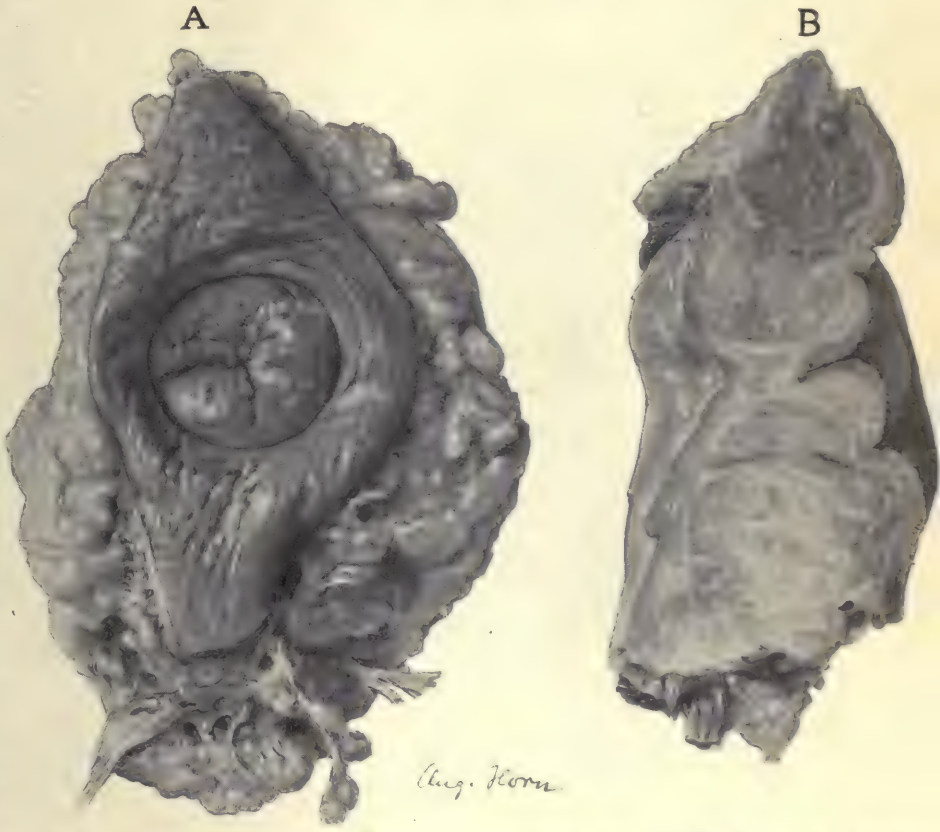


Fig. 3.—Secondary carcinoma of the umbilicus. Natural size. (Path. No. 15029. Specimen sent by Dr. Haggard of Nashville, Tenn., April, 1910.) The umbilical fold is much widened and the umbilicus is shallower than usual. It presents a somewhat uneven and nodular appearance, but is everywhere intact. To the right is a longitudinal section through the umbilicus. There is a deep cleft along the skin surface and the umbilical fold is deeper than usual. The fat in the depth has been replaced to a large extent by fibrous tissue, which is everywhere infiltrated by carcinoma. The peritoneal surface, which is to the left, is perfectly smooth; there is not the slightest evidence of any adhesions.

Leydhecker[16] reported the case of a girl of 14, poorly nourished, who had a nodule at the umbilicus. This grew slowly until nine months before operation, when it suddenly became painful and rapidly became larger. At operation the tumor was found to be oval and the size of an orange. It was smooth and slightly pendulous. The skin over the tumor was very thin and bluish-red. Over the lower part of the tumor were ulcerated areas covered with blood and pus. The tumor lay on the superficial fascia. On section it was yellow,

15. Bonvoisin: D'épithélioma de l'ombilic. Thèse, Paris, 1891.

16. Leydhecker: Zur Diagnose der sarcomatösen Geschwulste, Giessen, 1856.

homogeneous and resembled pork. Histologically it proved to be a spindle-celled growth. It was probably a sarcoma. The subsequent history was not recorded.

Secondary Carcinoma of the Umbilicus.—From a clinical standpoint this is by far the most interesting and important pathologic change that may be encountered at the umbilicus. Without a doubt many members of this Section have had one or more patients come to them complaining of an uncomfortable sensation at the umbilicus. On examination some thickening was detected or possibly a small nodule. There was, however, no evidence of any inflammation and the patient was probably in good health.

Such patients frequently give a history of having had a blow on the abdomen or a sudden abdominal strain a few months before this thickening was noted. If a careful history be elicited, we shall learn that for several months they have had some indigestion or a little vomiting, although in some cases these symptoms may be

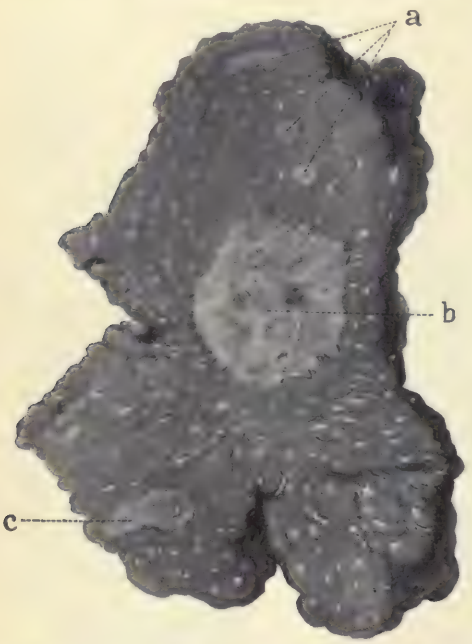


Fig. 4.—The section shows carcinoma of the right inguinal glands. Scattered throughout the adipose tissue are several solid areas. Those indicated by *a* are small lymph-glands. The lymph-gland at *b* is greatly enlarged, and everywhere infiltrated by carcinoma which is invading the surrounding tissue; *c* is also an area of carcinoma.

entirely wanting. In other cases the umbilical discomfort was the first thing that in any way inconvenienced the patient. Shortly after the nodule is detected signs of indigestion usually manifest themselves, and the patient loses weight and dies. The diagnosis may still be in doubt, but an autopsy will usually reveal a carcinoma of the stomach, which in many of the cases has been latent, and which occasionally has given rise to no local manifestations whatever.

In these cases the carcinoma has extended to the under surface of the liver either by the lymphatics or by continuity. It has then traveled along the suspensory ligament to the umbilicus. The umbilical growth, accordingly, lies extraperitoneally between the peritoneum and the fascia. From this point it gradually spreads through the surrounding fat as a rather diffuse growth. This growth on section reminds one more of dense fibrous tissue than of a carcinoma (Figs. 3, 5 and 6.) In the early stages there are no definite discrete foci that could be recognized as carcinomatous. Their absence is due to the fact that the glands are so thoroughly scattered throughout the fibrous tissue. Rarely in the early stages is the peritoneum implicated. In each of the three illustrations the peritoneum was perfectly smooth.

After the umbilical nodule has been in existence for several months the lymph-glands may be implicated. The superficial lymphatics from the upper part of the umbilicus pass to the axillary glands; those from the lower portion to the inguinal glands. The deep lymphatics pass either to the retrosternal or iliac glands.

Cancer of the stomach may occasionally become adherent to the anterior abdominal wall and involve the umbilicus by continuity. While a gastric cancer is the most frequent cause of secondary growth at the umbilicus, cancer of the small or large intestine or of the uterus or ovaries may be followed by a secondary umbilical growth. In these cases the extension to the umbilicus may be by way of the lymphatics, by continuity or through secondary involvement of the omentum. In several cases the omentum has been caught in an umbilical hernia and the incarcerated nodule has involved the umbilical peritoneum. In one case at least the umbilical cancer was secondary to a malignant growth of the gall-bladder.

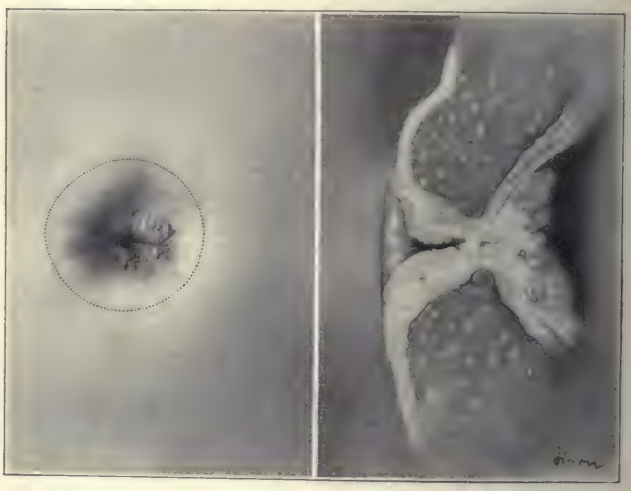


Fig. 5.—Adenocarcinoma of the umbilicus. The umbilicus looks very much like an inverted carcinomatous nipple. The margins present a fine nodular appearance. The dotted line indicates the limits of the induration. On the right is a longitudinal incision through the umbilicus. There is much thickening due to carcinomatous infiltration. The peritoneum beneath the umbilicus was free from adhesions.

Tisserand[17] saw a woman, 54 years of age, who had been suffering from pain in the umbilical region for five months. The umbilicus was very red, slightly painful and indurated. An exploratory operation was performed and the patient died suddenly on the tenth day. Cancer of the gall-bladder was found. This viscus also contained gall-stones. The glands along the suspensory ligament to the umbilicus looked like beads. No trace of cancer was detected in any other organ.

In my last case the umbilical cancer was secondary to cancer of the gall-bladder.

In the cases in which the patient remains alive for a long period, or in which the abdominal growth is a rapid one, the gastric cancer may break through and an abscess develops usually between the liver, stomach, transverse colon and lateral abdominal wall. This abscess may find

17. Tisserand: A propos de deux cas de cancer secondaire de l'ombilic, La Loire méd., 1906, xxv, 131.

its way to the umbilical opening and form a permanent fistula. In those cases in which the stomach has become adherent to and involves the umbilicus by continuity the growth may be very rapid. There is first the thickening at the umbilicus and the overlying skin becomes fixed. Next there may be some reddening, fever, fluctuation and the physician or surgeon, thinking he is dealing with an abscess, opens it. A small amount of bloody serous fluid escapes; later particles of food may be detected. The growth occasionally wells up out of the fistulous tract, forming a cauliflower-like mass and the surrounding skin becomes markedly excoriated. Such a termination, however, is not common.

In the specimen sent me by Dr. Haggard, of Nashville, the umbilicus, apart from being much larger than usual and being markedly indurated, shows little change. The umbilicus in my first case was moist, and had little granular projections springing from it. In my second case

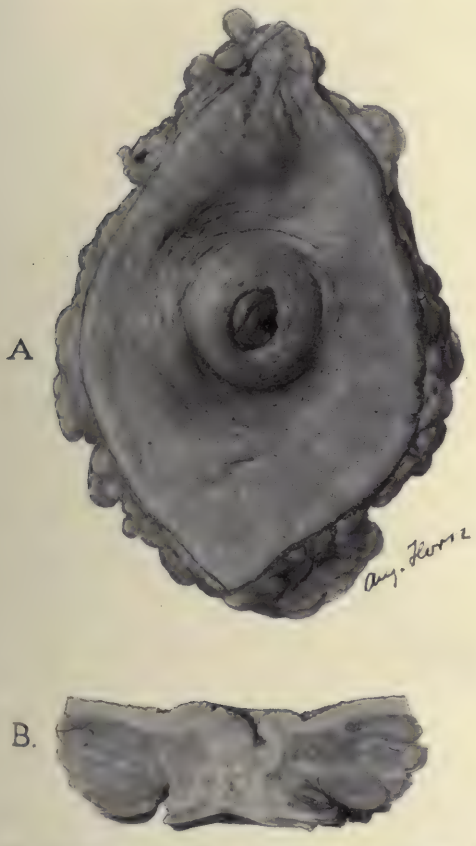


Fig. 6.—Appearance of the carcinomatous umbilicus after removal. Natural size. Path. No. 14968. A. The parts are slightly distorted from the action of the hardening fluid and the umbilicus comes out more prominently than it really did in the patient. There is, however, a slight unfolding of the umbilicus and one part seems somewhat raised. The umbilicus itself, however, was perfectly intact. B. A transverse section through the umbilicus. The half to the left is more prominent and represents the elevation noted in the umbilical depression. The surface, however, is intact. There is an increase in the amount of connective tissue, but no evidence of any definite nodule. Histologic examination showed that this area was everywhere infiltrated with carcinomatous glands.

the umbilicus was only slightly enlarged and the thickening could not be detected until the umbilicus was lifted up between the fingers. In my first case I removed the umbilicus thinking that it was the seat of a primary growth. In my second case it was removed on account of the severe pain experienced by the patient.

From what I have said, then, it is evident that there are two very important clinical factors to be considered. If an umbilical nodule be detected in a middle-aged person, the condition of the abdominal organs must at once be most thoroughly investigated. If moderate or marked indigestion exists cancer of the stomach may be suspected. If frequent jaundice has been present the possibility of cancer of the gall-bladder following gall-stones may be thought of as the causative factor. Marked intestinal symptoms will naturally suggest a growth in the small or large intestine, and a pelvic examination will tend to exclude or confirm the probability that the uterus or ovaries may be responsible for the umbilical growth.

The last case came under my observation a few weeks ago after my attention had been especially directed to this subject. The typical history of gall-stones coupled with the non-inflammatory umbilical thickening at once suggested carcinoma and I made a provisional diagnosis of cancer of the stomach or gall-bladder associated with gall-stones and interpreted the umbilical growth as a secondary manifestation. At operation I found gall-stones, cancer of the gall-bladder with involvement of the periportal lymph glands, and small metastases in the lesser omentum; histologic examination also revealed the presence of a secondary adenocarcinomatous growth at the umbilicus.

The second point this study brings out strongly is the futility of removing the umbilicus when the primary growth is in the abdomen. If one can positively say that cancer of an abdominal organ exists, removal of the umbilical growth is of little value because the disease is already too wide-spread to permit of total eradication. On the other hand, in some of the cases the symptoms are so obscure that a diagnosis cannot be ventured until an exploratory operation has been performed; and again, in cases such as my last one the chief pain is referred to the navel region and removal of the umbilicus is followed temporarily by comfort.

SECONDARY ADENOCARCINOMA OF THE UMBILICUS; ILLUSTRATIVE CASES

CASE 1 (Path. No. 15,029).—The specimen sent me by Dr. Haggard of Nashville, Tenn., in April, 1910, consists of the umbilicus with a good deal of surrounding tissue. The entire specimen measures 10 cm. in length, 7 cm. in breadth. The umbilicus is 2.5 cm. across and is covered with skin. It presents a rather uneven, nodular surface, and is much more prominent than usual, having welled up in the center (Fig. 3). There is, however, no evidence of ulceration at any point. On section the distance between the umbilicus and the peritoneal surface is 2 cm. The tissues look fibrous and in the vicinity of the umbilicus show infiltration apparently with fibrous tissue. At one point is an area of what looks like localized fibrous thickening 2.5 cm. in diameter. The adipose tissue has been almost entirely replaced at this point.

Histologic Examination.—The squamous epithelium is intact and there is pigmentation in the deeper layers, suggesting that the specimen has come from a colored patient. The tissue immediately beneath the skin in some places is normal; at other points it shows some small, round-cell infiltration. Scattered everywhere throughout the thickened fibrous tissue are glands. Some of them are small and round, others elongated or tubular; others are dilated. The glands are lined with cylindrical or cuboidal epithelium which in most places is one layer in thickness. The nuclei of the epithelial cells are for the most part oval and stain uniformly. A few of the epithelial cells have very large and deeply staining nuclei. Where the glands are dilated the epithelium tends to become cuboidal. At other points the glands are exceedingly abundant, are undergoing disintegration and are filled with mucus. In some places the epithelium is several layers in thickness. Here and there gland epithelium has proliferated to such an extent that new glands are being formed. The growth is

undoubtedly a carcinoma of a glandular type and similar to that originating either in the stomach or intestine.

CASE 2.—Secondary carcinoma of the umbilicus; metastases in the right inguinal glands. Mr. G., 42 years of age, was seen in consultation Aug. 30, 1904. The patient was well nourished, and complained of a discharge from the umbilicus. Six weeks before he was struck in the abdomen with a shoe and the umbilicus commenced to discharge three weeks later. The umbilicus itself presented a granular appearance (Fig. 5) and the tissue surrounding it was indurated. The patient had had dyspepsia for years; also pain in the lower abdomen over the appendix. He was admitted to the Church Home. Under anesthesia the inguinal glands were carefully palpated. A definite enlargement was found in the right side. An incision 10 cm. in length was made and the inguinal glands removed, together with the surrounding fat. I then made a long elliptical incision around the umbilicus and removed the umbilical tumor, giving the hardened area a wide berth. The growth at the umbilicus closely resembled a retracted nipple. The patient took the anesthetic badly. Consequently I could not make as thorough an abdominal exploration as desired. With the finger carried in all directions I was unable to detect any thickening.

Histologic Examination (Path. No. 7729).—The umbilical growth proved to be a typical adenocarcinoma. The squamous epithelium in many places was normal, but along the edge of the growth it was impossible to distinguish between the cells of the adenocarcinoma and those of the squamous epithelium. There was as yet little breaking down. The growth in the inguinal glands macroscopically looked like cancer (Fig. 4). On histologic examination it presented exactly the same pattern as that noted at the umbilicus.

On Jan. 25, 1905, the patient was in fairly good health. He still had considerable constipation, however. He also had great difficulty in defecation. February 24, a firm globular mass fully 10 cm. in diameter occupied the middle of the abdomen and the left inguinal glands were considerably enlarged. The umbilical growth was undoubtedly secondary to the intestinal cancer. In May, 1905, I again saw the patient. His bowels had not moved for ten days and he was so emaciated that one would hardly recognize him. The abdominal nodules were everywhere palpable. He died a few days later.

CASE 3.—Adenocarcinoma of the umbilicus secondary to carcinoma of the gall-bladder. Mrs. B., aged 58, was seen in consultation with Dr. George L. Wilkins and admitted to the Church Home and Infirmary, April 24, 1910. The patient complained of an "umbilical nodule and of gall-stones." Her past history was negative. The menopause had occurred at 50. The patient had had five children. The first and last labors were instrumental.

The patient showed a slight bulging at the umbilicus on standing. This was painful when the clothes rubbed against it. It was noticed first in December, 1909, that is, about four months before examination. For some months the patient suffered at intervals with pain in the region of the gall-bladder and had been jaundiced. The pain radiated to the back and to the right shoulder. At the time of examination there was some tenderness in the gall-bladder region. She suffered from the presence of gas and from constipation. There had been no clay-colored stools. The heart and lungs were normal. The urine was practically normal.

From the history and general condition a provisional diagnosis was made of either cancer of the stomach or of the gall-bladder, associated with a secondary nodule at the umbilicus. On examination of the umbilicus there was just a slight rolling out, but nothing to suggest a nodule until one picked the umbilicus up between the fingers, when marked sensitiveness became apparent (Fig. 6).

Operation.—April 25, 1910, on making a right rectus incision I at once encountered little nodules in the lesser omentum. The gall-bladder contained numerous stones and also a new growth. The new growth was firm and had extended to the lymph-glands around the portal vein. One of these was over 3 cm. in diameter. We were dealing with a carcinoma of the gall-bladder, together with metastases in the lesser omentum and the umbilicus. On account of the marked involvement of the lymph-glands complete removal of the primary growth was impossible. As the patient had had a great deal of pain in the umbilicus, this was removed. The inner or peritoneal surface of the umbilicus was free from adhesions. The patient made a good temporary recovery and was discharged May 9, 1910.

Pathologic Examination (Path. No. 14968).—The specimen consists of the umbilicus and surrounding skin. It is 7 cm. in length, 5 cm. in breadth. The umbilicus is slightly prominent. It is commencing to unfold a little as seen in Fig. 6. It was not quite so prominent, however, in the fresh state. The nodule could be readily felt on lifting the umbilicus up with the fingers. It appeared to be about 1 cm. or more in diameter. In the hardened specimen the tissue was contracted, bringing the effect out more prominently. The skin was everywhere intact. The peritoneal surface was slightly puckered, but was free from adhesions. On section of the umbilicus the tissue looked fibrous and in its middle portion was what appeared to be a little area of hemorrhage about 2 mm. in diameter. At first sight one would not for a moment suspect the presence of carcinoma.

Histologic Examination.—The squamous epithelium is intact and immediately beneath it in a few places are some sweat-glands. Approaching the peritoneum colonies of glands are found closely packed together with very little connective tissue between them. The gland epithelium is for the most part one layer in thickness. In some places it is cuboidal, at other points cylindrical, and there are very minute glands. The nuclei of the epithelial cells stain uniformly, but vary considerably in size. In some places the epithelial cells seem to have a tendency to be arranged in single rows. The growth is without doubt a carcinoma. The small metastatic nodules found in the lesser omentum in the neighborhood of the gall-bladder present a precisely similar appearance. We are undoubtedly dealing with a primary carcinoma of the gall-bladder, involving the lymphatics around the portal vein. There have been metastases in the lesser omentum and also involvement of the umbilicus.

3 West Preston Street.

ABSTRACT OF DISCUSSION

DR. W. D. HAGGARD, Nashville, Tenn.: The specimen which I sent to Dr. Cullen was removed in 1903. Histologic examination proved it to be a case of primary carcinoma of the umbilicus. The man, 56 years old, had a hard mass at the umbilicus, for which I advised excision. He delayed the operation; acute symptoms of cholelithiasis set in, which he interpreted as coming from the umbilicus; he then asked for an operation. I excised the umbilicus circularly and met with considerable difficulty in closing the wound, because it pulled widely apart in all directions. I was obliged to use Bartlett's wire filigree to effect closure. At the time of operation the gall-bladder contained stones, which were removed, and, as we had so much difficulty in closing the opening, we drained the gall-bladder through the same incision. After five or six months the man had considerable jaundice, which I attributed to the contraction of the scar making traction on the gall-bladder and partially occluding the ducts. He died after seven months from cholemia. The necropsy failed to disclose any other malignant growth in the abdomen.

I had hoped that Dr. Cullen would be able to take up the other pathologic conditions of the umbilicus besides carcinoma. I have had two cases of protrusion of the umbilicus in generalized peritonitis, with simple incision of the umbilicus, for drainage, with cure. One of the patients was a woman, who had had a ruptured appendix, and whom I saw on the eighteenth day. She manifested symptoms of a general peritonitis, with free fluid of the abdomen. The umbilicus presented a pouched-out protrusion. The skin was reddened and thinned. I incised the umbilicus without an anesthetic, evacuated several quarts of fluid, and the patient recovered, which was rather noteworthy because of the very severe general peritonitis. She would not have stood a formal operation. I do not believe there was anything else to do than simply incise the

point which Nature had indicated for drainage. This experience was repeated in the second case, the patient being a girl, 13 years of age, who, in the second week of an attack of appendicitis, had a red protrusion of the umbilicus, with signs of free fluid, somewhat as in the first case. We incised the umbilicus, evacuated two quarts of fluid, and she recovered.

DR. THOMAS S. CULLEN, Baltimore: Dr. Haggard recently sent me a report of a case in which the purulent peritoneal fluid had escaped through the umbilicus. In reviewing the literature on diseases of the umbilicus I was particularly interested to see the large number of cases reported in which a purulent peritonitis had been evacuated spontaneously through the umbilicus. This was frequently the case in children. In adults, however, it is rare for the umbilicus to give way.

In the short time at my disposal it has been impossible to deal with the subject in full and I have only discussed it from two standpoints. Dermoid cysts of the umbilicus have, from time to time, been reported, but on carefully reading the detailed histories of these cases it seems perfectly clear that in the majority of instances the author was not dealing with a dermoid cyst, but with an umbilical concretion. On picking these concretions apart small pieces of wool or hair and occasionally particles of stone have been detected. The substance in a large measure depends on the occupation of the patient. The outer surface of the concretion in the majority of cases has presented a pearly appearance. This was due to a covering with various layers of exfoliated squamous epithelium. When as a result of irritation by the concretions the umbilicus becomes inflamed, the umbilical opening becomes smaller and smaller, on account of the surrounding inflammation; finally nothing but a pin-point opening remains and later often there is an escape of pus. With the application of poultices or following an incision and escape of the concretion the inflammatory condition disappears.

In some cases in which the omphalomesenteric duct has remained open and is recognized as a very small fistulous tract, roundworms may escape. In several cases from forty to fifty of these worms have come away, and occasionally a tapeworm has made its appearance on the abdomen.

Several other interesting cases are reported in which gallstones have been evacuated through the umbilical opening and in a few instances small hydatid cysts have escaped in this way. Dr. Alexander Hugh Ferguson, Chicago, told me of such a case that came under his observation.

In cases of primary carcinoma of the stomach the growth may travel toward the under surface of the liver, pass along the lymphatics of the suspensory ligament and reach the umbilicus. The umbilical growth consequently lies extraperitoneal between the peritoneum and fascia.

PHYSIOLOGIC IMPLANTATION OF THE SEVERED URETER OR COMMON BILE-DUCT INTO THE INTESTINE *

R. C. COFFEY, M.D.
PORTLAND, ORE.

At the 1909 meeting of the Southern Surgical and Gynecological Association at Hot Springs, Va., I reported a series of experiments on dogs in which various sections of the pancreas had been made and the remaining pancreas had been implanted into the intestine.

In the operation for the removal of the head of the pancreas, it was found necessary to transplant the common bile-duct into the intestine lower down, also to connect the stomach with the intestine lower down; and later the pancreatic implantation was done. In these operations of pancreatectomy and duodenectomy we found it necessary to operate in two stages. After the first operation the common bile-duct was cut off and implanted into the duodenum well below the opening of the pancreatic duct. This was done by direct implantation, using a method similar to one described by Dr. W. J. Mayo some years ago. Gastrojejunostomy was done at this time, also resection of the stomach.

At the second operation, the duodenum and the head of the pancreas were removed and the remaining tail was planted into a loop of intestine. The second stage of the operation was done from two to three weeks after the first. At the second operation it was invariably found that the common bile-duct, which had been implanted at the previous operation, was now distended to the size of a man's finger and in some cases even larger, and the bile was dammed back at low pressure. The common bile-duct and the two hepatic ducts presented the appearance of being simple extensions of the gallbladder. In the first case observed it was taken for granted that stenosis had occurred. When the second case was observed I cut open the duodenum, exposing the opening of the implanted duct, when it was found that the opening was large enough to admit a lead-pencil easily and that the bile was simply dammed back in the duct by the intra-intestinal pressure. As our experiments went on we observed that this condition was constant and present in every case. Five dogs with such a condition were observed later for varying periods and the specimens finally removed and preserved. One of the best specimens shows the bile-duct as large as a man's little finger and with walls almost as thick as an intestine. After observing these things it seemed quite probable that the bile-tract being permanently dilated in this manner might later prove to be a very serious thing as regards the future integrity of the liver. The only conclusions to be reached from the study of these cases, and from the specimens, was that the normal intra-intestinal pressure, when brought to bear directly within the end of the implanted duct, proved more than the strength of the frail bile-duct could withstand; consequently they kept dilating until Nature's law of compensation came to the rescue with a thickened duct wall, and prevented further distention, but not until the distention was sufficient practically to make an intestinal diverticulum of the bile-duct, thus exposing the liver to infection.

This seemed to me a most serious matter, so I set about to devise a plan which would prevent the intra-intestinal pressure being brought to bear directly from within the duct. The first step was to dissect the duodenum and see how Nature had planned this matter. I found that the common bile-duct first penetrated the serous and muscular coats of the duodenum and then passed just under the mucous membrane for approximately three-quarters of an inch before it penetrated the mucous membrane. I found also that the ureters entered the bladder in just such a way. It was readily seen that in these organs the intra-intestinal and intravesical pressure, instead of being brought to bear from within the duct, was brought to bear in a much larger area on the side of the duct, thus making a perfect valve. The next question that arose was: Is it possible to duplicate this artificially? It was found not practicable to pass forceps between the layers of the intestine for the purpose of drawing the duct through. After thinking the problem over for some time, I remembered that during the course of a gastro-enterostomy when the serous and muscular coats are cut and the submucous

* Read in the Section on Surgery of the American Medical Association at the Sixty-First Annual Session, at St. Louis, June, 1910.

coat dissected, the mucous membrane pouts out between the cut edges of the wound, making of it a hernia. The following method was therefore devised.

METHOD OF PROCEDURE

First, the duct is located and ligated with linen or silk. It is then cut in two above the ligature and the edges caught and held with mosquito forceps while one wall of the duct is split down with a pair of scissors, as shown in Fig. 1, *a*. A linen suture is now passed through the split end of the duct so as to include about one-half of



Fig. 1.—Preparing the duct for implantation into the intestine; *a*, splitting the duct to provide for drainage and tying the suture around half of the duct; *b*, tying suture around split duct; *c*, split duct ready for insertion.

it, and tied (Fig. 1, *a*). The linen thread is then thrown around the other half and tied (Fig. 1, *b*). The loose ends are then threaded into two needles. By this method the full strength of the duct is retained for traction, while the opening is maintained by the split (Fig. 1, *c*). The end of the duct is now wrapped with gauze while the intestine is prepared for its reception, which is done as follows:

The part of the intestine desired is picked up and an incision made down through the peritoneal and muscular coats, including submucous tissue until the mucous membrane pouts out through the incision (Fig. 2). This incision should be about one inch long or more. Second, five or six sutures are passed which pick up the peritoneal and muscular coats on each side of the incision. The suture at the upper end of the incision is tied as a control suture. The intermediate intestinal sutures are lifted up on the flat handle of an instrument as they cross the incision. Now the intestine is brought down close to the end of the split duct and the two needles carrying the threads (traction sutures) on the end of the duct are passed beneath the four or five intestinal sutures and through the stab wound in the mucous membrane into the intestinal lumen and out through the intestinal wall three-quarters of an inch farther along the intestine, and one-eighth to one-quarter inch apart. By making tension on these threads and at the same time pushing the intestine toward the duct, the duct is drawn beneath the intestinal sutures through the stab wound into the intestinal lumen, when the two ends of the threads on the duct are tied on the outside, thus anchoring the end of the duct on the inside of the intestine at this point (Fig. 3). The intestinal sutures are then tied, producing the result shown in Figure 4. After this operation the duct lies just beneath the mucous membrane, which has been loosened for approximately three-quarters of an inch of its course, so that it slides easily in its new channel. It is therefore necessary to tack the ureter to the peritoneum of the intestine near its point of entrance by two or three fine linen or silk sutures. Care should be used to take only the outer coat of the ureter in the bite of these sutures. Thus practically all the steps of the operation are completed before the intestinal mucosa is penetrated and no sutures penetrate the lumen of ureter. The traction suture at the end of the ureter within the intestine and the two or three anchor sutures fastening the duct to the intestinal peritoneum are the only means of retaining the duct in place. The same intra-intestinal force which later prevents regurgitation into the ureter now prevents the intestinal contents from leaking back by the loosely implanted ureter.

To prove the mechanical correctness of the theory of this operation, make a hole in the side of a rubber bag; insert a rubber tube and cement it; cement a flap of thin rubber over the end of the tube (Fig. 5, *a*); connect a fountain syringe filled with fluid with the tube and fill the bag (Fig. 5). If the syringe is now disconnected it will be found that no leakage from the tube takes place (Fig. 6).

While the theory of this operation is in harmony with Nature's method of the implantation of ducts, and while we are able to prove it mechanically, the physiologic and reparative processes found in surgery are so complex that we can never be certain of results from a given procedure until it has been proven experimentally and clinically. Experiments have therefore been made by the direct and indirect methods of transplanting both the bile-duct and ureters as follows:

PHYSIOLOGIC IMPLANTATION OF THE BILE-DUCT

After having incidentally made the observations noted above, namely, that the bile-duct always dilates as a



Fig. 2.—Incising peritoneal and muscular coats of intestine and freeing the mucous membrane from the muscular coat.

result of intra-intestinal pressure after it has been implanted into the intestine by the direct method, four operations were performed on dogs by the method just described in which nothing was done but implantation of the common bile-duct. The results in this series were as follows:

One dog was killed with chloroform on the fourteenth day and one on the fifteenth day after operation. Both showed perfect valve action. The ducts were possibly a

little more distended than normal, owing to swelling from the traumatism of the operation, which had not yet entirely subsided. One dog was killed on the sixtieth day and another on the sixty-first day after operation. In both cases perfect results were found. There was no distention of the ducts above and a ridge in the mucous membrane plainly marked the site of the reimplanted duct in almost the exact manner seen in the duodenum where Nature has implanted the common duct.

After the last specimen of this kind had been removed and the marked difference between the physiologic and the direct method of implantation had been observed, the idea presented itself that the same thing should be applicable in the implantation of the ureter. On December 4 my assistants and I implanted the ureter in a dog by the above method minus the peritoneal sutures which attach the ureters to the outer surface of the intestine. On December 30 we performed a similar operation on another dog. On December 31 we implanted the opposite ureter of Dog 1. On January 1 and 2 we operated on four other dogs. On the evening of the 2d very cold weather set in and as we had no facilities for heating our rooms all of our dogs except the one operated on December 30 died of cold, including the one in which we implanted the second ureter. On this subject we did a necropsy with the following results: There was no enlargement of the kidney. The ureter was slightly dilated with some stenosis of the opening into the intestine. While this narrowing of the ureteral opening had not reached the point of obstruction or hydronephrosis, the indications were that these conditions would have ensued and the probable cause seemed to be that by not placing the peritoneal anchor sutures the ureter had slipped and drawn back somewhat into the submucous canal. The recently implanted kidney was in a perfectly healthy state, as were the kidneys of all the other dogs which died from the effects of cold weather. Late in February, when the weather was more favorable, we

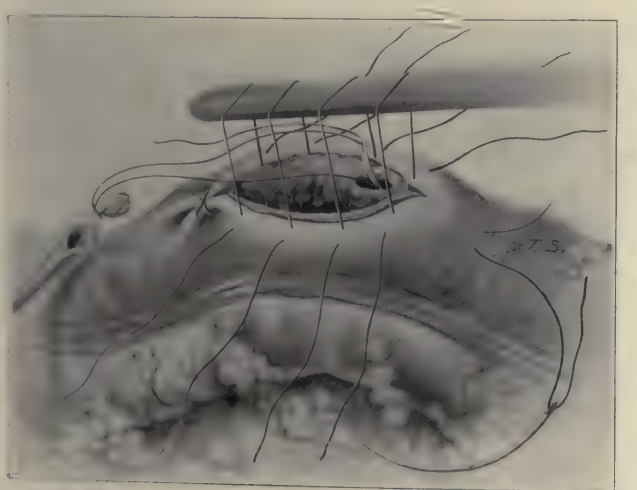


Fig. 3.—Sutures have been passed and duct is being drawn under the intestinal sutures through the stab wound in the mucous membrane.

took up our experimental work again, which I now report.

PHYSIOLOGIC IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 1. Preoperative condition good. Operated on Dec. 30, 1909. Right ureter implanted into large intestine about 2 inches above ileocecal valve. Uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 16, 1910 (169 days after operation). Necropsy showed kidney normal. No dilatation of ureter or pelvis. Valve perfect. Kidney same size as other which had not been implanted.

Dog 2. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted in colon about 8 inches above anus. Refused to eat for about a week after operation, then took food and steadily improved. Diarrhea constantly present. Dog was killed May 16 (eighty-one days after operation). Necropsy showed kidney of the implanted ureter decidedly smaller than the other and having an indurated point at its upper pole. A like point of induration was found in the other kidney. The intestine was clamped above and below

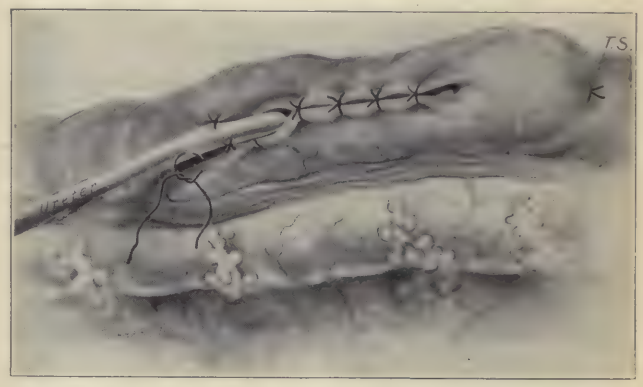


Fig. 4.—Duct has been implanted and anchored at its end inside intestine by tying traction suture T.S. Peritoneal sutures have been tied. Anchor sutures being placed to fasten duct to peritoneum.

the ureteral implantation, an incision was made in the ureter and fluid introduced into the intestine until it was dilated under pressure (Fig. 7). The nozzle was removed and no fluid returned through the ureter (Fig. 8). (Test used to prove efficiency of valve in other cases.) Pressure was made on intestine with the hand, and still not a drop of fluid returned through the ureter, showing that the valve acted perfectly. Both kidneys were split, exposing the pelves. The small kidney appeared as healthy as the other and its cortical substance as thick. There was no distention of the pelvis or of the ureter. A good-sized probe passed easily from the intestine up the ureter. We are at a loss to know whether this kidney was normally smaller than the other or whether this dog during the first week after operation when he refused to eat had a slight infection which he overcame. The perfection of the valve, the healthy kidney substance and the absence of dilatation led us to believe that it was a normally smaller kidney.

Dog 3. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted into the large intestine about 8 inches above anus. Dog died March 3. Necropsy showed general peritonitis probably due to infection from faulty aseptic technic at operation. Specimen showed implantation perfect, no evidence of leakage, no obstruction and no distention of ureter.

Dog 4. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on Feb. 25, 1910. Left ureter implanted into the rectum about 8 inches above the anus. Perfect recovery, with no clinical signs of trouble. Diarrhea constantly present. Dog was killed with chloroform on May 16 (80 days after operation). Necropsy showed the bladder firmly attached to the site of operation and to ureter for some distance out. These adhesions drew the ureter into a sharp kink, causing hydronephrosis with marked dilatation of the pelvis of the kidney. Urine clear and healthy. On opening the intestine and cutting the bladder adhesions the urine was squeezed out of the kidney and ureter in a distinct stream. The valve was perfect and a good-sized probe easily passed from the intestine up the ureter. Hydronephrosis had no relation to implantation, but seemed to have been caused by adhesion to the bladder.

Dog 5. Old dog, fat, condition poor. Two ounces castor oil twenty-four hours previous to operation. Operated on Feb. 25, 1910. A great deal of extraperitoneal fat was present, making it difficult to find ureter. Planted left ureter into the rectum about 8 inches above anus. Dog died March 10 (13 days after operation). Diarrhea had been constant up to time of death. Necropsy showed no dilatation of the implanted ureter. The valve was perfect. A probe passed easily from the intestine into the ureter. Kidney normal. There was no evidence of peritonitis and no cause could be assigned for the dog's death except his age and condition at the time of operation.



Fig. 5.—Filling with fluid rubber bag, in which pocket valve has been made; *a*, pocket valve. Arrows indicate direction of pressure.

Dog 6. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1, 1910. Left ureter implanted into the rectum about 8 inches above anus. Uninterrupted recovery. Diarrhea constantly present. Right ureter implanted on May 3. The anchor-stitches were forgotten. Uninterrupted recovery from operation. Appetite began to fail May 14 and dog looked sick, so he was killed with chloroform. On opening the abdomen a number of loops of intestine were found adherent around the point of the last implantation. On separating these loops from the rectum a space was found which connected directly with the intestine by a fistula and into which the ureter was emptying. The ureter had evidently been partially pulled out and the intestines had come to the rescue by covering in the leak. This kidney, the right one, was much congested, larger than the other and its ureter somewhat dilated and thickened. When the kidney was split the pelvis was found to be filled with pus. The left kidney, the ureter of which was implanted March 1 (seventy-five days before) was normal. Only a slight omental adhesion was present at the site of implantation and the ureter opened freely into the intestine, and was protected by a membranous valve. This case demonstrates the importance of placing the anchor sutures outside of the intestine.

Dog 7. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1. Left ureter implanted in rectum about 8 inches above anus. Dog died March 5. Necropsy showed that dog had pulled out stitches with his teeth and opened abdominal wound. Kidney and ureter normal. Probe passed easily into the intestine from the ureter. The end of the ureter which hung within the lumen of the intestine was dead but not sloughed. Dog had died of peritonitis following the opening of the abdominal wound by his teeth.

Dog 8. Preoperative condition fair. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 2. Rectum was still filled with fecal matter. Left ureter implanted about 8 inches above anus. Dog made uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 14 (72 days after operation). Necropsy showed slight omental adhesions at site of implantation of left ureter. Right and left kidney presented the same appearance. Both healthy. Implanted ureter the same size as normal one, with no distention. A decided ridge on the mucous membrane of the intestine marked the underlying ureter (Fig. 10). A small child's urethral catheter was easily inserted in the orifice and up the ureter. The valve action was perfect, the ureter running for more than one-half inch under the mucous membrane.

Dog 9. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Left ureter implanted into the rectum about 8 inches above anus. Dog died March 13. General peritonitis. Necropsy showed kidney and ureter normal. Ureter open. No evidence of leakage at point of anastomosis. Probably death was due to a flaw in aseptic technic.

DIRECT IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 10. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Implanted right ureter into rectum about 8 inches above anus. Dog ate a little meat March 15 and had some appetite until March 20, when he refused food and died March 22. Necropsy showed general and extensive peritonitis. Kidney infected. Duct enlarged to some extent. No specimen removed, as tissues were very much infected.



Fig. 6.—Rubber bag filled. Fountain syringe disconnected. Valve closed by pressure of the fluid as indicated by arrows.

Dog 11. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 11. Right ureter implanted in rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Kidney enlarged and contained pus. Ureter dilated to some extent. Condition at site of implantation seemed to indicate leakage.

Dog 12. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Implanted right ureter into rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Ureter was

found pulled out, whether in manipulating the intestine at autopsy could not be determined.

Dog 13. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Dog ate a little meat March 18 and 19. March 20, condition not so good. Dog very dull for about a week, then condition improved and he made a slow recovery. Dog killed May 16 with chloroform (sixty-one day after operation). The dog was not in so good condition as when first operated on, and not in so good condition as the dogs which had recovered from the physiologic implantation. It was noticeable that this dog had no diarrhea after fourteen days. Necropsy showed mouth of implanted ureter wide open and ureter slightly distended. Kidney was atrophied to the size of a black walnut and the cortical substance had entirely disappeared, leaving nothing but the pyramids and the capsule. Dog had apparently recovered from the infection, but the secreting portion of the kidney had been destroyed, hence the absence of diarrhea after fourteen days. Peterson noticed this contracted kidney in subjects which had recovered from infection.

Dog 14. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Died March 20. Necropsy showed general peritonitis; duct was pulled out of intestine. Abdominal cavity filled with pus.

Dog 15. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 17. Right ureter implanted into rectum about 8 inches above anus. Dog died March 20. Necropsy showed general peritonitis. Abdominal cavity filled with pus.

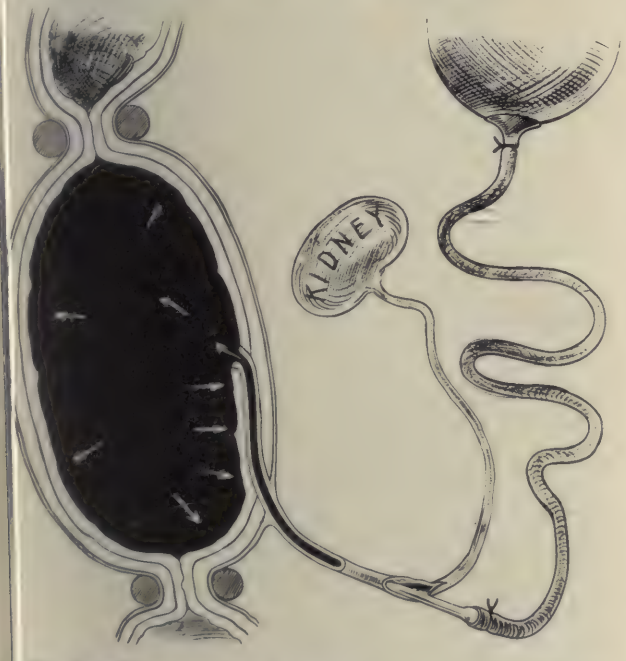


Fig. 7.—Filling with fluid a clamped section of intestine into which a ureter has been implanted by the physiologic method.

A SUMMARY OF EXPERIMENTS

In five dogs in which direct implantation of the bile-duct was done, all specimens showed marked dilatation of the duct without obstruction at the point of passage through the intestinal wall. Of four dogs in which the common bile-duct was implanted by the physiologic method, none showed dilatation of the duct. Of nine dogs in which physiologic implantation of the ureter into the large intestine was done, five recovered and were in good health 169 days, eighty-one days, eighty days, seventy-five days and seventy-two days after operation, when they were killed with chloroform. One dog died on the thirteenth day without discoverable cause, the implantation being found perfect. One died of peritonitis due to the opening of his own wound with his teeth. Two died of general peritonitis which apparently resulted from faulty aseptic technic. Of these nine dogs, a second ureter was implanted in one, at which time the peritoneal anchor sutures were forgotten, with the result that the ureter partially drew out, made an abscess, but still connected with the intestine by a fistula. In this case



Fig. 8.—Physiologic valve closed by the withdrawal of the nozzle, entirely preventing regurgitation of fluid into the ureter.

the ureter was dilated and the pelvis of the kidney filled with pus, indicating the seriousness of omission of the anchor sutures. In one case the ureter in crossing through the peritoneal cavity to the intestine had been caught by an adhesion which kinked the ureter and produced hydronephrosis and distention of the ureter above this point. No distention existed below this point, and when the adhesion was broken the urine from the hydronephrotic kidney was easily forced out through the ureter into the intestine in a stream. The mechanical test shown in Figs. 7 and 8 proved that this valve was perfect, and the fact that the urine in the kidney and ureter was clear proved there had been no ascending infection. Therefore, in not one of the nine cases in which the complete operation as described in this paper was performed did ascending infection take place.

Of the six dogs which were operated on under exactly the same conditions but in which direct implantation of the ureter was done, five died within a few days after the operation from either peritonitis or ascending infection. The surviving dog was fairly healthy after the lapse of sixty-one days, when it was found that all of the secreting portion of the kidney had been destroyed, leaving nothing but a shrunken bunch of connective tissue and the pyramids, notwithstanding the fact that the ureter, as it entered the intestine, was patulous. This last series of direct implantations compare favorably with all of the other experiments which have been made, as will be shown by the statistics which will be given later.

We must admit that the mortality rate, even of the physiologic implantation, is much too large as applied

to patients; but when our work is compared with the work which has been done by other methods there is much encouragement in this report. After we were fairly launched into the work, we secured a complete bibliography and abstract of the principal articles. The literature of this subject is voluminous. More than two hundred and forty articles have been written on the subject. Many methods have been used. The literature has been repeatedly summarized and reviewed; consequently we will not review it in this paper except to quote the conclusions of a few of our predecessors, and will not describe any of the methods. Few subjects have



Fig. 9.—Probe in membranous valve at the mouth of the ureter in a fresh specimen of a dog's bladder.

called out more experimental work and there is no field which has been more baffling and discouraging. This is especially true of the experimental work on dogs; in fact, most reviewers have reached the conclusion that all implantations of the ureter into the large intestine in dogs, if not followed immediately by sepsis or pyelonephrosis, later develop ascending infection or stenosis. Operations on patients have been much more successful, if we are to accept the records of the literature. This is especially true of those cases in which the Maydl operation of transplanting a portion of the bladder with the ureter has been performed, but as this operation is not often applicable where we need it most, namely, in carcinoma of the bladder, we must look still farther for a successful method of implantation.

Carl Steinke,[1] in an article written in 1909, has given the most complete summary of all the literature concerning operations on patients up to that time. His conclusions are as follows:

> Of the thirty-five cases recorded above [in his article], two have no statement as to whether the patient lived after the operation. However, fifteen are reported as recovering and eighteen resulted fatally, making a general mortality of about 54.5 per cent. Two cases died of tuberculosis of other organs, thus making the mortality from the operation and its effects 55 per cent. Of the fifteen cases reported as living, two are unilateral implantations and the unilateral cases are really no test, as there still remains one good kidney to carry on the function. This leaves thirteen of the twenty-seven bilateral cases reported as living after four weeks or more, making a mortality of 55.5 per cent. These results show that under certain conditions the ureter may be transplanted successfully. The ultimate results are, however, uncertain, and fatality is apt to occur under the best circumstances.
>
> Experiments on dogs have proved that it is possible for the kidney to recover from the pyelitis, and this may have occurred in some of the above-mentioned cases. However, it has been shown that for routine usage, the present methods for simple ureteral implantation are inadequate and the operation is not likely to become popular.

The Maydl operation is attended with much better success. Peterson collected reports of thirty-six operations performed on patients by the Maydl method, which uses a part of the bladder with the ureter. Five deaths occurred, making a Maydl mortality of 14 per cent. Of those recovering from the immediate effects of the operation, two died within fifteen months of pyelonephritis, bringing the mortality up to 19 per cent. The sphincteric control of the ureter over the urine was mentioned as satisfactory in twenty-four out of twenty-nine cases, and Peterson concludes that of all the operations yet devised the Maydl method is the most satisfactory. Steinke also reviewed the work which had been done on the dog. After summing up the experiments which had been done on dogs, giving them in more or less detail, he says that the literature reports 134 bilateral and 77 unilateral implantations. Of the unilateral type there were 26 recoveries and 51 deaths, thus giving a mortality of 66 per cent. Most of the deaths were from peritonitis or a complication of peritonitis and pyelonephritis. A number of the surviving dogs were killed later and in every instance pyelonephritis or its results were found. Of the bilateral cases there were 117 deaths out of 134, or a mortality of over 87 per cent. Nine of the seventeen successful cases showed pyelonephritis later on (one or both sides), from which the animals would probably have died, and thereby raised the percentage of mortality still higher, if they had not been killed earlier. The faults in most instances were from peritonitis, pyelonephritis or an association of the two. Other causes of death were hydronephrosis, uremia, and hemorrhage. Most of the dogs did not live long enough to develop stenosis of the ureteral orifice. If those animals which recovered had been examined later, stenosis of the ureteral orifice with hydroureter and hydronephrosis or pyelonephritis would probably have been found. Martin's thirty-four cases are not included in



Fig. 10.—Probe inserted into the membranous valve protecting the mouth of a ureter which has been implanted into the large intestine of a dog seventy-two days.

the above summary, as he did not state in each case whether the unilateral or bilateral method was employed. There were thirty-one deaths, the cause being about the same as in the other experiments. These, if added, would raise the mortality still higher. In contrasting the results on human beings with those on dogs, it has been proved that the difficulties to be met are much greater in the case of dogs and the mortality is much higher. Steinke's reasons for this are: (1) the dog's ureter is much smaller; (2) the large bowel of the dog

1. Steinke, Carl: Univ. Penn. Med. Bull., 1909, xxii, 110.

is more rigid and the musculature greater, thus causing the stitches to pull out; (3) asepsis is more difficult to obtain; (4) the bacteria of the dog's intestine may be more virulent, thus causing more severe peritonitis. Steinke concludes this article as follows:

In view of the generally discouraging results from the records of the operations on human beings and from the records of experimental work, we feel that specific conclusions are difficult to draw and would be of doubtful value. We would emphasize again the particular nature of the problem and the fact that so many difficulties must be met in every attempt. A careful consideration of the summary of surgical work on the anastomosis of the ureter with the intestine leads, we think, to the conclusion that the problem is one of physiologic and surgical mechanics, and as such should remain open to solution.

Dr. Reuben Peterson of Ann Arbor, who has probably done more experimental work along this line than any other man, in an article written in 1900, after reviewing the literature and making statistics similar to those given by Steinke, reaches the conclusion that the best technic is that requiring the least amount of suturing of the ureters themselves. Connell, who has done a great deal along this line, believes that all cases of ureteral implantations into the rectum in dogs ends with death either immediately or later of ascending infection.

CONCLUSION

After going over all the literature which has been written, I find that the patients who have had the ureters transplanted by direct methods have shown 55 per cent. mortality. Dogs operated on by the same method have shown a mortality varying from 66 per cent. to 100 per cent. The former usually represents immediate operative mortality. A large percentage of this mortality, both in patients and in dogs, has been due to ascending infection. The mortality is very much greater in dogs than in human beings and some who have investigated the subject are of the opinion that all animals in which the ureter has been transplanted sooner or later develop ascending infection and other complications. Our experiments with the direct implantation are in exact accord with all those who have preceded us. The experience with physiologic implantation is much better. Ascending infection seems to be nearly eliminated as a danger, and if the physiologic method should prove to be as much better than the direct method in patients as it has in dogs it seems safe to assume that the mortality in the human being should be reduced to a point which would make the operation justifiable and would thereby save the lives of many patients suffering from carcinoma of the bladder who now die for want of proper methods of dealing with the ureter.

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ABSTRACT OF DISCUSSION

DR. ARTHUR G. SULLIVAN, Madison, Wis.: I have been carrying on similar work for a year or eighteen months. While Dr. Coffey's work has dealt with both the ureter and the bile-duct, mine has had to do chiefly with the bile-duct. Ureteral work is a matter of present endeavor. Dr. Coffey's aim was to make a physiologic implantation of the ureter or bile-duct. My work had the same thing in view, but also took in the reconstruction of these passages after artificial destruction. Dogs were used for my experiments, and the technic employed was about as follows: The common duct was ligated high up and cut across. A cholecystectomy was almost invariably done at the same time. A rubber tube was then inserted into the ductus hepaticus and brought down on the gastrohepatic ligament on its anterior surface. At the level of the ampulla of Vater, a slight incision was made in the duodenum, and the tube was pushed in, so that it projected into the lumen of the intestine for two inches. At the point where the rubber tube penetrated the bowel wall, the intestine was repaired, so that the incision closely encircled the rubber tube. A suitable area of omentum was traumatized lightly with a dry sponge. After the omentum has been approximated, it was sutured so as to form a roof over the tube. About three weeks later, I opened the dog's duodenum, grasped the tube with thumb forceps and drew it out. The ease with which the tube slipped out suggested that the peristaltic action of the intestine could well supplant the second operative procedure. Commonly a small sponge was attached to the end of the tube and the same technic was employed, so that the peristaltic tug withdrew the tube as soon as the restraining ligatures were absorbed. Seven or eight operations like this were done, using tubes and sponges, and the animals all did very well. I killed all the animals—the oldest four and one-half months, and the youngest four weeks after the operation, and the results in all were good. On analyzing the steps of the operation, it is at once apparent that the surgical details are all more or less accepted. In one dog I inserted a rubber tube, with the idea of keeping it there permanently, and consequently the tube did not have a sponge-tipped end. I had to operate because of a strangulated hernia fourteen months later, and I found that the tube had been passed and that the bile was discharging through the intra-abdominal sinus as expected.

DR. J. W. D. MAURY, New York City: We have done a great deal of this work at Columbia, always using animals. Probably not all members of this Section have been able to follow the attacks on animal experimentation that have been made in New York; were it not for the activity of two or three members of the profession in that state, a bill would recently have passed the legislature which would have made it impossible for us to do any more of this work except under the strictest and most annoying restrictions. I would ask physicians of other states to use their utmost vigilance not to allow any antivivisection bill of whatever nature to be presented to the legislatures without immediate protest. Those of seemingly mildest form are most dangerous. The efforts of the well-meaning persons who are opposed to this work will be centered in some state where there is not very great medical activity; therefore, I hope that physicians will not fail to watch the legislatures.

DR. R. C. COFFEY, Portland, Ore.: In all our work on animals, we have invariably given one and one-half grains of morphin before beginning to operate, so that there was no struggling even while giving the anesthetic. Every animal is anesthetized, so that there is no trouble whatever. The police visited our laboratory and found nothing wrong with it. We have a good, healthy climate in Oregon, and we do not know anything about these neurasthenics who usually constitute the class of agitators known as antivivisectionists. I appreciate Dr. Sullivan's work. If there is a field for something new, it is right here. It is most embarrassing for the surgeon to be confronted by a bile-duct which has been destroyed, and to see all the bile pouring out of the abdominal cavity. It means certain death. I shall try Dr. Sullivan's method at the very first opportunity, preferring, of course, to try it out on animals as he has done.

Characteristics of Spirochæta Pallida.—The study of some of the characteristics of *Spirochæta pallida* is very interesting. In new and untreated cases the spirochetes are very active, never ceasing for a moment to keep up some kind of movement, and though, as a rule, their position in the field is unchanged, should some foreign material come in contact with them, they will get a purchase on it and run it down its length or cast the substance away, or very gradually, in a snake-like manner, pass on. This may be the means by which they reach the surface of a lesion. The movement of the spirochetes, as time elapses, will get less and less vigorous, never ceasing, however, until their death, when it terminates with the spasmodic jerk before referred to.—L. T. Price, in *Old Dominion Journal of Medicine and Surgery*.

CARCINOMA OF THE CECUM

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Attending Surgeon, Columbus Hospital; Consulting Surgeon, Michael Reese Hospital
CHICAGO

History.—Mr. B., a retired farmer, aged 62, presented himself at my office complaining of pain in the abdomen, and alternate attacks of constipation and diarrhea. The personal and family history was negative. The patient had always been well, with the exception of having been confined to his bed for a few days, some years ago, on account of having been kicked in the abdomen by a horse. Examination of the abdomen revealed a mass about the size of an orange in the cecal region. The patient had observed the occurrence of ribbon stools.

Operation.—April 29, 1910, at the German Hospital, I did a laparotomy and found an extensive involvement of the cecum, appendix and adjacent glands. A macroscopic diagnosis of carcinoma was made and the following operation performed: The ileum was clamped and divided three inches from the ileocecal junction. The cut proximal end was closed and inverted like the stump of an appendix. The field was carefully cleared of a large number of diseased glands. The cecal mass was dissected away, and removed with some six inches of the ascending colon. The cut end of the colon was closed in the same manner as the divided ileum. A side-to-side anastomosis between the ileum and colon was then made. The wound was drained with gauze and gutta-percha.



Fig. 1.—External appearance of tumor and surrounding structures in case of adenocarcinoma of the cecum.

Postoperative History.—The temperature never rose above 100 F., nor the pulse above 90. The patient reacted from the operation without shock. Liquid nourishment was given on the second day; the patient had a formed bowel movement on the sixth and was allowed solid food on the twelfth. A fecal fistula developed from the inverted ileum on the tenth day after the operation, but closed at the end of the fourth week. With this exception the recovery and convalescence were uneventful. Six weeks after the operation the patient left the hospital apparently well, and remained well up to the time of writing this report.

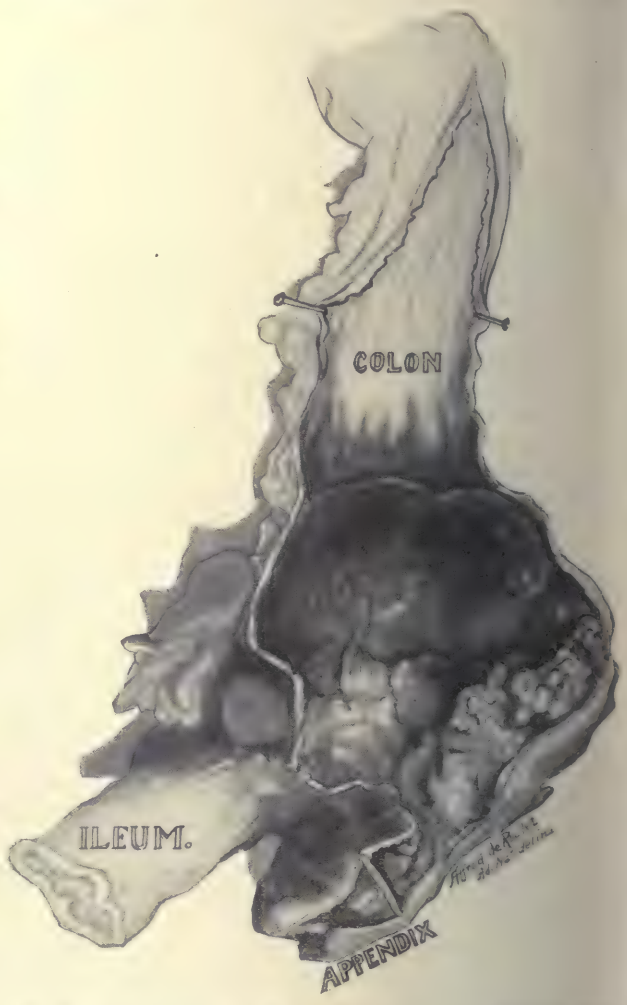


Fig. 2.—Appearance of inside of bowel in case of adenocarcinoma of the cecum.

Microscopic examination showed the growth to be an adenocarcinoma. It is not possible to say whether or not the growth is of appendicular or cecal origin.

100 State Street.

A HOME-MADE ELECTRIC CENTRIFUGE

A. S. BRUMBAUGH, M.D.
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An ordinary electric fan can be converted into a satisfactory centrifuge in the following manner: The fan and guard are detached from the motor and the latter is firmly screwed to a solid board about a foot square. A set of bevel gears is obtained from the head of an old sewing-machine—the old-style Singer for example; or if no machine is at hand on which an autopsy is permitted, the gears can be obtained at small cost from the factory. One of these gears is attached by a set-screw to the motor-shaft; the other is attached to a steel rod

⅜-inch in diameter and 16 inches long. This rod is securely held in a perpendicular position in front of the motor by two brass bearings; the lower or end bearing is simply a brass block with a ⅜-inch hole drilled part way through the center and is screwed to the board on which the motor rests. A ⅜-inch ball bearing is dropped in the hole in the bearing, and the lower end of the steel rod is slightly concaved so that it will rotate smoothly. The upper bearing is a brass cylinder one inch in



A home-made electric centrifuge.

diameter and an inch or more long, with a ⅜-inch hole through its center. This bearing is held in place by a V-shaped brace, made of a strip of iron 1/32-inch thick and about an inch wide, the apex of the V being rounded to fit around the bearing; this brace is fastened to the motor frame by two screws, one at each end of the V (the screws which attach the fan guard may be used for this purpose), and the bearing is fastened in the rounded apex of the brace with two small screws.

A sewing-machine balance wheel is attached to the upright rod between the two bearings and the arm carrying the sedimentation tubes is attached to the top of the rod. The arm and tubes of a hand centrifuge may be used. To eliminate vibration it is necessary to have the balance wheel centered perfectly on the rod and to have the bearings neatly fitted, and the bevel gears not meshed too closely. The bearings should be oiled frequently.

The entire cost of labor and material in thus converting my fan into a centrifuge was $3.50.

No doubt many physicians have electric fans in their offices which stand idle except for a few weeks in summer and could be profitably used the remainder of the year as centrifuges.

1405 Tenth Street.

Breast-Feeding of Infants.—Those who stop to think will realize that even partial breast-feeding favors an undisturbed digestion in the infant and a safer and more continuous development. Yet many a mother whose milk could readily be made to assist in the early nutrition of her infant is errantly advised or allowed to discard it for the greater uncertainties of total bottle-feeding.—T. S. Southworth, in *Jour. Obst. and Dis. Women and Children.*

SYPHILIS IN CHILDREN

MY EXPERIENCE WITH SALVARSAN: IMMEDIATE RESULTS AND LATER TOXIC MANIFESTATIONS

LOUIS FISCHER, M.D.

Attending Physician to the Children's Wards of the Sydenham Hospital, and Attending Physician to the Willard Parker and Riverside Hospitals

NEW YORK

In order to study the true value of salvarsan, I have selected three common types of syphilitic lesions most usually encountered in children.

1. A boy having syphilitic lesions in knee-joint, with infiltration, swelling, and pain on extension or flexion of joint. He was castrated for gumma of left testicle, several years ago.

2. A child with congenital syphilis having lesions (a gumma and condylomata) on vulva, around the anus. This patient was photographed before and one week after treatment, to illustrate the apparent benefit.

3. A girl with congenital syphilis, showing all evidence of malnutrition, having an enormous spleen palpable two fingers below the umbilicus, swollen glands in various parts of the body, a very large liver and icterus.

No patient was subjected to this treatment until a positive Wassermann and a positive Noguchi reaction were obtained. It was not easy, in Case 1, to demonstrate the spirochetes, although diligent search was made for them by Dr. Fred. Sondern.

In Case 2, the *Spirochæta refringens,* not the *pallida,* was found. For all Wassermann and Noguchi examinations, I am indebted to the courtesy of Dr. D. M. Kaplan, Director of the Laboratory of the Neurological Institute.



Fig. 1.—Margaret K., 18 months old, with congenital syphilis, before injection of salvarsan.

The blood was examined before and after the injection, and showed a slight increase in the polymorphonuclear leukocytes, also a slightly increasing leukocytosis.

In one case, in addition to a positive Wassermann, a positive cutaneous tuberculin reaction (Von Pirquet), by inoculating human tuberculin, was found, showing a notable though frequent association of tuberculosis with syphilis.

Clinical details were carefully studied by Dr. M. Freund, house physician of hospital, to whom I am indebted for painstaking supervision, in addition to

Dr. Heller, for additional clinical notes. The blood examinations were made by Dr. Gunzburg of the resident house staff.

The immediate result in all cases seen by me was a marked improvement. By improvement is meant the effect on visible gummata and condylomata. There was a general brightening up, and to all appearances a sudden change had taken place. In one case which I report the joint swelling improved rapidly, and the child was discharged greatly benefited after fourteen days treatment at the hospital. One injection was given, and no after-treatment. The patient reported to me weekly; and six weeks after the improvement above mentioned, I note an apparent change for the better.



Fig. 2.—Appearance of lesions before injection in same child.

REPORT OF CASES

The following cases have been attended by me in the babies' ward of the Sydenham hospital:

CASE 1.—B. L., 6 years old, was a former patient of Dr. Tunick. The mother had an innocent infection. The boy was born with lues, affecting various parts of the body. He had a gumma of testicle for which he was castrated. At present he has a swelling of the left knee-joint, which is thicker than the right joint. The superficial veins are very prominent, and the joint is immovable; evidently gumma-periostitis. The Wassermann reaction is positive, likewise the Noguchi. I am indebted to Dr. D. M. Kaplan for the serologic examinations. An injection of 0.3 Ehrlich-Hata given in a neutral solution, in the left buttock, with aseptic precautions, was not followed by local reaction. Marked benefit followed within forty-eight hours.

Repeated examinations of the urine showed no evidence of any abnormality.

TABLE 1.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 1)

Date.	W. B. C.	Polynuc.	Lymph.
10/26	12,200	80	20
10/29	15,400	78	22
11/ 1	16,200	75	25
11/ 5	16,000	78	22

CASE 2.—Margaret K., 18 months old, a breast-fed child, was referred to my hospital service through the courtesy of Dr. Henry Whitehouse, whose diagnosis was syphilis. The child was backward in development; could not walk but could stand; said only "mamma" and "papa." Falling of hair, enlarged superficial veins of scalp, marked pallor of skin, and hemic murmur of the heart, also heard in the carotids, were present. The child had snuffles. The epitrochlear glands were easily palpable.

On admission to hospital a diagnosis of gumma on the vulva, and condylomata on the vulva and anus was made. Wassermann reaction was positive, also the Noguchi. A smear taken from the surface of gumma was carefully examined by Dr. Fred. Sondern, who reported the presence of *Spirochæta refringens* but not the *Spirochæta pallida*.

The diagnosis being positive, an injection of 0.3 gm. salvarsan was given in the left buttock. Within twenty-four hours the swelling of the vulva and the gumma began to melt away, the swelling of other parts decreased and marked benefit followed.

A severe local infiltration followed with marked febrile reaction and swelling which subsided by local antiphlogistic treatment. It is almost impossible to credit sufficiently the immediate benefit noticed in the lesions, by those who saw the case from day to day.

This condition of improvement was suddenly changed to one of visible loss of power. This was more marked on the left side. At the site of injection, an induration was palpable and from a slight fistulous opening we expressed a yellowish-green mass resembling unabsorbed concentrated Ehrlich-Hata preparation. In addition thereto yellowish coagula resembling necrotic tissue was expressed. There was no Herxheimer[1] reaction present.

Toxic Manifestations.—In this case the visible lesions covering the vulva and labia disappeared and did not return. The muscles of the legs suddenly lost their tone; they were limp and flaccid. Marked trophic changes were noted as early as two weeks after the injection. On the left side the plantar reflex was absent and the patellar reflex was lost. There was progressive atrophy of the extensor and flexor group of muscles of the thigh, calf and leg. The infant seemed to have lost all strength. The sphincters of the bladder and rectum functioned properly. There was a slight drop-foot.

On the right side we had trophic changes involving the thigh and leg. There was also a soft flaccid condition of the muscles and progressive emaciation. The



Fig. 3.—Appearance of lesions in same child one week after injection.

patellar reflex was lost, but the plantar reflex was present. The infant appeared absolutely helpless. The pulse was small and feeble, and the infant showed all the evidence of toxicity. We were certainly dealing with a toxic neuritis due to the injection of this remedy.

Such were the visible evidences of the toxemia. The heart sounds were feeble and muffled, and a faint murmur was heard at the apex. The child was unable to hold its head up. There was marked anorexia. Owing to the cardiac weakness I ordered

1. The Herxheimer reaction consists in an increase of any and all exanthemata after an injection of 606, similar to mercurial treatment. Ehrlich believes that when this reaction occurs the parasites, instead of being killed, are simply being irritated and produce a increased quantity of toxin. This reaction is usually found when an insufficient dose has been given.

caffein, sodium benzoate, and hot salines to stimulate the circulation, in addition to concentrated food, such as yolk of egg with milk, and broth, and malt soup feedings. Massage and general faradization have been used almost one month with but slight improvement. There is a slight increase in weight, due no doubt to improved metabolism. The child appears sick, is listless, and also has excessive diaphoresis. The prognosis is dubious. She is still in the hospital for further observation.

TABLE 2.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 2)

Date.	W. C. B.	Polynuc.	Lymph.	Mononuc.
10/18	13,000	73	24	3
10/20	16,600	82	17	1
10/22	12,400	78	22	..
10/24	13,200	79	21	..
10/27	12,000	78	22	..
10/28	12,000	78	20	2
10/29	12,000	76	23	1
10/30	12,400	73	27	..
10/31	12,000	77	23	..
11/ 1	12,800	78	21	1
11/ 2	12,600	76	24	..
11/ 4	13,000	78	21	1
11/ 5	13,200	77	23	..
11/ 7	13,800	76	24	..
11/ 9	13,600	77	22	1

A comparison of the blood reports in Cases 1 and 2 shows a decided leukocytosis soon after the injection. This leukocytosis remained about two weeks in Case 1, until the patient was discharged.

In Case 2, still under observation, the apparent leukocytosis was soon lost, and the leukocyte count of 13,000 on admission to the hospital is now gradually reappearing. When the neuritis was at its worst the leukocyte count was at its lowest, 12,000, and with improved nutrition the leukocytes rose as high as 13,800. The urine showed the presence of albumin on several examinations.

CASE 3.—Helen K., 8 years old, has been under treatment for syphilis for two years. The epitrochlear and inguinal glands are swollen, the liver is very large and the spleen enlarged, extending to below the level of the umbilicus. The patient has various eruptions and nodules on tibia and radius, and cervical glands always enlarged. At present there is some icterus. The patient has been operated on for enlarged tonsils and adenoids by Dr. Freudenthal, and incised for various abscesses by myself. She has frequent ear discharge, and vaginal catarrh; has never been healthy. Wassermann and Noguchi reactions are positive. An injection of 0.3 gm. salvarsan was given in the left buttock with aseptic precaution. The condition of the child is excellent, although the liver and spleen are not noticeably reduced in size. The appetite is good.

It is four weeks since the treatment was begun in this case. There is still a local infiltration and an induration of the buttock which has not become inflamed but is still a reminder of the injection given.

In each of the three cases a single injection was given. This preliminary report is submitted as an unbiased clinical study, and the patients are still under observation. One of them, Margaret K., is still in the hospital, six weeks after the injection.

CONCLUSIONS

From a study of the foregoing experience the following deductions are justified:

First, the toxicity may be due to a hypersensitive body, possibly an idiosyncrasy.

Second, the dose of the drug (0.3 gm.) is too large for children and hereafter I shall advise no more than 0.1 of the Ehrlich-Hata preparation, the dose not to be repeated for at least several weeks, or until we are justified in assuming that there are no systemic symptoms associated with the first dose.

From my present experience I would strongly advise against the injection of ambulant patients, but would require the injection to be given either in the hospital or in a sanitarium, where proper medical supervision and competent nurses can supervise details, and note toxic symptoms as early as possible.

162 West Eighty-seventh Street.

LIFE AND HEALTH AS NATIONAL ASSETS *

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MINNEAPOLIS

Short-sighted humanity fails to appreciate Nature's gifts until threatened with their loss. This is true of even the greatest of her gifts, life itself. Although belated in our realization of the threatened overdraft on Nature's storehouse, a compensatory and irresistible enthusiasm has developed within the last two years which augurs well for the retention by our country of that international leadership so manifestly foreordained by Nature's bountiful equipment.

It is significant of our failure to value health, which above all other considerations makes life worth the living, that the first meeting of the governors of states failed to provide for the study of health problems. The omission was noted and in the National Conservation Commission's Report of Jan. 11, 1909, in the general schedule, special consideration was given to life and health. The report itself deals with five different phases of conservation, namely, minerals, lands, forests, waters, and finally, national efficiency, or health. Only four sections, however, were created. Health was not provided with a special section or officers.

In the North American Conservation Congress called by President Roosevelt Dec. 24, 1908, in addition to the conservation of the national resources already mentioned, the protection of game received attention. This was an international commission representing our own country, Canada and Mexico, which reported from Washington, Feb. 23, 1909. Among the commissioners representing the various countries there was seemingly no one whose training and paramount interest lay in the field of public health.

While it is apparent that the initial oversight has been in part repaired, it remains to be seen what progress will result from the Second National Conservation Congress, in relation to this, the people's most important natural asset.

The inclusion in the program of a paper entitled "Life and Health as National Assets" must not be taken as evidence that there is any doubt as to the real and assessable value of life and health. Rather are we called on at this time to realize that they constitute national or public resources furnished by Nature and are not to be regarded as strictly personal or private possessions. The individual life has its economic and commercial value to the community and the nation by virtue of the contribution it may be expected to make to society. This view may perhaps be novel to some. Our ideas concerning conservation of our other natural resources, however, have undergone such rapid evolution in the recent past, that we may easily orient ourselves to the

* Read before the second National Conservation Congress, St. Paul, Sept. 8, 1910.

viewpoint exhibited by the officers of this congress, that the individual in matters of health as of other resources, must respect the rights of other individuals and of his municipality, state and government. The health aspect of conservation, which is its most important aspect, cannot and will not be neglected, although it has not been the first to which the attention of the nation has been directed.

Nor can we dissociate health conservation from the other aspects of the movement even if we would. The history of man's progress in knowledge of the natural sciences bears out this statement. Even though we ourselves have broken faith with Nature, we are able to-day to make her fulfil her promises in forestry, agriculture and other economic matters by the application of our knowledge of those very sciences which may be said to owe their birth to man's search for perpetual life and youth.

One can easily imagine that the medieval conservation commission comprised two sections, one on health and the other on minerals. In the former, which undoubtedly was basic and dominated all other considerations, the papers presented dealt with "elixir of life" and the touchstone, while in the latter the chief interest was displayed in the transmutation of metals.

At this stage the studies of health and of the control of man's so-called material assets were carried on hand in hand, and if we are logical they always will be.

In any event man's health depends on the success of his effort to adapt his environment to his needs more than in adapting himself to his environment. Health interests are fused with social and economic development, but should undoubtedly dominate rather than be dominated by them.

OBSTACLES TO PROGRESS IN CONSERVATION OF HEALTH

Our lack of interest in matters of health is more apparent than real. It is characteristic of many of us that where our most vital interests are involved we betray the least public concern. In nothing is this better exemplified than in our matters of personal and public health, except, perhaps, it be in matters of religious belief and practice. Nor should we deem it strange that a similar attitude of mind obtains in matters of health and religion.

In ancient times the priest and the physician were one. At the present day aboriginal tribes combine religion and health, and to too great an extent perhaps do our civilized nations fail to discriminate between the two. Particularly is this exhibited in man's cowardly attempt to shift his responsibility for disease and death to Providence.

One of the greatest causes of lethargy in the conservation of personal and public health is the failure on the part of many to differentiate clearly and sharply between disease and death. The former is really a manifestation of life and vital force and is capable of modification, prevention or cure by human agency, since man has shown himself quite able to solve Nature's other secrets for the benefit of his comfort or convenience. We conserve health by the application of the same sciences which enable us to conserve our other better recognized but less material natural resources. Disease yields to man's mastery while death remains man's mystery. Even death may, however, be postponed, and Prof. Irving Fisher has estimated that over 600,000 deaths occur each year in our country which could be postponed by systematic application of scientific knowledge already available. For those who think more easily in terms of dollars and cents he has estimated this appalling annual national loss at over one billion of dollars which can and should be prevented.

We must not be lulled into a sense of well-being by such statistics. There is no royal road to such a goal. Our very success in the eradication of one disease or insanitary condition may lead to undue optimism in regard to other problems which later may be found to be dependent on altogether different causes and to require very different methods of prevention or cure. Failure to realize the complexities of modern social activity and economic development in their relation to health and at the same time to recognize the immense number of variable factors and agencies which are involved in health protective measures cannot but lead to disappointment. The individual whose enthusiasm is too easily aroused by the discovery of some hitherto unknown cause of disease or some new method or theory of cure or prevention is a source of danger to the commonwealth. The faddist, whether in the matter of such things as food, clothing, fresh air, baths, exercise or other therapeutic agent, is to be feared, as well as the individual who thinks that he has discovered the one cause of all diseases.

Our chief difficulty lies in coordinating the various forces and agencies which are essential to success in the eradication of sickness. There is no blanket method of preventing all diseases. Quarantine and fumigation are now found to have a more limited application. Vaccination, which is practically an absolute and the only reliable protection against small-pox, cannot be applied to such diseases as malaria, yellow fever and diphtheria. The use of antitoxin which prevents annually many thousands of deaths from diphtheria does not help us in many other diseases. Our knowledge of mosquito-borne disease which has reorganized life in Cuba, Panama and the Philippines is not of much practical use in our northern states. As there is no single cause, there can be no single method either of cure or prevention.

These considerations should not discourage us. They show us, however, the need of further study and the imperative demand for employing the services of trained physicians, biologists, chemists, engineers, statisticians, sociologists, educators and other experts, and of coordinating all their efforts. We must steer a middle course, avoiding on the one hand the Scylla on which those run who become discouraged in what they believe to be the face of the unknowable, and, on the other hand, the Charybdis of that fateful tendency to minimize the actual complexities of the present-day health problem. Fatalist and faddist are equally dangerous. It is fair to count on the same progress in the adaptation of physical, chemical, biologic, social and other sciences to the diagnosis, cure and prevention of disease as in their application to man's comfort, convenience and economic development.

It is clear that the efforts of all the various workers in the different fields must be coordinated and the difficulties of coordination are at once apparent. The forces and agencies may be roughly divided into international, national, state, county, municipal and institutional. Each one of these is capable of being subdivided still further into two classes, one of which is official or governmental and the other is voluntary. Improvement in public health requires cooperation and coordination of all of these. Successful public health administration consists largely in making individuals do what they

not wish to do, or that of which they do not appreciate the necessity, for the good of themselves and others.

This brings us naturally to the consideration of another national weakness. We encounter some of the same difficulties in public health work that we meet in the exercise of our other public functions. Rampant individualism is of even greater danger in matters of health conservation than in other affairs of public concern, largely on account of the fact that health is too often regarded as a purely personal rather than our most important public asset. The individualist objects to authority in matters of health control. Consequently he resents dictation as to his personal action and fails to recognize the need for special training in health administration as in other branches of public service. We deliberately handicap ourselves by failing to recognize the necessity for employing those who have fitted themselves by special training, and by our unwillingness to maintain a proper relation between compensation and responsibility. Most of those who are engaged in public health service have no way of gaining experience except at the expense of the public and are too frequently removed by political change or semi-starvation just as they have succeeded in equipping themselves to be of the greatest possible value to their fellow citizens.

Public service of many kinds and particularly that which relates to the conservation of health in our country is all too often delegated to voluntary agencies which are thus forced to fulfil the functions which in other countries devolve on official and governmental agencies. This duty is nobly discharged. Their main function should be, however, to afford to the general public an object-lesson of what is needed and of how progress can be made. In this they rarely fail, although they labor under tremendous difficulty imposed by lack of authority. Funds which are furnished from private sources are frequently insufficient to permit of the employment of experts of the highest order. Public sympathy, on the one hand, and the development of an abnormal interest on the part of voluntary workers on the other, frequently lead to their continuance long after they have ceased to be useful, with the result either that the public delays in the establishment of an official organization, or, if such an organization be established, there is conflict between the official and voluntary forces. municipal health departments, hospital services, police departments, water, school, poor and park boards and other official servants and representatives of the people were supported by the people and were quick to use their opportunities, there would be less need of associated charities, visiting nurses, pure water and milk commissions, tuberculosis camps, playgrounds associations and other such voluntary organizations.

Had we found time apart from personal affairs, to consider and provide for public needs our federal and state authorities would have protected the people by the fixation of standards of preliminary and medical education and of medical licensure. This neglect of a plain public duty threw on the American Medical Association, the Association of American Medical Colleges and the Carnegie Foundation for the Advancement of Teaching the task of investigation and report on conditions in medical education which are now being improved through the force of public opinion rather than by law.

Is it not humiliating that public lethargy made it necessary for Mr. Rockefeller to provide funds for the investigation and eradication of hookworm disease?

In Germany, the government, through its public health service and universities, provides for medical and other research, so that the nation has become a leader of the world in scientific health protection and scientific economic development.

In America those institutions which are best able to carry on medical research derive their financial support from private sources. We are gratified, however, to see the increasing tendency in our country to provide efficient scientific laboratories for the federal and state governments and in our state universities.

ARE AMERICANS ABLE TO PROVIDE ADEQUATE PROTECTION TO THE NATIONAL LIFE AND HEALTH?

Having seen some of the difficulties which stand in the way of satisfactory conservation of the public health we might perhaps ask ourselves what proof of the possibility of conserving this asset is available. If, at this day and time, the American public is unconvinced of the need and possibility of conserving public health, it is undeserving of the respect of other nations, or even of self-respect. The daily and weekly press, our magazines, and governmental and other publications have overflowed with information. Our attention was particularly called to the possibility of preserving the health of men in the field by Japan's experience in the recent war with Russia. Our life-insurance companies have been quick to see the practical possibilities of prolonging the lives of their insured and of thus increasing the earnings of the stockholders.

The report on "National Vitality, its Wastes and Conservation," which was issued by the American Association for the Advancement of Science, is a masterpiece. It was prepared and presented by Prof. Irving Fisher, of Yale University. The publications of the various committees of the American Medical Association, the speech of Senator Owen in the *Congressional Record* of March 24, 1910, as well as federal, state, municipal and other health reports afford examples of what can be done.

Those who may be skeptical in regard to the ability of our people to compete with the older nations in the prevention of disease should note what has been done by Americans under the greatest of difficulties. In Cuba our nation overturned the existing order of affairs and the scientific discoveries made and applied to sanitation by Americans afforded a lesson to the world. There has been no greater factor in winning the world-wide confidence of other nations than the production of the existing sanitary state of affairs in the Canal Zone by our own citizens. Our work in Cuba, Panama and the Philippines has served to bring about hygienic conditions in supposedly pestilential regions which are vastly superior to those which obtain at home.

What Americans have done for others they have failed to do for themselves, owing largely to the lack of provision of adequate official and governmental agencies and failure to coordinate those which exist. Two Americans in Porto Rico showed the possibility of stamping out hookworm disease. The brains were furnished by the United States and the money by the island. We have the brains at home but refuse to pay the bills.

It is manifest that a full and complete discussion of life and health as national assets is impossible within the limits of a single paper. No attempt need be made to present a complete basis either of comparison or differentiation of health conservation from the other aspects of the national movement. It must be clear to

all that in the conservation of lands, minerals, waters and forests, effort is made to prevent the individual from taking that which belongs to the public. In the conservation of public health, our effort must be directed to preventing the individual from giving to the public something which neither he nor it desires. This is particularly true of infectious diseases.

There are many other phases of public health than those which relate to infectious disease, but they cannot be discussed at this time.

I have the honor to be a delegate to this congress from both the American Medical Association and the American Public Health Association, which represent factors in the conservation of human life and health concerning which the public needs more information than it possesses, and with your permission I shall briefly mention a few important matters.

THE MEDICAL PROFESSION IN ITS RELATION TO PUBLIC HEALTH

In the past, individual physicians and local medical associations and societies have brought a scattering fire to bear on the inactivity and ignorance of the general public in matters which pertain to public health. The public fails to believe in the urgency of health needs when presented by individual or groups of physicians because of its inability to appreciate the motive which leads the physician to urge the establishment of machinery and the special education of officials as also the provision of laws and funds to carry on work, which to the casual observer would mean a diminution of the individual physician's work and income.

Physicians who have qualified by postgraduate training in bacteriology, pathology, epidemiology and in public health, hospital, school and institutional administration must be drafted into the direct and official service of the people. This need is increasingly apparent. Others are required who can present evidence of special scientific training in chemistry, engineering, statistical, sociologic, charity and other work.

At present, great as is the actual need, the demand on the part of the public and the remuneration offered are so small and the possibility of employment so uncertain that universities, technical schools and other institutions which offer special courses fail to attract students. The public seems to prefer as yet to jeopardize its most valuable asset by employing untrained public health servants who develop efficiency after instead of before their appointment. This means a payment in life and health instead of dollars.

The average individual seems willing to pay and pay well for a cure when he is sick. Communities pay the cost of epidemics and will even pay for engineering services in relation to public utilities, such as water-supply and sewage disposal, but this is usually done only under the stimulus of some recent or threatened disaster. They, like the individual, want a cure, not a protection. Clinical experts, life-insurance examiners, and consulting and commercial engineers are all sure of a good livelihood because they can help the individual or community out of difficulties. Sanitarians and municipal engineers are usually left to semi-starvation because their function is to prevent the same difficulties, without, however, having either available public sentiment or funds to enable them to do it.

Physicians are naturally skeptical of the scientific training and possession of proper ideals on the part of those who have not been especially trained in medicine and who may have failed to develop the "disease point of view." That they are, however, of a receptive frame of mind can be shown in many ways. The American Medical Association has a number of standing committees, including a Council on Medical Education. This Council, in the endeavor to raise the standard of medical teaching throughout the United States, has prepared a standard schedule of minimal requirements, through the agency of ten committees, each of which consists of ten representative men. One of these ten committees which had to deal with hygiene, medical jurisprudence and medical economics contained in its membership university and college professors of chemistry, physiologic chemistry, political economy, pathology, bacteriology and hygiene. There were also executive officers of state and municipal boards of health and representatives of the federal health service; while among the collaborators were engineers and many university professors. Bear in mind that this was a committee of the so-called "medical trust," the American Medical Association.

Through oversight for which no one is responsible, this second National Conservation Congress and the American Public Health Association are meeting on exactly the same dates, September 5–9, we in St. Paul and the Public Health Association in Milwaukee. This association consists of some physicians who are in practice, but more particularly of medical men who are trained as federal, state, municipal, and institutional administrative officers, as also of laboratory, statistical, engineering and other technical workers. The membership includes representatives from all of the leading universities and medical and technical colleges. It has three sections, namely, laboratory, vital statistics and municipal health officer sections and is organizing a sociological section. You are familiar with the work of many of its officers and members. Colonel Gorgas, who was responsible for the administrative health work in Cuba and who has made possible the building of the Panama Canal without undue loss of life, is a member. The late Dr. Walter Reed, who eliminated yellow fever from civilized communities, was vice-president. It is an international association in which Canada, Mexico and Cuba participate, and much can be learned by attendance at these annual meetings. One of its chief benefits has been the formulation of standard methods of scientific procedure applicable to the suppression of disease in various districts of the different countries.

We are compelled to admit that our neighbors from the north and south have much in the way of advantage which is denied to our own workers. In our sister countries, the tenure of office depends more on the fitness and training of the incumbent. As a rule, the compensation for public service is relatively higher and the official organizations are better provided with an authority which is commensurate with their responsibility than is the case in our own country.

Time will not permit of an extended discussion of these conditions, but the annual opportunity to compare notes, tell each other of our successes as also of our failures and to help in the formulation of new methods and in an effort toward a higher standard of efficiency is of untold value. This is, however, a purely voluntary organization maintained for over thirty years at the personal expense of its members in the face of public apathy. This will be realized if I ask "How many of you knew that we have such an association?" and "Do you know that it is now in session?"

There yet remain a few matters of which a general understanding would bring about yet greater cooper-

tion between the physician and the general public. The medical profession has realized for a number of years that its members must become teachers of personal hygiene to their patients and families, as also to schools and the general public. It is a new viewpoint and involves the assumption of new responsibilities. The doctor has guarded himself against publicity except through his professional societies and journals and to his students, though ever eager to furnish details of his own discoveries and to recount his failures as also his successes to those who could understand and sympathize. This kind of publicity has been regarded, however, by the lay public as a sort of soliloquy carried on in an unknown tongue, and intended for the mystification of that same poor public.

Why there should be any failure of the medical profession as a whole to be understood by the general public it is difficult to see. The general public is composed of individuals each of whom has a feeling of trust, affection and possibly of veneration for one or more members of the medical profession. Why then does the public, an aggregation of individuals, allow itself to become suspicious of the medical profession, an aggregation of physicians? Why does the public abhor and obstruct the physician in his study of anatomy, dissection and in autopsy on the human body? Why is there so much suspicion of the motives and work as well as denial of the benefits which accrue to humanity from animal experimentation, when it must be apparent to any right-thinking individual that the extension of a physician's knowledge is only possible by such means? Why must physicians from time to time be themselves forced to urge the necessity of making every hospital a teaching and research institution? A moment's thought would convince any one that if this be not done, and if medical knowledge be allowed to die out with this generation, there will be no skilled men available for the hospitals and patients of the future to which our children and children's children must look for protection. It must also be patent to all that the patients of the present day cannot possibly receive such effective care in a hospital in which medical research and teaching are not fostered.

Why should the burden of maintaining a high standard of entrance to the profession and of preventing dishonest, incompetent, ignorant, and untrained persons from assuming the responsibility of physicians be placed entirely on the medical profession when the object to be attained is the protection of private citizens and public health?

Physicians of the United States are now thoroughly organized. The public should rejoice in this, since it is an attempt to neutralize the narrowing effect of isolation and to foster an exchange of information which physicians offer freely to each other and publish broadcast to the world. County and state associations are affiliated with the American Medical Association, which numbers in its membership over seventy thousand physicians. Just as the individual physician's chief concern is the care of his patient, so that of the organized medical profession is public health and welfare. The medical profession is as a rule underpaid, but members spend their hard-earned money and a large portion of their time in efforts to benefit humanity, individually and *en masse*. It is the people's concern to demand a liberal education and thorough scientific training of all students and practitioners of medicine, public and private. It is to their interest to see that every possible facility is afforded for teaching and that a rigid standard of teaching, examination, degree conference and licensure is maintained. Nothing is more exasperating for the physician of high ideals, whose length and breadth of sacrifice is known to none, than to hear the sneer directed at his profession for its effort to protect the public. The time has come when the medical profession is in a position to demand that the people exercise discrimination and protect themselves.

NATIONAL HEALTH DEPARTMENT

One of the first steps toward the betterment of our public health conditions is the coordination of the existing federal agencies in Washington, of which we are all so proud. When no logical reasons can be advanced in explanation of further delay, it is very discouraging to realize that this important matter again has been postponed.

At the Sixty-First Congress, various bills were introduced, including that of Senator Owen. In support of these bills appeared those who by special training and long experience are recognized at home and abroad as the highest authorities on public health. The whole nation is waiting to see what action her representatives will take to protect her most precious asset.

I should like to cite some sixteen reasons why the people of the United States should have a Department of Health, which were published by the Committee of One Hundred of the American Association for the Advancement of Science:

1. To stop the spread of typhoid fever through drinking sewage-polluted water of interstate streams.
2. To enforce adequate quarantine regulations so as to keep out of the country plague and other similar pestilence.
3. To supervise interstate common carriers, in so far as without such supervision they prove a menace to the health of the traveling public.
4. To have a central organization of such dignity and importance that departments of health of states and cities will seek its cooperation and will pay heed to its advice.
5. To influence health authorities, state and municipal, to enact reform legislation in relation to health matters.
6. To act as a clearing-house of state and local health regulations and to codify such regulations.
7. To draw up a model scheme of sanitary legislation for the assistance of state and municipal health officers.
8. To gather accurate data on all questions of sanitation throughout the United States.
9. To establish the chief causes of preventable disease and unnecessary ill health.
10. To study conditions and causes of disease recurring in different parts of the United States.
11. To correlate and assist investigations carried on in many separate and unrelated biologic and pathologic federal, state and private laboratories.
12. To consolidate and coordinate the many separate government bureaus now engaged in independent health work.
13. To effect economies in the administration of these bureaus.
14. To publish and distribute throughout the country bulletins in relation to human health.
15. To apply our existing knowledge of hygiene to our living conditions.
16. To reduce the death-rate.

In 1912 there will meet in Washington on the invitation of the President and the Congress of the United States, the International Congress of Hygiene and Demography. This congress meets triennially in the capitals of the world and brings together the leaders in health conservation who are officially delegated by the governments of all civilized countries.

We have many things to show them of which we can be justly proud. Our federal, state, municipal and other official health organizations, however, leave much to be desired, and it behooves us, in the few months still at our disposal, to prepare to show the visiting nations our methods and successes.

We need many other things, but due recognition and coordination of our federal health mechanisms is the first step, which, if we have taken it before the meeting of this international congress, will best enable us to profit by the experience of the world's experts there assembled.

Nature has been prodigal in her gifts to our nation. In no respect has she been kinder than in opportunities for health and efficiency. Her very prodigality has rendered us careless and extravagant.

It is high time that Americans do as well for themselves in health protection at home as they have done for themselves and others in Cuba, the Canal Zone, Porto Rico and the Philippines.

This demands the creation and maintenance of official organizations to amplify, extend and ultimately replace the work of our voluntary organizations whose lack of authority prevents complete success and whose continuance beyond the demonstrational stage or for other purposes than as a stimulus is an admission of American official incompetence which amounts almost to a repudiation of our belief in our own form of government.

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PICRIC ACID AND ITS SURGICAL APPLICATIONS *

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HISTORICAL REVIEW

Hausmann, in 1788, treating indigo with nitric acid, happened on a bitter yellow substance. Welter (1799) found a similar substance produced by the action of nitric acid on silk. Fourcroy and Vauquelin (1806) concluded that the two were identical, and Liebig (1827) and Wöhler (1828) established them as a definite chemical, calling it *Kohlenstickstoffsäure* (in French *acide carbazotique*). Laurent (1841) demonstrated it to be a derivative of phenol (carbolic acid).

The toxic properties of this chemical, later called "picric acid" from the Greek adjective "bitter," were investigated by Rapp and Föhr on dogs (1827). Braconnot (1830) introduced it into therapeutics in the treatment of intermittent fever. Dr. Bell of Manchester reintroduced it for the same purpose twenty years later, and it had for a time wide acceptance as a substitute for quinin, based on the clinical observations of Aspland. It came into general use in France, as well as in Germany, where it was also used and recommended as an anthelmintic. In America it was extolled by certain of the homeopathic school.

Its surgical application was suggested to Chéron (1876) by its power of coagulating albumin. Curie and Vigier (1877) recommended it for the treatment of wounds, but the drug was never properly appreciated until Thiéry, ten years later, worked out by a protracted series of observations, the advantages of the saturated aqueous solution. He had many followers, who have spread its fame to other countries, and into other branches of medicine. His critics insisted on the danger of poisoning from absorption, but to this he had the answer that if properly used there was no danger of toxic symptoms developing, and that it had never been known to cause death even when taken internally, although five attempts at suicide by its use have been recorded.

CHEMICAL PROPERTIES

Picric acid ($C_6H_2(NO_2)_3O\,H$) is a trinitrophenol, and may be made by dissolving phenol crystals in strong sulphuric acid and adding nitric acid. Its crystals are small scales or elongated plates or needles, pale yellow, odorless, intensely bitter. They melt and sublime if warmed gradually, but if heated rapidly or rubbed briskly they detonate. The potassium and sodium salts are explosive.

It is soluble in alcohol (10 per cent.) and ether (20 per cent.), but only slightly in water (1.2 per cent. at room temperature). It may be purified by precipitation from a boiling solution. Its watery solution is deep yellow, having a marked affinity for animal tissues and fabrics, which gives origin to its use as a dye. Stained surgical dressings may be burned without danger of explosion. It is cheap.

Absorbed in sufficient quantity, it causes a yellow discoloration of the skin, simulating icterus, as well as of the internal organs. Large doses (dogs) cause destruction of the red corpuscles, and hemorrhage and inflammation of the kidneys and gastric and intestinal mucous membrane. It is excreted chiefly in the urine as picramic acid. About 15 grains internally will induce a yellow coloration of skin, conjunctivæ and urine in man. If it is continued the urine becomes black and there is headache, vomiting and epigastric distress. Aspland gave 1 to 4 grains three times daily for as long as nine weeks without distressing symptoms. The discoloration disappears in two weeks after the dose is discontinued.

ANTISEPTIC PROPERTIES

Concerning its antiseptic properties I have been able to find in the literature no definite information. It has been generally recognized as a mild antiseptic; it has been recommended internally for the purpose of arresting decomposition of urine in cystitis, and it has been advocated as a disinfectant of fecal and putrid albuminous matter; being without odor, it does not mask the odors of decomposition. In order to determine at first hand its bactericidal power, the following experiments were undertaken.[1]

EXPERIMENTS

The so-called rod-method was selected as being the best means of estimating the antiseptic strength of solutions used in surgical dressing. In this method the solution is tested out on bacteria which have been dried in air, in contradistinction to the drop-method, which tests the solution against bacteria in thin fluid suspension. The rod-method gives, therefore, an estimate of the power of penetration possessed by the solution, and as between the two methods it gives the slower reading.

* A bibliography of the subject, omitted here for lack of space, is given in the author's reprints.

1. The experiments were carried out at the bacteriologic laboratory of the Boston Board of Health, to the director of which I hereby express my extreme obligations. The experiments were performed with the aid and under the supervision of Dr. C. L. Oxylander, instructor in theory and practice, Harvard Medical School, assistant in clinical pathology, Boston City Hospital, to whom I wish here to give grateful recognition.

A sterile saturated solution of picric acid at room temperature was employed. To serve as a control, as well as to give a basis of comparison with a commonly used antiseptic of known value, a solution of phenol in sterile water of analogous strength, namely, 1 per cent., was also employed.

As objects of the experimentation, fresh virulent cultures of *Staphylococcus aureus* and of *Bacillus pyocyaneus* were used, the staphylococcus representing the most resistant of the pus-producing organisms which the surgeon has to meet, and the pyocyaneus representing the milder secondary and saprophytic wound-infecting agents. The culture of *Staphylococcus aureus* was taken from a freshly opened breast abscess, and in order to increase its virulence was passed successively through three guinea-pigs, the last of which it killed in forty-eight hours. The pyocyaneus was taken in pure culture from an abscess in a horse, and was passed through two guinea-pigs, the second of which it killed in thirty-six hours.

The mode of procedure was as follows: Long glass rods were sterilized in test-tubes. To a twenty-four-hour growth of each of the cultures on agar a half dram of sterile water was added, and into this the growth was rubbed by a sterile platinum loop. Into these bacterial suspensions a sufficient number of the rods were dipped and placed in a frame to dry in the air at room temperature. After drying one hour, the rods were inserted into the tubes already prepared containing each about 10 c.c. of one of the sterile antiseptic solutions. After being immersed for the measured length of time, each rod was removed, rinsed off in a tube of sterile broth to wash away the excess of antiseptic, and planted on an agar slant. The broth and agar were both incubated ten days, when the final reading was taken. In case of doubt as to the identity of the growth, transfers were made to study cultural characteristics, as in this method there is considerable opportunity for contaminating organisms to enter. To guard further against error, the experiments were performed twice under identical conditions.

The accompanying table shows graphically the result of the experimentation. From it we conclude that a saturated aqueous solution of picric acid (1.2 per cent.) kills bacteria from a fresh virulent culture of *B. pyocyaneus* which have been exposed to the air for one hour, in a half minute, and bacteria from a fresh virulent culture of *Staphylococcus pyogenes aureus* in about two minutes, whereas a 1 per cent. solution of phenol under the same conditions takes about twenty minutes to kill *B. pyocyaneus*, and ninety or one hundred minutes to kill *Staphylococcus aureus*. That is to say, the picric solution may be considered about fifty times more active as an antiseptic than the 1 per cent. phenol.

MINUTES EXPOSURE	FIRST EXPERIMENT 10 DAYS INCUBATION								SECOND EXPERIMENT 10 DAYS INCUBATION							
	PICRIC 1.2%				CARBOLIC 1%				PICRIC 1.2%				CARBOLIC 1%			
	PYO.		STAPH.		PYO.		STAPH.		PYO		STAPH.		PYO		STAPH	
	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR
½			+	+	+	+	+	+			+	+	+	+	+	+
1			+	+	+	+	+	+			+	+	+	+	+	+
1½					+	+	+	+					+	+	+	+
2					+	+	+	+			+	+	+	+	+	+
2½					+	+	+	+					+	+	+	+
5					+	+	+	+					+	+	+	+
7½					+	+	+	+					+	+	+	+
10					+	+	+	+					+	+	+	+
12½					+	+	+	+					+	+	+	+
15					+	+	+	+					+	+	+	+
17½					+	+	+	+					+		+	+
20					+	+	+	+							+	+
22½					+		+	+					+		+	+
25					+		+	+							+	+
27½					+		+	+							+	+
30							+	+							+	+
35							+	+							+	+
40							+	+							+	+
45							+	+							+	+
50							+	+							+	+
55							+	+							+	+
60							+	+							+	+
70							+	+							+	+
80								+								
90															+	+
100								+							+	+

Table showing comparative antiseptic strength of a saturated aqueous solution of picric acid and of a solution of phenol of analogous dilution. The picric acid solution kills *B. pyocyaneus* and *Staphylococcus aureus* in approximately one-fiftieth the time required by the phenol.

CLINICAL

My first surgical application of picric acid was made five years ago as house officer in the Boston City Hospital, at the suggestion of Dr. Frederic J. Cotton. Since that time I have employed it on about 300 patients, ambulatory and bed cases, and in private practice. Never, either in infants or in adults, have I seen sufficient absorption to show in coloration of the skin or urine. I have used it with satisfaction in first, second and third-degree burns, and in fresh lacerated and granulating wounds and ulcers. It is my purpose here to describe the technic of its use, and the results of my observation of its effect, particularly in burns.

I have used practically throughout a saturated aqueous solution of the C. P. crystallized picric acid. The stronger solutions sometimes recommended in alcohol and water are momentarily extremely painful on large raw surfaces, and are of course more liable to be followed by symptoms of absorption. They have a place only in limited areas of first-degree burns and in dermatologic affections in which the skin is not broken. The surgical employment of the acid in the form of an ointment is illogical, in so much as its so-called keratoplastic properties are interfered with by the fatty base, and the powdered crystals also should not be used because of the grave danger of absorption, and because the characteristic action is produced only by the solution.

A convenient method of preparing a sterile saturated solution is as follows:

Boil water in a flask sufficiently long to insure the sterility of the water and of the interior of the flask. While still boiling add the estimated quantity of pure picric acid crystals (12 gm. to the liter, or 1½ drams to the pint), stopper with absorbent cotton and allow to cool. Any excess of the acid will settle as a precipitate on the bottom of the flask. The contents can be kept sterile indefinitely.

The solution should be applied on gauze. In case of a superficial burn of hand or foot, the part may be completely immersed in the solution for some minutes and the gauze dressing then applied, covered with sheet wadding and bandaged. Waxed paper or other material to prevent evaporation and render the dressing occlusive is of no advantage except to prevent the solution from soaking through and discoloring the bandage. To avoid staining the fingers, the wet gauze may be handled with forceps, or the hands may be protected by

rubber gloves or petrolatum. Sometimes it is cleaner to apply the gauze about the part and then to moisten it by pouring the solution on the gauze directly from the bottle. Ordinarily, scrubbing the hands in soap and water immediately after contact, with or without a preceding soak in alcohol or ammonia water, readily removes all but the faintest traces of yellow discoloration.

In fresh burns of the first and second degree, or superficial lacerated wounds, no preparation is necessary if the parts are tolerably clean. If the skin is dirty it should be gently washed clean with a gauze sponge dipped in soap and water, and then rinsed off with sterile water or a weak antiseptic solution. Any blebs which have formed may be opened aseptically at their most dependent point, and the contents expressed. One dressing usually suffices in these cases, unless the lesion is extensive. If a burn has received previous treatment with ointments, or a carron oil or other emergency application, this should be carefully wiped away, so as not to interfere with the action of the picric acid.

In burns of mixed degree the same principles are to be followed, except that wherever the subcutaneous tissue is exposed, more particular care should be exercised in rendering the lesion aseptic. If a small area of third-degree burn is well cleaned up at the start and is dressed aseptically, it will granulate without pus formation and dermatize rapidly. Third-degree burns covering an extensive area should not be treated by picric acid. Ordinarily one or two dressings will suffice to heal the first and second degree elements of a mixed burn, and after that the granulating areas can receive attention.

The treatment of granulating areas, whether fresh or chronic, by picric acid is successful only in proportion as the exudation of pus can be controlled. Areas of third-degree burn may be made to heal aseptically under picric acid with an even granulating surface without exuberance or purulent discharge, which dermatizes rapidly with a smooth and supple cicatrix and very slight scar contraction, and forms an ideal base for a Reverdin graft.

A chronic ulcer may, under proper circumstances, be cleaned up and freshened so as to respond similarly to picric acid treatment. If the lack of healing depends on interference with circulation, as in varicose ulcers, the patient should be kept in bed with the part elevated. The limb and ulcer should be scrubbed with soap and water and washed off with ether and 60 per cent. alcohol; exuberant granulations should be trimmed down, and the marginal epithelium, if callous, should be lightly curetted and an aseptic picric acid dressing applied. The dressing should be changed daily, with a repetition of the cleansing, until the purulent discharge has ceased. After this, the ulcer will dermatize rapidly under dressings every three to six days.

For superficial lacerated and incised wounds and abrasions the solution acts well. Such lesions, if not too extensive, after being cleaned up with some antiseptic, may be expected to heal under one or two dressings in four to six days. Septic blebs, such as frequently occur on the hands, in paronychiæ, from pinpricks, following burns and scalds which have not been attended to, and on the feet from chafing and bruising, respond readily to picric acid. If the tops are trimmed off, the pus wiped away with a cresol-soap solution and dried, one application of picric acid will usually suffice to form a new and substantial horny layer over the denuded epithelium—unless the basal layer has been destroyed and the subcutaneous tissue exposed.

The local action of picric acid solution has been the subject of considerable speculation. Its essential action may be referred to its power of coagulating albumin. Over any clean denuded surface it forms a protective, aseptic scab, by coagulation of the secreted serum, which seals up ruptured lymph-spaces, protects exposed nerve-endings, and splints the wound in such fashion that epithelial proliferation may proceed rapidly beneath, simulating Nature's method. This artificial scab protects against infection from external sources and promotes rapid and painless epidermatization.

In burns of the first and second degree, and other superficial lesions, the original dressing may be removed after three or four days and the wound will be found healed into a flat, pliant scar. If the gauze adheres to the scab it should be moistened with picric acid to avoid pulling away the scab, which may be softened with boric ointment and removed, or allowed to remain until it comes off—unless there is suspicion that pus is imprisoned beneath. If there still remain unhealed portions the dressing should be renewed.

It is essential that the wound be clean and aseptic at the time of the first application. Pus may become confined beneath a scab, or, in a lesion of considerable size, the gauze may become adherent at the edges by inspissation of the secretion and the pus collect under tension. In either case the lesion is likely to become converted into an ulcer. In third-degree burns, when doubt exists as to the sepsis or asepsis of the lesion, it is wise to inspect the original dressing within forty-eight hours.

In comparison with other commonly used dressings for lesions of this nature, picric acid solution stands out in marked relief as the only agent actually encouraging epidermatization. Oils and greases usually employed in burns are ordinarily far from aseptic, and they tend to macerate the tissues with which they come in contact and prepare it as a suitable medium for the multiplication of the bacteria which they themselves supply. Other solutions employed for their antiseptic properties, such as phenol, corrosive sublimate and cresol-soap solution, oppose epithelial growth in proportion to their antiseptic power, by their chemical action. Picric acid, on the other hand, is distinctly keratoplastic — it is bland, unirritating, definitely antiseptic, if properly used is non-toxic, and at the same time it promotes so rapidly the formation of epidermis from the basal layers that it has been said "with it one can create epidermis at will."

Pain, which has been noted with the stronger alcoholic solutions, is rarely present when the watery solution is used. Sometimes over an area of a third-degree burn of considerable size, smarting is felt on the first application, but this is momentary and not severe, and is followed by a complete and permanent analgesia.

CONCLUSIONS

The saturated aqueous solution of picric acid is incontestably superior to any other antiseptic surgical dressing at our disposal for the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. It is cheap and simple in application and induces rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level, non-secreting granu-

lating surface, over which dermatization will proceed rapidly, or which will serve as an ideal base for the reception of Reverdin or Thiersch grafts. The mild toxic symptoms which have been reported as occasionally occurring will never be seen if reasonable care is exercised.

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COLITIS *

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That there should be such a conflict of professional opinion regarding the nature and concept of colitis is perhaps not surprising when we consider its protean characteristics.

The more experience one has in dealing with these cases the more likely is he to be convinced of the futility of attributing to them either a common origin or a constant pathology. The term "colitis," as here used, is intended, therefore, to include both conditions associated with catarrhal inflammation and those in which the disturbance in colonic function is dependent on a secretory neurosis. I have excluded, however, cases of gastro-enteritis, enterocolitis, and all conditions in which the colonic involvement seemed of secondary importance, as also the acute forms of colitis.

The statistics given are based on a series of 625 cases observed during my four years' residence at French Lick Springs. All have one feature in common, *viz.*, an excess of mucus and, with few exceptions, pain and tenderness along the course of the colon. I have not attempted a further classification under the headings of colica mucosa and intestinal catarrh, for the reason that while I believe that a certain proportion of such cases, as clinically observed, may be readily recognized as belonging to one or the other of these forms, there still remains a considerable number which, either for the lack of sufficient data or because of the coexistence of certain features supposedly characteristic of each of these types, cannot be thus differentiated with certainty.

ETIOLOGY

From the standpoint of etiology, neurotic influences, both hereditary and acquired, undoubtedly play an important rôle, for, with few exceptions, the evidences of a neurosis are present, yet I am by no means convinced that such influences are necessarily primary. Not a few of these cases have apparently had their origin in an intestinal catarrh occurring in early childhood, although the symptoms present have exactly corresponded to the classic descriptions of colica-mucosa. On the other hand, I believe that there are many which in their inception are simple secretory neuroses, are at a later period complicated by a catarrhal inflammation, the result either of fecal retention or of measures employed for its relief.

Of the patients whose cases are included in this report, forty-four were under 20 years of age, the youngest 3. Fifty-six were over 50, the oldest 78. The greatest number were between the ages of 30 and 40 years. The duration of the disease has varied from three months to twenty years, usually from two to six years.

SYMPTOMS

In 87 per cent. the symptoms first observed were those of a disturbance of digestive function; in some it was attributed to the stomach, more often to the intestinal tract, particularly the colon. Fifty-four per cent. gave a history of constipation; in a majority of the cases, of the spastic variety. In 15 per cent. diarrhea was present more or less constantly, the number of stools varying, as a rule, from two to five daily. Frequently constipation alternated with diarrhea; in a few the stools were apparently normal.

Mucus, as has been stated, was present in all cases in appreciable amounts. In 36 per cent. it existed in the form of casts or tenacious inspissated shreds, showing evidences of pressure and retention. In the remainder, it was found in the form of small flakes more or less mixed with fecal deposit or in gelatinous masses sometimes passed alone. The appearance of the mucus was, however, most variable, not only in different cases, but in the same case at different times, so that very often it was without special diagnostic significance.

Colic was a prominent feature. In only 15 per cent. was this symptom entirely absent. In 35 per cent. it was described as slight or moderate in degree and in the remainder as at times severe. Neurotic tendencies, sometimes of the most manifold nature, were exceedingly common, as were also autotoxic symptoms.

Physical examination showed gastroptosis in 17 per cent. of the cases and enteroptosis in 24 per cent. The right kidney was palpable in eighty-four cases, the left alone in nine, and both kidneys in fourteen. Tenderness over the course of some portion of the colon was present in about 90 per cent. of the cases. Most commonly it was over the sigmoid flexure. Next in point of frequency was the cecum and then the transverse colon. Very often it included both the ascending and descending colon and in about 15 per cent. it was quite general.

Urinalysis showed indican in excess in 34 per cent. and urates in 27 per cent. Oxaluria was present in 19 per cent. and phosphaturia in 23. Other abnormalities of renal function were probably not more common than might be expected in a like number of cases of other diseases.

Among the other symptoms observed, that which was most frequently complained of was a disagreeable sensation in the abdomen, hardly amounting to actual pain and usually referred to the region of the descending colon or sigmoid. Gastric distention, eructations, burning, regurgitation, coated tongue, and a bad taste were common symptoms; nausea less so. Cardiac palpitation, arrhythmia, intermittence of the pulse and precordial distress were often a source of much anxiety to the patient, as were also vertigo, and unusual fatigue. Insomnia, migraine, and general neuralgic pains still further added to their discomfort. Mental depression of some degree was a very constant feature, in some instances amounting almost to hypochondriasis.

Many of these phenomena were probably merely the evidences of the underlying neurosis, but most of them, I believe, were the result of auto-intoxication, as they usually disappeared or were much mitigated as soon as the disturbance of digestion was relieved.

DIAGNOSIS

The diagnosis in typical cases of colitis is not difficult, although mistakes are common, and its significance is often overlooked, even when its existence is recognized. I am sure that this is true in a considerable number of

* Read before the American Gastro-Enterological Association, St. Louis, June, 1910.

the cases I have seen, a majority of which have been referred by other physicians. Many of these patients have come with a diagnosis of appendicitis or gall-stones, some of them postoperative, yet the symptoms present were apparently the same as those which had existed from the beginning of the illness.

I am confident that operations of this kind would be undertaken much less frequently if every colitis patient were properly treated from the incipiency of the case, and that the results of these operations, when indicated, would be far better if more attention was given to the after-treatment of the colon.

Fecal examinations are an important part of the investigation of these cases and in those reported such examinations have been the rule. Most frequently, they have been macroscopic only, but in a considerable number, microscopic and chemical as well.

It is easy to determine, so far as the individual case is concerned, whether the difficulty in digestion has to do chiefly with the fats, proteids or carbohydrates, when the patient is on his ordinary diet, and the information thus obtained is sometimes more valuable than when a systematized diet is employed.

While a very cursory inspection will suffice to determine the existence of mucus, its character and amount, the color and consistency of the stools, presence of intestinal sand, blood, worms, and the grosser evidences of undigested food-products, to form an accurate opinion of the digestive function, a microscopic examination should also be made and in many cases it is desirable to employ a test diet such as has been recommended by Schmidt.

While attaching much importance to the results of examinations of this kind, I would also emphasize the point that the results, to be of practical value, must, as in all laboratory investigations, be considered in connection with the clinical history and physical signs.

COMPLICATIONS

Among the various conditions complicating colitis, gastric disorders were decidedly the most common. In only 18 per cent. of the cases was there an absence of such symptoms, although very often they were comparatively slight. Examinations of the stomach contents were made in most of the cases in which such features were at all prominent, as I believe they are not only of value from the standpoint of diagnosis, but more especially for the information they afford as regards the diet. Of these cases, gastritis was present in 15 per cent. and hyperchlorhydria in 28 per cent. Sixteen cases showed achylia gastrica. In many of the remaining cases, no particular abnormality was apparent. Appendicitis was, or had been, present in seventy-eight cases; in thirty-four it was postoperative. Symptoms of cholelithiasis existed in forty-two cases, in nine of which operation had been performed. Gouty manifestations were of very frequent occurrence, usually of an atypical form. Cutaneous eruptions, such as eczema, urticaria, acne and psoriasis were comparatively common also.

TREATMENT

The treatment will, of necessity, vary with the indications present. Patients differ so radically in the prominence of different symptoms, in the state of nutrition, in their response to psychic impressions and in the manifestation of idiosyncrasies towards certain kinds of food, to say nothing of the innumerable influences of environment and habits of life, that one must be guided largely by general principles.

Whether we take the view that the indications are to be sought solely from the side of the neurosis or that we should take some cognizance of the digestive symptoms, more than to stimulate intestinal peristalsis, one thing is certain and that is that we shall not succeed by medication alone. I do not hesitate even to say that on the whole medicines are likely to do more harm than good.

Here, as in other diseases, the important thing is a recognition of the influences that have caused it. Our patient has not been living correctly or the condition would not exist, and we should be just as painstaking in our investigation of questions pertaining to his environment, his diet, and his habits of life generally, as we are in obtaining data on which to base a diagnosis.

If the case is brought to us at a time when the only evidences of the trouble are the presence of mucus and pain, plus certain neurotic disturbances common to other functional neuroses, the treatment would not differ materially from that which would be applicable to neurasthenia without special intestinal involvement.

So far as my own experience goes, however, such uncomplicated cases as these are the exception and not the rule, for even though there may have been a simple neurosis in the beginning, evidences of other disturbances of digestive function and not infrequently changes in the organs themselves are likely to follow in more or less rapid succession.

Ordinary hygienic measures, such as fresh air, exercise, rest, baths, etc., are always applicable and if, as is generally the case, the nutrition is below par, we must see that the diet is sufficient in quantity to meet these requirements; but to accomplish this it is necessary that it be of a quality that will not overtax the digestive capacity.

While I am confident that much harm is often done by concentrating the patient's attention on dietetic details, and that the prolonged and frequent use of enemas and other local treatments may act unfavorably in the same way, I am equally positive that when judiciously employed, such measures are distinctly beneficial.

There is no scheme of diet that is applicable to all cases. If we can exclude any catarrhal condition, a coarse regimen, rich in cellulose, such as is recommended by Von Noorden, will often succeed admirably but the change, I believe, should be made gradually and not abruptly. If pain is a prominent feature, if there is much tenderness over any part of the colon, great distention or marked evidences of undigested starch granules in the stools, it will only aggravate these symptoms. Hyperchlorhydria and gastroptosis are often contraindications and one or the other of these conditions is not infrequently to be found in cases which afford the most typical examples of the secretory form of the disease.

The best diet in such cases is one that is small in bulk, that is easily digested and that leaves a small residue. It may not relieve the constipation, but it will lessen the patient's discomfort. As improvement is observed in the secretory and sensory disturbances, we can, by a diminution of proteids and the substitution of fats and carbohydrates, promote a better motor function. Fruits, honey, butter, olive oil, the coarser breadstuffs and vegetables all act to increase the volume of alimentary residue and to stimulate peristalsis. If diarrhea is present, or if experience has shown that this condition is readily precipitated, only the blandest articles of food should be permitted. In dealing with constipation, diarrhea and other attendant local phenomena, I believe that the milder mineral waters of the alkaline-saline

group are among our most useful remedies. This opinion I have often heard expressed also by physicians practicing in Carlsbad, Kissingen, Homburg and other European resorts where the waters are of this type.

I have used the French Lick waters in all of the cases here reported and, after making due allowance for such favorable extraneous influences as resorts of this character afford, I am confident that much benefit has been obtained from their use.

I have not, however, even in the cases in which constipation was most obstinate, prescribed the water in large quantities nor have I relied wholly on the drinking of the water but have employed it locally as well. The greatest benefit to be derived from its use is, I believe, in its influence on secretion, and for this purpose large quantities are not advisable. Warm enemas of olive oil are often of the greatest service in the cure of the attendant constipation. Tonic baths, conjoined with local and general massage, have been largely used both for their effect on the circulation and the relief of intestinal atony. Warm fomentations over the abdomen are very grateful if there is much pain or tenderness.

The indications for abdominal massage are much the same as for the coarser forms of diet. It should never be employed when it produces pain. In many cases I have found that vibratory massage acted even better than when manually performed.

Exercises, particularly such as bring into use the abdominal muscles, are most beneficial in promoting peristalsis, and in fact outdoor exercises generally, provided they are not carried to the point of undue fatigue, serve an excellent purpose. The greater the diversion and interest they afford, the better will be the results obtained.

There are few conditions in which the psychical element enters more largely into causation than it does in colitis, and we are justified, I think, in availing ourselves of the same influence in treatment; in some cases its importance is to be placed before that of any other measure. Optimism on the part of the physician and his ability to obtain the confidence of the patient count for much in the relief of mental depression, a common feature of these cases, and like influences are to be obtained from change of scene and cheerful surroundings.

SURGICAL TREATMENT

As regards the operations of appendicostomy and cecostomy recently exploited with some enthusiasm by certain surgeons in the treatment of colitis, chronic constipation and other intestinal conditions hitherto regarded as within the scope of medical art, I can only say that I believe it is possible to reach any part of the colon by lavage through the rectum and the advantages to be gained in providing an artificial opening through which to apply local treatments are more than offset by the depressing effect of the operation and the presence of a fistulous tract which must later be closed. As Richardson has recently observed:

> Operations on the neurasthenic return nothing to the patient. Her last state is worse than her first and is often pitiable. The best rule is to forbid surgery until every medical and palliative measure has proved useless.

PROGNOSIS

The prognosis is, as a rule, favorable, although improvement is often tedious. It is impossible to give any statistical data on this point regarding the cases to be referred to, as most of them have been lost sight of after leaving the springs. The immediate results have been most gratifying, and in a large proportion of those cases in which I have been able to follow the subsequent history, the improvement has been of a more or less permanent character. A considerable number have been cured.

A CASE OF EXTENSIVE LEUKEMIC INFILTRATION OF THE MAMMARY GLAND AND SKIN*

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This case is reported because it exhibits some rare features, as lymphatic infiltration of the lips, nose and pinna, and a most remarkable involvement of the mammary glands, which I have been unable to find described in the literature.

History.—Mrs. S., Austrian, aged 47, came to the Rush medical clinic complaining of shortness of breath, hoarseness, swollen lips and nose, and pain on swallowing. There was nothing of any moment in the family history. The patient had always enjoyed good health, and had had four children; no miscarriages. Her teeth, however, had been in a bad condition for years without receiving proper care. Her present trouble began about nine months before she came to the clinic with redness and itching of the nose, which was soon followed by swelling of the nose and lips. During this time she had been treated by various physicians for "cold" and eczema, and in the course of the treatment all her teeth were extracted.

Examination.—The patient was a medium-sized woman, fairly well nourished, skin clear; there was no jaundice or abnormal pigmentation. The lower eyelids were edematous; the pupils reacted to light and accommodation, and were rather contracted; the eye muscles worked well. The retinæ showed spots of a grayish exudate; the margins of both disks were somewhat indistinct and striated on the nasal side, but the sight was not appreciably impaired. There was no exophthalmos.

The nose appeared symmetrically enlarged, reddish in color, firm and indurated on palpation. Breathing through the nose with mouth closed was difficult and brought out a marked stridor.

The lips were considerably swollen, the upper somewhat more than the lower one; the mucosa was tense and shiny, the tissue hard and indurated. The patient complained frequently of a severe burning and itching sensation of the lips and to a less degree of the nose. The oral cavity was without teeth; the gum margins were ulcerated and bleeding, the palate was abnormally arched, and posteriorly there was a diffuse swelling which extended on both sides into the pharynx. Tonsils, palate and postpharyngeal wall, all seemed involved in this swelling. The voice was very hoarse or whispering. The dyspnea was at times associated with distinct stridor and marked inspiratory descent of the trachea. Periodically there appeared a violent, brassy cough.

The pinna of the right ear was enlarged to almost double its normal size and was of a reddish color, the tissue being firm and infiltrated. The left pinna was normal. Both drums were retracted and opaque in color. The hearing power was not diminished to an appreciable extent.

All superficial lymph-glands of the body were enlarged to a various extent. The least enlargement was in the glands of the neck, especially in those of the posterior triangle, although even these were easily palpable. There was no fusion of the glands and no fixation of the overlying skin. The largest superficial glands were those of the axillæ.

The mammæ appeared symmetrically enlarged, firm and infiltrated. The glands were somewhat movable; the skin over them was tense, shiny, but not fixed; the nipples were not

* From the Medical Clinic of Rush Medical College and the Department of Pathology of the University of Chicago.

retracted. No separate nodules could be felt in the glands. No connection between the mammæ and the large lymph-glands of the axillæ could be made out. The apex-beat was in the fifth space, inside the nipple-line and somewhat heaving. Extension of the heart to the right of the sternum could not be established by percussion. There was no thrill. The first sound in the mitral area was loud and short, ending in a distinct murmur. At irregular intervals an extra-systole was thrown in, and later a distinct gallop-rhythm developed. In the pulmonic area there was a rough, grating, systolic murmur, at times distinctly purring, so that pulmonic obstruction was suspected. (At autopsy, however, the valves as well as the aorta and pulmonic artery were found to be normal.)

Percussion note over the right lung was slightly dull, especially over the anterior aspect. Breath sounds were somewhat distinct, more so over the right lung. There were no râles.

The abdomen was full, and in the left hypochondrium a tumor mass was readily felt, which issued from beneath the left costal arch and extended beyond the umbilicus. The tumor was somewhat movable, descended with respiration, was slightly tender, of hard consistency, notched on the median surface. Slight percussion over the tumor brought out a flat note. The lower margin of the liver descended to about 2 inches below the costal arch in the mammary line; its consistency was not much increased; its surface was smooth. No glandular masses could be palpated in the abdomen. The umbilicus was freely movable and not retracted.

At the time of admission to the clinic a skin tumor as large as a small walnut was noticed in the posterior axillary line of the right side. This tumor disappeared later. The deep reflexes were normal.

The blood-count showed 110,000 white cells, 82 per cent. small and 6 per cent. large lymphocytes, and a moderate secondary anemia.

Transient skin-rashes (areas of hyperemia) were observed at different times.

The urine contained traces of albumin and a few casts; gravity 1.020.

Course of Disease.—The patient was under observation about three weeks. During this time the dyspnea was increasing and caused much discomfort to the patient. Tracheotomy was considered, but the general condition of the patient seemed to exclude such an operation. Venesection gave temporary relief. Toward the end there was marked cardiac insufficiency with gallop-rhythm, very irregular pulse and pulmonary edema.

According to the statement of the patient the disease began with redness and itching of the skin of the nose, that was soon followed by swelling of the nose and lips. She was treated for months for eczema by various physicians, and it seems likely that at this time the general swelling of the lymph-glands was not apparent. It is therefore reasonable to assume that the skin lesion was the earliest manifestation of the disease.

The most remarkable feature in this case was found in the condition of the mammary gland, a condition which I have failed to find described in the literature, although in a very few cases lymphomata have been reported in the lacrimal, parotid and maxillary glands in association with lymphomata outside the glands.[1]

An autopsy was performed by Dr. H. Gideon Wells, and the histologic study of the tissues was made by Dr. B. F. Davis, and an abstract of their report follows:

There were found the usual lymphatic hyperplasias of chronic lymphatic leukemia, lymphoid infiltration of the viscera, and in addition lymphoid infiltration of the skin of the nose and lips. The mammary glands were found replaced by a mass of lymphoid tissue of uniform consistence, resembling in its gross appearances sarcomatous tissue, the mass of new tissue when dissected away from the skin and adjacent fat tissue from one breast measuring 12 by 12 by 4 cm., and weighing 350 gm. Microscopically the normal tissue of the mammary gland was found to have disappeared almost entirely, the remains of an isolated gland tubule or duct being found only rarely in the mass of large and small round cells which make up the growth. These cells infiltrate the connective tissues in the nipple and areolæ up to, but not into the epithelium, accounting for the swollen condition of the areolæ. (A full report of the anatomic findings will be published in the *Transactions of the Chicago Pathological Society.*)

1. Pinkus: Ueber die Hautveränderungen bei lymphatischer Leukämie und Pseudo-Leukämie, Arch. f. Dermat. u. Syph., 1899, I, Nos. 1, 2.
Nekam: Leukämie der Haut, Monatschr. f. pract. Dermat., 1899, Ergänzungsheft.
Kaposi: Pathologie und Therapie der Hautkrankheiten, Vienna.
Kreibich: Ein Fall von leukämischen Tumoren der Haut, Arch. f. Dermat. u. Syph., 1899, xlvii, 185.
Kümmel: Mitt a. d. Grenzgeb. d. Med. u. Chir., 1897, ii, 111.

A NEW STAIN FOR BACTERIAL CAPSULES WITH SPECIAL REFERENCE TO PNEUMOCOCCI *

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After much experimentation the following method for staining bacterial capsules has been devised. It has proved of such value in a study of autolysis of pneumococci, in their identification in culture and exudates as well as in staining the capsule of *Streptococcus mucosus* and, with a slight modification, the capsule of the *Bacillus mucosus* also, that a brief report seems desirable at this time.

DIRECTIONS

Make a thin smear on a perfectly clean slide or cover-glass. If the material, such as sputum, is too thick, add enough distilled water so that it can be spread evenly by means of a piece of fine tissue or cigarette paper. In case of cultures (blood-agar, serum, glucose or Loeffler's blood-serum being preferable), remove a small amount of the growth from the surface of the medium and at once mix thoroughly with a loopful of serum on the slide, or, better still, make a rather dense suspension in a few drops of distilled water and then mix an equal quantity of this suspension with serum, and spread by means of tissue-paper. As the smear becomes nearly dry cover for ten to twenty seconds with 5 to 10 per cent. aqueous solution of tannic acid; wash in water and blot; stain with carbol [saturated alcoholic solution gentian violet (Grübler) 1 pt., 5 per cent. phenol in water, 4 pts.] or anilin gentian violet, half a minute to a minute, heat over flame but do not boil; wash in water again; Gram's iodin solution for half a minute to a minute; decolorize in alcohol (95 per cent.); stain for from two to ten seconds, depending on the thickness of smears, with saturated alcoholic (60 per cent.) solution of Grübler's eosin; wash in water and blot finally, clear in xylol and mount in balsam, or examine directly. (If the organism, like the *Bacillus mucosus*, is Gram-negative, the bacillus may be stained with Loeffler's or aqueous methylene blue.)

The pneumococci are stained deeply brownish black, sharply differentiated from the capsule, which is stained pink. Beautiful results are also obtained with the *Streptococcus mucosus*. In the thickest part of the smear the space occupied by the capsule may be perfectly clear; elsewhere in the smear, if properly made, where the conditions are suitable for absorption of eosin, the capsule is stained deeply pink; not rarely a clear retraction zone (often mistaken for the capsule in former methods) may be seen peripherally to a distinctly stained, often large capsule.

In case of sputum in which the cocci are embedded in a more or less tenacious mucus the capsules, at times, are not rendered stainable by the above method. In that case it is well to fix and stain simultaneously with the 2 per cent. aqueous tannic acid, 4 parts, and saturated solution of gentian

* From the Memorial Institute for Infectious Diseases. For a more complete report see Jour. Infect. Dis., 1911, viii.

violet, 1 part. This modification often gives beautiful results. The cocci, however, decolorize easily and the tannic acid-gentian-violet may be followed by carbol-gentian-violet and then the usual procedure. Ordinary carbol-fuchsin, diluted 5 to 10 times and aqueous eosin (50 per cent. sat.) may also be used to stain the capsule, although the saturated alcoholic (60 per cent.) eosin has given the best results. Decolorization after the modified Gram procedure of tannic acid-fixed smears is more rapid than in the case of heat-fixed smears, which should be borne in mind.

By the use of this method it has been determined that the capsule of the pneumococcus and allied organisms is not difficult to preserve or readily soluble in water, as is generally believed. To stain the capsule is a problem of rendering it stainable rather than one of preservation. The reactions which render the capsule stainable appear to be colloidal reactions.

150 Michigan Avenue.

A PROBABLE CASE OF ANAPHYLAXIS

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In view of the present experimental investigations into the nature and occurrence of the reaction of anaphylaxis, and of the importance of the question to human serotherapy, it is important that clinical record be made of all observations bearing on the phenomenon. The following case of illness, not clearly understood at the time of its occurrence, now appears clearly to have been an instance of anaphylaxis, and is therefore reported.

The subject of the condition, a physician in San Francisco, in the winter of 1900-1 performed an autopsy on a case of bubonic plague. The body was that of a white man, and the history and location of the house in which the illness occurred led to no suspicion as to the nature of the disease. It was, in fact, the first death of a Caucasian that occurred in California from bubonic plague. No precautions were taken in the performance of the necropsy, and when on its completion the appearance of the organs and the microscopic findings of bacilli definitely determined to correspond in all morphologic features to the plague bacillus led to the diagnosis of plague, it was felt that the degree of exposure had been so great as to warrant the use of the Yersin serum. This was accordingly injected, 30 c.c. being used. Infection with plague did not occur, and in the course of time the incident was quite forgotten.

Nearly five years later the same physician was hunting deer in the mountains of California, in company with another man, the men having with them two horses. One of the horses, being green to the chase, resisted the efforts of the hunters to strap a dead buck on its back, and a lively tussle took place, during the course of which the physician had his forearms and hands badly scratched and lacerated by the metal parts of the bridle of the horse. On his return to the city a few days later, as he did not feel satisfied with the condition of the wounds, which had not been properly cleansed of the horse hairs and dirt from the horse, and which had not been treated with an antiseptic at all, these were all thoroughly cleansed, disinfected, and 20 c.c. of antitetanic serum injected as a prophylactic.

For a number of hours after the injection of the tetanus antitoxin, nothing was noted. Then suddenly the man was stricken with a universal, giant urticaria, with profound prostration. The attack lasted in its acute phases four days, the symptoms and signs being as follows:

1. *Giant Urticaria.*—This was very marked, the body being at times swollen almost past recognition. Three times the condition receded in part, only to recur with renewed violence. Following the acute attack, the skin did not reach its normal condition for ten days. The usual symptoms of this condition were present in great intensity, itching being almost intolerable.

2. *Tachycardia.*—With a normal temperature, the pulse during the attack ranged about 130 per minute. Physical examination of the heart elicited no abnormal signs other than the excessive rate.

3. *Diarrhea.*—A diarrhea of choleraic violence occurred, accompanied by the passage of large exfoliations or membranous casts of the intestine. This condition lasted for three days.

4. *Neuritis.*—On the night of the third day, a sudden sharp pain was felt in the right deltoid region, the skin over which soon gave evidence of anesthesia. Palsy in the muscles supplied by the circumflex nerve rapidly developed with the regular signs of a circumflex neuritis. The muscles wasted, gave typical reactions of degeneration, which, with the cutaneous anesthesia, persisted for months. Recovery, which finally occurred, was not complete, and there exists still some functional disability in the use of the deltoid and of the muscles lying between the deltoid and the spine of the scapula. Whether the neuritis was confined to the circumflex or extended to other branches of the plexus, does not concern the present report.

5. *Prostration of the Neuromuscular System.*—This may have been due, in part at least, to the diarrhea. Following recovery, however, the man was for a number of weeks profoundly asthenic.

The subject of this attack has never had any difficulties with asthma, nor has he ever been in the least "sensitive" to horses. The probable interpretation of the attack as an instance of anaphylaxis is based on the history of the two injections of horse serum with an interval of five years, and of the resemblance of the attack to the features of experimental anaphylaxis. It would be of great importance to determine whether now, after a further interval of five years, the individual is still "sensitized." Instructive as the results of an injection of horse serum at this date would be, the subject declines the experiment.

4522 Locust Street.

A CASE OF AIR EMBOLUS OCCURRING DURING OPERATION UNDER AIR-INFLATION URETHROSCOPY

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Some years ago I introduced to the profession my air-inflation urethroscope, and since that time I have been consistent in my advocacy of this instrument for both diagnostic and operative purposes. Within the past year, however, I have observed certain phenomena which have led me to question the wisdom of intra-urethral operations carried on under air-inflation. I have, therefore, taken advantage of this opportunity to sound a note of warning to users of this method.

Fenwick, in urethroscoping under air-inflation a stricture complicated by recent false passages, noted an emphysematous condition following, and speculated on the possibility of serious associated conditions. His description, quoted by William R. Fox,[1] is as follows:

I examined with inflation a patient who had had profuse bleeding from attempts at catheterism some few hours before applying to me for relief. I was able to find the opening of the false passage with ease. It lay just below the pin-point orifice of the strictured part of the urethra, and it appeared as a bloody-edged, ragged slit. But the patient called out almost immediately that something was running down the

1. The Urethroscope: Its Development and Its Use. Australasian Med. Gaz., Oct. 20, 1906.

inside of his thighs, and I then became aware that air was passing freely through the opening of the "false passage" and escaping into the tissues of the perineum. There was no doubt but that the false passage was very extensive. No ill results ensued, but it is easily conceivable that damage of a grave description can be inflicted by unfiltered air passing over an inflamed surface and opening up extensive cellular planes in the thighs, perineum and pelvis.

Within the past year, while opening up infected follicles in the anterior urethra, I have observed two cases in which localized emphysema in the cellular tissue of the pendulous urethra occurred as a result of the air-inflation used during the operation. In neither of these cases was the local condition marked, nor were there any generalized symptoms. In both cases the emphysematous condition gradually disappeared within a few days without giving rise to any untoward symptoms.

In the following case, which forms the basis for this report, the emphysematous condition was so extensive, and the immediate symptoms so alarming in character, that a fatal issue seemed unavoidable. The possibility of similar complications arising in other cases of a like character has led me to the belief that extreme caution should be used in all intra-urethral or intravesical operations performed under air-inflation.

F. H. B., Douglas, Arizona, aged 35, married, family history negative, gave a history of intermittent urethritis for the previous fifteen years. The patient was first seen on Oct. 3, 1910.

Examination showed typical chronic urethritis of the anteroposterior type. Urethroscopy disclosed diffuse infiltration, a few infected urethral follicles tending to become cystic, and a band-like stricture on the floor of the urethra just anterior to the peno-scrotal junction.

After preliminary treatment, the air-inflation urethroscope was introduced October 12, and preparations were made for dividing the stricture through the urethroscope. The strictured area was cocainized by the application of a 2 per cent. solution, and after a few minutes the urethra was inflated with air and the stricture divided. An emphysematous condition of the cellular tissue in the neighborhood of the stricture was noted and almost immediately the patient complained of pains in the epigastrium and began to cough. He became rapidly cyanotic and the radial pulse became imperceptible. Auscultation over the cardiac area revealed the "whirr" of what was apparently considerable quantities of air passing through the heart. The heart-sound rapidly became feeble and then could not be detected. Respiration quickly ceased, not suddenly but progressively, as in the dying. The pupils were fully dilated and the eyes were fixed; in fact, the whole appearance of the patient was that of a cadaver.

Artificial respiration was employed and whisky administered hypodermatically. Within a short time feeble signs of returning life were noticed and the patient gradually recovered consciousness, though some air could still be heard whirring through the heart. The patient still complained of a feeling of oppression in the epigastrium and this feeling was noticeable in a gradually diminishing degree for a period of about one week.

The local emphysema was not marked and seemed to involve only the cellular tissue of the pendulous urethra. There was no emphysema of the scrotal tissues.

On the following day the patient complained of tenderness in the hypogastrium, especially marked on the left side. Examination revealed a fairly extensive emphysema of the abdominal wall, which slowly disappeared in about one week. No other symptoms of an untoward nature were noted.

There can be no question but that the causative factor of the serious symptoms in this case was air embolus. It is, however, astonishing what an amount of air was forced into the circulation without a fatal issue. This case cannot be regarded as merely an "accident" occurring during operative urethroscopy under air-inflation, though like symptoms have never been noted in my experience in similar operative work, which covers several hundred cases. Like "accidents" appeal to me as being ever-present possibilities in such work, and I would urge extreme caution in the employment of air-inflation urethroscopy for operative purposes.

707 Gloyd Building.

THE CAUSE AND TREATMENT OF DEFECTIVE MUTATION OF THE VOICE

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The change of the voice at puberty sometimes goes on improperly, and the young man acquires a high, falsetto tone instead of the regular tenor or base. The condition is very troublesome to the business man, and is particularly obnoxious in public speakers, clergymen, lawyers and military officers.

An examination of the larynx in such a condition shows the vocal cords to be excessively shiny and white, and apparently very tightly stretched. An external examination shows that in speaking or singing the larynx is pulled high up under the tongue and often rather forward toward the chin. The condition is evidently due to overcontraction of both the intrinsic and the extrinsic muscles of the larynx, whereby the vocal cords are stretched too tightly. The overcontraction is found only during singing and speaking. It is a purely nervous habit.

The treatment begins by teaching the person to sing on very low tones. At first the tones will be harsh and rattling, but they will gradually become natural. The pitch of the song is gradually raised until the patient sings over the normal range of voice. Another exercise consists of chanting sentences on a single low tone, which is gradually raised in pitch in successive exercises. A third exercise consists in singing the first word or two of a sentence on a low tone and finishing it by speaking. In a fourth line of work, exercises in singing and speaking are used while the patient presses the larynx down and backward by putting his fingers on the hyoid bone and on the notch at the front of the thyroid cartilage.

With such direct methods of treatment it is possible to eliminate the defect entirely, usually in a very short time. The cure is often completed in one or two weeks.

87 Madison Avenue.

Therapeutics

DRUGS USED TO ACT ON THE CIRCULATION

No part of the body is more maltreated medicinally than the heart. Some of such mistaken treatment is due to carelessness, some to lack of proper diagnosis and understanding of the pathology of the condition, while at other times it is due to an entire misunderstanding or ignorance of the action of the drugs used. At still other times there may be the most careful discrimination and the best possible judgment combined with a thorough understanding of the condition of the heart and circulation of a given patient, and still a drug will be used that does harm instead of good, or used in too large amount, or in insufficient amount. In other words, with all the knowledge we can bring to bear, it is not always possible to decide exactly what a heart and cir-

culation need. Many times, probably, it would be better to use no circulatory drug rather than to use a wrong one.

Better to understand when a drug should be used and which drug should be used, it may be well to classify circulatory drugs in a way that will better show what to expect of them. It is absurd to use a slow-acting drug like digitalis when a quick stimulation of a heart is desired. It is also wrong to believe that alcohol will cause any more than a momentary stimulation of the heart; in other words, in cardiac weakness which lasts more than a very short time alcohol for this purpose is contra-indicated. It is also generally inadvisable to give a drug that raises the blood-pressure when a heart is laboring against high pressure.

The drugs used to act on the circulation may be subdivided as follows:

1. Drugs to stimulate the heart: alcohol, ammonia, and camphor.
2. Drugs to depress the heart: aconite (veratrum).
3. Drugs to strengthen the heart: caffein, digitalis, strophanthus, strychnin.
4. Drugs to contract the blood-vessels: atropin, ergot, epinephrin.
5. Drugs to dilate the blood-vessels: alcohol, nitrites.

As just stated, alcohol is a cardiac stimulant only for a short time and really acts for good in some abnormal circulatory conditions by dilating the blood-vessels.

Aconite is now rarely needed to depress the heart, as, if there is fever, a coal-tar product not only lowers the high temperature, but also depresses and quiets the heart.

Caffein and strychnin are both stimulants and tonics to the heart.

A cardiac stimulant may be defined as something that will stimulate the heart to greater activity but which, after its action is over, leaves the heart worse than it found it, unless the indication for such stimulation was a momentary one. In other words, such drugs are cardiac whips, and do not strengthen the heart.

A cardiac tonic may be defined as something that braces the heart and at the same time strengthens it; in other words, leaves it better than it found it. Such drugs are indicated in more or less continued cardiac weakness, and are not indicated in sudden emergencies.

As digitalis is one of the most important of the drugs above mentioned, and is a much misused drug, it seems well to describe its action first. The plan used in its description is the plan or scheme that seems the best for presenting the activities of a drug to the man who is to use the drug in actual practice, and the same scheme will be followed when other important drugs are described in this department.

DIGITALIS

Description.—Digitalis (genitive digitalis, Latin feminine noun, third declension). This drug was named by Fuchs, in 1542, after the German *Fingerhut,* a thimble. The United States Pharmacopeia recommends as official the dried leaves of *Digitalis purpurea,* the purple fox-glove, gathered during the second year of the growth of the plant while it is in flower. The *Digitalis purpurea* grows wild in Southern and Central Europe and England, and is cultivated in the United States, but the leaves of the cultivated plants are believed to have less medicinal value than those gathered from the wild plants. The so-called English leaves are preferable to the German leaves because they are cleaner and have been separated from the stalks on which they grow. Digitalis has rather a disagreeable, bitterish taste, but the infusion, which is made with cinnamon water, is less unpleasant.

The first investigator to obtain a crystalline active principle from this drug was Nativelle, in 1871, but as yet no active or alkaloidal principle has been separated that is so efficient in its action as preparations made from the crude drug by reliable chemists.

The exact chemical constitution of digitalis is not definitely established, but from the leaves by extraction with water and alcohol have been obtained the following:

DIGITALIS: A crystalline glucosid which is often prepared from the seeds and may, therefore, be an impure product containing active principles not found in the leaves. There are probably on the market to-day about four different substances under the name of digitalin some of which contain digitoxin and are therefore much more active and poisonous. Hence a given preparation of digitalin should be carefully tested by small doses before large doses are given. It is fairly soluble in water.

DIGITALEIN: A glucosid obtained from the leaves.

DIGITONIN: A third glucosid obtained from the leaves.

DIGITOPHYLLIN: A fourth glucosid, resembling digitoxin, recently obtained by Kiliani.

DIGITOXIN: A toxic principle more actively poisonous than the above glucosids.

Besides these active principles there are a resin, an acid, and a fixed oil.

There has been a good deal of discussion and difference of opinion as to the relative physiologic activity of a watery preparation of the leaves (the official infusion) and an alcoholic preparation of the leaves (the official tincture). An infusion should represent pretty much the whole activity of the digitalis, as water seems to extract the digitoxin and digitophyllin in the presence of digitonin glucosids. On the other hand, an alcoholic preparation of the leaves represents the best active principles, except the digitonins. The digitalins offered are prepared mostly from the seeds of digitalis. These probably are rarely one glucosid, but represent both digitalin and digitalein, with a small amount of digitoxin and probably some digitonins.

The most active part of digitalis is probably the digitoxin, and as these crystallin preparations represent less digitoxin than do the fluid preparations of the Pharmacopeia prepared from the leaves, these crystalline substances are not as active nor satisfactory medicaments.

Digitalis was first recommended to the medical profession by Dr. W. Withering, who wrote, in 1785, under the title of "An Account of the Fox-Glove," of the results of using this drug in two hundred cases of dropsy and allied conditions during the previous ten years. In this article he strongly advises the use of digitalis as a diuretic, and also noted that it had good action on the heart.

Local Action.—This drug has no action on the skin, but has a slightly irritant action on the mucous membranes and, hence, when swallowed in strong preparation, or undiluted, or on an empty stomach, or when large doses are long repeated, will cause loss of appetite, nausea, perhaps vomiting, and even diarrhea. Preparations that do not contain digitoxin would not irritate the stomach as much, but such preparations are not so valuable therapeutically. Preparations injected subcutaneously may cause considerable irritation and perhaps inflammation, and even abscesses, though the latter

are rare, but the preparations of digitalin will almost invariably cause some slight pain and slight local induration for a day or two.

The active principles of this drug are absorbed from both the stomach and the intestine, the rate of absorption depending, of course, on the preparation used, its concentration, solubility, and the condition of the stomach. Digitalis is ordinarily absorbed slowly unless there is some local irritating influence to make the absorption more rapid, hence the systemic effects of digitalis do not appear ordinarily for from six to twelve hours after the ingestion of the first dose.

Systemic Action.—The primary and chief constitutional effect of digitalis is on the *circulatory system.* The blood is not altered by digitalis except that it may become of lower specific gravity by a better circulation taking up more lymph. In non-poisonous doses the heart is slowed, its contraction is more energetic, and the blood-pressure is raised. The diastole is prolonged principally by the action of this drug on the pneumogastric center in the medulla, the stimulation of which tends to slow the heart. The contraction of the heart is more energetic on account of the irritation which this drug causes to the cardiac muscle, and this irritation and the resulting increased contraction is greatest on the part of the heart when there is the most muscular tissue, hence the effect is more pronounced on the ventricles than on the auricles, and more on the left ventricle than on the right. Under the action of digitalis the cardiac muscle improves in tone and hypertrophies because of the prolonged diastole giving much needed rest and hence causing muscle-recuperation, and the stimulation which the cardiac muscle receives acting like any other regulated gymnastic exercise to muscle tissue.

Three stages of the action of digitalis on the heart are recognized, the first stage being the one just stated, which is the desired therapeutic action. During this stage we believe that the cavities of the heart which physiologically do not completely empty themselves are absolutely emptied by the sturdy contraction. The papillary muscles tend to contract more completely as well as the other parts of the muscle walls of the ventricles and thus tend to diminish a valvular insufficiency. The prolonged diastole from the stimulation of the pneumogastric nerve tends to a more complete dilatation and therefore the blood more completely fills the cavities of the heart. This dilatation seems to be due to the inhibitory action on the pneumogastric center in the medulla, and also partially to the stimulation of the terminal endings of these nerves in the heart. The increased contraction of the heart, which also contains more blood than before the administration of the drug, expels more with each beat and under greater tension, and this results in raising the arterial blood-pressure.

To repeat, *with therapeutic doses* of digitalis the heart is slowed, the rhythm is normal, and the various parts of the heart contract more sturdily, the action on the auricles and ventricles being the same except that it is more marked where there is more muscle tissue.

With larger doses of this drug, or when the action is greater than therapeutics require, one of two conditions predominates: Either the stimulation of the pneumogastric or the stimulation of the cardiac muscle is too great, and generally the former predominates and the heart becomes very much slowed, and we have what is called the *second stage* of digitalis action. This inhibition acts more decidedly on the auricles than on the ventricles, the latter being more stimulated by the irritation of their greater amount of muscle tissue, and an irregular cardiac rhythm is caused, the auricles and ventricles not beating harmoniously although both ventricles always contract synchronously. We then have a very slow pulse and an irregular rhythm.

This stage is the stage of danger and the beginning of the *third stage* is not far distant, which is not the stage in which the pneumogastrics are paralyzed as has been stated, but in which the irritation of this drug on the cardiac muscle becomes so great as to cause the heart to beat very rapidly in spite of the inhibition. There may even be permanent contraction of the ventricles or a permanent systole of the whole heart and stoppage of the circulation. After such stoppage of the circulation the heart may dilate and remain dilated.

Digitalis is a *vasocontractor,* causing narrowing of the peripheral blood-vessels by stimulation primarily of the vasomotor center in the medulla oblongata, but it also stimulates the muscular coat of the arterioles. We have then an increased blood-pressure from three causes; from stimulation of the vasomotor center, from stimulation of the muscle-coat in the vessel walls, and from the increased amount of blood thrown into the aorta by the heart; hence the blood-flow in the capillaries is accelerated. The flow of blood through the arterioles and capillaries would, of course, be modified by the degree of the action of the digitalis on the heart. When the heart was toxically disturbed by digitalis the flow of blood in the arterioles would be decreased. Digitalis also increases the blood-flow in the pulmonary circulation as well as in the systemic.

Overaction of digitalis can cause irregular contraction of the blood-vessels so as to cause one or more extremities to feel cold and perhaps numb. Such overaction can also cause a feeling of constriction in the head, especially noticeable in the occipital region.

It is probable that when a heart is in normal condition the blood-pressure will not be much raised by the action of digitalis. If the heart, however, is defective, the blood-pressure is raised by its therapeutic use. In therapeutic dosage, however, it does not much contract the arterioles, although it has been claimed (Loeb) that the coronary arteries under the action of digitalis are lessened in caliber. This is probably not clinically the fact when digitalis is badly needed for a dilated heart, but may be the reason that, when there is supposed to be sclerosis of the coronary vessels with symptoms of angina pectoris, digitalis will generally add to the pain and increase the danger, and should not be used. Digitalis should never be used in internal hemorrhage, unless the hemorrhage is a capillary oozing or venous bleeding. Digitalis may therefore be of value in hemorrhage from the nostrils, in venous bleeding into the bronchial tubes, in venous bleeding from the kidneys, and in hemorrhoids.

An ordinary therapeutic dose of digitalis when the heart is in good condition affects the *nervous system* but little, but when the heart is in such condition as to require digitalis, by improving the circulation in the brain, it is a cerebral stimulant, and the mental condition of the patient is more active, and a drowsy or uncomfortable feeling of fulness in the head disappears. The medulla centers are all stimulated by digitalis.

Too large doses or cumulative doses of digitalis can overstimulate other centers in the medulla besides the cardiac inhibitory and vasoconstrictor, and may cause nausea and vomiting. Overaction of digitalis can also cause dilated pupils, blurred vision, irregular respiration, and finally convulsions.

In conditions of fever, digitalis does not seem readily to slow the heart though the temperature may at times be a little lowered. For some reason, the action of digitalis on the vagus or the inhibitory center does not work, hence if digitalis is given in feverish conditions, it should not be pushed, as any improvement of the vascular tone, or of the dyspnea, and an increase of the amount of urine and a diminution of the edema are signs of sufficient action, and it should not be attempted to push it to slowing of the heart. In fact, in conditions of prolonged fever, when the heart muscle has been weakened, digitalis should be given only in small doses. In mammals, digitalis probably never has any effect on the nerves or sensory organs except, as above stated, on the eyes.

The only effect of this drug on the muscular system is that of an increased and better blood-flow to the muscles. It has not been proved that smooth muscle-tissue other than those of the blood-vessel walls are much stimulated by digitalis, only such improvements as would occur from a bettered circulation.

The *glands* of the body are not affected except as improved circulation and nutrition increase their functional activity.

The *kidney* secretion or excretion is the only one affected, and here there is an increased flow of urine almost entirely due to an increase of the watery part.

Increase in the amount of urea in the urine under the action of digitalis varies with the condition of the patient. If the metabolism has been sluggish from poor circulation, the output of excretory products would be increased. If the circulation has been pretty normal the character of the urine is probably not much changed.

Whereas there may be slight stimulation of the kidney cells, the increased flow of urine seems to be almost entirely due to the increased blood-pressure and improved circulation. The increased circulation causes more lymph to be poured into the blood-vessels, this diluting the blood is one more reason for the increased action of the kidney.

Valuable as digitalis is in increasing the output of urine, in cardiac weakness, edema, effusions, etc., it is not good treatment to push digitalis to any extent, if used at all, when the kidneys are diseased.

This drug is largely but slowly *excreted* by the urine, one dose lasting for from twelve to twenty-four hours, or even longer, and we are probably almost never justified in giving a dose of digitalis oftener than twice in twenty-four hours. The heart and pulse may show the effect of the drug several days after it has been given continuously for a time. The active principles are mostly oxidized or broken up, and therefore cannot be found in any considerable amount in the urine.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action desired of digitalis used therapeutically is: to slow the heart; to increase arterial tension; to increase the output of urine; to improve all the results of circulatory weakness such as dyspnea, edema, and trophic disturbances due to poor circulation.

The heart should rarely be slowed by digitalis below sixty, or at most fifty beats a minute. If it is slowed beyond this point, or if there is a feeling of constriction in the head, or there are cold and numb sensations in one or more extremities, or there is a distinct reduction in the amount of urine passed in twenty-four hours, or the pulse becomes irregular, or there is nausea or vomiting, *too much digitalis* is being given and it should be stopped. Any or all of these symptoms can develop during the administration of therapeutic doses, due to the so-called *cumulative action* of digitalis. This may be caused by some chemical condition in the gastro-intestinal canal causing more rapid absorption than usual of several doses, or the rate of excretion can be diminished by the kidneys not acting well, and the above symptoms of overaction can develop. Delirium and hallucinations occur as a symptom of cumulative or over-action of digitalis.

When giving digitalis in large doses it should be remembered that the full effects of a single dose may not appear for from twenty-four to even sixty hours. Consequently, when a result desired is not immediately obtained, large doses should not be repeated, and smaller doses should not be given too frequently.

Idiosyncrasy against this drug probably does not occur, but tolerance probably depends on the condition of the kidneys; the more perfect the kidney, the greater the tolerance. The parts of the drug longest tolerated without cumulative effects are probably digitoxin and digitalinum, while the whole drug, representing all the various active glucosids, in large doses too frequently repeated, owing to slow excretion, can readily cause the above undesired symptoms of cumulative action. When an unusual tolerance to the drug is shown, it is probable that the preparation is inactive, and the various records presented of the harmlessness of repeated large doses of digitalis are explainable by the inactivity of the drug or preparation used. When large doses are being administered to a patient, or he is thoroughly under the influence of digitalis, he should be frequently seen by the physician. Any sudden exertion by a patient when under the full influence of digitalis must be positively prohibited.

The *toxic symptoms* of digitalis are a rapid, irregular heart, the auricles not beating synchronously with the ventricles, cold hands and feet, nausea, vomiting, dizziness, disturbed respiration, lowered temperature, muscular weakness, and final collapse with delirium cordis or cardiac paralysis. The face may be pale, the sclerotics may be bluish, there may be diarrhea, there may be suppression of urine, and there may be delirium and convulsions.

Digitoxin is the most active poison of the digitalis active principles, although it is the most rapidly eliminated.

Treatment of Digitalis Poisoning.—There is no good physiologic antidote and no good chemical antidote, if the poison is in the stomach, except the physical treatment of removing it by emetics or by stomach washing. Tannic acid and tincture of the chlorid of iron are feeble chemical antidotes. The patient should be kept absolutely at rest. The body temperature should be kept up with dry heat applications. Artificial respiration may be advisable and necessary. Moist, hot applications to the lumbar region may be of advantage in aiding a relaxation of the kidney vessels, which will allow the drug which has been absorbed to be excreted gradually. Brandy and whisky and nitroglycerin to dilate the arterial system and cause more blood to reach the surface of the body and relieve the strain on the heart, are along the line of physiologic antidotes. After the stomach has been emptied, magnesium sulphate, or some other quickly acting saline cathartic, should be given in order to prevent absorption of any of the drug that may be in the intestines.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 11, 1911

A NEW THEORY OF SHOCK

Notwithstanding the rapid advance made in some of the fundamental problems confronting the surgeon, such as infection and hemorrhage, shock has remained more or less of an enigma. Indeed, most of the large amount of investigative work which has been done in connection with this subject has served only to enrich our knowledge of the phenomena occurring in association with it; so that although we have at present a better understanding of its symptomatology, yet almost nothing has been done which convinces us of its fundamental nature. Thus Crile[1] and Romberg and Pässler[2] have independently observed that during shock the arterial pressure falls; and from this observation they concluded that this drop of pressure was the "essential phenomenon," and that shock was fundamentally due to a vasomotor failure.

Hardly had this conclusion been reached, however, when Seelig and Lyon and others disproved it by demonstrating conclusively that instead of a failure of the vasomotor system there is actually a great activity, at least up to the last stages of shock. So no sooner has one theory been advanced to explain it than further work has served to disprove or at least to minimize the importance of that theory.

During the past two years, however, a series of articles has appeared by Yandell Henderson, of New Haven,[3] dealing with an elaborate experimental investigation of shock from an entirely new basis. Briefly, Henderson believes that the condition primarily is due to a diminished amount of carbon dioxid in the blood and tissues of the body. This lack of the normal amount of carbon dioxid is termed acapnia. His experimental results are most interesting; and they are full of much practical suggestion to the surgeon because they seem to show that some of the technic, commonly practiced, is based on erroneous ideas. In a short summary of this kind necessarily only a few of the most interesting features of the work can be cited.

Henderson reviews the literature of carbon dioxid as a hormone, or chemical regulator, of respiration to show that the failure of circulation and of the nervous system in shock and the cessation of respiration in true apnea must logically be referred to the same cause—acapnia.

Experiments on dogs, which were devised to bring about a sudden great diminution in the carbon dioxid content of arterial blood, resulted in an increase of the heart-rate up to the point of cardiac tetanus and death. Voluntarily forced breathing in man induces symptoms resembling shock, probably because the increased pulmonary ventilation results in an abnormally great exhalation of carbon dioxid. Pain, ether, excitement, sorrow, fear and other conditions inducing shock involve excessive respiration. Because a marked diminution in the amount of carbon dioxid in the arterial blood creates a lack of the normal stimulation of respiration, excessive artificial respiration in dogs for twenty-five to thirty minutes, by causing greatly increased pulmonary ventilation, is followed by a cessation of breathing so prolonged that the heart fails for lack of oxygen. During this anoxemia an acidosis occurs owing to an accumulation in the blood of products of incomplete tissue combustion. The administration of carbon dioxid gas during the period of cessation of respiration induces an immediate return of natural breathing; and the administration of oxygen affords ideal conditions for the prevention of the asphyxial acidosis. Anesthetics tend to prevent shock because they diminish the excessive respiration caused by pain. The respiratory excitement during the initial stages of anesthesia diminishes the carbon dioxid content of the blood, and thus tends to induce a subsequent failure of respiration. Similarly, ether, unless neutralized by morphin, often causes (in dogs) hyperpnea, acapnia and a consequent fatal apnea. Of particular interest in this connection are observations by W. D. Gatch[4] in several hundred anesthesias during which patients were allowed to rebreathe some of their own carbon dioxid. In no instance was there any evidence of shock. These observations seem to confirm Henderson's theory to a greater or less degree; and they lend evidence to his statement that "skilful anesthesia consists in maintaining the threshold of the respiratory center for carbon dioxid at a nearly normal level, and in avoiding the development of either acapnia or hypercapnia."

The section of the work dealing more particularly with the relation of shock to abdominal operations is of special importance because of its bearing on many cases of hitherto inexplicable postoperative ileus. It is shown that the loss of tonus of the abdominal viscera during and after laparotomy is almost certainly due to the direct exhalation of carbon dioxid from the organs during the time of exposure. Indeed, Henderson states that the common practice among surgeons of wrapping viscera in moist hot compresses repeatedly changed is an effective means of producing shock instead of pr

1. Surgical Shock, 1899.
2. Deutsch. Arch. f. klin. Med., 1899, lxiv, 652.
3. Am. Jour. Phys.

4. THE JOURNAL, March 5, 1910, p. 775.

venting it, because by this means the exhalation of carbon dioxid from the viscera so treated is greatly facilitated. He emphasizes his assertion by experimentally producing a high grade of shock by this means. Similarly, subjecting the viscera, even while still in the abdomen, to a mild current of warm moist air, with practically no trauma, rapidly produces congestion and loss of tonus and motility. Here again the results obtained are probably due to an excessive elimination of carbon dioxid from the viscera; for when this gas is restored to the body by injections of saturated solution intravenously into the peritoneal cavity or directly into the lumen of the bowel, or by immersion of the bowel in warm saline solution saturated with carbon dioxid, an effective relief from all except the extreme stages is accomplished.

Finally, by no means the least important feature of the work is a description of a hitherto unknown "venopressor" mechanism. It is failure of this mechanism, rather than of the vasomotor apparatus, which, according to Henderson, is responsible for the phenomena, observed by Crile and others, of lowered arterial pressure and venous dilatation.

NOSTRUM ADVERTISING—LAY AND MEDICAL

Hardly a day passes that we do not receive letters from physicians protesting against the utter lack of honesty shown by some newspapers in carrying fraudulent "patent medicine" and quack advertisements. That every right-thinking man—physician or layman—has good cause for indignation in this matter, no one can deny. Many of the advertisements of nostrums and of quacks are fraudulent to a degree and as vicious as they are fraudulent. But the newspapers are not alone in these defections. Before we physicians criticize the lay press too harshly, let us be sure that we are not giving moral and financial support to medical journals which, in their own special field, are just as recreant to the trust reposed in them as any nostrum-reeking newspaper.

The "patent medicine" advertisements in the newspapers are more likely to arouse our scorn because, as physicians, we know the hollowness of the lies that characterize the claims made for these nostrums. But the difference between the falsehoods of the "patient medicine" faker and the prevarication of many exploiters of "ethical proprietaries"—heaven save the mark!—is one of degree, not of kind. The former utters the "lie direct"; the latter, the "lie with circumstance." The former frames his untruths in bald and crude Anglo-Saxon; the latter serves his fiction in the more polished Norman-French. The former defrauds and injures the public direct; the latter accomplishes the same end by the, unwitting, aid of the physician.

It is inconsistent and absurd for a physician to exhibit a spasm of indignation because some newspapers carry fraudulent medical advertising, so long as that physician is subscribing for, and supporting, a medical journal whose advertising ethics are just as low as those of the newspapers he condemns. We hold no brief for the lay press and we realize to the fullest the gross deceit, fraud and hypocrisy exhibited by some newspapers in their attitude on the subject of nostrum and quack advertising. It is a fact, nevertheless, that there are many newspapers and still more weekly and monthly magazines, whose advertising standards are infinitely higher than those adopted by a large number of medical journals. Of course it is detrimental to public health for fraudulent "patent medicines" to be advertised in the newspapers and sold to the laity. But, let us remember, it is also detrimental to the public's well-being for secret, and frequently fraudulent, mixtures to be advertised in medical journals and used by physicians on the laity. To deplore the former while we continue to tolerate the latter is neither good sense nor good morals.

THE PRESENT PLAGUE SITUATION

As has been noted in our news columns, alarming newspaper notices have recently appeared regarding the occurrence of plague in Manchuria, and these are substantially corroborated by official reports,[1] which indicate that the disease is especially severe, and that it threatens all north China.

The outbreak began Oct. 25, 1910, and from that date until Dec. 11, 1910, there had been reported 493 cases with 491 deaths, most of them having been discovered at Manchuria Station and other points near Harbin in the concession of the Chinese Eastern Railway. Cases had also occurred, however, in towns outside the railway concession, and it was recognized that the continuance of cases in these latter localities would be a constant menace even though the authorities within the conceded railroad zone were able to prevent the spread of the epidemic from already infected stations. Since the beginning of the outbreak in the vicinity of Harbin, the infection has spread to Fuchiatien, Mukden, Chang Chun, Kirin, Tientsin, Paoting-Fu, Chefoo, and Pekin. While Harbin and Mukden are the points most affected and while the mortality is largely among natives, yet in the former place eighteen Russians and one French physician have died. The infection is unusually virulent, and appears to be spreading rapidly, so that all of north China may be regarded as being threatened.

Great importance attaches to the occurrence of plague in this part of China, since it is near the seat of government, and an epidemic here may have an important bearing on international relations with that country. It is understood also that the gravity of the situation is appreciated by our government, which recognizes the great danger to life and the threatened injury to the

1. Public Health Reports, Jan. 27, 1911, p. 97.

commerce of the world. The epidemic of plague in Manchuria, however, must be regarded as an extension of the sixth pandemic of that disease, which had its origin in south China in 1893, and since that time, spread to over fifty countries throughout the world. On account of the limited amount of communication by means of ships and shipping, and the almost entire absence of immigration from north China, the epidemic of plague in Manchuria is not at present a serious menace to the health of the United States or its possessions. It indicates, however, that the infection is slowly spreading, and recalls the occurrence of outbreaks in other parts of the world, which are a distinct menace to America and its commerce. In many parts of south China plague continued to prevail during the year 1910. In Japan, cases of the disease have occurred in four important centers, including Osaka and Yokohama. In India there was an increase in the number of fatal cases as compared with the two previous years. In Argentina, Brazil, Ecuador, Peru and Venezuela, plague has also been reported during the year as being more or less widespread. In Africa, the disease has been reported from widely separated localities, and prevailed in Egypt in epidemic form. In Europe, cases and deaths were reported from St. Petersburg, Moscow and Odessa, Russia; Lisbon, Portugal; and Suffolk County, England. In the United States, two human cases were reported from rural districts of California. Plague may accordingly be regarded as now being present on every continent.

While only two human cases occurred in California, infected ground-squirrels have been reported from ten counties of that state since April, 1909, as a result of systematic examinations of 253,312 rodents. Recognition of the prevalence of the disease among ground-squirrels in rural districts, the absence of the infection from cities, the natural barrier afforded by the barren mountainous section intervening, and the prosecution of vigorous antiplague measures in the infected area, have decreased the potential danger to other sections of the country outside of California. Continuation of the systematic campaign that is now being waged against ground-squirrels should further limit this danger to the population in the infected area, and reduce the liability of the spread of the disease to a minimum.

On account of the limited communication with Oriental, African and South American ports, and because of the precautions taken at our quarantine stations, the presence of plague in these ports is not now a serious menace to the health of the country. Of greater significance is the occurrence of the disease in Europe, especially in England, as in Suffolk County rat plague is reported as being widespread, and there is said to be no precise knowledge as to how long the infection has prevailed.[2] The enormous traffic with England by means of shipping makes the prevalence of rat plague in that country a matter of immediate concern. Even though the disease should not spread there and become prevalent among man, its presence among rodents is an element of danger to shipping that must be taken into account.

In reviewing the present status of the sixth pandemic of plague, it is evident that it has begun to recede in only a few isolated localities, and that there yet remains much territory capable of infection. Since the disease seems to be primarily one of rodents, account must be taken of any unusual mortality among them, at least in all ports having relations with infected countries. It would seem, therefore, to be the duty of local health authorities to examine systematically from time to time rodents collected in their jurisdictions, to encourage the rat-proofing of houses, and otherwise to correct insanitary conditions responsible for the continuance of plague in cities.

2. Lancet, Nov. 5, 1910, p. 1353.

Current Comment

ENCOURAGING A NATIVE STRAIN

The immigration of peoples from the old countries of Europe and the consequent mingling of races is rapidly reducing and displacing the original stock of the founders of our nation, and, some believe, to the detriment of its sturdier and more desirable qualities. It will be a matter of surprise to many that in the Appalachian region of the United States, having its center, perhaps, in eastern Kentucky, there are said to be nearly three million people, of almost pure Colonial stock, largely isolated by topography and lack of transportation from much of the education and culture of the more accessible regions, but at the same time free from much of the physical and perhaps moral deterioration of the thickly populated centers. In the people of this comparatively unmixed stock many prominent men acquainted with them see a valuable asset to our nation which should be preserved and encouraged. In the center of this region is Berea College, at Berea, Ky., a religious but non-sectarian institution, with over a thousand students drawn from these people, which is endeavoring to bring to them some of the cultural advantages of the larger and better equipped and endowed schools, together with instruction in practical and technical matters such as in agriculture, mechanics, woodwork, household management, etc. The endeavor is to make the school adequate for every need of these people, and to help to build up to the highest point a community of homes and institutions that shall make these mountain regions "a good place to be born in," "a storehouse of national vigor." Toward this end the school has recently established a hospital to care for the students and a department of health to investigate the diseases which characterize the region, and to disseminate, through the student body and through the extension service which the college maintains, proper ideas of diet, cleanliness, care of the sick, the development and care of children and the thousand and one things that

make for correct hygienic living among the people. The institution, while it has a small endowment, is poor and depends largely on private beneficence. It therefore makes an appeal for support and particularly for assistance in building up its health and research department, to the end that it may, in its special field, attain the best results in fostering and improving the health, culture and practical efficiency of these real American citizens.

CARELESSNESS VS. MISREPRESENTATION

Those who have followed the work of the Council on Pharmacy and Chemistry and of the Association Laboratory in their efforts to safeguard the interests of the medical profession and the public will be interested in the report on bismuth iodo-resorcin sulphonate that appears in this issue. The case there presented is not one in which a manufacturer has deliberately misrepresented his product; rather it is a case of carelessness. In submitting its product to the Council, the firm made statements which it could, and should, have known were not true. The question arises: if a firm is careless enough to make incorrect statements to the Council on Pharmacy and Chemistry which it knows will critically examine the claims, what degree of "carelessness" may be expected when the products are exploited direct to physicians? The answer, which must occur to any thinking person, is such as to make one pause.

EMPLOYMENT FOR CURED TUBERCULOSIS PATIENTS

With the rapid increase in sanatoriums, both public and private, for the treatment of tuberculosis, the employment of the considerable number of persons discharged from them with the disease either arrested or cured has become a problem of importance, and one that is not easy of solution. It is believed by many with experience in this regard, however, that unless the conditions are too bad, or impossible, the ex-patient with his sanatorium education in hygiene and correct living, should return to his former occupation. It frequently has been found that perhaps the fourteen or sixteen hours outside of the shop or office have contributed more to the patient's breakdown than the eight or ten working hours. The readjustment to a new occupation is not always feasible, and may entail financial sacrifices that are impracticable for the patient. In cases in which it is not possible for the patient to return to his former occupation, a partial solution of the problem has been found in the training of the discharged women patients as nurses for the care of tuberculosis patients. This plan was adopted in the Phipps Institute in 1903 and has been extended to the White Haven Sanatorium in Pennsylvania, to the Ohio State Sanatorium and to other institutions where training-schools have been established. Dr. Lawrence F. Flick,[1] in describing the results of this work in Pennsylvania during the past seven years, says that it is the unanimous opinion of those who have watched these graduates in their work that the occupation of nursing consumptives is one of the best which a cured consumptive woman can take up for the preservation of her own health; and that the cured consumptive who has been trained for tuberculosis work makes by far the best nurse for tuberculosis patients. The confidence which such cured patients get from their experience, and the living evidence of the curability of tuberculosis which they themselves furnish, help them to win the confidence of their patients and to secure their cooperation. There are more demands from sanatoriums and dispensaries for these graduate nurses than can be supplied. The entrance of such trained women into this field brings a missionary spirit which means much in the crusade against tuberculosis.

[1] Jour. Outdoor Life, January, 1911.

THE DANGER FROM TRANSMISSION OF INFECTIOUS MATERIALS BY MAIL

Occasionally complaints are made to the effect that the sending of pathologic and bacteriologic materials through the mails by physicians and others constitutes a dangerous menace to public health. There is no good reason for fear of this kind at the present time. The postal regulations prescribe with great exactness just what materials of the kind now in mind may be sent and how they must be packed in order to be accepted for transmission. Failure to follow instructions is subject to heavy penalties. The packages required certainly appear proof against accidental spilling. The only possible danger will arise from improperly and carelessly packed materials. So far as it is now known, there are no records of definitely established instances of spread of infection through carelessness of this nature. But it should be borne in mind that it is not only a great convenience but in most cases an actual necessity to send material away for examination; in probably the majority of the cases this is done in order that public health may be protected by the application of the results of the examination. It is needless to say that whatever the mode of transmission, all infectious materials must be so packed as to avoid all danger, and that this simple duty is everywhere fully recognized by the conscientious physician.

OPIUM PRODUCTION IN THIS COUNTRY

It is said that an application has been made to the collector of internal revenue at Chicago for a license to manufacture opium for smoking purposes. As the revenue law forbids the importation of opium, except for medicinal purposes, the applicant was naturally asked where he expected to get his supply. He replied that he expected to produce it himself from a plantation already in existence in this country. If this is true, it affords some room for reflection. Laws against the importation of opium will be of little effect if its production is successfully undertaken in our own country; and how far this may be done is worth investigating. In view of our wide range of climate and soil there is little doubt that the opium poppy can be successfully cultivated here. In fact, opium of good quality has been produced in the

United States, but hitherto the expense has been prohibitory from a commercial point of view. If opium can be cultivated here in commercial quantities, some legislation is needed. When China is prohibiting an abuse which is disastrous to the physical and moral welfare of the people, it is no time for the United States to encourage it. Opium should be produced only under the strictest regulations.

NEED OF CAUTION IN THE USE OF SALVARSAN

The introduction of a new drug or the announcement of a new method of treatment is always attended by two possible evils. One is the unwarranted optimism aroused by the claims made by over-enthusiastic advocates. This evil is corrected by time, added experience and critical investigation, and while it often leads to disappointment, it is apparently unavoidable. The second and far more dangerous evil is the exploitation of the new discovery by the faker and the quack who are quick to seize the golden opportunity offered and to use the public interest for their own selfish advantage. Such has been the history of every great discovery in medicine. It therefore behooves both the medical profession and the public to exercise a healthy skepticism regarding first claims made for any newly discovered method of treatment. In view of the enthusiasm which greeted the discovery of salvarsan ("606"), it is not surprising to know that it is not fulfilling the first claims made for it and that the public interest aroused by it is being used by fakers and charlatans to deceive and defraud the public. In another department of THE JOURNAL[1] appears a discussion of our present knowledge of salvarsan, its limitations and dangers and the use which is being made of it by quacks. It is the duty of every physician to inform himself on this subject so as to be able to enlighten his patients and the public. In the general enthusiasm over the discovery of a drug which gives promise of being a valuable addition to our armamentarium, it must not be forgotten that salvarsan is an arsenic compound and, as such, is a dangerous poison unless used intelligently; that it can be administered only hypodermically or intravenously, and consequently cannot be self-administered by the patient; that its use may be followed by serious and even disastrous results, and that it should, in no case, be taken except under the personal direction of a competent physician. The extent of the ravages of specific diseases is shown by the almost universal interest aroused by the announcement of this discovery. Physicians and medical societies should see to it that this interest is not taken advantage of by quacks to exploit, to their own gain, the diseased and the unfortunate.

Repair of Fractures.—From a practical viewpoint, the processes entering into the repair of fractures are manifestly those of effusion and infiltration and their proper management; resorption of the effused fluids and particles of destroyed tissue material; the utilization of the callus to the best advantage by ideal fixation; retention following the fixation; and to these principles may be added the prevention of callus redundancy, which is usually the result, it may be added, of undue mechanical irritation or imperfect approximation.—G. F. Roehrig, in *Denver Medical Times and Utah Medical Journal.*

1. See page 436.

Medical News

CALIFORNIA

New County Society.—The Tulare County Medical Society has been organized at Visalia with the following officers: president, Dr. Thomas DeH. Blodgett, Tulare; vice-president, Dr. Mark L. Pettit, Visalia, and secretary-treasurer, Dr. F. Leslie Stallings, Lindsay.

Physicians On Trial.—Dr. Willard P. Burke, Santa Rosa, charged with having dynamited a tent-house where a former employee and her child were sleeping, is said to have been found guilty, January 27.——The coroner's jury in the case of Millie Conee who died at the Mount Zion Hospital, San Francisco, recently, rendered a verdict that the girl had died from the effects of an abortion, which was inflicted by herself. The verdict completely exonerated Dr. Marion Thrasher.

Personal.—Dr. C. W. Harvey, Anaheim, has succeeded Dr. Clayton L. Rich, Fullerton, as district and local surgeon for the Santa Fe Railroad.——Dr. and Mrs. William H. Mays, Newman, sailed for the Mediterranean, February 4.——Dr. Charles L. King, Pasadena, fractured his left leg and sustained many bruises and cuts, in a collision between his automobile and a street car, January 21.——Dr. William F. McNutt, San Francisco, was painfully injured by falling on a slippery pavement.——Dr. George L. Eaton, San Francisco, has been unanimously elected president of the local board of health.

CONNECTICUT

New Superintendent.—Dr. Donald L. Ross, assistant physician in charge of the reception of patients at the King's Park Hospital for the Insane, New York, has been appointed superintendent of the Connecticut Colony for Epileptics, Mansfield.

Donates Tuberculosis Pavilion.—A gift of $25,000 has been made to the town of Greenwich by Mrs. Nathaniel Witherell for the erection of a tuberculosis pavilion on the grounds of the Greenwich General Hospital, to be known as "The Nathaniel Witherell Memorial."

Society Meetings.—The surgical section of the Hartford Medical Society at its annual meeting, held January 3, reelected Dr. Arthur J. Wolff, chairman; Dr. Ernest A. Wells, secretary; Dr. Thomas N. Hepburn, treasurer, and Dr. Charles E. Taft, member of the executive committee.——The Bristol Medical Society at its annual meeting elected Dr. Charles R. Upson, president; Dr. E. Parker Sanborn, vice-president, and Dr. Benedict N. Whipple, secretary and treasurer.——The annual meeting of the Hartford Medical Society was held in Hunt Memorial Building, January 2, and the following officers were elected: president, Dr. Marcus M. Johnson; vice-president, Dr. Oliver C. Smith; secretary, Dr. Albert R. Keith; assistant secretary, Dr. Edward A. Hotchkiss; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner, and censors, Drs. Charles S. Stern, John B. Waters and Edward O. Elmer.——The Society of Regular Physicians held its annual meeting in New Britain, January 3, and elected the following officers: Dr. Catherine H. Travis, president; Dr. James H. Potts, vice-president; Dr. George H. Bodley, secretary and treasurer, and Drs. Maurice W. Maloney, William W. Brackett and Samuel W. Irving, censors.

DISTRICT OF COLUMBIA

Personal.—Dr. Percy G. Smith, superintendent of the District Tuberculosis Hospital has resigned and has been succeeded by Dr. William D. Tewksbury.——Dr. Harvey W. Wiley has been elected president of the Cosmos Club.——Dr. Ernest P. Magruder has returned from abroad.——Dr. Benjamin R. Logie has succeeded Dr. Presley B. Hunt, deceased, as alienist for the district.

District Society Election.—The Medical Society of the District of Columbia, at its annual meeting, elected the following officers: president, Dr. Wilfred M. Barton; vice-presidents, Drs. Walter A. Wells and Hanson T. A. Lemon; corresponding secretary, Dr. Thomas C. Smith; recording secretary, Dr. Henry C. Macatee; treasurer, Dr. Charles W. Franzoni (thirty-ninth term); librarian, Dr. Edwin L. Morgan, and censors, Drs. D. Olin Leach, Henry B. Deale, Francis R. Hagner, Joseph S. Wall and John F. Moran.

FLORIDA

State Laboratory.—A state laboratory is to be erected in Jacksonville for the state board of health.

Health Ordinance Violators Fined.—Two negroes of Jacksonville were each fined $2.00 by the justice of the municipal court for violating the health ordinance by not keeping their property clean.

Hospital Corps Organized.—A meeting of the medical officers of the National Guard of Florida was held in Jacksonville, January 25, to organize a field hospital for the state. Dr. Guy P. Holden, Jacksonville, First Lieutenant, M.C., N.G.F.A., is in command of the corps.

Society Meeting.—Orlando County Medical Society, at its annual meeting held in Orlando, elected Dr. William C. Persons, Orlando, president; Dr. Thomas A. Neal, Sanford, vice-president; Dr. Garton H. Edwards, Orlando, secretary, and Dr. Sylvan McElroy, Orlando, treasurer.

GEORGIA

Personal.—Dr. Faris C. Richards, Jasper, was thrown from his buggy, fracturing his right femur and dislocating his left shoulder.——The Medical College of Georgia, Augusta, has added to its faculty the following demonstrators; obstetrics, Drs. Andrew J. Kilpatrick and John M. Caldwell, and otology, Dr. James R. Littleton.——Dr. John T. Moncrief, chairman of the police commission of Columbus, has resigned.——Dr. Robert C. Swint, assistant on the medical staff of the State Sanitarium, Milledgeville, has resigned.

Election of Officers.—Clark County Medical Society, at its meeting held in Athens, elected the following officers: president, Dr. Dan H. Dupree; vice-president, Dr. Singleton S. Smith; secretary-treasurer, Dr. John Gerdine; censors, Drs. William A. Carlton, Millard F. Matthews and Allen C. Holliday; delegate to the state association, Dr. Henry M. Fullilove, and alternate, Dr. John C. McKinney, all of Athens.——At the annual meeting of the Fulton County Medical Association, held in Atlanta, the following officers were elected: president, Dr. Edgar G. Ballenger; vice-president, Dr. L. Benjamin Clarke; secretary, Dr. Richard R. Daly; treasurer, Dr. Arnold H. Lindorme and censor, Dr. Frederick G. Hodgson, all of Atlanta.——At the annual meeting of the Richmond County Medical Association held in Augusta, January 25, the following officers were elected: Dr. Charles W. Crane, president; Dr. G. A. Traylor, vice-president; Dr. James B. Wright, secretary-treasurer; Drs. Noel M. Moore and Thomas D. Coleman, censors; Dr. James R. Littleton, delegate to the state association and Dr. William R. Houston, alternate, all of Augusta.

ILLINOIS

Personal.—Dr. Charles C. Kost, Dixon, has been appointed district surgeon of the Illinois Central Railroad, vice Dr. Abraham L. Miller, resigned.——Dr. Christian H. Zoller, Granite City, has been appointed superintendent of the Granite City Lutheran Hospital.

The Last of the Physiomedical Colleges Changes Faith.—Last month at a meeting of the stockholders and trustees of the College of Medicine and Surgery, Chicago, the last of the physiomedical colleges, the corporate name was changed to the Chicago Eclectic Medical College. It is stated that the school will hereafter be conducted as an eclectic college.

Law-Breakers Caught.—Dr. J. A. Roy, Lewistown, against whom a judgment is said to have been secured some time ago for practicing medicine without a license, and against whom a fine of $100 was assessed, gave himself up to the sheriff, January 20, and will serve a sentence of twenty days in jail.——George Griffith, Strasburg, an itinerant medicine vender, who was sued by the state's attorney for peddling medicine without a license is said to have consented to settle the case without a trial on the imposition of a fine of $100 and costs and has promised to go out of business.

Hospital at Clinton.—The Dr. John Warner Hospital, Clinton, is almost ready for opening; the delay is due only to the failure of some of the equipment and furniture to arrive. On the first floor of the institution are the superintendent's room, nurses' rooms, kitchen, dining room, reception room and men's ward, which latter is to be furnished by the Illinois Central Railroad. On the second floor of the institution are most of the private rooms, the women's ward and children's ward. On the third floor the operating rooms, dressing rooms and sterilizing rooms will be located. The physicians of DeWitt County have decided to furnish the operating room of the hospital.

Chicago

Schools Named for Physicians.—Dr. Frank J. Jirka states that THE JOURNAL omitted from the list of physicians after whom Chicago public schools have been named, that of his father, the late Dr. Frank J. Jirka, who was for many years a member of the public school board of Chicago.

Personal.—Dr. David J. Davis, of the Memorial Institute for Infectious Diseases, has been appointed pathologist to St. Luke's Hospital.——Dr. Christian J. Hartung was struck by a street car, February 2, and seriously injured.——Dr. Strother J. Beeson has left for a trip to the West Indies and South America.

INDIANA

Illegal Practitioner Fined.—Dr. A. E. Uetz, Ellwood, charged with practicing medicine without a license, is said to have pleaded guilty, January 25, and to have been fined $25 and costs.

License Renewed.—The State Board of Examination and Registration, on petition of physicians of Allen County and a number of citizens, has renewed the license of Dr. McKendre Green, Pleasant Lake, which was revoked nearly three years ago.

Antituberculosis Hospital Open.—The first patients were received in Boehne Camp, near Evansville, January 11. The hospital, an open-air farm, completed through the energetic work of the antituberculosis society aided by the donation of Congressman Boehne, can now accommodate fourteen patients.

Metaphysical Healer Fined.—The Supreme Court, on January 25, confirmed the decision of the May circuit court, which assessed a fine against Mrs. Lyda Hazlett, Richmond, for prescribing medicine without a license. The suit was brought following the death of a 14-year-old girl in an institute, conducted by the defendant, known as the "Metaphysical Healing Home."

Verdict Against Practitioner.—By agreement of the contending parties a judgment of $1,500 damages in favor of Arman Rankin, a minor, is said to have been entered in the circuit court of Indianapolis, Dec. 30, 1910, against Dr. Robert O. McAlexander, in a suit brought on behalf of the plaintiff to recover damages for alleged unskilful setting of the bones in a fracture of the leg.

Personal.—Dr. J. Herbert Brewster, for three years head of the water laboratory of the State Board of Health, has resigned.——Dr. A. C. Lucas, Indianapolis, was struck by a street car January 25, but was not seriously injured.——Dr. C. D. Pettigrew, Logansport, whose license to practice was revoked recently by the State Board, was tried, January 30, on the charge of practicing without a license, instituted by the Cass County Medical Society, and, on the first ballot, was acquitted.

Gift to University.—Dr. Robert W. Long and wife, Indianapolis, have made a donation of $200,000 in real estate to the Medical Department of the State University. Dr. Long desires that the legislature provide sufficient funds for the maintenance of a hospital free to all citizens of the state, and connected with the medical department of the state university. His plans also include the selling of the present building of the medical college in Indianapolis and the erection of new and more commodious buildings on the land owned by the state. His idea, eventually, is to increase his donation to $500,000.

Elections.—At the annual meeting of the Indianapolis Medical Society, the following officers were elected: Dr. Albert C. Kimberlin, president; Dr. Norman E. Jobes, vice-president; Dr. Roscoe H. Ritter, secretary-treasurer; Drs. William F. Clevenger and Walter D. Hoskins, members of the judicial council; Drs. Harry E. Gabe, Thomas B. Eastman and Francis B. Wynn, delegates to the state medical association, and Drs. Charles A. Pfaffiin, Thomas C. Kennedy and Mitchell O. DeVaney, alternates.——At the annual meeting of Vanderburg County Medical Society, held in Evansville, Dr. Charles Knapp was elected president; Dr. Porter H. Linthicam, vice-president; Dr. William R. Davidson, secretary (reelected), and Dr. Benjamin L. W. Floyd, censor, all of Evansville.——Tippecanoe County Medical Society, at its meeting in Lafayette, elected the following officers: Dr. Milton C. Wilson, president; Dr. George F. Keiper, vice-president; Dr. William M. Reser, secretary (reelected); Dr. Charles Hupe, treasurer and Dr. George F. Beasley, censor, all of Lafayette.——At the annual meeting of Madison County Medical Society, Dr. Joseph E. Hall of Alexandria, was elected president, and Dr. Etta Charles, Summitville, secretary-treasurer.

IOWA

New Hospitals.—The City Park Hospital Company of Mason City has reorganized and a lot has been purchased on which a building to cost $75,000 will be erected.——Dr. Clyde A. Noland, Ogden, has opened a hospital in that town with accommodation for five patients.

Society Meetings.—Blackhawk County Medical Society, at its annual meeting January 10, elected Dr. William G. Mullarky, Cedar Falls, president; Dr. John E. O'Keefe, Waterloo, vice-president; Dr. Carl C. Bickley, Waterloo, secretary (re-elected); Dr. Will L. Hearst, Cedar Falls, treasurer, and Dr. Frank N. Mead, Cedar Falls, censor.——At the annual meeting of Scott County Medical Society held at Davenport, January 2, Dr. Albert W. Elmer was elected president; Dr. John C. Murphy, vice-president; Dr. John V. Littig, secretary-treasurer; Dr. Frederick Lambach, delegate to the state society, and Dr. George E. Decker, alternate, all of Davenport.——Page County physicians met in Coin, December 28, to reorganize the county medical association, and after some preliminary work adjourned to meet the following week at Blanchard.——The annual election of Lee County Medical Association resulted in the choice of Dr. Coral R. Armentrout, Keokuk, president; Dr. William C. Kasten, Fort Madison, vice-president, and Dr. Ernest G. Wollenweber, Keokuk, secretary-treasurer.——Fort Madison Medical Society, at its annual meeting elected Dr. John W. Philpott, president; Dr. Charles O. Wilkin, vice-president, and Dr. J. G. Rea, secretary-treasurer.——At the thirty-eighth annual meeting of the Marion County Medical Society, held in Knoxville, Dr. Clarence E. James, Durham, was elected president; Dr. Arthur M. Merritt, Pleasantville, vice-president; Dr. Corwin W. Cornell, Knoxville, secretary-treasurer, and Dr. J. M. Weiss, Knoxville, censor.

KENTUCKY

Health of Jefferson County.—The annual report of the Jefferson County Board of Health has just been published. It shows that though the population of the county has increased 25 per cent., the best available statistics show a decrease in the death-rate of 1 per cent. Among the causes assigned to the lessening of illness the board mentions the drainage of swamp lands; the improvement in water supply; the keeping of stagnant water from the side of the highways and the spreading of crude oil on the county roads. The number of cases of tuberculosis is greater than ever before. There is a noted decrease in typhoid fever since the filtration plant has been in operation, but many cases are still reported along the line of small streams which feed the wells and springs. There were only sixteen cases of diphtheria reported, with no fatality. There were fifty-one cases of scarlet fever with three deaths, and five cases of small-pox. The secretary urges the establishment of an abattoir as the public has practically no protection against diseased and carelessly handled meats. Much space is given in the report to the condition of the milk supply of Louisville.

LOUISIANA

Small-Pox on Steamer.—Small-pox has developed on board the United States Engineers' steamer, *Delatour*, in Bayou Teche. The patients have been placed on a house-boat and thorough preventive measures have been undertaken.

The Health Train.—Up to the first of the year, the health exhibit train sent out by the State Board of Health has visited twenty parishes and fifty-two towns and it is estimated that 5,600 people have visited the car and that 1,500 have attended the meetings and lectures on hygiene and sanitation. The train is expected to tour Mississippi after the work in Louisiana is finished.

Hospital News.—The ordinance recently passed which makes the new building for the insane at the New Orleans House of Detention a city hospital for mental diseases, provides that it shall be the privilege of any indigent person residing in Orleans parish to make formal application for admission to the hospital, and, if found mentally unsound, to receive the benefit of medical care and treatment in the institution. The new building will be ready this month.——The free clinic of the new Presbyterian Hospital, New Orleans, located at 730 Baronne Street, opened January 16.

Parish Society Elections.—At the annual meeting of the Avoyelles Parish Medical Society held in Mansura, January 6, the following officers were elected: president, Dr. Remy G. Ducote, Bordelonville; vice-president, Dr. William A. Quirk, Evergreen; secretary-treasurer, Dr. Merrick E. Saucier, Marksville, and delegate to the state medical society, Dr. Thomas A. Roy, Mansura.——Rapides Parish Medical Society at its annual meeting, January 2, held in Alexandria, elected the following officers: president, Dr. Richard F. Harrell, Alexandria; vice-presidents, Drs. Edward F. Luckett, Loyd, and John L. Wilson, Alexandria; and secretary-treasurer, Dr. James A. White, Alexandria.

Personal.—Dr. Hamilton P. Jones, Pure Food Commissioner of Louisiana for the last four years, has resigned.——The board of managers of Touro Infirmary, New Orleans, have made the following appointments: surgical department, Dr. Russell E. Stone; pediatric department, Dr. Ruffin T. Perkins; gynecologic department, Dr. Paul T. Talbot; eye, ear, nose and throat department, Dr. Emile S. Keitz.——The Lafayette Sanitarium Association has reelected the following directors: Drs. John E. Mouton, Frederick R. Tolson, Lambert O. Clark and Nathaniel P. Moss.——Drs. Alonzo Givens and Ruffin B. Paine have been elected members of the Mandeville Board of Health, and, at the first meeting of the board, January 17, Dr. Paine was elected president.——Dr. John Callan, New Orleans, has been elected a member of the board of managers of the Tulane Fund vice Rev. Beverly Warner, deceased.——Dr. W. E. Dillon, Many, has been elected president of the Sabine Parish Board of Health, vice Dr. Willie E. Tatum, Converse, resigned.——Dr. Joel A. Selby, Shreveport, was thrown from his buggy in a runaway accident recently, fracturing a leg.

NEBRASKA

Demonstrators' Association Elects.—Dr. Wightman, Omaha, has been appointed president of the Nebraska Demonstrators' Association, vice Dr. E. Arthur Carr, Lincoln; Dr. Charles W. McC. Poynter, Lincoln, secretary, and Dr. O. Olson, Lincoln, vice-president and treasurer.

Personal.—Dr. Malcolm Stewart, Tecumseh, has been appointed a member of the newly organized Johnson County Board of Health.——Dr. Mark W. Baxter has resigned the superintendency of the Nebraska State Hospital, Ingleside, and will locate in Hastings.——Dr. Charles S. Currie, Beatrice, has been appointed physician of Gage County.

Society Meetings.—At the annual meeting of the Johnson County Medical Society held in Tecumseh, January 19, Dr. Charles H. Davies, Tecumseh, was elected president; Dr. Nils P. Hanson, Elk Creek, vice-president; Dr. Albert P. Fitzsimmons, Tecumseh, secretary-treasurer, and Dr. George J. Rubelman, Tecumseh, censor.——The Republican Valley Medical Association, at its annual meeting held in Hastings, January 26, elected Dr. Llewellyn L. Jones, Hastings, president, and Dr. Robert S. Mitchell, Red Cloud, vice-president, and reelected Dr. James N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.——The Dawes County Medical Association at its meeting in Chadron, elected Dr. Benjamin F. Richards, Crawford, president; Dr. E. L. Vernon, Chadron, vice-president; Dr. George W. Deemer, Chadron, secretary, and Dr. James E. Hartwell, Crawford, delegate to the state association.——The Howard County Medical Association, at its annual meeting held in St. Paul, elected Dr. Peter M. Pedersen, Dannebrog, president and delegate to the state association; Dr. John F. Hart, Elba, vice-president, and Dr. Charles C. Paxton, St. Paul, secretary-treasurer.

NEW HAMPSHIRE

Registration of Tuberculosis.—The house of representatives has passed a bill providing for the registration of all cases of tuberculosis.

Bequest to Hospital.—By the will of the late Dr. George F. Wilber, Nashua, about $60,000 is bequeathed to the Nashua Emergency Hospital.

Public Drinking Cup Must Go.—The lower branch of the legislature concurring with the senate, January 25, passed a bill giving the State Board of Health authority to "restrict the use of drinking cups in public places."

Personal.—Dr. George W. McGregor, Littleton, is spending the winter in Aiken, S. C.——Dr. John M. Gile, Hanover, has been elected a member of the governor's counsel.——Dr. George A. Weaver, Warren, has been appointed a member of the local board of pension examiners of Plymouth.

Society Meetings.—At the seventh annual meeting of the Grafton County Medical Society held in Woodsville, Dr. William E. Lawrence, North Haverhill, was elected president; Dr. John Wheeler, Plymouth, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. Charles R. Gibson, Woodsville, delegate to the state medical society and Dr. Elmer H. Carleton, Hanover, censor.——The New Hampshire

medical club at its fifteenth annual meeting in Hanover elected the following officers: president, Dr. John W. Staples, Franklin; vice-president, Dr. Clifton S. Abbott, Laconia, and secretary-treasurer, Dr. Frank E. Kittredge, Nashua.

NEW JERSEY

New Infirmary.—Princeton University is soon to have a larger and more complete infirmary. The endowment fund for the building amounting to about $100,000, has been raised by the Women's Auxiliary Society of Princeton.

Medical League Meeting.—The Newark Medical League held its annual banquet, January 26, at which 116 were present. Dr. William J. Robinson, New York City, read a paper on "The Improvement of the Human Race," Dr. David A. Kraker acted as toastmaster and the following officers were elected: president, Dr. Louis Weiss; vice-president, Dr. Edwin Steiner; secretary, Dr. Abraham Finkelstein, and Treasurer, Dr. Louis L. Davidson.

Election.—Orange County Medical Society held its annual meeting January 20, in the William Pierson Medical Laboratory, Orange. Dr. Richard D. Freeman, South Orange, was elected president; Dr. Levi W. Halsey, Montclair, vice-president; Dr. Henry A. Pulsford, South Orange, secretary; Dr. J. Minor Maghee, West Orange, treasurer; Dr. Charles W. Franks, East Orange, reporter, and Drs. Richard P. Francis and Richard C. Newton, Montclair, and Dr. William H. Lawrence, Summit, censors.

NEW YORK

Crippled Children.—The tenth annual report of the board of managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, states that out of eighty patients treated, thirty-three were discharged. There was a far larger number of applicants than could be accommodated, and plans for a new and more extensive hospital have been prepared and it is stated that work on the structure will be begun immediately.

Wins Test Case.—In the case of the Hempstead town board of health against Dr. A. Ferree Witmer, Freeport, charged with failure to record a certificate of birth within thirty-six hours, as provided by ordinance, the judge rendered a decision for the defendant on the grounds that the ordinance naming the fine was not specific. Dr. Witmer made this a test case on the grounds that the ordinance was too broad and also that the penalty provided was not less than $10 and not more than $25.

Proposed Legislative Measures.—A resolution asking for the appointment of a commission to investigate tuberculosis conditions in the state and to devise remedial legislation has been prepared for presentation to the legislature. Another resolution proposes the erection of a state hospital for the treatment of tuberculosis in the Adirondacks, through an amendment to the constitution authorizing the legislature to set apart an area of a thousand acres or less in the Adirondack State Park for hospital purposes.

To Check Insanity.—The annual report of the State Commission in Lunacy, recently transmitted to the legislature, states that the number of insane in the state on Sept. 30, 1910, was 32,658. The number in state hospitals was 31,606; in licensed private institutions, 1,052, and in Matteawan and Dannemora, institutions for the insane criminal, 1,161. The total number of patients received during the year was 7,063, a net increase of 1,119. The report states that addresses on the prevention of insanity will be made in the Academy of Medicine, New York City, and later in many parts of the state, to be followed by a series of public lectures illustrated by moving pictures depicting life of the insane in the modern hospital and the remedial measures employed. Pamphlets informing the public of the avoidable causes of insanity will be issued for distribution to high school and college students, to church organizations and philanthropic associations throughout the state.

New York City

Personal.—Dr. Charles H. May has been appointed consulting ophthalmologist for the fourth division of Bellevue Hospital.——Dr. Charles L. Vaux, Central Islip, has been appointed second assistant physician at the State Hospital, in that place.

Bequests.—Among the many bequests mentioned in the will of the late Mrs. Emily H. Moir, are the following to hospitals: New York Eye and Ear Infirmary, $20,000; Lying-In Hospital, $10,000; Hospital for Scarlet Fever and Diphtheria, $5,000; Baby's Hospital of the City of New York, $10,000; Presbyterian Hospital, $20,000; Northern Dispensary, $5,000, and Nursery and Child's Hospital, $5,000.

Report of Beth Israel Hospital.—At the annual meeting of the Beth Israel Hospital Association the report showed that 4,754 persons had applied for treatment during the year of whom 1,317 were rejected for lack of room. Of the patients treated more than 94 per cent. were treated as charity cases. The report emphasizes the need of a larger building and efforts will be made to find a site for a new bulding. The total subscriptions to the building fund now amount to $188,609.

The Deaths of 1910.—During the year 76,742 deaths were recorded, equivalent to a death-rate of 15.98 per 1,000, a little lower than that of 1909, and the lowest rate ever on record in the city. If the average death-rate which had prevailed during the previous decade had continued during 1910, there would have been 13,076 more deaths in the latter year than were recorded. All the causes of death amenable to sanitary control show decreases. Most prominent among these may be named tuberculosis, 1,840; diarrheal diseases, 1,151; diphtheria, 608; typhoid fever, 258; whooping-cough, 167; measles, 165; malarial fever, 93; small-pox, 89, and scarlet fever, 32. Among other prominent death causes which showed decreases were: apoplexy, 1,974 (this is probably due to more accurate certification); pneumonia, 2,203; bronchitis, 850; nephritis, 1,317; accidents, 773, and suicide, 153. Those diseases showing increases were cancer, 230; organic heart disease, 93; cirrhosis of the liver, 25; appendicitis, 23, and homicide, 63.

Pasteurization and Grading of Milk.—The department of health, at its meeting, January 31, adopted resolutions relative to the pasteurization and grading of milk which provide that all milk and cream offered for sale in the city, except that used for manufacturing or cooking purposes, must be of the grade technically recognized by the board of health as certified or guaranteed milk or must be pasteurized under the conditions prescribed by the board. Grade A, for infants and children, is to be sold in bottles, only. This includes certified milk, guaranteed milk or milk pasteurized under special regulations. Grade B, milk safe for adults, to be sold in bottles or drawn from containers, not dipped. This includes Grade A, and pasteurized milk produced under the regulations of the department. Grade C, milk suitable for cooking and baking purposes to be sold from bottles or from cans. This includes all milk complying with the general regulations of the department, but not complying with the regulations made for A and B. No one should use milk inferior to Grade A for feeding an infant or child. Every person purchasing milk for drinking purposes is entitled to receive milk not inferior to Grade B. The efforts of the department of health in the supervision of milk should be especially concentrated on Grades A and B.

Hospital News.—At the fifty-eighth annual meeting of the Mount Sinai Hospital Association it was reported that the deficit had been reduced to $10,803. Legacies and bequests received during the last year amounted to $73,762 and $52,000 was received for the establishment of beds. The hospital has taken the initiative in planning an association of children's clinics throughout the city, and Adolph Lewisohn has promised $130,000 additional, making $200,000 in all, for the erection of a larger building for the accommodation of the pathologic department.——At the annual meeting of the officers of Stony Wold Sanitarium, which cares for cases of incipient tuberculosis, it was reported that 144 new patients had been admitted during the year. More than two-thirds of the patients have been discharged as cured since the sanitarium opened and these have been followed and report that they are as well as when they left the institution. The sanitarium has a deficit for the last four years of $20,000.——Between $11,000 and $12,000, was realized from the performance of "Romeo and Juliet" at the Metropolitan Opera House for the benefit of the French Hospital.——The twenty-first German Charity Ball netted $10,000, which will go toward the support of ten different German charitable and philanthropic institutions.——The Norwegian Hospital of Brooklyn has received $15,000 from Jens Skougaard, formerly president and treasurer of the board of managers of this hospital. The money will be added to the endowment fund of the hospital which now amounts to $25,000.

TENNESSEE

Small-Pox at State Prison.—Seven cases of small-pox are reported at the state penitentiary, Nashville. All possible precautions are being taken to prevent the spread of the disease.

Personal.—Dr. Peter S. Hagar has been elected city prescriptionist of Nashville, vice Dr. John G. Buford, deceased.——Dr. Cary Snoddy has been reelected Superintendent of Knoxville General Hospital; Dr. Samuel H. Hodge has been

elected member of the visiting and consulting staff, and Dr. V. D. Holloway, pathologist.——Dr. Ambrose McCoy, Jackson, has been appointed a member of the State Board of Medical Examiners.

Society Elections.—The Chattanooga and Hamilton County Medical Society, at its annual meeting in Chattanooga, elected the following officers: president, Dr. James H. Atlee; vice-president, Dr. Frank T. Smith; secretary-treasurer, Dr. Hiller P. Larimore (reelected), and censor, Dr. Samuel I. Yarnell, all of Chattanooga.——Sumner County Medical Society has elected the following officers: president, Dr. William T. Allen, Gallatin; vice-president, Dr. Bruce S. Galbraith, and secretary-treasurer, Dr. Walter S. Dotson, Gallatin.——At the annual meeting of the Memphis and Shelby County Medical Society held in Memphis, Dr. W. Battle Malone was elected president; Dr. J. Wesley Price, vice-president and Dr. Buford N. Dunavant was reelected secretary, all of Memphis.

TEXAS

On Trial for Selling Diplomas.—Dr. J. W. Decker, dean of the Gate City Medical College, which now has its headquarters at Dallas, Texas, is reported to be on trial in the federal court of Dallas, on the charge of using the mails to defraud. Mr. J. N. Wilkerson, the attorney for the Texas State Board of Medical Examiners, is said to have succeeded in securing a medical diploma within thirty minutes after he made application for it.

Society Meetings.—The Matagorda County Medical Association, at its meeting in Bay City, January 16, elected Dr. Edward E. Scott, president; Dr. J. W. Reed, vice-president; Dr. James E. Simons, secretary, and Drs. Baxter Smith and Stephen A. Foote, delegates to the state association, all of Bay City.——At the annual meeting of the Galveston County Medical Society, held in Galveston, January 12, Dr. Howard R. Dudgeon was elected president; Dr. H. O. Sappington, vice-president; Dr. James Greenwood, Jr., secretary-treasurer, and Dr. Ashley W. Fly, delegate to the state medical association, and Dr. Henry C. Hayden, alternate, all of Galveston.——At the meeting of the Port Arthur Medical Society, January 9, Dr. L. F. Bland resigned as secretary and was succeeded by Dr. Pat Reed.——Lemar County Medical Society, at its annual meeting in Paris, January 7, elected the following officers: Dr. John B. Chapman, president, Dr. Andrew J. Rush, vice-president; Dr. James M. Hooks, secretary and delegate to the state association, all of Paris, and Drs. John D. McMilllan, Paris, L. B. Stephens, Brookston, and Marcellus A. Walker, Paris, censors.——At a recent meeting of the health officers of Texas in Houston, the Texas Tropical Disease Research Society was organized with about 125 members. The following officers were elected: president, Dr. William M. Brumby, San Antonio; vice-presidents, Dr. Charles A. R. Campbell, San Antonio, and Charles L. King, Whitesboro, and secretary-treasurer, Dr. E. H. Lancaster, Houston. ——At the annual meeting of the Central Texas Medical Association, held in Temple, January 16 and 17, Dr. Walter H. Allen, Marlin, was elected president, and Dr. Howard M. Lanham, Waco, secretary-treasurer.——The North Texas Medical Association, at its annual meeting held in Dallas, elected the following officers: president, Dr. Carey A. Gray, Bonham; vice-presidents, Drs. William G. Harris, Plano, and K. Herberden Beall, Fort Worth; secretary-treasurer, Dr. H. Leslie Moore, and Drs. John B. Smoot, Dallas, and Dr. S. D. Moore, Van Alstyne, judicial council.——At the annual meeting of the Seventh District Medical Society held in Austin, the following officers were elected: president, Dr. Thomas J. Bennett, Austin; secretary, Dr. Lewis B. Bibb, Austin, and censors, Drs. James H. White, Kile, and James W. McLaughlin and Robert M. Wickline, Austin.——Hunt County Medical Society has elected the following officers: president, Dr. Edwin P. Becton; vice-president, Dr. Thomas B. Spaulding; secretary-treasurer, Dr. John A. Bush, and censor, Dr. Milus L. Moody, all of Greenville.——At the annual meeting of the Bell County Medical Society, held in Temple, Dr. Ambrose B. Crain, Belton, was elected president; Dr. S. A. Watts, Pendleton, vice-president; Dr. Edward J. Burns, Temple, secretary-treasurer; Dr. Jacob M. Frazier, Belton, censor, and Dr. Milton P. McElhannon, Belton, alternate delegate to the state society.

GENERAL NEWS

Tri-State Physicians Meeting.—The thirteenth annual session of the Tri-State Medical Association of the Carolinas and Virginia will be held in Raleigh, February 22 and 23 under the presidency of Dr. Joseph A. White, Richmond, Va.

Tuberculosis Day.—April 30 has been set aside as Tuberculosis Day and will be observed in 200,000 churches in the country in a manner similar to that of Tuberculosis Sunday in 1910. The National Association for the Study and Prevention of Tuberculosis asks that meetings, at which the study of tuberculosis and its prevention can be discussed, be held on Sunday, April 30, or near that date, so that the whole matter can be discussed throughout the United States at as near the same time as possible.

The Golubinin and Sirotinin Festchrifts.—The issue of the *Medizinskoe Obozryenie*, just received (No. 20), is a special number of 163 pages in honor of the professor of materia medica at the university of Moscow, L. E. Golubinin, president of the Moscow Medical Society. The *Russkiy Vrach* of the same date is also a *Festnummer* in honor of V. Sirotinin, professor of internal diseases at St. Petersburg. Among the many articles, Tchernorutzki reports that he found the Mandelbaum reaction positive in 100 per cent. of over a hundred cases of typhoid fever, and regards it as a valuable simple means for rapid differentiation of typhoid. (The technic was described in THE JOURNAL, March 5, 1910, page 827.)

Alcohol Literature Given Libraries.—Mr. A. D. Ellis of East Syracuse, N. Y., a business man of some means, has recently sent to every medical library in the United States and Canada a copy of the book, "Alcohol, a Dangerous and Unnecessary Medicine," by Mrs. Martha M. Allen, superintendent of medical temperance for the National Woman's Christian Temperance Union. The book was reviewed in THE JOURNAL some months ago and recommended to the respectful consideration of physicians, and this fact led Mr. Ellis to think it would be a good thing to present the book to medical libraries. He was greatly gratified at receiving some very warm letters of thanks for the gift, and kindly commendations of the book. He is now considering sending a copy to all the nurses' training schools. The book is largely a compilation of the writings of successful physicians who use little or no alcoholic liquors in their practice.

Health Crusade.—Mrs. S. S. Crockett, chairman of the Health Department of the General Federation of Women's Clubs, in a New Year's message, asks that every club in the general federation and the forty-five state federations, during the first month of the new year, hold a war council of all departments or committees and discover what every section or part of every club throughout the country may contribute toward the nation-wide health campaign instructed by the last general federation at its meeting in Cincinnati. Mrs. Crockett also asks for four successive advances on health enemies all along the line through a series of short term campaigns as follows: February—"The Common Drinking Cup." March—"The Typhoid Fly." April—"Oral Hygiene," and May—"Social Hygiene." Special tuberculosis campaigning will also be continued. The campaign headquarters for two years are at 710 Belmont Avenue, Nashville, Tenn.

Joint Conference on Education and Legislation.—The Seventh Annual Conference on Medical Education and Legislation, called by the Council on Medical Education and the Council on Health and Public Instruction of the American Medical Association, will be held at the Congress Hotel, Chicago, March 1-3, 1911. Speakers of national reputation will be present and an interesting session is expected. The first day will be given to addresses and reports on medical education; the second to a discussion of medical practice acts and the third day will be taken up by a conference on medical legislation. A program will be sent on application. Since two other educational agencies, namely, the Association of American Medical Colleges and the National Confederation of State Medical Examining and Licensing Boards are to hold their annual sessions in Chicago during the same week, an unusually large attendance of those interested in medical education and medical legislation is expected.

Warning Against Easy-Money Swindlers.—Several correspondents have written from Iowa recently regarding the Medical and Surgical Exchange Bureau, 1315 Capitol Avenue, Des Moines, Iowa, stating that an individual, calling himself A. W. Orris, has called on them alleging to represent the above bureau, and has offered to take their old medical books and give new books in exchange. On going over the list, the balance is always in favor of the agent, who requests and obtains a deposit, and this is stated to be the last heard of the agent. On investigation, they found that no such corporation or individual lived at the address given in Des Moines or had had an office at that address. Orris is said to be a man of about 60, with a black mustache, about 5 feet 10 inches in height, weighing about 180 pounds. He is said to be rather nervous and hurried in his manner, but to have good knowledge of medical books, and to carry with him a number of medical book cat-

alogues.——Another man, alleged to be a swindler, is reported from the City of Mexico. He presents alleged letters of introduction and pretends that he is an Odd Fellow and an Elk. He calls himself F. August Harbers, is a large, fair man, of about 35 years of age. Our correspondent does not state in what way he and others were victimized—perhaps they loaned money to him. Swindlers of various sorts are operating all over the country, and will continue to do so as long as they find it possible to succeed without capture.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, Jan. 28, 1911.

Great Fall in Infant Mortality

The returns for 1910 show the unprecedentedly low figure of 106 deaths, of infants under one year, per 1,000 births. The great improvement which has been made is shown by the fact that the figure in 1901 was 151. The previous lowest figures were 109 in 1909, and 118 in 1907. In London, the record is even more startling, the infant death-rate in 1910 being only 102, as compared with 148 in 1901; while in the part of England and Wales outside the 213 great towns the rate in 1910 was only 96. The importance of these figures may be gathered from the fact that had the infant death-rate in 1910 been as high as in 1904, 151,000 more deaths would have occurred. This result has been due to a number of factors. Cool summers always mean a low infant mortality, a consequence of a great diminution in summer diarrhea. But similarly cool summers have occurred in past years with no such low infant mortality. The principal cause is the great attention which has been paid to infant hygiene in the last few years. This dates from the Conferences on Infant Mortality, which were addressed by Mr. John Burns, the President of the local government board, in which he urged the sanitary authorities to "concentrate on the mother" and to secure for infants better conditions of housing and a more favorable environment. During these years, the Notification of Births Act (by which local health authorities can render compulsory the notification of births) has been adopted in the districts most needing its work. Following the notification is the health visitor who gives the mother any necessary advice. The subject of infant hygiene has become increasingly popular.

Prevention of Sleeping-Sickness

A conference, convened by the British government, is now being held daily at the foreign office, as a result of representations made of the danger of spreading sleeping-sickness by the construction of the Rhodesia-Katanga railway which runs beyond the Congo frontier. The delegates include M. Melot, representing the Belgium government, and Dr. Bagshawe of the Sleeping-Sickness Bureau. The conference recommends that in the case of new railway extensions the route of the lines should be inspected for the *Glossina palpalis*, that maps of the fly area should be prepared, that railways should cross the fly belt at the narrowest points and not follow them, that there should be no station, building, or stopping place in the area, and that laborers on the line should be recruited under such conditions as to avoid infection. At a meeting of the Royal Society reports were received from Col. Sir David Bruce, director of the society's commission for the investigation of sleeping-sickness at Uganda, describing the results of experiments to ascertain if the antelope and domestic fowl of Uganda act as reservoirs for the trypanosome of sleeping-sickness.

The tsetse flies around the northern shores of the Lake Victoria Nyanza still retain their infectivity for sleeping-sickness in spite of the fact that the native population was removed from the lake shore three years ago. A series of experiments was therefore carried out to ascertain if the antelopes, which are common on the uninhabited shores of the lake are capable of acting as hosts of the parasite of sleeping-sickness. Eleven antelopes of the waterbuck, bushbuck and redbuck species were obtained from a district where tsetse flies and sleeping-sickness do not exist. Blood from these animals was first inoculated into monkeys to ascertain whether they were naturally infected with trypanosomes. They proved to be healthy in this respect. Tsetse flies known to be infected with the trypanosome were then fed on these antelopes. After about eight days the blood of the antelopes was inoculated into susceptible animals with the results that in every instance. In all but eight out of the eleven antelopes the trypanosome appeared in the blood for a few days only (seven to twelve days) after they had been bitten by infected flies. Flies that had been hatched out in the laboratory and had never fed before, were fed on the infected antelopes and subsequently on monkeys. After an interval of about thirty days (required for the development of trypanosomes within the fly) monkeys were infected by the flies in sixteen out of twenty-four experiments, but the animals remained in perfect health. No wild antelope inhabiting the lake shore has yet been found naturally infected. With regard to birds, there is evidence that tsetse flies feed on the blood of birds as well as mammals on the lake shores. But the conclusion from twenty-one experiments with domestic fowls was that these do not act as a reservoir for sleeping-sickness.

Physician vs. Pharmacist

The pharmacists have not been long in preparing a counter stroke to the report of the government commission on unqualified practice. As stated in a previous letter to THE JOURNAL, pharmacists were severely criticized for usurping the functions of physicians and prescribing for patients. The parliamentary committee of the Pharmaceutical Society has passed the following resolution which has been adopted by the general council of the society: "That having regard for the grave dangers attending the dispensing of medicine and the handling of poisons by unqualified persons, and to the fact that at the present time the precautionary measures imposed by statute on chemists and druggists do not apply in the surgeries and dispensaries of medical practitioners, the privy council be urged to authorize an investigation into the conditions under which the storage, compounding and dispensing of medicines, and their distribution, are carried on in various surgeries, dispensaries and similar establishments in Great Britain." This resolution refers to the fact that physicians are subject to no regulations whatever in the compounding and dispensing as are pharmacists. Thus the shops of the latter are periodically inspected and their drugs and preparations must be up to the standard of the Pharmacopeia. Pharmacists complain that the physician's training in pharmacy is confined to a three-months' course and when he starts practicing he is allowed to handle the deadliest poisons free from the supervision of inspectors. The ideal of the pharmacists is that all medicines should be dispensed by a registered pharmacist, or under his supervision, but in the meantime they will agitate for the inspection of physicians' dispensaries. The contention of the pharmacists that physicians are not competent for their own dispensing is not correct. A physician who dispenses confines himself to a limited number of drugs and preparations for which he has a preference. At one time physicians made their own pills; now they almost always obtain them ready made. Cases of poisoning from mistakes in dispensing are exceedingly rare and cannot be said to occur more frequently in physicians' dispensaries than in pharmacists' shops. However, some physicians are in favor of confining dispensing to pharmacists. They consider this more in keeping with the dignity of the profession and desirable on other grounds, such as giving the physician more time for his proper work. This is the practice in the higher ranks of the profession. Indeed a man with the rank of M.R.C.P. (Member of the College of Physicians of London, a consultant's qualification) is not allowed to dispense medicines. But this ideal is unattainable by the rank and file of the profession. The fees are too small to allow the pharmacist's profit to be paid out of them. Sometimes the fee for advice and medicine at the physician's office runs as low as $0.25, or even less, a sum lower than what may be charged by a pharmacist for a mixture.

Dentist Found Guilty of Manslaughter of a Patient Who Bled to Death After Extraction of Teeth

In a previous letter to the JOURNAL the case was reported of a girl, aged 19, a school teacher who on June 18 had some teeth extracted at Bantry, Ireland, by a traveling unqualified dentist. For some days before, she had had some bleeding from the gums and a purpuric eruption on the face, hands and other parts. The dentist injected cocain into the gums and extracted four front teeth from the upper jaw and two from the lower. The girl left the room bleeding profusely from the mouth and went to a neighboring house, where she fainted. The dentist was summoned and tried to stop the hemorrhage with perchlorid of iron, but failed. A physician was then called but in spite of all that he could do the bleeding continued and the girl died at the end of forty-eight hours. The dentist has now been indicted for manslaughter. The judge, in summing up, said that it was a very serious thing that a man who was not qualified should practice dentistry, though the law permitted it. If the prisoner had been guilty of a mere error of judgment, although he was unqualified, the.

jury should acquit him; but if they thought that under the circumstances he should have sent for a doctor and that the marks on the face should have shown him, if he knew anything, that this girl was suffering from purpura, they would be justified in coming to the conclusion that there was criminal misconduct which arose from gross ignorance. The jury found the prisoner guilty of manslaughter, but recommended him to mercy on the grounds of his ignorance and considered that the dental firm who employed him was culpable. The judge in passing sentence said that, having regard to all the circumstances, he did not think he should send a particular individual to jail who was the mere instrument of a company; he would allow him out on a personal recognizance of $500 to come up for judgment when called on.

Carbon Monoxid Poisoning from a Benzine Explosive Engine

The explosive engine which has recently come so much into vogue in the motor-car, motor boat, and aeroplane, has proved a new source of carbon monoxid poisoning, as the following case, which is reported from New Zealand, shows: Five men went out fishing on a motor launch propelled by a six-horse-power benzine engine. One was a strong young fellow aged 20, in good health, who crawled forward past the engine and lay down in the cabin about 8 p. m. Soon afterward he was heard to groan, but lay quiet and soon thereafter was thought to be asleep. He could not be wakened at about 11:30 when the boat reached the shore. About midnight he was seen by a physician, Dr. Barclay. His face looked of a natural color, so that at the first glance the doctor thought he was alive. The body was still warm but there was no sign of heart's action or respiration. The prolonged use of artificial respiration and hypodermic injection of strychnin were without effect. Next day a necropsy was made. The lips were pinkish red. The blood was of the color of vermilion. There were no signs of organic disease. A specimen of the blood was found to contain carbon monoxid to the extent of 50 per cent. of saturation. As there was no fire on the boat the only possible source of poisoning was the benzine engine. Further inquiry showed that men attending these engines in the cabins of launches often have toxic symptoms—headache and dizziness. As precautions against such fatalities Dr. Barclay suggests the following rules for motor boats: 1. Adjust the supply of benzine and air as accurately as possible to secure complete combustion. 2. See that cylinder fittings are not leaking unduly. 3. Ensure as much ventilation as possible in the engine room.

New Regulations for Health Officers

The health officer, who was originally only a physician who combined public-health work with his ordinary practice, has become more and more differentiated into a special class. The government has issued new regulations for health officers, which further increase this change. In a memorandum just issued, the Local Government Board states that while excellent work has been done by many health officers who are also in private practice, experience has shown that it is desirable, wherever practicable, that the health officers should not be so engaged. The reason is that often they have to offend their clients in carrying out their public duties. In all the large towns and districts the health officer is now a specialist who devotes his entire time to public health, but in the smaller districts the work is still combined with private practice. The board now advises these districts to obtain the services of a man who is not engaged in private practice by combining with neighboring districts or by combination of other public appointments with that of public health. The public offices which the health officer may be allowed to hold are school medical officer, police surgeon, public vaccinator, district medical officer, medical officer of the workhouse, superintendent of the isolation hospital and factory surgeon. The memorandum proceeds to urge that the salary offered to the health officer who devotes his whole time to public health work should be sufficient to attract men with good qualifications.

Complete Traumatic Avulsion of the Heart

The following remarkable case has been observed at St. Mary's Hospital: A boy, aged 6 years, was taken to the hospital dead from severe injuries inflicted by a motor omnibus. Though the external injuries were slight, consisting of bruises and abrasions, and slight bleeding from the nose, the internal injuries were severe. They included depressed fracture of the symphysis pubis and left innominate bone and lacerated wounds of the liver, spleen and small intestine. All the ribs on the left side except the eleventh and twelfth were fractured mostly in two places, before and behind; the right second rib was fractured. The right bronchus was severed and the pedicle of the lung nearly divided, but the lungs themselves were uninjured. The right pleural cavity contained blood and in its lower part the heart lay completely detached. The pericardium had been ruptured vertically on the right side, and through the aperture the heart had evidently escaped. There was a fracture of the spine at the level of the third dorsal vertebra. The upper end of the descending aorta and the esophagus were ruptured. In spite of the terrible internal injuries there were no marks of violence over the thorax.

Model Rules for Nurses

Sometimes nurses give annoyance to medical men by usurping the functions of the physician, in criticizing treatment and in other ways. The following model rules for inclusion in the rules of nursing associations have been drawn up by the British Medical Association: 1. The nurse shall in every case carry out the directions of the physician in attendance. 2. When requested in an emergency she may visit and render first aid without awaiting the instructions of the physician. 3. If in her opinion the attendance of a physician is necessary, she must insist that one be sent for, and if for any reason his services are not immediately available, she must, if the case be still urgent, remain with the patient and do her best until the physician arrives or the emergency is over. Should the advice to call a doctor be not acted on, the nurse must at once leave and report the case to her secretary, and must not attend again except in case of fresh emergency. 4. Should any further attendance be requested by the patient when the emergency is over, the nurse must explain that the physician will decide whether this is necessary. 5. No attendance after a first visit shall be given by a nurse unless she has informed a physician and received his instructions. 6. Apart from her duties as a certified midwife a nurse must on no account prescribe or administer on her own responsibility such drugs as should be prescribed only by a physician. 7. No midwife in the employment of a nursing association shall accept an engagement without first asking the patient to state, and herself registering the name, of the physician to be called should any emergency arise. 8. A nurse shall in no case attempt to influence a patient in the choice of a physician or of an institution.

Surgeon Sued and Acquitted for Purposely Leaving a Swab in the Intestine

A well-known surgeon, Mr. Charles Ryall, has been sued for leaving a swab in the intestine and the case has caused considerable interest in the profession. Mr. Ryall operated on a woman for fibroid tumor on Nov. 5, 1908; on opening the abdomen he found extensive adhesions and the operation proved severe and dangerous. In separating the adhesions, a tear 4 inches long occurred in the intestine. The adhesions prevented the bowel being brought out of the abdomen and it was necesssary to take instant steps to stop possible leakage. He did the quickest thing—put a swab into the bowel, sutured the intestine and completed the operation without removing the swab, as he considered that this would have been dangerous. After the operation, he told the head nurse that there was a swab in the bowel and asked her to watch for its passage by rectum and she reported later that this had taken place. A few days after the operation, the patient suffered from pain which her physician attributed to flatulence. She recovered from the operation but the pain continued and in March, 1909, a "lump" appeared in her right side. On October 15, she passed a large swab which was hard and stiff.

For the plaintiff, Mr. Russell Howard, surgeon to the London Hospital, gave evidence. He stated that he had performed many abdominal operations but had never left a swab in the body which could not be removed within twenty-four hours. He had never heard of a swab being left in the body in the manner described. In cross examination, he admitted that if the tear in the intestine was 4 inches long it was proper to pack the intestine with a swab, but it should have been placed with a tape outside to call attention to the fact that it was there and enable it to be pulled out. For the defendant, Sir Alfred Fripp, Surgeon to Guy's Hospital, stated that it was a common practice to leave things in the bowel and that a Murphy button had been retained for years. Mr. Miles, surgeon to the Cancer Hospital, and Mr. J. E. Lane, senior surgeon to St. Mary's Hospital, gave similar evidence. The latter said that the operation was extraordinarily difficult and that the plaintiff had made a marvelous recovery. He considered that in using the swab and suturing over it Mr. Ryall showed great resource. The nurse stated that she was directed by Mr.

Ryall to watch for the passage of the swab. After the operation she gave the patient an enema which was followed by a satisfactory result. As the bowels were cleared before the operation and as no solid food had been given after it she thought the swab had come away and reported accordingly. In charging the jury, the judge said that up to the moment of bringing the action—and this was an important point in the plaintiff's case—the plaintiff said that no one could be found to say that any surgeon would adopt such a method as the defendant appeared to have done. It was quite true that, with one exception, no surgeon except the defendant had ever used a swab in the manner described, but the eminent surgeons who were called as witnesses were all of the opinion that his operation was very difficult and that the patient was fortunate to be alive. Mr. Lane had said that the defendant had shown great resource in using the swab as he did. The instant stopping of the torn bowel was vital. The jury returned a verdict for the defendant.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 20, 1911.

How the Fact of Death is Established in France

The Académie des sciences of Paris having recently awarded the Dusgate prize to Dr. S. Icard of Marseilles, for his work entitled "The Verification of Death in Hospitals in France and Abroad and the Necessity of Early Necropsies," public opinion has been much interested to learn that the verification of deaths in hospitals is not always surrounded by sufficient guarantee. As usual in such cases, the political journals have greatly exaggerated the facts and have played on the feeling always aroused by the question of burial of the living. It is not in hospitals alone, however, that the verification of death leaves much to be desired. There is a regrettable lacuna in the French law on this point. According to the *Code civil*, no death should be reported to a government official by two persons, if possible by the two nearest relatives of the deceased and verified by the official. In other terms, burial may take place without any medical examination, except in cases in which the cause of death is suspected, in which the official should be assisted by a physician. In practice, no doubt, medical verification is seldom omitted. Thus in Paris, the fact of death has been established, for a long time, by physicians charged with this function and designated under the name of *médecins de l'état civil*. In 1866, a circular of the minister of the interior prescribed that the mayors of all the communes should delegate one or several physicians for this duty; but this circular was observed only in some large cities. In the country and in the small towns there is no organized means for verifying deaths. Accordingly, the unrest aroused by the signs of real death to which Dr. Icard has drawn attention may be understood. One of these signs is based on the hydrogen sulphid reaction may easily be observed, even by a non-medical person. Taking advantage of the fact that organic decomposition appears rapidly in the lungs, Dr. Icard takes a small strip of paper on which some characters have been traced invisibly with a colorless neutral solution of acetate of lead in distilled water. The strip of paper is placed in one of the nostrils of the body under observation. If in the end of twenty-four hours, the characters appear traced in black, death is certain, since pulmonary putrefaction has taken, disengaging the hydrogen sulphid which, acting on the neutral acetate, forms a black lead sulphid.

On the side of this non-scientific sign, which is manifested only at the end of twenty-four hours, Dr. Icard places a scientific sign, which gives immediate results. This is the fluorescin test, which consists in injecting into the veins or into the muscular masses an aqueous solution of fluorescin, in order to show the persistence or the cessation of the circulation of the blood. When an hour, or at most, two hours, after the injection, no characteristic coloration from the absorption of fluorescin is observed, such as intense yellowness of the skin and the mucosa, or green coloring of the eyes, it may be affirmed without doubt that death has taken place.

Illegal Practice of Medicine

In a previous letter (THE JOURNAL, Aug. 7, 1909, p. 468) I mentioned the case of the zouave Jacob, who, prosecuted for illegal practice of medicine, had been acquitted, the lower court sustaining the defendant's plea that he was merely a magnetical intermediary between the spirits and the patients. This, he was, said the court, curing by suggestion but not practicing medicine. The court of appeal has reversed the first decision and condemned Jacob to pay a fine of \$20 (100 francs) and \$40 damages to the Syndicat des médecins de la Seine, which was civil party. The grounds of the decision were as follows: According to the terms of the law of Nov. 30, 1892, illegal practice of medicine consists in the habitual participation, by a person without the diploma of doctor of medicine, in the treatment of diseases (urgent cases excepted), the word "treatment" including every act or counsel tending to the cure or amelioration of a state of malaise or of disease, and not merely based on knowledge of the disease treated.

Professional Responsibility and the Organization of Physicians of the Seine

In view of the recent condemnation of Dr. Bazy to pay \$1,000 damages (THE JOURNAL, Jan. 14, 1911, p. 130), the administrative council of the Syndicat des médecins de la Seine, representing 1,700 physicians of Paris and the suburbs, passed a resolution that whereas, surgeons under the most critical circumstances need to decide rapidly and sometimes boldly, the indecision and timidity of a surgeon being always injurious to the patient, the surgeon ought to be held responsible only for actual gross fault, clearly established.

Reform of the Internship of the Hospitals of Paris

The committee of the Association des Internes et anciens Internes des Hôpitaux de Paris, has just adopted a resolution that the interns of the hospital of a provincial city which is the site of a Faculté de médecine, when they desire to enter the *concours* of the Paris hospitals, should not be obliged first to pass through the externship, as has been the practice up to the present. The adoption of this resolution would relieve the Faculté de Paris, for many provincial students, instead of coming first to Paris, would thus be able to take their first year of study in the province, which would be better for them, the material for anatomy being insufficient in Paris for the number of pupils.

Another resolution passed by this same committee is in line with a resolution passed by the Congrès de l'Internat français (THE JOURNAL, June 25, 1910, p. 2131), which is to the effect that interns on duty should at their request be allowed to take an entire consecutive year for scientific travel abroad.

Personal

M. Mirman, director of hygiene and public charities, department of the interior, was seriously wounded in the thigh by an insane man, who fired two revolver shots in the chamber of deputies, intending to assassinate M. Briand, the prime minister.

Advertising by Midwives

In the course of a study on abortion from the medicosocial point of view, Dr. Jacques Bertillon, *chef des travaux* of the municipal statistics of the city of Paris, has shown that fifty midwives advertise continually in the Paris papers. By collecting the advertisements from these papers, he has been able to make an exact estimate of the sum so expended annually by each of these midwives. One spends \$2,665 (13,325 francs); another spends \$1,611 (8,055 francs); nearly twenty spend on an average from \$400 to \$1,000 and the thirty others spend on an average between \$200 and \$400. These sums indicate that it is impossible that these midwives should practice their profession ethically and legally. Dr. Bertillon, therefore, believes that it is necessary to have the profession of midwifery put under inspection and to make a report of every miscarriage obligatory.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 12, 1911.

Poisoning by Butterine

As I reported to you in a former letter, a number of cases of poisoning were occasioned in Altona, Hamburg, Berlin and other cities by the use of a brand of oleomargarine manufactured by an Altona firm. Investigations undertaken in the institute for infectious diseases in Berlin have shown that dogs fed with the butterine sickened half an hour after eating, with great restlessness and vomiting. Several of the animals nearly died and one did so, twenty hours after the feeding. The necropsy of this animal showed marked reddening and swelling of the mucous membrane of the stomach and upper part of the duodenum. Investigations made under the direction of Professor Dunbar in the municipal institute at Hamburg, gave the same results, and he was able to reach a decisive

opinion as to the nature of the poison. As is well known, margarine was originally prepared by adding to minced beef tallow the stomach of the sheep or the pig in order to digest the tissue particles adhering to the tallow. The tallow prepared in this way was separated by pressure from the solid stearin-containing constituents, and the liquid oleomargarine was mixed finally with milk and macerated cow's udder and churned to butter. As a result of the favorable reception of oleomargarine which was first produced in Germany in 1876, the production has increased with us to the extent that the annual output is estimated at 200,000,000 pounds, having a value of about $25,000,000 (100,000,000 marks). In consequence of the competition between various manufacturers, there has been an attempt gradually to cheapen the method of manufacture and this has been accomplished, mainly by the substitution of vegetable oils for the animal fat. Among the latter, cotton-seed oil, poppy oil, peanut oil, corn oil, sunflower oil and cocoanut oil have been used. Many factories have also used other oils, the origin of which was not given and the preparation of which was not always unobjectionable. In fact it has been shown that the cases of poisoning referred to must be attributed to the use of such an oil. Professor Dunbar found that the foreign oil was Maratti fat which is in consistence, color and smell identical with oil of cardamom. It was obtained from the seeds of the hydnocarpus, a large tree common in India. The Maratti fat is sold in England as Moratti oil and is derived from a species of hydnocarpus closely allied to the *Hydnocarpus kurzii* from which chaulmoogra oil is derived. Hydnocarpus seed oil has an appearance and composition very similar to that of chaulmoogra. One of the varieties from which the oil is derived is *Hydnocarpus anthelmintica*, and it is used as a vermifuge. Moratti oil is known commercially in Germany under the name *Kardamonöl* (not the same as oil of cardamom). The poisonous butterine consisted of more than 50 per cent. Maratti fat. Professor Dunbar demands that margarine factories shall be placed under official inspection, for the present cases of poisoning show that severe injury may result from its manufacture and that there is no assurance that the factories at any time may not use in the production of oleomargarine some oil even more injurious than the Maratti.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, Jan. 19, 1911.

The Jubilee Hospital

The municipality of Vienna decided to erect a special large hospital to commemorate the jubilee of the Emperor of Austria two years ago, and a fund of over $2,000,000 was granted for the purpose. The hospital is now finished and will be opened shortly. A committee consisting of medical men, experts in hospital building and other persons interested in the institution, was shown through the hospital a few days ago. The four leading ideas which the municipality wanted to bring into existence were: The hospital must not contain a clinic (for teaching), or any ward for infectious diseases; without undue centralization, the pavilion system should be adopted as little as possible, while large garden tracts were especially desirable; the outfit and the "running" of the hospital must be entirely up to date in scientific and technical respects; it should be also specially fitted for postgraduate work of the municipal physicians. The area at disposal was 152,000 square meters, or 2,710,000 square feet, of which only the space of 162,000 square feet is covered by buildings. The rest has been turned into parks, streets and pathways. For instance, one of the courtyards (or rather park yards) measures some 270,000 square feet. The hospital itself contains eight wards: the medical ward with 236 beds; a tuberculosis ward with 248 beds; one for surgical cases, with 118 beds; a gynecologic ward, with 48 beds; a large urologic ward, with 126 beds, which will be the largest ward of its kind on the Continent; a skin department, with 136 beds; 50 beds for eye cases and 18 for nose-and-throat cases. These 980 beds are accommodated in three huge buildings. There is a natural difference of ground level of 162 feet in this area, so that several institutions could be located, so to say, underground; thus, for instance, the *x*-ray department is so situated and the department of sterilization of bed-clothes and utensils. One of the most interesting features is the central bathing establishment. It contains all instruments necessary for hydrotherapeutic, electrotherapeutic, physiotherapeutic, phototherapeutic and mechanotherapeutic procedures, including a high-frequency current outfit. The tuberculosis ward faces south and is filled with open-air bedrooms and balconies. One wing of the central pavilion serves as home for the nurses (sisters). There will be altogether 110 sisters, who will have twenty-eight rooms for themselves. The hospital contains the following rooms: thirty-six ward-rooms with double daylight illumination, containing from eighteen to twenty-six beds; six rooms for patients, with from six to twelve beds with single daylight illumination (only windows); fifty-four rooms for patients, with one or two beds; thirteen out-patient halls; twelve rooms for minor surgery and out-patient treatment; eighteen laboratories; seventeen bathrooms, besides the central bath; twenty-two kitchens and as many washing rooms; sixteen rooms for the medical staff, and besides, the necessary rooms for the chemists, the post-mortem department, the managing clerks, the receiving office, etc. Everywhere special care is taken to make the patients feel at home; therefore, all clinical experiments will be excluded; this has been one of the objections to the plan on the part of medical men. Apart from the large park where patients will be encouraged to spend as much of their time as possible, the supply of air per patient, filtered and warmed fresh, has been calculated with 40 cubic meters, or 1,200 cubic feet in the rooms, and the diet will be controlled by a committee of the local magistrates, to insure its good quality and taste.

Congress of Stomatologists in Graz Condemns Proposed Anti-Medical Legislation

The Austrian stomatologists are at present engaged in an earnest fight against certain attempts to permit medical practice by non-medical men. The government is pressed by a certain group of politicians to permit the technical dentists to practice the whole of stomatology without university examination. Protests by all medical corporations have been organized (THE JOURNAL, Nov. 26, 1910, p. 1906) and a lively campaign is going on just now. The Austrian stomatologists, at a recent meeting in Graz, demanded the erection of special dental colleges and the establishment of dental clinics in schools. The congress was of the opinion that the handing over of this important branch of surgical and prophylactic medicine to non-medical men, as threatened by the "dentists' act," meant "a permanent danger to the national welfare and spelled diminished resistance to outward dangers."

Miscellany

ADVERTISING SALVARSAN TO THE PUBLIC

The Truth About 606, the New Treatment for Syphilis, Discovered by Ehrlich and Hata

Ever since the discovery of salvarsan, popularly known as "606," THE JOURNAL has advised caution in the use of this powerful drug. The wide-spread prevalence of syphilis, and the speedy and wonderful results which this new remedy was said to have produced, at once aroused wide popular interest. Inquiries were made everywhere of physicians who were no less interested and sought reliable information concerning it. Its discoverer was fairly deluged with letters and telegrams asking for information and even demanding supplies of the drug. The medical journals at home and abroad, as well as the daily press, contained glowing accounts of its marvelous effects, some of the stories in the newspapers being of the most sensational sort. The discoverer of the drug did not allow it to be placed on the market for over a year after its discovery, but supplied it to a few selected physicians, so that it might be used under favorable conditions. It was administered to a large number of patients who consented to its use, in order that the exact indications and results might be determined. Its use in Europe was limited to a few large hospitals. A supply was sent to the Rockefeller Institute in this country and was given out to a selected list of men, in order that its value might be carefully tested. Dr. Ehrlich insisted that it must be used in at least ten thousand cases and the results reported to him before he would allow the drug to be sold. He pointed out that it was a most powerful drug and, if used in any but suitable cases, might do great harm.

In the light of our present knowledge, the drug seems to having a striking effect, destroying the living organism which causes syphilis, and healing—temporarily at least—superficial lesions on the skin and mucous membrane of the

mouth and throat in a few days. Such results caused the physicians who were working with the drug and those who saw the cases to become over-enthusiastic in regard to it. Exaggerated statements began to appear in the medical journals; the newspapers, seizing on these reports, and not understanding either the limitations or the dangers of the remedy, at once began making the most sensational announcements concerning it, asserting that one dose of this wonderful discovery would cure a disease which has been one of the scourges of humanity for centuries. Public interest in this new remedy has only been equaled by that aroused by Koch's tuberculin twenty-five years ago.

But it is already evident that the first claims made for salvarsan must be modified. It is also evident that when used carelessly or by incompetent persons it is not only disappointing in its results, but actually dangerous.

In an editorial last year, THE JOURNAL said: "It is not only possible, but probable, that the enthusiastic claims which some of the users of this new remedy are making for it will, in the light of future developments, be greatly modified." This prediction has already been verified. It has been found, for instance, that many relapses occur after apparent cures and that ill effects have been produced by it in cases which were not properly selected or in which the drug was not used with proper precaution. It must not be forgotten that salvarsan is a preparation of arsenic and must be used with great caution. Like most arsenic preparations its use may be followed by serious results; for instance, it may have a disastrous effect on the eyes. It has also been found that its therapeutic value is more limited than was at first supposed. It has no beneficial effect in locomotor ataxia, or in general paralysis of the insane, or softening of the brain, as it is popularly called, although the most enthusiastic claims for the cure of these troubles were at first made.

But the most deplorable result of the publicity regarding this remedy is its exploitation by quacks. As might be expected, a remedy which excited such public interest, and which promised such marvelous results at once stimulated the cupidity of the quack and the charlatan. The *Bulletin of Pharmacy* says, "The discovery of Ehrlich's new remedy for syphilis had hardly been announced when the medical charlatans of New York City began advertising treatment with '606.' Of all the brazen quackery, this was the worst." Salvarsan was not then on the market and could not be obtained generally, even by physicians, until about the first of the present year. But this was a mere trifle to the quacks, who prey on the misfortunes of credulous humanity. To them it afforded a golden opportunity, and they immediately embraced it. Newspapers have contained such advertisements: "606, Prof. Dr. P. Ehrlich's Cure for Blood Poison. Now on Sale. All Symptoms Removed in 2 Days. One Dose Cures. Remember, All Symptoms Disappear in two Days. One dose cures permanently. Salvarsan can be taken in the privacy of the home. For thirty dollars the '606 Laboratories' will ship in plain unmarked package the necessary dose with simple directions." Such false and misleading statements printed with pseudo-scientific matter bringing in the names of Ehrlich, Pasteur and Flexner and others, have induced dupes to send $30 for a dose of salvarsan (or what is claimed to be salvarsan) the regular price of which is $3.50, in the hope of curing themselves, when, in reality, the drug could not possibly be self-administered.

The truth about this remedy should be spread broadcast by physicians, by medical journals and by the press so that the public may not be imposed on by fakers, quacks and charlatans. The public should know that this preparation contains a very large percentage of arsenic, a most potent, poisonous and dangerous drug. It should also be known that it has not yet been proved that salvarsan permanently cures syphilis or "blood poison" in one dose, or even in any number of doses; that it cannot be used by patients themselves; that it must be given either hypodermically or intravenously by a competent physician, and that the patient should remain in a hospital for a number of days after its administration; that the drug is difficult to prepare and that it requires expert knowledge and experience both to prepare and to give it; that if not properly given it may cause intense pain lasting for hours or days and may cause destruction and sloughing of tissues at the site of injection; and that it may cause blindness, and that in some cases it may injure the heart or the kidneys and may cause death. Those physicians who have the largest experience in giving the drug are finding that the results so sensationally heralded at first are not permanent and that the dangers are much greater than were at first supposed. The statement made in the newspaper advertisements that "if you are threatened with blindness, paresis (complete loss of memory), rotting bones, decaying brain, ALL caused by contagious blood poison, '606' WILL SAVE YOU," is not true. The indiscriminate use of this drug by the public or by those not properly trained to administer it can only result in disappointment as well as loss of money and danger of serious injury or death.

Classification and Nomenclature of Cancers.—A committee composed of Drs. Delbet, Menetrier and Herrenschmidt reported at the recent international cancer conference on a uniform nomenclature for cancer. They advocate that all malignant tumors should be divided into three classes: (1) epithelial cancers; (2) connective tissue-vascular cancers (the generic term sarcoma applies to this class), and (3) cancers formed of multiple tissues. The first group, epithelial cancers, is subdivided into (*a*) epitheliomas of the skin and mucous membranes with stratified pavement epithelium; (*b*) those of the glands connected with stratified pavement surfaces and linings, including the sweat, sebaceous, mammary and salivary glands and alveoli, the thymus, thyroid and hypophysis; (*c*) those of cylindrical epithelium as in the nasal fossæ, the sinuses of the face, the larynx, trachea, bronchi and lungs, stomach and intestines, uterus and tubes and fetal chorion; (*d*) epitheliomas of the glands connected with the digestive tract, the liver, the bile ducts and pancreas; (*e*) epitheliomas of the visceral glands and epithelial parenchymas, as in the suprarenals, kidneys, pelvis, ureters, bladder, urethra, prostate, testicles and ovaries; (*f*) epitheliomas of nerve tissue neuroglia and neuroganglia, and of the organs of sense, the ear and eye. The second great class, the connective tissue-vascular variety or sarcoma, includes (*a*) sarcomas of ordinary connective tissue; they may be either spindle-celled, round or polymorphous celled, myxomatous or lipomatous; (*b*) sarcoma of tissues originating in connective tissue, specialized in bone or cartilage; (*c*) sarcoma of blood or lymph vessel tissue or of the spleen pulpa. This category includes also affections intermediate between simple hyperplasia and cancer, the chloromas and multiple myelomas; (*d*) sarcoma of endothelial and perithelial tissues, including cancer of the endothelial lining of the great serous membranes, and endothelial sarcoma of the joints, of the blood-producing system, meninges and vessels; (*e*) melanic sarcoma, and (*f*) sarcoma of muscle tissue. The third great group, cancers with multiple tissues, includes (*a*) those with a double combined malignant evolution, and (*b*) cancerous evolution of teratomas and embryomas. The term "carcinoma" should be dropped, the committee declares. It is merely the Greek word for "cancer," and cancer, carcinoma and *Krebs* are merely different terms for "the crab." According to the nomenclature proposed the malignant growth should always be designated as either an epithelioma or a sarcoma, accompanied by the name of the organ or tissue from which it is derived, and when precision is desired, by the structure of the growth and whether it is typical, atypical or metatypical, as for example, "an osteoid osteoblastic sarcoma of the jaw." or "a metatypical and infiltrating cylindrical epithelioma of the fundus of the uterus."

Preparation for and Care After Gynecologic Operations.—Dr. E. Holzbach, assistant at the Tübingen university clinic for women's diseases, in the *Sammlung klinischer Vorträge*, No. 575, reviews the outcome of gynecologic operations since the introduction of spinal anesthesia, the predominant use of the abdominal route, the transverse incision, abstention from tamponing and drainage, and allowing the patients to get up earlier. He warns that some of the vital organs may not

be quite up to the task imposed on them by the anesthetic and the operation, so that when all seems to be progressing ideally, some one organ is liable to break down, and the patient succumb, when more careful preparation for the operation would have averted the fatality. Sudden diabetic coma, unexpected heart failure, cerebral hemorrhage from an overlooked contracted kidney, cystopyelitis or an irreparable psychosis might thus have been warded off if precautions against the special danger in each individual case had been taken or the psychic balance of the patient had been correctly estimated. He makes it a principle to inaugurate a systematic course of heart tonics before attempting any operation in case of a long existing myoma, as these growths and cancer are always accompanied by impairment of the heart and blood. In case of much hemorrhage, however, he refrains from heart tonics and saline infusion as liable to increase the tendency to hemorrhage and to dilute and possibly lake the blood. Even a small amount of salt solution may have this last effect. A little morphin, he declares, is the best means of combating the air hunger of anemia and conserving the heart energy. He remarks that all anesthetics have a more or less injurious action on the kidneys and even after spinal anesthesia the amount of albumin and formed elements in the urine notably increases; in pregnancy nephritis, spinal anesthesia is particularly dangerous on this account. If pathologic conditions in the kidneys are suspected they should be treated, the physician meanwhile striving to learn whether or not this complication contraindicates operation.

Every form of diabetes contraindicates all except urgent operations; coma is liable to develop in diabetics after inhalation or even local anesthesia, and Füth has reported a case of death after myomectomy under spinal anesthesia. Holzbach reports another case in which death followed in coma 48 hours after spinal anesthesia, preceded by the scopolamin "twilight sleep" from which the patient never roused. Purging enemas, etc., should be restricted to the minimum in diabetics before operations, while the food should be extra nourishing. With the transverse incision the intestines do not interfere with the field of operation, no matter how engorged they may be, while the bowels move afterward just as well whether the patient was purged beforehand or not. In fourteen recent major operations no attempt was made to keep the patients on a special diet or to empty the bowels before the operation and no meteorism followed while the bowels moved after the operation unusually early.

Subnormal Children and the Public School.—Henry H. Goddard (*Training School*, September, 1910) discusses what the public schools can do for subnormal children. He defines a subnormal child as one who is unable to do school work at the usual rate or who is behind his grade. The temporarily subnormal are those whose backwardness is due to sickness, physical impairment or unfavorable environment, who when the cause is removed will progress at a normal rate. The development of permanently subnormal children, if not at once totally arrested, is at least permanently retarded so that they become increasingly below the normal child of corresponding age, finally becoming completely arrested. These are the feeble-minded. They may be divided into (1) those whose development is totally arrested before the age of 3 (idiots); (2) those whose development is permanently arrested between the ages of 3 and 7 (imbeciles); (3) those whose development is arrested between the ages of 7 and 12. These it is proposed to call "morons," from the Greek word for fool—one who is deficient in judgment or sense. The morons and the imbeciles are the ones with whose development the schools are concerned. The school should give special attention to every child a year or more behind grade. Generally a sufficient physical reason can be found for his backwardness. If the reason is defective sight or hearing, the child should be sent to a specialist. If the reason lies in previous sickness or change in attendance from one city system to another then he may not need special care. If no condition of environment or of the physical organism is at fault, the child is either a moron or an imbecile, will always be behind and his development will finally stop completely some time before he is 12 years old. If his development becomes arrested at 6 he is an imbecile; if between 7 and 12 he becomes a high-grade feeble-minded child who can be trained to do a great many things, but who can never be made competent to take care of himself without direction. An examination in groups of these high-grade children, selected from 10,000 feeble-minded, shows that they are more variable in their growth and that they cease growing from two to three years earlier than the normal children. The lower grades are much farther below the normal in this respect. Such children must be taken out of the regular grades and given a special instructor who has been trained to understand them and to deal with them according to their natures. Mentally defective children constitute from 1 to 2 per cent. of the children in every school.

Value of Tuberculosis Classes to the Community.—In discussing this question, R. C. Cabot (*Journal Outdoor Life*, October, 1910) says: "A tuberculosis class is a weapon in the war against consumption. It is on the whole the most important weapon that we have, for in nine-tenths of the cases it is the only weapon available. Not more than one-tenth of those who suffer from tuberculosis can afford a change of climate or can be cared for in a sanatorium. The remaining nine-tenths must die unless they can be cured at home. This home treatment, with the hope of a home cure for tuberculosis, is the goal for which the tuberculosis class aims. The essentials of a tuberculosis class are: (a) a physician who knows tuberculosis thoroughly and is willing to give his time for a few hours a week to the examination of suspected cases and the general supervision of their treatment; (b) a nurse or trained visitor, who will carry out in the homes of the patients the details of the physician's instructions; (c) for the support and guidance of the undertaking, an antituberculosis association, whose members succeed by hook or crook in collecting between $750 and $1,000 a year. . . . One of the valuable functions of a tuberculosis class is to spread abroad the knowledge that not all tuberculosis, but only neglected tuberculosis, is dangerous—that not every patient, but only those who do not destroy their sputa and who neglect to cover the mouth while coughing, are a danger to others. The mere presence or contiguity of a consumptive is not dangerous. The presence of a tuberculosis class in a town, through its effect on public opinion, will tend to compel doctors and boards of health to obey the law. Rich and poor are alike in danger as long as there is tuberculosis not properly cared for in the community. In streets, public buildings, electric and steam cars there is always danger of contracting the disease as long as a single consumptive is allowed to remain ignorant of the dangers he scatters around him. To build a fence between the sound citizens and those infected, we need not so much isolation hospitals as we need home care and home teaching for every sufferer. When the patient refuses to protect himself and the rest of the community by adequate care of his sputa, the board of health should execute its authority, as it does in other contagious diseases."

Some Medical Aspects of Aviation.—Dr. E. Reymond of Paris is an experienced aviator besides practicing medicine and serving in the senate. He recently delivered a lecture on aviation at the Société de l'internat which is published in its bulletin (1910, vii, 223). He analyzes the flight of birds, remarking that he never had understood it until after he had tried to fly himself, and then describes his sensations as the monoplane rises with him and, being unable to see over the edge as it rises, he does not know whether he is going up or not. The injuries from a fall are about the same as from a fall from a high roof and the possibility of fracture of the spine or base of the skull calls for lumbar puncture. On the whole he has found that the accidents are much less serious than anticipated. In a recent collision between two aeroplanes at a height of about fifty feet, one aviator was extensively scratched and bruised but the lesions were all superficial. The other aviator was unconscious, but not even a bruise was found on him when he was taken from the machine, and two days later he was aviating again. Reymond remarks in conclusion that the sight of the avia-

as he emerges from his machine, greasy with oil and with his eyes blood-shot, does not commend aviation as an attractive sport, but he thinks that it is something more and better than a sport, and he urges the French to complete the conquest of the air, in which they were pioneers. He does not refer to the effects of high altitudes, his experience being limited in this respect.

CLIPPINGS FROM LAY EXCHANGES

A NEW SYNONYM

"The patient L—— Z——, . . . is suffering from zygoma, or a broken bone in the side of his face."—Philadelphia *Telegraph*, Jan. 14, 1910.

BAFFLES WISE MEN FROM THE EAST

Miss A—— L—— B——, for fifteen years teacher of astronomy and mathematics . . . died . . . from a malady of the brain new to medical science. The ailment was diagnosed as brain tumor. . . . During the operation the surgeons met baffling conditions. . . . The disease was found to be similar to crystallization of the brain, but after carefully studying the symptoms and searching medical encyclopedias for opinions. . . . the surgeons agreed that the case was the first on record. Specialists came from the East and pronounced the disease an unknown one."—St. Louis *Republic*, Jan. 12, 1910.

AN APPROPRIATE SCAREHEAD

"His Backbone Removed: F—— L—— W—— of . . . has been pronounced by his physicians to have a very fair chance of recovering from a very unusual operation by which local physicians removed a portion of his backbone."—Newport (Ark.) *Independent*, May 24, 1910.

WHY DELAY?

"Drs. D—— . . . operated on the little fellow . . . Funeral arrangements have not been made."—Corunna (Mich.) *Journal*, March 17, 1910.

PRESERVE US FROM OUR LOVING FRIENDS

"C—— B——, is noted about the state as an exceedingly clever antiseptic surgeon. His presence was in constant demand last year at dangerous operations. This peculiar genius of his procured him an excellent position in one of New York City's large hospitals."—*Franklin County Reporter*, Hampton, Iowa, Jan. 12, 1910.

DIE SCHOENSTE LENGEVITCH

"A paper will be read by Dr. B—— on 'Acute Arterior Diomy Elitsy'."—New Albany (Ind.) *Tribune*, Jan. 25, 1910.

"Dr. A. D. K——, who had for his theme 'Opitus Media,' pertaining to the middle ear: . . . later Dr. W. H. P—— read a paper on 'Ephinacea.'"—Lima (Ohio) *Democrat*, Feb. 1910.

Marriages

GEORGE EMMETT KNAPPENBERGER, M.D., Macomb, Ill., to Miss Agnes Carnduff of Aetna, Ind., January 26.

ADRIAN J. DEHAAN, M.D., East St. Louis, Ill., to Miss Clara Ziegenhein of St. Louis, January 24.

CHARLES F. ELY, M.D., Chicago, to Miss Leila Fairbairn at South Bend, Ind., January 27.

ALFRED L. S. KANE, M.D., Fort Wayne, Ind., to Miss Anna Marie MacDonald of Kalispell, Mont., in Chicago, January 23.

ROBERT EMMETT KEANEY, M.D., De Soto, Mo., to Mrs. McLaughlin, January 22.

CLARENCE BERTRAM LIVINGSTON, M.D., to Miss Addie Z. Livingston, both of Lowell, Mass., January 20.

GILBERT THEODORE WAGNER, M.D., Indianapolis, to Miss Ida Bond of Chicago, January 26.

ASA WALKER, M.D., to Miss Minnie Mae Kirst, both of Shawnee, Okla., Dec. 31, 1910.

Deaths

Sigmund Lustgarten, M.D. University of Vienna, Austria, 1881; a dermatologist held in high esteem in his community; died at his home in New York City, January 22, from general miliary tuberculosis, complicated by chronic nephritis and diabetes, aged 53. Dr. Lustgarten was a member of the Medical Society of the State of New York; American, New York, Austrian and German dermatological societies, and the Medical Society of Vienna. He was formerly a privat-docent in dermatology in the University of Vienna, and first assistant to Professor Kaposi. He was consulting dermatologist to the Montefiore Home, and Hebrew Orphan Asylum, and attending dermatologist to Mount Sinai Hospital. The medical board of the hospital, at a meeting January 23, adopted resolutions of the regret at the loss of one of the most faithful medical officers of the hospital, "distinguished by preeminence in his especial field of work, by unusual clinical ability, and by devotion to the highest ideals of the profession."

Abraham H. Strickler, M.D. Bellevue Hospital Medical College, 1866; for thirty-nine years a practitioner of Waynesboro, Pa.; died at his home, January 30, aged 70. During the Civil War, Dr. Strickler served as a medical cadet in the Federal service. For ten years he served as president of the board of health of Waynesboro. He was also a member of the school board and chief burgess. He was a member of the American Medical Association, and American Academy of Medicine, and prime mover and founder of the Medical Society of Franklin County, one of the most earnest workers in the society, a constant attendant at its meetings and indefatigable and watchful for its welfare. He was a member of the legislature in 1893 and 1894 and a leader in the discussions when the medical practice act was presented for passage.

Thomas Harris Cannon, M.D. University of Maryland, Baltimore, 1901; of Baltimore; a member of the American Medical Association and vice-president of the American Electro-Therapeutic Association; demonstrator in the clinical laboratory of the University of Maryland; physician to the Methodist Episcopal Home for the Aged, and surgeon to the Free Summer Excursion Society; a member of the hospital corps of the Army during the Spanish-American War; died in the University Hospital, January 29, from erysipelas, aged 32.

Bernard Wise Moore, M.D. University of Virginia, Charlottesville, 1894; a prominent practitioner of St. Louis; died at his home, January 22, from pneumonia, aged 39. After an internship in New York Hospitals until 1896, Dr. Moore moved to St. Louis, where he became instructor in obstetrics in Washington University, physician to Bethesda Maternity, St. Luke's Hospital, and the Martha Parsons Hospital for Children. Dr. Moore was admirably qualified for his work, an upright physician, a wise councilor and a staunch friend.

John W. Bond, M.D. New York University, New York City, 1846; demonstrator of anatomy in Baltimore University from 1846 to 1852; professor of theory and practice of medicine in Keokuk (Ia.) Medical College from 1856 to 1862; surgeon of the Thirtieth Iowa Volunteer Infantry from 1860 to 1865; later health officer of Toledo and for twenty-five years chief-of-staff of St. Vincent's Hospital; died at his home in Toledo, January 23, aged 86.

Eugene P. Hickok, M.D. Long Island College Hospital, Brooklyn, 1890; formerly a member of the American Medical Association; a member of the Medical Society of the State of New York, Brooklyn Neurological Society, and Brooklyn Pathological Society; visiting physician to Kings County and the Lutheran Hospitals; for many years a physician of East New York; died at his home on Lake George, January 19, aged 51.

Willis Warwood Ranshaw, M.D. Miami Medical College, Cincinnati, 1896; a member of the American Medical Association; and of the medical staff of Speers Memorial Hospital, Dayton, Ky., and Proctor's Children's Home, Covington, Ky.; and at one time health officer of that city; died at his home in Mammoth Cave, Ky., January 18, from heart disease, aged 39.

John Fletcher Byington, M.D. University of Michigan, Ann Arbor, 1897; a member of the American Medical Association, and American Academy of Ophthalmology and Oto-laryngology; professor of ophthalmology, otology and laryngology in the American Medical Missionary College, Chicago; ophthalmic and aural surgeon to the Battle Creek Sanitarium; died in that institution, January 27, from erysipelas, aged 39.

John W. DeWitt, M.D. Jefferson Medical College, 1863; a member of the Delaware State Medical Society; surgeon of the Seventeenth Pennsylvania Volunteer Cavalry during the Civil War; at one time president of the Delaware State Board of Health; and a member of the district board of pension examiners; died at his home in Saint George's, January 22, from senile debility, aged 70.

Oscar F. Davis, M.D. Kentucky School of Medicine, Louisville, 1885; first lieutenant Medical Reserve Corps, U. S. Army; formerly acting assistant surgeon, U. S. Army with service in the Philippine Islands; a member of the Association of Military Surgeons of the United States; died in the Army and Navy General Hospital, Hot Springs, Ark., February 1, from nephritis, aged 50.

Hugh Campbell Hendry, M.D. Bellevue Hospital Medical College, 1872; in 1875 police surgeon of Newark, and later a member of the board of education; for five years a member of the board of managers of the New Jersey State Hospital, Trenton; first president of the board of works of Newark; died at his home in Woodside, Newark, January 28, from heart disease, aged 61.

Arthur Walter Blair, M.D. University of Vermont, Burlington, 1881; of Dorchester, Mass.; a member of the American Medical Association; surgeon-general for the Commercial Travelers' Eastern Accident Association, and medical director of the Commercial Travelers' Boston Benefit Association; died suddenly in Duxbury, Mass., January 18, from heart disease, aged 62.

Charles G. Polk, M.D. New York University, New York City, 1858; acting assistant surgeon, U. S. Army, from 1865 to 1868; professor of chemistry in the Pennsylvania College of Pharmacy in 1875 and 1876; for more than forty years a practitioner of southwestern Philadelphia; died at the home of his son in Merchantsville, N. J., January 24, aged 75.

Frederick William Rohr, M.D. Bennett Medical College, Chicago, 1880; Rush Medical College, 1889; a member of the American Medical Association; for twelve years attending physician to the Alexian Brothers Hospital; director of the Illinois Piano College; died at his home in Chicago, January 27, from pneumonia following an attack of influenza, aged 52.

Justin Worthing Lamson, M.D. Rush Medical College, 1867; a member of the Missouri State Medical Association and Board of Pension Examiners of Neosho; mayor of that city, and a member of the legislature; until a few days before his death superintendent of State Hospital No. 3, Nevada; died at his home in Neosho, January 16, from nephritis, aged 67.

Edwin Darius Hutchinson, M.D. University of Vermont, Burlington, 1875; a member of the American Medical Association; a veteran of the Civil War; a member of the staff of the Noble Hospital, Westfield, Mass., since its opening, and later a member of the consulting staff; died at his home in Westfield, January 19, from pneumonia, aged 70.

Maurice Gardner Moore, M.D. Jefferson Medical College, 1894; a member of the American Medical Association, and formerly vice-president of the Indiana State Medical Association; lecturer on surgery in the Indiana School of Medicine; died at his home in Vincennes, Ind., January 26, from hemorrhage of the stomach, aged 39.

Frank Guy Sherwood, M.D. University of Buffalo (N. Y.), 1877; a member of the Medical Society of the State of New York and American Public Health Association; health officer of Albion; and coroner and jail physician of Orleans County; died at his home in Albion, January 27, from pleuro-pneumonia, aged 60.

Emory C. Gaffney, M.D. Hahnemann Medical College, Chicago, 1876; for several years a member of the Springfield (Ill.) Board of Health, and supreme medical examiner for the Fraternal Crystal Light Insurance Company; died at his home in Springfield, January 23, from cerebral hemorrhage, aged 61.

Charles E. Dow (license, years of practice, Maine); of Mapleton, Me.; for fifty-one years a practitioner; a member of the Maine Medical Association, and a charter member of the Aroostook County Medical Society; died in Boston, January 29, from cerebral hemorrhage.

W. Monroe Smith, M.D. Atlanta (Ga.) Medical College, 1895; a member of the Medical Association of Georgia; formerly ward physician of Atlanta, and a member of the common council; died while making a professional call, January 25, from heart disease, aged 38.

Franklin J. Whittemore, M.D. New York University, New York City, 1851; until 1890 a practitioner of Terryville and New Haven, Conn., and later in charge of a sanitarium at Clyde, O., for several years; died at his home in Toledo January 27, aged 82.

Henry Gregory Charles Van Beeck, M.D. Rush Medical College, 1887; a member of the Minnesota State Medical Association; a member of the board of education of Hastings; died at his home in that city, Dec. 23, 1910, from heart disease, aged 49.

Daniel A. Cassela, M.D. Eclectic Medical College of the City of New York, 1885; New York University, New York City, 1890; of New York City; died in one of his drug stores January 30, from the effects of gunshot wounds of the head, aged 47.

Harry Stephenson Wetzel, M.D. Hahnemann Medical College, Philadelphia, 1898; of Dayton, O.; radiologist to the Miami Valley Hospital; died in that institution, January 19, from the effects of a self-inflicted knife wound of the throat, aged 41.

Henry Crippen Neer, M.D. Berkshire Medical College, Pittsfield, Mass., 1860; a member of the American Medical Association; of Park Ridge, N. J.; died in the Hackensack (N. J.) Hospital, January 27, while undergoing operation for cancer, aged 72.

Isaac E. Randall, M.D. Albany (N. Y.) Medical College, 1866; a hospital steward in the army during the Civil War; division surgeon at Bay City for the Michigan Central Railroad; died at his home, January 20, from heart disease, aged 66.

Walter T. Roberts, M.D. Hospital College of Medicine, Louisville, 1883; of Louisville; died in St. Joseph's Infirmary in that city, January 25, from nephritis, following an operation necessitated by abscess of the middle ear, aged 51.

George B. Gray, M.D. Medical College of Indiana, Indianapolis, 1884; of Worthington, Ind.; a member of the Indiana State Medical Association; died in a sanitarium in Rockford, Ill., January 20, from nephritis, aged 47.

Donald Boyd, M.D. Albany (N. Y.) Medical College, 1903; health officer of Valatie, N. Y.; died at his home in that place January 23, from the effects of morphin, self-administered, it is believed, with suicidal intent, aged 34.

Nathaniel Ray Chace, M.D. Hahnemann Medical College, Philadelphia, 1872; was found dead in his office in Newport, R. I., January 17, aged 68. The medical examiner decided that death was due to natural causes.

William Amos Conn (years of practice, Virginia); for thirty-eight years a practitioner; a Confederate veteran; died at his home in McGaheysville, Va., January 3, from cancer of the liver, aged 66.

Britton S. Utley, M.D. College of Physicians and Surgeons, Baltimore, 1878; a member of the Medical Society of the State of North Carolina; died at his home in Holly Spring, January 19, aged 68.

Christopher E. Corlett, M.D. Western Reserve University, Cleveland, 1902; house physician at St. Alexis Hospital, Cleveland; died January 23, at his home in Cleveland, from pneumonia, aged 33.

Alexander Hardcastle, M.D. Jefferson Medical College, 184[illegible]; a member of the General Assembly of Maryland in 1870 and 1872; died at his home in Denton, January 24, from pneumonia, aged 84.

Addison C. Fox, M.D. Jefferson Medical College, 1861; surgeon in the Confederate service during the Civil War; died at his home in Baltimore, January 23, from pneumonia, aged 75.

Joseph A. Diemert, M.D. Western Reserve University, Cleveland, 1886; died at the home of his daughter in Cleveland, January 22, from rheumatic endocarditis, aged 54.

William J. Middleton (license, Idaho, 1899); for ninete[illegible] years a practitioner, a pioneer of Idaho; died at his home in Saint Anthony, January 13, from paresis.

James Faith, M.D. Eclectic Medical Institute, Cincinnati, 1869; died at his home in Palmyra, Illinois, January 18, from pneumonia, aged 69.

Hilary Tucker Sweeney, M.D. Harvard Medical School, 188[illegible] died at his home in East Boston, January 11, from heart disease, aged 44.

Eli Granger Clark, M.D. Western Reserve University, Cleveland, 1852; died at his home in Willoughby, O., January [illegible] aged 84.

Joseph Francis Grainger, M.D. Tufts College Medical School, Boston, 1906; died at his home in Cambridge, January [illegible] aged 28.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

BISMUTH IODO-RESORCIN SULPHONATE

Report of the Council on Pharmacy and Chemistry

A pharmaceutical preparation submitted to the Council was said to contain as its essential ingredient, bismuth iodo-resorcin sulphonate. In accordance with its general procedure, the Council investigated this unofficial constituent when it considered the preparation that was said to contain it. The following report was made to the Council in reference to this constituent:

The Council, having voted to take up the consideration of bismuth iodo-resorcin sulphonate, the Association chemists were requested to investigate the composition of the specimen submitted by the firm whose pharmaceutical preparation contained this substance as an ingredient. The composition of this article, as determined by the chemists, varied widely from the composition that was claimed by the firm. In view of these discrepancies, the Council directed that the chemists' findings be submitted to the firm and an explanation requested. This was done and the firm replied by acknowledging the differences in general, but attacking in many minor ways the findings of the laboratory. The Association chemists now report an exhaustive reexamination of the product in reference to the points involved. This, while showing a slight modification of the previous findings, because more refined methods were used, shows on the whole, that the firm was grossly ignorant regarding the composition of its product. It also shows that the firm's attack on the chemists' work was without justification.

As this furnishes a typical illustration of the many obstacles which are put in the way of the Council and the laboratory, and since it is a good illustration of the lack of reliance which is to be placed on the statements of many firms, the referee has requested the chemists who made the examination to prepare a record of their work. This record is now presented and it is recommended that the Council authorize its publication. As it is not believed that the submission to the Council of a preparation untrue to claims was deliberate on the part of the firm, and inasmuch as more recently a specimen of bismuth iodo-resorcin sulphonate, containing the amount of iodin claimed, has actually been received, it is recommended that when the report is published, the names of the firm and of the preparation be omitted.

The Council authorized publication of this report and also the contribution from the chemical laboratory, but in accordance with its regular custom, both reports were sent to the interested firm before publication. The firm, in reply, requested that before publication the report be modified. The referee of the Council submitted this reply to the chemists for comment and then requested that the entire matter be assigned to a second referee for an opinion. This was done and the second referee submitted the following report:

Your referee has gone over the whole matter of the claims of the composition of the bismuth iodo-resorcin sulphonate. The firm submitting the product gives a formula which calls for the presence of 19.69 per cent. of iodin and 43.17 per cent. of bismuth. A preliminary analysis made in the Association laboratory showed about 10 per cent. of iodin and about 50.6 per cent. of bismuth. When these findings were submitted to the firm they questioned the accuracy of the analyses and presented some analyses of their own, which, however, did not support their own claims for the formula, but do suggest that the product cannot be a definite chemical compound of the composition assumed. A second analysis in the Association laboratory shows now 11.59 per cent. of iodin, as against 14.2 per cent. reported by the firm's chemist. The firm next set up the plea that the discrepancy may be explained by the microscopic character of the product, which, they say, the Association laboratory did not take into consideration.

The present referee is of the opinion that the contention of the firm does not conform to the facts. The formula proposed by the firm gives a ratio of iodin to bismuth of 1:2.19, but according to the firm's own submitted analysis the ratio should be 1:3.19. This situation alone is sufficient to show the absurdity of the claim that the composition of the product is definitely known. It is probably an indefinite mixture, or at any rate a product the composition of which is not accurately known to the firm manufacturing it. The report of the Association laboratory gives the bismuth content even higher, and this would be still further increased if the moisture content were to be calculated out, as the firm finally contended. Such a correction would not help the firm's formula.

"Several of the statements in the letters from the firm are but little more than quibbles, and seem unworthy of consideration. The failure to substantiate a formula is enough to condemn the contention of the firm and to warrant a rejection of its claims. The final report of the Association laboratory appears to present a perfectly fair statement of the situation, and your referee recommends its publication in full as well as that of the first referee's report and of this report.

"It is worthy of notice, however, that while the Council is unable to accept bismuth iodo-resorcin sulphonate or the proprietary preparation containing it, as submitted by this firm, the firm's products have been materially improved as a result of the Council's investigation."

The second referee's report was adopted by the Council and in accordance with the recommendation, the matter is herewith published.

W. A. PUCKNER, Secretary.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

Bismuth Iodo-Resorcin Sulphonate

W. A. PUCKNER AND L. E. WARREN

Some time ago a proprietary preparation (in the form of suppositories) which was said to contain bismuth iodo-resorcin sulphonate as its chief ingredient, was refused recognition by the Council because, among other things, the claims made in regard to its composition were not substantiated by the firm which sold it. Subsequently the results of the examination of this product in the Association laboratory were published,[1] and it was shown that the preparation contained only negligible amounts of iodin and hence could not possibly contain more than very small amounts of bismuth iodo-resorcin sulphonate.

A similar preparation was recently submitted to the Council with the claim that it contained bismuth iodo-resorcin sulphonate as its essential constituent. In accordance with its usual procedure the Council considered this constituent at the same time that the preparation containing it was taken up.

The formula assigned by the manufacturer to this substance is as follows:

$$[C_6H_2(OH)_2ISO_3]_3\,Bi.3Bi(OH)_3$$

Bismuth iodo-resorcin sulphonate apparently is not described in chemical literature. The manufacturer of the specimen examined stated, however, that the process for the manufacture of the substance was "the subject of a patent application" by the firm. The potassium salt, from which the bismuth salt is said to be prepared, has been obtained in the form of microscopic crystals containing three molecules of water of hydration.[2]

$$KC_6H_2(OH)_2ISO_3+3H_2O$$

THE QUESTIONS INVOLVED

The points involved in the examination which is here reported[3] have been classified as follows, for the purpose of bringing out the matter more clearly:

1. From the formula submitted by the manufacturer it was calculated that the bismuth salt should contain 19.69 per cent. iodin and 43.17 per cent. bismuth.

1. Anusol Hemorrhoidal Suppositories: THE JOURNAL A. M. A., Oct. 2, 1909, p. 1112.
2. Fischer: Monatschr. f. Chem., ii, 1881, 340.
3. The details of the analysis will be sent on receipt of a stamped, addressed envelope; they will also be published in the annual report of the chemical laboratory.

2. From the formula found in the literature it was also calculated that the potassium salt should contain 31.079 per cent. iodin and 13.22 per cent. of water.

3. In the first examination we reported finding but about 10 per cent. of iodin in the bismuth salt (in which 19.69 per cent. iodin had been claimed) and about 50.6 per cent. of bismuth, an amount considerably larger than that indicated by the formula.

4. We also reported finding about 28.06 per cent. iodin in the firm's specimen of potassium iodo-resorcin sulphonate in which, if the formula were correct, there should have been 31.079 per cent.

THE FIRM'S REPLY

These facts, substantially as given, were submitted to the firm which replied to the points raised as follows:

1a.—The theoretical iodin content of the firm's bismuth salt was 20.76 per cent. and its bismuth content was 45.36 per cent.

2a.—The potassium salt contained no water of hydration and theoretically should, therefore, contain 35.84 per cent. of iodin.

3a and 4a.—The method used by the Association laboratory for the determination of iodin was not a standard one in chemical literature since it gave but about 70 per cent. of the total iodin present. After the firm had reexamined a portion of the original specimen, it reported that by its method it had found 14.2 per cent. iodin. According to the formula it should have contained 19.69 per cent. iodin, although the Association chemists had found but about 10 per cent. iodin. The firm stated that in the earlier examinations of its product a reagent had been used which was afterward found to contain large amounts of chlorin. In making the iodin estimations this chlorin was weighed as (silver) iodid with consequent erroneous results, no control estimations, evidently, having been made.

REEXAMINATION BY THE LABORATORY

Our calculations of the theoretical iodin and bismuth content in bismuth iodo-resorcin sulphonate having been challenged, the values were recalculated. This recalculation showed that the values first reported were correct and that the firm's challenge was unwarranted.

Our findings concerning the iodin content in bismuth iodo-resorcin sulphonate also having been challenged, the iodin in the original specimen was redetermined by several independent methods. The highest result obtained by any method was 11.59 per cent. iodin. Although somewhat higher than that obtained by the method previously used, it is still considerably less than was claimed by the firm in its reexamination, viz., 14.2 per cent. An appreciable quantity of chlorin was also found, which may explain, at least in part, the firm's wrong estimate of its product.

On reexamining the potassium salt we found 32.00 per cent. of iodin and 10.41 per cent. of water—this notwithstanding the fact that the firm had asserted that its product contained no water of hydration.

A review of the above facts shows that the contentions of the firm could not be substantially confirmed. To summarize:

SUMMARY

1. The firm's claim that the laboratory's calculations were wrong is shown to be unfounded.

2. The firm's statement that its potassium salt of iodo-resorcin sulphonic acid contained no water of hydration is shown to be wrong, the salt, in fact, containing more than 10.0 per cent. of water.

3. The contention of the firm that the first method of analysis used by the Association laboratory gives low results is correct. The assertion is, however, not justified that the method gives but 70 per cent. of the iodin present since the amount first reported by us is about 88 per cent. of the amount found later.

The accompanying table gives in graphic form the essential points of the controversy.

	According to firm's formula or formula in literature.		According to analysis of Association chemists.	According to the firm's revised statements.	According to the check analysis of Association chemists.
Iodin content in bismuth salt ...	19.69	*	10.00	20.76 § / 14.20	11.59
Bismuth content in bismuth salt ...	43.17	*	50.60	45.36 §	No analysis made.
Iodin content in potassium salt..	31.079	†	28.06	35.84	32.00
Water of hydration in potassium salt	13.22	†	No analysis.	0.0	10.41

* Based on formula given by firm.
† Based on formula given in literature.
§ These figures were later acknowledged by the firm to be incorrect.

PHYSICIAN AND DRUGGIST

Charles M. Siever, Ph.G., M.D.

HOLTON, KANS.

The difference that has long existed between physician and druggist in regard to counter prescribing and the refilling of physicians' prescriptions has been brought about, in part by the action of the physician himself, and in part by the misuse of the prescription by the druggist; that is, the refilling of the prescription by the druggist without the permission of the physician who wrote it. This refilling has often been done, not only for the person for whom it was originally intended, but for persons who have not had even a speaking acquaintance with the physician. Too many physicians use in their prescriptions so many proprietary preparations, which are so labeled, and the therapeutic indications given in such detail, that the druggist feels in dispensing them that he is handing out no more than a "patent medicine." and, as a matter of fact, that is what they amount to and what they often become.

Many patients soon learn the name of this class of remedies and call for them without a physician's prescription; so that in many cases the dispensing of ready-made preparations, or the refilling of prescriptions, is not wholly the fault of the druggists. While I believe the majority of druggists are honest and would not refill prescriptions if physicians asked them not to do so, yet many prescriptions are so simple, especially those for proprietary preparations—ready-made pills and tablets—that it is a great temptation for even the most honorable druggist to refill such prescriptions. In so doing he feels that he is saving the patient a fee, and also making a sale for himself. I do not believe the physician should use so much ready-made stuff, yet the druggist should not take advantage of his weakness, even in selling or refilling a prescription for such a simple thing as a laxative pill. There are many prescriptions refilled for patients which no doubt do them more harm than good, and in order to save the druggist from this temptation, and to protect the interests of the physician as well as the physical interest of the patient, there ought to be some better method devised than the one now in vogue.

This brings up the question of who owns the prescription. In my opinion, it is the exclusive property of the physician. It is simply an order on the druggist to prepare certain medicine for a certain person and to label it according to instructions. After it is filled, the patient has no more claim on it than he has on a check after it has been cashed. The druggist has no more right to retain the prescription than the bank has to retain the check after it has fulfilled its mission; but as a precaution and for the protection of the druggist he should be allowed to place it on file for a reasonable length of time, perhaps not to exceed thirty days. At the end of that time, it should be returned to the physician who wrote it, to be destroyed or otherwise, as he sees fit.

The working of such a system would be as follows:

> The physician would give the patient a prescription, stating the date and for whom the medicine was to be prepared.
>
> The patient would take the prescription to the druggist who would prepare the medicine and then stamp the prescription with a stamp which would state that the prescription had been filled on a certain date and was cancelled.

The druggist would then file it away for thirty days, but under no circumstances would he be allowed to refill, copy or in any manner communicate the ingredients of the prescription to any one, unless it be for his own protection on account of some alleged error, etc.

At the end of thirty days the prescription would be returned to the physician who wrote it.

I believe a law to this effect would be satisfactory to all concerned and accomplish a great deal in the way of getting the physician and druggist more closely together, which would be a most desirable thing; for a physician cannot hold his exalted position and give his best work to his patients if he has constantly to keep in mind commercial considerations.

Such a law, operating in all of the states, would make the relation of the physician and druggist more pleasant, would do away with counter prescribing by the druggist and would also lessen self-drugging by the laity.

[EDITORIAL COMMENT:—Dr. Siever gives arguments against the indiscriminate use of ready-made mixtures which are incontrovertible. They should convince those physicians who have been thoughtless enough to prescribe the various ready-made pills, tablets, syrups and elixirs with which this country is deluged that it is to the best interests of the physician, the patient and the public that individual prescriptions be written for individual cases. The proposed return of the physician's prescription to the writer within a specified time would be most desirable in many ways. At present the pharmacist is generally looked on as the custodian of the prescription and it will require considerable effort to convince the pharmacist and particularly the public of the correctness of this better view as to the ownership of prescriptions. A discussion of this matter would certainly be of interest].

Correspondence

The Niemeyer Pill

To the Editor:—The well-known pill of calomel, squills and digitalis no doubt antedates the time of Niemeyer, as suggested by Dr. James Tyson in THE JOURNAL, Jan. 21, 1911, p. 211. It was usually prescribed:

℞ Hydrargyri chloridi mitis 3ss
Pulveris scillæ 3i
Pulveris digitalis 3ss
M. et fiat pilulas XXXII.
Sig. One every four or five hours.

This pill was used for ascites, dropsy and effusions. I worked out many a one over forty years ago, and my father-in-law, the late Dr. Henry Carpenter, prescribed and worked out the same formula more than thirty years before my time. There was, however, a pill prescribed by Dr. C. Murchison, of London, consisting of:

℞ Pulveris scillæ ..... gr. iss
Pulveris digitalis fol. ..... gr. ss
Pilulæ hydrargyri ..... gr. ii
M. et fiat pilulam I.
Sig. One such pill three times daily in ascites.

This pill enjoyed a long and creditable reputation in the treatment of dropsy.

Felix v. Niemeyer's pill may have been suggested about 1869 (See his Text-Book on Practical Medicine, Am. Ed., 1869, Vol I, p. 244) with a view of combating the fever of phthisis. It consisted in:

℞ Pulveris digitalis fol. ..... gr. ss
Pulveris ipecacuanhæ .....
Pulveris opii, ää ..... gr. ¼
Extracti helenii, q.s. .....
M. et fiat pilulam I.
Sig. One pill three times daily.

Quinin sulphate, gr. 1, was added to the above prescription when the type of fever became periodical, and the exacerbations and chills much pronounced.

ROBERT M. BOLENIUS, Lancaster, Pa.

[The above was submitted to Dr. Tyson who comments:]

To the Editor:—Dr. Bolenius is correct. Of course many modifications of the doses and even constituents of the true Niemeyer's pill have been made by various prescribers to meet special indications and it is likely that Niemeyer's pill itself was suggested to him by Heim's pill which is also given on page 244, Vol. 1, of Niemeyer's "Practice" and of which the formula is given by Dr. Bolenius in the last prescription of his letter. Niemeyer says much the same thing in his "Practice" as I quoted but I preferred to refer to his little book on "Pulmonary Consumption" because it is especially devoted to the subject.

Since my letter to THE JOURNAL Dr. Cattell has called my attention to the fact that in his "Medical Dictionary" published by Lippincott, edition of 1910, he has given the correct formula for Niemeyer's pill and I so find it.

JAMES TYSON, Philadelphia.

Pasteurized Milk at Randall's Island

To the Editor:—In THE JOURNAL (Jan. 7, 1911, p. 20), there appeared a very interesting paper on infant mortality by Drs. Koehler and Drake. On page 23 were the following paragraph and table:

The Mortality at the Infant Asylum at Randall's Island.—When the infants in the care of the City of New York were fed on milk from a carefully selected herd pastured on the island, the death-rate was as shown in the first part of Table 5. A pasteurizing plant was installed in the early part of 1898. No other change in diet or hygiene was made.

TABLE 5.—DEATH-RATE AT THE INFANT ASYLUM, RANDALL'S ISLAND

BEFORE THE USE OF PASTEURIZED MILK

	Children Treated	No. of Deaths	Percentage
1895	1,216	511	42.02
1896	1,212	474	39.11
1897	1,181	524	44.36
Total	3,609	1,509	41.81

AFTER THE USE OF PASTEURIZED MILK

1898	1,284	255	19.80
1899	1,097	269	24.52
1900	1,084	300	27.68
1901	1,028	186	18.09
1902	820	181	22.07
1903	542	101	18.63
1904	345	57	16.52
Total	6,200	1,349	21.75

The Department of Charities published no reports from 1894 to 1902. Examination of the original records shows that, while the figures are correct for the most part, the accompanying statements and deductions are erroneous. Similar assertions have been made before and refuted in public meetings at the New York Academy of Medicine and elsewhere, as well as in print.

The following extracts from the minutes of the meetings of the medical board show chronologically the development of feeding by sterilized and pasteurized milk, and the difficulties attending its introduction in a public institution:

1888—October. "Recommended that a method of sterilizing milk be adopted for the Infant's Hospital."

1890—October. "Dr. Van Santvoord reported that some weeks ago he investigated the method of sterilization of the milk practiced in the Infants' Hospital and found that it was very carelessly done by the workhouse women. He put it under direct control of the managing nurse and the result had been greatly to the benefit of the children."

1893—February. "Recommend immediate change in sterilization of milk. That it be put (again) in charge of a competent nurse," etc.

1895—February. Special report on milk-supply by W. L. Stowell. "Bottle-fed infants are given milk from cows on the island. . . . The milk is brought to the hospital immediately after milking and then pasteurized for twenty minutes at a temperature of 170 F. This is done in large steam caldrons in the kitchen."

NOTE.—This is the first year of the table mentioned as "Before the Use of Pasteurized Milk." An error.

1896—In this year *percentage feeding* was introduced. A number of stock formulas were made up daily and pasteurized for twenty minutes in feeding bottles bearing metal collars with the percentages as 3.5-6.5-1.5. This was done for a time in the steam cooking-caldrons, but later in wash-boilers heated over gas stoves.

NOTE.—This year also appears in the table as "Before the Use of Pasteurized Milk." An error.

1897—July. Walker-Gordon cream was recommended.

1898—This was a revolutionary year in the history of the institution. The infants were removed to pavilions and the main hospital was practically rebuilt except the walls. There were new plumbing, new floors and new metal ceilings throughout.

Beginning in January, 1898, all the bottle-fed infants received modified Walker-Gordon cream. At the March meeting Walker-Gordon cream was mentioned with praise.

April meeting. The executive committee reported that Mr. N. Straus had given a pasteurizing apparatus for milk. This proved to be a set of eight copper boilers instead of the tin ones used until then. The committee also commended the nurse in charge of the milk.

In May, "Attending Physician Stowell reported more and better nurses than heretofore, more graduate nurses and therefore better results." The number of wet-nurses was increased from twenty to fifty and they nursed 139 babies. "No change in diet," says the paper.

Beginning in January all infectious diseases were removed from the island by the Department of Health, thus saving mortality figures at Randall's Island.

Boarding or farming-out was resumed in April, sixty-one babies being sent to country homes. "No change in hygiene was made"?

The superintendent's report to the commission contains this: "Many improvements were inaugurated and carried out."

1901—January. Dr. Neff reports a great number of infants in bad condition, and says: "The milk fed the children should come from the cows on the island" (referring to bottle-fed infants).

1903—October. "An average of thirty babies daily have received modified milk prepared from Walker-Gordon cream. Cooley creamers have now been provided and hereafter we can produce our own gravity cream." This was in the hope of having fresh cream with low bacterial count.

Thus we find that Walker-Gordon cream was in use for six years, 1898-1903, whereas the article referred to credits "a carefully selected herd on the island." Alas! the history of that herd and their tuberculosis has been published (*Medical Record*, June 20, 1908).

It is a matter of record that sterilized milk was in use there as early as 1890, and that pasteurized milk was in use through all the years of the table. "Before and after the use of pasteurized milk," are therefore contrary to fact. Instead of "no change in hygiene," there was removal of some infants to pavilions, some to the country, and all the contagious cases from the island. Instead of "no other change in diet" witness the records:

	1897	1898	1899	1900	1901
Orphans wet-nursed	21	138	152	156	159
Orphans bottle-fed	591	506	462	389	262

The percentage of deaths was at its highest point under pasteurized milk. Other factors caused the fall, not pasteurized milk.

WILLIAM L. STOWELL, New York.
Visiting Physician to the New York City Children's Hospital and Schools, Randall's Island.

[A proof of the above was referred to the authors of the article criticized and they reply:]

To the Editor:—The statistics quoted in our article were taken from page 243 of the chapter on "Morbidity and Mortality Statistics as Influenced by Milk" in Bulletin 56 of the Hygienic Laboratory, entitled "Milk and Its Relation to Public Health." The article is written by Dr. J. M. Eager, Assistant Surgeon-General, Public Health and Marine-Hospital Service. No reference is made to the original source of these statistics, and we took it for granted that they were taken from the reports of the Infant Asylum at Randall's Island, by the government official. We have not had a chance to examine the original records giving the mortality figures for the Infant Asylum at Randall's Island, and are glad to note that Dr. Stowell says that the figures quoted "are correct for the most part."

The fall in the death-rate since 1879 is attributed in our article to the installation of a pasteurizing plant. The extracts from the minutes of the meeting of the medical board of the institution show that the pasteurizing plant was given by Mr. Nathan Straus to the institution in April, 1898.

Extracts from the minutes are quoted to show that before this time the milk had been sterilized, and that in 1895 the milk was heated in large steam caldrons in the kitchen, and in 1896 in wash boilers, heated over gas stoves. From the comments on the methods of "sterilization" practiced, appearing in the extracts of the minutes for 1890 and 1893 it appears that they were not carried out very satisfactorily.

The improvements made since 1897 in the sanitary conditions of the institution, and in the care of the patients are such as have been made in many other infant asylums and hospitals. In the report of the Department of Charities for 1893 there is recorded a long list, covering three pages, of improvements in the building, equipment and caretaking. Why did this not result in an immediate lowering of the death-rate in 1893?

Bottle feeding was practiced quite as extensively in 1898, as in 1897, and the percentage of deaths in the two years is 44.36 and 19.80, respectively.

After a careful study of the extracts from the minutes quoted in Dr. Stowell's letter, we are still of the opinion that the fall in the infant mortality, beginning in 1898, simultaneously with the installation of improved pasteurizing apparatus given by Mr. Nathan Straus, is due to the change in diet and cannot be explained on the basis of sanitary improvements or attributed to the other changes made in the institution.

GOTTFRIED KOEHLER, M.D., Chicago.
Assistant Commissioner of Health.
C. ST. CLAIR DRAKE, M.D., Chicago.
Assistant Chief, Bureau of Vital Statistics.

Not Prepared to Furnish Cancer Serum

To the Editor:—In the New York news in THE JOURNAL January 28, it is stated that I have announced that I am prepared to supply a serum which has been shown to be effective in treating cancer. This statement is wrong. The dispatches which have appeared in the daily press referring to an interview in one of the Buffalo papers have been so changed from the original as entirely to misrepresent my position.

I have not announced a cure for cancer. Neither do I believe that vaccination will be beneficial in more than a limited percentage of cases. The results obtained in this laboratory have shown that methods which have given experimental results with animals have some applicability in human beings. There have been encouraging results in a limited number of cases. The method is not applicable in advanced cases; some patients have done badly under this treatment.

The matter is still in the experimental state, and it is not possible to place the vaccine in the hands of the profession nor would it be desirable for patients to come to Buffalo at the present time. The results have been sufficiently encouraging, however, to warrant asking the State of New York to provide a hospital for the purpose of developing and elaborating this and other methods of treatment for cancer.

HARVEY R. GAYLORD, Director of Cancer Laboratory.

Pneumonic Plague in China

To the Editor:—Noting the pneumonic character of the plague in China and the fact that there are no dead rats, I would say that while in Siam it was my observation and knowledge that the pneumonic form of the disease was contracted from patients with the bubonic form and from rats, I have also found dead rats and dead chickens under the houses of those dead of the pneumonic form of the plague

Eleven people died in one house of the pneumonic plague. The disease was carried by infected rats which traveled from Korat, where the bubonic form prevailed, in freight trains loaded with rice, to Ban Phagi, 100 miles away, where plague in the pneumonic form broke out ten days later than at Korat. The reason the pneumonic form was not so prevalent in Siam is that the people live practically in the open air, so that personal contagion is greatly eliminated.

CHARLES S. BRADDOCK, JR., New York.
Late Chief Medical Inspector, Royal Siamese Government.

A Correction of the Carnegie Foundation Report on Medical Education in Montreal

To the Editor:—Permit me to utilize your columns in order to rectify an error in Bulletin 4 of the Carnegie Foundation, dealing with Medical Education in the United States and Canada. I refer to my account of the medical department of Laval University, Montreal. This institution is entirely distinct from Laval University, Quebec, which also has a medical department. The Quebec school, however, publishes in its catalogue certain data respecting the Montreal school, and I inadvertently give in my account of the Montreal school some material taken from the inadequate statement in the Quebec catalogue.

The staff of the Montreal school numbers 50, of whom 20 are professors.

The number of beds in the two general hospitals used should have been given as 290, and an additional statement that the school has several supplementary hospitals should have been made.

The lectures on chemistry for medical students are given by a professor in the medical faculty.

ABRAHAM FLEXNER, New York City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AGAR-AGAR IN CONSTIPATION

To the Editor:—Please describe the use of agar-agar in the treatment of constipation. X. Y. Z.

To the Editor:—Please give references to the literature on the agar-agar treatment of constipation. J. K. B.

ANSWER.—A small proportion of constipated individuals owe their constipation to a too vigorous digestion, which removes from the intestinal contents all the soluble and nutritive constituents and leaves a mass which becomes hard and dry, and in which bacteria fail to produce the acids which normally stimulate the bowels to move. This difficulty is often increased by a too nutritious diet; that is, the patient is not in the habit of eating enough food with debris in it, such as whole wheat or graham bread and the vegetables and fruits which have indigestible fibers.

For this condition agar-agar is prescribed because it is an insoluble and indigestible substance with a marked affinity for water; consequently, when a considerable quantity of it is taken it absorbs water in the intestinal canal, and thus renders the feces soft and bulky. The softness ensures easy passage and their bulk stimulates the action of the bowel on the principle that tension of a muscle arouses its contractile power.

Agar-agar is found in commerce in the form of strips, which must be ground or cut into small pieces for use. It can also be obtained in the form of a coarse powder. It is administered in a dose of from a teaspoonful to a tablespoonful, or more, once or twice daily, mixed with some form of food, such as cereal, stewed apples, etc.

The following articles discuss this subject:

Schmidt, A.: Explanation and Rational Treatment of Habitual Constipation, *München. med. Wchnschr.*, Oct. 10, 1905; abstracted in THE JOURNAL, Dec. 23, 1905, p. 1992.

Mangelsdorff: Agar-Agar in Habitual Constipation, *Therap. Monatshefte*, May, 1908; abstracted in THE JOURNAL, June 20, 1908, p. 2117.

Gompertz, L. M.: Chronic Constipation Clinically Considered, *Am. Jour. Med. Science*, October, 1909.

Martinet, A.: Agar-Agar in Chronic Constipation, *Presse Médicale*, Paris, March 30, 1910.

Gompertz, L. M.: Agar-Agar Treatment of Chronic Constipation, *Practitioner*, London, May, 1910; abstracted in THE JOURNAL, July 2, 1910, p. 89.

Morse, L. J.: Agar-Agar in Treatment of Constipation in Childhood, THE JOURNAL, Sept. 10, 1910, p. 934.

WORKS ON PRODUCTION OF CLEAN MILK

To the Editor:—I note in THE JOURNAL (January 7, p. 48), an editorial on milk production, in which you refer to an article in *Hoards Dairyman*. Please give me the address of the publishers, and the names of publications and publishers of any other recent works on the production of clean milk.

W. B. SUMMERALL, Atlanta, Ga.

ANSWER.—*Hoards Dairyman* is a periodical published in Chicago, at 164 Dearborn Street.

The following are some of the books which may be consulted on this subject; the Hygienic Laboratory bulletin gives a very complete bibliography:

Pearson: Jensen's Milk Hygiene, J. B. Lippincott Co., Philadelphia.

Spargo: The Common Sense of the Milk Question, Macmillan Co., New York.

Milk and Its Relation to the Public Health, Bull. 56, Hyg. Lab., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Ward: Pure Milk and the Public Health, Taylor and Carpenter, Ithaca.

WATER SUPPLIES AND TYPHOID

To the Editor:—Three or four years ago THE JOURNAL published a comprehensive article on the water-supply of cities, showing the sources of water and the death rate from typhoid during the year. I have probably loaned the article and am not now able to locate it with the indexes at hand. Can you give me the date on which it appeared, and also any more recent articles along this line?

G. L. KING, Alliance, Ohio.

ANSWER.—The article referred to is probably one which appeared serially in THE JOURNAL, May 18 and 25 and June 1 and 8, 1907. Other articles on the subject which may be of interest are as follows:

Typhoid Epidemics at Ithaca; special article in THE JOURNAL, March 21 and 28 and April 4, 1903.

Typhoid Epidemic at Butler, Pa.; special article in THE JOURNAL, Dec. 12, 1903, p. 1476.

Fulton, J. S.: Typhoid Fever and Hindrances in Its Prophylaxis, THE JOURNAL, Jan. 9, 1904, p. 1.

Johnson, W. S.: Quality of Public Water-Supplies, THE JOURNAL, Aug. 31, 1907, p. 762.

Clark, H. W.: Filtration of Public Water-Supplies, THE JOURNAL, Aug. 31, 1907, p. 764.

Dutton, W. F.: Responsibilities of Municipalities in the Ohio Valley for Epidemics of Typhoid Fever, THE JOURNAL, Oct. 31, 1908, p. 1496.

Breitenbach, O. C.: Choleriform Diarrhea of Cold Weather—"Winter Cholera," THE JOURNAL, Oct. 31, 1908, p. 1496.

Soper, G. A.: The Discharge of Sewage Into Tidal Waters, THE JOURNAL, April 17, 1909, p. 1221.

Evans, W. A.: Lake Michigan Water for Drinking Purposes, THE JOURNAL, Oct. 2, 1909, p. 1091.

Wood, H. B.: The Economic Value of Protecting Water-Supplies, THE JOURNAL, Oct. 2, 1909, p. 1093.

Lumsden, L. L.: Epidemiologic Studies of Typhoid Fever, THE JOURNAL, Oct. 16, 1909, p. 1257.

Typhoid Fever in Milwaukee and the Water-Supply; special article in THE JOURNAL, July 16, 1910, p. 211.

Fell, G. E.: The Currents at the Easterly End of Lake Erie and Head of Niagara River, and Their Influence on Sanitation of City of Buffalo, THE JOURNAL, Sept. 3, 1910, p. 828.

Dutton, W. F.: Present-Day Problems and Progress in Prevention of Typhoid Fever, THE JOURNAL, Sept. 3, 1910, p. 834.

Typhoid Fever in Detroit and the Water-Supply; special article in THE JOURNAL, Oct. 8, 1910, p. 1284.

Typhoid Fever in Des Moines, Iowa, and the Water-Supply; special article in THE JOURNAL, Jan. 7, 1911, p. 41.

WHY THE FETUS DOES NOT DROWN IN THE LIQUOR AMNII

To the Editor:—Why is it that the fetus does not drown in the bag of waters? H. K. M.

ANSWER.—Until the fetus is expelled into the world the lungs are in a condition of complete atelectasis. No respiratory movements have occurred; hence there has been no opportunity for the liquor amnii to enter the air cells. The fetus obtains its oxygen through the maternal blood and cannot drown. After expulsion there does not remain a sufficient amount of liquid in the air passages to interfere with breathing.

INSTITUTES FOR MEDICAL RESEARCH

To the Editor:—Please give the names and addresses of the various endowed institutes for medical research in this country.

W. B. LAFORCE, M.D., Ottumwa, Iowa.

ANSWER.—Two prominent endowed institutions for medical research are:

Rockefeller Institute for Medical Research, New York.

Memorial Institute for Infectious Diseases, Chicago.

In addition there are various laboratories working under gifts or endowments that carry on research in various special lines, or in general lines. Among them are:

Crocker Cancer Research Fund, New York.

Russell Sage Foundation, New York. Special funds are sometimes granted by this foundation for carrying on work in certain lines.

St. Louis Skin and Cancer Hospital, St. Louis. This institution is doing special research work under Prof. Leo Loeb in cancer, and has a specially equipped laboratory for this purpose.

Cushing Laboratory, Cleveland, Ohio.

Ayer Clinical Laboratory, Philadelphia.

William Pepper Medical Laboratory (U. of P.), Philadelphia.

Phipps Institute for the Study of Tuberculosis, Philadelphia.

Bender Laboratory for Cancer Research, Buffalo, N. Y.

Wistar Institute of Anatomy, Philadelphia.

Harvard, Columbia, Cornell and Johns Hopkins each have research laboratories working under special or general endowment.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 4, 1911.

Allen, William H., lieut., ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

Skelton, Robert, M.R.C., ordered to active duty and will proceed to Fort Adams, R. I., for station and duty.

Little, William L., captain, granted two months' leave of absence.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Leslie, Samuel H., D.S., returned to Fort Leavenworth, Kan., from temporary duty at Fort Riley, Kan.

Davis, Oscar F., M.R.C., died at Army and Navy General Hospital, Hot Springs, Ark.

Eber, Albert H., M.R.C., assigned to permanent duty at Fort Dade, Fla.

Tuttle, George B., M.R.C., granted leave of absence for one month and twenty-one days.

Hayne, James A., M.R.C., granted leave of absence for two months.

Bartlett, G. J., captain, leave of absence extended twelve days.

Ebert, Rudolph G., colonel, promoted to, with rank from Dec. 27, 1910.

Arthur, William H., colonel, promoted to, with rank from Jan. 1, 1911.

Willcox, Charles, lieut.-colonel, promoted to, with rank from Dec. 27, 1910.

Raymond, Thomas U.; Snyder, Henry D.; Smith, Allen M., and Clarke, Joseph T., lieut.-colonels, promoted to, with rank from Jan. 1, 1911.

De Laney, Matthew A., major, promoted to, with rank from Dec. 27, 1910.

Halloran, Paul S.; Fidd, Peter C.; Brechemin, Louis, Jr.; Bloombergh, Horace D.; Nelson, Kent, and Shaw, Herbert G., promoted with rank from Jan. 1, 1911.

McAlister, John A., D.S., reported for duty at Fort Leavenworth, Kan.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the Army Medical School, this city, and will proceed to his home, and on arrival there will report by telegraph to the adjutant general of the Army: Blair, Faris M.; Dolley, Gilman C.; Lynch, Edward C.; McLaughlin, William F.; Pulver, Arthur L.; Scherer, Carl A.; Underwood Gordon B.; Williams, Harry B.; Wilson, James H. Each of the officers named will stand relieved from further active duty in the Medical Reserve Corps, to take effect on his arrival at his home.

Fauntleroy, P. C., major, February 1, orders detailing him for a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan., is revoked.

Van Poole, G. M., major, detailed to represent the Medical Department of the Army at the fourth annual meeting of the Lake Michigan Sanitary Association, Chicago, Feb. 18, 1911.

Stark, Alexander N., major, granted leave of absence for one month and twenty days.

Dean, Elmer A., major, detailed to take the course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan.

Thearle, William H., lieut., ordered to proceed to Jefferson Barracks, Mo., for temporary duty, until the arrival at that post of Captain Guy V. Rukke, Medical Corps.

Thomason, Henry D., major, leave of absence extended ten days.

Medical Corps, U. S. Navy

Changes for the week ended Feb. 4, 1911.

Lando, M. E., P. A. surgeon, resignation accepted to take effect Jan. 31, 1911.

Garrison, H. A., P. A. surgeon, commissioned passed assistant surgeon from June 27, 1910

Holeman, C. J., P. A. surgeon, commissioned passed assistant surgeon from Sept. 21, 1910.

George, C. M., and Sheldon, L., Jr., P. A. surgeons, commissioned assistant surgeons from Dec. 24, 1910.

Elliott, M. S., surgeon, detached from command of the naval hospital, Washington, D. C., and ordered to the Naval Medical School, Washington, D. C., for course of instruction.

McLean, A. D., P. A. surgeon, ordered to duty in attendance on officers and their families on duty at Washington, D. C.

Strite, C. E., P. A. surgeon, ordered to the *Vermont* when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Phelps, J. R., asst. surgeon, detached from the *Vermont* and ordered to the *Solace*.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 1, 1911.

Holt, John M., P. A. surgeon, reassigned to duty at Columbia River Quarantine Station, effective Sept. 14, 1910.

Smith, F. C., P. A. surgeon, reassigned to duty at Fort Stanton, N. Mex., effective Nov. 23, 1910, Jan. 27, 1911.

Delgado, J. M., A. A. surgeon, granted ten days' extension of leave of absence from Jan. 13, 1911, on account of sickness.

Townsend, F., A. A. surgeon, granted fourteen days' leave of absence from Jan. 28, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

SMALLEST MEDICAL FEES PAID BY LARGEST CORPORATIONS

By an Insurance Examiner

Five years ago the report of the New York legislative committee showing the methods of life-insurance companies produced a distinct shock to the public conscience. The next shock was to the medical conscience when the attempt was made to reduce the expense of insurance to the "oppressed" policy-holder and increase dividends to the "bloated bondholders" by reducing the fees of the medical examiner from $5 downward; a great deal was then said and written on the subject of medical examiners' fees, until the companies nearly all relented and, in most cases, restored the examination fees to the former low standard of $5.

There is, however, a phase of life-insurance examination with absurdly small fees, if they can be called fees at all, which has gone on without remonstrance from any source, so far as I know. This is all the more amazing because of the widespread cry of increased cost of living and the almost general insistence on increased wages in nearly all lines of service. Club contract, sick benefit and fraternal insurance examination fees have been rightly condemned by medical societies; but so-called industrial insurance, the worst economic invasion ever projected into the body politic of this country, secures examinations called "inspections" by doctors, for the munificent honorarium of 25 cents, "two dimes and a half, gentlemen, or a quarter of a dollar" per capita. These examinations require a visit to the home; inspection of hygienic, local and domestic environment; inspection of subject and antecedents, if there be any; witnessing the applicant's signature and certifying to his or her age; returning to office, copying and mailing the report to the home office—the company magnanimously furnishing the stamps and charging in the doctor's books—25 cents for the service. This by a medical graduate, a registered and licensed man, presumably in full possession of his faculties! Members of the hod-carriers' union would spurn such remuneration.

There is another form of examination, rarely demanded, for which 50 cents is paid; this is called an "examination" and also demands expert educated skill of a high degree. The booklet of instructions for either "inspection" or "examination" embraces thirty pages, and urges two-score specific topics on the examiner, requiring a finely educated visual and

actile sense, as well as an innate perspicacity to complete roperly; urinalysis is not required, but that is about the nly lapse from a standard blank, and the examiner gets 50 ents!

Shades of Esculapius and John Hunter! And the cost of ving soaring! A young man spends eight of his best years nd as many thousand dollars to get a medical education, pass state examination and pay for it; secure a county license nd pay for this, often a municipal fee is demanded that he as to pay for; he has to equip himself with all the instruents of precision now required, at great cost, maintain an ffice and some means of transportation; be well housed and othed—and he gets out of the insurance companies the sum 25—rarely 50—cents, for expert work!

The subjects are not brought to the examiner; he must ek them at their homes at hours convenient to them, regardss of the examiner's other professional or social appointents. He must make calls in the remotest regions, in subbs and factory district, since this kind of insurance appeals ly to the ignorant classes, the submerged tenth, whose earnrs are dissipated by the importunities of the conscienceless surance solicitor and the instalment collection fiend. It is timated that so-called industrial life-insurance collects the ossal aggregate of $150,000,000 annually, a sum double t taken from all the gold mines of the United States, aska and the Philippines in the year 1907.

t is only this so-called "inspection" and "examination" t places the transaction outside the class of "pools." The fleless doctor lends his time and skill to this work and os to accumulate colossal fortunes for the promoters. angest of all it is that the great beam of justice has not ck this kind of machination, and that public conscience allowed the exploitation of the unguarded and helpless to go on unhampered. Worse still is the prostitution of profession to such ignoble ends and pauper pay; 25 s for a medical "inspection" and 50 cents for an edud expert's medical "examination," time and travel expense paid by the doctor! What has become of the spirit of medical societies that remonstrance has not been made this? There are very small things that need attention well as the larger ones of state boards of health and al national educational commissions.

e objection to industrial insurance, as conducted in the ed States, is that it has been developed and managed by te individuals for private profit rather than for the ing man and his dependents. One result is the physician makes the necessary examinations is "sweated" for the fit of the middleman or promoter, who to increase his profits reduces the cost of operation to the minimum. strial insurance is, in many cases, the only way in the laboring man can provide, during the period of ity, against disabling accidents and sickness. The preis which can be paid in this form of insurance are necly low and must be collected on the instalment plan. e absence of some such provision against disability, the recourse left to the laborer or his family is charity, public or private. The importance of industrial insurhas been generally recognized in Europe, especially in any, where it has been made compulsory by the state, precaution against poverty-stricken decrepitude or old n the part of the laborer and overburdened charity relief e part of the state. Industrial insurance, provided and arded by the state, is a guarantee to the laborer and mily against want, and to the community against a ng burden of pauperism and dependency. As conducted s country, by private corporations, it is an exploitaf the workingman on the one hand and of the physician other, for the benefit of the middleman, the promoter. diculously low "fees" paid by these companies should rned by any self-respecting physician and condemned lical organizations everywhere. Properly organized and ted industrial insurance should be encouraged, but n condition that the fees paid for professional services mmensurate with the value of the services rendered. rial insurance should be for the benefit of the laborer e relief of society. There is no reason why it should t up at the expense of the medical profession.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

TOXEMIA, SEPTICEMIA AND PYEMIA:* Definition of each, discussing their relations to each other.

ETIOLOGY

TOXEMIA: 1. From acute infectious diseases. 2. Those demanding surgical interference; sapremia. Pathogenic and toxicogenic bacteria. Bacterial poisons, ptomains and toxins. Microorganisms usually found in surgical lesions, producing toxemia.

SEPTICEMIA AND PYEMIA: Septicemia from (1) local infection, pneumonia, typhoid, puerperal fever, fracture, traumatism, etc.; (2) cryptogenetic septicemia. Pyemia, dependent on antecedent septicemia.

PATHOLOGY

TOXEMIA AND SEPTICEMIA: Similarity of pathologic changes occurring in toxemia and septicemia. Histologic changes in tissues, effect of toxins. Microscopic changes in viscera. Gross changes in liver, spleen, kidneys, heart and blood-vessels, mucous membranes.

PYEMIA: Primary changes. Methods of entrance of bacteria into blood-stream. Factors governing site of secondary localization. Usual location of abscesses. Secondary changes.

* Pearce: Osler's Modern Medicine, ii, 647.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

The Complete Physician

An address on the subject "The Complete Physician" was given by Dr. J. George Adami, professor of pathology at McGill University, at the opening of the School of Medicine of the University of Toronto.[1] He shows that the student cannot be expected to learn all there is to know during his brief four-year or five-year medical course. In fact, the physician's entire life is devoted to learning new facts and new methods. It is the student's duty to find out *how* to proceed; he must learn the common ailments; he must know how to use modern methods of diagnosis and must understand the rational treatment of diseases, whether he is to apply that treatment himself or refer the patient to others.

To obtain this knowledge requires a training in hospitals and dispensaries, in contact with actual living patients. But he needs more than his unaided senses to gain the most from his contact with patients. He needs to understand instruments of precision, which requires a knowledge of physics; he must know the composition of body fluids and the action of drugs, which requires a knowledge of chemistry; he must understand the principles governing living matter, which requires an acquaintance with biology. A knowledge of anatomy is particularly needed. A mental picture of the viscera often conveys reasons for certain disturbances; and of course the

1. Saskatchewan Med. Jour., October, 1910.

knowledge of the parts of the body is indispensable for the surgeon. Infectious diseases cannot be understood without a knowledge of bacteriology. Of great importance also is the autopsy, by which the relation of outward signs to the actual pathologic condition is ascertained.

Years of preparation, therefore, are needed before the student comes to the actual study of patients. This preparation requires one or two years of collegiate work and two or three years of medical study in laboratories. Then come the two years in advanced study in dispensaries and hospitals, and, finally, a year or more of intern work.

Dr. Adami lays particular stress on the development by the student of a personal sympathy for the patient. Important as is all the other training and skill in the diagnosis and treatment of disease, he counts this all for naught without the sympathetic study of humanity and the capacity to enter into their lives:

"After all, it is the old, old lesson that I have to preach to you. Though you know all the 'ologies and practice all the modern methods of diagnosis and treatment, though you know Latin, German, French, Italian, and speak with tongues of men and of angels and have not charity—do not let your hearts go out to your fellows—you are become as sounding brass or as a tinkling cymbal."

He declares that the main strength of British medical education is that it has realized the need of this sympathetic relationship and the weakness of the German medicine that it has too largely neglected it. He believes that the chief benefit from the addition of two collegiate years to the preliminary training is that, by the larger contact with his fellows, the student will develop this study of humanity. This experience will be largely aided by the study of the actual palpitating patient at the bedside. Lastly, it will be more completely developed in the fifth year spent in a hospital.

California August Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, August 2-5, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 151, of whom 121 passed, including 22 osteopaths, and 30 failed, including 9 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Oakland College of Medicine and Surgery	(1910)	83.4, 86.4, 86.5.
University of Southern California	(1909)	82.1
College of Physicians and Surgeons, San Francisco	(1909)	76.9, 77.6; (1910) 76.8, 78.9, 84.7.
Cooper Medical College	(1909)	76.9; (1910) 75.9, 77, 79.5, 80.1, 80.3, 81.5, 81.9, 82.5, 85, 85.4, 85.4, 87.5.
California Medical College, Eclectic	(1905)	79.3
University of California	(1908)	77.9; (1910) 79.8, 83.5, 85.7, 87.2, 87.3, 89.6.
College of Physicians and Surgeons, Los Angeles	(1909)	78.2; (1910) 77.9, 80.4, 82.3, 82.7, 86.4, 86.6, 87.4, 90.2.
Hahnemann Medical College of the Pacific	(1910)	85.8
College of Physicians and Surgeons, Chicago	(1901)	83.2; (1903) 79.8; (1906) 78.9; (1908) 88.2.
American Medical Missionary College	(1900)	88.6; (1903) 82.3, 85.5; (1906) 89.8, 90.4.
Northwestern University Medical School	(1908)	83.6, 84.8; (1909) 83.1; (1910) 86.8.
Rush Medical College	(1895)	80.5; (1909) 82.2, 92.4
Louisville Medical College	(1897)	78.8; (1905) 81.1
Hospital College of Medicine, Louisville	(1902)	77.1
University of Iowa, College of Medicine	(1906)	78
Tulane University of Louisiana	(1908)	75.5
Medical School of Maine	(1889)	87
University of Maryland	(1893)	83.4; (1895) 84.6
Johns Hopkins University Medical School	(1908)	83.9, 89.9; (1910) 87.1, 84.6.
Harvard Medical School	(1907)	85.7
University of Michigan, College of Med. and Surg.	(1909)	80.9
Detroit College of Medicine	(1896)	88.1
University of Minnesota, Homeopathic Department	(1908)	79.9
University of Minnesota, College of Medicine and Surgery	(1905)	77.2; (1909) 80.6.
St. Louis University	(1906)	85.2; (1910) 80.3
Kansas City Medical College	(1891)	77
Creighton Medical College	(1906)	80.5
Columbia University, College of Physicians and Surgeons	(1905)	81.7; (1909) 82.8.
New York Homeopathic Med. College and Hospital	(1906)	80
University and Bellevue Hospital Medical College	(1910)	85
Bellevue Hospital Medical College	(1893)	84.3
Long Island College Hospital	(1892)	88.8
Ohio Medical University	(1903)	77.4
University of Oregon	(1908)	75.8
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	77.8
Jefferson Medical College	(1910)	88.3
University of Pennsylvania	(1904)	82.8
Medical College of South Carolina	(1903)	84.4; (1910) 82.9
Vanderbilt University	(1906)	84.1; (1910) 84.6
McGill University, Quebec	(1910)	75
Western University, London Ontario	(1906)	82.7
University of Edinburgh, Scotland	(1909)	92.9
University of Finland, Helsingfors	(1910)	83.1
University of Turin, Italy	(1902)	86.7
Durham College of Medicine, England	(1910)	78.5

FAILED

Hahnemann Medical College of the Pacific	(1909)	71.6
College of Physicians and Surgeons, San Francisco	(1903)	71.9; (1907) 51.6, 72.7; (1910) 69.5.
College of Physicians and Surgeons, Los Angeles	(1906)	69.2
Cooper Medical College	(1910)	64, 72.1
California Medical College, Eclectic	(1910)	72.4
Chicago College of Medicine and Surgery	(1910)	70.5
Indiana Medical College	(1903)	72.9
University of Louisville	(1892)	70.6
Kentucky School of Medicine	(1906)	61.7
Hamline University	(1907)	72.4
American Medical College, St. Louis	(1898)	43.9
University Medical College, Kansas City	(1905)	69.4
Syracuse University	(1903)	72.1
Cleveland Homeopathic Medical College	(1892) 55; (1903)	72
Jefferson Medical College	(1884)	76.7
University of Toronto, Ontario	(1903)	73.3

* Fell below 60 per cent. in one or more branches.

The following questions were asked:

ANATOMY

[Answer ten questions only]

1. Name the visceral contents of the middle epigastric regior 2. Describe the changes that take place in the vascular system birth. 3. Draw diagram showing relationship of stomach, spleer pancreas and kidneys to the back. 4. Name the uses and supports the arch of the foot. 5. Give the boundaries of the axilla and nam its contents. 6. What are the anatomic conditions that minimize th effects of violence on the skull? 7. Describe the course of the brachi artery. At what point may it be most easily compressed? 8. Giv the relations of the prostate gland. 9. Make drawing of the should sufficient to show the relation of the bony points. 10. Give th sensory and motor distribution of the median nerve. 11. Give th relations of the abdominal aorta. 12. Name the chief varieties joints and give their subdivision with an example of each of th latter.

PATHOLOGY

[Answer eight of the written questions and identify four slides

1. What blood changes are found in simple anemia? And descri the general or systemic effects if this condition is long continue 2. Give the pathology of chorea. 3. Describe the macroscopic a microscopic characteristics which distinguish malignant tumors growths from those of a benign or non-malignant type. 4. Descri fully the effects and changes which result from an excess of sec tion of the thyroid gland, and the effects and changes resulti from a deficiency of the thyroid secretion. 5. Describe the patl logic changes which take place as a result of chronic lead poisoni 6. What organism is responsible for tropical or amebic dysenter What part of the intestinal tract is principally affected, a describe the changes resulting from the disease? 7. What are principal causes of the ordinary summer diarrhea or dysentery children, and describe the condition of the intestinal tract usua present? 8. What conditions most frequently give rise to cereb thrombosis; what part of the brain is most likely to be affected, a what blood-vessels most likely to be involved, and why? 9. imperfect closure or insufficiency of the mitral valve of the he describe, in the order of their occurrence, the changes which t place in the heart and blood-vessels and the resulting patholo condition in other parts of the body. 10. Describe the condition the lung in cases of delayed resolution in croupous or lobular pn monia, and what is the usual ultimate result if not reliev 11. Identify two slides. 12. Identify two slides.

HISTOLOGY

[Answer ten questions only]

1. Make a diagram of a transverse section of the spinal c showing white and gray matter, position of motor and sensory ro of spinal nerves, central canal and principal motor cells. 2. scribe the muscular coats of the esophagus. 3. Name the vari forms of encapsulated sensory nerve-endings. 4. Describe minu a medullated nerve fiber. 5. Describe the blood-supply of a hepa lobule. 6. Describe a renal Malpighian corpuscle. Make draw 7. Name two cells typical of the human cerebellum. Give sh description of each and make drawings. 8. Tell how you wo distinguish a transverse section of the duodenum from a lo tudinal section of the transverse colon. Make diagram. 9. Na the blastodermic layers from which the following tissues and org are formed: (*a*) enamel of the teeth; (*b*) finger-nails; (*c*) urin bladder; (*d*) pancreas; (*e*) lymph nodules of the intesti 10. What is meant by the following terms: (*a*) Haversian ca (*b*) osteoblasts; (*c*) osteoclasts; (*d*) lymphocytes; (*e*) eosinoph 11. Examination of slides. 12. Examination of slides.

CHEMISTRY

[Answer ten questions only]

1. Define alkaloid. Name five alkaloids commonly used in m cine. 2. How much of the following ingredients will be found the urine of an adult who passes 1,500 c.c. of normal urine da (*a*) urea, (*b*) chlorids, (*c*) phosphates? 3. What is a chem symbol? Give the symbols of ten elements. 4. Give the co sition of properties of and tests for sulphuretted hydrogen, d mention any chemical agencies by which its offensive odor ma

removed. 5. How is formaldehyd prepared? In what forms is it used as a disinfectant? 6. What is the composition of butter? Describe a good method of determining the volatile fatty acids in a sample. How does this assist you in deciding the question of adulterations? 7. What are the respective alcoholic strengths of beer, claret, sherry, gin, whisky? 8. Name the solids contained in normal blood. What proportions do the solids bear to the water in the blood? 9. Give the composition of starch, cane-sugar, grape-sugar and sugar of milk. Calculate the number of grains of carbon present in 1,000 grains of starch and cane-sugar, respectively. 10. What is ozone? Is there any real evidence of its presence in the atmospheric air? What other substances give similar actions? Has its presence or absence any sanitary importance? 11. How would you recognize each of the following gases, chemically, when mixed with air: Carbon monoxid, sulphur dioxid, sulphuretted hydrogen and hydrochloric acid? 12. How would you detect the presence of tartaric acid in lemon or lime juice?

PHYSIOLOGY

[Answer ten questions only]

1. Describe the phenomenon of muscular tone. 2. What is the chemical theory of fatigue? 3. What is the difference in the paralysis from injury to the spinal and the pyramidal neurons, respectively? 4. Name four sensory qualities of cutaneous nerves and tell how they are distributed in the skin. 5. What is the function of the Eustachian tube? 6. What normal conditions produce a variation in the number of red-blood corpuscles? 7. Mention four factors concerned in producing normal pressure and velocity of the blood. 8. What physical changes take place in respired air? 9. What conditions affect the action of ptyalin? 10. What is the general physiologic importance of bile? 11. What is the physiologic rôle of the adrenals? 12. Mention four ways by which the body loses its heat.

BACTERIOLOGY

[Answer ten questions only]

1. Explain how diphtheria antitoxin is made. 2. Give two methods of producing immunity (active). 3. What is a bacterial vaccine? How does it act? 4. Give positive tests distinguishing gonococci from other cocci. 5. Describe in detail a method of staining tubercle bacilli. 6. Name five pus-producing organisms. 7. Explain how pus is produced by germs. 8. Give two methods by which *Bacillus typhosus* may be distinguished from *Bacillus coli communis*. 9. Show by drawing appearance under the microscope of the following: *Spirochæta pallida, Bacillus diphtheriæ, Bacillus pestis, Bacillus tetani, Amœba coli*. 10. Describe cause and usual method of entry of epidemic cerebrospinal meningitis. 11. What is meant by Widal's reaction? Describe two methods of doing it. 12. Describe the different methods by which bacteria propagate. Give three.

OBSTETRICS

[Answer ten questions only]

1. Between what points are the four measurements taken in external pelvimetry? 2. How is the pelvic inlet bounded? 3. What are the anomalies calling for cephalic version? 4. In mammary abscesses what is the usual source of infection and how can it be prevented? 5. Give the etiology and diagnosis of phlegmasia alba dolens in the puerperal state. 6. In breach presentations, occiput anterior, in what position would you place the body of the child in the application of forceps to the after-coming head? 7. Describe hyperemesis and its dangers. 8. Give the symptoms and diagnosis of puerperal septicemia? 9. What are the causes of secondary post-partum hemorrhage? 10. Describe the "Braxton-Hicks" method of manipulation in placenta previa. 11. What are the causes and dangers of precipitate labor? 12. Describe polyhydramnos and its dangers.

GYNECOLOGY

[Answer ten questions only]

1. What is the menopause? Its physiologic establishment? What are the especial dangers of this period? 2. What are the causes of hemorrhage of the non-pregnant uterus, other than menstruation? 3. Diagnosis of uterine fibroids. What pathological change often takes place? Prognosis. 4. Acute pelvic peritonitis, causes and symptoms. 5. What is the differential diagnosis between ascites and ovarian cyst? 6. What is amenorrhea, its causes and dangers? 7. What are the symptoms and management of imperforate hymen, its prolonged retention of secretion? 8. What is chronic endometritis, etiology and symptoms? 9. Early diagnosis of cancer of the uterus. What are operable cases? At what period in a woman's life is it most liable to occur? 10. Urethral caruncle, diagnosis and symptoms. 11. Hematoma of the vulva, symptoms and diagnosis. 12. Specific vaginitis, symptoms, diagnosis, and complications.

GENERAL DIAGNOSIS

1. Give the causes of enlargement of the liver and describe atrophic cirrhosis of the liver in detail. 2. Differentiate tetanus from hydrophobia. 3. Name the different varieties of casts found in the urine and what is the significance of each. 4. Give the symptoms of multiple sclerosis. 5. Give the symptoms and signs which you would diagnose a typhoid intestinal perforation. 6. Differentiate variola from varicella. 7. Describe an attack of acute appendicitis. 8. Describe an attack of acute pericarditis. 9. Give the causes and physical signs of ascites. 10. Differentiate tabes from glaucoma. 11. Give the relations of the abdominal peritoneum; diagnose a fracture through the neck of the femur. 12. Describe the symptomatic development of a severe hemorrhage which presses on the upper one-half of the fissure of Rolando following a blow on the head.

HYGIENE

[Answer ten questions only]

1. What deleterious gases accumulate in improperly ventilated rooms? 2. What diseases may be propagated by drinking water? How may the impurities in water be detected? 3. Name four methods used in communities for the disposal of sewage and describe each method. 4. Outline a rational method by which the condition of milk supplied to a community might be materially improved. 5. Name four diseases which may be transmitted by milk. 6. Name four diseases that may be transmitted by the eating of diseased meat or fish. 7. What is the germ theory of disease? What laws were made to prove this theory? 8. What is an endemic disease? An epidemic disease? A miasmatic disease? A sporadic disease? 9. What are deodorants? Antiseptics? Germicides? 10. With what is ground coffee said to be frequently adulterated, and how may the adulterants be detected? 11. With what is vinegar sometimes adulterated, and how would you test for the adulterant? 12. How may the presence of lard in olive oil be detected?

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 14-17, 1910. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, at Philadelphia, the total number of candidates examined was 95, of whom 79 passed and 16 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of Colorado	(1909)	1
Howard University, Washington, D. C.	(1907) (1909)	2
Georgetown University	(1910)	3
Atlanta School of Medicine	(1910)	1
Indiana University	(1910)	1
Kentucky University	(1906)	1
University of Louisville	(1910)	1
Johns Hopkins University	(1909)	1
Baltimore Medical College	(1910)	4
University of Maryland	(1909) (6, 1910)	7
College of Physicians and Surgeons, Baltimore	(1910)	4
Detroit College of Medicine	(1910)	1
Syracuse University	(1910)	1
Albany Medical College	(1905)	1
Columbia University, College of Physicians and Surgeons	(1906) (1907) (1909)	3
Temple University	(1910)	4
Jefferson Medical College (1902) (1906) (2, 1909)	(9, 1910)	13
University of Pittsburg	(1909) (3, 1910)	4
University of Pennsylvania (1895) (1907) (2, 1908); (1909)	(5, 1910)	10
Medico-Chirurgical Coll., Philadelphia (1909) (6, 1910		7
Woman's Medical College of Pennsylvania (2, 1909)	(2, 1910)	4
University of Vermont	(1910)	1
McGill University, Montreal	(1907)	1
University of Toronto, Ontario	(1902) (1909)	2
Queen's University, Kingston, Ontario	(1910)	1

FAILED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	70.2
University of Louisville	(1910)	72.7
Maryland Medical College (1910) 23.7, 63.3, 64.5, 70.4.		
Baltimore Medical College	(1910)	65.5
University of Maryland	(1910)	72.4
University Medical College, Kansas City	(1903)	46.8
Leonard Medical School	(1909)	73.4
Medico-Chirurgical College, Philadelphia (1909) 73.9; (1910) 61, 72.6.		
University of Pittsburg	(1910)	72.5
University of Pennsylvania	(1910)*	....
Meharry Medical College	(1910)	68.5

* Expelled from examination.

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 5, of whom 4 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Cleveland Homeopathic Medical College	(1910)	1
Hahnemann Medical College and Hospital, Philadelphia	(1904) (2, 1910)	3

FAILED College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	61.4

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 12, of whom 11 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Maryland Medical College	(1907) (3, 1910)	4
Atlantic Medical College	(1908)	1
Baltimore University	(1905)	1
Eclectic Medical University, Kansas City	(1910)	1
St. Louis College of Physicians and Surgeons	(1906)	1
Medico-Chirurgical College, Philadelphia	(1910)	2
Temple University	(1910)	1

FAILED College	Year Grad.	Per Cent.
Baltimore University	(1903)	72.1

Book Notices

A MANUAL OF PHARMACY FOR PHYSICIANS. By M. F. DeLorme, M.D., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition. Cloth. Price, $1.25 net. Pp. 199, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

The author in this book has made the laudable effort "to provide a small concise text-book, presenting only those facts of the subject having interest for the medical practitioner." He has paid special attention to prescription Latin. One of the reasons assigned by most authors for the use of Latin in prescriptions is that "Latin is a dead language and not subject to change." Our author, however, evidently believes that it can be improved by changing its time-honored rules. With the intention of making it so simple that any student by learning a few improved rules can write correct Latin, he tells his readers that all Latin nouns ending in "a" form their genitive in "æ," that adjectives end in "us" and form a genitive in "i" and that, as the genitive is the only case in which the physician is interested, in the text of Part II all nouns will be put in the genitive case. It is interesting to see how these simple rules work. The author is iconoclastic enough to apply them to the utter demolition of the ancient grammar. For instance, we learn that the genitive of "Cataplasma" is "cataplasmæ" (old form "cataplasmatis"), that the prescription term for "distilled water" is "aquæ destillati," that for "monobromated camphor" we should write "camphoræ monobromati." Other examples are "cretæ camphorati," "tincturæ valerianæ ammoniati," etc. While the author admits that, theoretically, other cases may be used in writing a prescription, "as in prescribing an official pill, when the accusative case is employed," he considers that the "almost universal practice of abbreviating the noun 'pilulæ' (pil.) makes this exception of small practical moment and justifies its dismissal." Accordingly, the accusative disappears and we read "Divide in pilulæ no. x," "Div. in capsulæ no. iv." The ablative is no longer of use. So the author allows "cum" to govern the genitive: "Pulveris Potassii Bromidi Effervescens cum Caffeinæ N. F." In this case, zeal in carrying out his scheme caused the author to forget the genitive of "effervescens," which is not provided for by the simplified rules. But, strange to say, he writes "℞ Carbo animalis," although he has informed his readers a few pages before that "carbo" has a special genitive "carbonis."

The effort to put all nouns in the genitive imposes too great a burden on one devoted to simplification, and hence the student finds a jumble of nominatives and genitives, plurals and singulars, with an occasional instance in which, following the custom of older writers, the author has allowed the accusative or ablative to appear in strict accordance with grammatical rules. The lesson from this seems to be that we should either learn to write Latin correctly or dodge the difficulty by cutting off the endings in all cases. When an author and teacher cannot produce a set of fifteen typical prescriptions without 40 per cent. of them containing more or less serious errors, what can be expected of a student ignorant of Latin who tries to follow his directions?

The influence of such a book is vicious.

BIER'S TEXT-BOOK OF HYPEREMIA AS APPLIED IN MEDICINE AND SURGERY. By Prof. Dr. August Bier, of Berlin. Only authorized translation from the sixth German revised edition by Dr. Gustavus M. Blech, Professor of Clinical Surgery, Illinois Medical College. Cloth. Price, $4. Pp. 439, with 39 illustrations. New York: Rebman Company, 1910.

This is a fascinating work of some 400 pages. Once having begun, one is tempted to read every word and then reread many sections, so earnestly and convincingly has the writer presented his topic to his readers. The text does not lend itself well to abstracting; it must be taken as a whole to be properly appreciated.

While the list of conditions treated and the benefits obtained at first appear rather appalling and arouse the most natural medical emotion of prejudice against something different, yet a careful survey of the author's discussion and skilful employment constantly tends to allay the natural bias and to bring out the reasonableness of the procedure in the conditions to which it is adapted. The chapters on theory are interesting and instructive, reminding one, in their character and clearness, of Adami's charming little volume on "Inflammation." Bier's experience, like that of many others, emphasizes the fact that the more fundamental a truth and the broader its application, the greater is the difficulty in getting its general acceptance.

It is difficult, however, for us to accept many of the practical applications in conditions that we are wont to treat otherwise and we still remain in the critical attitude of wanting "to be shown." For instance, in the treatment of tuberculous joints Bier says, "I now declare it to be the best conservative agent at our command, which, with the least risk, simply and cheaply achieves results, especially as far as the function of the diseased joints is concerned, to which none of the other methods of treatment can even approximately approach. It must be added that at the same time it is the most agreeable of them all because it removes the pain from the patient without causing him new ones, in addition to leaving him the most perfect use of his limb." In concluding his work, he says, "I believe that the practical application represents the most general method of cure which exists, for I know of no other remedy which can be successfully employed in so great a variety of diseases."

The book is of convenient size, printed with clear type on good paper, and the translation well worthy of the text.

CLINICAL COMMENTARIES DEDUCED FROM THE MORPHOLOGY OF THE HUMAN BODY. By Prof. Achille De-Giovanni, Director of the General Medical Clinic, University of Padua. Translated from the second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H., Cambridge. Cloth. Price, $4.50. Pp. 436, with illustrations. New York: Rebman Company, 1910.

The title does not convey a clear idea of the subject-matter of this work, for it deals not with the form and structure of the human body as such, but rather with the relations which exist between the special morphology of the individual and his particular morbidities. The author assumes that modern morphology dictates the maxim that "function creates the organ" and as a natural consequence of this that "function reveals the anatomic conditions of the organ." He then formulates two principles expressed as follows:

1. "The cause of the special morbidity of organisms resides in their special morphology."

2. "The same principle which explains the formation of the organs, of the organisms and their function, explains the anomalies of form and of function that the organisms present during the periods of life."

The first part of the book is devoted to an attempt to justify the above principles. The second is more concrete and practical; in it the author elaborates his system of measurements of the body, based on which he subdivides individuals into three principal groups or classes, which he calls morphologic combinations. Each morphologic combination is supposed to exhibit certain morbidities, but there are almost innumerable varieties of each of the three principal combinations.

The author is given too much to theorizing, and, as is usual in such cases, his ideas are frequently clothed in such a superfluity of words as at times to defy analysis and thus to be meaningless. Possibly the translator may be responsible occasionally for a small part of this obscurity by a too literal translation. Yet, notwithstanding these numerous defects, a careful perusal of the book cannot fail to convince the reader that the author is possessed of an idea which contains more than a germ of truth and which is capable of much development by further observation and study.

CLINICAL PATHOLOGY IN PRACTICE. With a Short Account of Vaccine-Therapy. By Thomas J. Horder, M.D., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. Cloth. Price, $3. Pp. 216, with 6 illustrations. New York: Oxford University Press, 1910.

This work takes up the various diagnostic measures of clinical pathology. An account is given of the proper technic for securing materials; but the laboratory procedures used in the examination are intentionally omitted. The author discusses the conditions in which such measures are advisable, and the interpretation of the results obtained with them;

so that, unlike most works on clinical pathology, this is a guide, not for the laboratory worker, but for the clinician who may wish to enlist the aid of laboratory investigation. Inasmuch as many of these measures are of recent adoption, and as instruction along these lines is frequently deficient even in our better medical colleges, such a work can readily prove of value both to the older general practitioner and to his younger colleague. An introductory chapter warns against a too enthusiastic reception of the newer laboratory methods, which may lead to a neglect of physical diagnosis; and the same well-founded conservatism prevails throughout the work. In some instances there occur brief theoretical discussions of certain measures. These, particularly in the case of the Wassermann reaction, are admirably lucid. In the chapters on vaccine therapy the writer limits himself to his own clinical experience. Although brief, these chapters sum up the methods and the present status of this line of treatment very adequately.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Edited by Joseph D. Bryant, M.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Volume VII. Cloth. Price, $7. Pp. 961, with 396 illustrations. New York: William Wood & Co., 1910.

The seventh volume of this work is devoted to a continuation of regional surgery. In it are discussed the surgical diseases of the pelvic and gluteal region, of the extremities and of the abdominal wall; the diagnosis of abdominal tumors; abdominal section; surgery of the heart and blood-vessels, the stomach, esophagus and diaphragm; acute infectious and tuberculous peritonitis; hernia; diseases of the vermiform appendix, intestines, omentum and mesentery and of the anus and rectum. The so-called big subjects are not always the most important ones, but the big subjects in this volume happen to be very important because of their great frequency. Appendicitis and peritonitis in some of the forms are the daily companions of every general practitioner, as well as of every surgeon. The subject of the treatment of these conditions is handled in a very sensible and judicious manner, by one of much experience and rare judgment, whose untimely death was deeply lamented by all. Concerning the prognosis in tuberculous peritonitis, the author—very justly, we think—presents a more hopeful view than is found expressed in some recent articles. The volume as a whole is a credit to this excellent system.

ACUTE INTESTINAL TOXEMIA IN INFANTS. An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhœa. By Ralph Vincent, M.D., Member of the Royal College of Physicians, London. An Address Delivered Before the Glasgow Obstetrical and Gynecologic Society on Nov. 23, 1910. Cloth. Price, 3 shillings 6 pence net. Pp. 83, with 17 illustrations. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1911.

The author fed a great many kittens on various modifications of boiled milk. The result was invariably an early fatal toxemia resembling the toxemia in infants. From this he deduces the conclusion that the condition, both in kittens and infants, is due to boiled milk. He reasons that in the process of boiling the lactic-acid-producing bacteria are killed, while the spores of the common saprophytes are unharmed. He maintains, further, that the presence of lactic acid prevents the growth of the saprophytes; that its absence permits them to grow and elaborate, from the proteids of the food, their toxins, in which he sees the active cause of these toxemias. He logically concludes: "The dirtier the milk, the more important it is that it should not be cooked." The evidence presented by the author is hardly convincing.

HEREDITARY CHARACTERS AND THEIR MODES OF TRANSMISSION. By Charles E. Walker, M.Sc., Director of Research in the Glasgow Cancer Hospital. Cloth. Price, $2.40. Pp. 239, with 21 illustrations. New York: Longmans, Green & Co., 1910.

Recent discoveries and experimental work on cells are applied to problems in heredity with a view to harmonizing the results of the Mendelian experiments with the observations of the biometricians. This is done by showing that some of the cells involved in fertilization, that is, in the production of the new individual, are distributed in an alternative manner, while other parts simply divide in bulk. As a fresh hypothesis regarding the problem of sex, Walker suggests that there are two classes of characters, the individual and the racial, which behave in different manner in regard to inheritance. To each he attributes a distinct mode of transmission. He regards sex as a character which has been kept in the category of individual characters and has been prevented from becoming a racial character by the action of natural selection, in spite of the fact that it is far more intense than a great many of the racial characters. Secondary sexual characters are regarded as racial characters or dependent for their appearance on the presence of one or the other kind of sexual cells—in fact, on the primary sexual character. The book is well written and presents this entire subject fairly and well.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 E. Fifty-Ninth St.

The time has hardly arrived for a disinterested estimate of salvarsan; consequently we must not expect very critical treatment from a work like the present. The authors have attempted to abstract and arrange the available literature, so as to give a good account of the chemistry, pharmacy and therapeutic uses, including administration, of the new remedy. Some carelessness in style is to be regretted. Thus perhaps Hoppe and Wittneben have some occasion for offense at their apparent inclusion among the insane in the following sentence: "Dogs were first injected, subsequently Alt's two assistants, Hoppe and Wittneben, injected themselves with 0.1 gm. each and thus the treatment was extended to trials on lunatics (70)." At the close the authors give some personal communications which they have received and which contain timely warnings as to the danger of hasty conclusions from the results of the early trials of the remedy. The book terminates with a bibliography containing 130 references with partial abstracts of the papers.

EINFÜHRUNG IN DIE MODERNE KINDERHEILKUNDE. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Freiburg i. B. Second Edition. Cloth. Price, 9 marks. Pp. 384, with 15 illustrations. Berlin: Julius Springer, 1910.

Although brief—it contains only 379 pages exclusive of the index—this small text-book is a summary of most of the important work in pediatrics to date. Valuable from cover to cover, it is especially to be commended for its chapter on the artificial feeding of infants. For a book of its size, it elaborates thoroughly the latest German ideas of nutrition and their application to the problem of infant-feeding. In addition to the other methods of feeding, the theory and use of Finkelstein's *Eiweiss-Milch* is considered. The book is well arranged, is concise and can be recommended both to the student and to the practitioner. A translation of the chapter on infant-feeding would be of interest to the American physician, whose knowledge of the German ideas on this subject is, on the whole, extremely vague.

PRINCIPLES OF SURGERY. By N. Senn, M.D., late Professor of Surgery, University of Chicago. Fourth Edition thoroughly revised by E. J. Senn, M.D., and E. Friend, M.D., Instructor in Surgery in Rush Medical College. Price, $5 net. Cloth. Pp. 706, with 231 illustrations. Philadelphia: F. A. Davis Co., 1909.

In the preface, the editors, E. J. Senn and E. Friend, say "It would be rather presumptuous on our part to attempt to improve on the contents of the first, second and third editions of this volume which were made with the unerring accuracy characteristic of the master-mind of the author." The only additions that have been made in this edition are five or six pages dealing very briefly with the Bier method of treatment and with Wright's opsonic theory. Otherwise this edition corresponds practically in every way with the previous or third edition.

LECTURES ON COSMETIC TREATMENT. A Manual for Practitioners. By Dr. Edmund Saalfeld, of Berlin. Translated by J. F. Halls Dally, M.A., M.D., Physician to the St. Marylebone General Dispensary. Cloth. Price, $1.75. Pp. 186, with illustrations. New York: Paul B. Hoeber, 69 East Fifty-ninth Street, 1910.

This little book contains matter not found in works on dermatology, much of which will be useful to the general practitioner, as well as to the dermatologist or to the prac-

titioner who limits his work still further to the pathology of affections comprehended under the title of the book. Except for the suggestion of a great many proprietary preparations, it is a satisfactory and useful book.

A SHORT HANDBOOK OF COSMETICS. By Dr. Max Joseph, Berlin. Third Edition. Authorized English Translation. Cloth. Price, $1. Pp. 86. New York: E. B. Treat & Co., 1910.

This book does not enter into the pathology of affections of the skin, hair and nails, but simply describes their general care by means of hygiene, water, soaps, lotions, ointments, creams, paints, etc., giving formulas for many such preparations, many of which seem to have proprietary names. One receives the impression that this is a book for the laity rather than a guide to the general practitioner or specialist in this branch of dermatology.

Medicolegal

Validity of Statutes Forbidding Advertising for Patients and Special Ability to Treat or Cure Chronic and Incurable Diseases—Chronic and Incurable Defined—Consultation of Medical Works by Boards

The Supreme Court of Arkansas, on the appeal of the State Medical Board of the Arkansas Medical Society vs. McCrary (130 S. W. R. 544), a suit brought by the latter party to enjoin the board from taking action in the matter of revoking his license to practice medicine, reverses a decree granted him, and dismisses his complaint for want of equity. It does not agree with his contention that his license to practice medicine was a property right, the revocation of which was an exercise of judicial power, which could not be vested in any administrative board, but only in the courts, and that to assume to invest this power in the board was to deprive him of his property without due process of law, in violation of the state constitution.

But the most difficult question in the case to determine, the court says, was raised by the contention that subdivision d of section 8 of Act 219, of the Arkansas General Assembly, approved May 6, 1909, which authorizes the board to revoke the license of a physician for "publicly advertising special ability to treat or cure chronic and incurable diseases," is too vague and indefinite to be upheld and enforced. This has given the court the gravest concern, and, after due consideration, the court has decided to uphold the provision. The court's attention was not called to any case in which a statute of similar import has become the subject of judicial determination. Counsel for the complainant relied on cases where statutes authorizing the Board of Medical Examiners to revoke the certificate of a physician for making "grossly improbable statements," or for "unprofessional or dishonorable conduct," have been held void, as being unreasonable, too uncertain and indefinite. Hewitt vs. State Board of Medical Examiners, 148 Cal. 590; Matthews vs. Murphy, 23 Ky. Law Rep. 750; Czarra vs. Board of Medical Supervisors, 25 App. D. C. 443.

On the other hand, there are cases upholding statutes empowering boards to revoke the licenses of physicians, who are guilty of unprofessional and dishonorable conduct, and the licenses have been revoked or not, according to the proof made. State ex rel. Feller vs. Board of Medical Examiners, 34 Minn. 391; McComber vs. State Board of Health, 28 R. I. 3, and the case note to Hewitt vs. State Board of Medical Examiners, 7 Am. & Eng. Ann. Cas. 750, indicate that the weight of authority is to this effect. But this court need not decide that question; for it holds that the language of subdivision d in question is not too uncertain and indefinite to be upheld and enforced. In the case of Thompson vs. Van Lear, 77 Ark. 506, this court held that an act forbidding physicians and surgeons to solicit patients by paid agents was a valid exercise of the police power. For like reason, a statute forbidding a physician to advertise for patients in newspapers would be upheld; and, by analogy, a statute forbidding them to advertise their ability to treat and cure certain named diseases would be a valid exercise of the police power.

While the particular disease against which the prohibition of the statute is directed is not named, as was the case of Kennedy vs. State Board of Registration in Medicine, 145 Mich. 241, yet the words "chronic and incurable," when used with reference to diseases of the body, are not variable, but have a settled and generally accepted meaning. The word "chronic" is the antithesis of "acute," and a chronic and incurable disease is generally understood to be one of long standing, deep-rooted, obstinate, persistent, and unyielding to treatment. On this account those afflicted with such diseases become discouraged, and to an extent desperate, and more easily become the prey of conscienceless and unscrupulous practitioners in the medical profession. Such diseases are specifically named and discussed in standard medical works, and are known to all physicians, who may possess a sufficient knowledge of their profession to practice the art of healing, as chronic and incurable diseases. For the board to consult these standard medical works would not be to use them as evidence as contended by the complainant, but such act would be rather done as an aid to the memory and understanding of the members of the board. See State vs. Wilhite, 132 Iowa 226, 11 Am. & Eng. Ann. Cas. 180, and case note.

Criminal Abortion—Proper Cross-Examination of Expert

The Supreme Court of Arkansas affirms, in Davis vs. State (130 S.W.R. 547), a conviction under the statute of that state which provides that "It shall be unlawful for any one to administer or prescribe any medicine or drugs to any woman with child with intent to produce an abortion or premature delivery of any fetus before the period of quickening." It says that the felony thus created by the statute consists in the criminal act of administering or prescribing medicine to the woman with child with intent to produce an abortion. An abortion is the delivery or expulsion of the human fetus prematurely. There must be an intent to cause the abortion without lawful reason, and this must be accompanied by the unlawful act of administering the drug. In the case of State vs. Reed, 45 Ark. 333, it was held that under this statute the indictment must allege that the criminal act of administering the drug was done "before the period of quickening: that is, the time when the overt act must be committed, and when that act is accompanied by the intent to produce an abortion, the crime is complete. The criminal intent consists in the design to cause an abortion, whether it shall result before or after the period of quickening. The intent becomes criminal by reason of the unlawful design for which the medicine is administered; and when the medicine is administered with this unlawful design, the act becomes criminal without the necessity of any other or further intent. The criminal act under this statute was complete when the drug was administered "before the period of quickening," for the purpose of causing an abortion; that is, with the intent of causing the delivery or expulsion of the human fetus prematurely. The indictment sufficiently made this charge, and it was not necessary also to charge that the drug was administered for the purpose of causing a delivery or expulsion of the human fetus before the period of quickening.

The court also holds that it was proper, on cross-examination, to ask a medical witness the question: "Assuming that a woman had been criminally intimate with a man for quite a while, and that you received information that she was in a family way and that an abortion was to be produced and you were called to see her, and found her suffering with a dilated os, these hemorrhages, and the breasts as mentioned, and you found softening of the lower vagina with pains bearing down, in your opinion, what would be the matter with her? How would you diagnose that?" The court says that, if it should be considered that this question was propounded to the witness for the purpose of obtaining the opinion of a witness on a hypothetical question, it was competent because it was based on facts as proved before the jury. It was also competent for the reason that it consisted of the cross-examination of an opposing witness, and its purpose was to test his competency as an expert, as well as to affect his credibility as a witness.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Dec. 16, 1910

The President, DR. CHARLES B. PARKER, in the Chair

Locomotor Ataxia and Result of Specific Treatment

DR. FRANK BILLINGS, Chicago: In 72 out of 100 selected cases of tabes, the disease occurring between the ages of 40 and 60, the youngest patient being 29 and the oldest 70, the patients admitted having had syphilis. A Wassermann was done on twelve others and was positive in ten. Sixty-nine of the seventy-two remembered the date of infection, and 66 per cent. had their first symptom in from ten to twenty years after luetic invasion. The early symptoms, in order of frequency, were the lightning pains, alteration of knee-jerk, absence of pupillary phenomenon, paresthesias, uncertainty of equilibrium and disturbance of bladder. The lightning pains were present in ninety-six of the patients and in two were absent for years before other symptoms appeared. The Argyll-Robertson pupil was found in ninety-two, and in only one case was the pupillary reflex normal. Pupils were irregular in about half the cases, and at first examination the eye-grounds were normal in all but four. Knee-jerk was absent or weak in eighty-eight patients, and the Achilles reflex was also frequently changed. Bladder disturbance was one of the most notable early symptoms—in some cases there being attacks of the character of crises. Disturbance or retention of urine occurred in sixty cases. Romberg's phenomenon was nearly always present. Visceral crises were present in twenty, and of these thirteen were in the form of gastric crises. It is interesting to note that nine of these had been operated on for calculous cholecystitis. I have kept in touch with forty-three of these patients; five are dead; two are dying of paresis; six are worse, while thirty-two are improved. The treatment consisted of deep intramuscular injections of mercury in all but three. The following injection was generally employed:

R.		gm. or c.c.
Hydrargyri chloridi corrosivi		
Phenolis	āā	gr. xv 1
Sodii chloridi		gr. xxx 2
Aquae destillatae		℥ ij 60

Fifteen or twenty minims were injected deeply into the gluteal muscle for twenty or twenty-five times, within a period of three months. The patient should be kept in bed during the injection treatment, as one can then give an injection every day or every second day. If the patient is up and about, he should take an injection only once or twice a week. Injection courses may be repeated after three or four months, using potassium iodid, grains 10 to 20, three times a day, for two or three weeks in every month in the interim—beginning ten days or two weeks after the last injection. Tobacco and alcohol must be prohibited, and the patient should have massage, light exercise and Frenkel's reeducative movements.

DISCUSSION

DR. J. H. LIGHTY: I am treating five tabetics, but in all of them the Wassermann is negative. I agree with Dr. Billings as to the use of hydrargyrum. Three of my patients have improved under the use of hydrargyrum-cyanid injections. One of these has had tabes for fourteen years, and until the last year has taken hydrargyrum continuously, by the mouth, without results. Lately I have been using it hypodermically, and the patient is improving.

DR. W. B. LAFFER: My results in the treatment of tabes have not been so good as Dr. Billings, as far as the use of hydrargyrum is concerned. I get the best results from hygienic conditions and Frenkel's reeducative movements.

DR. OSCAR T. SCHULTZ: Does a positive Wassermann in a case of tabes mean that there is an active luetic process present? I think not, but believe it may be due to products of nerve tissue degeneration. For this reason, I believe we usually get a positive Wassermann in a case of leprosy.

DR. DEXTER: Out of fifteen sero-diagnoses of tabes lately done there were 65 per cent. of positives.

DR. FRANK BILLINGS: Of twelve of my cases on which the Wassermann was done, ten were positive. It is my experience that a positive Wassermann becomes negative after eighteen to twenty deep injections of hydrargyrum; later it becomes positive again. It is only after repeating such a series of injections two or three times that the Wassermann remains negative. I repeat my series of injections from three to four times or more, if required; giving iodids between series. I have used sodium cacodylate very little in the treatment of tabes, and believe it to be of little value. However, I think that in cases of chorea, some cases of pericarditis with effusion, and certain cases of pleural effusion, it is of value, given in 5 to 10 grain doses, hypodermically, every twenty-four hours.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Jan. 4, 1911

The President, DR. GEORGE DESCHWEINITZ, in the Chair

Salvarsan in Syphilis

DR. JUDSON DALAND: A study of this treatment seems to show that we have in it a remedy with a definite and very distinct influence on syphilitic processes, primary, secondary, tertiary and congenital. There is evidence also that the influence varies in different cases. In cases in which the disease is not definitely localized, the intravenous method of treatment gives the best results. Relapses have occurred in from 5 to 15 per cent. of cases.

Results from the Use of Salvarsan in Syphilis

DR. JAY F. SCHAMBERG: Nineteen patients were treated with salvarsan—eight subcutaneously and eleven intravenously. Of the patients with secondary syphilis treated subcutaneously, one was freed of eruptive manifestations by two injections. In one the eruption has disappeared, but the disease is obviously not cured. In two cases the treatment failed. One late ulcerating syphilid of the lip was cured. Among the cases in which no improvement was noted were one case of tabes. In one case of cerebral syphilis the result was indeterminable. In one case of spinal syphilis improvement was rapid. Of those treated by intravenous injections one paretic patient was not improved, and one improved; in one of tabes improvement was alleged by physician; one case of secondaries was free of recurrence at the end of sixty days; in one case of secondaries there was a suspicion of recurrence after forty days. One patient with semimalignant late secondaries was free of symptoms when last seen. In three cases of late secondaries, mouth lesions healed. In one case a gummatous ulcer of leg healed. In one case, the initial lesion is healed to date. In our experience the intravenous injections have produced a more prompt response to treatment and have exerted a more permanent beneficial effect than the subcutaneous treatment. Ehrlich's latest advice is to inject intravenously and follow this in some days by a subcutaneous injection.

Intravenous injections are usually painless, but are followed, as a rule, by nausea, vomiting and by brief moderate fever. In three patients there was severe pain; in three, moderate, and in three, little or no pain. An infiltrative tumefaction, tender to touch, slowly subsiding in the course of several weeks, developed in practically all of the cases. The results obtained in these cases with salvarsan could, in large part, have been achieved more slowly with mercury. It must be remembered, however, that the successful treatment of syphilis consists in more than the mere effacement of cutaneous and mucous membrane manifestations. Ehrlich and others have shown that salvarsan has a greater spirillicidal value than any known remedy. As to the duration of effect, no one is in a position to speak dogmatically at the present day. Ehrlich's hope of a *therapia sterilisans magna*—a cure at one stroke—is certainly not realized, save possibly in exceptional instances, but those who are disappointed in this must not conclude that a great therapeutic advance has not been made.

DISCUSSION

DR. FRANK CROZER KNOWLES: There are several insurmountable difficulties in the use of salvarsan, except in selected cases, unless the technic can be simplified and the dangers lessened. First, the use of the drug should be preceded by careful examination of the organs and vascular system and of the inner structure of the eyes. Second, the preparation of the drug for injection requires, if the Wechselmann method is used, approximately one hour; if the simpler technic of Lesser is employed, about one-half hour. Third, it is almost essential that patients treated by this drug should be kept in bed for several days to prevent either serious discomfort or complications. Moreover, the remedy is not infallible, as was at first thought. While salvarsan is an important aid in the treatment of syphilis, it will not, in my opinion, displace mercury in the cure of this disease.

DR. H. M. CHRISTIAN: My experience with salvarsan has been limited to about seven cases. The first case was one of tertiary syphilis, with a necrotic gummatous ulcer at the ankle, of about two years' standing. The man was injected in the gluteal region about six weeks ago. The ulcer healed within ten days and the man gained in weight from 15 to 18 pounds. He had been taking mercury and potash for over a year. The next case was one of chancre, which had resisted all ordinary methods. One dose of salvarsan was given. The temperature ran to 103-104 F. for two nights and then dropped to normal. In a week the ulcer was entirely healed. One case of acute roseola with sclerosis of a chancre was not much affected. In a case of papulosquamous eruption, the eruption has almost entirely scaled off. In all these cases the Wassermann reaction was positive.

DR. S. SOLIS COHEN: There is a peculiar psychic effect of salvarsan. A colored man, much emaciated, was admitted to the hospital on account of enlarged liver. There was a perforation of the palate extending through the bone as well as the mucous membrane, and a gumma in the neighborhood of the sternoclavicular articulation which was giving considerable pain. Eight-tenths of a gram of the neutral solution was injected into the muscles of the back. The pain of the gumma disappeared within a couple of days, and all other external evidence of disease disappeared. The Wassermann reaction, however, has remained continuously positive for some twelve weeks. The patient feels well; his appetite has been good and he has gained in weight. A curious fact is that daily and careful examinations of the urine have failed to reveal arsenic. The feces, unfortunately, were not examined.

DR. JUDSON DALAND: Because of a large number of relapses reported in Berlin, it has been decided definitely that the method of administration should be changed from the intramuscular to the intravenous. The intravenous dose for a male adult should not be less than 0.5 gm. More than 1 gm. has been given intravenously without ill effect. It is well to follow the advice of Ehrlich to employ the alkaline solution in all intramuscular injections. The point that Dr. Cohen made regarding the urine being arsenic-free, I cannot explain. Most of the reports show that arsenic remains in the urine for from ten days to two weeks or longer, and has been found in the fecal discharges for about the same length of time. When given intravenously, the arsenic is supposed to disappear from the urine in about four days, but recent observation shows that it persists much longer.

DR. J. F. SCHAMBERG: Regarding the value of this particular remedy, opinion must depend largely on the point of view. Those who were led to expect a cure at one stroke doubtless experience a feeling of disappointment. Those, however, who recognize that we have had introduced into our therapeutic armamentarium a drug of marvellous immediate value, cannot but feel that a great advance has been made. Doubtless, many cases of syphilis will require a repetition of treatment by this drug. At the present time salvarsan has its chief indication in those cases which resist mercury and iodid. It is, perhaps, fortunate that there is a halt in the exuberant enthusiasm excited by Ehrlich's announcement, for this may retard injudicious haste in the use of the drug by unqualified persons and in unsuitable conditions. At present, given a robust individual, with early syphilis, who desires treatment, it seems to me that we are perfectly justified in using it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

January 28

1 *Personal Experience with a Very Restricted Diet (Rice) i Acute Inflammatory Disease of the Skin. L. D. Bulkle New York.
2 Surgical Aspects of Filariasis. C. F. Stokes, U. S. Navy.
3 *Camphor in Large Doses in Pneumonia. L. Weber, New Yor
4 Infant Mortality in New York City. W. C. Phillips.
5 Concealed Chancre of the Male Urethra. C. M. Whitne Boston.
6 *Treatment of Peritonitis Consecutive to Appendicitis. J. Buchanan, Pittsburg, Pa.
7 Inebriety, Its Treatment and Curability. T. D. Crother Hartford, Conn.

1. This article also appeared in the *British Medical Journa* Sept. 24, 1910.

3. **Camphor in Pneumonia.**—Of a freshly prepared solutio 20 per cent. camphor in oil of sweet almonds, Weber injecte two hypodermic syringefuls into the outer circumference the thighs every hour until eight had been given each da representing altogether about 30 grains of camphor a day f four days. The patient recovered promptly, although at fi there could be no doubt but that the patient would short die unless given some pneumococcus serum, or vaccine, chemical antitoxin which would help her to overcome an int tion against which her constitution could not prevail.

6. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1837.

Boston Medical and Surgical Journal

January 26

8 Herbert Leslie Burrell, M.D. (1856-1910). In Memo E. H. Bradford, F. S. Watson and G. H. Monks, Bosto
9 Time and Method for Prostatectomy. B. Tenney, Boston
10 Medical Problems of Alcoholism. I. H. Neff, Foxboro Mass.

New York Medical Journal

January 28

11 *Nervous Affections and Adjustments of the Eyes. G Stevens, New York.
12 *Carcinoma of the Ileum with Unusual Symptoms. A. Ba and J. P. Grant, New York.
13 Dietary Studies in Institutions for Tuberculous Patient the State of Colorado. C. D. Spivak, Denver.
14 Treatment of Septic Endometritis. H. Weil, New York.
15 *Direct Lavage of the Duodenum. M. H. Gross, New Yo
16 When Sedatives are Tonic. W. F. Waugh, Chicago.
17 *Roentgen-Ray Therapy in Malignant Lesions. J. Jicinsky, Cedar Rapids, Iowa.
18 Typhoid Complicated by Double Parotiditis. R. E. Cou Brooklyn, N. Y.
19 Abuse of Urethral Instrumentation. G. Greenberg, New

11. **Nervous Affections and the Eyes.**—Attention has quently been directed by Stevens to the important rel which exists between the habitual pose of the body, as as the muscular expression of the face, and the peculi in the adjustment of the eyes within the orbits. In this he considers two forms of chronic spasm, one affectin muscles of the neck, the other those of the face, whi their established and typical forms cannot be said to be ject to the influence of ordinary forms of medical treat and to which both surgical and electrotherapeutic trea have most frequently been directed in vain. Stevens these patients through the eyes, and he reports several Notable relief in each case not only followed, but was the result of the more or less complete correction of the justments of the eyes. It is reasonable, then, he sa attribute to bad adjustments the extreme conditions of He believes that such spasmodic conditions as these a more direct sense, the result of habitual excessive ten the affected groups of muscles, this excessive tension from certain habitual body poses or from certain facial sions, all in the interest of compensation for, or correct the unfavorable adjustment of the eyes.

12. **Carcinoma of the Ileum.**—The report of the case the author's observation is of interest for the fo reasons: (1) Whether an attack of typhoid (the ulcera which is mostly in the ileum) may have had to do w

development of carcinoma at some local site of cicatrix formation of the healed typhoid ulcer; (2) the fact that there had been no vomiting in the course of the ulcer growth, this being possibly of eighteen months' duration, and being particularly of interest when the degree of peristalsis present in the case so strongly suggested a marked stenosis in the small intestine, and the fact that the first vomiting spell was fecal in type; (3) the marked degree of visible peristalsis which could be traced from the ileum up and which required the additional force of the stomach to drive the contents in the small intestine through the strictured ileum; the good condition of the general body, considering that the cancer was far advanced; (4) the operation of lateral anastomosis of the middle ileum (which is very movable) with the ascending colon (which is fixed) in such a way as to have an anchored receiving part of the union to which a very movable viscus (ileum) could accommodate itself as may be called for in its function, rather than to have joined the ileum to the sigmoid and have had two long mesenteries to both parts of the union, which would have increased the danger of twists or kinks at the site of union and would have brought about an abnormal position of the parts.

15. Abstracted in THE JOURNAL, April 23, 1910, p. 1365.

17. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1583.

Ohio State Medical Journal, Columbus

January

*Instruments Used by Lt.-Col. Henry Smith, I. M. S., and Some Points in Technic in His Method of Radical Extraction of Cataract. D. T. Vail, Cincinnati.
Comparison of the Old Cataract Operation with the New. C. F. Clark, Columbus.
Joint Removal of Capsule and Lens. R. Sattler, Cincinnati.
*Prostatectomy. W. D. Hamilton, Columbus.
*Serotherapy in Epidemic Cerebrospinal Meningitis. W. S. Chase, Akron.
Arthritis of Gonorrheal Origin and the Use of Gonococcus Vaccine. F. A. Ockley, Cleveland.
Carbohydrate Idiosyncrasy in Infants. A. Ramsey, Cincinnati.

0 and 23. Abstracted in THE JOURNAL, June 4, 1910, pp. 1895 and 1897.

. Abstracted in THE JOURNAL, July 16, 1910, p. 246.

Washington Medical Annals

January

Review in Ophthalmology. R. S. Lamb, Washington, D. C.
*Kidney Displacements, Congenital and Acquired, as Etiologic Factors in Dystocia. P. Willson, Washington, D. C.
*Aneurysms in the Army Medical Museum. D. S. Lamb, Washington, D. C.
Specimens of Handwriting Before and After Treatment by Psychoanalytic Measures Followed by Re-Education. T. A. Williams, Washington, D. C.
Epithelioma of the Larynx. C. W. Richardson, Washington, D. C.

Kidney Displacements.—Only two cases of dystocia due collapse of a floating kidney into the pelvis in front of pregnant uterus were found by Willson in the literature. mothers recovered and both infants were lost. One was delivered by version and extraction, but the kidney led up the pelvis that the delivery of the after-coming was unduly delayed and fatal asphyxia resulted. The child was delivered with Tarnier's basiotribe. The case ted by the author makes the third on record. The nt was a primapara, aged 21. She gave a history of ks of acute pain in the right side, followed frequently e passage of a large quantity of pale urine. The antem examination disclosed no abnormalities, except a contraction of the transverse diameters of the pelvis. amination made after three hours of hard second-stage disclosed the cervix nearly dilated, and the head ngaged at the brim. The concavity of the sacrum was ed by a mass of the shape, size and consistency of the kidney. The kidney was freely movable, and during nation by the physician it was forced up over the brim pelvis. The woman was then delivered by forceps. iately following delivery, and a few days later, at the of repairing a vaginal laceration, the kidney could be put freely movable in the right abdomen and capable of replaced in its normal position. The baby weighed ands, and was born alive and well

29. **Aneurysms in the Army Medical Museum.**—There are 116 specimens of aneurysm in the Army Medical Museum. All those received from the army are from men, making the proportion of men to women 8.4 to 1.0; the proportion usually stated is 7 to 1. Of the 116 specimens, seventy-two are of the arch of the aorta, seven of the thoracic aorta, fourteen of the abdominal aorta and the remainder divided up among many other arteries. Of the ascending, transverse and descending parts of the arch, the proportion is seven, four and two. Some specimens show two and even three aneurysms. The ages at death were between 24 and 94; sixty patients were between 30 and 60 years of age. The cause of death was stated in only ten cases, two of which were gunshot wounds, and the others were from some sort of strain. In eighty-three cases there was definite statement that the blood-vessel was diseased, or the specimen showed that fact; syphilis was noted in eleven cases, probably in others also, though not stated. The aneurysm was sacculated in seventy-seven, fusiform in twenty-eight, and in ten it was dissecting; there was aneurysmal varix, and one varicose aneurysm. In at least seventy-six cases the aneurysms ruptured, in five of these a diffuse aneurysm was thus formed. In two cases the aneurysm underwent suppuration. In many cases the patient died of some lesion supervening on the aneurysm or not at all connected with it; six persons died of pneumonia. The heart was enlarged in only twenty-two cases, and in some of these the enlargement was from valvular disease. Treatment varied. Rest was useful in some cases. Of the various drugs, potassium iodid seemed to be of use. Pain was controlled by morphia. Venesection, compression, coagulating injections, wire introduction, electrolysis and ligation had been employed in the various cases.

Vermont Medical Monthly, Burlington

January

32 Pathology of Cranial Injuries. B. H. Stone, Burlington.
33 Acute Epidemic Paralysis (Poliomyelitis). C. K. Johnson, Burlington.
34 Bismuth-Vaselin Paste in Suppurating Tracts. L. Allen, Burlington.
35 Treatment of Eclampsia. E. J. Melville, St. Albans.

Chicago Medical Recorder

January

36 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
37 Emergency Surgery and Surgical Emergencies. W. H. Allport, Chicago.
38 Open-Air Schools. C. Hedger, Chicago.

Journal of Infectious Diseases, Chicago

January

39 *A Method for the Bacteriologic Standardization of Disinfectants. J. F. Anderson and T. B. McClintic, Washington, D. C.
40 Application of Certain Laws of Physical Chemistry in the Standardization of Disinfectants. E. B. Phelps, Boston, Mass.
41 *Presence of Suppuration in the Tubercles of Leprosy. F. B. Gurd, New Orleans.
42 Susceptibility to Plague of the Weasel, the Chipmunk and the Pocket Gopher. G. W. McCoy, San Francisco.
43 *Effect of Vacuum Desiccation on the Virus of Rabies. D. L. Harris and L. F. Shackell, St. Louis.
44 *Administration of Diphtheria Toxin in a Collodion Sac. E. C. L. Miller, Detroit.
45 Biologic Reactions of the Vegetable Proteins. H. G. Wells and T. B. Osborne, Chicago.

39. Abstracted in THE JOURNAL, Sept. 17, 1910, p. 1043.

41. **Suppuration in the Tubercles of Leprosy.**—That many or, perhaps, most of the abscess formations, suppurative arthritides, and other purulent processes occurring in leprous patients are due to the invasion of tissues whose resistance is lowered by one or other of the ordinary pyogenic bacteria is undoubtedly correct; that, however, such a condition is not a necessity, a case which came under Gurd's observation proves. The patient had suffered from leprosy between two and three years. He was suffering from malaise, anorexia and other evidence of a constitutional disturbance. The tubercles situated over the face and hands were much swollen and very red and tender; one swelling over the malar prominence on the left side had ruptured spontaneously and was discharging pus. A tubercle over the posterior surface of the left wrist was incised, resulting in the expulsion of about 25 c.c. of a

yellowish-green purulent material. The material was planted on ordinary and several special culture media, both aerobically and anaerobically, without the development of a single colony. Smears were made and stained by Giemsa's method, carbol-fuchsin with acid decolorization, and by Gram's. The cellular elements with the polychrome stain consisted almost exclusively of polymorphonuclear leukocytes, together with a small number of large vesicular nuclei, practically devoid of protoplasm.

Leprosy bacilli were present in very large numbers. A few well-formed aggregations or globi were found, but for the most part the bacilli were lying singly or in small groups. A much larger percentage than usual appeared broken up in the form of granules. Certain numbers of pus cells contained a few bacilli but, in general, the organisms were free. Absolutely no other bacteria could be demonstrated in any preparation. In addition to the above case, in which comparatively large pus collections were present, the routine examination by Gurd of a number of leprosy nodules derived during life and at necropsy has shown that polymorphonuclear leukocytes may be found almost constantly in small numbers, although in no case have definite foci of such cells been seen.

43. **Vacuum Desiccation and the Virus of Rabies.**—The essential feature of Shackell's method is that the material is kept solidly frozen during the process of drying. Animal tissues when dried by this method are preserved intact, show no shrinkage, are porous, and resist chemical changes and deterioration. The authors have found that, by using Shackell's method of desiccation, brains and cords may be desiccated *in toto* without destruction of virulence. The time required for complete extraction of water is about twenty-four to thirty-six hours. A number of brains were so treated and the infectivity of all was preserved. After the completion of desiccation, these brains were placed in an ordinary desiccating jar over sulphuric acid, and left continually exposed to light at the ordinary room temperature. One brain has remained infective for four months. The only precaution taken was to guard against moisture. Material thus dried is like chalk, and is easily pulverized. It is, however, very hygroscopic, and, after a few hours' exposure to the air, becomes leathery and rapidly loses its infectivity. Experiments are now being carried on to compare quantitatively the virulence of desiccated cord with that of fresh cords, after the method described by Harvey and McKendick.

44. **Administering Diphtheria Toxin in Collodion Sac.**—In his experimental work Miller found that a guinea-pig may be killed by introducing a collodion sac containing diphtheria toxin into its peritoneal cavity; the slow absorption of toxin from the sac corresponding closely to the absorption of toxin from the false membrane in a case of diphtheria. To save the life of a guinea-pig by the administration of antitoxin after the introduction of a sac, requires an enormous dose or the long-continued administration of moderate doses. The reason for this seems to be that the antitoxin administered subcutaneously, being a foreign protein, is subjected to rapid destruction of the tissues, while the toxin protected from such destruction by the sac continues to diffuse out and kills the animal after the protective power of the antitoxin has disappeared. The essential difference between these sac tests and the administration of antitoxin in diphtheria appears to be that in these tests the antitoxin has no influence on the supply of toxin, while in diphtheria the administration of antitoxin is followed by destruction of the membrane, and consequently the supply of toxin ceases and the patient recovers. This power of antidiphtheritic serum to destroy the membrane is probably as important as its antitoxic action but, unfortunately, we have no means of measuring it. When used as a prophylactic, low potency serums protect for a longer time than those of high potency. Antitoxin protects until it is destroyed by the tissues. The more proteid it is combined with, the longer will its destruction be delayed. Diphtheria toxin in a collodion sac undergoes some change by which the sac, although containing less toxin than in the beginning, is able to kill a second guinea-pig in half the time required to kill the first. This difference may be analogous to the short incubation period of tetanus toxin from the blood of an animal compared with the incubation period of tetanus toxin produced by the growth of the germs *in vitro*. It may also account for certain very rapidly fatal cases of diphtheria.

Southern California Practitioner, Los Angeles

January

46 Submaxillary Infection. Ludwig's Angina. W. W. Roblee, Riverside, Cal.
47 Present Status of Gastric Carcinoma. W. P. Millspaugh, Los Angeles.
48 Infections in Minor Surgery. W. L. Huggins Los Angeles.
49 The Seventh Year of the Barlow Sanatorium, Los Angeles, Cal. R. L. Cunningham, Los Angeles.
50 Tonsillotomy vs. Tonsillectomy, with Technic. C. H. Montgomery, Los Angeles.
51 The German Clinics. H. H. Lissner, Los Angeles.
52 The Finsen Institute, Copenhagen, in 1910. A. Soiland, Los Angeles.
53 Atonic and Spastic Constipation. H. S. Gordon, Santa Ana, Cal.
54 Alcoholism as a Cause of Disease. H. A. Hughes, Phoenix, Ariz.
55 Los Angeles Medicine. W. Lindley, Los Angeles.

American Journal of the Medical Sciences, Philadelphia

January

56 *Paroxysmal Pulmonary Edema and Its Treatment. A. Stengel, Philadelphia.
57 Control and Treatment of Hypertension and Arteriosclerosis. H. L. Elsner, Syracuse, N. Y.
58 *The Tonic Use of Digitalis. E. Schmoll, San Francisco.
59 Treatment of Typhoid. F. S. Meara, New York.
60 Cholera from a Modern Standpoint. A. H. Doty, New York.
61 *Relation of Disease of the Gall-Bladder and Biliary Ducts to the Gastric Functions. J. A. Lichty, Pittsburg.
62 *The Dyspepsia of Old Age. G. M. Niles, Atlanta, Ga.
63 *Diagnosis of Tuberculosis of the Bronchial Glands. H. F. Stoll, Hartford, Conn.
64 Pellagra: Two Cases with Necropsy. P. V. Anderson, Morgantown, N. C., and W. G. Spiller, Philadelphia.
65 *Influence of the Trendelenburg Position on the Quantity of Urine Excreted During Anesthesia. J. W. Bovée, Washington, D. C.
66 Multiple Abscesses of the Nasal Submucosa in a Case of Leukemia. J. P. Tunis, Philadelphia.

56. **Paroxysmal Pulmonary Edema.**—The distinguishing features, clinically speaking, of the condition referred to by Stengel, are its sudden onset, usually with slight provocation; the evidence of intense pulmonary edema; the expectoration of quantities of frothy and blood-stained serum; and the repetition of such attacks without intercurrent complicating conditions. These features distinguish this condition from certain other forms of acute pulmonary edema, which, during their height, may not be especially different in clinical manifestations. The seizures, as a rule, come on in the evening or after the patient has gone to bed. He may awake from a profound sleep with an oppressive cough, followed by the symptoms described. In some cases, vague apprehensions or uncontrollable nervous feelings may precede the attack, but these usually occur after a repetition of the seizures has made the patient familiar with their character and fearful of their recurrence. Various kinds of excitement, physical or mental, may provoke the attacks; but in a large proportion of cases there is no such cause. Repeated attacks of the same character may occur at intervals of days or weeks during a long period of time. Between attacks, the patient may be perfectly well, or, more frequently, may give evidence of some inadequacy of cardiac compensation. In the cases which have terminated fatally, the final result has usually been due to increasing cardiac decompensation rather than to the sudden effect of an attack of pulmonary edema. Morphin, atropin, chloroform, nitroglycerin and venesection are employed to control the attacks. After the first stage of the attack has been controlled by an injection of morphin and atropin, it is desirable to make use of cardiac stimulants to revive the power of the left ventricle and to promote vasodilatation, if this be possible. For these purposes injections of strychnin, digitalin, and nitroglycerin may be employed, and aromatic spirits of ammonia or brandy may be given by the mouth if the patient is able to swallow. The after-treatment in cases in which one or more attacks have occurred consists in strict regulation of the daily life of the patient to avoid fatigue, excitement, cold and physical strains, and some care of the diet so as to prevent overloading of the stomach and superalimentation, particularly at the evening meal. Caffein may be particularly useful at this time, but strophanthus, digitalis or nitroglycerin may be desirable.

58. **Tonic Use of Digitalis.**—Schmoll holds that digitalis acts as a specific on the tonicity of the heart muscle, and is indicated whenever symptoms point to a failure of that function. Its tonic effects are best secured with a dose equal to the amount excreted—about 0.1 gram a day—though doses of 0.15 and 0.2 a day sometimes can be taken for weeks without the appearance of cumulative effects. Loss of tonicity is shown first by general symptoms—râles over the bases of the lungs, enlargement of the liver, and slight edema of the ankles. Digitalis is indicated, therefore, whenever these symptoms appear, and especially, he states, in cases in which the patient, after recovering from a severe break in compensation, shows a tendency to fail on the slightest exertion.

61. **Disease of the Gall-Bladder and Biliary Ducts.**—In 156 of 249 patients in whom the diagnosis of some disease of the gall-bladder and ducts has been made, Lichty made gastric analysis with the usual methods employed clinically to determine the secretory and motor condition of the stomach; eighty-four (54 per cent.) had hyperacidity; thirty-one (20 per cent.) had subacidity; and forty-one (26 per cent.) had normal secretion. The motor function, so far as could be determined, was normal in about the same percentage of cases. Of the 249 patients on whom these observations were made, fifty-one came to operation; thirty of these were subjected to gastric analyses; sixteen (about 53 per cent.) had hyperacidity; eight (about 26 per cent.) had subacidity; and six (about 20 per cent.) had normal acidity. In a number of the 249 cases the gastric analyses were made because there were definite symptoms of gastric disturbance associated with the gall-bladder symptoms, but in some it was made because the gastric symptoms were the only ones present, and later, when treatment did not produce the desired results, the abdomen was opened and either gall-stones were found, or adhesions from a local peritonitis, due to gall-bladder infection, had occurred between the gall-bladder and duodenum, between the gall-bladder and stomach, or both. In several cases both gall-stones and gastric ulcer were found. From these figures it would seem that about 75 per cent. of all gall-bladder cases may be associated with a disturbance of gastric secretion, and of this 75 per cent., two-thirds have hyperchlorhydria. Gastric motility, as well as gastric secretion, was disturbed in about the same proportion of cases.

62. **Dyspepsia of Old Age.**—The senile dyspepsias are divided into two classes by Niles, the hyperkoric and the akoric. In the first, or hyperkoric cases, the degeneration and insufficiency of the digestive organs simply keep pace with the rest of the body. With decreased muscular activity there are decreased assimilative powers, and the patient finds that articles of food now disagree which were formerly digested with ease. The second class, or akoric dyspepsia, is generally found in obese old people, or in those in whom the mental edge, perhaps once sharp and bright, has been either blunted or worn off. The normal tonicity of the stomach gives place to relaxation, its walls become flabby, and more food is required to give the sensation of comfortable fulness. Pyloric insufficiency is generally present, while atonic constipation supervenes almost as a matter of course. Hunger cannot be satisfied, elimination is imperfect, and the intestines veer between obstinate constipation and lienteric diarrhea. In the hyperkoric dyspepsia the food should contain a minimum of non-digestible, non-nutritious elements and lime salts. Most of the predigested foods on the market are unavailable on account of their high percentage of alcohol, but the meat juices, peptonized milk, malted milk, lactone buttermilk, malt extracts, eggs, and the farinaceous foods may usually be given, to which, if deemed advisable, the gastric and pancreatic ferments may be added. The proportion of cellulose, which should properly enter into the dietary of adults so as to promote peristaltic activity, may be omitted from consideration, and all foods should be given in the most concentrated form, and in the shape most easily assimilated. The management of the akoric type of senile dyspepsia will call for infinite tact and discretion. Cathartics should be used with caution, and gentle methods for cleansing the bowels should be combined with measures to overcome subsequent weakness.

63. **Tuberculosis of the Bronchial Glands.**—Tuberculosis of the bronchial glands, according to Stoll, often exists as a distinct clinical entity, capable of diagnosis. The presence of dilated veins over the anterior aspect of the chest, spinalgia, interscapular or vertebral dulness, and vertebral bronchophony speak strongly for enlarged bronchial glands, the tuberculous nature of which is perhaps assured when in addition to the above the individual is under weight and has a paroxysmal cough and the symptoms of a tuberculous toxemia. The recognition of the disease, while it is still limited to the bronchial glands, is of the utmost importance, as we know the most salutary results of tuberculin therapy are obtained in glandular tuberculosis.

65. **Urine Excreted During Anesthesia.**—If it can be concluded from Bovée's observations that the renal function is greatly lessened while the patient is in the Trendelenburg position, then the danger of that position is at once appreciated. In renal inefficiency, and cardiac and arterial lesions, it seems that the use of the Trendelenburg position introduces a special element of danger, and this less markedly when ether is used than when chloroform is employed as the anesthetic.

Southern Medical Journal, Nashville

January

67 *Study of Human and Bovine Bacilli, Isolated from Eleven Consecutive Cases of Cervical Adenitis. W. Litterer, Nashville.
68 Advance of Surgery. E. D. Martin, New Orleans, La.
69 Education of the Specialist. E. C. Ellett, Memphis, Tenn.
70 Treatment of Gastric and Duodenal Ulcers and Hyperchlorhydria. E. B. Block, Atlanta, Ga.
71 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
72 *The Nausea of Pregnancy. G. H. Fonde, Mobile, Ala.
73 The Wassermann Reaction. J. O. Rush, Mobile, Ala.
74 Salvarsan in the Hospitals of Paris. A. L. Fowler, Atlanta, Ga.
75 First Measures Needed for Child Welfare on the Part of Municipal and Educational Authorities in the South. D. S. Hill, Nashville.

67. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

72. Abstracted in THE JOURNAL, May 28, 1910, p. 1817.

New York State Journal of Medicine

January

76 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
77 Is There Such a Disease as Neurasthenia? W. Browning, Brooklyn.
78 Psychology of Tuberculosis. W. H. Kidder, Oswego.
79 *Care and Treatment of Epileptics. W. T. Shanahan, Sonyea.
80 Importance of an Early Diagnosis in Abnormal Pelvic Conditions. M. Gage-Day, Kingston.
81 *The Vein Sign in Abdominal Inflammations. W. W. Skinner, Geneva.
82 Old Truths About Infant Feeding Worth Repeating. C. G. Leo-Wolf, Niagara Falls.
83 Fibroid Uterus Didelphys. J. B. Conant, Amsterdam.
84 *Use of Antitoxin in Asthma. H. R. Parker, Barneveld.
85 Gunshot Wounds of the Abdomen. T. Wright, Buffalo.
86 Importance of Recognition and Treatment of Adenoids. A. H. Paine, Caledonia.
87 Relation of the General Practitioner to Refraction of the Eye. T. H. Farrell, Utica.
88 Typhoid Resulting in Death from Unusual Complication with Masked Symptoms. A. B. Sullivan, Liberty.

76. Also published in *St. Paul Medical Journal*, January, 1910.

79. **Care and Treatment of Epileptics.**—It is Shanahan's opinion that in brain tumor and traumatic cases of epilepsy, patients who are operated on early, before several seizures have occurred to produce permanent damage, may be benefited in many instances. Careful after-treatment with sedation when indicated is of the utmost importance. But, he says, the epileptic is too frequently a degenerate with an abnormal nervous system which cannot be readjusted and made anew by operative procedure. The congenital defect is beyond renovation by surgical skill. A regular occupation, preferably out of doors, is essential for the able-bodied epileptic. Special instruction in the ordinary school branches and especially in manual training, should be arranged for the younger patients. This is important to inculcate discipline as well as for the knowledge acquired. There is no specific medication to be used in epilepsy, although the proper use of the bromin preparations approaches this in selected cases. Bromids should be given early and continued over a period of years. If a maximum continued dose of from 75 to 90 grains during the twenty-four hours does not control the seizures in an adult, it is not wise, in the average case, to push the drug beyond this point. The elimination of sodium chlorid

from the diet aids materially in producing the full effect of the bromids. When associated cardiovascular conditions exist, digitalis, strophanthus, amyl nitrate, nitroglycerin, etc., prove of value. Shanahan finds that strychnin can be used without fear as a stimulant or tonic when indicated. Investigators have claimed much benefit resulting from the giving of calcium lactate, but a series of patients at Craig Colony to whom it was administered, failed to show much change, except one boy whose condition did improve some. The treatment of serial seizures, status epilepticus and the various mental disorders accompanying epilepsy is of great importance. Avoidance of constipation, proper exercise, a carefully regulated diet and frequent bathing are of the utmost value as prophylactic measures.

When status epilepticus is once established, the gastro-intestinal tract must be emptied thoroughly by cleansing enemata and by stomach tube. Then chloral or amylene hydrate by enema should be used judiciously to control the convulsions. The bromids are of but little value in this condition. Chloroform may be given in the early stage until some chloral has been absorbed. Lumbar puncture to relieve this supposed increased intracranial tension may be used in severe cases. Venesection is used in plethoric individuals. Cold sponges or packs are of great value to control the temperature which may be elevated to 107 or 108 F. For stimulation when required, Shanahan has found enemata of strong black coffee and hypodermatic injections of brandy and aromatic spirits of ammonia to act very well. After the convulsions have ceased, a supportive diet and careful nursing are all-important. He warns that pneumonia and bed sores must be watched for. For the mental disturbances close supervision, nourishing food, due attention to the emunctories and hydrotherapy are sufficient. The diet in epilepsy may be fairly liberal, avoiding an excess of meats and all pastries, sweets, etc. Some patients do better without any meat; cooked cabbage and cauliflower are to be avoided. The food must be well masticated, not bolted. For chronic cases in which there is an organic basis, the individual should be placed in the special institution where with his fellow sufferers he may lead as cheerful an existence as his condition will permit. He can have regular and congenial occupation, and recreation with a suitably arranged simple life with avoidance of all undue excitement. Epilepsy is essentially a chronic disorder, consequently treatment must be continued over a long period of years and in all instances a closely regulated mode of living must be maintained throughout the remainder of life. Shanahan presents a few charts which illustrate clearly how many defectives propagate and why their marrying should be systematically discouraged.

81. **Vein Sign in Abdominal Inflammations.**—In one of his earlier operations for appendicitis Skinner observed, in making the incision near McBurney's point, that the subcutaneous and deeper veins presented a dark and swollen appearance. In the next case, he was aided in making the diagnosis in the presence of rather obscure symptoms of general abdominal pain, vomiting, and little, if any, localized muscular rigidity, by carefully observing the conditions of the superficial abdominal veins. Since then he has never attempted any operative procedure on the appendix, or indeed in any inflammatory intra-abdominal conditions, without subjecting the subcutaneous veins to the most careful scrutiny in a good light with the skin gently stretched in successive areas. Repeated and careful observations, extending now over a period of more than nineteen years, have convinced Skinner that this venous darkening furnishes one of the most valuable and accurate localizing signs in intra-abdominal inflammation; a sign incapable of stimulation and independent in its records and manifestations alike of systemic, nervous and psychic conditions. He has also noted this sign in ulcerative conditions of the sigmoid flexure; in inflammations of the Fallopian tube and of other tissues and structures enclosed in its broad ligament; in cases of septic collections or pus-pools in Douglas' cul-de-sac; and in acute inflammations of the pelvis of the kidney or ureter.

84. **Antitoxin in Asthma.**—Although convinced that antitoxin gives some positive relief in asthma, Parker also feels that there is a large psychical element involved, and he has ceased to use antitoxin.

Yale Medical Journal, New Haven

December

89 Infantile Paralysis. J. G. Stanton, New London, Conn.
90 Id. L. F. Wheatley, Meriden, Conn.
91 A Case of Irregular Micturition. J. L. Buttner, New Haven, Conn.
92 Treatment of Infection Following Abortion, Miscarriage and Labor. C. A. Monagan, Waterbury, Conn.
93 Surgical Treatment of Gastric and Duodenal Ulcers. E. J. McKnight, Hartford, Conn.
94 Treatment of Fractures. G. W. Hawley, Bridgeport, Conn.
95 Principles of Intracranial Surgery. W. F. Verdi, New Haven.

Laryngoscope, St. Louis

January

96 Surgical Consideration of Tumors of the Larynx. J. F. Erdmann, New York.
97 *Analgesia of the Larynx by Alcohol Injection of the Internal Branch of the Superior Laryngeal Nerve. A. Lewy, Chicago.
98 Non-Suppurative Ethmoiditis. G. P. L. Marquis, Chicago.
99 Nasal Polypi. C. C. McCullough, Fort William, Ontario.
100 General Anesthesia in Operations in the Pharyngeal Region and About the Neck. M. Metzenbaum, Cleveland, Ohio.
101 A Modified Aural Speculum Especially Adapted for Incision of the External Canal. D. C. Smyth, Boston.

97. **Analgesia of Larynx by Alcohol Injection.**—Lewy describes a practical method for the relief of the pains in some cases of tuberculosis of the larynx which he has employed successfully in three cases. The injection is made directly through the skin of the neck. From 0.5 to 2 c.c. of 75 per cent. alcohol (with or without 1 per cent. cocain), warmed a little above body temperature is injected at a sitting. The patient's head is inclined to the side opposite the one to be injected; the skin, previously shaved, if necessary, is cleansed with alcohol; the operator's left hand grasps the larynx to steady it and hold it prominently under the skin of the side to be injected, in such a way that the thumb is on the uninjected side while the left index-finger seeks the comparatively tender point where the internal branch of the superior laryngeal nerve penetrates the thyrohyoid membrane, a point about half-way between the upper border of the thyroid cartilage and the hyoid bone, and about a centimeter in front of (mesially from) the superior cornu of the thyroid cartilage. The index-finger is held firmly in place while the needle is inserted at the point marked by the center of the nail to a depth of 1 to 1.5 cm. perpendicularly to the surface. If the nerve has been accurately located, this insertion will cause a pain radiating characteristically toward the ear. However, the injection may be made in this locality, drop by drop (after the pain caused by the insertion subsides), until the original pain ceases or until the full amount (2 c.c.) is used. The injection may be repeated next day, if necessary. In Lewy's cases there was no loss of the cough reflex or aspiration of food, which could be taken with comfort following the injection. An ordinary hypodermic syringe may be used, but a special obturator needle is perhaps preferable. No after-treatment is required. The puncture may be sealed with collodion if desired.

St. Paul Medical Journal

January

102 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
103 Ophthalmic Migraine. C. E. Riggs, St. Paul.
104 The Climate of Minnesota. H. L. Taylor, St. Paul.

102. Also published in *New York State Journal of Medicine*, January, 1910.

Medical Fortnightly, St. Louis

January 10

105 So-Called Chronic Rheumatism—Chronic Fibrositis: Treatment. M. Packard.
106 Salvarsan in Syphilis. J. L. Boehm, St. Louis.
107 Cause and Cure of Ingrowing Toe-Nail. C. C. Miller, Chicago.
108 Surgical Eponyms. M. Hagen, Chicago.

Alabama Medical Journal, Birmingham

December

109 Cesarean Section: Report of Seven Cases with Loss of Mother or Child. E. M. Prince, Birmingham.
110 Bismuth Paste in Thoracic Empyema. G. A. Hogan, Birmingham.
111 Home Treatment of Tuberculosis and Use of Tuberculin. C. M. Nice, Birmingham.
112 Ovarian Cystadenoma Weighing Seventy Pounds—Removal and Recovery. E. M. Robinson, Birmingham.

Albany Medical Annals

January

113 Public Health and Municipal Authorities. E. H. Porter, New York.
114 Public Health and the Municipal Authorities from the Standpoint of the Municipal Officer. C. C. Duryee, Schenectady, N. Y.
115 *Management of Pneumonia. R. W. Wilcox, New York.

115. **Management of Pneumonia.**—Success in the management of pneumonia, according to Wilcox, depends on the following points: 1. It is as important to know what sort of an individual has the disease as what disease he is suffering from. 2. No one has ever treated a "case of pneumonia" but a person suffering from this disease. 3. All therapeutic measures must be considered broadly as to method, remedy, disease and patient. Taking all into consideration, the treatment of pneumonia is especially satisfactory. Wilcox relies on: (1) The continuous, persistent and generous administration of creosote carbonate; (2) careful adjustment of mechanical conditions; (3) thorough evacuation of toxins by all possible means; (4) supplemental oxygen by inhalation, when required; (5) liquid diet until all physical signs disappear.

Interstate Medical Journal, St. Louis

January

116 Present Status of the Noguchi Method of Serodiagnosis of Syphilis. H. Noguchi, New York.
117 Means of Finding the *Spirochæta Pallida* by the India-Ink Method. J. S. Cohn, Chicago.
118 History and Methods of Application of Salvarsan. L. H. Marks, Frankfort, Germany.
119 Syphilis of the Nervous System. E. Jones, Toronto.
120 Treatment of Syphilis with Salvarsan. A. L. Wolbarst, New York.
121 Recent Progress in Treatment of Syphilis. H. Hallopeau, Paris.
122 Giant Cells in Syphilis. J. A. Fordyce, New York.
123 Salvarsan. B. C. Corbus, Chicago.
124 The Public and Syphilis. I. Dyer, New Orleans.
125 Syphilis and Pulmonary Tuberculosis. R. H. Babcock, Chicago.
126 Syphilis as a Cause of Pauperism. A. Ravogli, Cincinnati.
127 Sanitary Supervision of Prostitutes. P. A. Morrow, New York.
128 The Scaphoid Scapula Syndrome; Its Connection with Syphilis in the Ascendants. W. W. Graves, St. Louis.

Pennsylvania Medical Journal, Athens

January

129 Venereal Affections Considered as Epidemic Diseases. J. F. Schamberg, Philadelphia.
130 Prophylaxis of Venereal Disease. M. F. Gates, Philadelphia.
131 *Prophylaxis of Gonorrhea. M. F. Gates, Philadelphia.
132 *Abortive Treatment of Gonorrhea. M. Brooks, Philadelphia.
133 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg.
134 *Diagnosis and Treatment of Chronic Gonorrhea. T. L. Disque, Pittsburg.
135 *Clinical Experience with the Antigonococcus Serum and Vaccines in Gonorrhea and Its Complications. W. H. MacKinney, Philadelphia.
136 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg.
137 *Enuresis from Thyroid Insufficiency. E. B. McCready, Pittsburg.
138 Herpes Zoster Ophthalmicus. E. E. Wible, Pittsburg.
139 *Method of Preserving Eyes which Are Usually Removed. E. L. Jones, Cumberland, Mo.

131, 132, 133, 134, 135 and 136. Abstracted in THE JOURNAL, Nov. 19, 1910, pp. 1838 and 1839.

137. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1671.

139. **Method of Preserving Eyes.**—Jones describes the method of injecting cyanid of mercury, 1 in 1,500, first advocated by Darier in 1903.

Louisville Monthly Journal

January

140 Acute Pulmonary Edema. J. A. Flexner, Louisville.
141 Organic Diseases of the Cardiovascular System. W. F. Boggess, Louisville.

Therapeutic Gazette, Detroit

January

142 *The Prophylaxis of Gonorrhea. M. F. Gates, U. S. Navy.
143 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg, Pa.
144 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg, Pa.
145 Treatment of Ascites by the Intraperitoneal Injection of Adrenalin. T. M. Tyson and H. D. Jump, Philadelphia.
146 Salvarsan. M. Silverberg, San Francisco.

142, 143 and 144. Abstracted in THE JOURNAL, Nov. 19, 1910, pp. 1838 and 1839; 142 and 143 are same as 131 and 133 above.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 14

1 *Surgical Treatment of Displaced Semilunar Cartilages of the Knee. D. Power.
2 *Conservative Surgery of the Nose. W. Stuart-Low.
3 Connection of Enlarged Cervical Glands with Carious Teeth, Enlarged Tonsils and Adenoids. H. Osborne.
4 *Draughts and Colds. R. C. Macfie.
5 Biologic and Statistical Errors in the Work on Parental Alcoholism by Miss Elderton and Prof. Karl Pearson. M. D. Sturge and Sir V. Horsley.

1. **Treatment of Displaced Semilunar Cartilages.**—When the patient is seen directly after the injury, Power says, every care should be taken to replace the injured cartilage in position by well-considered manipulation. Rest in an extended position must be insisted on until the swelling has subsided and time has been given for repair, massage being employed during the whole of this period. It must be borne in mind that no satisfactory result will be obtained if the injury be treated simply as a sprain by rest and cooling lotions. It is essential that the cartilage should be replaced, for otherwise it is useless to rest the joint as it would be to rest an unreduced dislocation. When these methods have failed, or when the original condition has been badly treated, and the patient is left with a chronically inflamed joint, which is insecure, painful and locking, the sooner an arthrotomy is performed and the interarticular cartilage is removed the better it will be for the patient. Power's inquiries show that the least satisfactory results are obtained when the patient has been allowed to go about with a damaged fibrocartilage for months or years, the best results when he has had only a few attacks of painful fixation of a joint. In these latter cases the ligaments have not become stretched, and the joint quickly resumes all its normal functions.

2. **Conservative Surgery of the Nose.**—The most beneficent surgery of the nose, Stuart-Low holds, is the most conservative as regards the preservation of the mucous lining, and is almost always attained by operating successfully in stages, rather by what he calls physiologic, than by severe, sweeping, sacrificial surgery.

4. **Draughts and Colds.**—The conclusion reached by Macfie is that draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favored rather than feared. To endeavor to escape colds by avoiding all draughts must always be futile and foolish policy, and will not only defeat its own aim by fostering bacteria and by promoting vasomotor lethargy and incompetence, but will lead to deficient vigor through interference with skin reflexes, which play an important part in the respiratory and circulatory functions. When we wish to excite the respiratory center of the new-born babe we appeal to its skin reflexes, and in cases of night sweats a breeze on the skin seems to give tone to the whole vasomotor system. The skin is certainly meant to be exposed to moving air currents and to vicissitudes of heat and cold; it is meant to have a blood-supply that ebbs and flows according to the thermal needs of the tissues; it is meant to perspire and to transpire; and accordingly to shut it off from wind currents and to enclose it in a motionless layer of moist air is, Macfie declares, to depart very far from the ways of physiologic righteousness. The bracing effects of dry air and of seaside breezes are largely due to their stimulating effects on the excretory and reflex functions of the skin; and the man who endeavors to avoid colds by avoiding all draughts, will not only catch more than his share of colds, but will possess much less than his share of health and vigor.

Lancet, London

January 14

6 *Influence of Parental Alcoholism on the Physique and Ability of Offspring. T. B. Hyslop.
7 Sepsis and Antisepsis in Medicine. W. Hunter.
8 *Subtotal Hysterectomy for Fibromyoma Uteri. A. H. G. Doran.
9 *Gangrene of Limb During Convalescence from Diphtheria. A. S. Ransome and E. M. Corner.

10 Importance of Removing the Uterus in Certain Diseased Conditions of the Ovaries and Fallopian Tubes. J. M. M. Kerr.
11 The Association of Duodenal Ulcer with Disease of the Appendix. H. J. Paterson.
12 *Treatment of Disseminated Sclerosis. E. F. Buzzard.
13 Torsion of the Left Broad Ligament and Fallopian Tube in a Child. M. A. Cassidy.
14 Massive Infarction of the Renal Cortex. J. A. Torrens.

6. **Influence of Parental Alcoholism.**—The theory discussed by Hyslop briefly stated is: Does parental alcoholism (of a pernicious kind)—apart from parental degeneracy, which, together with a tendency to alcoholism, is heritable—influence the physique and ability of offspring? He says that the association—in contra-distinction to causation—of alcoholism and degeneration in the parent is insufficiently understood, and the difficulty in distinguishing between cause and effect, both in the parent and offspring, is so great that the decision frequently must be mere guesswork. The present problem requires that parental alcoholism shall precede conception or the birth of the child; whereas, in the transmission of a psychoneurosis by direct inheritance, the parental alcoholic tendency may be latent, and not come into evidence until after the birth of the child. This necessitates complete differentiation between the two series. Alcoholism would appear to be responsible for a relatively greater number of births than would health or degeneracy without alcoholism, and there appears to be some evidence derived from experiments on animals treated by alcohol that their young, although in greater number, were much weaker. Epilepsy, some forms of insanity, defective inhibition and mental enfeeblement, deaf-mutism and stunted growth, although instances of what has been aptly termed the "general controlling determinant," and transmitted by direct heredity, are apt to be not only intensified in the offspring, but make their appearance at a relatively earlier age, when parental alcoholism has been an additional factor. Parental alcoholism appears to accentuate the downward trend of inherited psychoneurosis, and with each successive generation the period of exemption from alcoholism and degeneracy becomes shortened, so that the offspring become alcoholic or degenerate at relatively earlier ages. Alcohol would in this way act as a complementary factor to parental degeneracy, and aid in the devolution of the stock. The inheritance of psychoneurosis (which would tend to diminish in severity with each successive generation, and with the introduction of new correcting influences through marriage) becomes intensified and prolonged when alcoholism becomes a complicating factor. In this way, the psychoneurosis is kept alight through a greater number of generations.

8. **Subtotal Hysterectomy for Fibromyoma Uteri.**—To the sixty cases previously reported, Doran adds forty—making a total of 100 cases. In forty cases, or 40 per cent., both ovaries were removed, and the menopause was neither immediate, nor complete in four; in three out of four the amputation was above the os internum. In thirty-nine cases, or 39 per cent., one ovary was saved, and the menopause was neither immediate nor complete in twenty-one; in eighteen out of the twenty-one the amputation was above the os internum. In twenty-one cases, or 21 per cent., both ovaries were saved. The menopause was neither immediate nor complete in eight; in seven, possibly all, of the eight the amputation was above the os internum.

9. **Gangrene in Diphtheria.**—Nine cases of gangrene of parts distant to the disease, such as a limb, following diphtheria, were found by Ransome and Corner recorded in the literature. The gangrene in these cases was connected with a definite vascular lesion. In seven cases the lesion was a definite embolism; in one it is termed Raynaud's disease, and in two the origin is obscure. In no less than six out of the nine cases the leg was affected; in one there were, in addition, widespread gangrenous lesions. In two other cases there was a widespread necrotic affection. Thus it would appear that in six out of the nine cases the gangrene was due to a vascular lesion, and that in two it was due to a vascular lesion with the addition of an infective or septic character in the embolus. In only one case, that here recorded, was the diphtheria treated with antitoxin. The majority of the patients were children. The origin of these emboli seems to be in the auricles, particularly the left auricle, because in only one case was there also a pulmonary embolism. The embolus occurs during convalescence, at the time of reaction from the illness; in the authors' case on the seventeenth day of the illness. It seems to occur only after a severe diphtheritic attack. Subsequently to the embolism the temperature rose to 99.8 F. from subnormal, to which level it subsided, rising again in a few days' time from septic absorption from the gangrenous part.

12. **Treatment of Disseminated Sclerosis.**—The resemblance between cerebrospinal syphilis and disseminated sclerosis led Buzzard to suspect that the latter disease may be caused by some organism belonging to the same class as that of the treponema. The fact that this class of organism is best combated by mercury or arsenic induced him to commence the tedious experience of treating a few selected patients with disseminated sclerosis by repeated courses, or nearly continuous administration, of arsenic, on the same principle as that which makes the repeated administration of mercury the only effective method of preventing attacks of cerebrospinal syphilis in syphilitics. So far as the experiment has gone, there is nothing to show that it is useless, but Buzzard does not claim any success on the material at present available. He asks for cooperation.

Dublin Journal of Medical Science

January

15 Treatment of Fractures by Ancient and Modern Methods. W. I. de C. Wheeler.

Journal of Laryngology, Rhinology and Otology

January

16 Partial Petro-Mastoid Excavation with Preservation of the Tympanic Membrane and Ossicles. G. Mahu.

Annals of Tropical Medicine and Parasitology, Liverpool

December

17 *Enumerative Studies on Malarial Fever. R. Ross and D. Thomson.
18 A Case of Hemoglobinuric Fever (Blackwater Fever) Followed by a Peculiar Relapse Without Hemoglobinuria or Detectable Plasmodia. R. Ross, D. Thomson and G. C. E. Simpson.
19 *Hemoglobin Metabolism in Malarial Fever. G. C. E. Simpson.
20 *A Case of Sleeping Sickness. V. T. Korke.
21 Malaria in Relation to Splenic Enlargement and the Treatment of the Crescentic Stage. N. F. Surveyor.
22 *Peculiar Morphology of a Trypanosome from a Case of Sleeping Sickness and the Possibility of Its Being a New Species (*T. rhodesiense*). J. W. W. Stephens and H. B. Fantham.
23 *Pathogenicity of a Trypanosome from a Case of Sleeping Sickness Contracted in Rhodesia. W. Yorke.
24 Three New Species of the Genus Glossina, Together with a Description of the Hitherto Unknown Male of *Glossina Grossa, Bigot*. R. Newstead.
25 *Descriptions of a New Genus and Three New Species of Anopheline Mosquitoes. R. Newstead and H. F. Carter.

17. **Studies on Malarial Fever.**—It is believed by Ross and Thomson that there is a very decided correlation between the number of asexual plasmodia found in the peripheral blood and the fever. As a rule, no fever exists unless the asexual forms exceed some hundreds per cubic millimeter. The asexual forms do not always disappear between relapses (as often thought) but tend to persist in small numbers per cubic millimeter, and often increase again for some days before the actual febrile relapse occurs. These observations give a coherent theory of the malarial invasion, according to which the infection is kept alive indefinitely by the ordinary sporulation of the asexual forms, and not by parthogenesis or by resistant forms; and fever occurs only when the parasites are numerous enough to produce it. The authors estimate from their cases that considerable continued doses of quinin reduced the asexual forms by from 50 to 80 per cent. There are strong reasons for supposing that the sexual forms require eight to ten days for development; that the often noticed long persistence of crescents is not due to their long life, as generally thought, but to constant replenishments of the stock by fresh broods; that they sometimes show a distinct tertian periodicity; and that quinin does not affect them when once generated, but ultimately reduces their numbers by destroying the generating cells. The sexual forms were never seen to produce fever. The leukocytes are below normal during febrile periods and above normal afterward. The percentage of mononuclears rises after paroxysms and is always in excess of the normal. Methylene blue, soamin, Roentgen rays and

faradic and galvanic currents had no results in a few experiments. The hemoglobin falls markedly with fever, but rises rapidly with convalescence. The fecal urobilin shows marked correlation with the occurrence of fever.

19. **Hemoglobin Metabolism in Malarial Fever.**—Simpson summarizes his paper as follows:

1. The main excretory channel for the pigment portion of the blood is the alimentary tract, and urinary urobilin represents only a small overflow from this source; the main elimination is in the feces, and this has been largely neglected by previous observers, in favor of the urinary overflow, which, however, would seem to be of importance only as an indication of the absorptive activity of the intestine and almost negligible for quantitative purposes.
2. The fall in the hemoglobinometer readings in malaria appears to represent an actual destruction of red corpuscles and elimination of their pigment by the normal excretory mechanism.
3. The hemoglobin breakdown during the pyrexia due to the malignant tertian (*P. falciparum*) infection appears to be greater than in other pyrexial diseases or than in benign malaria (*P. vivax*), and may be many times greater than would be accounted for by the number of corpuscles infected by the parasites.
4. As regards their effect of causing hemolysis, the parasites appear to be of different degrees of virulence in different individuals, and even in different paroxysms in the same individual (relatively at least, since the patient's resistance must be considered).
5. Normally, the ordinary channels of excretion are capable of dealing with the free hemoglobin and rapidly remove it from the blood-stream, and a very severe strain (over 25 per cent. of the total circulatory hemoglobin) can be sustained without their failure and the consequent onset of hemoglobinuria.

20. **Sleeping Sickness.**—The observations made in this case by Korke show that the coagulation time of the blood is passing from the negative to the positive phase as the leukocytosis is passing toward leukopenia. The number of the parasites and the nature of the hemoglobin index are subject to very little variation. Examinations of the cerebrospinal fluid and blood for trypanosomes were negative, but albumoses were found in the cerebrospinal fluid, not in the blood. The urine during life was examined for albumose. The reaction was negative; later, in the preserved specimen of urine, albumose was again found to be absent. The patient had a large collection of pus in the pleural cavity, consequently the possibility that the albumose was due to empyema was thus eliminated by the result of the blood and urine examinations. So that although the cerebrospinal fluid was tinged with blood, the process of exclusion leads to the conclusion that albumose was present in the cerebrospinal fluid only. The test used for cholin was that of Mott and Halliburton, viz., the production of characteristic octohedral crystals in the platinum double salt from the alcoholic extracts of the cerebrospinal fluid. The result was positive. Control tests were made with the 15 per cent. alcohol and absolute alcohol used in the original test, but these were negative. Cholin was absent in the blood. The brain tissue was examined by Korke. The perivascular spaces around the blood-vessels in the substance of the brain were infiltrated with mononuclear leukocytes, chiefly lymphocytes. This change is typical of the sleeping-sickness brain where the infection is due to *T. gambiense*. The infiltration was not enormous.

22. **Morphology of a Trypanosome From a Case of Sleeping Sickness.**—The peculiarity of this Rhodesian trypanosome discovered by Stephens and Fantham is that among the stout or stumpy forms some have the nucleus at the posterior (non-flagellar) end. They have never found them, though persistently looked for, in the films from the same animals infected with the laboratory strain of *T. gambiense*, treated in the same way, *i. e.*, dried films. Further, they have examined the new trypanosomes by *intra vitam* staining with methylene blue; by this method the posterior position of the nucleus can be seen. Finally, they have fixed wet films with sublimate-alcohol and with osmic vapor respectively, and subsequently stained them with hematoxylin, and found the same forms. They also attach some importance to the fact that the patient from whom this strain was derived was never, as far as careful enquiries could elicit, in a *Glossina palpalis* area, but had been in many *Glossina morsitans* areas, and very probably in a small *Glossina fusca* area. On account of its peculiar morphologic features, the authors propose a distinct designation as *T. gambiense rhodesiense* or *Trypanosoma rhodesiense*.

23. **Pathogenicity of a Trypanosome From a Case of Sleeping Sickness.**—Yorke's observations as to the morphology of the parasite confirm those of Stephens and Fantham regarding the existence of posterior nuclear forms in infected rats, guinea-pigs and rabbits. He has not, however, succeeded in finding these forms in the blood of the patient himself, in spite of very careful daily examinations during a period of over three months.

25. **A New Genus and Three New Species of Anopheline Mosquitoes.**—This new genus is the dactylomyia. The head is clothed with upright forked scales; the palpi are rather densely scaled. There is a distinct and very pronounced cylindrical-shaped tubercle or finger-like process projecting obliquely from the prothoracic region, mid-way between the dorsum and venter, and arising from the anterior margin. Thorax and abdomen are clothed with hairs. The wings are covered with dense lanceolate scales. Judging by the character and distribution of the scales, this genus comes near *Anopheles;* but owing to the remarkable structures mentioned above it is easily distinguishable from any other known genus of the *Anophelinæ*. Three species are described by Newstead and Carter: (1) *Dactylomyia Ceylonica;* (2) *Pyretophorus cardamatisi;* (3) *Cellia cincta.*

Practitioner, London

January

26 Neurasthenia and Associated Conditions. F. W. Mott.
27 Neurasthenia and Drugs. D. Ferrier.
28 Traumatic Neurasthenia. W. Harris.
29 Neurasthenia and Eye-Strain. E. Clarke.
30 Neurasthenia and Gastralgia. R. A. Fleming.
31 Neurasthenia in Children. C. Riviere.
32 The Sexual Element in the Neurasthenia of Men. G. Holmes.
33 The Sexual Element in the Neurasthenia of Women. H. MacNaughton-Jones.
34 Mental Therapeutics in Neurasthenia. H. C. Thomson.
35 Neurasthenia and Insanity. A. F. Tregold.
36 Neurasthenia and Movable Kidney. C. W. Suckling.
37 Neurasthenia Minor. P. C. C. Smith.
38 The More Certain Control of Traumatic Neuroses. T. A. Williams.
39 Neurasthenia and Diet. D. N. Paton.
40 The Educational Treatment of Neurasthenia. F. Beach.
41 Treatment of Neurasthenia by Rest, Diet and Massage. C. W. Buckley.
42 Electrical Treatment of Neurasthenia. S. Leduc.
43 Climatic, Balneotherapeutic and Sanatorium Treatment of Neurasthenia. N. Wood.
44 Treatment of Neurasthenia by Physical Methods. J. A. Rivière.
45 Treatment of Neurasthenia by Hypnotism and Suggestion. C. L. Tuckey.

Journal of Tropical Medicine and Hygiene, London

January 2

46 *Zambesi Ulcer. W. J. Bruce.
47 Isolation of a Parathyroid Bacillus from a Drinking-Water Supply. A. May.
48 Filaria Loa. G. C. Low.

46. **Zambesi Ulcer.**—The main points about this ulcer according to Bruce are:

1. It is found, with rare exceptions, in one part of the body—below the knee.
2. It is usually single, rarely double, and more rarely in the form of two, or perhaps three, small ulcers on the same leg.
3. It does not spread, but exhibits immediate sloughing of the area attacked, remains a week or more and then heals by granulation.
4. It produces no constitutional disturbances nor enlargement of the lymphatic glands.
5. It is invariably associated with the presence of a spirillum and a large fusiform bacillus.

It is said that one attack gives considerable protection but not complete immunity, as years later the same person may develop mild small ulcers. It is said also to be met with only in the flat grass lands, such as the Zambesi delta, but this statement is not reliable.

Annales de l'Institut Pasteur, Paris

November, XXIV, No. 11, pp. 833-920

49 Experimental Research on Epidemic Poliomyelitis. (Maladie de Heine-Medin.) K. Landsteiner and C. Levaditi.
50 Antianaphylaxis. (Le procédé des petites doses et les injections subintrantes.) A. Besredka.
51 Method of Preserving Plague-Infected Organs for Examination. (Procédé de conservation des organes pesteux pour le diagnostic.) C. Broquet.
52 Relation Between Fowl and Mammalian Tuberculosis. (Rapport entre la tuberculose aviaire et celles des mammifères.) D. A. de Jong.
53 Eighth Antimalaria Campaign in Algiers. E. Sergent.

Presse Médicale, Paris

January 4, XIX, No. 1, pp. 1-8

54 Auto-Intoxication with Intestinal Obstruction. H. Roger.
55 Apparatus for Chloroform Anesthesia. P. Fredet and E. Merry.

January 7, No. 2, pp. 9-16

56 Methylene Blue in Treatment of Malta Fever. V. Audibert and Rouslacroix.
57 Structure and Development of Connective Tissue. J. Jolly.

Semaine Médicale, Paris

January 4, XXXI, No. 1, pp. 1-12

58 Presence of Blood Pigments in Urine in Malaria. (Nouveau signe pathognomonique du paludisme.) C. L. Urriola.

January 11, No. 2, pp. 13-24

59 Allowing Parturients to Get Up Early. (Le lever précoce des nouvelles accouchées.) R. de Bovis.

Archiv für Kinderheilkunde, Stuttgart

LIV, Nos. 4-6, pp. 241-484. Last indexed Nov. 12, 1910, p. 1769

60 *Amyotonia Congenita. (Myatonia congenita von Oppenheim.) J. P. C. Griffith (Philadelphia) and R. Lewin.
61 Viscosity of Blood in Healthy and Sick Infants. F. Lust.
62 *Diagnosis and Epidemiology of Pulmonary Tuberculosis in Children. K. E. Ranke.
63 Use or Harmfulness of Bacteria in Intestinal Tract. (Bedeutung der Bacterien im Intestinaltractus. Infection und Sterilisation desselben.) P. S. Medowikow.
64 *An Epidemic of Poliomyelitis. (Steiermarkische Poliomyelitis-epidemie im Jahre 1909.) K. Potpeschnigg.
65 Influence of the Dwelling on Development of the Child. (Einfluss der Wohnung auf die Entwicklung.) E. Gindes.

60. Abstracted in THE JOURNAL, May 21, 1910, p. 1712.

62. **Pulmonary Tuberculosis in Children.**—Ranke has had about four thousand children under continuous observation during the last three years in his work as school inspector and physician to the tuberculosis dispensary, and he has thus been able to trace the course of pulmonary tuberculosis in them and to correct mistaken impressions. He learned that apical catarrhal processes in children have nothing to do with tuberculosis. When they are of a tuberculous nature, they are merely one manifestation of a generalized tuberculosis. With the latter it is often the only sign indicating involvement of the bronchial glands, aside from radiography. This point, he says, is very important. Mild generalized tuberculosis is so frequent in children and so often runs a favorable course without any treatment, that its differentiation is imperative from the graver, pulmonary form which always requires strict measures and years of treatment. Apical symptoms, therefore, he declares, must be estimated entirely differently as they are observed in children and in adults. True pulmonary tuberculosis in children scarcely ever affects the apices first. He seldom if ever found associated chronic bronchial catarrh with pronounced phthisis in children. When bronchial catarrh occurs, it runs its course the same as in the non-tuberculous. In young children the glands and serous membranes are the seat of the tuberculous processes while in adults the lungs are the main site; these two forms of the disease do not blend into each other, he says, but are separated by a striking gap in the mortality curve. They actually seem almost two separate diseases, or more like the three phases of syphilis. The generalized form runs its course and heals, leaving a kind of immunity, though some minute focus may persist whence the bacilli may pass into the blood later. The lungs, the great blood filter, are especially endangered by this irruption of the bacilli into the blood, and after a period of weakness and anemia with occasional febrile attacks—the picture characteristic of the insidious form of a relatively mild generalized tuberculosis—a process like that in the lungs of adults may develop as adult age is reached.

Tuberculosis in any form in children should be combated, he declares, along the same lines as in adults. But scarcely a step has been taken in this direction. In the great world movement against the white plague only a few isolated pediatrists have taken part; and yet this is particularly the work of pediatrists, Ranke declares. Not only the theoretical solution for the problem of the origin of tuberculosis lies in the child material but also a large part of the practical success of the movement. The hygienic and other measures introduced into Germany in the last few years have reduced the adult mortality from pulmonary tuberculosis amazingly, he remarks, but it is equally surprising that the mortality from tuberculosis in children has shown practically no decline during this period. In some of the states it has even increased. Pediatrists are confronted here by a task which is no less important than the reduction of infant mortality from gastrointestinal disease. Under modern hygienic conditions tuberculous adults live longer and thus the period in which they can infect others has been lengthened. Tuberculosis in children can be prevented only by removing children from contact with the tuberculous family or by isolating the tuberculous member of the family in an institution. Neither can be realized at present, Ranke remarks, and it is the task of pediatrists to rouse the public to the necessity for these measures and to select the children who need treatment out of the millions already infected. Such children tire easily, show a moderate anemia, positive tuberculin reaction and higher temperature after playing and after retiring. In normal children the rectal temperature is not over 37.5 C. (99.5 F.); if it is above this figure over long periods, and other causes can be excluded, the child is ill and probably tuberculous. Small cheesy glands are responsible for the temperature in these cases. Careful supervision will reveal occasional sudden intercurrent attacks of fever for a day or for two or three days, resembling the tuberculin reaction. It may be impossible to detect any local manifestations. In many cases of ephemeral fever in children, an insidious generalized tuberculosis may be incriminated. The glands in the neck swelled in three of his cases in less than four weeks after infection and remained enlarged for nearly two years. Glands once the seat of a tuberculous process may subside to normal size but generally are unusually hard and are adherent to the surrounding tissues, while recently infected glands are movable. The hilus glands may also subside after having been enlarged, but they cast a shadow with radiography thereafter into adult life; such shadows, therefore, are not necessarily a sign of an active tuberculous process.

64. **Acute Poliomyelitis.**—Potpeschnigg states that about 600 cases of acute anterior poliomyelitis developed in 1909 in the Steiermark district which has a population of 1,750,000. Question blanks were sent to all the medical men in the district and 235 returned them, bringing out a number of important points in regard to the disease. The onset frequently was not accompanied by fever, but when there was high fever sweats were common. Sore throat was almost constantly observed as a prodromal symptom. Sharp pains in the breast were also noted in some cases. In others the first sign of trouble was intense pain in one limb and when the paralysis developed, this limb was first affected. On suspicion of the disease, the child should be kept in bed. He relates several instances of serious trouble following premature use of the limbs in what promised to be otherwise mild forms of the disease. The patients should be kept unconditionally in bed for weeks even in the mild cases, and brief active movements commenced gradually and with extreme caution. He illustrates by a number of examples the fact that even the absence of fever and pain and subjective disturbances is no guarantee that the disease has been arrested or run its course. No benefit was observed from lumbar puncture in his experience but no harm resulted. Occasionally the paralysis disappeared abruptly, but never could any connection between this and any special measures be detected. He begins cautiously with faradization and massage two or three weeks after the acute process has begun to decline. Plaster and other splints were applied to prevent secondary contracture from preponderance of the muscle antagonists. The limbs were also placed so as to prevent passive overstretching of the paralyzed groups of muscles. The deltoid is generally the muscle most affected and to prevent overstretching he has the arm placed over the head during the night. In prophylaxis some recommend throat and mouth sprays and gargles with from 1 to 3 per cent. hydrogen dioxid. In scarcely any other disease, he adds, is it possible for the patient and his environment to render so much more favorable the final outcome of the disease. If the paralyzed patient is allowed to lie still in bed undisturbed, and nothing is done but a little faradization and massage, complete atrophy and secondary contracture are almost inevitable, but suitable measures to combat this tendency, energetically and perseveringly applied, accomplish wonders even in the most apparently hopeless cases. Intelligent cooperation on the part of the patient is a great aid in this respect. It was found that several cases retrospectively diagnosed had occurred in the district previous to the 1909 epidemic. The incubation was as long as five, six and ten days in some instances. The mortality was 7.51 per cent. in the younger children and 24.25 per cent. over the age of 14. Death was the result of paralysis of the muscles of respiration. Anatomic research shows that islands of normal tissue may be found in the apparently totally paralyzed muscle, or there may be paralyzed patches in nearly normal muscles.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXI, No. 1, pp. 1-316

66 *Present Status of Transplantation of Living Human Bone. E. Streissler.
67 Meckel's Diverticulum in Congenital Inguinal Hernia. Schede.
68 Cause of Congenital Torticollis. (Entstehung des angeborenen muskulären Schiefhalses.) H. Schloessmann.
69 Alkaptonuria a Degeneration from Inbreeding. (Ueber Ochronose.) H. Kolaczek.

66. **Present Status of Transplantation of Living Human Bone.**—This article of 208 pages is a summary of this subject from its early history to date. Extensive experimental research is also reported.

Berliner klinische Wochenschrift

December 19, XLVII, No. 51, pp. 2330-2380

70 *Chronic Duodenal Ulcer. E. Melchior.
71 *Relations Between Tumors in Female Genital Apparatus and Diabetes Mellitus. F. Hirschfeld.
72 *Leprosy and Cancer. M. Søegaard.
73 *Importance of Antitrypsin Reaction in Diagnosis and Prognosis of Cancer. A. Pinkuss.
74 Treatment of Progressive Paralysis with Sodium Nucleinate. J. Donath.
75 Physiology of Respiration. (Neure Untersuchungen zur Physiologie der Lungenatmung.) A. Loewy.

December 26, No. 52, pp. 2381-2412

76 Case of Splenomegaly, Left Hydronephrosis and Carcinoma of Ureter. J. Israel.
77 *Relations Between Status Lymphaticus and Addison's Disease. F. v. Werdt.
78 Metastatic Gonorrheal Conjunctivitis. W. Rusche.
79 Vestibular Nerve Symptoms in Disease of the Internal Ear. (Vestibulare Reiz- und Ausfall-Erscheinungen bei Labyrintherkrankungen.) I. Herzfeld.
80 Oil Suspension of Salvarsan. (Ein 40 proz. Dioxydiamidoarsenobenzol-Oel.) C. Schindler.
81 Action of Injections of Metallic Mercury. E. Richter.
82 Principles for Treatment of Placenta Prævia. E. Runge.

70. **Chronic Duodenal Ulcer.**—Melchior is inclined to believe that chronic duodenal ulcer is the result of a predisposition and that it is useless to excise the ulcer as the conditions inducing the predisposition remain after excision. The best means of treatment is to exclude the entire duodenum; this is effectually done by a gastro-enterostomy if the pylorus is closed at the same time; if the pylorus persists permeable the operation does not remedy conditions. He reports the details of four typical cases to illustrate the benefit that will follow treatment on these principles. Even with fulminating hemorrhage from a chronic duodenal ulcer, it is better, he says, to avoid any direct operative procedure on the ulcer itself. The gastro-enterostomy permits complete exclusion of the duodenum; with gastric ulcer the region can never be so completely excluded. Cancerous degeneration of a duodenal ulcer is extremely rare, he declares. He even advocates gastro-enterostomy as a prophylactic measure, not waiting until the surgeon's hand is forced. Although the affection may seem harmless yet it is a Damocles' sword hanging over the patient's head, perforation peritonitis or severe hemorrhage being liable to occur at any moment. This does not of course refer to the ecchymosis or hemorrhagic erosions of the duodenum liable to follow amputations; he has observed this in three cases and has found records of nine others. The trouble in these cases is probably the result of minute arterial emboli; in every case there was a suppurating focus elsewhere. In no instance, however, he adds, has a chronic duodenal ulcer been traced to an accident of this kind in the past. It always seems to be due to some reduction of the vital resisting power of the duodenal wall in respect to the peptic action of the gastric juice. This assumption is confirmed by the frequent multiplicity of such tumors and their association with gastric ulcers.

71. **Genital Tumors and Diabetes.**—Hirschfeld reports two cases in which diabetes preceded or accompanied uterine fibromyoma and cites four others from the literature. In three of the cases the diabetes retrogressed or became attenuated after removal of the tumor. In his clinical experience diabetes in women under 50 has run a more rapid course than in men and after 50 a much slower course. The conditions with an accompanying genital tumor are much the same as with pregnancy. The rapidly growing tumor may cause changes in the organs concerned in the carbohydrate metabolism; the influence of menstruation can be detected and also the lessening of the hemorrhage from the tumor on an antidiabetic diet.

72. **Cancer in Lepers.**—Søegaard has studied the records of the leper asylums in Norway and found only nineteen deaths from cancer in the 2,269 deaths recorded, that is, only 0.84 per cent., while the cancer mortality in the population at large was 3.5 per cent. in 1865; 5.1 per cent. in 1880; 7.5 per cent. in 1897; and 8.5 per cent. in 1906. The lepers in Norway are isolated.

73. **Antitrypsin Reaction in Diagnosis of Cancer.**—Pinkuss states that the reaction was positive in nearly 94 per cent. of ninety-eight patients with certain cancer and he thinks that it can be accepted as a valuable sign of the presence of cancer and as an index of the results of operative treatment, radiotherapy, fulguration, etc. The technic is that described by Brieger, Marcus and Trebing. B. Fränkel, von der Heide and Krösing have also reported from 90 to 100 per cent. positive reactions with the method. The test is based on the fact that normal blood-serum contains sufficient antibodies to inhibit the digestive action of a 1 per cent. solution of trypsin on the Loeffler plate in the proportion of 1 to 3. This inhibiting power is materially increased in cancer patients, ranging between 1 to 10 and 1 to 20. It was described in THE JOURNAL, July 4, 1908, page 83. Pinkuss found that the test was liable to fail after excessive losses of blood, and he warns that it is a biologic reaction which should be estimated in connection with the clinical picture as a whole.

77. **Relations Between Addison's Disease and the Status Lymphaticus.**—In v. Werdt's two cases pronounced hypoplasia of the chromaffine system accompanied the typical Addison's disease, while the lymph glands were enlarged.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 3-4, pp. 209-420. Last indexed January 28, p. 311

83 Metabolism of Matter and Energy During Fever. (Stoff- und Kraftwechsel im Fieber.) E. Grafe.
84 Formation of Blood in Spleen and Liver After Posthemorrhagic Anemia. (Zur Frage der extramedullären Blutbildung bei posthämorrhagischen Anämien.) A. Skornjakoff.
85 Pulse and Respiration-Rate. (Studien über Puls und Atmungsfrequenz.) K. v. Korosy.
86 *Changes in Gastric Mucosa with Acute Infectious Diseases. (Veränderungen der Magenschleimhaut bei akuten Infektionskrankheiten.) E. Jerusalem.
87 *Tryptophan Test and Acetic-Acid Test in Early Diagnosis of Gastric Cancer. H. Oppenheimer.
88 *Inhibiting Influence of Emotions on Gastric Secretion. (Hemmende Einfluss der Psyche auf die Sekretion des menschlichen Magens und seine Bedeutung für die diagnostische Verwertbarkeit des Probefrühstucks.) K. Grandauer.
89 Functioning of Diseased Kidneys. W. Schlayer and Takayasu.
90 Direct Injury from Extreme Tachycardia. K. F. Wenckebach.
91 Histology of the Intestines with Pernicious Anemia. L. Aschoff.

86. **Changes in the Gastric Mucosa During Acute Infectious Diseases.**—Examination of the bodies of persons dying from acute infectious diseases showed invariably serious pathologic conditions, mostly an interstitial gastritis with proliferation of connective tissue. Whooping-cough with complicating bronchopneumonia was the only disease in which the changes were merely a slight interstitial degeneration. Jerusalem examined the cadavers twenty-four hours after death, and remarks that the pathologic conditions found readily explain the lack of appetite, vomiting, etc., observed in acute infectious diseases.

87. **Early Diagnosis of Gastric Cancer.**—Oppenheimer reports the findings with Neubauer and Fischer's glycyltryptophan test constantly negative in five normal persons, in twelve with gastric ulcer and in seven with non-malignant stomach troubles, while the findings were constantly positive in six cases of certain cancer in the stomach and in three clinical cases while they varied in the suspects. In only one case were the findings contradictory of the clinical history. (The test was described in THE JOURNAL, Jan. 1, 1910, page 86.) It is evidently not infallible, as even this one case shows, but positive findings are certainly strong evidence in favor of presumptive cancer. Acetic acid, Oppenheimer adds, can also be used to differentiate cancer. Forty minutes after the Boas test breakfast some stomach content is withdrawn and a 3 per cent. solution of acetic acid is added a drop at a time to a few cubic centimeters of the filtered gastric juice. In case of the presence of cancer the fluid turns turbid and persists turbid

even when the fluid is diluted with water to five times its volume. The turbidity vanishes, however, if large amounts of acetic acid or a little hydrochloric acid are added. The only source of error seems to be the presence of mucus, as this also produces turbidity when the acid is added. But the turbidity from this cause does not clear up on addition of hydrochloric acid while it vanishes when the fluid is much diluted. If the filtrate of stomach content is very turbid to start with, the test is not applicable, but it is generally possible to obtain a limpid filtrate by slowly filtering the fluid through a moistened folded filter. The tryptophan and acetic-acid tests paralleled each other with precision in his experience, but the latter test is more reliable, he thinks, as the findings are not affected by the presence of blood, trypsin or bacteria, while the acetic-acid technic can be applied to vomitus as well as to siphoned-out stomach content. The findings were constantly negative in seven healthy persons, in twenty-four with gastric ulcer and hyperacidity and in nine with non-malignant stomach affections while they were positive in all the cancer cases except one in which the findings with the tryptophan test likewise contradicted the clinical course.

88. **Inhibiting Influence of Emotions on Gastric Secretion.**—One practical point brought out by Grandauer is that the gastric secretions are influenced, often to an unsuspected extent, by the mind during the process of the test meal and obtaining stomach content for examination. He found that the findings differed widely on different examinations, the fluctuations growing less and less marked as the individuals became accustomed to the procedures involved. The psychic hypersecretion or hyposecretion may nullify the conclusions to be drawn from the findings; even the psychic difference between taking the arbitrary test meal and an ordinary meal may have a marked influence.

Deutsche medizinische Wochenschrift, Berlin

January 5, XXXVII, No. 1, pp. 1-48

92 *Injury of the Eye. (Pathologie und Therapie der Verletzungen des Auges.) A. Elschnig.
93 A Post-Mortem Auscultation Phenomenon. H. E. Hering.
94 *Antiphlogistic Action of Lime. (Entzündungswidrige Wirkung löslicher neutraler Kalksalze.) H. Leo.
95 *Nutrient Intravenous and Subcutaneous Injection of Sugar. (Intravenöse und subkutane Ernährung mit Traubenzucker.) W. Kausch.
96 Serum Sickness. J. v. Bokay.
97 Salvarsan. K. Kreibich.
98 Herpes Zoster After Injection of Salvarsan. S. Bettmann.
99 Paralysis of Ocular Muscles After Salvarsan. C. Stern.
100 Carcinomatous Meningitis. M. Lissauer.
101 Importance of Corpus Luteum for Periodicity of Sexual Cycle in Mammals. L. Loeb.
102 Clinical Importance of Diathermia. F. Nagelschmidt.
103 Medical Education in the United States and Canada. C. Bäumler.
104 Quadricentennial of Ambroise Paré. W. Haberling.

92. **Injury of the Eye.**—Elschnig presents the general principles in treatment of trauma of the eye, remarking in regard to the prognosis that all nervous disturbances in the orbit resulting from pressure of extravasated blood in the region are capable of complete retrogression, while direct lesions of the nerves usually persist unchanged. Special care must be taken to prevent the drying or ulceration of the cornea when the eyeball protrudes or the lids do not close perfectly. If inflammation develops in the orbit from infection from the nose, the prognosis is almost inevitably bad. Emphysema, on the other hand, has an excellent prognosis. Treatment of all fractures deep in the orbit should be exclusively conservative. With much suggillation a compressing bandage, ice-bag and complete repose may be indicated. Only with extreme protrusion of the eyeball or very severe emphysema is it necessary to relieve by evacuation of the blood at the most swollen part of the orbital tissue. Direct operative measures are necessary if there is a fracture of the walls of the orbit with dislocation. Compound fractures should be treated by the usual surgical principles. Elschnig adds, in conclusion, that in every extensive compound fracture of the orbit, as also in every case of extensive injury of the soft parts in which contamination with soil cannot be absolutely excluded, a preventive injection of tetanus antitoxin should be given.

94. **Antiphlogistic Action of Lime.**—Leo expatiates on the importance of the statements of Chiari and Januschke in regard to the power of a neutral solution of lime salts to prevent the development of pleural effusions and edema in general. (Their statements were summarized in THE JOURNAL Dec. 10, 1910, page 2102.) Subcutaneous injection of a few cubic centimeters of a 5 per cent. solution of calcium chlorid proved able to prevent the development of inflammatory edema in the conjunctiva of the rabbit's eye after instillation of mustard oil. They explained this hitherto unknown powerful action of calcium chlorid by assuming that the lime rendered the vessel walls less permeable. Leo has been repeating their experiments, his results confirming theirs in every particular. He has further demonstrated that 1 c.c. of a 2.5 per cent. solution of calcium chlorid can be injected subcutaneously into man without any local or general harm resulting. Chiari and Januschke used the intravenous route without by-effects, but Leo found the results less prompt and reliable than after subcutaneous injection. The effect was even more pronounced by the mouth than by intravenous injection, probably because the lime is eliminated too rapidly after the latter. The action is slower by the mouth than by subcutaneous injection, but 100 c.c. of a 2 per cent. solution of calcium chlorid given by the mouth cured the rabbit's conjunctivitis in six days, by the end of the week the eye appearing entirely well. He and others have repeatedly taken this dose without disturbances. His experiences further show that instillation of the same solution has a surprisingly curative action on conjunctivitis. As no unfavorable action from the instillation of 100 c.c. of a 2.5 per cent. solution of calcium chlorid in the rabbit was perceptible, he thinks that this measure can be applied in the eye clinic. A typical experiment was instillation of a drop of mustard oil in one eye; three hours later when the conjunctiva and skin around showed intense inflammation, a few drops of the calcium chloric solution were instilled several times in the course of five minutes. Three hours later the swelling had considerably subsided, while in the control animal it was still intense. The solution was then instilled again and the next morning the lids of the control animal were firmly glued together and secreting thick pus, the conjunctiva swollen and red, and the cornea turbid. The animals treated with lime had much improved and in two days there was scarcely a trace of the inflammation, while it persisted in the control animals with great intensity and was perceptible six weeks later. Repeated series of experiments gave the same results and he regards the discovery of this local antiphlogistic action as of great importance. He thinks that it may prove useful in tonsillitis, rhinitis, gastritis or ulcer and inflammation of other mucous membranes. Other neutral soluble salts of calcium may prove effectual, particularly the lactate. Calcium chlorid may be found useful in rectal injection for enteritis, in a 1 or 2 per cent. solution; calcium carbonate has already been advocated for this purpose.

95. **Nutrient Intravenous and Subcutaneous Injection of Sugar.**—Kausch reports that his extensive research for some means of feeding otherwise than by the mouth has shown that grape sugar can be given in a 10 per cent. solution by intravenous injection and by subcutaneous infusion up to 5 per cent., to a daily dose of 1,000 c.c. This nourishes the patient while supplying fluids and he has found it extremely useful as a postoperative measure. He commends it as an important adjuvant in surgical affections and in cholera, uncontrollable vomiting and other troubles, draining the body of fluids.

Jahrbuch für Kinderheilkunde, Berlin

December, LXXII, No. 6, pp. 661-782

105 *Immunity to Scarlet Fever. F. v. Szontagh.
106 *Scarlet Fever. (Zur Kenntnis des Scharlachs.) A. Gigon.
107 Bacteriologic Study of Infants' Stools. K. Blühdorn.
108 *Orthostatic Albuminuria. (Zur Lehre von der lordotischen Albuminurie.) A. Lury.

105. **One Attack of Scarlet Fever Does Not Confer Immunity.**—Szontagh has one patient who has had scarlet fever three times in less than three years. Each time it ran a typical course without complications. Another little girl had scarlet fever twice in one year, succumbing to the complications of the second attack. The mother had suppurative tonsillitis during the child's first attack and typical scar-

fever along with the second attack. A Budapest physician who had charge of the scarlet-fever ward for five years, and had never had any eruptive fever except erysipelas at the age of 12, developed scarlet fever himself at the age of 41, a year after giving up his charge of the contagious ward, although he had not seen a case of scarlet fever for twelve months. Another Budapest physician died on the fifth day of an attack of scarlet fever acquired at 42, although he had been repeatedly in contact with scarlet-fever patients during his entire practice. These and other facts cited seem to demonstrate that scarlet fever does not confer immunity and that the causal germ is ubiquitous. The sore throat and eruption are manifestations of the action of toxins, not the foci of infection. The prevailing theory as to the etiology of scarlet fever can no longer be maintained, Szontagh declares, and he adds that the prophylactic measures at present in vogue have no value. The conditions are far more complex than we have hitherto assumed; possibly, he says, the study of anaphylaxis may throw light on the problem.

106. **Scarlet Fever.**—Gigon reviews the experiences with 453 cases of scarlet fever at the Basel contagious service since 1907. Twenty-nine of the patients were between 20 and 50; the mortality was 1.77 per cent., but all in children. The child of a mother with scarlet fever was born with the disease. In seventeen cases the scarlet fever developed after trauma—severe burns in twelve of the cases. A recent Zurich thesis also reports six cases of severe burns among twenty cases of traumatic scarlet fever. Although Gigon kept the children in the hospital ten weeks and every precaution was taken to prevent the infection of others, yet there were five return cases. The third week seems to be the period of special predisposition for lymphadenitis, nephritis and post-scarlatinal fever and heart trouble. Scarlatinal rheumatism was observed almost exclusively in adults. In three cases fatal pneumonia developed during the third week. In three cases the nephritis persisted for over seven months, and in two cases uremia developed; great improvement was observed in one of these cases after venesection. In three instances the children in a family developed hemorrhagic nephritis at the same date in the disease; in three other instances, otitis on the same date, and in another family two sisters developed scarlet fever the same day and both developed severe jaundice during the fifth week. It was generally noticed that the course of the disease seemed of the same character in all the children from a family. Varicella in connection with scarlet fever was unusually severe but other eruptive diseases ran an unmodified course. In seven cases the disease was an actual scarlatinal diphtheria, in one scarlatinal croup with typical false membranes, but no diphtheria bacilli could be cultivated from the throats.

108. **Orthostatic Albuminuria.**—The experiences reported by Lury confirm the assumption that induced lordotic albuminuria and possibly also lordotic or orthostatic albuminuria occur only when the kidney is abnormally movable. He experimented with 100 children, having them stand for five minutes in moderate lordosis after the urine had been found to be free from albumin. In thirty-six of the children albuminuria resulted. Other experiments confirmed the assumption of the connection between movability of the kidney and the transient albuminuria.

Medizinische Klinik, Berlin

January 1, VII, No. 1, pp. 1-44

109 *Diabetes Mellitus. C. v. Noorden.
110 *Cancer of the Uterus. (Kampf gegen den Gebärmutterkrebs.) F. Schauta.
111 Salpingitis After Abortion. (Zur Frage der Selbstinfektion.) L. Aschoff.
112 Abdominal Pain. (Die Schmerzempfindung innerhalb der Bauchhöhle und ihre Bedeutung für die Diagnose.) M. Wilms.
113 Ileus from Dilatation of Gall-Bladder. W. Anschütz.
114 *Hereditary Displacement of the Patella. (Erbliche angeborene Kniescheibenverrenkung.) L. Wrede.
115 Functional Capacity and Oxygen Requirement with Maximal Physical Labor. (Leistungsfähigkeit und Sauerstoffbedarf bei maximaler Arbeit.) N. Zuntz.
116 Capacity and Weight of Lungs and Heart in the Horse. M. Müller.

109. **Diabetes.**—Von Noorden states that the liver is evidently the source of sugar production, and that this function is controlled by the pancreas and the suprarenals—the pancreas inhibiting sugar production and the suprarenals stimulating it. The pancreas in turn is under the control of the thyroid, the secretion of which has an inhibiting action on the functioning of the pancreas as is shown in the increased tendency to glycosuria with thyroid hyperfunctioning. After thyroidectomy, the pancreas exerts such a strong inhibitory action on the liver that it is almost impossible to induce glycosuria. The hypophysis cerebri seems to have the same action on the pancreas as has the thyroid; with tumor of the hypophysis there is remarkable tolerance for large amounts of sugar. The suprarenals are under the control of the sympathetic nervous system and are very sensitive to the action of certain toxins. Formerly it was assumed that the glycosuria resulting from puncture of the medulla ("sugar puncture") was due to direct stimulation of the liver from the central nervous system, but recent research has demonstrated that this stimulation is transmitted by the left sympathetic nerve and at first to the left suprarenal, whence the stimulation is forwarded to the right suprarenal by the connecting nerves. If the left suprarenal is cut off from the left sympathetic nerve, no glycosuria follows the sugar puncture. Puncture of the medulla stimulates the suprarenals to greater secretion, and this secretion in turn stimulates the liver to an excessive output of sugar. A number of toxic influences act in the same way, partly by the influence on the sugar center in the medulla, partly by stimulation of the sympathetic nerve or the suprarenals thus causing exaggerated functioning which entails overproduction of sugar in the liver. These facts, v. Noorden says, explain the influence of the central nervous system on the intensity of diabetic glycosuria and show the necessity for studying each individual case with special care, and the importance of warding off emotional stress and injurious nervous and toxic influences. He is convinced that there is no disease in which physicians neglect to such an extent this individual study of the patient as in diabetes. There is no other affection, he declares, which is so rich in complications of all kinds, whose treatment requires such comprehensive regard for all the organs and their functional capacity and which makes such high demands on the individualistic estimation of the details and of the whole clinical picture. In regard to dietetic treatment, he says that diabetics must resign themselves to watch carefully over every mouthful they take and that this must be kept up indefinitely. It is especially hard for them as they do not feel ill. No drug can take the place of restriction of carbohydrates in the diet, and the benefit claimed for certain remedies is always due to the dietetic regulations imposed with them. The physician treating a diabetic in 1911 must keep long years to come constantly in view, and not let himself be deterred from his plan of treatment by the momentary complaints of the patient or his family.

110. **Uterine Cancer.**—Schauta states that for the last ten years he has been systematically operating by the vaginal route in all cases of uterine cancer in order to obtain a reliable set of statistics. His mortality was at first 10 per cent., but in his later series this has been reduced to 4 per cent.; the operability was between 50 and 60 per cent.; the permanent cures average between 40 and 50 per cent., while the permanent "absolute cures" have been 13 per cent., 15 per cent. in recent series and the proportion will be still higher next year as he will have 28 per cent. with an interval of over four years since the operation. In from 10 to 15 per cent. of his total material the physician first consulted neglected gynecologic examination, and this is where improvement must come in the future. The physician must absolutely refuse to have anything to do with the case unless the woman applying for any gynecologic trouble at the cancer age will permit local examination. If he gives her any advice or writes a prescription the woman is satisfied with the "treatment" and does not return for weeks or months, and then she is lost. He insists that hemorrhage during the climacteric period should never be ascribed to the influence of the menopause until all other causes for it have been scrupulously excluded. He states that it is far better to examine ninety-nine women needlessly than to let cancer in the hundredth escape detection in time. The fear of

cancer in the public should not deter from this course; a woman can be relieved of this fear in a few hours by going to a physician for examination if she is free from malignant disease while the physician can assure her that she can be cured if he discovers an incipient cancer. He adds that surgeons have come to the limit of technical skill; the burden of the campaign against uterine cancer rests now on the shoulders of the general practitioner and the public.

114. **Hereditary Displacement of the Patella.**—In the family described by Wrede, bilateral luxation of the patella was observed in the grandfather, in the father, in his sister and one of his five brothers, and in the son and daughter.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

December, XXXII, No. 6, pp. 641-754

117 Pregnancy in a Dwarf. (Fall von hypoplastischem Zwergwuchs mit Gravidität nebst Bemerkungen über die Aetiologie des Zwergwuchses.) B. Aschner.
118 *Status Epilepticus and Pregnancy. E. Sachs.
119 Gas in the Uterus. (Zur Lehre von der Tympania uteri.) H. Rimann.
120 Subcutaneous Symphyseotomy and Suprasymphyseal Delivery. (Ueber den subcutanen Symphysenschnitt und die suprasymphysäre Entbindung.) F. Frank.
121 Postoperative Protection of Abdominal Cavity. H. Sellheim.
122 Pseudomyxoma in Peritoneum After Appendicitis. H. Cramer.
123 Radioactive Ferments in Treatment of Inoperable Cancer. A. Sticker and E. Falk.
124 Local and Spinal Anesthesia in Gynecology. G. A. Wagner.

118. **Status Epilepticus and Pregnancy.**—Sachs reviews the literature on this subject and reports the case of a woman with a tendency to epilepsy since puberty as also her two sisters. The sisters have been healthy since their marriage and have borne healthy children, but Sachs' patient found the epilepsy aggravated by her first pregnancy, so that violent seizures recurred every day. After failure of other measures, premature delivery was induced with the inflatable bag, after incision of the cervix, the uterus being emptied immediately after the cervix was sufficiently dilated. Hemorrhage was arrested by the Momburg belt constriction but the woman died without regaining consciousness. Necropsy showed none of the changes in the internal organs characteristic of eclampsia. Sachs is convinced that the measures adopted did harm rather than good; the long-continued irritation from the method of delivery and other measures kept up a constant stimulation of the cortex contrary to the general principles imperative in treatment of epilepsy. Possibly better results might have been obtained if the uterus had been emptied rapidly by vaginal Cesarean section. Only two cases are on record, he says, in which the intensity of the status epilepticus developing in pregnancy equaled that in his patient. Differentiation from eclampsia is difficult, and he thinks that some cases on record may have been mistaken for eclampsia. He has been unable to find any record of a case of status epilepticus or epilepsy in any form in which the patient was cured by interruption of the pregnancy. The aim should be to ward off everything that might irritate the central nervous system. If delivery is urgent, the shortest technic should be employed. The history, epileptic equivalents, possibly knowledge that the bromids have been abruptly suspended, may give the clue to the epilepsy, while an unusually low freezing-point of the urine and hyperleukocytosis suggest eclampsia. He emphasizes the importance of differentiating them as the treatment is diametrically opposite for the two affections. Pregnant women with a history of epilepsy should have their bodily functions supervised with exceptional care, the bromids should never be abruptly suspended, and excesses of all kinds should be avoided. Albuminuria is the rule in eclampsia to such an extent that the lack of it has caused some writers to dispute the diagnosis in otherwise apparently typical eclampsia. At the same time, repeated epileptic seizures are liable to induce albuminuria.

Münchener medizinische Wochenschrift

January 3, LVIII, No. 1, pp. 1-64

125 *Salvarsan: Retrospect and Outlook. (Salvarsantherapie.) P. Ehrlich.
126 Digipuratum. R. Gottlieb and R. Tambach.
127 Technic for Treatment of Cleft Palate and Harelip. (Behandlung der mit Wolfsrachen komplizierten einseitigen Hasenscharten.) B. Riedel.
128 *Siphonage of Stomach Content Through the Nose in Peritonitic Ileus. M. Kappis.
129 Four Cases of Sepsis from Friedländer Bacillus. F. Rolly.
130 *Recurrence of Syphilis in Nervous System After Mercurial Treatment. (Syphilitische Neurorezidive.) J. Benario.
131 Intrathoracic Goiter. S. Kreuzfuchs.
132 *Injurious Action of Pure Oxygen on the Lungs. (Zur Chloroformsauerstoffnarkose.) A. Schmidt and O. David.
133 *Butenko Reaction in Urine in Paralysis. P. Beisele.
134 Technic of Carbon Dioxid Snow Treatment of Skin Disease. (Technik der Kohlensäureschneebehandlung.) A. Strauss and H. Fründ.

125. **Retrospect and Outlook for Salvarsan Therapy.**—Ehrlich here reviews the subject to date saying that his preliminary connection with the drug is now practically closed. He regards his method of distributing the drug for extensive investigation by leading medical men as the only proper method of introducing a new drug. He states that he never claimed that the drug would cure in a single dose, and he also insists that the cases in which the drug has been applied contrary to the indications he so carefully specified should not be placed to its discredit. He compares it to chloroform; in the healthy not more than one fatality is known in 50,000 applications of chloroform, while this proportion increases to 1 in 2,070 for the average hospital material, and the proportion is far higher in heart disease. The few bladder disturbances that have been reported are probably traceable to defective vials with oxidation of the drug by contact with air, the resulting compound being much more toxic than the salvarsan. He discusses in detail the cases reported by Benario and others in which the recurring manifestations of the syphilis were in the optic or auditory nerve and he relates a number of instances in which similar recurrences in the nervous system have been observed after mercurial treatment or without any treatment. The chief argument against their being results of toxic action from the salvarsan is that they were rapidly cured by salvarsan; if the salvarsan had been responsible, another dose of the drug would have aggravated the lesion. The only case of blindness reported from it was in Finger's patient, whose case was mentioned in THE JOURNAL, Jan. 7, 1911, page 83, but this patient had within the year been given thirty injections of arsacetin in addition to other arsenical medication. Ehrlich had previously warned against giving the salvarsan to any patient who had been taking any arsenical preparation. He regards these recurrences in nerves as a sign that the spirochetes elsewhere have been practically exterminated and that this was their last refuge. The sterilization had been almost complete, and a dose of salvarsan rapidly cured seven of Benario's ten patients in whom these recurrences developed after mercurial treatment alone. In conclusion, Ehrlich says, that salvarsan has won a permanent place for the treatment of syphilitic mouth and throat affections and those of the nasal mucosa, the cutaneous syphilids of the secondary and tertiary phases, "galloping" syphilis and congenital syphilis and the cases refractory to mercury—for all these salvarsan has proved itself the most powerful weapon, uniting, he asserts, the action of mercury and iodid, while surpassing both in the reliability and rapidity of the effect.

128. **Retention Stomach Tube in Peritonitic Ileus.**—THE JOURNAL, April 9, 1910, page 1244, mentioned Westerman's method of continuous siphonage of the stomach content by a stomach tube introduced through the nose, and Kappis here relates a number of experiences with this measure which confirm its clinical value. A broad, soft stomach tube slips easily through one nostril down into the stomach and it is left there, the stomach contents being readily siphoned out. In peritonitic ileus the vomiting and hiccough stop at once and the patient can drink freely. Some of the fluid thus passing through the stomach is probably absorbed, especially an alcoholic or sugar solution, while the abdomen is left in peace and is relieved of the pressure of the filled stomach. This siphonage by the nose has been applied in ten cases of severe peritonitic ileus in his service with the best results. If it does not succeed, enterostomy is indicated without too long waiting, for fear of decubitus in the esophagus from the stomach tube. He found such at necropsy in one case in which the tube had been left in the esophagus for forty-eight hours. Since then he never leaves it more than twelve hours at a time, reintroducing it if necessary. The measure is also urgently indicated, he declares, in postoperative obstruction

of the duodenum, in acute dilatation of the stomach, and in gastric succorrhea.

130. See abstract No. 125.

132. **Chloroform-Oxygen Anesthesia.**—Schmidt and David describe research on mice which shows that breathing air containing over 90 per cent. oxygen induces changes in the lungs similar to the picture of croupous pneumonia. The same changes were induced in guinea-pigs with from 40 to 60 per cent. oxygen, and they think that there is no doubt that the oxygen has an unmistakably injurious action on the bronchial and alveolar epithelium. This property of oxygen has not been regarded sufficiently hitherto; they think that there seems to be some analogy between it and caisson disease.

133. **Specific Urine Reaction in Paralysis.**—Beisele found Butenko's reaction positive in twenty-five out of twenty-seven cases of paralysis, that is, in 94 per cent. The reagent is a solution of mercurous nitrate in water with a little nitric acid, the combination known as liquor Bellostii. The reaction was never positive in seventy-three other patients examined.

Therapeutische Monatshefte, Berlin

December, XXIV, No. 12, pp. 669-762

135 *Treatment of Exophthalmic Goiter. (Zur Behandlung der Basedowschen Krankheit.) W. Ebstein.
136 *Advantages of Dry Treatment of Leukorrhea. (Behandlung des Fluor albus.) W. Liepmann.
137 Veronal in Treatment of Seasickness. (Seekrankheit und Veronal.) E. Schepelmann.
138 Pharmacologic Tests for Atropin, Physostigmin and Pilocarpin. J. Pohl.
139 Cause of Therapeutic Action of Electric Currents. P. Steffens.

135. **Treatment of Exophthalmic Goiter.**—Ebstein reports four new cases to show the remarkable benefit liable to follow the cure of severe chronic constipation in cases of exophthalmic goiter. In one of the cases all the symptoms subsided and there has been no recurrence during the fifteen years since. The constipation in all these cases yielded only to persevering, systematic injections of oil. The diarrhea with exophthalmic goiter may also yield to injections of oil. He is convinced that auto-intoxication from chronic constipation is liable to have an injurious influence on the thyroid, and when the source of these toxins is dried up by the cure of the tendency to constipation, the disturbances resulting from the pathologic thyroid functioning are liable to subside with it. His patients were women between 18 and 47 years old.

136. **Treatment of Leukorrhea.**—Liepmann has obtained better results in treatment of leukorrhea since he has discarded lavage and merely applied an absorbent powder after sponging the vagina dry. Nassauer has long been proclaiming the advantages of bolus alba for the purpose on account of its absorbent properties.

Wiener klinische Wochenschrift, Vienna

January 5, XXIV, No. 1, pp. 1-42

140 Photodynamic Action of Fluorescent Substances. II. H. Pfeiffer.
141 *Experiences with Tuberculin Treatment. J. Sorgo and E. Suess.
142 Dispensary Tuberculin Treatment. (Tuberkulindiagnostik und ambulatorische Tuberkulinbehandlung.) M. Laub.
143 *Lordotic Albuminuria and School Hygiene. L. Piesen.
144 Generalized Herpes Zoster. G. Nobl.
145 Diagnosis of Sporadic Cases of Cholera. (Zur Verwendung der Blutplattenmethode und der Komplementbindungsreaktion in der Diagnose sporadischer Cholerafälle.) M. Gioseffi.
146 Diet and Kitchen from Chemical, Physical and Physiologic Standpoints. W. Sternberg.

141. **Tuberculin Treatment.**—Sorgo and Suess are in charge of the Alland sanatorium and they have had such favorable experiences with tuberculin treatment that they hope to see it become a routine measure in the hands of the general practitioner. The patients must be warned that they may be obliged to spend a few days in bed when the reaction is unusually severe, and patience and perseverance are required by both the physician and the patient. There is no doubt, they declare, that tuberculin is an important weapon against pulmonary tuberculosis. They usually begin with 0.000001 to 0.00001 gm. but they warn that it is folly to waste time with doses below those which the patient can tolerate; it is necessary to begin with the smallest doses in some cases, but with a little experience it is possible to select those in which larger doses can be commenced from the first.

143. **Lordotic Albuminuria.**—Piesen found that the children inclined to lordotic albuminuria developed it when they were obliged to sit with their arms crossed behind them, a frequent school attitude. Study of the subject in a large number showed that this attitude has a directly injurious influence on the kidney and is liable to induce albuminuria. The predisposition to lordotic albuminuria seems to be more pronounced, the taller the child for its age. The facts observed confirm Lury's assumption that movability of the kidney is the decisive factor in lordotic albuminuria.

Zeitschrift für Urologie, Berlin

December, IV, No. 12, 897-1036

147 Technic for Pyelolithotomy. S. P. v. Federoff.
148 Partially Intraligamentary Developed Bladder. J. Voigt.
149 Congenital Cysts in Genital and Perineal Regions. C. Gutmann.

Zentralblatt für Chirurgie, Leipsic

January 7, XXXVIII, No. 1, pp. 1-32

150 *Autodrainage for Elephantiasis, Etc. (Eröffnung neurer Abfuhrwege bei Stauung in Bauch und unteren Extremitäten.) O. Lanz.
151 *Transplantation of Nerve from One Side to the Other. (Nervenüberpflanzung von der einen Seite auf die entgegengesetzte.) D. Maragliano.
152 Femoral Hernia. (Zur Radikaloperation der Schenkelhernie.) A. Hammesfahr.
153 *Subungual Hematoma. G. v. Lobmayer.

150. **Autodrainage for Elephantiasis from Congestion of Lymph.**—Lanz was able to obtain a complete cure in the case of a man of 49 whose right leg had been gradually enlarging in size for five years, without pain, the disfigurement and discomfort resulting from the enormous size of the entire limb incapacitating the patient at times. Lanz kept the man in bed for ten days with the limb raised, and then incised the thigh down to the bone and bored into the femur at the lower, middle and upper thirds. He then cut some narrow strips from the fascia lata and worked them into the three holes drilled in the bone, his aim being to induce a collateral circulation of lymph, opening a passage from the subcutaneous lymphatics into the intramuscular, subperiostal and marrow network of lymph vessels. Before suturing he made also a number of openings for drainage through the fascia lata. The silk suture the length of the thigh may also have contributed to the result. Relief was immediate and permanent. Now, three years later, no difference is apparent between the right and left leg, except that the skin of the right thigh seems a little thicker than the other. The fascia lata is an absolute barrier for the lymph routes, and by artificially opening passages through this barrier the whole trouble was cured. If the desired effect had not been attained he had intended to connect the lymphatics in the thigh with those of the seminal cord, pushing the latter over to the fossa ovalis.

151. **Transplanting the Femoral Nerve to the Other Side.**—Maragliano implanted a branch of the left femoral nerve in the totally paralyzed right femoral nerve in the case described. The patient was a child of 2 with total paralysis of the right leg from acute poliomyelitis nearly a year before. Arthrodesis at the hip-joint, knee and ankle would have been necessary to enable the child to walk, but excellent functional results were obtained by drawing the isolated branch of the left femoral nerve through a subcutaneous tunnel and suturing it with the finest catgut to the entire peripheral stump of the right femoral nerve.

153. **Subungual Hematoma.**—Lobmayer trephines the nail and thus releases the accumulated blood without pain and without injury of the nail. He has applied the method in forty cases, complete working capacity being restored in three or four days while the relief from pain was immediate.

Zentralblatt für Gynäkologie, Leipsic

January 7, XXXV, No. 1, pp. 1-48

154 Asepsis in Laparotomies and the Origin of Emboli. O. v. Franqué.
155 *Oxygen in Resuscitation of New-Born Infants. (Die Sauerstoffdruckatmung zur Bekämpfung des Scheintodes Neugeborener.) F. Engelmann.
156 Nomenclature in Obstetrics. J. Reich.
157 Walling Off the Small Pelvis After Infectious Operations. (Die Abkapselung des kleinen Beckens nach infektionsverdächtigen Operationen.) E. Holzbach.

155. **Resuscitation of Asphyxiated New-Born Infants.**—Engelmann gives an illustrated description of the small oxygen tank and mask which has permitted the prompt resuscitation of a number of asphyxiated new-born infants with the least delay and trouble. The mask consists of a broad rubber ring which fits over the face, the roof of the mask forming a rubber balloon opening on the mask proper.

Zentralblatt für innere Medizin, Leipsic

January 7, XXXII, No. 1, pp. 1-32

158 Digestion of Carbohydrates. A. Jolles.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 27, XXXI, No. 155, pp. 1641-1648

159 Iodin Sterilization of Field of Operation. (Sterilizzazione del campo operativo col metodo Grossich.) D. Vandini.

January 1, XXXII, No. 1, pp. 1-16

160 Acidity of the Urine in Respect to Diagnosis and Prognosis. (L'acidita urinaria indagata come grado, persistenza e aumento.) L. Castriota.

January 3, No. 2, pp. 17-24

161 Treatment of Venereal Adenitis. G. Dal Fabbro.

Policlinico, Rome

December 18, XVII, No. 51, pp. 1603-1634

162 Urinary Concrements in Children. (Litiasi urica dei bambini.) G. Di Cristina.

January 1, XVIII, No. 1, pp. 1-36

163 *Clinical Importance of Two Precipitates in Acetic-Acid Seroreaction. F. Rivalta.

163. **Acetic-Acid Seroreaction.**—THE JOURNAL, July 9, 1910, page 178, described Rivalta's technic for this reaction with blood and serum, and the conclusions he drew from the findings in regard to the prognosis. He now announces that continuing the dilution still further, after all trace of precipitation had ceased, he found that in certain serums another precipitable substance made itself manifest when the dilution had reached a certain point. The behavior of this second precipitate indicates, he thinks, that it is due to the presence in the serum of certain elements resulting from breaking down of tissue, while the first precipitable substance seems to be an element of the defensive reaction. Comparison of the two may thus throw light on the prognosis. The second precipitate was evident in dilutions up to 1 to 15,000 in cases of advanced tuberculosis, for example.

Riforma Medica, Naples

December 19, XXVI, No. 51, pp. 1402-1428

164 *Carcinoma of Thyroid. (Carcinomi della ghiandola tiroide.) G. Morone.

165 Advantages of Temporary Cecostomy in Treatment of Mucomembranous Colitis. G. Doglioni.

164. **Cancer of the Thyroid.**—Morone reports three cases of cancer in the thyroid with an extremely rapid course; in two there was a preceding colloid goiter. One patient was a woman of 25, the others were over 40. In another case the symptoms suggested subacute inflammation of the thyroid; the intermittent fever was probably due to the absorption of the pathologic secretions of the gland.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

STUDIES ON LEPROSY. XII. NOTES ON THE STUDY OF HISTORIES OF LEPERS FROM THE STANDPOINT OF TRANSMISSION. By Donald H. Currie, Passed Assistant Surgeon and Director Leprosy Investigation Station. XIII. A CONTRIBUTION TO THE STUDY OF RAT LEPROSY. By Donald Currie and Harry T. Hollmann, Acting Assistant Surgeon, Leprosy Investigation Station, P. H. & M.-H. S. Investigations made in Accordance with the Act of Congress approved March 3, 1905. Public Health Bull. No. 41, U. S. P. H. and M.-H. S., Treasury Department, November, 1910. Paper. Pp. 36. Washington: Government Printing Office, 1911.

ACCIDENTAL INJURIES TO WORKMEN. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911

THE WORK OF THE DIGESTIVE GLANDS. Lectures by Prof. I. P. Pavlov, Director of the Physiological Section of the Imperial Institute of Experimental Medicine. Translated by W. H. Thompson, Sc.D., M.D., F.R.C.S. (Eng.), King's Professor of the Institutes of Medicine, Trinity College, Dublin. Second English Edition. Cloth. Price, $3 net. Pp. 266, with 43 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume 1. Cloth. Price, $6 net. Pp. 909, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

REMEDIAL GYMNASTICS FOR HEART AFFECTIONS. Used at Bad-Nauheim. By Dr. Julius Hofmann and Dr. Ludwig Pohlman, Berlin and Bad-Nauheim. Translated by John George Garson, M.D., Edin., Physician to the Sanatoria and Bad-Nauheim, Eversley, Hants, from "Die Gymnastik der Herzleidenden." Cloth. Price, $2 net. Pp. 128, with 42 illustrations. New York: Paul B. Hoeber, 1911.

FOURTEENTH ANNUAL REPORT OF THE LOOMIS SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS. Oct. 31, 1910. Liberty, Sullivan County, New York. (Medical Supplement prepared in accordance with the suggestion of the National Association for the Study and Prevention of Tuberculosis, by Herbert Maxon King, M.D.) Paper. Pp. 80.

THE TREATMENT OF SYPHILIS BY THE EHRLICH-HATA REMEDY (DIOXYDIAMIDOARSENOBENZOL). A Compilation of the Published Observations by Dr. Johannes Bresler, Chief Physician to the Provincial Medical Establishment at Luben, Silesia. Second Edition. Cloth. Price, $1. Pp. 122, with illustrations. New York: Rebman Co., 1911.

AERZTLICHE FORTBILDUNGSKURSE DER FREIEN ORGANISATION FÜR DIE MEDIZINISCHEN KURSE AN DER K. K. UNIVERSITÄT WIEN. (Postgraduate medical work under the patronage of the free organization for medical courses at the i. r. University of Vienna.) 2. Ausgabe. Paper. Pp. 116. Vienna: Urban & Schwarzenberg, 1911.

DISCURSO LEIDO EL DIA 2 DE JULIO EN LA APERTURA ANUAL DE LOS ESTUDIOS DE LA UNIVERSIDAD PONTIFICIA DE STO. TOMAS, DE MANILA. Por Don Leon M. Guerrero, Professor de la Facultad de Farmacia en la misma Universidad. Edicion oficial. Paper. Pp. 88. Manila: Estab. Tipog. del Colegio de Sto. Tomas, 1910.

AN INTRODUCTION TO VERTEBRATE EMBRYOLOGY. Based on the Study of the Frog, Chick and Mammal. By Albert Moore Reese, Ph.D. (Johns Hopkins), Professor of Zoology in West Virginia University. Second Edition. Cloth. Price, $1.50 net. Pp. 340, with 118 illustrations. New York: G. P. Putnam's Sons, 1909.

HISTORY OF ANTHROPOLOGY. By Alfred C. Haddon, M.A., Sc.D., F.R.S., Fellow of Christ's College, University Reader in Ethnology, Cambridge. With the Help of A. Hingston Quiggin, M.A., Formerly of Newnham, Cambridge. Cloth. Price, 75 cents. Pp. 206, with illustrations. New York: G. P. Putnam's Sons, 1910.

THE HEALTH INDEX OF CHILDREN. By Ernest Bryant Hoag, M.A., M.D., Medical Director of Berkeley Schools. With Prefatory Note by Frank F. Bunker, Ph.B., Superintendent of Berkeley Schools. Cloth. Price, 80 cents. Pp. 188, with illustrations. San Francisco: Whitaker & Ray-Wiggin Co., 1910.

SYPHILIS: ITS DIAGNOSIS AND TREATMENT. By F. J. Lambkin, Col. R.A.M.C., Lecturer on Syphilology, Royal Army Medical College, London. With Preface by Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D. Cloth. Price, $2.25 net. Pp. 195. New York: William Wood & Co., 1911.

PROCEEDINGS OF THE 64TH ANNUAL MEETING OF THE NEW YORK STATE TEACHERS ASSOCIATION. Held at New York City, Dec. 28-29, 1909. New York State Education Department Bulletin 483. Paper. Pp. 703. Albany: University of the State of New York, 1910.

RADIUM: ITS PHYSICS AND THERAPEUTICS. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 27 illustrations. New York: William Wood & Co., 1911.

COMPEND OF GYNECOLOGY. By William Hughes Wells, M.D., Associate in Obstetrics in the Jefferson Medical College. Fourth Edition. Cloth. Price, $1 net. Pp. 290, with 153 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

WE YOUNG MEN. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans Wegener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. Pp. 204. Philadelphia: Vir Publishing Co., 1911.

AN INTRODUCTION TO SURGERY. By Rutherford Morison, M.A., M.B., F.R.C.S., Edin. and Eng., Professor of Surgery, University of Durham. Cloth. Price, $2.50 net. Pp. 162, with 151 illustrations. New York: William Wood & Co., 1911.

A HANDBOOK OF INTESTINAL SURGERY. By Leonard A. Bidwell, F.R.C.S., Surgeon, West London Hospital. Second Edition. Cloth. Price, $2.50 net. Pp. 215, with 120 illustrations. New York: William Wood & Co., 1911.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Fiscal Year 1909. Cloth. Pp. 274. Washington: Government Printing Office, 1910.

PERSONAL HYGIENE AND PHYSICAL TRAINING FOR WOMEN. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with illustrations.

MAKERS OF MAN. A Study of Human Initiative. By Charles J. Whitby, M.D., Author of "The Logic of Human Character," etc. Cloth. Price, $3. Pp. 424, with illustrations. New York: Rebman Co., 1911.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Vol. XI. 1910. Paper. Pp. 419, with illustrations.

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PLICATION OF THE ROUND AND ANTERIOR FOLD OF THE BROAD LIGAMENT ON THE ANTERIOR SURFACE OF THE UTERUS FOR RETRODISPLACEMENT *

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ANATOMIC AND SURGICAL PRINCIPLES

This presentation is made more to illustrate the anatomic and surgical principles underlying the entire subject of the treatment of retroversion, than to set forth any specific mechanical detail. The uterus is very largely an intra-abdominal organ. All intra-abdominal organs are supported almost entirely by peritoneal folds. The peritoneum is supported in turn by a loose connective tissue which holds it loosely but persistently to the abdominal wall except at its upper attachment, where it is firmly fixed and blended with the diaphragm. Strictly speaking, the abdominal organs, which we refer to as intraperitoneal, are all extraperitoneal, inasmuch as every organ lies between two layers of peritoneum made as if the organ had been pushed into the peritoneal sac from the outside, and had become adherent to it.

New ligaments are formed during fetal development and rotation, by the contact of two peritoneal surfaces which adhere, blend, and become obliterated at point of contact. This may be illustrated by the rotation of the colon, which goes upward and to the right and adheres to the peritoneum of the posterior abdominal wall and thereby forms the mesocolon. The spleen rotates to the left, comes in contact with the peritoneum of the posterior abdominal wall, adheres to it, obliterates the endothelial coverings and thereby the ligament of the spleen is formed and it is fixed on the left side. The omentum grows from the lower border of the stomach down over the transverse colon and adheres to it at the point of contact, its surfaces blend and we have the gastrocolic ligament or gastrocolic omentum. If the peritoneal surface of the stomach is plicated by bringing the anterior superior border and the anterior inferior border together and holding them firmly by peritoneal sutures, all of the space enclosed by this line of sutures becomes obliterated. If the omentum is sutured to the abdominal wall and held firmly, the surfaces blend and a complete partition is made across the abdomen. If the lesser omentum is plicated for a gastroptosis, Beyea has found that the surfaces blend and the omentum or ligament is permanently shortened.

The Kelley operation proves more conclusively than anything else the certainty of the blending of peritoneal surfaces, for we find that after Dr. Kelley's operation (which does not use one-twentieth the amount of peritoneum found supporting other organs of equal weight), in only a small percentage of cases does the uterus fall backward, and in nearly all of those cases in which the uterus does fall backward, the ligament is found, not broken, but attenuated to a thread. This operation has probably been done more times than any other intraperitoneal operation, with the exception of the removal of the appendix, tubes or ovaries; and with remarkable success when we consider that it first struck the vital point of treating displaced organs. Alexander unwittingly used the same principle in drawing out the round ligament and with its covering of peritoneum which blended at the internal ring, shortening the anterior fold of the broad ligament just so much as there was of peritoneum passing through the internal ring. The operation was later spoiled by meddlers who pushed the peritoneum back off the ligament, as a result of which the operation has fallen largely into disuse. The Gilliam, the Mann, the Simpson, the Baldy-Webster and all operations which are used to-day and have been found to be successful, use the peritoneum of the broad ligament; consequently I think the formulation of the following rule is justified: "Two peritoneal surfaces brought together and held firmly in an aseptic state, adhere, blend, and obliterate and the contiguous surfaces lose their endothelial covering, becoming continuous at the point of peritoneal contact."

The uterus, however, differs from the other peritoneal organs in that it is permitted a wider range of motion because of its functions; also, in that it is connected directly with the outside and therefore must be protected from extrusion. Because of the necessity for extraordinary mobility, the peritoneum of the broad ligament, the principal ligament, is attached extensively before and behind to the sides of the uterus and well down near its middle between fundus and cervix. Thus a very extensive attachment of peritoneum supports the uterus and, because of the large amount of loose connective tissue holding the peritoneum to the fixed wall of the pelvis, gives it a wide range of mobility. According to Nature's law of conservation, the uterus, which is so loosely attached, is turned in the pelvis, so that it lies practically crosswise.

Owing to the fact that such a variety of positions must be assumed, it becomes necessary to have some other means of automatically or involuntarily poising this organ and keeping it in this position at right angles to the body. Therefore the round ligament becomes a necessity, and is, histologically, perfectly constructed for such a function, as indicated by the following definition, taken from Sobotta:

* Read in a symposium in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910. Some articles of this symposium appear on later pages of this issue and others, with the discussion, will be printed next week.

In addition to the broad ligament, the uterus possesses other ligaments which are to be regarded as a continuation of its musculature. The most important of these is the round ligament, which is essentially a cylindrical or slightly flattened muscular cord, 12 to 15 cm. in length, which takes origin on either side from the anterior surface of the uterus in the vicinity of the uterine extremity of the tubes, and runs at first almost horizontally, then forward and downward between the two layers of the broad ligament covered mainly by the anterior one. In the vicinity of the uterus the ligament is thickened and consists solely of connective tissue and non-striated muscle but in its course through the inguinal canal it usually receives fasciculi of striated fibers from the internal oblique and transversalis which are continued on it for a varying distance, frequently extending almost to the uterus but never passing externally beyond the inguinal ring. He further says: "Similar continuations of the uterine musculature are the recto-uterine which run in peritoneal folds of the same name and connect the superficial musculature of the rectum with that of the uterus. The uterosacral ligaments are connective-tissue fasciculi which accompany the muscular similarly named folds to the region of the second and third sacral vertebræ where they fuse with the peritoneum.

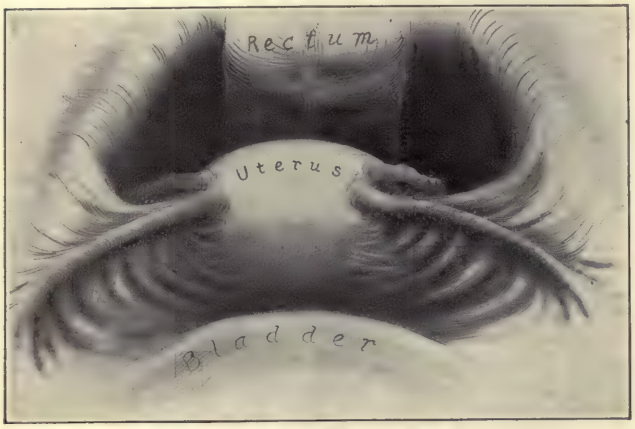


Fig. 1.—Relations in partial retrodisplacement of the uterus.

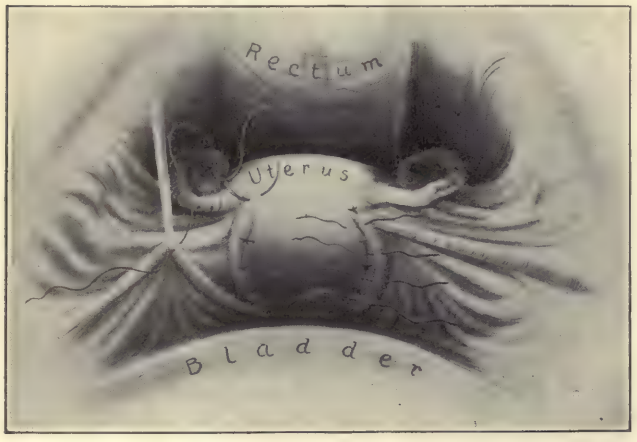


Fig. 3.—Second step in author's operation.

Taking up the physiology, we find that a muscle fiber has no other function than that of contraction and producing motion. We also know that a muscle fiber will under no circumstances stand a continuous strain, and that a muscle is therefore totally unfitted for taking up the work of a ligament proper; consequently, the only physiologic function for which the round ligament could be used would be for producing motion, aside from the function performed by the connective tissue, which is an extraordinary precaution to prevent the uterus from being extruded. It is therefore very evident that the function of the round ligament must be that of automatically poising the uterus during the various positions assumed by the individual and thus preventing it from becoming a dead weight on the broad ligament.

OPERATION

Following the early operations of double salpingectomy and oophorectomy, in which the broad ligament was tied off *en masse,* and in which the round ligament was frequently included, a large percentage of the patients developed a retroversion. If one or both round ligaments are destroyed by traumatism, retroversion will usually take place later on; therefore it seems that the round ligament and the broad ligament are equally essential to the proper holding of the uterus in position —the broad ligament to carry the constant weight, the round ligament to poise it on this support in a manner making it easy to carry. Such being the case, the ideal operation for retrodisplacement of the uterus should shorten the broad ligament and at the same time avoid permantly fixing and thereby hampering the movements of the round ligament. Therefore I submit the following operation:

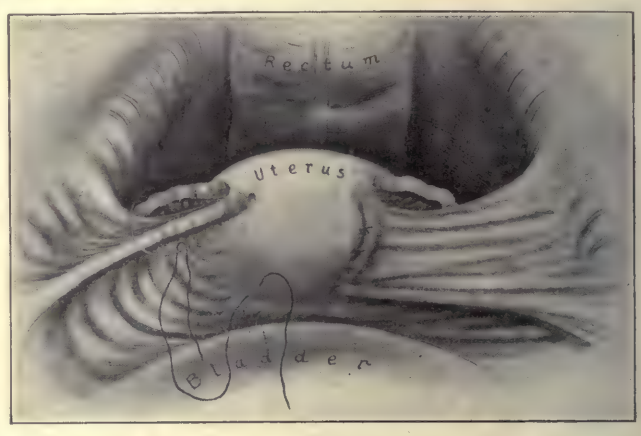


Fig. 2.—First step in author's round and broad ligament plication.

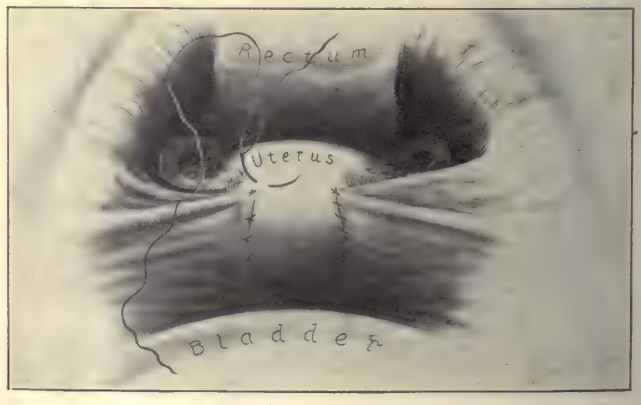


Fig. 4.—Third step in author's operation.

Before beginning the operation proper, break up adhesions, treat adnexa, lifting the uterus, and pack a sponge back of it which leaves it in the position shown in Figure 1. Then seize the round ligament about an inch and a half from the uterus, and with a No. 2 or No. 3 chromicized catgut, stitch to the anterolateral border of the uterus at the beginning of

the vesico-uterine fold. Place three or four similar sutures between this point and the uterine end of the ligament (Fig. 2). Thus a double fold of the broad ligament is brought over to the side of the uterus.

Seize the ligament an inch and a half further on and bring it up to a point just above and internal to the uterine end of the round ligament and fasten with a chromicized catgut suture. Place three or four more sutures between this and the first suture at the vesico-uterine fold (Fig. 3). Thus, two more peritoneal or broad ligament layers are brought over to the side and front of the uterus.



Fig. 5.—Sectional view, showing scheme of plication operation.

With a No. 1 or 2 chromicized catgut continuous suture, bring a fold of peritoneum from each side over the line of interrupted chromicized sutures. This continuous suture may include as much of the peritoneum as necessary to bring it taut; care must be made to avoid pulling in the bladder.

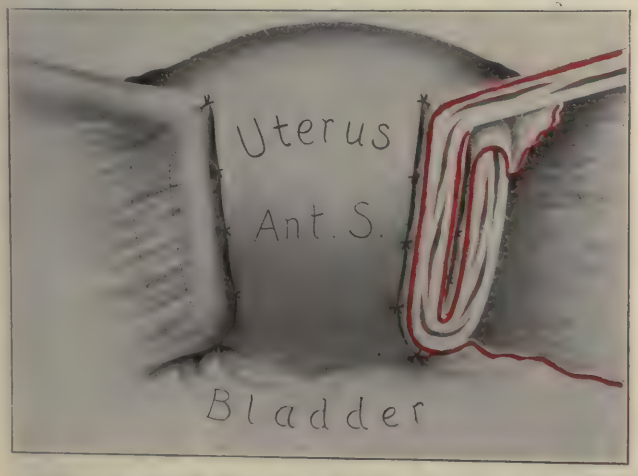


Fig. 7.—Scheme of second step of operation shown in perspective on the left and in sectional view of the right.

(Fig. 4). Be careful not to include the entire thickness of the round ligament in any of the rows of sutures.

I have personally performed 272 operations for retrodisplacements of the uterus by using this method. In twelve other cases continuous sutures were used all through, in an attempt to shorten the operation. After the twelve operations by the continuous method, four patients relapsed very soon and the other eight have not been heard from. After the 272 operations by the method described, using the interrupted sutures, I have heard of only two cases of recurrence; one after an operation for prolapsus in an old woman, another in which the operation was followed by volvulus, requiring a secondary operation and drainage. In fact, I have not examined these patients and do not know that recurrence has taken place. I have learned directly of eighteen women who have borne children since. In these, no dystocia has been noticed. I have personally examined



Fig. 6.—Sectional view, showing end-results of plication operation. Dotted lines represent obliterated peritoneal areas.

four of the eighteen after labor and found the uterus in good position. The other fourteen have been examined by the family physician and the uterus has been found in good position. Of the 272 patients five have

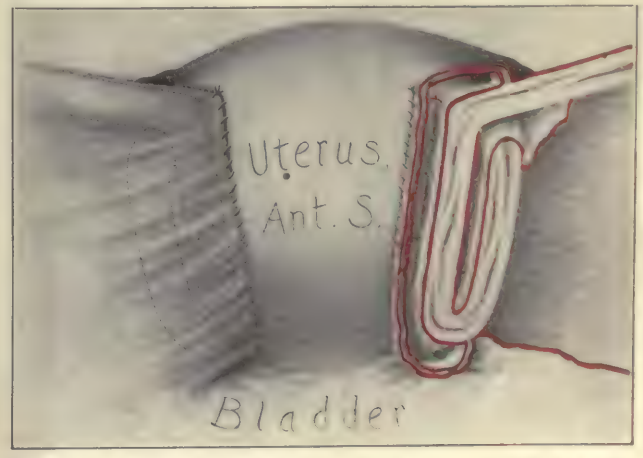


Fig. 8.—Scheme of third step shown in perspective on the left and sectional view on the right.

required a later operation for other diseased conditions in the lower abdomen, which has given an opportunity to observe the condition following the operation. In all five cases, the broad ligament was found holding the uterus in perfect position. The ligament was normal except that the anterior fold seemed slightly thicker. The round ligaments, one of which in all cases, and both of which in some cases, had been attenuated to the size of a very small cord, had regained their normal size

and their normal position under the peritoneum and, in fact, had reestablished relations that were normal in every respect. Therefore I feel justified in presenting Figures 7 to 11 to illustrate the manner in which the round ligament unquestionably restores itself to its normal condition. I may here state that this is easily proved by making a cloth uterus and broad ligaments in which a round ligament made of an elastic cord is placed. By folding the round ligament and the broad ligament on the surface of the cloth uterus, as I have

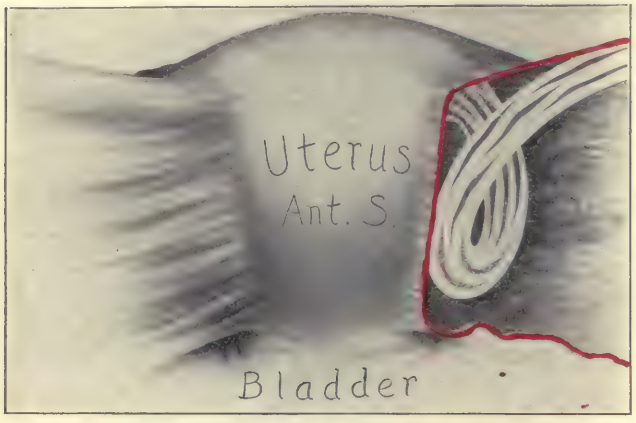


Fig. 9.—Round ligament freeing itself and straightening under the peritoneum.

done in the operation, taking care to glue the cloth broad ligament to the surface of the cloth uterus, thus corresponding to the blending of the peritoneum; by using sutures which can be either withdrawn or cut, in order to free the elastic cord, it will be found that the cord will slip out from between the layers of the cloth broad ligament, producing exactly the same condition I have found in my cases, minus the blending of the

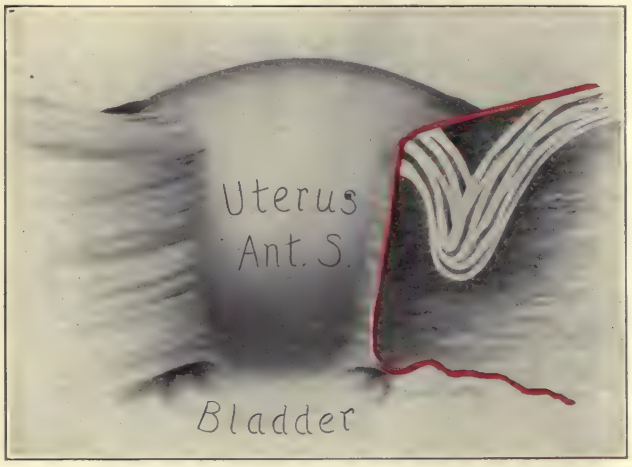


Fig. 10.—Final step; round ligament straightening itself under the peritoneum of the round ligament.

adjacent peritoneal surfaces which obliterates all peritoneal spaces.

Figure 7 shows the second step of the operation in perspective on one side and a sectional view of the same step of the operation on the other side. In the sectional view, representing the round ligament as being very much attenuated, the muscle cells are few.

Figure 8 shows the completed operation in perspective on one side and a sectional view of the completed operation on the other side with the same attenuated ligaments.

Figure 9 shows a broad ligament some weeks after operation on one side, and on the other side, the theory of the gradual freeing of the round ligament under the broad ligament as represented. The round ligament has had time to rest, the catgut sutures have been partially absorbed, the muscle fibers, performing their normal function of contraction, are coming closer together, thereby straightening the ligament out under the peritoneum.

Figure 10 is an extension of the same process, in which the round ligament is becoming straighter and shorter and the muscle fibers are becoming correspondingly more numerous.

Figure 11 shows the round ligament straightened out under the broad ligament and the establishment of a normal cord:

In this operation, as proved by results seen afterward, all the requirements of the anatomic and surgical principles set forth have been fulfilled. The broad ligament, which is the principal support of the uterus, has been shortened, and the action of the round ligament has not been permanently hampered but on the contrary, it has

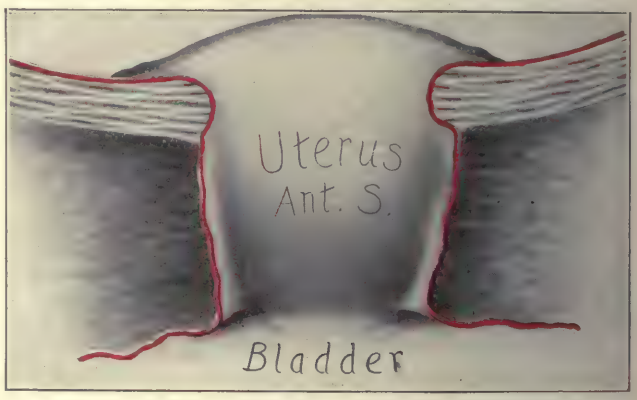


Fig. 11.—Round ligament restored to normal position under the peritoneum.

been permitted to regain its normal strength so that while the uterus is supported constantly by the broad ligament, it may also be poised to suit the changing positions of the body by the restored round ligament.

Dr. W. B. Holden, my office neighbor, has done this operation more than 50 times without recurrence as far as he knows, and states, in a personal communication that the results are so satisfying that he never thinks of doing any other operation for retroversion of the uterus.

Dr. Suttner of Walla Walla, Wash., has done the operation regularly for some time (more than 150 operations), and patients have been pleased with it. The observations of all these operators, taken with my own, seem to indicate that the comfort to the patient is greater in this operation than in any other operation having the same object. The absence of the backache, which is represented as following operations which permanently fix the round ligament, is a very noticeable feature. Previous to the development of this operation, I had done approximately 200 Kelley operations with very good success as far as holding is concerned. The anatomic condition left after the operation was unsatisfactory in a considerable number of cases. Labor was difficult in a proportion of the patients.

In some cases habitual abortion occurred and a very large percentage of the patients complained of the old backaches, pulling on the abdomen, and a train of nervous symptoms which were even worse than the original. I may here state that I followed Suttner's lead in performing the plication operation in cases in which the uterus was already pregnant. Suttner deliberately did this plication operation in two cases at the second month of pregnancy in order to prevent abortion, which had previously been habitual about the third month as a result of the displaced uterus. In each instance, the child went on to full term and was born without difficulty. In one of my cases the patient was pregnant at the time of operation but did not know it. She went on to full term and was delivered. In another case, the patient, an unmarried woman, was found to be pregnant two months. The plication operation was done regardless of the condition. The wedding ceremony was performed the night after the operation. Pregnancy went on to full term and the child is now several months old. I presume that these pregnancies would continue with any of the other round ligament operations in just the same way, but I mention these cases to show that while this operation seems to comprise a good deal of surgery the traumatism must necessarily be of a superficial nature.

Corbett Building.

THE RELATION OF THE TEETH TO THE DEVELOPMENT OF THE JAWS AND FACE *

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In considering the structure of all multicellular organisms, and, in fact, in the very simplest aggregations of cells into tissues, it becomes apparent that there are two essential parts: the cells, which are the vital units; and intercellular substances, which give the physical characteristics to the tissue. The latter are always material which have been produced by the vital activity of the protoplasm, but which are not living matter; that is, they have no vital properties but are dependent on the protoplasm for formation and for the maintenance of their chemical character. In tissues, the vital characteristics are given to the protoplasm by the cells, the physical characteristics by the intercellular substance. Protoplasm, which has long since been recognized as the physical basis of life, is always of a soft and more or less gelatinous character, and of it alone, nothing resembling a highly organized creature could be formed. Other substances therefore have been produced by the protoplasm for the purposes of protection, support, rigidity and strength. Always the protoplasm is the active agent by whose chemical activity the protecting or supporting substance is formed. There are two types of formation. The first consists of cells which develop substances inside of the protoplasm to give rigidity or strength This class is illustrated by certain cells found in the lobster and other similar creatures, but this type of supporting cell has apparently proved insufficient or not adapted to higher developed forms. In the other type the protoplasm develops, on its surface or about it, formed materials which give protection and support, either in the form of rigidity, or strength, or both. The simplest example of this class is found in the cell walls of plants.

It is important to note that the necessity for physical properties which are impossible for protoplasm itself is the cause of the appearance of intercellular substances.

In the very beginning of evolution, therefore, physical conditions and necessities led to the formation of substances by the protoplasm which gave it support and protection. In the higher animals certain tissues have developed such materials for the support and assistance of the more vitally active tissue, and therefore have been called the supporting or connective tissues. In these tissues the cells form and maintain materials which give qualities of strength and rigidity to the tissue and enable it to serve as the framework of the organism. The intercellular substances have been called into existence to meet physical and mechanical conditions. The connective tissues are the most adaptable of all tissues and respond most quickly to conditions of environment. The mutation of these tissues or their power to change from one variety to another is their most striking characteristic. The cells control the intercellular substances to form more, to destroy what has been formed, or to change its character; and their activities are excited in response to physical or mechanical conditions.

In the process of growth and function they are continually changing. Embryonal connective tissue develops into fibrous tissue, fibrous tissue into cartilage, and cartilage into bone. In bone, which is the highest form of tissue for rigidity, mutation is the most striking characteristic. It may be formed from fibrous tissue directly or through the medium of cartilage, and it always retains a large amount of cellular elements which can at any time destroy and reform the intercellular substances. In fact, bone should always be considered as a fibrous tissue which has developed in itself intercellular substances of a different sort to meet special mechanical conditions. In other words, there is always in contact with the calcified intercellular substance of bone, on its surface and in spaces within it, undifferentiated connective tissue, the cells of which are capable of developing into any sort of connective tissue cells. It is the presence of these embryonal cells which makes bone a plastic tissue. There are three varieties of bone: subperiosteal, Haversian system, and cancelous. In other papers I have emphasized the characteristics of these classes, and I assume that all are familiar with the minute structure of each. At present I wish to emphasize the transformation from one variety to another that occur in growth and which are in fact going on continually throughout life under the influence of mechanical conditions.

In bone showing subperiosteal bone on the surface, a portion of compact or Haversian system bone, and cancelous bone beyond, if this bone is growing in one direction subperiosteal bone will be laid down in layers parallel with the surface. When a certain thickness has been formed large spaces or canals will be absorbed out of it, forming what are known as Haversian spaces and around these concentric layers will be laid down, converting them into Haversian systems. Only enough compact bone is formed to meet the mechanical stress of the position. As soon as an excess has been formed absorption begins in the Haversian canals, cutting out large spaces around which a few lamellæ are formed, producing cancelous bone. If the bone is growing in the opposite direction concentric layers will be laid down around the spaces of the cancelous bone, making it more compact and large absorptions will occur under the periosteum, cutting deep into the Haversian system bone, after which a few layers of subperiosteal bone will be

* Read in the Section on Stomatology of the American Medical Association, Sixty-First Annual Session, at St. Louis, June, 1910.

added to the surface. In such absorptions the entire surface is not attacked at one time, but in one area there will be a large absorption while in an adjoining there is a slight rebuilding.

Figure 1 illustrates the first type. It is a section of the buccal cortical plate of the mandible of a sheep. On the surface is shown a little subperiosteal bone in which only one or two Haversian systems have been formed. Next is seen the Haversian system bone which has been destroyed from within and rebuilt with bone of more open structure. The first type of growth occurs in the direction toward which force is being exerted; the second type occurs on the surface from which force is being exerted. It may be stated as a generalization that the bone is more dense, but less in amount on the side

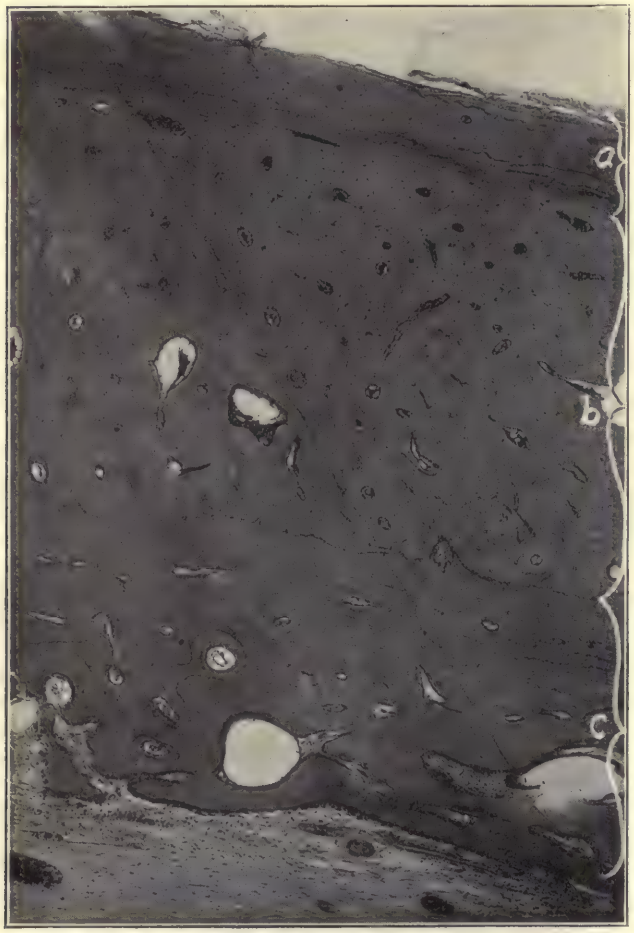


Fig. 1.—Buccal cortical plate of mandible of sheep; a, subperiosteal bone; b, Haversian system bone; c, rebuilt bone of more cancelous character.

toward which force is exerted, and greater in amount, but less dense on the side from which force is exerted. These generalizations become important in orthodontia. These conditions are illustrated in Figures 2 and 3. Growth has been progressing toward the buccal side. In other words that is the direction toward which force has been exerted, and the compact bone is less in amount, more dense in structure, while on the lingual side it is greater in amount but less dense in structure.

Professor Cope, in a long article,[1] elaborates the idea that the bones have developed in response to mechanical conditions, that the form, size and structure are the expression of adaptation to mechanical environment. He treats the subject entirely from the evolutionary standpoint. If we consider the subject from the standpoint of the development of the individual we are led to similar conclusions, and become more and more impressed with the fact that bone is formed in response to mechanical stimuli. This is true of the bone as an organ, and equally true of the minute structure within it.

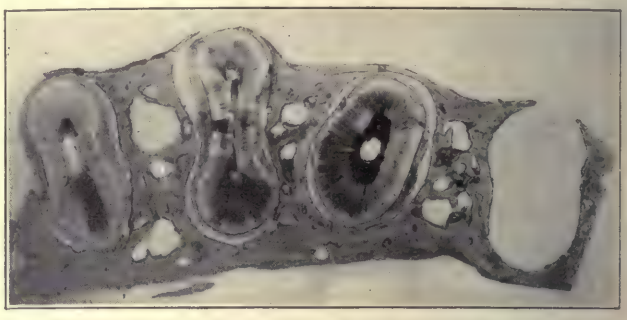


Fig. 2.—Transverse section through the alveolar process and the roots of the first and second bicuspids and first molar teeth; the buccal plate above the lingual plate below; the alveolus of the first bicuspid, to the right, empty.

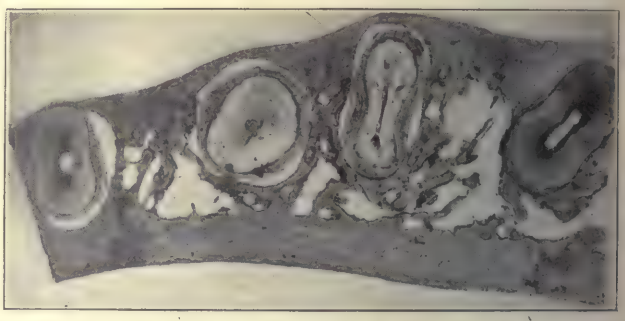


Fig. 3.—Transverse section deeper in the process; the buccal plate above, the lingual plate below, the first bicuspid to the left.

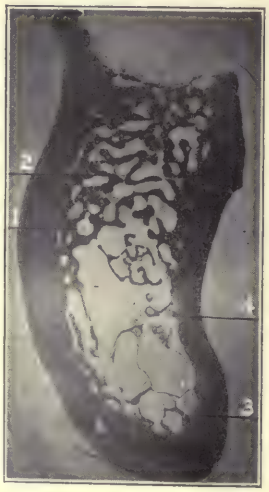


Fig. 4.—Section of human mandible between second and third molars.

Some years ago, Walkoff, in an elaborate study of the jaws by radiographs, showed that the direction and character of the spicules of cancelous bone within the substance of the bone are not the result of chance, but that their direction and arrangement were determined by the forces to which the compact bone of the cortical plates was subjected. If we examine sections of the mandible we shall find that not only is its general form determined by the mechanical conditions to which it has been subjected, but the cancelous bone is being continually reformed to adjust it to the stresses received on its surfaces.

Figure 4 is a decalcified section of a human mandible which was made to study the arrangement of the lamellæ as a record of the growth of bone. The subperiosteal layers are very few at almost all parts of the section. The cancelous bone in the alveolar region has been built and rebuilt to support the cribriform plates forming the

1. Cope, E. D.: The Mechanical Causes of the Development of the Hard Parts of the Mammalia, Jour. Morphol., 1888, iii.

walls of the alveoli for the roots of the molars during their movements in development, and the record of this rebuilding is left in the arrangement of the lamellæ.

Figure 5 shows a field from position 1, Figure 4. Notice how plates have been cut off and built on with layers in a new direction and how additions have been made at different times.

Figure 6 is taken from position 2, Figure 4. These spicules are a regular patchwork. At *a* is a bit of old spicule which ran in an entirely different direction, and there is another at *b*. These changes have not been the result of chance, but each new formation has been the response to some mechanical stimulus received through the substance of the bone.

Figure 7 is from 3, Figure 4, and shows the rebuilding that occurs during growth. There are large areas showing lamellæ which were at one time parallel with the surface in which comparatively few Haversian systems have been formed. This was probably during the most



Fig. 5.—Cancelous bone from 1 in Figure 4, showing the rebuilding of the spicules and addition of layers at different times.

active period of growth, the later subperiosteal layers being much more completely replaced by Haversian systems.

Figure 8, a field at 4 of Figure 4, shows wonderfully well the outline of the absorption spaces that have been rebuilt and at several places on the surface the marks of removal of bone by the periosteum, and in one or two places slight rebuildings.

In the growth of the jaws, therefore, bone is formed on the surface by the periosteum, the peridental membranes, and the articular cartilage, and is absorbed and rebuilt within, adapting it to all of its mechanical influences. We may say, therefore, that the adult bones are the result of all the mechanical conditions to which they have been subjected.

It would be impossible within the limits of this paper to consider in detail all of the forces which exert mechanical influences on the jaws. Probably the first and most important is the force exerted by the growth of organs enclosed in, or surrounded by the bones. This includes the growth of the tongue and the muscles surrounded by the jaws, and the muscles which lie against their surfaces, but more important, the growth of the teeth which are enclosed in the substance of the bone. Not much is known about the nature or the amount of the force generated by the growth or multiplication of cells. More has been done in regard to the growth

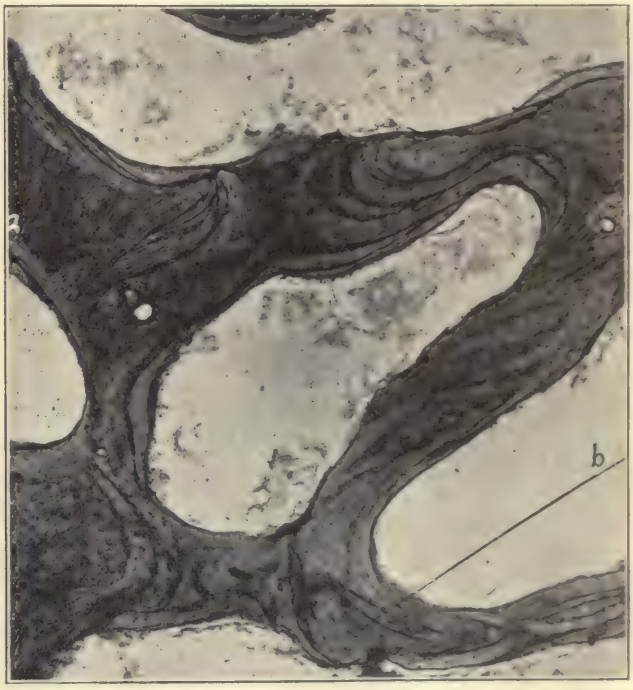


Fig. 6.—Cancelous bone from 2 of Figure 4; *a* and *b*, bits of old spicules.

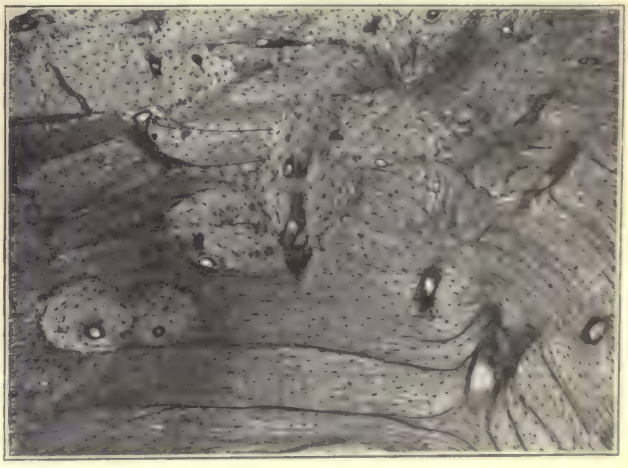


Fig. 7.—Compact bone from 3 of Figure 4, showing formation of Haversian systems in old subperiosteal bone.

of plant than animal cells but our knowledge is very meager. The force is probably very considerable, but acting through very small space. The growing roots of plants move stones, and some experiments have been made to determine the weight that could be lifted by the growth of a rootlet. The phenomena of osmotic pressure are involved in the problem and this involves the question of blood-pressure. There are some analogies

between the force exerted by the growth of protoplasm and that generated by the expansion of wood fiber, by the absorption of water, but the whole subject is too deeply complicated for any such superficial analysis. Whatever may be the explanation, the growth and the multiplication of cells produces very considerable force; and the growth of the teeth within the substance of the jaw produces mechanical conditions which are very important in the development of the bones of the face.

In a paper recently read before the Illinois State Dental Society I presented a more elaborate analysis of this topic, only the more important phases of which can be given here. While the temporary teeth are erupting they are continually being carried occlusally by the growth of their roots, the alveolar process growing up around them. As the roots of the anterior teeth are completed, they are still pushed forward, upward and outward, by the development of those distal to them. As soon as the temporary dentition is complete, the temporary teeth—alveolar process and all—are forced to move, by the development of the permanent teeth, which lie in crypts below them. In the paper referred to, the relation of these crypts to the roots of the temporary teeth was examined in detail; here it is sufficient to say that the growth of the permanent incisors and cuspids

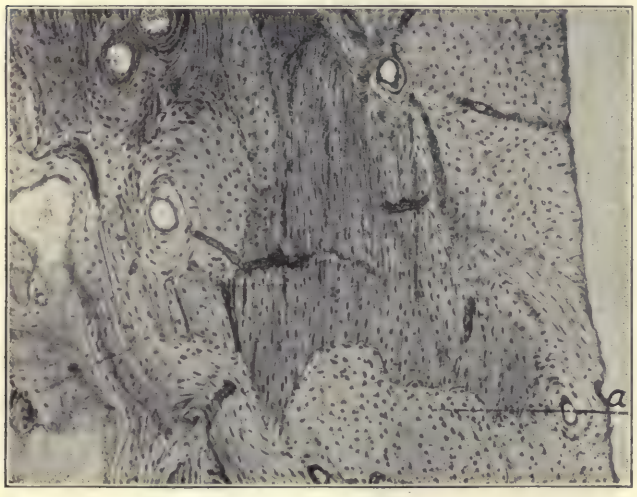


Fig. 8.—Compact bone from 4 of Figure 4; *a*, a rebuilt portion.

first causes the development between the median line and the region of the mental foramen and later the development of the bicuspids and second and third molars cause the growth which increases the distance from the mental foramen to the ramus. The development of the long roots of these teeth will carry the temporary teeth, alveolar process and all, downward, forward and outward in the upper jaw, upward, forward and outward in the lower. If we examine sections of the alveolar process about the temporary teeth we shall see that this growth is accomplished by the formation of subperiosteal bone on the outer and inner surfaces, and subperidental bone at the margin of the process and around the alveolar.

In the production of the alveolar process the peridental membrane and the periosteum work together. As soon as a certain amount of solid layers have been formed, large absorptions occur, which are partly rebuilt by concentric or Haversian system lamellæ, which may be again partly rebuilt and destroyed. The important factor is that the teeth are moving in an occlusal direction and the bone is being built and rebuilt under the influence of the mechanical conditions, so that at the later stages of their use the bone of the temporary alveolar process shows an immense number of formations at different periods. The growth of the permanent tooth does not cause absorptions simply of the bone forming the immediate wall of its crypt but osteoclasts appear all through the bone enlarging the spaces and opening up the structure. Apparently the bone is weakened in this way until what is left can spring under the force and then a new formation is begun to strengthen the tissue.

I have been especially impressed with the way the force exerted by the growth of the teeth in the crypt is responded to all through the substance of the bone covering them or in fact throughout the jaw. The result of these tissue changes is that when the temporary teeth are finally pushed off there is only a remnant of the temporary alveolar process left, and to this additions are at once started to attach the erupting permanent tooth. The influence of the growth of unerupted teeth continues to cause growth of bone and movements of the previously erupted teeth until the third molars have taken their places. During all of this period the action of muscles has been reacting on the bone. First, the muscles of mastication attached to the ramus and the coronoid process rest against the digastrics, geniohyoids and geniohyoglossi attached to the anterior part, the teeth and especially the first molars acting as the fulcrum. It is apparent, therefore, that if the first molars are in abnormal relation the position of the fulcrum is shifted, and the balance of the forces is disturbed, and it is very apparent that if the lower first molars are mesial of their normal relation the result is an overdevelopment of the mandible; if they are distal there is an underdevelopment. This is the necessary result of the changed distribution of forces in response to which bone is formed.

The effect of the function of swallowing, I believe, has not been appreciated. Every normal person swallows about once every two minutes. In each set of muscular contractions which constitute the act there is a distinct and considerable thrust against the lingual surfaces of the bones and the teeth. Every thrust is a stimulus to the connective tissue cells. The mouth if normally closed is entirely occupied by the tongue, and the base of the tongue is held against the palate and the pillars of the fauces in such a way that a partial vacuum is produced, which assists in the support of the weight of the mandible. This constitutes a mechanical impulse to the growth of bone which is very important in lowering the roof of the mouth and consequently increasing the depth of the nasal cavity from above downward.

The normal action of the lips and cheeks is a most important factor, as we are reminded by the disturbance of growth caused by abnormal function of these muscles. Finally, to sum up the entire matter, I have endeavored to show that both phylogenetically and ontogenetically, bone is produced in response to mechanical stimuli; that in bone formation living cells produce formed material to give strength and that the vital activity of these cells is excited in response to mechanical influences. We have examined some of the many sources of force or energy which affect the vital activity of the cells, and as a result of these considerations we may say that the adult bones are the result of all the forces exerted on them and distributed through their substance by the occlusion of the teeth. If the occlusion is normal the forces are perfectly balanced, and a harmonious and symmetrical development is the result. In proportion

as the occlusion deviates from the normal there is a disturbance of the harmony of development. The preservation of normal occlusion is necessary therefore not only for the proper mastication of food, but for the proper development of the face and proper function of respiration and swallowing.

ABSTRACT OF DISCUSSION

DR. M. H. FLETCHER, Cincinnati: I have done some of this class of work, and I have derived an enormous amount of pleasure and profit out of it. Those who have tried to do work of this character know that it entails an enormous amount of labor. A filling which may be too high, or the moving of teeth, or the treatment of the diseases of the sockets, and in fact almost everything we do in the matter of treatment of live tissue, brings these laws into play. I have been especially interested lately in the growth and repair of the cementum, and in several places Dr. Noyes has shown features that are especially instructive to me. I should like to see specimens more in detail as to the growth of cementum—where it begins and where it ends. The tissues lying about the roots of the teeth are subject to disease and repair to a marked degree, and we must understand these laws that we may intelligently treat diseases of the bones and teeth.

DR. B. E. LISCHER, St. Louis: I yield to none in my appreciation of the valuable contribution to dental science which Dr. Noyes has given us. I question one point, however, on which he laid much stress while explaining some of the slides on the screen. I refer to the theory of the elongation of roots and their probable rôle as a mechanical factor in the dentitional process. It was advocated many years ago by Wedl and since found wanting. Other theories proposed as a plausible explanation of the mechanism of eruption are the pressure theory (pressure of succedaneous teeth), the alveolar theory of Albrecht, the granular theory of Baume, the pulp theory of Wallisch, the functional theory of Robin and the blood-pressure theory of Constant, also as modified by Tomes. The latter is the only accepted one. The objections to the theory of the elongation of roots are as follows: (a) many impacted teeth with fully developed roots never erupt; (b) in the crocodile the developing teeth travel sideways for a considerable distance at right angles to the long axes of the roots; (c) most teeth in the course of eruption travel a greater distance that the entire length of their root or roots; (d) many teeth are erupted before their roots are fully formed.

DR. STEWART L. MCCURDY, Pittsburg: These hypertrophies of bone come from inflammatory conditions, from irritation, or from the projection of bone into the tissues or into the muscles following accident. The presence of syphilis stimulates not only hyperostosis but also endosteitis, and in addition the growth of the entire shaft of the bone, the entire bone becomes involved. Then in another instance diminished growth of the shaft occurs, as in achondroplasia, yet the epiphyses grow just as though the shaft were normal. In other words, the epiphyses are supplied by blood-vessels from entirely different sources than the shaft. Again, there may be hyperostosis of the epiphysis of a long bone, the shaft remaining perfectly normal. This entire subject of growth and development of bone is much clearer in my mind since I have heard Dr. Noyes' paper. The architecture and the reconstruction of the bone bring to my mind most strongly the law of conservation. As nearly as I can repeat that law, it is: Bone is deposited in the various parts of the body as it is needed; then Nature immediately begins to reconstruct that bone, and when it is not needed absorption takes place to diminish the bone to the normal size to perform its function. This is Wolf's law.

DR. EUGENE S. TALBOT, Chicago: I think that Dr. Noyes has demonstrated that these forms of absorption are due to irritation. The point which Dr. Lischer makes is rather in Dr. Noyes' favor. All these conditions he mentions act as stimulants to bone development and assist in bone absorption and regeneration. In animals, the animal is either losing the function of bone, or he is developing rudimentary structures, so that cannot be considered here. Dr. Noyes has shown absorption due to irritation. There are, however, two points on which he did not touch, and which Dr. McCurdy mentioned in regard to the bone development and absorption, and that is the nervous system. In the case of arrest of development we have arrest in ontogeny, due either to some condition *in utero* or to disease, such as scarlet fever, pneumonia, or any other constitutional disease early in life. On the other hand, large jaws, those measuring 2½ inches in diameter, are due to want of resistance in phylogeny; in other words, arrest of development in phylogeny from the lower animals, such as the anthropoid apes, etc. In that case the large developed bones take the line at least resistance toward the lower vertebrates.

DR. M. H. FLETCHER, Cincinnati: I did not discuss the idea of pressure in the eruption of teeth or any other force, because I leave that just as I leave the differentiation of cell life in any other part of the body. If anyone can tell why a blade of grass grows, or why union of the male and female cell finally produces the epiblast, the mesoblast and the hypoblast, or why the presence of the dentin against the periosteum of the dental follicle induces a layer of cells which produces cementum then I think we are near to answering these questions. The practical feature I get from this is that under certain conditions Nature will reproduce certain tissue, and that in order to reproduce the new she must first carry away the old. Now it seems more important for us to know in what condition to put tissues in order to have repair, when there is broken-down tissue from disease, and the presentation of Dr. Noyes is a beautiful display of these laws.

DR. FREDERICK NOYES, Chicago: I did not emphasize the elongations of the roots alone, and I did not emphasize the succedaneous teeth alone, or any one thing alone, but what I did try to state was that connective tissues are tissues of environment, and that they respond to mechanical stimuli, and that the elongation of the root necessarily produces a mechanical stimulus. It cannot help it. Consider for a moment the form of the root, the relation to the surrounding tissues and the fact that there is multiplication of cells in that space which produces force. So long as the root continues to grow it must exert a mechanical influence. The objections cited were that action and reaction are equally opposed in direction and if the resistance above the tooth is greater than the resistance at the apex, the apex will move and not the crown. I emphasized the fact that in the development of the tooth the floor of the crypt was pushed through the cancellous bone and did not react on the plate above until it reached the cortical plate at the lower border of the jaw, and the resistance was greater below than above and then the other end had to move.

Dr. McCurdy brought out several things which I could not go into, and, in particular, the idea that with mechanical stimulus without nourishment, growth is impossible. There may be mechanical stimulus, but if the blood-supply be cut off there can not be growth. I did not mention this because it is an inhibiting factor, not a developing factor. It is an important factor in the discussion, however.

Dr. Talbot referred to the influence of the nervous system, and that is a field which has important bearings in this connection. The point cited by Dr. McCurdy, that we would have changes throughout the substance of the bone beyond the region of the inflammation, indicates a nerve connection between the two, which, when a growth is set up in this position in response to mechanical stimulus, continues its action in a field beyond. In the same way, an irritation of one tooth may cause development of dentin within the pulp chambers of all the teeth within the same nerve-supply.

The most important thing which I wanted to bring out was that from a phylogenetic standpoint, from the beginning of evolution apparently connective tissues respond to mechanical conditions. Dr. Brooks stated as the greatest characteristic of life, the ability of adaptation to environment, and the characteristic of the connective tissue cell is to adapt itself to mechanical conditions. Following that idea through, we find that it is the mechanical influence to which the vital activity of the connective tissue cell responds with the changes in the structure of the tissue both in reconstruction and in production.

ELECTRIC ANALGESIA, AND ELECTRIC RESUSCITATION AFTER HEART FAILURE UNDER CHLOROFORM OR ELECTROCUTION*

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NEW YORK

Electric analgesia was applied successfully for the first time, in animal, then in human surgery, by myself. Successful local application of this analgesia in human surgery is reported by Dr. M. M. Johnson.[1] I administered this analgesia. I have reported successful application of this analgesia in animal surgery and electric sleep in clinical work in all the issues of the *Journal of Mental Pathology,* commencing with 1906. The part of this paper treating of electric analgesia and sleep will be published elsewhere for reason of want of space here.

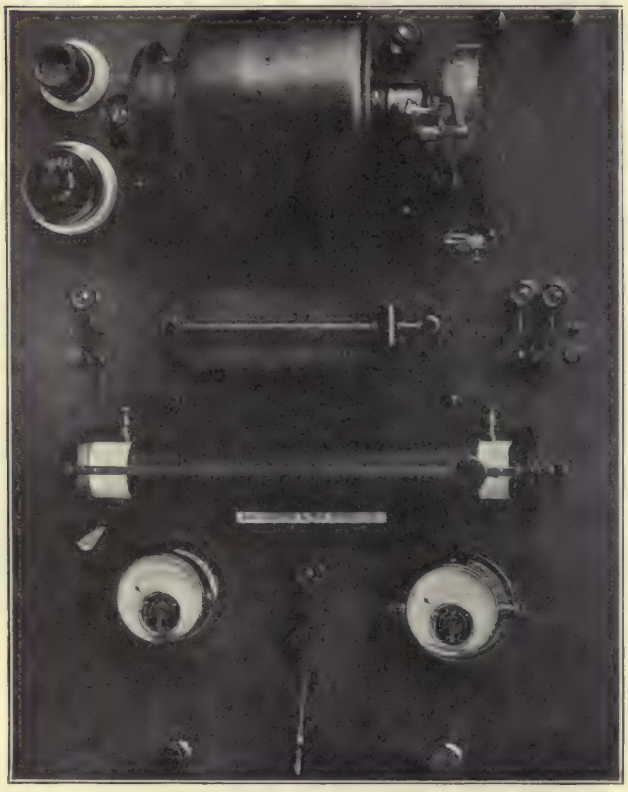


Fig. 1.—Author's model of wheel interrupter with fixed period of passage of current.

It is possible to resuscitate, by means of electric currents, subjects in a condition of apparent death caused by chloroform, ether, morphin, electrocution, etc. The first important researches into resuscitation of electrocuted subjects were made at about the same time by Professor Battelli[2] in Europe, and Dr. R. H. Cunningham, in this country.[3] Both authors used enormous currents for causing single electric shocks with which they attempted to restore life after ventricular tremulation had set in. Professor Battelli used 4,800 and 2,400 volts respectively, of alternating currents (amperage not stated). The means was not practical because one shock caused with such high voltage was all the heart could stand; a second shock killed the animal definitely, if it was not already dead.

Professors Leduc and Rouixeau[4] tried to resuscitate animals by means of direct interrupted currents of low tension, but they committed their predecessors' error of including the animal's head in the circuit. Besides, they used the lethal current for producing the shocks. The method was useless in cases of dogs.

While experimenting on the cerebral circulation during electric epilepsy[5] I saw, through a trephined opening in the skull, that every electric shock caused profound anemia of the brain at the time of the closure of the circuit. This led me to exclude the animal's head from the circuit during the rhythmic excitations, in order to exclude the medulla oblongata with the cardiac and respiratory centers and avoid any further anemia of these centers during apparent death, while the electric rhythmic excitations were being practiced. I also reduced the current to minimal doses for the first rhythmic excitations, because I found that useful cardiac and respiratory excitability was rapidly exhausted within the few minutes of apparent death. The maximum potential at the end of the resuscitation did not exceed

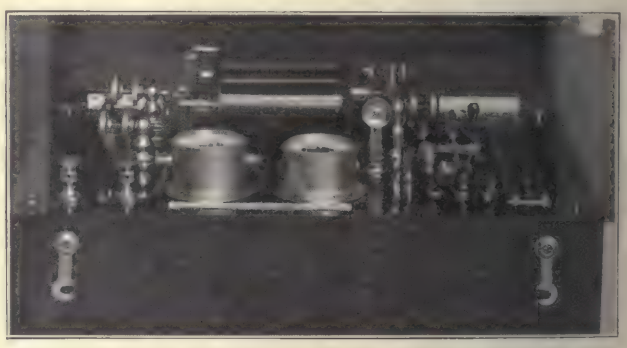


Fig. 2.—Author's triple interrupter of direct currents (20,000 to 40,000 interruptions). For resuscitation in ambulance service.

120 volts. Even this is too high voltage: in dogs it causes marked vagus stimulation so that the heart beats are very slow during a long period of time after resuscitation; and the wave form of the beat does not resemble the normal form. In ordinary severe cases, 70 volts is a good maximum potential.[6]

The method of resuscitation consists in causing artificial blood-pressure and respirations by means of rhythmic electric excitations, until normal function is restored. My choice electric current is the one I use for causing electric sleep and analgesia: a direct current, inter-

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Johnson, M. M.: The Med. Rec., April 23, 1910.
2. Battelli, F., and Prevost, J. L.: La mort par les courants électriques: courant alternatif à bas voltage et à haute tension, Jour. de physiol. et de path. gén., May, 1899.
3. Cunningham, R. H.: The Cause of Death from Industrial Electric Currents, New York Med. Jour., 1899, lxx.
4. Quoted by Robinovitch, Louise G., in Sommeil électrique épilepsie électrique et électrocution. Thèse, Paris, 1906.
5. Robinovitch, Louise G.: General and Cerebral Blood-Pressure During an Attack of Electric Epilepsy, Jour. of Ment. Path., 1907, viii, No. 3.
6. Robinovitch, Louise G.: Method of Resuscitating Animals in a Condition of Cardiac and Respiratory Syncope Caused by Chloroform, Jour. Ment. Path., 1907; viii, No. 3. Method of Resuscitating Electrocuted Animals, Ibid; Méthode de rappel à la vie des animaux en syncope chloroformique et des animaux en mort apparente causée par l'électrocution. Effets différents de différents courants électriques Importance d'exclusion du circuit électrique de la tête de l'animal pendant les excitations rythmiques. Comptrend. Soc. de biol., Feb. 1, 1908; De l'emploi des courants électriques pour le rappel à la vie, dans les cas de mort apparente causée par le chloroforme on par l'électrocution. Nécessité d'exclure du circuit la tête, pendant les excitations rythmiques. Expériences pratiquées sur le chien. Application clinque, Bull. Soc. clin. de méd. ment., November, 1908; Resuscitation of Subjects in a Condition of Apparent Death, etc., Jour. Ment. Path., 1909, viii, No. 4.

rupted from 6,000 to 8,000 times per minute, period 1/10. Next in value is a direct current interrupted from 25,000 to 40,000 times per minute with my triple interrupter.[7] The last choice, and the one that I do not recommend if the first two can be had, is an induction current obtained with my special model of induction coil, an ordinary Dubois-Reymond coil, the special feature of which is the diameter of the wire of the coil, 1.2 mm. for the primary and 0.6 mm. for the secondary coil.[8] In cases of grave forms of apparent death, currents supplied by coils with fine wire will kill the animal, if it is not already dead.[9] Induction currents are alternating currents, the wave form of the current running above and below the base line. The physiologic effects of anodal and cathodal stimulations are distinctly different; the anodal stimulations are particularly dangerous in pulmonary and cardiac area when the current is obtained from a secondary coil, the wire of which is finer than 0.6 mm. Alternating and direct currents are deadly to cellular life, especially during apparent death.[10] But if nothing else can be had, rhythmic excitations may be practiced with these currents, rather than make no attempt to save life.

PROCEDURE

The dog's back is shaven in two places—on the back of the chest covering the pulmonary area and over the loins. The negative electrode is applied under the chest, the upper border reaching to the root of the neck. It is dangerous to use the positive pole under the chest. The positive electrode is applied over the loins. The electrodes measure 12 by 25 cm. for dogs of large size. They are made of zinc and are covered with a thick layer of absorbent cotton wet in a salt solution, 7 per 1,000. In man the chest electrode measures 25 by 30 cm.

Chloroforming is performed intensively, admitting little or no air and causing arrest of respiration and heart beats as quickly as possible. When breathing is no longer registered by the pneumograph and the manometer does not register any blood-pressure, the chloroforming is discontinued at once. An assistant catches hold of the animal's tongue with a tongue forceps, cleanses the mouth of mucus and pulls the tongue outward to allow free access of air during the rhythmic excitations.

The instrumentation with the preferred current is the same as that used for electric sleep. The operator now opens the switch of the cathode line, turns on a current of some 20 to 25 volts by means of the potentiameter. The circuit is then closed by means of the switch during a period of a fraction of a second. A deep inspiratory movement takes place. The mouth opens, the flabby, lifeless tongue that was lying on the roof of the mouth (the animal is on its back) contracts and is drawn inward; the fore paws are thrust upward with marked force; the posterior limbs are extended; the diaphragm is pushed downward and all the respiratory muscles enter into play. The chest is fully expanded and the pneumograph registers an ample artificial inspiration. The manometer may also register an artificial blood-pressure; but in cases of severe cardiac syncope the first few rhythmic excitations cause respiratory reaction without artificial blood-pressure. The operator breaks the circuit by opening the switch. This is followed by a deep expiratory movement, and all the muscles that entered into play to cause the artificial inspiration are now again flabby and lifeless; the expanded chest collapses and the pneumograph registers an ample expiration; the anterior paws fall one on each side of the body, the tongue falls to the roof of the mouth, lifeless, the mouth closes and the whole body is again lifeless and relaxed. The switch is kept open for a period of from one-half to one second, according to the gravity of the case. If the first voltage used caused an ample respiratory reaction and the manometer showed a momentary rise of blood-pressure, the succeeding rhythmic excitation is caused with the same voltage, but as a general rule it is necessary to increase the current to 30 volts or more; the excitations are now practiced with the increased current, the aim being to obtain ample respiratory reaction and blood-pressure with this minimal voltage within the shortest possible time, because useful cardiac excitability is quickly exhausted during apparent death. It is generally necessary to increase the current to 35, 40, 50, 60 and 70 volts within the course of three or more minutes of apparent death; the excitations are being practiced while the voltage is being increased. In favorable cases ample respiratory reaction and artificial blood-pressure are soon established, then accompanied by feeble spontaneous respiratory and cardiac reactions; these soon increase in amplitude; they are alternated with ample artificial reactions if necessary, taking care not to encroach on the spontaneous heart-beats and respirations, but rather precede or follow them. The operator judges by the spontaneous cardiac and respiratory reactions when it is advisable to discontinue the rhythmic excitations. If they are discontinued too soon death may set in after resuscitation, because in chloroform poisoning the blood is asphyxiated, dark; the feeble respirations and heart-beats may not be sufficient to cause useful oxygenation of the blood. But once ample spontaneous reactions are established the carotid artery is tied, the wound closed and the animal lives without showing any ill effects. I have kept such dogs during a period of one year and longer after resuscitation; they were in excellent condition.

LIMITATIONS

The period of apparent death is short; four minutes (including the time of the rhythmic excitations) is a long time, and five minutes is an exceedingly long period. But once resuscitated, the animal lives and shows no after-effects.

In chloroform poisoning death may take place in various ways: by respiratory arrest and final cardiac failure. This is the usual form; by primary cardiac failure;[11] this is a rare form in dogs, but quite familiar to surgeons in human beings, by simultaneous cardiac and respiratory arrest. In the majority of cases death sets in by respiratory paralysis, followed by cardiac failure. The accompanying tracing (Fig. 3) shows the usual form of apparent death from chloroform and the mode of resuscitation by means of electric rhythmic excitations with a gradually increasing current. The amperage

7. Robinovitch, Louise G.: Triple Interrupter of Direct Currents for Resuscitation. Portable Model for Ambulance Service. Jour. Ment. Path., 1909, viii, No. 4.

8. Robinovitch, Louise G.: Bobine à induction pour rappel à la vie, etc., Bull. Société clin. de méd. ment., November, 1908: Induction coil for Purposes of Resuscitation, Jour., Ment. Path., 1909, viii, No. 4.

9. Robinovitch, Louise G.: Thesis cited (Note 4), p. 82 and trace 26.

10. Robinovitch, Louise G.: Different Effects of Various Electric Currents for Purposes of Resuscitation, etc., Jour. Ment. Path., 1909, viii, No. 4.

11. The tracings of resuscitation after primary cardiac syncope from chloroform and ventricular tremulation caused by electrocution are omitted here for want of space.

cannot be read in these experiments because the closures are too short, but there is generally between 4 and 40 milliamperes, corresponding to the currents used—20 and 70 volts. This amperage is obtained on dogs sacrificed for this purpose, so that the closures may be prolonged.

Electrocuted dogs are resuscitated less easily than are chloroformed dogs. It is especially difficult to resuscitate when ventricular tremulation sets in, but the tracing that I present[11] shows that resuscitation is possible even in this condition.

All experimenters on this subject agree that artificial respiration and the Sylvester method are useless when ventricular tremulation sets in.[2, 3, 12] My method seems to give the best results known to-day for practical application, because it produces ample artificial blood-pressure as well as respiration.

APPLICATION IN ACCIDENTAL ELECTROCUTION

According to personal information given me by practical electricians both in Europe and this country, death does not always take place instantaneously in accidental electrocution with moderate industrial currents. The workingman generally touches the "live" wire with his hand or foot; contact is generally "bad," but it is sufficient to cause cardiac and respiratory paresis, from which the patient may die within from a few minutes to one-half hour after the accident. These are facts observed in daily accidents, regardless of some experimenters' claim that all is well if the patient's heart beats and he breathes when taken out of the circuit.

The blood is asphyxiated, dark, after the slightest shock; a few rhythmic electric excitations will help to whip up the circulation and respiration if the excitations are practiced immediately following the accident or as soon as possible—before the patient is removed to a hospital. Without this help the patient may die when he is brought into the ward—some half hour after the accident. The blood remains asphyxiated even after resuscitation. This asphyxia may continue during many hours.

APPLICATION IN SURGERY

Direct and indirect cardiac massage has claimed its victims of chloroform poisoning in surgical work.[13] Dr. Crile's method of resuscitation is brilliant and admirable as regards the range of time during which the heart's action may be restored. Unfortunately, his method presents physiologic limitations; resuscitation after a period of seven minutes (in man), counting from the time of cardiac arrest, becomes useless, because the anemia of the brain during this time is fatal to the life of the brain cells; restoring heart action becomes useless from the point of view of restoration of life.

My method has the great advantage of simplicity; it does not necessitate opening the carotid artery and injecting a pint or so of solutions into the heart; it does not necessitate opening the trachea. The method may be applied immediately, when the first sign of cardiac or respiratory failure appears. Before an operation is commenced the electrodes may be put in their proper places under the patient; the chest electrode (25 by 30 cm., the loin electrode (12 by 25 cm.). The apparatus and chosen electric source should be in readiness before the operation is commenced.

The accompanying tracing (Fig. 3) shows that it is possible to resuscitate dogs after respiratory and cardiac function is no longer registered during a given period of time. It should not be assumed, however, that resuscitation is easy in all grave cases. There are not two subjects alike as regards physical vitality. For practical application in surgery the safest method is to commence practicing rhythmic electric excitations at the first sign of respiratory or cardiac failure. The surgeon does not fold his arms and wait until both the respiration and the heart have failed. In a series of experiments on dogs I commenced the rhythmic excitations a few seconds after respiratory syncope set in—in imitation of what a surgeon would do if he had a patient showing signs of syncope from chloroform or ether. Resuscitation was easy and complete in these experiments after a few rhythmic excitations. Resuscitation is more difficult, of course, when heart failure dominates the accident.

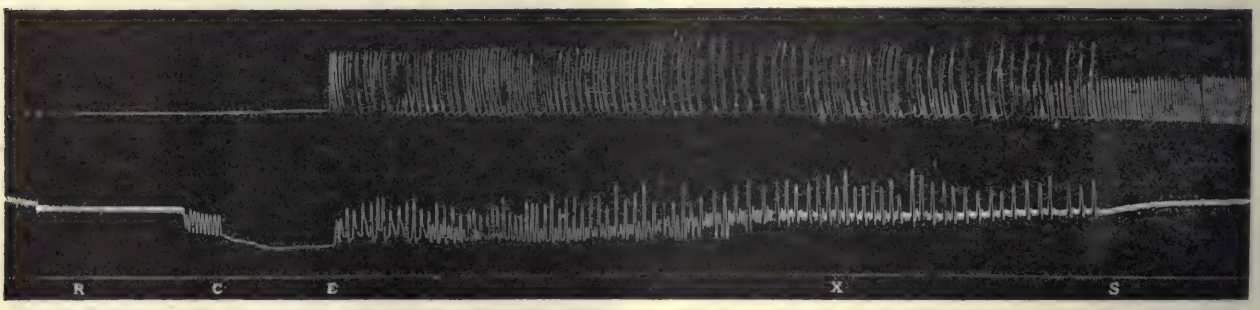


Fig. 3.—Tracings made during usual form of apparent death caused by intensive chloroforming in a dog. Upper tracing, respiration; second tracing, blood-pressure in carotid artery; third tracing, time; two lines indicate one second, during cardiac failure only. In rest of tracing: one line indicates one second. *R*, respiratory syncope; *C*, cardiac syncope; *E*, commencement of electric rhythmic excitations (direct current interrupted 8,000 times per minute, period 1/10); gradual increasing current from 20 to 65 volts. The ample respiratory and cardiac reactions are artificial, caused by the rhythmic excitations; then the small spontaneous heart-beats appear and alternate with the ample artificial ones. The cross shows where the first small spontaneous respiration appeared; ample artificial respirations alternate with the small spontaneous ones. *S*, synchronous respirations and heart-beats; final resuscitation.

Considered in its proper light, the method should really serve as a preventive measure against grave forms of syncope, because a few rhythmic excitations, practiced in time, promptly oxygenate the blood by reason of the ample respiratory and cardiac reactions.

CLINICAL APPLICATION

November, 1908, I had occasion to revive a patient in a condition of profound syncope caused by chronic morphin poisoning. She was in Dr. Magnan's service, Ste. Anne Asylum, Paris. Dr. Magnan had revived her after she had had a first attack of syncope. A second attack

12. Rodenwaldt, Ernest: Ueber Verletzungen durch elektrische Starkstroeme vom gerichtsaerzlichen Standpunkte, Vrtljschr. f. gerichtl. Med. 3 Volge, xxxvii, 1.

13. White, Charles S.: The Rôle of Heart Massage in Surgery, Surg., Gynec. and Obst., October, 1909.

set in within a few minutes; his assistants attempted to revive her by applying the Sylvester method and rhythmic traction of the tongue; this proved useless during a period of twenty minutes. The patient's face became "blue" from asphyxia. As is known in morphin poisoning, the respiratory center is paralyzed first, heart failure following, as is the case in ordinary asphyxia. The patient's respirations were about 3 or 4 per minute; the pulse was hardly perceptible and death seemed to be imminent. I applied electric rhythmic excitations; the patient revived definitely after a period of from twenty-five to thirty seconds.[8, 14]

OPERATION FOR RETRODISPLACEMENT OF THE UTERUS*

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I am not greatly interested in the minute anatomy, the exact relative normal position of the organ and ligaments when I am faced with a displacement of the uterus. There are so many factors entering into the new position, and so much uncertainty as to which one or which combination causes the trouble that the question to be solved is rather, how the uterus can he held in such a position as to relieve the untoward symptoms and at the same time do no future damage. It matters little to us whether the means used are the natural ones or not. As a matter of fact, this is exactly what is done by each and every operator without exception, no matter how learnedly in the first instance he discusses the natural supports.

In further discussion I shall merely present the procedure with which I have been experimenting for the past twelve years or so, which is, I think, fully established and amply justified by results, and which has taken the place of all other procedures in my practice for this class of cases.

The operation is not new. I first referred to it in a paper in 1902 after a few years' trial only. I have performed it almost constantly ever since, modifying it here and there at times as apparent difficulties arose and as it seemed necessary to overcome certain objections and certain faults in results; and I find at the present time a completed technic which is, I think, perfect.

Primarily the operation was done empirically with no idea of its true mechanics; and, this being so, it may readily be appreciated why apparent difficulties were hard to overcome and why changes were necessarily but blindly made from time to time. And yet, with it all, the general principles have remained the same from the first, viz., "the round ligaments brought through an opening made in the broad ligaments and united behind and to the uterus." The proposition is simple, the resulting advantages being manifest only when the procedure is properly carried out. The mechanism is plain, but has never to my knowledge been fully appreciated or fully pointed out, even by Webster, who has for the same length of time performed an operation with exactly the same principles but varying slightly in technic.

What is the position and condition of the uterus in the normal female pelvis? The fundus is bent slightly on the cervix and well forward of the direct axis of the pelvis, it is freely movable in all directions within certain well-defined limits, moving always with the cervix as a movable pivot. The whole organ is so high in the pelvis as to allow the top of the fundus to arise well above the iliopectineal lines of the bony pelvis. The ovaries are suspended correspondingly high and rest on the upper posterior portion of the broad ligaments. Any operation which does not take these conditions fully into consideration and which does not leave the organs approximately in these conditions and positions cannot be considered as ideal.

In all the confusion of anatomy, physiology and pathology, sight is lost of the fact that in the vast majority of cases there is a general relaxation and stretching of all the supports, often of the whole of the abdominal contents, and that the uterus as well as the ovaries lie down, as it were, in the pelvis limp and inert; the stretching of the ligaments is that of overstretched rubber, not that of hypertrophy of tissue which may subsequently undergo involution. The loss of support is



Fig. 1.—Uterus and appendages low in the pelvis and inclined backward. This is brought out more clearly by contrasting Figure 1 with Figure 2, in which one side is raised by the fingers well up above the iliopectineal lines while the opposite side remains low down in the pelvis.

a complex one, not merely the defect of one ligament; and the ratio of loss in each individual element of support is impossible of estimation, nor is it worth while to try to estimate it. The point is not to tell just what is the degree of relaxation of one of the uterosacral ligaments or both, what that of the right uterovesical ligament or both, or what that of the broad ligaments, and then to attempt to devise an operation for each and all these supposed defects, but to recognize the fact that before us is a group of organs which for some reason or other (it matters not what) are in a false position and being so are exposed to traumatism and other influences which will eventually or have already brought about a train of symptoms which it is very desirable to abate. These organs having lost the use of their natural supports, can we successfully substitute others to take their place? These are the lines on which I have worked most successfully and this is the basis of the accompanying operation. The round ligaments are used as artificial supports in an artificial manner to accomplish

14. Robinovitch, Louise G.: Resuscitation of a Woman in Profound Syncope Caused by Chronic Morphin Poisoning, Jour. Ment. Path., 1909, viii, No. 4.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

what Nature originally accomplished, viz., "a uterus with the fundus forward of the direct line of the axis of the pelvis, freely movable in all directions on the cervix as a movable pivot, the fundus raised up to and above the iliopectineal lines and the ovaries swung correspondingly high and free from all attachments on the posterior side of the broad ligaments." The simple procedure of drawing the round ligaments around the posterior side of the uterus, fastening them together as they meet, and then fastening them to the uterus itself

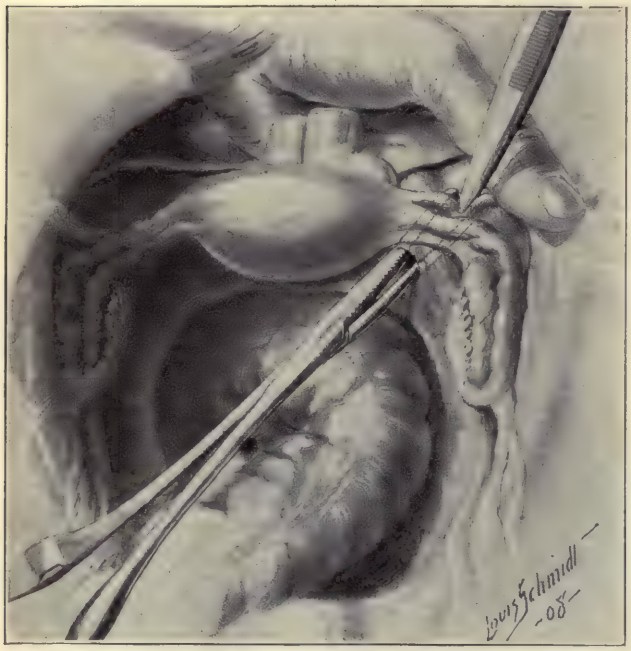


Fig. 2.—Fundus drawn well forward and away from the sigmoid flexure; hemostatic forceps perforating the broad ligament from behind to its anterior aspect, on which lies the round ligament. A pair of tissue forceps is grasping the round ligament and carrying it into the bite of the perforating hemostatic forceps.

at a selected point, fulfils perfectly each and every one of these indications.

A study of the accompanying illustrations, which were drawn at the operating-table, will render the operation and its results perfectly clear.

Contrast Figure 1 with Figure 5 and note the following points: the distance from the fundus to the sigmoid, the distance from the fundus to the pubis, the height of the fundus and ovaries as shown by the shadows and the iliopectineal lines; also the uterosacral ligaments.

It will readily be recognized how well forward of the axis of the pelvis the fundus is brought, how high it rises in the pelvis and how high are the ovaries and Fallopian tubes.

The question at once arises: What forces are brought into play to bring these organs into such perfect position and how do they act to retain them there?

The uterus is upheld by the encircling round ligaments (Fig. 5, *a-b*).

The ovaries and Fallopian tube are upheld by the passage of the round ligaments under the ovarian ligaments (Fig. 5, *d*).

The uterus is held forward by three forces, viz.:

1. The pressure of the intra-abdominal force on its posterior aspect.

2. The resistance of the encircling band of round ligaments (Figs. 7, 8, *B-C;* Fig. 5, *a-b*).

3. The pull forward and downward of the round ligaments at their attachment at the uterine cornua (Figs. 5 and 8, *b;* Fig. 9, *A*).

The whole structure is steadied by those portions of the round ligament running to the normal abdominal attachments (Fig. 8, *A-C;* Fig. 5, *a-c*).

It will be noted by reference to the illustrations (Fig. 2) that the forceps perforate the broad ligament close to the uterus and directly under the ovarian ligament. This is essential to the best results. A too low perforation in the broad ligament will give an unsatisfactory result. When the round ligaments are adjusted and brought snugly together posteriorly the ovarian ligament rests on each round ligament and, without so much as touching the ovary or Fallopian tube, always and with absolute certainty insures the proper and safe elevation of those organs. This is the only operation of which I know that secures this result; and if one recognizes the

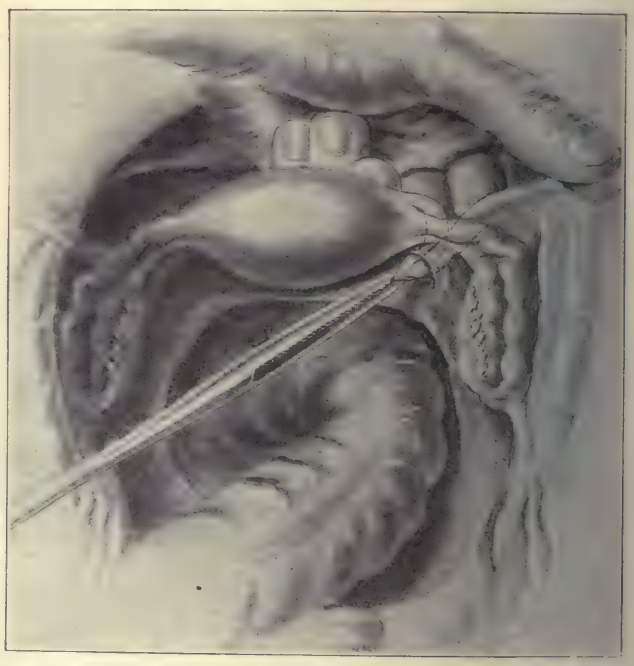


Fig. 3.—Round ligament in the grasp of the hemostatic forceps and in process of being drawn through the broad ligament to its posterior aspect.

truth that it is often the prolapsed ovary which induces the symptoms, one must readily recognize the great advantage of this. When the uterus is thrown forward by almost any other operation, the ovary will usually rise in the pelvis with it, and the displacement of the two organs will be corrected at one and the same time. But every operator will recognize the fact that there is a certain large group in which the ovarian ligaments are relatively more stretched than those of the uterus, and in spite of the fundus being brought forward the ovaries are still prolapsed.

The elevation of the ovaries is not accomplished by the general elevation of the uterus alone, but is materially aided by the rolling forward a quarter of a circle or more of the top of the broad ligament owing to the pull backward of the round ligament as it passes through the hole in the broad ligament, and the more the posterior pull of the round ligament the greater the tendency to the rolling forward of the top of the broad ligament and the consequent elevation of the ovary and Fallopian tube. I have in no case seen this occur to such an extent as in any way to endanger the patency

of the tube. This whole mechanism is perfectly plain when seen in the living subject and is perfectly compatible with every known mechanical law.

The second fact accomplished is that of the elevation of the uterus and everything connected with it (Fig. 5). This is brought about, of course, on principles somewhat similar to those which would be involved in grasping a boy in one's arms and lifting him up. This requires fixed points from which to act. In the operation these points are the attachment of the round ligaments to the abdominal wall, their attachments to the fundus uteri, their attachment throughout their whole course through the broad ligaments, and, finally, the artificial attachments made by the operator as they are brought together behind the uterus and stitched to that organ.

It has been said in criticism that the round ligaments will be stretched by the weight put on them and that the weakest part of the ligament, viz., the abdominal wall end, is the part which carries the whole weight. Only ignorance of the mechanics and the fact that the critic has not performed the operation can justify this criticism. If it be contended and believed that the weight of the uterus and pelvic organs can be sustained by the longitudinal pull on the round ligaments, as is the case in the Gilliam, the Mayo, the Montgomery, the Alexander and every other modification of this class of pure



Fig. 4.—Both round ligaments drawn to the posterior portion of the broad ligament and approaching each other.

suspension operations, in how utterly prejudiced a condition must be the mind which fails to grasp the fact that the downward pull of the organs against the lateral resistance of the full length of the ligament has only a fraction of the chance of overstretching which obtains in the longitudinal pull! In the operations of the class just mentioned, pure and simple suspension operations all of them, the full success of the result depends entirely on the suspension, not another element entering into the result. Furthermore, in these operations one and all the pelvic organs are lifted by sheer force into the abdominal cavity, there to be suspended in a position they were never intended to be, with lessened mobility and the full weight of the downward drag, permanently dependent on the integrity of the round ligaments alone.

Contrast this condition with the operation under consideration. The uterus is lifted up and sustained by the encircling round ligaments as shown in Figures 6, 7 and 8. But only temporarily is this full force put on the round ligament. The fundus is thrown forward of its center of gravity, and as the patient lies on the operating-table with the abdomen open the fundus remains forward where the hand places it (Fig. 5). In this position the intra-abdominal force is exerted on the posterior aspect of the fundus, forcing it the further forward and the more surely holding it there. Gravity also aids this action.

What occurs when the patient arises? On certain movements the fundus has a tendency to go backward. Should this occur the intra-abdominal force would soon be exerted on the anterior aspect of the fundus and the uterus would be forced to a posterior position.

In studying the mechanism of the forces at play it is soon evident that two things prevent this accident.

1. The sling back of the uterus formed by the round ligaments properly adjusted meets the force temporarily urging the fundus posteriorly and obstructs that action.

2. The force of the fundus against the encircling round ligaments causes a pull on the ligaments at their attachments to the anterior uterine wall; and the harder this pull the greater the tendency to draw the top of the fundus forward and downward and to antagonize the tendency backward.

In other words, we have two forces acting against and neutralizing the efforts of the uterus to go backward, and it is impossible for the one to be brought into play without the other instantly operating to aid it.

Until some effort of the individual causes the situation to arise which attempts to force the uterus backward,



Fig. 5.—The two round ligaments united to each other, and, at two points, to the uterus itself; the operation is completed.

the uterus remains quietly forward by combination of gravity and intra-abdominal force, and no tension whatever, other than that which is being exerted to uphold the uterus, is put on the round ligaments. In other words, for the most part there is no pressure exerted on the round ligament at all; it is only called on intermittently and temporarily to exert itself and when it does so at all it offers two points of resistance: in the obstruction posteriorly and in the pull forward and downward

at the uterine cornua, thus subdividing the work put on it.

In all the suspension operations, without exception, the full weight of the pelvic organs are permanently dragging on the normal ligaments in the most vulnerable direction. Those parts of the round ligament running to the abdominal walls are only slightly affected in this operation; they act mostly as guy-ropes to the whole structure, as similar ropes act in holding up a derrick, and in this operation brought into action only intermittently and temporarily. There is therefore absolutely no chance of their becoming overstretched, as has been suggested. At one time in the process of the evolution of the operation I severed these ends and did not use

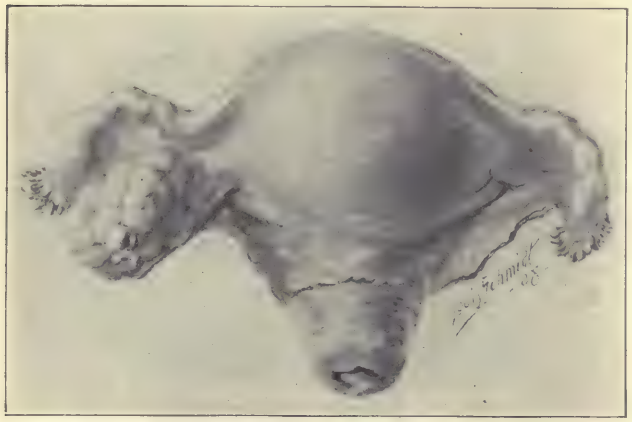
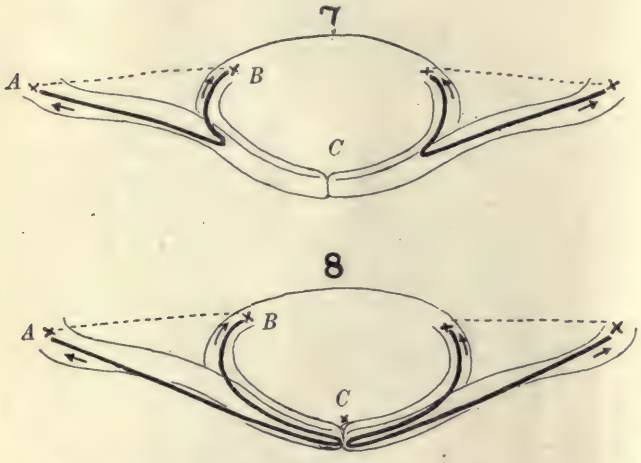


Fig. 6.—Uterus removed by amputation one year after operation for displacement, the symptoms not having been relieved. The round ligament can be plainly seen encircling the uterus and attached to that organ.



Figs. 7 and 8.—Diagrams showing the ligaments partially and completely drawn in place, as is done in the operation.

them at all, so little did they seem to enter into the mechanism.

For a full understanding of these important forces, study Figure 9. This represents a lateral section of the uterus, broad ligament and appendages. Take the diagrammatic lines *A, B, C*. When force is exerted on *C* backward (as would be the case if the uterus were forced back against that point) the effect on *A* will be downward and forward, provided *B* be a fixed point. A mere glance at the diagram and the line of the forces makes this clear; it is purely a question of mechanics.

In the operation point *C* of the diagrammatic line is represented by the point of artificial attachment of the round ligaments on the posterior part of the uterus (Fig. 5, *a*).

A in the diagram is represented by the natural uterine attachments at the cornua of the uterus on its anterior face (Fig. 5, *b*).

B, in the diagram, is represented by the ovarian ligament, which is relatively a fixed point (Fig. 5, *d*).

Although the ovarian ligament is not an absolutely fixed point, yet it is sufficiently so to supply the point of fulcrum and produce the result pointed out.

The moment the uterus attempts to leave its forward position it meets the resistance of the obstruction of the encircling ligaments as well as the forward and downward pull at the anterior cornual attachments. It thus rides in a cradle as it were, movable backward and forward without ever being able to get back beyond its center of gravity or posterior to the direct line of axis of the pelvis. Hence the third force at play (the intra-abdominal force) is constant in its pressure on the posterior aspect of the uterus and thus trebly insures a permanent result. But one possible thing can happen to spoil the operation, viz., the complete breaking down of the suturing, which is so simple as to make that accident inconceivable.

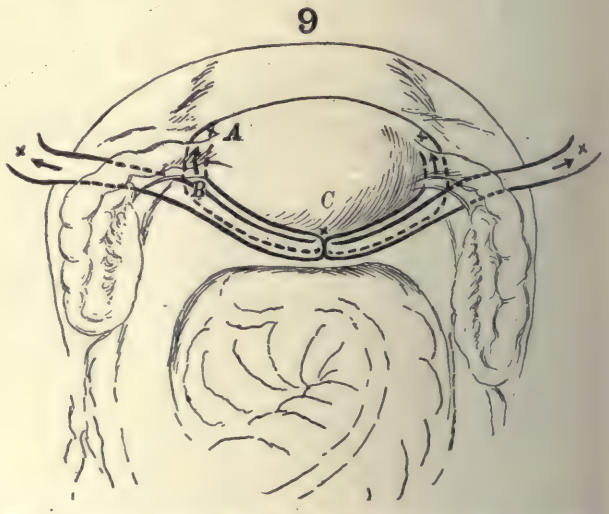


Fig. 9.—Outline sketch showing forces brought to bear and their results after operation is completed. When force is exerted on *C* backward (as would be the case if the uterus were forced back against that point) the effect on *A* will be to draw it downward and forward, provided *B* be a fixed point.

In adjusting the ligaments as they are brought together back of the uterus care must be taken first to draw the inner circle of the doubled ligaments (Fig. 4, *a-b*) snugly about the uterus as the organ is held in a good anterior position by the hand. They are then sutured together by a single stitch. The last step is to fix the loop to the uterus by a stitch or two at a point which will insure its anterior position. It is best not to make the attachment at a point higher than necessary to secure an assurance that the fundus cannot double backward over the encircling round ligaments. This point is found with little difficulty. If this precaution is not followed, the result may be unsatisfactory.

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Care of the Insane.—Proper treatment and nursing of the acutely insane call for the broadest intelligence, not only on the part of the physician, but also on the part of the nurse and all who are brought into immediate contact with the patient.—W. K. Walker, in *Pennsylvania Medical Journal.*

ROUND-LIGAMENT VENTROSUSPENSION OF THE UTERUS *

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As everyone is probably aware, this is the original ventrosuspension of the uterus in which the ligaments are left intact and in which the peritoneal investment is not disturbed. In devising this operation I wanted to get something that was as nearly physiologic as possible—something that would meet the requirements, without the drawbacks incident to the methods then in vogue. Especially was I anxious to get away from all fixations, as they are inherently pernicious and often fraught with disastrous consequence. The uterus is a mobile organ and cannot be fixed in any position or agglutinated to any other organ without detriment to itself and to other organs and parts which are contiguous or correlated. It must conform to various conditions of the bladder; it must alter its position according to the fulness or emptiness of the rectum; it must yield to the impulses of respiration and adjust itself to the various movements of the body. Unless it does so, it will impinge on, or be impinged on by other viscera and both will suffer. But this is not the worst. The paramount functions of the uterus are those essentially related to the great act of reproduction—pregnancy and parturition. The bound-down uterus cannot accommodate the growing fetus and the result, in many instances, is its premature expulsion. Should the fetus go to term, as it sometimes does, fortunately or unfortunately, it will be at the expense of unequal uterine development, distortion, changed axis, unbalanced muscular action and ineffectual expulsive effort. Such conditions at the accouchement always create consternation and too often culminate in disaster.

I shall not attempt to discuss the still mooted question as to what are the essential supports of the pelvic viscera, but there is one thing in which everyone agrees, and that is the necessity of having an intact pelvic floor to keep the viscera from settling. The first essential, then, toward correcting the backward displacement of the uterus is to restore the pelvic floor and the next is to replace the uterus and keep it there. The only way to keep it in position without compromising its usefulness is to utilize its natural guys—the round ligaments. Recognizing this fact, Alexander devised the operation of shortening the round ligaments at the inguinal outlet, and this is the basic principle of all modern operations for anchoring the uterus; but the Alexander operation makes no provision for the adherent, retroverted uterus, the condition most frequently calling for operation.

The caption of this paper signifies a suspension of the uterus from the abdominal wall by means of the round ligaments. This is a palpable misnomer, as will appear later, but was used as the most eligible term to express an approximation to the truth. Suspension of the uterus is neither rational nor feasible. None of the ligaments of the uterus, even the strongest, acts as a suspender of the uterus under normal conditions. A view of the uterus and its ligaments *in situ* will make this clear. The ligaments are all on practically the same plane with the uterus and lax; consequently, they cannot exert any suspensory influence. Should the uterus settle in the pelvis, or draw away from its moorings so as to assume a lower plane and put the ligaments on a stretch, they may, in a measure, become suspensory, but they soon prove their inefficiency by yielding to the sustained traction and thereby become of little value in a rôle for which they were never fitted. These little cords, like all the other uterine ligaments, are lax and allow of considerable latitude of motion backward and forward, but exert a gentle influence to prevent the organ from passing the vertical line. A slight resistance on the part of the round ligaments is ordinarily sufficient to check the backward movement of the uterus when, with the changed position of the body or the movements of respiration, the organ falls forward into normal anteposition. This, then, was the principle on which, as I believed, the solution of the question depended, and it was along these lines that the operation was devised. The fact that there have been a number of modifications of the original operation only serves to emphasize the strong probability that the principle is right and that round-ligament ventrosuspension, in one form or an other, has come to stay. Of these modifications, all of which are good and some excellent, I shall not speak, as they are each and all sustained by men of ability who are able to take care of their own. What I desire especially to accentuate in this paper and to reiterate, is the simplicity, safety and efficiency of the original operation, and its freedom from unpleasant sequelæ.

OBJECTIONS

The principal objection urged against the operation as originally devised was the danger of intestinal obstruction. This was brought forward early in the history of the operation, but of late I have heard nothing of it. That the objection was based on theoretical grounds entirely and not well founded is made manifest by the crucial test of time and numbers. Thousands of cases, during a period of more than a decade of time, have failed to furnish a single authenticated case of intestinal obstruction due solely and intrinsically to the operation.

The objection has also been advanced that after parturition the ligaments fail to exert any restraining influence over the uterus and that that organ reverts to its original malposition. This is true, but in a temporary sense only, just as it is true of many other uteri which have not been misplaced before, and is due to the size and weight of the uterus and elongation of the ligaments—not only the round, but all the ligaments which tend to hold the uterus in place. It is not only the uterus which develops during pregnancy, but the ligaments, the vagina, and all the soft parts of the pelvis, so that immediately and for some time after delivery, the pelvic cavity is more capacious and there is not the snug relationship of organ to organ which exists in the normal unimpregnated state. In operations during pregnancy, I have seen the round ligaments greatly elongated and of a thickness equal to that of the little finger. After involution of the uterus, the ligaments and soft parts has taken place, it will be seen that the uterus has returned to its normal position and that the round ligaments are as efficient in keeping it there as before.

Again, it has been objected that the operation is too apt to be followed by suppuration. There is not force in this objection. It has been many years since I had a suppuration following round ligament ventrosuspension. True, in the beginning I had cases of suppuration, some of a most aggravated type, but as I became

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

familiar with the manipulative details, learned to deal with the tissues gently, and acquired that automatic asepsis that comes with practice, then suppuration ceased and with it the concern for suppuration. Suppuration following this operation means the same as in any other, neither more nor less.

ADVANTAGES

Having disposed of the objections to the operation, I wish now to emphasize and reiterate its advantages. The cardinal virtues of this operation are to be found in its simplicity, safety, facility of execution and efficiency. It is so simple that any one of ordinary intelligence can understand it, and any one of ordinary surgical training can do it. It is so safe that any untoward result from it is almost inconceivable. The operation can be done with such ease and facility that with ordinary surgical skill and care there should be no question of infection or exhaustion. On this account it is especially valuable in multiple or combined operations in which it scarcely appreciably adds to the risk.

As regards its efficiency, I have never known a failure in a properly selected case in which the work was properly done. I have had one failure in my own practice; I attempted to anchor an anteflexed and retroverted uterus, held low down in the pelvis by a rigid and unyielding pelvic diaphragm, such a uterus as one occasionally finds in the virgin, which is not amenable to treatment of any kind. In such a case the operation should never be attempted. Neither should it be attempted in any case in which the uterus and appendages cannot be freed so as to allow the uterus to occupy its normal position without tension or restraint. Such cases are, however, extremely rare. Another cause of failure, as I have observed, is careless suturing of the ligament. Occasionally the ligament is not transfixed by the suture, when appearance would indicate that it had been. This is owing, in part, to the constriction of the ligament where it passes through the abdominal parietes. In order to be sure that I have the ligament on my needle, I direct my assistant to relax traction on the ligament while the needle is *in situ,* when, if the ligament does not retract, I know I have it on my needle. I have had occasion to remove the uterus at different periods after round-ligament ventrosuspension, and have always found the ligaments firmly attached to the abdominal wall and not yielding to any traction which I was willing to exert on them. As regards pregnancy and parturition after this form of suspension, I have found not only no evil results, but actual improvement in conditions owing to the uterus being held in the normal position. Cases of this kind are now too numerous to require special mention. While the technic is quite generally understood, the fact that I still occasionally get letters of inquiry with reference to certain points connected with it, suggests to me the desirability of again publishing it in this connection.

TECHNIC

The peritoneal cavity is entered by an incision at the usual site between the umbilicus and pubes. Adhesions are broken up and the fundus brought forward. By lifting up the anterior surface of the broad ligament on one side on the tip of a finger applied to its posterior surface, the round ligament is brought into view and picked up either between the thumb and finger, or with a bullet forceps

Selecting a point an inch and a half from the uterus, a thread is passed under the round ligament (with its peritoneal investment) and the ends of the thread are brought out of the opening and secured in the bite of a clamp forceps which is laid on the surface of the abdomen. The other ligament is sought for and secured in the same manner.

At a point about one inch and a half above the pubes, the peritoneum, muscle and fascia on one side of the wound, are caught up by a volsella and pinned together, care being taken that the edges of these layers are in line. Traction is now made with the volsella and, with a claw retractor, the skin and superficial fat are drawn in the opposite direction, and with a sweep of the knife the face of the fascia is cleared. With a slender-nosed forceps, or better with a Cleveland ligature-carrier a stab wound is made from the surface of the fascia into the peritoneal cavity. This wound is one inch from the edge of the incision and about one inch and a half above the pubes. The jaws of the forceps are separated so as to make the opening large enough to permit the ligament to be drawn through it, then by depressing the handle the jaws are brought into plain view at the abdominal opening. The thread which loops the round ligament is now placed in the jaws, the clamp forceps and the perforating forceps removed, the latter bringing with it the thread and the ligament. Now, while the ligament is held taut with the loop end a quarter of an inch above the surface of the fascia, a catgut suture is passed through it including the tissues on either side, and back again where it is tied. This is cut close to the knot, the suspending thread cut on one side close to the ligament and withdrawn and the volsella and retractor removed. The other side is dealt with in like manner and the abdominal incision closed.

After both ligaments have been fastened it will be seen that an opening exists between the uterus and abdominal wall of from 7 to 9 inches in circumference. thus obviating any possibility of strangulation of the bowel. It will be observed that the uterus is not suspended but rests easily and naturally on the bladder, from which it can be raised to a position little short of the vertical. Thus the uterus is enabled to conform to the altered conditions of the bladder and rectum and to the various bodily movements. Should pregnancy ensue the ligaments develop *pari passu* with the growth of the uterus and there is neither embarassment in gestation nor difficulty in parturition.

IN PROLAPSUS

The application of this principle to prolapsus uteri is a thought of later years. Sacrifice of the uterus as in vaginal hysterectomy, does not always secure immunity from secondary prolapse of the vaginal walls, bladder or rectum. The Watkins-Wirtheim operation, while elegant and most satisfactory in the main, is applicable only to post-climacteric cases. This operation requires such extensive dissection of the bladder wall that many are loth to undertake it. Uterus fixation is temporarily, at least, very satisfactory, but cannot always be relied on for staying qualities. Most of the other methods which have been proposed for this condition are obsolete. A few years ago I conceived the idea of using round-ligament ventrosuspension of the uterus with certain modifications in prolapsus uteri, and although I have used it only a few times, the results so far have been eminently satisfactory—more satisfactory than with any other method of which I have

knowledge. The steps of the operation are exactly those of the ordinary round-ligament suspension with the difference that the round ligament is first drawn through the broad ligament by means of perforating forceps and the thread which is looped around it and then taken up through the abdominal wall by the same thread and in the manner already described. Of course, the pelvic floor is to be repaired as in other operations and occasionally it will be found of advantage to amputate the cervix. The patients on whom I operated suffered from aggravated complete procidentia and today they are in excellent condition with a sense of perfect comfort and well-being so far as the pelvis is concerned. I suggest it as a simple and effectual method of dealing with a very troublesome condition.

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THE EVOLUTION OF THE SURGICAL TREATMENT OF RETRODEVIATIONS OF THE UTERUS *

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CHICAGO

I desire at the outset to enter a disclaimer, in that I believe that the surgical treatment of deviations of the uterus and associated pelvic organs is far from settled, so far that perhaps some of the hysteropexies, the ligament shortenings, the suspensions, the fixations, in their wide divergence may to the next generation look as crude and unscientific as the routine clamp and drainage-tube in ovariotomy now look to us. Perhaps we are a little too inclined prematurely to dogmatize on the subject—and especially the inventor of an operation is like the expert witness, who said: "Your honor, in matters of fact I am often mistaken, but in matters of opinion I know I am right."

The fine adjustment of the mere mechanical technic of any or all of the current operations is of less consequence than the selection of suitable cases and the recognition of the facts that surgical measures are not demanded for all retrodeviations; that there is no fixed normal position of the pelvic organs; that the matter is one rather of normal movements than of normal position; that the normal supports, so-called, are functionally concerned, not with holding the organ in some fixed position, but rather with restraining it within its normal range of movements; that a uterus out of place, if you please, may by a surgical procedure be put in place and so fixed that the fixation is more injurious, more embarrassing than the displacement.

Many would say, not without reason, that we all are prone to treat this subject from purely mechanical points of view and thus to lose sight of essential pathologic changes which have produced mechanical deviations, treating effect instead of cause, like damming up a river to prevent its waters from flowing into the ocean. But on the other hand we must not forget that if the resources of Nature have been exhausted in the production of the lesion we may have recourse sometimes to mechanical measures, irrespective of the fact that if an ideal anatomic and physiologic cure is impossible yet a symptomatic cure may be desirable.

Confining the discussion to the relative merits of those procedures which now have the support of progressive surgery we may classify them under two heads:

1. Operations which give sustaining power by means of peritoneal adhesions or fixation.
2. Operations which give sustaining power by shortening of ligaments.

In the interest of brevity we may disregard surgical operations of whatever class which are performed by vaginal section, not that we should condemn vaginal hysteropexy *in toto,* but that the field is relatively narrow, and the discussion therefore in this place in some degree unprofitable.

The different procedures, therefore, so far as I shall weigh them, narrow down to operations performed through the median or nearly median abdominal section.

Touching the class of operations which give sustaining power by seroserous adhesion or fixation, that is, ventral suspensions and ventral fixations, some will remember thirty years ago when it was a vexed question what to do with a retroverted uterus before closing the abdomen after a pelvic operation, such for example, as the removal of pus tubes. Sometimes cautiously and tentatively and with some misgivings, having a pioneer respect for the peritoneum, we united with a single stitch the fundus or the anterior wall of the corpus uteri to some point in the peritoneum near the pubes. In a few weeks examination usually disclosed the uterus again retroverted and thereby demonstrated the inadequacy of this technic; then several sutures were used instead of one with the same result; then before suturing we scraped off with a sharp knife the peritoneal surface so as to give raw surfaces to be united and the result was strong broad cicatricial union and permanent fixation; in fact, immobilization of the uterus; then was written the tragic and humiliating chapter of mechanical fixation of the uterus, a chapter which told of obstruction of the bowel, dystocia, rupture of the parturient uterus and other obstetric calamities not to mention a formidable list of disabling, distressing consequences, neurotic and circulatory, local and general. Ventral fixation then relegated to the dark ages of surgery soon gave way to ventral suspension of the uterus by less barbarous methods—an operation popularized by Howard Kelly which in the final and successful evolution resulted quite uniformly in stable equilibrium of the uterus, and at the same time left it free in its normal range of movements. The principle was simple and effective; it was to unite to the anterior parietal peritoneum, not the fundus or the anterior wall of the corpus uteri but the posterior wall, and, what is most essential, to that part of the posterior wall just back of the fundus, a surface about one-half inch back of a line connecting the uterine ends of the Fallopian tubes. This surface was united to parietal peritoneum near the uterovesical reflexion. Stable equilibrium and permanent uniform results were secured by the simple change in the selection of surfaces to be united without denudation of the united surfaces and with two or three absorbable catgut sutures; that is, very light adhesions of these surfaces were sufficient. Moreover, this union, by lifting the posterior wall of the corpus against the parietal peritoneum, also served to tilt back the cervix so as to place it nearer to the hollow of the sacrum—a most essential mechanical factor in the correction of retroversion, for if the cervix be normally near the sacrum, the corpus does not have space in which to retrovert.

This operation, modified by myself in a personal experience of several hundred cases, was in a degree satisfactory both as a means of correcting the displacement and in its freedom from the distressing mechanical results which had discredited the obsolete operation of

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

fixation It, however, may give rise to obstruction of the bowel, for it always left a more or less constricted passage around the uterus, especially if the adhesions pull out into cicatricial bands under which intestine could work its way and be compressed. Such accidents, with grave results, have been reported from time to time. Moreover, the operation in incompetent hands, although intended to produce light adhesions only, sometimes sets up union so strong and cicatricial as to amount to the much-dreaded fixation already condemned. These things being so, I finally disregarded my own satisfactory results and those of others, and have almost abandoned the operation, and in place of it for several years have substituted one after another of the various ligament-shortening operations.

In taking leave of the suspension operation, which in the evolution of the subject has held so large a place, I pay it my very appreciative respects; it was a tried and trusted friend; it hardly ever failed; it never, in my personal experience, was followed by bad results which I could attribute to it: unfortunately, however, it is beset by the sentimental objection that it is not anatomic, and, under indictment therefore by the surgical purist is charged with the crime of being unsurgical. It may plead, however, extenuating circumstances, inasmuch as it has suffered from the evil relations and evil associations of fixation, the sins of which, by confusion of the two operations, have been visited on it most unjustly. And so, not without a sense of disloyalty, I dismiss, temporarily at least, an old benefactor, and pass to the more approved ligament-shortening operations.

There is, perhaps, more scientific indication for shortening the uterosacral than for shortening the round ligaments because these ligaments should maintain the normal short distance between the cervix uteri and the hollow of the sacrum, and because shortening them therefore may fulfill an essential indication, but with due respect for contrary opinions no uterosacral operation, so far as I am aware, has been developed to the degree of satisfactory stable results; that is, the shortened uterosacral ligaments do not hold well. They are liable to pull out again soon after the shortening, causing the operation to fail.

The recent operation of Harris,[1] by which a new ligament is formed to supplant the uterosacrals by utilizing the long tendon of the psoas parvus muscle, is too new to permit an estimate of its value; it probably is destined, however, to go the winding way of artificial ligament operations.

Shortening of the broad ligaments is not germane to this discussion, except as it enters incidentally into the round ligament operations.

Perhaps we may drop the curtain on Alexander's operation now regarded as obsolete. The substitute operation once advocated by Goldspohn, while reasonably effective, I would discard as requiring an unnecessary amount of surgery for the accomplishment of the purpose, especially since this surgery might, in the hands of an unlucky surgeon, weaken the region of both inguinal canals and the abdominal rings and thus give rise to hernia, to say nothing of its increased danger of sepsis. The various operations of doubling the round ligaments on themselves or of suturing them in front of the uterus, although very useful in their time, now, in the face of more recent procedures, appear to be passing into disuse. They always were open to objection of frequent inadequacy for permanent results.

1. Harris, M. L.: A New Operation for Prolapse of the Uterus, THE JOURNAL A. M. A., May 14, 1910, p. 1605.

Perhaps without fear of much contradiction we may eliminate from serious discussion all ligament-shortening operations except those which belong to the most recent era, an era which began with the operation of Gilliam. This operation has been modified in technic by Barrett, myself, and others, and has been somewhat, though perhaps not very materially improved. In addition to the merit of being anatomic, and therefore surgical, it gives reasonably permanent results, although possibly not so permanent as the suspension operations of Kelly, already described, approved, and reluctantly laid aside. Gilliam, so far as I am aware, took the longest step toward placing the surgical treatment of retrodisplacements on a scientific basis. Just what form of this method of supporting the uterus by drawing the round ligaments through other structures and fastening them there will stand the final test of experience against all others, the future must decide. The operation is not quite adequate, however, inasmuch as it fails like all others of its kind to hold the cervix back in its normal location near the hollow of the sacrum, an essential requirement for perfection still unfilled by any method so far proposed.

A radical departure from the Gilliam technic, although not entirely different in principle, inasmuch as it passes the round ligament through other structures, is the operation of drawing the round ligaments through the broad ligaments and fastening them on the posterior wall of the corpus uteri. Clarence Webster, I think, first described this operation, and therefore is entitled to the credit of literary priority. I believe it was earlier performed by Frank Andrews. It has been successfully championed by Baldy. I have performed it more frequently than any other for several years, and so far as I have been able to observe results, am inclined to give it a great deal of preference. This and other round-ligament operations are thought to be inadequate and therefore contraindicated when the ligaments are so attenuated as to be incapable of giving much support and in such cases many revert to the suspension operation by adhesion.

I think I would favor this operation even with an attenuated ligament inasmuch as it carries along with the ligaments considerable peritoneum, which becomes adherent and gives supporting power. In fact, the peritoneal element in posterior attachment is a most significant factor—almost as significant as it is in ventral suspension; it combines the advantages of ligament shortening with seroserous adhesions and is free from danger of resultant obstruction of the bowel so much feared in the ventral suspension and the original Gilliam operation.

The pessary, recognized in former times as being of great value, has fallen into unmerited disuse and the correct application of it has become almost a lost art.

One additional word: In this age of dramatic surgical achievement in the abdomen, let us remember that our fathers of the last generation developed plastic surgery on the vaginal side of the pelvic floor to a surpassing degree. Let us keep in sight the fact that any abdominal operation for retroversion or descent, however well selected or performed, may be of little avail against the counter-influence of a relaxed pelvic outlet, and that good plastic work below therefore may be indispensable. Perhaps it is true that the pioneers did better plastic work that we are doing now. It would be interesting entirely if under the blinding influence of major surgery, plastic gynecology should become a lost art.

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THE DISCHARGE OF LUNATICS BY HABEAS CORPUS PROCEEDINGS*

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The constitution of the United States[1] provides that "the privilege of the writ of habeas corpus shall not be suspended unless when in cases of rebellion or invasion the public safety may require it."

It is important at the outset that we have clearly before us in the consideration of this paper a precise idea of the legal significance and aim of the great writ to which it relates. A concise definition, which has generally been accepted as a most complete one, is that given in "Hurd on Habeas Corpus:"[2]

> The writ of habeas corpus is that legal process which is employed for the summary vindication of the right of personal liberty when illegally restrained.

It is along the line of this definition that I proceed to a discussion of the application of the writ respecting a single class of individuals, namely, the insane. Reverting to the historical, it may be of importance to recall that the original necessity for the writ of habeas corpus arose from a great many conditions which demanded remedy, one of the least of which was lunacy confinements. One of these conditions, as will be remembered, and a most important one, was the practice of imprisoning for debt. By far the large majority of habeas corpus cases in the old reports, both English and American, relate to restraint of liberty for reasons other than alleged or adjudged lunacy. We find, at the present day, however, that this writ, designed more particularly for divers other necessities, is being used to an astounding extent in lunacy cases. The increase in its use within the memory of living men has been so marked that it may well be inquired whether it has not become an abuse of privilege. The increase of the popularity of habeas corpus proceedings in lunacy cases has been due to several causes, to some of which I think it highly important that we give thoughtful attention. It is only by a full appreciation of the causes, taken with an intelligent comprehension of the effects that we can proceed properly and with well-founded hope toward a reform.

Let me emphasize that it is not the purpose of this paper to argue for one moment for a suppression of the writ as such. The writ of habeas corpus came into use by reason of a recognized necessity for such a process, and it has undoubtedly become an invaluable part of our judicial system. It is my desire to point out, if I may, the abuse of privilege in the obtaining of this writ by lunatics and those acting in behalf of such persons. In so far as applies to the issuance of the writ in cases of lunatics, I argue for a limitation of such use. In using the word "lunatic" I am not unmindful of the efforts of some of the medical profession to abandon the word, to substitute for it some word or phrase less harsh, something which signifies illness. This position taken by medical men is based, of course, on the modern view of insanity, and is at once both in keeping with that enlightened view and of kindly intent to the patient and his family. With these efforts I am in full sympathy, but as this paper treats the legal side of the subject, I use the term "lunatic," a word which the statutes and the decisions have given a distinct place in medical jurisprudence.

In the first place, in the case of every applicant there must have been an actual incarceration, either as a preliminary act under general police or public health regulations, or by decree of a court in confirming a due inquisition. Few persons apply for a writ of habeas corpus during the period of temporary detention. The applicants for the writ are in practically every instance, those who have been adjudged insane. Time was, we all remember, when persons supposed to be insane were taken to the nearest jail or prison and there confined without examination, without hearing, and without day, and it was the suffering of those thus confined that brought about through Pinel and others the recognition of the great fact that there is nothing of the criminal about an insane person, but that he is simply a sick man. This truth has come to have so firm a place in the mind of society that no longer is it possible—nor indeed is it the desire—to incarcerate an alleged lunatic without a full and fair hearing. It means a great deal, therefore, when we realize that the lunatics applying for discharge by habeas corpus are, as I said before, in nearly every case adjudged lunatics. They are not suspected individuals who have been summarily confined, but are those who have had their day in court, and have been found, in orderly manner by competent tribunals, to be in need of treatment for mental disease. As to these hearings in the several jurisdictions, it may be said that they have at least one feature in common, namely the fairness with which they are conducted toward the alleged lunatic. An examination of the widely differing proceedings throughout our country must convince one that in every instance the man whose sanity is in question has a fair opportunity in the presentation of his case. The variance in these hearings extends all the way from the admirable practice under the New York and Massachusetts laws which treat the patient as a sick man, to that in the District of Columbia which requires his examination before a jury of twelve laymen. A great deal has been spoken and written and much more can be said about the system which gives a jury of laymen the right to determine whether there should be commitment for mental disease. If all hospitals were private institutions conducted for gain, and the superintendents thereof were under lax regulations and without inspection laws, there might be some reason for placing twelve laymen between liberty and confinement. My own opinion, based on a study of European laws and those of some of our own states, and a practice specializing in such matters, is that the commitment may be safely entrusted to a judge. Be the hearing conducted in whatsoever manner, it must be conceded that the practice of committing sane persons to insane hospitals is a relic of ancient days or a creation of vivid imagination. Such being the case, the burden shifts, after adjudication, and it is, or certainly it ought to be, incumbent on the adjudged lunatic to show that he is sane if he is to secure discharge by habeas corpus. This burden should extend further. It should require, as suggested by a committee of the New York State Bar Association, a showing of *prima facie* sanity before the issuance of the writ of habeas corpus. The report of the special committee on the commitment and discharge of the criminal insane, presented at the meeting of that association held in Rochester in January, 1910, recommended that a person confined in any state hospital for the insane might make application for a writ of habeas corpus only on a written verified petition accompanied

* Read before the Society of Medical Jurisprudence, New York City, Dec. 12, 1910.

1. Constitution, Art. 1, Sec. 9, par. 2.
2. Hurd on Habeas Corpus, p. 143

by a certificate made under oath by two qualified medical examiners in lunacy. It further recommended that the examiners in lunacy be required to give the reasons on which they based their belief as to the sanity of the applicant. A requirement such as this would do much to reduce the number of hearings on writs of habeas corpus, for it would operate to prevent the issuance of a large number of such writs.

Certain "leeches" of the legal profession exist in every community, and there is a form of this species which fastens itself on hospital patients. Through the efforts of these shysters, patients who would not otherwise think of such a thing, and who really do not desire freedom, are led to apply for discharge on writs of habeas corpus. Petitions in such cases are not infrequently signed by the attorney as next friend of the patient. The next step, often followed, is to file the proceeding *in forma pauperis*. Thus the attorney after one short conversation or after receiving a letter or a postal card from the patient, is enabled without further consultation or a medical examination, and without taking up the matter with the hospital physicians, to indulge in what may be properly called a "fishing expedition." On the hearing if the patient is remanded, the attorney has lost simply the questionable value of his time, but if the patient is discharged the attorney demands substantial compensation. In a recent case which came under my observation the discharged patient had $600 accumulated savings, of which he complained that the attorney took $135 as a fee and borrowed $300. It is important to add that the remainder supported the patient two months and he was then recommitted to the hospital from which he had been discharged! As to his mental condition, it must be said that while at the time of his discharge he was quiet and contented, the strenuous life which he led during his two months' freedom, with attendant excesses and indulgences, changed him greatly and he returned with his mental disorder aggravated to an alarming degree. This practice, encouraged and fostered by the unrestricted issuance of writs of habeas corpus, has grown in some jurisdictions until it is nothing less than a cruel wrong on the patients and an outrage on justice. One remedy lies, as above suggested, in a requirement that the patient submit with his petition *prima facie* evidence of his sanity, or, in other words, that before burdening the court and hospital authorities, he obtain a substantial showing of reputable medical evidence as a basis for his petition.

Another class of patients seeking freedom through the great writ are the paranoiacs. As is commonly known, paranoia is a most dangerous type of mental disorder. The paranoiac invariably possesses cunning, usually in a marked degree. These patients differ from those to whom I have referred as being preyed on by unscrupulous attorneys, in that the personal activity of the patient is conspicuous in his efforts to obtain discharge. At Dannemora (the New York Hospital for Criminal Insane) the superintendent recently reported that the majority of his patients who were seeking writs of habeas corpus were paranoiacs, and that during five years four such patients who had been thus discharged had committed suicide. The records of many courts also show that in such cases the termination of one proceeding by the remanding of the patient simply marks the beginning of a new proceeding. Many patients suffering from this form of mental disorder have obtained six and eight writs; and as long as the writs are procured so easily, they will doubtless continue—to the retardation of the proper business of the courts, the disheartenment of hospital authorities, and the physical and mental detriment of the patients themselves. The court proceedings in such cases are unnecessary, quite as much so as those in the class of cases earlier discussed. It is self-evident that a requirement of medical evidence in support of a petition for a writ of habeas corpus would perforce prevent oft-recurring applications from the same patient.

In a paper prepared in 1909, Dr. Robert B. Lamb, superintendent of the Matteawan State Hospital, reported the subsequent history of forty-one patients for whom during a given period writs of habeas corpus had been obtained. Seven were remanded to the hospital and thirty-four were discharged. Of these thirty-four, fourteen found their way either to prison or asylum, eight were troublesome to their families because of mental disturbances, three were unable to earn their living and were cared for by relatives, six disappeared from view, two committed suicide, and one succeeded in becoming partially self-sustaining.

In the District of Columbia between given dates in 1905 and 1909, fifteen patients secured their discharge from the Government Hospital for the Insane on writs of habeas corpus. By reason of nearly all of these men having been soldiers and sailors and not residents of the District of Columbia it has been impossible to trace the subsequent history in every case. Of the number thus discharged, however, four were later taken in custody and recommitted to the hospital, one committed suicide, one committed a violent assault in a northern city and was placed in another hospital where he is now confined, one was admitted to a New York State hospital for the insane, and one became an inmate of an institution in the West and by his recent correspondence with a prominent government official has given evidence of profound mental disorder.

It is well worthy of note that during this same period 1,256 patients at the Government Hospital for the Insane were discharged by the superintendent without any proceedings whatsoever, and approximately 900 more were similarly released by the superintendent on parole to relatives and friends.

In an early case[3] in this country it was held that:

> "No principle of right is violated in putting a reasonable and salutary restriction on the liberty of a person who, from the loss of reason and judgment, is unable to provide means for his own cure or who is liable to use freedom from restraint in such way as to increase or prolong his malady."

In the light of this very sensible doctrine, it is clear that after a proper adjudication the patient in confinement is not being deprived by illegal restraint of the right of personal liberty—to use the language of Hurd's definition—and should not, therefore, be entitled to a writ of habeas corpus except on a proper advance showing of mental capacity.

As we consider the rights of the patient, so must we not overlook the rights of society. The men, women and children who are daily on the streets and in other public places have distinct rights which are of as much importance and value to them as any rights of the adjudged lunatic. "Man," says Montesquieu, "is born in society and there he remains." The incompetent is a component part of society and it is therefore necessary that certain restrictions be placed on him that he may not do violence to the welfare of the greater number. To be sure, the insane, as wards of the court, are pecu-

3. Matter of Josiah Oakes, 8 Law Reg. 122.

liarly entitled to the most jealous protection of the court, but it is equally true that the great body social is entitled to the protection of the institutions of justice in the interests of the general welfare of the race. The welfare of the adjudged lunatic, then, should be considered, not of itself, but coordinately with—I am tempted to say, subordinately to—that of society. On the one hand, the discharge of an adjudged lunatic on evidence lacking clear proof of restoration to reason may for the moment please and satisfy the patient, and. on the other hand, it may harass and endanger his fellow citizens without number. In recent years the Rhode Island Supreme Court has spoken on this point with a fearlessness that is refreshing. In the case of Ex parte Palmer[4] the court after hearing the evidence of nine or ten physicians—several of whom were of wide reputation—to the effect that the petitioner was not insane, and on the other side that of four physicians of known probity and experience that it was dangerous to the community for petitioner to be at large, remanded him with these words:

"Charged as we are with the high and imperative duty of protecting the people of the state, as far as lies in our power, from physical injury and violence at the hands of irresponsible persons, we are of the opinion that in order to warrant us in discharging the petitioner from his confinement he must show by a clear and strong preponderance of evidence that he is not insane and that his going at large will not be dangerous to the public peace. That so strict a rule does not obtain in all cases of this sort, that is, in petitions under the statutes of the various states, for the release of persons confined in insane asylums, we are well aware. But we think it should be the rule in a case like the one before us, and we therefore adopt it and shall be governed by it."

In this decision the protection of the court was extended to the community, the court declining, as you have noted, to take the responsibility of discharging because of a lack of "a clear and strong preponderance of evidence that he is not insane and that his going at large will not be dangerous to the public peace."

One needed reform, as I have tried to indicate, is the establishment by the petitioner of a *prima facie* case at the filing of the petition. Another is a uniformity of practice which will result in habeas corpus cases being heard before the nearest judge of competent jurisdiction without the questionable aid of a jury. Some time ago attention was directed by the superintendent of one of the New York state hospitals to a growing practice of the courts of granting writs returnable before other justices in distant parts of the state. The necessity for such a proceeding is purely imaginary; the burden that it puts on a disinterested and honorable institution and its officers is at once harsh and absurd. A striking instance of this abuse was that of a patient in the Willard (N. Y.) State Hospital, who, in September, 1909, after having been remanded in three or four habeas corpus proceedings, secured a writ returnable before a justice in Brooklyn nearly four hundred miles distant. A criminal in California[5] who wanted discharge on a writ of habeas corpus tried this plan of going beyond his own jurisdiction but in that case the supreme court of the state laid down a doctrine of common sense which ought to be appreciated by all who read it. The court said:

"The legislature can never have intended that a party imprisoned under sentence of conviction for a misdemeanor should have the privilege of selecting from the judiciary of the whole state the individual to whom he prefers to make his application, however distant from the place of his detention, and compel the officer having him in charge to convey him, at the expense of the county, it may be from San Diego to Klamath, in order that he might avail himself of a remedy which the local judge of his county was equally authorized to grant. Nor need he stop here; the refusal to discharge by one judge is not a bar to another application before a different judge. After failing in his first application, the party may sue out another writ before a different officer, and thus the term of his imprisonment may be passed in traveling from one part of the state to another, at the expense of the county in which he was convicted, to the entire subversion of justice."

Hearings on writs of habeas corpus, by reason of the supposed exigencies requiring their issue, should be conducted by a judge without a jury. The practice has grown, however, of courts referring the issues raised in such hearings to a jury. This is not because a hearing by the court would amount to a violation of the right of jury trial, for the right of jury trial in habeas corpus cases has never existed. Going back to Blackstone's Commentaries we find the learned author commenting on the fact that the right of trial by jury was not recognized as existing in favor of an alleged lunatic under the common law.[6]

An alleged lunatic cannot be committed it is true, and cannot be tried to determine his mental condition, except by "due process of law," but as Judge Cooley points out in his work on "Constitutional Limitations,"[7] "The term 'due process of law' is by no means confined to trial by jury, but the term covers a variety of judicial proceedings."

There ought to be no room for doubt as to the proper legal method of conducting such inquiries. In the first place, the federal law provides[8] that in habeas corpus cases "the court, or justice, or judge shall proceed in a summary way to determine the facts of the case, by hearing the testimony and arguments, and thereupon to dispose of the party as law and justice require."

You will note that the court is required to proceed summarily, and Bouvier[9] defines a summary proceeding to be "a form of trial in which the ancient established course of legal proceedings is disregarded, especially in the matter of trial by jury."

Still another recognized authority on the subject, Professor Church, in his work on "Habeas Corpus,"[10] confirms this doctrine, using this language:

"There is no provision in the Constitution of the United States, neither is there in any state constitution, which gives the right to have these issues of fact tried by a jury in such proceedings. The constitutions, federal and state, provide substantially, that the right of jury trial shall not be violated, but it is no violation of this inestimable privilege to deny it in chancery proceedings, preliminary examinations and proceedings by habeas corpus."

This matter becomes one of great moment when we observe, as has sometimes been alleged, the judge taking an open and positive position as to the mental condition of the patient while the jury takes an opposite view and the court confirms the jury's verdict. The judge in such cases, by reason of his ability to weigh evidence and his unbiased attitude, can render a verdict just to both the patient and the state, while a jury of laymen, torn by conflicting emotions and personal equations may, and

4. Ex parte Palmer, 26 R. I. 486.
5. Ex parte Ellis, 11 Cal. 222.
6. Blackstone's Commentaries, i. 304.
7. Cooley's Constitutional Limitations, p. 431.
8. Sec. 761 U. S. Rev. Stat.
9. Bouvier's Law Dictionary, ii, 683.
10. Church on Habeas Corpus, p. 173.

frequently will, decide a mental question on any ground except that of the evidence.

It is the abuse of privilege which leads to corrective measures. A reform must come when an abuse becomes too flagrant. In these cases, we are coming, very generally, to a recognition that the petitioners are getting not only what a humane law and practice afford them, but certain so-called privileges not warranted by the intent of the law and of infinite harm to public institutions, to judicial procedure and to the patients themselves. The time is ripe, therefore, for an enforcement of the rights of the community at large, and if we concur in this view we are brought face to face with the question of how the existing abuses are to be corrected. I have endeavored to outline some needed changes in our laws as well as in our practice under existing laws. There remains to be brought to attention at least one other important method of correcting the evil. I refer to a dissemination of knowledge among the people at large as to present-day methods and management of public institutions for the care of the insane. A growing movement in such hospitals of giving publicity and of inviting medical cooperation is doing much to bring closer sympathy between physicians in charge and those in private practice. For two years past the government hospital at Washington has conducted each winter a series of staff meetings to which the physicians of the city have been urgently invited, and which invitation, it is gratifying to know, has been accepted by a large number of active practitioners. At these meetings, methods used in the examination, the care, the amusement, and the varied treatment of the insane, are discussed fully and freely. By such means the hospital physicians are getting the confidence of the people at large through the family physicians, and the old horror of hospitals—born and nurtured in ignorance—is being replaced by an intelligent idea of the work which the hospitals are striving to perform. This labor of the institutions—I speak with particular reference to the large government and state hospitals—is full of discouraging aspects. The trials incident to the work are materially reduced by cooperation and appreciation such as I have just mentioned, but a further step will be attained when in addition is added the confidence of the legislators, the bench, the bar and the jury box. It may be a far cry to the time when such universal confidence will exist. It ought not to be, for the cause is that of the people. The people have rights which the legislators ought to respect and will respect when they are insistently and persistently presented. As for the bench, the bar and the jury, I believe that a uniform stand by the courts for the protection of the many will be a guidance to the attorneys, as it must be a rule of action for the jury. In all the literature of the law no safer, saner or more fearless decision stands out than that of Judge Ludlow of Philadelphia.[11] This distinguished jurist, reviewing the evidence in a habeas corpus case, and remanding the patient to the hospital, said:

"To take a proper and just responsibility in such a case as this, requires not bravery but courage—not that quality which sometimes degenerates into temerity, and is reckless of danger, but rather that other quality which is the result of reflection and is always cool and collected. Where our path of duty is plain we ought judicially to be courageous, not brave."

It was nearly forty years ago that Judge Ludlow uttered these words. He was the precursor of other jurists, who have maintained in positive terms their determination to protect society from those who would do it violence, as well as to protect those who would do violence to society. The goal which we seek is the better protection of society, without the releasing of any of the proper privileges and safeguards extended by the law to the mentally deficient. The difficulties in our way are numerous. Although the path of progress at times seems clear, there are ever present obstacles. Some of these are founded on honest bases and must be overcome by a campaign of education; others have their support neither in the law nor in righteousness and must be dealt with vigorously. Until medical science can cure all mental ills, those who suffer from such affliction must be cared for and directed, in ways that are pleasant, if you please, but always in paths that do not permit these unfortunates to be of danger to themselves or to their fellows. The great agencies of the law must be wide open to them, but with the limitations that are essential for the proper administration of justice, and the safety of all the people.

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11. 7 Phila. Rep., 328.

SALVARSAN AND SODIUM CACODYLATE*

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The object of this paper is to present the results obtained by applying to sodium cacodylate the experiments which demonstrated the wonderful destructive action of salvarsan on the spirochetes of syphilis. These experiments are laid down in Ehrlich and Hata's recently issued monograph,[1] and, in brief, they consist, first, of the determination of the tolerated dose of a given substance for normal rabbits, and, second, of the determination of the curative dose for rabbits infected with *Spirochæta pallida*. The results are expressed in the form of a ratio, C:T. Hata has shown that the ratio for salvarsan is at least 1 to 10 with a single intravenous injection.

Interest among clinicians of this country in sodium cacodylate in the treatment of syphilis seems to date from an article by Murphy,[2] who gave a summary of the status of salvarsan at that time and then said:

It has been announced that this drug will not be given to the profession for a number of months, a fact which forced us to try other preparations of arsenic. The one with which I have been most familiar is the sodium cacodylate, which we have been using for seven years to allay the pain of metastatic, osseous carcinomata.

He mentioned three cases in which the drug, given intramuscularly, seemed to have had a high spirillicidal power. Murphy's lead has been followed by a number of clinicians, and while few published reports have as yet appeared, it has become evident that the results are not uniform. Sodium cacodylate is, of course, not related to salvarsan in any way, except that it contains arsenic, and it would be very surprising if one could substitute, off-hand, a stock preparation for a highly refined product like salvarsan. Still, in view of our

* From the Bacteriological Laboratory of the Army Medical School, Washington, D. C. Published with permission of the Surgeon-General, U. S. Army.

1. Ehrlich and Hata: Die experimentelle Chemotherapie der Spirillosen, 1910.

2. Murphy: The Arsenical Treatment of Syphilis, THE JOURNAL A. M. A., Sept. 24, 1910, p. 1113.

ignorance of the actual spirillicidal power of sodium cacodylate, and of the great interest in the general subject, it seemed worth while to fall back on the experimental method.

TOLERATED DOSE

The problem, then, is to work out the ratio C:T for sodium cacodylate. Runnels[3] has recently given a review of the chemistry and physiology of the cacodylates and has emphasized the subject of purity of the drug. He examined the best of two samples bought in the market and found a sodium cacodylate content of 77.59 per cent. and concluded that the remainder consisted almost solely of water. The preparation used in the following experiments was Merck's, which came in brown glass bottles of one-eighth ounce capacity. Tested by the method of Imbert and Astruc it gave a cacodylate content of 67 per cent. There was no evidence of other impurity than the water of crystallization.

The tolerated dose was worked out for intravenous administration, as this is the most definite method in which to determine curative action. The drug was dissolved in salt solution in proportions which allowed the desired amount to be given within 5 c.c. Table 1 shows the results of injection of various quantities.

TABLE 1.—THE EFFECT OF VARIOUS DOSES OF SODIUM CACODYLATE ON RABBITS OF DIFFERENT WEIGHTS

Rabbit	Weight gm.	Dose per Kilogram	Result
1	2150	0.025	No visible effect.
2	2015	0.01	No visible effect.
3	2055	0.01	No visible effect.
4	2180	0.15	No visible effect.
5	1955	0.15	In a short time drowsy, with some paresis of hind legs.
6	2150	0.2	Drowsy; paresis of hind legs; rapid respiration; very sick.
7	2170	0.2	Drowsy; paresis of hind legs; rapid respiration; dead in twelve hours.
8	2020	0.25	Same symptoms; dead in twenty hours.
9	1970	0.3	Slight symptoms; recovered.
10	2000	0.3	Same symptoms; dead in twenty hours.

All the animals affected showed the same symptoms of stupor, rapid respiration and paresis of the hind legs. The animals that died showed congestion of the lungs and a small exudate in the pleural cavities.

The tolerated dose is the largest that can be given with safety to life; in other words, it is just short of the minimal fatal dose. In the present instance, "T" may be taken as 0.2 gm. per kg. for intravenous administration. Runnels considered 0.3 gm. per kg. as a maximum safe dose in rabbits, but this was by the subcutaneous method of injection, and with half grown animals.

CURATIVE DOSE

The curative dose was worked out on chancres of the scrotum and on lesions of the testicle produced by the eighth, ninth and tenth generations in rabbits of spirochetes from a case of human syphilis.[4] A complete protocol of one of the rabbits is given below.

RABBIT 2 (XX).—Oct. 4, 1910: Black; right testicle injected with 1.5 c.c. of a citrate mixture of serum from the testicle of Rabbit XVII; eighth generation; spirochetes abundant. October 24, small indurated patch in scrotum. October 31, testicle enlarged; nodule in epididymis; oval chancre in scrotum; spirochetes abundant in testicle by dark-field examination, twenty-seven days after inoculation. November 2, serum positive by Wassermann test. November 7, skin lesion much larger. November 9, serum positive. November 17, spirochetes present in testicle. November 21, large chancre, 24 by 12 mm. November 25, spirochetes present in chancre; same size; weight 1333

3. Runnels: The Carbon Compounds of Arsenic in the Treatment of Syphilis, New York Med. Jour., xcii, No. 22, p. 1053.
4. Nichols: Experimental Yaws in the Monkey and Rabbit, Jour. Exper. Med., xii, No. 5, p. 620.

TABLE 2.—SUMMARY OF THE FINDINGS IN RABBITS AFTER THE INJECTION OF VARIOUS DOSES OF SODIUM CACODYLATE

Rabbit	Weight gm.	Condition at Time of Treatment *		Dose per kg.	Examination for Spirochetes After Treatment										Remarks
					1st Day	2d Day	3d Day	4th Day	5th Day	6th Day	7th Day	8th Day	9th Day	10th Day	11th Day	12th Day	
1 (XIX)	2330	Large chancre of scrotum, 18x18 m.m.	Sp.+	.005	+.005	..	+	..	+	+	..	..	+	+	..	..	No effect on spirochetes or on lesions.
2 (XX)	1333	Large chancre of scrotum, 24x12 mm.	Sp.+	.005	+.005	..	+	..	+	+	..	.01 pro kg. 606	—	—	—	—	No change in spirochetes or in lesion until 606 was given; then rapid healing.
3 (XXXII)	1900	Lesion of testicle size of olive.....	Sp.+	.025	+	+	+	+	..	..	+	+	..	..	.01 pro kg. 606	—	Lesion became smaller; spirochetes persisted, active and numerous until 606 was given.
4 (XXXV)	1960	Lesion of testicle size of large olive..	Sp.+	.025	+ ±	+	±	..	..	..	..	+	+	..	..	..	Lesion became smaller; spirochetes partly immobilized at first.
5 (XXXIV)	1930	Chancre of scrotum, 12x16 mm.....	Sp.+	.05	+	+	+	+	+	..	..	..	..	..	..	..	No effect on spirochetes or on lesion.
6 (XXXIII)	2090	Large diffuse lesion of testicle.....	Sp.+	.075	+	+	+	+	+	+	+	+	..	..	..	..	No effect on spirochetes or on lesion.
7 (XXIX)	2240	Lesion of testicle size of olive.....	Sp.+	0.1	+	+	+	+	+	..	+	..	..	..	..	..	No effect on spirochetes or on lesion.
8 (XXXVI)	1975	Chancre of scrotum, 18x17 mm.....	Sp.+	0.15 "606"	+	+	..	+	+	..	+	..	..	..	..	..	No effect on spirochetes or on lesion.
Hata XI	2360	Two chancres of scrotum, 20x26 mm.	Sp.+	0.015	—	—	—	..	..	..	..	..	..	..	..	..	Spirochetes destroyed in twenty-four hours; lesions healed in two and three weeks.

* + = Present, active; ± = present, motionless; — = not found.

gm.; 0.005 per kg. sodium cacodylate intravenously. November 26, spirochetes present, sluggish in movement; 0.005 per kg. sodium cacodylate intravenously. November 28, spirochetes present, active, numerous, no change in lesion; serum positive. November 30, spirochetes present, active. December 1, lesion 22 by 17 mm.; spirochetes present, active. December 3, 0.01 per kg. salvarsan intravenously. December 4, spirochetes not found. December 5, spirochetes not found; lesion 16 by 16 mm. December 6, spirochetes not found; lesion much smaller. December 9, spirochetes not found; lesion much smaller. December 10, spirochetes not found; lesion nearly healed. December 12, lesion nearly healed; doubtful serum. December 19, no remains of lesion, serum negative.

When in the course of this work the dose of 0.025 per kg. was reached, it was at first thought that some curative effect was becoming evident in Rabbits 3 and 4, because the lesions became smaller after treatment, and the spirochetes were in part immobilized for two days in one animal; but higher doses failed to show anything of the kind, and the testicular lesion is, naturally, subject to certain fluctuations.

As is evident from the results recorded in Table 2, it is impossible to demonstrate any spirillicidal action for sodium cacodylate in infected rabbits short of seriously injuring or killing the animal. Hence "C" cannot be given any value, and the ratio C : T, or 0/0.2, signifies no specific action.

COMMENTS

Of course facts gained from experiments on animals often cannot be directly transferred to human medicine; but much of our knowledge about salvarsan and other experimental substances has been so transferred and no reason is apparent why sodium cacodylate should be an exception. Dawes and Jackson[5] have shown that any therapeutic effect sodium cacodylate may have is due really to decomposition and reduction products such as cacodyl, arsenious and arsenic acids. The amount of reduction depends largely on personal idiosyncrasy, and in this way a very uncertain element is introduced. It is possible that more reduction is effected by several small subcutaneous or intramuscular injections than by a single large intravenous injection, and that the nascent acids may have some favorable action on the tissue reactions to the spirochetes, or even on the spirochetes themselves; but it is fair to conclude that neither sodium cacodylate nor its reduction products have any considerable spirillicidal action. Their organotropic properties are fully as strong as their parasitotropic properties. Many substances which had a ratio of 1 to 2 or less were discarded as useless in the elaboration of salvarsan.

For all practical purposes salvarsan should be regarded as a new substance and not merely as a new arsenical compound. The arsenic is only a part of a complicated instrument and would be of little value alone. The arsenic must be reduced, trivalent and in firm combination with the benzol ring; and the benzol ring must be substituted with the OH group and the NH_2 group in the *ortho*-position before a maximum destruction of spirochetes is possible. From this point of view, sodium cacodylate has no more relation to salvarsan than a pair of artery forceps has to a lithotrite in the extraction of a stone from the bladder.

RESISTANCE TO TREATMENT

When sodium cacodylate was first used, it was feared in some quarters that the spirochetes might become resistant to arsenic and fail to respond to a later treatment with salvarsan. So far this has not materialized, and, from the absence of effect on the spirochetes shown in the preceding experiments, it is not likely to be realized. The spirochetes in lesions of several rabbits which had been treated with sodium cacodylate have promptly disappeared after a subsequent treatment with salvarsan in ordinary doses of 0.01 gm. per kg. In the following case, the spirochetes also behaved similarly.

The case was under the care of Dr. M. D'Arcy Magee of Washington, who kindly furnished the following data:

A man, aged 22, date of whose infection was uncertain, had primary lesion and secondary eruption in July, 1910; was given inunctions of mercury and potassium iodid for two months. The patient was seen by Dr. Magee Sept. 27, 1910; there were numerous mucous patches in mouth, scaling syphilids of palms and soles of feet and general glandular enlargement. Sodium cacodylate was given by intramuscular injection up to 18 grains, extending over about a month. The doses were of ½ grain daily at first and then, after a short intermission 1 grain daily. Toward the end of the treatment the patient's breath had a strong odor of garlic. The lesions of the palms and soles improved considerably but the patches remained unchanged. I saw the patient Nov. 14, 1910; spirochetes were found in the mucous patches of the mouth by the dark-ground microscope; serum taken on this day was positive by the Wassermann reaction. November 16, 0.5 gm. salvarsan was given by injection of the alkaline solution in each buttock. November 23, mucous patches healed. November 29, serum weak; hands and feet clean. December 5, gain of 5 pounds since November 30. December 14, serum weak. December 19, serum negative, thirty-three days after injection. The patient has gone to work for first time in four months.

Hence, while there is no indication for the use of sodium cacodylate in syphilis on experimental grounds, it apparently does not interfere with a subsequent treatment with salvarsan.

CONCLUSION

As is noted above, Hata found that the ratio C:T for rabbits was 1:10 for intravenous administration of a single dose. It is probable that for human medicine the ratio is somewhat greater, because in the rabbit the disease is confined to the testicles or scrotum and the spirochetal content of the body cannot be as great as it is in a generalized infection in man. Now we know that, other things being equal, the curative dose varies with the number of spirochetes present; but as destruction is definite at 1 to 10 or in some cases even at 1 to 20, there is good reason to believe, both on experimental and clinical grounds, that a ratio of 1 to 5, or 1 to 2, will suffice to kill all spirochetes in the human body. In some early cases of syphilis patients have beyond reasonable doubt been cured by doses of from 0.3 to 0.6 gm. and 1.2 gm. has been given without ill effects.

At the present time it may be taken for granted that salvarsan is a specific against syphilis and the important question now is: What is the best dose and best method of administration for a given stage of the disease? There is considerable evidence to show that the size of the dose should vary inversely with the duration of the disease. The original Alt method of injecting the alkaline solution intramuscularly seems to hold its own for certainty in results. The Wechselmann method, or the subcutaneous injection of the neutral suspension, has lost much of its vogue on account of slow absorption and liability to necrosis of the tissues. One or more intravenous injections, in some cases, seems to be too brief in action; but observations extending over months are needed on all these points. In Ehrlich's words, "The indications at the present time are not to scatter our

5. Dawes and Jackson: Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically, THE JOURNAL A. M. A., June 22, 1907, p. 2090.

strength in trying out new substances but to concentrate all our efforts on improving the method of administration, on strictest asepsis, on carefully increasing the dose, on repeating the treatment and finding suitable adjuvants, in order constantly to approach more nearly to the ideal of *therapia magna sterilisans.*"

SUMMARY

1. Sodium cacodylate has no spirillicidal action in rabbits infected with *Spirochæta pallida* when tested by Ehrlich and Hata's technic.

2. Treatment with sodium cacodylate does not interfere with a subsequent treatment with salvarsan.

3. The most important question in the treatment of syphilis to-day is, "What is the most suitable dose and what is the most efficient method of administration of salvarsan in a given stage of the disease?

TRANSMISSION EXPERIMENTS WITH THE VIRUS OF POLIOMYELITIS

FINDING THE VIRUS IN THE NASOPHARYNGEAL MUCOSA OF MONKEYS RECOVERED FROM THE ACUTE STAGE *

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AND

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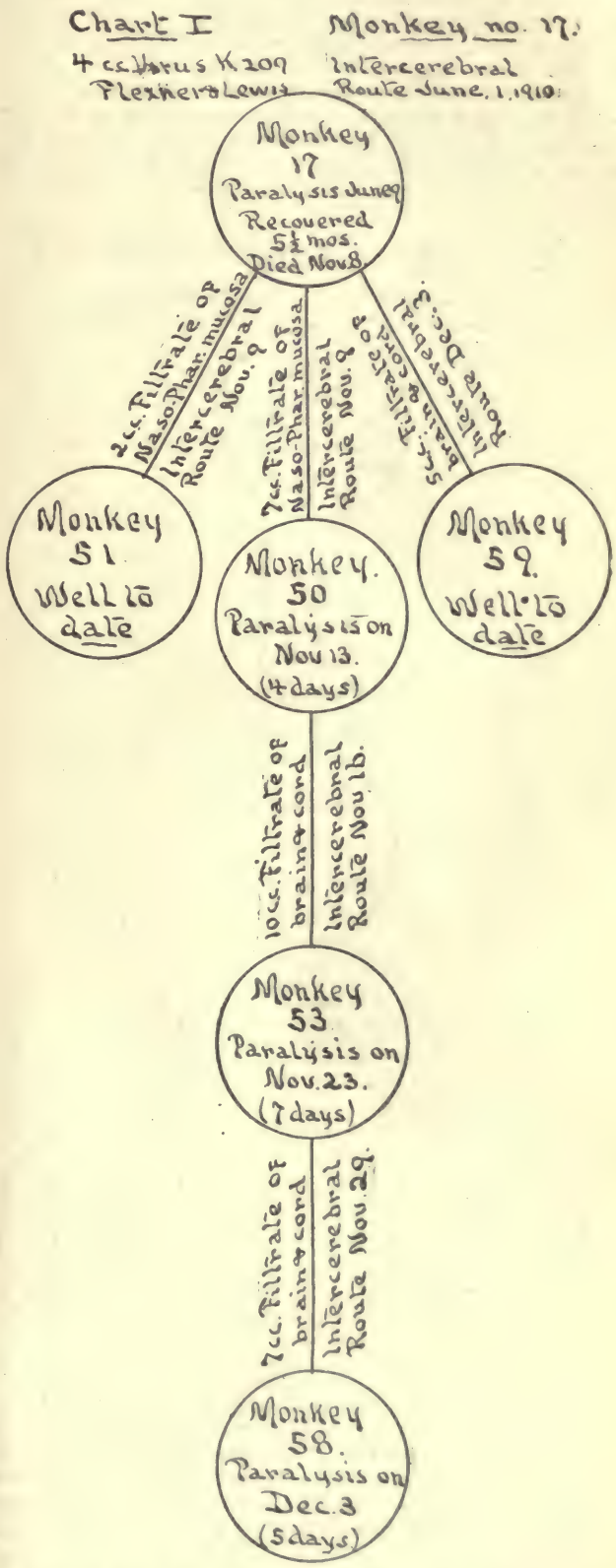
The findings which are recorded in the following protocols and charts came out in an investigation for which we received our original material (virus) from Dr. Flexner and Dr. Lewis, whose encouragement and advice have made this work possible. This investigation is being carried on for the purpose of determining some means of early diagnosis and of the treatment for this condition both in the way of prophylaxis and also during the acute stage. If successful in keeping the subjects alive, we hoped that some light might be thrown on the late treatment of the paralyzed muscles. In a more complete report which is shortly to follow, these questions will be more fully discussed.

In the attempt at keeping the paralyzed monkeys alive success was only partially obtained. For this partial success we are largely indebted to our laboratory assistant, Mr. J. S. Winslow. We have been able to keep four monkeys alive ranging from six weeks to five and a half months. In these cases we feel sure that death was not due directly to the paralysis, but was in most cases due to intercurrent affections and especially to inanition.

The important results deal with Monkey 17 and the series inoculated from the nasopharyngeal mucosa of this monkey, and also with Monkey 54 and the series inoculated from the nasal mucosa of this monkey, and finally with Monkey 6 and its series.

PROTOCOLS OF EXPERIMENTS

MONKEY 17.—This monkey received 4 c.c. of virus K (Flexner and Lewis) on June 1, 1910. The first symptoms of paralysis appeared on June 9; complete paralysis by June 11. The paralysis had begun to improve on July 15, when there was marked improvement in both fore and hind limbs. This monkey lived throughout the summer and had recovered to such an extent that he could feed himself with considerable ease. He could almost turn himself, but could not stand or walk. Early in November his appetite failed, and he died on November 8. Complete necropsy by the Department of Neuropathology showed no intercurrent disease. The nasopharyngeal mucous membrane was removed under careful precautions; was ground up in sterile salt solution and passed through a Berkefeld filter, the resulting amount being 10 c.c. of filtrate. Nine c.c. of this filtrate from the nasopharyngeal mucous membrane were passed by the intercerebral route into two monkeys.



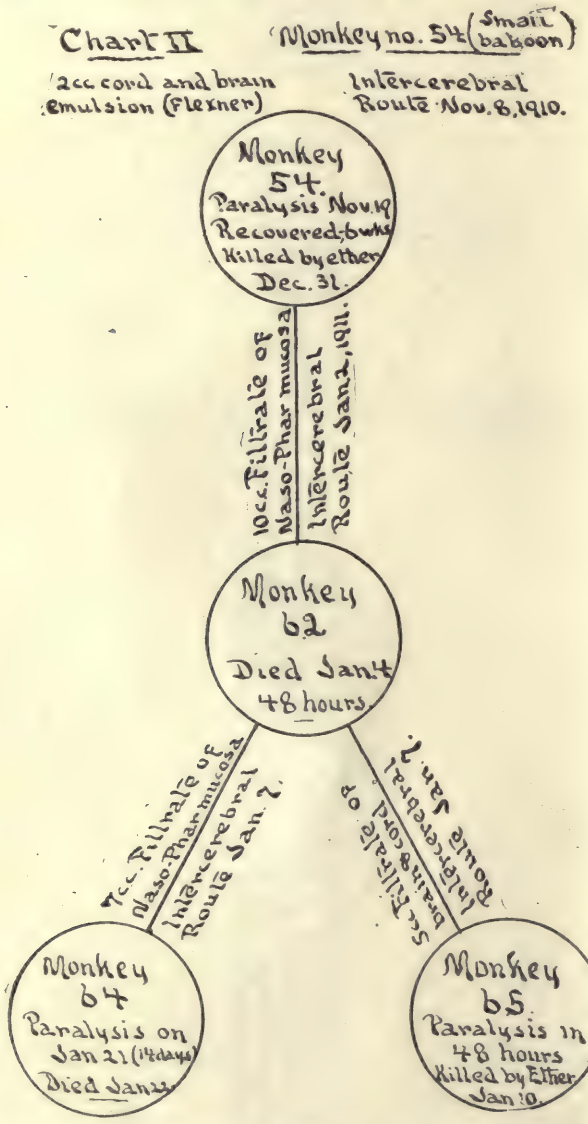
MONKEY 50.—This animal received 7 c.c. of nasopharyngeal membrane filtrate of Monkey 17, Nov. 9, 1910. The first symptoms appeared on November 13 (four days). There was no

* From the Department of Surgical Research, Harvard Medical School. Work done under a grant from the Proctor Fund.

paralysis noted. The monkey, however, showed the characteristic nervous prodromal symptoms. He died during the night and necropsy performed early November 14 by the Department of Neuropathology showed typical selective lesions of myelitis.

MONKEY 51.—This monkey received, intercerebral route, 2 c.c. of filtrate of nasal mucosa of Monkey 17. This monkey has at no time shown any symptoms, and at the time of writing this report, Jan. 13, 1911, is perfectly well.

MONKEY 53.—On November 16 Monkey 53 received, intercerebral route, 6 c.c. of a salt solution emulsion of the cord and brain of Monkey 50. On November 22, the first prodromal symptoms were noted; November 23, typical complete paralysis. November 23, the animal was killed by etherization. Necropsy by the Department of Neuropathology showed typical selective lesions of myelitis.

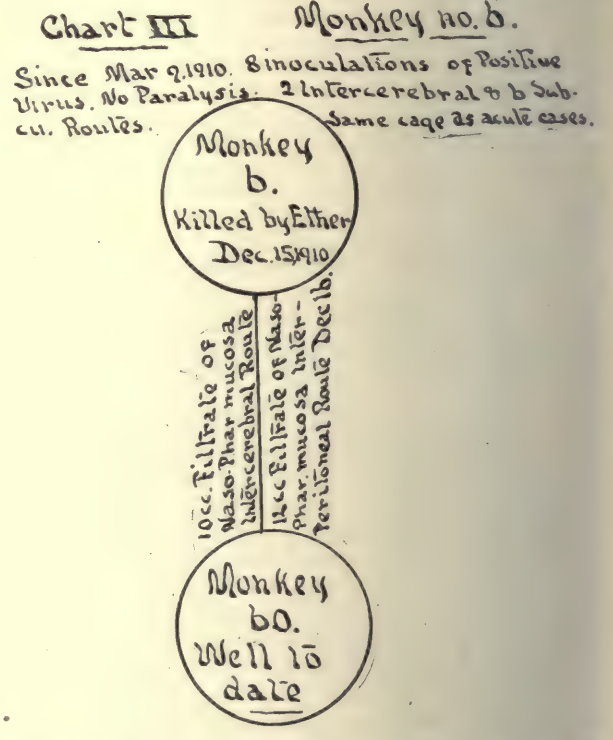


MONKEY 58.—November 29 this monkey was given 6 c.c. of emulsion from cord of Monkey 53, intercerebral route. On December 3 he showed the first signs of paralysis. Paralysis was complete late in the afternoon and he was killed by etherization on the same day. Necropsy by the Department of Neuropathology showed typical selective lesions of myelitis.

MONKEY 59.—December 3, 5 c.c. of the filtrate of the cord of Monkey 17, which had been preserved in equal parts of glycerin and salt solution was given by the intercerebral route. There have been no symptoms from this monkey at any time.

MONKEY 54.—This was a small baboon which had been sent to us from Springfield, Mass., for the purpose of studying what was supposedly a spontaneous paralysis which had occurred in 1908. This baboon showed marked weakness of her hind legs; she could not jump, but could climb in a fairly active, though clumsy way. She was given an intercerebral injection on November 8 of 2 c.c. of a 5 per cent. emulsion in salt solution which we had obtained from Dr. Flexner on November 5. The first signs of paralysis appeared on November 19. The monkey was kept alive until December 31, when on account of inanition she was etherized and her nasopharyngeal mucous membrane removed under careful precautions, ground up and passed through a Berkefeld filter. This monkey at autopsy showed a well-marked softening of the gray matter, especially of the anterior horns of the cord.

MONKEY 62.—This monkey was given 10 c.c. of the filtrate from the nasopharyngeal mucous membrane of Monkey 54 on the morning of January 2. January 3, in the afternoon, Monkey 62 first showed the prodromal restlessness and was apparently very sensitive and was having slight tetanic movements. There was no paralysis at this time and he could move about his cage. January 4, in the morning, he was found unable to get up. Paralysis, however, was not present so far as we could make out, though both fore and hind legs



were held tonically contracted. During the morning the monkey had respiratory failure and died rather suddenly. Necropsy by the Department of Neuropathology showed in the brain hemorrhages in the meshes of the pia with a moderate number of polynuclear leukocytes and a mononuclear cell infiltration in the medulla. The meninges at focal points showed intense infiltration with various cells, polynuclear, mononuclear, endothelial cells, etc. In the substance of the medulla the glia cells showed a slight reaction to acute ganglion cell changes. There were a few scattered hemorrhages. The cerebrospinal fluid taken at the time of autopsy showed a large number of polynuclear leukocytes, compound granular cells, lymphocytes, etc. The nasopharyngeal mucous membranes were removed under careful precautions and passed through a Berkefeld filter. The cord and brain were also emulsified and passed through a Berkefeld filter.

MONKEY 64.—On January 7 this monkey received 7 c.c. of the nasopharyngeal mucous membrane of Monkey 62. On January 21 the first symptoms of paralysis appeared. The monkey was found in the morning in a very weakened condition, which rapidly progressed until there was a complete paralysis with slight respiratory movement. The monkey lived for twenty-four hours in this practically moribund condition,

and died January 22, when a necropsy was performed by the Department of Neuropathology, which showed in the cord degeneration of the ganglion cells, the glia cells were markedly increased and the small blood-vessels were very prominent.

MONKEY 65.—On January 7 this monkey was given 5 c.c. of the filtrate from the cord of Monkey 62. January 9 there was complete paralysis. January 10 the monkey was killed by etherization because of marked respiratory difficulties. Necropsy by the Department of Neuropathology showed acute regressive changes in the ganglion cells and an increase of the glia elements in the gray matter of the cord.

MONKEY 6.—This was a monkey of our first lot; he received 3 c.c. of virus MA (Flexner and Lewis) by the intercerebral route on March 9, 1910. On March 22 there was a marked drop in his white count from an average of 26,000 to 14,000, which in the light of other findings might possibly be considered as a prodromal symptom; otherwise there were no symptoms from the inoculation. During April and May this monkey received 25 c.c. of a thick emulsion of cord and brain from positive cases in monkeys. This was for the purpose of creating antibodies. At no time were there any symptoms from these inoculations. This monkey was also allowed to live in the cage where several of the monkeys came down with their acute attacks, and drank out of the same cup during the acute onset with one or more monkeys. He at no time showed any symptoms. He was killed by etherization on December 15 and his nasopharyngeal mucous membrane removed under careful precautions and passed through a Berkefeld filter.

MONKEY 60.—December 16 this monkey was given 10 c.c. of filtrate from the nasopharyngeal mucosa of Monkey 6 by the intercerebral route. He was also given 12 c.c. of the same filtrate intraperitoneally. There have been no symptoms up to the present time.

These experiments, therefore, show that it was possible to transmit from monkey to monkey a typical poliomyelitis from the filtrate of the nasopharyngeal mucosa of two monkeys dying without other discoverable infections respectively six weeks and five and a half months after the acute stage of the disease. In one case we have been able to transmit the disease from the nasopharyngeal mucosa of a monkey dying in the acute stage. In these experiments it has been impossible to transmit the disease from monkey to monkey by intercerebral inoculation of the cord and brain of these recovered subjects or from filtrates of the nasopharyngeal mucosa of a monkey in apparent good health, which had received a previous intercerebral inoculation of an active virus with only questionable prodromal symptoms, but which had lived in closest contact with monkeys in the acute stage of the disease.

That the virus of poliomyelitis is contained in the nasopharyngeal mucosa of inoculated monkeys was pointed out by Flexner and Lewis,[1] who regarded this membrane as a possible route of spontaneous infection in man.[2] The virus had previously been demonstrated solely in the mucous membrane of recently inoculated animals. The observations recorded here indicate that the virus of poliomyelitis can persist in a viable and infectious state in the nasopharyngeal mucous membrane in the monkey for several months after the acute period of paralysis has passed, and for a far greater period of time than it survives in the central nervous system.

We have noted no case of transmission from monkey to monkey except by direct inoculation, although closest association with subjects in the acute stage has been maintained both by contact and the use of the same feeding utensils and material.

372 Marlborough Street—261 Beacon Street.

1. Flexner, S., and Lewis, P. A.: THE JOURNAL A. M. A., Feb. 12, 1910, p. 535.
2. Flexner, S.: The Contribution of Experimental to Human Poliomyelitis, THE JOURNAL A. M. A., Sept. 24, 1910, p. 1105.

THE FUNCTIONS OF THE STOMACH IN DIABETES MELLITUS

WITH SPECIAL REFERENCE TO THE DETERMINATION OF PEPSIN*

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It has been known for some time that the motility of the stomach is usually increased and that the gastric secretion is frequently diminished in diabetes mellitus. In pancreatic diabetes the ferments or zymogens are, according to those who have studied them, frequently affected; the pancreatic ferment, the muscular ferment, and the glycolytic ferment are deficient, suppressed or not activated, and glucose does not undergo combustion, but is excreted in the urine.

The few cases that form the basis of this paper were studied with the object of investigating the secretion of pepsin in patients with diabetes mellitus.

As diabetes mellitus is not a common disease, and as digestion is usually good in diabetic patients, one does not have occasion to examine the functions of the stomach in many of these patients. Some of these patients, however, complain of stomach distress, and some other patients have stomach disease, although they do not have any subjective symptoms of dyspepsia. One of the patients whose case is here reported had catarrhal gastritis, one catarrhal gastritis and dilatation of the stomach, with retention, and one other patient had marked gastroptosis; only one of these, the last, sought advice for dyspepsia or complained of indigestion. Altogether, twenty-two test breakfasts or full test meals were given to these seven patients. It was learned early that one could not wait forty-five minutes to aspirate the stomach after an Ewald test breakfast, but in order to obtain any stomach contents for examination the aspiration had to be performed in thirty minutes, and in some instances at the end of twenty minutes. This was true in the case of L. W., who had gastroptosis. Three attempts to obtain gastric contents in forty-five, thirty and twenty-five minutes, respectively, failed, and the attempt was successful only on aspirating the stomach in twenty minutes, and then only 10 c.c. of contents were obtained. The patient refused further examination. It was also noted that in some instances the stomach was empty in two or two and a half hours after a full dinner.

In the case of S. B., on one examination after an Ewald test breakfast, very little material was obtained at the end of thirty minutes. On one other occasion, however, a pint of contents was aspirated at the end of three hours after a full dinner. At that time the patient was suffering from an increase in the severity of his symptoms, with a greater amount of glucose output in the urine. In the Ewald test breakfast, ordinary wheat bread was eaten; the full meals were those in which only foods permitted in diabetes mellitus were given.

Pepsin digestion was tested by the Mett method. Pieces of glass tubing 2 mm. in diameter containing the boiled white of egg were placed in the liquid to be tested—stomach contents 1 c.c. to 16 c.c. of one-twentieth normal hydrochloric acid—and this put in the incubator for twenty-four hours, after which the glass tubing containing the egg-white was removed and the digestion of egg read off under the microscope by using a mechanical stage. All of these specimens of gastric contents were

* From the Laboratory of Clinical Pathology, Philadelphia Polyclinic and College for Graduates in Medicine.

controlled by testing at the same time other specimens of gastric contents known to contain pepsin.

Eighteen tests for pepsin were made on the gastric contents of six patients, as shown below. In one, no pepsin was found; in one, although there was a high hydrochloric acid content, in five different analyses, two showed no pepsin digestion; and of the other three tests the digestion was 0.1 mm. In one patient there was a vigorous pepsin digestion; in two other cases the pepsin was somewhat reduced. While in one patient, A. C., the gastric contents were examined three times after an Ewald test breakfast, and three times after a full dinner pepsin was not found in the first five examinations, but a good pepsin digestion was found on the sixth examination. This was after a full dinner.

A short note of the history of each case is here appended.

CASE 1.—Patient, L. W., female, aged 65; born in Germany. Gastroptosis and diabetes mellitus. Amount of glucose in urine, 3.1 per cent. Ewald test breakfast aspirated at end of different periods showed as follows: At the end of forty-five minutes, no contents obtained; at end of thirty minutes only a few drops obtained on end of tube; at end of twenty-five minutes only a few drops obtained on end of tube; at end of twenty minutes 10 c.c. obtained; total acidity 90; free hydrochloric acid 48; pepsin not determined.

CASE 2.—Patient, A. C., female, aged 45; born in Russia; patient kindly sent to me by Dr. A. A. Eshner.

Glucose in urine, 1.8 per cent.

Nov. 18, 1908: Ewald test breakfast; aspirated in forty-five minutes, nothing obtained.

Nov. 23, 1908: Ewald test breakfast; aspirated in thirty minutes, 20 c.c., total acidity 4; no free hydrochloric acid; no pepsin.

Nov. 30, 1908: Full dinner; aspirated in three hours, nothing; no lactic acid; no Oppler-Boas bacilli found; no pepsin.

Dec. 14, 1908: Full dinner; aspirated in two and one-half hours, 30 c.c., total acidity 10; no free hydrochloric acid; no pepsin.

Dec. 21, 1908: Ewald test breakfast; aspirated in thirty minutes; 4 c.c., total acidity 6; no free hydrochloric acid; no pepsin.

Dec. 28, 1908; full dinner; aspirated in two and one-half hours; 20 c.c.; total acidity 10; no free hydrochloric acid; 2.7 mm. pepsin.

Pepsin absent after five examinations; present on the sixth.

CASE 3.—Patient, H. C., male; aged 39; born in Russia; kindly sent to me by Dr. David Riesman. Glucose in urine, 2.8 to 3.2 per cent.

Feb. 5, 1909: Ewald test breakfast, aspirated in forty-five minutes; 150 c.c.; total acidity 38; free hydrochloric acid 28; 4.2 mm. pepsin; digestion good; considerable mucus present.

Feb. 17, 1909: Full dinner; aspirated at end of three hours; 1 pint; total acidity 44; free hydrochloric acid 26; 4.1 mm. pepsin. Gastric contents contained a great deal of mucus.

CASE 4.—Patient, F. S., female; age 37; born in Russia. Dr. David Riesman permitted me to examine this patient. Diabetes mellitus; lacerated cervix and perineum. Glucose in urine from + to 7 per cent.

Feb. 16, 1909: Ewald test breakfast aspirated in thirty minutes; 20 c.c.; total acidity 76; free hydrochloric acid 36; 2. mm. pepsin.

CASE 5.—Patient, D. C., female; aged 40; born in Russia. Kindly sent to me by Dr. David Riesman. Glucose in urine 2.35 per cent.

Dec. 1, 1909: Patient ate a full dinner at noon. This not being known, she was given an Ewald test breakfast at 1.45 p. m. Aspirated in forty minutes; 15 c.c.; total acidity 27; no free hydrochloric acid; pepsin 2.4 mm.

Dec. 8, 1909: Full dinner at 1 o'clock; aspirated at end of one hour and forty minutes; 30 c.c. very thick contents containing a great deal of mucus; total acidity 40; no free hydrochloric acid; pepsin 2.1 mm.

CASE 6.—Patient, C. L., female; aged 56; born in Russia; kindly sent to me by Dr. A. A. Eshner. Glucose in urine, 3.75 per cent.

Aug. 29, 1910: Full dinner, aspirated at end of two hours and forty minutes; 20 c.c.; total acidity 50; no free hydrochloric acid; no pepsin.

Ewald test breakfast, aspirated after thirty minutes: 10 c.c.; total acidity 46; no free hydrochloric acid; no pepsin.

CASE 7.—Patient, S. B., male; aged 21; born in Russia; kindly sent to me by Dr. A. A. Eshner. Glucose in urine 4.16 per cent.

Ewald test breakfast: aspirated after forty-five minutes; 45 c.c.; total acidity 86; free hydrochloric acid 50; pepsin 0.1 mm.

Full dinner: aspirated after two hours and forty minutes; 300 c.c.; total acidity 66; free hydrochloric acid 48; no pepsin.

Ewald test breakfast: aspirated after thirty minutes; 10 c.c.; total acidity 90; free hydrochloric acid 50; no pepsin.

Full dinner: aspirated after three hours; 40 c.c.; total acidity 99; free hydrochloric acid 50; 0.1 mm. pepsin.

Full dinner: aspirated after three hours; 1 pint; total acidity 96; free hydrochloric acid 60; 0.1 mm. pepsin.

TABLE OF EXAMINATIONS *

Case No.	Patient	Tests No.	Pepsin† +	Pepsin† —	T. A.	Free HCL	Pepsin mm.
1	L. W.	.	.	.	90	48	‡
2	A. C.	6	1	5	10	0	2.7
3	H. C.	2	2	.	44	28	4.1
4	F. S.	1	1	.	76	36	2.0
5	D. C.	2	2	.	27	0	2.4
6	C. L.	2	.	2	40	0	0.0
7	S. B.	5	3	2	99	60	0.1

* No lactic acid present in any case.
† Plus column, number of times present; minus column, number of times absent.
‡ Not determined.

The total acidity and the amount of free hydrochloric acid were also determined, and tests were made for lactic acid when free hydrochloric acid was absent. No lactic acid was found. The total acidity was high in three cases and the free hydrochloric acid was high in four. Hydrochloric acid was absent in three.

It has been shown by Riegel and others that hydrochloric acid may be absent from the stomach contents for long periods of time in this disease and then reappear. Honigmann ascribed the lack of free hydrochloric acid to the increased motility of the stomach. Rosenstein was of the opinion that if free hydrochloric acid was permanently absent, it was due to atrophy of the glandular apparatus of the stomach, caused by interstitial inflammation of the gastric mucosa. Autopsy on these latter cases, however, failed to prove this view to be correct.

It is also believed that in those cases in which there is a temporary absence of free hydrochloric acid in the stomach contents the cause is a neurosis. As most of these patients have arteriosclerosis, it is possible that this condition may also have a part in the stomach functions in this disease.

In the few cases here reported it is shown that the absence of free hydrochloric acid in diabetes mellitus, as in other diseases, does not mean an absence of pepsin. On the other hand, it is also shown that a high percentage of hydrochloric acid does not indicate a good pepsin digestion.

A pepsin digestion of between 3 and 4 mm. is in my experience about the average in non-diabetic patients.

While one cannot draw any general conclusions from a small number of cases, it may be said that secretion of pepsin in diabetes mellitus is frequently reduced and sometimes absent; this observation may be added to the

facts already mentioned and long known; i. e., the gastric motility is usually increased and the gastric secretion is frequently diminished in this disease.

In conclusion I wish to thank Drs. Eshner and Riesman for sending their patients to me for study and Dr. Farr for permission to examine them in his clinic.

1934 Chestnut Street.

THE ADVANTAGES OF NITROUS OXID-OXYGEN ANESTHESIA ESPECIALLY IN CONNECTION WITH ULTIMATE RECOVERY *

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As the aim of the surgeon is to record a "successful operation," not only from a scientific point of view, but from the patient's standpoint as well, the selection and administration of the anesthetic becomes more and more a matter for consideration as this branch of medical science is developed.

Until recent years the dangers of the anesthetic were considered solely those occurring on the operating-table, but laboratory investigation has established, beyond the possibility of a doubt, that a percentage of surgical mortality, heretofore considered to be due to the patient's condition, effects of the operation, etc., is sometimes due directly to the effects of the anesthetic, even though death occurs remotely from the time of the operation. Careful and extended clinical observation on nitrous oxid-oxygen anesthesia in several thousand cases, by some of the most talented surgeons of this country, completely verifies this conclusion.

The use of nitrous oxid as an anesthetic agent presents an interesting and a very peculiar history, which I shall not attempt to detail here. To Andrews, of Chicago, belongs the credit of discovering that by the addition of the proper amount of oxygen, the asphyxial symptoms of nitrous oxid are prevented without destroying its anesthetic properties.

Since this discovery was made, over forty years ago, nitrous oxid-oxygen has slowly, intermittently, but very persistently gained recognition until to-day it occupies the meritorious position of being endorsed by one of the largest and greatest scientific societies of the world, as being, all effects considered, the best means for producing anesthesia that is known.

There is a prevalent idea that nitrous oxid-oxygen is better adapted for minor surgery and short operations than for major work. This is an erroneous impression, however, for the longer this anesthesia is maintained, the better it becomes in every way. I myself have administered it throughout practically the whole range of operative procedure from a simple incision to difficult and complicated operations lasting over four hours, which is the longest period, as far as I know, wherein this anesthetic has ever been continuously administered. Dr. Frederick Hewitt, of London, a leading authority on anesthetics, says:

> There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications.

* Read before the New York Academy of Medicine, Section on Orthopedic Surgery, Nov. 18, 1910.

The Anesthesia Commission of the American Medical Association reported at its last session in St. Louis as follows:

> As a routine anesthetic nitrous oxid has a peculiar value, . . . (and) in the hands of highly skilled anesthetists the method is the best yet devised.

These statements are corroborated by such practical surgeons as Crile, Meyer, Kelley, Halsted and Bevan, who collectively have certainly used it in thousands of cases, and are therefore in a position to express an opinion of value as to its superior influence toward ultimate recovery.

There is much less surgical shock and postanesthetic nausea and depression with nitrous oxid than with ether or chloroform; the patient regains consciousness very quickly, and, being less depressed, recovers from the effects of the operation sooner and better.

Hamburger and Ewing, who have made an extended laboratory investigation of the effects of the narcosis produced by nitrous oxid, chloroform and ether on the blood, and whose findings are published as a part of the preliminary report of the Anesthesia Commission of the American Medical Association, say, as regards ether:

> The color index shows a rather constant drop, starting immediately after anesthesia and reaching its lowest point on the fifth and sixth days. This would indicate a relative loss of hemoglobin per cell, and again is unlike nitrous oxid results, in which the only sign of a low color index is found immediately after the anesthetic mask is removed, and which is completely gone in two hours.
>
> The volume index likewise shows an immediate loss, which is most marked in twenty-four hours, and again on the fifth to seventh days. In nitrous oxid readings the percentage volume remained unchanged throughout.

According to these investigators so short an anesthesia as fifteen minutes with ether causes a definite and demonstrable anemia, and such an effect as this, which does not begin to improve till after the fifth day, must certainly retard convalescence even in favorable cases, and in critical cases may be the determining factor in producing a fatal termination.

Chloroform produces even more destructive changes on the blood than does ether, while its degenerative action on the liver has been mentioned by so many writers that this serious and remote effect needs merely to be mentioned here.

For some time it has been recognized that ether increases the toxemia arising from infection. Recent investigation shows that this is due to the fact that ether impedes the functional activity of the leukocytes: that is, it lessens the patient's resisting power against the infection, whereas nitrous oxid exerts no such injurious effect on the blood-cells, and consequently does not lower the patient's immunity, which naturally exists. In serious cases of infection, as well as in the "borderland" cases in general, the difference in ultimate recovery under the two anesthetics is strikingly shown.

Numerous surgeons have advised against the use of ether in tuberculous conditions, as, in their experience, it causes new foci of infection to develop. This, however, is only a particular instance of the general effect produced, for, no matter what the infection may be, the toxic effect of ether on the leukocytes lessens the efficiency of Nature's effort to combat the invading host.

As is well known, ether is an irritant to the respiratory mucous membrane and to the kidneys, whereas

nitrous oxid is without deleterious effect on these tissues, and is therefore strongly indicated as the anesthetic agent whenever these structures are involved, no matter what the operation may be, as in tuberculosis, pneumonia, bronchitis, laryngitis, nephritis, diabetes, pyelitis, and a host of other inflammations and infections of the respiratory and genito-urinary tracts. In fact, when you take into consideration the lessened amount of surgical shock and of postoperative discomfort and depression, the absolutely non-irritant action on the mucous membranes of the tracts involved in its administration and elimination, and the blood elements left unimpaired, its range of usefulness is so broad that it should be the anesthetic of choice, except in instances in which it is specially contra-indicated. Besides, when this anesthetic is used, there is less liability of infection occurring during, or subsequent to the operation, inasmuch as the patient is less depressed, and natural immunity undisturbed. These are practical points which every operator should carefully consider, as they are important elements, no matter how trivial each may at first appear, when considered separately, for, taken collectively, they most certainly affect the postoperative condition in every case.

It is readily granted that in the hands of the skilled anesthetist there is very little immediate danger in the use of the other anesthetics, and that, in such hands, the immediate mortality is very low indeed; but is it fair to conclude that the remote effects, much more subtle in their influence, and therefore much more difficult of detection, are consequently *nil*? Take, for instance, a case of grave infection; one of the other general anesthetics is faultlessly administered, but the surgeon's mortality is increased, and every surgeon of wide experience encounters some such cases. In the light of this research can it be said that the anesthetic did not contribute to the fatal result, or that the patient might not have been saved had a less toxic and less depressing agent, and one which did not lessen the patient's natural resisting power, and decrease the life-sustaining function of the blood-cells, been used? It is not contended that this form of anesthesia saves all patients of this class, but, in the language of Crile, "Not a patient showed the rapid march to fatality immediately following the operation which occasionally follows ether." Why the conspicuous absence of that "rapid march to fatality?" Simply because the patient is given a new and firmer hold on life, enabling some to recover that otherwise would simply increase the mortality. I very readily assent to the observation of Gatch that "very sick patients, with a rapid pulse and quick, shallow respiration, actually seem benefited by this form of anesthesia." That is, such patients will, during an operation under this anesthesia lasting for forty-five minutes to an hour, manifest a distinct improvement in the rate and quality of the circulation and respiration, both during and subsequent to the operation, the effect being quite permanent, as it is not a mere stimulant.

From the patient's point of view the lessened amount of postoperative discomfort alone is sufficient to call for this anesthetic, as he usually dreads the subsequent nausea, vomiting and depression more than the effects of the operation itself. Besides, when a patient can be told that he is simply to be given "laughing-gas" it allays to a very great extent the fear and dread of the anesthetic, and many patients will submit to operations under this agent who would otherwise refuse all operative intervention.

It is a matter of no little comfort to the patient and to his family to know that complete consciousness returns so quickly after the operation is completed, and especially is this so, when, as in the majority of cases, there is freedom from postnarcotic discomfort, and a pleasant impression is left on the mind by the "laughing-gas." For a patient to be returned from the amphitheater to his own room completely conscious, smiling and talking to his nurse and friends, even after a prolonged operation, presents a different picture from that usually seen with other anesthetics, and gives a distinct advantage in convalescene. I cite just one case to illustrate: Dr. X. of a neighboring state was anesthetized for a rectal operation, necessarily requiring deep anesthesia. Within a very short time after the administration of the anesthetic was stopped he opened his eyes and said with a smile to those in attendance: "Well, if you folks had as good a time as I did, you certainly enjoyed this operation." He had had a dream about being at a big fire. Some time afterwards he said in a private letter to me: "You simply make anesthesia a pleasure." To have an intelligent patient, and especially a practitioner of wide experience, consider the taking of the anesthetic as a genuine pleasure is certainly valuable testimony to the great advantage offered by this anesthetic.

It is almost imperative to use a preliminary hypodermic injection of morphin and atropin about one-half hour before the time of the operation, as this medication aids very materially in securing muscular relaxation. Besides, the patient recovers from this anesthesia so quickly that it is usually indicated for the postoperative pain alone. When it is used the patient's nerves are quieter and he approaches the operation with more confidence and less fear—an important element in every case. In that class of patients or operations, in which it is difficult to overcome muscular rigidity the addition of a very small amount of ether—not sufficient to give the ether after-effects—in conjunction with the nitrous oxid and oxygen will secure the necessary relaxation. Used in this way, nitrous oxid-oxygen is a pleasant anesthetic for even the most fastidious patient, fulfils the requirements of both minor and major surgery, and produces the lightest and least toxic general anesthesia yet discovered.

616 Madison Avenue.

PRIMARY SARCOMA OF THE STOMACH WITH AUTOPSY FINDINGS*

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Sarcomas of the stomach are rare, and, beyond the mention of this fact one finds little discussion of the subject in most text-books of pathology. Therefore, all cases which are substantiated by microscopical study should be reported so that our knowledge regarding the pathology and symptomatology of this condition may be increased. For these reasons I report the following case:

History.—The patient, E. R., a white woman aged 72, was in the services of Drs. J. E. Thornton and M. D. Lewis, of Columbia, Mo., and the following history was given me by the former. The patient's husband died of cancer of the face. She had been healthy until two years ago when she began to decline. About one year ago she began to suffer pain in the

* From the Pathological Laboratory, University of Missouri.

region of the spleen which gradually increased. She had been in bed only about one month. A tumor mass was palpable in the epigastric region. The patient was very anemic but quite fleshy. The clinical diagnosis was cancer.

Necropsy.—Woman, well preserved for her age. The hair of the head and pubis was gray. The skeletal system was moderately heavy and the musculature was light. The subcutaneous layer of adipose tissue was quite thick and of a good color. All of the thoracic and abdominal viscera were normal except the stomach. Involving the pyloric end of the stomach was an annular tumor measuring 5 inches in diameter and ½ an inch thick in places. The diffused tumor was covered with mucous membrane except for a surface measuring about 2 inches in diameter. The tumor was very firm and the cut surface was smooth and glistening white in color. There were no evidences of metastatic growths in the lymph-nodes or in any of the organs. Although the patient did not look especially "cancerous" and the gross findings were far from being typical for such a condition, a provisional diagnosis of carcinoma of the pylorus was made. The microscopic examination showed the tumor to be a small round-cell sarcoma. There was little stroma and many mitotic figures were present. In sections showing the mucous membrane the tumor cells could be seen invading the subepithelial connective tissue.

A good article on sarcomas of the intestinal tract with splendid compilation of statistics was written by Corner and Fairbank.[1] In the 178 reports of cases collected from the literature, fifty-eight cancers were of the stomach. There was only one portion affected more, the small intestines. There were sixty-five occurring in this region. Corner and Fairbank found the cases about equally divided as to sex, males twenty-six, females twenty-nine. The most common age was between 40 and 50 years. The youngest patient was 3½ years old and the oldest 78. They found 36 per cent. located at the pylorus. About 60 per cent. of gastric carcinomas are located at the pylorus. The following points given by them might be of value in differentiating sarcoma from carcinoma of the stomach: "The rapid course with marked anemia, the absence of hematemesis or gastric dilatation, the presence of a large tumor, and, possibly, the age of the patient." Of fifteen patients operated on, four were reported living after four, five, twelve and twenty-four months respectively since operation.

THE ADMINISTRATION OF SALVARSAN

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One-third by weight of salvarsan is arsenic, and therefore in administering 0.6 gm., which is an ordinary dose, we are giving the patient 0.2 gm. of arsenic, or fifty times the amount that in the usual pharmaceutic combinations would cause poisoning. It is through the genius of Ehrlich that a way has been found to give this enormous dose, and almost always without causing any disagreeable symptoms, with the exception of pain—and even pain may be eliminated by injecting the drug intravenously. That great care must be observed in giving it goes without saying.

The drug is put up as a dry powder, enclosed in glass tubes, and in this form is stable; at least I have never yet heard of any trouble arising from its decomposition in the tubes. In solution, however, it quickly decomposes; in simple water it forms an acid solution that lasts undecomposed for several hours, probably for a day. As an alkaline solution, however, it quickly decomposes, and shortly turns wine red. The drug is administered either suspended in oil or as a solution, and must be made up fresh at each time of using. I have never seen it suspended in oil, but Neisser has so given it, and has advised oil of sesame as the best oily medium.

1. Corner and Fairbank: Practitioner, 1904, lxxii, 810.

The acid watery solution of the drug is very painful when injected, and should first be made either alkaline or neutral. The care and trouble attendant on dissolving, alkalinizing, and again neutralizing the drug, and the further trouble of injecting it either subcutaneously, intramuscularly, or intravenously, and the pain, and occasional local necrosis caused when given subcutaneously, have impelled clinicians to adopt numberless modifications in technic. The best results I have seen, however, have been attained by comparatively simple methods.

THE INTRAMUSCULAR INJECTION OF SALVARSAN

Alt was the first to employ the drug clinically, and his method, as I have seen it in Lesser's clinic, is painful, as all these methods are, but it is simple and effective, and has not up to the present, in Lesser's hands, caused necrosis or abscesses. He has so used it in a great many cases, but he always taps wood when he speaks of his good luck.

He first takes salvarsan, 0.5 or 0.6 gm., and warm water, 5 or 6 c.c., and mixes them together in a glass-stoppered, graduated glass cylinder with glass balls to facilitate solution. He then adds 3 c.c. of sodium hydroxid (4 per cent. sol.), and again shakes well, adding drop by drop more of the sodium hydroxid solution till the solution in the glass cylinder is nearly clear. Normal salt solution may be added up to the 10 c.c. mark, and this is then injected into the gluteus. This should not be repeated before four or six weeks have elapsed.



Needle used by Schreiber, having a bayonet bend in the shaft with a ribbed finger-hold for guiding the needle in intravenous injection, together with the two-way cock betweeen the needle and the barrel of the syringe.

The same solution may be injected subcutaneously, usually under one or other shoulder-blade. There is, of course, more risk of an ensuing necrosis when injecting subcutaneously, than when injecting intramuscularly into the gluteus. The gluteus seems to be especially fitted to receive insults.

THE INTRAVENOUS INJECTION OF SALVARSAN

If Ehrlich's ideas in regard to the sterilization of the body are to be carried out, there is no doubt that the intravenous is the only correct method of administering salvarsan, as in neither the subcutaneous nor the intramuscular method is it possible to tell how soon the dose will be absorbed. By the intravenous method the medicine is given in a manner that insures the rapid diffusion of the full dose, without running the risk of ensuing necrosis, or abscesses, or of chronic arsenical poisoning from prolonged absorption. As far as pain is concerned, there is only the insignificant prick of the needle.

At the kind suggestion of Professor Ehrlich I went to Wiesbaden to see Professor Weintraud, and to Magdeburg to see Dr. Schreiber. The only practical difference between these two is that one employs pressure by gravity, while the other uses a specially constructed syringe. I shall give Dr. Schreiber's method, as it seemed to me to be superior in some rather important details.

THE PREPARATION OF THE SOLUTION FOR INJECTION

About 20 c.c. of warm distilled water are poured into a graduated glass cylinder of a capacity of 250 c.c. This cylinder should have a glass stopper.

The glass capsule containing the salvarsan powder is now wiped off with gauze soaked in alcohol, and then with gauze soaked in ether. After breaking the capsule, the powder is poured on the water in the graduated glass tube, the stopper put in, and the contents well shaken. There is no necessity of using glass balls here, as the quantity of water is ample to dissolve the salvarsan readily.

It is important not to reverse this procedure, for if the powder is poured into the tube first, and the water afterward, a gummy mass forms in the bottom that dissolves with difficulty. This solution should be light yellow, and perfectly clear. That it should be clear is a matter of very great importance, as it is highly necessary that no undissolved particles be present.

Now we have an acid solution in sterilized water of the contents of one tube, the quantity of which is usually 0.5 or 0.6 gm. If it is 0.5, the graduated tube should be filled up with water to the 50 c.c. mark; if 0.6, to the 60 c.c. mark, so that each 10 c.c. will represent 0.1 of the drug.

Dr. Schreiber usually gives 0.3 gm. of salvarsan to a woman, and 0.4 gm. to a man. If it is desired to give 0.4 he pours 40 c.c. of the acid solution into another graduate furnished with a glass stopper, and fills up to the 200 c.c. mark with warm sterilized water, and to this adds about 20 c.c. of normal sodium hydroxid solution. Normal sodium hydroxid solution is a 4 per cent. solution of sodium hydroxid in water. This should be added a little at a time, and each time a little is added the glass stopper should be put in, and the cylinder well shaken. At first a precipitate forms, that gradually disappears on the addition of more caustic soda solution. When the solution is again clear, it is alkaline and ready for injection.

The flask containing the sterilized distilled water for use in making the solutions should not be stoppered with cotton, but with gauze, as cotton fibers, falling into the fluid, might cause trouble.

SYRINGE FOR INJECTING

The best syringe for injecting is a glass Lüer of about 20 c.c. capacity. It should not have a metal plunger, as in that case the least blood may cause binding. A two-way cock is introduced between the needle and the barrel.

Dr. Schreiber has a special needle made with a bayonet bend in the shaft, and on this bend a ribbed finger-hold. The bayonet bend is to allow the needle to be more easily shoved along in the lumen of the vein. A rubber tube is fitted to the lateral outlet of the two-way cock.

INTRODUCTION OF THE NEEDLE

The arm is now laid out on a cushion, so as to lie flat and easy; a stout rubber tube is thrown around the middle of the upper arm and drawn tight enough to stop the flow of blood in the superficial veins, but not so tight as to impede the arterial supply, and fastened with artery forceps or a wooden clip. It is very necessary that the arm should lie easy and still. The seat of operation should be wiped off with gauze soaked in alcohol.

About 4 c.c. of normal salt solution are drawn into the syringe, so that by running the plunger forward the air may be expelled from the needle and from the rubber tube attached to the outlets of the two-way cock.

Now the needle is inserted through the skin over a vein, and run along into the vein. When the needle enters the vein a little blood flows back into the normal salt solution in the syringe. If the plunger is pressed forward, the salt solution entering the vein will distend it a little, and when it does so, the tourniquet band about the arm may be removed, and the vein will collapse.

The insertion of the needle is a very important step in the operation. For instance, by blood flowing back into the syringe, it is known that the needle has entered the vein. Weintraud insists that the blood should flow freely from the needle, but in his method the needle is first inserted into the vein, and afterward the rubber tube conveying the salvarsan solution from the funnel-like cylinder, is attached to it.

The syringe, still containing a little salt solution, and with its needle lying in the vein, is now ready for injecting the fluid, which is held in a glass beaker so that the rubber tube attached to the lateral opening of the two-way tap drops into it. The instrument is free of air so that there is no fear of air embolus. By turning the cock of the two-way tap, the salvarsan solution may be alternately sucked up into the syringe, and forced into the vein. When the salvarsan solution is almost exhausted, a little normal salt solution is thrown into the beaker, and also injected into the vein. This is to clear away any of the salvarsan solution that would otherwise trickle out into the tissues, on withdrawing the needle.

A very important matter in this part of the operation is the injection of the small quantity of normal salt solution, both before and after injecting the salvarsan. By injecting the normal salt solution at first, one makes sure that the needle is in the vein, for if it is not in the vein, the injected fluid makes a little infiltration in the subcutaneous tissue, while if it is in its proper position, the already distended vein grows a little larger. If this sign should fail, there is still a symptom showing that the needle is not in place, for as soon as a little of the salvarsan enters the subcutaneous tissue the patient will experience a burning pain, in which case the needle should be immediately withdrawn, and free bleeding induced from the punctured wound. Another vein should then be chosen for the injection. Any subcutaneous vein that can be distended may be chosen, and in fleshy women Dr. Schreiber has even injected into one at the wrist. Sometimes when the vein cannot be seen, it may be felt.

The fluid should be injected slowly, say in five or six minutes, so as to avoid sudden overloading of the circulatory system.

Although the description of the operation is long, tedious, and complicated, yet the performance is very simple, and the patients experience very little inconvenience. They should remain twenty-four hours in bed.

When I was in Magdeburg Dr. Schreiber had given intravenously one dose of salvarsan to each of 155 patients; he had given two doses to each of 622 patients; and intramuscularly he had given one dose to each of 83 patients; making a total of 860 patients treated. Up to that time, he told me, he had had no serious trouble consequent on the use of the drug, and this statement, from what I have seen of his clinic and his personality, I fully believe. That trouble may follow the use of this remedy goes without saying we are dealing with arsenic.

Whichever method is adopted, all instruments should be carefully sterilized as the irritant metal and germ make a highly septic combination. Salvarsan is probably no more antiseptic than Fowler's solution, in which, as is well known, fungi will grow freely.

In making the solution, glass stoppers should be used for the cylinders, as cork stoppers in contact with sodium hydroxid solution make a brown fluid, which at least looks dirty.

If it is desired to neutralize the fluid for injection after it is alkalinized with sodium hydrate solution, this is best done by adding, drop by drop, a 1 per cent

glacial acetic acid solution. The neutral point may be determined by letting a drop of the fluid fall from the tip of a glass rod on litmus paper.

If the more concentrated solution for intramuscular injection is desired, and glass balls are not obtainable, the powder may be rubbed up with water in a mortar. The glass balls, however, are preferable.

THE TREATMENT OF DRUG ADDICTION

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The statements which I made in my former article[1] concerning the efficacy of the treatment to obliterate the craving for narcotics have been confirmed, and this treatment is to-day the most successful method which I have yet found for the obliteration of the craving for morphin, opium, cocain, alcohol, or tobacco. I have endeavored to simplify the method, and have succeeded in some measure; the same combination of drugs is used, and only the details of their administration have been changed. The plan which I have found to be most effective, and most easily followed by others, is as follows:

The belladonna mixture of two parts 15 per cent. tincture of belladonna, and one part each of the fluid extracts of hyoscyamus and xanthoxylum, has proved itself an essential part of the treatment. When the 10 per cent. tincture of belladonna has been used, or when even a 12 per cent. tincture has been employed, the results obtained were not clear-cut, but left the patients with an indefinite nagging longing for their narcotic. It seems necessary to push this mixture to the physiologic tolerance of the belladonna. This tolerance, of course, varies with the individual, and some of the best results have been obtained with patients who could not tolerate as an hourly dose more than from 2 to 4 drops of this mixture while others easily tolerated from 18 to 20. It would seem, judging from clinical results, that there are some properties in this mixture which are necessary to a successful carrying out of the treatment. The bottle containing this mixture must be kept well corked, and shaken before using. The method which I now pursue is as follows:

A patient addicted to morphin is given five compound cathartic pills and 5 grains of blue mass, and six hours later, if these have not acted, they are followed by a saline; after three or four abundant movements of the bowels from these cathartics, the patient is given, in three divided doses at half-hour intervals, two-thirds of the total daily twenty-four-hour dose of morphin or opium to which he has been accustomed. Observe carefully after the second dose has been given, as the amount then equals four-ninths or nearly one-half the total twenty-four-hour dose. Some few patients cannot comfortably take more than this amount. At the same time with the morphin, 6 drops of the belladonna mixture is given in capsules. This belladonna mixture in doses of 6 drops (and by drops I do not mean minims, I mean drops dropped from an ordinary medicine dropper, which is about half a minim dose) is given every hour for six hours. At the end of six hours the dosage is increased 2 drops. The belladonna mixture is continued every hour of the day and every hour of the night continuously throughout the treatment, increasing 2 drops every six hours until 16 drops are taken, when it is continued at this dosage; it is diminished or discontinued at any time if the patient shows belladonna symptoms such as dilated pupils, dry throat or redness of the skin, or the peculiar and incisive and insistent voice, and insistence on one or two ideas. It is begun again at reduced dosage after the above symptoms have subsided.

At the tenth hour after the initial dose of morphin is given, the patient is again given five compound cathartic pills, and 5 grains of blue mass. These should act in six or eight hours after they have been taken. If they do not act at this time some vigorous saline is given, and when they have acted thoroughly the second dose of morphin is given, which is usually about the eighteenth hour. This should be one-half the original dose; i. e., one-third of the original twenty-four-hour daily dose. The belladonna mixture is still continued, and ten hours after the second dose of morphin has been given, that is about the twenty-eighth hour, five compound cathartic pills are again given and 5 grains of blue mass, these again if necessary followed by a saline seven or eight hours later. At times when the C. C. pills are not acting well, or too slowly, five or six "B. B." pills are given from two to three hours after the C. C. pills. These "B.B." pills are the pilulæ catharticæ vegetabiles of the Pharmacopeia with 1/10 gr. oleoresin of capsicum, ½ gr. ginger, and 1/25 m. of croton oil added to each pill. After these have thoroughly acted at about the thirty-sixth hour, the third dose of morphin is given, which is one-sixth of the original dose. This is usually the last dose of morphin that is necessary. Again, ten hours after this third dose of morphin, i. e., the forty-sixth hour, the five C. C. pills and 5 grains of blue mass are again given, followed seven or eight hours afterward by a saline, and one expects at this time to see the bilious green stool appear. When this appears, after the bowels have moved thoroughly, ten or twelve hours after the third dose of morphin, about the fifty-sixth hour, 2 ounces of castor oil are given to clear out thoroughly the intestinal tract. During this last period when the bowels are moving from the C. C. pills and before the oil is given, the patients have their most uncomfortable time. Their nervousness and discomfort can be controlled usually by codein, which can be given hypodermically in 5 grain doses and repeated if necessary, or some form of the valerianates may help them. About the thirtieth hour these patients should be stimulated with strychnin or digitalis, or both. After they are off their drug, I have found that the tonics which do them the most good are those which contain some form of phosphorus and arsenic, and I must reiterate as before the danger of these patients overeating, and thus bringing back all their withdrawal symptoms due to the disturbance of digestion. They have been in the habit of referring all uncomfortable feelings to those of the withdrawal symptoms of morphin, and digestive disturbances feign these withdrawal symptoms. Sometimes about the thirty-sixth hour the stools became clay-colored. Some form of prepared ox-gall is most effective to stimulate further biliary secretion given in small doses every hour for five or six doses.

In treating an alcoholic, the belladonna mixture and the five C. C. pills and 5 grains of blue mass are given simultaneously at the first dose. The belladonna mixture is continued every hour of the day and every hour of the night the same as with the morphin patients, and twelve hours after the initial dose patients are again

1. The Obliteration of the Craving for Narcotics, THE JOURNAL A. M. A., Sept. 25, 1909.

given from three to five C. C. pills, and at the twenty-fourth hour after the initial dose, they are again given the cathartics followed by salines if necessary, and again at the thirty-sixth hour. After these last cathartics, the bilious stools will appear, and by the forty-fourth or forty-fifth hour the castor oil is given. Sometimes it is necessary to carry on the treatment over another period, and the C. C. pills and blue mass are again given at the forty-eighth hour, which would bring the end of the treatment about the sixtieth hour.

Elderly or very nervous patients who have been on a prolonged debauch are tapered off with 2 ounces of whiskey for four or five doses through the first twenty-four hours. If these patients are excessively nervous it is necessary also to see that they sleep, and the mixture of chloral hydrate, gr. xx, morphin, gr. ⅛ tincture of hyoscyamus dram ½, ginger m. x and capsicum m. v, water ½ ounce, which was recommended before is the best hypnotic for them. These patients should also have cardiac stimulants such as strychnin and digitalis after the first twenty-four hours, sooner if they are weak. If the patient has an alcoholic gastritis and cannot retain medicine, it is wise to give him 5 grains of Tully's powder (pulvis morphinæ compositus) with 5 grains of sodium bicarbonate about every two hours for two or three doses, as this seems to be the most effective method of allaying the vomiting of an alcoholic gastritis.

The cocainist can be treated like the alcoholic, except that no cocain is given at any time, and strychnin or some such stimulant must be given from the beginning of the treatment.

I have often been asked as to the permanency of this treatment, and I can but repeat that most morphinists desire to be rid of their addiction and that when once the withdrawal symptoms are passed and the craving for the drug has ceased, they are only too glad to be free from their slavery. If the cause for which they originally took the opiate is removed, in the majority of cases they will not return to their drug. With the alcoholic it is different, although this treatment is the best one I have yet found to eradicate thoroughly and in a short time all desire for alcohol and to stimulate him mentally and leave him in a condition in which he can exist without his customary stimulant. Alcoholism is a social vice and not a secret one, as is morphinism. Most men cannot bring themselves to realize that they cannot take a single drink and cannot drink in moderation as they see other men do, and it sometimes takes two or three bitter lessons before they are willing to acknowledge this to themselves. When once they realize it and acknowledge it to themselves as well as to others, they will not take alcohol, but there is no compromise with them. They cannot take a single drink of any form of alcohol without the danger of going back to alcoholic excess.

Since publishing my first article I have treated many patients addicted to morphin, cocain and alcohol, and the results obtained with these patients, as well as the reports from many sources obtained through an enormous correspondence, have confirmed me in my conviction that this treatment will more effectually obliterate the craving for narcotics, in the shortest time and leave the patient in better condition to recuperate to vigorous health, than any other treatment that has yet come to my knowledge. It is a treatment of many details which must be adhered to if success is to follow. But my experience justifies me in saying that if these details are adhered to, success will follow.

36 East Thirty-First Street.

A GROUP OF SYPHILITIC PATIENTS TREATED WITH SALVARSAN (EHRLICH-HATA 606)

OLIVER S. ORMSBY, M.D.
CHICAGO

This group of cases includes chiefly those of dermatologic interest. At the time the work was done, the method of administration as recommended by most experimenters was by subcutaneous injection of an emulsion of the drug according to the Wechselmann method. After the first group of injections had been made subcutaneously in emulsion by this method, Dr. Flexner requested that the intramuscular method be employed, using a solution according to the method of Lesser. The second injection given in Case 7 and the one given in Case 8 were therefore made in this manner.

The cases included a well-defined macular, a papulopustular, a corymbose, a large flat papular, a deep gummatous (bones and deeper tissues) and an ordinary gummatous syphiloderm, and two in which early nervous lesions were exhibited. The patients were all examined for any contra-indications relative to heart, lungs, kidneys, etc., by Dr. Joseph L. Miller, and as to eye complications by Dr. E. V. L. Brown. This work was controlled by the Wassermann reaction repeatedly made, and by blood-counts; and finally was undertaken with the view of ascertaining the result obtainable with a single injection of a comparatively large dose of the drug. They have been under observation for more than three months, so we can now determine what the result is with a single dose in these cases. I am indebted to Dr. H. J. Nichols and Dr. Simon Flexner for the material (drug) used, and to Dr. J. Frank Waugh for valuable assistance in the preparation of the remedy and making the Wassermann reactions, and Dr. Nilsson, House Surgeon at the County Hospital, for assistance in many ways.

In view of the enormous literature already at hand, it is my purpose only to record results, as it is by the accumulated results in patients actually treated in many parts of the world, that deductions will finally be drawn both as respects the drug itself and its method of administration.

Most of these patients were treated at the County Hospital, where they were entered in my service, and most of them remained two months or more to complete the preliminary observations.

REPORTS OF CASES

CASE 1.—Gummatous and ulcerative syphilis (hereditary). M. W., a woman aged 23, entered the Cook County Hospital Oct. 18, 1910; duration of the disease in its present form, twelve years.

History.—The patient was apparently healthy until twelve years previously, when (as stated by the patient) following vaccination the lesions to be described began to appear. During the twelve years the lesions had periods of activity and retrogression. Ulcers appeared and healed, with new ones occurring. The distribution was fairly general. Head, face, arms and limbs had all been attacked and the deformity was marked and characteristic. The bones in all of these regions showed deformity.

Examination.—At the time of administration of salvarsan the patient presented the following appearance: Small, elderly-appearing, with scars, ulcers, deep nodules and discharging sinuses over most of the body; mentality below par.

Regional:

Head: The entire scalp presented a mass of deep ulcers, pus-discharging sinuses and heavy crusts. In many places bone involvement was evident. The face presented deep fun-

nel-shaped openings, extending on the right side into the malar bone; a similar lesion present on the left side; marked ectropion of right lower eyelid due to contracture from a scar below. Eyes: Pupils small, but reacted normal; negative otherwise. Mouth: Palatal arch high and narrow. Teeth: Several missing, remainder more or less loose and carious. Nose flat and depressed; nasal septum eroded. Neck: Enlarged glands on either side.

Trunk and Genitals: No cutaneous or deeper lesions.

Upper Limbs: Bones of both forearms deformed; irregular deep depressions present, many scars and ulcerated areas, and some deep sinuses; joints enlarged, deformed and limited in motion; small joints of hands also involved; glands of axillæ enlarged.

Lower Limbs: Tibiæ deformed. Typical deformity of bones (enlarged and bowed); large ulcers and deep sinuses on both sides; a typical luetic ulcer present in right ankle the size of one's palm.

Urine: Cloudy, straw-colored, specific gravity 1.021, acid in reaction; albumin present abundantly; no sugar; microscopic examination revealed granular casts, a few epithelial cells and a few leukocytes; no erythrocytes; mucus moderately present. Wassermann, October 19, +++.

October 20, 0.45 gm. salvarsan was injected beneath scapulæ, dividing the dose into two parts, one-half given on either side.

General examination revealed no particular contra-indications. The patient had been habitually restless and sleepless at night.

Progress and Comments.—The urinary findings under some conditions would have been a contra-indication for the treatment, but in view of the probable luetic kidney involvement, it was not so considered in this case. The progress toward recovery following this injection was remarkable. No local reaction of moment occurred. There was a very moderate systemic reaction. After the first night the patient slept well and rapidly gained in weight. Her mental condition changed from that of a dull, morose individual to a happy, smiling and much younger-appearing woman. Pain entirely ceased; ulcers and sinuses healed and clinically the patient recovered rapidly. The Wassermann reaction remained strongly positive throughout the entire period of observation. Three months after the injection the patient had not entirely recovered, for a few small lesions remained. At this time more treatment was indicated. The Wassermann record is as follows:

October 19, just previous to the administration of the drug, it was strongly positive, +++. October 24, strongly positive, +++; November 12, strongly positive, +++; December 6, strongly positive, +++; December 20, strongly positive, +++; Jan. 20, 1911, strongly positive, +++.

CASE 2.—*History.*—Varioliform, papulo-pustular syphiloderm. The patient, L. S., a man aged 28, entered the Cook County Hospital, Aug. 23, 1910. The eruption was generalized and typical. The remains of the initial lesion were present. There was general adenopathy. From the date of admission until the administration of the special treatment, hygienic care was exercised. During this time, about two months, the lesions changed their type, becoming entirely papular, but fully as abundant in number as originally. The urinary examination revealed no abnormalities.

Treatment.—October 20, ophthalmologic and general examinations revealed no contra-indications for the treatment. The Wassermann reaction was strongly positive, +++. A dose of 0.5 gm. salvarsan was injected, using the technic as outlined above. This patient suffered sufficient pain to warrant an injection of morphin, gr. ¼, at 9 p. m., five hours after the administration of the salvarsan. Subsequent to this nothing unusual occurred. No indurations remained at the seat of the injection.

Progress and Comments.—After forty-eight hours the lesions were clearing more rapidly than before. Resolution continued for about two weeks, when a recrudescence occurred and during the following three months new lesions kept constantly appearing. The entire number naturally decreased, but the disease was still clinically active. The Wassermann record is as follows: October 24, positive,, ++; November 12, positive, ++; December 20, strongly positive, +++. It is needless to state that more treatment is necessary.

CASE 3.—*History.*—Papular syphiloderm. The patient, H. S., man aged 42, entered the County Hospital Sept. 24, 1910. The patient had a fairly generalized, ordinary flat papular syphiloderm, accompanied by general adenopathy.

Examination and Treatment.—October 24, the day of injection with salvarsan, the general examination revealed pulmonary emphysema, but no other complications. The eye-findings were negative. The urinary-findings were negative. The blood-findings showed moderate leukocytosis, 14,050 W. B. C. The Wassermann reaction was positive, +++. Salvarsan, 0.5 gm., was administered. The immediate and later results were not striking. The cutaneous lesions cleared for about two weeks, but recrudescence kept up for the following two months. The Wassermann record is as follows: October 24, strongly positive, +++; November 12, strongly positive, +++.

November 22, the date of departure from the hospital, the disease was still active, though much less so than at the beginning, and more treatment was strongly indicated.

CASE 4.—*History.*—Corymbose syphiloderm. The patient, a man aged 35, was admitted to the County Hospital, Sept. 21, 1910. The duration of the eruption at that time was two months; there was a clear history of an initial lesion, and general adenopathy was present. The lesions were generally distributed and typical.

Examination and Treatment.—October 21 a general examination revealed an enlarged liver, but no other findings. The eye-findings were negative; urinary analysis, negative; Wassermann, +++. October 29, 0.5 gm. of salvarsan was administered.

Progress and Comments.—The lesions began to disappear fairly rapidly, but within two weeks new ones occurred, so that the new ones about kept pace with the clearing lesions. New lesions were still appearing, three months after treatment. The Wassermann record is as follows: October 29, strongly positive, +++; November 12, strongly positive, +++; December 6, mildly positive, +; December 20, positive, ++; Jan. 20, 1911, mildly positive, +.

That more treatment must be given is evident.

CASE 5.—*History.*—Macular syphilid, ordinary type. The patient, a man aged 23, entered the County Hospital, Sept. 29, 1910. The initial lesion occurred seven weeks previously. A fairly general exanthem, macular type, was present, chiefly on the trunk. General adenopathy was present. This was a typical and ordinary case.

Examination and Treatment.—Just before the administration of the special treatment the urine was found to be normal. The general examination and ophthalmologic examination were both negative as to pathologic findings. October 22, 0.5 gm. salvarsan was administered at 4:30 p. m. At 10 p. m. morphin, ¼ gr., was administered. No local or systemic reaction of moment occurred.

Progress and Comments.—This patient remained in the hospital for three weeks after the treatment. During this period no perceptible change occurred. The exanthem was gradually fading. The Wassermann reaction just previous to the injection was strongly positive, +++. After three weeks, before leaving, it was strongly positive, +++. This patient agreed to return, but failed to do so.

CASE 6.—*History.*—Gummatous and ulcerative syphilis. The patient, M. H., a married woman aged 32, entered the County Hospital, Oct. 16, 1910. Three days previously 0.5 gm. of salvarsan had been administered at the clinic in Rush Medical College. The general examination and special examinations had been made there, including a Wassermann reaction, which was positive. This patient was generally weak, had lost weight, was anemic and had two typical deep areas of gummato-ulcerative lesions, one on the forehead involving the frontal bone, and one over the left shoulder.

Progress and Comments.—The nutrition immediately improved. The lesions healed rapidly until the forehead lesion cleared up. The one over the shoulder healed more slowly. The Wassermann reaction remained positive until her departure, five weeks after admittance. In this patient the cutane-

ous and subcutaneous lesions yielded, but not any more rapidly than they do under ordinary treatment. The nutritive effect was perhaps more marked, but even that is open to question.

CASE 7.—*History.*—Cerebral syphilis and incipient tabes. The patient, a man aged 37 (private patient), was first seen Jan. 12, 1910. The initial lesion occurred in March, 1901, followed by a macular eruption of short duration. During the first year the treatment consisted in the protoiodid of mercury eight weeks at a time, followed by eight weeks of rest during the entire year. In the second year three courses, of four or five weeks' duration each, of the succinimid of mercury, were employed by intramuscular injection. In the third year mixed treatment, including some injections, some potassium iodid, and Bernheim pills, was employed. From then until 1909 a moderate amount of mixed treatment was employed each year. During the second year after infection an incomplete attack of hemiplegia occurred. This involved the left side of the body, but rapidly cleared up. In 1905 a deep ulcer occurred in the tonsillar region, following the removal of this organ for a cervical adenitis. This ulcer healed under mixed treatment. Then for four years no symptoms occurred. In October, 1909, paresis of the external rectus muscle occurred. Energetic treatment with inunctions and potassium iodid made no change in this condition for some time. January 12, when I saw the patient, the above paresis was still present and there were some scorching, intermittent pains in the skin over the left breast. On this date, the findings led to the conclusion that the patient was suffering with cerebral lues, with probably incipient tabes. A Wassermann test at this date was negative (probably influenced by treatment). February 24, pains were noted in both sciatic nerves, also aching pains in both calves; slight unsteadiness in gait, numbness of left ring and little fingers, left cheek and left side of the roof of the mouth; patellar reflexes abolished.

April 24, treatment was suspended on account of saturation. May 9, oculo-motor paresis of the right eye shown by ptosis, dilated pupil and paresis of accommodation of 1 diopter. By May 31 this condition had largely cleared up. June 11 a similar condition arose in the left eye. Treatment during 1910 up to October consisted in injections of salicylate of mercury, potassium iodid and ferruginous tonics. October 28, 0.5 gm. of salvarsan was injected subcutaneously in emulsion.

Examination.—The condition on this date was as follows: Slight Romberg, unsteady gait, patellar reflexes abolished, bladder weak, obstinate constipation, girdle sensation, numbness of soles of feet, left side of face and left hand, intermittent scorching pains in the back; single vision looking straight ahead, but paresis shown by looking to either side, up or down; paresis of both eyes, 1 diopter. Wassermann, positive, ++++. Urine, negative.

Progress and Comments.—Following the first injection of salvarsan, great improvement in the general health occurred. The patient gained several pounds in weight in a few weeks; pains all cleared up, gait became steadier, Romberg less marked and bladder stronger; focal symptoms, however, were unchanged. December 15, eye symptoms became exaggerated, and on December 21 a second injection of 0.6 gm. of salvarsan was given in solution into the gluteal muscles, according to the method of Lesser. The Wassermann reaction was still positive. January 27 all symptoms were improving slowly; the Wassermann reaction slightly positive, +.

That the treatment did much for this patient there is no doubt. Much longer observation is necessary to determine the necessary procedure.

CASE 8.—Spinal meningitis (luetic) and tabes. The record of this case is incomplete, but it is included here on account of the fact that of the group this was the only patient who had a systemic reaction.

A general examination of the patient was made before the treatment, and the eyes were examined at the Presbyterian Hospital. December 28 0.5 gm. of salvarsan was injected intramuscularly according to the method of Lesser. On the second day the temperature rose to 103 F., and on the third day to 103.5, and after the fourth day rapidly subsided and the patient left the hospital.

Progress and Comments.—This case is interesting owing to the systemic reaction indicated by the marked elevation of the temperature. There was no nausea; the patient was not particularly ill and apparently recovered rapidly from the attack. His physician reported thirty days after the treatment that the patient was much improved. It was impossible to get another specimen for a Wassermann reaction. This reaction was moderately positive before the original injection.

As will be seen by a study of the above case-reports, marked effect is produced on the disease by this remedy, the most striking in this series being in the case with deep gummatous and ulcerative lesions involving bones and deep structures. The relief of pain, the great increase in the general nutrition of the patient, and the rapid healing of the lesions were striking.

In none of the cases did any untoward results occur. In one only was there any local reaction of any moment and that consisted in an induration which still remains. In three cases an injection of morphin for pain was administered the first night. In none of the others was the pain sufficient to require any sedative. In one case marked elevation of temperature occurred on the second and third days (Case 8). In all of the cases of early syphilis the disease was well advanced and well marked, showing a complete saturation of the patient with the infection. In judging the value of the treatment this fact must be borne in mind.

METHOD OF ADMINISTRATION

The major portion of these patients were injected with the emulsion according to the Wechselmann method. In the last two the solution was injected intramuscularly, according to the method of Lesser. Still later, the instructions were to use the intravenous method. This method does not figure in this experimental report. The latter method is proving more rapidly efficient, but necessarily is attended with more danger, especially as regards general use.

The treatment in the early cases of this group was controlled in a way by other similar cases treated with injections of mercury, and the latter cases apparently made as good progress as those treated with salvarsan and finally better. This, however, does not demonstrate anything essential, except the fact that one injection by emulsion is not sufficient. Had the injections been repeated at intervals of a few days or weeks, as indications demanded, a much different result may have been obtained; and again, the manner of administration may have been less efficient than those now being employed. This group, therefore, seems to demonstrate the inability of a single injection, as here administered, to eradicate the disease.

CONCLUSIONS

This group of cases emphasizes facts demonstrated in the work of a large number of others on record which, summarized, are as follows:

1. Recurrences and recrudescences commonly happen after a single injection, which indicates repeated injections or resort to older methods to complete the eradication of the disease.

2. A marked and profound effect is immediately produced, which makes one indication clear for its use, viz., a rapidly spreading or malignant case in which ulceration threatens vital or useful structures, and an immediate result is imperative.

3. The effect in promoting increased nutrition is marked, especially in cachectic patients, thus placing the patient in a better physical condition normally to combat the invading organisms.

A study of these with other cases demonstrates the facts that salvarsan is a therapeutic agent of great potency; and that it is a valuable addition to our weapons of defense against certain forms of syphilis. The range of these is as yet undetermined. No one can admit that it can, in the present state of our knowledge, replace to any large degree our other well-known and very efficient agents in the treatment of syphilis.

The consensus of opinion now seems to be that it has its greatest usefulness in malignant cases, viz., those in which rapid destruction of tissue is in progress; in mucous membrane lesions about the mouth, tongue, throat, etc.; in the deeper lesions affecting subcutaneous and bony structures, in these the healing of the lesions, the relief of pain, and the promotion of nutrition being remarkable; and finally, in cases (which are fortunately few) which have resisted other well-known measures. Cases in which opinions differ and in which only time will demonstrate the value of salvarsan are the very early cases in which a profound effect on the spirochetes may entirely destroy them before the human organism has become thoroughly saturated, and also the ordinary cases which have in the past been well managed to a successful termination by the usual treatment.

Finally, the greatest credit is due Professor Ehrlich for the production of a chemical remedial agent worked out on scientific principles, and even though it may not ultimately fulfil the unparalleled expectations, it opens a field for research in treatment of parasitic affections that should be of great importance to humanity.

100 State Street.

A SIMPLE SUPPORT FOR THIGH ELASTIC STOCKINGS

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CREIGHTON, NEB.

We are sometimes compelled to fit patients with thigh elastic stockings. Several of my patients have complained that they rolled down at the top and became unbearable. The tension produced by fastening the garters to the stockings is so great as to preclude that method of support. I devised this simple method of obviating their trouble. Four or five ordinary dress stays are sewed at varying intervals around the top of the stocking in the longitudinal diameter. It will be found that this ends the trouble. I would, however, suggest that the manufacturers weave small whalebone stays in the stocking in the same manner; this would make a more durable and attractive article.

A CASE OF NEPHROLITHIASIS

WITH REPEATED TEMPORARY RELIEF BY URETERAL CATHETERIZATION

W. P. WILLARD, M.D.
SAN FRANCISCO

The history of this case of nephrolithiasis is, I think, of sufficient interest to be reported.

History.—Mrs. R., aged 41, had been in good health until the birth of her child eighteen years before she came under my observation. At that time she had pneumonia from which she recovered after an illness of two months. Six years later she had ovarian and tubal trouble that necessitated the removal of both tubes and ovaries. Since this operation the patient had never been in very good health. Five years prior to being seen by me the first urinary symptoms appeared, which consisted of painful and frequent urination, and the passage at times of gravel. These symptoms persisted for several weeks and then abated, although the urine continued to be cloudy. Three years later the patient noticed a large, painful swelling in the left side of the abdomen which suddenly disappeared after being present two weeks. At this time a dull pain in the back appeared, and has continued. In January, 1909, she had a severe pain in the right side of the abdomen and back accompanied by a large swelling which disappeared in about ten days.

Examination.—I saw the patient for the first time seven months later and found her suffering greatly with a large, boggy mass extending from the costal border to the brim of the pelvis on the left side. She had a rapid pulse, of high tension, was vomiting and very much prostrated. She had passed no urine for two days and a half, and on introducing a catheter I found the bladder empty. As she was in a very bad condition I advised trying to relieve the condition temporarily by introducing a ureteral catheter.

Treatment.—Some difficulty was experienced in finding the ureteral orifices on account of a chronic cystitis and lack of motion of the openings. On passing a catheter 8 inches into the left ureter an obstruction was encountered. After injecting oil and glycerin with no result, I injected boracic acid solution through a large ureteral catheter, under considerable pressure, and was able to push the catheter to the renal pelvis. The urine spurted from the catheter and within a minute urine could be seen coming from the right ureter. In the first ten hours 1,200 c.c. of urine were passed. The catheter was allowed to remain in the ureter forty-eight hours, and on its removal a mass of mucus and phosphatic sand was passed. After this the patient felt well for six months; then she had a similar attack, which I relieved in the same way. On withdrawing the catheter a calculus 0.5 cm. in diameter was passed. The *x*-ray plates which were made at this time show several calculi in both renal pelves. Operation was positively refused.

Subsequent History.—In March, 1910, the patient again had anuria for thirty-six hours, severe pain on the left side, nausea and vomiting. The obstruction at this time seemed to be at the pelvis; probably one of the stones had engaged in the ureter, blocking the opening. The passage of the catheter had pushed it out of the way and allowed the pelvis to empty. Nothing passed after the removal of the catheter. June 1 the patient again had the same symptoms but was relieved by hot baths and applications. June 29 I was called, after she had tried for twenty-four hours to get relief. Her condition was about the same as described in the first attack, and was relieved in the same way. The obstruction was 10 inches from the bladder. After the catheter had been removed, at the end of twenty-four hours, a calculus 8 by 5 mm. was passed. Between the attacks the urine was full of pus, but the patient was not troubled in any way, except for a dull backache and at times a light night-sweat.

Although this procedure can hardly be recommended for the treatment of nephrolithiasis, still, as a palliative measure in cases in which the condition of the patient makes immediate operation hazardous, and also when small calculi are lodged in the ureter, it is worth trying.

177 Post Street.

Fatigue as a Symptom.—Chronic fatigue is the most obvious symptom in neurasthenia minor. It is true fatigue rather than simple weakness, as is shown by the facts that action is readily excited, but takes an abnormally long time to reach its maximum; that effort cannot be sustained evenly, but shows marked oscillations, and that there is slight incoordination. It is presumably due to the continual production of fatigue toxins. It affects both the mental powers and the physical, probably including the functioning of the viscera.—P. C. C. Smith in the *Practitioner*.

Therapeutics

DRUGS ACTING ON THE CIRCULATION

DIGITALIS

(*Continued from page 423*)

Therapy.—The conditions improved by this drug are:

1. Poor heart action from any cause except when there is advanced myocarditis, or fatty degeneration.
2. Lack of compensation in valvular disease.
3. Simple dilatation.
4. The irritable or weak heart of nicotin poisoning.
5. The strained heart from over-work or over-athletic exercise, severe marching, mountain climbing, etc.
6. Poor vasomotor tone.
7. Edema or exudations with no serious kidney lesions.

Before discussing the use of digitalis in lack of compensation in valvular disease, it will be well to consider just what is meant by lack of compensation, as this drug should not be used in valvular disease when there is full and complete compensation. Broken or failing compensation means a rapid heart, dyspnea, edema, and passive congestions of the various organs and glands of the body causing disturbed digestion, diminished nutrition, and the retention in the blood of various toxins, the results of mal-metabolism.

This drug does good in *mitral regurgitation* with broken compensation by making the ventricular contraction more complete by directly stimulating the cardiac muscle and increasing its thickness and tone as would result from systematic exercise of any voluntary muscle.

The blood-pressure in the aorta will be increased by the better action of the left ventricle and more blood is thus forced through the coronary arteries, and the nutrition of the heart is improved. Also, the greater contraction of the papillary muscles and the muscle-tissue around the mitral valve makes the opening, due to its incomplete closure, smaller, and less regurgitation takes place.

In *mitral stenosis* with failing compensation digitalis does good not only by strengthening the auricles and the right ventricle which is weakened, but by slowing the heart allows the left auricle to empty itself more completely through the narrowed mitral opening into the left ventricle. In this lesion, with the patient in bed, the heart can be slowed down to about sixty beats a minute with marked advantage. We would here caution that with profound action of digitalis the patient should never rise suddenly from the bed or from a chair, or suddenly rise from bed and evacuate the bladder, as during profound action of digitalis with the heart very slow, such sudden rising and diminution of the abdominal pressure has produced such anemia of the base of the brain as to cause sudden death.

In aortic insufficiency with broken compensation digitalis relieves the symptoms by strengthening the left ventricle, narrowing the aortic orifice, and increasing the lost tone in the aorta and peripheral vessels. Digitalis should not be pushed in this lesion as a prolonged diastole from much slowing of the heart would be of great disadvantage, and a pulse above eighty in this lesion is better than a slower pulse.

Some clinicians believe that digitalis should never be used in aortic insufficiency. However, if not used to profound effect it will often do a great deal of good when compensation has been broken in this condition. The main strain on the heart in this lesion is in the left ventricle, and the left ventricle is the part of the heart most helped by digitalis. Increased blood-pressure is not desirable in aortic insufficiency, and but slight increase in blood-pressure will occur if the digitalis is administered in small doses, though the heart muscle will be stimulated to better contraction. It is dangerous to slow a heart with aortic insufficiency below seventy, and it certainly is dangerous to slow it to sixty, as the prolonged diastole not only prevents more blood being sent upward through the carotids and cerebral arteries, but also, during diastole blood is flowing backward from the aorta into the left ventricle. At the same time, the blood is flowing toward the right auricle through the superior vena cava and therefore also from the jugular veins. The result of a prolonged diastole is anemia of the base of the brain, and this is one of the causes of sudden death in aortic regurgitation. Another danger of prolonged diastole in this lesion is of an over-filling of the left ventricle with regurgitated blood and a consequent paralysis. If serious dropsy occurs from aortic insufficiency the condition is much more serious than in mitral disease, and the prognosis is bad.

When there is lack of compensation in *aortic stenosis* digitalis will improve the condition by strengthening the left ventricle, thus overcoming the resistance at the aortic orifice. However, this drug should not be pushed in this condition, as a too sturdy action of the left ventricle against the resistance will weaken the muscle wall. In this lesion this drug often acts best when administered conjointly with nitroglycerin to keep down the peripheral resistance.

It is understood, of course, that nitroglycerin administered at the time the digitalis is administered is of no avail in counteracting any action on the blood-vessels of that particular dose of digitalis, but if digitalis is administered twice in twenty-four hours and nitroglycerin four times or more in twenty-four hours, more or less continuance of lowered blood-pressure will occur. It may be stated here that although in the laboratory the effect of lowering of the blood-pressure of a single dose of nitroglycerin lasts but a short time, clinically it is a positive fact repeatedly noted that in conditions of high blood-pressure when nitroglycerin in proper dose is administered, even not more than four times in twenty-four hours, the average blood-pressure is continually lower than without this drug.

The satisfactory action of digitalis when compensation is weakened in valvular disease may be many times repeated, but sooner or later in valvular lesions with recurring incompetency the cardiac muscle becomes so deteriorated that digitalis no longer is able to restore the hypertrophy. Some patients do well with small doses of digitalis long continued, for months and even years. Other patients with valvular disease and incompetency, after the hypertrophy has been restored by digitalis, may not again need a cardiac drug for months until some unusual exercise, or mental anxiety, or severe sickness has again broken the compensation, and again digitalis will improve the condition. Rarely, however, in patients who have repeatedly taken digitalis, or in some few patients always, some other cardiac medication will act better than does digitalis.

In any condition in which the *right side of the heart* alone is dilated and incompetent without valvular lesions, as occurs in pulmonary disturbances such as pleurisy, empyema, advanced tuberculosis, and especially emphysema, digitalis is of benefit. This is true in spite

of the denial by some experimenters that digitalis acts at all on the right ventricle.

In conditions of sudden *cardiac failure or shock* from any cause the action of digitalis is so slow, even if given hypodermatically, that it should not be relied on to meet the emergency. If the shock or cardiac distress can be overcome for the time being by other drugs, digitalis given at the time will in some hours begin to add its powerful stimulation to the heart and blood-vessels.

In *simple hypertrophy* of the heart, or when the compensation is complete in valvular lesion, digitalis should *not* be used.

In the various stages of *acute endocarditis* occurring as a complication in acute rheumatism it is hard to decide whether digitalis should, or should not, be used. On the one hand the heart at this time should not be stimulated to more sturdy contraction. On the other hand, the slowing of the heart can but do good by modifying the movements of an inflamed organ. If the heart with endocarditis is beating at the rate of 110 beats a minute, it would seem good treatment to cause such physiologic rest as would be produced by reducing the pulse-rate to eighty or ninety beats a minute.

Probably early in endocardial inflammation local application of ice is the best method of slowing the heart. Next, if the conditions allow it, perhaps small doses of aconite may be administered for a day or two; later, nitroglycerin may act well to slow and quiet the heart. After the acute symptoms are over it cannot be decided offhand that small doses of digitalis will not aid a heart in its repair. Most clinicians believe digitalis should never be used in this condition. Some experimental proof has seemed to show that small doses may tend to produce a more complete recovery of the heart. If a second attack of endocarditis is superimposed on a previously damaged heart and both together cause broken compensation sufficient to produce edemas, the problem whether or not digitalis should be given is still more difficult to solve.

In *pericarditis* this drug will help the laboring heart.

In the feeble heart of chronic *myocarditis* and of *fatty degeneration* the utility of digitalis is much less pronounced, and the advisability of using the drug at all has been much questioned. However, in many of these cases if the drug is given cautiously and in small doses it will prove of considerable benefit, as in many cases we are not certain that there is actual degeneration of the cardiac muscle; and also it is impossible to decide how extensive the degeneration is even if we assume that it actually exists. It is plain that we should not deny the patient the possible benefit from digitalis though at the same time the action of the drug should be carefully watched. Degeneration of the cardiac muscle is frequently due to inadequate nutrition caused by impaired circulation through the coronary arteries. The orifices of these arteries are covered by the semilunar valves during the systole of the heart; consequently, these arteries are not supplied with blood during its active propulsion through the aorta. But during the diastole when the aortic valve is closed the elastic rebound of the blood in the aorta fills these arteries and gives to the heart its nutrition. If the aorta is imperfectly filled, or if the blood is allowed to flow back into the left ventricle on account of the imperfect closure of the semilunar valves, or if the blood-pressure is abnormally low, the coronary arteries will not receive an adequate amount of blood and the nutrition of the heart will be impaired, and degeneration of the cardiac muscle will take place. When any of these conditions exist, digitalis, by throwing a large amount of blood into the aorta, by causing more complete closure of the semilunar valves, and by increasing the blood-tension in the arteries, will cause an increased amount of blood to enter the coronary circulation, and the nutrition of the heart improves. Hence, digitalis will delay the progress of the degenerative process unless there is serious atheroma of the coronary arteries, but it cannot, of course, restore structures already degenerated. This latter fact makes the use of digitalis so often disappointing in the condition of chronic myocarditis. If acute myocarditis is diagnosed or surmised, digitalis should not be used.

When there is *irregularity* of the heart without any valvular lesions or signs of cardiac insufficiency, occasionally digitalis will improve the rhythm. This is especially true when the heart misses an occasional beat from previous over-exertion or cardiac strain. Under these conditions digitalis often relieves the cardiac discomfort and renders the pulse regular. If there is cardiac pain at the same time there is irregularity, digitalis will often increase that pain and do harm. In most instances of this malfunction strophanthus acts better than digitalis. If there is arteriosclerosis, nitroglycerin will improve the condition.

Not infrequently when there is complete *heart block*, digitalis should be used with caution, although of course it is possible that a better ventricular contraction and an improved aortic blood-pressure may cause more perfect circulation and therefore better nutrition to the part of the heart that is in trouble in this condition.

Digitalis should not be used in *endarteritis* or in atheroma, and hence, ordinarily, not in *aneurysm*. If aneurysm occurs early in life when the arteries are not diseased, in certain selected cases it might be used with care if it were otherwise indicated.

In *cerebral inflammations*, or in any acute cerebral condition, digitalis is contra-indicated, but in the insomnia of *neurasthenics* or when there is general *vasomotor debility*, when the patient is drowsy when up and awake, and wakeful when he lies down, the tone of the blood-vessels being so poor that they dilate in the lower part of the body when the patient is up and in the head when he lies down, digitalis oftentimes acts as a good soporific. Digitalis may be used for this purpose alone, or if given conjointly with more active hypnotics will make a much smaller dose of the hypnotic successful than when it is used without the digitalis. In fact, in neurasthenic conditions or in conditions of vasomotor debility digitalis is a general tonic for the whole system, improving the general circulation and increasing the general nutrition. Profuse sweating, especially in the axillæ, in neurasthenic patients is improved by digitalis.

In *delirium tremens*, whatever cardiac treatment is given should be given hypodermatically, as drugs given by the stomach are either not absorbed at all, or are absorbed very slowly, which accounts for the harmlessness of the enormous doses of digitalis given by the mouth in this condition.

In *chronic alcoholism* before hardening of the arteries has occurred this drug is undoubtedly of advantage.

Digitalis has been recommended and used for various *internal hemorrhages*, especially for hemoptysis, but it is a question of doubt whether a drug which raises the blood-pressure as does digitalis is rational treatment. The success which has attended its use in this condition is probably really the coincidence of the natural cessation of the hemorrhage. Venous hemorrhages, either

from the nostrils or from the lungs, are often stopped by the administration of digitalis. This is especially true if there are valvular lesions. Ordinarily, however, it must be remembered that drugs that raise the blood-pressure are not indicated in internal hemorrhage. In other words, such drugs as digitalis, ergot, strychnin, and atropin are generally contra-indicated. Those that lower the blood-pressure, as the nitrites, are the drugs that should be used.

On account of the slowness of its action, digitalis is not indicated in *shock* and *collapse*. Also, it has been shown by experimental evidence that animals in condition of shock do not live as long when treated with digitalis as those who are not so treated. Therefore, it is inadvisable to use digitalis in this condition.

In *purpura* and in hemorrhagic diathesis, digitalis, by contracting the blood-vessels, may tend to diminish the frequency of the hemorrhages. There are other treatments, however, more useful.

This drug by contracting the blood-vessels of the genital organs has been thought to act as an *anaphrodisiac,* and it has also been used in *spermatorrhea*. In these conditions, when there are local causative irritations and inflammations, digitalis would be of no benefit. If there were a general vasomotor debility digitalis could be good treatment.

Though not a very well-established fact, it is considered by some writers that digitalis will stimulate the uterus to contract, and hence this drug has been used in menorrhagia. It could do good only as a general circulatory tonic. It has also been recommended in *post-partum hemorrhage,* but any action in this condition would come too late to be of value, and as the bleeding is from the open veins, it is difficult to understand how it could do any good except by later improving the lost tone of the systemic vessels.

In *edema* from other causes than valvular disease, as occurs in anemia, especially of the lower extremities, when combined with other proper treatment digitalis is of marked benefit. *Chronic eczema* and ulcers of the leg, with or without varicose veins, are often benefited by digitalis.

When there are *effusions* without kidney lesions, or when there is chronic liver disease digitalis is often of benefit.

In *Graves' thyroid disease* this drug given for a long time may do considerable good by overcoming the dilated condition of the blood-vessels caused by the hypersecretion of the thyroid. Its power of slowing the heart, however, in this condition is very limited, and large doses to produce that result would probably not be justified though its prolonged use might gradually aid in establishing a cure.

The use of digitalis in *renal disease* is much discussed, some clinicians advising it and others denouncing it. No fixed rule can be given. In acute congestion of the kidney, digitalis should not be used. The same is theoretically true in uremic poisoning. However, with low vasomotor tension and a weak heart digitalis should be tried in not too large doses. If it does not give good results in thirty-six or at most forty-eight hours it should be stopped. If the results are good, the size of the dose should be diminished as over-action from digitalis can certainly readily take place in kidney lesions.

In the diseases of the lungs above cited with a strained right side of the heart, this drug is of advantage. It is also useful in many cases of *chronic bronchitis*, aiding the recovery by improving the pulmonary circulation. Small doses are also often of benefit in severe *whooping-cough* in which the right side of the heart is subjected to such serious strain.

Digitalis has been used in *pneumonia*. Whether it is of advantage in this disease can be decided only by the individual case. Not every pneumonia patient should receive digitalis, but the condition of the heart may call for it. In the first stage it should not be used; in the second stage it may be used; in the third stage, especially where there is slow resolution, in combination with other appropriate treatment it may often be of marked advantage. If there is "prune juice" expectoration, showing a venous stasis, or insufficiency of the right ventricle, digitalis may be advisable at any stage of pneumonia. A few clinicians use digitalis throughout the pneumonic process, but they have not satisfactorily proved their case, and digitalis has seemed at times to increase the pulmonary congestion, increase the dyspnea, and cause dangerous symptoms.

Often during pneumonia the urine shows albumin and the kidneys secrete an insufficient amount of urine, even without any apparent cardiac failure. During pneumonia, digitalis, instead of increasing the urine output, frequently seems to decrease it, and the cumulative effect of the drug during this disease is readily caused.

Some clinicians advise the use of digitalis *as an antipyretic*. Before we can accept an antipyretic action of this drug in non-poisonous doses, we must know what other treatment was given in the cases in which the antipyretic action took place. The action of high internal temperature on the pneumogastric nerve or its center in the medulla is such that many times digitalis will not slow the heart, hence it should not be pushed in fevers, if it is given at all. Also, when there has been prolonged fever the cardiac muscle becomes weakened and perhaps slightly degenerated, and we here have another reason for giving digitalis in very small doses, as it is not justifiable to add much irritation to an injured organ.

Contra-Indications.—High tension of the arteries, atheromatous conditions, weak cardiac muscle from prolonged fevers, from fatty degeneration, or from myocarditis, and ordinarily serious kidney lesions should contra-indicate the use of digitalis. Inflammation of the stomach should cause some other cardiac drug to be substituted.

Digitalis is useless, if not harmful, in an attack of tachycardia and in a failing heart after a severe fever, and should not be used in these conditions. It cannot be relied on to do any more than aid the circulation when there are large effusions.

Official Preparations.—The following are the official preparations:

Digitalis: The dried leaves, dose 0.05 gram (about 1 grain).

Extractum Digitalis: Average dose 0.03 gram (½ grain).

Fluidextractum Digitalis: Average dose 2 drops.

Infusum Digitalis: Average dose 10 c.c. (about 2½ fluidrams) or 2 teaspoonfuls.

Tinctura Digitalis: Average dose 10 drops.

Non-Official Preparations.—Various supposedly assayed watery and alcoholic extracts of digitalis are on the market, and some tinctures are prepared in such manner as to have the fatty part of the digitalis removed. Such tinctures seem to be less likely to cause irritation of the stomach, and are therefore better tolerated. Even in these supposedly assayed preparations the strength is

times varies, and the dose of any one single preparation of digitalis is *enough* to accomplish the object desired, unless undesirable symptoms occur which prohibit further use of the drug.

Digitalinum: Digitalin is a varying product as it occurs in the shops and may or may not represent a desired activity. It is a white or yellowish white powder, odorless and bitter. Until this product is absolutely pure and always the same the beginning dose should not be more than 1/25 of a grain. However, a dose as high as ¼ of a grain may be given before the physiologic effect of the drug desired is obtained. It must be remembered, however, that even this glucosid administered hypodermatically acts very slowly.

Digitoxin: A good preparation of *digitoxin* on the market is under the name of "digalen." Investigation of this product has seemed to show that it is a digitoxin perhaps not so strong as the pure crystallin digitoxin. Digitoxin represents an active principle of digitalis, and acts a little more quickly than other principles, and is eliminated a little more quickly, but does not represent the whole value of digitalis as represented by a fresh infusion of good leaves or a properly made fluidextract or tincture. Some experimentation has seemed to show that digitoxin is more likely to raise the blood-pressure undesirably and therefore precipitate a cumulative effect by its action on the kidney vessels, while, if its action is satisfactory, it will be more rapidly eliminated than some other of the digitalis glucosids. This means that a digitoxin preparation, with the kidneys healthy, is less likely to cause a cumulative action when the drug is long continued than is the whole drug. On the other hand, with the kidneys deficient, it is perhaps more liable to cause cumulative action than is the whole drug.

Digitoxin is now used with considerable frequency in therapeutics. It is insoluble in water and is irritant, and therefore should not be used hypodermatically. It seems to decompose rather rapidly, and probably therefore loses its efficiency. While it frequently steadies an irregular heart better than the whole drug, its tendency to contract the blood-vessels more than the whole drug should preclude its use when high blood-pressure or arteriosclerosis are present.

Administration.—The best preparations for internal administration are the infusion, freshly prepared, and the tincture. These preparations would be incompatible only with such drugs as are incompatible with all infusions and tinctures of vegetable drugs. If the other official preparations are used, the digitalis leaves should be given in powder or capsule, the extract in pill or capsule, and the fluidextract alone. The drug is not expensive and perhaps not often adulterated, but if the infusion is ordered one should be sure that it is made from the fresh leaves and not from the fluidextract. The infusion is no better preparation (except possibly as representing an extract of good leaves) than is the tincture, if the tincture is a good one. The dose of the infusion is always given so much larger relatively than the dose of the tincture, that the infusion gets the credit for more efficient work. The tincture is only about six times stronger than the infusion; therefore, the equivalent dose of the infusion to 1 c.c. (15 minims) of the tincture is 6 c.c. (1½ fluidrams).

"Digipuratum" is an extract of digitalis leaves representing the active principle. It is offered in powder and in tablet form. It is insoluble in cold water and acids, but easily soluble in dilute alkaline solutions. Each tablet contains 0.1 gm., and one a day, or less, is supposed to be sufficient, if to be given for any length of time.

Digitalin is probably the preparation of digitalis most used hypodermatically, and as previously stated, it has been urged that it is used in too small doses, which is the reason so little effect has been produced. However, the French expect to get results from 0.001 gram (1/60 of a grain) of digitalin, and some French clinicians advise this dose given once, and then no more for three weeks, combined with rest in bed, purgation, and a milk diet; this for cardiac dropsy.

It is certain that the satisfactory action of digitalis is evidenced by diuresis which, however, is not in positive evidence until from thirty-six to forty-eight hours after the first dose. Some clinicians, notably the French, as just stated, seem to think that one large dose of digitalis, whatever the preparation be, is more efficient in its results, when there is cardiac insufficiency with edema, than smaller doses. Smaller doses are used when there is simple palpitation and dyspnea without edemas. Very small doses are given when it seems advisable to give the drug for a long period. In fact, the more one reads of the recommendations of various writers as to the use of digitalis, the more confused one becomes. The following seem to be valuable suggestions as to the dosage of digitalis:

1. It must be known that the preparation used is a good one.

2. No immediate symptoms of the action of digitalis must be expected. It cannot exert its physiolgic action until at least twelve hours, and not its full activity for at least from twenty-four to thirty-six hours.

3. If there are conditions present that present a doubt as to whether digitalis will do good or harm, the dose should be medium or even small and given three or four times in twenty-four hours, and if ascertained that the action is for good, the frequency of the dose may then be diminished.

4. If positive indications for the need of digitalis action are present without conditions of doubt being present, as arteriosclerosis or myocarditis or fatty heart, a large efficient dose should be given at once and then no more for from thirty-six to forty-eight hours.

5. Digitalis should not be used in shock or in cardiac failure in acute disease.

Mine Rescue Cars.—Why the deaths in American mines during the year 1909 should be about 5 out of every 1,000 employed, and in European countries only about 2 out of every 1,000, has caused inquiry. It has been found that this great difference is due largely to the fact that for some years past certain European countries have maintained efficient rescue stations. M. M. Hunting (*Scientific American*, Jan. 7, 1911) describes the six mine rescue cars equipped by the Bureau of Mines for rescue work. These cars are equipped with the latest apparatus including first-aid materials and are manned with experienced miners drawn for this work. They are stationed at the great coal mining centers, one in Wyoming, one in Montana, one at Salt Lake City, one in Illinois, one in Tennessee and one in Pittsburg, Pa. A surgeon from the American Red Cross Society and a mining engineer are members of the crew of each car. They will visit all mining towns of importance in their allotted territory and deliver lectures and give demonstrations on the use of explosives, electric apparatus, fire prevention, sanitation, etc. Rescue brigades will be formed at each place and each car will contain eight oxygen helmets and a supply of oxygen in tanks, twelve safety lamps, a field telephone and wire, outfits for resuscitating asphyxiated miners, etc. Men at each place will be trained in the use of the oxygen helmets, which permit the miner to enter the mine immediately after an explosion while it is full of poisonous gases. Such an equipment would no doubt have saved many lives in recent mine disasters.

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POSTANESTHETIC INFECTIONS

Modern surgery has rendered the occurrence of serious infections of operation wounds a rarity, but it has not succeeded so well in abolishing postoperative infection of the lungs. The development of pneumonia after an operation, even though the greatest care be taken in both anesthesia and operation, is always a dreaded possibility, and one which no amount of precaution can positively eliminate. In well-conducted surgical clinics the mortality from postoperative lung infections undoubtedly exceeds the mortality from infections arising in the operation wounds; the latter are reduced by careful technic to practically zero, while the lung complications, although much reduced by improved methods of anesthesia and better care of the patient during and after the operation, still remain a serious menace.

The reasons for these lung infections are obvious enough. Direct irritation of the respiratory passages by the anesthetic vapors, chilling of the tissues by the ether-cooled air, to say nothing of aspiration of saliva and food materials through the ineffective larynx during deep unconsciousness, are adequate to account for pneumonia. Our newly acquired knowledge of the part played by the blood in preventing and controlling infection also shows us that there is more than a local predisposition to infection, for after anesthesia the power of the blood to destroy pathogenic bacteria is markedly reduced. In fact, the members of the entire group of alcohol, ether and chloroform reduce the power of the blood to combat bacteria; the state of a man after a long anesthesia is comparable to that of an alcoholic with bronchitis who has been sleeping off an overdose of alcohol in a doorway or a freight-car.

So important a subject is this postoperative pneumonia that much interest attaches to the recent studies of Graham[1] on anesthesia and the bactericidal powers of the blood. According to these experiments, it is not the power which serum itself has of destroying bacteria through bacteriolysis which is reduced by anesthetics, but the destruction of bacteria by phagocytosis is greatly reduced. Now it so happens that the organisms which we have to fear in surgery, the pneumococcus and the pus cocci, are destroyed chiefly through phagocytosis and not by bacteriolysis, which gives added importance to this depressing effect on the bactericidal powers of the blood. Apparently ether, the anesthetic which Graham has studied, reduces both the efficiency of the opsonins and the power of the leukocytes to take up the sensitized bacteria; these effects can be seen both in the blood of patients or animals after anesthesia, and in drawn normal blood treated with ether in the test-tube. The action of the ether is not permanent, the opsonic power being restored promptly on removal of the ether.

As the distribution and action of ether in the living body is closely dependent on its great solubility in fats and lipoids, Graham sought to learn if these substances might not influence this undesirable inhibitory action of ether on the bactericidal properties of the blood, with suggestive results. Lecithin, when added to etherized serum, was found to restore the opsonic power to normal, and—what is of especial practical importance—the subcutaneous injection of lecithin into animals, immediately after anesthetizing them, was found to cause the opsonic index to rise much more rapidly than it did in control animals. This effect of lecithin apparently depending chiefly if not entirely on its ability to take up ether from aqueous solution, the action of olive oil was then tried and found to be similar. The application of this principle to clinical uses was then made by giving rectal injections of olive oil to patients immediately after anesthesia, with a strikingly rapid return to normal of the opsonic power of the patient's blood as the result. So simple and logical a procedure as this is entitled to a general and thorough trial, which it will undoubtedly receive, especially in view of its assured harmlessness. In estimating its results, however, it must be borne in mind that the lowered bactericidal power of the blood is only one of the conditions which favor the development of postoperative pneumonia; the local injury to the lungs will still exist as a source of danger, and we can scarcely expect to eliminate entirely all possibility of pneumonia, no matter how promptly we may be able to restore the phagocytic activity of the blood.

1. Graham, Evarts A.: The Influence of Ether and Ether Anesthesia on Bacteriolysis, Agglutination and Phagocytosis, Jour. Infect. Dis., 1910, viii, 147; The Effect of Ether on Certain Processes of Immunity, THE JOURNAL A. M. A., March 26, 1910, p. 1043.

THE DIMINISHING BIRTH-RATE

Everywhere a cry of alarm goes up at the diminishing birth-rate. The biologist deplores the apparent decrease in the virility and fecundity of the species; the publicist shudders at the possibility of the extinction or decrease in importance of the nation.

The subject of the birth-rate, increasing or diminishing, is one which always seems to arouse agitation; it is one, moreover, about which opinion has oscillated for more than a hundred years. About half a century ago John Stuart Mill, coolest and least emotional of thin-

ers, wrote apprehensively of Great Britain as "a country overpeopled or threatened with being so." In the eighteenth century, on the other hand, learned writers, with equal pessimism, maintained that the population of the known world had declined since the palmy days of the great nations of antiquity; and grave fears were entertained, even as they are to-day, lest the tendency might continue indefinitely.

It was at this juncture that Malthus came forward with his theory of the necessary limitation placed on the numbers of population by the means of subsistence. The best population, he taught, was not necessarily the largest, any more than it was the smallest; it was the population which was best nourished, most industrious and most moral. Increase in numbers was good so far, and only so far, as was consistent with maintenance of the quality of population.

It is interesting to note the swing of the pendulum once more toward the position of Malthus. For instance, two recent writers attempt to show, the one, that the cause of the diminishing birth-rate is, in the main, the prudence and not the degenerated physique of individuals; the other, that it is a necessary factor in the advance of civilization among nations.

Professor Emerick[1] concedes that the stress of modern life and the involuntary sterility induced by venereal diseases may be contributing factors in the declining birth-rate, but he insists that this does not offer a satisfactory explanation of the phenomenon. Though it may be admitted, as some authorities hold, that venereal diseases are responsible for fully 25 per cent. of inability to procreate in men and for more than 50 per cent. of enforced sterility in women, to say nothing of one-child sterility, this, Emerick thinks, leaves us quite in the dark as to the real proportion of involuntary sterility. He believes that there is little evidence that incapacity due to sexual diseases has become more common, and that it is not clear that venereal diseases are most common in that portion of the population in which the birth-rate is lowest. He also believes that the fall in the birth-rate has been too sudden and marked to be accounted for by the energy expenditure demanded by modern life. Nor do the modern sedentary occupations, the higher education of women, and the other more or less artificial conditions of life operate to reduce the birth-rate without the volition of the individual. According to Malthus, the birth-rate is less among barbarous than among civilized races, and in civilization the birth-rate has fallen among laborers and mechanics as well as among brain-workers; among the inhabitants of rural communities, as well as among those of the cities. In the evolution of the race nothing has become more firmly fixed than the power of reproduction. The persistence of the procreative power is one of its most marked characteristics. This is notorious among many kinds of degenerates.

1. Emerick, C. F.: Is the Diminishing Birth-Rate Volitional? Pop. Sc. Monthly, January, 1911, p. 71.

The most potent reasons, then, in Emerick's view, for the limitation of the birth-rate are found in the personal preference of the individual, and in economic compulsion. He says that the increased expense of producing self-supporting men in this day limits their supply as truly as expense limits the production of commodities. Moreover, the economic reason that once rendered marriage compulsory for women has now lost much of its force or even acts in the opposite way. The will of the woman has consequently become more influential, not only in determining the formation of the family, but in the admission of new members to it. Of course these reasons involve many others, such as postponement of marriage, desire for ease, aims and ambitions inconsistent with marriage and offspring, etc. Emerick's conclusion is that the diminishing birth-rate is primarily volitional, and that the various factors which make for involuntary sterility are of minor importance.

Taking the larger view of the question, as applied to nations rather than to individuals, Dr. Nearing[2] undertakes to prove the converse of Emerick's proposition, namely, that the restriction of population is economically a problem of survival. In 1800 the population of the United States, for instance, was doubling itself, by natural increase, to say nothing of immigration, every twenty-five years. Had that rate of increase continued, in 1900 the native-born population would have numbered about one hundred million, and in 2,000 A. D., it would have increased to eight hundred million. In the United States in 1910, with considerably less than one hundred millions of people, already the alarm has been raised that our land has all been taken up and much of its fertility has been exhausted, so that we are being warned against the danger of insufficient food to supply our rapidly increasing population, while the increased cost of that which is available has become a serious public problem.

Formerly wars, pestilence and famine served to keep down the population; but modern science and the spread of intelligence have increased the average length of life and reduced the death-rate so radically—say to sixteen per thousand—that the figures of the calculation quoted do not correspond to the population of 1900, disregarding the elements we are discussing which have intervened to keep the population down to a possible subsistence basis.

In other words, we come back to the position of Malthus: Population is inevitably limited by the means of subsistence. Given a certain subsistence available at a given place and a given period, capable of supporting a certain number of well-rounded lives, if the total number of lives exceeds the given optimum, the lives of some or all must be curtailed in length or breadth or in both. Beyond a certain point, a rise in the birth-rate entails a rise in the death-rate and a fall in the average standard of living.

2. Nearing, S.: "Race Suicide" vs. Overpopulation, Pop. Sc. Monthly, January, 1911, p. 81.

It would be rash to attempt to find in these essays any basis for finality on the subject. A survey of the fluctuations of opinion, however, offers the comforting suggestion that we may well postpone our panic fears of depopulation and overpopulation until statistical science and the collection of statistics have made a little more progress and are able to inform us with certainty which we really need to fear.

BLACKWATER FEVER AND MALARIA

Although it is generally accepted that blackwater fever —the acute febrile hemoglobinuria of tropical and subtropical regions—is malarial in origin, no means has as yet been found to demonstrate this with certainty; and not infrequently there appear enthusiastic advocates for its specific character. Such a one is Craig,[1] who, in an able review, presents a strong case against the malarial hypothesis. This hypothesis is founded on the following evidence: first, the occurrence of the disease only in malarial districts, and its greatest frequency in localities infested with pernicious malaria; second, the presence of plasmodia in the blood either just before or during the attack; third, the fact that most, if not all, sufferers give a history of previous malarial attacks, and ordinarily have spent a long period in a malaria-infested region; and last, the fact that the blood-picture, a relative increase in large mononuclear cells, is that of malaria. But Craig points out that, although blackwater fever occurs only in malarial districts, many such regions, and even such as are infested with the severe type of the disease, are quite free from cases of the hemoglobinuric affection. As instances of this he cites Italy, where blackwater fever is rare, while the neighboring islands of Sicily and Sardinia suffer severely from it. In India it is restricted to certain limited areas of the malarial regions; in the Philippines, where pernicious malaria is of great prevalence, blackwater fever is almost unknown. Further, instances of house infection are recorded, in which all the cases occurring in a certain neighborhood came from one or two dwellings only. Another significant fact is that the disease appears to be spreading. Thus it is only in late years that the west coast of Africa has suffered from it and in India, too, it has been reported only comparatively recently. Yet both of these regions have been sites of pernicious malaria from time immemorial. That neither previous malarial infection nor long residence in malarial localities is required to produce the disease, is shown fairly conclusively by the citation of numerous cases in which one or the other factor was absent, or both. And the same applies to the occurrence of plasmodia, since instances are recorded in which careful blood-examinations before and during the attack, and even splenic puncture, have failed to reveal them. In regard to the significance of the blood-picture, the same findings occur in other tropical protozoan infections, as sleeping-sickness and kala-azar. As to the quinin theory of the cause of blackwater fever, many cases have been reported in which quinin had not been administered to the sufferer. Craig also affirms that the giving of quinin has no effect on the course, but the general consensus of opinion and statistical evidence do not seem to support him on this point. The evidence for specificity consists in part of the facts already presented. Further, the occurrence of several well-established epidemics speaks strongly in its favor. Finally, the pathology, while not distinctive, differs enough from that of malaria to bear some weight.

Brem,[2] writing still more recently, is inclined to the view that by "blackwater fever, we in reality describe two distinct affections." The one he considers a manifestation of excessive erythrocytic destruction by malarial parasites, and therefore a type of pernicious malaria. This he designates as "pernicious malaria with hemoglobinuria." The other, with less striking evidence of plasmodial infection, he describes as "erythrolytic hemoglobinuria." As to the etiology of this second form, he offers no suggestions, beyond stating that, in some cases, at least, quinin apparently acts as a direct exciting cause. His statistics, as well as others quoted by him, appear to bear out the contention that quinin has a deleterious action in this form.

Finally, the whole subject is complicated by a recent discovery by Urriola,[3] who states that all cases of malaria, however latent, show masses of blood-pigment in the urinary sediment, similar to that announced long ago by Laveran as present in the blood-stream, but not hitherto considered of diagnostic importance. It would appear, however, that the urinary pigment, although of hemic origin, is enough modified to remove it from the scope of hemoglobinuria, since Brem failed to get hemoglobin tests in the urine of numerous mild and moderate cases of malaria.

The whole problem is one that presents unusual obstacles. The difficulty of deciding absolutely as to the occurrence of malaria in any given case is alone enough to delay its solution. And without careful animal experimentation—to the necessity for which Craig calls attention—it is improbable that any absolute decision can be attained.

ANCIENT PROBLEMS OF PHARMACY AND THEIR WARNING

Most physicians of modern times would be quite sure if they thought about the matter at all, that the pharmaceutic problems which prove so troublesome in our time represent abuses that have crept into medicine because of peculiar developments in the last few generations. Certainly very few would think that these problems—proprietary remedies and their abuse, substitution, counterfeiting of drugs, the use of long, imposing Gre

1. Arch. Int. Med., 1911, vii, 56.

2. Arch. Int. Med., 1911, vii, 153.
3. Semaine méd., 1911, xxxi, 3.

names to make new compounds popular and impressive —were all features of a previous phase of medical history. In this matter the story of medicine at Rome during the early empire is particularly interesting. Social and economic conditions were not very different from ours; indeed, as the Italian historian Ferrero made very clear in his American lectures, they were in many ways remarkably like those of our day and country. If we bear this in mind, it is not so surprising to find that our problems in pharmacy resemble theirs so closely as to be almost a perfect replica. The value of history consists largely in the applicability of its lessons to the aftertime; unless we can see the fitness of the application, it becomes scarcely more than a tale that is told. The history of pharmacy, therefore, at Rome, has its special interest at this time.

Pliny the elder, for instance, complains that physicians of his time (the first century after Christ) often bought their remedies already prepared so as to avoid the trouble of preparation. He evidently refers to compounds of various kinds supposed to be curative for various affections; for Friedländer[1] says that "often the physicians did not know the exact ingredients of the compounds that they used and should they desire to make up written prescriptions, would be cheated by the salesmen." Both Galen and Pliny complain of the fact that physicians used "ready-made" medicines instead of original prescriptions carefully prepared by or under the supervision of the physicians themselves. It is evident that the proprietary remedy had come into existence thus early, and that various drug manufacturers had made specialties which physicians, following the line of least resistance, found it easy to prescribe, though men like Pliny and Galen realized very clearly that this was an abdication of one of the most important functions of their profession, which was bound to work harm in the end both to themselves and to their patients.

Galen has much to say with regard to the frauds practiced on physicians by the "cursed dealers," as he calls them, who substituted one drug for another whenever they found it difficult to fill a prescription as it had been ordered. He admits that not infrequently the drug-compounders were themselves the innocent victims of "collectors of herbs who brought saps and flowers and fruits and sprouts into towns" and of others who compounded remedies of various kinds for sale to the pharmacies. He confesses that the ingenious methods of counterfeiting practiced by some of these men would deceive any but the experts. Galen himself, in his younger years, had been a pupil under a man who "forged balsam, Lemnian earth, white flowers of zinc and other rare drugs to perfection and succeeded in making a great deal of money by this means." Galen even insisted rather emphatically that an imported article was not necessarily genuine or pure, quite as in our day he would probably have proclaimed that being "made in Germany" was not in itself an assurance of scientific or ethical quality. He himself preferred to obtain his drugs from the proper regions and through reliable dealers and friends on whose absolute honesty he could depend. This whole picture of the drug trade in imperial Rome, as Friedländer gives it in a page or two, would read almost like an antedated satire on certain conditions of our time; but it is sober history.

Other details seem even more strangely familiar to physicians of the present time. For instance, many remedies were known by special arbitrary names instead of descriptive names recalling the ingredients. Sometimes they were named after famous physicians who had used the remedies in question or were said to have done so; again, the preparations were named for persons of distinction who actually or supposedly were cured thereby, much as, in our own day, cigars are named for poets, statesmen and actors. The titles of some of these preparations for instance, were "Ointment for Gout, made for Patroculus, Imperial Freedman—Safe Cure"; "Ointment for Aburnius Valens" (probably the famous jurist) called the "expensive ointment"; "Eye Salve used by Florus on Antonia the wife of Drusus [the Emperor's son] after the other doctors had nearly blinded her." Many of these remedies were labeled "instantaneous," "safe," "sure cure." "harmless remedy," and the like. Frequently euphonious names, sometimes from the Greek, were chosen for these remedies—Ambrosia, Anicetum, Nectarium, and the like. The promoters evidently knew the satisfying effect on both physician and patient of a long, mystifying foreign name. George Eliot says that we map out our ignorance in long Greek names; but certainly the pharmaceutic equivalent of "that blessed word Mesopotamia" seldom fails to produce a wonderful feeling of assurance and of confidence in the therapeutic potentialities corresponding to its majestic syllables.

The source of these abuses was just the same in Rome nineteen centuries ago as it is here to-day—greed for money. To use Friedländer's words, "Wealth was the genius of the noisy, restless striving which daily filled the streets and palaces; one universal chase after money as the original good, whence were derived rank, respect and honor. The complaint was just that wealth was the sole criterion and the one aim of Rome." From this universal money-seeking came the approximate commercialization of the professions; hence the abuses that flourished in pharmacy and in medicine. The lesson is complete. The protests of Pliny and of Galen were impressive, but Rome was deteriorating; there was no professional organization to check these abuses, and they increased as Rome declined. Evidently if we are to avoid such unfortunate deterioration in our own time, we must not shrink from recognizing and resisting the evils which do so easily beset commercialized ages like those of the first and the twentieth centuries A. D.

1. Friedländer: Roman Life and Manners Under the Early Empire. New York, E. P. Dutton, p. 176.

Current Comment

MADAME CURIE AND THE ACADEMY OF SCIENCES

The recent candidacy of Mme. Curie for the vacant seat of M. Gernez in the Académie des sciences of France has aroused much interest outside of that country, and the news of her defeat will doubtless be a disappointment to many who seldom feel any concern about the distribution of foreign academic honors. Justly or unjustly, public opinion outside of France will incline to interpret the result of the election as a discrimination, on grounds of sex, against a scientific investigator of high standing. The academy, however, has avoided the responsibility of officially excluding women. As explained by our Paris correspondent in this issue, the agitating question of feminine candidacy was laid before the Institut de France, of which the Académie des sciences is a component part. The institute passed a resolution advising respect for "immutable tradition," but declining to interfere with the autonomy of the five affiliated academies. The Académie des sciences presented Mme. Curie as a candidate, thereby tacitly admitting the principle of the eligibility of women. On the first ballot Mme. Curie received but one vote less than her successful rival. To what degree her defeat is to be attributed to the undoubtedly strong feeling against the admission of women cannot be judged from this distance. Her successful competitor is, we are assured, a member who confers honor on the illustrious body to which he has been elected; and it would doubtless be unfair to ascribe his election chiefly to prejudice against a woman candidate. The narrowness of the margin by which Mme. Curie was defeated suggests that a similar contest might some time have a different ending. The election of so distinguished a woman as Mme. Curie to the Académie des sciences, if that should ever occur, would certainly add to rather than detract from the honor conferred on other members, since it would indicate that no personal consideration outweighed scientific attainments in the selection of members.

VINDICATING THE TUBERCULIN TEST

The report of the milk committee of the Illinois legislature, which was adverse to the tuberculin test, on the ground that a positive reaction is not a reliable indication of tuberculosis in cattle, received a severe body-blow in a test recently made in Chicago. The action of the committee was followed by the introduction into the legislature of a bill (House Bill 55), which seeks to prohibit the enforcement of the tuberculin test by municipalities. This was introduced in the interest of those milk-producers of the state who assert that the test is not conclusive. This assertion has been disputed vigorously by the Chicago health authorities, who have been enforcing this test in the dairies which supply milk to the city of Chicago. The milk-producers, confident of their ability to show the fallacy of the tuberculin test, sent to the Chicago stockyards fourteen cattle that had been found tuberculous by the tuberculin reaction. The cattle were killed and after examination by the state and federal inspectors all were condemned as being seriously infected with tuberculosis. Two cows which had not reacted were found free from tuberculosis. According to the newspapers, tuberculin tests of cows furnishing milk for the Kansas City market show that nearly fifty per cent. are infected, and so many were condemned as temporarily to curtail the milk-supply going to that market. The cattle owners there are likewise protesting against the condemnation of their cattle. Following the Chicago demonstration of the accuracy of the tuberculin reaction in cattle furnished by the opponents of the test, the Illinois legislature should carefully consider this feature of the bill referred to before making it a law. Large numbers of similar demonstrations in this country have shown the relative accuracy of the test. There can be no question of the value of the tuberculin test of cattle and the passage of a law by the Illinois legislature prohibiting this test and substituting, as proposed, the ordinary clinical tests, would be a distinctly backward step, one not in the interest of the health of the people of the state. The milk-producers of Illinois and adjoining states have an association primarily to further legislation of this character in their own interests, and at a recent meeting, plans were laid for the formation of a national association. Hence the question is likely to become broader than one affecting a single state.

PHARMACEUTICAL JOURNALS AND THE NOSTRUM

We had something to say elsewhere[1] as to the attitude of the pharmaceutical profession and pharmaceutical journals concerning the advertisement and sale of nostrums. Attention was called to two journals which had adopted a policy of consistency, and which were supporting THE JOURNAL'S propaganda against the nostrum evil. It appears from recent utterances against certain widely advertised nostrums that the *Pacific Pharmacist* of San Francisco belongs also in the ranks of those journals which regard professionalism as higher than the good will and patronage of "patent medicine" fakers. In the December (1910) issue—commendably clean in its advertising pages—the *Pacific Pharmacist* continues its publication, under the head of "Propaganda for Drug Reform," of a list of nostrums condemned by the Department of Agriculture under the Food and Drugs Act, and calls "particular attention to cancer and headache fakes." In an editorial on vicious advertising in the same issue, the *Pharmacist* says: "We cannot think of any good reason why our daily papers should be permitted to continue their vicious advertising." Reference is made to a number of that class of advertisements appearing in a San Francisco daily paper, and the opinion is expressed that such advertising should be made a criminal offense. In the same issue, also, a correspondent, commenting on the work of the Council on Pharmacy and Chemistry of the American Medical Association, says that pharmacists "are in sympathy with those who are trying to eliminate drugless drugs and with those who are endeavoring to make drugs of value to be of standard quality," and that "the representative physicians of the United States recognize in the pharma-

1. THE JOURNAL Jan. 28, 1911, p. 274.

cists a spirit of cooperation and the ability to assist them in this noble enterprise." Evidently the leaven is working, and ere long other pharmaceutical journals will get in line, and, together with their three pioneer contemporaries, will be able to render most valuable assistance in cleaning up the nostrum business, as it affects both the public on the one hand and the medical and pharmaceutical professions on the other.

GLUTEN FLOUR

In previous issues attention has been called to many so-called gluten flours and their supposed value in the dietary of diabetics. The misconception as to the value of the gluten content, rather than the absence of the carbohydrate element, on which their value really depends in diabetes, was emphasized. It was further pointed out that the regulations concerning the percentage of gluten and of carbohydrates and the branding of such products under the Food and Drugs Act are unsatisfactory and tend to be misleading. In this issue is an abstract of the discussions on the subject of gluten flour at the Second International Congress for the Repression of Frauds. This is a purely commercial body, and its discussions are interesting as showing the attitude of the various members—manufacturers, bakers, pharmacists, physicians—on this subject. The physicians insisted that in making a definition for gluten flour or bread it was just as important, or more important, to state the maximal permissible quantity of carbohydrates as it was to state the permissible minimum of gluten. The definition finally adopted was much more satisfactory than the requirements of our Food and Drugs act, in that it provides that "only breads containing a maximum of 25 per cent. of wheat starch and a minimum of 60 per cent. gluten, calculated on the basis of dry material, shall be called gluten bread." While 25 per cent. is a dangerously high proportion of carbohydrate for a diabetic food, yet it is much safer than many of the so-called diabetic breads and flours at present on the American market. A maximum of 10 per cent. of carbohydrates for all flours or foods advertised for diabetics would, as a legal requirement, do much to protect the sufferers from this disease and would work no hardship on the manufacturer. Further than that, all such products should be plainly labeled so as to show the actual percentage of carbohydrate content. When this is done one of the most disgraceful and dangerous of the many frauds perpetrated by American food manufacturers will have been eliminated.

SANATORIUM TREATMENT OF TUBERCULOSIS

An interesting and encouraging indication of the possibilities of the sanatorium treatment of tuberculosis in the climate of Illinois is afforded by the report of the Edward Sanatorium at Naperville, which we recently summarized in our News Department.[1] In an illustrated pamphlet, the medical director, Dr. T. B. Sachs, reviews what has been accomplished in the four years since the founding of the institution, which consists of a farm of forty acres and the equipment. The latter has been developed until it now comprises a medical building with laboratories, an infirmary, an assembly room, a service hall, open-air shacks, tents, etc., for the accommodation of sixty patients. Modern hygienic and dietetic methods of treatment are in force, two objects being kept in view: the arrest of the tuberculous process, and the restoration of the earning power of the patients. Originally independent, the sanatorium is now conducted under the auspices of the Chicago Tuberculosis Institute. To January, 1911, over 400 patients had passed through the sanatorium, the average stay of each being about four months, and in the report 277 cases are analyzed. The results reported are surprisingly favorable. Of 176 patients in the incipient stage 161 or 91.5 per cent. at the beginning of 1911 were in apparently normal health, with full working capacity, at periods of from six months to three years and nine months since their discharge. In addition, 5.1 per cent. possessed partial working capacity. Of ninety-one moderately advanced cases, 32 patients or 35.1 per cent. had full working capacity, while 16.5 per cent. had partial working capacity. On admission, each patient is studied thoroughly by all the methods of physical diagnosis and the laboratory. Absolute rest is enforced until any constitutional disturbance subsides and nutrition improves; then exercise is gradually introduced, and later graded work becomes a feature. The work is individualized and made agreeable. Recreation and amusement are provided and most of the time of the patient is spent out of doors. The report shows that, even in a climate which seems inimical to the best results in the outdoor treatment of tuberculosis, under a proper study of cases and a proper régime, carefully and intelligently carried out, an excellent showing can be made anywhere in the treatment of tuberculosis, as has also been demonstrated in the Adirondacks and elsewhere. One important effect of such sanatorium treatment is that the patients discharged have received such an education in right living that their influence after returning to their families and friends must be most salutary.

1. THE JOURNAL, Jan. 14, 1911, p. 126.

Medical News

ILLINOIS

Auxiliary Staff at County Hospital.—To facilitate the performance of emergency operations at Cook County Hospital, the Civil Service Commission has appointed six physicians to assist the regular attending staff. The new positions of chief of staff, night surgeon, and medical statistician have been created at the hospital.

Personal.—Dr. Joseph P. Pecival, formerly superintendent of the State Hospital for the Insane, Norfolk, Neb., has been appointed superintendent of the Cook County Institutions, Dunning.——Drs. John A. Graham, George N. Pratt and Hugh N. MacKechnie, Chicago, have been appointed as the voluntary attending medical staff in the Oak Forest Infirmary. One of the new appointees is to visit the institution each day.——The damage suit instituted against Dr. John W. Daugherty, Chillicothe, in which $20,000 was claimed by the plaintiff on account of alleged malpractice, came to an abrupt ending, January 17, as the plaintiff failed to make her case.

Another Suit Against Illinois Board.—It is reported that the Littlejohn College and Hospital, formerly known as the

American College of Osteopathic Medicine and Surgery, has begun mandamus proceedings against the Illinois State Board of Health to secure recognition of that college by the board. The charge is that the board is unlawfully discriminating against that college. The suit filed for a similar purpose by the National Medical University in December, 1909, is still pending but that college is still unrecognized.

Bills Introduced in Legislature.—Two bills providing for a board of examiners in optometry have been introduced in the General Assembly, namely Senate Bill 140, by Mr. Brown, and House Bill 121, by Mr. Hagan. During last week the following bills were introduced: Senate Bill 155, by Mr. Hurburgh, to appropriate $100,000 a year for the College of Medicine of the University of Illinois; House Bill 149, by Mr. Chipperfield, to establish a state surgical institution for children under 14 years; and House Bill 152, by Mr. Perkins, to amend the pure food act.

Chicago

Women Physicians Reorganize.—At a meeting, held in the Fine Arts Building, February 1, by fifty women physicians of Chicago, it was voted to reorganize the Chicago Medical Women's Club. It is intended to launch an educational campaign in which milk, food and health problems will be publicly discussed.

A Saner Fourth.—At a meeting of the Sane Fourth Association, held February 8, it was decided to have a great celebration in Grant Park, and in addition to utilize every small park and public playground. It is intended that each nationality shall participate in the general and special celebrations, that folk songs and dances shall be made special features in certain localities.

Personal.—Dr. Alice Hamilton of the Memorial Institute for Infectious Diseases, who investigated the lead industries in Chicago and Illinois, with reference to lead poisoning, for the Illinois Commission on Occupational Diseases, has undertaken similar work for the federal government.——A prospectus received announces that, after nearly twenty years of labor on an English translation of the "Papyrus Ebers," Dr. Carl H. Von Klein (who may be addressed in care of the John Crerar Library, Chicago) has completed the task and will publish a subscription edition.

KENTUCKY

Medical Society Election.—At the meeting of the Jessamine County Medical Society, held in Nicholasville, Dr. Thomas R. Welch was elected president; Dr. Daniel A. P. Lenick, vice-president, and Dr. J. A. Van Arsdall, secretary-treasurer, all of Nicholasville.

Appropriation for Babies' Milk Fund.—As the result of the plea of Mrs. Litchworth Smith, president of the Babies' Milk Fund Association, made in an address before the fiscal court of Jefferson County, the sum of $1,500 was unanimously voted for the benefit of the association toward its expenses this year.

Moving Pictures for the Insane.—Arrangements have been made by the new state board of control of charitable institutions to install a moving-picture machine at the Central Kentucky Asylum for the Insane, Lakeland. By the contract, patients are to be given two shows a week with six new films at each performance.

Expense Falls on Hospital Commission.—It is announced that the expense attached to the temporary housing of patients, during the construction of the new Louisville City Hospital, must be borne by the Hospital Commission alone. The section in the law which created the Hospital Commission makes it optional with the city whether or not it shall bear the whole or part of the expense attached to the temporary housing of the City Hospital patients.

MARYLAND

Honor System Adopted.—The students of the Medical Department of the University of Maryland have adopted the honor system and have drawn up a code of laws for carrying it out.

Personal.—Dr. James J. Murphy has succeeded Dr. George Wells as chief of the medical staff of Annapolis Emergency Hospital.——Dr. Richard C. Massenburg is reported to be ill with bronchitis at his home in Towson.

Dispensary Report.—At the annual meeting of the Northeastern Dispensary, Baltimore, Dr. Arthur Wegefarth was elected president, and Dr. Alexander D. McConachie, secretary. During the year nearly 20,000 patients were treated at the dispensary; 23,332 prescriptions were filled, and 1,074 visits were made to patients' homes.

New Hospital Buildings.—A stone hospital is to be built at St. Mary's Industrial School near Baltimore to cost about $25,000.——An additional hospital building to accommodate 200 patients is to be erected at the Maryland Tuberculosis Sanatorium. It will contain also quarters for physicians, nurses and help, offices, kitchen and living room.

Health Conference.—At the health conference held in Osler Hall, February 6-11, under the auspices of the Medical and Chirurgical Faculty of Maryland, Dr. William H. Welch presided. Among the many important addresses presented were those by Dr. Woods Hutchinson, New York City, on "How the Public Educates the Medical Profession;" Dr. Henry H. Goddard, Vineland, N. J., on "The Feeble-Minded Child as a Menace to Society, Socially and Morally;" Dr. Lyman F. Kebler, Washington, D. C., on "Advertised Cures for Tuberculosis;" Dr. F. Park Lewis, Buffalo, on "Good Sight as a National Asset;" Dr. Cressy L. Wilbur, on "Unrecorded Babies;" Dr. Llewellys F. Barker, Baltimore, on "Prevention of Nervousness in Children and the Protection of the Nervous Child," and Dr. Ronald Godfrey Freeman, New York City, on "The Relation of Good Milk to Infant Mortality."

MASSACHUSETTS

Alumni Meeting.—The annual meeting of the Boston City Hospital Alumni Association was held February 15. In the morning there were demonstrations of cases in the hospital, followed by a luncheon in the library.

Association of Boards of Health Meets.—The Massachusetts Association of Boards of Health, held its annual meeting, January 26, and elected the following officers: president, Dr. Henry P. Walcott, Cambridge; vice-presidents, Drs. Samuel H. Durgin, Boston, and Charles V. Chapin, Providence, R. I.; secretary, James C. Coffey, and treasurer, James B. Field.

Personal.—Dr. Dwight S. Woodworth has been appointed a member of the board of health of Fitchburg.——The following appointments have been made to the medical staff of the Tuberculosis Commission of Lawrence: chief of staff, Dr. Charles G. Carleton; ophthalmologists, Drs. William H. Merrill and Frank A. Conlon, and medical staff, Drs. John J. Bartley, J. Forrest Burnham, John J. O'Sullivan, Harry H. Nevers, John H. Tobin, Victor A. Reed, George B. Sargent and Granville S. Allen.

Medical Council Meeting.—At the annual meeting of the Council of the Massachusetts Medical Society, Dr. David L. Edsall, St. Louis, formerly of Philadelphia, was appointed the Shattuck Lecturer at the annual meeting of the society in June, 1911. The following delegates were elected to American Medical Association: Dr. Frederick H. Thompson, Fitchburg; Frank G. Wheatley, North Abington, and Hugh Cabot, Boston; alternates, Drs. Isaac S. F. Dodd, Pittsfield; Allen Greenwood, Waltham, and Fred T. Murphy, Boston; Maine Medical Association: Drs. George K. Blair, Salem, and Herbert W. Manahan, Lawrence; New Hampshire Medical Society: Dr. George Z. Goodell, Salem, and Omer P. Porter, Lowell; Rhode Island Medical Society: Drs. Allen Greenwood, Waltham, and Nathaniel S. Hunting, Quincy; Connecticut State Medical Society: Drs. Everett A. Bates, Springfield, and Samuel B. Woodward, Worcester; council on medical education of the American Medical Association: Dr. Harold C. Ernst, Boston, and alternate, Dr. Horace D. Arnold, Boston; auditor, Dr. Chauncey C. Sheldon, Lynn, and member of committee on publication to succeed Dr. John C. Munro, deceased, Dr. Edward W. Taylor, Boston. It was voted to pay the mileage of delegates to meetings of the American Medical Association, and to instruct delegates to make reports to the council after the meeting. It was also voted that on the first annual meeting of the society each section should elect its officers for the coming year. It was voted that the revised list of medical schools and colleges in the United States and Canada be the standard on which future fellowship in the Massachusetts Medical Society be based.

MICHIGAN

Clinic at Harper Hospital.—The medical staff of Harper Hospital, Detroit, will give medical, surgical and laboratory clinics at the institution, February 24 and 25 from 8 a. m. to 5 p. m. The medical profession is invited to be present. It is the aim of the staff to hold several of these clinics each year. The program includes medical and surgical clinics and practical laboratory work. No charges or fees are made for these clinics.

Personal.—Dr. John V. Frazier, Lapeer, has been appointed a member of the Board of Control of the State Home for the Feeble-Minded in that city.——Dr. Clark E. Spencer, Port Huron, is reported to be seriously ill at his home.——Dr. Don D. Knapp has been appointed health officer of Flint, vice Dr. Myron A. Patterson, resigned.——Dr. John H. Kellogg, Battle Creek, has been appointed a member of the State Board of Health, vice Dr. Angus McLean, Detroit, and Dr. Thomas M. Koon, Grand Rapids, has succeeded Dr. Malcolm C. Sinclair, Grand Rapids, as a member of the board.

MISSOURI

Decide Site for Children's Hospital.—The Hospital and Health Board of Kansas City have decided to erect the new children's hospital on the southeast corner of the new general hospital grounds.

Committee on Public Health.—Dr. Jefferson D. Griffith, Kansas City, president of the Jackson County Medical Society, has appointed the following committee on public health and registration: Dr. Franklin E. Murphy, Andrew W. McAlester and Rush E. Castelaw. One member of this committee, will, it is expected, meet with the mayor at the executive committee meeting of the city council each Monday morning.

Personal.—A fire at Denver, February 4, totally destroyed the office of Dr. Calvin F. Forbis.——Dr. and Mrs. Benjamin Belove, Kansas City, have returned after two years abroad. ——Dr. James R. Hull has sold his interest in the Monroe Hospital, Monroe City, to Dr. John N. Southern.——Dr. Jesse E. Hunt, school inspector of Kansas City, has resigned.—— Dr. John M. Doyle, St. Joseph, physician of Buchanan County, has resigned and has been succeeded by Dr. James K. Graham, St. Joseph.——Dr. William C. West, Kansas City, while making a professional call, was attacked by a negro, whom he put under arrest. He was stabbed twice in the breast but not seriously injured.

St. Louis

Changes at St. Louis University.—At the St. Louis University School of Medicine, Dr. Charles Hugh Neilson, formerly professor of physiologic chemistry, has been advanced to the chair of medicine which has been placed on a salary basis. It is planned to have other clinical chairs likewise placed on a salaried basis so that the appointees may devote their entire time to the work in their departments.

Acquitted of Failure to Report Disease.—Dr. John H. Kern, charged with having failed to report a case of chicken-pox to the board of health, and fined $25 in the police court, was discharged by Judge Miller in the court of criminal correction. Judge Miller, in his decision, says in effect that a physician is not a scout or detective, and it is not his business to go into homes and ascertain the existence of a contagious disease, even though he may suspect that such disease exists.

Personal.—Dr. Henry Hanson, Webster Groves, has been appointed physician of St. Louis County.——Dr. Charles H. Dixon, who has been seriously ill in Cleveland, is reported out of danger.——Dr. Amand N. Ravold, medical director of the Missouri State Life Insurance Company, has resigned.——Dr. George Buckner is reported to be seriously ill with septicemia. ——Washington University announced, February 10, the appointment of Dr. Fred T. Murphy, Boston, as professor of surgery in its medical department.

NEW YORK

Personal.—Dr. Anna M. Stuart has been appointed city bacteriologist of Elmira.——At the meeting of the Elmira Academy of Medicine, February 1, Dr. Arthur K. Bennett, who recently returned after ten years missionary service in Persia, read a paper on vesical calculus, with special reference to conditions found in Persia.

Newell in Rochester.—At the meeting of the Section of Obstetrics, Gynecology and Pediatrics of the Rochester Academy of Medicine, February 15, Dr. Franklin S. Newell, Boston, delivered the address of the evening on "The Requirements of Modern Obstetrics." A dinner was given in honor of Dr. Newell prior to the meeting.

Macdonald Memorial.—An association has been formed for the purpose of raising funds for a memorial for Dr. Willis G. Macdonald, and Governor Dix has been named president. A meeting was held in Albany, on February 3, where plans were discussed for raising the sum of $100,000. The memorial will probably take the form of a laboratory for Albany Medical College.

Probing State Hospitals.—The stewards of the various state hospitals held a conference at Utica on January 21, with a representative of the auditing committee which is engaged in investigating the affairs of the state hospitals. A searching investigation is being made and recommendations were made as to improvements in methods and system of accounts and caring for supplies and property.

Plan for Milk Commission.—As a result of the disclosures in connection with the milk business, especially in New York City, a bill has been introduced into the legislature by Assemblyman Foley, which provides for the appointment of a milk commission to have general supervision over the milk dealers in the state and over persons buying and selling milk in cities of the first class, the commission to consist of three persons appointed by the governor at an annual salary of $5,000 and the principal office to be in New York City. The measure provides that the commission shall have the power to investigate the quality and price of milk and to fix standards of quality. The bill carries an appropriation of $5,000.

Lecture on Public Health.—Monroe County Medical Society plans to give Rochester the benefit of a series of free lectures on preventive medicine and public health. The series will consist of eight lectures given on alternate Friday nights during February, March and April. The first lecture was given by Dr. F. Park Lewis, Buffalo, February 3, on "Conservation of Vision." The subsequent lectures are on "Occupational Diseases and Their Prevention," by Dr. Eugene H. Porter, state health commissioner; "Deformities and Their Prevention," Dr. Wisner R. Townsend, New York City; "Cancer and Its Cause and Prevention," by Drs. William S. Bainbridge, New York City, and Harvey R. Gaylord, Buffalo, and "Prevention of Insanity," which will be given in cooperation with the State Charities Aid Association.

New York City

Lying-In Hospital Alumni Meet.—At the meeting of the Alumni Association of the Lying-In Hospital of the City of New York, held at the Harvard Club, February 14, the paper of the evening was read by Dr. John O. Polak, Brooklyn, on "What Can We Expect From the Vaccine Treatment of Puerperal Sepsis."

Personal.—At the eighteenth annual dinner of the Long Island Medical Society, held in Brooklyn, February 7, the guest of honor was Dr. John O. Polak, one of the oldest members of the association.——Dr. William S. Bellows, Jamaica, who has been traveling in search of health for the last five months, has returned home.

Crusade Against Spitters.—Health Commissioner Lederle has announced that 160 persons have been arrested since January 1 in the crusade against the spitting nuisance. Of sixty persons arrested during the first week in February, forty were fined and in sixteen sentence was suspended. Only fourteen out of the 160 have been discharged outright.

Annual Report of Dispensary.—Dr. Alfred H. Riedel, house physician and registrar of the North-Western Dispensary, reports that this is the only institution in the city of New York which furnishes everything absolutely free to its applicants. During 1910 the total number of patients treated in the clinics was 17,538; the total number of visits made to patients at their homes was 9,178.

Medical Lecture Series.—The Educational Alliance has planned a series of lectures on medical topics to be given during February, March and April at Alliance Hall. The first lecture will be given by Dr. William M. Polk, president of the Academy of Medicine, on February 23, on "Medical Ethics and Their Application to Practice;" the second on March 30, on "Gynecologic Operations by the General Practitioner," by a lecturer to be announced later, and a third on April 23, by Dr. J. Brettauer on the "Secret Division of Fees."

Infantile Paralysis.—Health Commissioner Lederle has announced that since the Health Department, on November 1 last ordered that physicians report all cases of infantile paralysis as a communicable disease, eighteen cases have come to the attention of the Health Department. The division of communicable diseases has been giving special attention to this affection. Inspectors have been instructed to be very careful and exact in obtaining information as to periods of incubation and infectivity, since negative may be as important as positive findings.

Medical Society Secures Appeal.—A new trial was ordered in the appelate division of the supreme court, February 3, in favor of the New York County Medical Society, which appealed from a judgment of $7,500 obtained against it by Paul Schmitt, charged with practicing medicine without legal authority. The court, in its opinion, stated that at the trial the evidence established in substance that the real plain-

tiff was not authorized to practice; that he held himself out as Dr. Schmitt and claimed that he could cure glanders; that an article appeared in a newspaper to the effect that a Dr. Gannett was in Bellevue Hospital suffering from glanders, and that this article was shown to the plaintiff by one Conrad, who, at the time, said he had written to Dr. Gannett, the letter being signed "The Department of Glanderine, per C. Conradus, Secretary," offering to cure him free of charge.

Approves Directory.—At a meeting of the Medical Society of the County of New York, January 23, a preamble and resolutions were adopted setting forth that a communication had been received from the Medical Society of the County of Chemung, advocating the discontinuance of the Tri-State Medical Directory, similar communications having been sent to other county medical societies in the state; recording the disapproval of the Medical Society of the County of New York of any effort to discontinue the directory; instructing its delegates to the state society to oppose strenuously any effort to discontinue the directory, and directing that a copy of the resolutions and the reasons therefor be sent to the secretaries of the county medical societies of the state, and the officers and members of the house of delegates. These reasons are that the directory is of supreme importance to the physicians of the cities which furnish the overwhelming majority of the membership of the state society; that the abolition of the directory would cause a loss of membership; that the employment of the directory is reciprocal between city and country practitioners; that the directory has proved to be a most efficient collector, as members are anxious to appear in good standing; that the directory is regarded as authoritative by boards of health, life insurance companies and other business concerns; that the directory is the most potent weapon against quackery; that the directory is an absolute necessity to larger medical societies; that the expense charged to the directory may be misleading in some particulars, and is counterbalanced in some measure by the income from advertising and sales; and that the directory is one of the most important material benefits in building up a powerful organization of medical societies.

NORTH CAROLINA

Personal.—Wake Forest College has secured Dr. W. T. Carstarphen for the chair of physiology in the department of medicine.——Dr. Franklin W. Griffith has located in Asheville.

Hookworm in Asheville.—Dr. Claude L. Pridgeon, one of the Hookworm Laboratory workers, reports, as the result of the examination of scholars in Asheville City graded school, that from 25 to 40 per cent. are infected with the hookworm.

Society Meetings.—At the annual meeting and banquet of the Buncombe County Medical Society, held in Asheville, the following officers were elected: president, Dr. Clyde E. Cotton, Black Mountain; vice-president, Dr. Charles L. Minor, Asheville; secretary-treasurer, Dr. Gaillard S. Tennent, Asheville, and Drs. S. Westrav Battle, Marshall H. Fletcher and Carl V. Reynolds, all of Asheville, delegates to the State Medical Society.——Wake County Medical Society at its annual meeting held in Raleigh, January 12, elected Dr. J. A. J. Penny, Roger's Store, president; Dr. Joel Whitaker, Raleigh, vice-president; Dr. William C. Horton, secretary, and Dr. Kemp P. Battle, Jr., treasurer.

OHIO

Personal.—Dr. George W. Crile has succeeded Dr. Dudley P. Allen as chief of the visiting and surgical staff of Lakeside Hospital, Cleveland.——Dr. Andrew J. Timberman, Columbus, has returned after a trip to India.——Dr. Charles O. Probst, secretary of the State Board of Health, Columbus, is reported to be ill with influenza.——Dr. Solomon B. Hiner, Lima, is reported to be seriously ill with pneumonia.——Dr. Jacob J. Coons, Columbus, has been appointed pathologist of the State Board of Health.——Dr. Oscar H. Sellenings has succeeded Dr. Jacob A. Stout as president of the Columbus Board of Health.

Elections.—At the annual meeting of the Cleveland Medical Library Association, the following officers were elected: president, Dr. Charles B. Parker; vice-president, Dr. Benjamin L. Milliken, and secretary, Dr. Henry L. Sanford. It was announced that the sum of $150 has been offered by a friend of the library for a prize for the best medical paper on any subject in medicine and surgery to be submitted to a committee of judges before September 1, the competition to be open only to members of the library who have graduated within the last ten years.——At the annual meeting of the Lakeside Hospital Alumni Association, held January 18, the annual address was delivered by Dr. Alexander Primrose, Toronto. Dr. Henry L. Sanford was elected president; Dr. Arthur H. Bill, vice-president, and Dr. Gilchrist, secretary-treasurer.

Cincinnati

New Board of Health Official.—The Cincinnati Board of Health, at a recent meeting, established the position of kitchen inspector, the position to be filled by a woman at a salary of $600 a year.

Report of Antituberculosis League.—The financial report of the Cincinnati Antituberculosis League shows total receipts of $22,777.96, and disbursements of $6,017.68. Dr. Otto P. Geier was elected president; Dr. Samuel Iglauer, secretary, and Drs. Samuel E. Allen, John M. Withrow, Edwin W. Mitchell, Albert Faller, H. Kennon Dunham and William H. Strietman, trustees.

PENNSYLVANIA

Officers Elected.—At the organization of the Allegheny Valley Branch of the Allegheny County Medical Society, the following officers were elected: President, Dr. Adam C. Davis, Hites; vice-president Dr. William F. Ross, New Kensington; clerk, Dr. Nannie M. Latimer, Tarentum; and treasurer, Dr. Thomas E. McConnell, Parnassus.

The Afflicted.—While Dr. David H. Bemis, West Middletown, was making a professional call, his horse slipped and fell on him, fracturing his right leg.——Dr. Edward G. Husler, Carnegie, is in the West Penn. Hospital, Pittsburg, suffering from cerebral hemorrhage.——Dr. Wilmer R. Batt, Harrisburg, is reported to be convalescent after an operation for appendicitis.

State to Adjust Hospital Appropriations.—In order to adjust state appropriations to hospitals, the house appropriation committee has obtained a report showing the number of free days of treatment given by each hospital of the state in the last two years and Governor Tener and legislative leaders are agreed that state money shall go largely to hospitals giving most public benefit.

State Aid for Charity.—The preliminary report of the Board of Commissioners of Public Charities suggests that steps be taken for the examination of the several systems of children's aid as now dispensed, with the view to the establishment of a uniform system on a more substantial and exalted plane. The amount asked by Philadelphia institutions was $4,772,000, and the amount recommended for distribution by the board was $2,252,000.

Personal.—Dr. Samuel G. Dixon, Harrisburg, has been reappointed state health commissioner.——Dr. Ira J. Dunn, Erie, has returned after six months abroad.——Dr. James F. Edwards, superintendent of infectious diseases, has resigned the chairmanship of the Pittsburg Tuberculosis Commission.——Dr. George R. Vernon, president of the Clifton Heights Board of Health, has resigned.——Dr. John Todd has been reelected president of the Pottstown board of health for the eighteenth consecutive term.

Philadelphia

Addition to Hospital Opened.—The children's building of the Samaritan Hospital was opened January 19. The new building is erected to the memory of the late James L. Miles, and is the latest annex of the hospital. It contains, in addition to the children's ward, a large number of private rooms.

Statue for College of Physicians.—A heroic-sized statue of the Greek physician, Æsculapius, cut in a beautiful block of Carrara marble by the Roman sculptor, Maneti, will be presented to the College of Physicians at its next meeting. The statue is a gift of Dr. Richard H. Harte, a member of the college, and was originally intended to occupy a niche at the first landing of the marble staircase, but it is thought that it may have to be erected elsewhere, owing to its great size and weight.

Census of Defective Children.—The census of defective children in the public schools of the city is now complete and shows that there are 11,543 mentally deficient pupils. Three kinds of deficiencies are considered in the report: First, the physically deficient, embracing the blind, deaf, speech defectives, crippled and epileptics; second, the mentally deficient, backward, feeble-minded and imbecile and third, the morally deficient, truants and incorrigibles. The first class, backward children who require instruction by special methods in small special classes, number 1,857 boys and 1,063 girls; and dull children, who would be benefited by special instruction, 3,362 boys and 3,241 girls; class 2, feeble-minded children who should properly be in custodial institutions, 287 boys and 155

girls; girls 3, truant, incorrigible and vicious children of defective mentality, who should be segregated in special schools, 387 boys and 607 girls; truant, incorrigible and vicious children of fair mentality who should be segregated in special schools, 1,082 boys and 40 girls.

Personal.—Dr. S. Weir Mitchell has been renominated as a member of the board of managers of the University Museum. ——Dr. George W. Merscher, chief resident physician of the Germantown Hospital, was operated on in that institution, February 7, for appendicitis.——Dr. Joseph Walsh has returned from a three months' tour of Egypt and the Orient. ——Dr. Owen Copp, Brookline, Mass., for twelve years head of the Massachusetts State Board of Insanity, has been appointed physician-in-chief and superintendent of the Pennsylvania Hospital for the Insane, known as Kirkbride's.—— Drs. Charles K. Mills and William G. Spiller have been elected foreign corresponding members of the Paris Society of Neurology.——Dr. Charles Furbush, chairman of the milk Commission, has been appointed by Mayor Reyburn to represent Philadelphia at the International Exhibition on Hygiene, to be held in Dresden in May.——Dr. Edward A. Spitzka, professor of general anatomy in the Jefferson Medical College, is recovering from a serious attack of blood poisoning. ——Dr. Jesse O. Arnold has been elected president of the Samaritan Hospital Medical Club.——Dr. J. William White has been made a trustee of the University of Pennsylvania; Dr. John B. Deaver, clinical professor of surgery, and Dr. Milton B. Hartzell, professor of dermatology.

Children's Hospital Plans Completed.—The architects have completed plans for the group of buildings to be erected at Eighteenth, Fitzwater and Bainbridge Streets, for the Children's Hospital, the cost of which, when completed, will be $500,000. The group will consist of an administration building, dispensary, nurses' home and ward building in the Georgian style of architecture, fire-proof and set well within its own grounds and surrounded by an open iron fence. The site measures 308x203 ft., includes half a block and was donated by Eckley B. Coxe, Jr., one of the board of managers, who gave $100,000 for the purpose. Several houses have since been purchased for space for a power plant, laundry, etc. The buildings will conform to the latest ideas in hospital construction; covered passageways join the various buildings, forming elevated walks free from dampness; wards light and airy, three roof gardens for convalescents and thorough screening for the exclusion of flies.——Mrs. Anne McMichael Hoyt has conveyed to the Children's Hospital the residence at the southeast corner of Twenty-Second and Chancellor Streets, with a stable in the rear. These properties were presented to the hospital, which they adjoin, as a memorial to her deceased father, Morton McMichael. This gift greatly enhances the value of the present hospital, the sale of which will give fully half the money required for the new buildings.

Society Notes.—At the annual meeting of the Philadelphia Neurological Society, January 27, the following officers were elected: president, Dr. Alfred R. Allen; vice-presidents, Drs. John H. W. Rhein, and Samuel D. Ingham; secretary, Dr. George E. Price; treasurer, Dr. S. DeWitt Ludlum; and councilors, Drs. James H. Lloyd, H. H. Donaldson, and Francis X. Dercum.——The physicians and druggists of the northern section of the city have organized the Northern Medical League for the purpose of furthering the mutual interests of its members, financially, scientifically and to build up a better ethical relationship between the two professions. Bi-monthly meetings will be held and the following officers have been elected: President, M. B. Loeb; vice-president, G. Azoff; secretary, Dr. Harry S. Snyderman; treasurer, Dr. Harry A. Stembler.——At a banquet February 6, the Northwestern Medical Society changed its name to "The Philadelphia Clinical Association," and elected the following officers: president, Dr. G. Morton Illman; vice-president, Dr. J. Edward Wallis; secretary, Dr. Harry Hudson; treasurer, Dr. William McKeage; executive committee, Drs. Harry A. Duncan, Daniel Longaker and Moses Behrend; board of censors, Drs. Samuel M. Wilson, Lewis S. Somers and Winslow Drummond.——The new officers for 1911 for the section on otology and laryngology of the College of Physicians are Dr. Arthur W. Watson, chairman, and Dr. Ralph Butler, clerk.——At the recent meeting of the Physicians' Motor Club, the following officers were elected for 1911: president, Dr. S. Leon Gans; vice-presidents, Dr. L. Webster Fox, Dr. J. J. Rebrecht, Dr. Richard C. Norris; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis H. Adler, Jr.; solicitor, B. Douglas Bartlett; directors for 3 years: Drs. Sylvester J. Deehan and H. Augustus Wilson; for 2 years: Drs. Ernest W. Kelsey and Francis J. Kelly; for 1 year: Drs. T. J. Ellinger and E. S. Saylor; for four years: Drs. Charles R. Haig, Jr., and Ellwood R. Kirby.——The section on ophthalmology of the College of Physicians elected Dr. William M. Sweet chairman and Dr. Thomas B. Holloway, clerk.

TEXAS

Medical Association Organized.—The Lavacca County Medical Association has been organized at Halletsville with Dr. Paul Renger, president, and Dr. W. W. Shropshire, secretary.

State Board Election.—At the first meeting of the State Board of Medical Examiners, held in Austin, February 7, organization was perfected and the following officers were elected: president, Dr. William B. Collins, Lovelady; vice-president, Dr. Marquis E. Daniel, Honey Grove, and secretary, Dr. John D. Mitchell, Fort Worth.

State Board Appointments.—Dr. Ralph Steiner, Austin, has been appointed state health officer, and Drs. Benjamin M. Worsham, El Paso; William L. Crosthwaite, Holland; William B. Collins, Lovelady; George L. Baber, Winnsboro; John H. Evans, Palestine, and James D. Osborn, Cleburne, members of the State Board of Health, and John E. Rosser, Austin, registrar of vital statistics.

Personal.—In a fire at Rusk, recently, Drs. Andrew H. McCord and John F. Johnson lost their office furniture, books and instruments.——Dr. Robert M. Wickline has succeeded Dr. Louis H. Kirk, resigned, as health officer of Austin.—— Drs. Hugo V. Heblin, Fort Worth, and I. Newton Suttle, Corsicana, have been appointed first lieutenants and assistant surgeons in the Medical Corps, Texas National Guard.

New Sanitariums.—Dr. Frank L. Barnes, Trinity, is about to erect a sanitarium at Trinity to cost $15,000.——Dr. Francis G. Floeckinger is building a sanitarium in Taylor, to cost $15,000.——Dr. James A. Caldwell, McKinney, has let the contract for his new sanitarium which is to be completed in May.——The control of the Baptist Sanitarium, Houston, has formally passed to the new company, to which a charter has been issued under the name Baptist Sanitarium and Hospital.

GENERAL

New President of Sanitary Commission.—Dr. Meverell K. Allen, Louisville, has been elected president of the Ohio River Sanitary Commission, vice Dr. Robert E. Vickers, Huntington, W. Va., resigned.

Physicians to Meet.—The twenty-third semi-annual meeting of the Missouri Valley Medical Society will be held in St. Joseph, Mo., March 16-18, under the presidency of Dr. Donald Macrae, Council Bluffs, Ia. Drs. Charles H. Mayo, Rochester, Minn., and Heinrich Stern, New York City, will deliver the addresses on surgery and medicine, respectively.——It is announced that the next annual meeting of the Association of State and Territorial Health Officers will be held in San Francisco, June 24-26, and that a joint meeting of the health officers of the United States and Canada will follow.——The fourteenth annual meeting of the American Gastro-Enterological Association will be held in Philadelphia, April 19 and 20. Among the more important papers on the preliminary program are those on "Stretching of the Pylorus in Benign Stenosis," by Dr. Max Einhorn, New York City; "Operative Treatment of Impermeable Cardiospasm," by Dr. Willy Meyer, New York City; "The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach," by Dr. Joseph C. Bloodgood, Baltimore, and papers on "Duodenal Ulcer," by Drs. John A. Lichty, Pittsburg; James T. Pilcher, Brooklyn, N. Y., and Lewis Brinton, Philadelphia.

Manufacture and Distribution of Meningitis Serum.—The Rockefeller Institute for Medical Research now gives notice that it has discontinued the general distribution of antimeningitis serum which it has undertaken without charge ever since the discovery of this remedy, and will now devote to other lines of investigation the funds hitherto needed for gratuitous distribution of the serum, handing over to the public health authorities of municipalities and states, and to commercial establishments the routine preparation of the serum for general use. The Board of Health of the City of New York has undertaken the regular production of the serum and will provide for free distribution to all hospitals and to all physicians who apply for it. Statistics show that the death rate from cerebrospinal meningitis has been reduced to less than one-third of its former amount by the early use of antimeningitis serum. The serum is administered by being injected into the spinal canal by means of lumbar puncture, an operation which is also required to secure the fluid for bacteriologic diagnosis, and several separate injections are required in treating a patient. The effective employment of the serum is likely therefore to

be restricted on account of the experience and skill required in the administration, and the high cost of the commercial product, unless the preparation, distribution, and, when necessary, administration are undertaken by state and municipal authorities.

Memorial to the Late Dr. Howard T. Ricketts.—The Mexican government has had Dr. Ricketts' works on Mexican typhus collected and published in Spanish in a handsome volume of over 135 pages entitled, "Howard Taylor Ricketts y sus Trabajos sobre el Tabardillo," with portrait and tribute to the memory of "the heroic research worker who died in consequence of tabardillo contracted in the course of his study of that disease." The volume contains the official documents relating to his death, his special articles written in collaboration with Dr. Russell M. Wilder on the etiology of the disease, and which were published in THE JOURNAL, and, thirdly, the addresses delivered at the unveiling of the memorial tablet in the laboratory at Mexico where Dr. Ricketts had carried on part of his research work. Copies of the memorial volume are to be presented by the Mexican government to the "principal universities, scientific societies, libraries and medical publications of the nations friendly to Mexico, and also to all the national Mexican scientific institutions." The volume opens with the official communication from the secretary of the department to Mrs. Ricketts informing her that the laboratory in which Dr. Ricketts had worked was to be renamed after him, that the scientific institutes in the City of Mexico were to be draped in mourning for three days, that a representative body of members of the faculties was to attend the funeral and cablegrams of condolence sent to the presidents of the universities of Chicago and Pennsylvania; the replies received are also given.

FOREIGN NEWS

Centennial of the Stockholm Medical School.—The Karolinska Medico-Kirurgiska Institutet at Stockholm recently celebrated its hundredth anniversary, concluding the festivities with the bestowing of honorary degrees on a number of foreign scientists. Five members of the faculty are on the board which awards the Nobel prizes.

The Nobel Prizes.—As our readers know, the Nobel prize fund awards five prizes each year averaging from $38,000 to $40,000 each. Since 1900 nearly two millions have been thus distributed to leaders in physics, literature, promotion of peace, medicine and chemistry. The list of the scientific recipients forms an international Hall of Fame, the chemists thus honored being van't Hoff, E. Fischer, Arrhenius, Ramsay, Baeyer, Moissan, E. Buchner, E. Rutherford, W. Ostwald, and the 1910 recipient, O. Wallach, professor of chemistry at the university of Göttingen. The recipients of the medicine prize have been von Behring, D. Ross, Finsen, Pawlow, Koch, Cajal and Golgi, Laveran, Ehrlich and Metchnikoff, Kocher and the latest recipient, A. Kossel, professor of physiology at the university of Heidelberg. The last physics prize was awarded to van der Waals, professor of physics at the university of Amsterdam, the last literature prize to P. J. L. Heyse of Germany, and the peace prize to the International Peace Bureau at Berne. The balance between the various countries has been maintained with remarkable impartiality but the majority of the prizes have gone to Germany. Only two have crossed the Atlantic, the peace prize given to President Roosevelt and the physics prize in 1907 to Professor Michelsen of the University of Chicago. It is a question whether the design of the founder of the prize fund has been realized to date; the awards have gone to men who were already resting on their laurels and the prizes have not served to foster new research to any extent. The committee in charge of the awards pays no attention to personal applications for prizes; the applications to be considered must come from scientific societies, institutions or other organized authority. It is possible that the greater preponderance of prize-winners in certain nationalities is because their institutions and societies have taken greater pains to present the claims of candidates in their respective nations.

CANADA

Brown Memorial Fund.—More than $10,000 has been subscribed to the memorial fund of the late Dr. Arthur A. Brown, Montreal, and it has been decided to endow a scholarship at McGill University.

Investigation of Typhoid Fever in Lumber Camps.—Senator De Veber, M.D., has secured an appropriation of $500 from the Dominion government for his committee to investigate typhoid fever in lumber and railway construction camps.

New Provincial Board of Health.—The following comprises the new Board of Health of the Province of Ontario: Chairman, Dr. Adam H. Wright, Toronto; chief health officer of the province and secretary of the board, Dr. J. W. S. McCullough, Toronto; and Drs. David B. Bentley, Sarnia; George Clinton, Belleville; William H. Howey, Sudbury, and James Roberts, Hamilton.

Hospital Notes.—Arrangements have been made whereby the Protestant Hospital for the Insane, Quebec, will receive $142 per patient each year from the government for a period of fifteen years.——In a suit brought for damages by a patient of Notre Dame Hospital, the hospital has won the victory.——The Charlotte Eleanor Englehart Hospital, Petrolia, has recently been opened.

Plans of Toronto Health Officer.—Dr. Charles J. C. O. Hasting, medical health officer of Toronto, estimates the expenses of his department at $159,000 for the current year. He contemplates the reorganization of the Toronto Health Department, the establishment, in addition to the chief of laboratories, of a secretary of health, bureaus of vital statistics, contagious disease and food inspection, hospital and ambulance service, and sanitation and a school for sanitary instruction.

Personal.—Sir Wilfred Thomaston Grenfell, the medical missionary of the Labrador coast, has been selected as the William Belden Noble lecturer at Harvard University for 1911 and 1912.——Dr. George R. McDonagh, Toronto, is taking a trip to Barbados.——Dr. William E. Struthers, Toronto, has been appointed chief medical inspector of schools.——Dr. John N. E. Brown, superintendent of Toronto General Hospital, has resigned and will study hospital administration abroad.——Dr. Fred J. Tees has resigned as superintendent of the Montreal General Hospital, and has been succeeded by Dr. George Shanks.——Dr. Louis Laberge has been retained as health officer of Montreal.

Toronto Demands License Power.—The dean of the Medical Department of Toronto University, in his annual report, advocates that the power of the Ontario Medical Council be curtailed as regards the standard of medical education and examination. He claims that the work of the medical department is hampered, owing to the fact that the council does not set a high standard for qualification and examination. An effort is being made by the university authorities to have the legislature pass an act whereby a graduate in medicine from Toronto University may enter at once into the practice of medicine without any further examination by the council.——A delegation from Queen's University, Kingston, has gone to Toronto to oppose the application of Toronto University that it be allowed to grant licenses to its graduates to practice medicine without passing the examination of the Ontario Medical Council.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 27, 1911.

The Candidacy of Mme. Curie and the Election of Dr. Branly to the Academy of Sciences

The candidacy of Mme. Curie (THE JOURNAL, Jan. 7, 1911, p. 53) brought up the question of the eligibility of women to the Institut de France, which was warmly discussed at the quarterly session of the five academies. A resolution was finally passed to the effect that it appeared altogether wise to respect immutable tradition on this point, but that the assembly did not assume to prescribe this course to the various individual academies. The Académie des sciences therefore presented Mme. Curie in the first rank of the list of candidates in the section of physics; in the second rank were presented Dr. Branly and four other candidates, among them Dr. Broca, *agrégé* professor at the Faculté de médecine, On January 23, the academy held the election. The contest narrowed down to Mme. Curie and Dr. Branly. There were fifty-eight voters. On the first ballot, Mme. Curie received twenty-eight votes and Dr. Branly twenty-nine. Dr. Branly, having received thirty votes or a majority on the second ballot, was elected.

Edouard Branly was born in Amiens in 1846. He received the degree of doctor of science in 1873, and was soon appointed professor of physics at the Institut catholique. In 1882, he received the degree of doctor of medicine. The researches which have brought him his greatest renown pertain to radioconductivity and thereby to wireless telegraphy. It may be said that the latter was rendered possible by the work of Branly, and the fact has been recognized by Marconi himself. If, as d'Arsonval says, every academy, whatever the number

of its sections, really comprises only two classes of members, those who honor it, and those who are honored by it, it must be acknowledged that Branly belongs incontestably to the first category.

Salvarsan (606) and Syphilitic Nephritis

In the session of the Société médicale des hôpitaux, on January 20, Professor Widal and M. Javal made a report on the treatment by salvarsan of a patient with syphilitic nephritis, who for fourteen months had had an abundant albuminuria of from 10 to 14 gm. per liter. In the seven days following the administration of the drug (0.6 gm. by intravenous injection) the albuminuria presented no appreciable change; from the eighth to the seventeenth day it diminished from 10 gm. to 2.5 gm. per liter and in the following month, with slight oscillations, it continued to decrease from 2.5 gm. to 1 gm. It should be said that the patient had been treated, at the beginning of the nephritis, by several injections of biniodid of mercury, which had no action on the kidney. Salvarsan appeared on the contrary, to effect a decrease of the albuminuria, but it should not be forgotten that the two treatments were applied at very different periods of the affection; the mercury, at the moment of the edema and the greatest retention of chlorids; the salvarsan, when the renal permeability to chlorids had been much improved. It is probable that salvarsan does not produce the same effects at all periods of syphilitic nephritis. In any case, although the state of the kidney should be taken into account in treatment by salvarsan, incipient syphilitic nephritis being regarded as a contra-indication, this does not apply indiscriminately to all forms of renal syphilis or to all the periods of the disease.

Dr. Siredey has observed a patient affected with albuminuria, edema of the legs and purpura, in whom, six months after an indurated chancre, a sclerogummatous glossitis appeared. Mercury treatment was inefficacious and appeared to increase the albuminuria; an injection of salvarsan was employed. Seven days afterward a very marked improvement of the glossitis and a diminution of the albuminuria was observed.

Portraits at the Pasteur Institute

A portrait of Dr. Roux in his laboratory is about to be placed in the library of the Institut Pasteur, by the side of the bust of Pasteur, by Paul Dubois, and the portraits of Duclaux and Metchnikoff. Around these portraits are to be the busts of the benefactors of the institute, among whom are Alexander III, who was one of the first subscribers, Dom Pedro, second emperor of Brazil, Baron Alphonse de Rothschild, Osiris and others; then those of the former collaborators of Pasteur, Grancher, Nocard and Chamberland. The portraits of the last-named are by Dr. Paul Richer, member of the Académie de médecine and the Académie des beaux-arts.

Election of Dr. Sébileau to the Academy of Medicine

On January 24, the Académie de médecine elected a member in the section of anatomy and physiology to replace Professor Gréhant, who died last March. On the first ballot. Dr. Sébileau, *agrégé* professor of the Faculté de médecine de Paris and surgeon of the hospitals, was elected by forty-five votes against thirty-seven for Dr. Prenant, professor of histology at the Faculté de médecine de Paris.

Prizes Offered by the Belgian Academy of Medicine

The Académie royale de médecine de Belgique has offered a prize of 800 francs ($160) each, for studies on the following questions: (1) experimental research on the modifications produced in the peripheral and central parts by injections of alcohol into the nerve trunks; (2) a study of the lesions produced by hydrogen phosphid poisoning. The close of the competition is fixed for Feb. 15, 1912.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan 19, 1911.

Personal

Professor Nagel, director of the physiologic institute at Rostock, has just died at the age of 40. He joined the faculty of Tübingen in 1895 and after a short stay at Freiburg he was made head of a department in the physiologic institute in Berlin in 1902 whence he was called to Rostock as regular professor in 1908. The chief field of this gifted investigator was comparative physiology and the physiology of the senses. ——Professor Matthes, director of the clinic for internal medicine at the Cologne academy for practical medicine, has accepted the call to succeed Professor Brauer at Marburg.——Professor Uhlenhuth, of the imperial health office, has received a call to Strasburg as successor to Professor Forster.——Dr. Moro, privat-docent at Munich, has assumed the supervision of the Heidelberg pediatric clinic in place of Professor Feer who has gone to Zurich.

Transfer of the Prussian Medical Bureau From the Department of Education to the Department of the Interior

Medical affairs in Prussia have not, as in some other states, a special department and an independent position, but for many years have been attached to the so-called Kultusministerium, which has charge of ecclesiastical and educational matters. In consequence of the overloading of this department, the effort has repeatedly been made to separate the medical department from the Kultusministerium and transfer it to the department of the interior. In fact, the medical bureau originally belonged to the department of the interior, having been transferred to the department of education in 1849. Various reasons for and against the change have been urged, but the prevailing motive aside from the overloading of the Kultusministerium was the fact that the medical police was already a part of the department of the interior, and it was felt best that all medical affairs should be under one management. To the medical bureaus are subordinated in the first place the highest Prussian expert authority on medicine, namely the scientific deputation for medical affairs, and also the institute for infectious diseases in Berlin and a number of hygienic institutes in provincial cities, the medical investigation offices in the provinces, etc. This change cannot be considered of great importance. It will depend on the personality of the medical department and also on the head of the department of the interior whether matters of health and those affecting the medical profession will be conducted in the same way as before or not. No restriction in the requirements of the health office is to be feared, for any state which does not keep at the front in these matters would in a certain sense saw off the branch on which it is sitting.

A Salaried Municipal Medical Councilor in Berlin

The municipal health affairs of Berlin have heretofore not been conducted by a salaried member of the city government but by a physician who had merely the honorary position of a municipal councilor. The colleague in question has undeniably shown a good capacity for organization, but in consequence of an insufficient preparation has for a long time been unequal to the task of managing so great a community as our metropolis is bound to present. For many years the Berlin medical profession and the medical press, especially the *Deutsche medizinische Wochenschrift*, have demanded that the medical affairs in this city shall receive the same representation that is received by the building interests, the schools, etc., which means that they shall be cared for by a salaried officer specially trained for this important position, who shall give his attention exclusively to the care of the public health. This demand has heretofore been refused by the city government which has been under the direction of a mayor who showed little comprehension of medical needs. Some recent occurrences which indicated the insufficiency of the organization, but especially the example of our neighboring city, Charlottenburg, which has established a municipal health officer, appears to have secured the fulfilment of the wishes of the Berlin medical profession. The commission on municipal hospitals, a few days ago, made the proposal to appoint a salaried municipal health officer with the salary of a technical member of the city government, inasmuch as the duties imposed on the city in the field of public health and the tasks voluntarily assumed in this relation have lately reached such extent and importance that it seems necessary, in addition to the member who is filling the honorary office, to secure another of distinguished ability in all such questions.

Antivaccination Movement

Ever since the introduction of compulsory vaccination its opponents have each year endeavored to have the law repealed, and they seek to gain the favor of the government, the parliament and the public for their efforts by collecting and displaying the actually observed injuries due to vaccination and also by appeals to the imaginary horrors of vaccination. Repeatedly the government has seen fit to appoint commissions before which the antivaccinationists, to whom also some physicians belong, were given opportunity to make their complaints, and regularly the result of these conferences has been that the provisions for vaccination have been improved

but the provisions of the vaccination law itself have been maintained. Lately the antivaccinationists have made a new attack and have induced two delegates of the center to make a motion that another commission be appointed to discuss a modification of the vaccination law. It is further demanded that a bill should be prepared in which it shall be provided that the present physical compulsion for carrying out vaccination be removed and that further a so-called conscience clause be introduced according to which any person shall be exempt from vaccination, if he declares before the appropriate official that he cannot reconcile the vaccination of the child with his conscience. It is clear that with the adoption of such a conscience clause, compulsory vaccination would be completely abrogated and that hundreds of thousands who are opposed to vaccination, from ignorance and superstition, would exempt their children from it. The experience gained with such a conscience clause in England, where it has existed since 1907, will, it is to be hoped, induce the Reichstag to refuse the proposal of the antivaccinationists. In England marked small-pox epidemics still occasionally develop which cause numbers of deaths. The high small-pox morbidity and mortality which occur in countries in which compulsory vaccination is not required, should easily induce the government to withhold its consent to such a proposal even if it should be adopted by the Reichstag.

Imports and Exports of Drugs and Medicinal Chemicals

In 1909 the importation of manufactured remedies and other pharmaceutical products was 285 tons, valued at $290,000 (1,140,000 marks); in 1908, 326 tons at a value of $413,000 (1,653,000 marks). The exports, in 1909, were: 1,109 tons at a value of $1,994,000 (7,979,000 marks); in 1908: 936 tons at a value of $1,742,000 (6,968,000 marks). The best customers are Austria, Russia and the United States.

Chemical products for use in medicine were imported as follows: 1909: 60 tons valued at $178,000 (714,000 marks); 1908: 44 tons valued at $133,000 (532,000 marks). The exportations were: 1909: 915 tons valued at $3,223,000 (12,844,000 marks); 1908: 837 tons valued at $2,803,000 (11,212,000 marks).

Marriages

OSCAR D. WHALIN, M.D., to Mrs. Emma Maxwell, both of Chicago, recently.

CLAYTON MCPEEK, M.D., to Miss Mary Alice Biddle, both of Columbus, O., January 30.

WALTER BENJAMIN HARVEY, M.D., Pittsburg, to Miss Aurelia F. Bartlett of Lewisville, Ind., February 1.

DAVID HENRY WORTHINGTON, M.D., Aurora, Ill., to Miss Huldah Henrietta Bettcher, at Iowa City, Ia., January 17.

Deaths

Edward Gamaliel Janeway, of New York City, eminent internist and specialist on diseases of the mind, died at his summer home in Summit, N. J., February 10, aged 69. He was born near New Brunswick, N. J., and received his preliminary education at Rutgers College, from which he received the degree of B. A. in 1860, and M. A. in 1863. While still a student in the College of Physicians and Surgeons, he entered the United States Army as a medical cadet, serving in a hospital in Newark, N. J., in 1862 and 1863. In 1864 he was graduated from the College of Physicians and Surgeons. He was curator of the institution from 1868 to 1872, professor of pathology and practical anatomy from 1872 to 1879, and professor of diseases of the mind and nervous system from 1881 to 1886; professor of medicine in Bellevue Hospital Medical College from 1886 to 1892, and dean of the University and Bellevue Hospital Medical College since 1908.

He was a member of the American Medical Association, National Association for the Study and Prevention of Tuberculosis, Association of American Physicians, New York Academy of Medicine, and many other learned societies. From 1875 to 1882, he acted as commissioner of the Health Department of New York City. He was on the staff of Bellevue, Mount Sinai, Presbyterian, St. Vincent, J. Hood Wright, Woman's and French hospitals, and on the staff of the Hospital for the Ruptured and Crippled as consulting physician. He was given the degree of LL.D. by Rutgers College in 1898, by Columbia University in 1904, and by Princeton University in 1907. In 1876 Dr. Janeway served as president of the *New York Medical Journal* Association. By the death of Dr. Janeway, the medical profession loses one of its best internists and a pioneer in the practical crusade against tuberculosis.

Stanley Douglas Curran, M.D. Bellevue Hospital Medical College, 1896; instructor in physical diagnosis in the University and Bellevue Hospital Medical College; attending physician to the clinic of that institution and to the Harlem Dispensary; adjunct physician to Washington Heights Hospital; died at his home in New York City, February 4, from a gunshot wound of the head, self-inflicted, it is believed with suicidal intent, while despondent on account of ill health, aged 40.

John Calvin McClung, M.D. Western Reserve University, Cleveland, 1873; a member of the American Medical Association; formerly a member and president of the board of education, mayor, member of the council, and health officer of Leipsic, O.; local surgeon for the Cincinnati, Hamilton and Dayton; New York, Chicago, and St. Louis, and D. T. and I. railways; died at his home, February 3, from cerebral hemorrhage, following an attack of influenza, aged 68.

Aristides Monteiro, M.D. Medical College of Virginia, Richmond, 1850; Jefferson Medical College, 1854; formerly physician in charge of the male department of the Eastern State Hospital, Williamsburg, Va.; surgeon of the Tenth Virginia Cavalry and later surgeon to Col. Mosby's command in the Confederate service during the Civil War; afterward editor of a weekly newspaper in Manchester; died at his home in Richmond, January 27, aged 82.

Charles Chesterfield Nicola, M.D. University of Michigan, Ann Arbor, 1897; a member of the American Medical Association; for several years a staff physician of the Battle Creek Sanitarium; superintendent of the New England Sanitarium, Attleboro, Mass.; while en route to New York from Bermuda where he had gone on account of his health, disappeared from the steamer *Oceana*, February 7, and is supposed to have been drowned, aged 44.

Charles Edwin Wood, M.D. University of Michigan, Ann Arbor, 1907; who entered the U. S. Public Health and Marine-Hospital Service as assistant surgeon in 1908, and was assigned to duty on the U. S. R. C. *Seneca* but resigned from the service in 1910; a member of the American Medical Association; physician to the Brooklyn Rapid Transit Employees' Benefit Association; died in the Brooklyn Hospital, February 1, from Ludwig's angina, aged 29.

Giles Bertram Allen, M.D. University of Michigan, Ann Arbor, 1867; a member of the Michigan State Medical Society; a veteran of the Civil War; formerly a member of the legislature; probate judge of Eaton County for six years, and a member of the school board of Charlotte for fifteen years, and for several years a member of the local pension board; died at his home, February 5, from heart disease, aged 67.

Jacob Coble, M.D. Medical College of Indiana, Indianapolis, 1885; a member of the Indiana State Medical Association; a veteran of the Civil War; for more that forty years a practitioner of Spencer, Ind.; local surgeon for the Pennsylvania System; a member of the district board of pension examiners; died at his home, February 4, from heart disease, aged 66.

Joseph Frederick Sommerhoff, M.D. Bellevue Hospital Medical College, 1894; for ten years chairman of the examining board of the New Jersey College of Pharmacy; and at one time professor of hygiene in that institution; for many years a practitioner of Newark; died at the home of his sister in Bloomfield, N. J., January 25, from locomotor ataxia, aged 45.

J. Elmer Bailey, M.D. Kentucky University, Louisville, 1904; formerly local surgeon at Huttig, Ark., for the Eldorado and Bostrop, Farmerville and Southern, and Little Rock and Monroe railroads; a member of the Union County Board of Health; died at his home in Strong, Ark., January 12, from typhoid fever, aged 39.

Reynaldo Dorsey Mackin, M.D. Medical College of Ohio, Cincinnati, 1887; a member of the American Medical Association; a member of the legislature of West Virginia in 1907 and 1908; local surgeon at Grafton for the Baltimore and Ohio Railroad; died at his home, January 31, from nephritis, aged 46.

John Wesley Bickford, M.D. University of Buffalo, N. Y., 1881; a member of the American Medical Association; formerly coroner of Niagara County and city physician of Lockport, N. Y.; jail physician since 1908; died at his home in Lockport, January 31, from cerebral hemorrhage, aged 62.

John Grimes Keller, M.D. Medical College of Georgia, Augusta, 1884; for two years quarantine officer of Savannah; later port surgeon and county physician; in 1902 and 1904 and 1910 coroner of Chatham County; died at his home in Savannah, January 26, from cerebral hemorrhage, aged 48.

Adolph Rosenthal, M.D. University of Vienna, Austria, 1869; for eight years a surgeon in the Austrian service; of Uniontown, Pa.; from 1882 to 1902, a practitioner of Chicago; died in Mount Sinai Hospital, New York City, January 12, two weeks after an operation for pyonephrosis, aged 65.

William Litchworth Birney, M.D. Missouri Medical College, St. Louis, 1879; a member of the Missouri State Medical Association; for half a century a practitioner of medicine, and for forty years a resident of Hydesburg, near Hannibal; died at his home, January 29, from pneumonia, aged 79.

James T. Estill, M.D. Missouri Medical College, St. Louis, 1879; surgeon for the Denver and Rio Grande Railroad at Colorado Springs, Colo.; died at his home in that city, while endeavoring to light a gas range, February 2, from the accidental inhalation of gas flames, aged 61.

Selden M. Payne, M.D. Eclectic Medical Institute, Cincinnati, 1846; assistant surgeon of the Ninety-Fourth Illinois Volunteer Infantry during the Civil War; died at his home in Lexington, Ill., January 18, from injuries received by a fall down stairs two weeks before, aged 91.

Alfred Elisha Hubbard, M.D. College of Physicians and Surgeons, New York City, 1892; of Brooklyn, N. Y.; for a year surgeon on steamers plying between Hamburg and New York; died in the Norwegian Hospital, Brooklyn, Dec. 26, 1910, from meningitis, aged 41.

Charles Albert Gaudet, M.D. Tulane University, New Orleans, 1869; a member of the American Medical Association; a Confederate veteran; at one time a member of the board of health of New Orleans; died at his home, February 1, from pneumonia, aged 63.

William L. Bowman (license, Nebraska, 1891); a pioneer practitioner and clergyman of northeastern Nebraska, where he had practiced for more than forty years; for one term judge of Stanton County; died at his home in Stanton, February 6, aged 86.

Stephen S. Stout (license, years of practice, Michigan, 1900); surgeon of volunteers during the Civil War; for more than forty years a practitioner of Cheshire; a member of the state legislature in 1899; died at his home, January 31, aged 81.

Platt Ellsworth Beach, M.D. Long Island College Hospital, Brooklyn, 1877; a member of the American Medical Association; died at his home in Seville, O., January 15, from septicemia, due to a splinter wound of the left thumb, aged 55.

John N. W. Crawford, M.D. Medical College of Ohio, Cincinnati, 1880; formerly of Portsmouth, O., but for the last ten years a resident of Geneva, Switzerland; died in Cairo, Egypt, Dec. 30, 1910, from pernicious anemia, aged 53.

Joseph Milligan Wallace, M.D. Columbus (O.) Medical College, 1879; a member of the Illinois State Medical Society, and one of the oldest practitioners of Mercer County; died at his home in Aledo, February 1, from pneumonia, aged 56.

Alfred Charles Denham, M.D. Miami Medical College, Cincinnati, 1867; for many years a practitioner of Somerset, Ky., and Cincinnati; died at the home of his daughter in the latter city, January 11, from cerebral hemorrhage, aged 81.

John M. Bradford, M.D. University of Pennsylvania, Philadelphia, 1884; at one time a member of the staff of the Episcopal Hospital, Philadelphia; died in his office in Kensington, Philadelphia, February 2, from nephritis, aged 52.

William R. Nugent, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1863; formerly chief surgeon of the Iowa Central Railroad at Oskaloosa, Ia.; died at his home in Chicago, February 3, from chronic nephritis, aged 78.

Carl William Rummel, M.D. Rush Medical College, 1899; a member of the Iowa State Medical Society; health officer and city physician of Webster City, Ia.; died at his home, January 31, from pneumonia, aged 37.

Charles W. Vroom, M.D. State University of Iowa College of Homeopathic Medicine, Iowa City, 1887; a member of the Iowa State Medical Society; died at his home in Whitten, Ia., January 9, from myocarditis, aged 61.

Fenwick Robertson, M.D. University of Maryland, 1854; assistant surgeon in the Confederate service during the Civil War; died at the Maryland Line Confederate Soldier's Home, Pikesville, Md., January 31, aged 81.

William Ely, M.D. Western Reserve University, Cleveland, 1881; a member of the Medical Society of the State of Pennsylvania; died at his home in Beaver Center, January 12, from cerebral hemorrhage, aged 62.

Thomas Zadoc Offutt, M.D. University of Pennsylvania, Philadelphia, 1856; surgeon in the Confederate service during the Civil War; died at his home in Granite, Md., January 30, from senile debility, aged 81.

Joseph L. Cook, M.D. Jefferson Medical College, 1858; formerly president of the Westmoreland County (Pa.) Medical Society, and coroner; died at his home in New Alexandria, January 19, aged 79.

Charles L. Morehouse, M.D. Eclectic Medical College of the City of New York, 1881; for sixty-four years a practitioner; died at his home in New York City, January 23, from pneumonia, aged 88.

Samuel Micajah Johnson, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; a veteran of the Civil War; died at his home in Carson, Ia., January 24, from cirrhosis of the liver, aged 70.

Joseph Gardner Moore, M.D. Baltimore Medical College, 1906; a member of the American Medical Association; died at his home in Philadelphia, Dec. 16, 1910, from typhoid fever, aged 33.

Clement Ritter, M.D. Jefferson Medical College, 1890; of Selma; a member of the Medical Association of the State of Alabama; died at an infirmary in Birmingham, January 11, aged 47.

George L. Hughes, M.D. Hahnemann Medical College, Chicago, 1891; died at his home in Chicago, February 9, after an operation for bladder disease, from heart disease, aged 72.

John P. Cook (license, years of practice, Texas, 1907); a Confederate veteran; for thirty-five years a practitioner; died at his home in Mexia, Tex., Oct. 1, 1910, from cholelithiasis, aged 66.

Edward Paulding, M.D. Bellevue Hospital Medical College, 1890; a physician of New York City; died at his home in Flushing, L. I., January 10, from cerebral hemorrhage, aged 48.

Henry J. Denham (license, Rhode Island, 1895); for more than a quarter of a century a practitioner of Providence; died at his office in that city, January 20, from heart disease.

John B. Baskerville, M.D. University of Pennsylvania, Philadelphia, 1869; of Dublin, Va.; a Confederate veteran; died at the home of his daughter in Dublin, January 17, aged 64.

Robert Swayne Prentiss, M.D. College of Physicians and Surgeons, New York City, 1870; died at his home in Long Island City, N. Y., January 28, from angina pectoris, aged 71.

Lemuel Leake Silverthorn (license, years of practice, Illinois, 1877); for fifty-four years a practitioner of Illinois; died at his home in Charleston, January 21, aged 79.

Samuel T. F. Kirkpatrick, M.D. Reform Medical College of Georgia, Macon, 1861; formerly of Franklin, Tenn.; died at his home in Nashville, January 26, aged 72.

Thomas Benjamin Haynes, M.D. Kentucky School of Medicine, Louisville, 1890; died at his home in Beaumont, Tex., January 27, from dysentery, aged 44.

Thomas Floyd Norvell (license, Illinois, 1878); for thirty-five years a practitioner of Illinois; died at his home in Peoria, January 24, from nephritis, aged 58.

William M. Rich (license, Kansas, 1901); for twenty-six years an eclectic practitioner of Clements; died at his home, January 27, from influenza, aged 81.

Alfred Stevens, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; died at his home in Iowa City, January 27, from cerebral hemorrhage, aged 71.

Isaac D. Johnson, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1852; died at his home in Kennett Square, Pa., January 30, aged 83.

James Polk Marshall (license, Arkansas, 1903); an eclectic practitioner of Caulksville, Ark.; died at his home, January 29, from heart disease, aged 65.

John A. Fitz-Gerald (license, Illinois, 1897); was found dead in his office in Chicago Heights, January 23, from valvular heart disease, aged 45.

Otto Albert Pfefferkorn, M.D. Boston University, 1910; died at his home in East Weymouth, Mass., January 28, from pneumonia, aged 24.

James R. Rowland, M.D. Texas Medical College, Galveston, 1875; died at his home in Mineola, Tex., Oct. 4, 1910, from cancer, aged 71.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE GLUTEN AND CARBOHYDRATE CONTENTS OF GLUTEN BREAD

At the Second International Congress for the Repression of Frauds, held in Paris, the proceedings of which are published by the Geneva White Cross Society, the question of the gluten and carbohydrate content of gluten bread was discussed. An abstract of this part of the society's proceedings, is given below, and the matter is further referred to editorially in this issue:

BREAD AND BAKERS' PRODUCTS

The following definition was proposed: "Gluten bread is bread made from a flour containing at least 60 per cent. gluten, this flour being obtained either by eliminating a part of the starch of the flour or by mixing a gluten flour with it."

Dr. Chevalier: The name gluten bread ought to be applied only to bread containing a maximum of 25 per cent. carbohydrates, starch, sugar or derivatives and 75 per cent. nitrogenous substances. According to Hewald, in fact, gluten bread ought to contain about 76 per cent of nitrogenous substances and 10 to 30 per cent. of carbohydrates. This means that in place of fixing a minimum of gluten or nitrogenous substances, one fixes a maximum of carbohydrates which is really more logical, for what the diabetic seeks is a food which is not a carbohydrate.

Pharmacien Principal Pairault: No doubt, but the question is very complicated.

The President: The definition of 60 per cent. of gluten is really the definition of the inventor of gluten bread, Bouchardt, who remarks that in his time a gluten bread was manufactured to which "legumine" was added, and which was sold under the name of "gluten and legumine bread."

M. Arpin: The definition is completed as follows: "In the above-mentioned breads the nitrogenous substances may be furnished by gluten, aleurone, casein, legumine, almonds, soya flour with oils removed, etc., but the presence or the association of these various substances ought to be specified." Consequently this would be an optional operation. That is another question which will come afterward. It is necessary first to complete the definition.

Dr. Chevalier: This quantity of gluten is not sufficient to justify the name of "gluten bread." Here are analyses published by M. Balland. He analyzed three gluten breads; they have the following compositions: The first two are very similar. They contain 36 per cent. nitrogenous substances; 1.25 and 1.76 per cent. of fat and 51.87 per cent. of starch for the first, and 52.92 per cent for the second. These are the commercial breads which exist at present. The third has the following composition:

Moisture	10.00 per cent.
Albuminoid nitrogenous substances	73.02 per cent.
Fat	3.45 per cent.
Starch	12.50 per cent.

It is evident that the first two breads cannot be considered gluten bread. There is nothing gained over a definition which is altogether therapeutic, and this is the point of view which I take. To give a patient gluten bread without any addition is not possible, but if you make bread with gluten and wheat flour you obtain too large a proportion of carbohydrates and therefore a bad bread. It is necessary to add either legumine or other nitrogenous substances containing a sufficiently large proportion of nitrogen to permit of the making of bread. From the therapeutic point of view, you ought to base the definition on the quantity of carbohydrates and not on the quantity of gluten.

Pharmacien Principal Pairault: Is it possible to manufacture bread with pure gluten? No! Then it must be admitted that there is a certain proportion of starch. What minimum proportion do you think possible from the practical point of view, from the bakers' point of view?

M. Arpin: Bread is made with pure gluten; I have seen it. But one needs to know if this bread can be easily masticated and digested by the diabetic.

Dr. Chevalier: From the practical point of view, I demand a maximum of 25 per cent of carbohydrates in gluten bread.

The President: This is what Bouchardt says in his book: "In the manufacture of gluten bread, the most conscientious manufacturers put in 25 per cent. of wheat flour and 75 per cent. of moist gluten to obtain a product which is readily acceptable.

M. Heudebert (manufacturer of health foods): I, myself, manufacture a gluten bread for which a patent has been applied and for which I have obtained a German patent. You know, of course, that the German patent guarantees the character of the invention. I have succeeded in manufacturing a gluten bread without the addition of wheat flour but with the addition of a certain proportion of alimentary casein. This has permitted me to make a bread which contains only a very little starch (10 to 20 per cent.), and which is very agreeable to the taste.

Pharmacien Principal Pairault: Such a bread can not be called "gluten" because it contains something else.

M. Heudebert: When Professor Bouchardt wrote what the President read to us just now, the progress in this industry which has since been realized had not been made.

Dr. Chevalier: From the practical point of view, I demand that the amount of gluten be raised from 60 to 75 per cent. There are breads which contain 12.5 per cent. of starch, as I have shown you just now in the analysis which I read.

President: You know, gentlemen, that "Père Bouchardt," as he was called, was much interested in the question. He was a practical man. It seems to me that we might pay respect to his opinion when he tells us that gluten bread ought to contain 25 per cent. of wheat and 75 per cent. of gluten.

Dr. Chevalier: There has been progress since Bouchardt and we have not the right to make a work of Bouchardt which dates from 1880, the basis of a definition in 1909.

President: I merely gave the reference as information.

Pharmacien Principal Pairault: It is necessary to know if it may be admitted that gluten bread contains anything else but gluten and starch.

President: No, it ought to contain only gluten.

Dr. Chevalier: I propose that the maximum of 25 per cent. of carbohydrates and 75 per cent of gluten be accepted. You make patients pay very dear for gluten bread; they ought to get something for their money. In fancy breads, oatmeal breads, or breads made in the Vienna style, you have 62 per cent. of carbohydrates. You are going to have 40 per cent. in gluten bread. I think that the difference is not enough; 75 per cent. of gluten is necessary.

M. Arpin: Subtracting carbohydrates.

Dr. Chevalier: Yes, subtracting carbohydrates. I will change the question if you wish; I say that 60 per cent. of gluten is not enough to justify the name of gluten bread.

President: For the percentage of gluten ought we not to appeal to the Section on Hygiene?

Dr. Chevalier: I see no objection.

President: We are business men. We ought not to adopt rules which perhaps would not be applicable to all people in commerce.

M. Heudebert: I call your attention to what will happen from the commercial point of view. *The public is ignorant of all these questions.* [Italics ours.—Ed.] A bread is called antidiabetic; if it is sold at 50 centimes (10 cents) it will be bought by preference because it is cheap, without regard to the fact whether it contains starch or not. The manufacturer who succeeds in manufacturing a bread which answers the therapeutic requirements of Bouchardt will not be able to sell it cheap, because it will be composed of expensive material. He will then be at a disadvantage, whereas in all justice he will have furnished the solution to the question. In my opinion, one might enlarge the scope and give all possible liberty on condition that the buyer shall know that in buying a bread, whether cheap or dear, he has a product which does or does not answer to what the doctor has prescribed for him and that he shall get his money's worth. There are antidiabetic breads which contain sugar.

President: We are discussing gluten bread, not antidiabetic bread. You will consider that in the Section on Hygiene. I put the question: Do you think that we, who are only merchants, can fix the minimum of gluten that ought to be found in gluten bread? Is not 60 per cent. a little large, and if we say 75 per cent., shall we not err in the other direction? It is not only specialists who make gluten bread; all bakers make it. Are we not going to expose all bakers to the danger of being prosecuted to-morrow if we demand 75 per cent. of gluten, because they will not all be capable of making a bread with that proportion?

M. Heudebert: Gluten bread is not bought as a luxury but as a necessity. That is the point of view to take.

President: That's therapeutics.

M. Bruzeau: From the point of view of defining frauds it is necessary to fix a minimum. The rest is therapeutics.

President: That's a sensible opinion from an independent person.

A Member: It seems to me that the question of gluten is not so important as that of carbohydrates. Why not indicate, as was proposed just now, a maximum of starch?

M. Arpin: I believe that the interests of the bakers would be better safeguarded by fixing a maximum of starch, because they would not easily succeed in making a bread which contains 75 per cent. of gluten.

President: The remark has been made to me that if you fix a maximum of starch it will be necessary to incorporate another ingredient.

M. Arpin: The minimum of gluten might be fixed likewise.

President: We should be doing bad services by trying to obtain the quintessence. Under pretext of repression of fraud, we ought not to declare conscientious people adulterators.

Dr. Chevalier: I do not speak as a commercial man. I am a physician. I say "You wish to make a definition of gluten bread, taking as a basis something which does not exist for diabetics. What you ought to give as a definition for diabetics is the maximum quantity of carbohydrates which ought to be contained in the bread. Patients do not need gluten, they need bread which does not contain carbohydrates."

Pharmacien Principal Pairault: Carbohydrates comprise starch, sugar, etc.

Dr. Chevalier: Starch or sugar or dextrin all become sugar in the stomach.

A Member: Should this question not be reserved for the Section on Hygiene?

M. Arpin: Almost all the bakers sell gluten bread. We need to discuss and to define it.

President: The question has been made the subject of study by the originators of the Congress. It has not been made a subject of special reports, but I know that M. Roux has a great deal of information and that M. Rocques, Rapporteur général, has probably not fixed the figure of 60 per cent. at random. We should do well to be tolerant and to adopt 60 per cent.

Dr. Chevalier: I think that 60 per cent. is too little, for the rest is composed of carbohydrates.

Pharmacien Principal Pairault: No, for there is water also.

Dr. Chevalier: Not at all, since we are figuring only the dry material. There is no water then.

President: The report says simply 60 per cent. of gluten.

Dr. Chevalier: There are gluten breads which have 5 to 10 per cent. of water, and others which have as much as 38 per cent.

Pharmacien Principal Pairault: It is understood that the gluten is all dry gluten but the report does not say dry gluten bread. One must take the bread as it is, so much gluten, so much starch, so much water. Consequently the 40 per cent. does not consist exclusively of carbohydrates. There is also 7 to 8 per cent. of water.

Dr. Chevalier: That depends on the manufacturer. Between 38 and 7 per cent. That is just why you cannot estimate on the basis of gluten bread; you must estimate it dry.

Pharmacien Principal Pairault: It is almost a hardtack.

Dr. Chevalier: There are gluten breads that contain more moisture than hardtack. That depends on the manufacturer.

Pharmacien Principal Pairault: A bread which contains 60 per cent. of gluten cannot contain 40 per cent. of carbohydrates.

Dr. Chevalier: This proportion of 60 per cent. can be understood only as calculated on the dry product. That is why it is necessary to define exactly and not say "60 per cent. of gluten" without knowing whether it is dry gluten and dry bread.

Pharmacien Principal Pairault: Let us say simply "containing a maximum of 20 to 25 per cent. of starch cereals without any other addition."

Dr. Chevalier: That is just what I demand.

A Member: We shall be sending the question to the pharmaceutic section next.

President: It is really more a question of pharmacy than of bakery.

Another definition is proposed: "Only breads containing 25 per cent. of wheat starch calculated on the basis of dry material ought to be called gluten bread."

A Member: But that is not gluten bread.

Pharmacien Principal Pairault: It is an antidiabetic bread, not a gluten bread.

M. Arpin: Yes, it is, the rest being gluten.

Pharmacien Principal Pairault: We ought to add "and not less than 60 per cent. of gluten."

M. Heudebert: That would not injure any baker at all.

President: I believe that this solution is satisfactory to everybody.

M. Arpin: It seems to me that all interests are safeguarded, even those of patients.

President: I am going to put to the vote the following definition of gluten bread:

"Only breads containing a maximum of 25 per cent. of wheat starch and a minimum of 60 per cent. of gluten, calculated on the basis of the dry material, should be called gluten bread."

This definition put to the vote was adopted.

Association News

THE LOS ANGELES SESSION

A Preliminary Statement Concerning Hotels and Hotel Rates

The reports which are coming in indicate that attendance at the next session of the American Medical Association will be large, and that geographical distance will not materially interfere with the attendance. The hotel facilities are ample, and the halls and hotel head-quarters are compactly grouped in the down-town district; and unless the weather records of years are changed, the weather during that week should be exceptionally good. The summer climate of Los Angeles is in every way as pleasant as the winter season.

The General Head-Quarters hotel will be the Hotel Alexandria.

The General Meeting of the Association will be at the Baptist Auditorium, at Fifth and Olive Streets.

Accompanying is a list of hotels and the rates which can be obtained at the time of the session, as reported to the Los Angeles Convention League. There are 400 family and tourist hotels and apartments available which are not included in the list. Those wishing to reserve rooms should write direct to the hotels, or to the Committee on Arrangements.

RATES AT LOS ANGELES HOTELS

NAME OF HOTEL,	ONE PERSON		TWO PERSONS	
Plan,* and No. of Rooms	Without Bath	With Bath	Without Bath	With Bath
Alvarado, A., 100.....	$2.50 up	$4.50 up	.....	$5.00 to $7.00
Alexandria, E., 700...	2.00 to 3.00	3.00 to 5.00	$3.00 to $4.00	4.00 to 10.00
Angelus, E., 300.....	1.50 to 3.00	2.50 to 5.00	2.50 to 4.00	4.00 to 10.00
Astoria, E., 200.....	1.00	1.50	2.00	2.50
Broadway, E., 200.....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Fremont, A., 100.....	2.50 up	5.00 up	3.50 up	6.00 up
Hampden Arms, E., 60	1.00	1.50 to 2.00	1.50	2.00 to 2.50
Hayward, E., 300.....	1.50 up	2.00 up	2.00 up	3.00 up
Hollenbeck, E., 500...	1.00 up	1.50 up	2.00 up	3.00 up
Hollywood, A., 200....	2.00 up	4.00 up	2.50 up	6.00 up
Ingraham, A., 100.....	2.50 up	4.00 up	3.50 up	5.00 up
King Edward, E., 150.	1.00 up	1.50 up	1.50 to 3.00	2.00 to 3.00
Lankershim, E., 300..	1.50 up	2.00 up	2.50 up	3.00 up
Leighton, A., 125.....	3.00 up	3.50 up	5.00 up	6.00 to 10.00
Melrose, A., 200.....	2.50	4.00	3.50	5.00
Munn, E., 100.....	.75 to 1.00	1.00 to 1.50	1.25	1.50 to 2.00
Nadeau, E., 150.....	1.00 up	1.50 up	1.50 up	2.50 up
Natick, E., 160.....	.75 up	1.00 up	2.00 up	3.00 up
Occidental, E., 200....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Rosslyn, E., 285.....	.75 up	1.00 up	1.50 up	2.50 to 4.00
Snow, E., 100.....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 3.50
Trenton, E., 165.....	1.50 up	2.00 up	2.00 up	2.50 up
U. S., E., 130.....	.50 to 1.00	1.00 to 1.50	1.50 up	2.00 up
Van Nuys, E., 160.....	1.50 up	2.50 up	2.50 up	4.00 up
Victoria, E., 100.....	1.00 up	1.50 up	2.00 up	2.50 up
Watson, E., 100.....	1.00 up	1.50 up	1.50 up	2.00 up
Westminster, E., 250..	1.00 up	2.00 up	1.50 up	3.00 up
Woodward, A., 125....	2.00 up	3.50 up	2.50 up	4.00 up
Westmore, A., 100.....	2.00 up	2.50 up	4.00 up	5.00 up
Yorkshire, E., 100.....	1.00	1.50 up	1.50 up	2.00 up

* A, American plan; E, European plan.

As regards entertainment: the nearness to the ocean beaches and to the foot hills, with the trip to Catalina Island, and the possibility of out-of-door entertainments, will make possible a variety of features not easily had in other sections of the country.

We wish that those who are thinking of attending the session would drop a postal card to the Committee on Arrangements, 240 Bradbury Building, Los Angeles, Cal., stating the

number in the party. The committee will appreciate this courtesy, as the more definite its knowledge concerning the number of visitors, the more thorough can be its preparations for their entertainment.

The undersigned will be glad to send further information on receipt of request.

H. BERT ELLIS, Chairman,
GEORGE H. KRESS, Secretary.

Rates to Los Angeles

The Chairman of the Committee on Transportation wishes to state that he has received a great many letters from members inquiring about rates, routes, etc., to the Los Angeles session. He has been unable to answer them as yet for the reason that the railroads have not been able to agree on the rates. Notice has just been received that the western roads have made a rate of $62.50, round trip from Chicago to Los Angeles by any direct route, or by way of San Francisco. From St. Louis, Memphis and New Orleans the rate is $57.50; Missouri River Gateways (Omaha to Kansas City inclusive), $50.00; St. Paul and Minneapolis, $63.50. Dates of sale are June 5 and 6 and June 10 to 22, both inclusive. The final return limit is September 15. Additional rates will be published as soon as they have been announced by the railroads. Details of routes and the arbitrary amount to be added for the northern roads will also have to be announced later.

M. L. HARRIS, Chairman, Chicago,
Committee on Transportation and Place of Session.

Correspondence

Two Appendices in One Person

To the Editor:—In THE JOURNAL, January 21, Dr. W. G. Young writes of a case in which he found two appendices in one individual, each appendix being well-defined and well-developed.

Some years ago a patient was brought to me for operation for adhesions following an appendicitis operation. On opening the abdomen, I found an appendix about three inches long, containing two hard concretions, much to the surprise of another physician present, who stated that the year before he had stood by while the same patient was operated on in an acute attack, and had seen an appendix with three concretions removed. My explanation at the time was that probably the patient possessed an appendix six inches long originally, and the first operator had removed three inches with three concretions, the rest having escaped observation in the midst of acute inflammatory products. I do not know whether this was really the explanation, or whether the patient had two appendices, as the family physician still believes.

ROBERT T. MORRIS, New York.

A Theory of the Cause of Cancer

To the Editor:—In the quest for the cause of cancer, theory and speculation have run wild, but up to the present time we seem to be as far away from the goal as we were when the pathologist first began to unravel the almost hopeless tangle. Theories have been unnumbered, and among the more recent are those of the sturgeon's egg and the trout. Investigation has been directed to cancer in other kinds of fish. Maps have been prepared showing the relation of the so-called cancer areas to the natural distribution of trout.

Cancer does not seem to limit itself to those who dine on *hors d'oeuvres* and fish. It has occurred to me that possibly the commonest form of living animal cell which is ingested by human beings, and which might be the cause of new growth, is that of the fecundated hen's egg. The latter is practically unlimited in distribution, and, indeed, where it is not obtained, other varieties of immature ovular life are used in its stead; for instance, the egg of the common duck, the seagull, the ostrich and of many others, even of reptiles.

To be sure, eggs are eaten, not always, but frequently, in the raw state as in egg-nog, beaten white of egg, and soft-boiled. In a lightly cooked egg, the ovum seems to resist coagulation more than the remainder of the egg.

We are told that all new growths are derived from one of the primitive layers, and in the fecundated egg we have all of these requirements—the endoderm, the mesoderm and the ectoderm. This living cell then, introduced into the human body and becoming attached to some abnormal part of the digestive apparatus, gastric, duodenal or intestinal ulcer for instance, begins its growth, and then by metastasis, its progress may become unlimited. In recent months laboratory work has been done in the artificial propagation of various cellular structures, notably that of the chicken embryo.

In THE JOURNAL (January 21, p. 198), Peyton Rous reports characteristic cancerous growths following the inoculation of small amounts of a watery filtrate of a chicken sarcoma, and also following inoculation of fluid supernatant after centrifugalization of a tumor emulsion.

If then, new growth may be transmitted, not necessarily by the intact living cell, the possible chance of transmission of new growth through the medium of its by-products becomes apparent.

MALCOLM SEYMOUR, M.D., Boston.

[COMMENT.—The theory that the germinal cells included in the hen's egg are the cause of cancer was proposed by G. Kelling in the *München. med. Wchnschr.*, 1904, li, No. 24. His communication was commented on editorially in THE JOURNAL, July 23, 1904, p. 269, and a second communication was made by him in the *München. med. Wchnschr.*, li, No. 43, 1904; abstr. in THE JOURNAL, Dec. 3, 1904, p. 1733. Kelling claimed to have produced malignant neoplasms by the inoculation of dogs with hens' eggs and also found that in human carcinoma of the stomach, a precipitin reaction for hen's-egg albumin could be obtained. This theory does not appear to have received any notice since that time. We have no known example of the successful transplantation or grafting of the cells of one animal species into the tissues or bodies of some other species; consequently it is rather far-fetched to assume that the living cells in the hen's egg might grow in the animal body.—EDITOR.]

Preservation of Rubber Bulbs

To the Editor:—Apropos of the note by Dr. Goodman, referring to the short life of rubber bulbs, in THE JOURNAL, Jan. 14, 1911, p. 113, and the letter on the same subject by Dr. Albert Robin, in THE JOURNAL, Feb. 4, 1911, p. 367, it occurs to me that it might be of general interest to note that the perishability of rubber bulbs, such as are used with sphygmomanometers, has been known for many years. Hill and Barnard, as early as 1897, employed a metal pump similar to that used for inflating bicycle tires on a sphygmomanometer devised by them, and reported it in the *Brit. Med. Jour.*, 1897, ii, 904.

Having encountered the same difficulty in my work with sphygmomanometers, I have had made pumps of two varieties which may now be obtained from instrument dealers at small cost. These pumps are small and are each fitted with a valve to prevent escape of pressure. The later model, which is smaller than the first, is also provided with a needle valve which permits the gradual release of pressure in the system. The first of these pumps has been in use for nearly two years, and from the number now extant, seem to be becoming increasingly popular.

FRANCIS ASHLEY FAUGHT, M.D., Philadelphia.

Differentiation of Chronic Nephritis and Neurasthenia.—Chronic nephritis with threatening uremia may sometimes present a group of symptoms in a neuropathic individual which might be mistaken for neurasthenia, e. g., headache, characterized by tightness and feeling of pressure, especially in the morning, giddiness, weariness and lassitude with inaptitude for mental or bodily work, diurnal somnolence, etc. An examination of the heart, the urine, the pulse and the retina will enable a diagnosis to be made.—F. W. Mott, in the *Practitioner*.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DESCRIPTION OF SEPTIC TANK—HOW SOON AFTER CHILDBIRTH MAY CONCEPTION OCCUR?

To the Editor:—Kindly answer the following questions: 1. What is a septic tank? 2. How soon after the birth of a child may another conception take place?
L., Ohio.

ANSWER.—1. A septic tank is a tank into which sewage is allowed to flow, there to remain for a certain time in order that solid matters may settle out and a certain amount of putrefaction occur from the action of the anarobic bacteria present in the sewage. Most of the benefit comes from the deposition of solid matter, which might otherwise clog filter beds. This solid matter is removed at intervals of some months. For fuller information see THE JOURNAL, Nov. 5, 1910, p. 1650, and Dec. 10, 1910, p. 2067.

2. Kroenig, in the *Zentralblatt für Gynäkologie*, 1893, page 445, describes a case of pregnancy in a secondi para who gave birth March 10, 1893, to her second child and July 4, 1892, to her first child. The first child was nursed ten days. A single coitus occurred four days after the birth of the first child, that is, on July 8. There was no further intercourse for three months. The second child, which was born 243 days after the fruitful coitus, was 52 cm. long and weighed nearly 8 pounds. This is the earliest recorded case of conception postpartum. It raises several interesting questions relating to the activities of the ovaries during pregnancy, the viability of spermatozoa in the lochia, the possibility of the nesting of the egg in the recently emptied uterus and the duration of pregnancy.

Weinberg, in the *Zeitschrift für Geburtshilfe und Gynäkologie*, vol. l, page 7, in a paper on "The Effect of Nursing on Menstruation and Conception," has collected statistics which show that about 20 per cent. of nursing women and 80 per cent. of those who do not nurse menstruate within six weeks of labor. Of puerperæ who do not menstruate about one in one hundred become pregnant within six months and about six in ten of the puerperæ who menstruate become pregnant within the same period.

SILVER NITRATE AND OTHER COMMON GERMICIDES IN GONORRHEA

To the Editor:—Since reading the article on "Common Germicides" by Post and Nicoll, in THE JOURNAL, Nov. 5, 1910, I have often wondered why some of the more efficient germicides are not used clinically in the treatment of gonorrhea. I have not been able to find the information I want on the subject, nor have I been able to learn anything from a number of physicians with whom I have talked about the matter. Why can we not with advantage use tincture of green soap, alcohol or Senn's solution as an injection in gonorrhea? If we can, why has it not been done, and what is the proper way to use these agents? Why are argyrol and protargol used so extensively if silver nitrate is superior?
E. E. EVANS, M.D., Gary, Ind.

ANSWER.—Tincture of green soap and alcohol are both irritating to denuded epithelial surfaces; they cause hyperemia and increased weeping from the surfaces, and thus interfere with the formation of horny epithelium and healing. For these reasons, if for no other, they would hardly seem to be useful antiseptics in acute urethritis. The same reasons in less degree apply to Senn's iodin solution. As regards argyrol and protargol and silver nitrate: In the first place, of course, silver nitrate is fatherless and there is no one to tell every willing listener over and over again its wonderful qualities; in the second place, silver nitrate shares with alcohol the quality of being too irritating in efficient strength to be a satisfactory antiseptic for use in acute gonorrhea. In chronic gonorrhea, when properly used, it is unequaled by any of the newer silver preparations.

FINSEN LIGHT AND LUPUS VULGARIS

To the Editor:—Is the Finsen light much used in this country? What is the percentage of cures of lupus vulgaris by this method of treatment? Is lupus vulgaris more prevalent on the Continent of Europe and the British Isles than in the United States?
JOHN B. DONALDSON, Lorain, Ohio

ANSWER.—The Finsen light is now used very little in the United States; here and in Europe it has been largely replaced among dermatologists by the *x*-ray. The results in the Finsen Light Institute in Copenhagen for 456 patients treated up to Dec. 31, 1900, were as follows: In slight cases 83 per cent. of the patients were practically cured; in extensive cases 52 per cent. were practically cured; 130 patients were known to be well for five years. Lupus vulgaris is much more prevalent in continental Europe and in the British Isles than in the United States.

SURGERY ONE HUNDRED YEARS AGO

To the Editor:—I am informed that a history of surgery was published in THE JOURNAL some years ago and that it was afterward published in book form. If you have the book will you kindly send me a copy? If not, please inform me where I can obtain it.
S. A. CLARK, South Bend, Ind.

ANSWER.—Perhaps the article you want is by Dr. George Fischer on "Surgery One Hundred Years Ago, a Historical Study," translated by Dr. Carl H. von Klein, Chicago. This work appeared in THE JOURNAL in 1897 in many issues, namely, from February 13 to August 14; also in the first part of 1898. It has not been published in any other form.

BLEPHAROSPASM A NASAL REFLEX

To the Editor:—Replying to the request of Dr. R. S. Lamb for information regarding "blepharospasm," I would refer him to the recent article on "Reflexes and Reflex Neuroses from the Upper Air Tract," by Dr. Bryant in the *Boston Medical and Surgical Journal*, Feb. 2, 1911.

Blepharospasm is usually a nasal reflex and the area involved is the tubercle of the septum and middle turbinal. In fact, this "genital area" of the nose is hyperesthetic and changes of blood-pressure induce the irritation which shows itself in the muscular movements. I have seen chronic symptoms, and, indeed, severe chorea, yield immediately to the removal of adenoids or to direct treatment of these areas within the nose; by direct I mean local applications under illumination.
EDMUND D. SPEAR, M.D., Boston.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 11, 1911.

Gunckel, George I., D.S., sick leave of absence extended fourteen days.

Stone, Frank P., D.S., reported for duty at Presidio of Monterey, Cal.

Weed, Frank W., captain, reported for temporary duty at Madison Barracks; left Fort Totten, N. Y.

Trinder, John H., M.R.C., reported for temporary duty at Fort Totten, N. Y.

Lambie, John S., Jr.; Worthington, Joseph A.; Tasker, Arthur N.; Snyder, Howard M., and McKinney, Garfield L., first lieuts., ordered to report to Lieut.-Col. James D. Glennan, Medical Corps, president of examining board, Army General Hospital, San Francisco, for examination for promotion.

Foster, George B., Jr., lieut., relieved from duty at the Army Medical School, Washington, D. C., and ordered to Fort Leavenworth, Kan., for duty.

Bourke, James, captain, relieved from duty at Fort Leavenworth, Kan., and ordered to Fort Crockett, Texas, in time to arrive there about March 10, 1911.

Cowles, Calvin D., Jr., and Phillips, Hiram A., first lieuts., ordered to report to Lieut.-Col. Henry P. Birmingham, Medical Corps, president of the examining board, at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

Barber, John R.; Ashford, Mahlon; Huber, Edward G., and Hunt, William L., first lieuts., ordered to report to Major William E. Purviance, Medical Corps, president of the examining board, at Manila, P. I., for examination for promotion.

Schmitter, Ferdinand, captain, ordered to repair to this city for special duty in the laboratory at the Army Medical School for a period not to exceed seven days.

Moncrief, William H., captain, on arrival at San Francisco will proceed to Fort Riley, Kan., for duty.

Le Hardy, Julius C., M.R.C., directed to proceed from Manila, P. I., to San Francisco, March 15, instead of Feb. 15, 1911.

Bierbower, H. C., M.R.C., left Fort Robinson, Neb., en route to Fort Meade, S. Dak., for duty in field with 4th Cavalry.

Johnson, Howard H., captain, left Fort McDowell, Cal., on leave of absence to include Feb. 15, 1911.

Aydelotte, John T., lieut., left Fort Sam Houston, Texas, with troop F and H, 3d Cavalry, for duty in field at Marfa, Texas.

Fox, James S., lieut., ordered to duty with troop L, 3d Cavalry, in field at Samfordyce, Texas.

Austin, Thomas C.; Napier, Edward L., and Welles, Edward M., Jr., first lieuts., left Army General Hospital, San Francisco, for service in the field on Mexican border.

Kerr, James D., M.R.C., resignation accepted by the President, to take effect Feb. 7, 1911.

Johnson, Howard H., captain, leave of absence extended to and including Feb. 15, 1911.

Williams, Harry B., M.R.C., granted twenty-nine days' leave of absence.

Ireland, M. W., ordered to proceed to Chicago to attend the seventh annual conference on education and legislation of the American Medical Association to be held in that city March 1-3, 1911.

Pulver, Arthur L., M.R.C., granted leave of absence for one month and ten days.

Duncan, William A., captain, relieved from duty at Vancouver Barracks, Wash., and will repair to this city and report for duty at the Field Medical Supply Depot.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 11, 1911.

George C. M., asst.-surgeon, ordered to duty at the naval hospital, Navy Yard, New York.

Sheldon, L., Jr., asst.-surgeon, ordered to duty at the naval hospital, Norfolk, Va.

Randall, J. A., P. A. surgeon, ordered to the naval station, New Orleans.

Ely, C. F., P. A. surgeon, ordered to temporary duty at the naval hospital, Naval Home, Philadelphia.
Brown, H. L., P. A. surgeon, ordered to the navy recruiting station, Los Angeles.
Munger, C. B., P. A. surgeon, detached from the navy recruiting station, Los Angeles, and ordered to the *Yorktown*.
Lumsden, G. P., medical inspector, transferred to the retired list from Feb. 7, 1911.
Haynes, J. P., P. A. surgeon, detached from the naval station, New Orleans, and ordered to the Asiatic station.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 8, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to lower Potomac river on special temporary duty.
Bahrenburg, L. P. H., P. A. surgeon, granted one day's leave of absence, Jan. 8, 1911, under paragraph 191, Service Regulations. Granted thirteen days' leave of absence from Jan. 21, 1911, on account of sickness.
Blount, B. B., A. A. surgeon, granted thirty days' leave of absence from Feb. 1, 1911.
Salmon, T. W., P. A. surgeon, granted two months and ten days' leave of absence from Feb. 8, 1911.
Sinclair, A. N., A. A. surgeon, granted one month's leave of absence, with pay, and four months and fifteen days, without pay, from April 1, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

Since the progress of state legislation was summarized in THE JOURNAL, February 4, a number of additional bills have been reported. These are classified by states. The further progress of these bills will be reported in THE JOURNAL from time to time.

ARKANSAS

A bill has been introduced to provide for the punishment, by fine or imprisonment, of all those other than regularly licensed physicians who "by any verbal statement, writing, print, or other method, offer or profess to cure or treat any injury, disease or deformity of any human being by any drug, nostrum, manipulation or other expedient." The administration of domestic remedies is exempt, as are also midwives.

CALIFORNIA

A bill has been introduced to authorize the selection, by the state medical society, of 150 members as experts in various lines of medical knowledge, from which list seventy-five shall be selected by the board, acting with the attorney general of the state. This list is to be posted in the office of every county clerk for reference in all litigation or criminal cases. A bill has been introduced to provide that children attending schools may, in place of a vaccination certificate, file either a statement from the parent or guardian that he is conscientiously opposed to vaccination and will not consent to the vaccination of the child, or a certificate from a licensed physician to the effect that vaccination would seriously endanger the life or health of the child.

COLORADO

A bill providing for a state board of medical examiners of nine members has been introduced, also a bill creating an osteopathic board of examiners.

ILLINOIS

The following bills have been introduced in the Illinois legislature:

A bill to enable boards of education in cities over 100,000 to establish and maintain classes and schools for dependent, neglected and delinquent children; a bill to establish and maintain a home for widows, orphans and other dependents of persons losing their lives in hazardous occupations; a bill to regulate the practice of optometry (H. B. 121); a bill to provide for the inspection, licensing and regulation of cold storage warehouses (H. B. 123); a bill to amend the delinquent children law (H. B. 124); a bill to regulate the practice of optometry (S. B. 140); a bill for the prevention of cruelty to animals (H. B. 28); a bill to authorize the sterilization of habitual criminals, idiots, feeble-minded, and imbeciles (H. B. 49); a bill to amend the vital statistics law (H. B. 53); a bill to prohibit the establishing and enforcing the tuberculin test for dairy animals by any city or town (H. B. 55); a bill to amend the law regarding the suppression and prevention of contagious diseases among domestic animals (H. B. 56); a bill to provide for the establishment, erection and maintenance of sanitariums for tuberculous patients (H. B. 57); a bill to provide for the creation of public recreation districts (H. B. 73); a bill to provide for the establishment of a state sanitarium for persons afflicted with tuberculosis (S. B. 5); a bill to amend the law regarding marriages and to require a physician's certificate of health for a license to marry (S. B.. 32); a bill to make an appropriation for the visitation and instruction of the adult blind (S. B. 74); a bill to forbid the issuing of policies insuring against accidental bodily injuries (S. B. 84).

The optometry bills introduced in the house and senate are similar to those previously introduced in Illinois and other states. The bill regulating the sterilization of habitual criminals and imbeciles is similar to the law adopted in Indiana and other states. Senate Bill 74, for the visitation and instruction of the adult blind, has been introduced at the request of the Chicago Women's Club. This bill would appropriate $20,000 for the use of the board of administration and provide for the visitation of the adult blind in their homes for the purpose of instructing them in industrial pursuits and helping to make them self-supporting.

INDIANA

The bill introduced by Senator McCarthy, providing for the medical inspection of school children, passed the senate by a vote of forty to one. The following bills have passed the house: H. B. 57 for the prevention of ophthalmia neonatorum; S. B. 57 to establish a Pasteur Institute.

The following bills have been introduced: A bill to amend the present medical practice act, introduced by Senator Stotsonburg, would give all graduates of approved medical colleges the right to practice without examination. The Board of Medical Registration, as well as the physicians of the state, is strenuously opposing this bill. A bill to amend the law regarding the operation of hospitals; a bill to require the medical inspection of all male applicants for a license to marry; a bill for the prevention of the transmission of venereal diseases, and a bill to regulate the sanitation and ventilation of steam and traction passenger cars and depots.

IOWA

Beside the osteopathic bill and the bill to create a health commission, which have previously been commented on, the following bills have been introduced: a bill to provide for the proper sanitation of barber shops; a bill to regulate cancer hospitals and sanitariums; a bill to regulate itinerant venders; a bill to require undertakers to report the names of persons dying of tuberculosis and to require the disinfection of premises occupied by infected persons and a bill to require physicians and osteopaths to report all cases of tuberculosis to the secretary of the State Board of Health.

MISSOURI

A bill to regulate the manufacture and sale of oleomargerine, a bill to provide for the medical examination of public school children, a bill to provide for a board of eclectic medical examiners (H. B. 52), and an optometry bill have been introduced. The house committee has reported unfavorably on the optometry bill.

NEBRASKA

A school medical inspection bill, endorsed by the Omaha Women's Club, has been introduced.

NEW HAMPSHIRE

An optometry bill (H. B. 40) has been introduced.

NORTH CAROLINA

A bill to permit physicians to register and practice on presentation of their diplomas, without obtaining a license from the State Board of Examiners, was introduced but has been reported on unfavorably by the house committee.

NORTH DAKOTA

The medical practice act introduced in the house, to place practitioners of all schools under the supervision of a single board, has passed the house and is now in the senate. A bill to provide for a board of control for all state educational, penal and charitable institutions has been introduced in the house.

OHIO

A bill to repeal the vaccination law, a bill to provide that no person suffering from tuberculosis shall be given a license to marry, and a bill to grant local boards of health the power to establish bureaus for the study of tuberculosis in their towns have been introduced.

OKLAHOMA

S. B. 70 would make all records of the State Board of Medical Examiners public records. S. B. 77 would amend the medical practice act, and S. B. 93 the State Board of Health act. S. B. 126 would preserve the purity of the waters of the state, including all streams and springs and all bodies of surface and impounded ground water, whether natural or artificial. Every municipality, private corporation, company, and individual supplying water to the public within the state would be required, within sixty days, to file with the secretary of the State Board of Health a certified copy of the plans of the water works and the source from which their water-supply is derived. All persons, corporations or municipalities supplying water for domestic purposes would have to secure a written permit from the State Board of Health.

OREGON

A bill to give the State Board of Health the powers of the state dairy and food commissioner has been indefinitely postponed. Bills to create a board for the examination of graduate nurses and to extend the powers of the State Board of Medical Examiners have been reported on favorably by the house.

TENNESSEE

A bill to incorporate laws regulating the practice of medicine, and making some amendments therein, has been introduced in both houses. This bill would provide that any person practicing or attempting to practice medicine under the name of any other person or firm would be guilty of a misdemeanor; would extend the term of members of the board from four to six years, and would make graduation from a medical college giving a four years' course a condition for license. A bill has been introduced to require a medical certificate as a condition for the issuing of marriage licenses.

UTAH

An amendment to the medical practice act has been introduced to make the attorney general an ex-officio member of the board and to make improper advertising and the performance of criminal abortions ground for revocation of licenses. An annual tax of $3.00 on all licensed physicians is also specified, the fund thus collected to be used by the State Board of Medical Examiners to prosecute violators of the law.

WASHINGTON

A bill to give the State Board of Health power to regulate traffic in oysters and other shell-fish has been introduced; a bill to amend the medical practice act, and a bill to provide for a commission to designate certain hospitals and surgeons in each locality who shall attend all injured persons and who shall be paid for their services from a fund furnished by the employer and employees. A bill to provide for a state tuberculosis sanitarium has been defeated. An amendment to the criminal abortion law has been introduced, to provide that women may testify without incriminating themselves.

WISCONSIN

An optometry bill has been introduced. Dr. C. A. Harper, the secretary of the State Board of Health, has introduced a bill to require the state health inspector to inspect hotels, jails, schoolhouses and public buildings, streets, alleys and other places; a bill to require cities to make adequate provision for the care of persons with advanced tuberculosis, and a bill for the prohibition of public drinking-cups in public buildings. An effort is being made to abolish the compulsory tuberculin test for cattle. A bill to provide for a more thorough system for the registration of deaths, a bill to prohibit the publication of the fact that a person has died of tuberculosis, and a bill to require a medical certificate before issuing a license to marry have also been introduced, as well as a bill to increase the tenure of office for health commissioners in cities, towns and villages, to four years.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Third Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

SYMPTOMS OF TOXEMIA, SEPTICEMIA AND PYEMIA

TOXEMIA, SAPREMIA: History of local infection. Onset, fever, pulse, chills, gastrointestinal symptoms, headache, prostration, collapse. Blood-examination. Urine. "Typhoid" cases.

SEPTICEMIA: Intensity of symptoms, similarity to toxemia. Variations in symptoms due to different organisms. Blood changes. Clinical types: 1. Following local infection, gunshot wound, puerperium, trauma, etc. May be mild or severe. 2. Cryptogenetic septicemia; no history of previous infection. May be acute, subacute or chronic; may terminate in pyemia. 3. Due to mixed infection.

PYEMIA: Secondary to septicemia and toxemia. Difference in character and intensity of general symptoms. Symptoms indicating localization of metastatic abscesses; involvement of lung, pleura, cardiovascular system, brain, kidney, joints, eye, etc. Blood-examination. Course of pyemia, terminations.

TREATMENT

SEPTICO-PYEMIA OF VON LEUBE.

PROPHYLACTIC: Asepsis and antisepsis in prevention of infection.

SURGICAL: Removal of focus of infection. Prevent reinfection. Drainage of secondary infections. Production of artificial abscess.

SERUM-THERAPY: Antitoxic serums; bactericidal serums; serums raising resisting power of body or rendering bacteria more susceptible to phagocytes.

GENERAL: Elimination. Stimulation, alcohol; strychnin, quinin. Symptomatic treatment. Rectal or subcutaneous saline injections. Credé's colloidal silver injections.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

The Conference on Medical Education and Legislation

This joint conference will be held at Chicago, at the Congress Hotel—formerly the Annex—March 1, 2 and 3. On the first day will be held the Seventh Annual Conference of the Council on Medical Education at which, besides the reports of the chairman and secretary, will be the following addresses:

"Entrance Examinations," by Dr. Thomas S. Fiske, Secretary of the College Entrance Examination Board, New York City.

"Subjects Included in the 'Two Years of College Work' Required for Admission to Medical Colleges," by Dr. Charles R. Bardeen, Dean of the School of Medicine of the University of Wisconsin, Madison.

"A Five-Year Medical Course," by Dr. J. George Adami, Professor of Pathology, McGill University, Montreal.

"Equipment and Instruction of the Laboratory Years," by Dr. E. P. Lyon, Dean of St. Louis University School of Medicine, St. Louis, Mo.

"Equipment and Instruction of the Clinical Years," by Dr. George Blumer, Dean and Professor of Medicine of Yale Medical School, New Haven.

"The Educational Function of Hospitals," by Dr. Frank Billings, Dean of Rush Medical College, Chicago.

"Valuation of Credentials," by Dr. Frank B. Hiller, Secretary of the Missouri State Board of Health, Jefferson City.

"The State License Examination," by Dr. Horace G. Norton, Secretary of the New Jersey State Board of Medical Examiners, Trenton.

"Interstate Reciprocity," by Dr. W. T. Gott, Secretary of the Indiana Board of Medical Registration and Examination, Indianapolis.

On Wednesday evening, March 1, a special session will be held at which the "State's Responsibility in Medical Education and Public Health Matters" will be discussed. The speakers for the evening and their topics are as follows:

"Standards and Authority"—George Edgar Vincent, Dean of the Faculties of Arts, Literature and Science of the University of Chicago, and President-Elect of the University of Minnesota.

"The Responsibility of State Universities in Public Health Matters"—William L. Bryan, President of Indiana University, Bloomington.

"Professional Education a Duty of the State"—Edmund J. James, President University of Illinois, Urbana, Ill.

A joint conference will be held on the second day to discuss medical practice acts. The following addresses will be given:

"The Importance of the Regulation of Medicine in the Administration of State and Municipal Governments"—Edward J. Brundage, Corporation Counsel, City of Chicago.

"The Attitude of the Judiciary in the Enforcement of Medical Practice Acts"—Judge Jesse A. Baldwin, Appellate Court, Chicago.

"Considerations Which Should Influence Appointments on State Examining Boards"—Hon. A. O. Eberhart, Governor of Minnesota.

"What Should Be the Attitude of the State Toward the Practice of Medicine?"—Dr. M. L. Harris, Chicago.

"Regulation of the Practice of Medicine for the Public Good"—Charles R. Henderson, Professor of Sociology, University of Chicago.

"The Administration of Medical Practice Acts."

(a) "The Administrative Duties of the State Board of Medical Examiners"—Dr. A. B. Brown, Secretary of the State Board of Medical Examiners, Louisiana.

(b) "Medical Prosecutions and Revocation of Licenses"—A. C. Umbreit, Attorney for the Wisconsin State Board of Medical Examiners, Milwaukee.

(c) "The Defense of Medical Practice Acts in the Courts"—James N. Wilkerson, Attorney for the Texas State Board of Medical Examiners, Fort Worth.

(d) "Financing of State Board Work"—Dr. Herbert Harlan, President Maryland State Board of Medical Examiners, Baltimore.

On the third day the Seventh Annual Conference on Medical Legislation will be held. Representatives and members of the National Legislative Council will present reports from the various states regarding the legislative situation in each. Separate reports will be presented by the committees on Carroll memorial, medical expert testimony, optometry, model medical practice, etc. Dr. Henry M. Bracken, secretary of the Minnesota State Board of Health will speak on "The Needs of Public Health Legislation." Dr. Cressy L. Wilbur, chairman, statistician of the Division of Vital Statistics of the Federal Census will speak on "The Progress of Vital Statistic Legislation." Legislative problems will be discussed and plans for the coming year will be outlined.

California December Report

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at Los Angeles, December 6-9, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any one branch. The total number of candidates examined was 95, of whom 60 passed, including 15 osteopaths, and 35 failed, including 13 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1908)	75.5
University of California	(1910)	83.2
University of Southern California (1906) 75.2; (1909) 87.1, 88; (1910) 84.4.		
College of P. & S., San Francisco	(1907)	80.6
California Eclectic Medical College	(1910)	78.3
Denver Homeopathic College	(1901)	78.7
George Washington University	(1910)	77.5
Northwestern University Medical School	(1904)	80.6
College of Physicians and Surgeons, Chicago (1897) 78.1; (1905) 83.3; (1909) 76.3; (1910) 83.6.		
American Medical Missionary College	(1902) 76.9; (1909)	83.3
Rush Medical College	(1900) 89; (1904) 83.2; (1909)	87.9
Medical College of Indiana	(1903)	77.3
State University of Iowa, College of Medicine (1885) 80.1; (1909) 79.6.		
Harvard University Medical School	(1908)	80
Tufts College Medical School	(1903)	81.3
Detroit College of Medicine	(1901)	76.2
University of Michigan, Dept. of Med. and Surg., (1892) 75.7; (1897) 86.4; (1901) 87.4.		
Hamline University	(1907)	76.5
University Medical College, Kansas City	(1905)	77.4
Omaha Medical College	(1902)	80.9
Columbia University, College of Physicians and Surgeons (1894) 84.4; (1910) 84.3, 89.9.		
New York Medical College and Hosp. for Women.	(1892)	82.9
University of Buffalo	(1902)	77.4
Syracuse University	(1903)	75.1
Jefferson Medical College	(1884)	86.4
Hahnemann Med. Coll. and Hosp., Philadelphia	(1909)	75.5
Pulte Medical College	(1891)	80.1
Starling Medical College	(1900)	82.5
Cleveland Medical College, Homeopathic*	(1896)	87
Cleveland Homeopathic Medical College	(1902)	81.9
McGill University, Montreal, Quebec	(1904)	75

FAILED

Coll. of P. and S., Los Angeles	(1906) 67.7; (1908)	71
Cooper Medical College	(1910)	69, 64.9
College of Physicians and Surgeons, San Francisco (1906) 66.7; (1909) 73.2; (1910) 73.4.		
George Washington University	(1906)	70.9
Hahnemann Medical College and Hospital, Chicago	(1876)	80.3
Rush Medical College	(1883) 75; (1902)	70.9
University of Louisville	(1892)	73.4
Kentucky School of Medicine	(1906)	66.1
Louisville Medical College	(1895)	79.1
Coll. of Phys. and Surg., Baltimore	(1888)	64.6
Syracuse University	(1893)	75.8
Medical College of Ohio	(1885)	79.9
Pulte Medical College	(1894)	56.5
Miami Medical College	(1908)	71.8
Western Reserve University	(1879)	49
Eclectic Medical College, Cincinnati	(1885)	76.2
University of Nashville	(1902)	71.7

* Joined Cleveland University of Medicine and Surgery to form Cleveland Homeopathic Medical College in 1898.

Nebraska November Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Nov. 8-10, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Nineteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Creighton Medical College	(1910)	76.9, 82.7, 83.5
University of Nebraska	(1910)	89.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1904)	Illinois
Northwestern University Medical School	(1900)	Illinois
Rush Medical College (1888) Iowa;	(1909) (1910)	Illinois
American Medical Missionary College	(1906)	Illinois
Hering Medical College, Chicago	(1908)	Kansas
State University of Iowa, Coll. of Med.	(1904) (1910)	Iowa
Keokuk Medical College	(1898)	Iowa
Kansas Medical College	(1905)	Kansas
Louisville Medical College	(1894)	Wisconsin
College of P. and S., Baltimore	(1905)	W. Virginia
University of Michigan, Homeopathic College	(1882)	Michigan
Kansas City Hahnemann Medical College	(1906)	Arkansas
Ensworth Medical College	(1893)	Missouri
University Medical College, Kansas City	(1900)	Kansas
Jefferson Medical College	(1903)	Kansas
University of Rome, Italy	(1906)	Kansas

Book Notices

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK. For Students, Surgeons and Specialists. By Hubertus J. H. Hoeve, M.D., Professor of Anatomy in the Medical and Dental College of Drake University. Cloth. Price, $5. Pp. 598, with illustrations. H. J. H. Hoeve, Des Moines, Iowa, 1910.

In his preface the author says, "I came to the conclusion that the entire macroscopic anatomy for the dissecting-room and also for surgical purposes should be arranged in natural outline form, and consequently I have prepared this volume on the head and neck." The book contains 600 pages slightly smaller than those in Gray's "Anatomy," with the subject-matter arranged in typical outline form, with headings, subheadings and further divisions. As there is considerable descriptive text, and as the outline form is used in laying out the matter, the full space is occupied with this one region of the body. To put the "entire macroscopic anatomy" of a region such as has been selected into an outline, is a work that might appal one less hardy than the author. As to the real test of its merit the words of the author may be further quoted as follows: "To what extent I have failed in writing the much-talked-of and badly needed ideal dissector remains to be judged by my professional confrères."

The author is evidently an earnest advocate of the outline method with thoroughness in all its details. The extent to which this method expands the text is realized when we observe that two full pages are devoted to the omohyoid muscle and more than a page to the frontal artery and vein. Different casts of mind naturally vary the point of view, so that things are seen differently by different observers. So it is with outlines: while the frequent breaks in the description by the interpolation of headings, subheadings and other divisions disturbing consecutive reading are results naturally to be expected and willingly accepted in the usual synoptical treatment of a subject where the simple divisions amply suffice to suggest the rest of the matter under review, it becomes a matter about which there is much less likely to be a unanimity of opinion when besides this all the details are exhaustively filled in. Much that is valuable and difficult of access elsewhere is likely to remain hidden in the text on account of the tediousness of unraveling the outline.

The fifty-one half-tone illustrations are about equally divided between photographic reproductions and artists' sketches of original specimens. Although suggestive of interesting and instructive original specimens, the reproductions are not the best, and leave much to be desired. Thirty-nine of the illustrations are devoted to the brain, three to sections of the head, three to sections of the larynx and pharynx, three to sketches of the orbit, and one each to the mastoid region, the veins of the diploe, and the skull with relation to the ventricles of the brain. With due respect for the author's pride in presenting none but original illustrations, one cannot help noting the absence of the beautiful figures of dissected regions that are so characteristic of the usual works of this class, and which more than any other single feature serve to stimulate the student to neat and thorough work.

THE PHYSIOLOGY OF REPRODUCTION. By Francis H. A. Marshall, M.A., Fellow of Christ's College, Cambridge. With a Preface by Prof. E. A. Schäfer, F.R.S., and Contributions by William Cramer, Ph.D., and James Lochhead, M.D. Cloth. Price, $6. Pp. 706, with illustrations. New York: Longmans, Green & Co., 1910.

Marshall presents this subject in the most exhaustive treatise that has appeared for some time. The earlier chapter-heads in order are: "The Breeding Season," "The Estrous Cycle in the Mammalia," "The Changes that Occur in the Non-Pregnant Uterus During the Estrous Cycle," "Changes in the Ovary," "Spermatogenesis — Insemination," "Fertilization," "The Accessory Reproductive Organs," "The Biochemistry of the Sexual Organs," and "The Testicle and the Ovary as Organs of Internal Secretion." In this last-named chapter the author makes a most valuable contribution to the literature on the subject. He gives in detail the results of the experimental work of Brown-Séquard, Poehl, Zoth, Pregel, and Bouin and Ancel, Shattock and Seligmann, Boruttau, Ribbert, Carmichael and Marshall, Knauer, Halban, Morris, Glass, Dudley, Essen-Möller, Graefe, Flatau, Kleinhaus and Schenk, Dubreuil and Regaud, Lane-Claypon, Paton, Henderson, Soli, Fichera, Starling and many others. Summing up his fifty pages of review, Marshall says: "The fact that the testis is an organ of internal secretion seems now to be definitely proved. This secretion is probably formed throughout the entire reproductive period of an animal's life; but, in those animals which experience a periodic rut, it is no doubt at this season that the testicular hormone is produced in greatest abundance."

What the author said about the testes might with equal truth have been said about the ovaries. In fact, it may be taken as positively demonstrated that these glands through their internal secretion profoundly influence development throughout the reproductive period and especially during adolescence.

Other chapters in the book concern fetal nutrition and the changes in the maternal organism during pregnancy; the innervation of the female generative organs; lactation; fertility; the factors which determine sex. This last chapter, next to that on the internal secretion from the sex glands, will be of most interest to the practitioner, as Marshall devotes considerable space to the consideration of various theories with accumulated data and evidences pro and con.

The book is well illustrated; some of the illustrations are in colors, many of them new and all of them valuable.

While Marshall has covered ground frequently covered in the preliminary chapters of works on obstetrics or in the final chapters on physiologies, the survey is incomparably more complete than one will find in any of the works mentioned, and will be valued highly by those students of obstetrics who wish to familiarize themselves with the latest and best on this subject.

A MANUAL OF PHYSIOLOGY. With Practical Exercises. By G. N. Stewart, M.D., Professor of Experimental Medicine in Western Reserve University, Cleveland. Sixth Edition. Cloth. Price, $5 net. Pp. 1064, with 450 illustrations. New York: William Wood & Co., 1910.

The fact that this is the sixth edition is ample proof of the popularity of Stewart's "Physiology." And the fact that these six editions have appeared at intervals during fifteen years is proof of the book's worth; it has worn well. This edition is a little larger than the others, owing to the addition of new matter; but the volume is not too bulky to be held for comfortable reading.

Mention of the good qualities has been often made, and need not be here repeated; but one cannot refrain from commending the clear style that makes abstruse subjects, which easily become monotonously dull, plain and interesting. Sometimes an illustrative comparison strikes one as a little odd, such, for instance, as this concerning the heart: "Like a musical box devised to play a series of melodies in a fixed order, and from which a particular tune cannot be obtained till those preceding it have been run through, the heart in some way or other is arranged, in the presence of competing impulses from its extrinsic nerves, to play the tune of inhibition before the time of augmentation" (p. 146). Yet we would not have it changed, for the comparison is apt and the student will remember the fact because put in this striking way. There is a remarkably equable distribution of space allotted to different topics and an evenness of treatment that is too often missed in composite works by different writers. The details of experiments are plainly given. And there is a most admirable condensation without sacrifice of clearness and of needful detail which shows the hand of the investigator who at the same time can teach and explain. The author rarely permits himself to run into wearisome argument; there is almost nothing of the polemic. His own views on debatable questions are always definitely stated. Where no decision has as yet been reached this is frankly acknowledged. His judicial attitude is well brought out by his excellent discussion of the myogenic and neurogenic theories as to the heart-beat. While favoring the latter theory in many respects, he takes a neutral position, for on many of these points, he says, the proof is not yet convincing.

We wish that he had departed a little more from the original plan and had cited authorities a little more freely. Medical students would be incited often to consult originals if instead of being told that "it has been recently shown," they were given as well the author and reference. We realize the impossibility of loading up the pages with all the authorities consulted and the inadvisability, as well, of using such a

mass of names; but a little breaking of the rule now and then, and the insertion of a bibliographic reference, especially when it concerns some classic article or some really worthy contribution, would make the work a still greater help to the student. As it is, this work is certainly one of the very best text-books on physiology for the undergraduate and a reliable reference-book for the practitioner.

LEHRBUCH DER UROLOGIE, MIT EINSCHLUSS DER MÄNNLICHEN SEXUALERKRANKUNGEN. Von Dr. Leopold Casper, Universitätsprofessor in Berlin. Paper. Price, 15 marks. Pp. 575, with 221 illustrations. Berlin: Urban and Schwarzenberg, 1910.

The first edition of Casper's well-known book has been translated into English. This, the second German edition, is an enlargement and improvement of the first edition.

The subject-matter is handled in two parts. In the general part is considered the anatomy, physiology and examination of the urogenital tract. The physical and chemical examination of the urine is given so briefly that the subjects could well have been omitted. Since the author has written a work on cystoscopy, it is but natural that he should treat that subject rather briefly here. The subject suffers, also, by being poorly illustrated. The chapter on urethroscopy would be more valuable if the illustrations were not so poor and if it included a consideration of the use of the Goldschmidt urethroscope. On the whole, the chapter on diseases of the urethra and penis is good: we must, however, differ from the author when he says that non-gonorrheic urethritis is very rare. We were surprised and disappointed to find no mention made of erosive or gangrenous balanitis, a disease which produces such fearful mutilations of the penis and which is surprisingly frequent when one is familiar with the clinical picture. The chapter on urethral stricture covers the subject satisfactorily and we are pleased to observe that the author condemns the operation of external urethrotomy except in selected cases.

Diseases of the bladder are covered fully, and lithotripsy is advised in preference to the more radical operation. Vaccine therapy in urology deserves rather more extensive consideration than it receives. The chapter on the kidneys would be improved by omitting the consideration of nephritis and enlarging on the subjects of nephrolithiasis and tumors. Since the author is a pioneer in the work, naturally a good deal of space is devoted to the functional diagnosis of renal affections. This should appeal especially to American surgeons, since this subject, until recently, has been somewhat neglected in this country.

The subject of tuberculosis of the genito-urinary system is well covered in the chapters devoted to the various organs. The author believes in the radical treatment of tuberculosis of the kidney. Probably the best chapter in the book is that on disease of the prostate, in which Young's operation for prostatectomy was given the preference.

Considering their frequency, the functional disturbances of the male sexual organs are considered somewhat too briefly.

CHRONICLES OF PHARMACY. By A. C. Wootton. In two volumes. Vols. I and II. Cloth. Price, $6.50 net. Pp. 760, with illustrations. New York: The Macmillan Co., 1910.

These two volumes are filled with curious and interesting information, the result of an immense amount of painstaking labor. The history of pharmacy is traced from its mythical beginnings to the present time. Through a great part of this course it is almost identical with the history of medicine, although Wootton has paid special attention to the drugs mentioned by ancient writers. Following a chapter dealing with the myths of pharmacy, the author gives in succession what is known of pharmacy among the ancient Hebrews, Egyptians, Greeks and Romans. The story is traced through the Arabs to the middle ages, when the account becomes more definite and truly historical. An interesting chapter is the one devoted to the progress of pharmacy in Great Britain. Succeeding chapters deal with "Dogmas and Delusions," "Masters in Pharmacy," "Chemical Contributions," and other topics such as "Poisons in History," "Noted Nostrums," etc.

The author has made an interesting and instructive book. His death before the publication of his work is deeply to be regretted. The volumes are attractively bound and illustrated by a considerable number of portraits and pictures of statues and other subjects related to pharmacy.

CYSTOSCOPY AS ADJUVANT IN SURGERY. With an Atlas of Cystoscopic Views and Concomitant Text for Physicians and Students. By Staff-Surgeon Dr. O. Rumpel, Lecturer in Surgery at the University of Berlin. Only authorized English translation by P. W. Shedd, M.D., New York. Half leather. Price, $8.50. Pp. 131, with 107 illustrations. New York: Rebman Co., (1910).

The first fifty-nine pages of this book are devoted to the text, the subject being considered under "Congenital Anomalies," "Cystitis," "Tumors," "Hypertrophy of the Prostate," "Concretions and Foreign Bodies," and "Testing Renal Function." In the text are twenty-two illustrations. The text is rather brief and often simply explanatory of the plates which follow. The testing of renal function receives scant attention, and hence the chapter on that subject is quite unsatisfactory. Following the text are thirty-six plates in color, showing eighty-five views of various conditions found in the bladder. They are all, of course, cystoscopic views, and the outline and coloring are very good, but they are all pasted on the pages and at times without regard to "up" and "down" of the picture, so that they are often confusing in this particular. Opposite each plate is a description of the figures and frequently a short history of the case.

HAY FEVER AND PAROXYSMAL SNEEZING (VASOMOTOR RHINITIS). By Eugene S. Yonge, M.D., Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Cloth. Price, $2 net. Pp. 150, with illustrations. New York: William Wood & Co., 1910.

Under the title of "hay-fever" the author has described three separate conditions—hay-fever (hay-asthma), paroxysmal sneezing (vasomotor rhinitis) and idiopathic rhinorrhea (nasal hydrorrhea). The first he distinguishes by ascribing as its chief etiologic factor the pollen of plants; the second depends more largely on neuroses and pathologic conditions of the upper respiratory space; and the last he attributes to neurotic condition more largely, to chronic sinus diseases or to trauma. The constitutional states as predisposing factors overlap in the three conditions. The subject is treated historically and from the standpoint of the different theories and hypotheses. The frequent association of asthmatic symptoms is kept in view, but nothing is said about the theory of anaphylaxis as a factor. Not much that is new is advanced in the treatment. The work is an interesting review of the subject.

DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN. By Harry S. Crossen, M.D., Professor of Clinical Gynecology, Washington University. Second Edition. Cloth. Price, $6. Pp. 1025, with 744 illustrations. St. Louis: C. V. Mosby Co., 1910.

The second edition of this work has been considerably expanded in the text, and numerous original illustrations added, which further elucidate diagnostic methods. Among the subjects given added attention are pelvic inflammation and tubal pregnancy. The index has also been amplified, but laboratory methods, except in the instance of gonorrhea, are not included, a matter which was mentioned in our extended review of the first edition. Surgical treatment is still subordinated. The elaborate attention given to diagnosis, and to treatment other than surgical, makes this a good work for the student and general practitioner.

DIE FAECES DES SÄUGLINGS UND DES KINDES. Die Bedeutung und Technik ihrer Untersuchung. Von Dr. Adolf F. Hecht, Kinderarzt in Wien. Mit Einem Vorwort von Dr. Th. Escherich. Paper. Price, 8 marks. Pp. 186. Vienna: Urban & Schwarzenberg (American Agents, New York: Rebman Co.), 1910.

This volume is the result of seven years of careful observation and study of this important subject in Escherich's clinic in Vienna. The subject is treated exhaustively and the result is equally valuable as a book of reference for the pediatrician or the general practitioner, or as a guide to the investigator. The author is fortunately a clinician as well as a laboratory investigator. One can freely endorse Escherich's warm commendation of the book to any one who is interested in this increasingly important subject.

DIFFERENTIAL-DIAGNOSTISCHE TABELLEN DER INNEREN KRANKHEITEN. Von J. Clemach, in Wien. Paper. Pp. 21. Price, 3 marks. Munich: J. F. Lehmans Verlag, 1910.

This little volume contains twenty-one tables in which the symptoms and physical findings of allied diseases are tabulated in parallel columns. It has the faults and merits inherent in all such treatises. The clinician finds the symptoms stated too arbitrarily and dogmatically to be of value. The student who must prepare for examination, however, will appreciate the condensed summaries and the convenient arrangement of the data.

Medicolegal

Liability for Professional Service, Board and Nursing for Wife at Hospital

The Second Appellate Division of the Supreme Court of New York in the case of Thrall Hospital vs. Cecelia T. Caren (124 N. Y. S., 1038) reverses a judgment rendered for the plaintiff, and grants a new trial. It says that the action was to recovery for board, nursing, etc., received by the defendant. It appeared that while her husband was sick in the hospital she was removed to it for an operation for appendicitis. Her attending physician made the arrangements for her admission to the hospital through a physician connected with the institution. She was too ill to make provision for herself, and did not. Indeed, her illness was so severe that the proposal to present a bill to her was postponed and the charges were not communicated to her until her departure, when she said she would send a check for them. Thereafter a bill for the amount was presented to her husband, then one was sent to her with a letter requesting payment, and this not receiving attention, a bill was later presented to the husband's estate. Thus the case was one where a woman, whose husband was in the hospital, and who was herself too ill to contract, was received by it pursuant to arrangements made by the physician in attendance cooperating with a physician connected with the hospital, and on discharge promised to send a check for the bill, which was presented to her husband and to his estate, and intermediate such two presentations to herself, without attention by her. She did not engage the physician, so far as appeared. She did not promise to pay before the service was rendered. Did the law imply a promise? The answer is:

The defendant seemed to have had a home. Her physician advised her that she should go to the hospital, and made the arrangement through a physician connected with the hospital. A physician's service is a necessity that should be furnished by the husband, and presumptively was in this case, either through himself, or her implied authority to call a physician to attend a member of the family. The physician so acting for the husband advised her to go to the hospital, and she went accordingly. So the professional service was necessarily rendered in the hospital, and for it the husband was primarily liable. The board and nursing were incidental to such service. It might be that the husband elsewhere supplied a home and sustenance for her; but the room, board and attendance at the hospital were for a different purpose and inseparable from her treatment. In this view the plaintiff, thoroughly informed, should have regarded the husband as its debtor, unless the defendant expressly engaged the service, and thereby became personally liable. But there was not the slightest evidence that she did or was able to do that. Indeed, the plaintiff carefully refrained from broaching the subject until the time of her departure, when the defendant promised to send a check. Such statement did not cast the obligation on her. A wife does not become the principal debtor, or surety for her husband's debt, by promising to send a check for it, even if her own check is indicated.

Duties of Carriers to Sick Passengers and When Not Liable for Unusual Pain

The Supreme Court of Georgia says, in Central of Georgia Railway Co. vs. Madden (69 S. E. R., 165), that it is not one of the ordinary undertakings of a carrier of passengers to furnish nurses or medical attention. This idea has been expressed by saying that the carrier does not conduct a hospital. If one who is sick, with knowledge of the fact, gets aboard a train, he cannot complain that he suffers pain because of such sickness, or that the ordinary and necessary motion of the train increases his pain, without negligence on the part of the carrier; or that he lacks medical attention or nursing, with which he has not provided himself, and which the carrier has not agreed to provide for him. Nevertheless, a carrier of passengers does not deal with the strong and well and the vigorous alone; and a condition may arise by reason of the sickness of a passenger on its trains which will create an emergency imposing on the carrier the duty of dealing with the passenger in accordance with the situation thus arising.

If it should be ascertained that a passenger was suffering with small-pox, the carrier not only might cause him to leave the train before arriving at the destination pointed out in his ticket, but, under its duty for the protection of its other passengers, it might become necessary to compel him to do so. So, also, if a passenger should have a ticket for a journey of 1,000 miles, and after he had been carried 100 miles it should be ascertained by the conductor of the train that such a passenger was in a dying condition, it could hardly be successfully urged that the agents of the carrier could wholly ignore this situation and allow the man to die, without opportunity for obtaining assistance or attention, merely because he had not reached the destination pointed out in his ticket. It will thus be seen that circumstances and emergencies may raise a duty on the part of the carrier to afford a passenger a reasonable opportunity to leave the train and to obtain assistance before reaching the destination originally intended.

So if a passenger on a railway train becomes ill in transit, and this is known to the servants of the carrier in charge of such train, or is so apparent that they are charged with knowledge of it, it is their duty to give him or her such care and protection beyond that demanded under ordinary circumstances as is reasonably practicable with the facilities at hand and consistent with the safe and proper conduct of the business and the safety and comfort of the other passengers.

More particularly, the court holds here that where a female plaintiff contended, and introduced evidence tending to prove, that she became ill while on board a passenger train, and that the carrier was negligent in failing, on request, to afford her opportunity to leave the train in order to procure assistance and medical attention, and in failing to assist her in leaving it after knowledge of her condition, but that she succeeded in getting off, though suffering extreme pain and about to be delivered of a child, it was not error to refuse to charge the jury that, if they believed she was able to leave the train without the assistance of the conductor, she would not be entitled to recover damages.

But it was error to charge that "the defendant would not in any event be responsible for such pain as she (the plaintiff) would have suffered on account of the birth of a child. For pains incident to childbirth, if no more, if not unusual pain, you should find for the defendant." That implied a necessary right to recover for unusual pain; but the mere fact that a woman under such circumstances may have suffered more than usual pain would not entitle her to recover damages. If there could be a recovery, it must be for that which resulted from a want of due care on the part of the carrier or its agents, while there may have been a premature delivery, and unusual pain, caused by the ordinary motion of the train, without negligence or liability on the part of the defendant.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

NORTH CENTRAL SECTION OF THE AMERICAN UROLOGICAL ASSOCIATION

Meeting held in Chicago, Jan. 5, 1911

DR. R. H. HERBST, President of the Chicago Urological Society, in the Chair

Position Drainage in Suprapubic Prostatectomy

DR. HENRY J. SCHERCK, St. Louis: The principal objection to the ordinary form of drainage, either siphon or suction, is that it does not completely empty the bladder of decomposed or septic urine, and allows it to become absorbed in a freshly wounded bladder and space of Retzius. The abdominal

position does not allow the septic material to remain in contact with these surfaces, and this minimizes the chances of absorption.

DISCUSSION

DR. L. W. BREMERMAN, Chicago: I can drain the bladder suprapubically or perineally by automatic interrupted siphonage. During the first twenty-four hours following suprapubic prostatectomy the bladder can be emptied every five minutes, keeping it dry and keeping the dressing on the abdomen practically dry and making the patient comfortable.

DR. GUSTAV KOLISCHER, Chicago: The prone position was used in various conditions years ago, and in spite of it, many patients developed hypostatic pneumonia. The real dangers following suprapubic prostatectomy or any suprapubic operation are postoperative hemorrhage and infection around the bladder.

DR. E. G. MARK, Kansas City: The things to look after following suprapubic operation of any kind are hemorrhage, infection or infiltration into the abdominal wall or perivesical tissues, and hypostatic pneumonia. I am convinced that position has a great deal to do with the development of hypostatic pneumonia.

DR. R. B. F. GRADWOHL, St. Louis: The method of drainage described by Dr. Scherck is admirable in respect to the prevention of hypostatic pneumonia.

DR. ARTHUR DEAN BEVAN, Chicago: I take a tube about the size of the index finger, measuring it accurately, so that it will project ¾ of an inch into the bladder, then I take a fine catgut suture and introduce it into the suprapubic wound, stitching both above and below the tube. It almost invariably requires but a single suture above and a single suture below the tube. This suture passes through, first, the bladder wall, and second, takes a good bite of the tube and goes through the opposite wall, and is then tied. In the space between the bladder and symphysis we tuck in a small cigarette drain with iodoform gauze, projecting beyond the gutta percha.

Genital Tuberculosis

DR. F. W. ROBBINS, Detroit: In only two of twenty cases of genital tuberculosis was it possible to trace a relationship between tuberculous epididymitis and a previous gonorrhea. In neither of these patients was the tubercle bacillus found, and the diagnosis of tuberculosis may well be questioned. Rarely does genital tuberculosis follow venereal disease. About 60 per cent. of cases of genital tuberculosis are a part of the general tuberculous infection. Occasionally the disease may be so located in the external genitals as to make radical operation wise, but more often the disease of the external organ is associated with that of the prostate and vesicles, even when the bladder and kidneys are healthy. It is seldom good practice to do the extensive operation recently described by Whiteside.

DISCUSSION

DR. HUGH CABOT, Boston: I have never seen a case which occurred in such a way as to suggest that gonorrhea was the cause of the subsequent tuberculosis.

DR. D. N. EISENDRATH, Chicago: In two cases I saw there was a direct relation between gonorrhea and tuberculosis In both cases a preceding gonorrhea had seemingly furnished the ground for the localization of the tubercle bacillus. One patient had a greenish discharge containing gonococci, and enlargement of both epididymes. The other patient had an abscess which ruptured through the scrotum. Gonococci were found in the pus. I advised antigonorrheal treatment, and it was instituted for two months without benefit. We examined the pus discharge for tubercle bacilli and found a large number of them. The whole course lasted about a year. The patient died from uremia. Autopsy showed extensive tuberculosis, a mixed infection where we had removed the epididymis, and in the kidneys, also showing gonococci, tubercle bacilli in the kidneys, pus, and a stone in the kidney.

DR. R. H. HERBST, Chicago: A man had a large nodule in the upper pole of the epididymis, the size of an English walnut, in the region of the external ring, and painful, two nodules in the prostate, had frequency of urination. He was put on tuberculin. The nodule at the external ring and the nodules in the prostate disappeared, as well as the frequency of urination, one week after treatment. He still has a small nodule in the upper pole of the epididymis. Tuberculin, if used properly, is valuable, and should be used in almost every case.

DR. G. FRANK LYDSTON, Chicago: It is not an easy matter to prove the association between gonorrheal infection and genital tuberculosis. A large majority of cases of genital tuberculosis have been preceded by gonorrhea. If it is true that gonorrheal infection reduces resistance and does not predispose to tuberculosis, then we have a rule that differs from all other rules with reference to tuberculosis. An individual with a lowering of the power of resistance in the mucosa, other things being equal, is particularly susceptible to infection by the tubercle bacillus. The chief argument against the relation of gonorrhea to tuberculosis of the urogenital tract was missed altogether by the opponents of that theory, and that is that infection, as a rule, is descending, coming from the kidney, and from the substance of the kidney rather than from the pelvis, excepting secondarily. Gonorrheal infection of the kidney is relatively exceptional, as contrasted with the sum total of cases of gonorrhea.

A Case of Air Embolus Occurring During Operation Under Air-Inflation Urethroscopy

DR. ERNEST G. MARK, Kansas City, Mo., read a paper with the above title. It was published in THE JOURNAL, Feb. 11, 1911, page 419.

Local Paresis of the Urinary Bladder

DR. GUSTAV KOLISCHER and DR. HARRY KRAUS, Chicago: Certain cases of paresis of the bladder are caused by edema of the bladder wall. This edema may be produced by gross mechanical interference with the circulation by the impaction of tumors, or by inflammatory changes in the adjacent organs. That the bladder is paretic is shown by the fact that catheterization alone does not lead to a satisfactory emptying of the bladder, but that outside pressure has to be resorted to in order to express all the urine. That the edema of the detrusor is the cause of the vesical paresis is proved (1) by the cystoscopic findings; (2) by the palpatory findings after the bladder was drained; (3) that there are no disturbances of the central nervous system to be found; (4) that this bladder paresis disappears without any special treatment after the factors that interfere with the circulation are removed.

The Caput Epididymis an Excretory Organ

DR. WILLIAM T. BELFIELD, Chicago: The head of the epididymis is a part of the middle kidney, which functionates as a kidney in frogs and fishes, but is superseded in man by the permanent kidney. The efferent tubules constituting the head of the epididymis are the convoluted tubules of this early kidney. That they are secretory organs is indicated by the motion exhibited on traversing these tubules by the previously motionless spermatozoa. Their excretory function is indicated by the infection of these tubules with various organisms derived from the blood, e. g., those of tuberculosis, syphilis, typhoid, and the colon bacilli. These infections may extend along the genital tract to the prostatic urethra. Until recently, all infections of the kidney were assumed to ascend from the bladder. It is now known that many infections of the bladder descend from the kidney. Similarly we have been accustomed to regard all infections of the genital duct as ascending from the deep urethra; but must realize that in certain cases these infections begin in the convoluted tubules (head) of the epididymis and descend to the vesicles and deep urethra, there being a complete analogy between the second kidney (caput epididymis) and its duct on the one hand, and the third (permanent) kidney and its duct on the other. Hence, to limit treatment of all genital duct infections to the prostate and vesicles is as irrational as to limit treatment of all urinary infections to the bladder.

Other papers read were "Diagnosis in Advanced Cases of Renal Tuberculosis," by Dr. H. Cabot, Boston; "Salvarsan in Syphilis," by Dr. C. Wagner, Chicago; "Operation Cystoscope," by Dr. W. N. Senn, Chicago.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 4

1 *Electrocardiograms and Their Significance. T. E. Satterthwaite, New York.
2 *Use of Electricity in Chronic Disorders of the Stomach. L. H. Levy, New Haven, Conn., and J. G. Wells, New York.
3 Direct Transfusion. F. D. Gray, New York.
4 *Percussion of the Kidneys. O. Lerch, New Orleans.
5 Keratitis Ex Acne Rosacea. W. B. Weidler, New York.
6 Recognition and Treatment of Gonorrheal Urethritis and Cystitis in Women. W. E. Dannreuther, New York.
7 Clinical Value of Blood-Pressure Studies. F. A. Faught, Philadelphia.

1. Electrocardiograms.—The Einthoven electrocardiographic machine is described by Satterthwaite. He says that the sensational statements which have appeared in the public journals as to the utility of the instrument must be received with much caution. The electrocardiogram does not as yet of itself distinguish uniformly functional from organic heart diseases; neither can the instrument dispense with the personal examination of the patient. Hence, a complete diagnosis cannot be made by the instrument when the patient and the physician are far apart. Strictly speaking, Einthoven has not inaugurated a new method; he has utilized the photographic method of Marey, and the string galvanometer of Ader, while the credit of the completed instrument is due to Edelmann. Einthoven has, however, given close study to the method with the perfected instrument, and he is, therefore, entitled, more than any other man, to have electrocardiography associated with his name. The instrument is capable of showing the time and force of action of ventricles and auricles; notes lack of transmission; and demonstrates ventricular and auricular extrasystoles more clearly than any other method. It is certainly useful in various forms of arhythmias, particularly when there is more or less complete auriculo-ventricular dissociation. At present, however, the initial cost of the Einthoven machine, and the expense connected with operating and maintaining it, will be a bar to its general use, except in the larger hospitals or research laboratories.

2. Electricity in Chronic Disorders of the Stomach.—Levy and Wells advocate the use of electricity in treatment of most chronic diseases of the stomach, which have not responded to the regular medicinal methods of treatment and diet.

4. Percussion of the Kidneys.—Lerch uses the drop stroke in percussion instead of the hammer stroke. He uses an ivory pleximeter and a hammer with rubber-covered head. By the drop stroke he eliminates the personal factor in percussion and gets more accurate results. He can map out accurately any of the internal organs by this method. The kidneys may be mapped out in the normal position and when displaced. The author has studied his method on the cadaver, and states that one may determine by it whether both kidneys are affected in Bright's disease, and the increase in bulk of the organs.

Boston Medical and Surgical Journal

February 2

8 *Reflexes in Surgical Diagnosis. R. T. Morris, New York.
9 Disturbances Dependent on Eye-Strain. E. M. Alger, New York.
10 *Reflexes and Reflex Neuroses from the Upper Air Tract. W. S. Bryant, New York.
11 *Reflex Disturbances Referable to the Ear. J. R. Page, New York.
12 What Is the Meaning of Reflex? E. D. Fisher, New York.
13 Reflex Symptoms and Disease of the Nervous System. W. M. Leszynsky, New York.
14 *Intravenous Use of Cocain. P. W. Harrison, Boston.
15 Surgical Treatment of Gonorrheal Epididymitis. G. G. Smith, Boston.
16 A New Tonsil Knife. O. A. Lothrop, Boston.

8. Reflexes in Surgical Diagnosis.—Morris claims that many cases of neuralgia, treated medically, belong distinctly in the surgical class. Lumbago, or neuralgia of the sciatic nerve, often is due to an enlarged prostate gland, distended seminal vesicles, pelvic adhesions and to septic or mechanical disturbance of the uterus and adnexa. Cases of trigeminal neuralgia are commonly treated on medical diagnosis alone, and patients often say that they have not even been questioned, by neurologists of standing, relative to peripheral irritations. Morris recently operated on a patient who had suffered intensely from trigeminal neuralgia, and who had been given alcohol injections by a most competent surgeon interested in that subject, but who had not examined the pelvis at all. So intense was the woman's suffering, that at the time of the last alcohol injection, she prepared a fatal dose of morphin in a glass of water to be taken just before her anesthesia. She wished to commit suicide but to avoid disgrace to the family by having it appear that she had died from the influence of the anesthetic. The reason why she did not take the dose was that at the last moment the anesthetist refused to allow her the glass of water. When she came under Morris' care, a little later, and a large ovarian cyst was removed, the neuralgia disappeared promptly, excepting for an occasional twinge of the supra-orbital nerve at times when the barometer is low. In this case the ovarian cyst was the precipitating factor in a patient, no doubt, predisposed to trigeminal neuralgia. In another case, a woman had suffered terribly from "neurology" as she put it. In this case, Morris excised a portion of the inferior dental nerve, giving relief for about a year. On the return of the neuralgia, he sent her to a competent ophthalmologist to determine if eyestrain could be a peripheral factor in the case. The neuralgia was apparently cured permanently by correction of eye muscle imbalance.

10. Reflexes and Reflex Neuroses from the Upper Air Tract.—Bryant shows that the reflexes and reflex neuroses emanating from the pharynx in number and significance are second only to those arising from the nose.

11. Reflex Disturbances Referable to the Ear.—A plug of impacted cerumen, says Page, has been known to produce, through its irritation of the external auditory canal, its interference with the pressure equilibrium of the middle ear, and, consequently, that of the labyrinth, nearly every known reflex disturbance, even suicidal mania.

14. Intravenous Use of Cocain.—The subject of experiment during the past three years, three times had local anesthesia produced with cocain—once of a finger, once for work on teeth, once because of a boil on the back of the neck. The analgesia produced at these times was not different in character or duration from that usually seen. There had been no other use of cocain or allied drugs. This experiment was performed as follows: Into one of the superficial veins of the back of the hand there were slowly introduced 5 grains of cocain in a 2 per cent. solution. The introduction of the solution was completed in about thirty minutes. Dizziness and palpitation made it seem wise to stop with this amount. Tests of the patient's condition were made at once and results were found to correspond in an incomplete way with those reported for animals. Cerebration was normal, except for a restless inability to keep the mind long on one subject. Motor power was unimpaired. There was marked analgesia everywhere. An incision ¾ of an inch long through the skin, well down into the fat, was made on the anterior surface of the lower leg. This incision could be felt; it caused a mere trifle of pain. Two or three small nerves in the fat were cut; each caused a slight twinge of pain. Apparently operative procedure might readily have been undertaken with only very moderate discomfort. Two hours later a similar central incision was made on the opposite side. The sensation of pain had by this time recovered much but not all of its normal intensity. It would seem evident, then, that however suited to animals this method may be, the relatively enormous dose necessary for even an imperfect result makes it impossible for human surgery. (This experiment is of peculiar value, since the experiment was performed by the writer on himself.)

New York Medical Journal

February 4

17 Salvarsan in Syphilis. S. Pollitzer, New York.
18 *Diet in Typhoid. C. E. Nammack, New York.
19 Measurement of Arterial Blood-Pressure in Man. G. Bachmann, Atlanta.
20 Treatment of Skin Diseases with Solid Carbon Dioxid Snow. E. Pisko, New York.
21 *A Case of American Relapsing Fever. W. Baetz, Ancon, Canal Zone, Panama.

22 Syringe for Local Anesthesia in Rectal Operations. J. F. Saphir, New York.
23 Avoidance of Mistakes in Diagnosis of Foot Troubles. M. Strunsky, New York.
24 Pneumocele of the Lacrimal Sac. E. M. Blake, New Haven, Conn.

18. **Diet in Typhoid.**—When milk disagrees, when there is abdominal distention, and when curds appear in the stools, Nammack's favorite formula is milk, 4 ounces; fresh cream, 1 ounce; lime water, 1 ounce. This is given every three hours, and is followed by a mixture of dilute hydrochloric acid, 10 minims in 1 dram of a reliable essence of pepsin. To this prescription, strychnin is added when required. Between each two portions of milk, albumin water, made by adding the white of 1 egg to 6 ounces of boiled water, is given. The patient is also solicited to drink plain water freely. If there is complete intolerance or aversion to milk, then buttermilk or kumyss or kefir can frequently be borne. There is no danger, in Nammack's opinion, in forcing this quantity of fluid through the cardiovascular apparatus and the kidneys, unless acute nephritis exists as a complication. In that case it is both useless and injurious to attempt to drive this quantity of liquid through an inflamed and partly impermeable kidney filter. The quantity and quality of the daily urine output must be carefully studied, and attempts at flushing the kidneys postponed, until the mechanical obstacles to the flow of urine are removed. After the third week, Nammack usually allows crackers with butter, well-cooked rice, calves-foot jelly, and broth, and other solid foods when the evening temperature reaches normal. Of twenty-eight patients treated according to this plan, twenty-seven recovered; one died from ulcerative endocarditis; three patients recovered after severe intestinal hemorrhages, and in one small boy perforating appendicitis developed in the fourth week, but he recovered, after operation, performed within four hours after the onset of the appendicitis.

21. **American Relapsing Fever.**—This case occurred in the Panama Canal Zone and was typical in every respect.

Lancet-Clinic, Cincinnati

January 28

25 Recent Researches in Mental Medicine, Especially in the Etiology and Treatment of Dementia Præcox and General Paralysis. L. V. Briggs, Boston.
26 Differential Diagnosis of Cerebellar Tumors. D. I. Wolfstein, Cincinnati.
27 Salvarsan. A. O. Zwick, Cincinnati.

February 4

28 Clinical Statistics. I. S. Wile, New York.
29 A Simplified Method for Intravenous Administration of Salvarsan. M. L. Heidingsfeld, Cincinnati.
30 *A Satisfactory Method of Suprapubic Drainage of the Bladder. F. E. Fee, Cincinnati.

30. **Suprapubic Drainage of the Bladder.**—The apparatus used by Fee consists of a 1 or 2-gallon bottle and a 1-quart bottle, equipped in the following manner: The large bottle is to be filled with water, and must have two openings, one at the ordinary neck and one at the bottom, both closed with rubber stoppers, each containing a perforation for a small tube. The lower tube is connected with a short drainage tube, passing below to a waste jar, and on this tube near the bottle is placed a small screw clamp to regulate the outflow drop. Two inches below this is placed a glass bulb dropper of the same variety as used in the Murphy proctoclysis apparatus. This bulb conveniently shows the rapidity of the outflow drop. From the neck of the bottle a small drainage tube is connected with a 1-quart bottle, the neck of which is closed with a rubber stopper containing two openings, one of which is connected with the large bottle, and the second opening is connected directly with a tube leading to the patient. The tube should have two short observation glasses inserted, one near the bottle and the other near the patient. Fee prefers to have a large drainage tube, ½ inch in diameter, inserted into the bladder, and through this a No. 10 catheter is passed, directly connected with the drainage apparatus. The lower end of the large drainage tube should have several holes cut in its side to facilitate the passage of urine into it. The tube passing into the quart bottle should only extend down about 2 inches. The one passing to the large bottle should extend into the neck about 1 inch. This permits the urine to drop into a small bottle and not be aspirated into a larger one. If this apparatus is to work satisfactorily, the catheter and tubes should be cleansed as often as necessary, depending on the condition of the urine; and, should it be thick and flow slowly, frequent cleansing is necessary. When all the connections are properly made, and little or no air is allowed to enter the tubes, the discharge drop need not exceed 150 drops per minute, and the large bottle need not be filled with water but twice in twenty-four hours. Fee says that with the exception of a slight wetting of the dressings, caused by the presence of the gauze drainage, for the first two or three days, this apparatus will satisfactorily drain practically all the urine from the bladder and deposit it in the small bottle, from which it can be drawn every twelve hours, measured and examined.

Journal of the Indiana State Medical Association, Fort Wayne

January

31 Revolutionary Methods in Connection with Syphilis. F. R. Charlton, Indianapolis.
32 The Surgical Year. M. F. Porter, Fort Wayne.
33 The Year's Progress in Pediatrics. L. P. Drayer, Fort Wayne.
34 Advances in Bacteriology and Pathology During 1910. B. W. Rhamy, Fort Wayne.
35 The Year's Progress in Medicine. T. Potter, Indianapolis.
36 The Year's Work of the State Board of Health. J. N. Hurty, Indianapolis.

Journal of the American Public Health Association, Columbus, Ohio

January

37 *Work and Play. C. O. Probst, Columbus, Ohio.
38 Interrelation of National Organizations Working in the Interest of Health. F. Almy, Buffalo, N. Y.
39 The Proper Correlation of Physicians, Engineers and Other Specialists in Public Health Work. W. T. Sedgwick, Boston.
40 Value of Terminal Disinfection. C. V. Chapin, Providence, R. I.
41 Importance of Birth Registration to Determine Infant Mortality. J. H. M. Knox, Baltimore.
42 Past Performances of the Laboratory Section with Some Suggestions for the Future. W. R. Stokes, Baltimore.
43 *Effect of Vacuum Desiccation on the Virus of Rabies, with Remarks on a New Method. D. L. Harris and L. F. Shackell, St. Louis.
44 *Carbo-Gasoline Method for Disinfection of Books. W. L. Beebe, Saint Cloud, Minn.

37. Abstracted in THE JOURNAL, Sept. 17, 1910, p. 1044.

43. **Effect of Vacuum Desiccation on the Virus of Rabies.**—The authors found that by using Shackell's method of desiccation, the essential feature of which is that the material is kept solidly frozen during the process of drying, brains and cords may be desiccated *in toto* without destruction of virulence. The time required for the complete extraction of water is from twenty-four to thirty-six hours. A number of brains have been so treated and the infectivity of all has been preserved. After the completion of desiccation, these brains were placed in an ordinary desiccating jar over sulphuric acid and left continually exposed to light at the ordinary room temperature. One brain has remained infective for four months. The only precaution taken was to guard against moisture. Material thus dried is like chalk and is easily pulverized. It is, however, very hygroscopic and, after a few hours' exposure to the air, becomes leathery and rapidly loses its infectivity.

44. **Carbo-Gasoline Method for the Disinfection of Books.**—The difficulties that prevent the disinfection of books seem to be numerous. If a gaseous disinfectant is used, it is very hard to have it penetrate all parts. Steam injures the book to some extent. An ideal method, therefore, would seem to be to use a liquid that would not be injurious and still kill all the pathogenic organisms that frequently infect them. Beebe found that gasoline does not injure books even after they are soaked in it for two or three hours if they are quickly dried. Gasoline has the advantage of dissolving fats and oils and, theoretically, it would appear that if a germicide were added it would act on bacteria in a dry and perhaps a wet medium. Several disinfectants which were soluble in gasoline were tried, but phenol was the only one that seemed to be efficient. In testing the efficiency of carbo-gasoline it was necessary to devise a special technic. A very volatile gasoline, which is termed 88 Baume or gas machine gasoline, was used. Liquefied phenol crystals were added to the gasoline in different amounts, and the disinfecting properties tested on several organisms. A 1 per cent. solution was sufficient to kill all non-spore producing organisms in less than five minutes. Some books were disinfected by this method after first infect-

ing them with several different organisms. In all cases 88 Baume gasoline, containing 2 per cent. phenol, was used. The books were opened at the pages where they were to be infected, put in the autoclave and sterilized at 15 lbs. steam pressure for fifteen minutes. They were then infected with *B. typhosus*, *B. coli communis* and *B. diphtheriæ*. They were left in carbo-gasoline for twenty minutes. One of the books was dried over night in a sterile chamber before cultures were made. In all, sixty-two inoculations were made, eighteen with *B. diphtheriæ*, nineteen with *B. typhosus*, eighteen with *B. coli communis* and seven with *Staphylococcus pyogenes aureus*, without growth in any case. Books that were treated by this method were not injured, unless the cover was lettered with an oil paint. In such cases, if care be taken not to touch the letters before the books are dried, no harm is done. This method has been tried on several different bindings, such as leather, cloth and paper, and in no case has the binding been affected. Gasoline of a lower specific gravity than 88 Baume can be used, but it takes longer for the gasoline to evaporate. If the odor of phenol and gasoline is offensive, oil of peppermint, wintergreen or cinnamon can be used as a deodorant. Beebe has found oil of peppermint, 3 parts; oil of wintergreen, 1 part, and oil of cinnamon, 1 part, efficient in disguising the odor of phenol.

Journal of the Kansas Medical Society, Kansas City

January

45 Pollution of Kansas Streams. J. L. Everhardy, Leavenworth.
46 Stricture of the Urethra. S. G. Zinke, Leavenworth.
47 Obstructed Nasal Respiration and Drainage. H. L. Alkire, Topeka.
48 Catarrhal Pneumonia. W. G. Norman, Cherryvale.
49 The Medical School of the University of Kansas. M. T. Sudler, Lawrence.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

December

50 Tetanic Convulsions in Frogs Produced by Acid Fuchsin, and Their Relation to the Problem of Inhibition in the Central Nervous System. H. G. Barbour and J. J. Abel, Baltimore.
51 Toxicity of Martius Yellow and Some Other Anilin Dyes and the Entrance of Dyes into Cells. A. P. Mathews and E. Longfellow, Chicago.
52 *Physiologic Studies in Anaphylaxis: Reaction of Smooth Muscle from Guinea-Pigs Rendered Tolerant to Large Doses of Serum. W. H. Schultz, Washington, D. C.
53 *Action of Ether on Anaerobic Tissue. A. P. Mathews, Chicago.
54 Pharmacologic Studies on the Phosphatids. Methods for the Study of Their Combinations with Drugs and Other Substances. W. Koch, Chicago.
55 Relation of the Phosphatids to the Sodium and Potassium of the Neuron. W. Koch and F. H. Pike, Chicago.
56 *Relation of the Phosphatids to Overton and Meyer's Theory of Narcosis. W. Koch and F. C. McLean, Chicago.
57 Relation of Brain Phosphatids to Tissue Metabolites. W. Koch and A. W. Williams, Chicago.
58 Function of the Brain Phosphatids in the Physiologic Action of Strychnin. W. Koch and H. T. Mostrom, Chicago.

52. **Physiologic Studies of Anaphylaxis.**—Schultz found that single intravenous or intraperitoneal injections of horse serum seem to have no effect on the normal irritability of intestinal muscle toward the same serum provided the muscle be tested within a period of one or two hours after the injection. If, after the first injection of foreign serum, a long enough interval elapse, intestinal muscle shows a supranormal degree of irritability toward the same serum. The time necessary to acquire this increased irritability is probably coincident with that required for the process known as sensitization in anaphylactic animals. Guinea-pigs may be rendered tolerant to large doses of foreign serum by injecting increasingly large doses of it, at intervals of two days, for a period of twenty to thirty days. The gross body reflexes and the cardiac and respiratory reactions differ markedly from those of a sensitized animal, but intestinal smooth muscle continues to show a supranormal irritability toward a serum similar to that of smooth muscle from a sensitized animal. The tolerance induced by repeated injections of foreign serum resembles tolerance acquired toward certain chemical substances familiar to pharmacologists. As to immunity, it seems impossible by repeated injections to initiate a condition of absolute immunity, since certain tissues not only remain irritable to the serum but acquire a supranormal irritability to it.

53. **Action of Ether on Anaerobic Animal Tissue.**—Mathews tested the action of ether on the nerve cord of the heart of the king crab, *Limulus*. The experiments consisted in separating the nerve cord from the posterior part of the heart, leaving it attached only to the front segment of the long, tubular heart. The hydrogen was generated by pure zinc and sulphuric acid and the gas was well washed in alkalin and acid permanganate, sodium hydrate and water. The replacement of air by hydrogen generally stimulated slightly both the rate and amplitude of the contractions. The contractions slowly diminished in the course of an hour in hydrogen from a rate of seventeen to a rate of about ten a minute. If air was then readmitted the rate usually fell still lower. Substitution of the ether-hydrogen mixture for hydrogen caused a short preliminary increase in the rate and amplitude of the contractions and increase in the tone of the heart-segment, provided the ganglion was in good condition and had not previously been anesthetized. This preliminary stimulation did not occur, or lasted only for two or three beats if the ganglion had been anesthetized once or twice before. Further action of the ether in all cases caused a cessation of contractions. When the ether was washed out with a stream of hydrogen, the ganglion was markedly stimulated on recovery. The ganglion generally recovered fully in the hydrogen. The recovery in the hydrogen was in most cases as prompt and complete as it apparently would have been in air; in a few cases, however, after being first for a considerable period in the hydrogen, the recovery from ether was very slow in the hydrogen, but rapid on changing the air. These results show, therefore, that the actions of ether on this facultative anaerobic tissue, while undergoing anaerobic respiration, is in all respects essentially the same as the action of ether on other aerobic nervous tissues, and as the action of ether on the same tissue in the presence of air, i. e., primary stimulation, followed by inhibition and after-stimulation on recovery.

56. **Relation of the Phosphatids to Narcosis.**—Koch and McLean doubt that there is any evidence that anesthetics or hypnotics produce changes in the state of aggregation of lecithin or kephalin, which are sufficiently consistent to account for such a general phenomenon as narcosis. They found some evidence, however, that chloroform as distinguished from pure ether has the power to form a combination with lecithin, a phenomenon which may be brought into relation with its slow elimination and consequent tendency to produce delayed poisoning.

Journal of the Oklahoma State Medical Association, Muskogee

January

59 *Prevention and Treatment of Septic Infections of the Extremities. E. H. Ochsner, Chicago.
60 Obstetric Surgery and Secondary Repair of Lacerated Perineum. J. M. Trigg, Shawnee.
61 Ophthalmia Neonatorum. M. K. Thompson, Muskogee.
62 Cases of Bronchopneumonia and One of Burn from Molten Lead Among the Dependent Children of Oklahoma. C. Puckett, Pryor.
63 The Modern Trend of Obstetrics. A. B. Leeds, Chickasha.
64 Bronchopneumonia. L. S. Willour, Atoka.

59. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1678.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

January

65 Predementia Præcox: The Hereditary and Constitutional Features of the Dementia Præcox Make-Up. S. E. Jelliffe, New York.
66 *Disturbance of Sensation in a Case of Syringomyelia. A. R. Allen, Philadelphia.

66. **Disturbance of Sensation in Syringomyelia.**—In the case cited by Allen, the pathologic process completely isolated the posterior columns from the rest of the spinal cord from the first cervical to the eleventh thoracic segments, inclusive. There was perfect preservation of tactile sensibility and loss of pain and temperature sensibility. There was very diagrammatically demonstrated the lower limit of the trigeminal area. The cavity formation in the gliomatous tissue was most marked on the right side. Allen says that the case demonstrates the following facts: (1) The pathway for tactile sensations lies in the posterior columns; (2) with total cutting off of all the afferent pathways of the spinal cord with the exception of the posterior columns tactile sensation is not in the least impaired; (3) the validity of Mann's hypothesis is not questioned by the findings of this case.

Journal of the Tennessee State Medical Association, Nashville

January

67 Lumbar Puncture; Its Technic, Indications and Therapeutic Uses. J. Overton, Nashville.
68 Tuberculin Treatment in Pulmonary Tuberculosis. W. Litterer, Nashville.
69 Failure to Report Communicable Disease a Criminal Disregard of Law. N. F. Raines, Raines.
70 Present Status of Electrotherapy. M. R. Farrar, Nashville.

Journal of Medical Research, Boston

January

71 *Immunity in Tuberculosis. G. B. Webb and W. W. Williams, Colorado Springs, Colo.
72 *Examination of the Feces of Forty Cattle for Tubercle Bacilli and Conclusions Therefrom. J. Reichel and E. S. Deubler, Philadelphia.
73 *The Volume Index of the Red Corpuscles. R. C. Larrabee, Boston.
74 *A Case of Osteitis Deformans. A. G. Ellis, Philadelphia.
75 *Experimental Chronic Nephritis with Exophthalmos in the Rabbit. O. W. H. Mitchell, Columbia, Mo.
76 *Histology of the So-Called Hypernephromata and the Embryology of the Nephridial and Adrenal Tissues. L. B. Wilson and B. C. Willis, Rochester, Minn.
77 *Erythrocytic Nuclei of Normal Human Blood. R. W. King, Las Animas, Colo.
78 Primary Tumor of Lymph Vessels and Typical Lymph-Adenoid Tissue. O. W. H. Mitchell, Columbia, Mo.
79 *Investigations on Pulmonary Tuberculosis. A. H. Caulfield, Gravenhurst, Canada.
80 *The Swamp Fever of Horses. J. L. Todd, Montreal, and S. B. Wolbach, Boston.

71. **Immunity in Tuberculosis.**—Webb and Williams report on an animal which was inoculated weekly for nine months with a tubercle culture, from which 150 bacilli had been found to infect a guinea-pig. The inoculations were all made subcutaneously around the region of the navel. Autopsy failed to show any evidence of tuberculosis. The authors believe, therefore, that it may safely be considered that a guinea-pig has received, without the production of tuberculosis, about 1,000 times a lethal quantity of living virulent tubercle bacilli.

72. **Examination of Cattle for Tubercle Bacilli.**—The microscopic examination of the feces or rectal scrapings of cattle for tubercle bacilli was found by Reichel and Deubler to be of no value in that many bacteria make their appearance in the feces or rectal scrapings with the morphology and staining characteristics of tubercle bacilli, which, however, fail to prove themselves as such. Of the forty cattle included in the examination, nine (22.5 per cent.) were found to be throwing off virulent tubercle bacilli in the feces or rectal scrapings. Of these nine cattle, the tubercle bacilli were found virulent for guinea-pigs, and in eight of the nine the tubercle bacilli were virulent for rabbits. The authors believe that the successful demonstration of tubercle bacilli in the feces or rectal scrapings of cattle is either proof that extensive or "open" lesions of tuberculosis exist, or an indication that tubercle bacilli ingested are passing through the length of the alimentary canal of the animal under examination. Cattle, with "open" lesions of tuberculosis, and throwing off tubercle bacilli in the feces or rectal scrapings, as a rule show physical symptoms of the disease. Cattle showing physical symptoms of tuberculosis are the most active disseminators of the disease, because of the probable existence of "open" lesions, and the likelihood that tubercle bacilli are thrown off in the excreta. Since they show physical symptoms they may be detected in a herd by a consideration of the history, careful observation and a thorough examination of each animal. Tuberculin-reacting cattle do not necessarily throw off tubercle bacilli in the feces until the development of "open" lesions of tuberculosis, in which event the condition may be detected by a consideration of the history, careful observation and a complete physical examination.

73. **Volume Index of Red Corpuscles.**—Larrabee believes that the method of estimating the volume index by spontaneous sedimentation, while perhaps less accurate than the centrifugal method, is good enough for clinical uses. Normally, the corpuscles settle to about 50 per cent. of their total volume, where their number per cubic millimeter is 5,000,000. A volume index from 0.9 to 1.10 may be considered normal. Healthy persons occasionally show considerable variations beyond these limits. Concentration does not of itself affect the volume index. In pernicious anemia the volume index is almost invariably raised. The serum often has a distinct yellow color. The high index is probably also to be expected in those cases in which the pernicious picture is associated with other diseases, that is, when pernicious anemia occurs secondarily. In secondary anemia the volume index is almost always normal or lower than normal. After a severe hemorrhage, however, the volume index and the color index may be high and the blood may resemble pernicious anemia in other respects. One patient with aplastic anemia examined by Larrabee showed a low volume index. In a case of splenectomy for trauma the index was normal. In leukemia the volume index can seldom be estimated by this method. In splenic anemia the volume index was generally low. It was below normal in one case of Hodgkin's disease and high in one of malignant lymphoma.

74. **Osteitis Deformans.**—The case cited by Higbee and Ellis presented essentially all the features of the disease described by Paget, the most common manifestations of the affection being pronounced. The patient died and a careful and thorough postmortem examination was made, both macroscopic and microscopic. The findings were typical of the disease.

75. **Experimental Chronic Nephritis.**—The method used by Mitchell was very similar to that of Ophüls. Two per cent. potassium bichromate was injected subcutaneously. The amount used was started at 1 c.c. weekly, but was gradually increased in order to overcome the recuperative power mentioned by Ophüls. In one rabbit, 1/50 grain of atropin was administered simultaneously with the potassium bichromate. There was in a rabbit, injected only twice, a very marked parenchymatous nephritis with little or no indications of interstitial change. When the injections were continued several months, the predominating lesion was an interstitial nephritis. There is no evidence to show that this was produced at the same time as the parenchymatous lesion or following it. The feature noted especially in these experiments was the exophthalmos in one rabbit, which, to Mitchell's knowledge, has not been noted in experimental chronic nephritis or other conditions produced by chronic systemic intoxication. That the exophthalmos did depend on such an intoxication is, he thinks, the most probable explanation. There was no appreciable effect from the atropin used in one rabbit.

76. **Histology of Hypernephromata.**—Wilson and Willis studied fifty-four renal tumors, forty-eight of which were so-called hypernephromata; twenty-six swine embryos (serial sections), 5 to 20 millimeters; forty-three human embryos (serial sections), 6 to 70 millimeters. They concluded that most, if not all, so-called adrenal rests are probably of Wolffian origin. There is almost no evidence, embryologic or histologic, in support of Grawitz's hypothesis that the so-called hypernephromata have their origin in adrenal rests. There is much evidence that the so-called hypernephromata do not arise from proliferations of the adult secreting epithelium of the convoluted tubules. There is much evidence that the hypernephromata do arise from islands of nephrogenic tissue. Such tissue is sometimes present in the adult kidney and appears capable of forming tumors of the non-infiltrating, mixed-cordon, tubular, papilliform, and sarcoma type so characteristic of the so-called hypernephromata.

77. **Erythrocytic Nuclei of Normal Human Blood.**—King believes that he has been able to demonstrate conclusively that practically every red blood-cell in the blood of normal adults contains stainable remnants of a nucleus, and that the red blood-cells are derived from the bone marrow erythroblasts by a process of physiologic nuclear degeneration, accompanied, of course, by other changes. That the basic staining material which can be shown to exist in the central portion of practically every erythrocyte is nuclear material, King sees no reason to doubt. He feels almost confident that in a single preparation he has seen as many as ten ruptured red blood-cells, from each of which from two to six blood-platelets were emerging. He says he can hardly escape the conclusion that the blood platelets are simply the extruded fragments of the erythrocytic nuclei. The method by which he has been able to demonstrate the nucleation of the red blood-cells is simple and easily carried out. A solution of poly-

chromatic methylen blue is essential, also a saturated solution of picric acid in distilled water. This solution should contain an excess of the picric acid. In addition to these, a 1 per cent. aqueous solution of eosin, and a modified Romanowsky staining fluid will be needed. The blood films should be made on perfectly clean slides in the usual way. They must be neither too thick nor too thin. A little experience will be required before the best results can be obtained. The film should be immediately fixed for two or three minutes in methyl alcohol, and the following steps taken: (1) Rinse in tap water; (2) place for ten minutes in the blue solution; (3) rinse in water; (4) place for ten minutes in the picric-acid solution; (5) rinse in water; (6) place in 1 per cent. eosin solution for from one-half minute to two minutes; (7) rinse in water, and blot perfectly dry; (8) stain for five minutes with King's modified Romanowsky staining fluid; (9) rinse in water; dry, and examine with oil immersion.

79. **Investigations of Pulmonary Tuberculosis.**—The investigations made by Caulfield and others embrace: Variations in the type of v. Pirquet tuberculin reaction; deflection of complement test; procedures outlining possible classifications based on demonstrable serum reactions, and opsonic and phagocytic estimations. Two hundred patients were studied. Briefly, the data obtained from the procedures reported have given a means of grouping certain of the otherwise more or less indefinite clinical conceptions afforded by any study on a number of cases of pulmonary tuberculosis. Until certain of the reactions are proved specific Caulfield thinks it is doubtful whether the different end-results do or do not represent specific conditions between the host and the tubercle bacillus. Regarding the results in the light of clinical work and not from the standpoint of specificity the various data have aided definite conception on three considerations of tuberculous infection: (1) the existing relation between the infecting tubercle and host, as evidenced by (2) the amount of anatomic involvement and (3) the resulting clinical responses. The temporary prognostic values apparently afforded by the interpretation of the type of tuberculin reaction, of antigen-serum reaction, and of the phagocytic behavior of the patient, have been followed chiefly under the favorable circumstances of sanatorium life where most patients exhibit their best powers of resistance. In obtaining these results, observations were made which suggest that the biologic classification might change with clinical variation. Especially was this so with regard to the reactions obtained with various strengths of antigen and patient's serum. Here conception and expression are facilitated by regarding the possibility of two serum contents or reaction capacities. (1) Inhibition.—Serums with this effect allow hemolyses on the addition of "system" because of their serum-antigen resultants which are repellant or non-attractive to complement. (2) Tuberculous sensitizers:—Serums with these specific bodies cause true fixation of complement, shown as complete absence of hemolysis.

80. **The Swamp Fever of Horses.**—Swamp fever is a disease of horses which is widely distributed in the Western United States and in Western Canada. It is usually a chronic disease and is characterized by emaciation, weakness, irregular temperature and anemia. It is caused by an infecting agent which can be transmitted from horse to horse by the inoculation of blood taken from an infected animal. All search for a parasite by Todd and Wolbach, which might cause the disease, has been unsuccessful, although large numbers of preparations of body fluids and tissues have been examined at all stages of the disease by microscopic and bacteriologic methods.

New Mexico Medical Journal, Las Cruces

January

81 One Year's Progress in Our Knowledge of Tuberculosis. F. T. B. Fest, Las Vegas.
82 Education of the Tuberculous Individual in Home Care. E. F. Frisbee.

Bulletin of the Manila Medical Society

December

83 Leprosy. M. T. Clegg, Honolulu, H. T.
84 Polycythemia. C. B. Snyder, U. S. Army.
85 Priority in the Demonstration of Negri Bodies in the Philippines. W. P. Chamberlain, U. S. Army.
86 Community Measures Against Mosquitoes. C. S. Banks, Manila.

Canadian Medical Association Journal, Toronto

January

87 The Ancient Foundations of Heredity. A. B. Macallum.
88 *Renal Activity. T. G. Brodie.
89 *Rheumatism and So-Called Chronic Rheumatism. T. McCrae.
90 Association of Malignant Disease of the Thyroid and Multiple Lipomata. J. R. Goodall and L. C. Conn.
91 Salvarsan in Syphilis. J. G. Fitzgerald.
92 *Early Diagnosis of Pulmonary Tuberculosis. J. J. Thomson.
93 Roentgen-Rays with Bismuth Test Meal in Diagnosis of Gastric Conditions. F. A. C. Scrimger.

88. **Renal Activity.**—Brodie's view is that the glomerulus is, in reality, a means by which there may be set up at the commencement of the tubule a pressure-head sufficient in magnitude to drive the fluid down the tubule. The renal tubule is a long structure possessing an extremely narrow lumen. If, then, we apply Poisseuille's law governing the flow of fluid along capillary tubes to the kidney tubule, we at once see that a considerable pressure is required to drive even a small volume of fluid along such a tubule. It is a well-established fact that the watery part of the urine arises mainly, even under certain circumstances, entirely at the glomerular surface, and this fluid is discharged down the tubule. If we could measure the length of the tubule, the diameter of its lumen in its various sections, and then determine the volume of urine flowing along the tubule in a given time, we could, assuming that Poisseuille's law holds for the tubule, determine how great a pressure is required to maintain such a flow. To test the view, Brodie made some experiments of the following type: A vigorous diuresis was set up in an anesthetized dog by the injection of a warm, saline solution. The rate at which the urine was discharged from one kidney at the height of this diuresis was then determined, and immediately the renal vessels and ureter were ligatured and the intact organ which thus contained, as far as possible, the whole of its blood and urine at the instant of ligature, was fixed in formalin. After hardening, it was cut into portions, the medulla separated from the cortex, and pieces of the cortex weighed, embedded, and cut into sections. These were mounted in series, and then the total number of conglomeri in the whole kidney was calculated from the ratio of the weight of the whole cortex to that of the small piece examined.

The lumen of the tubule in its various parts was next measured. Taking one experiment as typical, Brodie found that a pressure of as much as 93 mm. of mercury was required to drive the fluid along one of the tubules at the rate observed during the experiment. The question at once arises: Whence is this pressure-head derived? There are only two possible sources: (1) a secretory pressure set up by the cells in some part of the tubule, presumably at the glomerulus, since the secretion of water is effected there, or (2) a direct pressure transmitted through the glomerular surface from the blood-pressure. All attempts made to ascertain whether any of the cells of the renal tubule can set up a secretory pressure analogous to that observed in the case of the submaxillary gland, have completely failed. The maximum pressure at which urine can be discharged from the kidney is always from 30 to 40 mm. Hg less than the arterial blood-pressure. Hence, Brodie's suggestion is that the pressure-head is derived from the capillary blood-pressure within the glomerulus, that pressure being transmitted in undiminished amount through the glomerular capillary wall and epithelium. To express this view of the hydrodynamic action of the glomerulus, he terms the glomerulus a "propulsor."

89. **Chronic Rheumatism.**—The whole argument made by McCrae is that there is no entity which we can properly term "chronic rheumatism," and he tries to point out the reasons for doing away with one of the names which is so often treated. He says that the public often reproaches physicians for the inability of the profession to cure "chronic rheumatism." Is it any wonder, he asks, when in so many instances the actual condition is not properly diagnosed but is given a name which does not have any reference to it, and to this the treatment is directed; witness the patient with popliteal aneurysm, on whom much good medicine has been wasted. We can still echo the hundred year old sentiment of Haygarth that a number of conditions are grouped together as rheumatism, which have no other feature in common than the occurrence of pain.

92. **Diagnosis of Tuberculosis.**—Thomson emphasizes (1) the lymphatic nature of the disease in its primary state; (2) the predisposition of the paravèrtebral cranial parts of the lung; (3) the rarity of single lesions in the lower lobes or bases of the lungs; and (4) the importance of percussion. He also notes the value of the v. Pirquet test in all questionable cases. He regards it as an undoubted advance over the uncomfortable subcutaneous injection with its accompanying fever.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

January

94 Edward Jenner, M.D., LL.D., F.R.S. G. W. Cook, Washington, D. C.
95 Physiologic Action of Certain Electrical Currents. C. M. Hazen, Richmond.
96 Fibroids of the Uterus, Complicated by Pregnancy. E. T. Hargrave, Norfolk, Va.
97 Three Unusual Cases in Radiographic Work. D. D. Talley, Richmond.

Cleveland Medical Journal

January

98 *Phylogenetic Association and Certain Medical Problems. G. W. Crile, H. G. Sloan and J. B. Austin, Cleveland.
99 Tabes Dorsalis and the Result of Specific Treatment. F. Billings, Chicago.
100 Fibrous Nasal Polypi. D. A. Prendergast and W. J. Abbott, Cleveland.

98. **Phylogenetic Association.**—It is the purpose of the authors to offer evidence that, underlying medicine, there are certain great natural laws which show that disease as well as health is a part of the web of life; that every phenomenon of disease fits precisely into a general plan, and that like a difficult picture puzzle if we persist we can make up the completed picture of disease. The experimental work and the laboratory findings are described fully, but the length of the article and the limited space in these columns, unfortunately prohibits abstracting this paper.

Detroit Medical Journal

January

101 Phosphatic Index as a Means of Diagnosis and an Aid in Treatment. J. H. Dowd, Buffalo, N. Y.
102 Surgical Aspect of Goiter with Special Reference to Pressure Symptoms. A. W. Blain, Detroit.
103 An Improved Method for Preparation of Bacterial Vaccines. C. M. Stafford, Detroit.

Woman's Medical Journal, Cincinnati

January

104 Fever in the Puerperium. A. W. Tallant, Philadelphia.
105 Suboxidation a Factor in the Cause of Disease. M. E. Dickinson, Rochester, N. Y.
106 The Metranoikter in Dysmenorrhea. C. MacFarlane, Philadelphia.
107 *A Successful Case of Cartilage Transplantation for Prevention of Perforation in Submucous Resection. I. D. Kerr, Boston.

107. **Cartilage Transplantation for Prevention of Perforation in Submucous Resection.**—In Kerr's case there was a marked cartilaginous deviation to the right with a corresponding large basal spur. There was considerable crusting and secretion in the nares. The mucous membranes bled easily, and on both sides of the septum a small white area of cartilage denuded of its mucous membrane was seen. It seemed to the author that if she did a submucous resection these traumatic perforations in the mucous membranes, together with the incision on one side anteriorly, although apparently not directly opposite when the deviated cartilage had been removed and the subsequent shrinking of the mucous membrane had taken place, that a perforation would result. To prevent this, it occurred to her that she might try transplanting a piece of cartilage between the perforations. With this thought in mind, she removed only enough cartilage with the Ballenger knife to allow space to remove the basal spur. That done, she removed the anterior half of the deviated cartilage above, and found a sufficiently straight and large enough remaining piece of cartilage to transplant, and this she allowed to remain in position until she had completed the operation. She then transplanted this piece of cartilage, which was about three-quarters of an inch in length and about one-half inch in width, bringing it as far forward as the incision. The flaps of the incision were brought carefully into place and the nares packed for twenty-four hours. Three days after the operation granulations were seen springing in from the edges of the perforations of the mucous membranes. In ten days the granulations had completely filled in, and no cartilaginous areas could be seen. Seven months have now elapsed since the operation. There is no perforation, the mucous membrane presents a healthy condition, there has been no epistaxis, and the patient, a girl, has perfect breathing.

Long Island Medical Journal

January

108 Empyema of the Maxillary Antrum; Symptomatology, Pathology and Treatment. S. H. Lutz, Brooklyn, N. Y.
109 Suicide by Poison. C. D. Cleghorn, Mineola, N. Y.
110 Historical Sketch of St. Mary's Hospital of Brooklyn. J. Harrigan, Brooklyn, N. Y.
111 Historical Sketch of St. John's Long Island City Hospital. J. H. Barry, Long Island City, N. Y.

Virginia Medical Semi-Monthly, Richmond

January 27

112 Treatment of Some Forms of Cardiac Failure. L. F. Barker, Baltimore.
113 Acute Peritonitis. H. S. MacLean, Richmond.
114 Ileus. S. S. Gale, Roanoke.
115 Local Anesthetics in Anorectal Surgery. E. H. Terrell, Richmond.
116 The Status Lymphaticus; A Condition Found in Subjects Dying from General Anesthesia. C. P. Jones, Newport News.

Kentucky Medical Journal, Bowling Green

January 15

117 Indications for and Preliminaries to Nephrectomy. B. F. Zimmerman, Louisville.
118 Importance of Fetal Physical Diagnosis in Management of Shoulder Presentations. F. C. Wilson, Louisville.
119 Traumatic Hernia. O. E. Bloch, Louisville.
120 The Herz Sphygmomanometer. E. F. Horine, Louisville.
121 Suprapubic Lithotomy for Vesical Calculus Weighing 500 Grains. J. T. Dunn, Louisville.
122 Four Cases of Esophagoscopy. G. C. Hall, Louisville.
123 Enlarged Prostate of Traumatic Origin. G. H. Day, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 21

1 A Lecture on Cardiac Arrhythmia. A. J. Jex-Blake.
2 *Theory and Practice in Treatment of Pulmonary Tuberculosis. W. C. Bosanquet.
3 *A Series of 1,000 Inoculations, Chiefly in Private Practice. H. W. Crowe.
4 *Typhoid Infection. J. A. Mills.
5 Myasthenia with Enlargement of the Thymus. J. O. Symes.
6 *Antihemolytic Action of Arsenic. J. A. Gunn and W. J. Feltham.

2. **Treatment of Pulmonary Tuberculosis.**—While there is nothing new in Bosanquet's paper his emphasis of the principles of the treatment of tuberculosis is worthy of repetition. He says that there is no specific remedy or universal mode of treatment for tuberculosis of the lungs. Neither tuberculin, nor rest, nor work, nor mountain air, nor a sea voyage, nor a sanatorium, is an infallible remedy to be administered to all, as we give quinin for malaria or mercury for syphilis. We must study the individual patient, his circumstances and his idiosyncrasies and, armed with this knowledge, try to raise his resistance to the bacillus and its poisons. Fortunately, the human organism has considerable powers of resistance, if it is not debilitated by adverse conditions; and though we must, above all, endeavor to recognize cases early, before the disease has advanced far, yet even in advanced cases there is always hope of arrest of the disease or at least of a temporary reprieve and prolongation of life.

3. **One Thousand Inoculations.**—The anterior surface of the thigh is the least painful, and in any patient who is at all needle-shy, Crowe always injects in this region, varying each time the exact locality. Other situations are into the extensor surface of the upper arm, the deltoid, or into the skin of the abdomen, but he has usually avoided the conventional site, namely, that of the intrascapular region, as the skin is so tough that it is extremely difficult to avoid hurting the patient. Sometimes he gives the injection deeply into the muscles, sometimes subcutaneously, but he does not believe

the result is affected. The vaccines he used have all been home-grown, with the exception of acne and tuberculin. Of thirty-two cases of staphylococcus infections, twenty-eight patients were cured. One case of pyemia terminated fatally; two patients with acne and one with suppurative eczema are still under treatment. Three of four cases of streptococcus infections yielded readily to the treatment. In one case of nasal catarrh, apparently caused by an extremely long streptococcus, no dose had any effect whatever. The case was a complete failure under treatment. Of six cases of infection due to *B. coli communis*, four patients recovered; one patient with nephritis and one with mucous colitis were not benefited. In seven cases of infections of the respiratory passages other than tuberculous, and caused by the pneumococcus, *M. catarrhalis*, bacillus of Friedländer, and the bacillus of influenza, the patients responded promptly. In a case of unresolved pneumonia, due to Friedländer's bacillus, the whole condition cleared up within forty-eight hours after the first inoculation, although the man had been in bed for a fortnight with high temperature, and extreme dyspnea on the slightest movement. Of thirty-six cases of tuberculosis (skin, one; kidney, two; peritoneum, three; glands, four; breast, one; bones, five; lungs, twenty;) seventeen patients were cured (lungs, seven; bones, breast and skin, one case of each; glands, four; peritoneum, three); five patients were benefited (bones, one; kidney, one; lungs, three); eight remained unaffected (kidney, one; bones, two; lungs, five).

4. **Typhoid Infection.**—Rats are suggested by Mills as being carriers of typhoid. It is in autumn, when the grain has been gathered and as winter approaches that rats and mice leave the fields and make for human habitations. One means by which they obtain entrance—as a matter of common observation—is by drain and sewage passages, especially if those be defective. (Rats themselves are apt to cause leakages and defects in improperly constructed sewers.) Granted the existence of people with actual typhoid, or of human typhoid bacillus-carriers whose excreta is among the sewage where the rats live, and which it is possible they devour, it is easy to see how millions of bacilli may be present on the body, feet, jaws and tails of these rodents, whereby food and drink may become directly as well as indirectly contaminated. In addition, typhoid bacilli may exist in the intestine of mice and rats, and their excreta in turn be a source of infection. An association with rats is traced by Mills in an asylum where the occurrence of typhoid could not be explained in any other way.

6. **Antihemolytic Action of Arsenic.**—Experiments made by Gunn and Feltham with sodium arsenite and sodium arsenate lead them to conclude that arsenic, whether in the form of sodium arsenite or sodium arsenate, exerts on the red blood-corpuscles an action antagonistic to that of certain hemolytic agents. The experiments, therefore, afford additional proof in favor of the view that a protective action on the formed red blood-corpuscles against normal or abnormal hemolytic processes may, in part at least, account for the as yet imperfectly explained benefit which results from the medicinal administration of arsenic in blood-diseases.

Lancet, London

January 21

7 Points in Diagnosis of Orbital Disease. J. S. Hosford.
8 Transverse Fractures of the Patella, Without Separation of the Fragments. A. E. Johnson.
9 *Congenital Pulmonary Stenosis, with Special Consideration of the Nature of the Secondary Blood Changes. E. P. Weber and G. Dorner.
10 Intravenous Method of Treatment of Syphilis with Salvarsan, with a Convenient Apparatus for Such Administration. H. W. Bayly.
11 *"Nodular" Fibromyositis, an Everyday Affection. W. H. M. Telling.
12 *Influence of Chloroform When Repeatedly Administered in Small Doses. G. H. Clark.

9. **Congenital Pulmonary Stenosis.**—The authors reaffirm their previous conclusion that the secondary polycythemia in cases of congenital heart disease is seldom, if ever, rivaled in degree by the secondary polycythemia which sometimes, as is well known, occurs in chronic acquired valvular affections (of the mitral valve) and in adherent pericardium. It is more nearly rivaled by the marked secondary polycythemia occasionally associated with late stages of pulmonary emphysema, chronic bronchitis, asthma, old bilateral pleuritic adhesion, chronic interstitial pneumonia, and pulmonary fibrosis. The polycythemia in all such cases differs from the polycythemia (possibly of primary myelogenous origin) associated with chronic splenomegaly, which has been termed "erythremia," by the not infrequent absence of real cyanosis in erythremia, especially in its early stages. Just as hypertrophy of the walls of the heart is useful in so far as it compensates for mechanical defects in the valvular apparatus, so also is polycythemia useful in so far as it compensates for difficulties in the proper oxygenation of the blood and tissues of the body; but just as in cardiac valvular disease great hypertrophy of the heart indicates some grave defect in the valvular mechanism, so also an extreme increase in the number of erythrocytes in the blood points to great impairment of the normal process of oxygenation of the body.

11. **"Nodular" Fibromyositis.**—It is maintained by Telling that chronic muscular rheumatism, or, to quote some of its synonyms, rheumatism, muscular and tendinous rheumatism, myalgia, muscular fibrositis, etc., is a pathologic condition, the essential morbid process of which is an inflammatory exudation into the fibrous tissues in almost any situation in which fibrous tissue is found. This exudate leads to swelling and thickening of very variable character and degree; it may be slight and impalpable; severe and definitely tumor-forming; acute and transient; chronic, and eventuating in hard fibrous lumps which resist all efforts at dispersal by the ordinary means at our disposal; but under all circumstances it tends to be painful. The one almost constant symptom which results from this fibrositis is pain. These infiltrations are painful when they are pressed on, and if vigorously rubbed they swell up and the pain is greatly increased. This local pain on pressure is practically the diagnostic feature of these cases. If a patient presents himself with any of the ordinary manifestations of chronic rheumatism, as a lumbago, sciatica, pleurodynia, or a cephalagia, and with any obscure myalgic or neuralgic pain in any part of the body, Telling urges that a careful investigation should be made of the fibromuscular tissues of the affected areas. In the more recent diffuse cases there is general tenderness of these tissues, and one may not be able to feel anything which one could definitely assert to be a palpable thickening. But more usually, either with or without such general tenderness, one will find areas which are definitely, often exquisitely, tender to touch. All that is needed is a careful digital exploration of the structures involved. General treatment meted out to a feverish attack, with the employment of the ordinary pain-relieving drugs, is generally sufficient to effect a cure. If the pain is at all localized a single thorough application of massage may result in cure in this early stage. The removal of any discoverable cause, such as gastrointestinal irregularities, must be undertaken, and will not only help toward a cure, but will tend to prevent recurrences. During the more acute exacerbations drugs such as sodium salicylate, and the various means described in the acute attack produce a certain measure of relief, but recurrence is liable to occur indefinitely. To obtain a permanent cure and a complete relief from the recurrent attacks it is absolutely necessary that local treatment should be adopted with a view to obtain a complete dispersal of the indurations. Counter-irritation by blistering or cautery produces relief. Nothing, perhaps, is so efficient as the rubbing in of oil of gaultheria. Mechanical treatment must be adopted to secure a permanent dispersal. The most important of the forms are massage and systematic exercises. Acupuncture is undoubtedly of great use in relieving pain, but in Telling's experience does not produce complete dispersal of the infiltrations. In cases of fibrous nodules which will not yield to simpler measures, and which by implicating or pressing on nerves cause persistent pain, excision is not only advisable but necessary, the only caution being that the nodule must be definitely localized beforehand.

12. **Influence of Chloroform in Small Doses.**—Clark found that chloroform repeatedly administered by the respiratory passages, subcutaneously, and by the stomach in small doses rapidly kills rabbits. The liver shows degeneration of the

cells sometimes so marked that the whole center of the lobule is broken down into débris. The cells in the center of the lobule are early affected, those further out later. Fat is always present, generally in large quantities. The kidney suffers to some extent, but relatively more when the chloroform is inhaled than when injected or given by the stomach. Fat is occasionally found in degenerated cells. The spleen shows intense congestion, the sinuses being packed with red blood-corpuscles. Along with the red corpuscles an orange-colored pigment is generally present which reacts to the stain for iron. A large number of very large phagocytes are present in most cases. The average weight of the spleen was 0.46 gram heavier than the controls when chloroform was inhaled, and 0.59 gram and 0.17 gram heavier when injected and when given by stomach respectively. Degenerative changes were observed in the cardiac muscle. Fat was not observed in any of the hearts examined.

Journal of Tropical Medicine and Hygiene, London

January 16

13 Possible Plurality of Species of the Trypanosomes Affecting Man in Africa. A. Castellani.
14 Trypanosome Diseases of Domestic Animals in Uganda. Sir D. Bruce, A. E. Hamerton, H. R. Bateman and F. P. Mackie.
15 The Human Trypanosome of Northern Rhodesia. L. E. W. Bevan.

Clinical Journal, London

January 11

16 Cancer of the Rectum. F. C. Wallis.
17 Acute and Chronic Inflammatory Lesions of Bone. G. E. Waugh.
18 The Acute Abdominal Case from the Standpoint of a Country General Practitioner. F. W. Langridge.

January 18

19 Gait as an Aid to Diagnosis. H. H. Tooth.
20 Cancer of the Rectum. F. C. Wallis.
21 Value of Electricity in Treatment of Some Abdominal Diseases. H. Manders.

Medical Press and Circular, London

January 11

22 The Help of Roentgen-Rays in Diagnosis of Diseases of the Chest. A. H. Pirie.
23 Treatment of Suppurative Middle Ear and Mastoid Disease by Conservative Mastoid Operation. C. A. A. Dighton.
24 The Traumatic Neuroses. T. R. Glynn.

Archives des Maladies de l'App. Digestif, Paris

November, IV, No. 11, pp. 626-688

25 *Hemorrhagic Colitis. A. Mathieu.
26 *Syncopes in Chronic Colitis. (Les pertes de connaissance dans les réactions d'origine colique.) M. Millon and L. Marre.
27 Rapidly Fatal Case of Diabetes Mellitus with Minimal Lesions in the Pancreas. (Cas de diabète maigre.) M. Labbé, L. Lavastine and G. Vitry.
28 Serodiagnosis of Echinococcus Disease of the Liver. A. Bauer.

25. **Hemorrhagic Colitis.**—Mathieu summarizes the treatment for hemorrhage in the course of simple dysenteriform colitis as merely rest in bed, dieting, moist heat to the abdomen, lavage of the intestines and a mild purge after two or three days. The lavage should be done with an isotonic fluid at a temperature of 38 or 40 C., not injecting more than a liter at most and never with a pressure over from 20 to 40 centimeters. Done in this way, the bowel is cleansed and soothed, with no fear of exaggerating the tendency to spasm. In the severer cases he gives two injections a day of a 0.02 per cent. solution of silver nitrate, seldom exceeding a total of four or five such injections. In the chronic forms, local applications or operative measures may become necessary. The record of the latter as he reviews it is not very encouraging and the later history is not known of many of the patients cited as cured.

26. **Syncopes in Chronic Colitis.**—Millon and Marre have encountered cases of transient loss of consciousness in the course of an exacerbation of the intestinal trouble inducing symptoms of severe indigestion. In other cases the syncope, followed by a small diarrheic passage, is the only sign of trouble. The syncopes are brief and leave no traces, but the dread of them may become an obsession in time, and they might prove dangerous in persons inclined to arteriosclerosis or nephritis. Treatment should seek to soothe the nervous system as it is peculiarly irritable in these patients, besides treatment of the intestine. Four cases in adults are reported in detail. The oldest was a man of 67.

Annales des Maladies des Org. Génito-urinaires, Paris

December 1, XXVIII, No. 23, pp. 2115-2208

29 *Reflex Nervous Phenomena in Urinary Apparatus in Appendicitis. F. de Meo.

December 15, No. 24, pp. 2209-2304

30 *Myomatous Tumors in the Bladder. (Tumeurs musculaires lisses de la vessie.) J. Heitz-Boyer and Doré. Commenced in No. 22.
31 *Treatment of Kidney Disease by Nephrectomy. Pausson.

29. **Symptoms in Urinary Apparatus from Appendicitis.**—De Meo relates the particulars of six cases in Italian literature and two from his own experience in which reflex nervous phenomena, kidney colic, pain during micturition, bladder tenesmus, cystalgia, smarting in the urethra or priapism were the first signs of trouble which later proved to be appendicitis. The inflammation in the appendix evidently acted on the vesical, renal, hypogastric or pubic plexus, inducing functional disturbance. In his cases the urinary symptoms were explained by discovery of an abscess between bladder and rectum, evidently of appendicitic origin, although there was no history of appendicitis. Both patients were young men. In two of the cases from the literature these attacks of pain in the right inguinal region had been ascribed to rheumatism, the fourth simulated kidney colic with strangury. As no improvement followed a month of medical measures, the appendix was removed and all symptoms ceased. Acute retention of urine was also the predominant symptom in another case in which the lesion proved to be an encysted abscess in the pouch of Douglas, the appendicitis having run a latent course.

30. **Myomatous Tumors in the Bladder.**—Of the twenty-three patients given operative treatment, two died within a few days of peritonitis and one from unknown cause. The literature on the subject is reviewed in detail.

31. **Indications for Nephrectomy.**—Pausson concludes his review of the results of the functional tests as applied to determine the condition of the other kidney with the statement that none of them gives positive information. The confidence in the functional capacity of the remaining kidney cannot be more than presumptive at present. So many factors are involved that it is impossible to estimate them all with certainty.

Archives de Médecine des Enfants, Paris

December, XIII, No. 12, pp. 881-986

32 Inconvenience and Dangers of Milk from Cows Fed with Factory Waste. E. C. Aviragnet.
33 *Mucomembranous Colitis. A. Arraga.
34 After-Treatment of Congenital Dislocation of the Hip Joint Reduced by the Bloodless Method. (Luxations congénitales de la hanche.) P. V. Badin.
35 Case of Deforming Fibrous Osteitis with Osteomalacia. S. de Souza.

33. **Mucomembranous Colitis.**—Arraga says that this affection is extremely common in Argentina among children, and that his experience has demonstrated that it is a manifestation of an inherited arthritic tendency. This primary arthritic tendency he ascribes to overfeeding, especially with meat and eggs. Children born with this tendency manifest it early by green diarrhea alternating with constipation. The tendency to constipation and colitis may remain through life—the result of a functional insufficiency of the digestive organs, liver and ductless glands. Overfeeding with meat and eggs aggravates this congenital tendency. Women nursing such children should subsist largely on a milk-vegetable diet, he affirms, and weaning should be postponed as late as possible.

Lyon Médical, Lyons

December 11, CXV, No. 50, pp. 981-1024

36 *Treatment of Pulmonary Tuberculosis by Artificially Induced Pneumothorax. J. Courmont.
37 Prophylaxis of Communicable Disease in the Lyons Schools. C. Lesieur.

December 18, No. 51, pp. 1025-1080

38 Advantages of Appendicostomy: Two Cases of Intestinal Obstruction. G. Gayet.
39 Classification of School Children Who Cannot or Will Not Study. (Essai de classification des enfants paresseux.) E. Weigert.

36. **Artificially Induced Pneumothorax in Tuberculosis.**—Courmont reports benefit from immobilization of the lung in three patients out of his series of four thus treated. In the one unsuccessful case the tuberculous lesions were not

restricted to the lungs and larynx. The method is necessarily limited to cases in which only one lung is involved and the adhesions are not too pronounced. Even ulcerative processes in the larynx may heal when expectoration from the diseased lung stops—this point is instructively brought out in his case-reports. Lesions in the intestines do not seem to be influenced by the suppression of the sputum. In three other cases, the method was found inapplicable. The nitrogen was injected in amounts ranging from 500 to 1,300 c.c., a total of 9,800 c.c. being injected in the first case between April 13 and September 1, in eleven injections. The total was 12,950 c.c. in seventeen injections in the course of seven months in the second case. The third patient was so much improved by five injections in about six weeks that he considered himself cured and declined further treatment.

Presse Médicale, Paris

January 11, XIX, No. 3, pp. 17-24

40 *Myocarditis and Sudden Death in Scarlet Fever. E. Weill and G. Mouriquand.

40. **Fulminating Scarlet Fever.**—Weill and Mouriquand found intense lesions of acute myocarditis at necropsy on a young man who died suddenly on the fifth day of severe scarlet fever which had developed suddenly in the midst of apparent health. The heart findings indicated serious trouble from the first.

Revue de Gynécologie, Paris

December, XV, No. 6, pp. 513-632

41 External Male Pseudohermaphroditism; Suppurative Orchitis Simulating Appendicitis. G. Gayet and Jalifier.
42 *Fibromyomas of the Stomach; Two Cases. P. Peugniez and L. Jullien.

42. **Gastric Fibromyomas.**—Peugniez and Jullien report two cases; in both the operation was done on the assumption of cancer. Both patients have been apparently cured by excision. In some of the cases on record the tumor after a long benign phase seemed to enter on a period of rapid malignant growth.

Revue de Médecine, Paris

December, XXX, No. 12, pp. 937-1012

43 Mycosis Due to the *Oidium cutaneum*. (Oidiomycose gommeuse ulcéreuse disséminée. Mycose nouvelle.) de Beurmann, H. Gougerot and R. Vaucher.
44 Pathogenesis of Cancer. (Maladie et mutation.) M. Jankelevitch.
45 Lesions of the Pancreas in Infantile Gastro-Enteritis. M. Salomon and P. Halbron.
46 Hippocratic Finger with Cardiovascular Disease. (De l'hippocratisme.) J. Baur.

Semaine Médicale, Paris

January 18, XXXI, No. 3, pp. 25-37

47 *The Tourniquet Sign of Disease with Hemorrhagic Manifestations. (Le signe du lacet.) C. Frugoni and F. Giugni.

47. **The Tourniquet Sign of Hemorrhagic Disease.**—For more than four years Frugoni and Giugni have been studying the local phenomena which develop in an affection with a tendency to hemorrhagic manifestations when a slightly constricting band is applied to the limb above. The band is not drawn tight enough to induce actual arterial hyperemia, but merely enough to cause the veins to be a little more prominent, and any tendency to a hemorrhagic diathesis is then rendered locally evident. They relate their experiences with this test applied to patients with various hemorrhagic affections, comparing the findings with those of tests of the various properties of the blood. The trouble does not seem to be with the blood itself so much as in the walls of the vessels. In some of their patients a slight traumatism at one point was followed by hemorrhagic manifestations all over the body except the face, and no means could be devised to induce them in the face; evidently the vessel walls here are exceptionally stout.

Archiv für Kinderheilkunde, Stuttgart

LV, Nos. 1-2, pp. 1-160. Last indexed February 11, p. 462

48 Research on the Thymus and Its Importance in Pediatrics. H. Klose.
49 *Tuberculosis and Tuberculin Treatment in Infancy and Early Childhood. II. P. Rohmer.
50 Cutaneous Thrush in Infants. (Soormykose der Haut im frühen Säuglingsalter.) J. Ibrahim.
51 Toxic Eruption with Bronchiectasia. E. Ruediger.
52 *Idiosyncrasy of Infants to Cow's Milk. R. Halberstadt.
53 Calomel as a Diuretic. F. v. Szontagh.

49. **Tuberculin Treatment of Infants and Young Children.**—Rohmer reports the details of six cases in which Schlossmann's method of tuberculin treatment with comparatively large doses (0.0002 gm.) was applied. The outcome was unfavorable in every instance, although at first marked benefit seemed to be derived; the underlying tuberculosis however continued its course practically unmodified. The large doses of tuberculin seemed to exert an injurious influence on the organism as a whole, bone lesions developing in some of the children while in one the tuberculosis flared up in a fulminating form after an intercurrent attack of measles.

52. **Idiosyncrasy to Cows' Milk in Infants.**—Halberstadt reports six cases and is inclined to regard idiosyncrasy to cows' milk as a symptom of a congenital constitutional anomaly. It does not manifest itself during the first days of life but develops gradually, like pylorospasm, and seems to be somewhat in the nature of anaphylaxis. The different elements of the milk seem to be at fault in different cases but the constitutional unfitness is the primal cause.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 1, pp. 1-201. Last indexed Dec. 31, 1910, p. 2312

54 Surgery of the Biliary Apparatus. (Beiträge zur Chirurgie des Choledochus und Hepaticus einschl. der Anastomosen zwischen Gallensystem und Intestinis.) W. Eichmeyer. Concluded.
55 Fracture of the Radius. H. Zuppinger.
56 Hernia of the Bladder. R. Felten.
57 Importance and Treatment of Congenital Bladder Diverticulum. B. N. Cholzoff.
58 Dosage in Radiotherapy of Tumors. (Massendosirung bei Tumoren.) A. Hessmann.
59 Metastatic Tumor in Pleura with Primary Racemose Sarcoma of Cervix Uteri. A. Heddäus.
60 *Results of Operative Treatment of Diffuse Peritonitis. H. Schmid.
61 Experimental Transplantation of Thyroid and Parathyroids. (Ueber homoioplastische Epithelkörperchen- und Schilddrüsenverpflanzung.) H. Leischner and R. Köhler.
62 Echinococcus Disease of the Bones. (Knochenechinokokkus.) I. Titow.

60. **Operative Treatment of Diffuse Peritonitis.**—Schmid reviews the experiences in this line in Körte's surgical service at Berlin. Rigidity of the abdominal walls and local pain indicate the danger and demand immediate operation. To wait until further signs of peritonitis develop, after perforation of the stomach or other organ or appendicitis, is to court disaster. Perforation of lower parts of the intestines has a graver prognosis. The outcome in all cases depends more on the stage of the peritonitis than on technic. Peritonitis pus is peculiarly dangerous for loose cellular tissue, fat tissue and for the fascia of the abdominal wall. The abdomen can master small amounts of infectious material but succumbs when confronted with too much. Prevention and early operation are the watchwords of success, he declares. In 358 operative cases the mortality among the 235 patients in whom the abdomen was rinsed out—which includes all the severer cases—was 40 per cent., while it was 42 per cent. in the others. The mortality was 25 per cent. for both groups in the cases in which the operation was done within three days after the onset of trouble. It was 55.4 per cent. in the "rinsed" patients operated on by the fourth day or later, while it was 69.2 per cent. in the corresponding group of the "non-rinsed" patients. This difference speaks volumes, he declares, in favor of rinsing out the abdominal cavity as the second group contained all the milder cases.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 2, pp. 175-302. Last indexed January 14, p. 159

63 Comparative Research on Acid-Fast Bacilli. (Vergleichende Untersuchungen mit den praktisch wichtigeren säurefesten Bazillen.) N. Jancso and A. Elfer.

Berliner klinische Wochenschrift

January 2, XLVIII, No. 1, pp. 1-48

64 *Typical and Atypical Pulmonary Tuberculosis. (Lungenphthise.) D. v. Hansemann.
65 Malignant Syphilis and Salvarsan. A. Buschke.
66 Cutaneous Reaction of Syphilids Under Salvarsan. R. Kalb.
67 *Salvarsan Given the Nursing Mother for Inherited Syphilis in Infants. J. Peiser.
68 Radiography of the Lungs. (Die anatomischen Substrate der Lungenröntgenogramme und ihre Bedeutung für die Röntgendiagnostik der Lungentuberkulose.) M. Cohn.
69 *Reaction in Urine of Breast-Fed Infants. S. Engel and L. Turnau.
70 Present Status of Tropical Diseases. (Fortschritte auf dem Gebiete der Tropenkrankheiten.) H. F. W. Hoffmann.

January 9, No. 2, pp. 49-100

71 Proctoscopy and Anemia from Varices in Upper Rectum. (Recto-Romanoskopie und schwere Anämien durch Blutungen aus hochsitzenden Varicen des unteren Dickdarms.) C. A. Ewald.
72 The Electrocardiogram with Displacement of the Heart. G. F. Nicolai.
73 Susceptibility to Bacterial Infection. (Bakterienempfindlichkeit und ihre Bedeutung für die Infektion.) F. Neufeld and H. Doid.
74 The "Interstitial Gland" of the Ovary Found in Certain Animals. (Die interstitielle Eierstocksdrüse.) L. Fraenkel.
75 *Remarkable Urinary Concrements. (Ungewöhnliche Blasen- und Nierensteine.) M. Roth.
76 Brief Ethyl-Chlorid General Anesthesia. M. Behr.
77 Theory of Anaphylaxis. U. Friedemann.

64. **Atypical Tuberculous Processes in the Lung.**—Hansemann believes that important information as to the curability of pulmonary tuberculosis can be derived from the study of necropsy findings in deaths from various causes. Diseases which do not show a tendency to spontaneous cure are not amenable to therapeutics. Therapeutics, therefore, he says, is engaged merely in cooperating with and fostering the natural tendency to heal. Unless the anatomic findings show a tendency to a spontaneous cure under favorable conditions, little can be hoped from treatment; he has never known of a case of acute miliary tuberculosis which terminated in recovery. The same can be said of acute disseminated cheesy bronchitis. Anatomic findings suggesting even a beginning of a healing process with these affections have never yet been encountered, to his knowledge. With tuberculous apical processes no recovery is known when the lesion extended below the second or third rib; the most that can be expected from treatment in these cases is to prolong life. It is impossible to destroy all the tubercle bacilli in such advanced cases. In regard to the importance of mobilizing the superior aperture—the Freund operation—he admits the usefulness of curing the rigidity of the part but thinks that this can be accomplished by gymnastics—exercises of the muscles attached to the upper rib. He emphasizes in particular the importance of this mobilization as a prophylactic measure in families with a history of tuberculosis and an inherited tendency to stenosis of the superior aperture. He is convinced that if orthopedic measures of this kind could be commenced about the age of 12 and continued to 21, the development of typical pulmonary tuberculosis might be avoided in many cases. It is the task of the family physician to warn the parents of the necessity for such treatment for their children, especially when they are growing fast and the chest is flat and narrow. In conclusion he insists anew on the necessity for antisyphilitic measures when a tuberculous process develops in a syphilitic. Typical pulmonary tuberculosis always begins in the apex, he states, but atypical forms are encountered almost invariably in children and in the aged.

67. **Salvarsan in Inherited Syphilis.**—Peiser refers to four cases in recent literature in which salvarsan taken by the nursing mother had a beneficial effect on the infant with severe manifestations of syphilis. He then describes two cases and refers to four recently reported in which no benefit was apparent although the mothers were given salvarsan systematically.

69. **Urine Reaction in Breast-Fed Infants.**—Engel and Turnau state that a black precipitate forms in the urine of breast-fed infants when 15 or 20 drops of a 2 per cent. solution of silver nitrate are added to 5 c.c. of the urine. The discoloration reaches its height in ten minutes or still earlier if the fluid is heated. There is no black discoloration with urine from bottle-fed infants.

75. **Urinary Concrements.**—Roth gives an illustrated description of a number of cases of remarkable kidney and bladder concrements and comments on the difficulty of differentiation when, as often happens, the symptoms are slight and misleading, or there may be no subjective symptoms. The main point is to bear the possibility of eventual stone formation in mind. In one of his cases nothing suggested kidney stone until the cystoscope revealed the source of the bleeding as in the kidney. Patients with hematuria are too apt to be lost sight of after the hemorrhage is over, and yet hematuria, he insists, is almost invariably the manifestation of some important urogenital affection. Mistakes will be avoided far more frequently if the cystoscope is used even with apparently merely nervous symptoms on the part of the bladder. No one should be classed as a "sexual neurasthenic" until after exclusion of all other possible causes.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 1, XLI, No. 1, pp. 1-48

78 Salvarsan in Syphilis. E. Heuss.

January 10, No. 2, pp. 49-80

79 Modified Definition of Spores. (Warum ist est berechtigt, der granulären Form des Tuberkulosevirus Sporencharakter zuzuschreiben?) W. Knoll.
80 Transfusion of Blood in Pernicious Anemia. Tièche.

Deutsche medizinische Wochenschrift, Berlin

January 12, XXXVII, No. 2, pp. 49-96

81 Syphilis in Rabbits. (Syphilitische Allgemeinerkrankung bei Kaninchen.) P. Uhlenhuth and P. Mulzer.
82 *Poisonous Butterine. (Verwendung gesundheitsschädlicher Stoffe in der Margarinefabrikation.) W. P. Dunbar.
83 *Fever with Malignant Kidney and Suprarenal Tumors. J. Israel.
84 *Phenolphthalein Test for Occult Hemorrhage in Gastro-Intestinal Tract. I. Boas.
85 Relations Between Tabes Dorsalis and Leptomeningitis. M. Astwazaturow.
86 Bactericidal Properties of Effusions. S. Weil.
87 Nail Extension. T. Voeckler.
88 Plastic Operation with Functional Cure of Severe Trapezius Paralysis. O. Rothschild.

82. **Poisonous Butterine.**—Dunbar's communication, giving the results of his research, was summarized in the Berlin Letter, February 11, page 435. He warns of the danger of new poisonous ingredients being used in the production of articles intended for food as the manufacturers go farther afield in search of less expensive ingredients for their products. (As stated in the Berlin Letter, January 7, page 54, the firm manufacturing the poisonous butterine advertised a reward for "discovery of the person who had adulterated the product," suggesting that it was a criminal act of revenge. But Dunbar traced the disturbances to a new ingredient used in making the butterine.)

83. **Fever With Malignant Tumors in Kidneys or Suprarenals.**—Israel has encountered eighteen cases in which a tumor in a kidney or suprarenal was accompanied by intermittent or relapsing fever. In some of the cases the fever was for a long time the only sign that anything was wrong. In twelve of the cases the cancer was confirmed by an operation and he gives the temperature curve of some in this group, showing the complete disappearance of all tendency to fever after removal of the cancer, and its persistence without much modification after merely palliative or partial operations. With metastasis the fever flares up again as also if some hitherto latent cancer germs rouse to malignant energetic growth. The outcome was less favorable in the febrile than in the non-febrile cases. The importance of suspecting cancer with fever of unknown cause is illustrated by the case of a patient at the Trousseau hospital at Paris, with a large tumor in the left kidney and intermittent fever, who was long treated on the assumption of malaria and enlarged spleen. One of Israel's patients with hectic fever but no signs of pulmonary or bronchial tuberculosis was sent to a sanatorium for lung diseases until development of signs pointing to a tumor in the kidney. Israel comments on the scanty literature on fever with renal cancer and hypernephroma, some of the most experienced clinicians not even mentioning the subject; but he declares that this must be due to inadequate study of the cases or misinterpretation of the findings or to too brief period of observation before the operation. In some patients the fever always accompanied or just preceded hematuria. The fever was observed with cancers of different histologic structure. The rapid growth of the tumor, propagation to the adipose capsule, veins or adjoining tissue favor the development of a febrile temperature but are not indispensable for it.

84. **The Phenolphthalein Test for Occult Gastro-Intestinal Hemorrhage.**—Boas remarks that the benzidin test for occult bleeding is so sensitive that the findings are liable to be misleading; even having eaten a little meat, days before, may lead to a positive response. On the other hand, the unmodified guaiacol test is not sensitive enough. Midway between them stands the phenolphthalein test which he commends to the general practitioner as more reliable than either while it

is extremely simple, the reagents used are durable, and the color reaction is so pronounced that it is impossible to mistake it. He tabulates the comparative findings with the three tests and describes the technic. The stool is rubbed up in water till it forms a thin fluid. Into this a little acetic acid is stirred; ether is then added, and the reagent glass is slowly moved to and fro until the contents are well mixed. The ether is then decanted into another reagent glass and 20 drops of the phenolphthalin reagent are added, the whole is shaken and then 3 or 4 drops of hydrogen dioxid are added. In the presence of blood the phenolphthalin is oxidized into phenolphthalein and as it is in an alkaline medium the fluid turns pink. With considerable blood the pink tint persists for some time, with very little blood the pink tint soon fades away. The reagent is made by dissolving 1 gm. of phenolphthalein and 25 gm. of potassium hydroxid in 100 gm. water and reducing with 10 gm. of pulverized zinc. The resulting red fluid is stirred or shaken over a small flame until it is entirely decolored, the phenolphthalein being reduced to phenolphthalin. It is then filtered when it is ready for use and keeps indefinitely. With much admixture of blood the reaction is pronounced even without addition of hydrogen dioxid. No meat should be eaten for a few days before the test.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, CVIII, Nos. 1-2, pp. 1-220

89 Extradural Surgical Anesthesia. A. Läwen.
90 *Origin and Treatment of Ischemic Muscular Contracture and Gangrene. B. Bardenheuer.
91 Plastic Technic After Amputation of Breast. L. Heidenhain.

90. **Treatment of Ischemic Contracture and Gangrene.**—Bardenheuer devotes about 155 pages to his study of the origin and treatment of these conditions illustrating the various points by examples from his own experience. The prognosis depends, he says, on the period in which the ischemic myositis or contracture is discovered and suitable treatment applied. This should include search for the central, causal, retromuscular or retrofascial hemorrhage probably responsible for the trouble or measures to prevent its development, treatment of the primary acute ischemic myositis and means to correct the resulting contracture. The conditions are graver in different regions.

Medizinische Klinik, Berlin

January 8, VII, No. 2, pp. 45-84

92 Gonorrheal Pyosalpinx. E. Opitz.
93 Chronic Intestinal Catarrh. (Leitsätze über die Diagnose, Pathogenese und Aetiologie des chronischen Darmkatarrhs.) E. Schmidt.
94 Functional Tests of the Stomach in General Practice. (Soll der praktische Arzt diagnostische Magenfunktionsprüfungen vornehmen?) F. Goldschwend.
95 *Improved Serodiagnosis of Syphilis. (Serodiagnose der Syphilis mittels Präzipitation von Natr. glycoehol. unter Heranziehung des Cholesterins.) O. Herman and A. Perutz.

95. **Improved Serodiagnosis of Syphilis.**—Herman and Perutz having simplified the precipitation test devised by Elias, Neubauer, Porges and Salomon report positive results in 108 out of 134 cases of syphilis, while the Wassermann reaction was positive in only seventy-two out of 102. Their test consequently gave 4 per cent. more positive reactions than the Wassermann technic. In eighty-nine control cases traces of precipitation were observed in only a single instance, the findings in all the other cases being negative. They commend their modification as practically reliable, much simpler than the Wassermann test and as destined to wide application in general practice for the serodiagnosis of syphilis. The technic requires only a little blood, which is allowed to stand for a few hours. The clot is then detached with a platinum wire, the serum is centrifugated, the sediment removed, and the serum is then inactivated by heating exactly to 65 C. for half an hour in the water bath. The serum should not be powerfully hemolytic. The reagent is a mixture of 2 gm. sodium glycocholate with 0.4 gm. cholesterin and 95 per cent. alcohol to 100 c.c. This mixture is diluted with distilled water, 1 to 20. The second reagent is a freshly made 2 per cent. aqueous solution of sodium glycocholate. To 0.4 c.c. of the serum are added 0.2 c.c. of the twenty times diluted reagent 1, and 0.2 c.c. of the 2 per cent. sodium glycocholate solution, and the whole is well shaken. The test tube is then plugged with cotton and allowed to stand quietly at room temperature for twenty-four hours. After twenty-four hours distinct precipitation indicates a positive reaction but if the fluid is merely turbid with fine flakes and no precipitate thrown down the reaction is regarded as negative. The findings in 223 cases are tabulated for comparison, the non-syphilitic cases showing, with a single exception, a constantly negative reaction.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 3, pp. 311-510. Last indexed January 28, p. 312

96 Drumstick Finger with Subclavian Aneurysm. (Entstehung der einseitigen Trommelschlägelfinger bei Aneurysmen der Arteria subclavia.) E. Ebstein.
97 *Inflammation of Adipose Capsule of Kidney. (Entzündung der Nierenfettkapsel.) W. Bussenius and C. Rammstedt.
98 *Tuberculous Articular Rheumatism. (Ueber einen autoptisch verifizierten Fall von tuberkulösem Gelenkrheumatismus.) E. Melchior.
99 *Syphilitic Spondylitis. (Syphilitische Wirbelentzündung.) H. Ziesché.
100 Surgical Treatment of Intestinal Syphilitic or Cancerous Stenosis. H. Schmilinsky.
101 Hyperplastic Muscle and Salivary Gland Disease. (Speicheldrüsenerkrankung und Myopathie.) S. Schoenborn and K. Beck.
102 *Postoperative Paralysis of Stomach. (Postnarkotische Magenlähmung.) A. Payer.
103 Histology and Functions of Gastric Mucosa. (Magenschleimhaut, insbes. bei chronischen Erkrankungen des Magens.) J. E. Schmidt.

97. **Inflammation of Adipose Capsule of Kidney.**—Bussenius and Rammstedt remark that the syndrome resulting from mere congestion and infiltration of the adipose capsule has not been much studied. Soldiers are especially liable to it as result of contusions, kicks, riding unruly horses, lifting heavy weights, etc. Sometimes the syndrome comes on insidiously but more often it comes on abruptly with chill and high fever. The temperature rises in a series of peaks, then remains continuous for a day or so, then becoming remittent with low morning and high evening curves. Even a difference of 2 C. (3.6 F.) between morning and evening temperatures is not conclusive of suppuration. The pulse-rate is generally faster than the temperature would warrant, and sweats may also be observed. The digestive apparatus usually shares in the disturbance, and constipation follows after a period of diarrhea in some cases. Sudden pain is characteristic, not always in the kidney itself, but below, and pressure increases the pain. It may radiate to the stomach, bladder, cecum, perineum or genitals. The chief tender point is found just below the twelfth rib and pressure here generally brings on the pain anew, as also deep breathing, coughing and moving the trunk. There is some swelling of the lumbar region unless the trouble is in the front of the capsule. Seven cases are reported in detail. They show that the patients can recover under medical measures alone in some cases. The general condition is the criterion; if the patient does not seem to be growing worse, expectant treatment is justified. Repeated exploratory punctures are useful, and the hot-air apparatus frequently renders good service. In the authors' cases, potassium iodid seemed to have a decided influence in promoting absorption of the products of the inflammation. Under these measures three of the patients recovered entirely, although slowly, but in the other cases the process passed into a suppurative stage, and recovery followed evacuation of the pus. They advise operative treatment, even if no pus is evident, if the general condition seems to be growing worse and the patient weaker. The pus may make its way into the intestines, bladder or ureter and a spontaneous cure may thus be realized.

98. **Tuberculous Articular Rheumatism.**—Melchior remarks that only four cases have been published to date in which the tuberculous nature of the articular rheumatism has been established beyond question, and to this list he now adds a fifth. The patient was a girl of 19 with glandular tuberculosis as a child and later a tuberculous process in the lower jaw compelling total resection in 1909. Twelve days after the operation, moderate fever developed with multiple acute swelling of joints, the syndrome deceptively resembling that of acute articular rheumatism except for the relatively low fever, the slight painfulness of the lesions in the joints, their torpid character and the absence of the sweats characteristic of ordinary acute articular rheumatism. Tubercle bacilli were found in the blood. The joint lesions seemed to subside

spontaneously so that by the end of three months nothing was left of them except a slight thickening of one knee. The patient died in a few months from amyloidosis, independent of the joint processes. Necropsy revealed tuberculous nodules in the synovial membranes of the joints which had been involved. During life inoculation of animals had been negative, showing that the presence of tubercle bacilli in the synovial membrane does not necessarily imply their presence in the effusion in the joint.

99. **Syphilitic Spondylitis.**—Ziesché reports a case and reviews recent literature on this subject, tabulating the details of eighty-six cases he has found on record. The affection is generally considered as unusually malignant but this, he thinks, is because it is not recognized until it is in an advanced stage. In the case of a child the condition received treatment early and improvement was soon realized. In this case there was not the slightest reason for suspecting syphilis; the first sign of trouble was a gibbus in the region of the first and second lumbar vertebræ. The tuberculin tests were negative but the Wassermann reaction was positive although no swollen glands could be discovered. Investigation disclosed syphilis in the child's nurse. Mercury and iodid brought rapid improvement. Ziesché is convinced that syphilitic spondylitis is more frequent than generally suspected; in the mild cases the lesions heal and nothing is known of them. In this compilation the age was mentioned in fifty-three cases, and 28 per cent. of the patients were between 30 and 40; 22.7 per cent. under 10, and 11.3 per cent. between 50 and 60. The cervical vertebræ alone were involved in sixty-one of the eighty-eight cases; the thoracic in twelve; both in one, and the lesions were diffuse in four cases. In over 41 per cent. only one vertebra was affected, two vertebræ in over 28 per cent., and four in 5 per cent. In eight of the sixty cases of syphilis of the cervical vertebræ death occurred suddenly. Thirty-eight of the patients recovered under appropriate measures although left with more or less functional disturbance. Mercury and potassium iodid should be given in large doses, he says, even transient salivation should not be allowed to interrupt the treatment, and the iodid should be continued for a time after apparent recovery.

102. **Acute Dilatation of the Stomach After General Anesthesia.**—Payer states that a fatal termination occurred in over 53 per cent. of the cases of this trouble in the literature and his own experience. The diagnosis in time is more important here than in almost any other affection, he emphasizes, as change of position is the only and the efficient cure. The trouble has been called by twenty-one various names, including pseudo-ileus, mesenteric incarceration of the bowel and also acute paralysis of the stomach. The initial shock, the increased peristalsis and antiperistalsis and secondary acute dilatation of the stomach form the general description of the syndrome, but Payer is convinced that the trouble is in reality a primary paralysis of the stomach from the toxic action of the anesthetic. For several years he has been examining the stomach functioning before and after operations under general anesthesia, and he found more or less of a tendency to paralysis of the stomach in nearly every instance. This paresis is accompanied by gastrorrhea and each in turn aggravates the other; if the patient lies on his back serious trouble may follow while if he is turned on his right side the stomach contents flow spontaneously out of the stomach. Atony of the stomach is almost invariably evident as the patient rouses from the anesthetic; sometimes the lower margin of the stomach will be found below the umbilicus, but this atony generally subsides so that no trace is left after from twelve to twenty-four hours. Postoperative vomiting is directly connected with this atony; in every case in which it persisted longer than this, the atony also persisted. The critical period is from the third to the fifth day, when a more liberal diet is allowed. Even although there may be no symptoms, investigation will show how the lower margin of the stomach drops lower, the effect being more pronounced the shorter the interval since the anesthesia. Errors in diet have a marked influence on the development of the paresis, and children are especially liable to it. Even a week after the anesthesia, acute dilatation of the stomach and distention may occur. Drainage of the peritoneal cavity is also liable to affect the stomach and induce atony, as he observed in two striking cases—an appendicular abscess in a child and a liver abscess in a man. Payer now makes a point of having the patient lie on the right side if there is any tendency to vomiting after from twelve to twenty-four hours. This generally answers the purpose but if disturbances persist he gives a chamomile tea enema, with the patient still lying on the side, repeating the enema frequently at need, giving nothing by the mouth. In very severe cases the knee-chest position was the only means of final relief; this never failed. He never had to resort to lavage of the stomach. During the last two years he has been giving oxygen freely in connection with the anesthesia, to paralyze the toxic action of the chloroform, and imagines that he has noted a favorable influence on the gastric paresis. This postnarcotic gastric paralysis, as he calls it, has been observed after the most diverse operations. He lists also the predisposing factors as they have been recorded in the literature and also the factors that proved the last straw. The latter list includes overfilling of the stomach with food or fluids, the toxic action of veronal, or of scopolamin, dread of the operation, abdominal straining, compression of the abdomen by a plaster cast, tamponing the abdominal cavity (Nakahara), compression of the duodenum by tampons, wandering kidney or liver, drastic purgative (Jacoby), and saline purges, increasing the stomach content by osmosis (Selby).

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 8, pp. 383-446. Last indexed January 7, p. 82

104 *Formula for Estimating General Condition of Infants. (Formel zur Beurteilung von Säuglingen in bez. auf ihren Allgemeinzustand.) J. Bauer.
105 Metabolism of Infants with the Exudative Diathesis. F. Steinitz and R. Weigert.
106 Lessening of Sensibility to Opium with Increasing Age of Laboratory Animals. (Empfindlichkeit verschieden alter Tiere gegen die Opiumalkaloide.) E. Döbeli.
107 Advantages of Large Doses of Antitoxin in Diphtheria. I. Wickman.
108 *After-History of Children with Eczema. (Schicksal von Ekzemkindern.) E. Moro and L. Koll.
109 Leukemia with Skull Tumor in a Year-Old Child. O. Herbst.

104. **Formula for Estimating General Condition of Infants.**—Bauer thinks that a good estimate for comparison can be obtained by dividing the weight in grams by six times the length in millimeters, plus three times the age in days. The formula for this is: $W \div 6(L+3D) = X$. Weight $\div 6$(Length $+3$(Age in) days)$=$ the unit of health.

108. **After-History of Children with Eczema.**—Moro and Koll have traced the fate of sixty-three boys and thirty-seven girls between 3 and 11, known to have suffered from chronic eczema during infancy. The majority were found apparently healthy. No special tendency to the rheumatic or gouty diathesis could be discovered in these children or their parents and no evidence of special overfeeding. Another point brought out is the frequency of spasmophilic phenomena in infants with the exudative diathesis. The coincidence is too striking to be merely casual; it seemed rather as if both were clinical manifestations of one and the same diathesis. The total findings are tabulated under various headings and compared with similar data from control groups.

Münchener medizinische Wochenschrift

January 10, LVIII, No. 2, pp. 65-120

110 Chemical Composition of the Nucleus of the Cell. (Chemische Beschaffenheit des Zellkerns.) A. Kossel.
111 *Gastrospasm. R. Waldvogel.
112 Hemagglutinin Reaction in Serum Sickness. F. Bauer.
113 *Premonitory Symptoms of Puerperal and Postoperative Thrombosis and Embolism. H. Michaelis.
114 Salvarsan in Treatment of Syphilis of the Nervous System. H. Marcus.
115 Salvarsan in Syphilis. Favento.
116 Hectine in Syphilis. C. Ravasini.
117 *Direct Massage of the Heart with Apparently Fatal Chloroform Accident. (Erfolgreiche direkte Herzmassage bei Narkosenscheintod.) A. T. Jurasz.
118 Lead Poisoning from Glazed Earthenware Preserve Jars. (Bleivergiftung durch irdenes Topfgeschirr.) J. Wengler.
119 Subcutaneous Injections of Natural Radio-Active Mineral Water. F. Hirz.

111. **Gastrospasm.**—Waldvogel is convinced that true gastrospasm is a very frequent if not the most frequent affection of the stomach, far more common than the often mistakenly

diagnosed gastric ulcer, while the symptoms resulting from the gastrospasm are more constant than those from altered secretion. The prognosis of gastrospasm is favorable under appropriate treatment, that is, sedative measures to reduce the irritability of the innervation of the stomach and of the nervous system in general. He differentiates the condition by the level of the lower margin of the stomach after the patient has taken an effervescing mixture: 4 gm. of sodium carbonate and 4 gm. of tartaric acid, each in 100 c.c. of water. He gives the mixture two or three hours after breakfast or four or five hours after dinner and has the patient recline. Finger percussion from the nipple downward shows that the inflated stomach under these conditions, in a healthy and not excited person, always reaches to the umbilicus. The findings are much more reliable with this test, he thinks, than with bismuth and radiography. He accepts gastrospasm when with the complaints of oppression, pain and eructation of pure air without odor or taste, the lower margin of the stomach is found to be a handbreadth above the umbilicus and only two or three fingerbreadths below the costal arch. The contraction of the stomach is most marked in the region nearest to the umbilicus. In some cases, the entire effervescing mass was explosively vomited—a further confirmation of the assumed gastrospasm in the absence of palpable stomach lesions. The gastrospasm is generally observed with clinical pictures in which spasms of all kinds are common. Lead poisoning is a frequent cause, and also abuse of tobacco, arteriosclerosis of the abdominal vessels and uremia. But chief of all causes is general neurasthenia, and various signs of nervous excitability and abnormally low nervous threshold generally accompany the gastrospasm, such as tremor of the fingers and tongue, accelerated pulse, insomnia, etc. Gastrospasm on the other hand is seldom encountered with hysteria. He adds that in one case the patient dropped tobacco completely after long abuse and a condition of atony of the stomach followed which lasted for several weeks.

113. **Premonitory Signs of Thrombosis.**—Michaelis had a fatal case of pulmonary embolism in the first week he set up practice for himself; this was followed by two non-fatal cases of embolism in less than six months and five others in two years. Since then he has not had thrombosis develop in any case and he is convinced that his careful prophylactic measures now are responsible in large part for the absence of this serious puerperal and postoperative complication. It always gives warning, he declares, in the form of a very slight rise in temperature, possibly transient and unnoticed unless the temperature is taken four times a day and the thermometer left in place for fifteen minutes at least. This alone permits the recognition of a temperature above 37.5 C. (99.5 F) at any time during the day. He does not say, of course, that every subfebrile temperature is an index of the onset of thrombosis, but that anything over 37.5 C. suggests the necessity for caution and close supervision of the patients, guarding them against any violent movement, any excitement or fright, and keeping the bowels loose with oil injections, and a mild laxative and suitable diet. If the patient is allowed to get up early, heedless of the warning of the slight subfebrile temperature, danger looms large. He is convinced that these measures and keeping the patient in bed for a week as quiet as possible, have contributed in no small proportion to the smooth recovery of many of his patients showing slight transient subfebrile temperature, thus tiding them past the danger stage.

117. **Direct Massage of the Heart in Apparently Fatal Chloroform Accidents.**—Jurasz reports another case in which the patient's heart and lungs ceased functioning suddenly during a long operation; by prompt massage of the heart, with the hand introduced in the laparotomy wound and squeezing the heart through the diaphragm, the vital functions were restored. The patient was a woman of 50 whose pylorus was being resected for cancer. All went well for an hour, but as the duodenal stump was being attended to, the apparently fatal accident occurred. Artificial respiration was kept up at the same time as direct massage was applied to the heart and oxygen pumped into the lungs. The heart showed the effect of the massage in two minutes and the patient began to breathe spontaneously. The massage and artificial respiration were then suspended, but immediately the syncope came on again. The artificial respiration and heart massage were then resumed and in a minute the vital functions began again. The operation was then concluded under a few whiffs of ether, with no further disturbance. The pulse at the close was small but regular and recuperated under a few injections of camphor so that no further stimulants were necessary. Eight minutes in all elapsed between the first stoppage of the heart and its definite revival and no further disturbance in its functioning occurred although the operation was continued and more of the anesthetic given. Jurasz has found records of sixty-four cases of direct massage of the heart in the literature. The patients were resuscitated in two out of the twenty cases in which the massage was done through the chest wall and in eleven of the twenty-six cases in which the heart was massaged through the diaphragm. None of the patients survived when the hand was introduced through an opening made for it in the diaphragm. The total recoveries thus number thirteen or 23.3 per cent. of the cases, but temporary success was obtained in fifteen additional cases. He advises incising the epigastrium in five minutes at latest after arrest of the heart functioning and seizing the heart between the thumb and two fingers, to squeeze it rhythmically about sixty times a minute, supplementing this with artificial respiration and insufflation of oxygen if possible. The massage and artificial respiration should be kept up for a time after the first spontaneous movements. It is sufficient to sterilize the field with tincture of iodin, massaging with the gloved hand.

Therapeutische Monatshefte, Berlin

January, XXV, No. 1, pp. 1-80

120 *Digitalis in Arrhythmia. (Digitaliswirkung bei unregelmässiger Herztätigkeit.) E. Edens.
121 Action of Digitalis on the Isolated Vessel Walls. R. Gottlieb.
122 Action of Strophanthin on the Heart. R. Gottlieb.
123 *Mode of Action of Certain Diuretics. E. Meyer.
124 Treatment of Furuncles. A. Schüle.
125 Treatment of Rhinophyma. F. Pels-Leusden.
126 Radiotherapy of Tubercles. H. Dietlen.
127 Serotherapy. (Therapeutischer Wert der Heilsera.) H. Risel.
128 Salvarsan in Syphilis. L. Halberstaedter.

120. **Action of Digitalis in Arrhythmia.**—Edens states that the newer methods of examining the pulse and heart action have only strengthened our confidence in digitalis. When the drug fails to act—which used to be ascribed to impurities in the drug—we now know that it is because the heart affection is of a kind which is not influenced by digitalis. This very failure is proving a most important aid for diagnosis and prognosis, as he illustrates by a number of case-reports and tracings. The chief element in the action of digitalis, possibly, is the promotion of the circulation through the coronaries by the lengthening of the diastole and the better filling of the arterial system. When mechanical obstacles, such as aortic insufficiency, interfere or when the acceleration of the pulse is the result of nervous influences rather than of insufficiency of the heart muscle, then digitalis is liable to fail. The drug is thus liable to render good service, he asserts, in differentiating the various kinds of extrasystoles and in improving the contracting power of the heart. It may seem to induce a bigeminus rhythm of the entire heart but under its continued administration the rhythm alters so that the contraction of the auricle occurs simultaneously with that of the ventricle systole while the interval between the first and second systole persists unmodified. These are the cases described by Hering as "pseudo-alternans," and Edens has encountered five such cases; the digitalis induced bigeminus of the ventricles while retarding the auricle beat.

123. **Action of Diuretics.**—Meyer reports experiences which show that the improvement in the circulation liable under digitalis may be followed by very much increased elimination not only of urine but of sodium chlorid in the urine. In a case of extreme dropsy with only 360 c.c. of urine, under digitalis the urine increased in two days from 360 to 3,300 c.c. and the sodium chlorid from 2.9 to 26.4 gm. A similar remarkable diuretic action was observed in a case of tuberculous polyserositis under calomel and digitalis, the figures being almost identical with those in the first case. He

explains this action of calomel as due to the absorption of the fluid effused into the intestines under the influence of the calomel.

Therapie der Gegenwart, Berlin

January, LII, No. 1, pp. 1-48

129 Physical Measures as Aid in Treatment. (Ueber Gymnastik in der häuslichen Praxis.) A. Goldscheider.
130 *Inhalation of Superheated Air in Bronchitis. (Behandlung der Bronchitis und verwandter Zustände mit trockner, heisser Luft.) A. Schmidt.
131 *Infant Feeding in Health. (Ernährung des gesunden Säuglings.) M. Pfaundler.
132 *Resection of Spinal Nerve Roots for Spastic Paralysis. O. Foerster.
133 *Gastric Surgery. (450 in drei Jahren ausgeführte Magenoperationen.) H. Küttner.
134 *Treatment of Uterine Hemorrhage. B. Kroenig.
135 Politzer's Air Douche During Deep Inspiration. (Neuere Modifikation meines Verfahrens zur Wegsammachung der Eustachschen Ohrtrompete.) A. Politzer.

130. Treatment of Bronchitis by Dry, Hot Air.—Schmidt has been systematically applying this measure for a number of years and has found it useful in simple chronic catarrhal inflammation of the larynx and bronchi; it is less effective in emphysema bronchitis and bronchiectasia, and is unreliable in tuberculous pulmonary and laryngeal processes. The patients inhale the superheated air through a tube with removable glass mouthpiece; the air is filtered through cotton, dried by passing through calcium chlorid and heated in a small chamber inside a large, asbestos-coated stove heated by gas or electricity. A thermometer is mounted in the tube near the mouth. The patients experience great relief from the dry hot air thus inhaled through the mouth and expelled through the nose and in many cases the bronchitis seemed to be permanently cured.

131. Infant Feeding.—Pfaundler suggests, as a readily remembered formula for a healthy infant, taking cow's milk to one-tenth of its weight in grams, adding carbohydrates to one-hundredth of its weight, and water to bring the whole to 1 liter; the whole is divided into five portions and as much of each portion given as the child drinks with relish. This formula is useful from the second to the sixth month; and may be modified according to the child's individual digestive functioning. He prefers for the carbohydrate up to the fourth month sugar and oatmeal gruel, after the fourth month a 2 to 4 per cent. wheat, flour or barley gruel.

132. Resection of the Posterior Nerve Roots for Spastic Paralysis.—Foerster states that this operation has now been done in forty-five cases to date, including twenty-seven of Little's disease. The best results have been obtained in Little's disease, a large number of totally bedridden patients having been restored to their feet. Satisfactory results have also been obtained in a case of tuberculous spondylitis, in one of a traumatic transverse lesion of the spinal cord, and in spastic paralysis of the legs following hydrocephalus or encephalitis in childhood. The results were disappointing in the five cases of multiple sclerosis. In five cases of spastic paralysis of the arm after hemiplegia good results were obtained in three but only moderate benefit in a fourth. A fifth patient whose operation dates from eight weeks is already beginning to use his arm which had been totally paralyzed before the resection of the posterior roots. The majority of the patients have thus been benefited by the operation. The principles and technic were described in THE JOURNAL, Oct. 16, 1909, page 1342.

133. Operations on the Stomach.—Küttner comments on the exceptional prevalence of gastric cancer in southeastern Germany; in the last three years the surgical clinic at Breslau in his charge has had 426 patients with certain gastric cancer and 258 suspects, with 130 with non-malignant surgical gastric affections. About 30 per cent. of the cancer patients had suffered for years from stomach trouble while the others had noticed gastric symptoms only for less than six months. In 10 per cent. of the cases there had been no pain; in 20 per cent. no vomiting; in 7 per cent. no loss in weight—usually the patients had lost from 20 to 30 pounds. In a very few cases there had been nothing to attract attention to the stomach, the patient complaining merely of lassitude and loss of weight. In 31 per cent. the palpation findings were negative. There was no hydrochloric acid, or merely traces, in 73 per cent.; lactic acid was noted in 57 per cent., and traces of bleeding in only 61 per cent. In a few patients both the motor and secretory functioning of the stomach seemed to be entirely normal. He performed a radical operation in 102 cases, using the Billroth II technic and Murphy button, silk sutures and plastic reenforcement of points exposed to special stress. The immediate mortality was 24 per cent. mostly from defective suturing or complications on the part of the lungs, pneumonia or cachexia. To date, after an interval of from one to three years, 37.5 per cent. of the patients are still living; the proportion of cured after three years was 30 per cent. in his previous series. Nearly half of the patients who had gastroenterostomy done for a callous gastric ulcer have succumbed since to gastric cancer, and only 16 per cent. are still in good health of those whose condition is known.

134. Treatment of Obstetric and Gynecologic Hemorrhage.—Among the other measures described, Krönig expatiates on the success of compression of the abdominal aorta by a tourniquet and pad applied to the artery. This seems to answer the same purpose as the Momburg technic while it does not have the unpleasant by-effects of the latter, he says. The aorta compressor devised by Gauss has been applied in 100 cases and has proved eminently useful; its unwieldiness however, gives the Momburg technic the advantage outside of an institution. He comments on the transformation in the conception of uterine hemorrhage in the last few years, the defective functioning of the ovaries now being incriminated rather than the uterus. Treatment therefore is directed more to the ovaries and curetting of the uterus is regarded now as a mere symptomatic measure, no longer causal treatment. The aim should be to act on the ovaries directly or indirectly by way of other ductless glands, possibly by organotherapy, or radiotherapy. The Roentgen rays have shown great efficacy in this respect, and are proving, he says, a powerful means of treating climacteric hemorrhage, menorrhagia during the forties and in hemorrhage with uterine myomas. Over seventy patients have been given systematic radiotherapy for myoma and, with the exception of two cases in which the course was not completed, all the patients were clinically cured and the growth of the myoma arrested or it has entirely retrogressed. The Roentgen-ray treatment has superseded operative measures at his clinic as it has so many advantages over the latter and the disturbances from the Roentgen menopause are comparativelv insignificant as it is brought on so gradually. The only objection is the expense. He remarks in conclusion that no progress seems to have been realized in late years in the management of uterine hemorrhage from cancer, gonorrhea or tuberculosis. With hemorrhages at puberty and chlorosis, radiotherapy is not possible on account of danger of injury of the ovaries; he has obtained excellent results however in such cases from sweating procedures in addition to iron, keeping the patients in bed for three or four weeks. Even when all other measures had failed this treatment proved successful.

Virchows Archiv, Berlin

December, CCII, No. 3, pp. 321-474

136 Behavior of Plasma Cells and Vessels in Lymph Glands After Severing the Nerves. L. Martinotti.
137 Chronic Changes in Heart Valves. W. Dewitzky.
138 Case of Tuberous Sclerosis and Multiple Tumors in the Kidney. J. Kirpicznik.
139 Interstitial Connective-Tissue Cells in Testicle and Their Atrophy. (Zwischenzellen und Hodenatrophie.) K. Koch.
140 Giant Cells in Amyloid Organs. (Vorkommen von Riesenzellen in amyloiden Organen und die Beziehungen zwischen dem ischämischen Infarkt und der Amyloidose.) T. Tsunoda.
141 Origin of Chronic Inflammation. (Versuch einer Theorie der chronischen Entzündung auf Grund von Beobachtungen am Pankreas des lebenden Kaninchens und von histologischen Untersuchungen nach Unterbindung des Ausführungsganges.) M. Natus.
142 Red Blood Corpuscles in the Epidermis. H. Josephy.

Wiener klinische Wochenschrift, Vienna

January 12, XXIV, No. 2, pp. 43-82

143 *Obese Children. (Fettkinder.) R. Neurath.
144 Pulmonary Distomiasis. (Zur Kenntnis der Lungendistomumkrankheit.) Y. Tanaka.
145 *Causes and Treatment of Temporary Partial Amaurosis. (Flimmerskotom und seine Behandlung.) A. Pichler.
146 Circumscribed Chronic Peritonitis with Adhesions. W. Denk.
147 Differential Diagnosis of Hysteria and Allied Organic Nervous Disease. Z. Bychowski.
148 *Salvarsan in Syphilis. (Bemerkungen zur Ehrlich-Debatte.) E. Finger.

143. **Obese Children.**—Neurath discusses pathologic obesity in the young; it is characterized by the local preponderance of the accumulations of fat in the subcutaneous tissue and by the association with other physical anomalies. He describes a case in which a boy of 10 weighed 36.8 kg. (about 80 pounds) while only 109 cm. (43 inches) tall. The child measured 83 cm. (33 inches) around the waist and 53 cm. (21 inches) around the head, and complained of disturbances in vision in the evening, headache and dizziness. A course of thyroid treatment had a marked influence on the obesity. The facts observed in this case compared with others like it in the literature suggest, Neurath thinks, a tendency to hydrocephalus with compression of the hypophysis from the distention of the third ventricle interfering with the functioning of the hypophysis. The obesity seemed to have developed suddenly after scarlet fever three years before, and Goldstein has reported three cases which he explains as hypophysis obesity following a serious meningitis. Babonneix has also reported six cases of obesity in children; all were remarkably short, and in all the head was unusually large. The obesity in one had followed scarlet fever. Neurath has also reported another case in which hydrocephalus in a child caused symptoms suggesting a cerebellar tumor plus obesity. The symptoms finally subsided, confirming the assumption of hydrocephalus without a primary tumor, the distention of the third ventricle downward accounting for the symptoms observed. The obesity resulting from this cause is characterized especially by accumulations of fat in the abdomen, buttocks and chest, unusually short stature, and sometimes by symptoms of pressure on the cerebellum. In two other cases the obese children had epileptiform seizures; the syndrome was of the type described by Tandler as eunuchoid obesity, the result of a functional incapacity, hypoplasia of the interstitial tissue of the ovaries or testicles, the internal secretion regulating the secondary sexual characteristics and the course of ossification. The epileptiform convulsions suggested an organic affection of the brain apart from true epilepsy. Neither of the children had reached puberty.

145. **Transient Partial Blindness.**—Pichler suffers himself from recurring scintillating scotoma and his study of the subject shows that the attacks are not only analogous to migraine but are amenable to the same treatment and prophylactic measures. There seems in most cases to be a hereditary predisposition which is enhanced by any cause weakening the nervous system or inducing vasomotor disturbances. The partial blindness itself we seem to be unable to influence but the succeeding headache can be warded off or mitigated by sedatives. If the patient feels the slightest sign of an impending attack, immediate cessation of work, lying down for half an hour, and eating a light lunch will often dispel the attack. Pichler's attacks are generally preceded by a bright spark floating before his eyes; if he is able to drop work at once and lie down for half an hour there is no further trouble, but if he keeps at work the typical attack and headache follow. He found marked neurasthenia in thirty-nine of his fifty-three patients, and about the same number stated that the attacks came on after long-continued close eye-work. In treatment the main point is to discover the actual underlying cause in each case and by hygiene and suitable measures keep the vital functions in good order.

148. **Salvarsan.**—Professor Finger is chief of the clinic for skin diseases and syphilis at the university of Vienna, and he insists that salvarsan should not yet be placed in the hands of the general practitioner as it has not been sufficiently studied in respect to the technic of administration, dosage and indications, especially as he and others have observed injurious by-effects from the drug. It is immaterial, he continues, for the practitioner to know how these by-effects can be explained. It is not enough to assure him that the by-effects and fatalities are not yet positively known to be the work of the new drug. What he must be assured before the drug is offered for general use is that the untoward effects sometimes observed are certainly not the work of the drug which he is being urged to use. Besides, Finger adds, even Ehrlich himself admits that one of the fatalities recorded was the direct consequence of the administration of salvarsan. [The injurious by-effects to which Finger refers were mentioned in THE JOURNAL, January 7, page 83, in an abstract of his article on the subject.] He states that similar by-effects have been observed in a number of other cases since; the clinical picture is practically the same in all. He refrains from comment on principle in order not to bias his judgment of the drug which has certain undeniable advantages, wishing to regard even the by-effects from the optimistic rather than the pessimistic standpoint. He comments further on Igersheimer's conclusions that salvarsan cannot harm a healthy eye because it seems to cure syphilitic eye lesions; this assumption does not necessarily follow. The predilection for the drug may vary in the healthy and the diseased optic nerve. Igersheimer's further statement that large quantities of arsenic were refound in the animals' eyeballs in his experimental research, even although no appreciable harm resulted certainly suggests caution. The frequency of the occurrence of by-effects with salvarsan cannot be compared with those from mercury as each new day may bring new developments while the matter is practically settled for mercury. Finger also comments on Martius' statement that extensive necrosis at the point of the subcutaneous or intramuscular injection was observed in every one of the twelve cadavers he had opportunity to examine two or three weeks after injection of salvarsan. [Martius' communication was summarized in THE JOURNAL, February 4, page 388.] Finger also calls attention to the fact that a distinction must be made between the frequency of syphilis as a cause of eye disturbances and the frequency of eye disturbances in the course of syphilis. Syphilologists know of the eye disturbances only from the complaints of the patients, while the ophthalmologists discover disturbances which escape the notice of the attending physician.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVII, No. 3, pp. 603-799. Last indexed February 4, p. 389

149 Utilization of Anterior Wall of Cervix in Operation for Vesico-vaginal Fistula. O. Küstner.
150 A Young Placenta Implanted on Uterine Isthmus and Cervix. R. T. Jaschke.
151 Retrogression of Lutein Cystomas After Hydatidiform Mole. E. Santi.
152 Pseudotumor in Small Pelvis from Contraction of Pyriform Muscle. (Seltenes Palpationsphänomen im kleinen Becken.) A. Mayer.
153 Rudimentary Solid Uterus Bipartitus with Solid Vagina. H. Küster.
154 *Tuberculosis of the Placenta. J. Novak and F. Ranzel.
155 *The Cicatrix After Cesarean Section in Respect to Later Pregnancies. (Die Uterusnarbe des korporealen und cervikalen Kaiserschnitts und ihre Chancen bei späteren Schwangerschaften und Geburten.) F. A. Scheffzek.
156 Eclampsia and the Wassermann Reaction. M. Semon.

154. **Tuberculosis of the Placenta.**—Novak and Ranzel report ten cases of tuberculous placenta; tubercle bacilli were found in the placenta in seven. They review the history of this subject and the conclusions that might be drawn from their and others' findings in regard to the marriage of tuberculous girls and sterilization of tuberculous married women.

155. **The Cicatrix After Cesarean Section.**—Scheffzek has had spontaneous rupture occur after Cesarean section at a previous pregnancy in two cases in his experience. In ten other cases labor in women who had had Cesarean section done in former years was abnormally prolonged; in one case labor lasted for sixty-eight hours. In five cases Cesarean section had to be done anew and in four women premature delivery was artificially induced but version and forceps were required to terminate it. His experience shows that the cicatrix of the extraperitoneal Cesarean section is far stronger than that of the classic technic. Section in the body of the uterus necessarily impairs the child-bearing faculty much more than the extraperitoneal technic. Even when there were suppuration and infiltration during the healing of the extraperitoneal section yet there was no fixation of the uterus or displacement from retraction of the cicatrix. The extraperitoneal technic has been applied in seventy-one cases to date and it is so much simpler, he thinks, than the classic technic that he regards it as applicable by the general practitioner even under primitive conditions. He has frequently operated in this way without an operating table, in a room hastily arranged for the purpose, and obtained the same favorable results as in a well-equipped clinic.

Zentralblatt für Chirurgie, Leipsic

January 14, XXXVIII, No. 2, pp. 33-72

157 *Ligation of Veins for Suppurative Portal Thrombosis. (Venenunterbindung bei eitriger Pfortaderthrombose nach Appendicitis.) O. Sprengel.
158 *Glycerin to Relax the Bladder. O. Franck.
159 Operative Treatment of Stenosis. F. A. Kehrer.

157. **Ligation of Veins in Suppurative Thrombosis of the Portal Vein.**—THE JOURNAL, Aug. 28, 1909, page 753, mentioned the successful outcome of ligation of the mesenteric veins in a case of portal thrombosis following appendicitis. Sprengel recently encountered a case of the kind and applied the same measure in treatment. His patient was a man, aged 29, with a first attack of appendicitis with perforation. Sprengel recently encountered a case of the kind and applied two days after the operation had been first proposed and found then that the ascending colon had no well-developed mesentery and that the retroparietal peritoneum was exceptionally fat. These facts may have been responsible for the failure in this case. The ligation did not fully answer its purpose and the pylephlebitis continued its fatal course, involving even the finest ramifications of the portal vein. A single case of failure is not decisive, however, but Wilms' successful case is still the only one on record.

158. **Glycerin as a "Laxative" for the Bladder.**—Franck has had scarcely a single failure since he has made a practice of injecting from 15 to 20 c.c. of a 2 per cent. boric acid-glycerin into the bladder without attempting to draw the urine. He injects it without a catheter, with force enough to send it past the sphincter at the outlet of the bladder. About 10 c.c. escapes from the urethra but enough gets into the bladder to answer the desired purpose, stimulating the "peristalsis" of the organ so that spontaneous evacuation of urine follows in twenty minutes at most. This is now his routine practice after all abdominal operations and he has found it useful also in paralysis of the bladder from mechanical and nervous causes. Even strictures and enlargement of the prostate are transiently favorably influenced by this liquid catheter, as he calls it.

Zentralblatt für Gynäkologie, Leipsic

January 14, XXXV, No. 2, pp. 49-96

160 *Extradural Injections for Pain in Sacral Region. (Epidurale Injektion bei Kreuzschmerzen.) H. Albrecht.
161 Mammary Origin of Eclampsia Toxin. E. Martin and E. Santi.
162 Anatomic Mammary Insufficiency. (Zur Frage der anatomisch begründeten Stillunfahigkeit.) R. T. Jaschke.
163 Sudden Death During Delivery. E. Venus.

160. **Epidural Injections for Sacral Pains.**—Albrecht has applied Cathelin's technic in fifty-three cases of severe pains in the sacral region without appreciable disease in the genital organs. The result was the complete cure of the pain in 72 per cent. while the benefit was brief or no benefit was observed in 28 per cent. His experience shows that the procedure is particularly useful in treatment of functional bladder disturbances, in idiopathic pruritus vulvæ and for coccygodynia. He injected from 30 to 40 c.c. of physiologic salt solution, with or without local anesthesia. In two out of three cases of enuresis a cure was obtained by a single injection, as also in nine out of sixteen cases of severe functional neuroses without pathologic findings in the abdominal organs or genitalia. Most of these patients had long been under treatment in the hospital without appreciable benefit. In a case of exophthalmic goiter with pain in the lumbar and sciatic regions, the pain subsided for three days and then returned but disappeared permanently after a second injection with no recurrence during the five months to date. In another case a complete cure was realized by this means after failure of systematic and repeated courses of other measures for relief of intense sacral pain and idiopathic pruritus in a woman with premature menopause. [The technic was described in THE JOURNAL, July 13, 1901, page 150.] Equally favorable results were obtained in eleven out of thirteen cases of severe sacral pain persisting after apparent cure of old chronic inflammation of the uterine appendages. He thinks it possible that the sacral pain in these cases was a morbid pain-habit and that this habit was broken up by the single injection. Some of these patients had been in the hospital for from six to fifteen weeks under a course of treatment to promote absorption of the products of inflammation.

Zentralblatt für innere Medizin, Leipsic

January 14, XXXII, No. 2, pp. 33-64

164 Behavior of Purin Bodies in a Case of Cirrhosis of the Liver Before and After the Talma Operation. E. Axisa.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 8, XXXII, No. 4, pp. 33-48

165 Antitoxic Action of Tuberculous Effusions. (Studi sugli essudati tubercolari umani considerati in rapporto alla immunita.) S. Livierato and E. Crossonini.

January 12, No. 6, pp. 59-66

166 General Anesthesia with Aid of Scopolamin. R. Caminiti.

Policlinico, Rome

January 8, XVIII, No. 2, pp. 37-68

167 Salvarsan in Syphilis. (Il preparato di Ehrlich-Hata nella cura della sifilide.) M. Truffi.

January 15, No. 3, pp. 69-100

168 *The Scapula-Angle Sign of Tuberculous Pulmonary Lesions. C. A. Crispolti.

168. **The Scapula-Angle Sign of Tuberculous Pulmonary Lesions.**—Crispolti states that the "acromion symptom" to which O. Kuthy has recently called attention is nothing but Baccelli's scapula-angle sign which has long been taught in Italy as an important indication of a disease process in the lungs causing the wall of the chest on that side to lag behind the other in the excursions of respiration. Baccelli found that this difference in the excursions was most marked at the superior angle of the scapula, at the inner extremity of its upper border, and that this difference was apparent even when the lesion was in an incipient stage. Kuthy devoted his attention to the movements of the acromion, and calls it the acromion symptom. He found it pronounced in 99.3 per cent. of 356 tuberculous patients examined, and in the eighty-five cases in which the trouble was bilateral, the sign was pronounced on the side most involved.

Ugeskrift for Læger, Copenhagen

January 12, LXXIII, No. 2, pp. 35-70

169 General Anesthesia with Scopolamin, Morphin and Ether. R. Hastrup. Commenced in No. 1.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

DISEASES OF THE JOINTS AND SPINE. By Howard Marsh, M.A., M.C., Cantab., F.R.C.S., Master of Downing College and Professor of Surgery in the University of Cambridge. New and Enlarged Edition Thoroughly Revised by the Author and by C. Gordon Watson, F.R.C.S., Surgeon to the Metropolitan Hospital. Price, $3. Cloth. Pp. 632, with 100 illustrations. Chicago: Chicago Medical Book Co., 1910.

SERUM AND VACCINE THERAPY. Bacterial Therapeutics and Prophylaxis Bacterial Diagnostic Agents. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of General Pathology and Bacteriology, King's College, London. Second Edition. Cloth. Price, 7 shillings 6 pence net. Pp. 406. London: J. & A. Churchill, 7 Great Marlborough Street, 1910.

ABHANDLUNGEN ÜBER SALVARSAN (EHRLICH-HATA-PRÄPARAT 606 GEGEN SYPHILIS). Gesammelt und mit einem Vorwort und Schlussbemerkungen herausgegeben von Dr. Paul Ehrlich, Geh. Obermed.-Rat, a. o. Professor, Direktor des Instituts für experimentelle Therapie, Frankfurt a. M. Paper. Price, 6 marks. Pp. 402. Munich: J. F. Lehmann's Verlag, 1911.

DIE HEILUNG DER GICHTISCH-RHEUMATISCHEN ERKRANKUNGEN GEMÄSS DER ERFOLGREICHST BEWÄHRTEN METHODE. Von Dr. M. J. Kittel, Spezialarzt für gichtisch-rheumatische (orthopädische) und für innere Frauenbehandlung in Franzensbad. Von J. F. Kleine. Paper. Pp. 128. Berlin: Kleine & Stapf, W. 15, Kurfürstendamm 35, 1911.

HOWARD TAYLOR RICKETTS Y SUS TRABAJOS SOBRE EL TABARDILLO (TIFO DE MEXICO). Publicado por la Secretaria de Instruccion Publica y Bellas Artes en cumplimiento del acuerdo relativo del Presidente de la Republica. Paper. Pp. 137. Mexico City, Mexico, 1910.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS. Transactions of the Sixth Annual Meeting, Washington, D. C., May 2-3, 1910. Paper. Pp. 440. Secretary, Dr. Henry B. Jacobs, 11 Mt. Vernon Place, West, Baltimore, Md.

FESTSCHRIFT ZUR VIERZIGJÄHRIGEN STIFTUNGSFEIER DES DEUTSCHEN HOSPITALS. Herausgegeben von dem Medical Board in Auftrage der Aerzte des Deutschen Hospitals und Dispensary in der Stadt New York, 1909. Paper. Pp. 598.

VIERZIG JAHRE DES DEUTSCHEN HOSPITALS UND DISPENSARY IN DER STADT NEW YORK. Eine geschichtliche Darstellung. Paper. Pp. 119, with illustrations.

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RETROPERITONEAL SHORTENING OF THE ROUND LIGAMENTS*

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I take it that the following propositions are generally conceded, and are accordingly excluded from this discussion.

1. Many displacements cause no symptoms and require no treatment.
2. Many displacements cause discomforts which may be easily and completely relieved by well-fitting pessaries.
3. In many instances discomforts due to displacements could be best relieved by operation were there not complicating affections, pulmonary, cardiac, renal, thyroid, etc., which would render operation unduly hazardous. In such cases pessaries serve a useful purpose.

There remain, however, many displacements, some simple and others complicated, which require operative correction. It is to this class alone that my remarks will refer.

The last decade has done much to crystallize our views regarding the normal position of the uterus, the mechanism of posterior displacements, the rôle played by coincident affections and the relative degrees of discomfort due to each and the many ways by which displacements may be corrected, with their respective advantages and defects.

NORMAL POSITION

The normal relative positions of the uterus and vagina are rarely given in text-books of anatomy, obstetrics or gynecology. Dissections and frozen sections of the female pelvis are misleading. They are usually made after fermentation has caused distention of the alimentary canal, including the rectum. The anterior and posterior walls of the rectum are normally in contact except when gas is being expelled, or at the time of defecation. Text-book illustrations usually show the rectum enormously distended. Adapting the illustrations of four well-known text-books to the scale of a normal mature woman, we find both the rectum and the vagina inflated to a diameter of 1½ to 3 inches. This inflation of the canals occupies nearly the entire antero-posterior diameter of the pelvis. This distortion pushes the uterus and vagina forward, the illustrations making them appear almost vertical, and almost in a straight line. As they appear to be on end the uterus is raised from its normal pelvic position to become an abdominal organ.

Normally, however, the vagina is almost horizontal, runs almost directly backward, and the uterus is directed forward at an acute angle. This horizontal position exerts an important influence in preventing prolapse, whereas the vertical position favors telescoping.

We have three chief factors which prevent uterine prolapse or hernia: (1) the pelvic floor; (2) the uterine ligaments, and (3) the normal acute angle between the uterus and vagina (with the cervix as a fairly fixed point), which causes the intra-abdominal pressure exerted from above to close the vaginal slit firmly.

It is a wise provision of Nature that normally closes the oblique opening through the pelvic floor more and more tightly as intra-abdominal pressure increases. This is effected by rendering the vaginal canal and the uterus which run in opposite directions, more and more nearly parallel and horizontal. This method of closure is analogous to that of the ureter as it enters the bladder.

In order that the uterus may remain in its normal position it is necessary to maintain to a considerable degree the functional value (1) of the pelvic floor; (2) of the supporting ligaments which radiate from the cervix, and (3) of the round ligaments, which act as guy-ropes.

MECHANISM OF RETROVERSION AND OF PROLAPSE

With the cervical attachment of the base of the broad ligaments acting normally as a pivotal point, the fundus will remain forward if the round ligaments are normal. If the round ligaments are stretched (as by a fall or after delivery), however, the fundus may turn backward to any degree, though the integrity of the broad ligaments and of the pelvic floor remains unimpaired. As a matter of fact, however, posterior displacements are very often, if not usually, accentuated by an injury to the pelvic floor or by stretching of the supporting (i. e., radiating) ligaments, or by both.

Should both these supports be impaired at the same time (i. e., the pelvic floor and radiating ligaments), the direction of both the uterus and the vagina is rendered more nearly vertical and they assume more nearly a straight line. When such mechanical conditions exist, it is easy for the uterus to be telescoped into and through the vagina. Such a prolapse implies:

1. A shortening of the posterior wall of the vagina as by a perineal tear.
2. The stretching of the sacro-uterine ligaments permitting the cervix to move forward.
3. Elongation of the round ligaments permitting the fundus to tilt backward.
4. Stretching of the broad ligaments, permitting the uterus to sag downward.

The degree of prolapse and the speed with which it develops varies with the type of work and other causes for varying intra-abdominal pressure, such as straining at stool, etc.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910. This article is part of a symposium, other articles of which appeared last week and further on in this issue.

COINCIDENT AFFECTIONS

In my experience about 70 per cent. of patients requiring operation for posterior displacements of the uterus have also suffered from associated diseases of the ovaries, tubes or appendix. Fortunately, the medical profession has emerged from that period when it was customary to attribute all discomforts of doubtful origin to the genital tract. By virtue of close scrutiny and strict adherence to the laws of logic many so-called reflex uterine pains have been reduced to their correct analysis and have assumed the concrete form of gallstones, gastric and duodenal ulcer, floating kidney, ureteritis, chronic appendicitis, hyperthyroidism, incipient tuberculosis, relaxation of the sacroiliac joints and other postural defects with consequent muscular and ligamentous strain, etc.

The medical profession and womankind owe a lasting debt of gratitude to Drs. Reynolds, Lovett, Goldthwaite and others for demonstrating the frequency with which backache is due to postural defects and rendering it easy to differentiate between the several types of pain.

Our chairman, Dr. Clark, has wisely emphasized the importance of making an itemized record of the several



Fig. 1.—Normal acute angle between the uterus and vagina. Intra-abdominal pressure, exerted from above, closes the vaginal slit firmly, thus preventing prolapse.



Fig. 2.—Cystocele and rectocele. Cervix permitted to move forward by relaxed broad and sacro-uterine ligaments. When the foregoing occurs the uterus and vagina are in approximately the same vertical line. It is then just a question of time when the uterus will telescope into and through the vagina.



Fig. 3.—In common with other forms of transperitoneal suspension of the uterus, the Gilliam operation leaves firm bands of tissue stretching across the free abdominal cavity. R. L., round ligaments stretching across the free abdominal cavity, leaving three openings (O), through which it is possible for a loop of intestine to slip and become strangulated.

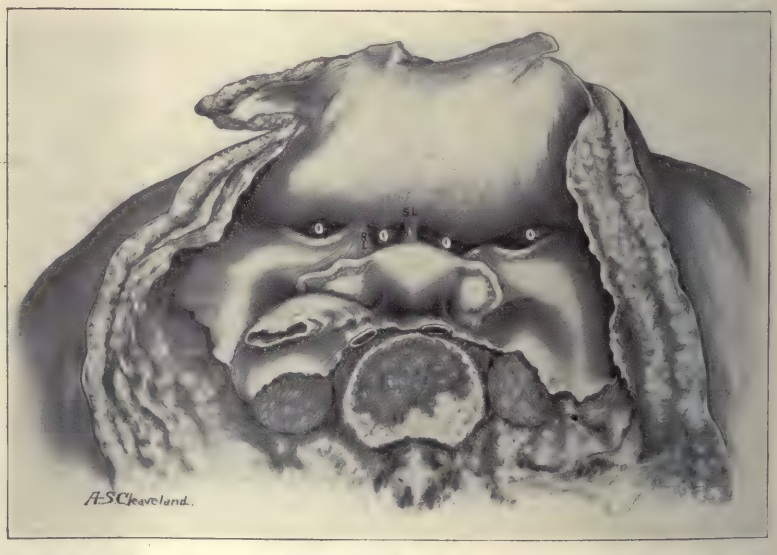


Fig. 4.—If by chance the ligaments should be overshortened and the fundus held in contact with the abdominal incision, the two surfaces become adherent. A suspensory ligament would be added and we would have four openings through which an intestine might slip and become strangulated. R. L., overshortened round ligaments and resulting suspensory ligaments (S. L.) which stretch across the free abdominal cavity, leaving four openings (O) through which an intestine might slip and become strangulated.

disease conditions affecting the individual patient; of the percentage in which they contribute to her discomforts, and of the extent to which each may probably be relieved by the proposed plan of treatment.

In this day of safe surgery, many people expect too much from operations and one will reduce the frequency and degree of disappointment if he strives to tell the individual patient beforehand just which of her discomforts may *not* be relieved by the operation. This



Fig. 5.—Heavy straight lines indicate normal direction of round ligaments. Dotted lines show the slight degree of stretching which will permit the uterus to become retroverted.

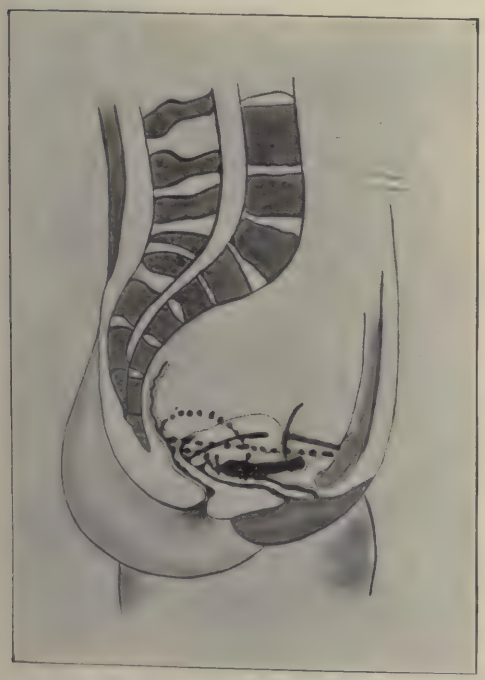


Fig. 6.—Heavy lines represent the shortened round ligament, which is directed forward. Dotted lines represent the marked stretching of the transplanted round ligaments that must take place before retroversion can occur.

enables the patient to decide judiciously regarding a plan of treatment.

OPERATIVE CORRECTION

It is needless to review here the evolution of the various procedures or to enumerate the several operations and modifications which hold the uterus forward. Each of the several recognized avenues for surgical correction has its advocates who have modified the following types of operation:

1. Inguinal shortening of the round ligaments (Alexander, Edebohls, Martin, Goldspohn).
2. Vaginal fixation of the uterus and vaginal shortening of the round ligaments (Goffe, Schuching, Duhrssen, Maskenrodt, Vineberg, Reed, Wertheim).
3. Intra-abdominal shortening of the round ligaments (Polk, Wylie, Dudley, Mann, Bissell, Morris, Baldy).
4. Attachment of round ligaments posterior to the uterus (Webster and Baldy).
5. Attaching the uterus to the anterior abdominal wall firmly, loosely, indirectly (Kelly, Fowler, Martin, Dorsett).
6. Transperitoneal shortening of the round ligaments (Olshausen, Ferguson, Beck, Gilliam, Martin, Campbell, McGannon).
7. Retroperitoneal shortening of the round ligaments (Ferguson, Noble, Simpson, Montgomery, Mayo, Peters, Barrett).
8. Shortening of the sacro-uterine ligaments through the abdomen or vagina (Bovée, Bishop, Stoner, Young).
9. Transverse attachment of the base of the broad ligaments in front of the cervix.
10. Intraperitoneal shortening of the round and broad ligaments (Coffey).

The uterus may be held forward by any one of several satisfactory methods. In order that it may remain in its normal position, it is necessary to maintain, to a considerable degree, the functional value, first, of the pelvic floor; second, of the supporting ligaments which radiate about the cervix; and third, of the round ligaments which act as guy-ropes. I take it that correction of mechanical defects of any of these structures constitutes an essential part in the several operations considered in this symposium.

The principles of safe and effective correction are simple. They not only take into consideration the normal



Fig. 7.—Uterus held in normal position by ligaments shortened and directed forward behind the parietal peritoneum (P).

position of the genital organs and the mechanism of displacements, but also the existence of other pelvic viscera (intestines, bladder, ureters) and the accidents common to them. The value of an otherwise satisfactory operation may be impaired by a considerable percentage of failures; by interfering with the function of reproduction; by causing considerable pain; by leaving bands of adhesions stretched across the free abdominal cavity; by entailing too great a risk to life or by frequently substituting other pathologic conditions which are themselves a source of considerable inconvenience.

It has always seemed to me that when skill, technic, facilities and other conditions justify elective operations, the mere fact of opening the abdomen does not necessarily entail serious risk. When the abdomen is opened, one can occasionally detect and correct associated troubles which would otherwise continue to cause discomfort. For these and other reasons, I am inclined to look with favor on the operations which open the abdomen in the mid line, thus making it possible to investigate all areas of discomfort.

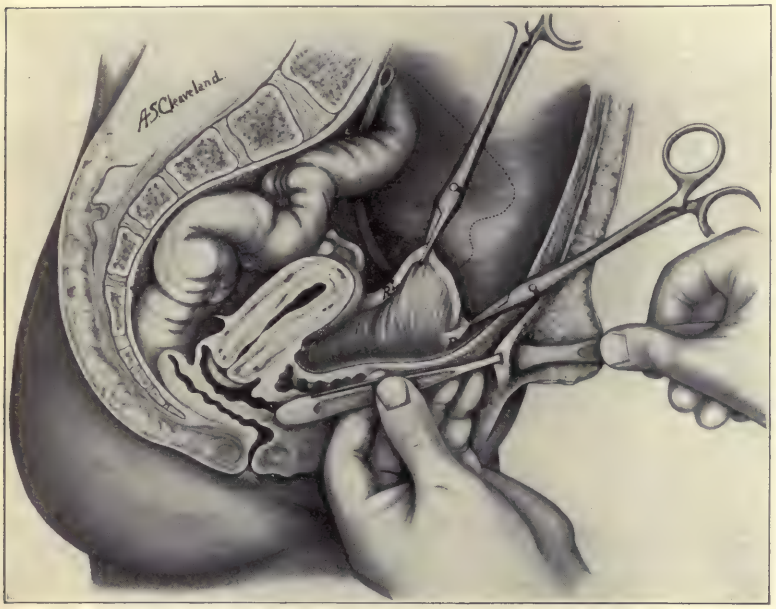


Fig 8.—First step in retroperitoneal shortening of round ligaments. Landmarks are fixed by guide forceps preparatory to passing curved forceps in manner suggested and practiced by Drs. Charles H. Mayo and Barrett. R. L., round ligament grasped about 1½ inches from uterus. P., parietal peritoneum overlying internal ring picked up, as suggested by Dr. S. A. Chalfant.

At the time the Gilliam operation was first proposed, I was much impressed by the fact that if considered from the standpoint of the genital tract alone, it was simple and based on effective mechanical principles. The strong part of the round ligaments was used.

The ligaments were directed forward thereby giving them greater retaining power. The effect of that manner of attaching the ligaments was not to suspend the uterus, but to keep the fundus from rising and describing its backward arc of a circle.

The shortened ligaments would undoubtedly undergo the same changes of hypertrophy and involution common to normal ligaments in the course of gestation and the puerperium. Thus far the operation was ideal.

But in common with other forms of transperitoneal suspension, firm bands of tissue were stretched across the free abdominal cavity.

If by chance the ligaments were overshortened, and the fundus of the uterus held in contact with the abdominal incision, the fundus would become adherent.

A suspensory ligament would be added, and we would then have four openings through any one of which it seemed possible an intestine might slip and become strangulated.

It occurred to me at that time, as doubtless it did to many others, that if this possible source of danger could be avoided, the operation would be well-nigh ideal. At the Cincinnati meeting of the Southern Surgical and Gynecological Association in November, 1902, three papers were presented, each describing a method of utilizing the strong points of the Gilliam operation but obviating its dangers by effecting the shortening and transplantation beneath the parietal peritoneum. The first of these papers was read by Dr. A. H. Ferguson of Chicago; the second by Dr. George Noble of Atlanta, and in the third, I presented a preliminary report regarding the technic of a similar retroperitoneal operation.

The underlying principles of my operation were then described as follows:

It consists essentially of changing the course of the round ligaments from a transverse to nearly an anteroposterior direction; in shortening the round ligaments so as to leave the distal end slack; the proximal end being used to control the movements of the uterus; finally, and especially, in effecting these changes beneath or by puckering the parietal peritoneum, thus leaving no bands of adhesions and no pockets which may strangulate an intestine. These principles have commended themselves to me as being mechanically and sur-

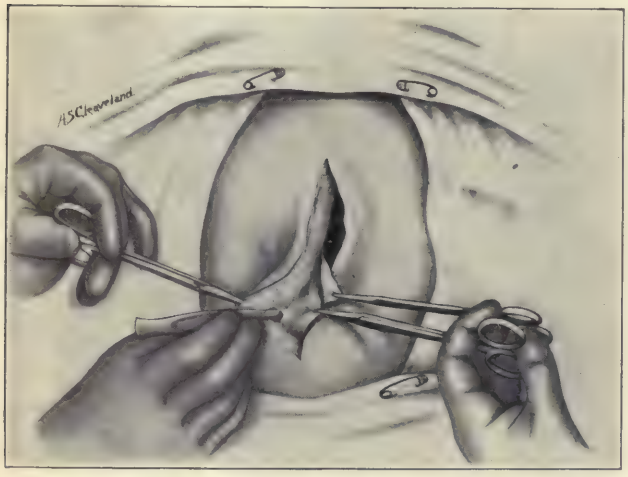


Fig. 9.—Second step: The skin is retracted and the fascia punctured about 1½ inches to the side of the lower angle of the incision.

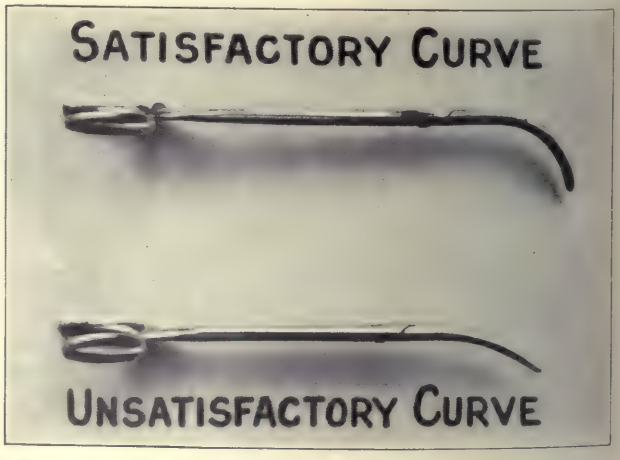


Fig. 10.—Forceps of satisfactory and unsatisfactory curve.

gically correct. Varying details of technic will readily suggest themselves to the operator.[1]

That this observation of eight years ago was fully warranted is shown by the subsequent publication of a considerable number of modifications of the three operations proposed at that meeting.

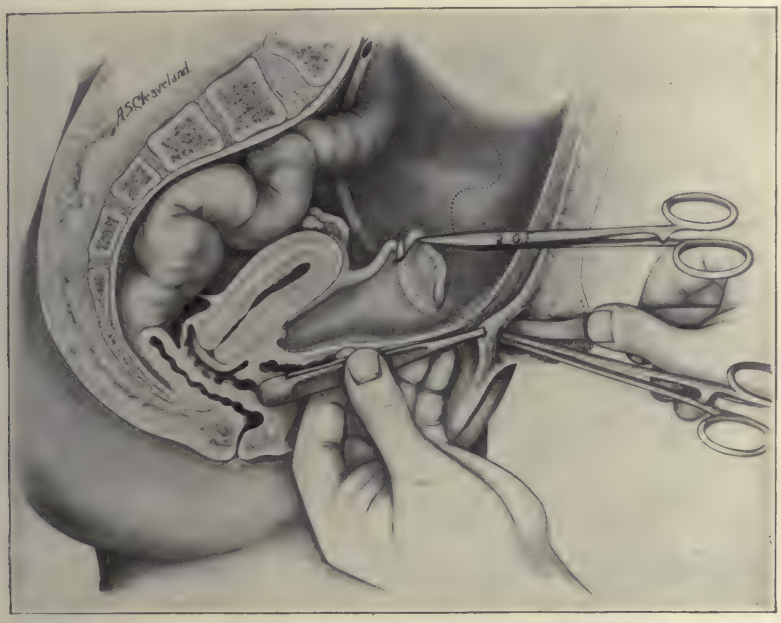


Fig. 11.—Third step: The forceps of proper curve, having passed through the fascia and obliquely through the rectus muscle, skirts beneath the parietal peritoneum to the internal abdominal ring, where it passes between the layers of the broad ligament and follows the course of the round ligament to 1½ inches of the uterus. At that point it penetrates the peritoneum, entering the peritoneal cavity for the first time, and then grasps the round ligament proximal to the guide forceps. (G. F.).

TECHNIC

My own technic has undergone several minor changes but has gradually settled down to that which we have employed for several years and considered safe, to a high degree effective, and as free as any abdominal operation of any kind can be, from the risk of adhesions. It has no bands stretching across the free abdominal cavity and carries no essential danger of strangulation. Except in two cases, it has caused no dragging sensation during pregnancy, or at any time, except during the first few days of the healing process.

Notable modifications have been made by Dr. Montgomery, Dr. Charles H. Mayo, Dr. Barrett and others. The operation as it now stands is a composite one. It consists in the following steps:

1. A median abdominal incision is made.
2. The round ligament is caught 1½ inches from the uterus and the parietal peritoneum at the point of the internal inguinal ring (Fig. 9).
3. The skin is retracted and the fascia punctured about 1½ inches to the side of the lower angle of the incision (Fig. 10).
4. A forceps of proper curve passes through this puncture, obliquely through the rectus muscle, following the method of Dr. Charles H. Mayo, and enters the broad ligament at the internal ring. It then continues to pass beneath the peritoneum and by the side of the round ligament until it reaches the hemostat holding the round ligament.
5. The curved forceps then penetrates the peritoneum and grasps the round ligament. The free margin of peritoneum is held by a hemostat during the next step.
6. The curved forceps is drawn out bringing the round ligament through the tunnel it has made.
7. The round ligament is then fastened and suspended just beneath the fascia by a linen thread which closes the rent in the fascia and at the same time holds the ligament firmly. The same process is repeated on the opposite side.

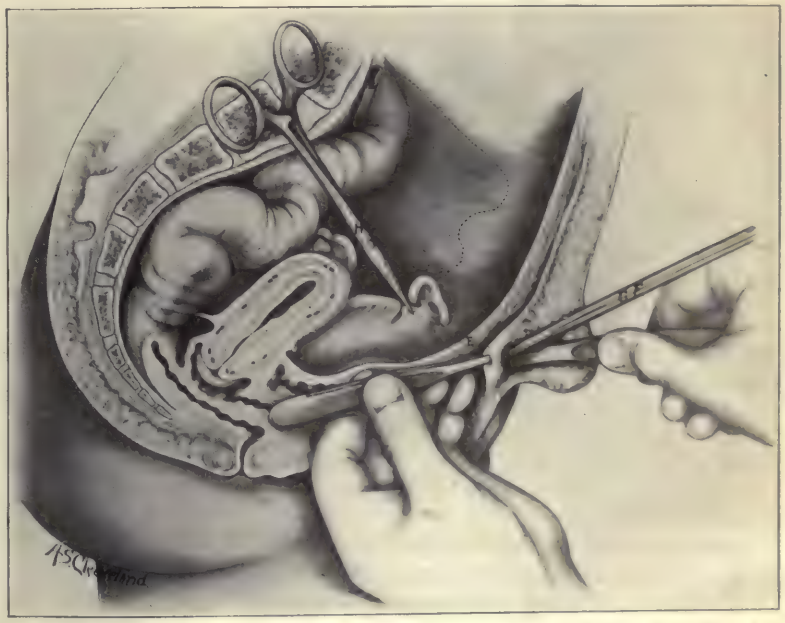


Fig. 12—Fourth step: The margin of peritoneal wound having been caught by hemostatic forceps (H), the curved forceps (C. F.) grasps the round ligament. By withdrawal of the curved forceps the round ligament is drawn out through the canal made by the forceps.

Some features and variations in technic and subsequent care which deserve comment are the following:

1. The ligament should not be attached to the upper surface of the fascia. Any permanent perforation of the fascia invites hernia.
2. The operator should actually see that his suture attaches the ligament to the fascia rather than to the fat overlying the fascia.
3. If the round ligaments are caught too near the uterus, or if they are fastened together in the mid line (either above or below the fascia), the uterus will be held in contact with the line of incision and a suspensory ligament will form. In one of my early cases that happened. The intestine became adherent, slipped behind the suspensory ligament (which should never exist) and annoying cramps followed, requiring operation.

RESULTS

1. *Mortality.*—I have done this operation with modifications, and in connection with necessary plastic and other work, about 400 times. There have been two deaths (in complicated cases), giving a mortality of 0.5 per cent. In about 70 per cent. of these cases, the appendix, tubes and ovaries, or adhesions required attention. During the last few weeks, I have gained definite information regarding about 75 per cent. of the patients. Regarding the other 25 per cent., either nothing has been heard from them or their physicians,

1. Am. Jour. Obst., 1903, xlvii, No. 2.

or else the doctor has reported that his information is neither recent nor exact. These facts have been obtained in two ways: first, from the medical attendants who have recently seen and examined the patients; and second, from my own notes made at the time of recent examinations. This inquiry includes:

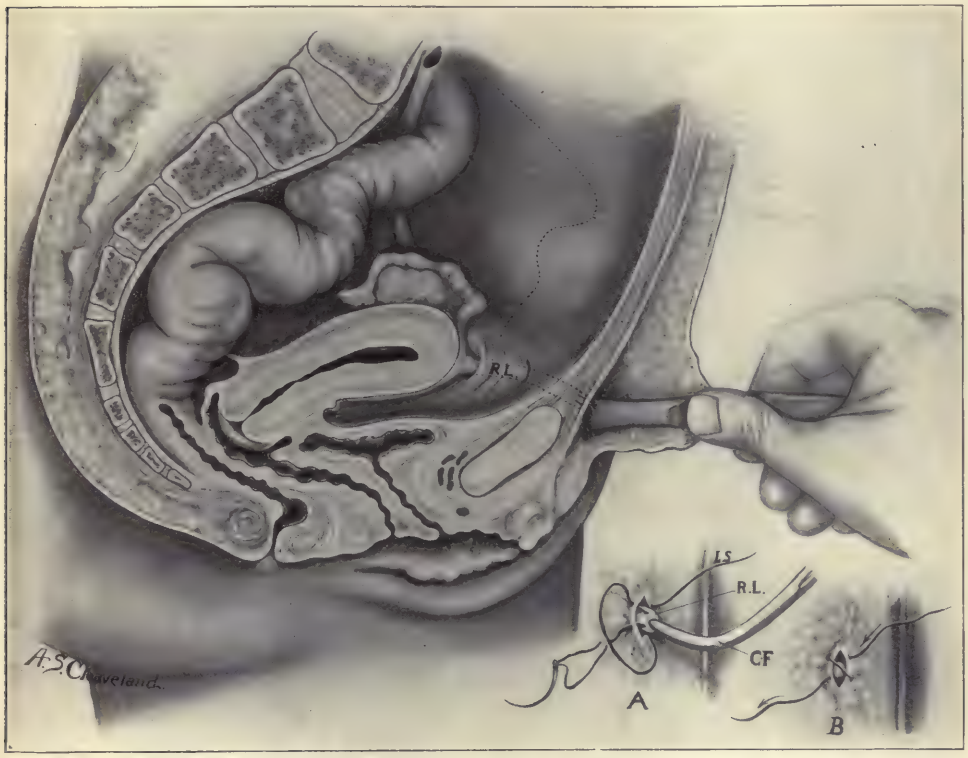


Fig. 13.—Final step: The round ligament (R. L.) is suspended beneath the fascia by a linen suture (L. S.) which also closes the rent in the fascia. The same process is repeated on the opposite side. Method of fastening shown on the margin.

2. *The Present Position of the Uterus.*—In two cases the uterus is known to be retroverted but without discomfort. Three or four uteri with congenital defects are about in the long axis of the body. Four with prolapse are known to have the fundus forward, but the cervix was not held well back by the plastic operations and shortening of the sacro-uterine ligaments. In three cases after delivery the uteri were back at about the sixth week, but were permanently corrected by the temporary use of pessaries. In all the other cases, that is, in more than 97 per cent. of those heard from, the uterus is in the normal position.

3. *Pregnancy.*—For various reasons (patients unmarried, widows, passed menopause, operation required removal of one or both adnexa, etc.), 40 per cent. of those heard from would not be expected to conceive. Of the remaining one hundred and eighty patients heard from, forty-five have conceived. One patient is now normally pregnant three months; one patient is now normally pregnant four months; two patients are now normally pregnant six months; two patients are now normally pregnant eight months, and one patient is now normally pregnant nine months.

Nine have aborted; four had aborted before; two of them probably had syphilis; in two no cause was known by the attendant. Three of these also bore one child. One had an ectopic gestation. Twenty-three bore one child at the end of normal pregnancy. Three of these also aborted once each. One of this number is reported to have died of puerperal infection seventeen days after a normal delivery. Five have had two children at the end of normal pregnancies.

4. *General Health.*—This has been very markedly improved or completely restored in 82 per cent.

Little or no improvement, 15 cases, 5 per cent.

Somewhat improved, 38 cases, 13 per cent.

Markedly improved, 128 cases, 43 per cent.

Completely restored, 117 cases, 39 per cent.

5. *Local Discomforts.*—These were very markedly or completely relieved in 84⅔ per cent.

Little or no improvement, 10 cases, 3⅓ per cent.

Required second operation for cystic ovaries after which relief was complete, 6 cases, 2 per cent.

Somewhat improved, 28 cases, 9⅓ per cent.

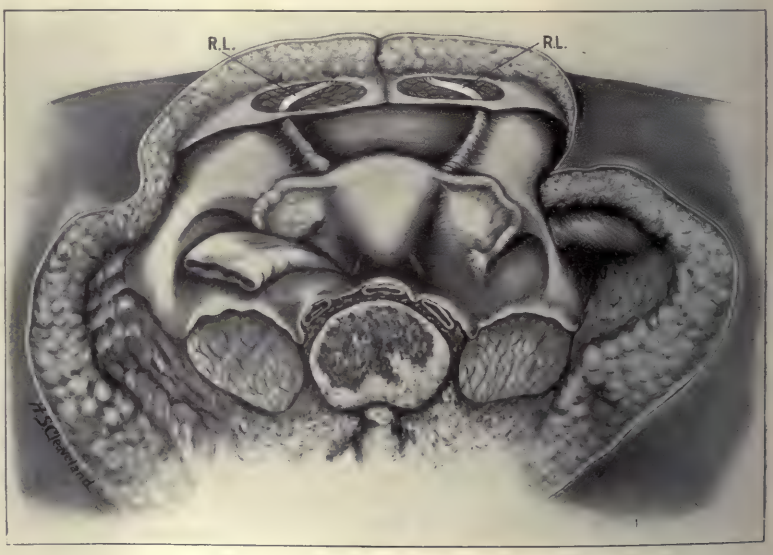


Fig. 14.—Retroperitoneal course of the round ligaments fastened beneath the fascia. P., folds of peritoneum covering the round ligament. R. L., round ligament as it lies in its oblique course through the rectus muscle and attached to the under surface of the fascia.

Decidedly improved, 72 cases, 24 per cent.

Completely relieved, 182 cases, 60⅔ per cent.

6. *New Local Discomforts.*—Here inquiry was especially made regarding dragging sensation in the new course of the ligaments. New discomforts were noted

in two, or less than 1 per cent.; *no* new local discomforts in 296, or about 99 per cent.

My percentage of partial or complete failure to hold the uterus forward has been about 2 per cent. No round-ligament operation alone will be uniformly successful under the following conditions:



Fig. 15.—If the round ligaments are caught too near the uterus or if they are fastened together at the mid-line (either above or below the fascia) a suspensory ligament will likely be formed. Dotted lines show the retroperitoneal course of round ligaments which are fastened together in the mid-line S. L., which is the dangerous suspensory ligament so likely to form if this error is made.

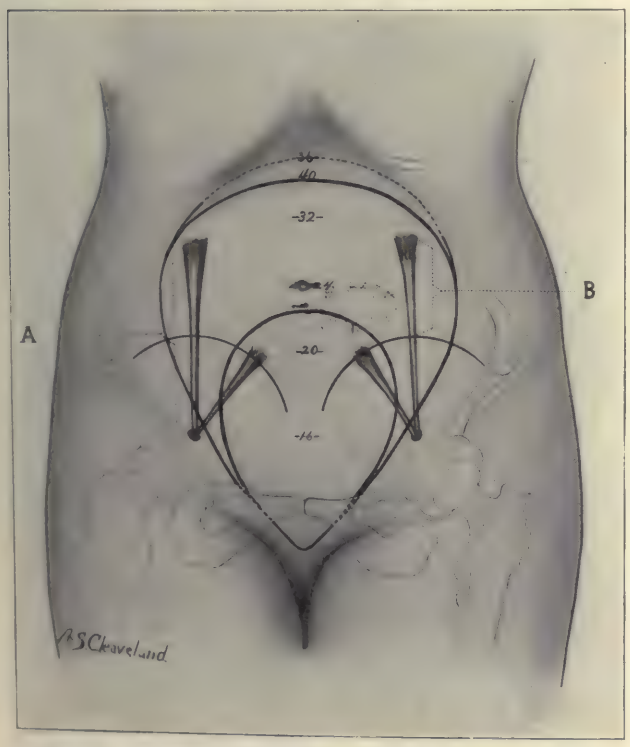


Fig. 16.—Immediately after delivery the uterus is markedly reduced in size and length. The length of the round ligaments is gradually reduced. For days they are long enough to permit the uterus to fall back into the hollow of the sacrum. If it remains back during the puerperium, the ligaments will be permanently stretched. A, total length of round ligament at the beginning of labor. B, excess of ligament at the end of labor.

1. When the ligaments are very delicate. I have had one failure due to this cause.

2. When the congenital attachment of the bladder is low and that of the sacro-uterine ligaments is high. This defect must also be corrected. I have had three or four partial failures due to this cause.

3. When the sacro-uterine ligaments and the base of the broad ligaments have been very much stretched, giving a decided prolapse. These defects should also be corrected (as, of course, the underlying lacerations). I have never had difficulty in keeping the fundus forward, but I have occasionally had an imperfect result because my attempts at shortening the sacro-uterine and the broad ligaments were not always perfectly satisfactory. I have knowledge of four cases of this kind.

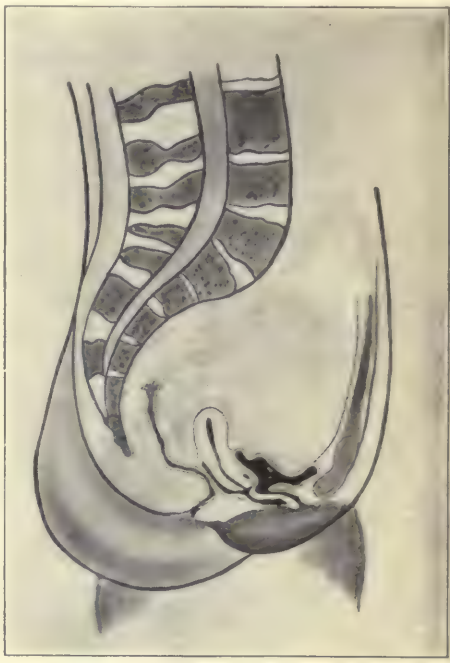


Fig. 17.—A low attachment of the bladder to the cervix, and a high attachment of the sacro-uterine ligaments. This faulty leverage must be overcome to ensure the success of any corrective measures.

The ligaments undergo the normal course of hypertrophy and involution during pregnancy and the puerperium. It is attended by slightly less risk of postpartum retroversion than follows delivery where the uterus has never previously been misplaced. This less risk is due to the anterior direction of the ligaments. Puerperal retroversions are easily and permanently corrected by the temporary use of pessaries. It, accordingly, is the imperative duty of the obstetrician to see that every uterus is in its normal position for at least three months after delivery, whether there has been previous trouble or not.

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Massage in Neurasthenia.—The patients in whom massage is of most value are those feeble and emaciated individuals, asthenic in every respect, tired with the slightest effort, afflicted with atonic forms of dyspepsia in their most extreme degrees, often with flabby toneless hearts, low blood-pressure, anemic and incapable of the slightest mental exertion. The methods most suitable to neurasthenic patients are firm stroking or effleurage and kneading movements or pétrissage, the slapping, percussive and vibratory motions being omitted at first entirely, though vibration may soon be adopted for the abdomen, where it is especially useful in stimulating the intestinal muscle and the portal circulation. The mark of good massage is that the patient should feel rested and inclined to sleep, and should have a pleasant sense of warmth and comfort.—C. W. Buckley in the *Practitioner*.

THE TECHNIC OF THE EXAMINATION OF ESOPHAGEAL LESIONS*

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About 300 esophageal cases which have come under observation during the last four years have been studied not only with a view to the establishment of a correct diagnosis and productive therapeutics for the individual case, but also with the idea of determining the relative value of the clinical and technical findings. I wish in this paper to consider briefly those points which contribute to obtaining definite technical data safely.

The clinical examination is of the utmost importance not only for its intrinsic value, but as a guide to the succeeding technical procedures. The more important features to be determined in esophageal diseases by the technical methods of examination are the existence, size and relations of pockets, dilatations and strictures, and the character of the esophageal wall, notably at the seat of narrowing.



Fig. 3.—Diverticulum of esophagus, from skiagraph.

The technical methods which have proved of especial value may be grouped under three heads, namely: roentgenography, esophagoscopy and the various methods of sounding.

Roentgenography discloses thoracic masses obstructing the esophagus by pressure from without and occasionally a good shadow may be obtained of an esophageal tumor. Its chief service is that of revealing the position, shape, size and relations of diverticula and dilatations when filled with bismuth mixtures. Diverticula as a rule give shadows which are characteristic (Figs. 1 to 6). The large dilatations which occur in the upper third of the esophagus above organic strictures can be distinguished from diverticula by a tail-like portion of bismuth extending downward from the bottom of the sac (Fig. 7). However, this may be absent. Passing a small sound on a thread quickly differentiates the two conditions. Most striking are the large, irregularly spindle-shaped shadows obtained in cases of diffuse dilatation of the esophagus following spasmodic and, infrequently, organic stricture at the cardia.

In cases of cardiospasm (Figs. 8 to 19) the lower extremity of the shadow is cone-shaped and its apex corresponds (Figs. 8 and 20) to the hiatus esophagi, while in cases of organic stricture the outline is irregular and terminates above the hiatus. In most instances the dilatation extends to the upper border of the manubrium and is constricted at the root of the lung. The dilatations occurring above organic strictures are, as a rule, of limited extent and in their lower portion irregular in outline (Fig. 21).



Fig. 4.—Diverticulum of esophagus, from skiagraph.

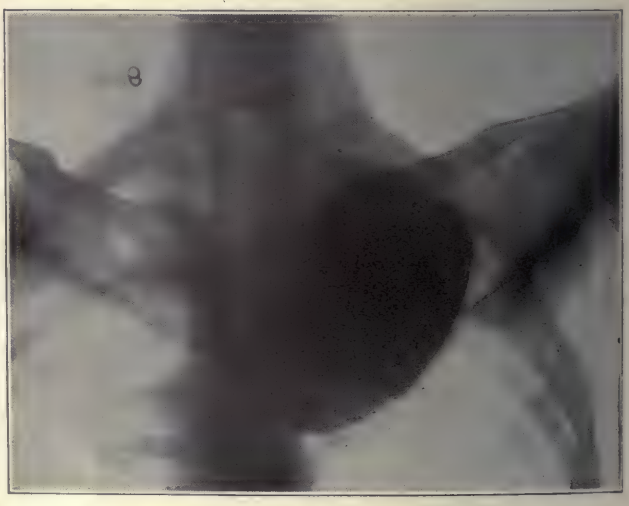


Fig. 5.—Diverticulum of esophagus, from skiagraph.

While the fluoroscopic pictures are interesting in studying both the normal and pathologic processes of deglutition, they add but little to the plate method in esophageal diagnosis. Mucilage of acacia has proved the most valuable vehicle in which to give bismuth. It adheres to the esophageal wall and can be readily washed out. The heavier bismuth meals and the rubber bags filled with bismuth do not give any advantage commensurate with the discomfort caused the patient. The bismuth capsule but rarely gives information not more

* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.
* The illustrations accompanying this article were so numerous that part of them have been omitted because of lack of space. The entire article appears in the Transactions of the Section and in the author's reprints.

easily obtained by other methods of examination. In patients complaining of slight or questionable dysphagia a delay in the passage of the bismuth may indicate grounds for an esophagoscopic examination.

In esophageal work, success, from both the diagnostic and the therapeutic standpoints, depends largely on our ability to pass instruments through the esophagus.

Safety should be the keynote in esophageal technic. This is to be obtained by a clear conception of the way in which the force is being expended when introducing an esophageal instrument. The force is dissipated either in overcoming the friction of the staff on the wall of the passage or at the tip of the instrument. Obstruction at the tip is due either to pocketing or actual narrowing of the lumen in the canal. Safety resolves itself into the recognition of pockets and avoidance of undue pressure on an instrument which is pocketed.



Fig. 8.—Diffuse dilatation of the esophagus in case of cardiospasm.

The tip of an esophageal instrument must be constantly under the guidance of vision or must follow a guide in such a way as to make perforation of the esophageal wall impossible. Let us conceive an instrument having the qualities of the finest silk thread at its tip, gradually merging into a rigid staff (Fig. 22). With patient persistence the thread could be passed through any patent esophagus and, if tension were maintained on the thread, the staff could be introduced into the stomach. This is mentioned to call attention quickly to the principles involved in successfully and safely introducing esophageal instruments. Such departures from this hypothetical instrument are permissible, as the rigidity of the staff, tortuosity of the canal, necessary force, etc., permit, without invalidating the essential principles. The adaptation of Mixter's method of using a silk thread as a guide has proved of inestimable value. The patient swallows six yards of silk thread. This passes down through a sufficient number of coils of intestine to prevent its withdrawal on being pulled taut.

With the whalebone staff and olive passed on a silk thread (Fig. 23*b*) we may locate pockets, determine their depth, measure the diameter of strictures, divulse them and estimate the rigidity of the esophageal wall at the seat of narrowing.

Only sufficient force to detect obstruction is permissible in advancing an unguided esophageal sound. With a silk thread that degree of force may be used which is short of carrying the thread out of its course and through the esophageal wall, or of endangering the



Fig. 22.—An ideal esophageal instrument, consisting of fine silk thread gradually merging into a more or less rigid instrument.



Fig. 23.—Various forms of esophageal sounds.

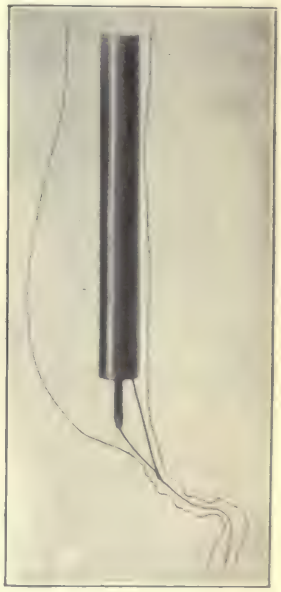
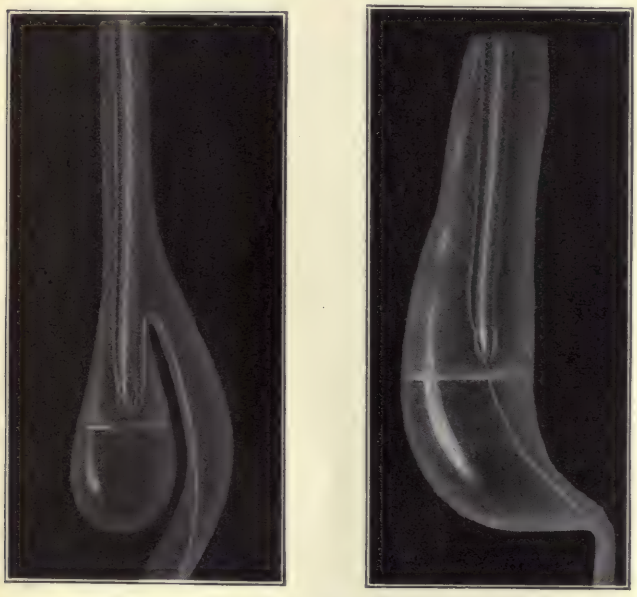


Fig. 24.—Piano-wire guide and carrier.

esophagus by longitudinal traction, or of splitting the esophagus by a dilating wedge. If sufficient obstruction is encountered to make it seem possible that the thread might be carried out of its course, a piano wire (Fig. 23*e*) should first be passed on a thread and the olive passed on the wire. With the wire in place the possibility of introducing a sound is assured. When passing an olive on the wire, tension on the thread should be maintained to avoid any possibility of the tip of the wire penetrating the wall of the stomach or esophagus. Figures 24 and 23*d* show the distal portion of a piano wire guide and carrier for working the wire through a tortuous cicatricial stenosis on a thread. Various sizes of piano wire may be used and its flexibility further varied by the amount of wire exposed.

In the treatment of cicatricial stenosis the wire guide is not often necessary after the first dilatation, and the thread may be dispensed with as soon as the smaller sizes of spindles will pass without encountering obstruction at the site of the stricture. Further dilatation is carried out with the sound shown (Fig. 23*a*); the flexible, spiral metal tip acts as a guide and the stricture is dilated with the olive inserted in the staff. In those dense, extensive strictures in which sufficient dilatation cannot be obtained by dilating with a spindle, I resort to a modification of Dunham's esophagotome, which utilizes Dr. Abbe's principle of cutting partially through the distended stricture by a string pulled back and forth.

Without going into the reasons it is sufficient to state that an unguided sound will, as a rule, be pocketed if an opportunity is present. When introduced on a taut thread the sound follows the axis of the lumen of the esophagus. By varying the tension on the thread, obstruction from pocketing, and obstruction which is the result of actual narrowing of the canal, may be distinguished. The elimination of pocketing permits a more accurate determination of the diameter of the lumen and the rigidity of the esophageal wall at the seat of narrowing. Figures 25 and 26 (also 27 and 28) illustrate the use of a sound in demonstrating the existence of a pocket, its point of origin and more dependent portion. The sound is first introduced into the diverticulum until obstruction is encountered; holding the sound in place, the thread is drawn taut. Traction on the thread will now lift the sound out of the esophagus sufficiently far to bring the olive to a level with the opening into the distal portion of the esophagus. Until this point is reached the sound cannot be advanced without relaxing the thread. The same procedure, using a metal-tipped stomach-tube stiffened with a whalebone staff, permits of obtaining the contents of a diverticulum, dilatation or of the stomach, with a definite knowledge of the location of the point of the tube and a certainty that it will enter the stomach (Figs. 27 and 28).



Figs. 27 and 28.—Metal-tipped stomach-tube guided by a thread.

Crowding a sound out of a pocket, or out of a pocket and through a cardia or stricture much larger than the olive, may give the impression of having passed a narrow stricture with rigid walls. The more accurate determination of the diameter of the lumen of the canal and the rigidity of the esophageal wall at the seat of narrowing, which the elimination of pocketing permits, is well illustrated by lesions at the cardiac orifice.

The thoracic portion of the esophagus is placed nearly in the median line, but deviates to the left as it passes forward to the opening in the diaphragm. In passing an olive through the lower three inches of a normal esophagus the staff impinges on the left anterior wall and the olive is directed to the cardia by the left posterior wall. This portion of the esophageal wall presents an increasing degree of obstruction as it approaches a horizontal plane in cases of diffuse dilatation. The degree of obstruction encountered depends also on the stiffness of the staff, the size of the olive and the tonicity of the esophageal wall. A stiff staff has a tendency to penetrate the esophageal wall (Fig. 29*A*), while a relatively flexible staff conforms to the right posterior wall and the olive approaches the opening in the diaphragm at an angle with the axis of this portion of the esophagus (Fig. 29*B*). The rigidity of the esophageal wall and the ledge formed by the upper margin of the growth are also important factors in passing a sound through a carcinomatous cardia (Fig. 30).

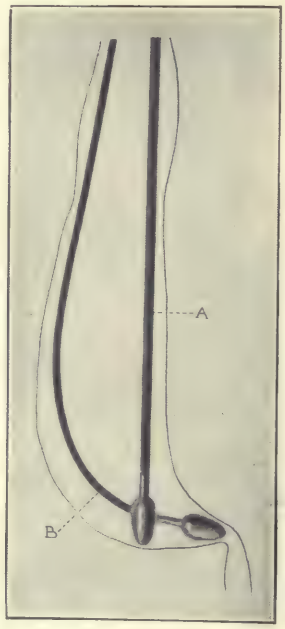


Fig. 29.

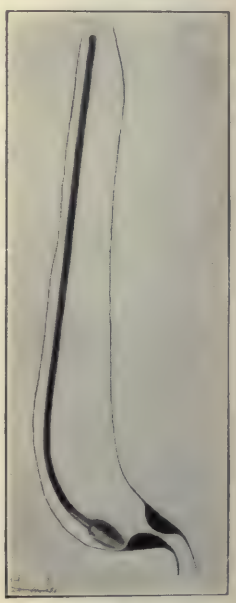


Fig. 30.

Fig. 29.—Diagram of diffuse esophageal dilatation, showing danger from stiff staff (*A*), together with use of flexible staff (*B*).
Fig. 30.—Passing a sound through a carcinomatous cardia.

In cases of diffuse dilatation following cardiospasm it is frequently impossible to pass an unguided sound through the cardia with a degree of force that is safe (thirty out of sixty-five cases which have come under my observation), while a 15-mm. olive but rarely meets marked obstruction when passed on a thread. Decided obstruction of yielding character, followed by slight hemorrhage, is usually encountered when passing a carcinomatous cardia, while in benign cicatricial stenosis the smallest sizes of olive encounter an unyielding esophageal wall.

Leaving foreign body cases out of consideration, the most essential service of esophagoscopy is that of revealing the character of the esophageal wall. It is a relatively safe procedure in the hands of one who has acquired

good technic. Safety lies in a clear conception of the way in which the force is being expended when introducing the instrument. Friction on the walls of the passage is an important element, as it makes advancement of the instrument jerky and obscures any fine sense of resistance at the tip of the instrument. I wish to call attention to Brunning's modification of Killian's esophagoscope (Fig. 31). It has a convenient and a sufficiently strong

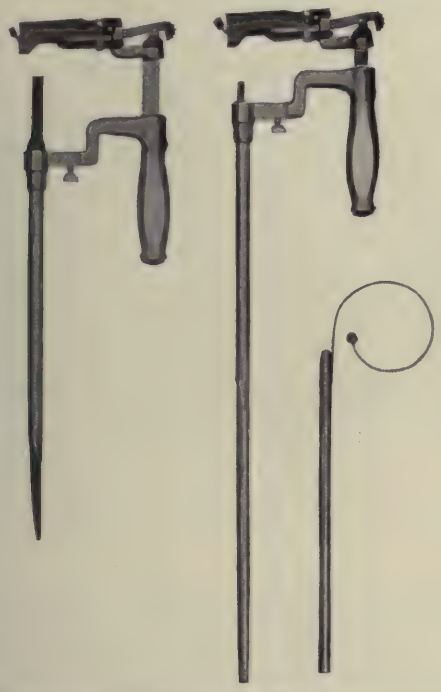


Fig. 31.—Brunning's modification of Killian's esophagoscope.

handle to permit of bringing the cardia into view, a light that rarely fails at the critical moment, a short upper section with a tip well adapted for easily passing the cricoid, and that eliminates friction in introducing a telescoping section through the lower portion of the esophagus. A satisfactory examination can, in the majority of

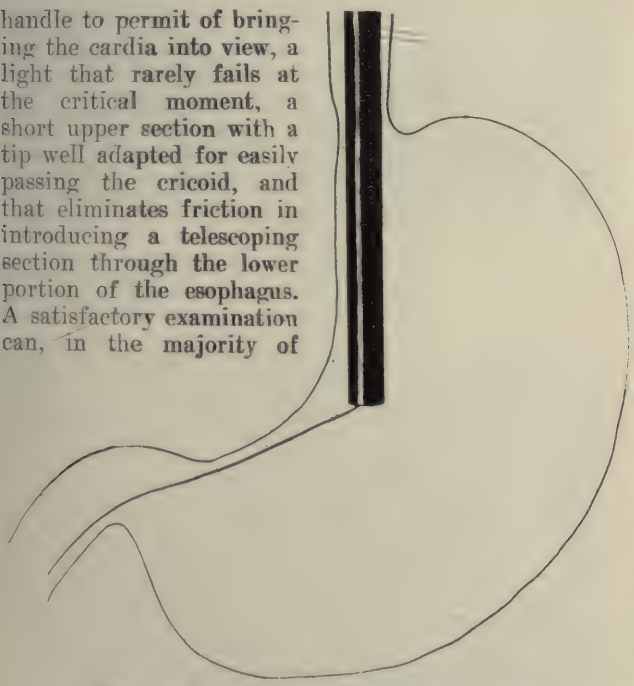


Fig. 37.—Thread used as a guide in gastroscopy.

cases, be made without an anesthetic in less than five minutes. In rare instances a guide becomes necessary to pass the cricoid, a ledge of mucous membrane, or a tortuous esophagus, the lumen of which is large enough to admit an esophagoscope. This guide must follow the lumen of the esophagus in such a way as to make perforation with its tip impossible. At its tip it should be sufficiently flexible to follow the lumen of the canal or a silk thread, and yet not double on itself. From its tip it should gradually merge into the rigid staff of the esophagoscope so as not to permit of any abrupt curve or ledge which might bruise or gouge the mucous membrane.

In esophagoscopic work one of the chief drawbacks is the constriction of the esophagus above that portion of the esophageal wall essential to our knowledge. In about 35 per cent. of the cases of carcinoma, for instance, the mucous membrane is intact at the lowest point in the esophagus which can be brought under inspection. Figure 32 (also Fig. 30) illustrates an esophagoscope obstructed by a ledge formed by infiltration beneath an intact mucous membrane. A small esophagoscope may be introduced through a preceding one, with a guide, sufficiently far to bring the involved mucous membrane into view (Figs. 33 and 34). The elimination of friction by the first instrument introduced permits of safely carrying out this procedure in a good many instances.

Occasionally the thread is a valuable guide in following the course of the esophagus with the esophagoscope. To the experienced operator this is not of much advantage, except in cases of congenital malformation and in locating the slit-like opening into the distal portion of the esophagus in cases of diverticula (Figs. 35 and 36; also 23 and 24). When drawn taut the thread impinges on that margin of the distal opening of the esophagoscope toward the lumen of the esophagus. In direct gastroscopy, orientation is much facilitated in a similar manner (Fig. 37).

ABSTRACT OF DISCUSSION

DR. WILLY MEYER, New York: The method just advanced by Dr. Plummer is an extremely valuable addition to our resources for the diagnosis and treatment of esophageal troubles, especially of diverticula. It shows how we are able to make our diagnosis even in difficult cases. At the meeting of the American Surgical Association, recently held in Washington, Dr. Charles H. Mayo told us how he, on the basis of such a definite diagnosis, has been able to extirpate two pressure diverticula in the upper portion of the esophagus.

At the German Hospital of New York, Dr. De Witt Stetten, one of the adjunct surgeons, recently operated successfully in a case of this kind and published a very interesting analysis of esophageal diverticula. This class of diverticulum is a surgical disease. What I wish to emphasize is that it is also sometimes impossible in cases of large fusiform diverticula of the esophagus, as we meet them in consequence of cardiospasm of long standing, to get along with non-operative treatment. We know that if cardiospasm has existed for a long time the wall of the esophagus is very much distended, in the shape of a lamp chimney. In such a case I am sure that it is impossible to expect the esophagus, even with the cardia treated persistently by dilatation, to be amenable to reconstruction; the muscular layer of the esophageal pouch will not get back the power of thorough contraction so as to allow fluids and solids to pass easily down into the stomach. Often it is impossible to pass the contracted cardia with any kind of instrument or thread. In such cases operative procedures must be resorted to.

At the German Hospital in New York we recently had a patient, 45 years old, who had been sick for fifteen years with what was evidently a cardiospasm at the beginning. Later, in spite of treatment, the patient was unable to swallow anything. Even fluids were regurgitated after a little while. The patient had to be treated by rectal feeding. Soon gastrostomy had to be done. Careful diagnosis with the *x*-rays showed a stricture at the cardia, with a large fusiform dilata-

tion above. The sound always was caught in the region of the cardia, and could be introduced with gentle handling for nineteen inches (sixteen inches is the average length down to the cardia). Still, with the cystoscope in the stomach, introduced through the gastric fistula, we could not see the sound. It was caught in the large esophageal pouch above the diaphragm. Therefore, basing our procedure in a patient absolutely averse to further instrumentation on the knowledge that such an esophagus cannot retract to proper size, we proceeded in the following manner: With the help of the lower half of Schede's incision through the skin and serratus muscle the left thoracic cavity was entered in the seventh intercostal space with differential pressure. The lung, which was tightly adherent to the chest wall, had to be loosened, and was then pressed upward and inward. With good illumination we found the large fusiform diverticulum covering three or four inches of the esophagus, as diagnosed, just above the cardia. It represented a large pouch. After division of the posterior continuation of the costal pleura the pneumogastrics were pushed aside and the left forefinger gradually worked around the pouch. A sound introduced from above was always caught posteriorly in a pocket near the spine. With the one hand in the thoracic cavity around the esophagus, the lower end of the sound could be guided and lifted upward with the other hand, so that it was made to pass through the cardia. I then made a plication or double fold in the esophagus by means of suture, in this way materially reducing the diameter of the fusiform dilatation in a length of three to four inches. At the end of the operation the esophagus was allowed to go back into its bed. To-day the patient is in good condition.

NOTE (Later).—At the end of June she is able to swallow everything without regurgitation.

DR. H. S. PLUMMER, Rochester, Minn.: Some sixty-five cases of diffuse dilatation of the esophagus have come under my observation, many of the patients being in the last stages of inanition, some of them right at the point of death. Many of them gave a history extending back over twelve or twenty years. I have not seen any case that was not readily, easily and completely cured by dilating the cardia.

TECHNIC FOR REMOVAL OF APPENDIX AND FIXATION OF CECUM

C. A. ROEDER, M.D.
GRAND ISLAND, NEB.

THE APPENDIX

Although removal of the appendix is generally a simple matter and is attempted by the general practitioner as well as by the surgeon, it is too often followed by annoying symptoms which are generally due to adhesions. Therefore any technic that is simpler than the average and does away with the possibility of post-operative adhesions, is the one to be adopted.

Below is a procedure adopted by George Roeder and myself in the last 100 appendectomies, which is a sufficient number, I think, on which to base an opinion. It is simple, rapid and also safe, requiring on the average ten minutes from the time the incision in the skin is made until it is closed.

Its essential features are a single purse-string, fine linen suture which is not cut until the operation is finished (Figs. 1 and 2). The suture, in passing from one side of the mesentery to the other, passes through the external coat of the base of the appendix on its mesenteric border in order to embrace an artery that might run along the surface, which will be inside the purse-string after the crushed stump of the appendix is inverted; no area of cecum is ever uncovered by peri-

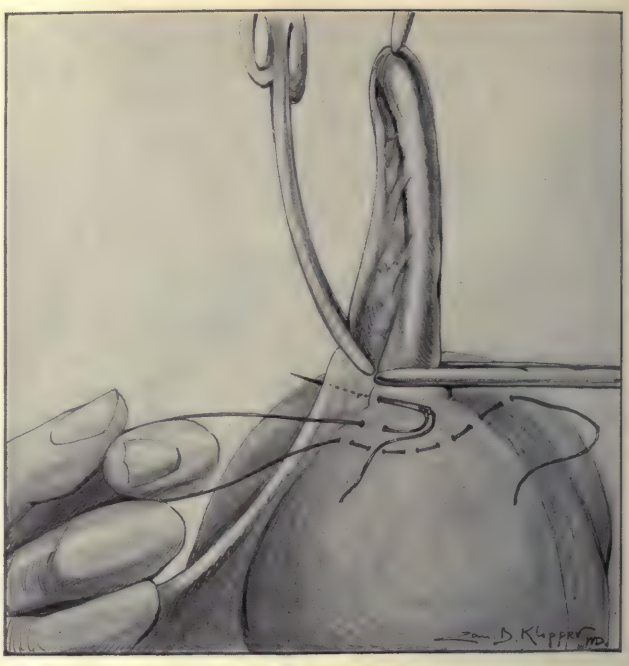


Fig. 1.—Appendix extended; crusher applied so as not to include any portion of the mesentery; artery forceps applied to the mesoappendix; purse-string suture passed through the external coat of the cecum, the needle taking a bite of the appendix through its external coat at its base on the mesenteric edge. The suture is then continued around on the other side, the loop being held by the assistant.

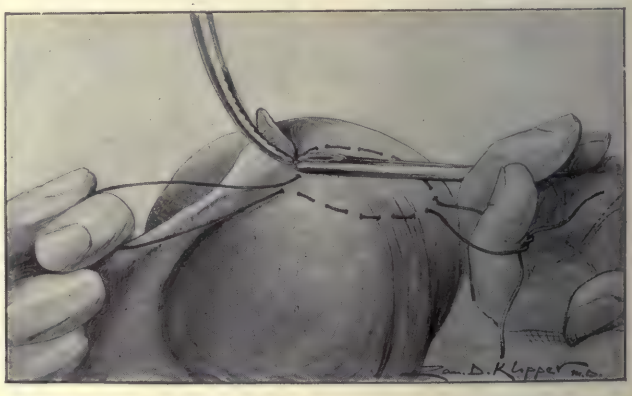


Fig. 2.—The appendix is cut flush with the crusher and the mesoappendix one-fourth inch above the artery clamp; the purse-string suture is shown completely encircling the appendix base. The crusher is now gently released and the stump is inverted.

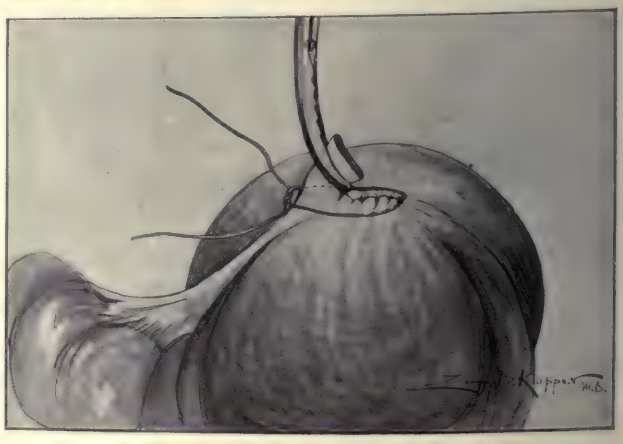


Fig. 3.—The appendix inverted; the clamp still on the mesentery; the purse-string suture is drawn together and its ends are being tied around the stump of the mesentery in the groove made by the clamp, which leaves a knob distal to it, preventing it from slipping off the mesentery and its artery.

toneum; this does away with suturing the peritoneum over the bowel as in other procedures. A second purse-string, continued from the first, inverts the stump of the ligated mesentery with its artery and buries the knot, leaving a perfectly clean peritoneum behind (Fig. 5). This second purse-string relieves tension on the first from post-operative gas, a valuable suggestion from the Mayo clinic.

We do not tie the stump; the procedure is entirely unnecessary with this method, and not without danger,

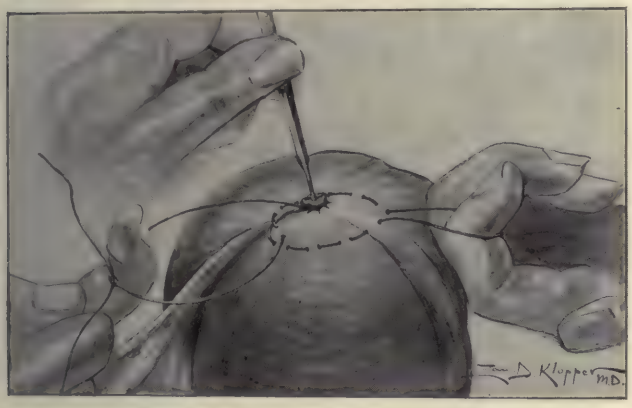


Fig. 4.—Meso-appendix tied over the point where the appendix has been inverted; no area of bowel uncovered by peritoneum. The original suture, uncut, is continued as a second purse-string suture, passing one-fourth inch beyond where it first entered the bowel and one-fourth inch internal. Note carefully the arrangement of the suture. When drawn it can readily be seen how the knot is inverted. The stump shown is the ligated meso-appendix.

as there would be a pocket formed, below by a ligated raw stump, and the purse-string above, inhibiting drainage into the bowel, which might be necessary for infected or necrosed material. Figures 4 and 5 illustrate further steps in the operation.

In some cases a short mesentery is found requiring separate ligation, and here the stump of the mesentery is covered by peritoneum from the two layers of the cut mesentery.

This operation does not interfere with the action of the ileocecal valve, as there should be no tension on the meso-appendix when finished. The second purse-string



Fig. 5.—Operation completed: knot buried; remains of the meso-appendix are seen running across the cecum, with no area of bowel denuded and no portions of sutures exposed to the peritoneal cavity.

is large enough only to cover the stump of the meso-appendix with the serous coat of the cecum.

THE CECUM

The movable cecum, producing symptoms, we have anchored with excellent results by the following technic. The more dilated the pouch the more bites we take around its circumference. Without dilatation only one bite is taken.

The sutures (linen) which are inserted on the external wall in order to avoid ligating the vessels (which are in the inner layer of the mesentery), include all the coats but the mucosa, and no harm is done if they should happen to include the mucous membrane.

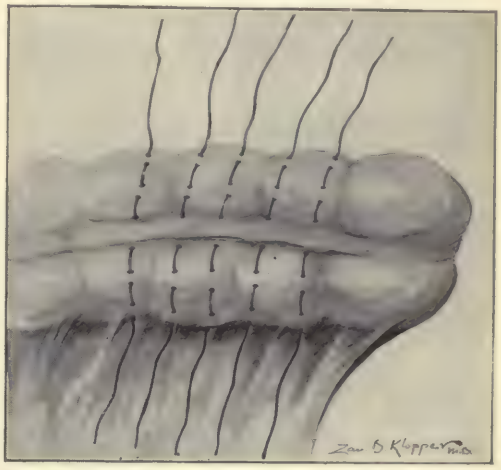


Fig. 6.—The cecum with its elongated mesentery; sutures placed. Note that the sutures have included the external longitudinal band, which gives them a firm hold. See conditions stated in text.

The sutures are then passed through the parietal peritoneum and fascia beneath, taking a bite about one-half an inch wide as close as possible to where the external coat of the mesentery of the cecum is deflected on to the abdominal wall. In this way the cecum swings from practically the same point, but the excursion is lessened. We use from three to eight rows of



Fig. 7.—A transverse section: the suture passed but not tied. Note that the suture leaves the bowel about where the peritoneum does and takes a bite about where the latter is attached to the abdominal wall. The blood-vessels are on the other side and are never interfered with.

sutures one-half inch apart, depending on the size of the pouch and ascending colon, the degree of mobility, the age of the patient: the younger the patient the more fixation being required. The degree of constipation is another factor, as we have found often a very loose cecum in patients giving a history of constipation. Here we fix

the cecum and half of the ascending colon to give the bowel a fixed point (Figs. 6 and 7).

The appendix is often kinked, requiring removal. The kink described by Lane in the ileum should be relieved by dividing the bands producing it and fixing the cecum high enough so that the ileum approaches it from below, or at least at a right angle.

OBSERVATIONS ON TWENTY-EIGHT PATIENTS TREATED WITH THE EHRLICH-HATA REMEDY (SALVARSAN)

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CHICAGO

Notwithstanding the fact that Ehrlich says that the preliminary stage has been closed, one receives the impression from the recent literature on 606 that there are many points still to be settled in almost every phase of the work with this new remedy especially in regard to its administration, prognosis, indications and by-effects. We stand at the beginning of our work; many questions need elucidation, and it is of general interest that results should be collected from many different sources.

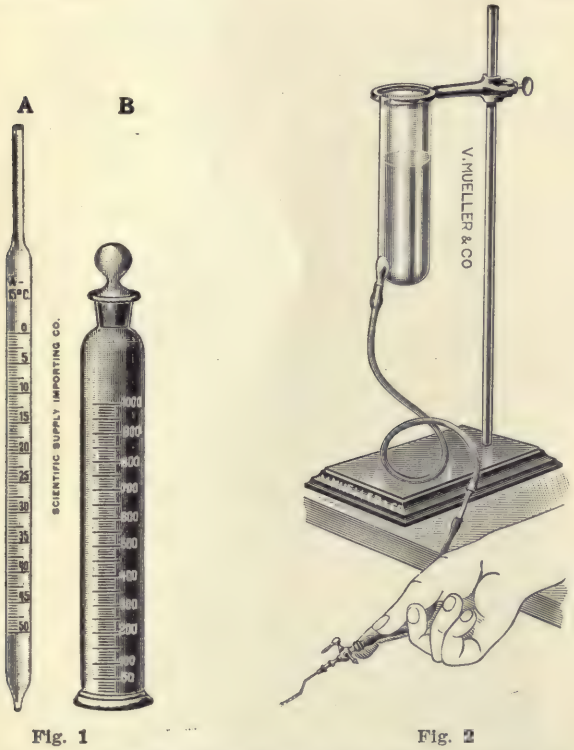


Fig. 1 Fig. 2

Fig. 1.—Graduated pipette (A) and large 250 c.c. cylinder (B).
Fig. 2.—Intravenous apparatus.

The difficulty of following the technic according to the directions enclosed with salvarsan is apparent, for here one is told vaguely to use an intravenous method, a neutral suspension or an alkaline solution. At the present writing, the intravenous and the alkaline solution methods are the most popular in European clinics, but still each clinician is endeavoring to push his own method regardless of whether or not the other method is the superior.

From my personal experience with salvarsan (606) I believe that, while it is applicable in every case and attended by fewer symptoms afterward, the intravenous method, on account of the rapid elimination of the arsenic is greatly inferior to the intramuscular alkaline solution method of Alt and Lesser, and as a consequence should not be used in preference to all other methods. The same is equally true of the alkaline solution method.

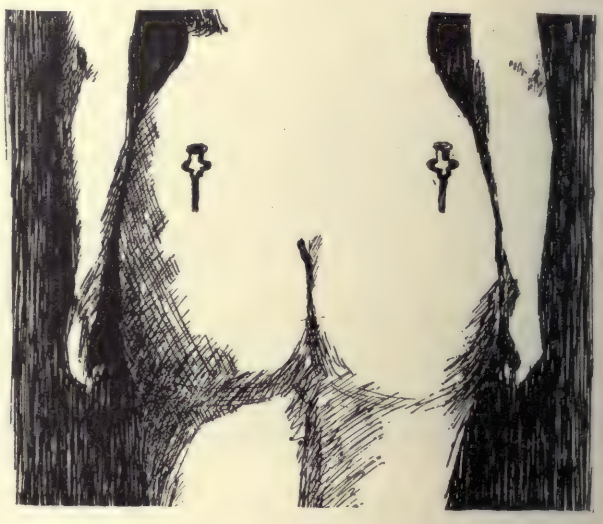


Fig. 3.—Site for injections.

Each case should be treated individually with special reference to the following points:

1. Duration of infection.
2. Severity of infection.
3. Condition and age of the patient.

In all early infections (by this I mean those that come under observation before the Wassermann reaction is positive) the intravenous method is especially indicated. Here subsequent treatments may be given the same way on an average of every ten days for three or four times. This form of treatment applied in such a case is ideal, as the solution in the blood-stream is able to act on the spirochetes with deadly effect. In my opinion, the value of this method decreases in direct proportion to the length of time of the infection, as in the later stages the spirochetes are so securely entrenched by the pathologic-anatomic lesions that the intravenous injection has only a minimum effect on the condition. This is borne out by Miekley[1] in Lesser's clinic. However, in paresis and in malignant lues, where quick action is desired, this is the only method that should be employed.



Fig. 4.—Record syringe.
Fig. 5.—Needle (21 gauge) used in Record syringe.

INTRAVENOUS TECHNIC

The instruments are one large 250 c.c. cylinder (Fig. 1, B), filter-papers, one funnel, one intravenous apparatus, like the accompanying cut (Fig. 2), one graduated pipette, (Fig. 1, A), and one stock bottle of normal

1. Miekley: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1903.

sodium hydroxid solution (4 per cent.). The instruments and filter-paper having been previously sterilized (which may be accomplished for the latter by moist heat and later drying between sterile towels), also the ampoule of salvarsan and the file by immersion in alcohol; the ampoule is dried, opened with the sterile file and the contents poured into the cylinder. As this salt goes into solution very much more readily than the earlier supplies of the substance, it is not necessary to add any glass pearls to assist in the mixing. Fifteen c.c. of hot water



Fig. 6.—Indurated primary lesion, Nov. 3, 1910 (Case 1).



Fig. 7.—Healed lesion in 12 days, Nov. 15, 1910 (Case 1).

are added; the hotter the water, the more quickly the substance will go into solution. Next normal sodium hydroxid solution is added, about 2 c.c., and shaken thoroughly. A precipitate occurs. Then sodium hydroxid solution is added, drop by drop, the solution being shaken after each additional drop until it is absolutely clear, care being taken not to add any excess of NaOH. Next distilled water is added up to 200 c.c. The whole is then filtered into the receptacle which accompanies the intravenous apparatus. Here the outlet is in the side of the cylinder, slightly above the bottom, forming a little receptacle that holds any foreign material that may get into the cylinder, thus ensuring a more perfect solution injected. It is not necessary to use normal saline solution, as the above solution is very nearly isotonic. Next, the arm is thoroughly scrubbed

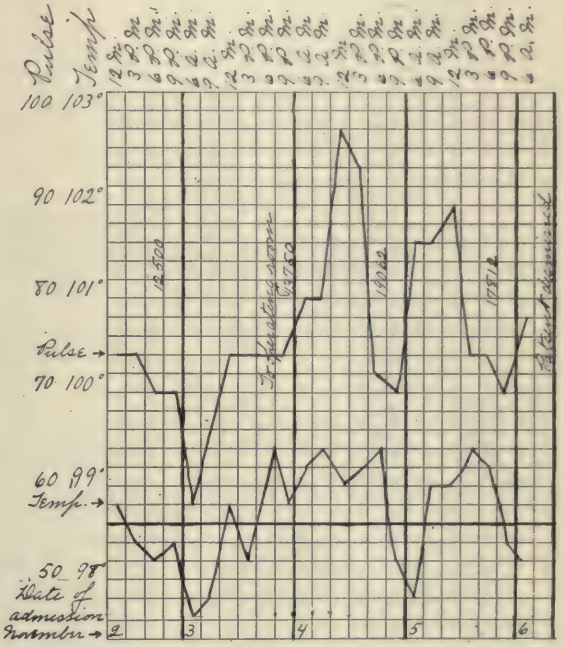


Fig. 8.—Chart showing pulse, temperature and leukocyte count of a case of primary lues (Case 1). This patient came under observation before the secondary eruption but after the Wassermann reaction was positive. The leukocyte count went to 19,062. This is the average in this class of cases. This patient has had two injections, the Wassermann becoming negative and remaining so after the fifth week.

and a constrictor is placed above the elbow. After taking care that the solution runs through the tube and needle easily and that it is not above 98.6 F., and that the air bubbles are all extracted, the needle is thrust into the vein, great care being used not to puncture the vein except in one place, for any of the solution elsewhere than in the vein will produce a marked paraphlebitis. With the two-way cock attachment, it is easy to tell when one is in the lumen of the vessel, as the blood will come pouring out. Then it is an easy matter to remove the constriction, turn the cock, and send the solution into the vein. With the cylinder raised 28 or 30 inches above the patient's head, and with an 18 or 20 gauge needle the solution will pass in easily in about seven to twelve minutes.

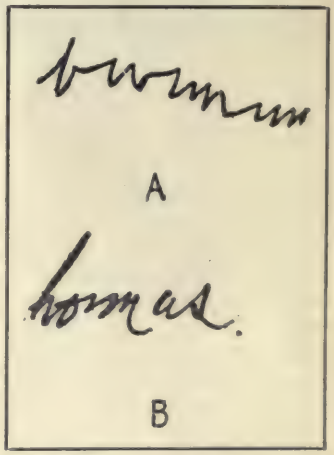


Fig. 9.—Handwriting of a patient with cerebrospinal syphilis occurring during the secondary manifestation (Case 4). A, portion of patient's name written by himself the day before injection, Oct. 17, 1910; B, same portion of patient's name written by himself two days after injection.

It is true that filtering the solution may seem to be superfluous, but often the salt agglutinates and there are small gelatinous-like particles that do not dissolve;

and again sometimes there may be some splintering of glass in opening the ampoule. Therefore, in order to carry this technic out in the best possible manner, it is necessary to have a perfect solution. When the solution has passed into the vein the wound is closed with a collodion dressing.

TECHNIC OF ALKALINE SOLUTION

The materials are: 15 c.c. graduated cylinder with glass stopper, tube of salvarsan and file, which have been previously sterilized with alcohol, one graduated pipette, stock bottle of normal sodium hydroxid solution and one 4-ounce beaker. It is best to sterilize the glassware



Fig. 10.—Severe secondary syphilis; papulopustular ulcerative syphilid of the legs (Case 5).

with dry heat. The salvarsan is placed in a graduated cylinder with glass stopper; 15 c.c. of hot water are added immediately; the solution is shaken vigorously until every particle of the salt is dissolved; then 2 c.c. of normal sodium hydroxid solution are added; a precipitate occurs. Then the sodium hydroxid solution is added drop by drop, being shaken vigorously after each addition, until the solution becomes perfectly clear, avoiding any excess of NaOH; then hot water is added enough to make 20 c.c. of the total solution. Then 10 c.c. of this solution are injected deeply into the buttocks on either side (Fig. 3), care being always taken to cleanse the parts with soap, water and iodin, and to cover them after the injection with absorbent cotton and flexible collodion.

The syringe used (Figs. 4 and 5) is a Record with a twenty-one gauge needle as seen in the cut. The best place to give the injection is in the outer quadrant of each buttock, carrying the needle in at a slant of 45° from above downward as is shown in the illustration, to permit the solution to gradually separate the muscles. The patient should always be put on the abdomen or side for half an hour. This is the method employed in Lesser's clinic.

DOSE

According to the printed instructions which accompany the ampoule of salvarsan, the average dose intravenously is 0.3 gm. for women and 0.4 gm. for men. This is entirely too small and will surely be followed by recurrences, as has been proved by Alt and Schreiber,[2] Miekley[1] and others. One can safely give the full contents of the ampoule, 0.6 gm., to men, and 0.5 gm. to women unless they are otherwise affected by disease. And it is safe to follow this up after four or five days with an alkaline intramuscular solution of the same strength, or again in ten days with the same strength intravenously. I have repeatedly given the injection intravenously followed by an intramuscular injection in five days, and in numerous occasions I have repeated the intramuscular injection five weeks later, using 0.6 gm.

I have sent all of my patients to the hospital for their first injections, but being encouraged by the absence of symptoms I attempted with some patients to give the second injection in my office. This, however, I find is not at all satisfactory, for in some of these cases the shock which followed the injection was extreme, and the patients were not able to go home for some hours. I have repeatedly given the injections interscapularly into the muscles of the back and at the angle of the scapulæ into the latissimus dorsi muscles, but I cannot see the superiority of this location over the injection in the buttocks, except that it permits the patients to get around a little more easily. Some observers have used a local anesthetic following or preceding the injection, but as the pain is only transitory and of much less severity than that which occurs later,



Fig. 11.—Only pigmentation and slight scaling left after thirteen days (Case 5).

I cannot see that it has very much value. Dr. Marks[3] recommended 1 c.c. of 2 per cent. phenol, to be mixed and administered with the injection. I have administered a rectal suppository containing ¼ grain of opium, which seems to act very well.

At the present time it is best to treat all nursing children by a previous full-dose injection into the mother. If this cannot be done, the alkaline solution is injected into the buttocks, and the dose should be from 0.02 to 0.03 gm., depending on the age of the patient.

2. Alt: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1896. Schreiber: Ibid. p. 1898.
3. Marks: Interstate Med. Jour., Jan. 1, 1911, p. 32.

MODE OF ACTION: INTRAVENOUS METHOD

If the solution is placed directly in the blood-stream, the specific acts immediately on any spirochetes that happen to be there and it depends on the larger or smaller number of organisms in transit through the lymphatic or blood-stream whether the symptoms which follow are more or less acute.

There is a period of quiescence following the injection for about five or six hours, then there occurs general malaise, followed by a chill, abdominal cramps and vomiting. The cramps and vomiting may be repeated and last several hours, the temperature rising sometimes to 102 or 102.5. As a rule by another six hours it is normal.

This is typical only of those cases in which the spirochetes are easily accessible. In one of my cases with an extensive papular eruption, there were only abdominal cramps and diarrhea. There is no question but that the intravenous method in proper hands is good, as it is followed by practically no unfavorable symptoms, but in order to obtain a maximum amount of effect it must be repeated again and again. The only danger lies in a puncture of the vein, with consequent paraphlebitis taking place.

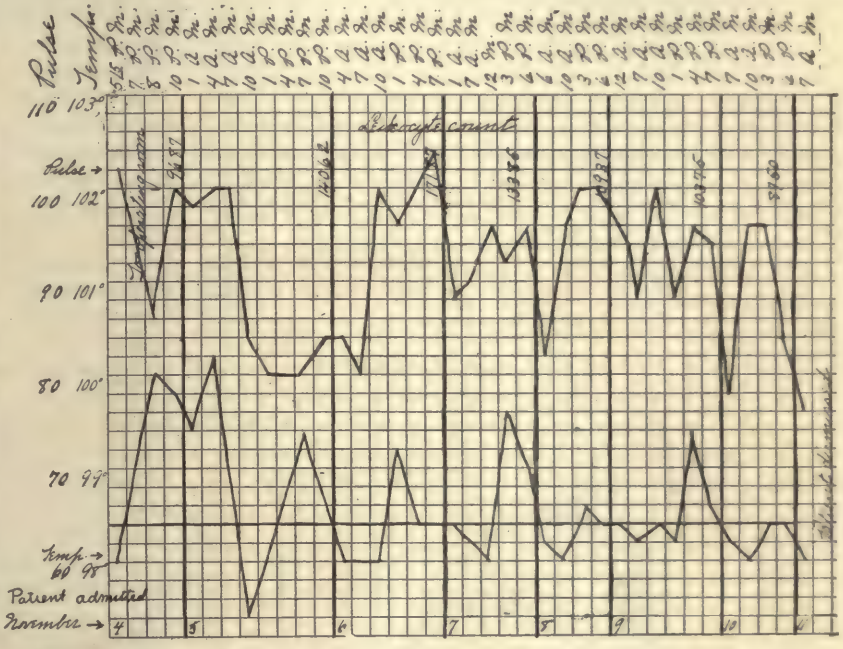


Fig. 12.—Chart showing pulse, temperature and leukocyte count in Case 5 (see Figures 10 and 11). The temperature and pulse ran a little higher here, but the leukocyte count went to 17,187. This patient has since had two injections, but fails to obtain a negative Wassermann reaction. He has since been put on mercury treatment.

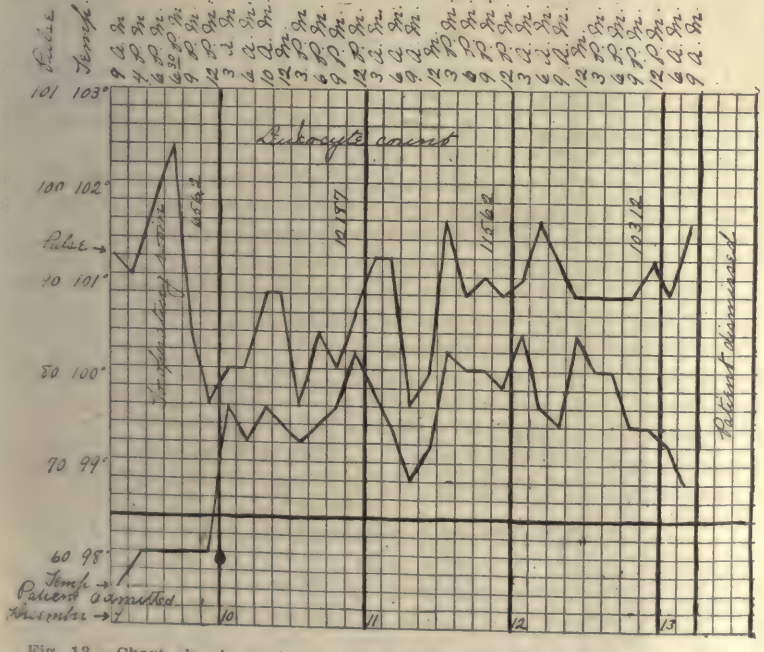


Fig. 13.—Chart showing pulse, temperature and leukocyte count of a case of Erb's spinal spastic paraplegia of syphilitic origin. This count is low, as was the case in all patients treated in whom the infection was of long duration and characterized by minimum destruction of tissue.

MODE OF ACTION: INTRAMUSCULAR METHOD

In order to avoid attacks of fainting and shock, which at times accompany the injection (I must say that this liability is greatly lessened with the newer salt, salvarsan) it is best to place the patient lying on the abdomen and always to disconnect the needle to see if there is any hemorrhage present. It has not been necessary except in a few instances to administer any opiate; and the more remote the infection, the less severe, correspondingly the reaction has been, so that in some of the tabetic patients who were treated, the local reaction was practically nil. Since I have been carrying my injection well to the outer margin of the buttocks, the ensuing neuritis has been practically absent. Frequently the pains are severe, radiating down to the foot, simulating a severe sciatica, but as a rule in several hours they pass off. When these injections were given into the muscles of the back, the referred pains in the abdomen, the arms and the hands were often very severe.

Over the site of the injection there comes an acute sensation of pain, which usually lasts about five to six hours. This is replaced by a dull sensation and a feeling of stiffness that rapidly changes to pain, reaching its maximum on the third to fifth day. Following the injection the area soon becomes boggy and red, resembling erysipelas in the severe infections, so that the patients are not able to sit down. This also does not, as a rule, reach its maximum effect until the third or fifth day.

Sweating.—This occurs in every case in which there is any systemic infection, but in none of my cases was it ever due to any extraneous organisms. It is caused by the endotoxins that are formed from the killed spirochetes. It usually begins the first night following the intramuscular injection and may continue for ten days. It usually reaches its maximum effect the third to fifth day and then gradually subsides. It is not present after the second injection in such a perceptible degree.

Using the neutral suspension, numerous cases of abscess have been reported. This is attributed either to the method of preparation, as in this way it is not easily

kept sterile, or to the fact that the salt injected subcutaneously acts as a foreign body.

In none of my cases has there been the slightest sign of abscess, but unless the strictest asepsis is carried out, this surely will happen as a complication.

As a rule the swelling subsides rapidly and is fairly well absorbed at the end of the second week. Some nodules may remain unabsorbed for many weeks. This is particularly true after the more concentrated solutions. For a time I prepared my solution with a 20 per cent. solution of sodium hydroxid, dissolving the salt in 9 c.c. of water, so that when finished the whole dose was contained in 10 c.c. of solution. This in particular was followed by considerable pain and by nodules.

The personal element, however, plays an important rôle in regard to the effect of the injections. Women as a rule, bear them better than men.

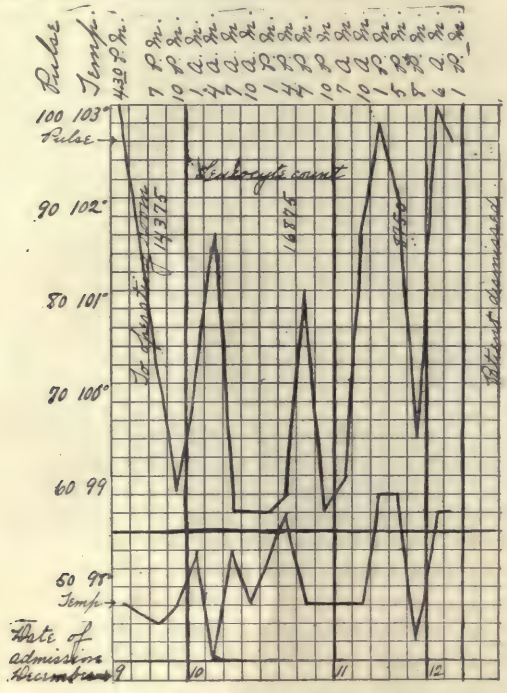


Fig. 14.—Chart showing pulse, temperature and leukocyte count in a case of latent syphilis complicating pulmonary tuberculosis. The count here is a little below average, but the local reaction was most severe. After five weeks his Wassermann reaction remains positive.

If the pain is severe, hot sitz-baths together with hot applications are of most benefit. The insomnia that follows after the injection, while at first due to the pain, is later the result of the stimulating effect of the arsenic. The general condition may remain undisturbed, though there may be loss of appetite, and malaise, but this passes off rapidly and in a week there is a wonderful stimulation (as Fritz Lesser[4] calls it, "the organotropic effect of the arsenic"). There is an increase in weight and general nutrition, including an improved blood-picture.

In a few cases there were numerous urticarial rashes after the second day. These, however, were transitory and caused practically no inconvenience.

The Herxheimer reaction was present numerous times (local irritation of spirochetal foci); but it was most marked in late secondary manifestations. In one instance, I excised a dactylitis syphilitica, believing that it contained pus, but it was nothing more than a local reaction.

4. Lesser, Fritz: Berl. klin. Wchnschr., Oct. 24, 1910, p. 1975.

Urine.—There have been no quantitative examinations made for arsenic. Albumin and casts have been found numerous times, but these were always transitory. A most careful examination of the urine was made of the patients who had received the second injection, and only in two instances were there any symptoms of renal irritation.

Temperature.—In the majority of cases the temperature was influenced but slightly, rarely going beyond one hundred degrees, often remaining perfectly normal; but occasionally there was a sharp rise, especially if the combined method had been used and the first injection had happened to kill a large number of spirochetes.

Pulse.—This varies with the degree of pain and the general condition. Of course, being a new form of treatment, the suspense and excitement often cause an unnatural rise.

Leukocyte Count.—In all cases a careful count was made from day to day and it can be safely said that there is a direct relationship between the relative number of killed spirochetes and the leukocyte count. In all cases in which the infection was recent and at all active, the leukocyte count was relatively high. In one case following an intravenous injection it went to twenty-eight thousand. Repeatedly, following the intramuscular injection, the count went from seventeen to nineteen thousand. On the other hand, in all cases in which the infection was at a minimum (this is especially true of tabetics) there was only a slight leukocytosis. As Neisser[5] has shown, there is no reaction in healthy non-syphilitic patients. We might, then, use this method in a measure to ascertain whether our treatment has been effective.

REPORT OF CASES

At the present writing I have treated sixty-two patients. I wish, however, to report on twenty-eight cases in detail, as the others have not been under observation for a sufficiently long time.

The medical examinations were made by Dr. Milton M. Portis and the ophthalmologic examinations were made by Dr. Cornelius A. Leenheer.

These cases include:

1. Primary syphilitic lesions after the Wassermann reaction was positive, but before there were any secondary skin manifestations.
2. Early secondary syphilitic lesions.
3. Late secondary syphilitic lesions.
4. Tertiary syphilitic lesions.
5. Syphilis of the nervous system.
6. Latent syphilis with only a positive Wassermann reaction.

Unfortunately, I was not able to observe a primary lesion sufficiently early to show only a negative reaction, and as a consequence I was not able to apply Ehrlich's theory of *therapia sterilisans magna* in an ideal case.

1. Primary syphilitic lesions after the Wassermann reaction was positive. In this series there are four cases.

CASE 1.—The patient, J. F., 19, single, came under observation on Oct. 31, 1910. There had been an incubation period of fifteen days. The sore had been present three weeks at the time of examination. A few spirochetes were found. The Wassermann reaction was positive.

On Nov. 3, 1910, an injection of 0.5 gm. (10 c.c. of solution) was made into each buttock. The first picture (Fig. 6) was made Nov. 3, 1910. Complete healing took place in twelve days (Fig. 7). A Wassermann examination Nov. 28, 1910, was negative. On Dec. 12, 1910, a second injection was made, 0.6 gm.

5. Neisser: Berl. klin. Wchnschr., Aug. 8, 1910, p. 1485.

in concentrated alkaline solution. On Jan. 8, 1911, Wassermann still negative. On Nov. 28, 1910, I excised the remaining sclerosis at site of the primary lesion and this was examined for spirochetes by Dr. Maximilian Herzog after Levaditi's method. His report is as follows:

"Microscopic examination showed the mass removed to be composed mostly of granulation tissue which exhibits the characteristic endo-, meso- and periphlebitic vascular changes generally so well marked in primary and secondary syphilitic lesions. No spirochetes could be found in the silvered section, however."

It is needless to say that I realize that in due course of time the spirochetes would migrate from the lesion without any treatment whatever, but we had a considerable amount of granulation tissue left at the site of the primary lesion. The Wassermann reaction was negative and it was a question whether or not any organisms remained locked in the tissue, being so insignificant as not to produce a positive Wassermann.

Iversen[6] has followed out the same idea by examining the inguinal glands for spirochetes. He examined ten patients, three to five days after treatment and although the spirochetes had been present in great numbers before the injection, they were absent afterward.

In the above case there was a more perceptible reaction following the second injection, general malaise, chilly sensations and nausea. This, I felt, was due to an anaphylactic reaction, but in the light of similar conditions in other patients, I attributed it to the action on the spirochetes with resulting endotoxemia, the general condition of the patient being wonderfully good.

CASE 2.—The patient, M. E., was given a combined treatment, intravenous injection followed in five days by an intramuscular injection. After the intravenous injection he suffered a violent attack of chills, vomiting and abdominal pains, with a temperature of 102 F., which promptly receded the following morning. In three weeks he gave a negative Wassermann reaction, which four weeks later, on Jan. 8, 1911, was still negative.

I have used the intravenous method in the other cases of this series, in none of which was the reaction so acute. This I attribute to the solution catching a large number of spirochetes in the blood-stream, as the injection was given at the time that the first eruption should make its appearance. In the other patients so treated, the eruption had been out many days. The organisms were entrenched, so to speak, in the tissues, consequently the general reaction was not so acute and characterized only by cramps and diarrhea.

Two of the patients in this series have maintained a negative Wassermann reaction; the other two still show a positive reaction. All have had two injections, and no return of symptoms.

2. Early secondaries from one to six months' duration, characterized by skin eruptions and mouth lesions. This series comprises ten cases. The oldest case is of four months' duration, the shortest six weeks. All have had a second injection from the fourth to fifth week after the first, except one case, regardless of whether their Wassermann reactions were negative or positive. In none of these cases has there been any return of external signs of lues.

CASE 3.—The patient, B. B., 18, single, was infected April 1910; chancre on left tonsil. Secondaries appeared May 7, 1910. The diagnosis was secondary lues, only manifested by external lesion in throat.

The patient was put on rubbings which were continued until July 10, at which time there were no external signs of lues. He was put on proto-iodid pills, 1/6 gr. three times a day. In September plaques appeared on both tonsils. On Oct. 17, 1910, the day before treatment, examination for spirochetes showed twenty to thirty in the field. Next morning, October 18, an injection was given, 0.5 gm. of the alkaline solution, 10 c.c. in each buttock. The second day, no spirochetes were to be found; the fourth day, complete healing. Nov. 11, 1910, the Wassermann reaction was negative; likewise on Jan. 8, 1911. Jan. 15, 1911, the injection was repeated, 0.6 gm. The patient's condition was excellent.

CASE 4.—Figure 9 shows the handwriting of a patient with cerebrospinal syphilis that occurred during the secondary manifestations. The patient was infected six months previously and at the time of his cerebrospinal disturbance he had plaques on the tongue, a discrete papular eruption and condylomata. At the time of examination, Oct. 18, 1910, he was suffering from a right hemiplegia, and ptosis of the left eye, the left side of the mouth drooped, there was a slight delirium, incoherent speech, and slight comatose condition. Spirochetes were present in the plaques, and the Wassermann reaction was positive.

The patient was given 0.6 gm. in an alkaline solution into each buttock. The temperature never went higher than 101 1/5 F., the pulse never above 90. Three weeks after injection the man walked into my office in a greatly improved condition. While he could not tell me his home address, he was perfectly able to discuss the topics of the day.

The patient's general improvement has been most striking. He had another injection of 0.6 gm. at the end of the fifth week but the Wassermann reaction still remained positive. He has since gone back to work. Dr. Hugh T. Patrick saw this patient on two different occasions, the first time two days before the first injection and the second time eight weeks later. Dr. Patrick's comment was that the patient was "altogether a different man, but obviously not yet normal."

CASE 5.—J. M., aged 28, married, was infected July 12, 1910. The patient was dissipated and his condition poor. Rubbings with mercury, and potassium iodid internally were employed. This treatment was continued until the time of injection. The Wassermann reaction was positive.

Figures 10 and 11 illustrate an extensive papulopustular ulcerative syphilid that extended over the whole body, but was most marked on the legs. The pictures were taken fourteen days apart, the first on Nov. 13, 1910. The first injection was given Nov. 14, 1910, 0.6 gm. in alkaline solution, 10 c.c. into each buttock. The second picture was taken Nov. 26, 1910. The second injection was given Dec. 11, 1910. The second Wassermann reaction, Dec. 10, 1910, was only slightly positive; the third, Jan. 15, 1911, was again positive.

Five of these patients obtained a negative Wassermann reaction from the third to the fifth week after their first injection. All were injected a second time and have remained negative up to the present writing. The other five have never obtained a negative Wassermann but have been reinjected. There has been no return of symptoms.

3. Late secondaries after the sixth month.

In this series there are eight cases; all the patients have had their infection for six months to two years. All showed either external signs of lues or mouth or throat-lesions.

CASE 6.—The second patient in this series presented plaques on the tongue. These had been present with only slight remissions for one year. The patient was injected in the morning and by afternoon there was sharp bleeding in the lesions and by the second day a thin epithelial covering had begun to form. All healing was completed in one week; at the end of three weeks there was a negative Wassermann reaction; the fifth week a positive reaction. Two days later a second injection was given; this was followed the next day by general malaise, chills, nausea and vomiting; temperature 102° F. The following morning temperature normal.

At first I attributed this also to an anaphylactic reaction, but the incubation period was too short. It was

6. Iversen: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1899.

further too late for an acute toxemia following the administration of the salvarsan. My deductions here are the following: The pathologic-anatomic lesions so securely held the spirochetes that the first injection only permitted the outer protecting wall to be influenced, while the second injection then was able to attack a large number of organisms, the patient suffering from an acute endotoxemia following the killing of so great a number. It is just this class of cases in which I believe the intravenous method to be of little value, as the remedy is eliminated before it has time to produce a maximum amount of effect.

I have not been able to obtain a negative Wassermann reaction again in this patient, but there has been absolutely no sign of any recurrence. In order that I may not lose the advantage that I have gained over the disease, I have put him on mercury treatment until such a time as I deem it expedient to repeat my salvarsan.

Another patient in this series, in whom I was able one year ago to get a negative Wassermann reaction after rubbing into him 100 grams of mercury, had an ulcerative syphilid in the right nasal opening at the time of treatment and a dactylitis of the middle finger of the left hand.

These lesions showed a beautiful Herxheimer reaction; also the site of the old chancre was affected the same way, showing again that the organisms must be well anchored in the lesion, and emphasizing how little value one can place in a single negative Wassermann.

4. Tertiary syphilis, one case.

This case presented a gumma involving the septum. Healing was prompt, although the Wassermann has still remained positive; but there has been a wonderful nutritional change, the patient gaining twenty pounds.

5. Syphilis of the nervous system.

In this series there are three cases; two cases of tabes and one of Erb's spinal spastic paralysis of syphilitic origin. One of the tabetic patients reports an improvement of pain, but there has been no subsequent Wassermann test. The other tabetic patient after two months shows a negative Wassermann reaction, with a cessation of the pain of tabetic crisis. The patient with Erb's spinal spastic paralysis of syphilitic origin also shows improvement of the vesical and rectal sense and action, lessening of rigidity in the abdominal and leg muscles, disappearance of dragging of toes, increased freedom in movement of right ankle, and improved sensation in right leg, but increased patellar reflexes in both legs and increase of ankle-clonus on right side. The pulse, temperature, and leukocyte count in this case are given in Figure 13.

6. Latent syphilis, manifested only by a positive Wassermann test.

In this series there are two cases.

In the first case there has been no change in the Wassermann reaction after six weeks, but the nutritional change is well marked. The second case was complicated by tuberculosis of the lungs. Here there was also no change in the Wassermann reaction, but nutritional change was marked. The pulse, temperature and leukocyte count are given in Figure 14.

PROGNOSIS

From the many reports that have appeared the prognosis as to the efficiency of salvarsan is good. To believe that we have a twenty-four-hour cure for syphilis is indeed a mistake, but that we have the best means yet discovered to combat syphilis is true.

Unfortunately, salvarsan has a bad heritage and still more unfortunate is the fact that it is somewhat complicated in regard to administration and as a consequence the future will undoubtedly unfold many calamities following its misuse.

That the possibility of a *therapia sterilisans magna* is not a fruitless idea of Ehrlichs is conceded by all rational syphilographers, but for its successful culmination one must see the patient extremely early, make a diagnosis before there is systemic invasion (before the Wassermann is positive), effectually destroy the lesion and give the combined treatment (intravenously and intramuscularly) at the earliest possible moment.

Unfortunately, the syphilographer does not see the larger number of cases early, and for the successful carrying out of the ideal method he will have to depend on the family doctor in order to put these cases under treatment successfully.

The longer a patient has been infected with the *Spirochæta pallida,* the less chance is there for a speedy cure. In my cases, notwithstanding the fact that symptoms disappeared, the Wassermann remained positive in all that were infected longer than six months; and any physician who tells a patient that one injection is going to rid him of his syphilis forever is guilty of gross deception. To give a patient one injection and permit him to wait, is clothing him with a false security, as his symptoms will surely return unless some other form of treatment is added.

At the present writing I am re-treating all my patients in the fifth or sixth week. In those that have gained a negative Wassermann reaction before the second injection, I stop treatment after the second injection. In those that still show a positive Wassermann reaction, I continue the treatment with mercury until such a time as I feel justified in injecting the salvarsan a third time. By so doing, I am not only holding the advantage gained by the action of salvarsan, but am continuing the treatment to the best possible advantage.

Neisser[7] says that in the present enthusiasm over salvarsan we seem to forget that we were ever able to cure syphilis with mercury, and he suggests that we use mercury as an ally to salvarsan. Even Ehrlich[8] says that the best way to combat the disease is by different kinds of treatment, the same as a general would attack a hill "from all sides."

The biologic management of the patients after treatment with salvarsan is of the greatest importance if we wish to carry them to a successful termination. In fact, it is the only method available of controlling the disease before external manifestations occur.

A patient in whom the reaction persists after treatment must be considered as not cured. If the reaction disappears we have to differentiate between two possibilities: either we may have a true cure, which is indicated by the lasting disappearance of the reaction, or on the other hand, we may be dealing with a transitory negative phase, due to the fact that the remaining spirochetes are so diminished that those still left are not able to produce a reaction, and when they have again increased in number a positive reaction will again occur. This positive relapse without external manifestations is an indication for further treatment.

CONCLUSIONS

1. We have in Ehrlich's remedy a powerful agent against syphilis.

7. Neisser: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1889.
8. Ehrlich: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1893.

2. A single injection has in favorable cases approximately the same result as four to five months' treatment with mercury and iodin.

3. It may show a brilliant effect in cases in which mercury and iodin have failed.

4. Salvarsan has advanced the treatment of syphilis in a decided manner, but on account of its strong arsenic content, repeated doses may have a disastrous effect on the human organism.

5. Every physician should master the technic before attempting to use it. Only in this way will the drug be safely guarded from many pitfalls.

In closing I wish to thank Dr. Joseph L. Boehm, of St. Louis, for his kind suggestions and Dr. D. N. Spaulding, Dr. John H. Fletcher, Dr. R. Dawes, Dr. D. Borges, Dr. H. H. Redfield, Dr. J. H. Nowlin, Dr. J. D. Bartlett, Dr. G. H. Stannard, and Dr. Nelson Percy for their kindness in referring a part of my material to me.

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INTRAPERITONEAL SHORTENING OF THE ROUND LIGAMENTS FOR RETROVERSION OF THE UTERUS

THROUGH THE TEMPORARILY DILATED INGUINAL CANALS AND INTERNAL RINGS, WITH CLOSURE OF THE WOUNDS BY A CAREFUL HERNIA TECHNIC *

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Eleven years ago, at the Columbus session[1] of this Association, I took the initiative in this country in assailing the various fixation and artificial ligament operations for retroversion and flexion of the uterus in women who retain a capacity to conceive. At that time the results of such wrong and misdirected surgery already began to appear on the continent of Europe, and no great amount of erudition in *a priori* reasoning was required to foretell what the outcome of the same would be with us. A rationale on anatomic and physiologic grounds was then presented, showing a direct antagonism between the interests in the technic of such operations and the interests of the uterus in gestation and parturition; that either only futile or temporary results on the one hand or disasters on the other would result in a large proportion of cases. I was free to do this because it had been my good fortune to supplant the superficial, blind and incomplete simple Alexander operation in my practice, with a thoroughgoing intraperitoneal bi-inguinal procedure, which I had then performed over 100 times and of which I reported the remote results after an average period of two years in forty-seven cases, two months later, August, 1899, at the Amsterdam meeting[2] of the International Congress of Obstetricians and Gynecologists.

No other operation for retroversion of the uterus has been so carefully studied and so severely tested as to its ulterior results by so large a number of operators as has the Alexander operation. Most operators, especially the devotees to the fixation and artificial ligament procedures, have reported the status (often the subjective condition only) of their patients only up to the time when they left the hospital, or when they received an oral or written statement from them, or to the time of a childbirth, without regard to the position and condition of their pelvic organs after childbirth, or to the possible existence of some other concurrent affection. This is grossly insufficient and unworthy of notice by a scientific body or by a decent medical journal. Likewise it is not enough to depend on the patients' statements of their subjective conditions, but their objective anatomic status must also be obtained by a careful examination; and both the subjective and objective findings should be taken after an average interval of two years has elapsed.

Since pregnancy and childbirth are the chief functions of these organs and involve the most signal metamorphoses in them, these reproductive physiologic achievements must also be accepted as the normal standard by which to gage the merits and demerits of operations on these organs. My "double test of pregnancy" implies that the given procedure does not hinder pregnancy or induce complications for labor. This simple test of pregnancy will be readily passed by the multitude of procedures on the round ligaments, by the artificial ligament operations in most cases and the seroserous fixations in many cases, but the severer crucial or double requirement, that displacement of the uterus will not recur after one or more subsequent labors, has been proved to be met successfully only by some of the round-ligament operations, and by none of the artificial ligament or fixation procedures in an acceptable percentage of cases. According to all real evidence or proof, so far as recorded, only round-ligament operations, and of these only those that do not place dependence on the tapering and useless distal ends of these ligaments to do any holding, are able to pass these severe but normal requirements successfully in an acceptable percentage of cases. The plain reason for this is that the round ligaments are a part of the uterus, and as such undergo with it both evolution (not stretching), during gestation and involution after labor, which is not true of any fixation or artificial ligament that human ingenuity or conceit may devise. That fact excludes all such operations aside from (1) bi-inguinal (Alexander) operation, and (2) transplantation of round ligaments into the abdominal wall by some one of the numerous minor variations in technic, all of which are fundamentally correct in principle.

What is the record of the bi-inguinal operation? In my last summary of this subject before this Section, five years ago, I reported twenty-two cases of my own, each of which had passed the double test of pregnancy successfully, after previous intraperitoneal bi-inguinal shortening of round ligaments, with the Bassini hernia technic in closure of the wounds, and with these I reported a collection of 147 similar cases by twenty-five other operators, making in all 169 double test cases. Among these were only three failures, and these were for cause: namely, two cases of prolapse in which the undue elongation of sacrouterine ligaments contraindicated round-ligament shortening alone, and in the third case it was due to violent intrauterine manipulation and infection by a midwife. To this collection of 169 cases there now to be added 115 more such double-test cases by the following operators: 18 by Epstein,[3] 7 by Fuchs,[4]

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Goldspohn, A.: The Uterus; Why Vaginofixation, Ventrofixation and Ventrosuspension Thereof Should Be Avoided in Cases That Retain Any Capacity for Conception. THE JOURNAL, A. M. A., July 22, 1899, p. 181.

2 Goldspohn, A.: Am. Jour. Obst., 1900, xli, No 5.

3. Epstein: New York Med. Jour., 1905, lxxxi.

4. Fuchs: Zentralbl. f. Gynäk., 1905, pp. 613, 648.

26 by Tillmann,[5] 14 by J. W. Taylor,[6] 28 cases by Hannes (Kustner),[7] and 22 cases by Leese.[8] Some of these operators mention a recurrence rate of from 3 per cent. to 4.5 per cent., which probably applies also to the patients that bore children. If so, we have 284 cases examined after one or more childbirths, with an average recurrence of displacement of less than 4 per cent. With such a record the results of all other operations for this purpose—aside from the transplantation of round ligaments—are not to be compared.

The recurrences have become much less frequent with those operators who have discarded the old extraperitoneal method and have drawn the ligaments out more thoroughly after dissecting back the peritoneal investment in the properly opened canal and internal ring, and have noted the proper degree of advancement of the fundus through the same. Very many operators have followed my lead to that extent in this matter, but only a small number of them have followed me to the full extent of severing adhesions by introducing a finger or two through the dilated internal ring of each side, drawing the tube and ovary into or out of this opening and resecting or removing them, as may be indicated. The ovary and outer half of the tube are suspended from the broad ligament at a point just back of the internal inguinal ring and are often drawn out of that opening more easily than into a median ventral incision. In breaking up adhesions no decent operator makes anywhere in the abdomen the enormous incision that would be required, together with more or less evisceration, in order to see these adhesions down in the true pelvis. We all sever such adhesions by the sense of touch alone no matter by what route they are reached. This route should not be chosen for patients with immovably fixed uteri and adnexa with indurations, etc., because this would be dangerous and a waste of labor in such cases, for the patients do not become pregnant whatever the procedure used. Their tubes are too badly injured, and therefore they are well enough served by some simple fixation or duplication of round ligaments, by way of a median section.

The reasons commonly advanced against my intrapelvic work in my bi-inguinal celiotomy, via the dilated internal rings, are not at all the reasons why I have practically discarded this operation in recent years. I did it in over 200 cases, together with curettage and operations on the cervix, perineum or rectum in most of them, with a mortality of less than 1 per cent. I had twenty-two cases crucially tested by pregnancy and labor, without abnormality or a sign of a recurrence or of a hernia in any of them. My total recurrences of displacement were less than 1.5 per cent. without ever resorting to a pessary after operation. The reasons why I have practically discarded this operation are as follows: (1) violent appendicitis has occurred within a year or two in a number of cases in which I had the opportunity to remove the appendix, and did not do it because of sentimental reasons and because it seemed to be, and always to have been, normal; (2) according to several writers, and according to sensible *a priori* reasoning, cecostomy is preferable to appendicostomy when indicated for treatment of the colon, and (3) we find this wholly useless vestige, club-shaped or otherwise, disposed to make trouble in so large a proportion of cases, which in the past have been free of plain attacks of appendicitis. Therefore I am convinced as to my duty to remove this menace nearly always, especially when I open the abdomen for a relatively minor indication such as ordinary uterine displacements are. This cannot be done safely through the inguinal canal as a rule.

Furthermore, it is often desirable to palpate the gall-bladder, the pylorus or a kidney, in conjunction with an operation for pelvic disorders, or to resect a dilated linea alba. All these can be done if a median ventral incision is chosen and enlarged when necessary. By the same incision the uterine displacement can also be cured in a creditable manner by transplantation of round ligaments into the abdominal wall; therefore this only real competitor of the Alexander operation properly becomes its successor. But in recent years a compromising combination has been made between a median laparotomy and shortening of round ligaments in the inguinal canals after Alexander's method. Both of these acts are done by way of a straight or curved transverse suprapubic incision, which need not always be made through the aponeurosis of the recti muscles. This affords sufficient opportunity for the required median section and also access to the inguinal canals for the Alexander operation, under intra-abdominal control of the proper degree of shortening of each ligament. This in substance has been done by Peterson,[9] Rumpf and Palm,[10] Werth,[11] Kustner,[12] Littauer,[13] and Broese,[14] and promises to become a standard procedure. The Alexander operation, thoroughly performed, however, with its principles and monumental results, before mentioned, has led the way to such still more salient procedures. It can, therefore, well rest on its laurels if it is never performed again.

But to those operators, if any there be, who are still performing the original so-called extraperitoneal (?) Alexander operation, especially if without opening the inguinal canal, I would like to say with something louder than the human voice and words that they are not doing their duty by their patients; that their implied promises of best efforts and normal services held out to these patients are tinctured with fraud. This type of operation should certainly be banished, because, first, as I have repeatedly stated, the adhesions of the ovary and the outer end of the tube are much more frequent than of the uterus itself, because in their vicinity infection by way of the tubes comes first. Adhesions of these small structures are very difficult to discover and are often not suspected when the uterus is movable. They are formed on these adnexa in their descended location, to which they sank with the retroverted body of the uterus. When the latter is brought forward into anteversion the adnexa cannot follow, being fixed at a lower plane. The enforced tension on these structures entails discomfort to the patient, and the direction of this traction, being opposed to that of the extraperitoneally (often imperfectly), shortened round ligaments, endangers their integrity and tends to induce a return of displacement of the uterus. Such adhesions of adnexa, beside a free uterus, are severed with the greatest ease by a finger within the internal ring, which, fortunately, is just in front of the parts.

5. Tillmann: Beitr. z. klin. Chir., 1907, lv, 318.
6. Taylor, J. W.: Jour. Obst. and Gynec. Brit. Emp., 1907, xii, 415.
7. Hannes: Zentralbl. f. Gynak., 1908, No. 49.
8. Leese: Monatschr. f. Geburtsh. u. Gynäk., 1909, xxix, 448.
9. Peterson, R.: Surg. Gynec. and Obst., 1906, iii, 85.
10. Rumpf and Palm: Ztschr. f. Geburtsh. u. Gynäk., lix, No. 1.
11. Werth: Zentralbl. f. Gynäk., 1909, No. 14.
12. Kuestner: Zentralbl. f Gynäk., 1909, No. 2.
13. Littauer: Zentralbl. f. Gynäk., 1909, p. 833.
14. Broese: Zentralbl. f. Gynäk., 1909, pp. 668, 1256.

Secondly, the round ligament does not slide or pull out from the broad ligament enough, once in every four or five individual instances (according to careful observation on this point in fully 130 cases), without some scissor-clips on the front blade of the broad ligament, which is always drawn forward into the ring. The shortened ligament then remains, pulling forward from the broad ligament at a point distant from the uterus, and therefore with little or no good effect on the displaced fundus uteri. This condition is very easily discovered by pulling on the broad ligament while the index-finger of the other hand is placed against the uterus through the ring, and it is just as readily relieved.

Thirdly, in the not infrequent cases of retroversio-flexion, with a heavy fundus, the center of gravity of the body of the uterus is often posterior to a line joining the points of origin of the round ligaments, while the posterior cervical supports are elongated. In this condition the round ligaments will have to be dissected out extensively from the broad ligaments, usually along with a generous strip of enveloping peritoneum, and they must be given a new course quite directly forward; otherwise traction on them from the inguinal canals is quite as likely to bring the cervix rather than the fundus forward.

That extraperitoneal (?) shortening of round ligaments is insufficient, is shown by the high percentage of recurrences of displacements, even in cases that have not been tested by pregnancy. Longyear,[15] including two cases in which he could not find both ligaments, had 12.5 per cent. failures. Hannes (Kuestner)[16] had three recurrences of displacement after nine operations performed extraperitoneally, while after sixty-two operations done with opening of the canal and peritoneum and more thorough elaboration of ligaments, the patients were found, two years later, to be without any recurrence of displacement.

CONCLUSIONS

1. The improved Alexander operation thoroughly performed has more good and approximately perfect results recorded to its credit than, so far, are recorded to the credit of all other operations combined that have been performed chiefly for retroversion of the uterus.

2. No Alexander operation should ever be performed without digital exploration within the pelvis through both internal rings, to prove that no adhesions remain, and to prompt and facilitate an adequate dissection of the round ligaments from the broad ligaments to give the former a sufficiently forward course to hold the fundus uteri forward effectively.

3. Prolapse of the uterus, or retroversion due chiefly to elongation of the sacro-uterine ligaments, should be treated by shortening these ligaments, when possible, or by attachment of the psoas parvus tendon or a portion of the psoas magnus muscle to the back of the cervix, in the manner suggested by Harris,[17] and never by shortening of round ligaments as the chief act.

4. Inasmuch as transplantation of round ligaments into the abdominal wall by some one of the numerous minor variations in technic, secures a creditable correction of retroversion in most cases by way of a median incision, which is also available for appendectomy, and various desirable explorations within the abdomen, this manner of operating has largely and properly superseded the general type of operating by way of the inguinal canals.

5. A plan of operation that is still more correct anatomically and surgically, has, in recent years, been carried out by at least seven operators with satisfaction. It consists in doing first, a sufficient median laparotomy and the required intraperitoneal work, and secondly, in shortening of round ligaments within the opened inguinal canals themselves, both by way of a transverse suprapubic incision, either straight or curved upward and extending through the aponeurosis of the recti muscles, as may be required.

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15. Longyear: Am. Jour. Obst., November, 1908.
16. Hannes: Zentralbl. f. Gynäk., 1908, No. 49.
17. Harris, M. L.: A New Operation for Prolapse of the Uterus, THE JOURNAL A. M. A., May 14, 1910, p. 1605

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. COFFEY,* BALDY, GILLIAM, SIMPSON, DUDLEY AND GOLDSPOHN, FORMING A SYMPOSIUM ON OPERATIONS FOR RETROFLEXION OF THE UTERUS

DR. E. E. MONTGOMERY, Philadelphia: It is with considerable hesitation that I speak when the inventors have presented their various operative procedures. I class myself as an adjuster rather than an inventor. The number of operations that have been introduced for correcting and maintaining the uterus in its proper position is evidence that none of these has been exactly what was necessary in all cases, and I would not come to-day to advocate any particular operation as an absolutely sure cure in every case that might present itself. I have lived long enough in the profession to have gone through the various procedures that have been devised from time to time for this purpose. I have, of course, practiced the operation of ventrosuspension and ventrofixation. I had the misfortune in performing this latter operation in one case to have a knuckle of intestine slip around the band of adhesion and the patient die as the result of the constriction of the intestine. This accident led me in doing the Gilliam operation to obliterate the space on either side in which the intestines might slip through. Later I utilized the procedure of Dr. Simpson with that of Dr. Gilliam by making an opening in the anterior leaflet of the broad ligament, threading the ends of the ligature which have been passed around the round ligament into the eye of a Deschamp's needle and have carried this through the broad ligament until it has penetrated the aponeurosis as suggested by Gilliam. I much prefer the Pfannenstiel incision, as it permits of greater exposure of the parts. This procedure also enables us to get directly down on the site of the round ligament. We are directly over it and it is under our control during the whole procedure.

The operation suggested by Dr. Baldy certainly does lift up the uterus and probably sustains it better than any operation done on the round ligaments. The objections are the very extensive traumatism on the posterior surface of the uterus and the fact that it pulls out the ligaments from the peritoneum, leaving an extensive raw surface on the posterior surface of the ligament to which adhesions of the intestine and rectum are likely to occur. I have had the opportunity to operate on one of the patients who had passed through the hands of Dr. Baldy and found that this condition existed, drawing back the uterus after an operation had been done. This modification makes a fibrous band of the musculature which is effectual in maintaining the uterus in a forward position. The uterosacral ligaments are much like the Arctic circle—an imaginary line. They have been completely obliterated by the conditions which have led to the sinking down of the uterus and are consequently of little effect. The procedure suggested by Coffey of utilizing the peritoneum, bringing about extensive adhesions of the peritoneum, serves a most efficient purpose. Here the uterus is held up by adhesions and consequently the cervix drawn backward and upward and in that way the displacement is overcome.

DR. J. B. MURPHY, Chicago: I address you in this discussion as fellow gynecologists, because it is all surgical, and all of the gynecologists are going to become general surgeons. In

* Some of these articles appeared in THE JOURNAL last week.

the question of retrodisplacement we have important problems. The position in which the uterus arrives at the physician's office is in one of the two, three or four degrees of displacement into which we usually subdivide them. Those who have lived through the pessary period and know the great relief that the patient receives when the uterus is held forward with a pessary, put in intelligently, know the relief that can be obtained from replacement, when you do not do additional damage to the patient by its improper insertion. I say that after a considerable clinical experience. In the attempt to relieve the displacement by many of the operations, and in some of the patients by all of the operations, the treatment leaves the patient worse than when it was begun. Just why this is true we do not know, but we know it occurs. Therefore, in deciding on the operation we must individualize as to anatomic conditions present, taking note of the degree of displacement, the construction of the patient's pelvis, and of the supports which we are able to appropriate for the retention of the uterus.

In the relief of displacements by anterior fixation to the abdominal wall, which I was supposed to discuss, I must say this, that I made the ventral fixation for a number of years in the majority of operations. In a considerable percentage of cases the patients had three causes of complaint against me: (1) When the patient sneezed she had to seize her abdomen because of the pain caused by the traction; (2) when she jumped from a street car or carriage there was a sensation of tension or of pain; (3) finally, elongation took place and the uterus returned to the previous position. In the evolution of the displacement, whether it is immediate, following a severe injury or strain, or whether it is gradual, where do you find the uterus in the third degree? Down in Douglas' pouch with the intra-abdominal pressure on the anterior wall. Where are your round ligaments running? If you examine the patients, and particularly the thin ones, you will find in the superlative degree of displacement, if you are going to appropriate the round ligament to the support of the uterus without changing its attachment, that you have another element to contend with—the round ligament, normally situated high up and near the corner of the uterus, has worked down one and one-half inches to the line. So you have lost your leverage support from its position. The round ligament, I consider, is the balancing cord of the uterus. It carries none of its weight, simply balances it, and the weight is carried from below. The most natural thing in its restoration would be to put the weight where it was before; but the weight remains, except that it is resting on the floor of Douglas' pouch.

I use the round ligament for restoration in cases in which there is a comparative degree of displacement. Recurrence is more frequent than agreeable, but I believe there is less discomfort to the patient than with the fixation. In the superlative degree of displacement I have followed another line of treatment. In a case of procidentia if you will make an incision in the Pfannenstiel line down to the rectus muscle, then split the rectus muscle in a line parallel to its long axis; draw out the uterus and cut off the round and broad ligaments down to the cervico-corporeal junction, then split the uterus parallel to the long axis of the body down to the cervix, turn out the lateral flaps, remove the mucosa of the tube and uterus down to the cervix, then sew the uterus to the external surface of the sheath of the recti after uniting the peritoneum and the aponeurosis of the rectus up around the cervico-corporeal margin of the uterus, it will then hold the bladder and the rectum up as long as the patient lives.

DR. H. J. BOLDT, New York: We have traveled through a veritable jungle of surgical interventions for the cure of displacements of the uterus, particularly posterior displacement. We might believe—judging entirely from what has been said by all except the last speaker, Dr. Murphy, who paid attention to other than surgical intervention—that perhaps there is no other method than surgical intervention. Moreover, judging from the number of operations which have been reported, off and on, for displacement of the uterus, it would seem that every woman who has a retrodisplacement of the uterus must have been subjected to a surgical intervention for the relief of that displacement. We must bear in mind that so far as the symptoms are concerned, caused by a posterior displacement, they very seldom are caused, except from a mechanical interference with the functions of the pelvic organs. Symptoms are usually caused by complications. When symptoms occur from a mechanical cause we need not at once resort to the opening of the abdomen. In that class of cases I believe the great number of patients can be treated effectually by the use of a pessary, applied with common sense. There are a few isolated cases in which a pessary will not relieve such conditions. In cases in which the fundus of the uterus tips over the upper part of the pessary, and in that class of cases alone, we should consider the desirability of surgical intervention. I believe, notwithstanding what has been said, that the ideal operation is the Adams-Alexander operation, through the inguinal canal, provided that there is no downward displacement. The moment we have descensus the operation is absolutely worthless. So far as intraperitoneal operations are concerned, they are indicated only in the presence of complications with the adnexa, when we have an adherent retroflexion.

All the argument, all the speaking done here, will have no effect on any of the men who have devised operations. The matter is one of personal equation. I believe there are merits in all. There are so many roads that lead to Rome we may have the benefit of any. My personal experience has led me to believe that the operation devised by Dr. Gilliam is the most satisfactory.

DR. J. H. CARSTENS, Detroit: It seems to me that Dr. Boldt has struck the keynote. When I was a young man I had a patient with retroversion. I had been graduated at a period when there was a great cry against pessaries. So, of course, I did not use a pessary—thought they were injurious—and I treated the woman on general principles. She evidently was a great sufferer. She ceased coming to my office and the next thing I heard was that she had gone to a woman physician who had examined her and said she had a retroflexed uterus. She put in a pessary and cured her. I have found since then, as Dr. Boldt has said, that there are cases in which pessaries are valuable; for instance, in those cases shortly after confinement in which the uterus is large and heavy. Other cases are those of young girls and sometimes of married women. It occurs to me that if there are adhesions and you have to open the cul-de-sac, you might as well open it anteriorly and find out what is necessary to do rather than to perform the Alexander operation. The patients who require only pessary treatment and who have simple retroversions that produce no symptoms I do not see. The kind of cases we see are complicated cases in which we must do exploratory abdominal section. In one case I may take out a tube and ovary. In many of these cases I sew the stump in the lower abdominal incision, and even in patients subsequently pregnant no trouble has been experienced. In some of these cases I do an operation such as Dr. Bandler does. Sometimes one is good; sometimes another.

DR. C. W. BARRETT, Chicago: Fellow surgeons—I say that because a great gynecologist is something of a special surgeon, and not because every surgeon is a great gynecologist—we have had a great feast showing what the round ligaments and the false ligaments can do in the correction of retrodisplacement. If I remember aright there was another great feast at which there appeared certain handwriting on the wall, which translated, I believe, meant, "Weighed in the balance and found wanting." That applies to a number of the operations spoken of here for retrodisplacement. The soundest principles have been laid down by Dr. Goldspohn. His is the operation of safety. Ventrosuspension and ventrofixation were formerly the excuses you could offer the patient for making a vivisection, for studying anatomy and living pathology, and they have had a wonderful place, but they are dead operations. The satisfaction that each person has felt in an operative procedure only shows how easily we are satisfied, and this is the chief thing in the way of progress. We must have the very best thing that can be offered, for the best is none too good. Whatever operation we choose must follow certain definite principles. It must be not complicated. It must be

safe, immediately and remotely safe. It must allow inspection and correction of conditions in the abdomen. Next, it must use normal ligaments instead of false ligaments. Goldspohn has laid this down definitely. It must have the best part of a ligament instead of the poorest part, because there is a better and a poorer part of the round ligament. Next, it must use the natural ligaments and place them normally. It must not sew up the round ligaments and run them anywhere. I do not condemn Dr. Gilliam for proposing that, but it is an evil of ventrosuspension that it runs ligaments from the peritoneal space. An operation to stand the test must meet these requirements. Such an operation will stand the double test of pregnancy. I thought at one time that I had devised such an operation. I had full possession of that thought for two years. Then I had to share the matter with Charles Mayo. In another year I think I shall have no connection with it at all.

DR. H. O. MARCY, Boston: Many years ago I thought I knew something of this operation. I had studied hernia with a great deal of care; therefore I thought I knew all about the Alexander operation. I welcomed it. I did it. I thought I knew my anatomy. I failed. I discredited it. To-day I take the position largely of Dr. Montgomery. We must be guided by the different factors. First of all, if we can restore a patient by a well adjusted pessary, it is *prima facie* evidence that operations from below may cure. When they fail it must be, I think, an operation from above. That operation, several men have said, must be laparotomy, and that gives you the inspection as Dr. Carstens has said and the knowledge of the various factors with which one must deal. Then, after doing all sorts of operations on the ligaments, in a general way, I have operated for quite a number of years—transplanting the round ligaments a little higher, making a new inguinal canal, reproduced to the normal pattern—for it is a congenital defect. The peritoneum must be so infolded that raw surfaces are not left within the abdominal cavity.

DR. W. H. WATHEN, Louisville: If once a surgeon begins to treat these patients all on the same principle he will never be successful. Each patient must be treated as an individual case and the existing pathologic conditions must be met. You hear a great deal said about shortening the round ligaments, the utero-sacral ligaments, and the various structures, to hold the uterus in position. It has never yet been demonstrated what does normally hold the uterus in place. We do know that there are structures above the perineal floor and there are structures below the uterus that participate in this, and whenever you find a defect in the structures you must treat such defect as encountered. I have performed nearly all the operations discussed to-day because in my line of work I have had a relatively large experience, and I have found less trouble and better results by anterior suspension. I have had no trouble following pregnancy. As Dr. Dudley has remarked, if in a case of retrodisplacement you perform any or all of the operations for the cure, yet do not repair the pelvic floor and suspend or elevate the bladder, you will never secure permanent success. If you make an anterior suspension in women not past the childbearing period by one suture only, and then build up the pelvic floor and bladder wall you will have success. If the woman is past the child-bearing period, then make a firm anterior fixation instead of a suspension, and if the uterus is too large amputate a large portion of the cervix, unite the vagina to the stump of the cervix and at the same time repair the pelvic floor, and, if needed, separate the anterior wall of the vagina from the bladder, elevate it by an approved method and then do a uterine suspension or fixation as indicated by the age condition of the patient.

I often perform the Gilliam operation, or some of its modifications, but I have never had any complication following anterior suspension of the uterus and I have performed the operation several hundred times.

DR. G. BETTON MASSEY, Philadelphia: I wish to emphasize the true cause of the displacement, which seems to have been overlooked by those who have spoken. The pathologic condition is not the displacement; it is the morbid condition of the uterus, the chronic inflammation of the uterus. Proof of that is found in the very large number of retroflexions that present no symptoms. This is shown also by the fact that many such patients in whom the diseased condition of the uterus has been cured, without complete rectification of the flexion, cease to have symptoms. With an experience of twenty odd years in the treatment of these cases of retroflexion I have never yet come across a single patient in whom the normal movable condition of the uterus needed to be destroyed by a fixation. I protest against all the operations described, and consider each and every one based on a misconception of the pathologic condition. It is now universally conceded that inflammation is due to germs and not to mechanical conditions.

DR. GEORGE GELLHORN, St. Louis: The multiplicity of these operations forces me to the conclusion that none of them is ideal and applicable in all cases. But how is the gynecologist who has not had the originality to invent a method of his own, or who has not enough material to test all these methods, to choose the one he shall use in the individual case? Granted that all the claims made for the various methods are justified, namely, that they do not interfere with the functions of the genital organs, and that they are not any more dangerous than the disease itself, I think there are certain principles, the consideration of which will help us to limit the methods from which we may choose. In a case of retroflexion during the reproductive age I would avoid, first, any operation which fixes the uterus in an abnormal position. Examples of such are ventrofixation and ventrosuspension. Second, I would avoid any operation which deprives me of the sense of sight. There is no living man who is able to determine by bimanual examination in every case before the operation the absence of delicate adhesions or of minor pathologic complications about the tubes and ovaries, and if he does an operation of the Alexander or Goldspohn types, he deprives himself of the opportunity of freeing adhesions. Third, in an operation, as Dr. Barrett has pointed out, in which the round ligaments are used, I would try to use the better part of these ligaments. In some of these operations the weak part is still left to do the work of holding up the uterus. Fourth, I would avoid any operation which utilizes ligaments which have a very unimportant part in holding the uterus in place, and which are much too weak to do it. These are the objections to the Bovée type of operation, in which the utero-sacral ligaments are utilized. They are much too small to hold the uterus forward ordinarily, and if we find in a patient thickened and shortened utero-sacral ligaments we have to treat that condition because it produces distressing symptoms. In methods of this kind we produce artificially a condition which we are often called on to treat. The observation of these four principles will help us to limit our choice and I believe that of the numerous methods, only part of which have been mentioned here, there will be hardly more than two or three that will answer.

DR. HENRY T. BYFORD, Chicago: The strong end of the round ligament is in the inguinal canal. Those who have performed the Alexander operation, know that they have to cut some fascial attachments in the inguinal canal which give firmer support than the intraperitoneal muscular part, which is not a direct support; it is a balancer. If we want to suspend the uterus we had better eliminate the intraperitoneal, muscular portion, and depend on the other. This is what is done in the Baldy operation. In the majority of cases we do not want actually to suspend the uterus, we merely want a balancing action. Nature has experimented on woman for many years and knows how to hold up the uterus. Those operations which imitate Nature by making use of a new canal, or the old one, must be right in principle.

DR. J. M. BALDY, Philadelphia: I feel a bit concerned that a general surgeon should speak of including us as surgeons. For a long time the gynecologists have been attempting to educate the general surgeons, but having so ignominiously failed I feel that probably we had better go to them and learn general surgery, as suggested by Dr. Murphy. The pessary was not discussed in my paper because I was not asked to discuss that subject. I see pessaries used in only two kinds of cases, and I can come to but one conclusion—that nobody in the East knows how to use them—for it has been said on the floor that there are good ways of employing them.

The two classes of patients who come to me with pessaries are those with perfectly normal anteriorly displaced uteri which need nothing, the patients having been made sick because some fool doctor has put a pessary in, and secondly, the patients with prolapse in which a pessary is of no use. Consequently I feel that nobody in the East knows how to use them, barring New York, and I intend to make a special trip to New York to see whether they are correctly used there. The ability seems to be confined to the West or to the Middle West, to Chicago principally. I showed by the model this morning how useless is the weak end of the round ligament in this operation. But I shall convince Dr. Gellhorn of his wrong position by showing him by the model that that end of the ligament is not used at all in the operation.

DR. D. TOD GILLIAM, Columbus, O.: The only criticism made of the operation which I have devised is that it leaves bands in the peritoneal cavity which are liable to produce obstruction of the bowels. "The proof of the pudding is the eating thereof." For ten long years or more this operation has been performed thousands of times by hundreds of different operators and there has never been a case of obstruction of the bowels.

DR. F. F. SIMPSON, Pittsburg: I think we all recognize the fact that there are many displacements of the uterus that require no treatment and that many others are corrected by the pessary. There are many others in which some coincident disease, cardiac, renal, pulmonary, thyroid or other disease, contraindicates any type of operation for any purpose. In such cases benefit is obtained from the use of the pessary. The work of Drs. Reynolds, Goldthwaite and others has shown the importance of examination of the sacroiliac joint before the treatment of displacement by any method is to be considered. In reference to the employment of other operations than those devised by the individual operator, I have used and am constantly using parts of operations of different types and expect to continue to do so.

DR. A. GOLDSPOHN, Chicago: Dr. Coffey makes several assumptions that are fundamentally wrong: (1) He assumes that all abdominal as well as pelvic organs are held in their places chiefly by their peritoneal mesenteric supports. The truth is that the abdominal walls hold the abdominal organs chiefly, as we soon find out when these walls are defective. On the other hand, the uterine supports have either connective tissue or muscle in them in addition to the peritoneum. The free expansion of pelvic tumors shows that peritoneum holds not much better than skin. (2) That two layers of stomach or intestinal wall may unite and form one layer permanently, does not prove that the same will be true of the broad and round ligaments about the uterus, which are subject to the phenomenal and entirely peculiar changes incident to gestation and parturition, which does not apply to intestines, etc. In secondary laparotomies I have repeatedly seen all such plications and foldings of broad and round ligaments completely wiped out without leaving a trace of the former work, after an intervening childbirth. In retroversion cases, the displacement had nearly always recurred. That the proposed plications of broad ligaments proposed by Dr. Coffey do give way as above stated, is shown by his declaration that the involved round ligaments disentangle themselves later, and assume their usual course. This they could not do without the giving way of the broad ligament plications. The doctor practically constructs two connected links of a chain, and then claims that they become separated without either one of them being broken. The operations devised by Drs. Webster, Baldy, Ries and a number of others for retroversion, are inferior as to stability, because they depend on the tapering, feeble outer ends of the round ligaments to do holding, which they cannot do because of their feebleness and because of their course in areolar tissue extraperitoneally before entering the inguinal canals. I have practiced, for some years past, median section with removal of the appendix and other explorations, and have corrected retroversions in a small number of cases by shortening the sacro-uterine ligaments; in others by transplantation of the round ligaments into the abdominal walls, by several of the different methods, chiefly by a modified Gilliam operation, in which the uterus is drawn up more, so that it comes in contact with the abdominal wall, and the utero-vesical space becomes quite effectively shut off from the entrance of the small intestine. The theoretical arguments about intestinal strangulation, etc., do not apply to this form of the operation at least, of which I have over 500 that are fully two years old, and without any such disaster, or any difficulty in childbirth.

IMMUNOLOGY

A MEDICAL SCIENCE DEVELOPED THROUGH ANIMAL EXPERIMENTATION

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Perhaps no other of the medical sciences can be so suitably discussed in relation to animal experimentation as immunology, because no other science has been so dependent on this method of attack for its development.

The science of immunity, or immunology, would explain the mechanism by which the animal body is enabled to resist disease. In addition to its fascination as a biologic science, immunology offers the added interest of the greatest human utility, the prevention and cure of disease; and precisely in this vital significance lies at once the importance of the science and a potential danger to its sound development. This danger arises in an overanxiousness to apply supposedly specific agents before the principles that underlie their apparent effect have been determined. The history of immunology has, indeed, brought into particular relief certain interesting relations of theory to practice, worthy of more philosophic discussion, but we may content ourselves with an attempt to point out the usual sequence of observed facts, logical deduction, inductive experiment, and, in concluded chapters, application of principle in the diagnosis and prevention of disease.

The relatively recent development of any exact knowledge of the mechanism of immunity is at first glance surprising, when we consider that certain examples of natural and of acquired resistance to disease have been recognized since ancient times. Some attempts to turn these recognized examples to practical use were from the beginning successful, but none of them was inaugurated with that understanding of the principle involved which brings the greatest utilitarian reward. It is obviously no lack of human interest in the subject which has delayed the evolution of immunology, but largely the lack of a suitable method of attack on so obscure a subject. The method was eventually furnished by the recrudescence of the experimental idea as applied to medicine and particularly as exemplified in the progress that has been made in determining the causation of disease. Immunology, indeed, parallels bacteriology both in chronology and in method. Before considering the development of the experimental science of immunity we may outline:

I. THE DATA OF IMMUNITY ACQUIRED FROM CASUISTICS

The first and most wide-spread type of resistance to disease is the inborn or natural immunity which is evident on the initial exposure to a given malady. With

* This paper is one of the series prepared for and reprinted by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Seventeen of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, etc.

an increasing intensity, as expressed in more and more marked resistance to infection, natural immunity serves to differentiate individuals of a given race, races of a given species, and species of animals from one another.

The individual type of natural immunity may be noted whenever a group is subjected to equal chances of infection or contagion; certain individuals succumb while others resist. A familiar example to illustrate this relative individual resistance is given in any group of pathologists who are performing numerous post-mortem examinations; some members of this group are veritable martyrs to post-mortem infections, whereas others are practically immune. This type of resistance is frequently temporary and in all respects relative; it is dependent on certain subtle differences in general health and nutrition and may be evidenced by certain changes in the bactericidal properties of the blood, to which reference will later be made.

Natural racial immunity, to which attention was called as early as the sixteenth century, is in all probability dependent on differences in food and general hygiene. It is difficult to be certain in many so-called examples of racial immunity that have been given whether the increased resistance is in reality inborn or simply acquired through recovery from disease. The marked resistance of certain races of mice to a transmissible tumor (Haaland),[1] which resistance may actually be lowered by a change in environment, would seem a certain example of a natural racial immunity.

Species immunity is the most evident and distinctive type of natural immunity. The difference in resistance between any two species of animals to a given infection varies in general with the distance apart that these species lie in the animal scale. Although familiar examples of species immunity occur throughout the animal kingdom, those of the greatest interest occur in relation to a whole series of typical human diseases, syphilis, measles, typhoid fever, gonorrhea and the like, which never occur spontaneously in the lower animals, and cannot be transmitted to them or at best in modified form only. Recent studies with the higher anthropoid apes, however, have shown that at least certain of these typically human diseases (*e. g.*, syphilis and typhoid fever) may be produced in these animals because they are most nearly related to the human species. In a general way, species resistance may be attributed to differences in metabolism, body temperature, intestinal enzymes and the like.

Of far greater significance and practical bearing are those instances of immunity acquired through recovery from a given disease. It is a matter of human experience that man has usually but a single attack of many of the diseases to which he is peculiarly susceptible, such as smallpox, typhoid fever, measles and yellow fever. In the face of epidemics where only those that have been previously affected are spared it is evident that such recovered individuals are protected, not as the result of chance, but owing to some induced mechanism of protection against the disease. Similar conditions of acquired immunity have frequently been noted in domestic animals.

Logical deduction from these observed instances of acquired immunity long since led to attempts to reproduce this advantageous condition artificially. Empirical efforts have been made even among primitive peoples to induce in individuals some endurable form of a fatal disease so that they might subsequently be better protected from chance infection. The African Vatuas[2] have been reported as practicing an efficient form of self-immunization against snake venom; the Moors early protected their cattle from pleuropneumonia by running under their skin a knife that had been plunged into the lung of an animal that had died of the disease. It is well known that the Chinese and other peoples of the East protected themselves from smallpox by variolization, which was effected by inserting the scabs of human smallpox lesions in the nose of healthy individuals. A similar method was introduced into England by Lady Mary Wortley Montague in 1721 and was employed until the observations of Jenner on the relation of cowpox to smallpox in 1798 led to the present method of prevention of the disease by vaccination. The chance that a disease of cattle (vaccinia) is intimately related to a fatal human disease and that an attack of the one in the form of a localized disease would protect against the more generalized malady, alone rendered Jenner's observation fruitful. No generalized conception of the principle of "vaccination with a virus of diminished virulence," as later established by Pasteur, however, existed. This is evidenced by disastrous attempts that were later made to prevent measles, diphtheria and scarlatina by similar methods.

II. THE DEVELOPMENT OF IMMUNOLOGY THROUGH ANIMAL EXPERIMENTATION

Centuries of careful observation of facts obtruded by Nature in the course of devastating epidemics had taught at least two important principles in regard to resistance to disease: an acquired immunity follows recovery from an attack in perhaps the majority of acute diseases; and in at least one instance (smallpox) this acquired immunity may be artificially induced through a mild form of the disease. In the past thirty years the assets of utility from our knowledge of immunity have been multiplied to an extent that it would be difficult to estimate, to say nothing of the additional data of present theoretical interest which may ultimately be available in practice. And this advance has been rendered possible by animal experimentation.

It is the purpose of an experimental science to replace accident by design. A disease produced experimentally in animals offers innumerable advantages to one interested in its natural history; it offers the only method of obtaining the significant stages of the disease in complete series for more minute examination. Only the interruption of an experimentally produced disease at successive periods in its course can afford exact information as to the method by which infection spreads and immunity is produced.

The discovery of the fundamental principles of bacteriology by Pasteur and Koch, the isolation and cultivation of bacteria in pure culture, and the proved etiologic relation of a definite micro-organism to a given disease, gave new impetus to the principle of vaccination exploited by Jenner. The work of Pasteur and his pupils with the bacillus of chicken cholera on animals laid the foundation for the discovery of the great principle of vaccination by means of bacterial cultures of diminished virulence. This diminution of virulence was obtained, in the case of chicken cholera, by long growth on artificial culture media, and later, in the case of anthrax by subjecting the cultures to growth at high

1. Haaland: Beobachtungen über natürliche Geschwülstresistenz bei Mäusen, Berl. klin. Wchnschr., 1907, xliv, 713.

2. Metchnikoff: L'Immunité dans les maladies infectieuses. Masson et Cie, Paris.

temperatures. Similar methods of vaccination have been employed in the case of swine erysipelas and blackleg. In all instances the method has been arrived at by careful experimentation on animals and the products now used broadcast in actual prevention are first tested for virulence on laboratory animals. It is not my purpose to enter into a discussion of the practical results of protective inoculation but simply to indicate how the method of animal experimentation in bacteriology enriched the data of immunity.

Immunology may be regarded as having been differentiated into a specialized science from the moment that effective attempts to explain the physiologic mechanism that protects immunized animals were made. Theories of immunity were offered by Pasteur, Koch and others, but they were based largely on speculation drawn from the bare results of infection rather than from experiments designed to expose the process of immunity itself. In 1876 Koch[3] attributed conditions of immunity to some change in the condition of the blood. Pasteur's exhaustion theory (1880)[4] supposed that bacteria fail to grow in immunized animals owing to a lack of proper nutritive substances. A similar condition could be produced in artificial culture media as was shown by the failure of fresh chicken cholera bacilli to grow in filtered media that had already served for the growth of this bacterium; the addition of a little fresh bouillon containing fresh nutritive substances permitted growth to proceed. Chauveau[5] in the same year would have explained immunity as due to the retention in the body of certain substances which inhibit bacterial growth. It is of interest to note that in none of these theories is any allowance made for active participation on the part of the animal itself in the production of resistance. The theories of Nägeli, of Buchner and of Grawitz do at least emphasize a reaction on the part of the animal itself, although they have proved in other ways inadequate.

It remained for Metchnikoff, a biologist, to give the first experimental evidence explanatory of the process of immunity. In 1882 Metchnikoff began recording his observations on the function of the white blood corpuscles in protecting the body from disease, observations which in his hands and in those of his followers have continued fruitful to the present day. Before Metchnikoff, mention has already been made of the presence and of the disintegration of bacteria within leukocytes and Panum[6] in 1874 had even suggested that such cells might be serving some protective purpose. The general conception of the accumulation of leukocytes which characterizes inflammation, however, was that it was a means of spreading rather than of checking infection. Metchnikoff had been making studies of the origin of digestive functions in cells of mesodermal origin. He suggested that the inclusion of particles and cells within leukocytes was due to an active digestive function in these mesodermal cells and ventured the assertion that their diapedesis during inflammation was a protective mechanism. In one of the crustaceans, *Daphnia,* which frequently suffers from an infection with a form of blastomyces (*Monosporon bicuspidata*), Metchnikoff was able to show that the outcome of the infection depends entirely on the completeness with which the blastomyces is engulfed by the leukocytes of the host. He was soon after able to demonstrate that frogs and mammals also combat experimental bacterial infection by a similar process of phagocytosis.[7]

3. Koch: Cohn's Beiträge zur Biologie der Pflanzen, 1876, ii, 300.
4. Pasteur: Compt. rend. Acad. d. sc., 1880, xc, 247.
5. Chauveau: Compt. rend. Acad. d. sc., 1880, xci, 536.
6. Panum: Virchow's Arch. f. path.-anat., 1874, lx, 347.

NATURAL IMMUNITY FROM BACTERIA

Although this phagocytic theory of immunity at first encountered extreme opposition, its opponents have gradually yielded more and more toward complete acceptance of the interpretation that Metchnikoff has with persistence yet remarkable fairness of judgment insisted on. It is generally admitted that many forms of natural immunity in particular are best explained on a simple phagocytic basis. The more complicated types of acquired immunity are less directly, though unmistakably, related with activity on the part of the white blood-cells. Leaving until later a discussion of the part played in each form of immunity by the cells, we may briefly outline the mechanism of phagocytosis in those instances in which it has been shown to be distinctive.

In the first place, the phagocytic cells may be divided into two general types as regards function. The small, actively motile polymorphonuclear cells of the circulating blood are practically concerned only in making way with the bacteria which produce acute infections; these cells are called "microphages." Under "macrophages" are grouped the large mononuclear leukocytes and certain endothelial and fixed tissue cells; the function of these cells is to take up other animal cells, such as red blood-corpuscles and protozoa, and also certain bacteria, like the tubercle and leprosy bacillus, which produce chronic infections.

It has been shown by careful studies, both within the animal body and in mixtures made in the test-tube, that the phenomenon of phagocytosis may be divided into three phases. In the first phase the leukocytes approach non-virulent bacteria owing to a positive chemotactic influence which the latter exert. If the bacteria are markedly virulent, on the other hand, they exert a negative chemotactic influence. These important facts of positive and negative chemotaxis were ingeniously demonstrated by Bordet,[8] who placed small capillary glass tubes filled with the bacteria to be tested in the peritoneal cavity of guinea-pigs and later measured the length of the columns of leukocytes that had penetrated the tubes. After reaching the bacteria the phagocytes engulf them, owing in all probability to an active ameboid process, although it has been suggested that this apparent activity is due in reality to a simple physical change of surface tension. The bacteria, once within the leukocytes, are broken up by a process of digestion. An extract of leukocytes may be made which contains an enzyme (cytase) capable of producing this digestion at body temperature outside the body and the extract has been shown to vary in accordance with whether it is derived from microphages or macrophages. The extract of microphages (microcytase) is particularly active against bacteria and is effective only in an alkaline medium; it has little effect on animal cells. Macrocytase, on the other hand, derived from the mononuclear cells, works best in an acid medium and destroys animal cells.

The active opposition with which Metchnikoff's cellular theory of immunity was at first met was directly productive of important facts which at first seemed to

7. For detailed consideration of Metchnikoff's phagocytic theory, see Metchnikoff's L'Immunité dans les maladies infectieuses, which is also obtainable in English translation. (F. G. Binnie, Cambridge University Press.)
8. Bordet-Gay: Studies in Immunity, pp. 1 and 8, Wiley and Son New York, 1909.

attribute the active protective power of the blood to the fluid portion rather than to the leukocytes. In 1885 Fodor[9] showed that anthrax bacilli, when mixed with fresh rabbit blood in the process of clotting, were destroyed; and two years later Nuttall[10] showed that fresh defibrinated blood would produce the same effect. In 1891 Buchner[11] proved this bactericidal effect of fresh blood to be due to the cell-free blood serum, whether it is obtained by defibrination or by clotting. Buchner further described certain ferment-like substances in the serum to which this destructive power over bacteria is due and to which he gave the name of alexins (from ἀλέξειν to ward off or protect). The alexins resist freezing and thawing, but are destroyed by heating to 55 C. for one-half hour. They are unaffected by dilution in physiologic salt solution and may be precipitated with sodium sulphate. Such physical and chemical characteristics have caused alexins to be classed with the enzymes without any very profound knowledge as to their chemical composition.

Further studies, particularly those dealing with the origin of alexin, seem to have shown that the bactericidal property of cell-free serum is in reality no disproof of the correctness of Metchnikoff's conception of the cellular nature of natural immunity. There is good experimental evidence for the belief that the alexin of Buchner is never present in the blood plasma in the body, but is artificially liberated in blood serum by clotting, owing to a disintegration of the leukocytes which normally contain it. In other words, the "alexin" is synonymous with Metchnikoff's leukocytic ferment, the "cytase," which under usual conditions destroys bacteria within the cell (phagocytosis) and under abnormal conditions in shed blood is liberated in the serum. Many experimental observations have been adduced to prove this point. For instance it may be shown that the alexin varies with the degree of leucocytosis; leukocytic extract is essentially the same in its action as alexin; and alexin increases in the serum under conditions which favor disintegrating of leukocytes.

It would seem, then, that the leukocytes are largely responsible, either directly through phagocytosis or indirectly through liberation of cytase or alexin, for the condition of natural immunity from bacteria and animal cells. As we shall presently see, the study of conditions of acquired immunity, although in a measure complicating this explanation, has led to far greater insight of practical significance in combating disease.

IMMUNITY FROM TOXINS

At this point it is advisable both for reasons of chronology and exposition to interrupt temporarily our consideration of the mechanism of animal defense against bacteria as such. Bacteria that have gained entrance to the body are harmful, not only because they increase rapidly in numbers when unrestricted, but because they eliminate harmful products. These harmful products may be either simple chemical substances like acids and alkalies, bacterial proteins, known as ptomains, or more particularly, in certain instances, true bacterial toxins. Toxins are albuminoid substances, of unknown chemical constitution, which are specific both in their origin and in the effect they produce. They are endowed with certain other recognizable characteristics; they produce their harmful and specific effects only after a period of incubation; they are readily destroyed by heat; they act in very small doses; and lastly, as we shall presently see, they produce antitoxins. Pasteur, as early as 1880, noted that old bouillon cultures of the *Bacillus avisepticus* which had been filtered free from bacteria would, on injection into animals, produce symptoms of narcosis. In 1888 Roux and Yersin[12] described a toxin found in filtered cultures of the diphtheria bacillus which was fatal for guinea-pigs in very small doses. Although the possibility of specific protection from bacterial invasion by means of previous treatment with killed or modified bacterial cultures was then known, attempts at a similar protection against this diphtheria toxin were at first unsuccessful. In the following year Kitasato succeeded in obtaining a pure culture of the tetanus bacillus and in 1890 von Behring and Kitasato[13] obtained tetanus toxin from such cultures. They found furthermore that by treatment with certain chemical substances the toxins of diphtheria and of tetanus could be weakened so as to be better supported by laboratory animals; animals treated with these weakened toxins became immune from doses of the whole toxin that were fatal to the normal animal. And, more important still, it was shown that the blood of such actively immunized animals would protect normal animals against subsequent injection of fatal doses of toxin, or would even cure, within reasonable time limits, animals that had already received the toxin. These experiments form the rational basis for the present highly effective antitoxin treatment of diphtheria and for the prevention of tetanus.

The interesting studies of Ehrlich[14] as to the mode of interaction of antitoxin with toxin not only gave rise to an enormously ingenious and fruitful theory of immunity but determined the recognized method of estimating and standardizing, by the use of guinea-pigs, the exact curative value of diphtheria antitoxin. We need not concern ourselves with the theories of antitoxin effect, as their interest, although of ultimate utilitarian value, is immediately largely academic. In addition to the better studied toxins of diphtheria and tetanus, true toxins have been described as formed by cholera vibrios, the bacillus of meat poisoning (*B. botulinus*), the dysentery bacillus of Shiga and the *Bacillus typhosus*. The exact relation of each of these latter toxins to pathogenesis of the disease in question is not fully determined nor can any final word be given as to the efficacy of an antitoxin treatment in many of these instances. In the case of the dysentery bacillus, at least, almost certain results may ultimately be expected from specific antitoxin therapy.

ACQUIRED IMMUNITY FROM BACTERIA

Reference has already been made to the important discovery of Pasteur that animals could be immunized by means of cultures of diminished virulence. In 1886 Salmon and Smith[17] showed that pigeons could be immunized against the hog cholera bacillus by means of cultures that had actually been killed by heat. In 1888 Richet and Hericourt[18] proved that this antibacterial type of immunity is transferable from one animal species to another. Von Behring and Nissen[19] demon-

9. Fodor: Deutsch. med. Wchnschr., 1885, p. 435.
10. Nuttall: Ztschr. f. Hyg., 1888, iv, 353.
11. Buchner: Centralblatt f. Bakteriol., v, 817.
12. Roux and Yersin: Annales de l'Inst. Pasteur, 1888, ii, 629.
13. v. Behring and Kitasato: Deutsch. med. Wchnschr., 1890, No. 49.
14. Ehrlich-Bolduan: Collected Studies in Immunity, ed. 2, p. 481, Wiley and Sons, New York.
17. Salmon and Smith: Centralbl. f. Bakteriol., 1887, ii, 543.
18. Richet and Hericourt: Compt. rend. Acad. d. sc., 1888, cvii, 690.
19. v. Behring and Nissen: Ztschr. f. Hyg., 1890, viii, 412.

strated (1890) that the blood-serum of guinea-pigs that had been immunized against the *Vibrio metchnikovi,* would kill these micro-organisms better *in vitro* than would the serum of normal guinea-pigs.

The extreme interest that greeted the discovery of the antitoxins led at first to a misconception of the mechanism of the protection afforded animals by the inoculation of bacterial cultures. It was at once supposed that in the majority of instances, for example, in the immunity against spirilla, the protection was antitoxic. In 1894, however, Pfeiffer[20] began his studies with cholera infection and immunity which led to a revolution in our conception of acquired immunity from bacteria. Pfeiffer injected cholera spirilla into the peritoneal cavity of guinea-pigs that had been immunized by means of subcutaneous inoculations of this micro-organism. Whereas in the normal peritoneum the spirillum increases rapidly in numbers and leads to a fatal infection, in the immunized peritoneum the vibrios are found to undergo rapid lysis; preparations made at intervals from the peritoneal exudate show increasing numbers of deep-staining granules which finally replace the normal vibrios entirely. Coincidentally with this "bacteriolysis" the animal recovers. Pfeiffer further showed that although his serum obtained from immunized guinea-pigs had in itself no destructive power for the vibrios *in vitro,* it would, when mixed with them and injected into the peritoneal cavity of normal guinea-pigs lead to the specific form of lysis.

Bordet[21] was first to offer the correct explanation of "Pfeiffer's phenomenon," as it is called. He found that if the anticholera serum was employed soon after removal from an immunized guinea-pig it would suffice alone to destroy the vibrios in the test-tube. Heating to 55 C. or conservation for several days destroyed this lytic property, but the property could be restored to the inactive cholera serum by the addition of fresh normal guinea-pig serum which in itself has no lytic property. In other words, the specific lytic effect of anticholera serum is due to the cooperation of two substances, one of which occurs in all fresh normal serums, is destroyed by heat, is non-specific and is identical with Buchner's alexin (Ehrlich's complement). The second substance, the *substance préventive* or *substance sensibilisatrice* (Ehrlich's amboceptor) as Bordet called it, is specific, occurs only as the result of immunization, and resists heating to 55 C.

The further investigation of the finer interaction of these two substances concerned in bacteriolysis was rendered possible by Bordet's discovery of the artificial hemolysins in 1898.[22] Bordet found that the blood-serum of guinea-pigs that have received several injections of rabbit blood acquires the property of specific destruction of rabbit red blood-cells. He was further able to show that this corpuscle destruction or hemolysis is also brought about by the combined action of alexin with a specific sensitizer. These fundamental facts have since been amplified to an extraordinary extent by the studies both of Bordet and of Ehrlich and his school.[23] Anti-hemolysins, composed in turn of antialexin and antisensitizer, have been described and their study has given great insight into the action of the antibodies in general. Ehrlich's explanation of the interaction of antibodies and their antigens has been on the line of organic chemical reactions, whereas Bordet has persistently favored an explanation in harmony with the laws of physical and later of colloidal chemistry. There is now little doubt that the colloidal theory best agrees with the facts.

Many other questions of at first academic and of later practical interest have arisen from the studies on bacteriolysins and hemolysins. Thus the dispute between Bordet and Ehrlich as to the unity or the multiplicity of alexins gave rise to Bordet's "reaction of fixation" which has served as a most valuable diagnostic test of bacterial infections and has been particularly exploited in Wassermann's test for syphilis. A study by Bordet and Gay[24] in refutation of Ehrlich's conception of the sensitizer as an amboceptor led to the conglutination reaction which promises much as a method of serum diagnosis.[25]

As may well be conceived the explanation of acquired anti-infectious immunity on purely humoral lines is certainly suggested by the work of Pfeiffer, Bordet and Ehrlich and such explanation would seem to be in essential disagreement with Metchnikoff's phagocytic theory as applied to this type of immunity. The disagreement is, however, more apparent than real. Metchnikoff soon pointed out that Pfeiffer's phenomenon of extracellular bacteriolysis is exceptional and occurs practically only with such delicate micro-organisms as the vibrios. In even this instance Metchnikoff believes that the lysis is preceded by a destruction of leukocytes, which liberates the cytase or alexin from them into the surrounding fluid.

But even though it becomes generally accepted, as seems likely, that all alexin is derived from leukocytes the relation of Bordet's sensitizer to phagocytosis in acquired immunity remains to be explained. It is admitted that the sensitizer of immune serum is free even in the plasma and in no sense an artificial product, as may be the case with alexin. The work of Denys and his pupils, which began in 1895,[26] threw the first light on this important question. Denys studied the protective and curative effect of an antistreptococcus serum on rabbits that had been infected with the streptococcus. He finds that the immunity afforded by this serum is due to its effect on the micro-organisms which renders them more readily taken up by phagocytes; the leukocytes themselves in the immunized animals do not differ from those of the normal animal. In 1902 Savtchenko[27] noted that a hemolytic serum likewise increases the susceptibility of the specific red blood-cells to phagocytosis. Neufeld and Rimpau[28] have followed the lead suggested by Denys and worked out with great care the effect of their "bacteriotropins," by which name they designate those substances in an immune serum which favor phagocytosis.

In 1903 A. E. Wright[29] described under the name of "opsonins" certain substances in the serum of human beings which when estimated quantitatively are supposed to indicate the intensity of the resistance of the individual to a given infection. Wright was able apparently to increase these protective opsonins, in case of lack, by "vaccination" with killed cultures of the micro-

20. Pfeiffer: Ztschr. f. Hyg., 1894, xviii, 1.
21. Bordet-Gay: Studies in Immunity, pp. 8 and 56.
22. Bordet-Gay: Studies in Immunity, p. 134 and subsequent chapters.
23. Ehrlich-Bolduan: See Collected Studies in Immunity, ed. 2.
24. Bordet-Gay: Studies in Immunity, p. 363.
25. Gay and Lucas: Proc. Soc. Exper. Biol. and Med., 1910, vii, 21.
26. Denys and Leclef: La cellule, 1895.
27. Savtchenko: Ann. de l'Inst. Pasteur, 1902.
28. Neufeld and Rimpau: Deutsche med. Wchnsch., 1904, and Ztschr. f. Hyg., 1905.
29. Wright, Sir A. E.: Studies in Immunization, Constable, 1909.

organism in question. Although Wright's work has the merit of attracting attention to the principle of cure by vaccination it is marred from a scientific standpoint by his failures to recognize the relation of his "opsonins" to the substances described by Denys, and particularly by the lack of fundamental experimental work on animals which subsequently in the hands of others has given us a more judicious attitude towards the theoretical and practical interest of his discovery. Animal experimentation has shown that even under the best experimental conditions, little value can be ascribed to Wright's "opsonic index" as an indication for specific treatment, grateful as such a method would be if accurate. Experimental work has further shown that the "immune opsonins" of Wright are probably identical with the "bacteriotropins" of Neufeld and Rimpau and probably differ quantitatively only from Wright's normal opsonins. Although Wright's first observations, which were not made under the best experimental conditions, led him to believe that his opsonins differed from the sensitizers of Bordet (Ehrlich's amboceptors) inasmuch as they are apparently thermolabile (55 C.), there now seems no reason for this artificial separation.

The following summary is, I believe, consistent with the facts at our disposal and is offered as a simple explanation of anti-infectious immunity. Bacteria are destroyed in the body of an immune animal by the action of two substances, the sensitizer which is the specific result of immunization, and which lies free in the plasma, and the alexin which under usual conditions in the body lies within the phagocyte. If phagocytosis has taken place the alexin works *in situ;* if phagolysis occurs the alexin is liberated and acts in the fluid extracellularly. There is, further, reason to believe that the more potent the sensitizer the more likely it is that phagolysis should occur, and in all events the greater the sensitization is the less the alexin required.

In vitro the bacteria are destroyed in a similar manner except that under such conditions when fresh serum is employed free alexin is the rule. When the alexin employed has been retained in the phagocyte as in the case in opsonin experiments, the destruction is intracellular subsequent to phagocytosis. The reason that normal opsonins are apparently thermolabile is because the normal extracellular alexin is destroyed and the normal opsonin (sensitizer) is not sufficiently potent to draw out the intracellular alexin or to cause the opsonized bacterium to be drawn within the cell. The destruction of the extracellular alexin is immaterial, however, in the case of immune opsonins (bacteriotropins) as their strong sensitizing power either makes use of a trace of alexin liberated by the phagocytes or else suffices to draw the treated bacteria within the cell.

The discovery of the artificial hemolysins gave rise to the hope that specific immune serums for other animal cells might be produced. The possibility of a specific epitheliolysin was particularly alluring in view of treatment of malignant tumors. The general conception of the cytolysins now is that they are specific for any cell of the species that has furnished the antigenic tissue rather than for any particular type of cell.

At this point may be mentioned certain other properties of immune serums that were discovered in connection with the studies on bacteriolysis and hemolysis. Charrin and Roger[30] noted as early as 1889 that a specific serum which was active against *B. pyocyaneus* would clump cultures of this bacterium and the specific nature of this phenomenon of agglutination and many of the factors that control it were worked out by Bordet in 1895.[31] The applicability of the agglutination reaction in the diagnosis of bacterial infections was exploited by Gruber and Durham in 1896.[32] The early work of Kraus, 1897,[33] of Tschowitsch[34] and of Bordet, 1899[35] with bacteriolytic and hemolytic serum disclosed the specific phenomenon of precipitation, which was soon applied in the well-known forensic test for blood by Wassermann and by Uhlenhuth.

In concluding this outline of the development of immunology mention should be made of the interesting phenomenon of anaphylaxis or increased susceptibility, which under certain conditions follows injection of harmful proteins such as bacteria or of non-toxic proteins like horse serum. Rosenau and Anderson[36] and Otto[37] (1906) were first to draw attention to this condition, although it had been previously described and named by Richet. Rosenau and Anderson described the violent convulsive reaction, frequently followed by death, which follows the injection of horse serum in guinea-pigs that have previously received a minute dose of the same substance. Similar reactions have been studied following injections of bacteria. This extraordinary condition, which is apparently the opposite of the protective reactions of immunity, bears some mysterious but undoubted relation to the latter process. Although the outcome of the numerous studies on the relation of anaphylaxis to immunity now in progress are doubtful, little doubt may be entertained as to their theoretical interest and practical importance.

CONCLUSION

This article has attempted to outline step by step the development of immunology, a science worthy of specialized consideration both on account of its biological interest and its vital applicability. Nothing more than a suggestion of the application of immunology has been given. It has been evident that no true conception of the principles of immunity was possible until the methods of experimentation on living animals were applied. And each successive principle determined has of necessity depended on further animal experimentation. The sacrifice of animal life necessitated in acquiring our present knowledge of the mechanism of animal resistance to disease would seem justified from the standpoint of theory alone. In view of the present and potential value of applied immunology in the diagnosis, the prevention, and the cure of human and animal disease, skilled animal experimentation necessitates the encouragement of every humanitarian.

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Differential Diagnosis of Traumatic Neurasthenia.—Head injuries and railway accidents causing cerebral commotion, without producing actual brain lesions, may set up a traumatic neurasthenia, but general paralysis of the insane not infrequently follows a head injury in an individual predisposed by his past life to that disease, and it may be difficult to decide whether the patient is suffering from traumatic neurasthenia or the prodromal stage of general paralysis, unless a careful examination and investigation be made.—F. W. Mott, in the *Practitioner*.

30. Charrin and Roger: Compt. rend. Soc. de biol., 1889, p. 667.
31. Bordet-Gay: Studies in Immunity, p. 142.
32. Gruber and Durham: München. med. Wchnschr., 1896, p. 285.
33. Kraus: Wien. klin. Wchnschr., 1897, No. 32.
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TRANSFUSION IN PELLAGRA

A REVIEW OF TWENTY CASES *

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August 4, 1908, I employed the first transfusion in the terminal stages of pellagra. Encouraged by the immediate improvement and rapid recovery in this patient, in collaboration with Dr. Gilman J. Winthrop, I have since transfused nineteen additional patients in the terminal stages of the disease.

Whereas we are unable to draw positive conclusions from this number of cases, we believe that certain valuable deductions may be derived from the statistics which they present. We have endeavored to preserve a spirit of scepticism and unbiased judgment throughout our investigations, and to draw accurate conclusions from the data presented.

Transfusion has been resorted to only in cases in the last stages of pellagra, or steadily retrograding under prolonged and careful treatment by approved therapeutic measures. To illustrate the type of cases in which transfusion has been employed, it is sufficient to state that two patients were moribund at the time of operation, and one patient died on the railway train twenty minutes before arriving at Mobile for transfusion.

	Cases
Transfused	20
Females, aged 22-53	16
Males, aged 3-42	4

We note that the females (16, or 80 per cent.) were four times as numerous as the males (4, or 20 per cent.).

	Cases
Recoveries (60 per cent.)	12
Deaths (40 per cent.)	8
Relapse (8.3 per cent.)	1

This relapse occurred two years after recovery in an institutional patient exposed to reinfection.

	Cases
Temporary improvement followed by death	2
No improvement following transfusion	6
Complications incompatible with recovery	2

Patient 1, a male, aged 42, whose case was complicated with tuberculous peritonitis, showed temporary improvement for several days, but died one month after the operation.

Patient 2, a male, aged 3, showed distinct improvement following transfusion, but died eight days later from intestinal perforation.

	Cases
Complications presenting insufficient flow of blood, followed by death	2

In Case 1 the only available donor permitted insufficient transfusion through a severe degree of arteriosclerosis. In Case 2 inadequate operative surroundings and a neurotic 14-year-old boy as the only available donor permitted insufficient transfusion.

	Cases
Patients moribund at operation followed by death	2

It will be noted that four of the eight cases in which death resulted might well be excluded, for the following reasons: Two patients received an inadequate amount of blood at transfusion and two were moribund at the time of operation. Excluding these four cases, the mortality rate would be 25 per cent. as compared with 40 per cent. in the entire series. Considering the grave mortality rate in the type of patients on whom transfusion was performed, we can but feel that our mortality rate of 40 per cent. in the entire twenty cases compares most favorably with the mortality (80 to 90 per cent.) in this type of cases treated by other therapeutic procedures. We have been unable to observe that transfusion was a direct factor of death in any of the cases; the deaths followed in periods of from three hours to one month after operation. One patient manifested symptoms of cocainism, necessitating a termination of transfusion at the end of fifteen minutes. This patient, however, made an excellent recovery from pellagra. Neither hemolysis nor agglutination, thrombosis nor embolism, have been observed in any of the cases.

Of the recovered patients (seventeen) there were: females, eleven (68.8 per cent), and males, one (25 per cent). We note a far greater percentage of recovery in the females. All the recovered patients presented distinct and severe lesions of pellagra; there were marked emaciation, asthenia, anemia, reflex excitability, and in many cases grave mental changes. Severe pellagra erythema, stomatitis, and diarrhea were present in a majority of the cases. Within a few days after transfusion there was either alleviation or disappearance of all the symptoms of pellagra; there was a rapid disappearance of the pellagra erythema, stomatitis and diarrhea, and also a gradual alleviation of the mental and nervous symptoms. In several cases there was an astonishing improvement in the patient's mental condition, shortly following operation. In all cases there was rapid increase in the patient's hemoglobin index, a rapid return of body strength, a return of digestive faculties, and an increase of body weight. All the recovered patients gained from three to eight and one-half pounds in the first week following transfusion; one patient gaining thirty-four pounds within eleven weeks. All the recovered patients have returned to a normal condition within from one to four months after operation; several are in better physical condition than they have presented for years. The patient relapsing two years after transfusion was living in an institution and was constantly exposed to pellagra, and it is fair to assume that this case may be considered a re-infection, rather than a relapse.

It is but just to state that all approved therapeutic procedures were employed in the recovered cases, both previous to and following the operation. As these procedures were employed without beneficial effect previous to the operation, it is fair to asume that they were unimportant factors in the recoveries after transfusion.

We have been unable to ascertain a constant clinical sign that would indicate a certainty of recovery following transfusion. A moribund state of the patient and complication of pellagra with pathologic conditions contra-indicate the employment of transfusion. The necessity of resorting to transfusion can be ascertained only on the appearance of positive signs of retrogression under approved institutional and constitutional therapeutic agents.

A majority of the patients referred for transfusion have recovered through hygienic, supportive treatment, not necessitating the employment of transfusion.

Transfusion, itself a delicate procedure, should be attempted only by those experienced in the technic, with a full knowledge of the dangers of the operation, and in adequate surroundings for its performance, and with the proper post operation treatment.

In these transfusions we have endeavored to employ donors who have lived in the same environment as the recipients, assuming that such donors who have not contracted pellagra possess a certain degree of immunity.

Transfusion was resorted to from donors who had recovered from pellagra in three cases; recovery occurred in one case (33⅓ per cent.). This case relapsed two years following transfusion.

Transfusion was made from donors who had never had pellagra in seventeen cases; recovery ensued in eleven cases (64.7 per cent.).

* Read before the Southern Surgical and Gynecological Association, Nashville, Tenn., Dec. 15, 1910.

We may assume that there is, at least, no preference of a donor who has had pellagra over a donor who has never had pellagra.

Transfusion was resorted to from donors who were relatives of the patient, but who had never had pellagra, in seven cases. Recovery occurred in three cases (42.8 per cent.).

Transfusion was made from donors who were not relatives and who had never had pellagra in ten cases; recovery in eight cases (80 per cent.).

Here we may assume, at least, that there is no ground for preference of the use of a relative over the use of a non-relative.

We are unable to state from the statistics available that there is any immune principle transferred by transfusion. It is probable that any beneficial results obtained may be attributed to the relief of the existing anemia, permitting the patient's organism to approach its normal functional activities and thus to combat the progress of the disease.

CONCLUSIONS

In transfusion in twenty cases of pellagra, we have found no ill effect resulting to the patients directly from the operation. We may safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures.

We have noted no advantage in the employment of a donor who has recovered from pellagra as compared with the donor who has never had pellagra.

There is apparently no advantage in the use of a relative for a donor as compared to the use of a non-relative.

The recoveries (60 per cent.) following transfusion in the grave type of cases, compares most favorably with the recoveries (10 to 20 per cent.) in the same type of cases in which other therapeutic measures are employed.

The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions, this procedure will fall into an undeserved ill repute.

202 Conti Street.

EXPERIMENTAL POLIOMYELITIS IN MONKEYS*

NINTH NOTE: IMMUNITY PRINCIPLES; EFFECTS OF HEXAMETHYLENAMIN (UROTROPIN); EARLY DIAGNOSIS; VIRUS-CARRIERS*

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In previous publications,[1] we have shown that an attack of experimental poliomyelitis protects against reinfection with the virus of the disease, and that the blood of monkeys and of persons who have recovered from the acute effects of epidemic poliomyelitis contains neutralizing principles for the virus on which their immunity must be considered to depend. The immunity principles have been shown to reside in the blood-serum and are, therefore, probably of the nature of antibodies. The course of epidemic poliomyelitis in its acute stage is not known to be influenced by any form of medication, whence it follows that it is a self-limiting process, as are so many of the infections; and at present we must view this condition of self-limitation as being determined by the elaboration within the body, under the influence of the virus of the disease, of substances of the nature of antibodies, the so-called immunity principles.

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. The previous work is summarized and discussed by one of us (Flexner) in THE JOURNAL A. M. A., Sept. 24, 1910, p. 1105.

IMMUNITY PRINCIPLES IN ABORTIVE CASES

What have come to be designated abortive cases of epidemic poliomyelitis are now playing an important part in the discussion of the mode of transmission of the disease. Our knowledge of this class of cases is still very imperfect, and doubt even exists of their occurrence at all. Until greater refinement and accuracy are introduced into diagnosis, this doubt must continue to arise. It is desirable, therefore, to present evidence that bears on the occurrence of this type of the disease.

It is possible by means of neutralization tests to determine in a given instance whether an attack of poliomyelitis was or was not suffered, and this independently of the circumstance whether or not paralysis was present. The test is made by mixing the blood-serum with the filtered virus, incubating the mixture at 37 C. for a few hours, and injecting it into a monkey. Normal human serum has no power to neutralize the virus, while the serum from recovered cases of poliomyelitis possesses this power. Dr. Richard Stein, of New York, kindly supplied us with the blood taken from a patient suspected of having passed through such an abortive attack, in which the neutralizing immunity principles were demonstrated. This method does not provide a means of diagnosis, but it is of value in establishing the occurrence of abortive cases of epidemic poliomyelitis.

DISTRIBUTION OF IMMUNITY PRINCIPLES

Up to the present, the immunity principles have been established to exist in the blood of men and monkeys who have passed through the acute stage of the disease. We have already emphasized the lesions of the leptomeninges that result from infection with the virus of poliomyelitis and the changes, corresponding to them, that take place in the cerebrospinal fluid. It is of interest to ascertain whether or not the immunity principles exist in the cerebrospinal fluid, whether or not they may originate there, and, hence, whether or not the control of the lesions of the meninges and the nervous tissues is in any degree dependent on such a local production. We are enabled to determine these points by reason of the circumstance that the secretion of antibodies from the blood into the subdural space and the cerebrospinal fluid takes place, under normal conditions, practically not at all. Should they be found there, they must either have arisen locally, or have been secreted there from the blood because of abnormalities that increase the permeability of the blood-vessels.

We have examined a number of specimens of the cerebrospinal fluid obtained from patients at various periods after the disappearance of the acute stages of poliomyelitis, but at times when paralysis of one or more extremities still persisted. In some instances, the blood and cerebrospinal fluid were taken simultaneously and both tested for neutralizing power. The results are instructive. During the first one or two months, the immunity principles may exist both in the blood and in the cerebrospinal fluid, but, even at this early period, the principles demonstrated to be present in the blood have not always been detected in the fluid. At later

periods and after one or more years, it is highly exceptional to secure neutralization of the virus by means of the fluid. The conclusion, therefore, is that during the earlier stages of epidemic poliomyelitis, when the blood-vessels of the leptomeninges and the central nervous system are abnormally pervious, the immunity antibodies escape into the membranes and nervous tissue; but as the vessels return to normal, the antibodies are no longer secreted and thus tend to disappear. It is probably in exceptional instances only, in which the vascular repair is delayed, that the secretion continues over a long period of time.

The immunity principles persist in the blood for several years, and it is probable, therefore, that they are elaborated in the situations, namely, in the lymphatic and blood-forming organs, in which antibodies in general are prepared. This point is of interest in view of our meager knowledge of the occurrence of the virus of poliomyelitis in organs at a distance from the central nervous system. In view of the facts stated, it may be deduced that to the circulating antibodies, rather than to those locally present in the cerebrospinal fluid, are due the limitation and repair of the damage inflicted on the nervous system by the infection, and the enduring protection of the body from reinfection.

EFFECTS OF HEXAMETHYLENAMIN

Since Cushing and Crowe showed that hexamethylenamin (urotropin) is in part eliminated into the subdural space, the drug has been employed to produce disinfection of the cerebrospinal fluid. It has been applied to the treatment of epidemic poliomyelitis by Dr. Roger S. Morris, of Baltimore, who first drew our attention to the matter, and by others. It is highly difficult, if not impossible, to determine clinically in human beings whether its administration is of any value, since its use has been empiric and it is clearly not a specific. However, it may still not be without a degree of beneficial action.

The drug is well borne by the monkey and we have tested its action under a variety of conditions on this animal. When a large dose of the drug is administered by mouth, its presence can be demonstrated by chemical tests in the cerebrospinal fluid soon afterwards. We have ascertained that when the virus of poliomyelitis is injected intracerebrally in monkeys in which the hexamethylenamin is already present in the fluid, and the drug is then administered by mouth daily thereafter, that in a proportion of animals so treated, but not in all, first, the incubation period of the disease is prolonged (from six to eight days to twenty-four days), and, next, the onset of paralysis is entirely prevented. When the drug is administered by mouth and the immune monkey-serum by injection into the subdural space, the paralysis can also be prevented and possibly with greater certainty.

We have not yet determined whether the animals surviving infection with the virus as a result of the administration of hexamethylenamin exhibit any greater resistance to reinoculation than untreated animals do to a primary inoculation. Should the multiplication of the virus have been entirely suppressed, we should not expect to find an increased degree of resistance. In immune serum protection, the susceptibility to reinfection is about equal to that shown by untreated animals.

In considering the significance of these observations, two points are of importance: first, it has now been shown that drug control of the virus of poliomyelitis within the body is a possibility; but, second, that the successful results have been secured in inhibiting infection and not in restraining an already established infection with the virus.

EARLY DIAGNOSIS

The importance of securing methods of early and certain diagnosis of epidemic poliomyelitis is self-evident. With the growing significance of the abortive and mild cases in disseminating the infection, and with the increasing promise of a better therapeutic control of the disease, early diagnosis becomes a necessity. We have already pointed out that by taking advantage of the changes which regularly take place in the cerebrospinal fluid, it is possible, early in the course of the infection, to arrive at a certain diagnosis. We based this view and recommendation on the condition of the cerebrospinal fluid occurring in monkeys successfully inoculated with the virus of poliomyelitis. In these animals the increase in cells and protein takes place and reaches its height prior to the onset of the paralysis, after which there tends to be a rapid diminution in the protein content of and a slower reduction in the number of cells within the fluid. The cerebrospinal fluid is incorrectly described as "clear" in the beginning stages of the lesions of the meninges; and this error has arisen because practically all the examinations have been made after the appearance of the paralysis or other severe symptoms, and usually many days after their appearance.

The cerebrospinal fluid at the height of the lesions in the meninges exhibits a very slight turbidity or opalescence, best seen on gently agitating the fluid and due to a large increase in white corpuscles. It contains an excess of protein matter. The white corpuscles consist partly of polymorphonuclear and partly of mononuclear (lymphatic) cells. The excess of protein is readily detected by applying Noguchi's butyric acid test. Very rarely, the fluid is distinctly turbid and the polymorphonuclear cells predominate. Bacteria are absent. In rare instances, it becomes necessary to exclude tuberculous meningitis, which can be done by an examination for tubercle bacilli.

We have been able in a case of Dr. L. F. Frissell's[2] to determine that the facts just stated hold good also for human beings, the victims of epidemic poliomyelitis. An early and certain diagnosis of the disease in a suspicious instance has been made by examining the cerebrospinal fluid in the manner indicated. The paralysis was observed to follow the height of the cellular and protein changes in the fluid, and the cessation of the extension of the paralysis to coincide with a beginning reduction in these changes, as is the case in the monkey.

VIRUS-CARRIERS

In monkeys the virus of epidemic poliomyelitis passes from the meninges into the nasal mucosa, and infection can be readily achieved by bringing the virus into contact with the scarified mucous membrane. We have, therefore, suggested that the nasopharynx acts in human beings as the portal of entry of the virus into the central nervous system, as well as the source of its dissemination to other human beings. Concerning the habitat of the virus in nature, outside of infected persons, we have had no definite knowledge. The determination by Osgood and Lucas[3] that the virus can survive in the nasopharynx of the monkey for nearly six months and long after the acute stage of the disease has passed has, therefore, high

2. Report to be published soon.
3. THE JOURNAL A. M. A., Feb. 18, 1911, p. 495.

significance with reference to the epidemiology of the disease. At this late period, the virus no longer survives in the nervous system. Indeed, the virus has not been detected in the nervous system after the lapse of three or four weeks, and often not after the first few days following the appearance of the paralysis. We have just demonstrated the virus in the nasal and pharyngeal mucosa of a monkey which survived the paralysis more than four weeks, and failed, in the same animal, to detect it in the spinal cord.

These observations indicate that monkeys successfully inoculated become, in some instances after recovery from the effects, passive carriers of the virus. Whether the same fact will prove to be true of human beings remains to be determined. In no instance has the nasal and pharyngeal mucosa of a person who has succumbed to epidemic poliomyelitis been examined for the virus. It has now become imperative to make such examinations; for on the results will depend in considerable degree the measures which will come to be adopted to control the spread of the infection.

Sixty-Sixth Street and Avenue A.

CULTIVATION IN VITRO OF RAT SARCOMA

A STUDY IN IMMUNITY*

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In a recent note[1] we showed that the method of cultivating tissues *in vitro,* devised by Harrison for the study of the developing nerve-fiber in frog embryos, and applied with modifications to the tissues of higher animals by Carrell and Burrows, could be adapted easily to the transplantable sarcomata of rats and mice. The present paper is concerned with the application of this method to the investigation of the nature of tumor immunity.

The phenomena of resistance and susceptibility to the inoculable tumors of these animals have been exhaustively studied. It may be stated summarily that immunity to tumor growth does not correspond to any of the types of immunity produced by the reaction of the body to infective organisms and their products. Specific antibodies have never been demonstrated in the blood-serum of animals immune to cancer. Moreover, Russell[2] has shown that, in immune mice, inoculated cancer tissue fails to grow because of the absence of a specific stroma reaction on the part of the host, and not because of the presence of cytotoxic or cytolytic substances acting on the implanted grafts. Or, stated differently, in immune animals, the implanted cancer cells lose their power of calling forth a stroma reaction. Nothwithstanding the absence of a stroma, the tumor cells remain alive and proliferate for eight to ten days.

Sarcoma cells growing in blood-plasma find in the fibrin network an artificial stroma, so that the influence of the plasma alone may be held accountable if sarcomatous tissue, which grows very readily in normal plasma, fails to grow in the plasma of immune animals.

Two kinds of immunity to cancer are recognizable, natural and artificial. The percentage of naturally immune animals (nullers) varies with age and with different varieties and strains. Old animals are, as a rule, less susceptible than young. Artificial immunity may be induced by the injection of suitable quantities of certain tissues, as, blood, spleen, embryonic tissues, etc.

In the present experiments we have used five types of immune animals: (1) nullers from a strain of rats in which sarcoma inoculations yield 80 to 90 per cent. of "takes"; (2) nullers from a hooded variety of rats in which the percentage of "takes" is only twenty to thirty (racial immunity); (3) immune old animals whose immunity was most probably attributable to their age; (4) animals immune to both rat sarcoma and carcinoma, and which had received immunizing doses of mouse sarcoma (pan-immunity); and (5) artificially immunized rats. We have used the plasma from animals of each of these five types of immunity, and have found that rat sarcoma grows in all without exception. The character of growth differed in no essential way from that observed in control specimens in which normal rat plasma was used. These results are in harmony with the observations of Russell which we have mentioned already.

THE INOCULATION OF RATS WITH SARCOMA GROWING IN VITRO

To test the viability of sarcomatous tissue growing *in vitro,* we have inoculated rats with pieces of sarcoma which had grown for three days at 37 C. in normal rat plasma and have obtained tumor growths. In the same way sarcoma growing in the plasma of immune rats has been transmitted to normal animals. The plasma from immune animals does not seem, then, in this short time, to influence deleteriously the subsequent growth of sarcoma tissue when this is inoculated into animals.

SUBCULTURES

Sarcoma growing *in vitro* may be readily grown in subcultures by transferring the original piece or a portion of the outgrowth to new plasma. Prolongation of life seems dependent only on the renewal of the medium. We have specimens growing at present which have been subcultured in this manner five times at intervals of two to four days. The plasma used was obtained from normal and immune animals, and the growth was as vigorous in the one as in the other.

437 West Fifty-Ninth Street.

* This research was conducted under the George Crocker Special Research Fund.

* From the Department of Pathology, College of Physicians and Surgeons, Columbia University.

1. Lambert and Hanes: Growth in Vitro of the Transplantable Sarcomas of Rats and Mice, THE JOURNAL A. M. A., Jan. 7, 1911, p. 33.

2. Russell, R. R. G.: Nature of Resistance to the Inoculation of Cancer, Third Scientific Report of the Imperial Cancer Research Fund, 1908.

Local Cutaneous Reaction to Sodium Glycocholate in Syphilitics.—Loeper and Desbouis state that intradermal injection of a drop or two of a 0.5 or 0.2 per cent. solution of sodium glycocholate failed to cause any reaction in sixty-three healthy persons or those with non-venereal affections, while a pronounced local reaction followed invariably in eighty-one persons in the first, second or third stage of syphilis, with only a single exception in the latter class. A positive reaction was also obtained in one of nine patients with tabes dorsalis or paresis. The local erythema or ulceration developed from the eighteenth to the thirty-sixth hour and persisted for from two to five days. The findings with this "dermo-reaction," as they call it, paralleled with precision the Wassermann reaction and the Porges precipito-reaction. As there is nothing specific about the sodium glycocholate, the reaction, they state, merely indicates some profound biologic modification of the organism by the parasite and, like all biologic reactions, is not of invariable occurrence. It gave useful information in their experience in several dubious cases, differentiating the syphilitic from tuberculous and other ulcerations, etc. Their communication is published in the *Progrès Médical,* Jan. 21, page 231.

ARSENIC IN SYPHILIS

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That mercury does not cure syphilis in all cases has been observed for many centuries. Christian Friedrich Harles[1] mentions the fact that Fallopius and Libavius used arsenic in the treatment of syphilis. F. Hoffmann[2] in the middle of the eighteenth century used the flores auri pigmenti diaphoretici, a sulphid of arsenic, satisfactorily in the treatment of "lues venerea inveterata," in cases in which mercury proved of no avail, and in cases in which ptyalism and mercurial poisoning were produced. Hoffmann asserts that he obtained excellent results by the internal administration of arsenic in the treatment of indolent syphilitic lymph-nodes, cachexia syphilitica, and in syphilitic periostitis. C. Ziegenbuehler[3] used arsenic internally in the treatment of syphilitic arthritis with success. Horn[4] and Renner[5] treated old inveterate syphilitic lesions successfully with white arsenic. The use of arsenic in the treatment of syphilis is, therefore, by no means a modern invention.

Let us now see how salvarsan has fulfilled Ehrlich's ideas in the treatment of syphilis. Was the early enthusiasm which followed the use of this preparation an enthusiasm largely due to the fact that a new remedy was announced by one of the greater leaders in medicine, justified? Are the results following the use of salvarsan comparable to those which we expect from the administration of quinin in malaria? The answer to the question has been furnished by Neisser at the medical congress at Koenigsberg, Sept. 20, 1910. Neisser, a most profound observer, whose use of salvarsan has been very extensive, recommends a primary injection of salvarsan and repeats this injection after from three to six weeks; in nearly all cases he subjects the patient during this three or six weeks' intermission to a regular treatment with mercury in the form of injections with gray oil. This procedure is to be repeated until a permanent negative Wassermann reaction is obtained.

Despite the reported apparently brilliant results that have been obtained with the injection of salvarsan recurrences are being reported with greater and greater frequency, forcing us to the conclusion that a *sterilisatio magna* in Ehrlich's sense is in many cases not possible. The use of mercury and potassium iodid and in some cases quinin, in the treatment of syphilis cannot in my opinion be eliminated at the present time, even though I believe that potassium iodid will not cure syphilis, but mercury has cured in many cases, which some of the salvarsan enthusiasts seem to have forgotten entirely. The enthusiasm reached such a point that it was predicted that such metasyphilitic diseases as tabes and general paresis were a thing of the past.

In the treatment of syphilis, there are undoubtedly many factors which Ehrlich's inspiring researches do not fully explain. Why, for instance, do cases occur in which mercury brings about a rapid disappearance of all syphilitic manifestations, although the Wassermann reaction remains positive? Why does an early tabes and progressive paralysis sometimes occur in certain patients who have been subjected to a thorough course of treatment? Why does a positive Wassermann reaction persist years after the primary infection in some patients who have not been treated with mercury, and who nevertheless do not acquire tabes or paresis? On the other hand, it is well known that there are cases, an appreciable number of them, which do badly under any form of chemotherapy.

The most important field for the use of the Ehrlich-Hata preparation is in the acute stages of syphilis, in which forms this remedy has proved of paramount value. Even if it does nothing more than to heal the primary lesion as rapidly as it does, and thereby prevent a further invasion of the system, and close an avenue of infection to others, it has accomplished a great deal. In the treatment of the chronic inveterate forms of syphilis its use has, as yet, not been sufficiently extensive to enable us to judge of its powers.

In the treatment of some of the diseases of the blood-forming organs, severe anemia, pernicious anemia, pseudoleukemia and lymphatic swellings of various origin, including glandular tuberculosis, its use has not been attended with success. In these maladies the inorganic preparations of arsenic act more rapidly and are more lastingly efficient than the organic preparations, a response similar to those noted after the administration of the organic and inorganic iron preparations in the treatment of the anemias and of chlorosis.

In these maladies and in cases of inveterate syphilis, which responded no longer to mercury, I have used successfully a solution of arsenic, which I described[6] in 1909. The solution consists of 1 gm. arsenic trioxid and 2.25 c.c. normal soda solution in 100 c.c. of distilled water, representing a 1 per cent. solution of sodium arsenite, a solution which is very slightly alkaline. Its subcutaneous injection does not cause more inconvenience than an injection of morphin; its intramuscular injection is painless. Lately I have used the intramuscular method (glutei) exclusively. I have given these injections hundreds of times and I have never seen even the slightest tendency to suppuration. The skin before injection is disinfected with an alcoholic solution of iodin and potassium iodid, and the site of injection is sealed with a mixture of this iodin solution with tincture of benzoin in the proportion of 1 to 4, a procedure which I have have also reported elsewhere.[7]

I shall briefly report two cases of syphilis in which the results of treatment with my arsenic solution were exceedingly satisfactory.

In a woman, aged 32, in whom the secondary lesions were not affected in the least by injection of mercury for a period of six months, injections of my solution of arsenic brought about a rapid disappearance of all syphilitic lesions after fourteen injections.[8]

A young woman, aged 24, in whom syphilitic manifestations kept appearing for a period of five years after the initial lesion, despite active mercurial treatment, was completely cured after twenty-four injections of my arsenic solution. Repeated Wassermann reactions in this case were entirely negative.

I wish to say a few words regarding the use of certain preparations of arsenic in the treatment of syphilis, which, because of convenience in administration, are extensively used in this country. The sodium salt of cacodylic acid, the sodium dimethylarsenate, for instance, is supposed to possess the advantage of being less poisonous than the other arsenic compounds, and has therefore been recommended especially by the French authors. Fraser of Glasgow has shown, however,

1. Harles, Christian Friedrich: De arsenici usu in medicina, Norimbergae apud Ioan Leonhard Schrag, 1811.
2. Hoffmann, F.: Observat. phys. med. sel. lii, obs. xii.
3. Ziegenbuehler, C.: Jour. d. prakt. Arznk. u. Wundarznk., 1809, v.
4. Horn, H.: Neues Arch. f. med. Erfahr., Berlin, 1807, iv, 257.
5. Renner: Arch. f. med. Erfahr., Berlin, 1812, i, 189.
6. Herzfeld: THE JOURNAL A. M. A., Feb. 13, 1909, p. 557.
7. Centralbl. d. Chir., 1909, No. 24.
8. New York Med. Monatschr., March, 1909, p. 371.

that the non-toxicity of the cacodylates is due to the fact that they are not split up within the body, and pass out in the urine unchanged. Schmiedeberg asserts that only a very minute quantity of the cacodylic acid is set free in the body and that this is excreted by the lungs and causes a disgusting garlic odor to the breath. I mention these facts merely because these preparations have been recommended lately in THE JOURNAL by Murphy and Caffrey.[9] As regards enesol, a French preparation of arsenic that has been recently much in vogue, mainly because of the simplicity of its administration, Bachem[10] asserts that this patented arsenic and mercury mixture is unreliable. The tablets of sodium arsenate on the market for hypodermic use vary in their chemical reaction. Some I found alkaline, some acid; their age is unknown, and their dosage not reliable.

224 West Twenty-Fourth Street.

WEAK MEDICAL SCHOOLS AS NURSERIES OF MEDICAL GENIUS

HENRY S. PRITCHETT

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The "Report on Medical Education in the United States and Canada," prepared under the direction of the Carnegie Foundation by Mr. Abraham Flexner, was issued in June and has received in one way or another the criticism of nearly all medical journals and medical associations. Those who have represented the Carnegie Foundation in this matter have sought to examine such criticisms and comments in a fair and reasonable spirit. They have felt pleased that the essential facts stated in the report have received no serious contradiction. They have endeavored, on the other hand, to profit in the further study of medical education by the comments made and the criticisms offered.

It is to be remembered that this report was not a mere criticism of existing conditions. It aimed to point out accurately and frankly the present status of medical education; but it did much more than this. It attempted a thorough-going study of the medical curriculum and it suggested certain broad lines on which the medical curriculum might fairly be expected to develop in the immediate future.

In seeking to serve both of these ends the report inevitably bore with some sharpness on a large proportion of existing medical schools and particularly on those schools which are commercial in their organization; and by "commercial" it was not meant that those who carry on such schools always derive from them much remuneration in the way of money. A commercial school, in the sense in which the term was used in this report, is a school conducted and managed in the interest of the men who control it; these men expect to receive from it some form of reward, either direct or indirect. The report made clear the fact that all such schools are to-day offering a form of preparation for medicine which falls far below the grade of efficiency which the people of every state in the Union have a right to demand. It was to be expected that the sharpest replies to the report should come from those institutions whose organization and plan of control run squarely against the principles it advocates. In particular, the commercial medical establishments have in one form or another replied to the facts laid bare in the report, and the deductions made from these facts, with arguments of varying sincerity and relevancy.

The argument which was most commonly put forth at first was the time-worn plea for the poor boy. The poor school, it was argued, existed for the poor boy. This argument, however, had been so thoroughly anticipated in the report itself and was so clearly not in favor of the poor boy, but in favor of the poor medical school, that it has been practically given up by those who first resorted to its use. In its stead there has been presented in one quarter or another an interesting and singular plea. It is true, say those who put forward this second argument, that a large proportion of the men admitted into the weak medical schools are utterly unprepared; it is true that many of those graduated from such schools ought never to be admitted to practice. Nevertheless, they assert, every now and again in this army of the unfit and the unprepared the school finds some one whom it develops into a great physician or a great investigator—a genius in medical science—and it is worth while, say the advocates of such schools, to keep alive even the weakest medical schools for the sake of the occasional great men whom they may breed.

The most interesting effort to maintain this position which has come under my eye, and one which has been reprinted in many quarters, appeared in an editorial article in *American Medicine* in October. The attention which has been given to it arises largely out of the fact that the author undertakes to rebuke Mr. Abraham Flexner in his criticism of the University of Louisville Medical School on the ground that his distinguished brother, Dr. Simon Flexner, is a graduate of that institution. The article carries with it something of the force of an *argumentum ad hominem*.

The tenor of the article may be judged from the following extract:

> What we have stated about Dr. Simon Flexner—facts that no one will gainsay—show conclusively, though perhaps inefficiently, his great usefulness both to his confrères in medicine and to humanity in general. Measured by his scientific stature, his contributions to medicine and his achievements, Dr. Simon Flexner in the light of his brother's dicta concerning medical colleges and their capacities for developing useful physicians, should be a graduate of some one of the large and best-equipped universities. But alas, fate ordained differently, and, according to the last edition of the *American Medical Directory*, Dr. Simon Flexner, the saver of babies' lives, director of one of the world's most famous and most important scientific institutions, a splendid scholar, one of the world's greatest scientists, a man who already has achieved wonders in his chosen field, and one who, if his life is spared, will probably be responsible for the conquest of several of humanity's most fatal maladies, suffered the frightful handicap of equipping himself for his life's work at the University of Louisville Medical Department. . . .
>
> We realize that there are other phases of the question and a single case like this offers no real opportunities for comparisons or conclusions. But we still think it carries a valuable lesson and proves our contention that after all the personal equation is the important factor. We need all the Simon Flexners we can get, and a school that can help one such man in each decade to embark on a career so useful to his fellows and all mankind, has justified its existence, Brother Abraham notwithstanding.

It would be difficult to misrepresent the facts in the case more completely than they have been misrepresented here. The scientific work which Dr. Simon Flexner has done has all been in relation to the subjects of pathology and bacteriology. In the year 1889, when the University

9. Murphy, John B.: The Arsenical Treatment of Syphilis, THE JOURNAL A. M. A., Sept. 24, 1910, p. 1113. Caffrey, A. J.: Sodium Cacodylate in Syphilis, ibid., Dec. 24, 1910, p. 2211.
10. Bachem: Berliner klin., October, 1910.

of Louisville conferred on him the M.D. degree, the medical school of the University of Louisville had no laboratory for either pathology or bacteriology. Bacteriology was not even taught, and pathology, if taught at all, was taught only in a few lectures given by a practicing physician. The fact is that Dr. Simon Flexner got his real training by ten years of work at the Johns Hopkins University, and these the years which were the most fruitful in its history—the years when Professor Welch, starting with a few chosen pupils, brought up that group of men whose labors have gone so far to revolutionize American medical education in the brief period of two decades. It is difficult to believe that the writer of the paragraphs quoted did not know that Simon Flexner obtained his scientific training, not at the Louisville medical school, but at the Johns Hopkins University.

While this disposes of the *argumentum ad hominem*, it does not affect the underlying question. The assertion that weak institutions deserve to exist on the ground of the few great men who have come up through them is one constantly made. The argument is, however, fallacious. It is not true that a vast horde of unprepared and ill-trained physicians must be turned out on a helpless public in order to obtain an occasional medical genius. The medical genius, when he comes, will in no way be shut out by the fact that the medical school is on decent standards. On the contrary, the very presence of a group of able, distinguished professors will stimulate such men to emulate their example and to live up to their ideals. It will always happen that a few of the best men will come up from the weaker schools; but the fact that strong men can survive a handicap is a strange reason for maintaining handicaps which injure even the strong man and wreck very many others. The medical genius of thirty years ago had no choice; he had to go to a poor school, for no other kind existed. To-day he has a good many alternatives. It is to his interest, genius though he be, that he be compelled to prepare adequately for his medical career and to get a good medical training on this sound basis. Such a policy, of priceless importance to the supposed medical genius, is absolutely indispensable to the man of mediocre ability, and to the public which is at his mercy. The exceptions are apparent rather than real. How much more effective would even the genius have been, if he had not been handicapped by defects of training! Facts showing that a man of high purpose and extraordinary ability may find his way, even under adverse and unfavorable conditions, in no wise furnish an argument, or even an excuse, for making the conditions of education weak and ineffective and for imposing on the public a body of ill-prepared practitioners.

In all the discussion concerning the poor boy and the medical genius it is well that the public and the medical profession should not be drawn away from the fundamental reasons advanced in this report to show that commercial schools are to-day hindering, not helping, the cause of medicine. These reasons, briefly restated, are the following:

1. Such schools are essentially proprietary institutions. They are schools managed by physicians who are to profit both directly and indirectly by the enterprise itself. It is true that some of these are nominally branches of universities, but this arrangement is fictitious. This situation has been proved by long experience to be one under which right educational conditions are impossible. A college or an engineering school run under similar conditions would also become frankly commercial.

2. Schools so run must depend on fees. This means inevitably the recruiting of a large student body from the unprepared and the unfit. In most schools of this character advertising is freely resorted to. To secure the requisite number of men, standards, both of preliminary education and of technical training, must necessarily be kept so low that the large body can be admitted. This results in putting the instruction itself on a low plane.

3. Adequate endowment for medical education can never be obtained so long as the exploitation of medical education for commercial purposes is wide-spread. It is a striking fact in educational conditions in America to-day that medical education has received very meager support. Particularly is this true when it is remembered that the service which the physician renders to the average man of means is the most direct and personal service which any member of society can offer. No other man has so good an opportunity to present the cause in which he is interested as the family physician. Under such conditions the poverty of endowment of American medical education is a standing reproach to American men of medicine. It is due, as everyone knows, to the fact that the average business man understands that medical education has been hitherto a perquisite of the medical practitioner, and so long as that relation remains no large endowment of medicine can be had. Only when the medical school is managed by a board of men not directly concerned in its profits, whether they be in the form of fees or of increased practice, will it stand in the eyes of givers in the same light as other schools.

4. Finally, the continuance of such schools under their present conditions is a direct neglect of the rights of the students themselves and of the public, and this for the reason that so long as the conditions which have been described hold, these schools furnish a sort of education far inferior to that which they ought to give and far inferior as well to that which the public has a right to expect of those who are to practice on it. Such schools are practically in the situation which a commercial house would occupy if it sold its patrons old and antiquated machinery, presuming on their ignorance.

It is interesting to see with what success some medical sects, for example, the osteopaths, have learned from the history of medical education to ignore the claims of the public in their own interest. A brief and meager education is justified on the ground that the "science" is not as yet so comprehensive as "regular medicine" in its scope; but the osteopath, once graduated, is very vague as to just what he should or should not attempt to relieve by osteopathic methods; in consequence, he will at least try to cure everything! The dean of an osteopathic school in California admitted that his students are taught to treat even such affections as gonorrhea and syphilis by "osteopathic" methods. In a number of states the osteopaths are thus conducting schools which, while nominally osteopathic establishments, are really, by the aid of feeble departments of anatomy, pathology, and physiology, turned into the weakest of ordinary medical schools. On the plea that they are training a physician of limited range, they get from the state a concession enabling them to give the degree of D.O. in three years, instead of four; the graduates, though so poorly trained that under any other name they would not be admitted to practice at all, at once spread themselves over the entire field of illness, disease, and accident. But in carrying out this program, the osteopaths have done nothing other than to imitate the example of the weak medical school which goes on furnishing

to those who attend it a form of education enormously behind the requirements of our day and our time, while giving to the public the impression that it is offering facilities of an adequate and satisfactory sort.

One cannot study even the weakest and most unnecessary of these schools without realizing that not infrequently an admirable quality of devotion is to be found in them. The difficulty is that such devotion is mingled with a very large leaven of commercial interest; and in many cases the devotion is offered in a cause which cannot be approved. The betterment of medical education to a stage commensurate with the present status of medical knowledge is a task which will require the unselfish service, first of all, of the members of the medical profession. It is difficult to see how that service can be rendered until the members of this profession themselves are willing to acknowledge that, whatever may have been true of the past, the time has now come when the commercial medical school should disappear and in its place there should stand a school which, however simple and humble it may be, shall be conducted in accordance with an ideal which divorces the teaching of the doctor or surgeon from the question of securing practice and which unites both science and practice for the benefit of those students who are competent to receive the instruction.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

ANTIDYSENTERIC SERUM.—Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Antidysenteric Serum.—The blood serum of horses immunized against the Shiga bacillus. Recommended in dysentery and summer diarrhea where the bacillus of Shiga is an etiologic factor. Marketed in bottles containing respectively 10 and 20 Cc.

ANTIPNEUMOCOCCUS SERUM.—Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Antipneumococcus Serum, stated to be prepared from highly virulent original cultures derived from human pneumococcus affections. Marketed in bottles containing 10 and 20 Cc., and also in powder form in vials containing 1 Gm. each. The dry serum is intended principally for the local treatment of ulcus serpens.

ARHOVIN.—Arhovin is stated to be a solution of diphenylamine and thymolbenzoate in ethyl benzoate, the three constituents being in molecular proportions.

Arhovin is a yellowish liquid of aromatic odor and feebly cool-burning taste, on account of which it is supplied, for oral administration, in capsule form. It is almost insoluble in water, but readily soluble in alcohol, ether, chloroform and fatty oils.

Actions and Uses.—Arhovin is rapidly absorbed and excreted, being present in the urine fifteen minutes after ingestion. It has an antiseptic action on the urine and, it is claimed, it renders the mucosa of the genito-urinary tract unfavorable for germ growth. It is said to clear up cloudy urine and make it normally acid.

Arhovin is said to be useful in the treatment of urethritis, prostatitis, cystitis, and pyelitis, as an adjunct to local treatment. It is said to be useful for external application in place of silver salts.

Dosage.—By mouth, 0.25 (4 minims), in capsule, 1 or 2 capsules three to six times daily. For urethral injections: 3 to 5 per cent. solutions in olive oil or liquid petrolatum; 15 c.c. two to four times daily.

Manufactured by Dr. Arthur Horowitz, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 58,756. Not patented.

Arhovin Capsules.—Each capsule is said to contain 0.25 Gm. (4 minims) of arhovin.

MAGNESIUM PEROXIDE.—Magnesium Peroxidatum.—Magnesium superoxide. Magnesium dioxide.—Magnesium peroxide is a mixture consisting essentially of magnesium peroxide and magnesium oxide with water of hydration, containing not less than 15 per cent. of magnesium peroxide (MgO_2).

Magnesium peroxide is a white powder. It is practically insoluble in water, but by such contact is gradually decomposed into hydrogen peroxide and magnesium hydroxide, the hydrogen peroxide being further decomposed by the alkaline magnesium hydroxide with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If about 1 Gm. of magnesium peroxide be dissolved in a mixture of 10 Cc. dilute sulphuric acid and 90 Cc. water a solution results, 1 Cc. of which shaken with 5 Cc. ether and 1 drop of a 1/100 chromic acid solution should produce a blue color in the ether.

If about 0.2 Gm. magnesium peroxide be boiled with 10 Cc. water, then cooled and filtered, the filtrate should be but faintly alkaline; and 5 Cc. of this filtrate on evaporation should leave only a trace of residue.

If about 1 Gm. magnesium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should not produce a turbidity.

If about 1 Gm. magnesium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc. dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

10 Cc. of the solution saturated with hydrogen sulphid should yield no precipitate, nor become colored.

10 Cc. of the solution, to which 10 Cc. ammonium chlorid solution and ammonium hydroxid in excess have been added, should yield not more than a turbidity on the addition of ammonium carbonate.

10 Cc. of the solution should not immediately give a blue color on the addition of a drop of potassium ferrocyanid solution.

If 0.2 to 0.3 Gm. magnesium peroxide, weighed into a flask, be dissolved with 20 Cc. dilute sulphuric acid, the solution diluted with 50 Cc. water, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 15 per cent. magnesium peroxide, MgO_2.

Actions and Uses.—Magnesium peroxide, due to its property of yielding oxygen is said to be of value as a gastric and intestinal antiseptic. It has been recommended in chlorosis, anemia, gout and rheumatism. It is also used as a constituent of dentifrices.

Dosage.—0.25 to 0.50 gm. (4 to 7 grains) two or three times daily.

Therapeutics

DRUGS ACTING ON THE CIRCULATION

STROPHANTHUS

Description.—*Strophanthus hispidus* (genitive strophanthi, Latin masculine noun, second declension) derives its name from the Greek στροφή a turn or a twist, and ἄνθος a flower, from the twisted, thread-like segments of the corolla, and *hispidus,* Latin meaning hairy, the seeds being covered with hairs. Strophanthus is a woody climber in the forests of tropical Asia and Africa. The United States Pharmacopeia recognizes as official the seeds of *Strophanthus hispidus* De Candolle.

The natives of Africa, especially along the Zanzibar coast, express from the seeds of this plant an oily juice which they smear on their arrow-heads. This poison is variously known as the Kombé poison, or the Inée or Onaye poison, or the Wanika poison, or the Pahouins poison, depending on the region of Africa in which this poison is used.

The seeds of strophanthus contain from 1 to 4 per cent. of a glucosid extracted with alcohol and hydrochloric acid, and an acid called by Culbreth kombic acid. This glucosid is probably similar in action to the ouabain, the active principle obtained from the seeds of *Strophanthus glaber*.

The Kombé arrow-poison, named strophanthus by Sir John Kirk, was first examined in 1862 by Professor Sharpey, but the action of strophanthus was first presented to the profession by Professor T. R. Fraser, of Edinburgh, in 1870. Professor Fraser obtained from the seeds a bitter, white, imperfectly crystallin principle, *strophanthin,* which is a glucosid changed by sulphuric acid into glucose and crystallin strophanthidin. Strophanthin is more poisonous than strychnin, atropin and even hydrocyanic acid.

Strophanthus has not been used so much as its physiologic action authorizes because the best liquid preparation of it, the tincture, was supposed to vary so greatly in strength and efficiency as to render the use of the drug in this form uncertain. The U. S. P. tincture, if made by a reliable firm, has been shown by repeated examinations to be of good and efficient strength, although like all tinctures of crude drugs, the strength varies, though not so widely as does the tincture of digitalis. The mistake is often made of adding tincture of strophanthus to some watery solution. Watery menstrua have been shown to diminish the efficiency and to injure the activity of tincture of strophanthus. Therefore, the tincture of strophanthus should be ordered alone or, if deemed advisable, in combination with some other tincture.

Local Action.—Strophanthus has no action on the unbroken skin. If the volatile oil contained in the seeds is entirely removed before the preparations are made, strophanthus has but slight irritant action on the mucous membranes, but large doses of most preparations may cause nausea and vomiting and perhaps diarrhea. In small doses the slight irritation which is caused will act as a stomachic or bitter tonic.

Systemic Action.—Although strophanthus has been estimated as sixty times as toxic as digitalis, leaving out for a moment this toxic power, it may be epigrammatically described from the therapeutic standpoint as acting "just like digitalis, only less so." In other words, it is less slow of absorption and therefore more rapid to act; it is less likely to cause vomiting; it slows the heart less, increases its contractions less, and causes less contraction of the blood-vessels, especially those of the splanchnic area and the coronaries; and it is less likely to cause cumulative action. The active constituents of this drug are rapidly absorbed, and also rapidly excreted, hence if the doses are not too frequently repeated, as just stated, there is no danger of cumulative effect. Its action may be noticed in half an hour after it is administered and the effect will last for several hours.

The primary action of this drug, like digitalis, is on the *circulatory system.* The heart muscle is as strongly stimulated as by digitalis. The heart is slowed and the diastole prolonged probably by the action on the peripheral endings of the pneumogastric nerves in the heart.

It has been generally believed that strophanthus does not cause much arterial contraction and therefore does not much raise the systemic blood-pressure. Pharmacologic experiments, however, seem to show that it does raise the blood-pressure by causing arterial contraction. Clinically, however, in a dose sufficient to act on the heart it does not raise the blood-pressure as does the same efficient doses of digitalis. Even when the blood-pressure is raised by it, it has seemed not to raise the pulmonary pressure. Hence strophanthus can be used in arteriosclerosis when digitalis is contra-indicated.

In ordinary dosage, strophanthus has but slight, if any, effect on the *nervous system,* but if any effect is produced on the brain and medulla it seems to be that of a slight sedative. Whether such quieting effect is due to an improved circulation or to a possible sedative effect on the thyroid gland, which if excited is the cause of cerebral excitation and nervousness, cannot be decided. From this sedative effect on the higher nerve centers, which under certain excited conditions is marked, nervous muscular irritability is diminished and strophanthus thus becomes a mild antipyretic.

Locally on the eye strophanthus in doses of 1/1000 grain will produce anesthesia of the conjunctiva, contraction of the pupil, and increased intra-ocular tension, but it later causes severe irritation.

In therapeutic doses, strophanthus has no action on the *muscular system,* but in toxic doses is a direct paralyzant of the voluntary muscles acting either on the endings of the motor nerves, or on the muscle itself.

The *glands* of the body are not affected except as by the general improved circulation, except that profuse perspiration may be diminished, and there is strong clinical proof that in hypersecretion of the thyroid as occurs in Graves' disease the secretion of this gland is diminished.

It is a moot question as to whether this drug has *diuretic* properties other than that caused by the improved circulation, but it does cause diuresis in some cases in which digitalis has seemed to fail. It does not cause contraction of the renal blood-vessels, but very probably is slightly stimulant to the kidney secreting cells. This drug is rapidly eliminated and there is no danger of cumulative action if the dose is not too rapidly repeated.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—Good therapeutic action of strophanthus is shown by a slowed pulse with slightly increased arterial tension, stronger and regular action of the heart, diminished nervous irritability, and an increased amount of urine. The *toxic action* of strophanthus is shown by disturbed circulation, as occurs with a toxic dose of digitalis, and great muscular weakness.

The treatment of strophanthus poisoning is similar to that of digitalis poisoning.

Therapy.—The indications for preferring and using strophanthus instead of digitalis are:

First, when there is an indication for a cardiac tonic and digitalis produces nausea, vomiting, and too great increase of blood-pressure.

Second, when a cardiac tonic is indicated and the blood-pressure is already high.

Third, when a rapidly acting cardiac tonic is indicated.

Fourth, when there is more nervous irritability and weakening of the heart than actual muscular debility or incompetency.

Fifth, children are very susceptible to the action of digitalis, and hence strophanthus is often a better drug to use when a cardiac tonic is indicated.

Strophanthus can be used for any condition in which digitalis is indicated. It often acts well as a diuretic and in dropsical conditions not due entirely to cardiac incompetency strophanthus acts better than digitalis.

It is of special advantage in chronic nephritis when digitalis is contra-indicated. In the rapid heart and cerebral excitation of Graves' thyroid disease strophanthus is often of marked benefit.

Contra-Indications.—In the conditions in which digitalis is contra-indicated strophanthus should be used with care, but not being a vasoconstrictor in ordinary doses, and not contracting the blood-vessels of the kidneys, and not having cumulative action gives this drug a wider range of use within the realms of conservative therapy, than has the more strongly acting drug, digitalis.

Official Preparations.—Strophanthus is not used as such. *Tinctura Strophanthi:* This is a 10 per cent. tincture; dose 10 drops.

STROPHANTHIN

So much has recently been written of the therapeutic value of strophanthin when injected hypodermatically or intravenously, and, *per contra*, the use of tincture of strophanthus by the mouth has been reported so many times as unsatisfactory, that this active principle is worthy of a brief separate discussion.

The *Strophanthinum* of the Pharmacopeia is a glucosid or mixture of glucosids. It is a white or faintly yellowish crystallin powder, very bitter, and very soluble in water and dilute alcohol. A purer strophanthin may be obtained, but perhaps its activity may not be greater than the mixture of glucosids termed strophanthin of the Pharmacopeia. Ouabain and crystallized strophanthin are identical products and have the same toxic effect, and this substance is perhaps twice as active as is the common strophanthin of the Pharmacopeia. Crystallized strophanthin is a very active poison, claimed to be sixty times as toxic as digitoxin.

By the mouth strophanthin may produce serious poisoning. Tincture of strophanthus probably so soon causes nausea and vomiting that it would be difficult to produce serious poisoning with it; this is, perhaps, not true of strophanthin. On the other hand, its therapeutic effect has been found to be much less when given by the stomach than when given hypodermatically.

The best strophanthin on the market is obtained by a process of extraction, devised by Thoms, from strophanthus gratus, and has a definite melting point and solubility, as determined by Hatcher and Bailey.

Harold C. Bailey (*Journal of Pharmacology and Experimental Therapeutics*, October, 1909) advises that the daily dose of the crystalline strophanthin should not exceed 0.0005 gram, (1/120 of a grain) and that this dose should not be repeated in 24 hours. If crystalline strophanthin is given intramuscularly, it should be dissolved in a 1 to 4,000 saline solution, or for intravenous use in a 1 to 6,000 or 8,000.

The hypodermatic dose is very much less than that by the mouth, and in fact tablets for hypodermic administration are offered, each containing 1/500 of a grain, the dose ranging from 1/500 to 1/100 of a grain. Hatcher (THE JOURNAL, March 26, 1910) has several times declared that crystalline strophanthin is twice as toxic as the amorphous strophanthin of the Pharmacopeia.

Strophanthin seems to be especially valuable as a cardiac stimulant when there is weakened heart muscle in chronic myocarditis or in chronic valvular disease, especially if there is coincident nephritis. Hypodermatically, however, strophanthin should probably be reserved for emergencies, although a number of French clinicians give 0.001 gram (1/60 of a grain) of strophanthin intramuscularly or even intravenously, once in 24 hours, for several days, if necessary. On the other hand, once or twice, at 24-hour intervals, is generally sufficient. Administered in this manner, this drug seems quickly to increase the strength of the cardiac contractions, to slow the pulse, and often in cardiac disturbances causes diuresis. However, if the kidneys are damaged, strophanthin may not act as a diuretic unless some other drug is added to the treatment, such as caffein. Although strophanthin is recommended to be used intravenously, it would seem hardly justifiable, except in emergencies. On the other hand, when the heart is failing from cardiac disease or dilatation, and digitalis is contra-indicated or useless, the patient should not be allowed to die without a trial of strophanthin.

Strophanthin has proved successful in relieving almost hopeless pulmonary edema from failure of the right side of the heart.

Symptomatology of Anterior Poliomyelitis

The Board of Health of New York City, in line with many other health boards, has made infantile paralysis a reportable disease. A special form of card has been prepared for recording the cases, and the inspectors have been instructed to pay special attention to securing exact information as to periods of incubation and infectivity. Negative findings may be as important as positive ones. A bulletin has been issued concerning the disease, which gives a clear statement of the symptoms and signs in the light of the late investigations, and also emphasizes the value of the findings in the cerebrospinal fluid. In view of the probability that in the coming warm season many cases of infantile paralysis will occur, this portion of the bulletin may be worth republishing. It says:

"Epidemics of acute poliomyelitis have been noted with increasing frequency in this and other countries. Its infectious nature has long been suspected, and in 1909 was rendered almost certain by the production of the disease in monkeys by inoculation of the emulsified spinal cord of a child that had died of the disease. Studies made at the Rockefeller Institute have made this proof still more conclusive. The virus is contained not only in the spinal cord, but also in other parts of the body, most particularly the nasopharyngeal mucous membrane. This is significant in its relation to isolation and prophylaxis, and suggests a likely source of dissemination.

"Abortive forms without paralysis have been noted and are recognized with difficulty, except during an epidemic. Examination of the cerebrospinal fluid obtained by lumbar puncture is of great assistance in confirming the diagnosis. the distinctive features of the fluid are: clear fluid, absence of bacteria, increased cellular elements (chiefly lymphocytes), moderately increased tension, and definite increase of protein content as shown by Noguchi's test. In a recent case a positive diagnosis was made by lumbar puncture, twenty-four hours before any sign of paralysis appeared. The meningeal and cerebral types of the disease may thus be differentiated from epidemic cerebrospinal meningitis.

"The disease is characterized by a sudden onset with fever, followed, generally, within from twelve hours to three or four days, by general or localized paralysis, almost always of a flaccid type, with reaction of degeneration and early atrophy in the muscles permanently affected. Paralysis is most common in one or both legs, but may occur in any part of the body. Vomiting and convulsions occur frequently at the onset but are not constant symptoms. More significant are restlessness and insomnia which occur early in most cases. Pain and tenderness, usually referred to the joints and muscles, were common in the 1907 epidemic in New York City.

"The period of incubation varies widely; between two and thirty days. The average appears to be from seven to ten days. The so-called abortive cases may act as carriers, and there are also many authentic cases in which the disease was in all probability carried by a third person.

"The duration of the period of infectivity is unknown, which leaves the question of isolation and quarantine unsettled."

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 25, 1911

THE EFFECT OF ROENTGEN RAYS ON THE THYMUS

That Roentgen rays produce distinct changes in various tissues of the animal body is well known, but concerning the exact mechanism by which these changes are caused we know practically nothing. Marked changes may be produced in the blood and blood-forming organs by these rays under proper conditions and, as first shown by Heineke, the lymphocytes are especially sensitive to their action, disintegration taking place very rapidly. It is on this account that the rays are used in the treatment of leukemia. In animals it has been found that the lymphoid tissues themselves are markedly affected. Recently the effect of roentgenization on the thymus has been studied experimentally by Rudberg,[1] and as the resulting cellular changes have been followed closely (in rabbits) a brief account of them is given.

Under the influence of the rays, the lymphocytes as well as the cells of the reticulum of the thymus rapidly undergo a characteristic destructive process which sets in with disintegration of the lymphocytes within three and one-half hours after beginning the exposure. The products of disintegration, as a rule, do not leave the thymus, but are taken up by the cells of the reticulum and subjected to intracellular digestion, and in from twelve to forty-eight hours all lymphocytes and lymphocytic remnants may have disappeared. The reticulum cells now become closely approximated and the tissues assume an epithelial aspect. Degeneration of the reticulum cells takes place somewhat later, often after all lymphocytes have been destroyed, and continues after the regeneration of lymphocytes has begun. The reticulum cells are changed into large transparent forms with pronounced foamy structure. Large parts of the thymus may become sequestrated and, through softening of the dead tissue, cystic cavities may arise. If the destruction has been moderate only, the regeneration which follows is accomplished by the reticulum cells as well as the lymphocytes still present. But if prolonged exposures are made, then all the lymphocytes may be destroyed and now the new lymphocytes appear to come by importation through the lymph-vessels, passing into the perivascular connective tissue to the center of the lobules and spreading themselves out towards the periphery. Later, these cells multiply and after a time the division of the parenchyma into cortex and medulla becomes apparent again.

Marked changes in the thymus occur also when it is protected against direct action of the rays by means of lead plates. In this case there is not only some disintegration of lymphocytes, but also an emigration. The latter takes place in the usual method characteristic of accidental thymic involution and inanition, the lymphocytes wandering into the medulla and entering the lymph-vessels there. The emigration begins early and is most marked from the second to the fifth day; it may be most marked before the animal begins to show signs of diminished vitality and loss of body weight and, consequently, has no connection with the thymic involution which may result from disturbance of the general condition by roentgenization. It seems that the cells emigrate in order to replace cells that have been destroyed elsewhere in the body and in the blood, and in consequence the number of lymphocytes in the blood increases. The disintegration of the thymic lymphocytes in animals whose thymus is protected takes place during the first day after irradiation and is similar to that which follows direct irradiation but is less extensive. The cause is ascribed in part to a secondary irradiation from the neighboring parts of the body, which have been exposed to the rays, and no doubt in some part to the action of lymphocytolytic substances which appear in the blood and tissue fluids. This secondary irradiation is easily shown by placing a photographic film under the lead plate. That lymphocytolytic substances are produced was shown by Rudberg by injection of the blood and serum of irradiated animals into the peritoneal cavity of healthy animals, in which there resulted a distinct disintegration of lymphocytes in the follicles of the appendix and mesenteric lymph-nodes.

At present we must be satisfied with knowing that Roentgen rays cause the remarkable changes that have been described; how they cause them is a mystery.

1. Om Thymusinvolutionen Efter Röntgenbestrålning Jämte Några Iakttagelser Ofver Leukolysen I Ofright Hos Röntgenbestrålde Djur. Af Hans Rudberg. Upsala, 1909.

THE CARD SYSTEM OF RATING DAIRIES

In a previous issue,[1] the question of dairy inspection was discussed in a general way. It is evident that in order to obtain from dairy inspection results of value in the way of improvement of the milk-supply, a uniform system of inspection must be practiced and careful records kept. This would permit a comparison of the results accomplished and would encourage the improvement of dairies by the dairymen. The most reliable index of the quality of the milk-supply is the bacterial content. Improvement in dairy equipment and methods should be reflected in the bacterial findings.

1. THE JOURNAL A. M. A., Jan. 14, 1911, p. 124

In order to secure an efficient system of records and to facilitate the comparison of results a number of score-cards have been devised. The one most commonly used has been worked out by the Department of Agriculture and covers two features—equipment and methods. Under equipment are considered the health of cows, provisions for their comfort, food and its quality, the construction of stables, bottling rooms, sterilizers and other utensils. Forty points are allowed in the rating for perfect equipment. Under methods are comprised cleanliness of the cows, of the stables, ventilation of the buildings, condition of the utensils, of the milkers, of the milk room, and the methods of handling the milk and its prompt and efficient cooling. For perfect methods, 60 points are allowed.

This card has also on its reverse side a place for recording the number of cows, the number of gallons of milk produced daily and the market to which the milk is sent, and a place for recording the quantity of milk procured from other dairies.

Another system of inspection, used in Michigan, comprises five features, allowing 100 points for each. They cover the health of the herd and its protection, cleanliness, construction and care of utensils, health of employees and manner of milking, and the subsequent handling of the milk. A perfect score would be 500 points. In addition, the general sanitary conditions are noted as good, medium, poor, etc. There is also a provision for recording the quality of milk under the heads of percentage of butter fat, lactometer tests, total solids, and solids not fats.

The card devised by the government has aided much in forming an idea as to correct dairy conditions, but it is far from perfect. The chief criticism is that the details under each of the heads mentioned above are not sufficiently worked out. For instance, the matter of tuberculin tests of the cows, the manner of bedding, the construction of the stable with reference to light, cubic air space per cow, screens in windows, etc., might be given in greater detail, together with more minute details with reference to the condition and manner of using, cleansing and keeping the various utensils. Similarly the cleanliness of the cows, the methods of handling the manure and food and the condition of the milkers are not sufficiently particularized.

It will be seen that much of the value of such records will depend on the knowledge and judgment of the inspector and the thoroughness with which he does his work. For this reason it is highly important that men thoroughly trained should be employed for this purpose. An excellent plan would be to demand from the applicants for such positions that they have certificates from a dairy school in good standing, so that they may have a proper appreciation of the points of clean milk production that would tend most to a low bacterial count. For there must be a definite relation between the score of the dairy and the number of bacteria present in the milk. The higher the score the smaller the number of bacteria, and *vice versa*.

The foregoing has reference, of course, only to the production of milk in the dairies. The control of conditions in milk depots and stores and throughout the distributing system must be carried on in a similar manner.

The advantages to be obtained by a thorough system of inspection and record-keeping would be, first, the accumulation of reliable data concerning the essentials of clean milk production and handling; second, the imparting of instruction to all those engaged in milk production and the milk traffic; third, the establishment of a statistical basis for appropriate legislation. The card-rating system, if developed in sufficient detail, and accompanied by efficient inspection, would be an effective method of securing these results.

THE FUNCTION OF THE CORPUS LUTEUM

Whenever a pathologist presents a summary of the present status of the problem of cancer etiology, he is more than likely to conclude with a statement to the effect that the solution is up to the biologist. This conclusion rests on the conviction that the growth of cancer cells depends on the same fundamental factors as the growth of normal cells, which have in some way become perverted. The pathologist reasons that when the biologist has shown why normal cells proliferate, and especially why they stop proliferating when certain well-defined limits of growth have been reached, it will be a simple matter to find why sometimes the growth processes are of excessive energy or why they fail to stop at the proper time, and by their lawlessness constitute malignant growths. Cellular biology, therefore, seems to hold the key to the genesis of tumors, and cooperation between its disciples and the pathologists seems to offer the best hope of success. As an illustration of this principle we may call attention to the important studies on the growth of tumor cells under the microscope which have been reported in recent numbers[1] of THE JOURNAL, and which are the outcome of the observations on cell growth made by a pure biologist, Professor Harrison of Yale.

Equally interesting advances along the line of cell growth, which have a presumptive bearing on tumor genesis, have been recently made by a reverse process, the incursion of a pathologist into the fields of biology. Leo Loeb, through whose studies America has the credit of the first extended series of successful tumor transplan-

1. Among these may be mentioned: Carrel, A., and Burrows, M. T.: Cultivation of Adult Tissues and Organs Outside of the Body, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1378; Cultivation of Sarcoma Outside of the Body, ibid, Oct. 29, 1910, p. 1554; Nov. 12, 1910, p. 1732. Weil, R.: Biochemical Investigation of Malignant Tumors and Its Diagnostic Applications, ibid, Oct. 29, 1910, p. 1532. See also report of meeting of American Association for Cancer Research, THE JOURNAL A. M. A., July 23, 1910, pp. 340-1; Culture of Cancer Cells *in Vitro*, a letter from G. Volpino, ibid, Jan. 14, 1911, p. 139. Lambert, R. A., and Hanes, F. M.: Growth *in Vitro* of Transplantable Sarcomas of Rats and Mice, ibid, Jan. 7, 1911, and Feb. 25, 1911, p. 587.

tations, has during the past few years published a number of observations on the function of the corpus luteum which have much significance for both biology and pathology. It may be recalled that the corpus luteum has a histologic structure strikingly similar to that of the adrenal cortex, a fact which makes it probable, if not certain, that this transitory cell mass must possess some function in the way of internal secretion. In consequence of this fact and of sundry experiments, various hypotheses have been evolved, but without the final establishment of the function of the corpus luteum. Through an extensive series of experiments Loeb[2] has now positively determined that this organ, for such it may properly be called, does produce an internal secretion or secretions which exercise an important influence on the sexual cycle. One function of this secretion seems to be that of prolonging the length of time between two successive ovulations, so that during pregnancy the useless discharge of mature ova from the ovary is prevented, whereas if impregnation does not occur the early atrophy of the corpus luteum of menstruation or ovulation permits of more rapid maturation of ova, thus hastening the time of the next possible impregnation.

Another function, and one that seems especially related to cell growth and tumor formation, is that of sensitizing the uterine mucosa so that it reacts to any sort of mechanical stimulus by forming a maternal placenta. A few days after ovulation the uterine mucosa of the guinea-pig can be made to take on a most exuberant growth, leading to the formation of much placental tissue, by merely introducing into the uterine cavity an inert foreign body, such as paraffin or a bit of glass rod, or by injuring the mucous membrane by incising it. Nervous influences having been excluded, and the essential importance of the corpus luteum in producing this condition having been established, the conclusion is reached that the corpus luteum secretes a hormone with the function of sensitizing the cells of the uterine mucosa so that they react to indifferent mechanical stimuli by rapid proliferation. Normally, this stimulus is furnished by the impregnated ovum, but as any foreign body will have the same effect as the ovum in this respect, the purely mechanical nature of the stimulus is evident.

The close relation of these observations to tumor pathology is at once apparent when we recall the numerous instances in which some mechanical stimulus, whether a blow or chronic irritation, has led to the production of a malignant tumor. Furthermore, experimental studies on tumors in animals have indicated that the power of the malignant tissues to proliferate is influenced by chemical substances of unknown nature, which in some cases seem to stimulate and in others appear to retard cancer growth. The strange behavior of those remarkable placental tumors, the deciduomata, also recurs to one in contemplating the great growths of placental tissue which Loeb has caused to develop in the uterine mucosa as a reaction to mechanical stimuli. To attempt any speculation as to the exact meaning of these experiments for human pathology at this time would, however, be premature.

It may be of interest to the clinician to learn that it is not possible to produce the effects characteristic of the corpus luteum secretion by injecting extracts of the fresh corpora lutea of guinea-pigs or of swine into castrated guinea-pigs.[3] This fact is of importance in view of the proposed and attempted therapeutic use of the same material in practice, although it must be granted that negative experimental results do not absolutely exclude positive clinical results, however improbable the latter may thus be rendered. There seem to be few internal secretions whose normal delivery to the tissues in minute quantities as needed can be successfully replaced by the therapeutic introduction of larger quantities at longer intervals.

2. Loeb, L.: Experimental Production of the Maternal Placenta and Function of the Corpus Luteum, THE JOURNAL A. M. A., Oct. 30, 1909, p. 1471; Med. Rec., June 25, 1910; abstr. in THE JOURNAL, July 9, 1910, p. 166. See also Fraenkel, L.: Arch. f. Gynäk., 1910, xci, No. 3; abstr. in THE JOURNAL A. M. A., Jan. 7, 1911, p. 79.

3. Morley, W. H.: Cases in Which the Extract of Corpus Luteum Has Been Used, Jour. Mich. State Med. Soc., November, 1909; abstr. in THE JOURNAL A. M. A., Dec. 11, 1909, p. 2035. Maits, C. B.: Therapeutic Value of Extract of Human Corpus Luteum, Univ. Penn. Med. Bull., July-August, 1910; abstr. in THE JOURNAL, Sept. 10, 1910, p. 966.

Current Comment

EFFORT FOR HIGHER PRELIMINARY STANDARDS

An energetic effort is being made in at least two states to secure legislation providing for a higher standard of education preliminary to the study of medicine. At a meeting of the Ohio State Medical Teachers' Association held in December, a resolution was adopted requesting the Ohio State Medical Board to join the association in petitioning the legislature to enact a law fixing the minimum educational requirement preliminary to the study of medicine at two years of collegiate work, including chemistry, physics, biology and a modern language. Legislation providing for a similar standard is also being asked for in Utah. That standard has been adopted in Minnesota, North Dakota, Colorado, Iowa and Indiana, and a requirement of one year's work in physics, chemistry and biology in addition to a standard four-year high-school education has been adopted in South Dakota, Kansas and Connecticut. It is clear that such requirements on the part of state boards are not unreasonable; twenty-eight colleges are now enforcing the two-year requirement and thirteen others are requiring one year of collegiate work or its equivalent for admission. Of the latter group several have expressed their intention eventually of requiring two years of collegiate work. Should the state boards more generally adopt the increased requirement, it might cause a further reduction in the number of medical colleges, but with our present oversupply that reduction would not be serious. Of much more importance, however, are the

facts that this country would have a larger number of medical colleges adhering to reasonably high standards for admission; that a larger percentage of medical students, because of the higher entrance requirements, would be enabled better to grasp the fundamentals of a modern medical training, and that the public would be benefited by having a larger number of educated and well-trained physicians.

A JUDICIAL VIEW OF DRUG ADULTERATION

A New York firm that shipped adulterated drugs into another state was prosecuted under the federal Food and Drugs Act. As the government's case against the firm was clear and unmistakable, a plea of guilty was entered. Judge Holt, of the U. S. Circuit Court for the Southern District of New York, before whom the case was tried, suspended sentence over a term of two years. In so doing Judge Holt criticized the methods employed by the government officials in securing the evidence in the case. It appears that the Department of Agriculture had a San Francisco house order from the New York firm a number of different drugs. They were analyzed and the prosecution was based on the chemists' findings. Judge Holt in his criticism said:

"I do not propose to aid in this sort of perversion of the law and abuse of its processes. This method of getting evidence in cases of this kind is resorted to by inspectors to show their efficiency through the medium of sham orders under cover of interstate commerce. These things were bought for the purpose of getting up a criminal prosecution instead of legitimate business purposes. This is following out the idea of modern federal legislation and taking the proper relief power from the states."

To the man in the street the action of the government employees in securing evidence against the shippers of adulterated drugs seems entirely praiseworthy. From the standpoint of public health there is no doubt that the adulteration of drugs and foods should be stopped, and at present the federal authorities seem to be about the only ones—with a few notable exceptions—that are competent to check it. Judge Holt apparently thinks that, because the adulterated drugs were not bought for "business purposes" the government authorities were overzealous in proving such adulteration. Evidently, the judge would not approve of the various city weight and measure inspectors because, in pursuit of their duties, they purchase food and other products not for "business purposes," but to determine whether the public is being "short-weighted." Anyone conversant with human nature knows that the strongest incentive to commercial honesty is a well-founded belief that dishonesty is constantly being exposed by the officials whose duty it is to safeguard the public's health and purse. Judge Holt also echoes that oft-heard plaint that, in prosecuting "patent-medicine" fakers, drug adulterators and food sophisticators, the federal government is encroaching on the powers of the state! For years before the Food and Drugs Act went into effect the various states had laws which were supposed to protect the public against adulteration in drugs and foods, but the enforcement of these state laws was—and in many cases still is—the veriest of farces. Zealousness on the part of officials who were supposed to enforce the state pure food and drugs laws usually resulted disastrously to such officers, with the result that many state food and drug inspectors were satisfied to become mere salaried figure-heads. If the same opposition is going to be brought against federal officers who have the public health, rather than the "business interests" at heart, we may look for the government officials to develop the same apathy that has paralyzed many of the state food and drugs acts and made state enforcements of law a byword and a reproach. If there is anything the "business interests" like better than a considerate congressman, it is a solicitous judge.

ATHLETICS IN THE NAVAL ACADEMY

In his recent report, the Surgeon-General of the Navy calls attention to a point which may be of some importance: that is, the danger of too strenuous athletic training for naval officers. It has long been observed that highly developed muscles do not always accompany a high resistance to infection, but often weaken resistance by producing an imbalance between the different organic functions. It has frequently been noticed, for example, that many athletes die of tuberculosis. The frequency, perhaps, is apparent rather than real, since an athlete's death from tuberculosis is sure to be remarked because it seems unexpected. It is almost certain, nevertheless, that athletes do not possess any exemption from that disease because of their splendid physical development, and it is even probable that this very fact may increase their liability. Naval officers in active service are confined within rather narrow quarters and have little opportunity to keep up the physical activities that an overtrained and overdeveloped physical organization may need. An excessive muscular development that is not demanded by the occupational activities of the individual becomes a parasitic element in the organism; that is to say, instead of contributing to the individual's total efficiency, the activities required by such a muscular development make drafts on the individual's time and energies and actually decrease his efficiency. Under such circumstances it becomes a positive detriment instead of a benefit.

A CORPORATION WITH A CONSCIENCE

In his last annual message President Taft recommended legislation against the use of white phosphorus in the manufacture of friction matches as causing one of the most serious of occupational diseases. A bill was introduced into Congress acting on this recommendation, but it appears that the use of any substitute had been covered by a patent held by the Diamond Match Company. This fact imperiled the passage of the bill, even if the enforcement of the patent right was not absolutely insisted on by the holder, as Congress thought it could not legislate away a right legally bestowed, even if it was only nominally held. To meet this objection the company has voluntarily surrendered its rights and dedicated the patent to the use of the people of the United States. As the *Outlook* says, this action, while it may be in some measure dictated by enlightened self-interest, deserves cordial commendation.

Medical News

ALABAMA

New Sanatorium.—Dr. Francis G. Dubose will remodel the old parsonage of the First Baptist Church, Selma, as a sanatorium to replace the Vaughan Memorial Hospital which was destroyed by fire, January 5. The reconstruction of the building is estimated to cost $12,000.

Personal.—Drs. R. F. Lovelady and William W. Long, Birmingham, have been elected directors of the American Health and Accident Insurance Company.——Dr. William M. Jordan, Birmingham, who has been under treatment in Johns Hopkins Hospital, Baltimore, has returned home.——Dr. Carney G. Laslie has been elected health officer of Montgomery, vice Dr. Rufus L. Milligan, resigned.——Dr. William Y. White has been appointed health officer of Anniston, vice Dr. Thomas J. Brothers.——Dr. Thomas G. Howard, Selma, has been elected health officer of Dallas County.

ARKANSAS

Personal.—Drs. Early E. Scott, Magazine; James J. Smith, Paris, and William F. Paskerville, Booneville, have been appointed members of the board of health of Logan County.

State Society Meeting.—The thirty-fifth annual session of the Arkansas Medical Society will be held at Fort Smith, May 2-5. The society will be guests of the Sebastian County Medical Society.

Advises Removal of State Hospital.—The committee appointed some time ago by the Board of Trustees of the State Charitable Institutions to investigate the feasibility of the removal of the State Hospital for Nervous Diseases, reported favorably on the proposition, and the report has been approved by the board. It was the unanimous sentiment of the board that the hospital should not be removed from Little Rock, and a committee was appointed to seek an available site for the institution.

CALIFORNIA

Tuberculosis Society to Incorporate.—At the annual meeting of the San Francisco Association for the Study and Prevention of Tuberculosis, held January 31, the election of officers and directors was deferred until February 23, when it was voted to hold an adjourned meeting, that time might be given to discussion of articles of incorporation, etc.

Personal.—Dr. Thomas A. Stoddard, health officer, and Drs. Samuel B. P. Knox and David A. Conrad, members of the board of health of Santa Barbara, have resigned.——Dr. Emma K. Willits, San Francisco, was seriously injured, February 3, by a collision between her automobile and another machine. ——Dr. William H. Stokes has been appointed a member of the board of health of Whittier.——Dr. Charles L. King, Pasadena, who was injured in an automobile accident recently, is reported to be convalescent.——Rea N. Smith, Los Angeles, who was sued for malpractice, won the verdict, February 7.

GEORGIA

New City Hospital Started.—At a mass meeting, held in Augusta in the interest of the medical college and a greater city hospital, more than $14,500 was subscribed, making the total amount pledged now $25,200.

Physician Seeks Runaway Son.—Dr. Andrew J. Mann, Alvaton, fearing that his son, William Worcester Mann, has run away, will greatly appreciate any information that may lead to his return. Dr. Mann may be reached at Alvaton by Bell telephone, collect, and at Haralson by telegraph, collect. The description is as follows: age, 16½ years; height, 5½ feet; weight, 150 pounds; broad shoulders and hips; brunette complexion; dark-brown, sharp eyes; dark-brown, curly hair; low bass voice; fine set of even teeth; hat, No. 7; shoes, No. 8; French twilled worsted, dark-blue suit; patent leather slippers; scar across toes of right foot.

Hookworm Conference.—The Rockefeller Commission held a conference in Atlanta, February 14-16, at which the field agents of the commission organized for the destruction of the hookworm, and planned a campaign to be waged against the pest. Investigations in Georgia disclose the fact that in 138 out of 145 counties in the state, hookworm has been found, while in the remaining 7 counties, investigation has not been carried far enough to make a full report. Reports were made to the conference on the prevalence of hookworm in the northern states as well as in the south. A uniform system of making reports and records was adopted.

ILLINOIS

Small-Pox in State Hospital.—Three patients of the Elgin State Hospital are confined in the hospital infirmary suffering from what is said to be a mild form of small-pox.

Local Medical Society Elects.—The Alton Medical Society has elected Dr. J. A. Cook, president; Dr. J. Bernard Hastings, secretary, and Dr. Waldo Fisher, treasurer.

Fined for Distributing Nostrum.—B. J. Crowe is said to have been fined $5 and costs, amounting in all to $9.25, in Freeport, February 14, for violating the section of the city ordinance which prohibits the promiscuous distributing of "patent medicines."

The Fight Against Tuberculosis.—Nearly $13,000 will be available for the antituberculosis work in Illinois during the present year as the result of the Red Cross Christmas Seal campaign. The total number of seals sold in Illinois was 1,652,869.

Popular Medical Lectures.—The physicians of Alton, with the indorsement of the Alton and Madison County Medical societies, have undertaken a series of lectures on medical subjects to be given every two weeks for school children and their parents. The following will be the program of the lectures:

February 19.—"Infectious Diseases: Invasion, Attack, How Controlled." Dr. James M. Pfeiffenberger.
March 3.—"Tuberculosis; Prevention and Care of Disease.' Dr. J. Bernard Hastings.
March 17.—"Diseases of Eye." Dr. Fred W. Jones.
March 31.—"Diseases of Nose and Throat." Dr. George E. Wilkinson.
April 7.—"Fresh Air and Exercise." Dr. N. Garland Taphorn.
April 21.—"Sick Room Management." Dr. Homer W. Davis.
May 5.—"Mental Defects." Dr. William H. C. Smith, Godfrey.
May 19.—"Care and Feeding of Babies." Dr. Frederick C. Joesting.
May 29.—"Care of Teeth." R. E. Cockerell, D.D.S.

Chicago

Dispensary Opened.—The Iroquois Memorial Dispensary opened for its first clinic for tuberculosis patients, February 21. The clinic was in charge of Dr. Clarence L. Wheaton.

Take Interest in Mayoralty Campaign.—More than 200 physicians have formed a Charles E. Merriam Club and elected the following officers: president, Dr. John M. Dodson; vice-presidents, Drs. Homer V. Halbert, Isaac N. Dansforth, Albert J. Ochsner and James E. Stubbs; secretary, Dr. Ludvig Hektoen, and treasurer, Dr. Winfield S. Harpole.

Tuberculosis Hospital Staff Named.—The president of the county board announced, February 14, the following attending staff for the Tuberculosis Hospital located on the county hospital grounds: chief of staff, Dr. Clarence W. Leigh, and members, Drs. Thomas A. Hogan, Clyde D. Pense, Frederick Tice, Arthur M. Corwin, Milton Mandel and George B. Dyche.

Benefited by Charity Ball.—The final report of the chairman of the committee which had in charge the Charity Ball, shows that $26,599.08 is the net sum to be distributed. Of this the Children's Memorial and Presbyterian hospitals each receive $5,500, the Alexian Brothers', Chicago Lying-In, The Passavant Memorial, and Provident hospitals, and the visiting Nurses' Association, each $2,250, and the German Hospital, $1,000.

INDIANA

Pettigrew Discharged.—Charles G. Pettigrew, Logansport, whose license was revoked by the State Board of Medical Examiners, and who was arrested on the charge of practicing medicine without a license, was discharged as he proved that he had turned over all his business to licensed practitioners.

New Cottage for Camp Colony.—As the result of the efforts of the South Bend Antituberculosis League, the local colony is to be benefited by at least two new cottages, funds for which have been appropriated by the state committee of the American National Red Cross. The following is the newly elected medical staff of the league: chairman, Dr. Edwin J. Lent; superintendent, Dr. W. H. Hillmann, and Drs. Charles E. Hansel, Roscoe L. Sensenich, Hugh M. Miller, Walter H. Baker, and Charles S. Bosenbury.

Personal.—Dr. William G. Ralston, Evansville, celebrated his ninety-second birthday anniversary, February 13.—— Dr. Homer H. Elmore, Brown Valley, was ordained as a clergyman of the Baptist Church, February 2.——Dr. Alfred Henry has been appointed chief of the Indianapolis Free Tuberculosis Clinic, vice Dr. Jewett V. Reed, resigned.——Dr. Charles L. Dreese, Goshen, is reported to be seriously ill.——Dr. Samuel E. Smith, medical superintendent of the Eastern Indiana Hospital for the Insane, East Haven, Richmond, has

been appointed chairman of the executive committee of the Twentieth Indiana State Conference of Charities and Corrections.

IOWA

Personal.—Dr. Frederick G. Ellis, of the staff of Mount Pleasant Hospital, has resigned.——Dr. and Mrs. J. W. Griffin, Manson, have returned from Germany.

Appropriation Asked for Epileptic Hospital.—The bill of the State Board of Control, asking for an appropriation of $200,000 for a state epileptic hospital has been presented in the senate by Senator Jewell.

Society Meetings.—The physicians of the southern part of Page County, met at Coin, completed the organization of the Page County Medical Protective Association, and elected Dr. Allen H. King, Coin, president; Dr. Robert W. Blanchard, vice-president; Dr. William G. Johnson, Coin, secretary, and Dr. John R. Thompson, Northboro, treasurer.——At the annual meeting of the Waterloo Medical Society, Dr. J. Q. A. Scroggy was elected president; Dr. W. M. Sterling, vice-president; Dr. Joseph R. Allen, secretary, and Dr. DeWitt C. Hunton, censor.

KANSAS

Personal.—Dr. Owen G. Hutchinson has been appointed physician of Wichita and of Sedgwick County.——Dr. Charles W. Ewing, Wellsville, announces that he is about to cease practice.

Sanatorium Recommended.—The senate in committee of the whole, February 3, recommended for passage the bill of Senator Milligan, providing for the establishment of a sanatorium for tuberculosis patients at some point in western Kansas to be selected by the State Board of Control. The bill carries an appropriation of $25,000 for the establishment of the sanatorium, and is approved by the State Board of Health.

LOUISIANA

Society Moves to Its New Home.—The Orleans Parish Medical Society has occupied the new building recently erected for it on the corner of Elk Place and Gasquet Street, at a cost of $15,000. The lower floor contains the office of the secretary, the library and reading room, and on the floor above is the assembly room with a seating capacity of 200.

Sanitation of Barber Shops.—At a meeting of the state Board of Health, January 20, an ordinance was adopted providing that owners of barber shops shall register their names and place of business not later than July 1, that they must keep hot and cold water, must sterilize their instruments after shaving each person, and prohibiting barbers from treating any person for skin disease, or from shaving any person with skin disease unless the individual furnish his own razor, brush and mug.

MARYLAND

Personal.—Dr. Harry M. Bowen, Aquasco, has been appointed a member of the Board of Commissioners of Prince George County.——Dr. Arthur L. Wright, pathologist to the Maryland Hospital for Insane, near Catonsville, has resigned to accept a position on the medical staff of the Baltimore and Ohio railroad.

Baltimore

Leprosy in Baltimore.—The diagnosis of leprosy is said to have been made in the case of a Chinaman held for observation at the Baltimore Quarantine. The patient is a carpenter on the British Steamer *Eskdale*, which arrived at Baltimore from Liverpool, via Huelva, February 2.

Interest in Health Conference.—Great interest was displayed in the public health conference last week under the auspices of the Medical and Chirurgical Faculty of Maryland. Sessions were well attended and many were crowded, the exhibits also attracting large numbers of people. Among the chief subjects discussed were dress, house, milk, training of children, care of the feeble-minded, etc. As the meetings were so successful, and the public so eager for information, it is proposed to repeat the meetings annually.

Personal.—Dr. Samuel C. Chew was reelected president, and Dr. Henry Barton Jacobs, member of the board of trustees of the Peabody Institute, at a meeting February 13.——Dr. Duncan McCalman was thrown from his automobile in a collision, February 16, sustaining injuries to the back and eye.——Dr. George W. Mahle has been compelled to abandon the practice of medicine on account of ill health.——Dr. Howard J. Maldies has been made lecturer on pathology and bacteriology in the Department of Dentistry of the University of Maryland.——Dr. John C. Hemmeter made an address at the annual meeting of the Pennsylvania Branch of the University of Maryland Alumni at their meeting in Harrisburg, February 23.——In a recent suit, Dr. George W. Dobbin has been awarded $3,800 for damages received in a collision of automobiles.

MICHIGAN

Dinner to Dr. Connor.—A dinner was given by the medical friends of Dr. Leartus Connor at the Detroit Club, February 23, in commemoration of the fortieth year of his entrance into practice. The committee in charge consisted of Drs. Justin E. Emerson, Andrew P. Biddle, Arthur D. Holmes, George E. Frothingham, and Benjamin R. Schenck.

MINNESOTA

Society Organized.—The Minnesota Academy of Ophthalmology and Oto-Laryngology was organized in Minneapolis, February 8. The following officers were elected: president, Dr. Howard McI. Morton, Minneapolis; vice-presidents, Drs. Jehiel W. Chamberlin and John F. Fulton, St. Paul, and secretary-treasurer, Dr. Elmer H. Parker, Minneapolis.

Reorganization of State Board of Examiners.—A partial reorganization of the State Board of Medical Examiners was announced by the governor February 16. The new members are as follows: Dr. Frank R. Weiser, Windom, Cottonwood County, to succeed Dr. Thomas Lowe, Pipestone; Dr. Hannah Hurd, Minneapolis, to succeed Dr. Margaret Koch; and Dr. Robert D. Matchan, Hennepin County, to succeed Dr. Frederick A. Knights, Minneapolis, the terms of all to expire January, 1914.——Anton Taylor has been appointed a member of the State Board of Osteopathic Examiners, vice G. L. Huntington.

Personal.—At the annual meeting of the Minnesota Association for the Prevention and Relief of Tuberculosis, Dr. Harry A. Tomlinson, St. Peter, was elected president; Dr. Warren L. Beebe, St. Cloud, as vice-president; and Dr. Henry L. Taylor, St. Paul, secretary.——The offices of Dr. Frank R. Weiser and Dr. Abanson, Windom, were totally destroyed by fire, February 2.——Dr. Edward M. Gans, formerly surgeon in charge of More Hospital, Eveleth, has resigned and expects to remove to Dickinson, N. D.——Dr. Pane B. Cook has been appointed assistant health commissioner of St. Paul.——Dr. Francis R. Woodard, Minneapolis, has been elected chief, and Dr. Willard B. Pineo, secretary of the staff of Asbury Hospital, Minneapolis.——Dr. Walter J. Marcley, superintendent of the State Tuberculosis Sanatorium, Walker, has been appointed secretary and executive agent of the State Tuberculosis Commission.

MISSOURI

St. Louis

Transfer of Insane Patients.—Arrangements have been made for a special train to bring to St. Louis insane patients who are charges of St. Louis, and who have been temporarily housed at the state hospitals at Fulton and Farmington.

Hospital to be Renamed.—A bill formally to change the name of Quarantine Hospital to Robert Koch Hospital was introduced before the municipal assembly, February 10, at the instance of the hospital board. The institution is now being used for the care of cases of tuberculosis.

NEW YORK

Antivaccination Bill.—Among the bills recently introduced into the legislature is one by Assemblyman Boylan providing that unvaccinated children may be admitted to the public schools on certificates of a physician that their physical condition is such that vaccination would jeopardize their health, or on written declaration from their parent or guardians stating that they are conscientiously opposed to vaccination.

Opens Crusade Against Insanity.—The State Charities Aid Association has issued its first pamphlet on insanity, in which it is stated that one-sixth of the total expenditures of the state is for the insane. The amount spent is equal to an annual tax of 70 cents on every man, woman and child in the state. The preventable causes of insanity—immoral living, alcohol and other poisons, physical diseases and mental habits—are enumerated and the belief is stated that insanity cannot be inherited and that only a tendency may be transmitted. A wider knowledge of the causes of insanity is recommended as one of the most effective means of combating it.

Wiley and Cabot in Buffalo.—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, Washington, D. C., delivered a lecture recently before the Buffalo Academy of Medicine, Medical Society of the County

of Erie, Western New York Section of the American Chemical Society, and the Erie County Pharmaceutical Association on "Public Health Our Greatest Asset." A visit was paid to Niagara Falls and the various chemical industries there, and a dinner was given in honor of Dr. Wiley.——Dr. Richard C. Cabot, Boston, recently delivered a lecture before the Buffalo Branch of the American Prophylaxis Society on "Training of the Affections."

New York City

Receipts from Charity Ball.—The financial results of the German Charity Ball were $11,000, which has been distributed as follows: German Hospital and Dispensary, $2,000; St. Mark's Hospital, $1,300; St. Francis' Hospital, $1,300; German Polyclinic, $1,300; Isabella Home, $1,000; German Dispensary of the West Side, $900; German Ladies' Aid Society, $900 and Wartburg Orphan Asylum, $1,000.

New Building at Sloane Hospital.—To provide for the enlarged scope of the work at the Sloane Hospital for Women a new building for gynecologic cases has been erected. This will be open for inspection Wednesday, March 1, from 2 until 6 o'clock. The original name of the hospital, the Sloane Maternity Hospital, was changed in December, 1910, to the Sloane Hospital for Women, in order to correspond with the extended character of the work. The hospital is located at the corner of Fifty-Ninth Street and Tenth Avenue, the entrance being on Tenth Avenue.

Psychoanalytic Society Organized.—The New York Psychoanalytic Society was organized at a meeting, held February 12. The object of the society is the study of abnormal psychology, advancement of psychoanalysis, and to promote fellowship among psychopathologists. Meetings are to be held on the fourth Tuesday of each month. The society will be incorporated and become affiliated with the parent organization in Zurich, Switzerland. The following officers have been elected: president, Dr. Abraham A. Brill, New York City; vice-president, Dr. Bromislaw Onuf, Amityville, L. I.; and secretary-treasurer, Dr. Horace W. Frink, New York City.

OHIO

Diphtheria Carriers.—"Diphtheria Ernest," a boy of 7, has been found in a Cleveland school, after having infected nineteen other children in the course of several months. The boy is said to be perfectly well, and never to have contracted diphtheria. Throat cultures of 75 other children of the school showed two other diphtheria carriers.

Personal.—Dr. Frank Pennock, Marlboro, whose right arm was amputated at the shoulder at Ingleside Hospital, Canton, February 14, on account of septicemia due to an operation wound, is reported to be improving.——Dr. George W. Crile has been appointed chief of the visiting surgical staff of Lakeside Hospital, Cleveland.——Dr. Ross V. Dickey, Lima, is reported to be critically ill at his home as the result of cerebral hemorrhage.——Drs. William T. Howard and William T. Corlett, Cleveland, have started for Europe.——Dr. Samuel W. Kelley, Cleveland, is taking a trip to the Bermudas.——Dr. Charles E. Briggs has been appointed visiting surgeon and head of the surgical dispensary, and Dr. Harvey A. Becker, visiting surgeon to Lakeside Hospital, Cleveland.

PENNSYLVANIA

Philadelphia

Personal.—Dr. Aloysius J. Kelly, who has been quite ill for some time, is improving.——Dr. Charles Lincoln Furbush sailed for Europe, February 18.——Dr. S. Weir Mitchell celebrated the 81st anniversary of his birth on February 15. ——Dr. Brooke M. Anspach has been made visiting surgeon to the Gynecean Hospital.

Gifts to the College of Physicians.—After the scientific program, at the session of the College of Physicians, February 1, Dr. Robert Abbe, New York City, presented to the college the gold watch of Benjamin Rush, and Dr. William W. Keen, on behalf of the donors, presented to the college a portrait of Dr. William Goodell, the noted gynecologist.

Millions Needed to Relieve Blockley.—Mayor Reyburn hopes to secure from the present legislature nearly $1,000,000 for the beginning of several charitable projects: $350,000 for a general clinical building at the Philadelphia Hospital, and $250,000 for half the cost of a building for feeble-minded women and children. These bills were introduced simultaneously in the house and senate February 15.

University Students to Aid Grenfell.—Students of the University of Pennsylvania are making plans to send a delegation to help Sir Wilfred T. Grenfell in his medical missionary work among the deep sea fishermen of Labrador. Louis F. Fallon, a sophomore, is in charge of the movement and he is collecting money for the building of a $1,000 launch to be called the *Pennsylvania* and to be used in cruising along the Labrador coast in the service of Dr. Grenfell.

Report of the Milk Commission.—The report of the commission appointed by Mayor Reyburn to investigate the city's milk supply and recommend measures to place it on a sanitary basis profitable to the producer and acceptable to the consumer, was presented to the mayor by Dr. Charles Furbush, chairman of the commission, on February 16. The commission recommended a state-wide inspection of the milk supply by the city authorities in connection with the State Live Stock Sanitary Board; the establishment of a department of milk supervision with a chief supervisor and thirty-five inspectors in the country and thirty-two in the city; an increase in the price of milk of 1 cent a quart to the consumer; a minimum all-year-round price of 5 cents a quart to be paid to the producer; inspection of restaurants, ice cream manufactories, drug stores and all places where milk is sold; establishment by the city of pasteurizing plants.

SOUTH DAKOTA

Auxiliary to State Association Organized.—The wives of members of the South Dakota State Medical Association met at Hot Springs last fall, and formed a woman's auxiliary to the South Dakota State Medical Association, the object being purely social and for the exchange of ideas. The next meeting of the auxiliary will be held in Pierre in June. Mrs. Rudolph D. Jennings, Hot Springs, is president; Mrs. Silas M. Hohf, Yankton, vice-president; Mrs. Harry T. Kenney, Pierre, secretary; and Mrs. Charles S. O'Toole, Vienna, treasurer.

Sanatorium Completed.—The State Tuberculosis Sanatorium, Custer, has been completed by the contractor and is ready to be turned over to the state. Three buildings have been erected, one for the superintendent's residence, the second, a cottage to be used as a dining room and kitchen, with a laundry in the basement, and offices for medical staff, and the third containing sleeping rooms, parlor and library. The board of control will, it is reported, ask for a further appropriation by the state of $54,000 for another building, and $50,000 for maintenance of the institution.

WISCONSIN

Personal.—Dr. Frank R. Weston, LaCrosse, has been appointed medical examiner of the local pension board.——Dr. Arthur W. Rogers has been elected president of the Oconomowoc Health Resort.

State Board Election.—At the annual meeting of the State Board of Health in Madison, January 27, Dr. William F. Whyte, Watertown, was reelected president, and Dr. Cornelius A. Harper, Madison, secretary. The board extended the order against common drinking-cups to all public buildings.

GENERAL NEWS

Research Fellowship.—The accumulated income of the Corinna Borden Keen Research Fellowship of the Jefferson Medical College, Philadelphia, now amounts to $1,000. The fellowship will be awarded by the trustees on recommendation of the faculty to a graduate of Jefferson of not less than one nor more than ten years' standing, on the condition that he spend at least one year in Europe, America, or elsewhere, wherever he can obtain the best facilities for research in the line of work which he shall select after consultation with the faculty, and that he shall publish at least one paper, embodying the results of the work as the "Corinna Borden Keen Research Fellow of the Jefferson Medical College." Applications should be made to Dr. James W. Holland, dean of the college.

The German Hospital of New York.—On the occasion of its fortieth anniversary the governing board of the German Hospital of New York has published a very complete history of the hospital. Those connected with this institution may well be proud of its growth and activities. Accompanying this pamphlet is a *Festschrift* of 593 pages containing contributions by the medical staff of the hospital and its dispensary. These papers are credited to the various services, fourteen to the medical, thirteen to the surgical, five to the gynecologic, four to the ophthalmologic, five to the dermatologic and venereal, and the remainder to the neurologic, ear, nose and throat, dental and laboratory departments, fifty in all. The material comprises the results of observations made on patients and experimental studies in the laboratory and is a valuable addition to medical literature.

FOREIGN NEWS

Bequest by Physician to Found Asylum.—A Spanish physician, Señor Don J. Garcia, who recently died at Valencia, left part of his fortune to found an asylum there for deaf-mutes and the blind.

Statue to Albarran.—The town of Sagua la Grande in Cuba has recently erected a marble statue of "its most illustrious son," Professor Joaquin Albarran, chief of the clinic at Paris for disease of the urinary apparatus. He succeeded Guyon in this much-coveted post in 1906. The statue was erected by popular, nation-wide subscription; a memorial tablet was also placed on the house where he was born.

Fine for Methyl Alcohol Adulteration of Brandy.—Last year a number of serious cases of poisoning at Budapest were traced to the use of a special make of brandy. Investigation revealed that methyl alcohol had been used in its production and was evidently responsible for the poisoning. The distiller was recently sentenced to pay a fine of $2,800 for involuntary homicide resulting from neglect of due caution.

Honor for Professor Schwalbe.—The honorary title of Geheimer Sanitätsrat has been conferred on Professor J. Schwalbe of Berlin, editor of the *Deutsche medizinische Wochenschrift*, of the medical directory for Germany, of a year-book and of several manuals and treatises. Professor Schwalbe, although only 49 years old at present, has long taken a leading part in all matters affecting the welfare of the profession and especially in the propaganda for reform of nostrum abuses.

Deaths in the Profession Abroad.—In addition to the deaths reported by our correspondents, the profession has lost recently Professor G. Profeta of Florence, one of the leading dermatologists of Italy until his retirement a few years ago, author of several manuals on dermatology and syphilis but best known by his assertion that a non-syphilitic child born of syphilitic parents is immune—the so-called Profeta's law.——T. Noriega, professor of pathology and history of medicine at Mexico.——Prof. J. M. Bandera, a prominent ophthalmologist and leader in medical affairs in Mexico, and member of various ophthalmologic and medicolegal societies at home and abroad, aged 73.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Feb. 11, 1911.

A Revolution in Bread

A remarkable agitation in favor of more nutritious bread than the ordinary white bread which is almost exclusively eaten by all classes has produced an immense change in the bread supplied by bakers. White bread, introduced as a luxury for the rich, has been adopted by all classes. In order to obtain the more attractive white appearance valuable ingredients contained in the germ and inner husk of the wheat and consisting of protein and salts are removed. Prominent among the evils attributed to the consumption of white bread is dental caries, which is so prevalent and severe that it may be described as a national disaster. In the presence of this great evil of removing from the most important food some of its most valuable ingredients, the medical profession has been very supine. From time to time an occasional article has appeared in medical journals pointing out the defects of white bread, but it has had no more effect than the periodical wail on the abandonment of blood-letting. The only persons who have shown themselves alive to the situation are the vegetarians, who in renouncing most animal foods have shown a keen desire to get as much as possible out of their vegetable food; they have always consumed whole-meal bread. But outside their own sect they have no influence. One association, the "Bread and Food Reform League," somewhat allied to the vegetarians, has for years made praiseworthy attempts to advocate the use of whole-meal bread and has pointed out that much of the underfeeding of the poor is due to ignorance of the value of this bread rather than to want of means. But their words have fallen on deaf ears and it is very difficult to obtain a good whole-meal bread. The bakers sell an inferior article, a brown loaf which is made from a mixture of ordinary white flour with a little bran. In the lay press an agitation in favor of the old cream-colored loaf which is termed "standard bread," and defined as "bread made from unadulterated wheat and containing at least 80 per cent of the whole wheat, including the germ and semolina," has produced such an effect in a few days that the result must be described not as a reform in but as a revolution in bread. Prominent physicians and health officers are supporting the movement. It is proposed to introduce a bill into parliament for the standardization of bread and the proposal has received the support of members of all parties.

Great Increase of Street Accidents Due to Motor Traffic

An alarming increase in the number of street accidents from the recent development of motor traffic is shown by the report issued by the Highways Protection League. In 1905, thirty-five persons were killed and 1,557 injured by accidents due to motor traffic, while 118 were killed and 6,323 injured by horse traffic. In 1909, 163 persons were killed and 6,579 were injured by motor traffic, while 123 were killed and 5,589 were injured by horse traffic.

Daring Experiment of a Physician on Himself with Typhoid Bacilli

Dr. Houston, director of water examination to the Metropolitan Water Board, has made a daring experiment on himself with typhoid bacilli. He was testing the effect of river water on the vitality of typhoid bacilli which had never been subcultured. He found that the bacilli rapidly perished in Thames water. Although well satisfied with the negative results, he put the matter to the crucial test of drinking half a pint of the infected water (which contained initially 218 million typhoid bacilli) on the twenty-fourth day from the start of the experiment without any ill result. In the discussion which followed the reading of this report, Dr. R. M. Beaton, chairman of the water examination committee, suggested that as the punishment of hanging was a rude practice experiments of this kind should be made with condemned criminals.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 3, 1911.

Antityphoid Vaccination

During the discussion on the etiology and prophylaxis of typhoid fever last year at the Académie de médecine, on motion of Professor Chantemesse, a commission was appointed to study antityphoid vaccination (THE JOURNAL, March 5, 1910, p. 804). Dr. H. Vincent, for the commission, has just laid before the academy a report to the following effect: The facultative use of antityphoid vaccination should be recommended as a practical and rational means of diminishing the frequency and gravity of typhoid fever in France and in the colonies. This recommendation is addressed to all whose profession, usual or accidental conditions of food or habitat, daily or frequent relation with persons or bacillus carriers, expose them to direct or indirect contagion. This proposition brought forth vigorous protests from Dr. Delorme, *médecin inspecteur général* of the army, who considers the conclusion of the commission as premature and overdrawn. While recognizing that antityphoid vaccination is, at present, of interest to scientific and administrative circles, Dr. Delorme believes that in view of the well-known imperfections of the method (incomplete immunization, negative phase, local and general complications, numerous contra-indications) the Académie de médecine, the counselor of the public authorities, is scarcely authorized to recommend the employment, even facultative, of methods which are still so uncertain, imperfect and cumbered with so many disadvantages and even dangers.

The Health Resorts and Spas of France

A parliamentary group has recently been formed to promote the interests of the thermal and climatic stations of France. It already comprises more than 100 senators and deputies. Its program includes: (1) investigation into the means to give the greatest effect to the law taxing transients at such resorts, passed in 1910 (THE JOURNAL, April 23, 1910, p. 1388); (2) creation of a chair of hydrology and climatology at the Faculté de médecine de Paris; (3) creation of a great institute of hydrology and climatology which shall centralize all the chemical, physical, geologic and mineralogic researches needed by our stations to extend their usefulness and to complete the instruction of young physicians who wish to specialize in hydrology and climatology.

The law imposing a tax on visitors will furnish important revenues for the improvement of the hygiene of the stations, and their embellishment, etc. The creation of a chair of hydrology and climatology at the Faculté de médecine de Paris has been demanded for twenty years by all the congresses on hydrology and by associations of physicians interested in the subject. The innovation will have the greater chance of success because it will cost the government nothing, since the

Syndicat des stations thermales de France, which is directly interested in the question, has undertaken to provide the expense of the chair. The only condition imposed by the *syndicat* on its gift is that the professor appointed shall be competent, and shall promise to regard the position as permanent, not as a temporary makeshift.

Measures Against the Propaganda for the Prevention of Conception

The criminal court of the Seine has just condemned a certain Lip Tay, who has two advertisements with reference to the prevention of conception in a catalogue of special publications. Lip Tay's defense was that he was simply popularizing medical information. The court, however, did not sustain his plea and condemned him to pay $40 fine (200 francs) on the ground that this propaganda was an offense against morals. This decision will tend to arrest the propaganda.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 2, 1911.

Personal

Professor Ehrlich is the only medical trustee on the board of the newly founded Kaiser Wilhelm Society for Scientific Research (Gesellschaft für Förderung der Wissenschaften), half of whose members are elected by the society and the other half appointed by the Kaiser.

Professor Roentgen of Münich, Professor Hering of Leipsic, and Professor Retzius of Stockholm have received membership in the order of science and arts (Orden pour le Mérite der Wissenschaften und Künste), one of the few among the numerous Prussian orders which is bestowed only for actual achievement.

Professor Bier, director of the surgical clinic at Berlin, has been elected a foreign member of the Belgian academy of sciences.

Honorary Title for the Kaiser

The promotion of the Kaiser to the honorary title of Doctor by the Prague medical faculty will take place soon in the throne room of the palace in Berlin. The rector of the Prague German university, the present dean of the medical faculty, Professor v. Jaksch and Professor Hering will come to Berlin to officiate.

Multiple Offices for Physicians

In Berlin and probably also in other large cities of Germany it has been for some time the custom for a number of specialists to have offices for private patients in two places in the city, one in their private residence and one in their private clinic or the policlinic. The first is usually in the fashionable western part of the city and the latter in the center or in the outskirts. The reason for this condition is that the central part of Berlin, like London and New York, is gradually being given up more and more to business, for which reason the larger part of patients able to pay have migrated to the west and the physicians follow them but keep their office down town for the patients who still remain in that locality. As other physicians are injured by this doubling of offices there have been complaints made against this custom in the medical press and in the medical societies. As a result the business committee of the Berlin Medical Society, a short time ago, took up the question and made the following decision:

1. Policlinics in their essence and their historical development are institutions for the gratuitous treatment of the section of the public which is unable to pay. In addition to this humanitarian purpose they should serve the scientific and technical education of the physicians in charge, their assistants and other physicians. The gratuitous treatment of members of the Krankenkassen in the policlinics, dispensaries and the offices of the insurance physicians, has led, under the influence of the social legislation, to a deviation from the principal aim of gratuitous treatment. A further conversion of the policlinic and similar institutions into additional offices in which private patients are treated for pay, is as a whole contrary to the interests of special practice and of the medical profession.

2. The need for several offices for a physician doing a general practice does not exist to an extent to justify a deviation from the method in which medical practice has hitherto been carried on.

3. The decision as to whether in individual cases the maintenance of several offices for pay patients is permissible or not belongs only to the state medical court of honor.

Athletics at the Berlin University

The senate of the Berlin university has now acceded to a long-cherished wish of the university circles interested in gymnastics and sport by appointing, on motion of the university turner society, an academic committee which is to be the highest authority on all questions which concern physical exercise. The committee consists of the rector, Professor Rubner, Professor Waldeyer, Professor N. du Bois-Reymond, and others. The Berlin university in adopting this thoroughly modern arrangement which gives expression to the idea that the university should care not alone for the intellectual but also for the physical education of its youth is following the example of Breslau and Marburg. It now will be the task of the student body to show an interest in the matter corresponding to that of the authorities.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 3, 1911.

Expenditures for the Medical Schools

The ordinary budget for medical teaching in Austria has a few days ago been finally fixed, and the figures are now published. For this purpose 6,000,000 kronen ($1,200,000) will be spent. Of this sum, Vienna receives 2,154,000 kronen ($430,800); Graz requires only 625,000 kronen ($125,000); Innsbruck 453,000 kronen; Prague, which has two medical schools, a German and a Slavic one, requires for each about 740,000 kronen or $150,000. Besides there are two Polish medical schools, one in Lemberg, requiring 480,000 kronen or $96,000, and one in Cracow, which receives $150,000. These sums cover only the ordinary expenditure; the sum of $50,000 is devoted to extraordinary expenses. Apart from these figures, the fees and salaries for special subventions and rewards amount to another $360,000. There are active at present:

	Vienna.	Prague.	Graz.	Innsbruck.	Lemberg.	Cracow.	Total.
Ordinary professors	25	31	14	15	14	15	114
Extraordinary professors	14	25	4	4	3	8	58
Assistants	86	85	37	31	34	38	311
Second-class assistants	6	6	1	2	0	1	16
	131	147	56	52	51	62	

The rent paid for certain of the medical university buildings amounts to over a million kronen, showing an increase of 15 per cent. since last year. The endowment of the institutions with grants and other sums for teaching material reaches more than double that sum. There are also certain paid lectures not strictly belonging to the medical teaching (photography, physical experimentation) which will cost 50,000 kronen ($10,000), and a sum of 100,000 kronen ($20,000) has been set apart for traveling grants (for researches).

The Austrian Antimalaria Campaign 1906-1909

The prevalence of malaria in certain parts of the Austrian coastland has prompted the government to institute a systematic campaign against the spread of this disease there. The official report states that in the first year 5,387 persons were examined, of whom 1,256, or 23 per cent., were found needy of treatment. In 1907, 3,192 persons were examined, 42 per cent. of this number were requiring antimalarial treatment. In one district fully 100 per cent. of the population were infected, while the lowest figure was 12 per cent. According to the instructions, in the endangered zone also persons who were not infected, but exposed to infection, were treated prophylactically. In the year 1909, only 3,351 more persons were examined. Of these, only 7 per cent. were found infected, whilst 1,848 (55 per cent.) received prophylactic treatment. In 1907, the districts examined contained 1,038 infected persons out of a population of 2,497, or 41 per cent., while another 384 persons presented themselves for prophylactic treatment. This was always free of charge, and consisted in administration of quinin sulphate in doses of 5 grains, together with arsenic and iron. From the examined districts, which have been under control since 1903 till 1908, every case of fever had to be reported and then examined for malaria. Out of a population of 18,774, 663 fresh infections were reported in these six years. As the people became persuaded of the benefit obtained from the regular treatment and persistence of control, the patients came in more regularly and finally there was no trouble at all, though at first some difficulty was experienced in inducing the uneducated peasants to submit to medical supervision.

Marriages

MILTON M. SPITZ, M.D., to Miss Belle Landau, both of Milwaukee, Wis., February 7.

J DALLAS CROOM, JR., M.D. Maxton, N. C., to Miss Ruth Roberts of Attalla, Ala., recently.

LAURENCE FRANK KEITH, M.D., to Miss Elsie May Turner, both of Melrose, Mass., February 15.

JOHN C. BULLITT, M.D., to Miss Edna Dever, both of Philadelphia, at Bingham, Mass., recently.

ALONZO J. FITZPORTER, M.D., St. Louis, to Miss Marie Wanda Krebs of Belleville, Ill., February 8.

ALANSON HALDEN JONES, M.D., Los Angeles, to Miss Adele Stookey of Hermosa Beach, Cal., January 31.

GEORGE E. THOMPSON, M.D., Kenosha, Wis., to Mrs. Anna Grun Lindstedt of Manitowoc, Wis., February 2.

WILLIAM SCHNEIDER SHIRK, M.D., Kansas City, Mo., to Miss Mary Gertrude McCourt of McPherson, Kan., at Kansas City, February 2.

Deaths

Joseph Rowe Smith, Brigadier General Medical Corps, U. S. Army, retired, died at the home of his sister in Philadelphia, February 11, from pneumonia, aged 79. He was graduated from the University of Buffalo, N. Y., in 1853, and a year later was commissioned as assistant surgeon in the army; five years later he was promoted to captain, and served in the west and southwest until the outbreak of the Civil War. When on duty at San Antonio, Tex., he was captured by the Confederates; and on being paroled was assigned to the duty of organizing hospitals. In 1862, he received his promotion to major, and at the close of the war was medical director of the Seventh Army Corps, and had been brevetted lieutenant colonel for "superior ability and excellent management of the affairs of the department." He was promoted to lieutenant colonel in 1885, attained his colonelcy in 1890; was retired by operation of law in 1895, and attained the rank of brigadier general, retired, nine years later. His last official duty was as medical director of the Department of the East. He was a member of the American Medical Association for many years, and vice-president in 1877, and was the Army delegate to the Association from 1874 to 1878, inclusive, and from 1882 to 1885, inclusive. He was also a delegate to four international medical congresses. General Smith was the author of a number of standard medical works, bearing particularly on the care and treatment of soldiers. He was one of the incorporators of the New York Post-Graduate Medical School and Hospital, and a member of the Association of Military Surgeons of the United States, American Academy of Medicine and many other medical societies.

Uranus Owen Brackett Wingate, M.D., for several years health commissioner of Milwaukee, and for ten years secretary of the Wisconsin State Board of Health; died at his home in Milwaukee, February 19, from pneumonia, aged 62. He was born in Rochester, N. H., enlisted in the Army at the age of 16 and served throughout the Civil War. He attended three courses of lectures at Harvard Medical School, and Dartmouth Medical School, Hanover, N. H., graduating from the latter institution in 1875. He practiced until 1886 in Haverhill and Wellesley, Mass., and served for five years as a member of the Medical Corps of the Massachusetts Volunteer Militia. In 1886, he moved to Milwaukee, four years later was made health commissioner of the city, and 1894, was appointed secretary of the Wisconsin State Board of Health. He was a member of the American Medical Association, and for several years chairman of the committee on the national department of health; the American Public Health Association, American Psychological Association, and the Milwaukee County Medical Society, of which he was once president. He was professor of diseases of the nervous system and hygiene in the Wisconsin College of Physicians and Surgeons; visiting neurologist to St. Mary's and Milwaukee County Hospitals, and consulting neurologist to St. Joseph's Hospital. He contributed many articles on subjects connected with his specialties, to the medical literature.

Horace Wilbur Patterson, M.D. College of Physicians and Surgeons, New York City, 1895; a member of the Medical Society of the State of New York; and for five years secretary of the Richmond County Medical Society; chief of the department of communicable diseases of the Department of Health of Richmond Borough, and pathologist to the S. R. Smith Infirmary; assistant surgeon of the First New Jersey Infantry, U. S. V., during the Spanish-American War, and afterwards captain and assistant surgeon of the First Infantry, N. J. National Guard, and First Lieutenant Medical Reserve Corps, U. S. Army; died in the S. R. Smith Infirmary, February 5, after an operation for cholelithiasis, aged 38.

James Kerr, M.D. Queen's University, Dublin, Ire., 1870; a member of the Medical Association of the District of Columbia; professor of surgery in Georgetown University, and a member of the surgical staff of Providence and Emergency Hospitals and the Woman's Dispensary; surgeon in the British service during the Ashanti war; later chief surgeon of the Canadian Pacific Railway; surgeon in the Canadian militia; one of the organizers of, and president and professor of surgery in the Manitoba Medical College, Winnipeg; since 1888 a resident of Washington, D. C.; died at his country home near Warrenton, Va., February 2, aged 62.

Samuel David Hopkins, M.D. University of Pennsylvania, Philadelphia, 1893; a member of the American Medical Association, and American Neurological Society; professor of nervous and mental diseases in the Denver College of Medicine and Surgery; president of the staff of St. Joseph's Hospital, and neurologist to Denver County Hospital; a specialist on nervous and mental diseases; died in St. Joseph's Hospital, Denver, February 4, two days after an operation for appendicitis, aged 38. At a special meeting of the City and County of Denver, resolutions were adopted eulogizing the character, work and personality of Dr. Hopkins.

Joseph B. Ward, M.D. Hahnemann Medical College, Philadelphia, 1857; at one time professor in the Homeopathic Medical College of Missouri, St. Louis; assistant surgeon of the Eleventh New York Volunteer Infantry during the Civil War; for two years vice-president of the New Jersey Tuberculosis Commission; chairman of the executive committee of the State Horticultural Society; a member of the executive committee of the State Board of Agriculture; died at his home in Newark, February 3, from heart disease, aged 76.

James Buchanan Walker, M.D. Miami Medical College, Cincinnati, 1882; local surgeon at Effingham, Ill., of the Illinois Central, Vandalia, and Wabash Railways; a member of the surgical staff of St. Anthony's Hospital; a member of the American Medical Association, and Æsculapian Society of the Wabash Valley, and American Association of Life Insurance Examiners; supreme medical examiner of the fraternal order of Modern Americans; died at his home, February 11, from cerebral hemorrhage, aged 54.

Edwin Powell, M.D. Rush Medical College, Chicago, 1857; formerly demonstrator of anatomy and professor of military surgery in his alma mater; surgeon of the Seventy-Second Illinois Volunteer Infantry, and later in charge of the Seventeenth Army Corps Hospital and the McPherson General Hospital during the Civil War; a member of the staff of Cook County Hospital; died at his home near Maryville, Mo., February 13, from influenza, aged 76.

Edwin Gilmore Knill, M.D. University of Toronto, 1882; M.R.C.S., Eng., L.R.C.P., Lond., 1883; L.R.C.S., L.R.C.P., Edin., 1883; a member of the Michigan State Medical Society; adjunct professor of pathology and morbid anatomy, and clinical professor of medicine in the Detroit College of Medicine; a member of the staff of Harper Hospital; died at his home in Detroit, February 10, from cerebral hemorrhage, aged 55.

Columbus Henry, M.D. University of Pennsylvania, Philadelphia, 1871; formerly a member of the Delaware State Medical Society and State Board of Medical Examiners; for many years president of the Board of Trustees of the Poor of Newark, Del., and president of the Board of Trustees of the Newcastle County Hospital; died at his home in Newark, January 14, from hepatic and arteriosclerosis, aged 67.

Frank S. Low, M.D. Castleton (Vt.) Medical College, 1850; once president of the Oswego County Medical Society and vice-president of the Medical Society of the State of New York; consulting physician to the Oswego City Hospital; once sheriff and coroner of Oswego County, N. Y.; a member of the board of education; died at his home in Pulaski, February 3, aged 82.

Reuben Conway Shultz, M.D. New York University, New York City, 1880; a member of the Medical Society of the State of California; for several years a member of the staff of the *New York Medical Journal*, but for the last thirteen years a resident of Los Angeles; died at his home in that city, January 29, from chronic bronchitis, aged 57.

Carter Lurton Broaddus, M.D. Vanderbilt University, Nashville, Tenn., 1892; a member of the Kentucky State Medical Society, and formerly vice-president of the Trigg County (Ky.) Medical Society; for many years a resident of Hopkinsville; died in Lebanon, Tenn., January 11, from cerebral hemorrhage, aged 48.

Riley Allen Atkins, M.D. Medical College of Virginia, Richmond, 1864; a member of the Newport News Medical Society; a sailor in the Confederate navy during the Civil War, detailed to hospital duty; surgeon for the Virginia Railway at Pine Beach; died at his home, January 9, from pneumonia, aged 74.

Walter Howard Snow, M.D. New York University, New York City, 1880; formerly physician to the Society for the Prevention of Cruelty to Children, and instructor in gynecology in the University of the City of New York; died at his home in New Lebanon, N. Y., January 27, from uremia, aged 51.

Joseph Clements, M.D. Kansas City (Mo.) Medical College, 1891; and later clinical instructor on diseases of children in his alma mater; for twenty years a clergyman; a writer on psychology and metaphysics; died at his home in Wichita, Kan., January 31, from valvular heart disease, aged 70.

John Cassilis Cockburn, M.D. Harvard Medical School, 1872; a member of the American Medical Association; once president of the Hennepin County Medical Society; for thirty-one years a practitioner of Minneapolis; died at his home in that city, February 5, from interstitial nephritis, aged 69.

Jane Howell Harris, M.D. Woman's Medical College of the New York Infirmary for Women and Children, 1899; for eight years a medical missionary of the Presbyterian Board in San Juan, Porto Rico; died at her home in Isabela, Porto Rico, Nov. 21, 1910, from pneumonia, aged 38.

William Menger, M.D. New York University, New York City, 1897; of Union Hill, N. J.; while suffering from mental disorder and an inmate of a sanitarium at Paterson, N. J., is said to have cut his throat, January 8, inflicting a wound from which he died soon after, aged 34.

Hubert Pemberton Doak, M.D. University of Nashville, Tenn., 1893; a member of the Tennessee State Medical Association; formerly of Greenville, and secretary of the local pension examining board; died at his home in Tusculum, February 5, from pneumonia, aged 46.

Augustine von Galny, M.D. University of Berlin, Germany, 1847; (license, Eighteenth Judicial District Board, Texas,, 1878); surgeon in the Prussian and Danish armies; a member of the State Medical Association of Texas; died at his home in Galveston, February 1, aged 83.

George W. Menees, M.D. Vanderbilt University, Nashville, 1879; a member of the Missouri State Medical Association; health officer of Clinton; died February 7, from the inhalation of fumes of formaldehyd, after disinfecting a house where small-pox had occurred, aged 54.

Joseph Preston Gray, M.D. University of Tennessee, Nashville; a graduate in both medicine and dentistry; a member of the American Medical Association; and of the Nashville Academy of Medicine; died at his home, Sept. 30, 1910, from cerebral hemorrhage, aged 55.

John Warner Kniskern, M.D. Albany (N. Y.) Medical College, 1890; ophthalmic and aural surgeon to the Amsterdam (N. Y.) Hospital; a specialist in diseases of the eye and ear; died at his home in Amsterdam, January 31, from tuberculosis of the throat, aged 43.

Alexander McKlveen McLain, M.D. Western Pennsylvania Medical College, Pittsburg, 1898; of Post Falls, Ida., formerly of Irwin Pa.; for two years a member of the village council; died in Spokane, Wash., January 12, from pernicious anemia, aged 51.

James A. C. Milliken, M.D. Medical School of Maine, Brunswick, 1910; assistant in the Western Washington Hospital for the Insane, Fort Steilacoom; died at his home in New Bedford, Mass., Dec. 29, 1910, from lymphatic leukemia, aged 25.

George Augustus Steinicken, M.D. University of Pennsylvania, Philadelphia, 1890; of New York City; until 1904 a practitioner of Wilmington, Del.; died in Roosevelt Hospital, New York City, Dec. 22, 1910, from pneumonia, aged 45.

Alfred Augustus Herrmann, M.D. College of Physicians and Surgeons, Chicago, 1904; of Chicago; a member of the American Medical Association; died in Pasadena, Cal., Nov. 29, 1910, from tuberculosis of the kidney, aged 30.

John Kapp, M.D. University of Michigan, Ann Arbor, 1868; a member of the Michigan State Medical Society; for three terms mayor of Ann Arbor; died at his home in Los Angeles, January 17, from general breakdown, aged 69.

Benjamin W. Searle, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; of Ottumwa, Ia.; a veteran of the Civil War; died in Wesley Hospital, Chicago, February 17, after an operation for appendicitis, aged 69.

Leroy Hall Sibley, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the Vigo County (Ind.) Medical Society; died at his home in Terre Haute, Sept. 26, 1910, from pulmonary tuberculosis, aged 30.

Leroy W. Heath, M.D. Cleveland University of Medicine and Surgery, 1882; a member of the Medical Society of the State of Pennsylvania; died at his home in Mercer, Pa., January 26, from general paresis, aged 52.

Cyrenius Benjamin Vaughan, M.D. Bellevue Hospital Medical College, 1875; a member of the Medical Society of the State of New York; died at his home in Morrisonville, February 1, from heart disease, aged 64.

Louis deValois Wilder, M.D. Hahnemann Medical College, Philadelphia, 1855; for many years chief surgeon of the Flower Hospital; died at his home in New York City, February 5, from heart disease, aged 93.

James Marshall Tinsley, M.D. University of Louisville, Ky., 1880; formerly of Champaign, Philo and Rantoul, Ill.; died at his home in Mount Vernon, Ill., February 2, from cerebral hemorrhage, aged 61.

Leo J. O'Shaughnessy, M.D. Kansas City (Mo.) Hahnemann Medical College, 1908; was shot and killed in a pistol duel with a brother physician, in his office in Wetumka, Okla., February 3, aged 28.

Richard Maury Cunningham, M.D. Vanderbilt University, Nashville, 1892; for thirty-three years a practitioner of Tennessee; died at his home in Palmyra, Nov. 25, 1910, from pneumonia, aged 74.

Frank H. Fisk, M.D. Albany (N. Y.) Medical College, 1883; a member of the Medical Society of the State of New York; died at his home in West Sand Lake, January 22, from lobar pneumonia, aged 56.

Edward Francis Dodd, M.D. University of Nebraska, Lincoln, 1887; for twenty years a practitioner of Newport, Neb.; died at Fairview, Okla., Dec. 29, 1910, from edema of the glottis, aged 47.

Isaac Francis Coffin, M.D. New York University, New York City, 1885; coroner of Herkimer County, N. Y., in 1900; died at his home in North Ilion, Dec. 23, 1910, from spinal disease, aged 62.

Charles Eugene Arthur Dorval, M.D. Victoria College, Coburg, Ont., 1874; of Montreal; died in the Hôtel Dieu in that city, Dec. 26, 1910, from peritonitis, following a gastric ulcer, aged 58.

Lawrence Ryan, M.D. Dublin (Ire.) Medical College; at one time medical health officer of Edmonton, Alta.; died in Saskatoon, Sask., Nov. 10, 1910, from heart disease complicating typhoid fever.

Alfred Wesley Bear, M.D. Washington University, Baltimore; for nearly forty years a practitioner of Barnard, Mo.; died at his home in that place, January 21, from influenza, aged 69.

Felix Dydine Fontaine, M.D. Laval University, Montreal, 1857; (license, Massachusetts, years of practice, 1894); died at his home in Worcester, January 31, from senile debility, aged 79.

Henry Rutgers Cannon, M.D. New York University, New York City, 1843; first clerk of Union County, N. J.; died at his home in Elizabeth, January 9, from senile debility, aged 89.

Lincoln D. Foreman, M.D. American Medical College, Eclectic, St. Louis, 1884; slipped from a ladder at his home in Peoria, Ill., February 9, and was instantly killed, aged 49.

Seth H. Truesdale, M.D. Western Reserve University, Cleveland, 1876; a veteran of the Civil War; died at his home in Poland, O., February 5, from locomotor ataxia, aged 69.

George W. Ray, M.D. Rush Medical College, 1867; a pioneer practitioner of Joplin, Mo.; died at St. John's Hospital in that city, February 8, from pernicious anemia, aged 68.

George W. Corman, M.D. American Medical College, Eclectic, St. Louis, 1883; of Paris, Ark.; died on a train near Lavaca, Ark., Dec. 15, 1910, from heart disease, aged 54.

Thomas Graham, M.D. Grand Rapids (Mich.) Medical College, 1907; died at his home in St. James, Beaver Island, Mich., January 16, from diabetes, aged 34.

Lawrence Ellsworth Jones, M.D. Howard University, Washington, D. C., 1907; died at his home in Rochester, Pa., Dec. 28, 1910, from acute nephritis, aged 31.

F. C. Woodard, M.D. Louisville (Ky.) Medical College, 1887; a member of the American Medical Association; died at his home in Grapeland, Tex., January 31, aged 63.

James Arthur Metcalfe, M.D. Louisville (Ky.) Medical College, 1873; died at his home in Los Angeles, Cal., January 18, from carcinoma of the leg, aged 58.

Evan Jones, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; died at his home in New Cambria, Mo., January 30, from pneumonia, aged 65.

John C. David, M.D. Hahnemann Medical College, Chicago, 1878; died at his home in Sandwich, Ill., February 2, from cancer of the esophagus, aged 62.

J. W. Bartlett (license, Kentucky, thirty-six years of practice, 1893); died at his home in Kirkmansville, February 8, from senile debility, aged 78.

Theodore Rahlfs, M.D. Rush Medical College, 1888; died in his office in Tacoma, Wash., January 23, in an epileptic convulsion, aged about 60.

George Fisk Wilber, M.D. Long Island College Hospital, Brooklyn, 1864; died at his home in Nashua, N. H., January 21, aged 71.

Association News

THE LOS ANGELES SESSION

Arrangements Being Perfected for the Next Annual Session

Readers of THE JOURNAL will be kept informed from week to week concerning the arrangements for the Los Angeles Session. In the last issue, a list of hotels was published, giving the rates, capacities, etc., and a preliminary announcement of the railroad rates; and this week there is given some information about special trains and entertainments.

Entertainments

The Los Angeles Session bids fair to stand out with unusual prominence with respect to the amount and quality of entertaining done by the local profession. The matter is spoken of thus early to encourage members to plan to go to Los Angeles. The occasion will be one of great enjoyment. Some of the entertainments are as follows: On Friday those who have finished their section work will be taken by boat to the famous Catalina Island and given a barbecue. This trip will be duplicated on Saturday for the others in attendance.

Friday will also be called Pasadena Day. Shortly after noon, when all the scientific work will have been completed, there will be an automobile trip to Pasadena with a Spanish barbecue in the Sunken Gardens. This will be followed by chariot races in Tournament Park, especially arranged for the benefit of the members of the American Medical Association. The day will be concluded by trips to the seashore with entertainments at Venice and Ocean Park.

On Saturday those who do not wish to go to Catalina Island may take a trip to San Pedro Harbor and Long Beach with lunch at the Hotel Virginia.

Other trips in the vicinity, for which especial railroad rates will probably be granted, are to the olive orchards of San Fernando, to the orange groves of Riverside and Redlands and to San Diego, the renowned resort some miles down the coast.

Judging from the inquiries received by various committees, the attendance at Los Angeles will probably be larger than a good many prophets anticipated, who were judging solely by the distance of the meeting-place from the center of the United States. The attractiveness of Los Angeles and the opportunity of various trips are two things which will largely tend to counteract the distance. For this reason we repeat the suggestion of last week, given in connection with the list of hotels, and urge those who expect to go to Los Angeles that they reserve hotel accommodations early. There are plenty of hotels, but those who write for accommodations late cannot expect to have their choice of the best rooms.

Announcement of Transportation Committee

In looking over the numerous letters of the members received in response to the request published in THE JOURNAL, Dec. 10, 1910, p. 2078, it is found that a large majority of them are in favor of taking the southern route to Los Angeles in June. The committee therefore announces that it has arranged for a special train from Chicago to Los Angeles over the Santa Fé route. This train, which will be a counterpart of the famous California Limited, will afford every first-class accommodation, standard berths, compartments and drawing-rooms. There will be a fully equipped club car with valet and barber in attendance, dining car and observation car. The club car and observation parlor are supplied with an abundance of the best current magazines and newspapers, a carefully selected library and writing material.

This train will leave Chicago at 8:00 p. m., Wednesday, June 21, and will run in accordance with the following schedule:

TIME SCHEDULE OF SPECIAL TRAIN

Lv. Chicago	8:00 p. m.,	Wednesday,	June 21
Ar. Kansas City	9:00 a. m.,	Thursday,	June 22
Lv. Kansas City	9:10 a. m.,	Thursday,	June 22
Ar. Albuquerque	11:05 a. m.,	Friday,	June 23
Lv. Albuquerque	12:30 p. m.,	Friday,	June 23
Ar. Laguna	2:30 p. m.,	Friday,	June 23
Lv. Laguna	3:30 p. m.,	Friday,	June 23
Ar. Grand Canyon	6:00 a. m.,	Saturday,	June 24
Lv. Grand Canyon	10:00 a. m.,	Sunday,	June 25
Ar. Los Angeles	7:00 a. m.,	Monday,	June 26

At Albuquerque a stop of one hour and a half will be made in order to afford an opportunity for all to visit the very interesting collection of Indian and Mexican hand work. This is undoubtedly the finest collection of Indian and Mexican work in the world. At Laguna a stop of one hour will be made, affording an opportunity to visit the Pueblo Indian village. These short stops not only break the monotony of the trip but also permit of sight-seeing which cannot be had on any of the regular trains.

A stop of twenty-eight hours will be made at the Grand Canyon. It is unnecessary to dilate on the wonderful beauty of this work of Nature. The time spent here is sufficiently long to permit of descending into the canyon and also of visiting points of interest on the rim. Being there over night also affords an opportunity of seeing the sun rise and set. These sights alone are well worth the trip.

The train will arrive at Los Angeles at 7:00 o'clock Monday morning in time for the delegates to attend the opening meeting of the House of Delegates. For those members who do not care to reach Los Angeles before Monday evening, arrangements will be made whereby cars will be taken via Redlands and Riverside and sufficient time given to visit both these interesting points, reaching Los Angeles about 6:00 p. m.

The round trip fare from Chicago is $62.50 with an addition of $6.50 for the Grand Canyon side ride. The Pullman rates are, upper berth $12.80, lower berth $16.00, compartment $45.00, drawing-room $56.00. These rates include the side trip to the Grand Canyon and also provide for the occupancy of the cars at the Grand Canyon if so desired.

One may return by any direct route, which means by any route going as far north as San Francisco and Ogden. To those who wish to return by any of the northern routes, an additional fare of $15.00 will be charged. These rates are not available for both going and returning by the northern routes. All those, therefore, who contemplate visiting Yellowstone Park, the Canadian Rockies or other points of interest on the northern routes are cautioned to see that they go by some of the southern routes and arrange for these stop-overs on their return trip. There will be plenty of time to make all of these trips after the meeting on the return passage, as the return limit on the tickets is September 15, but there will not be time to make these extended side trips going.

Announcement of eastern rates and trains will be made later.

M. L. HARRIS, Chicago,
Chairman, Committee on Transportation.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

REPORT OF THE COMMITTEE ON PHYSIOLOGIC ASSAY

Of the Philadelphia Branch of the American Pharmaceutical Association *

DR. T. C. GITHENS, DR. C. A. HOFER, DR. JOHN C. SCOTT, and DR. H. C. WOOD, JR., Chairman

The Committee on Physiologic Assay of the Philadelphia Branch of the American Pharmaceutical Association has considered the advisability of introducing into the Pharmacopeia physiologic tests for the following drugs: apocynum, convallaria, digitalis, squill, strophanthus, aconite, gelsemium, lobelia, veratrum, cannabis, ergot, pepsin, suprarenals, thyroid, chenopodium, granatum, kousso, santonica, cimicifuga, gossypii cortex and phytolacca.

Cimicifuga, gossypii cortex and phytolacca seem of too little importance to require physiologic standardization.

The vermifuges—chenopodium, granatum, kousso and santonica—might, we believe, readily be standardized according to the method which was employed, in connection with the oil of chenopodium, by Brunning,[1] who determined the vermicidal effect on the intestinal worms obtained from the alimentary tract of dogs and cats. Inasmuch, however, as we are unaware of any application of this method for the purpose of standardization and as time was insufficient for experimental work on the part of the committee, we do not feel inclined to recommend the introduction of physiologic tests in connection with these drugs, although we would call the attention of the Committee on Revision of the Pharmacopeia to the possibility of such standardization.

Cannabis.—Two standards have been suggested for cannabis indica. That which is most frequently employed is the amount which is required to produce muscular incoordination in the dog. The other is the amount required to produce narcosis in the frog. As regards the second of these tests, the fact that cannabis indica is practically insoluble in water and that frogs are very susceptible to the action of alcohol seems to us to preclude its use. In regard to the first test, it has been the universal experience that there is a large variation in individual susceptibility in different dogs, so that to obtain results which are even approximately accurate it is necessary to use the same dog repeatedly. The prolonged use of the drug, however, appears to beget a certain amount of immunity toward it, so that one dog can be used for only a comparatively small number of tests. Even with the utmost precautions, the results are far from accurate. As it is impossible, on account of individual idiosyncrasies and the uncertainty of the final reaction, definitely to assign any dose and as the results are so inaccurate, we feel that until some more satisfactory means of standardizing cannabis indica has been suggested, no physiologic assay process should be introduced into the Pharmacopeia.

Ergot.—Another drug which urgently requires some method of standardization is ergot. The cock's-comb test, as has been shown by Edmunds and in our own experiments, is unreliable. Two other methods have been suggested for this purpose: one based on the activity of the drug on uterine muscle, and the other based on its effects on the circulation. Each of these methods requires either that the sample be compared to a standard preparation, or else that a considerable series of animals be employed for each test, and the average taken of the series. Against the method of comparing the effects with a standard preparation rises the almost insuperable obstacle of keeping a standard preparation on hand without deterioration. Our opposition, expressed in connection with digitalis, to any method of test for any drug which requires comparison with a standard preparation which cannot be made by any competent pharmaceutical chemist, applies still more strongly to ergot. The method of taking the average of a series makes the assay so expensive and so tedious as practically to preclude its use by any but the largest wholesale manufacturers. Moreover, there is at least a reason to hope that before the next edition of the Pharmacopeia appears, a satisfactory chemical test for this drug will have been devised. For these reasons we do not recommend the introduction of a physiologic standard for ergot.

Thyroid.—Thyroid gland does not in our opinion require physiologic standardization, as the work of Hunt has shown that the percentage of combined iodin is an accurate indicator of the quality of the drug, and we believe that wherever a chemical test is equally available it should be given the preference to a physiologic one.

Veratrum.—The one physiologic test for veratrum which, so far as our reading goes, has been suggested, is the quantity required to kill. As this substance contains a number of alkaloids which are quite different in their effect, we do not believe that such a test is of any great practical importance. Moreover, as the active principle of this drug is alkaloidal in nature, it would appear to us that a method of chemical standardization could be devised. We would call attention to the fact, however, that the total percentage of alkaloid is no indication of physiologic power of the drug, for, as has been shown by Eden,[2] the protoveratrin, which constitutes a comparatively small percentage of the alkaloidal content of the plant, is so much more powerful than any other principle that it practically dominates the action of the drug.

Aconite.—Although the Pharmacopeia directs that aconite should contain 0.5 per cent. of aconitin, yet the method described gives rather the total alkaloids of the drugs. The percentage of total alkaloids is by no means an accurate criterion of the activity of the specimen, since there are present in the crude drug at least two other alkaloids besides aconitin, which are greatly inferior in potency; therefore, the drug might assay comparatively high in alkaloid, but be of feeble physiologic power. We would recommend, therefore, the introduction of a physiologic standard for this remedy. E. R. Squibb suggested a method of physiologic standardization based on the power of aconite to cause tingling of the lips. A definite amount of the drug is rubbed with 1 c.c. of water and held in the mouth for one minute. This should cause a tingling of the lips, coming on in about twenty minutes and lasting about an hour. This test is unreliable, both because of the difference in susceptibility of different persons and because of the great variations in the susceptibility of the same individual on different days. The standard which we would suggest is based on the amount required to kill a given weight of animal within a period of twenty-four hours. The fact that guinea-pigs may be readily obtained and are so easily handled makes them the most available animals for this purpose.

We suggest the following standard:

> Aconite should be of such strength that it requires not less than 0.4 mg. or more than 0.5 mg. per gram of body weight to kill a guinea-pig when tested in the following manner:
>
> From the specimen to be tested, a fluidextract is made according to the official process. Four guinea-pigs are then carefully weighed and into two of them is injected beneath the skin of the abdomen an equivalent of 0.0004 gm. of aconite for each gram of the body weight, and into the other two is injected 0.0005 gm. per gram of body weight. If at the end of twelve hours the first two survive and the second two are dead, the drug is of satisfactory quality. If the first two die, it is too strong; if the second two survive, it is too weak. If one of either pair lives and the other dies, the test must be repeated.

Digitalis Group.—Apocynum, convallaria, digitalis, scilla and strophanthus are placed together by pharmacologists, as they have much the same physiologic actions. As there is no

* Read before Scientific Section of the Philadelphia Branch of the American Pharmaceutical Association, Nov. 10, 1910.

1. Brunning: Ztschr. f. exper. Pharm. u. Therap., 1905, I, 80.

2. Eden: Arch. f. exper. Path., xxix, 40.

satisfactory method of chemical standardization for any of these drugs, the committee feels that the adoption of a physiologic method of assay would be advisable.

Three types of test have been suggested for the standardization of these drugs: (1) the dose required to kill a warm-blooded animal, as the guinea-pig; (2) the amount required to produce the arrest of the heart of a frog in a given period of time; (3) the degree of elevation of blood-pressure in a warm-blooded animal. The last of these methods may be immediately excluded as being the least reliable of the three, and also the most complex technically. Concerning the choice between the first two methods, while recognizing that there are valid arguments in favor of each, we are inclined to prefer the test on the guinea-pig. It is true that in the study of Edmunds and Hale[3] the frog test appeared to be somewhat more accurate, showing in no case an error of more than 10 per cent. There are, however, two serious objections to the frog method as an official process of assay. In all of these frog tests a time limit has been given, and the various time limits have ranged from one to twenty-four hours. According to the author just quoted, the fatal dose for twelve hours is about three-fourths of that for one hour. It is evident that the difference between the dose required to kill in one hour and that required to kill in twelve hours is largely a question of the rapidity of absorption. Now it may easily be that a preparation which is highly active may, for some reason, be comparatively slowly absorbed, so that the one-hour test is not only of activity of the drug, but of absorbability, which manifestly is not the purpose of the assay.

Another objection which seems to us almost insurmountable is the great variation in the susceptibility of frogs. In the first place, it is a well-recognized fact that frogs of different species vary widely in their susceptibility to members of the digitalis group. It would, therefore, be essential to use always frogs of one species. This offers no trouble if the tests were to be carried out only in one part of the United States, but the species of frogs which are common in Maine are not found at all in California. The most widely distributed frog, the *Rana pipiens*, does not occur west of the Sierra Nevada. Not only do frogs of different species show variations in their susceptibility, but it is recognized that the season of the year influences this. According to a statement made by Dr. Hale in a discussion of this subject before the Philadelphia Branch of the American Pharmaceutical Association, this difference is due simply to the effects of temperature and can be overcome by working always in a room of certain temperature. We are not familiar, however, with any experimental proof of this statement, and it seems, *a priori*, improbable. Moreover, there is reason to believe that even the same species of frog varies according to the locality from which it is obtained. Dr. Donaldson of the Wistar Institute of Anatomy has found a marked difference in the relation of total body weight to the weight of the central nervous system in frogs of the same species, obtained from different parts of the country. While this does not, of course, absolutely prove that there would be a difference in the susceptibility to digitalis, it necessitates at least a careful study of the comparative susceptibility of frogs of the same species from different regions, before it can be taken for granted that they will be the same.

The only method of overcoming these obstacles would seem to be by comparing the preparation tested with a standard preparation. We are convinced that such a method of standardization is undesirable for pharmacopeial purposes. It would necessitate a distribution either by the government or the Pharmacopeial Convention of a standard preparation, and although the experiments of Houghton indicate that tincture of strophanthus might be available for this purpose, such a standard would have to be tested almost continuously by the distributors and given out at comparatively short intervals. Chance deterioration in the standard might easily result in flooding the market with inferior preparations before the fact was discovered and corrected.

3. Edmunds and Hale: Hyg. Lab. Bull. No. 48.

Guinea-pigs, on the other hand, are obtainable in all parts of the world. They are already used for standardization of various remedies, and their susceptibility to digitalis, so far as known, does not vary under ordinary conditions. Temperature, food, season, weight and sex do not influence their reaction. We therefore recommend the use of guinea-pigs for the determination of the physiologic activity of drugs of this group. As the methods of assay for all the members of this group are the same, we shall describe the test as applied to digitalis only.

> Digitalis should be of such strength that when tested in the following manner it shall require not less than 0.35 mg. or more than 0.40 mg. per gram of body weight to kill a guinea-pig in twelve hours.
>
> Method of Assay: From the sample to be tested a tincture shall be made according to the official process; four guinea-pigs are then carefully weighed, and into two of them an amount of the tincture corresponding to 0.35 mg. per grain of body weight is injected beneath the skin of the abdomen and into the other two a uantity equivalent to 0.40 mg. is injected. If both of the first pair survive and both of the last pair die, the drug is of satisfactory quality. If, however, both of the first pair die, the sample is too strong, or, if both of the second pair survive, too weak. If, of either pair, one survives and one dies, the test should be repeated.

Suprarenal.—If suprarenal glands remain official in the next revision of the Pharmacopeia, we believe that there should be some standard of strength introduced. As at present there is no chemical assay available, and as the physiologic test is one of the simplest of all pharmacologic experiments, we recommend the introduction of the following method for the physiologic assay of suprarenal glands.

> Suprarenal gland should be of such strength that 1 gm. injected intravenously into a dog shall produce a rise of mean blood-pressure within 10 mm. of that produced in the same animal by a dose of 0.001 gm. of the pure active principle when tested in the following manner:
>
> Method of Assay: A dog weighing between 5 and 15 kilograms is anesthetized by injecting hypodermically 0.08 gm. of morphin sulphate for each kilo of body weight, supplemented with the use of such quantity of ether as shall be necessary to prevent pain. One of the larger arteries, as the femoral or carotid, is then connected with a mercury manometer and the animal allowed to come from under the influence of the ether. No experiments should be begun until at least ten minutes have intervened after the withdrawal of the ether. At the end of this period, the normal pressure should be recorded for a period of at least ten minutes, and then a dose of 0.001 mg. of pure active principle for each kilo of body weight is injected intravenously and the blood-pressure observed for at least three minutes. At a period of not less than twenty minutes after the first injection, a dose of 1 mg. of the sample to be tested is injected in the same manner and the pressure observed again for ten minutes. Ten minutes after the injection of this sample a second dose of the pure active principle is to be injected. The elevation of the blood-pressure at the highest point reached after each injection above the pressure at the time the injection was made is then measured. The rise of blood-pressure which was produced by the second injection should be within 10 mm. of the average of the first and third injections.

MRS. PRICE'S CANNING COMPOUND

When the federal Food and Drugs Act went into effect, the use of certain chemical preservatives which had been proved injurious was prohibited in food-stuffs that entered into interstate commerce. One of these preservatives was boric acid. As the harmfulness of this chemical became generally known, housewives and others who had been in the habit of using it for preservative purposes abandoned it. It was then that unscrupulous exploiters of chemical preservatives took a leaf out of the note-book of "patent medicine" fakers and put on the market, under fanciful names, preserving compounds composed largely of boric acid, but giving no indication of the presence of this chemical.

Mrs. Price's Canning Compound is sold on the claim that it will "prevent canned fruits and vegetables from souring and spoiling" and that it "may be used in canning all kinds of fruits" and "in making catsup, sweet pickles or anything that is liable to ferment." The Kansas State Board of Health has published at different times the results of two independent analyses of this "compound." These indicated that the stuff varied in composition. In view of this fact and because inquiries have been received, another analysis was made of Mrs. Price's Canning Compound, in the Association laboratory. The report of the Association's chemists is as follows:

"Mrs. Price's Canning Compound, manufactured by the Price Compound Company, Minneapolis, Minn., as received in the Association laboratory, was contained in an envelope bearing the name of the preparation, the name and address of the manufacturer and directions for its use.

"The envelope contained about 30 gm. of a white powder, soluble in water, possessing a salty taste and having an odor of benzoic acid. Qualitative tests indicated the presence of borate, chlorid, benzoate and sodium. Further experiments and the quantitative estimations indicated that the constituents found existed as boric acid, sodium chlorid and benzoic acid (possibly in part as benzoate) corresponding to the following amounts:

Boric acid, 94.74 per cent.
Sodium chlorid, 4.71 per cent.
Benzoic acid (calculated from total benzoate), 0.40 per cent.

"While the first analysis (Bulletin Kansas State Board of Health, October, 1909, p. 267) showed that the preparation consisted entirely of commercial boric acid, the second examination (Bulletin Kansas State Board of Health, November, 1909, p. 282) showed that about 6 per cent. of the boric acid had been replaced by sodium chlorid. The present analysis shows that the composition has been again altered by the addition of a small amount of benzoic acid. For all practical purposes, these changes are unessential. The variability is evidently the result of carelessness in the manufacture or it is made with the idea of misleading and confusing."

The housewife who uses this mixture does so, of course, not knowing that the chemical she is putting into her foods has been declared injurious as a food preservative by the federal government. Neither does she realize that she is paying for what is essentially boric acid, worth 15 cents a pound, at the rate of $1.60 a pound.

Correspondence

The Philadelphia Idea as to Medical Teaching

To the Editor:—On several occasions within the last few years statements have been made in medical journals, here and abroad, to the effect that the medical schools of this country are not equipped with satisfactory opportunities for clinical teaching. Last spring, the president of Cornell University, when delivering an address which should have been carefully prepared, made the extraordinary statement that no medical school in this country, with the exception of Johns Hopkins, had a hospital completely under its control, and therefore adequately used for teaching purposes.

In the London *Lancet*, Feb. 4, 1911, its American correspondent in describing a proposed amalgamation between the medical department of Columbia University and the Presbyterian Hospital refers to this plan as the "Johns Hopkins idea." It goes without saying that those of us who know much of medical teaching hold the Johns Hopkins Medical Department in the highest esteem, but it is only proper that the facts be correctly stated. The object of this communication is to point out the fact (not so generally known as it should be) that every medical school in Philadelphia has as a part of its equipment a hospital, which exists, not as an affiliated institution, but as part and parcel of its teaching plant. As long ago as 1824, when Jefferson Medical College was founded, it established an out-patient service in order to give its students the advantage of clinical material under its own control; and in 1841, the medical department of the University of Pennsylvania did likewise. In 1873, Jefferson Medical College inaugurated its plans for a complete hospital, and this institution was opened Sept. 17, 1877, containing 160 beds. At about the same time the Hospital of the University of Pennsylvania went into active service. Three years ago, the new Jefferson Medical College Hospital, costing $1,250,000, was completed, containing 300 beds, and from time to time the university hospital has been considerably enlarged. As soon as it was started in 1881 the Medico-Chirurgical College established an out-patient department, and a few years afterward erected a hospital. The Woman's Medical College of Pennsylvania also has a hospital known as the Hospital of the Woman's Medical College. The Hahnemann Medical College also has its own hospital, and the medical department of Temple University, the youngest of the Philadelphia schools, has under its direct control the Samaritan Hospital.

It is interesting to note in this connection that all of these hospitals are under the control of the same boards of trustees that govern the institutions in which the students matriculate for the purpose of studying medicine, and in the Jefferson Medical College, in the University Medical Department and in the Medico-Chirurgical College members of the faculty who teach in the practical branches are by virtue of their professorial chairs in actual control of and on duty in the wards. In other words, to be elected professor of medicine, therapeutics, or surgery in Jefferson Medical College means that a man is thereby elected physician or surgeon to the Jefferson Medical College Hospital. The relationship is therefore a matter of absolute control and not of friendly affiliation, and by this means only can satisfactory medical teaching in a medical school be accomplished. If, therefore, the principle of having an active hospital as a part of a thoroughly equipped medical school is to be given a specific name it should be called the "Jefferson Medical College idea" or the "Philadelphia idea" and not the "Johns Hopkins idea."

As a matter of fact, barring the Johns Hopkins Hospital; there is, I believe, no medical school in the United States so thoroughly equipped with hospital facilities under its own control as the Philadelphia medical teaching institutions, all of which have their hospitals, with exception of Temple College, side by side with the medical school buildings. All of these institutions have in addition the opportunity of teaching their students in large hospitals which are thrown open to all the schools, such as the Pennsylvania and Philadelphia Hospitals, for example. In other words, the Philadelphia schools have all the benefits of unattached hospitals possessed by institutions elsewhere in addition to the ownership and control of their own hospitals.

As a matter of historical fact, Jefferson Medical College was the first medical institution in America to establish clinical teaching, and all its sister institutions in Philadelphia, with which it dwells in the most cordial friendship, have followed its example.

H. A. HARE, M.D., Philadelphia.
Professor of Therapeutics, and Physician to the Jefferson Medical College Hospital.

Card System of Dairy Inspection

To the Editor:—I notice with much interest an editorial in THE JOURNAL, Jan. 14, 1911, p. 124, relative to the score-card system of dairy inspection, which you commend, but say that it needs "further elaboration." I shall be much interested in seeing your comments on the card and getting your ideas on the same. Possibly a few words relative to the history and development of the standard card now in use may be helpful to you and of interest. The first score-card which I ever saw allowed 500 points and handed out blocks of twenty-five to thirty-five for different items. It soon became evident that such a card, as you say, needed "further elaboration;" that if twenty-five points were allowed, for instance, for "Cleanliness of the Stable," there would be a chance for very wide differences in the score; so that from time to time we have revised

the score-card until we have evolved the one which we recommend, and every revision has been along the line of this "further elaboration." The one which we are using now has the endorsement of the National Association of Official Dairy Instructors, but when we print more of them two items at least will receive, doubtless, further elaboration. The eight points allowed for "Cleanliness of Cows" will be subdivided into minor items, as will be the six points for "Condition of Stable," "Air at Milking Time," giving a part of the allowance for "Clean Bedding," a part for "Freedom from Dust," and a part for "Freedom from Odors." Our experience has shown us that the more the card is elaborated the better it is, and the present card is the result of years of experience and development along that line.

GEORGE M. WHITAKER,
In Charge, Market Milk Section, Dairy Division.
U. S. Dept. Agriculture, Bureau of Animal Industry.

[COMMENT:—Editorial reference to this subject is made in this issue.—ED.]

Peccavimus!

To the Editor:—I have been frequently amused by the quality of medical erudition displayed by the daily and weekly newspapers; especially by the "Clippings from Lay Exchanges" in THE JOURNAL. But are we not the goat of the Roman fable, standing on the roof of a house and ridiculing the wolf passing below, when our great JOURNAL, the English of which is so polished and the proofreading so nearly perfect, prints (Feb. 11, 1911, p. 443) Latin like this: "M. fiat pilulam"? Should the author of such Latin take up his long-neglected "Commentarii Cæsaris de Bello Gallico" and find such a distortion of case-endings he would certainly be puzzled if he made an effort to convert it into English.

CHARLES H. HIGGINS, Zanesville, O.

[COMMENT:—We wish here to acknowledge other letters on this subject and to admit that our correspondent's severity is not misplaced. The error cited is, of course, a shocking one. We desire, however, to exculpate completely Dr. Bolenius, who furnished the prescriptions. We can only plead guilty of an inexplicable blunder, and throw ourselves on the mercy of the court. Those of our readers who have had any experience with the treachery of types will perhaps be lenient. If Argus had had brains to match his hundred eyes, he would have been just the man we want on our staff. Evidently, however, we have the next best thing— a corps of readers whose collective erudition and interest in maintaining the standard of THE JOURNAL are so great that any oversight of ours is sure to be brought to our attention in the next mail.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MARSDEN'S PASTE

To the Editor:—Who was the originator of Marsden's paste? Who is or was Marsden? Please give the percentage of epitheliomas cured by it.

I have had excellent success in one case of epithelioma of the bridge of the nose and toward the inner canthus of the left eye with this paste. But a man of 80 presented himself with an extended growth reaching within quarter of an inch of the margin of the lower eyelid, and I have put him off, hardly daring to do anything. Any suggestion will be thankfully received. If Marsden's paste is a good treatment, why is it not emphasized more?

A. I. LOVELL, M.D., Graysville, Tenn.

ANSWER.—Alexander Marsden originated this paste. He was a London surgeon who had a large experience in cancer in the London Cancer Hospital. His paste was introduced in an article, "A New and Successful Mode of Treating Cancer," published in London in 1867. It has always been highly regarded and widely used by a few men, but, like all other caustic methods of treating epitheliomas, it has suffered from the prejudice against caustics. It is a valuable method of treatment in properly selected cases. Its use, with that of other caustics, is considered in detail in THE JOURNAL, Nov. 5, 1910, p. 1611, in the article by Dr. W. A. Pusey on "Treatment of Malignant Growths of the Skin from a Dermatologist's Standpoint."

No reliable statistics are possible as to the percentage of cures obtained with it. Success depends on its thorough application in properly selected cases—that is, in cases in which the growth can be entirely destroyed. Daniel Lewis says that 99 per cent. of epitheliomas of the skin are curable if taken in time.

SPENGLER'S IMMUNE BODIES—I K

To the Editor:—1. What is the Carl Spengler immune blood or antitoxin? 2. Where can it be obtained? 3. What results have been obtained from its use in tuberculosis?

JOSEPH PESTAL, M.D., Pearce, Ariz.

ANSWER.—1. Carl Spengler's immune bodies—I K—are derived from the red blood-corpuscles of the blood of animals immunized against the tubercle bacillus. The material is said to be extracted in such a way that the immune bodies are removed in a state of comparative purity, free from albumin and blood-coloring matter. The theory of Spengler, on which the preparation is based, is that the red blood-corpuscles are the source of the immunizing substance produced by the organism in tuberculosis.

2. The preparation is made by Spengler, of Davos, Switzerland, and is put on the market by Kalle & Co., Riebrich a. Rh., Germany. It has been used to a considerable extent in Germany, but, as we understand, it cannot be imported into this country legally because the firm which manufactures it has not a license for the manufacture of serums, antitoxins, tuberculins, etc., which is required by the United States government before such products can be imported into this country. A list of licensed manufacturers appeared in *Public Health Reports*, Feb. 10, 1911.

3. Many favorable reports of the action of this preparation in tuberculosis have appeared in the literature, while other clinicians have found it of little or no value. Further experience will be necessary before a positive opinion can be expressed.

TREATMENT OF GEOGRAPHICAL TONGUE

To the Editor:—Can you give me a remedy for a disease which is commonly known as "geographical tongue?" This is mentioned in Stellwagon's "Diseases of the Skin," on pp. 1086-89, under the heading of "Transitory Benign Plaques of the Tongue," and is given the following names: exfoliatio areata linguæ, pityriasis linguæ, wandering rash, ringworm-like patches of the tongue, Muller's superficial glossitis, etc.

I have under treatment a chronic case which has existed for about ten years; the patient is over 65 years of age and has no syphilitic taint. I have tried a number of antiseptics and other remedies, but I find them of very little use and would be grateful if you can suggest some remedy.

J. F. NAGLE, M.D., New York City.

ANSWER.—There is no satisfactory treatment for geographical tongue. Its etiology is not known, so the treatment is entirely empirical. The use of bland antiseptic mouth washes, such as a solution of hydrogen peroxid, and painting with a bland varnish, such as tincture of myrrh, are recommended. A few paintings with tincture of iodin at intervals of at least three or four days may serve to remove it either by stimulating the surface or by acting as an antiseptic. The condition is rare in the old and a careful differential diagnosis should be made from leukoplakia, in which stimulating remedies like tincture of iodin are not indicated.

USE OF MERCURY CYANID OR OXYCYANID AS AN ANTISEPTIC

To the Editor:—Can you give me any references to literature concerning cyanid or oxycyanid of mercury as an antiseptic?

C. S. OAKMAN, Detroit.

ANSWER.—Cyanid and oxycyanid of mercury are described in New and Nonofficial Remedies, pages 126 and 127, and in the British Pharmaceutical Codex. These authorities state that these salts have an antiseptic and disinfectant power similar to mercuric chlorid. The bactericidal value of mercuric oxycyanid is given by Lehmann (*Oesterr. Ztg.*, 1903, 851; abstracted in the Proceedings of the American Pharmaceutical Association, 1904, lii, 795) as equal to that of mercuric chlorid. Doubt is thrown on the antiseptic value of mercuric oxycyanid by K. Holdermann, who cites the experiments of B. Köhler in a thesis published at Marburg in 1905 (*Arch. d. Pharm.*, 243, No. 9, 1905, 673; abstracted in the Proceedings of the American Pharmaceutical Association, 1906, liv, 828).

MEDICAL MISSIONARY SERVICE

To the Editor:—Whom may one address to apply for foreign missionary medical service? F. S. MARNELL, Nebraska City, Neb.

ANSWER.—The first and most natural procedure for a person who wishes to take up foreign medical missionary work is to communicate with the foreign board or society of the particular denomination in which he or she is already a member or regular attendant. There is, however, what might be called a clearing house for all denominations, and the secretary of this body recently sent an interesting letter to THE JOURNAL, which will be found in the issue of Dec. 3, 1910, page 1997. Mr. W. B. Smith, 125 East Twenty-Seventh Street, New York City, is candidate secretary of the Student Volunteer Movement for Foreign Missions.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—Dr. Beardsley, in THE JOURNAL, January 28, suggests the use of oil of wintergreen in removing adhesive plaster. A cheaper and often more accessible article is ether.

To remove the plaster raise from one-eighth to one-fourth inch of one end of the adhesive strap before applying the ether, then, with a medicine dropper, apply ether to the skin a drop at a time, and the plaster will almost fall off by its own weight. It is necessary to be careful not to separate the cloth from the adhesive material in starting or else the ether will follow this plane, removing the cloth only. J. SCOTT BROWN, M.D., Burnett, Wis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 18, 1911.

Millikin, John D., D.S., granted leave of absence for two months, to take effect on arrival at San Francisco.

Moncrief, William H., captain, assignment to duty at Fort Riley, Kan., revoked, and instead ordered to Fort Leavenworth, Kan.

Graham, George D., D.S., orders so amended as to relieve him from duty at Fort Shafter, H. T., to take effect on the arrival at Honolulu of the transport leaving San Francisco about July 5, and to direct him to proceed on that transport to Manila, P. I., and report for assignment to duty.

Coffin, Jacob M., captain, granted three months' leave of absence, to take effect on his relief from duty in the Philippines division; permission to return to the United States via Europe.

Wing, F. F., D.S., reports his arrival at Fort Des Moines, Iowa, for temporary duty.

Pinkston, O. W., captain, reports in field with 4th Cavalry, camp at Washington Park, El Paso, Texas.

Millikin, John D., D.S., relieved from duty in the Philippines division and will proceed from Manila, P. I., about August 15, 1911, to San Francisco for orders.

Page, Henry, major, granted four months' leave of absence, to take effect on his relief from duty in the Philippines division, with permission to go beyond the seas.

McLaughlin, William F., M.R.C., granted leave of absence for one month and four days.

Blair, Faris M., M.R.C., granted twenty-three days' leave of absence.

Underwood, Gordon B., M.R.C., granted twenty-three days' leave of absence.

Delacroix, A. C., M.R.C., reported for temporary duty at Fort Columbia, Wash.; left Boise Barracks, Idaho, February 8.

Bierbower, H. C., M.R.C., reports arrival at Columbus, N. Mex., with Troop C, 4th Cavalry.

Maloney, James E., M.R.C., ordered to proceed to Fort Lawton, Wash., for temporary duty.

Campbell, George F., M.R.C., relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to station, Fort Wingate, N. Mex.

Scott, Harold O., D.S., orders for annulment of contract revoked. Will proceed, at the expiration of his leave of absence, to the Army General Hospital, San Francisco, for duty. Dental Surgeon Scott will stand relieved from duty at that hospital and will proceed to the Philippine Islands for duty on transport sailing from San Francisco about April 5, 1911.

Moncrief, William H., captain, granted thirty days' leave of absence.

Carr, William B., lieut., ordered to proceed from Fort Monroe, Va., to Fort Sam Houston, Texas, for temporary duty.

Delacroix, relieved from duty at Boise Barracks, Idaho, and assigned to duty at Fort Columbia, Wash.

Roberts, William M., major, ordered to Fort Oglethorpe, Ga., for temporary duty.

Bourke, James, captain, directed to proceed to Fort Crockett, Texas, for duty about April 10, insted of March 10, 1911.

Woodall, William P., captain, honorably discharged from the service of the U. S.

Williamson, L. P., lieut., assigned to duty with Co. I, Signal Corps, for field service in Arizona.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Farwell, W. G., P. A. surgeon, detached from the naval station, Guantanamo, Cuba, and ordered to the *South Carolina*.

Riddick, W. J., asst.-surgeon, detached from the *South Carolina* and ordered to the naval station, Guantanamo, Cuba.

Hibbett, C. T., medical director, detached from the navy yard, Norfolk, Va., and ordered to command the naval hospital, Norfolk, Va.

Du Bose, W. R., medical director, detached from command of the naval hospital, Norfolk, Va., and ordered to duty as member of the naval examining and naval medical examining boards, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 15, 1911.

Guiteras, G. M., surgeon, granted nine days' leave of absence from Feb. 1, 1911, on account of sickness.

Young, G. B., surgeon, detailed to represent the service at the annual conference on medical education and legislation of the American Medical Association, at Chicago, March 1-3, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to Erie, via Harrisburg, Pa., on special temporary duty.

Warren, B. S., P. A. surgeon, granted seven days' leave of absence from Jan. 4, 1911.

Manning, H. M., P. A. surgeon, directed to proceed to the New Orleans quarantine station, Quarantine, La., and report to the medical officer in command, for duty and assignment to quarters.

Pettyjohn, Joseph, P. A. surgeon, directed to proceed to Boston and report to the medical officer in command for duty and assignment to quarters.

Lyon, R. H., asst.-surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Stiles, C. W., professor of zoology, detailed to attend a conference on the hook-worm disease to be held at Atlanta, Ga., Feb. 14-15, 1911.

Hunt, Reid, professor of pharmacology, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Thompson, W. R. P., A. A. surgeon, directed to proceed to Salina Cruz, Mexico, on special temporary duty.

Walkley, W. S., A. A. surgeon, granted seven days' leave of absence from Feb. 10, 1911.

Wood, J. E., A. A. surgeon, granted fifteen days' leave of absence from Feb. 9, 1911.

Wright, F. T., A. A. surgeon, granted thirty days' leave of absence from Feb. 6, 1911.

Motter, M. G., technical assistant, detailed to represent the service at the meeting of the National Confederation of State Medical Examining and Licensing Boards, at Chicago, Feb. 28, 1911.

Wilbert, M. I., technical assistant, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Senator Owen Introduces New Health Bill

The Hon. Robert L. Owen has introduced the following bill as a substitute for the bill introduced last year providing for a National Department of Health:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That there shall be at the seat of government an executive department to be known as the Department of Health, and a Secretary of Health, who shall be the head thereof, who shall be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of $12,000 per annum, and whose term and tenure of office shall be like that of the heads of the other executive departments; and Section 158 of the Revised Statutes is hereby amended to include such department, and the provisions of Title 4 of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The said secretary shall cause a seal of office to be made for the said department, of such device as the President shall approve, and judicial notice shall be taken of said seal.

SEC. 2. That there shall be in said department an assistant to the secretary, known and designated as director-general, who shall be a competent physician and a skilled sanitarian, to be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of $7,500 per annum, and whose term and tenure of office shall be for six years. He shall perform such duties as shall be prescribed by the secretary or required by law. There shall also be one chief clerk, and a disbursing clerk and such other clerical assistants as may from time to time be authorized by Congress. And the auditor for the state and other departments shall receive and examine all accounts of salaries and incidental expenses of the office of the Secretary of Health and of all bureaus and offices under his direction, all accounts relating to the Public Health and Marine-Hospital Service, the Bureau of Chemistry, the Bureau of Vital Statistics, the Bureau of Meat Inspection, or other bureaus which may be

transferred to the Department of Health by executive order, as is provided for by this act, and to all other business within the jurisdiction of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants, and send forthwith a copy of each certificate to the Secretary of Health.

SEC. 3. That it shall be the province and duty of said department to foster and promote, by inquiries or otherwise, and develop all matters pertaining to the public health; to collect and diffuse information relating to or affecting the public health; to advise the several departments of the government, the executives of the several states and territories, and all the health authorities of the several states and territories and the District of Columbia and the dependencies on all matters pertaining to the public health, when in his opinion such advice may tend to the preservation and improvement of the health of the people, to secure the best sanitary condition of vessels, their cargoes, passengers, and crews, from foreign and domestic ports; to prevent the introduction of contagious and infectious diseases into the United States and their spread from any state or territory or the District of Columbia; on request of the executive of any state or territory or the District of Columbia to cooperate with and aid state, territorial, district, and municipal health authorities in the execution and enforcement of such needful rules and regulations as are deemed by him necessary to suppress or prevent the spread of contagious and infectious diseases; and, in general, the Department of Health shall be the medium through which the government shall adopt such measures or take such action as will most effectually protect and promote the health of the people of the United States and its dependencies.

SEC. 4. That the office of the surgeon-general of the Public Health and Marine-Hospital Service and the corps of officers and personnel of the Public Health and Marine-Hospital Service, now and heretofore under the jurisdiction of the department of the Treasury, be, and the same hereby are, transferred from the Department of the Treasury to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department; and that the chief of and the Bureau of Vital Statistics of the Census Office, and all that pertains to the same, be, and the same hereby are, transferred from the Department of Commerce and Labor to the Department of Health and henceforth shall remain under the jurisdiction and supervision of the latter; and the following-named bureaus of the Department of Agriculture: that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the Act of Congress approved June 30, 1906, the chief of the bureau and all that pertains thereto, and that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof which are subjects of interstate and foreign commerce, the chief of the bureau and all of said bureau which pertains thereto, be, and the same hereby are, transferred to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department.

SEC. 5. That all the duties, powers, authority, and jurisdiction, whether supervisory, appellate, or otherwise, now imposed on the Secretary of the Treasury by acts of Congress relating to the Public Health and Marine-Hospital Service, to the enforcement of quarantine, and for the suppression of epidemic diseases; and now imposed on the Secretary of Commerce and Labor by acts of Congress, relating to the Bureau of Vital Statistics of the Census Office; and now imposed on the Secretary of Agriculture by acts of Congress, relating to that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the aforesaid Act of June 30, 1906, and relating to that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof, shall be, and the same hereby are, transferred to and imposed and conferred on the Secretary of Health.

SEC. 6. That the Secretary of Health is hereby given power and authority to rearrange the work of the bureaus and offices confided to said department, and to consolidate the statistical bureaus and offices, and the Secretary of Health shall also have authority to call on other departments of the government for statistical information so obtained in such manner as to him may seem wise. That the official records and papers now on file in and pertaining exclusively to the business of any bureau, office, department, or branch of the public service in this act transferred to the Department of Health, together with the furniture now in use in such bureau, office, or department, or branch of the public service, shall be, and hereby are, transferred to the Department of Health.

SEC. 7. That the President be, and hereby is, authorized by order in writing, to transfer at any time the whole or part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work which relates to and is germane to the public health to the Department of Health, except those of the Department of War and the Navy, and in every such case the duties and authority performed by and conferred by law on such office, bureau, division, or other branch of the public service, or part thereof, which is transferred, and all the power and authority conferred by law, both supervisory and appellate, on the department from which such transfer is made, or the secretary thereof, in relation to said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is ordered by the President, be fully conferred on and vested in the Department of Health or the secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or any branch of the public service so transferred.

SEC. 8. That there shall be an advisory board for the Department of Health. Said board shall consist of three competent experts, to be detailed from the Army, Navy, and the Bureau of Animal Industry by the Surgeon-General of the Army, the Surgeon-General of the Navy, and the Secretary of Agriculture, and one versed in law to be detailed from the Department of Justice by the Attorney-General, respectively (which experts, together with the chiefs of the bureaus of the Department of Health, shall be *ex officio* members of the board, and serve without additional compensation), and eight other members who shall be appointed by the Secretary of Health, who shall be competent experts, and not in the regular employment of the government. The said eight members shall each receive compensation of $20 per diem while serving in conference, as aforesaid, together with allowance for actual and necessary traveling expenses and hotel expenses while in conference. The term of service of the eight members of said board not in the regular employment of the government, first appointed, shall be so arranged that two of said members shall retire each year, and subsequent appointments shall be for six years. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant. The duties of said board shall be to consult with the secretary relative to investigations to be inaugurated in the department and the methods of conducting the same, to formulate, for the secretary's approval, the rules and regulations to be observed in maritime and interstate quarantine, to formulate opinions on subjects referred to it by the secretary, and to participate in conferences held by the Secretary of Health with the health authorities of states and territories and the District of Columbia; and so much of the act approved July 1, 1902, which relates to an advisory board for the Hygienic Laboratory is hereby repealed.

SEC. 9. That the Secretary of Health shall call an annual conference of the health authorities of all the states and territories and the District of Columbia, said conference to be held in the city of Washington, and each of the said states, territories, and the District of Columbia shall be entitled to send one delegate from its health department. And each delegate from said state or territory or the District of Columbia so attending a conference called by the Secretary of Health shall be entitled to receive an allowance for actual and necessary traveling expenses and hotel expenses, not exceeding five days, exclusive of days necessarily spent in travel: *Provided*, That when, in the opinion of the Secretary of Health, the interests of the public health would be promoted by a conference of one or more health authorities of states and territories with himself, he may invite such states and territories as he may deem necessary to send one delegate from each of the health departments to participate in such conference: *And provided further*, That it shall be the duty of the Secretary of Health to call a conference on application of not less than five state or territorial boards of health, and each of said states and territories and the District of Columbia joining in such request shall be entitled to send one delegate.

SEC. 10. That the Secretary of Health, after conference with the advisory board, may cause investigations to be made into the nature, origin, and prevention of contagious and infectious diseases, epidemics, and other diseases, in the

United States and its dependencies, and, if necessary, in foreign countries, and may appoint commissions of experts from the Department of Health or experts not in the regular employment of the government to make such investigation as may in his judgment seem wise.

SEC. 11. That the President is hereby authorized, when requested by the Secretary of Health, and when the same can be done without prejudice to the public service, to detail officers from the several departments of the government for duty under the direction of the Secretary of Health to carry out the provisions of this act, and such officers while so detailed shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties.

SEC. 12. That the Secretary of Health shall annually, at the close of the fiscal year, make a report in writing to Congress, giving an account of all money received and disbursed by him and his department in fostering and promoting the public health, and in matters relating thereto. He shall make special reports as he may be required to do by the President, or either house of Congress, or which he himself may deem necessary and urgent.

SEC. 13. That, except as expressly provided for by this act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty now imposed by law on any existing bureau or part of bureau; but such bureaus and parts of bureaus as are by this act transferred to the Department of Health shall continue, under direction of the Secretary of Health, to have such functions, duties, and rights as they have at the time of such transfer, and such parts of bureaus as are not transferred, in those cases where a part only is transferred, shall continue to have such functions, duties, and rights as they would have had if this act had not been passed.

SEC. 14. That the sum of ———— dollars be, and is hereby, appropriated to carry the provisions of this act into effect.

SEC. 15. That all acts or parts of acts inconsistent with this act are hereby repealed.

SEC. 16. That this act shall take effect on and after July 1, 1911.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Fourth Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

ERYSIPELAS

ETIOLOGY: *Streptococcus erysipelatis*, relation to *Streptococcus pyogenes*. Season, age, sex, previous attacks, traumatism, local abrasions. Infection may be (1) local (ectogenous), (2) lymphogenous, or (3) hematogenous.

PATHOLOGY: Changes in the skin and subcutaneous tissues. Extension to deeper structures, meninges, etc. Changes in endocardium, viscera.

SYMPTOMS: Incubation, duration, prodromata. Invasion; general symptoms, chill, fever, vomiting, pulse, urine, nervous symptoms. Relation of constitutional symptoms to local lesions. Local symptoms; erysipelas erythematosum. Erysipelas vesiculosum, bullosum, pustulosum, gangrenosum. Erysipelas migrans, neonatorum.

TREATMENT: Prophylactic. Antisepsis. Puerperal cases. Reinfection. Diet.*

CONSTITUTIONAL TREATMENT: Medicinal. Serum treatment. Symptomatic treatment.

LOCAL TREATMENT: Phenol, mercuric chlorid, ichthyol. Subcutaneous injections. Strapping.

TETANUS

ETIOLOGY: Bacillus of tetanus, staining and cultural characteristics. Tetanus toxins. Wounds favoring growth of tetanus bacillus. Fourth-of-July tetanus.

SYMPTOMS: Incubation period, duration, prodromata. General symptoms. Condition of wound. "Idiopathic" tetanus.

CLINICAL TYPES: Acute and chronic, tetanus neonatorum, puerperal tetanus, head tetanus.

TREATMENT: Prophylaxis.
Local treatment.
Serum-Therapy: Method of using serum and antitoxins.
Phenol treatment.
Medicinal Treatment.

Monthly Meeting

The Value of Blood-Examination in the Surgical Infections.
The Clinical Diagnosis of Septicemia, of Pyemia.
Prophylaxis of the Surgical Infections.

Extra Weekly Meeting

There can be an extra weekly meeting for the exhibition of cases and for the report of case histories by any of the members.

* Osler's Modern Medicine, iii, 533.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

Preliminary Educational Requirement in Indiana

The State Board of Medical Registration and Examination is now enforcing the following outline of minimum preparatory work required which became effective Jan. 1, 1911:

1. Graduation from a regularly commissioned high school of Indiana, or from an equivalent school, such graduation to be evidenced by a certificate or diploma properly signed, or in lieu of such graduation formal documentary evidence satisfactory to the board of a full equivalent of such high school course.

2. In addition to the above, the applicant must submit formal documentary evidence that he has pursued successfully in a recognized college or university in resident courses extending over not less than eighteen calendar months, sufficient work, including the courses outlined below, to entitle him unconditionally to not less than one-half of the total credits required by said institution for the bachelor's degree in the courses of liberal arts or science.

Specific subjects required: For applicants matriculating under these requirements subsequent to June 30, 1912, the following subjects are specifically required to be included in the preparatory work: One year each of chemistry and biology, one of which shall be college work. Two years of college English. The remaining college work is unspecified, save that it must be taken in subjects commonly recognized as belonging in the course of liberal arts or sciences. College courses, professional or semiprofessional in their nature, will not be accepted as meeting in any part the above preliminary requirements of two years of college work.

This board will not offer or accept any examination in lieu of, or as a test of any substitute for the above required college work in liberal arts or sciences. In lieu of such college work there may be offered an equivalent amount of work in a normal or other school whose credits are transferable and acceptable to such recognized college or university as contemplated above. The board may require as evidence of this equivalency a certificate from a college or university acceptable to the board, stating the work is so acceptable by said institution.

Book Notices

PRINCIPLES OF THERAPEUTICS. By A. Manquat, National Correspondent to the Académie de Medicine. Translated by M. Simbad Gabriel, M.D. Cloth. Price, $3 net. Pp. 298. New York: D. Appleton & Co., 1910.

Basing his studies on the scientific advances of the last half century and on clinical experience and exact observations, the author attempts to lay down principles for the guidance of the young physician. He divides remedies into four classes: etiologic or nosocratic, organic and functional, symptomatic, and reparative.

In dealing with the action of medicines a most important distinction is made between toxic and utilizable actions, both of which are included by pharmacologists under the term "physiologic." The author defines toxic action as follows: "The action on the organism of any substance which, in a relatively small dose, is capable of producing reactional, material or functional disorders, remarkable by their intensity, duration or gravity, whether these disorders be immediately appreciable or secondary and more or less slow in development." He says, "It is now obvious how far we are from an equation between toxicity and death."

For actions which do not exceed the limits of normal reactions, he proposes the term "utilizable action," and expresses the belief that this distinction has practical importance of the highest order because experimenters recognizing it will no longer exhaustively investigate the toxic action of a substance; on the contrary, the utilizable actions will interest them. While therapeutics may occasionally avail itself of toxic actions, as in the use of atropin as a mydriatic, the object should be to avoid them as a rule.

Another point to be emphasized is that the physician must always consider the possibility that the toxic action of the drug may cooperate with the action of the poison of the disease and so increase the undesirable effect on the weakened organ. Thus attention is called to the possibility of doing harm by the addition of medicinal to morbid toxicity.

Posology next demands attention and the important principle developed here is the determination of doses according to the action desired and their modification in accordance with the susceptibility of the organism. Protest is made against the use of the largest dose tolerated, to which is opposed the principle of giving the smallest effective dose.

The variations of practice imposed by various external conditions and by the nature of the disease producing the symptoms are discussed in a chapter on medicinal opportunity. There is excellent advice in the chapter entitled "Primum non Nocere," in which is discussed how one may do harm and how one may avoid doing harm. The author conservatively advises not to seek the better when good is at hand. "Where traditional medicine has shown the harmlessness and regularity of action of certain successful practices, it is inopportune to try to do better by some novel doubtful method."

Manquat's opinion of formularies is thus expressed: "It is, therefore, not too much to say that one may kill by conforming to a very good formulary." The formulary can only give the dose appropriate for the ordinary case. While in ordinary cases of pneumonia, digitalis is well borne and does good in relatively large doses, there are other cases, indicated by acceleration of the pulse and embryocardia, in which an ordinary dose may do harm by adding a medicinal poison to the poison of the disease. "How," Manquat asks, "could a formulary intended especially to furnish practical details on the administration of medicines discuss such views?" Again we quote, "What shall we think of tables of maximum doses? As I have myself been guilty of the elaboration of one, I may be severe with them. They are worse than useless, for they may warrant dangerous therapeutic procedures. Almost all posology, based as it is on the theories of physiologic therapeutics, should be revised and reduced."

As a conclusion of this chapter, the author lays down a scheme of questions which the physician should ask himself in difficult cases, in order that he may not neglect any important considerations and may avoid the chance of doing harm. While it would be impracticable to employ these questions in every case, it would be excellent practice for every student and young practitioner to use them until this method becomes habitual with him.

In a separate chapter, Manquat gives his idea of a scientific method in the study and practice of therapeutics. The necessity of exact diagnosis and prognosis as elements in every therapeutic problem is emphasized. The worthlessness of many of the reports of so-called clinical observation is pointed out. Few medicines when first offered to physicians have, according to the author, been subjected to a series of studies calculated to establish their therapeutic value. The author insists that when invited to try a product, practitioners should have scientific reasons for taking it seriously. "In order to end the invasion of worthless remedies and specialties, physicians should, as a matter of principle, refuse to prescribe a medicine until it has fulfilled the conditions of previous studies described above. The task of studying on a patient the effect of a medicinal substance is already difficult enough without undertaking it in the absence of good reasons, even when this substance is offered as a harmless one. Our mission is to take care of patients; it is by no means that of making a reputation or a fortune for manufacturers, no matter how commendable they may be. When they say 'Try it anyhow; it is harmless,' we must answer that we try only what to us appears to be useful."

Another quotation will indicate the author's view of much current clinical observation: "Numbers add no more to the presumption of utility of a medicine than ciphers added to one another constitute a figure. A simple observation well made is of more value than a thousand of these pseudo-observations."

Space forbids a complete analysis of this excellent work. Enough has been given to indicate its method and scope. The discussion is not confined to theory, but is carried into practical details. While the ideas and suggestions will, many of them, seem self-evident to the experienced physician, a reading of the book will stimulate him to a systematic review of the principles on which he bases his therapeutic practice, while to the beginner in medicine so clear an exposition cannot fail to be of great value. The translation appears to be exceptionally well done, no trace of French idiom being observable.

CIVICS AND HEALTH. By William H. Allen, Secretary, Bureau of Municipal Research. With an Introduction by William T. Sedgwick, Professor of Biology in the Massachusetts Institute of Technology. Cloth. Price, $1.25. Pp. 411, with illustrations. Boston: Ginn & Co., 1910.

The need of a book on modern applied sanitation which would be technically correct, and at the same time popularly interesting, has often been emphasized. Dr. Allen's book is a sincere effort to supply this need. It is divided into five parts. In the first, Dr. Allen discusses health as a civic obligation, stating that the best index to community health is the physical welfare of school children. The second part is devoted to the various physical evils from which school children suffer and the means of recognizing them. The third part is devoted to methods, including such problems as tuberculosis, clean milk, school inspection, etc. The fourth deals with municipal and school organization for securing hygienic conditions, while the last part of the book is devoted to a consideration of alcohol, tobacco, "patent medicines," sex hygiene and various methods of popular propaganda.

As was recently noted in our editorial columns, Dr. Allen's book has been adopted as a text-book for a reading course by a number of the county societies and county teachers' institutions in Missouri. The book contains a large amount of data, well arranged and forcibly presented. It is to be regretted that the influence of the work and of the author have been impaired by a tendency toward extravagant and unwarranted statements in some particulars. One illustration will suffice. "The man who discovers a surgical appliance is forced by the ethics of his profession either to commercialize it and lose his professional standing or to abide the convenience of his colleagues and their learned organizations in testing it. Rather than be branded a quack, charlatan or crank, the physician keeps silent as to convictions which do not conform to the text-book. Many a life-saving, health-promoting discovery which ought to be taken up and incorporated in general prac-

tice from one end of the country to the other and which should be made a part of the minimum standard of medical practice and medical agreement, must wait twenty-five or fifty years for recognition" (p. 272). Physicians who are conversant with medical literature know how constantly the verdict of the profession, as shown in current literature, entirely reverses the judgment of previously recognized "text-book" authorities. As to "life-saving, health-promoting" discoveries "waiting twenty-five or fifty years for recognition" this sweeping generalization has been repeatedly made, without the slightest grounds on which to base it. Can Dr. Allen point to a single "discovery," which, after a fair test proving it to be of any real value, failed to receive the recognition due it? Can he point to one, acceptance of which was delayed five years or even one year after its merits were established, to say nothing of twenty-five or fifty years? It is unfortunate that the influence of a much-needed and otherwise thoroughly valuable work should be impaired by such inaccurate and misleading statements.

PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 40 cents net. Pp. 184, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

This is the first of a series of elementary books to be used as school text-books, called the New-World Science Series. The aim, which is the instruction of the young in the subjects of hygiene, sanitation and human physiology, is in line with the present wide interest in matters of health and preventive medicine. In the simplest language, enforced by illustrative examples that come within the range of knowledge and understanding of children for whom the book is intended, personal hygiene is taught in its various phases. The reasons for and the manner of taking care of the various organs and functions of the body are taught; the effects of improper habits of eating and drinking, the effects of alcohol and tobacco, tea and coffee, and the necessity for exercise are presented graphically. The germ origin of diseases is explained, and such diseases as typhoid fever, tuberculosis, malaria and small-pox are described, and the method of preventing these diseases and the importance of keeping up body resistance are entered into in a simple way. An understanding of these matters by the very young should be valuable in establishing correct hygienic habits that should prove of inestimable benefit in the prevention of disease throughout the life of the individual, and thereby have a notable influence in the betterment of public health conditions.

EMANUEL SWEDENBORG'S INVESTIGATIONS IN NATURAL SCIENCE AND THE BASIS FOR HIS STATEMENTS CONCERNING THE FUNCTIONS OF THE BRAIN. By Martin Ramstrom. (Till Kungl. Vetenskaps-Societeten I Uppsala vid dess 200-Arsjubileum af Uppsala Universitet. Den 19 November, 1910.) Paper. Pp. 59, with 4 illustrations. University of Uppsala, 1910

After a brief summary of Swedenborg's excursions into the fields of mathematics, astronomy, mechanics, chemistry, mineralogy and geology, the author presents more completely his later teachings on the structure and functions of the brain and a detailed analysis of the sources of these neurologic doctrines.

Although Swedenborg's neurology was permeated by the absurd ideas current in his time, and long afterward, regarding the nature of the "animal spirits" or "fluidum spiritosum" and the seat of the soul, nevertheless the reader cannot fail to be impressed by the great advance of his views over those of most of his contemporaries.

The most important of these are that the centers of the psychic functions are to be found in the cerebral cortex, that these functions are localized in definite cortical areas and that the cortical nerve cells ("cerebellula") are the functional units. All of these views are shown to be represented in more or less fragmentary forms scattered through various previous publications with which Swedenborg was doubtless familiar; but nowhere were they assembled in forms so similar to their modern phases as in Swedenborg's writings.

The explanation of his success in sifting the few kernels of reliable neurologic observation from the rubbish of current speculation and superstition is found in the fact that before publishing his works on the brain he devoted several years to anatomic, physiologic and clinical studies in various scientific centers of Europe and was thus prepared with a real, though limited, basis for a scientific treatment of the scanty neurologic data of his time.

This little work adds an interesting chapter to medical history, valuable for its accurate citations of the possible sources of Swedenborg's ideas from the works of Descartes, Willis, Malpighi, Vieussens and others.

BIENNIAL REPORT OF THE DAIRY AND FOOD COMMISSIONER OF WISCONSIN. For the Period Ending June 30, 1910. J. Q. Emery, Dairy and Food Commissioner, Madison, Wis. Cloth. Pp. 368, with illustrations. 1910.

A perusal of the report of the Wisconsin Dairy and Food Commission is convincing evidence of the fact that Wisconsin is one of the leading states in control of food, especially dairy products. The amount of work carried on during the term of two years is enormous, and the results seem to be excellent. There are records of 2,031 food analyses, and in addition 8,247 samples of milk have been analyzed. Systematic inspection of dairies has put the dairy industry on a relatively high level, and this industry is yielding an annual revenue of $79,000,000. Valuable statistics are given, and elaborate charts of the location of dairies, cheese factories, etc. An interesting comparison between early dairy conditions and the modern state of affairs are presented. The importance of a sanitary milk-supply is emphasized and regulations discussed for the production of clean milk.

The report states that food products with poisonous or deleterious chemical preservatives are almost completely driven from the Wisconsin market and that the labels state the true contents of the packages. Wisconsin has shown us that state control of food products, especially of dairy products, can be made successful, and has put before us a worthy example, which ought to serve as a guide for other states.

NURSES' HANDBOOK OF DRUGS AND SOLUTIONS. By Julia C. Stimson, R. N., Vassar A.B., Superintendent of Nurses, Harlem Hospital of Bellevue and Allied Hospitals, New York City. Cloth. Price, $1 net. Pp. 82. Boston: Whitcomb & Barrows, 1910.

On the principle that it is beyond the nurse to prescribe, but that she should have a knowledge of the powerful and important drugs, the author has attempted to impart such knowledge. Drugs are first classified according to their more important physiologic action. In doing this the author has made the error of classifying chloral as an analgesic. Definitions and examples of the different preparations are given, as fluidextracts, tinctures, etc. Methods and indications for modification of doses, table of weights and measures and equivalents, method of preparing percentage solutions, formulas of solutions in common use, and very brief descriptions of the actions and uses of the more important drugs are given. Some exceptions might be taken to the list given under the head of practical classification of drugs; for instance, under acids, tannic and hydrocyanic acid are given. This would convey an erroneous idea of the action of these drugs. There is a list of Latin phrases and abbreviations, and the book closes with a chapter on serums, antitoxins and vaccines. The book contains useful information for the nurse, but it is not presented in a very attractive form.

THE DETERMINATION OF THE DETERIORATION OF MAIZE, WITH INCIDENTAL REFERENCE TO PELLAGRA. By O. F. Black and C. L. Alsberg, Chemical Biologists, Drug-Plant, Poisonous-Plant, Physiological, and Fermentation Investigations. Issued Dec. 16, 1910. Bull. 199, Bureau of Plant Industry, U. S. Department of Agriculture. Paper. Pp. 36. Washington: Government Printing Office, 1910.

This bulletin describes some work done in the Bureau of Plant Industry with reference to spoiled corn. This is preliminary to a further study to determine the possible connection between spoiled maize and pellagra. In the study of corn the Italians lay great stress on acidity. The bulletin describes methods of examining corn, by inspection, biologically and chemically, determining its acidity, which in sound corn should not be over 30 as measured by alkaline tests, its ash, fat, phenol and other reactions and the determination of its toxicity by animal experimentation; also a study of the microorganisms which cause it to become moldy. The work is valuable as a foundation for the final determination of the rôle, if any, that spoiled maize plays in pellagra. No conclusion has been reached as yet. Many references to the literature are given.

THEORIE UND PRAXIS DER INNEREN MEDIZIN. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Kindborg in Bonn. Erster Band. Die Krankheiten der Zirkulations- und Respirationsorgane. Cloth. Price, 7 marks. Pp. 404, with 47 illustrations. Berlin: S. Karger, 1911.

The plan of this book is founded on the author's observation that students of practical medicine have frequently forgotten the pertinent facts learned in their preliminary studies of the fundamental sciences. Hence students are apt to pursue the subject of internal medicine with confused notions of the relations which chemistry, physiology and bacteriology bear to the subject at hand. Time is lost in referring to text-books, and the author has attempted to supply this lack by including, in his account of diseases, the essential facts of the fundamental sciences which find an application in the special case. The work is well done and may profitably be studied, not only by medical students but also by physicians who wish to review the subject.

MOTHERHOOD. A Manual on the Management of Pregnancy, the Preparation for and Conduct of Labor and the Principles and Methods of Infant-Feeding up to the Third Year of the Child's Life. Prepared especially for Mothers, Nurses and Students of Medicine. By Hudson D. Bishop, M.D., Visiting Obstetrician to the Maternity Hospital, Cleveland. Cloth. Price, $1.50 net. Pp. 244. Cleveland: Rose Publishing Co., 1910.

The author states in the preface that he has "endeavored to give everything, in a condensed form but in sufficient detail, that either the mother or nurse should know regarding the management of pregnancy, labor, and the lying-in, together with the care and feeding of the child." A book on this subject suitable for both mothers and nurses is an impossibility. It is unnecessary to alarm the expectant mother by informing her of all the symptoms and all the dangers of hemorrhage, abnormal presentations, puerperal sepsis, mastitis, phlegmasia alba dolens, etc.

Medicolegal

Unconstitutionality of Statute Taking Away Defense of Insanity, Etc.

The Supreme Court of Washington in the case of State vs. Strasburg (110 Pac. R. 1020) holds unconstitutional the statute of that state, enacted in 1909, which provides that "It shall be no defense to a person charged with the commission of a crime that at the time of its commission he was unable, by reason of his insanity, idiocy or imbecility, to comprehend the nature and quality of the act committed, or to understand that it was wrong; or that he was afflicted with a morbid propensity to commit prohibited acts; nor shall any testimony or other proof thereof be admitted in evidence."

The provisions of the state constitution especially considered were: "No person shall be deprived of life, liberty, or property without due process of law;" and, "The right of trial by jury shall remain inviolate." Consequently the court was confronted, as Justice Parker says, with the novel and grave question: Had the legislature the power under the constitution to enact a law taking away from a defendant accused of crime the opportunity to show in his defense the fact that at the time of the commission of the act charged as a crime against him he was insane, and, by reason, thereof, was unable to comprehend the nature and quality of the act committed? It is believed that this was the first instance of any such enactment. And an examination of a number of authorities is taken to show that the question of the insanity of the accused at the time of committing the act charged being one of fact when sought to be shown in his behalf, it is and always has been a question of fact for the jury to determine, as much so as any other question of fact bearing on the responsibility of the accused for the occurrence of the act relied on as constituting the offense charged.

According to the opinion prepared by Chief Justice Rudkin, if the act stopped with what is quoted above, there could be no question as to the legislative intent. For the first time in history, as far as the court was advised, the legislature of a civilized state has attempted to place the idiot, who hath no understanding from his nativity, the imbecile and the insane, who have lost their understanding through disease or mental decay, and the sane man, in the full possession of all his mental faculties, on an equal footing before the criminal law. But the legislature did not stop there.

Another section of the act provides that: "Whenever, in the judgment of the court trying the same, any person convicted of a crime shall have been at the time of its commission unable by reason of his insanity, idiocy or imbecility, to comprehend the nature and quality of his act, or to understand that it was wrong, or shall be at the time of his conviction or sentence insane, or an idiot, or imbecile, such court may in its discretion direct that such person be confined for treatment in one of the state hospitals for the insane, or in the insane ward of the state penitentiary, until such person shall have recovered his sanity. In determining whether any person convicted of a crime was at the time of the commission thereof unable by reason of his insanity, idiocy or imbecility to comprehend the nature and quality of his act, or to understand that it was wrong, or is at the time of his conviction or sentence insane or an idiot or imbecile, the court may take counsel with one or more experts in the diagnosis and treatment of insanity, idiocy and imbecility, and make such personal or other examination of the defendant as in his judgment may be necessary to aid him in the determination."

When these two sections are construed together, it is believed that the legislature did not intend to punish one for the commission of a crime, when by reason of his insanity, idiocy, or imbecility he was unable to comprehend the nature and quality of his act, or to understand that it was wrong, but rather that it intended to minimize the well-known evil resulting from the all-too-frequent interposition of the defense of insanity in homicide cases, where no other defense is available, by changing the time and mode of trial of the issue of insanity. But, assuming that the legislature simply intended to change the time and mode of trial of the issue of insanity, this latter-quoted section is lacking in every essential requirement of due process of law. While if the view must be accepted that the legislature intended to abrogate the defense of insanity in its entirety, and to place the sane and the insane, the idiot, and the imbecile on an equal footing before the criminal law, the opinion is still held that the act is unconstitutional and void.

The state sought to uphold the act on two grounds: first, on the ground that it is within the police power of the state to eliminate the question of intent in all criminal cases; and, second, on the ground that under modern theories the lawbreaker is taken into custody by the state for his own amelioration and reformation, and not as a punishment for crime—in other words, that the theory of legal punishment for crime is a relic of a barbarous age. But neither contention is accepted.

It will be conceded that the legislature has a broad discretion in defining and prescribing punishment for crime, but, broad and pervading as the police power is, it is not without constitutional limitations and restraints, and a valid penal law can scarcely be conceived of which would punish a man for the commission of an act which the utmost care and circumspection on his part would not enable him to avoid.

The argument that persons are no longer punished for their crimes is illusory and unsound. The man who is deprived of his liberty is punished, and you cannot change the fact by changing the name.

Exhibition of Body and Proof of Probability of Life

The Supreme Court of Pennsylvania says, in the personal injury case of Benson vs. Altoona & Logan Valley Electric Railway Co. (77 Atl. R. 492) that about five months after an accident in which the plaintiff was injured he was stricken with apoplexy which paralyzed his entire right side, and the real controversy at the trial was as to whether the paralytic condition was the result of the injuries received at the time of the accident or was due to a disease with which the defense claimed he was afflicted. The first assignments of error went to the refusal of the trial judge to compel the plaintiff to

bare parts of his body for the examination of the jury. The plaintiff had submitted to a private physical examination by three physicians representing the defendant, and they were prepared to give their testimony as to the marks on his body. The Supreme Court holds that an exhibition of this kind to an unlearned jury is apt to do more harm than good, and the trial judge committed no error in refusing to order it in this case.

Nor does the court see any error in an instruction wherein the trial judge said to the jury: "There is no table of life probability adduced here in evidence, and I suppose counsel are afraid owing to the recent rulings of the Supreme Court to put in a life table, but it would be for you to look at this man and determine on the weight of the evidence from his appearance and from the evidence how long he would be likely to live, and, if his injury is permanent, then he ought to be compensated for the loss of earning power and for any pain and suffering that the weight of evidence shows he would endure in the future." The court says that, while life tables are admissible in evidence, the probability of life can be shown in other ways. In answering a request for an instruction, the trial judge told the jury that they should take into consideration the plaintiff's age, state of health, business habits, and manner of living. The suggestion that they might look at the plaintiff was expressly coupled with the instruction that their determination must rest on the weight of the evidence in the case.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb 28.

CHICAGO PEDIATRIC SOCIETY

Regular Meeting, held Jan. 17, 1911

The President, DR. JOHN M. DODSON, in the Chair

Experimental Study of Allergy in Tuberculosis

DR. H. F. HELMHOLTZ: I investigated experimentally the relation of the point of inoculation and the size of the dose to the appearance and persistence of the cutaneous reaction. Forty-two guinea-pigs were inoculated in three series. In the first series, subcutaneous and intraperitoneal inoculations were compared; in the second series, intraperitoneal and intracardial inoculations were compared, and all three were compared in the third series. It was found that the injection of large doses of tubercle bacilli resulted fatally without producing an allergy demonstrable with the v. Pirquet test, in the majority of the intraperitoneal inoculations. Intracardially, a positive reaction resulted in a short time. Subcutaneously, all the pigs reacted. The same order also held for the small doses. The peritoneal inoculations gave rise to shorter periods of reactivity; the intracardial came next, and the subcutaneous gave the longest reaction. The interval between inoculation and first positive reaction varied from seven to one hundred days. The allergy varied from the first day to an indefinite period.

The microscopic examination of tuberculin reactions was undertaken in a series of strongly reacting pigs, both in normal and in tuberculous pigs, that were no longer reacting. The control and non-reacting animals showed practically no leukocytic infiltration. The sloughing extended slightly deeper in the latter than in the former. In the active reactions there was a thick slough in the area of scarification, separated from the normal tissue by a thick layer of purulent exudate, extending up to the surface on either side. The subcutaneous tissue, in the large reactions, had the typical appearance of an acute cellulitis, with the connective tissue elements widely separated by a fibrinous network, rich in polymorphonuclear cells.

In a series of six experiments, made to determine how soon the cutaneous reaction would appear after the peritoneal injection of tuberculous tissue, the animals were vaccinated every second day, beginning with the day after inoculation. On the sixteenth day after injections not a single animal had reacted positively; in fact, only three reactions occurred. Then, simultaneously, scarifications were made in the often vaccinated area, and in a hitherto unused portion of the skin. The animals all showed a strong positive reaction in the new area and practically none in the oft vaccinated area, with one exception, in which there was no reaction in either place. Only one animal showed a reaction in the old area. It is probable that this finding may be explained by assuming a using-up of the antibodies by the injected tuberculin, not sufficient antibodies remaining to combine with the tuberculin introduced through the scarified area to produce a reaction.

DISCUSSION

DR. I. A. ABT: How do you explain the absence of the v. Pirquet reaction in cases of acute tuberculosis with fever?

DR. H. F. HELMHOLTZ: The disease process uses up the antibodies and none remains to unite with the tuberculin introduced by scarification. By using a large enough dose of tuberculin intracutaneously, a slight reaction usually results.

DR. J. H. HESS: Schlossman claims that the injection of tuberculin increases immunity, while Hamburger holds that the disappearance of the cutaneous reaction to tuberculin reduces immunity.

DR. H. F. HELMHOLTZ: Observers generally disagree with Schlossman, asserting that by giving such large doses of tuberculin he merely uses up the available antibodies, and subsequent tests are negative. If the inoculations are interrupted for ten days or two weeks, the tuberculin test is again positive. I have caused the reaction to disappear by giving large doses of tuberculin.

Traumatic Diabetes in Children

DR. S. STRAUSS: I have seen two cases of pancreatic diabetes following trauma. Both patients are alive and well. The first patient, aged 11, was hit by an automobile in July, 1907, and sustained a fracture of the right tibia. In February, 1908, he developed classical symptoms of diabetes. The v. Noorden gruel lowered the sugar output, but produced acidosis.

The second patient, aged 13, fell from a second story window, striking on his head. There was no evidence of injury. Three months afterward he had symptoms of diabetes. The v. Noorden diet invariably caused acetone to appear in the urine, and the ammonia coefficient was raised. The sugar output varied. The explanation probably is that the patient was suddenly switched from an ordinary diet to the v. Noorden diet without giving him a chance to regain his metabolism balance. A more gradual change of diet proved more satisfactory. At no time was there loss of body weight.

DISCUSSION

DR. I. A. ABT: Diabetes in children usually results fatally, but these two cases were a revelation to me. Since then other similar cases have been reported. Of course, this is a different type of diabetes. Epstein showed that in 50 per cent. of these cases the trauma is to the head and in 50 per cent. elsewhere. We are in the habit of thinking that it is easy to produce diabetes if there is injury at the base of the fourth ventricle, yet these cases show that it may occur quite independently of any cerebral lesion. The matter of diet and acidosis was also interesting in these cases. When the patient was put suddenly on a different diet, there was either a rise in the ammonia coefficient curve or an increase in the sugar. When the patient was placed gradually on a different diet, these findings were not noted. It is difficult to feed these children the v. Noorden diet, because it is repulsive, and far from appetizing, but it is marvelous to see the good result when the patient is placed on this diet. The sugar disappears from the urine promptly. An observer in Budapest has reported a large series of cases of alimentary glycosuria in children who had been receiving malt foods. They were believed to be cases of pure diabetes, but when the carbo-

hydrate was withheld the glycosuria disappeared. However, the two cases reported by Dr. Strauss were purely of traumatic origin, and not of the type of fatal diabetes mellitus so commonly seen in children.

DR. H. F. HELMHOLTZ: We know that the burning of carbohydrates in the body keeps the acidosis down, and when this does not take place, the acetone bodies are excreted in the urine. If carbohydrate is withheld entirely, the burning of fat is interfered with, and beta-oxybutyric acid accumulates in the body, and is excreted in the urine. In order to prevent this, therefore, there must be a burning of carbohydrates in the body. When the patients, therefore, were on the v. Noorden diet, they evidently burned all the carbohydrate given them, and when put on the other diet the sugar reappeared. These were not cases of diabetes where sugar is formed from proteids, so that the sugar found must have been introduced. The fact that the acidosis disappeared is absolute evidence that there were from 50 to 75 grams of carbohydrate being burned during that time. The acidosis is produced by an insufficiency of carbohydrates. When there are no carbohydrates in the body, the fats are burned and produce beta-oxybutyric acid. This acid cannot be oxidized any further, and is split into diacetic acid, and from that into acetone.

Study of Blood-Pressure in Normal Children

DR. MAY MICHAEL: In my studies I took into account not only the weight and height of the child, but also the circumference of the arm. I examined 128 children. The readings were taken as nearly as possible at the same time of day and under the same conditions. There was apparently an increase in the pressure with the increase in height and weight, but when the circumference of the arm was measured and the blood-pressure to the square millimeter estimated, the actual pressure was practically the same in a 5-year old child, 3 feet, 6 inches tall, weighing 40 pounds, as in a 15-year old child, 4 feet, 8 inches tall, weighing 90 pounds. According to Sallom, the area on which the pressure is exerted must be considered in estimating the blood-pressure, so that the actual blood-pressure must equal the height of the column of mercury, divided by the width of the cuff, multiplied by the circumference of the arm, which represents the area of the base. In the 128 children examined this formula did not vary more than 0.0014 mm., the mean pressure being 0.0070 mm., and the extreme 0.0084 mm. The formula is employed as follows: Multiply the arm circumference, 183 mm., by 90 mm., the width of the cuff. This equals 16,470 square millimeters, which is found to sustain 120 mm. of mercury. Therefore, one square millimeter will sustain 120/16,470, or 0.0072 mm., which represents the actual blood-pressure.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 9

1 *Sporotrichosis in Man and in the Horse. R. L. Sutton, Kansas City, Mo.
2 The Special Relation of Modern Medicine to the Health of Women. A. C. Vietor, Boston.
3 Overgrowth of the Epiphysis of the Lower End of the Femur with an Obliteration of the Epiphyseal Line. J. W. Sever, Boston.
4 *Breast Abscess During Pregnancy. J. T. Williams, Boston.

1. **Sporotrichosis in Man and in the Horse.**—Sutton reports one case seen by him. The disease was confined to the wrist and followed an injury resulting while the patient was repairing a manger at which fed a horse which had sporotrichosis of the neck. The usual line of treatment, potassium iodid in increasing dosage, gave excellent results in this instance. The lesion was somewhat resistant, probably because the infection was a mixed one (sporothrix and *Staphylococcus pyogenes aureus*), but it healed promptly under the daily application of gauze packs moistened with 1 per cent. liquor cresolis compositus.

4. **Breast Abscess During Pregnancy.**—Williams believes that 5.5 per cent. of all breast abscesses occur during pregnancy, and that organisms are present on the nipples in 100 per cent. and in the milk ducts in 86 per cent. of all pregnant women. When their growth is predisposed to by engorgement, or the resistance of the breast tissues is lowered by injury, or the organisms present are of unusual virulence, they attack the tissues and produce inflammation. The prophylaxis of breast abscess during pregnancy, according to Williams, consists in absolute cleanliness of the nipple, and the prompt treatment of mastitis by bandage, ice and saline catharsis.

Medical Record, New York

February 11

5 Work of the New York Academy of Medicine During 1910. J. A. Wyeth, New York.
6 Economics of Medicine. W. M. Polk, New York.
7 Transfusion of Blood in Three Cases of Pernicious Anemia. D. Bovaird, New York.
8 Direct Inspection of the Rectum and Sigmoid Colon. E. Beer, New York.
9 Inebriety. DeL. Carter, New York.
10 Is Sterilization of the Habitual Criminal Justifiable? C. E. Nammack, New York.
11 Asphyxia of the New-Born Infant Relieved by Placental Aeration. M. H. Freund, New York.
12 Appendectomy with Cocain Anesthesia. C. R. Hancock, New York.

Lancet-Clinic, Cincinnati

February 11

13 Eight Patients with Syphilis and Parasyphilitic Affections Treated with Salvarsan. A. Ravogli, E. H. Shields and E. B. Tauber, Cincinnati.
14 A Case of Putnam's Type of Combined Scleroses. L. B. Askenstedt, Louisville.
15 *Progress in Intestinal Surgery, with Demonstration of a New Method of Suturing Bowel. A. E. Benjamin, Minneapolis.

15. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1222.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

February

16 *Ninety Cases of Puerperal Eclampsia and a Critical Review of the Treatment of This Disease. E. G. Zinke, Cincinnati.
17 Significance of Anatomic-Histologic Examination Methods in Obstetrics and Gynecology. I. C. Rubin, New York.
18 *Etiologic Influence of Pregnancy on Molluscum Fibrosum. B. C. Hirst, Philadelphia.
19 *Myoma of the Uterus, with Special Reference to Degenerative Changes. J. B. Deaver, Philadelphia.
20* Intravenous Injection of Magnesium Sulphate in Bacteriemia. R. R. Huggins, Pittsburg.
21 Two Right-Sided Femoral Hernias in the Same Patient. N. S Scott, Cleveland.
22 Obstetric Surgery in Private Practice. K. H. Aynesworth, Waco, Texas.
23 Two Cases of Antepartum Infection. C. B. Ingraham, Denver.
24 Puerperal Cough and Its Treatment. D. H. Stewart, New York.
25 *Treatment of the Retroflexed Gravid Adherent Uterus. X. O. Werder, Pittsburg.
26 *Method of Teaching Vagino-Abdominal Examination. F. J. Taussig, St. Louis.
27 Complete Inversion of the Uterus of Fourteen Years' Standing. S. E. Tracy, Philadelphia.
28 Treatment of Congenital Syphilis by Administration of Salvarsan to the Nursing Mother. H. D. Chapin, New York.
29 History of Treatment of Cerebrospinal Meningitis with Special Reference to Serotherapy. H. T. Radin, New York.
30 Care and Treatment of Nervous Children. I. T. Smart, New York.
31 Therapeutic Use of Tuberculin in Intrathoracic Tuberculosis of Children. L. C. Ager, Brooklyn, N. Y.

16 and 20. Abstracted in THE JOURNAL, Oct. 15, 1910, p. 1404.

18. **Influence of Pregnancy on Molluscum Fibrosum.**—In Hirst's patient, at the age of 18, four or five typical growths of molluscum fibrosum appeared on the anterior surface of the body, but did not increase in number. The woman married at twenty-five and became pregnant for the first time at twenty-six. During the first pregnancy the growths increased rapidly in number. After delivery, the numerical augmentation ceased, but the growths already developed remained. In each successive pregnancy, including the present, which is the seventh, there was an increase in the number of the growths, but no such increase in the intervals between the pregnancies. This case differs from Brickner's in the appearance of the disease to a very moderate degree before impregnation, in the absence of pigmentation, in the failure of the growths to disappear after delivery and in their greater size

and number. It differs from the cases described by dermatologists in the influence exerted on the progress of the disease by pregnancy.

19. **Myoma of the Uterus.**—The only point in which Deaver differs from those who believe in the higher percentage of malignant change, is in not advocating the removal of an accidentally discovered fibroid that is giving no symptoms. This, he says, is not a large class of cases and therefore, not a very important difference. Any tumor that begins to give trouble or to cause symptoms, even if only an irregular discharge, should be removed. The tendency toward malignant degeneration gives him one of the elements of his belief. The remainder are furnished by the greater frequency of troublesome non-malignant degeneration, the likelihood of hemorrhage and chronic anemia with cardiac and vascular disturbances, the frequency of pain and more or less dangerous pressure effects on the urinary tract, the intestines and surrounding organs, the proved failure of fibroids to cease from troubling with the menopause, and the certainty that in a large percentage of cases delay merely means operation later under less favorable conditions.

25. **Retroflexed Gravid Adherent Uterus.**—Werder reports briefly two cases coming under his observation of pregnancy in the retroflexed adherent uterus. He emphasizes two points in the treatment: (1) prompt operation as soon as the diagnosis under anesthesia has been confirmed; (2) separation of adhesions and reposition of uterus, but avoidance of all attempts at radical treatment or any other operative steps endangering the continuance of pregnancy. When operating before the end of the second month, the introduction of a pessary for a short period will prevent a return of the displacement without any danger to the fetus.

26. **Teaching Vagino-Abdominal Examination.**—Joint bimanual palpation is favored by Taussig. The essentials for accurate bimanual examination in his opinion are a knowledge of how the normal organs feel and where they lie in the pelvis, muscular relaxation of patient and physician, gentle manipulation and systematic exploration.

Wisconsin Medical Journal, Milwaukee

January

32 Present Status of Spinal Analgesia. A. J. Puls, Milwaukee.
33 Lobar Pneumonia. A. G. Hough, Morrisonville.
34 Mortality of Pneumonia. F. I. Drake, Madison.
35 A Surgical Aspect of Medical Education. J. L. Yates, Milwaukee.
36 *Chronic Diphtheria. G. C. Ruhland, Milwaukee.
37 A Lipomatous Growth in the Submucous Tissue of the Ileum and Cecum Producing Invagination, Rotation and Obstruction of the Bowel. A. H. Levings, Milwaukee.
38 The Tsetse Fly and Sleeping-Sickness; Other Insect Carriers of Disease. A. C. Burrill, Milwaukee.

36. Abstracted in THE JOURNAL, July 23, 1910, p. 344.

American Journal of Physiology, Boston

February

39 *Distribution of Glycogen Over the Liver Under Various Conditions. J. J. R. Macleod and R. G. Pearce, Cleveland.
40 *Metabolism of Dogs with Functionally Resected Small Intestine. E. P. Underhill, New Haven, Conn.
41 Influence of the Preceding Diet on the Respiratory Quotient After Active Digestion Has Ceased. F. G. Benedict, L. E. Emmes and J. A. Riche, Boston.
42 Respiratory Change as Affected by Body Position. L. E. Emmes and J. A. Riche, Boston.

39. **Studies in Experimental Glycosuria.**—The distribution of glycogen over the liver, particularly during ether anesthesia and following the taking of food, and the average course of postmortem glycogenolysis (i. e., its time of onset and the velocity with which it proceeds), were two points investigated by Macleod and Pearce. They found that the percentage amount of glycogen in the different lobes of the liver varies by about 5 per cent. This variation, they think, is partly due to errors in the method of estimation (Pflüger) and partly because of an unequal amount of blood in different portions of the organ. These differences become greater (a) under ether anesthesia; (b) when the liver is left *in situ* in the dead animal, but are not materially affected by absorption of carbohydrate food from the intestine. After death in an etherized animal there is usually, but not always, an acceleration in the rate of glycogenolysis; this varies in different lobes. So far it has been impossible to determine the exact time of onset of post-mortem glycogenolysis, but it is certainly well established within twenty minutes after death. Once established, post-mortem glycogenolysis proceeds at a uniform speed for several hours after death, being dependent solely on the amount of glycogen remaining in the viscus (temperature, etc., being constant). Post-mortem glycogenolysis is much more active in intact than in cut up liver. In cut up liver, glycogenolysis is much more rapid when the liver is in contact with blood than when it is blood-free. The greater glycogenolysis in intact liver is not due to any influence which the nervous system might have during the few minutes after death in which it could still exert an influence. Stimulation of the great splanchnic has no constant influence on the course of post-mortem glycogenolysis.

40. **Metabolism of Dogs.**—From the experimental observations made by Underhill, it is apparent that as much as 39 per cent. of the small intestine of a dog may be short-circuited without causing significant detrimental changes in utilization of the various foodstuffs, and the animal may gain in weight. This statement is equally true when observations are made either at a period shortly after operation or at a period several months later. When as much as 66 per cent. of the small intestine has been functionally resected, the nutritive condition of the animal presents an entirely different aspect. Under these conditions, fat utilization is particularly decreased and the dog displays a decided tendency to furnish negative nitrogen balances. A small though steady loss of weight is slightly noticeable. Food utilization is in general apparently much better immediately after the operation than at a later period. In no animal observed did a material increase in fat intake cause significant change in the utilization of this or other foodstuff. When about three-quarters of the small intestine of the dog has been short-circuited, food utilization for the most part is seriously impaired, at least at a period several months after the operation. This is particularly true for fat utilization. Indican elimination through the urine is not materially altered under these conditions by replacement of meat in the diet with gelatin, an observation directly opposed to that obtained with the normal dog. The animal with a short-circuited intestine displays a greater ability to utilize carbohydrate than does the normal dog. Even though the carbohydrate intake may be much, in one case several times, greater than the normal animal requires, carbohydrate utilization is complete whether the test is made shortly after the operation or months later. This observation, Underhill believes, may prove of practical importance in the dietary treatment of the human subject who has undergone extensive intestinal resection.

Memphis Medical Monthly

December

43 *A Case of Gunshot Wound Through the Head. J. T. Seymour, Whiteville, Tenn.
44 The Arylarsonates in Syphilis and Pellagra. E. H. Martin, Hot Springs, Ark.
45 *Surgical Treatment of Goiter. W. T. Black, Memphis.
46 Making a Neurologic Diagnosis. G. G. Buford, Memphis.

43. Abstracted in THE JOURNAL, Dec. 10, 1910, p. 2090.

45. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2008.

Ophthalmic Record, Chicago

January

47 Small Round-Cell Sarcoma of the Orbital Cellular Tissues. W. B. Weidler, New York.
48 Cryptophthalmia. W. Eberhardt, Michigan City, Ind.
49 Parinaud's Conjunctivitis. G. F. Keiper, Lafayette, Ind.
50 Recollections of a Visit to Prof. Herman Snellen, Sr. E. O. Sisson, Denver.

American Journal of the Medical Sciences, Philadelphia

February

51 *Medicinal Treatment of Diabetes Mellitus. F. Forchheimer, Cincinnati.
52 *Dietetic Treatment of Diabetes Mellitus. N. B. Foster, New York.
53 *A Résumé of Vaccine Therapy. H. W. Stoner, Baltimore.
54 Malignant Disease as a Problem of Modern Surgery. J. B. Deaver, Philadelphia.
55 *The Thenar and Hypothenar Types of Neural Atrophy of the Hand. J. R. Hunt, New York.
56 *Association of Suppurative Disease of the Nasal Accessory Sinuses and Acute Otitis Media in Adults. C. F. Coakley, New York.

57 Metabolic Changes in Hematoporphyrinuria Not of Drug Origin. C. L. Dana, New York.
58 *A Metabolic Study of Myotonia Atrophica. R. Pemberton, Philadelphia.
59 *Chronic Influenza and Its Relation to Neuropathy. G. I. Jones, U. S. Army.

51. **Medicinal Treatment of Diabetes Mellitus.**—For ordinary cases, Forchheimer prefers arsenic, given as liquor potassii arsenitis, in ascending doses, until mild toxic effects are produced; then the dosage should be gradually reduced. In order to get the best results from arsenic, mild toxic effects must be produced. This drug is especially indicated in severe cases, but it should always be combined with diet. It may also be given for general indications, and it is very valuable in neurotic, debilitated subjects. This drug does not increase sugar tolerance, and its effects gradually disappear when it is discontinued; unlike opium, never during its administration. Furthermore, in all the patients Forchheimer has treated, repeated courses have not lost their effect on the glycosuria and diminution of acetone bodies. Hexamethylenamin is especially valuable in such patients in whom diet regulation is impossible. At present, Forchheimer has employed it for five years, and given it in 5-grain doses, three or four times a day, an amount which has been, in one instance, continually taken for four months without any bad effects. With hexamethylenamin, glycosuria is improved and tolerance is increased. He does not recommend it for severe cases without proper diet.

In so far as belladonna is concerned, Forchheimer's results were the same whether he gave atropin methylbromid, atropin sulphate or belladonna itself. In a large number of cases glycosuria, and with it acetone bodies, have diminished or disappeared and carbohydrate tolerance was increased. Indeed, some of the patients were not dieting when taking this remedy, but when it was discontinued the sugar did not reappear for some time. In several severe cases it did no good. It seems perfectly adapted to milder cases, so that in one instance, without diet, there has been absence of sugar for over a year. In one case of diabetes in a child the disease ran its usual course, notwithstanding a strict adherence to Rudisch's directions as to diet and atropin methylbromid.

52. **Dietetic Treatment of Diabetes Mellitus.**—As a means of finding the type to which an individual case belongs, Foster emphasizes the importance of a diet representing approximately 125 grains of protein and 100 grams of carbohydrate, and which is equivalent to 3,200 calories. The patient is restricted absolutely to this diet, for two days, the urine being collected during the second twenty-four hours, and estimations made for the quantity of glucose and the presence and approximate amounts of diacetic and β-oxybutyric acids. The next step in the diet arrangement depends exclusively on this analysis. A number of illustrative cases are cited and recipes are given which for the most part were contributed by the families of patients.

53. **Résumé of Vaccine Therapy.**—While the medical literature abounds in articles on vaccine therapy, they are scattered through a large number of medical journals, covering several years. With the hope that by grouping together the cases from the literature, the reader may at a glance gain a better comprehension of the work being done and the results accomplished in this line, Stoner has written this paper. Its length prohibits the making of an abstract.

55. **Neural Atrophy of the Hand.**—In addition to the atrophic paralysis of the intrinsic muscles of the hand, of myelopathic and myopathic origin, Hunt believes that a neural type should also be recognized. Those of neural origin may be separated into two well-defined clinical types, both due to a compression lesion of a motor branch of a mixed nerve. These may be appropriately designated as follows: A hypothenar type, which term indicates the site of the compression at the base of the hypothenar eminence and its relationship to the ulnar nerve. A thenar type, which also indicates the site of the compression at the base of the thenar eminence, and the relationship to the median nerve.

56. **Association of Suppurative Disease.**—Coakley believes that the severer cases of acute rhinitis accompanied by acute infection of the nasal accessory sinuses are far more apt to be complicated by aural disease than the milder types of acute rhinitis. It is extremely rare for a patient with acute sinus disease, seen before acute otitis media has developed, to develop subsequently, during the course of the treatment, acute otitis media. Coakley is convinced that the early recognition of acute sinus disease, and appropriate treatment for its relief, will prevent many a patient from developing acute otitis media. The fact that acute otitis media usually occurs on the same side as the sinus disease inclines him to the belief that the pus from the various sinuses bathes the pharyngeal orifice of the Eustachian tube and is thence forced into and infects the tympanum. Patients with acute otitis media, associated with nasal accessory sinus disease, are more likely to develop such a degree of mastoiditis as to require a mastoid operation than patients with otitis not complicated by nasal accessory sinusitis. Coakley is inclined to believe, however, that some patients would repair the damage to the tympanum and mastoid if relieved of the added burden of the nasal disease. Patients suffering from chronic suppuration in the nasal sinuses are much less prone to acute otitis media than those having acute sinusitis. Coakley accounts for this in two ways: (a) The bacteria found in the pus in many cases of chronic sinusitis grow very poorly on any nutrient media; they seem to have lost much of their virulency. Should they be forced into the tympanum through the Eustachian tube, they may not infect the ear. (b) It is also probable that the antibodies in the chronic cases are a prevention against inciting a new infection. It is a well-known fact that after any operation, intranasal or external, in a case of chronic sinusitis, the virulency of the bacteria is greatly increased, owing to the wound secretions forming an excellent nutrient medium; hence the cellulitis or erysipelas which develops after some external operations in cases of chronic nasal accessory sinus disease.

58. **Myotonia Atrophica.**—Pemberton found that there is apparently no significant disturbance of the calcium output in muscular dystrophy; at least, in the presence of those phenomena which suggest Thomsen's disease. This can probably be inferred, though not surely, in regard to Thomsen's disease *"per se."* The creatinin output, however, under these circumstances may be considerably reduced and the creatinin co-efficient conspicuously low. Pemberton says that a consideration of the calcium, creatinin and general nitrogenous metabolism as recorded here, and in myasthenia gravis, may lead to information of value in classifying doubtful conditions of this nature and in localizing the perversions of function.

59. **Chronic Influenza.**—Jones' thesis is that influenza may be and frequently is a chronic intoxication. Chronic influenza in many respects certainly bears a close similarity to tuberculosis, and Jones has no doubt that many cases of chronic capillary bronchitis, pneumonia, bronchiectasis, etc., in which the disturbing factor was *Bacillus influenzæ*, have been diagnosticated tuberculosis. This has, in a way, been confirmed by his study of three cases, which clinically presented symptoms and physical signs of tuberculosis, but in which the tubercle bacillus could not be isolated. In man, therefore, the influenza bacillus must be regarded as capable of producing pathogenic processes without the aid of other organisms. The influenza bacillus must be regarded as the most important cause of a large number of cases of respiratory infection (acute and chronic) during the interepidemic periods; and as a contributing cause in many other cases when found mixed with the pneumococcus, *Micrococcus catarrhalis*, and other organisms. Patients may carry the organism in enormous numbers for years in their sputum, just as they have been shown to carry other common representatives of the flora of the respiratory tract. Jones believes that it is without question that organic and inorganic nerve disease results from acute influenza. Whether influenza is the original cause of psychoses acting as a chronic infection, or whether it is the contributing cause to a psychopathic basis, is a question. The history of influenzal epidemics has shown statistically that the mental and nerve force is lowered for a considerable time after the disappearance of the disease epidemically.

Bacillus influenzæ is responsible for a majority of cases of sinusitis, otitis, salpingitis, mastoiditis, and their sequels. The organism has been recovered in the discharge of more than 50 per cent. of patients suffering from suppurative otitis media, usually mixed with the pyogenic organisms.

Archives of Pediatrics, New York

January

60 *Mortality During the Early Weeks of Life. A. Jacobi, New York.
61 *Should Eclamptic Mothers Nurse Their Newborn? J. R. Goodall, Montreal.
62 *Diagnosis of Pleuritic Effusions in Infancy. D. J. M. Miller, Philadelphia.
63 *Proctoscopy and Sigmoidoscopy in Infancy as Applied to Infectious Diarrhea. H. L. Bowditch, Boston.
64 *Acute Lymphatic Leukemia in Infant with Leukocyte Count of 1,330,000. B. S. Veeder, Philadelphia.
65 A Simple Apparatus (Weiss) for Drawing Breast Milk. C. Herrmann, New York.
66 A Scale Pan for Simultaneously Weighing and Measuring Infants. C. Herrman, New York.

60. **Mortality During the Early Weeks.**—Discussing the means of preventing infant mortality during the early weeks of life, Jacobi says:

> If you want to break up the infant mortality of the first weeks of life, see that your young doctors can be made competent and the indigent women supplied with a thoroughly informed midwife. As long as you cannot abolish dire poverty, give no rest to your legislatures, none to your health departments. No infant fit to live must be sacrificed through the absence of a competent and responsible midwife, who is taught enough of hygiene to prevent fatal mistakes and enough to know when it is time to send for a doctor. The women of the nation must be healthy, else the young will be feeble and sickly. But the vast majority of the confined women in the large cities have no time to recover. Tens of thousands get up after their confinement on the third or fourth day to do the washing and the rest. Instead of the two months, which is the shortest period in which the organs can become again normal, a few days are allowed, with scanty food and no attention, and a household to care for. A woman who has not sufficient time to recover will start and retain her pelvic inflammation and decrepitude. Her present child suffers and dwindles and dies; the future ones, if there be any, will be decrepit when born, and are counted, or will be counted, among the stillborn.

61. This article was also published in the *Montreal Medical Journal*, November, 1910, and *Surgery, Gynecology and Obstetrics*, January, 1911.

62. **The Diagnosis of Pleuritic Effusions in Infancy.**—Miller emphasizes the following points: Pleurisy with effusion is a common affection in infants under the age of 2 years. In the majority of cases it is purulent. Because of the disastrous, and even fatal, results of delay in, or mistakes of, diagnosis, it should be recognized early so that prompt—that is, surgical—treatment may be instituted. The diagnosis is often obscure, demanding, in the highest degree, carefulness, skill and experience. In arriving at a diagnosis, the antecedent affections should be fully appreciated. Of these, pneumonia is by far the most common. The general symptoms, as well as the physical signs, should be carefully weighed and considered. Of these, the latter are the more distinctive. The most reliable signs, in the order of their importance, are (1) exploratory puncture, (2) dulness with a sense of resistance, and (3) displacement of the apex. The other physical signs, so valuable in differentiating effusions in the adult, are uncertain, variable and confusing, and cannot be relied on in infants. The recognition of localized collections of fluid is especially puzzling, and demands great skill and watchfulness and a frequent resort to exploratory puncture or operation. The latter is safe, even when the lung is pierced, and particularly so when fluid is present. Notwithstanding the rare accidents that have followed this procedure, it should be employed to determine the character of the fluid, and, owing to the distressing results of unrecognized empyemas, it is imperatively demanded in all doubtful cases. The variability of the physical signs is a striking feature in infants and should always suggest an effusion.

63. **Proctoscopy and Sigmoidoscopy in Infancy.**—In twenty-four cases of infectious diarrhea, Bowditch examined the rectum and sigmoid by inspection. He found that cases of diarrhea in which there is a history of blood in the stools (especially among infants), show signs of inflammation (red, thickened mucous membrane, prominence of the follicles, ulcers of varying types, but no true membranous condition) throughout the sigmoid and rectum, especially during the acute stage of the disease. These lesions seem to vary according to the virulence of the infection as to number and general appearance. They gradually become healed, leaving no signs nor evidence of scar tissue visible to local sigmoidal inspection in life. Bowditch also found that blood and normal intestinal mucous membrane may be present at least in the sigmoid and rectum in cases of fermental diarrhea. Of the severer types of cases, all but two patients received one or more irrigations, three had four, and two received none. No sign of any healthy appearance was found, neither did the mucous membrane of those treated, or those untreated, differ in any appreciable way. Of these cases of milder type, all but two patients received silver nitrate irrigations. Three were given each a single irrigation early in the disease, five had more than two, and at the most, three irrigations. While a gradual improvement was apparent at the end of these repeated irrigations, at no time did the mucous membrane after a single treatment show any distinct betterment.

64. **Acute Lymphatic Leukemia in an Infant.**—The count in his case, which reached 1,330,000, is the highest leukocyte count which Veeder has been able to find on record in lymphatic leukemia in childhood. E. H., female, aged 17 months, was brought to the hospital for a purpuric eruption, which was said to have appeared five days before admission. Practically no history could be obtained. The child had been breast-fed. A swelling of the neck had appeared "some time" before the eruption. The skin was pale and showed a widespread purpuric eruption varying in size from small, bright red petechial spots about pinhead in size, to large subcutaneous extravasations, cyanotic in color, and about the size of a 25-cent piece. The large extravasations were present over the forehead, extensor surface of the forearms, the tibiæ, and over the spines of the lumbar vertebræ; the smaller lesions were most marked over the face, right shoulder and the legs. Pressure over the bones did not produce pain or signs of tenderness. The joints were uninvolved. The mucous membranes of the mouth were pale, but showed numerous points of hemorrhage. The saliva was slightly blood-streaked. The tonsils were large, swollen and red, almost shutting off the mouth cavity from the pharynx. The cervical lymph nodes were enlarged and palpable. They were moderately soft in consistency and about the size of a hickory nut. Pressure over the right side of the neck seemed to cause pain. The axillary and inguinal nodes were both enlarged and distinctly palpable as separate tumors about the size of lima beans.

The interesting feature of the case is the blood-examination: hemoglobin, 55 per cent.; erythrocytes, 3,370,000; leukocytes, 1,330,000. The field under the microscope was densely packed with lymphocytes, these being so numerous as practically to obscure everything else. The lymphocytes showed two distinct types, a small and a large cell variety, but between these two extremes there were so many gradations in size that an accurate subdivision of many of the cells into a large or small lymphocyte was impossible. The differential count (1,000 cells) was as follows: lymphocytes, 98.5 per cent.; polymorphonuclears, 1.2 per cent., and myelocytes, 0.3 per cent. One nucleated red cell was found during this count.

Providence Medical Journal

January

67 Epidemic Paralysis. H. W. Burnett, Providence.
68 Tuberculous Peritonitis. G. A. Matteson, Providence.

Western Canada Medical Journal, Winnipeg

January

69 The Standardizing of Disinfectants. S. Delépine, Manchester, England.
70 Junod's Blood Derivations. G. Werber, Washington, D. C.

Atlanta Journal-Record of Medicine

January

71 Artificial Pneumothorax in Pulmonary Tuberculosis. M. E. Lapham, Highlands, N. C.
72 Digestive Symptoms of Pellagra. J. N. Le Conte, Atlanta
73 Treatment of Anemia by Hydrotherapy. W. L. Secor, Kerville, Texas.
74 Obstetric and Gynecologic Repair of Perineum. R. R. Kime, Atlanta.
75 *Self-Medication. T. B. Rice, Greensboro, N. C.
76 Pathogenesis of Tabes Dorsalis. T. A. Williams, Washington, D. C.

75. **Self-Medication.**—As a remedy for self-medication, the dangers of which are pointed out, Rice suggests that in view of the fact that each state has passed laws regarding the practice of medicine and pharmacy and as these laws were passed primarily for the protection of the people against ignorance and quackery and not for the protection of doctors and druggists, that these should be carried out and so amended and construed by the courts as to eliminate every form of quackery. Druggists should practice pharmacy, not medicine; they should refuse to indorse any patent or proprietary medicine; they should refuse to allow any nostrum to be advertised over their names; they should refuse to distribute booklets setting forth the many wonderful "cures," many of which are indecent and suggestive. Physicians should practice medicine, not pharmacy; they should prescribe, not dispense; they should prescribe drugs, not proprietary remedies, ready prepared under copyrighted names; the U. S. Pharmacopeia should be their guide; they should refuse to be "detailed" with copyright remedies or literature regarding them. The courts should clearly define the practice of medicine and what is meant by practice of pharmacy, and they should deny the right of those who are not duly qualified to practice either or to make a pretense thereto. Ready-made or proprietary remedies carrying directions and claiming to cure or mitigate disease should no longer be held by the courts to be mere merchandise, as the courts cannot regulate the claims made by the manufacturer. This narrow conception of justice allows the manufacturer, who in many instances is neither a physician nor a druggist, to diagnose by mail and practice medicine by wholesale. It allows the seller, regardless of his position in life, moral standard or qualification, to practice both medicine and pharmacy.

Archives of Ophthalmology, New Rochelle, N. Y.

January

77 Relationship of the So-Called Trachoma Bodies to Conjunctival Affections. H. Noguchi and M. Cohen, New York.
78 Occurrence of the Prowazek and Halberstaedter Bodies in the Normal Conjunctiva of Man and Apes. G. Addario, Palermo, Sicily.
79 Cataract Operations and the Preparation of the Surgeon. W. E. McKechnie, Etawah, India.
80 Enlargement of the Blind Spot, an Early Symptom in the Diagnosis of Optic-Nerve Affections, Due to Disease of the Posterior Nasal Accessory Sinuses. J. Van Der Hoeve, Utrecht, Netherlands.

Archives of Internal Medicine, Chicago

January

81 *The Spirilla of Relapsing Fever. H. A. Christian, Boston.
82 *Diphtheria Bacillus-Carriers. H. Page, Manila, P. I.
83 *Study of Streptococci with the Complement-Fixation and Conglutination Reactions. H. F. Swift and W. C. Thro, New York.
84 *Fifty Examinations of Cerebrospinal Fluid with Special Reference to the Cell-Count. A. Bybee, Elgin, Ill., and W. F. Lorenz, Kankakee, Ill.
85 *Schürmann's Color Test for Syphilis. R. G. Owen, Detroit.
86 *Is Hemoglobinuric Fever a Manifestation of Malaria or a Disease *Sui Generis*? C. F. Craig, Washington, D. C.
87 *The Ventilation of Sleeping Cars. T. R. Crowder, Chicago.

81. **Spirilla of Relapsing Fever.**—In the circulating blood of a patient suffering from relapsing fever, Christian found spirilla on the second and third days of a three-day paroxysm of fever. These spirilla were inoculated successfully into monkeys and white rats. Both failed to show recurrence of the organism after the first infection. The lesion produced in monkeys consists of an accumulation of polynuclear leukocytes and endothelial cells in the sinusoids of the liver, and a focal infiltration of the spleen with polynuclear leukocytes. The spirilla appear to be removed from the circulation in the monkey by phagocytosis, to a slight extent in the liver, more actively in the spleen.

82. **Diphtheria Bacillus-Carriers.**—Pure culture of *Staphylococcus pyogenes aureus* sprayed in throats has, in seven cases, now reported, destroyed the Klebs-Loeffler bacilli in carriers in from forty-eight to seventy-two hours. Page adds one case and says that this method of treatment is harmless and should be used in all cases of carriers. It has been found useful immediately after convalescence from an acute attack. He suggests that it is probable that its use during an acute attack of diphtheria would be successful, but as yet it is inadvisable to attempt its use in any save mild acute cases. He also urges that a sanitary survey should be made after every diphtheria outbreak to eliminate carriers, whether they be human or animal. By animal inoculation a distinction should be made between the virulent and the "morphologic" carrier. Four negative daily cultures are necessary before quarantine is raised. Treatment of carriers has heretofore proven useless. Local measures, while necessary, fail to influence the virulence or duration of the bacilli. Antitoxin has no influence on the bacillus in a carrier.

83. **Study of Streptococci with the Complement-Fixation and Conglutination Reactions.**—The conglutination reaction in the authors' hands has not proved of much greater value in the differentiation of various strains of streptococci than the agglutination reaction. Although the conglutination and agglutination reactions are specific for streptococci, they are not specific for individual strains of streptococci. Their experiments, however, are not sufficient in number for definite conclusions on this point. They found that the best extract of streptococci for use as antigen in the complement-fixation test is that prepared by drying the washed organisms, grinding and shaking them for twenty-four hours. Immune bodies, specific for different strains of streptococci, can be demonstrated by means of the complement-fixation test. Swift and Thro suggest that it is possible by the use of this test we have a means of studying specific streptococcus infections.

84. **Examination of Cerebrospinal Fluid.**—In view of the fact that the technic employed for the examination of the cerebrospinal fluid varies greatly in the hands of the individual investigator and gives, in consequence, such discordant results, Bybee and Lorenz endeavored to develop a technic which shall have the advantages of uniformity and reliability, together with the simplicity requisite for ordinary bedside employment. Their technic differs from that of Fuchs and Rosenthal in that they employ a red-cell pipette, drawing the original stain to 0.7, and wiping away the excess of stain from the point of the pipette. The stain is then drawn up into the diluting-chamber in such a manner that it evenly coats the inner wall. They hold that the French or centrifuge method for examination of the cells in the cerebrospinal fluid is not reliable for numerous reasons: 1. The cells are not always entirely thrown down, even by prolonged centrifugation. 2. It seems probable that this failure may be due to the difference in density of cells and fluid being insufficient at all times. 3. It is impossible to collect in a pipette all the cells which are thrown down. 4. The centrifugation results in clumping of the cells, which cannot be entirely overcome. This method requires the use of a centrifuge and is consequently not clinical. The counting-chamber method, when modified so that the red blood cells do not stain, presents none of the above objections. It requires only the ordinary blood-counting apparatus. The amount of fluid necessary for the counting-chamber method is at a minimum. In their hands all clinically and cytologically positive cases of general paralysis of the insane gave a positive cell-chamber count. With the French method only sixteen positive results were obtained and twenty-four negative results. In connection with this point they call attention to the frequent statement in the literature that a single puncture is not reliable as a negative result, and that in none of their cases was more than one puncture used. Differential cell counts at present give but little additional information, except in so far as they distinguish a lymphocytosis from a leukocytosis. While this paper deals more especially with the cytologic problems, it is worth noting that Noguchi's butyric acid test gave thirty-eight positive results in forty clinically and cytologically positive cases of general paralysis of the insane.

85. **Schürmann's Color Test for Syphilis.**—While, in Owen's opinion a simple color test would be an ideal one, the method of Schürmann does not provide us with such a test.

86. **Hemoglobinuric Fever.**—That hemoglobinuric fever is not due to malaria Craig believes to be proved by its geographic distribution; by the fact that it occurs in individuals who have never suffered from malaria; and by the fact that, in many instances, neither before, during, nor after an attack can plasmodia be demonstrated in the blood; while even at

autopsy no trace of malaria can be found. That the disease is not due to quinin is proved by the fact that it occurs in individuals who have never taken the drug, and that in many regions where the drug is extensively used the disease is unknown. For the following reasons Craig believes that it is due to a specific organism: its geographic distribution; its numerical disproportion to malaria wherever it occurs; its occurrence in epidemics; the character of the pathologic lesions; its symptomatology; the lack of conclusive evidence that it is due to malaria; and its analogy with other well-known infectious diseases. He also calls attention to the peculiar relation that this disease apparently bears to the hemoglobinuric fever of cattle and to piroplasma infection in general.

87. **Ventilation of Sleeping-Cars.**—Even under the older applied principles of ventilation, the air-supply of sleeping-cars, as determined in Crowder's study, is ample under nearly all conditions. The average carbon dioxid in the air of running cars falls well within the limits of contamination permitted by the earlier investigators, and it is relatively rare that the individual observations show more than 10 parts in 10,000. In the light of the newer conceptions, which have as yet been applied in practice only to a very limited extent, this air-supply is ample under all conditions observed. No danger to health is to be apprehended under the conditions ordinarily obtaining even in still cars. They are occupied only for short periods as a rule and are not uncomfortable if kept cool. It would seem that the results obtained by the type of exhaust ventilator investigated by Crowder, which is now a part of the standard equipment of Pullman cars, are entirely adequate to meet the demands of hygiene, and that those difficulties and discomforts which do sometimes arise are due to other causes than lack of a sufficient amount of fresh air or to excessive vitiation. It is extremely unlikely that increasing the air-supply, which now amounts to from six to ten or more times the cubic content of the car each hour, and must maintain considerable motion of the atmosphere, would aid in any other way than by making overheating more difficult to bring about. Overheating is the paramount evil. It is the thing chiefly to be guarded against in the attempt to maintain comfort and good hygiene.

Annals of Ophthalmology, St. Louis

January

88 Sloughing Corneæ in Infants. S. Stephenson, London.
89 Hemichorea, Hemiataxia, Hemiparesis and Dilated Pupil, Probably Due to a Lesion Near the Nucleus Ruber. C. K. Mills, Philadelphia.
90 Chronic Cyanosis with Polycythemia. W. R. Parker and G. Slocum, Detroit.
91 *Some Unusual Ophthalmic Cases. C. T. Veasey, Spokane, Wash.
92 Leukosarcoma of the Iris Removed by Iridectomy and Useful Vision Retained. J. Thorington, Philadelphia.
93 Marginal Degeneration of the Cornea. W. Zentmayer, Philadelphia.

91. **Unusual Ophthalmic Cases.**—Veasey reports five cases: (1) reading with the lines placed vertically; (2) papilloma of the corneal limbus; (3) papilloma of the lacrimal caruncle and conjunctiva; (4) sarcoma of the chorioid with marked orbital cellulitis; (5) metastatic panophthalmitis from a pelvic abscess.

Buffalo Medical Journal

February

94 Mutual Relations of Physician and Layman. G. W. Wende, Buffalo.
95 What Is the Physician's Duty in the Prevention of Moral and Social Diseases? F. W. Sears, Syracuse.
96 *The Construction of a Vagina. W. L. Wallace, Syracuse.

96. **The Construction of a Vagina.**—Wallace reports three cases. In one of these he pulled the mucous membrane of the vulva up to the cul-de-sac of Douglas, splitting the labia minora, making them single instead of double layers, and thereby getting longer mucous flaps. This made a vagina of mucous membrane the size and length of two fingers. In the other two cases he used intestine to make a vagina after the method of Baldwin. Hereafter, in using the ileum for the vagina, instead of bringing down the middle of the gut, stitching it to the vulva and opening it, after the manner of Baldwin, Wallace says he would bring down the opened ends of the gut and sew them to the vulva, leaving the closed end of the folded gut to form the roof instead of the entrance to the new vagina. This would save the necessity of closing and turning in the two ends, which procedure takes time and also uses up nearly an inch in length at each end. It also saves the necessity of opening the folded end to sew it to the vulva. This method would also make a smooth roof for the new vagina and would make the application of the clamp much easier, as the full length of the septum would be cut out. The intestine should be drawn down until the mesentery is taut, so that the new vagina will not prolapse; and any surplus mucous membrane should be cut away. Of course the mesentery must not be pulled down enough to interfere with the blood supply. Instead of using a Murphy button anastomosis of the divided sigmoid, Wallace prefers to tie a very large tube into the proximal end and then slightly invaginate the proximal into the distal portion of the gut, using fine silk to close the joint, and approximate the peritoneum, as suggested by Mayo, and as since used by Wallace in similar cases.

Journal of Advanced Therapeutics, New York

January

97 *Treatment of Inflammation Not Complicated or Caused by Infection. W. B. Snow, New York.
98 *Splenic Leukemia Successfully Treated by Modern Methods. C. W. Strobell, Rutland, Vt.
99 *Report of the Committee on Standardization. W. B. Snow, New York.
100 Roentgen-Ray Tubes. B. E. Baker, Boston.
101 Florida as a Health Resort. W. L. Secor, St. Petersburg, Fla.

97, 98, 99. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1223.

Kentucky Medical Journal, Bowling Green

February 1

102 *Acute Nephritis. W. R. Thompson, Mount Sterling.
103 *Chronic Nephritis. S. L. Beard, Shelbyville.
104 Pyelonephritis. O. P. Nuckols, Louisville.
105 Remote Sequelæ in Mistreated Syphilis. J. T. Windell, Louisville.
106 *Acute Gastro-Intestinal Infection in Infants. J. M. Rees, Cynthiana.
107 Prophylaxis and Treatment of Scarlet Fever. J. S. Lock, Barbourville.
108 Typhoid in Children. F. D. Cartwright, Bowling Green.
109 Measles. T. A. Frazer, Marion.
110 Prophylaxis and Treatment of Pneumonia. J. C. S. Brice, Flemingsburg.
111 The Finger as an Aid in Complete Enucleation of Tonsil. W. J. Thomasson, Newport.
112 Importance of a Correct Diagnosis. D. G. Simmons, Adairville.
113 Intestinal Obstruction. M. S. Allen, Stithton.
114 The Tubercle of Tuberculosis: Its Pathologic Significance in the Physical Organization and Relation to the Bacillus Tuberculosis. J. Glahn, Owensboro.
115 Puerperal Eclampsia. U. V. Williams, Frankfort.
116 Diseased Tonsils and Their Complete Removal by Tonsillectomy. D. M. Griffith, Owensboro.

102, 103, 106. Abstracted in THE JOURNAL, Oct. 22, 1910, pp. 1493 and 1495.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

February 1

117 Problems of Medical Education in Minnesota. S. M. White, Minneapolis.
118 Management of the Puerperium. F. Leavitt, St. Paul.
119 Death Certificates: A Review of the Subject as Viewed from the Post-Mortem Room. H. E. Robertson, Minneapolis.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 28

1 History of Yellow Fever in West Africa. R. Boyce.
2 *Puerperal Eclampsia: A Comparison with Venom Poison and a Suggestion for Treatment. H. L. Murray.
3 Scopolamin-Morphin Anesthesia in Labor. J. R. Freeland and B. A. H. Solomons.
4 *Cesarean Section for Dystocia Due to Ventrofixation of the Uterus. A. Routh.
5 Absence of the Fallopian Tubes and of Menstruation, Associated with Recurrent Peritonitis. W. G. Spencer.
6 Prolapse of the Inverted Uterus During Labor. A. S. Hendrie.
7 Treatment of Cancer of the Rectum. H. Cripps.
8 *Treatment of Rheumatoid Arthritis by Vaccines. G. A. Bannatyne and J. Lindsay.
9 The Proposed Coroner's Bill. J. Griffiths.
10 The Pitfalls of "Mental Tests." C. S. Myers.

2. **Puerperal Eclampsia.**—Believing that the pregnant woman is protecting herself against a poison directly comparable to a venom, Murray suggests that there may be some therapeutic use for antivenin in eclampsia or the pre-eclamptic state. Judging from its action in snake poisoning, the likelihood of usefulness is very much greater in the latter.

4. **Cesarean Section for Dystocia.**—Routh calls attention to eight of these cases which, he believes, show that where ventrofixation causes dystocia, living children can be delivered with small risk to the mother by Cesarean section, after other attempts at delivery have been made, provided that antiseptic precautions have been carefully adopted. The only death was caused by a bowel complication present before the operation.

8. **Vaccines in Rheumatoid Arthritis.**—In two cases cited by Bannatyne and Lindsay, the results of serotherapy have been so satisfactory that they are encouraged to hope that in vaccines a cure may be found for many acute cases of rheumatoid arthritis. In both cases the micro-organisms were obtained from blood taken from veins of the antecubital fossa of the arm, after every precaution had been taken to ensure the impossibility of skin contamination. The media on which the cultures were obtained was blood-agar, and during the period of growth the incubator registered 35 C. In one case a growth was observed on the third evening, the appearance of the colonies being that of semi-transparent points. The appearance microscopically was that of a diplococcus, aggregated in clusters. The stain was retained after employing Gram's method. In the second case, a growth was observed on the second evening, in the form of single colonies less transparent than in the first case. These colonies became more abundant twelve hours later. Microscopically, the organism was found to be a micrococcus, arranged in clusters. The microorganisms were Gram-positive.

10. **Pitfalls of "Mental Tests."**—Myers urges extreme caution, at least for the present, in standardizing "mental tests" and in popularizing their use. He believes that in some forms, no doubt, tests can be usefully applied *en masse*—for example, with the object of determining the standard of intellect which a boy of given age should attain in order to class him as suitable or unsuitable to be taught in an "ordinary" or a "special" school. But, he says, such tests are "tests of production," not "mental tests." They determine how much an individual can work, how much he knows—not how he works, how he knows. A man's productivity, of course, is what we want to ascertain in every-day life. We do not care how a man comes to use or to acquire his powers; we are content with a mere dynamometric or other record of his powers. From this aspect, mass experiments must have some value. But this aspect cannot properly be called the psychologic aspect.

Lancet, London

January 28

11 The Hospital Unit in University Work. W. Osler.
12 *Auscultation of Joints. A. E. Garrod.
13 Transperitoneal Cystotomy for Tumor of the Bladder. S. Pringle.
14 *Puerperal Convulsions, or Eclampsia. W. Alexander.
15 The Rôle of Auto-Inoculation in Medicine. C. Riviere.
16 Cerebral Tumor Affecting the Under Surface of the Corpus Callosum and Filling the Right Ventricle. R. T. Williamson.
17 Subluxation of the Knee. J. J. W. Evans.
18 Atonic Dilatation of the Stomach. P. A. Mitchell.
19 Power of Speech in Cut-Throat. D. H. Metha.

12. **Auscultation of Joints.**—Garrod claims for auscultation of joints that this method is capable of affording early warning of troubles in articular structures and sometimes reveals the commencement of disease in joints, which to inspection and palpation appear to be normal, and which may even cause no discomfort to their possessor. Again, the method gives promise of help in the differentiation of articular diseases, and in distinguishing between those in which the cartilages and bones are implicated, and those in which the synovial membranes and soft parts around the joints alone suffer.

14. **Puerperal Convulsions.**—Thirty-nine cases are reported by Alexander: thirty patients were primiparæ and five multiparæ, in three the number of the pregnancy was unknown. In four cases the urine contained only a trace of albumin, and two of these proved fatal. In five cases the fits began before parturition set in; in five cases, during the first stage of labor; in six cases, during the second stage; in one case, in the third stage; in fifteen cases the attacks began postpartum, and in one case, Alexander has no clue to the time of onset. Of the postpartum onset, the times varied from a few minutes after the termination of the labor to as much as eight days after. In only five cases did the fits cease on delivery. Of the thirty-eight cases recorded, the mortality was 34.2 per cent. Alexander believes that the disease is very much on the increase, and that the mortality has increased very much in proportion.

The hastening of delivery was adopted in only seven cases. In five cases forceps were used, and one of these patients was suffering from pneumonia at the time and died from that disease. In one case artificial dilatation of the os and version effected the delivery of a decomposed fetus. The mother died suddenly, a few hours later, with a cardiac clot. In another transverse case the patient recovered after-delivery by version. The delivery was natural in twenty-nine cases. Two deaths occurred in seven cases of operative emptying of the uterus, or 28.5 per cent., and nine deaths in twenty-nine cases in which Nature was not interfered with, or 31 per cent. Routine treatment consisted of purgatives, such as jalap, magnesium sulphate, calomel and croton oil; diaphoretics, such as blanket bath, hot packs, pilocarpin, hot poultices over kidneys, saline diuretics, hot drinks; nerve sedatives, such as bromids, morphin, chloral in varied doses, fomentations to loin, dry cupping over kidneys, venesection of arm, ice to head and thyroid powder, chloroform and oxygen inhalations.

Clinical Journal, London

January 25

20 Surgical Cases Modified by Insurance. G. R. Turner.
21 Vertigo. S. Scott.
22 Cancer of the Rectum. F. C. Wallis.

Medical Press and Circular, London

January 18

23 Mumps and Its Complications. V. Hutinel.
24 *Treatment of Cancer of the Rectum. H. Drummond.
25 *Ehrlich's Salvarsan Treatment and the Biotherapy of Syphilis. L. Jacquet.
26 *Present Position of the Treatment of Plague. J. C. Thomson.

January 25

27 Fibrosclerotic Paranephritis. E. Zuckerkandl.
28 Operative Treatment of Tuberculous Meningitis. A. J. Cleveland.
29 New Points in Urine Analysis. J. B. Smith.
30 Notes on Vision. W. R. MacDermott.

24. **Treatment of Cancer of Rectum.**—The ideal operation, according to Drummond, is one which removes the rectum and the lower iliac colon with the lymphatics, glands, and mesentery, and replaces the rectum by bowels drawn down from above through the anal sphincter. This, however, is seldom possible. In early cases, and with cancer high up without visible or palpable glandular infection, a more limited removal and anastomosis by the invagination method, is Drummond's operation of choice. In the ordinary case, permanent colostomy and an extensive abdomino-perineal operation offers the best chance of permanent success. In stout and muscular subjects, Kraske's operation is less dangerous than this, and the results, for the present, compare with it sufficiently favorably to justify its employment. The simpler perineal operations should be reserved for cases in feeble persons and those in whom the disease is limited to the neighborhood of the anus, or the anal canal. At the same time, or shortly after, the glands of both inguinal regions should be excised. Blood-loss, shock and sepsis may be minimized, and the perineal operation can be more rapidly completed, by leaving hemostatic forceps on the bleeding vessels, and using few or no sutures for the wound. Drummond says that further pathologic information is required, especially as to the direction in which the disease is most likely to spread, before more definite rules can be laid down for the treatment of cancer of the rectum. Colostomy, he declares,

is never fair treatment of cancer of the rectum, and should be reserved only for cases in which there is definite obstruction or for the relief of fistulous openings.

26. **Treatment of Plague.**—Thomson's remarks are founded on an extensive personal experience of the disease in Hong Kong. Speaking first of the general management of a case of plague, he says that while pneumonic plague is a highly infectious disease requiring the strictest isolation, bubonic and septicemic plague (far commoner than the pneumonic type) is not infectious, and might safely be treated in the wards of general hospitals or in the patients' own homes. When plague prevails, the extermination of rats is of primary importance; the methods of doing so which have proved most efficacious are traps and poisons. During the illness, the disinfection required is very much the same as in a case of typhoid. Nurses should be warned of the possibility of infection through an abrasion of the skin, and any abrasions present ought to be protected by collodion. Alcoholic stimulant (4 oz. of brandy daily) is generally required, and cardiac stimulants, digitalis, strychnin, strophanthus, are constantly required. The disease is essentially an asthenic fever. It is also important to attend to the bladder, as retention of urine is common, and to cleanse the mouth.

According to Thomson there is no really satisfactory specific treatment for plague, and for the most part, symptomatic treatment is an essential feature. As to the specific methods of treating the disease, Thomson relates his experiences with carbolic acid, given in large doses—12 gr. every two hours, or 144 gr. daily. If the drug was pure, carboluria rarely occurred, and when it did, all that was necessary was to intermit a few doses. He has treated a series of 143 patients in this way, with a mortality of 30 per cent. In Hong Kong the mortality of cases in which serotherapy was used was 80 per cent.; in Oporto, 14 per cent.; in Brisbane, 40 per cent. In India, taking selected cases, the mortality had been reduced from 74 to 63 per cent. by the use of the Yersin and Roux serum, and in private cases to 40 per cent. In Hong Kong, Thomson has never had such good results, though employing the same serum. Haffkin's prophylactic is of great value, he asserts, and should be given to nurses and contacts; it prevents the disease, even if given during the inoculation period. The third line of specific treatment is by organotherapy. Epinephrin is said to have reduced the mortality to 37 per cent. in a reported series of cases, and the success was enough to warrant further trial.

British Journal of Children's Diseases, London

January

31 Congenital Obliteration (or Congenital Atresia) of Bile Ducts with Cirrhosis of Liver. F. P. Weber and G. Dorner.
32 Enlargement of the Tubercle of the Tibia. R. C. Elmslie.
33 A Retrospect of Otology, 1910. M. Yearsley.

Journal of Obstetrics and Gynecology of the British Empire, London

January

34 Cesarean Section in the United Kingdom. A. Routh.

Archives Générales de Médecine, Paris

December, LXXXIX, No. 12, pp. 705-746

35 *Subscapular Friction Sounds. (Frottements sous-scapulaires.) M. de Laroquette.
36 *Sarcoma of the Medulla Oblongata. (Sarcomes du bulbe.) O. Claude and E. Chabrol.
37 Twenty-Five Cases of Epidemic Meningitis. R. Voisin and G. Paisseau.

35. **Subscapular Friction Sounds.**—A friction sound or cracking under the scapula when the shoulder is moved has been regarded as a sign of something wrong in the bone or periosteum but Tedeschi, in 1908, called attention to it as a sign of a tuberculous lesion in the lung below, and still more recently Rénon stated that it has considerable diagnostic importance for differentiation of pulmonary tuberculosis. Laroquette has been studying it on an extensive scale, examining 824 different individuals, including 161 with various diseases, mostly tuberculosis, and 43 children. He found the sounds pronounced in 8.2 per cent. of the 620 healthy persons examined; in 18.6 per cent. of the sick, and only once in a child. He also had occasion to examine post mortem several individuals who during life had had the sound very distinct. In his eighty-two cases with positive findings, the sounds were audible on both sides in forty. From this experience he concludes that the sound in itself has absolutely no pathologic importance; it is similar to the cracking sound heard sometimes in other joints as they are moved although the joints are and remain apparently healthy. The sounds are the result of contraction of certain muscles; when the joint is moved passively there is no sound. After the individual's attention is once attracted to the sound he notices it as he moves his shoulder and is liable to grow uneasy about it and imagine sensations in the joint. When the sounds are detected in a person who has never noticed them particularly, the physician should refrain from calling attention to them. The nervous system should be given general treatment if necessary.

36. **A Sarcoma of the Medulla Oblongata.**—At necropsy a sarcoma as large as a walnut was found in the medulla oblongata, entailing inflammation and atrophy of the cerebellum. The main complaints had been difficulty in swallowing and pain in the back of the neck. The first symptoms had been observed four years before. The velum was paralyzed and a sudden attack of dyspnea developed in which the patient succumbed. In a second case, death occurred suddenly after a week or so of symptoms diagnosed in the hospital as cerebrospinal meningitis. In ninety-two cases of tumors in the medulla oblongata on record, they proved to be sarcomas in only seventeen instances. These patients were between the ages of 25 and 40 and were mostly women, and the tumor was primary, without metastasis. Such tumors compress and destroy the nervous elements; they do not diffuse but remain well circumscribed. The first signs of trouble come on abruptly and the syndrome develops by repeated exacerbations, death occurring generally suddenly from action on the cardiorespiratory centers. Secondary hemorrhages are liable to occur in the growth. The profound destruction and successive involvement of the different bulbar nuclei induce a clinical picture very different from that of glioma; this wealth and multiplicity of the symptoms give the clue to the nature of the tumor, no other tumor in the medulla revealing its presence so unmistakably.

Annales de l'Institut Pasteur, Paris

December, XXIV, No. 12, pp. 921-984

38 Preservation of "Soluble Toxins." M. Nicolle and C. Truche.
39 Experimental Research on Tetanus Toxin and Antitoxin. M. Nicolle and H. Mouton.
40 Action of Heat on Antitoxins. M. Nicolle and C. Jouan.
41 Individuality of Cellase and Emulsine. G. Bertrand and A. Compton.
42 *Anaphylaxis After Spinal Serotherapy and Its Prophylaxis. (L'anaphylaxie rachidienne et les moyens de s'en préserver.) A. Besredka and S. Lissofsky.
43 Certain Hematozoa of the Congo. (Trypanosomes, Microfilaires, Leucocytozoaires.) A Lebœuf and Ringenbach.
44 Pyocyanase in Treatment of Anthrax. L. Fortineau.
45 Research on Antispermotoxic Serums. J. G. Fitzgerald.

42. **Prophylaxis of Accidents in Serotherapy.**—Besredka and Lissofsky state that recently in Paris alone there have been ten deaths which they ascribe to injection of antimeningococcus serum into the spinal canal. Hutinel has recently also called attention to four fatalities after intraspinal injection of the serum. Their experimental research has shown, however, that the phenomena of anaphylaxis to which they ascribe these accidents can be prevented by fractioning the serum to be injected. Their experimental research has shown that vaccination with repeated minute doses is borne by the guinea-pigs, while it is rapidly fatal if the vaccine is given in a single dose. They found that every guinea-pig sensitized by subcutaneous injection of a serum reacts with anaphylaxis when a new injection of the same serum is made into the spinal canal. However, there are no signs of anaphylaxis if the serum is fractioned in minute doses, whether administered by way of the skin, peritoneum, spine or veins. This occurs most rapidly with intravenous vaccination and most slowly with the subcutaneous; immunity is obtained with the intravenous route in fifteen minutes, while with the subcutaneous four hours are required. The antianaphylactic immunity thus acquired, after vaccination by the spinal route, does not last over twelve or fifteen days. They describe a number of series of experiments: For instance, a guinea-pig

weighing 420 gm. was vaccinated with 0.5 c.c. of serum injected into the jugular vein. Ten minutes later 0.14 c.c. was injected into the spinal canal. No signs of disturbances were observed although this is a rapidly fatal dose for unvaccinated guinea-pigs. The absolute protection against anaphylaxis was thus complete in ten minutes with the intravenous technic. An untreated animal given an intraspinal injection of the serum is sure to show signs of fatal anaphylaxis if another injection is made.

Presse Médicale, Paris

January 14, XIX, No. 4, pp. 25-40

46 *Dwarfs. (Nanisme et chétivisme.) H. Meige and A. Bauer.
47 The Urine in General Paresis. (Les échanges urinaires chez quelques paralytiques généraux.) H. Labbé and A. Gallais.

46. **Dwarfs.**—Meige and Bauer have been studying dwarf growth which they classify as total, when the individuals are merely well proportioned miniatures of ordinary adults; rachitic, myxedematous and achondroplasic. In the myxedematous type the tendency to dwarf growth can be cured by thyroid treatment, so that the physician may be able to remove the stigma of deformity from such patients.

Revue de Chirurgie, Paris

January, XXXI, No. 1, pp. 1-142

48 Sacrococcygeal Teratoid Tumor: Sixth on Record. (Angiosarcome à type périthélial développé aux dépens de la glande de Luschka.) F. Curtis and R. Le Fort.
49 Skin Grafting by Total Transplantation: Large Flap Without Pedicle: Eleven Cases. (Greffe cutanée par transplantation totale ou lambeau non pédiculé.) W. Dubreuilh and P. Noel.

Semaine Médicale, Paris

January 25, XXXI, No. 4, pp. 37-48

50 Indications and Technic for Anastomosis Between Bile Ducts and Intestines. F. Lejars.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXI, No. 2, pp. 317-573

51 Surgery of the Prostate. P. Kayser.
52 Typhlitis and Ascending Colitis. G. Pallin.
53 Intestinal Lipoma. Ehrlich.
54 Horizontal Fracture of the Skull. (Zur Kasuistik der Deckelfrakturen des Schädeldaches.) Ehrlich.
55 Otto-Chrobak Deformity of the Pelvis. (Fall von intrapelviner Vorwölbung und centraler Wanderung der Hüftpfanne.) Schertlin.
56 *Varicose Veins in Legs. (Pathogenese und zweckmässigste Behandlung der Krampfadern der unteren Extremitäten.) G. Moro.
57 Survival of Gonococcus in the Prostate. (Beständigkeit des Gonococcus in der Prostata und die klinischen Folgen der Blenorrhagie.) G. Moro.
58 Gastroptosis. G. Moro.
59 Surgery of the Duodenum. E. D. Schumacher.
60 Surgery of the Bronchus. M. Tiegel.
61 Bilious Peritonitis Without Perforation of the Bile Ducts. (Gallige Peritonitis ohne Perforation der Gallenwege.) Schievelbein.

56. **Treatment of Varices on the Legs.**—Moro reports forty-two patients with serious varicose disturbances all entirely cured by operative treatment according to Novaro's technic. This aims to interrupt the pathologic reflux of venous blood from the deep into the superficial veins which is the cause of the trouble. This pathologic reflux may occur solely at the point where the saphena magna empties into the femoral vein, or the intercommunicating veins may be involved in the valvular insufficiency between the deep and the superficial systems of veins. Any operative measure which acts merely on the superficial veins does not attack the real source of the trouble. Resection of the saphena magna at its junction with the femoral vein answered the desired purpose in full in 44 per cent. of his forty-two cases; in the others this operation had to be supplemented by resection of one or more of the intercommunicating veins. He tabulates the details of his cases and reports research on the cadaver which demonstrated that sudden violence was unable to force the valves to a point to induce varices; long-continued action of the injurious influences was necessary for this. He concludes his article by urging prompt intervention without waiting for the varicose disturbances to become very pronounced. In the early stages the Trendelenburg method of resecting the saphena magna at its junction with the femoral vein will cure the tendency permanently and prevent extension of the trouble to the intercommunicating veins.

Berliner klinische Wochenschrift

January 16, XLVIII, No. 3, pp. 101-152

62 *Polycythemia. R. Staehelin.
63 *Dietetic Treatment of Cardiovascular and Kidney Disturbances. (Karellkur, Oertelkur, Widal-Strausskur.) A. Magnus-Levy.
64 *Venesection and Saline Infusion in Treatment of Skin Disease. (Anwendung von Aderlass und Kochsalzinfusion bei der Behandlung von Hautkrankheiten.) C. Bruck.
65 *Landry's Paralysis. G. C. Bolten.
66 *Anaphylaxis After Serotherapy. E. Allard.
67 Improved Antiformin Technic for Determination of Tubercle Bacillus. (Ergänzung der Antiforminmethode zur Anreicherung der Tuberkelbacillen.) Lorenz.
68 *Tryptophan Test of Gastric Cancer. (Zur Diagnose des Magencarcinoms mittels der Fischer-Neubauer'schen Methode der Spaltung des Glycyltryptophans.) H. Ley.
69 Radiology of the Stomach. (Ein Wort über den Wismutmagen.) B. Stiller.

62. **Polycythemia.**—Staehelin reports that he has encountered seven pure cases of polycythemia with abnormally high blood-pressure and four others complicated with emphysema, heart defect, arteriosclerosis or nephritis—all in the course of one year. There was a history of syphilis in only one case. Permanent improvement or cure was not observed in any instance. He tabulates the various details for comparison and states that differentiation has not been of much use so far as treatment is concerned, as no measures gave permanent benefit, but yet differentiation is important on account of the prognosis. This is much more unfavorable than for neurasthenia, with which the disturbances might be confounded, or the patient might be accused of exaggeration or malingering. In the severe cases all the visible veins are turgid and the skin and mucosa are a cyanotic red, redder than with cyanosis and emphysema. The majority of the patients looked like healthy persons just after a hearty meal or severe muscular exercise. In the milder cases the patients' complaints had invariably been ascribed to neurasthenia.

63. **Dietetic Treatment of Kidney and Heart Disease.**—Levy regards an exclusively milk diet as essentially a salt-poor diet, but he warns that large amounts of milk contain appreciable quantities of salt. He gives a number of examples to show the great efficacy of prolonged prohibition of salt in treatment of severe parenchymatous nephritis with rebellious dropsy; two such patients had previously been systematically treated for six months with all other measures without improvement. He then put them on a mixed diet free from salt and in two months the dropsy had vanished. During this time one patient eliminated 300 gm. of salt; at first the kidney had not been permeable for salt, but in the course of the three weeks in which the kidney had been relieved of the task of salt elimination, it recuperated so that it eliminated constantly more and more, accompanied by the water to hold it in solution, and by the second month this patient's weight had declined by 66 pounds. This patient had not taken over 2 or 3 gm. of salt daily in the food during this period. If the restriction had been less severe and less systematically carried out, so that 5 or 6 gm. of salt a day had been permitted, the patient probably would never have been relieved of the dropsy. These cases not only emphasize the efficacy of the salt-poor diet after failure of all other measures, but they show the long course of the treatment necessary. Kidney patients of this class do not lose the dropsy so fast as patients with heart disease. The salt-poor diet may be valuable also with cirrhosis of the liver and heart disease although the mechanism of its action is different in such cases, the benefit being due to improvement in the conditions in the circulation as the superfluous salt is dropped from the diet. Reduction of the intake of albumin may also prove useful, as it spares the kidneys extra work. Restriction of fluids may prove efficient but only indirectly, as the patients unconsciously limit the intake of food and especially of salty foods, to prevent thirst when they are not allowed to drink water freely.

64. **Venesection and Saline Infusion in Treatment of Skin Diseases.**—Bruck has been treating eight patients with various skin affections by venesection, withdrawing about 250 c.c., following this with intravenous infusion of 500 c.c. of physiologic salt solution, his aim being to wash out the toxins in the blood which he regards as responsible for the skin disease. The effect was favorable in generalized pruritus, urticaria, erythema multiforme with effusion, and herpetiform dermatitis; no effect was observed in psoriasis and in a case of

diffuse eczema. This "lavage of the blood" not only washes out toxins but stimulates the blood-producing organs, and he thinks that it is liable to prove useful in a number of other skin affections in which the action of toxins may be assumed as a factor.

65. **Landry's Paralysis.**—Bolten reports two cases of typical paralysis of the Landry type, both confirming the assumption that the paralysis is the result of intoxication of the spinal cord, the action of the toxin interfering with the functioning of the spinal and bulbar centers, while it is not sufficient to be actually destructive. The toxins seem to leave the sensory neuron intact and merely to check motor functioning. Treatment of one patient on this hypothesis resulted in a complete cure. The aim was to substitute the cerebrospinal fluid by a non-toxic fluid; this was accomplished by withdrawing small amounts of the spinal fluid and replacing it with the same amount of physiologic salt solution. This was done six times in the course of eight days in the case reported —a total of 600 c.c. of spinal fluid being withdrawn and 540 c.c. of a salt solution being injected. The patient was a previously healthy young man, but for days the severe bulbar symptoms, extensive bronchitis and total paralysis of the diaphragm, vocal cords and muscles of swallowing rendered the prognosis very grave. The paralysis subsided in the various muscles in reverse order to its development, and the patient was dismissed in good condition after five weeks. In the first case there were signs of severe intestinal autointoxication and transient improvement followed calomel, but the patient died the tenth day.

66. **Serious Disturbances After Preventive Serotherapy.**—Allard remarks that the disturbances known commonly as "serum sickness" have been observed mostly in children and have been comparatively harmless, but he has recently encountered two cases in which almost fatal accidents developed after a preventive injection of antianthrax serum from a sheep or antitetanus horse serum. Both patients were physicians; the first had been inoculated with antitoxin for diphtheria seven years before and again a year and a half later. Four years after this he had also been immunized against rabies, being given at this time twenty-one subcutaneous injections of rabbit antirabies virus. He had thus been injected on two occasions with horse serum and then with rabbit virus, and when injected with the sheep serum he responded with typical anaphylactic phenomena just as in a laboratory experiment. The second patient had been given antitoxin treatment for diphtheria in 1898 and again in 1904, and he reacted to the injection of antetanus serum with intense general symptoms a few hours later, recurring in exacerbations during the week; the syndrome finally terminated with the severest attack on the eighth day, after which the pulse and respiration soon returned to normal. Other patients injected at about the same time with the same serum showed no disturbance. Treatment was in both cases by injection of camphor and caffein or drinking strong coffee. The urine was normal in both cases during and after the collapses. The prompt and complete recovery after the severe manifestations was a striking feature of the case. Allard reviews in conclusion what others have written on the subject, and comments that he did not dare, in the serious syndrome observed, to follow Besredka's suggestion to give ether; Besredka found that the animals in experimental anaphylaxis all survived when deeply anesthetized with ether. Allard commends the suggestion to use antitoxins made from different animals and in as concentrated form as possible.

68. **The Tryptophan Test for Gastric Cancer.**—Ley applied this test in twenty cases, all with anacidity, and twelve suggesting cancer. The findings were contradictory; in the four certain cases of cancer a positive reaction was obtained only in two, while the findings were also positive in four cases of simple gastric catarrh.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 20, XLI, No. 3, pp. 81-112

70 Salvarsan in Syphilis. B. Bloch.
71 *Recurring Hypertrophy of the Prostate After Prostatectomy. E. Lumpert.
72 *Alkaptonuria. A. Oswald.

71. **Recurring Prostatic Obstruction After Prostatectomy.**—The disturbances from enlargement of the prostate in the case reported were practically cured by castration and cure of the cystitis but they returned again after five years, at which time perineal prostatectomy was done. Only a few scraps of the prostate were left, but they proliferated again in the course of three years until fatal uremia resulted. In this as in two other cases previously reported from the same clinic there was no sign of a malignant tendency, the prostate tissue merely seemed to be endowed with an exceptional faculty for pure proliferation. The prostatectomy had been regarded as "total" in all these cases.

72. **Alkaptonuria.**—Oswald has found only sixty cases of alkaptonuria on record and he believes that it often escapes recognition as it must be more frequent than the literature would suggest. He compares it with diabetes and thinks that closer study of alkaptonuria might throw light on diabetes and other constitutional taints. He consequently urges physicians to be on the lookout for it and to report their cases or inform him personally of the details. The anomaly is easily recognized by the brown discoloration of the urine when it is shaken up for two or three seconds in a test-tube after it has been rendered alkaline by addition of solution of sodium or potassium hydroxid. The alkaptonuric urine has also reducing properties, giving the Trommer reaction.

Deutsche medizinische Wochenschrift, Berlin

January 19, XXXVII, No. 3, pp. 97-144

73 Injuries of the Eyeball. (Pathologie und Therapie der Verletzungen des Auges. II.) A. Elschnig.
74 *Artificially Induced Pneumothorax on Both Sides. C. Forlanini.
75 Salvarsan in Malaria. J. Iversen and M. Tuschinski.
76 *Salvarsan in Chorea Minor. J. v. Bokay.
77 Technic for Intravenous Injection of Salvarsan. H. Werner.
78 *Fate of Salvarsan in the Body. A. Bornstein.
79 *Acute Stage of Epidemic Poliomyelitis. Eckert.
80 *Origin and Treatment of Scoliotic Sciatica. E. Plate.
81 Primary Tuberculous Process in Mouth and Jaw. (Primäre Tuberkulose der Mundschleimhaut und des Unterkiefers nach Zahnextraktion.) O. Ehrhardt.
82 Improved Technic for Pubiotomy. (Zur Technik der Hebosteotomie: Die Becklenklammer, ein neues Instrument.) E. Blos.

74. **Double Induced Pneumothorax.**—Forlanini reports two cases in which after one lung had healed under an artificially induced pneumothorax, he applied the same procedure to the other lung, and with equal success. He also adds the histories of two other cases in which conditions would permit the making of a second pneumothorax on this or the other side in case such an operation ever becomes necessary. His cases confirm, he asserts, the reliability of this means of treating pulmonary lesions and its efficacy. Results are naturally better the earlier treatment is applied, and his experiences, he thinks, justify its application even for incipient lesions, Scrupulous care must be exercised to prevent infecting the pleura; if pleurisy develops adhesions form which interfere with the pneumothorax.

76. **Salvarsan in Chorea.**—The case reported is cited as an instance of successful treatment of recurring chorea minor with salvarsan. The patient was a girl of 8, and the severe chorea subsided in the course of the four weeks following the injection; but the patch of necrosis at the site of the subcutaneous injection near the costal arch had shown no signs of healing although it had ceased to spread by the end of this time. It was a little smaller in size than a silver quarter.

78. **Fate of Salvarsan in the Body.**—Bornstein has examined several cadavers of individuals dying of intercurrent affections from two weeks to several months after injection of salvarsan. The findings harmonized with those obtained in his research on rabbits, all showing that the arsenic injected in the form of salvarsan is carried to the liver, kidneys and spleen and is stored up there, not only when it is incorporated by the intravenous route but also when injected into the muscle or subcutaneous tissue. It circulates in the blood only for a comparatively brief time. He found in one cadaver two weeks after injection 6.5 mg. of arsenic in the liver; 3.1 mg. in the kidneys, and 1.8 mg. in the spleen.

79. **Epidemic Poliomyelitis.**—Eckert analyzes nineteen cases of acute poliomyelitis in his charge at Berlin. Besides the paralysis, the pain in the spine and the profuse sweats were

the predominant features. One of the patients had had the same disease in 1903, leaving paralysis of the left leg, requiring later tenotomy. In 1909, the second attack occurred; it left the right leg paralyzed. One child of 8 died the eighth day of the disease which had developed with a fulminating course. He witnessed benefit in one case at least from lumbar puncture. He also made a point of mercurial inunctions during the acute phase, with hot baths and sweats, for their antiphlogistic action; electricity was used after subsidence of the pain in the spine. The Wassermann reaction was constantly negative with the cerebrospinal fluid, but a weak reaction was obtained with the blood in four out of the five cases tested.

80. **Sciatica Complicated with Scoliosis.**—Plate gives twenty-three illustrations of seven patients with chronic sciatica who also presented a greater or less tendency to scoliosis. He analyzes the cause of this tendency and explains it as the result of propagation of the trouble in the root of the sciatic nerve to the lumbar plexus with resulting neuralgia of the sensory nerve fibers in the muscles in the iliac region. On account of this pain these muscles are not normally stretched and in consequence the hip joint is slightly flexed; this shortens the leg and tilts the pelvis, the latter compelling curvature of the spine to maintain the balance of the body. The practical point is that the myalgia of the iliacus and psoas muscles requires treatment along with the sciatica in cases complicated with scoliosis.

Jahrbuch für Kinderheilkunde, Berlin

January, LXXIII, No. 1, pp. 1-130

83 New Clinic for Diseases of Infants and Children. (Strassburgs neue Kinderklinik.) A. Czerny.
84 Restitution of Water After Periods of Indigestion. (Studien zum Mineralstoffwechsel.) H. Koeppe.
85 Retention of Water During Fever. H. Koeppe.
86 Elimination of Phosphates in Urine of Bottle-Fed Infants with and Without Intake of Salt. H. Koeppe.
87 Fever After Intake of Salt. H. Koeppe.
88 Thyroid Not Responsible for Defective Bone and Cartilage Growth. (Ueber die angebliche Bedeutung von Schilddrüsenveränderungen bei Chondrodystrophia foetalis und Osteogenesis imperfecta.) M. Sumita.
89 Water-Content of Blood in Infants. (Wassergehalt des Blutes und sein Verhalten bei den Ernährungsstörungen der Säuglinge.) F. Lust.
90 Value of Albumin in Human Milk. (Zur Bewertung des Albumingehaltes der Frauenmilch.) P. Grosser.

Medizinische Klinik, Berlin

January 15, VII, No. 3, pp. 85-126

91 Treatment of Fractures. (Einrichten gebrochener Knochen.) K. Ewald.
92 Duodenal Ulcer. (Zur Diagnose und Therapie des Duodenalgeschwürs.) A. Kühn.
93 *Treatment of Diphtheria Bacillus-Carriers. (Zur Bekämpfung der Bazillenpersistenz bei Diphtheriekonvaleszenten.) M. Kretschmer.
94 Relations Between Multiple Sclerosis and Hysteria. H. Bendixsohn and Serog. Commenced in No. 2.
95 Herpes Zoster After Intravenous Injection of Salvarsan. L. Meyer.
96 The Cresyl Dyes in Clinical Staining Technic. O. P. Gerber.
97 *Improved Technic for the Antitrypsin Test. (Platten für die Trypsinprobe.) Kniaskof.

93. **Diphtheria Bacillus-Carriers.**—Kretschmer states that the diphtheria bacilli often lurk in the recesses of the tonsils long into convalescence, and he has succeeded in freeing thirteen patients from them by crushing the tonsils, thus squeezing out the plugs and secretions. He did this from one to nine times in the different cases, finally freeing the diphtheria convalescents in this way in from seventeen to thirty-eight days after the commencement of the disease. The results were promptest with the more accessible tonsils, more repetitions being necessary when the tonsils were far back.

97. **The Antitrypsin Test.**—Kniaskof extols the advantages of using gelatin instead of the Loeffler plate. He pours 10 or 15 c.c. of a 10 or 15 per cent. gelatin solution into a Petri dish and after it is hardened, he covers it with a 10 per cent. solution of formalin. After from twelve to twenty-four hours the formalin is poured off and the plate is rinsed for an hour under running water and then dried with blotting paper. Plates thus prepared kept for a long time. The little dimples formed from the eating away by the fluid to be examined, show up better if the gelatin is stained with a few drops of India ink while it is fluid. Scraps of the stained gelatin can also be used to test the fluid by dropping them into it. If the gelatin is dissolved by the action of the trypsin the fluid becomes stained by the India ink. No change of tint is accepted as a positive reaction to the antitrypsin test. [This test was described in THE JOURNAL, July 4, 1908, page 83.]

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

January, XXXIII, No. 1, pp. 1-124

98 *Extraperitoneal Cesarean Section and Pubiotomy. (Extraperitonealer Kaiserschnitt und Heboskeotomie.) A. Döderlein.
99 Laceration and Expulsion of Ring of Vaginal Wall. (Ringförmiger Ausriss der Scheide intra partum.) P. Esau.
100 *The Vaginal Methods in Gynecology. T. Dobbert.
101 *Acute Dilatation of the Stomach. H. Hellendall.
102 Primary Vaginal Cancer. (Zur Technik der Radikaloperation des primären Scheidenkrebses.) H. Peitmann.
103 Ovarian Dermoids. (Zur Aetiologie der Ovarialdermoide und zur Kenntnis der darin vorkommenden Haare.) M. Yamasaki.

98. **Extraperitoneal Cesarean Section and Pubiotomy.**—Döderlein has done Cesarean section by the extraperitoneal route in thirty-two cases by the technic which he describes and illustrates. The extraperitoneal slanting incision in the inguinal region is made with the patient's shoulders very low, but when ready to extract the child, the pelvis is lowered. All except three of the women were safely delivered. One of these succumbed to eclampsia twelve hours later and another was seriously septic when first seen after four days of labor; her child was dead, and another child could not be revived. Paralytic ileus was responsible for the third fatality. The great disadvantage of this technic is that it is more difficult to extract the child, but this is overbalanced by the advantages of not opening into the peritoneum and the less subjective discomfort for the patient. He has performed pubiotomy in fifty-three cases with the loss of only one patient from paralytic ileus. This operation has a mortality to date of six in 321 cases at seven large clinics, that is, 1.8 per cent. The two operations do not compete with but supplement each other. With manifest infection both are contraindicated.

100. **Vaginal Methods for Gynecology.**—Dobbert reviews his experience with the vaginal technic at St. Petersburg with or without supplementary laparotomy. The lesson taught, he says, is that the rational combination of the vaginal and abdominal methods is the technic for the future.

101. **Acute Dilatation of the Stomach.**—Hellendall reports four recoveries, that is, 53.54 per cent. of his total material. He has compiled 140 cases from the literature, including eighty-six in which the dilatation followed an operation. The list includes thirty-nine cases of dilatation of the stomach after gynecologic operations and twelve after gall-stone operations. An important symptom is the explosive vomiting with long intervals of comparative well being; the stomach region protrudes while the rest of the abdomen is not distended nor rigid. He ascribes the trouble in one of his cases to propagation of an infectious process in the small pelvis to the stomach wall, entailing atony. In a second case the dilatation was the result of accumulation of gases and they escaped as the tube was introduced; there was no abdominal infection in this case. In another case the vomiting was more like regurgitation, the mouth filling at brief intervals and the patient merely spitting out the fluid. The rapid pulse and difficulty in breathing are the main symptoms. In three of his cases the history was suspicious of old gastric ulcer. The dilatation may be primary or secondary; treatment should aim to tone up the stomach walls and to relieve it of its accumulated contents. It is especially important to repeat the gastric lavage at the moment when the paralyzed stomach begins to become distended again. The most certain prophylaxis of trouble is prevention of great distention of the upper abdomen, keeping up the patient's strength with nutrient enemas, saline infusion and subcutaneous injections of camphor or sugar solution. Desguin recommends specific serotherapy when infection is responsible for the dilatation. If the lavage of the stomach does not remedy conditions, the patient should be placed in the ventral decubitus to act on the occlusion of the duodenum probably responsible for the symptoms. Schnitzler has cured patients in this way. Bäumler commends the knee-chest position but notwithstanding the twenty successful cases on record in which this has been done, some writers regard it as dangerous—Borchardt has

reported a fulminating aggravation of the disturbances. Special care is necessary for patients after laparotomy, and Hellendall thought that one of his patients was injured rather than benefited by the position treatment.

Münchener medizinische Wochenschrift

January 17, LVIII, No. 3, pp. 121-176

104 Determination of Amebas. T. v. Wasielewski.
105 Active Substances in the Uterus and Ovaries. G. Schickele.
106 *Ear Conditions in Syphilitics After Administration of Salvarsan. O. Beck.
107 *Prognosis of Puerperal Psychoses. P. Jolly.
108 Functioning of the Pyloric Sphincter After Experimental Cross Section of Stomach. (Die motorische Funktion des Sphinkter pylori und des Antrum pylori beim Hunde nach der queren Durchtrennung des Magens.) M. Kirschner and E. Mangold.
109 *Further Experiences in Influencing Shape of Skull in Young Children. (Willkürliche Beeinflussung der Form des kindlichen Schädels.) G. Walcher.
110 Transmission of Hypersusceptibility to Antipyrin to Guinea-Pigs. (Uebertragung von Antipyrinüberempfindlichkeit auf Meerschweinchen.) E. Klausner.
111 Improved Technic for Hemostasis in Operations on the Skull. F. Berndt.
112 Advantages of Sterilization with Tincture of Iodin. (Die moderne Jodpinselung, sowie über deren weiteres Anwendungsgebiet.) A. Hofmann.
113 Discoloration of Urine After Eating Mushrooms. (Harnverfärbung nach Schwammegenuss.) A. v. Notthafft.
114 *Apocynum in Chronic Cardiac Insufficiency. G. Fehsenfeld.
115 Scientific Medicine and Its Opponents. (Die wissenschaftliche Heilkunde und ihre Widersacher.) O. P. Neumann.

106. **Otologic Findings After Injection of Salvarsan.**—Beck has examined over a hundred syphilitics after salvarsan treatment; the findings confirm the fact that changes in the internal ear may be observed after taking the drug. All the patients examined had been referred to the university otologic clinic in charge of Urbantschitsch, on account of complaints in regard to their ears. In one case an otitis media, rebellious to all treatment for several months, healed completely nine days after injection of the salvarsan. In three other cases both the labyrinth and vestibule were evidently affected, the symptoms not coming on until five, seven and nine weeks after the injection of salvarsan; the Wassermann reaction was negative. None of these patients had ever had attention attracted to the ears before. There had been little change for the better in these patients during the three weeks to date of writing. The syndrome in one case was that of typical Menièreiform cerebral polyneuritis. In another case the vestibular nerve was alone affected without any subjective vestibular symptoms and there has been no change to date; the symptoms developed four months after the injection of the salvarsan and have remained unmodified to date. Beck thinks that this case speaks for a toxic action of the drug on the vestibular nervous apparatus similar to that which Rothig found in mice after treatment with arsacetin. Symptoms like those presented by this patient have been observed in untreated syphilis, but they almost invariably show a decided tendency to retrogression while in the case reported they have persisted. He knows, however, of a similar persisting syndrome in a case in which no salvarsan had been given. He adds that ear affections in untreated syphilis are comparatively rare while they have become unusually common since the introduction of salvarsan. The syndrome observed in his cases was like that in Rille's three patients developing over ten and twelve weeks after the injection [mentioned in THE JOURNAL, January 28, page 311]. Beck thinks it probable that persons whose ears are not entirely intact before taking the salvarsan are more liable to develop these nervous symptoms in the organ of hearing.

107. **Prognosis of Puerperal Psychoses.**—Jolly has been able to trace to date, after an interval of ten years at least, seventy-nine patients with puerperal psychoses at the Halle university clinic for nervous and mental diseases, 1887-1900. Complete recovery was observed only in 46 per cent. with slight change in character in an additional 13 per cent. In twenty-six of the seventy-nine there was recurrence of the psychoses—in fifteen in connection with other pregnancies. Only two of the nine patients recovered whose psychosis developed during pregnancy; twenty-nine of the fifty-five with true puerperal psychoses, and five of the fifteen whose psychoses developed during lactation. Six of the seven patients with mania recovered completely; the other patient died. Half of the six patients with catatonia developed dementia later, one after an interval of eight years of health. The best outcome was in the twenty-eight cases of amentia, complete recovery following in nineteen after an interval ranging from five weeks to eighteen months, and complete recovery in two others after an intercurrent recurrence. In four cases the amentia progressed to dementia. The amentia developed almost exclusively during the puerperium. In 25 per cent. of the puerperal cases there had been infection.

109. **Influencing Shape of Skull in Infants.**—THE JOURNAL summarized recently Walcher's views in regard to the necessity for watching over the way an infant lies in order to mould its head into normal shape and outline. Avoidable deviations from normal shape are frequently responsible for traction on important tissues within the skull and resulting brain trouble. He here relates further experiences in this line and the results of position in correcting abnormal tendencies. When deemed necessary to have the child lie on its back, he uses a low crib with high walls which the child cannot see through, and it lies on its back to look up. To keep the child on its side, the crib is made with latticework walls and is placed on a table against the wall, so that the babe has to lie on its side to watch what is going on. The pictures of twins "before and after" show the great differences in the shape of the skull that can be realized by the mere position of the crib and whether the child can look through its walls or not.

114. **Apocynum Cannabinum in Chronic Heart Disease.**—Fehsenfeld reports satisfactory experiences with Canadian hemp in a number of cases of chronic cardiac insufficiency in which digitalis had failed. The action is similar to that of digitalis though not so durable; the hemp extract therefore may prove useful when digitalis is contra-indicated or has worn out its usefulness.

Virchows Archiv, Berlin

January, CCIII, No. 1, pp. 1-160

116 *Tumors of the Hypophysis Region. F. Strada.
117 Cutaneous Fibromatosis with Hypernephroma. (Fall von multiplen Hautfibromen mit Nebennierengeschwulst.) K. Kawashima.
118 *Primary Cancer of the Liver. (Leberkrebs.) M. Goldzieher and Z. v. Bokay.
119 Patches of Ossification in the Skin: Six Cases. (Heterotope Knochenbildungen in der Haut.) M. Strassberg.

116. **Tumors in Hypophysis Region.**—Strada gives the necropsy findings in a case of tumor in the hypophysis region in a girl of 19 with a tendency to obesity. He also reviews the thirty-one cases of the kind on record, tabulating the findings for comparison and discussing the clinical manifestations with a tumor in this region and the connection between the hypophysis and other ductless glands, and the great physiologic importance of the hypophysis in general.

Wiener klinische Wochenschrift, Vienna

January 19, XXIV, No. 3, pp. 83-114

120 *Salvarsan in Syphilis. S. Ehrmann.
121 *Radiologic Research on Absorption of Mercury and Salvarsan. K. Ullmann and M. Haudek.
122 *Reliability of Meiostagmin and Hemolytic Tests of Gastro-Intestinal Cancer. G. Kelling.
123 *Adhesive Plaster Garter for Varicose Ulcers. (Behandlung des Ulcus cruris varicosum mittels Pflasterstrumpfbandes.) K. Büdinger.
124 *Improved Technic for Electrolytic Depilation. S. Weidenfeld.
125 Unreliability of Mayerhofer's Method for Differential Diagnosis of Cerebrospinal Fluid. G. Simon.

120. **Salvarsan in Syphilis.**—Ehrmann has given this drug to eighty syphilitics in the last five months and he has noticed that the syphilids which develop thereafter differed from those usually observed at the stage of the disease involved and to such an extent as to suggest that the organism was modified in some way by the medication. In one case toxic action on the organ of hearing was manifest, the trouble in the auditory nerve developing in the fourth month of the disease, two months after injection of salvarsan which had been followed by sloughing at the point of injection. Improvement followed excision of the gangrenous mass; in 5.69 gm. of the gangrenous tissue he recovered 0.0032 gm. arsenic and he thinks it probable that in the gangrenous tissue some chemical transformation of the drug had occurred rendering it more toxic. He had two syphilitic patients in former years who became hard of hearing, with tinnitus, under mercurial treat-

ment alone, but under continued intermittent mercurial treatment these symptoms finally subsided. He ascribes the disturbances in the ear in part to the Herxheimer reaction, in part to the syphilitic process itself, and in part to the direct action of the mercury or salvarsan, but believes that it is more liable to occur in the cases with local infiltration or gangrene on account of the possible chemical transformation of the salvarsan in tissues of this kind. Abuse of tobacco or other factor causing a predisposition on the part of the auditory nerve is liable to cooperate in the production of such symptoms.

121. **Roentgen-Ray Research on Absorption of Mercury and Salvarsan.**—Ullmann and Haudek report the results of extensive research in this line which emphasize the advantages of fractioning the salvarsan so as to inject it in minute doses at several points at once; only a small proportion of a large dose seems to be completely absorbed and the unabsorbed portion is a menace to the tissues.

122. **Early Diagnosis of Gastro-Intestinal Cancer by Meiostagmin and Hemolytic Reactions.**—Kelling reports distinct positive reactions in 47 per cent. of forty-five patients with cancer tested for the meiostagmin reaction while positive findings were obtained in only three of eighty-five patients with non-malignant affections. The reaction was obtained in some of the cancer cases before a tumor was palpable, testifying to the importance of the test for the diagnosis of incipient cancer. He also applied the hemolytic test with hen blood-corpuscles and obtained a positive reaction in thirty of the forty-five cancer cases, both tests giving positive findings in seventeen of the forty-five patients. In eight of the forty-five cases neither test elicited a positive reaction. It thus proved possible to obtain a positive reaction by one or the other test in 80 per cent. of the forty-five cancer cases, while the reaction was positive in only six of the eighty-five patients with non-malignant affections. [The technic for the meiostagmin test was given in THE JOURNAL, May 28, 1910, page 1790]. Kelling has modified his hemolytic test and commends the later technic, III, as simpler and more reliable. The human serum to be examined is inactivated at 55 C. for half an hour; then 0.5 c.c. is added to 1 c.c. of a 5 per cent. suspension of hen red blood-corpuscles in 0.85 per cent. salt solution. The mixture is set aside for an hour at a temperature of 37 C. and then is rapidly rinsed twice with physiologic salt solution and centrifugated. To the sediment is then added physiologic salt solution to 1.5 c.c. and the whole is well shaken, after which 0.05 c.c. of normal active human serum is then added. The test tubes are then incubated until the control tubes with the inactivated normal serum turn pink. The tubes are then shaken up, centrifugated and titrated. The results are listed according to the percentage of normal hemoglobin, for example, 60 represents 60 per cent. hemoglobin dissolved. He tabulates the parallel findings with the meiostagmin reaction and with the three forms of the hemolytic test as recorded for 130 patients. As the reaction is a biologic one, its failure in 20 per cent. is no more than might be anticipated. A record of 80 per cent. positive reactions with cancer in such a large number of cases confirms the claims of the inventors of the tests as to their specific nature and reliability, while the simplicity of the technics, Kelling adds, places these tests within the reach of all.

123. **Adhesive Plaster Garter in Treatment of Varicose Veins.**—Büdinger winds a few turns of cotton cloth about 10 cm. wide around the leg below the knee. Over this he winds three of four spiral turns of a strip of adhesive plaster about 4 cm. wide, until the plaster forms a band about 6 cm. (nearly 2½ inches) wide. This plaster garter is drawn tight enough to compress the superficial veins but not enough to cause stasis. The constriction is applied of course with the leg elevated and the venous blood stroked back toward the trunk. When the garter works loose enough for the blade of a pair of scissors to be introduced beneath it, it is removed and a new one applied. This is generally necessary about once a week. Varicose ulcers heal rapidly below this garter and it will be found useful, he declares, in all cases in which operative measures are contra-indicated.

124. **Improved Technic for Electrolytic Depilation.**—Weidenfeld saves time by inserting 150 needles in turn and then applying the electric currents all at once.

Zentralblatt für Chirurgie, Leipsic

January 21, XXXVIII, No. 3, pp. 73-104

126 Catgut. (Erfahrungen mit Kuhn's Catgut nebst Bemerkungen zur Technik der Appendektomie.) R. Bertelsmann.
127 Substitution of Phalanges for Metacarpal Bones. (Plastischer Ersatz der Mittelhandknochen durch die Phalangen.) A. Hagentorn.

Zentralblatt für Gynäkologie, Leipsic

January 21, XXXV, No. 3, pp. 97-136

128 *Improved Technic for Pubiotomy. (Einfluss der Beinhaltung auf das Klaffen des durchsägten Beckens und ihre Bedeutung für die Weichteilverletzungen bei Hebosteotomie.) A. Mayer.
129 Fetal Singultus from Contractions of Diaphragm. J. Rothschild.
130 *Vaginal Cesarean Section for Fulminating Pulmonary Edema. J. C. L. Massini.
131 Decapsulation of Kidney in Puerperal Eclampsia. (Ein durch Nierenentkapselung geheilter Fall von puerperaler Eklampsie.) J. C. Reinhardt.
132 *Hyperfunctioning of Ovaries or Testicles as Cause of Rachitis. S. Stocker.

128. **Improved Technic for Pubiotomy.**—Mayer has found that the injuries of the soft parts with pubiotomy are due to the sudden stretching apart of the sawed halves, thus pulling on the soft parts with such a sudden jerk that lesions result. This can be avoided, he states, by sawing the bones with the patient in the Walcher position, with the pendent legs held close together. Only when the legs are raised to the horizontal position do the bones gape. The danger from the sudden gaping of the bones was exemplified in v. Rosthorn's case in which immediately after the sawing of the bones they separated with such traction on the soft parts that a fulminating fatal hemorrhage resulted. The pendent legs should be drawn into the horizontal position only with extreme caution and very gradually, to spare the soft parts all sudden traction.

130. **Vaginal Cesarean Section for Pulmonary Edema.**—Massini knows of only three cases on record like his own, in which vaginal Cesarean section was done to relieve fulminating edema of the lungs. His patient was a multipara of 38, who had had edema, nausea and tendency to dyspnea at night during the first three months of the pregnancy. Fulminating pulmonary edema developed suddenly at the eighth month, unmodified by the usual measures; the patient lay in coma and pulseless for moments at a time. She began to breathe better immediately after the vaginal Cesarean section; the interval between the onset of the intense edema in the lungs and the termination of the operation was scarcely twenty minutes. As the uterus did not contract, the placenta was removed by hand and the interior of the uterus massaged and improvement was soon evident but the coma did not subside until the next day. The child was cyanotic to an extent Massini had never before beheld; it had suffered not only from the lack of intake of oxygen by the mother but also from the fact that the mother's blood had evidently drained the fetus of all its oxygen. The woman was soon convalescent.

132. **Ovarian Hyperfunctioning as Cause of Rachitis.**—Stocker implanted in a two-weeks' calf the ovaries from a healthy cow that had calved once. In a few weeks the calf developed a picture resembling in every respect that of rachitis, while the control calf under identical conditions otherwise was strong and lively. These findings and experimental research suggest that rachitis is due to excessive functioning of the ovaries or testicles and that treatment on these lines might prove effective. It has certainly displayed efficacy, he says, in the one clinical case in which he has applied it to date. The patient was a girl of 17 with pronounced rachitis and pains in the bones. She was given the milk of a castrated cow and in a few days the pains disappeared and she began to increase in stature.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 15, XXXII, No. 7, pp. 67-82

133 *Meningism. E. Cerrano.

January 17, No. 8, pp. 83-90

134 Experimental Syphilitic Keratitis. (Sull' inoculabilita dell' ulcera venerea nella cornea del coniglio.) A. Fontana.

133. **Meningism.**—Cerrano comments on the difficulty in distinguishing between actual meningitis and the vague condition which he calls meningism. Lumbar puncture is the criterion, and he reports a case in which everything seemed to indicate acute meningitis except the negative findings in the spinal fluid. The meningism may be due to infectious or toxic causes, or reflex, hysteric or physical; in his case it was traceable to gastro-intestinal auto-intoxication and the convulsions and contractures ceased as the intestinal tract was cleared out.

Policlinico, Rome

January, XVIII, Medical Section No. 1, pp. 1-48

135 Clinical and Post-Mortem Findings in Tardy Hematomyelia from Trauma of the Spinal Cord. E. Tramonti.
136 *Tetragonus Acute Ascending Myelitis. G. Catola.
137 *Influenzal Pleurisy and Peritonitis. G. Ghedini.
138 Primary Multiple Malignant Lymphomas of the Jejunum. F. Fulci. Commenced in preceding number.

136. **Tetragonus Myelitis.**—Catola's patient was a girl of 17 with both gonorrhea and syphilis; three months after the development of the syphilitic eruption she began to have fever, headache and paresis of the legs, blending into total paraplegia of the ascending type, fatal the fifteenth day. The findings in the spinal cord were those characteristic of acute poliomyelitis but the symptoms had been more those of Landry's paralysis. A tetragonus in pure cultures was obtained from the blood and cerebrospinal fluid, and this germ was evidently responsible, he thinks, for the syndrome observed.

137. **Influenzal Pleurisy and Peritonitis.**—Ghedini summarizes fifty-two articles on this subject which he has found in the literature and reports seven cases from his own experience, one of which has never been reported before. In three of his cases the influenzal bacillus induced pleurisy with effusion, in one pleurisy without effusion, in one peritonitis with effusion and in two others several of the serous membranes were involved with considerable effusion. Treatment, he states, is that for influenza in general, and is based mainly on quinin. Differentiation is easy if a preceding attack of influenza gives the clue but it may be difficult in the absence of this. The sudden onset, the intensity of the symptoms, the brief course and the favorable outcome distinguish the influenzal from tuberculous pleurisy and peritonitis, while the benign course and lesser tendency to recur differentiate it from streptococcus and staphylococcus processes. Bacteriologic examination of the effusion or blood or serodiagnosis may be necessary in some cases.

Hygiea, Stockholm

December, LXXII, No. 12, pp. 1297-1441

139 Berzelius. (Betraktelser öfver Berzelii verksamhet inom djurkemien.) K. A. H. Morner.
140 Experiences with Tuberculin Cutaneous Reaction. (Tuberkulinympningar enlight v. Pirquets metod utförda å Kronprinsessan Lovisas vårdanstalt.) O. D. Barr.
141 Acute Pancreatitis; Twelve Cases. J. Borelius.
142 *Prognosis of Traumatic Neuroses. J. Billström. Commenced in No. 10.

142. **Traumatic Neuroses.**—Billström gives full summaries of 103 cases of traumatic neuroses, including seven from his own experience. The list is based on the records of several clinics and insurance societies in Sweden. Complete recovery sooner or later was the rule in 90 per cent.; the longer the interval the larger the number of complete cures observed. The local and monosymptomatic forms of hysteric or pure neurasthenic traumatic neuroses give the best prognosis. Suggestion from the physician making the examination, and especially repeated examinations, render the prognosis less favorable, he has found, and he warns that the certificate should never be accessible to the patient. The Swedish insurance societies do not regard traumatic neuroses as entitling to an indemnity and this aids in reducing the tendency to exaggeration of the trouble on the part of the injured. But it is extremely important, Billström emphasizes, to distinguish between the "pure" and the complicated cases of traumatic hysteria. In case of an indemnity, the prognosis is better when it is paid in a lump sum rather than as a pension. Among his seven cases complete recovery followed after a few months or years—the interval being eight years in one case during which time there had been periods of freedom from the neurosis followed by recurrences under emotional stress. One puzzling case proved to be malingering, the home physician sending in an intentionally misleading certificate. One patient is still unduly nervous but for this his chronic alcohol addiction may be responsible.

Ugeskrift for Læger, Copenhagen

January 19, LXXIII, No. 3, pp. 71-100

143 Experiences at Tuberculosis Dispensary. (Erfaringer fra Ribe Amts Tuberkulose-Diagnose Station.) T. Brinch.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

1. SOME KNOWN AND THREE NEW ENDOPARASITIC TREMATODES FROM AMERICAN FRESH-WATER FISH. By Joseph Goldberger. 2. SOME NEW PARASITIC TREMATODE WORMS OF THE GENUS TELORCHIS. By Joseph Goldberger. 3. A NEW SPECIES OF ATHESMIA (A. Foxi) FROM A MONKEY. By Joseph Goldberger and Charles G. Crane. Hyg. Lab. Bull. 71, U. S. P. H. and M.-H. S., Treasury Department, January, 1911. Paper. Pp. 61, with illustrations. Washington: Government Printing Office, 1911.

THE MODERN MATERIA MEDICA. The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes and Incompatibles of All Additions to the Newer Materia Medica That Are Likely to be Called for on Prescriptions, Together with the Name and Address of the Manufacturer or Proprietor, and in the Case of Foreign Articles, of the American Agent. Second Edition. Cloth. Price, $1.25. Pp. 432. New York: The Druggists Circular, 1911.

HANDBOOK OF TREATMENT FOR DISEASES OF THE EYE (OPHTHALMIC THERAPEUTICS). By Dr. Curt Adam, Assistant-Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a Preface by Prof. von Michel, Berlin. Translated from the Second German Edition (1910), by William George Sym, M.D., F.R.C.S.Ed., and E. M. Lithgow, M.B., F.R.C.S.Ed. Cloth. Price, $2.50. Pp. 264, with 36 illustrations. New York: Rebman Co., (1911).

DISEASES OF CHILDREN FOR NURSES. Including Infant-Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second Edition. Cloth. Price, $2 net. Pp. 470, with 118 illustrations. Philadelphia: W. B. Saunders Co., 1911.

CASE HISTORIES IN PEDIATRICS. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis and Treatment of the Most Important Diseases of Infancy and Childhood. By John L. Morse, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School. Cloth. Price, $3. Pp. 314, with illustrations. Boston: W. M. Leonard, 1911.

DISINFECTANTS, THEIR USE AND APPLICATION IN THE PREVENTION OF COMMUNICABLE DISEASES. By Thomas B. McClintic, Passed Assistant Surgeon, U. S. P. H. and M.-H. S. Prepared by Direction of the Surgeon General. Public Health Bull. 42 U. S. P. H. and M.-H. S., Treasury Department, December, 1910. Paper. Pp. 46. Washington: Government Printing Office, 1911.

ATLAS OF MICROSCOPIC DIAGNOSIS IN GYNECOLOGY. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynecologic Clinic, University of Berlin. Only authorized English Translation by P. W. Shedd, M.D., New York. Cloth. Price, $5.50. Pp. 192, with 54 illustrations. New York: Rebman Co., (1911).

TENTH ANNUAL REPORT OF THE NEW YORK STATE HOSPITAL, WEST HAVERSTRAW, ROCKLAND COUNTY, N. Y., FOR THE CARE OF CRIPPLED AND DEFORMED CHILDREN. For the Year Ending Sept. 30, 1910. Paper. Pp. 48, with illustrations. Newton M. Shaffer, M.D., Superintendent, 28 E. Thirty-Eighth Street, New York, N. Y., 1910.

DIFFERENTIAL DIAGNOSIS. Presented Through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Cloth. Price, $5.50 net. Pp. 753, with 195 illustrations. Philadelphia: W. B. Saunders Co., 1911.

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PURULENT INFECTIONS OF THE URINARY TRACT IN INFANCY *

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CHICAGO

Purulent infections of the urinary tract are by no means infrequent in infancy and early childhood. They form probably 1 per cent. of all the illnesses that bring these little patients under the physician's care. Roughly speaking, I should estimate them to be about as frequent in my own practice as meningitis. These infections still occupy rather a unique position, in that they are almost never recognized in general practice. This is not because the babies are not sick, or because the diagnosis is difficult. The babies are alarmingly ill, have long-continued high septic fevers and become emaciated and anemic to an extreme degree, and a considerable per cent. die if untreated. The diagnosis, on the other hand, is easy and positive, and can be made by any one who can recognize a pus cell under the microscope. The reason why the diagnosis is not made in these cases is that it has not yet become generally known that pyelitis, or pyelocystitis, manifests itself, *sui generis*, in infancy as a not infrequent, serious, sharply defined, and easily recognizable disease.

Forty years ago Goschler[1] wrote of these infections in association with vulvitis in new-born infants. Twelve years later Hirschsprung,[2] of Copenhagen, again spoke of them in a paper advocating the free use of diagnostic catheterization in infants. As so frequently happens, but little attention was given to the subject until Escherich[3] in 1894 emphasized it in a paper, in which he reported seven cases—and later on, fifty more—that were nearly all due to the colon bacillus. Holt,[4] Trumpp,[5] Heubner,[6] Finkelstein,[7] and many others, quickly reported further cases that confirmed these findings. In England, Box[8] and especially the great Edinburgh pediatrician, Thompson,[9] have contributed notably to our knowledge of the subject. In this country, Holt,[4] Fischer,[10] Freeman,[11] Morse,[12] Zahorsky,[13] Abt[14] and others have reported many cases and have added materially to the literature. A series of eighty cases from Finkelstein's clinic has just been reported by Friedenwald,[15] twenty-two cases occurring in the last year, at the Kinderasyl.

A most valuable statistical contribution, because it helps us to realize in some measure the extent of this disease, was given by Goeppert.[16] Two years ago he reported 126 cases that occurred in his private practice in the little town of Kattowitz, in Oberschlesien, in a period of eight years, and estimates that in the limited area of which Kattowitz is the center, some eighty cases occur annually. In the last six years more than 1 per cent. of all of the patients that came to his office were thus afflicted. There is no reason for believing that the disease is less frequent elsewhere.

The clinical picture is in its main features a fairly constant one. A female infant becomes suddenly seriously ill with a high temperature, running commonly to 103 or 104 F., not infrequently to 105 and even 106 F. Vomiting, lack of desire for food, restlessness, etc., occur, as in all high fevers. Convulsions may usher in the attack, as one might expect, though probably no more frequently than in other high fevers. Thompson[9] has especially emphasized the recurring chills as a characteristic symptom, finding them in eight out of fifteen cases, while others have not found them so frequently. The rareness of a distinct chill in early childhood makes this a valuable symptom. The respiration is often disproportionately increased and a slight cough is common. There is frequently some indigestion that can easily lead to an improper diagnosis. The child is usually rather excitable, wide awake, restless, the eyes are bright, and the face sometimes wears an anxious expression.

A striking symptom that is of considerable diagnostic value is the extreme pallor that comes after the flushed condition of the first few days. The child is either white, as shown so well in the bloodless paper-like whiteness of the ears, or else it is a grayish, ashy white.

These children are commonly very sensitive to handling, and cry when approached, and especially when made to sit up or when lifted by the shoulders. This is probably due to the fact that there is often distinct tenderness over one or both kidneys. If the trouble is unilateral the child may wince or even cry out when the affected side is palpated. Often there is distinct muscular rigidity anteriorly over the kidney. The kidney itself is rarely palpable, partly because of the muscular rigidity and partly because it is rarely enlarged sufficiently. In cases in which the pelvis becomes distended, owing to temporary obstruction of the outlet, a considerable mass may be made out that may lead to a suspi-

* Read before the Englewood Branch of the Chicago Medical Society, Nov. 1, 1910.

1. Goschler: Paper published in 1871; quoted by Finkelstein. See Note 7.
2. Hirchsprung: Jahrb. f. Kinderh., N. F. 1883, new series, xix, 427.
3. Escherich: Ueber Cystitis bei Kindern, hervorgerufen durch Bact. Coli Commune, Mitt. d. Ver. d. Aerzte Steiermark, 1894, No. 5.
4. Holt, L. Emmett: Three Cases of Acute Pyelitis in Infancy, Arch. Pediat., November, 1904.
5. Trumpp: Jahrb. f. Kinderh., new series, xliv.
6. Heubner: Lehrbuch der Kinderheilkunde, 1903.
7. Finkelstein: Jahrb. f. Kinderh., new series, xliii.
8. Box: Lancet, London, 1908, i, No. 2.
9. Thompson (Edinburg): Clinical Examination and Treatment of Sick Children.
10. Fischer: Arch. Pediat., June, 1907.
11. Freeman: Arch. Pediat., March, 1905.
12. Morse: Arch. Pediat., 1902, xix, 461.
13. Zahorsky: Pediatrics, 1908, xx, 543.
14. Abt: Urinary Infection in Children, THE JOURNAL A. M. A., Dec. 14, 1907, p. 1972.
15. Friedenwald: Pyelocystitis in Infancy, Arch. Pediat., November, 1910.
16. Goeppert: Ueber die eitrigen Erkrankungen der Harnwege in Kindesalter, Ergebn. d. inn. Med. u. Kinderh., 1908, ii, 30.

cion of pyonephrosis or even appendiceal abscess. Colicky pains are not uncommon.

The course of the disease if untreated is essentially chronic. The temperature persists as a septic, remittent or even intermittent fever. These cases are often diagnosed as malaria, typhoid, food intoxication, or, if the nervous symptoms are marked, as is frequently the case, as meningitis, and later, when the condition shows no tendency to improvement, as a chronic tuberculosis of uncertain localization. In many cases the disease becomes distinctly intermittent; days, weeks, or even months of normal temperature and general well being, with rapid gain in weight, will separate periods of a week or of several weeks of high fever and all the other symptoms of a fresh acute infection. In one case that occurred early in my practice which I failed to diagnose, I had a favorable opportunity to observe this condition. Four or five distinct relapses or exacerbations occurred during a period of about four months, each lasting from one to three weeks with a general tendency to greater severity, and a more prolonged course in each new attack.

From the clinical course so far, it is evident that these cases do not differ sufficiently from other acute and chronic infections of various kinds so that they can be diagnosed readily from this alone. The positive diagnosis is made when pus is found in the urine. The amount of pus varies much in different cases and in different specimens from the same case. Commonly the urine appears turbid, sometimes even thick and milky. A nearly normal specimen may precede or follow one that is loaded with pus on account of a temporary obstruction of the ureter of the affected side. Microscopically, pus-cells singly and in clusters usually pack the field. Goeppert[16] has suggested an arbitrary minimum diagnostic standard of six to eight leukocytes in each field of an uncentrifuged specimen. Bladder and renal epithelium are present in varying degrees. Albumin is always found if there is enough pus. If it is out of proportion to the amount of pus, it speaks for an involvement of the kidney itself, a pyelonephritis. Casts are not found unless there is a complicating nephritis. The urine is almost invariably acid when first passed always in colon infections, and contains large numbers of long bacilli.

In some cases there is apparently a bacteriuria rather than a pyuria. In these the urine swarms with bacteria; usually colon bacilli and few pus and epithelial cells are found. In some of these, as in ten cases described by Mellin,[17] there were no constitutional symptoms, and one can hardly believe that we have here to deal with an inflammatory process, but rather with a simple multiplication of bacteria in a favorable medium. In others, which present constitutional symptoms, fever, pallor, loss of appetite, etc., as in ordinary pyelocystitis, there is doubtless a true inflammatory process with but little formation of pus. These cases are rare and little is known about them. I have seen one case that apparently came in this catagory. The child seemed clinically to have a severe case of pyelitis; the acid urine showed almost no pus but teemed with bacilli.

Frequent urination and tenesmus seem to occur in only a small proportion of cases and can hardly be accorded much, if any, diagnostic significance. In one case in which Thiemich found a marked cystitis at autopsy, no history of these symptoms was obtainable during life. When we consider furthermore how frequently mothers tell us that their babies "wet every few minutes" or that they cry before, during, or just after urinating, without any demonstrable lesion, it is evident that these symptoms are peculiarly unreliable in an infant.

When we sum up the clinical picture of this disease we are struck by the fact that the great majority of these infants give no single physical sign or symptom that points positively to the kidney or bladder as the site of the trouble, until we examine the urine.

ETIOLOGY

Pyelocystitis is characteristically a female disorder. I have myself never seen it in a male infant. Goeppert,[16] whose statistics are relatively higher than those of others, but whose larger material has especial value, found 10 per cent. of his cases in boys and 90 per cent. in girls. In Finkelstein's[15] series 27 per cent. were males, showing that males are much more commonly affected than was formerly believed, or else, as seems more probable, that the conditions in a foundling home are different from those of private practice.

The great majority of these cases occur during the first year, with especial predilection for the second and third quarters of the first year (Goeppert[16]) or according to Finkelstein's[15] series the first quarter. After the second year they are relatively rare and probably approach the adult type.

This infection takes place more frequently during the summer months. This at once suggests a connection with summer diarrhea, and it is a significant fact, as will be seen later, that many of these cases are preceded by a food disturbance. Social status has less significance than one would expect, and I have been struck with the number of cases that occur in which the babies are under ideal surroundings as to care and cleanliness.

The *Bacillus coli communis* is the direct cause in the great majority of cases, in about 97 per cent. of both Escherich's and Goeppert's series. In the remaining cases one or the other of the common pyogenic bacteria is the cause.

PATHOLOGY

The pathology is still variously interpreted. Escherich[3] in his first paper considered the disease purely a cystitis. Finkelstein[7] and Trumpp[5] both retained this term but in a limited number of cases were able to demonstrate post mortem that the pelvis of the kidney was likewise involved. Heubner[6] first distinguished between a cystitis and a pyelitis and retains this classification in his text-book. Goeppert,[16] who has had apparently very few if any autopsies, chooses to call the disease "pyelocystitis with especial emphasis on the first syllables" and thinks that in most cases the pelvis and bladder are involved, but that the pyelitis is the important lesion in the great majority of cases, and that only exceptionally does a cystitis dominate the picture. Thompson[9] and Still[18] consider the disease a pyelitis. American authors commonly speak of the disease as pyelitis, or pyelocystitis. In twenty autopsies of Finkelstein's series fifteen cases showed involvement of both bladder and pelvis of the kidney; three of the pelvis, and one of the bladder alone.

A most valuable contribution to the subject has just been made by Thiemich[19] of Magdeburg. From a series of autopsies he establishes the fact that in a certain propor-

17. Mellin: Quoted by Langstein in Pfaundler and Schlossmann's Handb. der Kinderh., first German edition, 1906, p. 578.

18. Still: Common Disorders and Diseases of Childhood, 1909.

19. Thiemich: Ueber die eitrigen Erkrankungen der Nieren und Harnwege in Säuglingsalter, Jahrb. f. Kinderh., September, 1910, 72 d. Dritten Folge, xxii, 243.

tion of cases there are found post mortem as the dominating lesion multiple, minute abscesses of the cortex of the kidney, sometimes radiating toward the pelvis as fine lines. He reports three autopsies in boys and three in girls in which this condition was present, and in which the inflammation of the pelvis or bladder was so slight that it was almost unrecognizable. The fact that he has found this condition so frequently post mortem does not establish its relatively frequent occurence, because it is only in these severer cases that patients die of the disease itself; the others do not come to the post-mortem table. Nearly half of the autopsies reported by Friedenwald[15] in Finkelstein's series belonged to this type, showing miliary abscesses in the cortex, and kidney substances, as well as a catarrhal condition of the pelvis and bladder.

From a pathologic standpoint there are, then, two types of the disease: 1. The great majority of the cases are catarrhal infections of the bladder and pelvis of the kidney; i. e., pyelocystitis. These are of all degrees of severity but are generally benign and occur almost exclusively among girls. This is the type commonly seen.

2. The severe type that affects children of lowered resistance, due to some infection or food disturbance, in which the cortex of the kidney is studded with miliary abscesses, and in which the involvement of the pelvis or bladder is of less importance; i. e., a pyelonephritis.

The pathogenesis offers an interesting field for speculation. The fact that nine out of ten of these cases, perhaps ten out of ten of the ordinary type of pyelocystitis, occur in females demands an explanation. If we combine this with the further facts that 97 per cent. of these cases are due to the colon bacillus, and that 60 per cent. of Goeppert's cases occurred during the first year, 80 per cent. during the first eighteen months, and 90 per cent. during the first two years, and 92.5 per cent. of Finkelstein's cases during the first year, i. e., during the diaper age, an explanation thrusts itself on us. If one bears in mind the extreme shortness of the infantile female urethra, and then sees such a little girl "changed" after she has had a very soft or liquid bowel movement that floods the vulva and is pressed against the urethral outlet, there is little difficulty in believing that colon bacilli are carried through the urethra to the bladder and there set up an inflammation that in turn is carried to the pelvis of the kidney. The frequent association of this disease with diarrhea adds to the plausibility of this view.

While an ascending infection of such an origin has seemed the most reasonable explanation of pyelocystitis, there can be little doubt that the cases of pyelonephritis described by Thiemich[19] and Friedenwald,[15] with cortical abscesses as well as catarrhal involvement, are of hematogenous origin. Whether this mode of origin plays any considerable part in the former type remains to be determined. It would be very instructive to know whether the colon bacillus is as frequent, relatively, in the cases of pyelonephritis as in those of pyelocystitis. A third possible source of infection has been suggested —that of direct migration of the colon bacillus from the intestinal to the bladder wall.

DIAGNOSIS

The diagnosis of pyelocystitis is made when a sufficient amount of pus is found in the urine, at least six to eight leukocytes, to the field of a non-centrifuged specimen. One must always remember that a single specimen may be nearly normal, and in every suspected case repeated examination should be made. The possibility of contamination with vaginal discharge or with feces must be guarded against in an infant. An exact anatomic diagnosis can hardly be made, since ureteral catheterization is not feasible. The milder cases may be a simple cystitis; the severer cases, with high fever and serious constitutional symptoms, are probably nearly all cases of pyelitis or pyelocystitis; the rarer severe cases which complicate other conditions, which do not yield to treatment, and in which a larger amount of albumin is found in the urine than one would expect from the amount of pus, probably belong to the type of pyelonephritis. An examination of the pus and epithelial cells gives but little if any practical assistance in an accurate anatomic diagnosis.

The greater difficulty in procuring a specimen of urine in an infant is one reason why urinalysis is more often neglected than in the adult. And yet this difficulty can always be overcome and is no excuse for a failure to examine the urine. Specific directions must be given to insure success. In the male child a rubber finger cot or condom can be left in place until the child urinates. In both sexes, in older infants, if the child is quickly placed on a chamber, after a long nap it will usually urinate. If this is not successful, the infant can be washed clean and left until it urinates on a clean rubber sheet or oil-cloth, so arranged that the lowest part is in the region of the buttocks. If there is a diarrhea, or if this method cannot be employed for some other reason, then the mother or nurse can watch the exposed baby, cup in hand, until the moment arrives when the urine can be caught. This may be tedious, but it is important. Finally, if these methods fail, or if one wants an uncontaminated specimen for bacteriologic examination, the catheter with proper aseptic precautions can be freely used, as urged by Hirschsprung[2] thirty years ago. The use of a mass of cotton cannot be recommended, as it is apt to sift out many of the pus-cells, and is otherwise not as serviceable as the other methods.

While a urinalysis is imperative for a positive diagnosis, in many cases after a little experience a fairly certain diagnosis can be made without it. A persistent high temperature in a female infant, sensitiveness, a striking ashy pallor, the occurrence of chills, with practically no physical findings to point to any localization, indicate with a great deal of probability a pyelocystitis. The utter disproportion between the severity of the disease and the physical findings is strongly diagnostic.

PROGNOSIS

In the ordinary type, that of pyelitis or pyelocystitis, which forms the great bulk of these cases, the prognosis is distinctly favorable. In some fifteen cases that I have seen no patient has died.[20]. In Goeppert's[16] cases, on the other hand, the mortality was 12 per cent., or, if one includes three cases in which the urinary infection was only partially the cause of death, and three others that left treatment in a critical condition, the mortality was even 20 per cent. Such a mortality requires qualification. The prognosis of these cases depends materially on the treatment. If the patients are untreated, the prognosis is bad; if they are properly treated, it is very good. Goeppert's cases were practically all among private office patients, the majority of these among the poorer classes, among whom a rigid, persistent treatment was impossible. His mortality statistics cannot therefore be applied to more favorable conditions.

20. Since writing this I have had a fatal termination in an infant of 3 months.

Friedenwald[15] speaks of twenty autopsies in Finkelstein's series of eighty cases, a mortality of 25 per cent. From the nature of the material probably only a proportion of the patients died of the disease itself. Deductions from the morbidity of a foundling asylum would not apply to private practice. The pyelonephritis cases offer a more gloomy prognosis, partly because of the seriousness of the lesion, partly because of the previous weakened condition of the child. These cases are not hopeless, however, since there is a natural tendency to arrest, resorption, and cicatrization of the little abscesses, and very little tendency to the formation of large abscesses that would require surgical treatment. It is hard to believe that these cases occur in any considerable number, and in general one is justified in saying that the prognosis of the urinary infections in early childhood is distinctly good as to life and cure, though many of them drag along for months.

TREATMENT

There is little that can be offered in the way of prophylaxis, except local cleanliness, the avoiding of diarrheas and infections and the maintaining of the general health at a high level.

After the disease is established the child should be kept quiet, its diet should be watched carefully, and it should be given an abundance of liquids, especially water or alkaline waters, to flush the urinary tract.

The English writers, especially Thompson[9] and Still,[18] give large doses of alkalies, especially potassium citrate, half a dram to a dram or more a day in divided doses. Thompson's[9] statement is well worth quoting:

> The main and the only essential treatment consists in rendering the urine neutral, when passed, by the administration of alkaline remedies, as speedily as possible, and in keeping it so until all the symptoms have disappeared. When this indication is thoroughly carried out, its good results are very remarkable. The pain and uneasiness rapidly vanish and the temperature falls to normal within three days. The pus cells also disappear. The bacteria, however, may persist for a long time after the pus has gone; but they seem to do no harm. . . . The alkaline treatment must be continued for a week or two at least, in spite of the depressing effect which it has on the child's general condition and the loss of appetite which it is apt to occasion. If it is stopped too soon the symptoms return.

Nearly all German and American clinicians depend on urinary antiseptics, hexamethylenamin (urotropin) and phenyl salicylate (salol), as of first value, and recommend alkaline drinks as of value in diluting and possibly alkalinizing the urine. Heubner[6] warmly recommends hexamethylenamin in doses of 1 to 2 grains three times a day. Finkelstein prefers salol. Goeppert uses salol in all acute cases, in doses of 1 to 3 grains five to eight times a day for ages varying from two months to two years, and finds, "as early as thirty hours after its administration a decided improvement in the general condition." After the acute stage he uses hexamethylenamin and throughout urges the ingestion of large amounts of water, especially alkaline waters, even giving it by gavage and enema if not well taken by mouth. He expects a cessation of fever and of discomfort in the first two or three weeks and a pus-free urine in five weeks, and maintains that many cases get well in five to eight days.

Such rapid improvement has not been the rule in my own experience. Many of the cases drag along for months, often with distinct intermissions, in spite of any treatment. Ultimately the patients are cured clinically, in nearly all cases. My own procedure is to crowd water in every way, to try alkalies first, and if there is not a decided improvement in a few days, to substitute hexamethylenamin, or salol in doses of 1 to 2 grains every three or four hours to an infant 1 year old and to keep this up for a long time to avoid the relapses that are only too common.

The severer cases with cortical abscesses, of course, are influenced but little by any of these remedies. They require also treatment of the underlying condition and general tonic and supportive measures.

In conclusion, permit me to emphasize the one important point in the subject that I have discussed: In every child, and especially in every female infant, that has a continuous or intermittent high temperature, the cause of which is not clinically obvious, an examination of the urine for pus is imperative.

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THE ESOPHAGOSCOPE IN REMOVING SHARP FOREIGN BODIES FROM THE ESOPHAGUS

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The impaction of sharp foreign bodies in the esophagus is of comparatively frequent occurrence, but the rational treatment thereof—the extraction by esophagoscopy—has apparently not received the attention that it deserves.

The esophagus at times seems remarkably tolerant to the presence of foreign bodies; in some instances such bodies have remained in the organ for years. On the other hand, cases are on record in which death has followed in twenty-four hours after the accident.

Any foreign body lodged in the esophagus should be promptly removed, but I wish particularly to call attention to the danger of procrastination when we have a sharp foreign body to deal with.

It has been my fortune to relieve a number of patients who have accidentally had foreign bodies impacted in the esophagus. Those which I have extracted have been of various kinds, but pieces of bone have impressed me as being particularly dangerous.

SYMPTOMS AND TREATMENT

Pain and difficulty in deglutition and tenderness of the neck, with rise in temperature, are the main symptoms of a sharp foreign body in the cervical part of the esophagus. If a perforation of the esophageal wall has taken place in the cervical part there will be an emphysematous condition of the neck. When the foreign body has become impacted in the thoracic part of the esophagus there may be pain and difficulty in deglutition, but it must be kept in mind that there may be no symptoms whatever until perforation takes place.

As the first step in treatment, the pharynx, the pyriform sinus and the inlet of the esophagus is anesthetized with a 10 per cent. solution of cocain, and the esophagoscope, without the obturator, is introduced under the guidance of the eye. When the foreign body comes into view its position is noted, and with a special forceps it is carefully dislodged and extracted. Esophagoscopy generally ought to be done without the aid of an obturator, in order to enable the operator to inspect the entire tract through which the instrument passes, but that is a matter of choice. In case of sharp foreign

bodies, however, the obturator must never be used, because damage may be done to the wall of the esophagus by pushing on the sharp foreign body. For the same reason the bougie, the probang, and similar instruments must be condemned. It will readily be seen that additional injury might be done in a case like my Case 2, reported below, the actual condition of which is pictured in Figure 6, if an instrument is introduced blindly. The use of a sound or bougie for diagnostic purposes may be deceiving, as these instruments, in several instances, have failed to demonstrate the presence of even a large foreign body. The forceps used for the extraction of foreign bodies belongs to a set of instruments, which I have

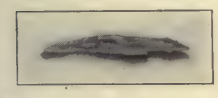


Fig. 1.—Piece of mutton-bone (actual size) removed from patient's throat (Case 1).

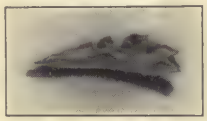


Fig. 2.—Beef-bone (actual size) removed from patient's throat (Case 2).

devised for esophagoscopic and bronchoscopic work.[1] When the foreign body has been caught in the forceps the instrument can be locked.

It may be necessary to cut or break the foreign body before it can be extracted, and for that purpose Kahler's forceps is useful. Thus a tooth-plate impacted in the esophagus can be reduced in size by cutting with Kahler's forceps, or it can be burnt through by a specially made galvanocautery point or snare.

The accidental swallowing of an open safety-pin is not infrequent. The pin enters the esophagus with the point upward, and traction on the pin in the latter direction would naturally force the point into the esophageal wall. For the purpose of closing the open safety-pin *in situ* and extracting it through the esophagoscope I have devised an instrument shown in Figure 7. The instrument is introduced with the wire loop C withdrawn. When the latter is below the safety-pin the wire loop is pushed out by pressing the lever on the handle and pulled up on the open pin. The steel wire B with the hook D on the distal end is now pushed down and turned on to the pin, after which the loop is closed, locking the pin. The steel wire with the hook prevents the safety-pin from slipping up when the loop closes in on it.

If the foreign body has perforated the wall of the esophagus and caused a periesophageal abscess in the

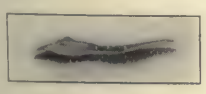


Fig. 3.—Fish-bone (actual size) removed from patient's throat (Case 3).

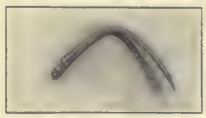


Fig. 4.—Fish-bone (actual size) removed from patient's throat (Case 4).

cervical part, the use of the esophagoscope is contraindicated. Such an abscess must be dealt with from without, and as early as possible in order to prevent the burrowing of pus into the posterior mediastinum. If the foreign body has perforated the thoracic part of the esophagus and caused a mediastinal abscess, the use of the esophagoscope is imperative before opening the mediastinum in order to determine on which side the abscess is located. A case illustrating this point is reported in recent German literature, in which the posterior mediastinum was entered without finding the abscess. Post mortem the abscess was found to be in the mediastinum on the opposite side. It was shown that this could have been determined by esophagoscopic examination before the operation.

To perform esophagotomy in case of impacted foreign body, before extraction by the esophagoscope has been tried, is not justifiable for the reason that esophagotomy for the removal of foreign bodies has considerable mortality. In 326 cases of external cervical esophagotomy for the removal of foreign bodies collected by Balacescu and Kohn,[2] the mortality was as follows:

In the pre-antiseptic era (prior to 1880)	26.5 per cent.
In the transitional stage (1880-1890)	27.8 per cent.
In the antiseptic era (1890-1900)	17.8 per cent.
In the aseptic era (1900-1903)	12.6 per cent.

Nauman[3] has later collected forty additional cases with a mortality of 17.5 per cent.

REPORT OF AUTHOR'S CASES

CASE 1.—Mrs. F. T., aged 45, had swallowed a piece of mutton-bone which lodged in the throat forty-eight hours previous to consultation. Swallowing had been very painful since. Esophagotomy had been advised before the patient was referred to me. The neck was very tender on palpation, especially on the left side. No emphysema of the neck. Temperature was 102 F. After cocainizing the throat the esophagoscope was introduced and the bone found in a slanting position in the middle of the cervical part of the esophagus, the lower end being embedded in the mucosa. The bone was

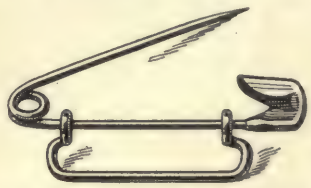


Fig. 5.—Safety-pin (actual size) removed from patient's throat (Case 5).

grasped by the forceps and quickly extracted. It was 2 cm. in length and very sharp at both ends (Fig. 1). Recovery ensued.

CASE 2.—Mrs. L. A., aged 58, while taking her evening meal three days previously to consultation, had swallowed a piece of beef-bone, which stuck in her throat. The neck was very tender to touch, more so on the right side, and the patient suffered great pain on swallowing. There was no emphysema of the neck. The temperature was 103 F. Through the esophagoscope the bone was seen crossways in the lower cervical part of the esophagus, with both ends buried in the wall (Fig. 6). When it was extracted foul-smelling pus welled up from the right wall. The piece of bone measured 18 mm. in length, was rough and sharp at both ends (Fig. 2). Pus discharged through the mouth for some time. On esophagoscopic examination a few weeks later the abscess cavity, which evidently had been in the submucosa, had closed. Recovery ensued.

CASE 3.—A. J., aged 65, had had a fish-bone lodged in his throat eight hours previous to consultation. Some blood came up shortly after the accident. Deglutition was painful. No emphysema of the neck existed. Esophagoscopic inspection disclosed the fish-bone in the lower cervical part of the esophagus. It was removed by forceps. The lower end of the bone was engaged in the mucosa. It was quite stout, sharp, and 16 mm. long (Fig. 3). Recovery occurred.

CASE 4.—C. D., aged 25. A fish-bone lodged in the patient's throat seven hours previous to consultation. Deglutition was quite painful. There was no emphysema of the neck. Esoph-

1. Illustrations of these instruments appeared in my article, Contribution to the Surgery of the Esophagus, Surg., Gynec. and Obst., October, 1910.

2. Balacescu and Kohn: Arch. f. klin. Chir., 1904, lxxii, 408.
3. Nauman: Deutsch. Ztschr. f. Chir., 1906, lxxxiii, 479.

agoscopy revealed a bent fish-bone, with the convexity upward, in the cervical part of the esophagus. The bone was easily extracted (Fig. 4). Recovery.

CASE 5.—A girl, aged 2, swallowed an open garter safety-pin four hours previous to consultation. The child was crying constantly. Respiration was normal. The esophagoscope was introduced without the administration of an anesthetic, and the lock end of the pin was seen at the inlet to the esophagus with the point imbedded in the anterior wall. The point was dislodged and the pin extracted (Fig. 5). Recovery.

In the first four of these cases the foreign bodies were removed quite readily. Case 5, on the other hand, was very difficult, because the safety-pin was a large one with a strong spring; furthermore, the point was well



Fig. 6.—Piece of beef-bone, 18 mm. in length (shown in Fig. 2), lodged in patient's throat (Case 2).

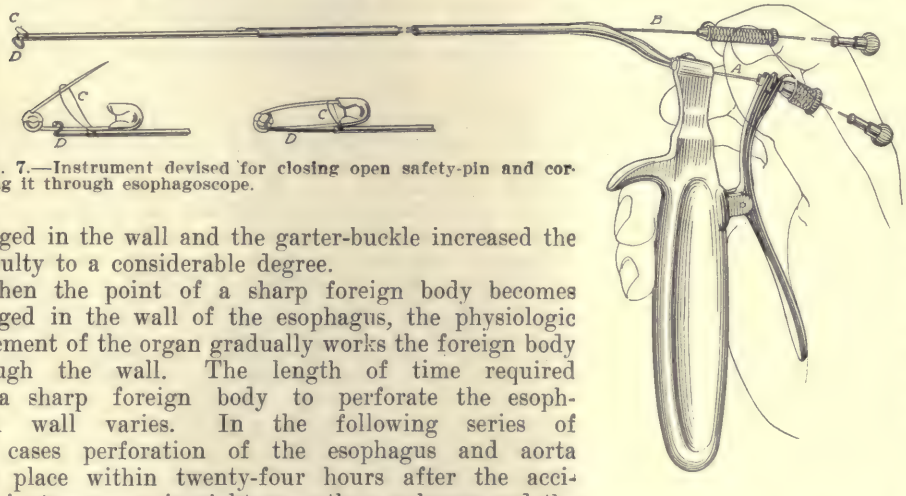


Fig. 7.—Instrument devised for closing open safety-pin and correcting it through esophagoscope.

engaged in the wall and the garter-buckle increased the difficulty to a considerable degree.

When the point of a sharp foreign body becomes engaged in the wall of the esophagus, the physiologic movement of the organ gradually works the foreign body through the wall. The length of time required for a sharp foreign body to perforate the esophageal wall varies. In the following series of 200 cases perforation of the esophagus and aorta took place within twenty-four hours after the accident in two cases; in eight cases the esophagus and the aorta became perforated in from five to ten days after the accident. There have been no deaths among the patients whom I have treated.

CASES FROM THE LITERATURE

In order to ascertain the fate of swallowed foreign bodies in a larger number of cases, I have collected reports of 200 cases from literature since the year 1900. In these my own cases are not included.

The mortality in the 200 cases was 12.5 per cent (twenty-five deaths), of which twenty-three deaths. or 11.5 per cent. were due to perforation of the esophagus with its consequences.

The seat of perforation was:

Upper thoracic part in	15 cases
Cervical part in	5 cases
Lower thoracic part in	1 case
Location not mentioned in	2 cases

(The aorta was perforated in twelve cases, and the common carotid artery in one case.)

The foreign bodies causing perforation and death were:

Piece of bone in	10 cases
Pins and needles in	4 cases
Coin in	3 cases
Fish-bone in	2 cases
Tooth-plate in	2 cases
Iron-washer in	1 case
Brooch in	1 case

Splinters of bone caused the highest mortality in the cases collected by me, and in the series of Balacescu and Kohn, above referred to, twenty-two patients out of seventy-nine who had splinters of bone impacted, died after esophagotomy.

There were no deaths in the forty-seven cases in which the foreign body was removed by esophagoscopy except one, in which previous attempts had been made to extract the bone with the coin-catcher. These attempts had caused a long rent in the wall of the esophagus followed by mediastinitis and death.

There were forty-one different kinds of foreign bodies, of which the following were the most frequent:

Tooth-plate in	41 cases
Piece of bone in	34 cases
Coin in	26 cases
Pins and needles (common pins, scarf-pins, hat-pins, darning-needles, etc.)	22 cases
Open safety-pin in	18 cases
Fish-bone in	4 cases
Metal whistle in	7 cases
Metal button in	5 cases
Piece of wood in	4 cases

The location of the foreign body in the esophagus was mentioned in 118 cases as follows:

Cervical part in.....58 cases
Upper thoracic part in 33 cases
Lower thoracic part in 27 cases

Tooth-plates were the most frequent foreign body impacted in these series. Nine tooth-plates were passed per rectum, thirteen were removed by esophagotomy, eleven by esophagoscopy, five by gastrotomy, etc.

In several of these cases the plate had remained in the esophagus for many months, which illustrates what a remarkable tolerance the organ occasionally will exhibit. In one case a tooth-plate remained above the cardia for several months without symptoms, then distress and pain occurred. Death followed operation. In another case the plate remained in the esophagus for eighteen months before it perforated the bronchus; after operation, death occurred. Another patient was relieved of an impacted tooth-plate eleven months after by combined gastrotomy and esophagotomy. One case is reported in which a tooth-plate remained in the upper thoracic part of the esophagus for four months, causing a perforation into the trachea. The plate was then extracted and gastrostomy performed.

The tracheo-esophageal fistula subsequently healed. Recovery.

The methods of treatment used in these cases collected by me were:

Esophagoscopy in	47 cases
Esophagotomy in	27 cases
Gastrotomy in	10 cases
Esophagotomy and gastrotomy in	2 cases
Esophagotomy and esophagoscopy in	1 case
Coin catcher in	12 cases
Probang in	5 cases

The longest time a foreign body remained in the esophagus before being successfully extracted was four years. In one case a coin remained four and one-half years in the esophagus; then it caused perforation and death.

The youngest patient on whom esophagoscopy was performed was 4 days old (extraction of a rubber nipple). The oldest patient on whom I personally have performed esophagoscopy was 86 years old.

Besides the twenty-three cases of perforation of the esophagus in these series, there were eighteen cases of perforation of the abdominal or pelvic viscera, with two deaths.

CONCLUSIONS

1. Esophagoscopy is not a difficult procedure, and it gives the best results in the treatment in these cases, with the least discomfort to the patient.
2. The use of instruments in the esophagus, except through the esophagoscope, in case of sharp foreign body, should be abandoned.
3. In every case in which the swallowed foreign body is not recovered, an esophagoscopic examination of the esophagus should be made.
4. Even if the foreign body is successfully pushed into the stomach, the patient is not entirely beyond danger.

412 Lowry Annex.

GRAVES' DISEASE

A NEW PRINCIPLE OF OPERATING BASED ON A STUDY OF 352 OPERATIONS *

G. W. CRILE, M.D.
CLEVELAND

Among 219 operations for colloid goiter and benign tumors I had two deaths, one from suppression of urine, the other from myocarditis after healing had occurred. I shall not allude to the malignant and infection cases. My study is of 121 operative cases of exophthalmic goiter, particularly an inquiry into the cause of operative hyperthyroidism, and into the development of a safer technic.

CHANGES IN THE BRAIN CELLS IN A CASE OF GRAVES' DISEASE

In a case of Graves' disease, the patient being unoperated on and free from infection, which ran a natural course to its termination in death, a pathologic examination of the brain and cord was made by Dr. J. B. Austin. The following is his summary:

In the cord but slight changes were seen; in the medulla there was considerable chromatolysis, the Nissl granules were in moderately fine division, and the nucleus plasma relation was changed; in the cerebellum approximately 30 per cent. of the Purkinje cells were seriously altered and many were destroyed; in the cortex there was marked chromatolysis, the nucleus plasma relation was disturbed and many cells were destroyed. A detailed report will be made elsewhere.

THE CAUSE OF THE SPECIFIC REACTION—HYPERTHYROIDISM—FOLLOWING OPERATION FOR GRAVES' DISEASE

In operations in exophthalmic goiter, the principal risk is an acute exacerbation of the disease, usually called hyperthyroidism, the most conspicuous symptoms being tachycardia, high fever, restlessness, tremor, and finally delirium. Against this risk there is at present no known specific remedy. Were it not for this uncontrollable outburst, the operative risk would be but slight. Surgeons agree that there is a group of cases so severe that an adequate operation cannot by any method be performed safely. It is the purpose of this paper to present a new principle of operating whereby this group of cases may, I hope, be reclaimed. If we are to operate safely we must change our method. To this end we shall first inquire into the cause of the acute hyperthyroidism produced by the operation itself. Resolving the operation into its principal component parts, we have the rôle played by (1) hemorrhage; (2) infection; (3) manipulating and cutting the thyroid; (4) the anesthetic; (5) the psychic disturbances; and (6) the operative trauma to tissue other than that of the thyroid, as factors in the consideration of hyperthyroidism.

HEMORRHAGE AND INFECTION

I have seen acute outbursts of Graves' exacerbation follow a bloodless technic in lobectomy and in simple ligation. Hemorrhage is not, then, an adequate cause.

Infection almost never occurs; Graves' exacerbation frequently occurs. Infection may be excluded.

ABSORPTION OF THYROID SECRETION FROM HANDLING OR CUTTING THE THYROID TISSUE

Patients with exophthalmic goiter are abnormally susceptible to thyroid extract. Serious exacerbation and death have followed a single therapeutic dose of the extract. May there not be an increased absorption of thyroid secretion produced by cutting or handling the thyroid? If so, the secretion must be liberated either by manipulation of the gland or by its discharge from the cut surface. In a serious case I have known the patient to be repeatedly and thoroughly massaged by an osteopath without producing a marked increase in the symptoms. I have never observed an exacerbation follow the physical examination of the gland. In the first instance—the massage—at least, there was certainly more mechanical disturbance than was caused by the very gentle manipulation of the gland in the ligation of a single superior thyroid artery in one emaciated patient, when there followed a fatal outburst of hyperthyroidism. Moreover, Kocher, the creator of the surgery of the thyroid, as a routine measure crushes with a heavy forceps a zone of the gland prior to its ligation and division. He notes no increased hyperthyroidism resulting. In several excisions, in which other factors were excluded and in which there was a certain amount of handling, but trifling reaction followed. At least gentle handling must therefore be but a minor factor.

Is there an increased discharge and absorption of the thyroid secretion from the cut surface of the gland? I

* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

have seen no diminution of reaction when the cut surface was immediately treated with pure phenol and alcohol; when immediately seared over with the actual cautery; when the division was made between ligatures; and when the wound was left open and the raw surface was covered with a large gauze pack. On the other hand, I have seen the usual reaction when there was no raw surface left in any part of the wound; and finally I have seen no more reaction when the presumably preventive measures were all omitted. It would appear, then, that the "raw surface" and "squeezed juice" hypothesis do not adequately explain operative hyperthyroidism.

THE ANESTHETIC

Kocher and his school operate under local anesthesia, believing that despite the ordeal there is less reaction following. Mayo and many other Americans use general anesthesia. At first glance it might seem that one or the other method should be the better and should be the method of choice. It can be shown later, I believe, that each has its own field, and that neither can supplant the other.

In several desperate cases, in which the margin of safety of the patients was tested by anesthetizing, without the patients' knowledge, with ether or with nitrous oxid, there was a moderate though short exacerbation of Graves' symptoms following both modes of anesthesia, though more marked in the case of ether. In all cases there is, during the transit from primary to surgical anesthesia, a stage of unpreventable subconscious excitement during which the heart-beat is quickened, respiration is accelerated and in which muscular disturbances may occur. Test doses of morphin and scopolamin, though in certain respects unfavorable, have produced no corresponding exacerbation of symptoms. In severe cases, on the other hand, ligation of the upper poles under local anesthesia, with exclusion of the psychic factor, caused no appreciable reaction. Hence I conclude that general anesthesia, *per se,* contributes a minor factor, and local anesthesia, *per se,* no factor in the production of the specific reaction in Graves' disease.

PSYCHIC FACTOR

Fear may temporarily paralyze normal animals and men. Even death has been caused by fear. It occurred to me that the brain-cells of an animal in intense fear might show physical changes. Accordingly Dr. J. B. Austin and Dr. H. G. Sloan made such observations for me on frightened rabbits. A study of the central nervous system showed the following:

> The cells of the brains that were secured in the midst of fright showed marked hyperchromatism; those that were taken several hours later showed marked chromatolysis, a disturbance of the nucleus plasma relation, and some broken-down cells. The spinal cord showed but slight changes, the medulla more and the cerebellum and cerebral cortex most. These experiments will be elsewhere reported in detail.

The potent influence of the psychic factor in exophthalmic goiter is admitted. This factor alone has caused death in serious cases under both medical and surgical auspices. However, if the surgeon has permission to use his discretion as to the fact as well as to the time of operation, the dangerous psychic factor may be eliminated. The employment of the technic, which will be elsewhere described, by which the exclusion of the psychic factor is effected, enables the surgeon to operate with less reaction in the "fair risks" and to undertake successfully more serious risks, but serious reactions are often seen despite the total exclusion of the psychic factor.

Recapitulating, then, it may be stated that the specific reaction or hyperthyroidism following operation is not due to hemorrhage, to infection, or to an excessive absorption of thyroid secretion from cutting or at least gentle handling of the gland; that it is somewhat influenced by the general anesthetic and markedly influenced by the psychic factor. There still remains the occurrence of specific Graves reaction not accounted for by the factors thus far considered. The only other factor left is the operative trauma of the tissue of the thyroid, and all other tissue as well.

Is the reaction in Graves' disease in cases of trauma of other parts of the body different from that of the normal organism? Barton Cooke Hirst collected and studied reports of 71 operations on various parts of the body other than the thyroid gland in patients suffering from Graves' disease. Many were minor operations, and on the whole the operative risk, had the patients not had Graves' disease, could not have been over 1 per cent. The mortality rate was over 15 per cent. The cause of death in every instance was hyperthyroidism. This table shows that the surgical risk in Graves' disease is as great in operations on other parts of the body as on the thyroid itself, and that the cause of the so-called hyperthyroidism must be found outside of the thyroid gland. My personal cases show a remarkable reaction to trauma. In one patient—a seriously sick one, it is true—a simple hypodermic injection of salt solution, given as a test, caused a psychic storm attended by a leap of the pulse from 140 to 186, with acute cardiac dilatation, trembling, sobbing, rise in temperature, almost overwhelming the patient and lasting over four hours. This is typical though extreme. An analysis of the phenomena will disclose the remarkable fact that the reaction from the mere prick of a sharp needle was perhaps greater than that following a hysterectomy or an amputation in the normal individual, perhaps a thousandfold greater reaction than normal. This is another way of saying that patients with exophthalmic goiter are hypersensitive to trauma just as they are hypersensitive to fear; and fear and trauma are phylogenetically close akin. Possibly this is the master key to our problem.

Arguing from the foregoing hypothesis, I then devised a technic for simple ligation and for excision. A careful inventory is first made of the pathologic physiology of each case. This usually requires several days. During this time a concerted effort is made by nurses and staff to instil hope and confidence into the patient. After such study of the case the type of operation—simple ligation or excision—is decided on.

If excision is to be the procedure the following routine is approximately followed:

> The patient's reaction to small doses of morphin and scopolamin is ascertained. Daily inhalations, which are presumably for some medicinal purpose, but which are precise rehearsals of ether anesthesia, are practiced by the anesthetist, Miss Hodgins. Ether is tentatively dropped on the inhaler along with the volatile oils, and the patient is cautiously, without her knowledge, tried out as to ether anesthesia—sometimes is completely anesthetized—all this in her own bed. The results are then studied and if the patient seems unsuited for the operation of excision, ligation is done as later described. If the central nervous system and heart take the practice march well, the entire operation is then performed as follows: Long previous consent to an operation having been obtained, the patient is given morphin and scopolamin on the appointed morning, is kept absolutely quiet, is then gently

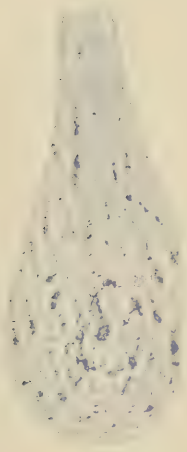


Fig. 1.—Experiment 87. From a case of exophthalmic goiter. The cell has lost almost all its chromatin. The nuclear membrane is ruptured and the nucleolus is breaking down.

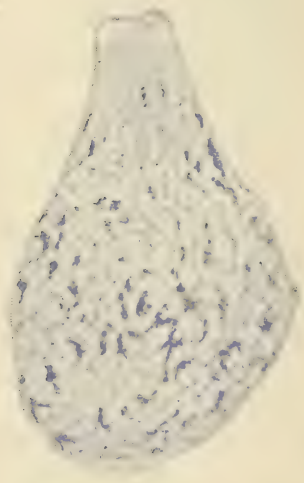


Fig. 2.—Experiment 87. Completely exhausted Purkinje cell. Nucleolus is broken down and the cell is greatly increased in size. From a case of exophthalmic goiter.

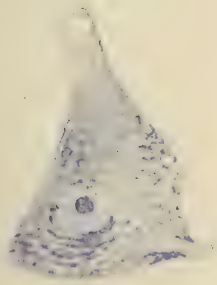


Fig. 3.—Experiment 87. Pyramidal cell from the motor cortex in a case of exophthalmic goiter. Marked loss of chromatin; ruptured nuclear membrane, and a nucleolus which is beginning to break down.

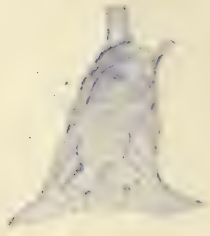


Fig. 4.—Experiment 87. From a case of exophthalmic goiter. Pyramidal cells from the motor cortex. A completely exhausted cell; no chromatin present. The nucleus and the nucleolus have entirely broken down and disappeared.

anesthetized to the second stage, in bed as before, and is at once taken to the operating-room, where nitrous oxid is substituted for ether. The operative field is as completely cocainized as if no general anesthesia were being given. First the skin and fascia of the opposite side, are incised about one inch. Through this incision, by means of a full curved needle, the upper pole of the gland (Stamm) and all of the overlying tissue inclusive are firmly ligated. Then in the gentlest possible manner the opposite lobe is excised bloodlessly, absolutely avoiding traction on any uncocainized sensitive tissue—precisely as if the patient were awake. After the operation the utmost care is exercised to keep down to a minimum psychic and painful stimuli.

If simple ligation is to be done quite another technic is followed, namely:

After the patient is easy and comfortable under morphin and scopolamin, and not before, I tell her all that she will probably experience. Everything being in readiness—skin, fascia, and muscles—a transverse distance of an inch overlying the upper poles of each thyroid is carefully cocainized. An incision is then made through the skin and fascia, a full curved needle is swept from without inward in such a manner as to include the upper pole of the thyroid, as well as all other structures lying between the bottom of the incision and the larynx. This ligature is then tied and a superficial stitch or two closes the skin. A similar procedure repeated on the opposite side completes the double ligation. It is helpful to chat with the patient meanwhile. The operation is performed on the patient in bed.

The twelve operations performed on this principle are in a class by themselves as to the operative reaction. Even in a case in which the patient's entire body was edematous and the terminal stage of the disease had been reached, the reaction was slight. The technic as a whole is difficult to carry out perfectly. In the strict surgical sense every case by this method is operable at least to the extent of a ligation, though the lesion of the heart and brain may be so extensive as to preclude a final cure.

Granted we have mastered the operation, have we thereby mastered the disease itself? The disease, I believe, may be cured in one or more ways: (1) if the brain cells are sufficiently repaired by absolute rest; (2) if the nerve connection between the brain and the thyroid be interrupted in part by tying the upper thyroid poles, which include half or more of the nerve supply; or (3) if the secreting structure of the thyroid be diminished by partial excision or by cytolytic serum (Beebe's).

Of these three methods excision is the most effective. The immediate relief to the patient following excision is one of the most striking clinical phenomena in surgery.

I therefore conclude that in exophthalmic goiter a pathologic reciprocal interaction between the brain and the thyroid gland exists, and that this reciprocal interaction can be maintained through a nerve connection only. How else could a psychic or a traumatic impulse reach the thyroid and influence its secretion than through a nerve connection or possibly by a hormone action? Many glands of the body respond to adequate psychic and mechanical stimuli. A familiar example is the salivary gland, whose secretion may be excited by the thought of palatable food (psychic), or by the presence of a neutral foreign body—a piece of wood, a pebble, or dental instrument (mechanical). It is generally believed, as opposed to the preceding statement, that the benefit following ligation of the superior thyroid artery is due to the diminution of the blood-supply. In Graves' disease the thyroid, like the placenta in an abdominal pregnancy, builds up a great mass of blood-vessels from the neighboring tissue, especially from the trachea and larynx, so that the superior thyroid not only constitutes a minor part of the blood-supply, but the rich anastomosis revascularizes, probably within a few days, the anemic zone produced by ligation. Then, too, how slightly, as observed in the course of operation, is the hemorrhage diminished by ligation of the superior thyroid artery alone? Simple ligation of the superior thyroid, as it seems to me, is an inadequate explanation of the vast clinical transformation, sometimes lasting months, or even years, following ligation, especially when we take into account the fact that much of the nerve-supply to the thyroid gland enters along the walls of the blood-vessels, and that in ligating the vessels the nerve-supply must be included. May it not well be that the entire mechanism—the cause, the exacerbation and hence the cure—will prove to have a nervous setting and that the thyroid hypersecretion is no more the cause of the disease than is saliva the cause of the psychic phenomena attending the thought of food? Whatever may be the explanation, I draw no conclusion at present.

SUMMARY

The principal points presented in this paper may be summarized as follows:

In one fatal case of simple exophthalmic goiter the brain-cells were found to be widely and extensively affected. Pure fear caused physical lesions in the cells of the rabbit's brain. The principal cause of so-called hyperthyroidism incident to operations on cases of Graves' disease is the adequate psychic and traumatic stimuli, both of which are phylogenetically closely akin; the psychic stimuli may be excluded by special orienting and the traumatic stimuli by an absolute cocainization of the operative field. By a combination of both local and general anesthesia, ligation and excision may be safely done. The value of ligation probably lies mainly in its breaking part of the nerve connection with the brain. The value of excision is the diminution of the total quantity of the gland secreting structure and the breaking of the nerve supply as well.

Between the brain and the thyroid gland in Graves' disease a pathologic reciprocal interaction seems to exist. Patients in Graves' disease are specifically hypersensitive to trauma, to psychic stimuli and to thyroid secretion. When operated on and then immediately returned to the environment that originally produced the disease they frequently relapse. Patients operated on and then given a prolonged rest-cure, which alone can repair the damage to the brain-cells, are nearly all cured. It requires approximately the same length of time to recover from exophthalmic goiter as it does to recover from a nervous breakdown from other causes. A combination of surgery and an adequate rest-cure is, as I believe, the method of choice and will cure most patients.

My thesis is that the explosive exacerbation after operation is not due to the commonly accepted cause, such as escape of thyroid secretion into the circulation, but is due to injury to tissue and to fear, and that it may be prevented by excluding the psychic factor and by blocking the nerve-supply of the field with local anesthesia so that no impulse arising from injury of the operation can reach the brain. By this method even patients with advanced and otherwise hopeless cases of Graves' disease, abandoned by both the internist and the surgeon, may be operated on with safety and prepared for the maximum benefit from a rest-cure.

214 Osborn Building.

ABSTRACT OF DISCUSSION

DR. A. J. OCHSNER, Chicago: The work which Dr. Crile has done in connection with exophthalmic goiter, and the particular points he has mentioned this morning, are of sufficient importance to be borne in mind by all who deal with this condition. Especially is it important for us to remember that many of the conditions, which we formerly considered of most importance as causes of postoperative hyperthyroidism, are really of no special importance. In exophthalmic goiter we have a very severe destructive condition, which is due to the hyperthyroidism to which the patient has been exposed. Undoubtedly, most human beings are capable of neutralizing a certain amount of hyperthyroidism without having the tissues of the nervous and circulatory systems materially affected. In our normal bodies there is a condition of balance, so that the destructive effect of hyperthyroidism is not apparent. On the other hand, let one of us become exposed to an unusual strain of the nervous or physical system and immediately this balance may be destroyed and we may show the effects of this hyperthyroidism, particularly in the heart and nervous system. Tachycardia and the other well-known symptoms may appear. When we come to operate on these patients suffering from exophthalmic goiter, we deal with a condition of poisoning of these important structures, and by the addition of a very slight amount of further poisoning the balance is entirely overthrown. Whether in any given case this can be occasioned by the mental condition, or by a slight physical trauma, or by expressing into the tissues in the region of operation a certain amount of thyroid fluid, we do not know, but we do know that when the patient is overburdened with one or several of these conditions hyperthyroidism results. Any one of these conditions may produce an additional amount of hyperthyroidism, which makes the operation a dangerous one. It is only by eliminating, so far as possible, all the additional burdens placed on the patient that we avoid danger, and unless we do so we are bound to get the effect of excessive hyperthyroidism. I have discarded the operation under local anesthesia entirely except for the ligation operation. Möbius claims that the mental strain of local anesthesia is greater than the physical strain of general anesthesia, which seems reasonable, and in my work I have actually found that general anesthesia is harmless to the patient. The manner in which we accomplish this is to anesthetize the patient absolutely with ether given by the drop method; then we place her in the inverted Trendelenburg position, so as to produce an anemia of the brain, and perform the operation without giving any further anesthetic. The patient does not complain of any pain or discomfort afterward. In this way we protect the patient against two of the sources of physical and mental depression, and I believe that we have succeeded in that way in eliminating hyperthyroidism to the greatest possible extent.

There is one other point which Kocher brought out, namely, that of local absorption, and in two instances in which I did not provide for free drainage, there was hyperthyroidism. The thing I wish to impress on you particularly is that we must not try to eliminate this, or that, or the other cause, but that we must eliminate every possible cause that might do harm to anyone.

DR. ARCHIBALD MACLAREN, St. Paul: Dr. Crile is correct in his statement that the element of fear enters very markedly into the dangers of the operation for exophthalmic goiter. Whether other causes, such as hyperthyroidism, may or may not play a rôle, fear is a very decided element, and without doubt increases the mortality of the operation cases. I have employed Dr. Crile's suggestion of putting the patient to sleep without her knowledge, and since then I have not seen any hyperthyroidism. By not letting the patient know when the operation is to be performed, and by giving a volatile oil preliminary to the anesthetic as a "treatment," say the day before, and gradually coming to the administration of ether, the patient is anesthetized without her knowledge and, I am sure, does much better.

DR. MARTIN B. TINKER, Ithaca, N. Y.: Dr. Crile manipulates the gland very carefully and skilfully, and this undoubtedly has been a factor, and an important one, in his results. I would like to bring up one or two points in this connection: Dr. Crile states that he has not seen hyperthyroidism resulting from handling of the gland. I have in my records several cases of hyperthyroidism from handling during examination; in one patient in particular the temperature went up to 103 F. after examination only, and I believe with no other factor than the handling to account for it. A second point brought out by Dr. Ochsner is the importance of drainage. I do not know any man who does much of this work who does not provide for proper drainage. If the dangerous symptoms after operation are from psychic causes only, why should we drain?

Another point which deserves extra emphasis is the preliminary careful examination of the patient. Success in the severe forms of exophthalmic goiter depends very largely on our ability to estimate what the patient can stand. I have been accustomed not only to do the preliminary ligation, but to divide the operation, if necessary, into several stages. In certain cases I have operated in as many as five stages, first ligating the superior thyroid, then exposing the gland, next removing the gland, then closing the wound, and in certain cases I have added another step, that of ligating the inferior thyroid vessels before removing the gland. Since attempting this stage operation I have done over one hundred consecutive thyroidectomies in bad cases of exophthalmic goiter without loss of life. I believe that this factor, the careful estimation of the condition of the patients, doing just what they can stand and no more, is extremely important.

Dr. Crile implies that general anesthesia is used by Dr. Mayo, but all who have seen him operate know that Mayo now uses local anesthesia in many of his ligations. I believe that local anesthesia is a very important factor in eliminating shock, and that with efficient local anesthesia it is unnecessary to use general anesthesia, at least in the majority of the cases. My experience since trying to estimate the severity of my cases more carefully and doing the operation in stages leads me to believe that these with local anesthesia are the most important factors in the results.

DR. WILLIAM R. CUBBINS, Chicago: We ought to consider this thing from another standpoint, remembering its close association with the islands of Langerhans, the suprarenal capsule, the sympathetic system, and the hypophysis. The removal of the gland must be carefully considered, along with the mental effect produced on these very excitable patients. In addition to the Von Graefe sign, the tremor, rapid pulse and enlarged gland, I have observed that there has been a marked increase in the blood pressure, varying from 185 to 210 Hg. Immediately following an operation, the patients have uniformly stated that they were markedly improved, and complain of few, if any, of the original symptoms, while on examination we find the original symptomatology present with only a slight reduction in the blood pressure, say from 157 to 170. The pulse is still rapid, the eye prominent and the tremor marked. After eight or nine months there may be noticed a marked improvement of these symptoms, but I do not believe it is right to allow an inference to go out that in these patients operation is followed by immediate complete cure.

DR. C. H. MAYO, Rochester, Minn.: Within the last few years I have written a number of papers on the treatment of exophthalmic goiter, and in nearly all, as I reviewed them later, I was reminded of a deformed child. I seem always to have attributed my success to some particular part of the technic which I do not now use at all. Once I used the Paquelin cautery to prevent absorption from the raw surface and the exudation of the serum. Next I used phenol and then Harrington's solution. Now I do not use anything on the gland, and in 800 cases my results have been just as good as they were when using the cautery and solutions named. In the early days the patients coming to the surgeon were in bad condition, often on the verge of death. Surgeons have come to recognize these cases and do not operate when the condition is hopeless. There are several types of goiter, and we should be able to recognize them.

In Rochester we operate on the gland itself by removing or ligating its blood-supply. We treat patients by cystolysis with

a serum. By ligation we secure a change in the blood supply, and this change may come through other influences. There may be a tendency to recover in one-fourth of all cases. We ligate when we think that the patient cannot survive a radical operation for removal of all of the gland. This puts the fatal cases over into the ligation series. We have reduced our mortality greatly by exercising judgment in selecting the operative cases. If the patients are not in a suitable condition to be operated on, they are put under medical treatment until we feel that something can be done for them. We ligate, say, one artery to-day, another in a week or two weeks, and so on.

The choice of an anesthetic is not so important. I often use local anesthesia. I have had two deaths following the ligation of the thyroid artery, one under general and the other under local anesthesia. As Dr. Crile has stated, the psychic factor plays a great part in these cases. Patients with marked psychic disturbances are not suitable for any kind of an operation and they should be left in the medical class. We cannot always select the cases or make an exact diagnosis of conditions, but by carefully studying the patients and giving suitable treatment, we certainly can diminish the mortality very materially and also get much better results.

DR. G. W. CRILE, Cleveland: In Kocher's clinic there are certain patients with advanced exophthalmic goiter on whom he does not undertake to operate. He, like Mayo, found that if he operated in such cases the patient died, and the cause of surgery and the interests of the patient are not conserved.

I wish to suggest a method that will permit the surgeon to do a ligation on every patient who is still alive. The operation can be done in bed, in a minute or two, without pain and without reaction. The field can be cocainized without frightening the patient to death, as many patients with exophthalmic goiter have been. If fear is eliminated, and it can be done perfectly well, there will not be any trouble. When the brain is marooned, it does not appreciate that an operation is going on. Therefore, the patient must be kept psychically and physically in a negative phase. There is no reaction, and I believe, from what we have now discussed, that it is quite evident that we can do a ligation in any case. I do not say that all patients can be cured, because some of these cases are far advanced. I have operated on patients who have been on the verge of delirium. I have operated on them in bed without any reaction. It is not in the mild, recent cases, but in all cases, that the patients are benefited by ligations.

Knowing, as we do, that in exophthalmic goiter changes in the brain cells take place, how can we expect merely to operate on the glands and then submerge the patients again in an environment from which they received the disease and expect them to recover promptly? My idea is that the operation serves to break the pathologic chain that is enthralling the patient; that once broken, the patient may be cured by being compelled to take the rest cure. Operation is only one phase of the treatment. The rest cure and after-care are other phases, and it takes from two months to a year, or even more, before these patients can be said to be cured, and unless they are completely cured at the first trial they are more difficult to treat when a relapse has occurred. I have often seen cases which bear out this statement. Surgery should try so to perfect its technic that in every case, no matter how bad, the patient may be speedily operated on and benefited. Surgical treatment is only one step in a cure. A long rest cure must follow. This is as necessary in goiter as it is in a nervous breakdown from any other cause.

Fatigue in Neurasthenia.—Under normal conditions the sense of fatigue is not unpleasant, and if followed by timely rest may be a positive pleasure. If, however, effort is pushed to the point of complete exhaustion, symptoms are apt to arise which closely resemble those of neurasthenia. The individual becomes mentally depressed and indifferent to all other considerations but himself; effort of all kinds, physical or mental, is painful, he suffers from headaches, backaches, etc., and is irritable and sleepless. All these and similar symptoms, whether the result of physical or mental labor, depressing emotions, prostrating illness, etc., sooner or later yield to appropriate rest and régime.—D. Ferrier, in the *Practitioner*.

SODIUM CACODYLATE IN SYPHILIS

A SECOND NOTE

A. J. CAFFREY, M.D.
MILWAUKEE

I recently published[1] a report of a case in which a typical chancre was successfully treated with sodium cacodylate. Dr. L. L. Michel[2] questions the results. I therefore submit the accompanying portrait of the patient, taken Jan. 10, 1911. The dark part on the lip shows the location of a bleb-like elevation that was caused by the patient's drawing the lip under the upper teeth, to hide it when he was on the street, because he was ashamed of the chancre. The patient is well and healthy, has gained weight, and his kidneys are acting normally. He has no ocular signs of poisoning, and no return of the secondaries. He is apparently cured.



Patient treated with sodium cacodylate for chancre on lip.

I have been using the sodium cacodylate side by side with 606 and while I am glad to say that I have had good results with 606, I have had just as good with sodium cacodylate. Dr. Michel, in his letter[2] to THE JOURNAL, tells of chancres on the lip and elsewhere healing under the influence of the soluble salts of mercury in two weeks, or thereabouts. I do not doubt this, as I have had the same result myself with mercury, but mercury is just what we are trying to get away from. I find that patients tolerate sodium cacodylate well and its toxic effect does not show until after very strenuous treatment. Dawes and Jackson[3] found that it required 0.8 gm. injected to kill a rabbit; in the case reported I have given in all, over a period of one month, 46 grains.

600 Grand Avenue.

1. THE JOURNAL A. M. A., Dec. 24, 1910, p. 2211.
2. THE JOURNAL A. M. A., Jan. 21, 1911, p. 211.
3. Dawes, S. L., and Jackson, H. C.: The Physiologic Action, Elimination, and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically, THE JOURNAL A. M. A., June 22, 1907, p. 2090.

A PLEA FOR GREATER CARE IN ARRANGING PATIENTS ON THE OPERATING-TABLE FOR THE PREVENTION OF THE COMMON POSTOPERATIVE WEAK BACK

THE PRESENTATION OF AN APPARATUS FOR HOLDING THE LITHOTOMY POSITION WITHOUT STRAIN

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BOSTON

In a previous paper[1] I called attention to the importance of considering the positions in which patients are placed during the performance of operations so that the sacro-iliac joints and the lumbar spine cannot be strained.

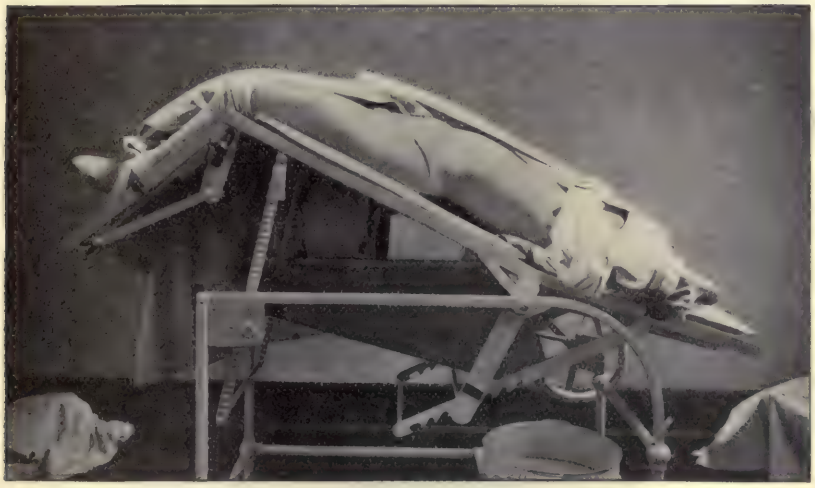


Fig. 1.—Faulty position without support for the back and with the thighs hyperextended. Strain of the lumbar spine and sacro-iliac joint must result.

The facts that such strains do often occur and that many patients are harmed because of these unnecessary strains in connection with operation cannot be questioned; but only those who have to do with the treatment of weak or painful backs or with chronic joint diseases in adults can appreciate how frequently such conditions occur.

In the article referred to the position in which the patient should be placed, if the operation requires the horizontal position on the back, or the Trendelenburg position, was shown, as well as the undesirable position in which strain of the lumbar spine and sacro-iliac joint are possible, and because of the apparent importance of the subject, this section of the previous paper is quoted:

"We must remember that, when lying on the back, if the bed or supporting structure is hard so that the buttocks cannot settle into it, the lumbar spine must sag downward, and if the buttocks are large or the waist small, the amount of this sag may be enough to cause painful strain on the interspinous ligaments or on the sacro-iliac joints. . . . .

"This means that in planning operations we have responsibilities other than those which have to do with the purely local lesion. At such times, if the whole body is considered, the strained sacro-iliac joints with the distressing backaches and with the not infrequent disability which results from this will not occur. The patient will not be put on the table as shown in Figure 1, since in this position the thighs are hyperextended, the axis of the pelvis must be drawn forward, thereby raising the upper part of the sacrum and the lumbar spine. There being no support for the spine, however, it must sag back again, and with this the sacrum must be dragged downward, the two influences necessarily resulting in definite strain of the sacro-iliac joints, with subsequent backache. Not only this, but as the result of the hyperextension of the thighs and the tilting downward of the anterior part of the pelvis the abdominal muscles must be stretched, making unnecessarily difficult the separation of these muscles during abdominal operations. With the slight support under the back to prevent the sag of the spine and also under the knees so that hyperextension is prevented (Fig. 2), all of these undesirable features can be overcome without in any way interfering with the important elements of the position."

In regard to the protection of the patient when the operation calls for the lithotomy position, while the desirable position as well as the common undesirable position was shown, it was quickly realized that the maintenance of the desirable position was practically impossible with any of the resources at our command. Because of this the apparatus which is here described was designed, and it is the presentation of this that has seemed to me a sufficient justification for the communication.



Fig. 2.—Correct position, with lumbar spine supported and with pillow under knees to prevent the hyperextension. No strain of the lumbar spine or sacro-iliac joint can result under these conditions.

In studying the subject I have been impressed by the fact that not only do the patients often receive harmful strains of the back by being placed in these positions, but the assistants at such operations are often severely

1. The Relation of Posture to Human Efficiency and the Influence of Poise on the Support and Function of the Viscera, Boston Med. and Surg. Jour., Dec. 9, 1909.

strained and unnecessarily exhausted because of the positions which they are forced to assume—positions which no human being can maintain for long without harm. The frequent giving out of the assistants at such operations while the operator himself remains

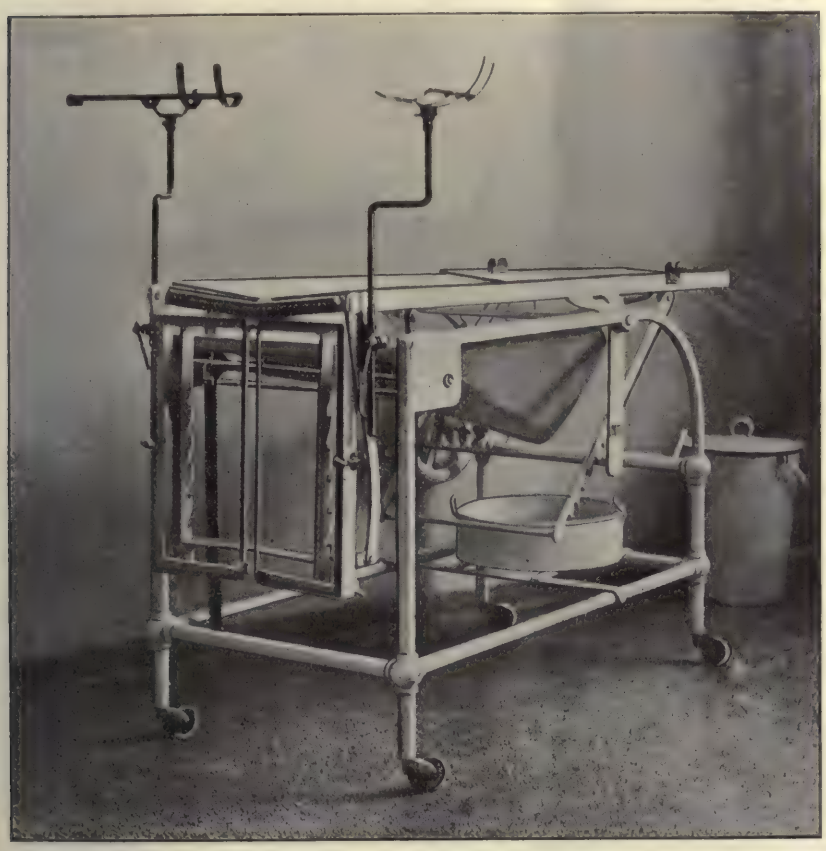


Fig. 3.—Table with adjustable leg supports.

fresh, in my studies has made me try to devise something that would not only protect the patient, but would protect the assistant also.

To quote again from the article above mentioned: "With the lithotomy position, also, there is a right and a wrong way of obtaining this. If the thigh is sharply flexed and at the same time abducted, and if, as is so commonly seen with this, the assistant rests on the leg as he reaches over to assist the operator, the ilium must be strained downward and backward, with resulting sacro-iliac strain and weakness." If, however, the thigh is flexed less sharply and if a bandage or strap is attached about the knees to prevent the marked separation of the knees, "the position can be maintained indefinitely without harm and without sacrificing the essential features of the position."

The same opinion is held to-day in the present comment as at the time of the presentation of the earlier paper, but I now realize fully that, while the position last mentioned is the desirable one, it cannot be maintained without definite mechanical aid. The strap about the knees to prevent the extreme abduction of the thighs in the first place, interferes with the usefulness of the assistant, and when the coverings are in place unnecessarily obscures the field. In the next place, to hold the leg in this position for the length of time of the usual operation is absolutely impossible, since the weight of a leg is no small thing and since no muscle even under favorable conditions (and this would be decidedly unfavorable) can maintain its contraction for more than a very few minutes without becoming wearied and relaxing. This must result if the assistant attempt to hold the leg, and it not only allows ultimate drag of the leg, but represents a source of unnecessary strain for the assistant.

To overcome this the leg-rest that is shown in Figure 3 has been constructed by the Kny-Scheerer Company and can be secured through them for attachment to any table. It consists of the flat rest on which the lower leg is placed, and the adjustment of the position of this is made by raising or lowering the upright, for the height, or by rotating the upright so that the double angle moves the rest farther away or nearer to the patient. When the leg is once placed in the desired position (Fig. 4), the position cannot be changed except as the operator may wish, and not only this, but the assistant has a definite rest on which he can lean without harm to the patient. In this way the extreme weariness of the assistant, which must come when the body is used in the flexed and partially rotated position with only the muscle supports to protect it, is entirely eliminated.



Fig. 4.—Lithotomy position, with legs supported on the rests shown in Fig. 3. Once arranged, the position cannot change except as the surgeon may wish.

The effect on the position of the thigh which results from trying to support the leg on the upright commonly attached to operating-tables, in which the leg hangs by a noose around the ankle, is shown in the left leg of

Figure 5. This must result in the sag of the legs apart, with at the same time the outward rotation of the thighs, both positions meaning strain to the pelvic joints, which must be greatly increased if the weight of the assistant is added. The contrast to the position of the right leg in this illustration is at once apparent.

In the experiments which were made in planning the leg rest I myself took the positions in which the patients are commonly placed, and if anyone has any question as to where the strain is received I would suggest that that person make the same experiment on himself.

In conclusion I wish simply to call attention to the fact that the position in which the patients are placed at the time of operation has much to do with the presence or absence of postoperative backaches and the subsequent weakening of the sacro-iliac joints. The positions in which strain will not take place are so easily obtained that there is no possible excuse for such harmful conditions occurring. An apparatus is shown in which the lithotomy position can be maintained indefinitely without strain either to the patient or the assistant.



Fig. 5.—The right leg correctly supported, the left supported by the ankle noose which must allow sag and joint strain.

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Plague Eradication and Rats in India.—In one house in Belgaum 197 rats were caught in the course of a year; this was a grocer's shop in the city market. It was a small house of three rooms, occupied by six people, Mahomedans, and it is a curious fact that the house possessed two cats. There were seventeen houses in which more than fifty and less than a hundred rats were caught; nine of these were ordinary dwelling houses, two were grocers' shops, one a grain godown, two liquor shops, one butcher shop, one stable, and one weaver's house. Two hundred and thirty-seven houses yielded a catch of more than twenty but less than fifty rats. Twenty-four of these were grocers' shops, sweetmeat sellers or grain stores, nineteen were weavers, eight were tailors' shops. No other trade seems to possess any influence especially favorable to rat infestation. The Indian cat is not a particularly good rat catcher.—Reports on plague investigations in India.—*Journal of Hygiene.*

INTRACRANIAL SURGICAL LESIONS IN CHILDREN *

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CHICAGO

I wish to present a series of cases consisting of different cranial and intracranial lesions, giving brief history, the operation performed and the indications for surgical interference, as well as the results obtained. Although in this series the results have not been so flattering as one would wish, I hold the long existence of the lesion responsible for producing destruction irreparable by surgery.

The best results in surgery are achieved by prompt action, and the surgery of the brain is no exception. When once areas of the brain are destroyed we can hope but little for repair. Many of my patients are brought to me when all hope for improvement has been abandoned months and even years after.

Most of the patients have been given potassium iodid for long periods, and perhaps several periods, no results having been obtained. Physicians have been changed and another course of potassium iodid given, when three and at most six weeks should have given positive proof that the treatment was of no avail.

If a child had a broken arm, what physician would wait twelve weeks to reduce it or wait until an abscess had formed, as was done in the skull fracture in Case 12? This also should remind us of the disasters that may happen weeks after an apparently slight head injury.

Early surgical interference in fracture of the skull, with intracranial hemorrhage, will be rewarded by almost certain recovery (Case 2), while delay for months or years hoping against hope that the focal symptoms if present will disappear, can lead only to discouragement and disappointment after operation (Cases 3 and 4). Much improvement may, however, be obtained in children after several years' delay (Case 5). Constant localized headaches should demand our most serious attention and our greatest efforts to determine the cause, as they may mean localized diseased areas within the skull (Case 6). Severe headaches following chronic otitis media associated with dizziness, rapid rise and fall of temperature, nausea and vomiting, frequently demand prompt surgical interference (Cases 7 and 8) to prevent extension into the cranial cavity.

I have studied carefully a number of children with impaired mental development, endeavoring to learn what was the cause of the mental defect and what benefit could be derived from medical and surgical treatment in these cases. Many children, soon after birth, suffer from malnutrition, probably from some unknown hereditary cause. Many of these cases improve under medical

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

treatment while others seem to be benefited but little, or not at all. It is the latter class that I wish to report.

These children frequently have convulsions from twenty-four hours to a week after birth, associated with slight rise in temperature and apparent unconsciousness. After the attack they fall asleep for several hours, the attack being repeated at indefinite periods. These attacks may be associated with involuntary movement of the extremities or face. Home treatment is resorted to. The parents discover later, however, that the children are not so bright as other members of the family,



Fig. 1.—Patient 4, just before operation. Decompressed fracture, duration fifteen years.



Fig. 2.—Patient 10, before operation.

r children of the same age in other families, and it is hen that the family physician is told of the symptoms he child presents. Frequently there is a tuberculous endency in the family, but more frequently there is a yphilitic taint. Many of these children improve under ntisyphilitic treatment, but if the improvement is tem- orary it is not conclusive evidence that the underlying ause is not syphilitic, for many of these children will ot tolerate antisyphilitic treatment, nor will they be enefited if it can be tolerated. I have found in these cases, capillary arteriosclerosis as early as the sixteenth month, the findings and symptoms of these children indicating intracranial pressure. Not until the pressure has been relieved will the administration of mercury or potassium iodid prove beneficial; but many of these patients seem to make marked improvement after decompression, followed by antisyphilitic treatment.

In cases of chronic tuberculous meningitis the children have not improved after operative interference, while in chronic syphilitic meningitis every patient has apparently improved under antisyphilitic treatment after decompression.

It is my rule to make a Wassermann test in all cases, and if it is found positive or questionable to repeat the test, and also make a test on both father and the mother. I have not failed in a single instance, when I secured the positive test in the baby, to find either the father or mother giving a like test.



Fig. 3.—Patient 10, two months after right and left temporal decompression, showing bulging in temporal region.

Cases 9, 10, 11, 12 and 13 are selected from a series representing the above class of cases. In all cases of suspected brain tumors, if the tumor can be located, operation should be done with the hope of removing the tumor or relieving intracranial pressure, trusting that the tumor can later be removed. The decompression must be done before the patient has advanced ocular or mental disturbance (Case 14).

Children presenting, soon after birth, paralysis of a hand or leg should be closely watched and if the paralysis progresses and there are signs of intracranial pressure or rapid extension producing progressive paralysis, much, I think, may be done in the way of benefiting and saving the lives of these babies. if a large opening is made in the skull and intracranial pressure relieved (Case 15).

Following is a brief history of the cases referred to above:

CASE 1.—*History.*—R., a girl aged 6, American, entered hospital Oct. 28, 1906, at which time she had been sick six weeks with headache and some fever; diagnosis, typhoid fever. The patient improved slowly only to relapse again to her former condition. Family history negative; the patient had had usual diseases of childhood; measles at age of 4; father living and well, aged 50; mother living and well, aged 50; has four brothers and four sisters. On the afternoon of Oct. 28, 1906, the patient's headache became severe and she became stupid and then unconscious. At this time her condition was so grave that she was taken to Willard Hospital, arriving there about 3 a. m., where I first saw her. Six weeks before becoming ill she had slipped on the deck of a boat while returning from England, striking her head against a bolt-head, but little thought was given this and no medical aid sought. She complained of headache a few days; then was apparently as well as usual.

Examination.—At the hospital, pulse was 60, respiration 10, temperature 98.5. Blood-count showed hemoglobin 78, reds 3,400,000, leukocytes 26,000, polymorphonuclears 80. A diagnosis of intracranial pressure was made.



Fig. 4.—Patient 11, before operation, showing crossed and spastic condition of lower extremities.

Operation and Result.—Under chloroform anesthesia, a large subdural abscess was drained. The time consumed was forty minutes. The patient improved until the tenth day when she had a chill, rapid rise of temperature and died on the twelfth day following the operation. Temperature per rectum was 106.6, pulse 138, respiration 60. The post-mortem findings were diffuse meningitis, and double pneumonia.

CASE 2.—*History.*—F., a boy aged 7, American, entered Willard Hospital July 6, 1908. Family history negative; had had measles and scarlet fever. July 6, 1908, patient fell from a stairway to a cement floor, a distance of about eight feet. He was unconscious when picked up but remained so only a few minutes. After regaining consciousness he appeared perfectly well for about forty-five minutes; then gradually relapsed into unconsciousness and remained so. This was accompanied by vomiting and muscular twitching, followed by violent involuntary muscular contractions of the entire body. The pupils were widely dilated; there was a large swelling in left parieto-occipital region. Dr. W. J. Butler first saw the patient and brought him to the hospital at 8 p. m., two hours after the injury. I first saw him at 5:30. Diagnosis was fracture of the skull with hemorrhage.

Operation and Result.—Patient was taken to the operating-room at once. A large bone flap was reflected; there was no extradural hemorrhage, but a large intradural hemorrhage filling the subdural space; the dura was opened and a large flap turned up. Bleeding points were ligated with fine catgut. The wound was closed without drainage. Time of operation and preparation was forty minutes; anesthetic, chloroform. Patient awoke from the anesthetic conscious, made an uninterrupted recovery and left the hospital on the tenth day cured.



Fig. 5.—Patient 11, two months after operation. Able to sit up and hold head erect. The head is not leaning against the back of the chair.



Fig. 6.—Patient 16. Baby 2 weeks old. Infected cephalematoma, drained and cured.

CASE 3.—*History.*—Miss P., Polish girl aged 15, entered Willard Hospital Nov. 5, 1908. Family history negative; patient had had usual diseases of childhood. Two years before while watching a parade patient jumped off the back porch to a cement sidewalk, a distance of about 15 feet. She fell on her side, striking the right side of the head against the walk. She was unconscious for a short time. On regaining consciousness she had a paralysis of the left leg and arm which grad-

ually improved for about six months, after which there was no improvement. At time of admission she could not walk and could not use the left arm or hand. Examination revealed a depressed fracture in the right parietal region.

Operation and Result.—A large bone flap was raised; dura was found adherent to other coverings of brain and the brain itself; the bone flap was replaced without drainage. The anesthetic used was chloroform; time of operation, one hour. Patient has improved enough to walk with a cane, but the left arm is little benefited.

CASE 4.—*History.*—W., a man aged 21, American, family history negative, was kicked by a horse in left frontal region at the age of 7. The physician at this time removed a number of pieces of bone, and some brain tissue was lost. Wound healed, leaving a large pulsating wound. At the age of 14 the patient developed epilepsy and had frequent and severe attacks. On entering the hospital the attacks were as frequent as several a day.

Operation and Result.—Large skin flap made and a large amount of depressed skull removed. Wound was closed without drainage. The time of operation was about one hour. Anesthetic, chloroform. Patient developed pneumonia and died on the fifth day following the operation.

CASE 5.—*History.*—C., a boy aged 4, entered Willard Hospital March 15, 1909. Mother says he was a large baby, labor long and difficult. She was finally delivered with instruments. Baby seemed well and the physician noticed nothing wrong, but the child cried a great deal and did not move his arms and legs as did her other two babies when they were young. The mother said that the child never made any attempt to use his left hand. The physician informed her that in time the arm would be used. At 6 months the mother discovered that the left arm and leg were paralyzed. The baby always lay on his back, never attempting to sit up. He cried nearly all the time he was awake. At the age of one year he still made no attempt to sit up. At this time a physician was consulted and the mother was informed that the baby was paralyzed on the left side and the paralysis would be permanent. At the age of 16 months the mother laid him face downward and he learned to pull himself along with his right hand, pushing with his right leg and foot. He first sat up when he was 2½ years old and would hop about, using his right leg and arm. This was his mode of travel when I saw him in the hospital. He could stand on his right foot if supported, or could get hold of some object, as a chair, table, etc. He had never talked, nor could he be taught. His temper was violent and he at times would beat his head against the floor.

Examination.—The left arm showed nothing abnormal except atrophy. The left leg was atrophied and the patient had a marked talipes varus.

Many physicians had been consulted and none gave the mother any hope, but the mother consented to the request of Dr. Rominger (to whom I am indebted for the case) to allow us to operate and see if there was pressure that could be relieved.

Operation and Result.—March 16, in my clinic at the Willard Hospital I turned back a large bone flap on the right side and found extradurally several large deposits of lime salts. These were peeled off like fish scales. The dura was then opened but nothing pathologic found. The bone flap was replaced and in about one week the child began to use the arm a little. He left the hospital at the end of the third week able to stand with the aid of a stick used as a support. A letter from his mother recently says that he is talking a little and can walk well without any assistance. His great difficulty now is the club-foot. This case was undoubtedly one of extradural hemorrhage following injury by the forceps. The clot was partially absorbed; the rest calcified. Had this patient been operated on when a few weeks old there is no doubt that the result would have been more satisfactory than at so late a date—four years after the injury.

CASE 6.—*History.*—An American girl aged 18, family history negative, six years ago at the age of 12, complained of pain in the knee and hip; six months later she developed a sinus at the hip.

Treatment and Result.—The head of the femur was resected, but the sinus did not close. One year later I amputated the left lower extremity at the hip, as the *x*-ray showed necrosis of the femur and there were multiple discharging sinuses in the thigh. The wound healed nicely but soon the left elbow became swollen and painful and a sinus developed, communicating with the lower end of the humerus. This was curetted and the external condyle chiseled away. This healed and in a few weeks the patient developed a temperature of 106, respiration 60, with rigidity of the neck, and head drawn back. A diagnosis of tuberculous meningitis was made. She improved, temperature reaching normal in six weeks, but with a rise in the evening around 102. All this time there was severe occipital headache. As the pain was constant and localized I trephined and removed a necrosed plate of skull 2 inches by 2½ inches from the parieto-occipital region. Before this was healed, a mastoiditis developed on the right side and later a mastoiditis on the left side. Both were operated on and healed. The patient has had in all thirteen operations and has had tuberculin injections for eighteen months. In June, 1910, she was in better health than at any time since I first began to treat her, five years ago.

This patient has had right and left mastoiditis, with an extradural abscess in the parieto-occipital region.

CASE 7.—*History.*—P., a French boy aged 9, family history negative, entered the Willard Hospital, Dec. 13, 1909. Six weeks previously he complained of pain in the left ear, which was treated, and after a paracentesis of the tympanum he improved rapidly and the physician was discharged. A few days later the boy complained of frontal headache. This was accompanied by vomiting and dizziness. The following day the headache was more severe and the dizziness and vomiting worse, but the patient complained less, appearing stupid. About 4 a. m. December 13, the parents could not arouse the patient to give him his medicine. He was brought at once to the Willard Hospital, when I first saw him, with his attending physician, Dr. Stoll. A diagnosis of intracranial abscess was made.

Operation and Result.—The mastoid antrum was opened and the skull trephined just above the mastoid. About a dram of pus escaped; a gauze drain was inserted and the usual dressings applied. The patient soon regained consciousness and made an uninterrupted recovery, leaving the hospital in two weeks.

CASE 8.—*History.*—M., boy aged 9, American, family history negative, two months previous to entering the Robert Burns Hospital, Feb. 20, 1910, had acute otitis media. His physician, Dr. Brode, went South for a rest and the patient received no medical care until the evening of February 20, when Dr. Stewart was called and found the patient suffering excruciating pain, terrific occipital headache and at times apparent delirium.

Operation and Result.—At the hospital the mastoid antrum was opened and found full of pus. The lateral sinus was exposed and a few drops of pus could be seen oozing from the skull along the sinus. A probe was passed along the sinus and pressure made against the sinus when a large quantity of pus was liberated. A plate of the skull was now removed just above the sinus and a large extradural abscess drained. Patient made a good recovery and left the hospital in ten days.

Cases 7 and 8 will, I am sure commend to all of us the advisability of removing large plates of skull in draining abscesses, either intradural or extradural.

CASE 9.—*History.*—Infant A, aged 3, American, family history questionable, had a normal rapid delivery; a few hours after birth the nurse noticed that the baby acted strangely and thought that it was having a spasm. The physician was informed and the next day the baby developed a high temperature and became unconscious, remaining so for five days. It then improved but had some paralysis of the left upper and lower extremities. This improved but the baby frequently had apparent convulsions. Soon the lower limbs became crossed, the left anterior to the right and the legs and arms were very rigid. The baby never sat up, never talked, would not chew food and was fed on liquids. At the age of 3 when I first saw it the above condition still existed. Wassermann reac-

tion was positive in the baby and the mother, but negative in the father.

Operation and Result.—A large bone flap was reflected, and brought into view many yellow areas of calcareous material as well as a diffuse capillary sclerosis. A temporal decompression was done and the flap replaced, but the baby never rallied and died from shock six hours after leaving the operating-room.

CASE 10.—*History.*—Edwin K., aged 16 months, had been ill since six weeks old; mother showed a positive Wassermann reaction. The child was born in normal labor. When about six weeks old it was noticed that the child could not control the movements of head; head would fall backward. When stood up it crossed the feet, the left one over the right. There was no paralysis in either arms or legs but the child used the left hand almost entirely. The Wassermann reaction was positive in the patient.

Examination.—There was a spastic condition of both legs and arms; chest well developed; heart negative; moist râles over both lungs; fontanelle closed; eyes reacted to light; arch of palate was high. The anterior cervical glands were enlarged slightly. Patella, Achilles and triceps reflexes were increased. Babinski sign was present in both feet. Wassermann reaction was positive. Measurements: Circumference Reed's base line 17 inches; symphysis mentis around vertex 19 inches.

CASE 11.—*History.*—The patient, Francis K., aged 6, gave a positive Wassermann reaction, as did his mother. The father and mother were living and well. The child was born after prolonged labor; had had whooping cough and pneumonia. When 6 weeks old it was noticed that the child could not hold his head up and would not nurse. When 2 years old he had a convulsion which only lasted a short time. He seemed to choke when the attack came on; had high fever at one time. When stood up the child crossed the legs, the left one over the right. Most of the weight is put on the right leg. The child never was able to stand alone or sit up. When put in a chair he had to be tied; he had no control over his body; he was constantly constipated. Child has never been able to talk; he was unable to use his arms until about two years ago; used left hand until a short time prior to June, 1910, when he began to use the right hand; he swallows with difficulty; has had adenoids removed.

Physical Examination.—Heart, negative; moist râles throughout chest; head not symmetrical; right side enlarged; eyes react to light; teeth decayed; hard palate arch is high; cannot control saliva; thyroid gland enlarged. Child has undescended testicles. Skin reflexes normal; disturbance of sensibility; increased triceps reflex; increased patellar reflex; Babinski in both feet; increased Achilles reflex; has been nauseated but did not vomit.

CASE 12.—*History.*—M. P., aged 3½, American, whose father gave a positive Wassermann reaction, has had convulsions from time to time since birth, and some days from 15 to 20. Child seldom cries; sits alone, cannot talk, does not recognize strangers, head in almost constant motion from side to side; sees and picks out bright objects from dull-colored ones; nurses from a bottle the same as a baby; does not hold the bottle herself; lower extremities spastic.

Operation and Result.—Large bone flap was made March 24, 1910. The child made an uneventful recovery following the operation. There was no improvement except that no spasms occurred since the operation and the spasticity of lower extremities is improved. Calcareous deposits were observed along the course of all the arachnoid vessels.

CASE 13.—*History.*—Infant DeP., a girl aged 5, has had pneumonia. Father and mother are living and well. One brother, 4 months old, is well. Labor lasted twenty hours after the first pain, according to the mother's statement. Present trouble began when the child was 3 months old, at which time the parents noticed that her arms and legs began to twitch. The next day she began to have convulsions. She had a high temperature and a diagnosis of meningitis was made. After these convulsions she would lie back with her head drawn backward and the neck rigid. She had been having these convulsions ever since; had had as many as 38 in one day; had had periods of a month or more when she had no convulsions; had none for the previous six months till June, 1910, when she had one, and several since. She never recognized persons nor objects, and was never able to talk. Otherwise she was healthy and developed about as any child of five years.

Examination.—Heart and lungs negative. Achilles tendon reflex present on both sides; more lively on left; no ankle-clonus; Babinski present on both sides. Arm and leg on left side twitched both when patient is asleep and when awake; mouth twitched and drew toward the left; no paralysis of any kind was present but child was unable to stand, although she would sit up and seemed reasonably strong. She seemed to have an appreciation of light and of loud sounds, and was sensible to the touch. When she had the convulsion her right arm and leg twitched, while the left leg lay quiet. (I observed one convulsion.) Wassermann reaction was negative.

The child died thirty-six hours after operation, not reviving from shock. Autopsy showed chronic tuberculous meningitis with the dura and arachnoid adherent to the brain substance.

CASE 14.—*History.*—B., a boy aged 14, German, family history negative, about six months before entering the Willard Hospital, April 6, 1910, complained of feeling dizzy and his parents noticed that he staggered when he walked, especially in the morning. Soon he began to have impairment of vision and projectile vomiting as well as diffuse excruciating headache, at times almost unbearable. There were no local symptoms. A diagnosis of cerebellar tumor was made. Wasser-

TABLE OF CASES OF INTRACRANIAL

No.	Name.	Age.	Nationality.	Family History.	Injury.	Duration.	Mental State.	Headache.	Vomited.	Epilepsy.	Pulse.	Respiration.	Temperature.
1	Miss R.	6 yrs.....	American...	Neg...	Yes.	6 wks...	Unconscious.	? ...	Yes.	No.	Slow....	Slow.....	Normal...
2	Mr. F..	7 yrs.....	American...	Neg...	Yes.	None. ..	Unconscious.	? ...	Yes.	No.	Slow....	Slow.....	Normal...
3	Miss P.	15 yrs.....	Polish.....	Neg...	Yes.	2 yrs....	Negative.....	Yes.	Yes.	No.	Normal.	Normal.....	Normal...
4	Mr. W.	21 yrs.....	American...	Neg...	Yes.	15 yrs...	Negative.....	Yes.	Yes.	Yes.	Normal.	Normal.....	Normal...
5	Mr. C..	4 yrs.....	American...	Neg...	Forceps delivery.	4 yrs....	Never talked.....	? ...	Yes.	No.	Normal.	Normal.....	Normal...
6	Miss B.	14 yrs.....	American...	Neg...	No..	2 yrs....	Negative.	Yes-	Yes.	No.	Normal.	Normal.....	Normal...
7	Mr. P..	9 yrs.....	French.	Neg...	No..	6 wks. ..	Unconscious.	? ...	Yes.	No.	Slow....	Slow.....	100-102+
8	Mr. M.	10 yrs.....	American...	Neg...	No..	2 mos. ..	Semiconscious...	Yes.	Yes.	No.	Slow....	Slow.....	103+
9	Miss A.	3 yrs.....	American...	?	Forceps delivery.	3 yrs....	Imbecile.....	? ...	Yes.	Yes.	Normal.	Normal.....	Normal...
10	Mr. K..	1½ yrs....	American...	?	No..	1½ yrs..	Imbecile.....	? ...	Yes.	Yes.	Normal.	Normal.....	Normal...
11	Mr. K..	5½ yrs....	American...	?	No..	5½ yrs..	Imbecile.....	? ...	Yes.	Yes.	Normal.	Normal.....	Normal...
12	Miss P.	3½ yrs....	American..	?	No	3½ yrs..	Imbecile.....	? ...	Yes.	Yes.	Normal.	Normal.....	Normal...
13	Miss De P.	3 yrs.....	French.....	Neg...	No..	3 yrs....	Imbecile.....	? ...	Yes.	Yes.	Normal.	Normal.....	Normal...
14	Mr. B..	14 yrs.....	German. ...	Neg. .	No..	6 mos ..	Conscious.....	Yes.	Yes.	Yes-	Slow....	Slow.....	Normal...
15	Infant C.	36 hrs.....	Jewish.....	Neg ..	Yes.	36 hrs...	?	? ...	No.	No.	.....	Deep, slow...	.....
16	Baby W.	2 weeks..	Jewish.....	Neg...	Yes.	2 wks...	?	? ...	No.	No.	Rapid. .	Rapid.	104°

mann negative. Blood-count showed no change in number of leukocytes.

Operation and Result.—April 9, 1910, a large occipital bone flap was reflected and the cerebellum exposed, but no tumor could be located. A plate of bone two inches square was removed and the headache entirely disappeared; also the nausea; but both have returned and there has been no permanent relief from the operation; a second operation has been refused.

CASE 15.—Infant G., aged 36 hours, Jewish, born after thirty-six hours' labor (instrumental delivery), was resuscitated with difficulty; scalp lacerated in right parietal region; left arm paralyzed; child in a stupor; later left leg became paralyzed. I advised operation which was refused. Baby died thirty-six hours after birth.

Autopsy showed depressed skull fracture with edema of the brain and membranes in the right motor area.

What might have been accomplished by operation in this and similar cases experience only can enlighten us.

CASE 16.—A baby 2 weeks old developed soon after birth a large fluctuating tumor on left occipital parietal region diagnosed as cephalematoma. On the tenth day the baby developed a temperature of 104 F., which continued until the contents of the tumor (an infected hematoma) were evacuated, after which the temperature dropped to normal and remained normal.

72 Madison Street.

SURGICAL LESIONS IN CHILDREN

Wassermann Test.	Paralysis.	Operation.	Findings.	Anesthetic.	Result.	Died After Operation.	Cause of Death.
Not made..	No..	Yes	Brain abscess	Chloroform...	Died.	12 days.	Meningitis.
Negative...	No..	Yes.	Fractured skull, subdural hemorrhage.	Chloroform...	Cured		
Negative..	Left arm and leg.	Yes.	Depressed fracture of skull	Chloroform...	Improved..		
Negative...	No..	Yes.	Depressed fracture of skull	Chloroform...	Died	4 days..	Pneumonia.
Negative...	Left arm and leg.	Yes.	Calcified blood clot	Chloroform...	Cured		
Negative..	No..	Yes.	T. B. necroses of skull	Chloroform...	Cured		
Not made..	No..	Yes.	Extradural abscess	Chloroform...	Cured		
None.....	No..	Yes.	Extradural abscess	Chloroform...	Cured		
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform...	Died	6 hrs....	Shock.
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform...	Improved..		
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform...	Improved..		
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform...	?		
Negative...	Limb spastic...	Yes.	Chronic T. B. meningitis	Chloroform...	Died	1 day...	Shock.
Negative...	No	Occipital decompression.	Tumor of cerebellum	Chloroform..	Died	3½ mo.	Cerebellar tumor.
Not made..	Yes.	No..			Died		Edema of brain.
Not made..	No..	Yes.	Cephalematoma.	None	Cured		

ABSTRACT OF DISCUSSION

DR. E. H. ABBOTT, Elgin, Ill.: Of four patients referred to Dr. Rogers by myself and operated on this year, one died of surgical shock; two have shown more improvement than he has given them credit for; one showed no improvement, but the younger child on whom he did a double decompression had very little vision before the operation and sight has improved to such an extent in this short time that it can recognize food across the room. The older child, four years old, this child's brother, has an asymmetrically developed skull due to a unilateral hydrocephalus. Dr. Rogers aspirated the lateral ventricle in this case, as well as doing a decompression operation. The time has been insufficient since that operation for us to judge the amount of improvement, but two of the four operated on show decided improvement.

DR. C. G. KERLEY, New York: One feature of these cases of operation on the brain in children that I have observed is the indefiniteness in determining the ultimate results. I had that illustrated in one case, in which a baby was injured by the baby carriage falling down a series of steps and turning over, throwing the child on the stone walk on its head. That child's skull was trephined and the bleeding vessel was ligated. The paralysis was relieved and the child made a temporary recovery. Then there developed paralysis of one side of the body, but the child developed beautifully mentally up to ten years of age. The result of the operation was remarkable considering the work that had been undertaken. The boy had a fairly good arm and a fairly good leg on the paralyzed side, and was in excellent mental condition until, at 10 years of age, he developed epilepsy. I have advised a second operation. This case has impressed on me the indefiniteness of results in these cases, for the epilepsy may develop years after an apparently successful operation. Our results in removing so-called pressure in cases of spastic paralysis several years ago were universal failures.

DR. CASSIUS C. ROGERS, Chicago: I would like to ask the last speaker if in the decompression operation the dura mater was opened. In children the dura mater has the power of forming skull and unless that is opened the decompression is temporary. In the cases I have reported the results have been encouraging. The patients are as well off since the operation as before, and in most of the cases there is improvement. In every case of intracranial hemorrhage, if operation is done in time, there should be a good result. We would not delay, if the hemorrhage were in the abdominal cavity, to open and tie the vessels, so why should we wait when the condition is in the cranial cavity? Epilepsy may develop twenty or forty years after an injury to the head. I have been operating on such patients for about ten years and I have had no epilepsy follow the operative procedure if the patient did not have epilepsy before the operation, and I have operated in cases in which the patient had had repeated attacks of epilepsy before the operation and have been free from these attacks for seven years. The case sent me by Dr. Abbott, in which I introduced a trocar and drained the lateral ventricle, I forgot to mention. We do not know what the end-results will be in any of these cases. Undoubtedly there are many children in insane asylums and homes for feeble-minded children, whom an operation in time would have benefited; it would have kept them out of these institutions. There are many individuals in penal institutions who are there because they have had head injuries followed by abscess, etc. A year or two ago I operated on a man who had served two periods in an asylum and I found an abscess the size of a hen's egg. These extradural abscesses are not uncommon. To diagnose lesions in children the only thing to do is to watch these children, sit by the bedside and watch them for hours; if necessary, spend nearly all of your time with them, perhaps for two or three days, until you have made your diagnosis and decided just what must be done. If you are in a hurry, let them alone.

EXPERIENCE WITH SALVARSAN

EHRLICH-HATA'S 606 IN THE NEW YORK SKIN AND CANCER HOSPITAL

HOWARD FOX, M.D., AND WILLIAM B. TRIMBLE, M.D.
NEW YORK

Through the kindness of Dr. Flexner of the Rockefeller Institute we received in October twenty tubes of Ehrlich's 606 for experimental use in the Skin and Cancer Hospital. The twenty tubes have been used for the treatment of eighteen patients, a second injection having been given in two of the cases in which relapses occurred. All of the patients remained in bed at least three days after treatment and then continued under observation at the hospital or returned to the dispensary at weekly intervals. All except two of the patients have remained under observation up to the present time.

With the exception of a patient with nodular leprosy to whom the new remedy was experimentally given, the patients selected for treatment were those who presented active syphilitic manifestations and (except in Case 8) a positive Wassermann reaction. The choice of patients was limited to those in whom ophthalmoscopic examination of the fundus and examination of the heart and urine showed no deviation from the normal condition.

The injections[1] of salvarsan were given either in suspension or in solution in doses varying from 40 to 60 centigrams. In the first nine cases the drug was given in a neutral suspension in the subcutaneous tissue of the interscapular region. In one case (10) the injection was made in the quadratus lumborum muscle. In the last ten cases, soluble injections were given in the gluteal muscles, according to the method of Lesser.

Examinations for *Spirochæta pallida* were made with the dark-field illuminator in five of the cases and showed a rapid disappearance of the organisms after injection. In no case could any spirochetes be found at the end of seventy-two hours after treatment, as seen in Table 1.

The Wassermann reaction was performed in every case before the injection was given and was afterward repeated at weekly or somewhat less frequent intervals. It was found to be positive in all except one case (9) in which mercury had been previously administered for several months. The original Wassermann method was performed by us, using two antigens for every case, one of the antigens being an alcoholic extract of syphilitic liver that had been found reliable in testing several hundred cases. Active serum from every case was also sent to Dr. Noguchi of the Rockefeller Institute, who employed his own antihuman system in determining the reaction. The final results obtained by the two methods were approximately the same with the exception of Case 3, in which the Noguchi method showed a negative result on the fiftieth day, while the Wassermann method continued to show a positive reaction at the time of writing. In five of the cases (1, 6, 7, 11, 12) the reaction has become entirely negative at the end of eighty-five, forty-six, seventy, thirty-three and fifty-four days respectively. In one case it became weakly positive with the Wassermann method (negative with Noguchi) at the end of a month and again changed to a strongly positive reaction coincident with a bad relapse of the clinical manifestations.

In observing the general action of salvarsan we were impressed by the remarkable tonic effect of the drug in a number of our patients. From three to five days after treatment a decided improvement in appetite, color and general appearance was noted, especially in Cases 1, 2, 7. In Case 13, however, in which the result of the injection was most favorable, the general condition of the patient seemed decidedly worse for about two weeks after treatment.

In all of the cases a rise of temperature occurred during the first few days after the injection. As a rule, it appeared at the end of twenty-four hours and continued for two or three days with morning remissions. The highest temperature recorded was 102.6 F.; while in the majority of cases it did not exceed 101. In one case the temperature curve was of an intermittent character. In no case was it accompanied by chills. In the case of leprosy the temperature rose to normal, having been subnormal for several weeks previous to the injection.

TABLE 1.—RESULT OF EXAMINATIONS FOR SPIROCHÆTA PALLIDA

Case No.	Lesions Examined	Spirochetes Present Before Treatment	End 24 Hours	Hours 48	72 Hours
1	Papules..	Large numbers.	Few.....	None.....	.....
2	Ulcers...	Few.....	Few.....	None.....	.....
5	Chancre..	Large numbers.	Moderate numbers.	Few.....	None.....
8	Papules..	Moderate numbers.	Few.....	None.....	.....
13	Mucous patches	Enormous numbers.	Moderate numbers.	None.....	.....

While the general febrile symptoms were slight and the cause of little or no disturbance to the patient, the same cannot be said of the local effects of treatment. In almost every case there was considerable pain for the first twenty-four hours following the injections, and as a rule the use of morphin became necessary. In a few cases it was very intense and lasted for about three days. The insoluble injections in the subcutaneous tissue appeared to be more painful than those given in solution in the gluteal muscles. In spite of the unavoidable pain, two of the patients cheerfully submitted to a second injection when relapses occurred.

The induration following the insoluble injections varied considerably in the different cases. It was generally well marked for the first week. In no case has it absolutely disappeared at the time of writing. In three cases (3, 5, 6) it was very severe, accompanied by redness and was the cause of considerable discomfort for about two weeks. No abscesses occurred, although in one case (6) there was a slight necrosis of tissue, followed by a serosanguinolent discharge for three weeks. The induration resulting from the soluble injections in

1. In four of the cases (1, 3, 7, 9) the insoluble injections were given according to the method of Wechselmann. This consisted in grinding up the salvarsan in a mortar with 2 c.c. of a 10 per cent. solution of sodium hydroxid. Glacial acetic acid was then added, drop by drop, until precipitation occurred, after which 2 c.c. of sterile water were added. The mixture was then made neutral to litmus by the further addition of either 2 per cent. acetic acid or of sodium hydroxid, according to necessity. When completely neutral the suspension was centrifuged, the supernatant fluid poured or pipetted off, the residue mixed with 10 c.c. of physiologic salt solution and thoroughly shaken. It was then ready for subcutaneous injection. In six of the cases (2, 4, 5, 6, 8, 10) a neutral suspension was made by simply grinding up the salvarsan in a mortar with a 10 per cent. solution of sodium hydroxid. The latter solution was added in the proportion of 1.33 c.c. for each decigram of salvarsan, the mixture being brought up to 10 c.c. in volume by the addition of physiologic salt solution. The salvarsan was prepared for the soluble injections as follows: The drug was added to 15 c.c. of hot sterile water in a graduated glass cylinder containing a few glass beads, and dissolved at once on shaking. Two c.c. of a normal sodium hydroxid solution were then added, causing a precipitation of the salvarsan, which was redissolved by the further addition, drop by drop, of the sodium hydroxid solution. The mixture was brought up to 20 c.c. in volume by the addition of sterile water and an intramuscular injection of 10 c.c. given in each buttock.

TABLE 2.—RESULTS OF TWENTY INJECTIONS OF SALVARSAN

Case No., Sex, Age and Stage	Lesions	Duration of Lesions	Previous Treatment	Date, Dosage and Method of Injection	Local Effect of Injection	Wassermann Reaction	Result of Treatment
1—F.—47—II	Papular syphilid	5 weeks.	None	10/13/10.—Gm. 0.5 in suspension.	Pain rather severe for 12 hours; induration moderate.	Negative at end of 85 days.	Eruption almost disappeared at end of three months; improvement in general health one week after injection.
2—M.—19—II	Pustulo crustaceous syphilid of nose, ear, arms and legs.	8 months.	Continuous Hg. treatment by mouth eight months; grew worse under treatment.	10/15/10.—Gm. 0.4 in suspension.	Pain moderate, lasting 12 hours; induration slight.	Weakly positive end of month; then became strongly positive.	Marked improvement for three weeks, when relapse occurred. (See text.)
3—F.—32—III	Tuberculo-ulcerative syphilid of face.	2 years.	Hg. at irregular intervals by mouth and injection for two years; disease not controlled.	10/22/10.—Gm. 0.5 in suspension.	Pain severe; induration, redness and tenderness marked; slightly red end 2½ months.	Positive at end of 87 days.	Improvement began on second day; nasal discharge stopped at end of one week; crusted and ulcerated lesions healed in ten weeks.
4—F.—20—II	Chancre of lip; macular syphilid; mucous patches.	Eruption 6 days.	None	10/22/10.—Gm. 0.45 in suspension.	Pain and induration moderate and well borne.	Positive at end of 73 days; reaction weaker than at beginning.	Chancre healed in 3 weeks; eruption disappeared at end of 4 weeks; mucous patches healed in 4 days; severe relapse 6½ weeks from time of injection, consisting of mucous patches of mouth and vulva and macular and miliary papular syphilid.
5—F.—27—III	Gumma of clavicle; tubercular syphilid of lip.	Gumma 4 months; lip lesion 12 years.	Hg. at irregular intervals for many years; improved but never cured.	10/22/10.—Gm. 0.45 in suspension.	Pain moderate; induration and redness very marked at first; persisted 2 months.	Positive at end of 80 days.	Gumma nearly cured end one month (see text); lip lesion disappeared in ten days.
6—M.—32—II	Papulo-squamous syphilid; extensive mucous patches.	3 months.	Hg. by mouth for one month.	10/28/10.—Gm. 0.5 in suspension.	Pain and induration marked & persistent; slight tissue necrosis.	Negative at end of 46 days.	Disappearance of mucous patches in ten days; eruption disappeared end of 2½ months.
7—F.—20—II	Papular syphilid	3 weeks.	None	10/28/10.—Gm. 0.4 in suspension.	Pain and induration slight.	Negative at end of 70 days.	Marked improvement in general health at end of five days; gained 10 lbs. in weight since injection; eruption practically disappeared.
8—M.—37—II	Pustular syphilid	4 months.	Hg. by mouth for four months without effect on eruption.	10/29/10.—Gm. 0.5 in suspension.	Pain severe; induration slight.	Negative before and during entire treatment.	Moderate improvement at end of one week; patient failed to return to hospital.
9—M.—21—II	Maculo-papular syphilid	5 weeks.	None	10/29/10.—Gm. 0.45 in susp.	Pain severe first 12 hrs.; induration moderate.	Positive at end of 16 days.	Slight improvement during three weeks, when patient failed to return to hospital.
10—M.—34—III	Tuberculo-ulcerative syphilid of arm, shoulder and abdomen; ulceration of palate.	4 months.	Hg. by mouth 2 weeks	11/3/10.—Gm. 0.5 in suspension.	Pain severe second day; induration slight.	Positive at end of 3 weeks.	Lesion healed in three weeks.
11—M.—38—III	Gummatous ulceration of hard and soft palate and ear.	6 months.	Hg. by mouth, inunctions and injections, irregularly one year; Hg. very badly borne.	11/10/10.—Gm. 0.5 in solution.	Pain severe for 12 hours; induration lasted 3 weeks.	Negative during entire treatment. (See text).	Astonishing improvement at first; ulceration of palate reduced to half its size at end of one week; marked improvement in general health and appearance; lesions practically healed in 12 days, when relapse occurred. (See text.)
12—M—24—II	Mucous patches; laryngitis.	10 months.	None	11/10/10.—Gm. 0.45 in solution.	Severe pain; marked induration of buttocks 2 weeks.	Negative end of 54 days.	Mucous patches disappeared three days after injection; hoarseness began to improve on second day, and by fifth day voice was normal.
13—F.—46—III	Tuberculo-crustaceous serpiginous syphilid.	1 year.	None	11/15/10.—Gm. 0.5 in solution.	Severe pain for 2 days; marked induration of buttocks 3 weeks.	Weakly positive at end of 63 days.	Eruption almost disappeared at end of three weeks; entirely well at end of one month; general condition worse for two weeks as result of treatment, anemia, loss of appetite and weight.
14—F.—35—III	Gumma of soft palate and pharynx; gummatous infiltration of access. sinuses; deafness.	3 years.	Hg. and KI by mouth irregularly one year.	12/3/10.—Gm. 0.45 in solution.	Pain and induration moderate.	Positive at end of 46 days.	Gumma nearly healed at end of six weeks.
15—M.—43—III	Tuberculo-ulcerative syphilid of thigh.	7 months.	None	12/5/10.—Gm. 0.45 in solution.	Pain severe 6 days; induration marked and lasted 3 weeks.	Strongly positive at end of 43 days.	Lesions entirely healed at end of 3½ weeks.
16—M.—38—III	See Case 11. Second injection.	.....	.....	12/15/10.—Gm. 0.6 in solution.	Practically no pain or induration.	Continued to be negative.	Improvement of ulceration marked at end of first week; process then remained about stationary and relapsed slightly at end of third week.
17—M.—19—II	See Case 2. Second injection.	.....	.....	12/22/10.—Gm. 0.45 in sol.	Pain and induration slight.	Positive at end of 26 days.	Continued slow improvement for a month.
18—M.—40—...	Nodular leprosy	6 years.	Chaulmoogra oil, strychnin and mercury.	1/5/11.—Gm. 0.4 in solution.	Pain severe; induration severe.	No examination made after treatment.	Absolutely no effect on lesions; since treatment has been confined to bed, his general condition having become markedly worse.
19—F.—23—III	Gummatous ulceration of leg.	6 months.	None	1/12/11.—Gm. 0.6 in solution.	Pain severe; induration moderate.	Positive at end of 1 week.	Marked improvement in lesions at end of a week.
20—F.—22—III	Gumma of nose.....	9 months.	Practically none	1/12/11.—Gm. 0.6 in solution.	Pain 24 hours; no induration.	Positive at end of 1 week.	Improvement at end of one week.

the buttocks was extremely variable in the different cases. It was greatest, as a rule, on the third day after treatment. In some of the cases it was slight and occasioned very little inconvenience. Two of the patients, however, complained of considerable lameness for about two weeks. While the pain and induration were by no means unbearable they were severe enough to make it very desirable to continue our experiments with other methods of injection, concerning which we hope to report in a later communication.

The result of the twenty injections from a clinical standpoint were in some respects encouraging, in other disappointing. The most brilliant symptomatic result was obtained in Case 13, in which a superficial tuberculo-crustaceous syphilid disappeared at the end of a month. Even in this case it is not impossible that a single injection of calomel or one or two injections of salicylate of mercury might not have accomplished the same results. An excellent result was also obtained in Case 5, in which a mild tubercular syphilid of the lip that had existed for twelve years (according to the patient's statement) disappeared at the end of ten days. A gumma at the sternoclavicular point occurring in the same patient was also healed at the end of a month. In three of the cases (1, 6, 7) presenting early papular syphilids, the results were apparently not so good as those that might have been obtained from mercury. The lesions, however, finally disappeared in each case, and the Wassermann reaction became negative.

In three tuberculo-ulcerative cases (3, 10, 15) and in a case of gumma of the pharynx and palate (14), the results were satisfactory from a clinical standpoint, although the Wassermann reaction has not as yet become negative. The result of treatment in Case 3 was especially gratifying, as it had been very difficult to control the disease with mercury. In three cases in which mucous patches were present (4, 6, 12) there was a most rapid disappearance of the lesions after injection. The result of treatment in the case of leprosy was most unsatisfactory. No change whatever occurred in the lesions and the patient's general condition has become decidedly worse.

Relapses occurred in three cases, in two of which we thought at first that splendid results had been obtained. One of these cases (2) presented a pustulo-crustaceous syphilid of somewhat malignant type that had grown worse under internal administration of mercury. The patient improved rapidly for a month, the Wassermann reaction becoming nearly negative and the ulcerated lesions of the nose, ear, arms and legs healing almost completely. He then suffered a severe relapse, his condition becoming nearly as bad as at the outset. He was given a second injection and the manifestations have again almost disappeared.

A disappointing relapse was also shown by a patient (Case 11) with extensive gummatous ulceration of the hard and soft palate. The improvement was most striking at first, the ulcerated area being reduced to half its original size at the end of a week. A relapse then occurred and the patient was given a second injection which was again followed by a relapse. As it is almost impossible to administer mercury to this patient it is our intention to give him one or two more injections of salvarsan in the near future.

It would be unwarranted to draw any general conclusions from our limited material. It must be admitted, however, that the effect of the new remedy, in causing lesions to disappear rapidly, has been striking in several of our cases. In other cases, however, the lesions have disappeared rather slowly. In comparison with what might have been expected from a vigorous mercurial treatment, the results do not appear to be especially brilliant. In several of the cases the disease had not been controlled by mercury and responded very favorably to salvarsan. Indeed in one case (11) the patient had found it practically impossible to take mercury in spite of persistent attempts to administer the drug by mouth, inunctions and injections.

In the limited number of cases in which we have used salvarsan it has seemed to us that the lesions of the mucous membranes have yielded more quickly than those of the cutaneous surface. As has been said, the brilliant results in some cases have been only temporary and the relapses that have occurred have followed the improvement with discouraging rapidity. Our results are favorable enough to make us willing to continue our experiments with salvarsan in a larger and more varied number of cases than the ones that are here reported.

In conclusion we wish to thank Dr. George Henry Fox for much of the material and for the privilege of treating the cases at the Skin and Cancer Hospital; to Dr. Udo J. Wile for the spirochete examinations, and to Dr. Robert G. Reese for the ophthalmoscopic examinations.

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GENERAL CHEMICAL ASPECT OF INTERNAL SECRETION

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Anyone who has watched the recent development of knowledge concerning the internal secretions cannot help being impressed with the significance of the results in their bearing on the chemical processes of the body. Not only have we learned that certain of the ductless glands, which hitherto were considered of little importance for the welfare of the organism, manufacture specific internal secretions all-powerful for the maintenance of health, but it has also been shown that these secretions owe their power to definite chemical substances, produced through the metabolic activity of the gland cells. The ductless glands become, then, miniature laboratories charged with the function of elaborating specific chemical products which are needed for maintaining the normal rhythm of nutrition. Let these glands cease their functional activity and the lack of their specific products entails disease and possible death. On the other hand, increased activity may be attended with equally disturbing results.

THE ADRENALS

A study of the product formed in the adrenals, for example, shows us that we have here a powerful substance, which in undue amount acts as a violent poison (0.2 mg. per kilo of body weight being a lethal dose for rabbits when given by intravenous injection), and in smaller amount exerts a striking influence on blood-pressure. This blood-pressure-raising constituent of the adrenals is a well-defined chemical substance, crystalline, basic in character and readily prone to undergo oxidation. Chemically it is a ketone-like body, having the structure of methylaminoacetopyrocatechol, and it is now made synthetically. To-day we fully recognize that the unique action of the internal secretion from this particular gland is due mainly, if not solely, to epinephrin, which fulfils a specific function both in

health and in disease. Further, the marked vasoconstrictor action of this substance has led to its widespread use as a therapeutic agent, so that we now have the natural base and the synthetic product available for use in the treatment of diseased conditions. We understand, further, that the marked and sudden rise in blood-pressure that attends the introduction of epinephrin[1] is due to two causes, viz., an accelerated and more energetic heart's action, together with a contraction of the smaller arteries and arterioles, especially those of the skin and in the region of the splanchnics. Section of the nerves is without visible effect on the blood volume, thereby indicating that epinephrin acts directly on the periphery, on the blood-vessels themselves.

Especially significant are the observations recorded bearing on a comparison of the natural base and the synthetic product, sometimes termed "suprarenin." The epinephrin prepared from the gland substance is optically active with a specific rotation of —51°. In other words, it is a levo-rotary body. The synthetic base, on the other hand, is optically inactive. Moreover, it has been demonstrated that the latter body has a far less powerful physiologic action than the natural base. Cushny, from his experiments, has concluded that natural epinephrin acts twice as strongly on blood-pressure as the synthetic or racemic epinephrin, and presumably also on the other organs affected by this substance. From this, the assumption is fair that dextro-epinephrin is without action as a vaso-constrictor. Finally, Flächer[2] has succeeded in splitting the optically inactive, synthetic epinephrin into its two optically active halves, and finds that the synthetic dextro-epinephrin and the natural dextro-epinephrin are physiologically identical.

Broadly speaking, the important point to be emphasized here is that the animal body in its special laboratory, the cell, follows a well-defined line of action producing compounds that are optically active; compounds in which the asymmetric carbon atom is conspicuous. The illustration of epinephrin is in harmony with many of the metabolic processes of the body in which an asymmetric carbon atom is a determining factor in the physiologic character of the substance. Nature makes use of optically active products, while the corresponding products turned out by the hand of man, though identical structurally, exhibit differences in steroisomerism.

The internal secretion from the adrenals may be taken as illustrating a form of chemical control, by means of which many of the processes of the body are capable of being modified. Variations in blood-volume and blood-pressure are conspicuous causes of modification in glandular activity, and we may well conjecture that variations in the amount of epinephrin produced and thrown into the blood-current may be responsible for many quantitative changes in function. Aside from this, we see in the marked glycosuria produced by epinephrin an illustration of specific action, the significance of which cannot be overlooked. Subcutaneous administration of epinephrin is followed by the appearance of dextrose in the urine, coupled with a true condition of hyperglycemia. As Elliott[3] has pointed out, the striking characteristic of ephinephrin is its tendency to stimulate plain muscle and gland cells that are or have been in functional union with sympathetic nerve fibers. In harmony with this fact, Underhill and Closson[4] suggest that the glycosuria produced by epinephrin is due to a stimulation of the sympathetic nerves leading to the liver or to other storehouses of carbohydrate, causing these organs to throw out their stored-up material in the form of dextrose. At the same time there may be a diminished storage of dextrose owing to stimulation of the hepatic cells by the epinephrin, thus causing these cells to reject the dextrose brought to them. However this may be, small quantities of epinephrin injected lead to a marked glycosuria, and apparently by an action on the nervous system through the intermediation of the sympathetic.

We thus have suggested the picture of a miniature gland endowed with the function of producing a powerful chemical substance which may serve to control and modify many of the processes of the body. Its importance to the organism is fully apparent from the results that follow complete extirpation of the adrenals, while its physiologic strength is equally manifest from the effects of subcutaneous injections of epinephrin.

THYROIDS AND PARATHYROIDS

Equally striking are the data that can be presented in connection with the thyroids and parathyroids. Ignoring all matters of detail, there stands out prominently one fundamental fact that in these tissues there is produced a peculiar chemical complex—characterized by containing iodin—known as iodothyrin. The chemical nature of this substance is not as fully understood as that of epinephrin, but it is apparently a cleavage product of a still larger protein complex. However this may be, the active principle is endowed with marked physiologic power. Extirpation of the thyroid tissues is followed by profound changes leading to myxedema, tetany, retardation of skeletal growth, etc., conditions which can be prevented or obviated in greater or less degree by administration of thyroidal tissue. Similarly, diseases which are associated with functional disturbance of the thyroids can be made to show great improvement by feeding sheep's thyroids or by administering iodothyrin. There are many interesting facts that might be cited regarding the relative significance of the thyroids and parathyroids, but the point to be emphasized here is that the thyroidal tissues manufacture one or more specific chemical substances which are essential for normal growth and development; substances which either directly or indirectly control certain nutritive processes on which good health and life itself depends.

Physiologic experiment shows us that iodothyrin fed to healthy animals tends to accelerate in small degree nitrogen metabolism. It likewise causes an increased excretion of phosphorus as phosphoric acid through the urine and also appears to stimulate the combustion of fatty material. There is thus apparent a certain ground for the assumption that normally the thyroid glands are essential factors in the regulation of body metabolism. Further, experiments seem to show that if all thyroidal tissue is removed from a healthy animal there is a diminished utilization of dextrose by the body, dextrose appearing in the urine if this sugar is injected in any quantity, the inference being that the thyroids normally influence the utilization of sugar in the body.

Again, in the pituitary there is accumulating evidence that the pars intermedia of this body produces, in the

1. In the original text of this article the term "adrenalin" was used, but in a general sense, and not with reference to any particular firm's make.
2. Flächer: Ztschr. f. physiol. Chem., lviii, 189.
3. Elliott: Jour. Physiol., 1905, xxxii, 401.
4. Underhill and Closson: Am. Jour. Physiol., 1906, xvii, 42.

words of Professor Schäfer,[5] "a 'colloid' material which contains active principles or hormones acting on the heart, blood-vessels and kidneys. Probably there are several such hormones acting on the blood-vessels and kidneys independently, and also acting antagonistically; so that according to circumstances either a rise or a fall of blood-pressure, an increased or a diminished secretion of urine may be produced, and the effects on the kidneys may be independent of those on the blood-vessels."

CORRELATION OF INTERNAL SECRETIONS

These brief statements and suggestions may be taken as emphasizing the specific action of definite chemical substances which constitute the basis of certain internal secretions. It is becoming apparent, further, that these ductless glands in their physiologic activity also exercise a regulating action on each other; that they are in some manner correlated. Clinicians have frequently called attention to the fact that a disturbance or impairment of function of one ductless gland quite commonly leads to a disturbance in the functional activity of some other ductless gland. Evidence at present available, for example, tends to indicate that the pancreas and the thyroid mutually retard the action of each other. The same is believed to be true of the pancreas and the chromaffin system, while the thyroid and the chromaffin system mutually increase the action of one another.[6] As to the explanation of these phenomena we can at present only conjecture, but there is a strong suggestion that chemical reactions are involved here, the full meaning of which can hardly be hoped for until we know more concerning the chemical composition of the secretion concerned.

My object, however, in referring to these unsettled questions is merely to emphasize the many ways in which these internal secretions probably act in the body, and the consequent importance of the chemical regulation they exercise in controlling metabolic processes. But it is to be remembered that in touching on the ductless glands we are only at the threshold of the subject. The pioneer work of Baumann in 1895 with the thyroid gland, accompanied by the discovery of iodothyrin, led to a fuller realization of the significance of internal secretion in general. Physiologists soon came to appreciate the far-reaching influence of the continual exchange of matter between all the living cells of the organism and the surrounding blood, lymph and tissue juices. In other words, there has come about a fuller realization of the fact that, broadly speaking, internal secretions may be considered as common to every group of specialized cells and that their chemical nature and physiologic action merit consideration. The ductless glands serve to illustrate special forms of internal secretion, the active substances of which are of the utmost importance to the organism. To-day, however, we recognize that the cells of every organ and tissue of the body are continually forming intermediate products and end-products, which are absorbed by blood and lymph, and which may serve as stimulants to other tissue cells, or in some manner exercise an influence on the metabolic processes of other organs or tissues. These forms of internal secretion are, many of them at least, of great importance, and merit as much consideration as the secretions that originate in the ductless glands.

Here, to my mind, lies the fundamental point to be emphasized in considering the chemical aspects of internal secretion. Chemical correlation, chemical control, stand out with startling distinctness, and this in a general way is equally true of every active gland and tissue of the body. It is as true of a gland like the pancreas, which has for one of its functions the manufacture of a specific digestive fluid, as it is of the thyroid, which apparently produces only an internal secretion. Even the excretory organs, like the kidneys, which seemingly are concerned solely in draining from the blood certain so-called waste-products, are plainly susceptible to the physiologic action of some of the substances they elaborate; the epithelial cells of the glomeruli and tubuli, for example, being noticeably sensitive to the action of purins, uric acid, etc.

Look also at the process of respiration, in which the waste product carbon dioxid, resulting from the metabolism of every tisssue cell, acts as a stimulant to the mechanism in the central nervous system, by which regulation of the respiratory movements is accomplished. Equally suggestive, though more specific in character, are the other "hormones" so thoroughly studied by Bayliss and Starling, emphasizing as they do the important part played by many internal secretions emanating from particular groups of cells in starting or controlling processes taking place in other glands or tissues. In the secretion of the pancreatic juice, the hypothetic nerve-control so long sought for gives place to a chemical control through the prosecretin manufactured in the epithelial cells of the upper part of the intestine. This substance, under the influence of the hydrochloric acid of the gastric juice, undergoes conversion into secretin, and then brought to the pancreas by the blood sets up a voluminous secretion of pancreatic juice. Again, in the intestine we find a specific substance elaborated, enterokinase, which, reacting with the trypsinogen of the pancreatic secretion, converts it into an active proteolytic enzyme. In the mammary gland we have another equally striking suggestion of chemical stimulation resulting from a substance or substances produced in a remote structure, by which the process of lactation is made possible. As the experiments of Claypon and Starling[7] indicate, the growth of the mammary glands during pregnancy is apparently due to the action of a specific chemical stimulus which has its origin in the fertilized ovum. The amount of this substance increases with the growth of the fetus and is therefore largest during the latter half of pregnancy. Lactation is supposed to be due to the removal of this particular substance, or hormone, which is therefore to be regarded as exerting an inhibitory influence on the mammary gland cells, hindering their secretory activity and furthering their growth. To quote more fully from Claypon and Starling:

> During sexual life, therefore, the ovaries are continually producing a substance which exerts an influence on both glands and uterus. With the occurrence of conception there is at once a great growth of what we may call germinal material. With the growth of the fertilized ovum the amount of hormone produced in the ovum must also increase in proportion. In the early stages of pregnancy the chief source of this hormone may perhaps be located in the chorionic villi, but with the growth of the body of the fetus this latter must take a preponderating share in the preparation of the hormone. We have no reason to suppose that fetal elements of the placenta entirely lose this function of the germinal cells, but the negative results of injection of placentæ in our experiments show that it is impossible to ascribe to the placenta, as is done by Halban, a preponderating part in the preparation of this hormone.

5. Schäfer: Croonian Lecture, 1909. Proc. Roy. Soc. B., xxxi, 442.
6. King: Jour. Exper. Med., xi, 666.
7. Claypon and Starling: Proc. Roy. Soc., B., lxxvii, 505.

CONCLUSION

Facts such as these, like the data gradually collecting regarding the internal secretions from the ductless glands, emphasize the part which specific chemical products play in the regulation of body metabolism; they serve to call attention to the importance and the general application of the methods of chemical control which the organism makes use of in regulating its affairs. Further, products of tissue metabolism in general, whether classified as intermediate or as end-products, in their passage through the circulation have abundant opportunity to exercise an influence on the activity of other tissues or organs. They are true internal secretions, as much so as the more specific products which are apparently formed for some special purpose, and as such they illustrate the truth of the general hypothesis that the products of all tissue cells are efficacious in greater or less degree as forms of chemical control in the processes of the body.

THE INTERNAL SECRETION OF THE PANCREAS

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Ever since the early experiments which culminated in those of von Mering and Minkowski, showing that removal of the pancreas causes the most profound and extraordinary disturbances in the general metabolism, and more especially in the metabolism of carbohydrates, the search for an explanation has been most active. Notwithstanding the fact that the literature on this subject is enormous and that many side-lights have been cast on the problem, it is still impossible for us to say with any certainty just what we have done in extirpating the pancreas to cause all these changes, and the further the matter is studied the more complex seem the possible relations which exist, not only between this organ and the tissues which are especially concerned in the assimilation and metabolism of the foodstuffs of the body, but also the relations which it bears to the nervous system and to other organs or groups of organs which are important to the economy in a somewhat similar way.

The pancreas has a complicated structure and it seems clear that its functions are manifold, for on the one hand by its secretions, which are poured into the intestine, it plays an extremely prominent rôle in the preparation of all classes of food for absorption, while on the other hand there still remain the functions which we can see so obscurely in their relation to general metabolism and which are apparently quite independent of this external or intestinal secretion. The nature of these latter functions must form our subject for discussion to the exclusion of the former.

Nearly everyone in these days of ferments thinks of this influence of the pancreas as being carried out by the aid of some chemical material which is secreted into the blood-stream, and only Pflüger has maintained that there is no such internal secretion, but that the results of extirpation are due to injuries to the nervous system at one point or other. The idea of a chemical internal secretion is suggested and supported by the observations on other organs whose influence over metabolism is great, and for some of which an extract can be obtained which will practically take the place of the organ if it be destroyed. Such direct proof can hardly be brought for the pancreas, but still the evidence which I shall recount is so strong that we can hardly escape from the conclusion that there is an internal secretion even though we may not say exactly how and where it acts.

The simplest case in which we can study the functions of an organ is perhaps that in which these functions are abolished. There are many conditions in which we suspect an insufficiency of the pancreas and many others in which similar symptoms are due to other things, and although these two throw light on the function of the pancreas, it is perhaps best to base our considerations chiefly on the results of extirpation of the gland. This is promptly followed in all animals by the appearance in the circulating blood of an excessive amount of sugar, much of which passes into the urine, causing glycosuria. The organs lose their power to store up glycogen, there is a very great increase in the breaking down of proteins and of fats, the animal becomes emaciated and in some cases, owing probably to the abnormal decomposition of the fat, there appear in the blood and urine various acid substances, beta-oxybutyric and diacetic acids and acetone, which are very poisonous and often cause death in human beings the subject of diabetes by producing the so-called diabetic coma.

All of this is obviated by the presence of the pancreas, and not necessarily the whole pancreas; a portion of it is sufficient to maintain the animal in health, as was shown by Minkowski, who transplanted a part, with its blood-vessels, into the abdominal wall and removed the rest.

This being so, the question at once arises as to what part of the pancreas is responsible for this function and what is the mechanism of its action. I shall pass over here with but brief mention the experiments of Pflüger in which he contends that the separation of the pancreas from the duodenum and the tearing of nerves is responsible for glycosuria, for, as we shall see, much greater injury can be done with no such effect. The whole subject of the relation of the pancreas from an anatomic point of view, and especially of the relation of the islands of Langerhans to glycosuria and diabetes, has been so well reviewed by Sauerbeck that there is but little to add to what he brings forward. Briefly, the dispute hangs on whether the islands of Langerhans alone possess this all-important function or whether the pancreatic glandular substance in general is concerned; and it is well known that basing their opinions on pathologic cases, Opie, Ssobolew and many others hold to the view that the prevention of glycosuria, etc., is a specific function of the islands, while Hansemann, Herxheimer and others find the evidence for this inclusive and maintain that diabetes is due in each case to an inadequate functioning of the whole pancreas. The theory as to the special relation of the islands of Langerhans to diabetes was suggested to Opie by the discovery of a case of diabetes mellitus in which while the pancreas in general was practically normal the great majority of the islands of Langerhans had undergone a hyaline metamorphosis and were thus thrown out of function. On the other hand, it is possible to ligate the pancreatic ducts and thus to cause the atrophy of all the acini of the gland without affecting the islands of Langerhans, which have no connection with the ducts, and in this condition no glycosuria results. Even clearer are the results of an experiment which I described in a recent publication in which a portion of the pancreas was ligated off from the rest and allowed to undergo atrophy for a year. At the end of that time its place in the

mesentery, marked out by a black ligature, showed only a thin film of opalescent tissue composed practically entirely of islands of Langerhans. At this time the remainder of the pancreas was extirpated and after a transient glycosuria the dog recovered completely and was able to take by mouth nearly 40 gm. of glucose at one dose without showing any glycosuria. The subsequent extirpation of the film of tissue which had been left behind caused the development of the most intense and persistent glycosuria. The inference seems justified that the islands of Langerhans alone are able to maintain carbohydrate metabolism.

Interesting results which bear on the nature of the pancreatic function are brought forward by Forschbach, who produced the condition of parabiosis in two animals. The effect of the extirpation of the pancreas in one was annulled by its connection with the other. Since this was a vascular connection only, nervous influences could be ruled out and the symptoms must have been prevented by some substance passing from one animal to the other. In spite of this apparently conclusive evidence of the existence of some internal secretion of the pancreas we have not been able to demonstrate it satisfactorily by positive methods as in the case of the thyroid, although Zuelzer claims to be able with a deproteinized extract of the pancreas to annul the glycosuria which follows pancreatectomy. Indeed, we are not even informed as to where such a secretion must exert its function.

It has been shown that in most cases after extirpation of the pancreas, the liver and other normal depots are extremely poor in glycogen, and Ivar Bang makes the statement that the function of the internal secretion of the pancreas is to control the storage of sugar in this form—without it there must be an excess of soluble sugar in the blood and consequently glycosuria. A moment's reflection will make clear, however, that this could not in itself explain the phenomena of pancreatic diabetes, for when the pancreas is extirpated in hungering and glycogen-free animals there suddenly appears, without the intake of any carbohydrates, a great excess of circulatory sugar and glycosuria. The disturbance is far deeper than the mere inability to polymerize and store sugar. There is actually a new formation of sugar from proteins and from fats; even the tissues are consumed, and that portion of their molecules which will form sugar is set free as such in the circulating blood. Nor can we find a satisfactory explanation in disturbances in the activity of diastatic ferments which set free the sugar from its polymerized form. It seems quite possible that the pancreas may control this in some way, allowing only so much as is necessary to be turned into the circulation, so that when its influence is lost, mobilization of the sugar is too rapid. In this sense it is actually found (Zuelzer, Falta and others) that the addition of pancreatic extract to adrenalin will prevent the production of glycosuria by that substance, and that the stimulation of the pancreas by pilocarpin will in some cases also prevent the production of adrenalin[1] glycosuria. Still it is obvious as before that this cannot be the reason for the changes in pancreas diabetes, for as we have said, they appear in hungering animals in which there is no glycogen to saccharify so that the injury must be still deeper.

When sugar is carried to the tissues by the blood and set free in the tissues it is oxidized to furnish warmth and energy, but it appears that this oxidation is not easy unless the sugar be first split into somewhat simpler substances, a process which may be spoken of as glycolysis and conceived of as being carried out by a glycolytic ferment. The most earnest efforts have been made to determine the existence of such ferments in the body and if possible to ascertain the relation they bear to the pancreas. The results have been roughly as follows:

Lepine and others have declared the existence of glycolytic ferments in all tissues—not merely in the pancreatic secretion—and have regarded them as the universal agents promoting the oxidation of sugars. Stoklasa and his pupils find in all organs a ferment which decomposes carbohydrates with the formation of alcohol and carbon dioxid, and Feinschmidt, too, speaks of glycolysis as an independent process not even necessarily bound to the living cell. On the other hand attention has been called more recently to the possible part played by the pancreas in this process. Schade thinks of the whole process of decomposition of sugar as probably a catalytic process for which there are many analogies, and suggests that the internal secretion of the pancreas may be a catalyzer. Rahel Hirsch has found that there is a "proferment" in the pancreas which aids glycolysis in the liver; and about the same time Cohnheim announced in several papers that he had demonstrated that an extract of the pancreas was actually necessary to glycolysis in the muscles. By studying a mixture of glucose and muscle juice he showed that very little glycolysis (evidenced by the disappearance of the sugar) occurred, but that if an extract of pancreas were added the sugar disappeared very rapidly. This extract, he states, can be boiled and is soluble in alcohol; it is therefore not a ferment, but behaves as an activator to the enzymes normally present in the muscle. When added in excess it inhibits the action of the enzymes, possibly by deviating it from its relations with the sugar. This forms a very tempting explanation of the hyperglycemia in pancreatic diabetes, and it is just at this point that we feel it most likely that the internal secretion of the pancreas should act. Arnheim, Rosenbaum, Hall, De Witt and others have supported him, but Claus and Embden have repeated his experiments as exactly as they could and have found no effect from the pancreatic extract on the disappearance of sugar. With all possible modifications they have repeated their work, but the result is the same and they offer no explanation unless it be the obvious possibility that bacteria may have played a part, an objection which may be made to all these complicated experiments in which nutritive solutions must be kept for hours in a thermostat. Cohnheim replies that their results depend on neglect of the inhibition by excess produced by the activator or perhaps on the use of salt solution in their extracts, but admits that unless special care be taken to get the muscle free from blood its juices alone are active to a certain degree. All these experiments were performed with admixture of antiseptics, and Stoklasa rather hotly objects that this removes them far from physiologic conditions. It seems true that they would be crude and not entirely satisfactory even if the results were in unison, but with such contradictions among competent workers it is difficult to estimate precisely the standing of the pancreatic activator. In these experiments, further, no attention is paid to the end-results of the reaction—the first splitting of the sugar which renders it incapable of reducing copper is as far as they go.

If, however, we could feel sure that without the pancreatic secretion no glycolysis or oxidation of sugar

1. In this article the term "adrenalin" is used in quoting the work of European and American authors without reference to any particular firm's make.

could occur, would that explain all the features of pancreatic diabetes? It is known that the general oxidation is maintained at about the normal level and it seems evident that the lack of carbohydrate metabolism merely requires the intensification of protein and fat metabolism with the results mentioned above.

From all this it appears that the direct demonstration of the nature and mechanism of the influence of the pancreas on metabolism is in no very satisfactory state. Its extirpation produces profound disturbances which are far more intense than can be produced in any other way, while we are as yet practically unable to annul these effects with any extract from the gland.

That it does not act quite independently of the other organs of internal secretion is evident, however, from a whole series of observations on the effects of hypersecretion or hyposecretion of these organs on the supposed field of activity of the pancreas. In nearly every instance the occurrence or non-occurrence of glycosuria has been adopted as the test and a complicated network of effects has been woven about this test. In itself glycosuria can be produced by a great variety of measures, some of which act by way of the nervous system; others, such as cantharidin, the salts of many metals and phloridzin, seem so to affect the kidneys that they become permeable for sugar and allow of a glycosuria even when there is little or no hyperglycemia. This latter group we may set aside at once, but the others seem to bear a closer relation to the activities of the pancreas itself, or, at any rate, to the structures which it influences. Thus the diabetic puncture of Claude Bernard which consists in puncturing a certain point in the floor of the fourth ventricle of the brain, the stimulation of sensory nerves which acts reflexly, the direct stimulation of the splanchnic sympathetics or their chemical stimulation by asphyxia or asphyxiating agents such as ether, morphin, etc., or by drugs such as caffein, diuretin, etc., all produce glycosuria with hyperglycemia. Some of them act on the more sensitive central nervous elements, while others, such as caffein and adrenalin can stimulate the peripheral terminations of the nerves. In accordance with this the effects of some are annulled by cutting the splanchnics, while others are not.

Nishi, in studying diuretin glycosuria, cut the sympathetic nerves one after another and found that the glycosuria depended on the transmission of impulses, not to the liver, but to the adrenals; hence he thinks that the action of the sympathetics is through the mechanism of epinephrin secretion. Extirpation of the adrenals removes their influence in the way of producing glycosuria, and as Zuelzer, Dohrn and Marx, Frouin and Mayer have shown, this operation annuls the glycosuric effect even of extirpation of the pancreas. It is evident then that the adrenals are extremely important as a link in the production of glycosuria by any of these insults to the nervous system. It is difficult to conceive of the exact mechanism of its action, but we have the following evidence. Injections of adrenalin produce hyperglycemia and glycosuria and greatly intensify the glycosuria already existing in depancreatized dogs. Efforts have been made to explain this as a direct action on the pancreas (Herter, Edmunds and others), and Edmunds regards it as not specific but merely a vasoconstrictor action which incapacitates the pancreas by rendering it anemic; but this position seems to be rendered untenable by the observations of Eppinger, Falta and Rudinger and others that in the absence of the pancreas the glycosuria is intensified by adrenalin. On the other hand Zuelzer, Embden and others have found that when it is added to the blood used in perfusing an excised liver it causes the liver to liberate sugar into the hepatic vein in far greater amount than when normal blood is used. No observations seem to have been made on the isolated action of the adrenal on the muscles with regard to the liberation of sugar. Taking all these things into account it seems that the weight of evidence is in favor of the idea that the adrenal secretion is the instrument of the nervous effects on the sugar depots of the body; that it by itself can in some way stir up the tissues to set free sugar into the circulation or mobilize the carbohydrate. The exact nature of this process, which seems to be a chemical one, is not clear to us. The experiments which are made by injecting adrenalin are very violent and crude and the dose must be enormous as compared with the amount of adrenal secretion normally poured into the veins. Ritzman has found that if one use a sufficiently dilute solution (1 to 2,000,000) it can be allowed to flow into the vein at the rate of 2 c.c. per minute and never produce glycosuria. If a more concentrated solution be used or this solution run in faster glycosuria does result. Evidently the pancreas is able to overcome and oxidize any excess of sugar set free by so small an amount, but is overtaxed by the results of the larger dose, and this gives us a hint as to the extraordinarily delicate balance maintained by the organs with regard to the circulating sugar. If, now, as Zuelzer has shown, we introduce the lymph from the thoracic duct, which may be supposed to contain much of the pancreatic secretion, with the adrenalin the balance is restored and no glycosuria results. One may perhaps regard the whole picture as being made up, not of the antagonism of two organs, but rather of the exercise of two separate functions—metabolism of sugar and glycolysis—the balance between which it is not easy to maintain in such rough experiments, so that when sugar mobilization predominates, glycosuria ensues.

Another phase of the question is brought to light when we consider the relation of the thyroid to these functions. The introduction of an excess of the thyroid secretion often leads to glycosuria. This is the explanation generally given of the glycosuria in Graves' disease. On the contrary, the extirpation of the thyroid (preserving the parathyroid intact) has quite the opposite effect. Then it is difficult to produce alimentary glycosuria (McCurdy, Falta, and others); the injection of adrenalin no longer produces glycosuria in the strength of solution formerly used (R. Hirsch, Falta, and others); and the glycosuria following the administration of ether is no longer obtainable (Grey and de Sautelle). When tetany is produced by simultaneous removal of the parathyroids the results are quite different, and the glycosuria is even accentuated (Falta). Even the glycosuria following pancreatectomy is diminished by extirpation of the thyroid.

In all these experiments, too, the criterion by which the results have been judged is the occurrence of glycosuria, but it seems that a deeper insight into the nature of the processes might have been gained if they had been considered with regard rather to the steps which precede glycosuria.

Thus King, who carried out his work in my division of the Hunterian Laboratory, found that the addition of thyroid juice to the Cohnheim mixture of pancreatic and muscle juice with sugar, markedly inhibited the glycolysis. This seems to give a simple explanation of the significance of the thyroid in this connection, and we have the balance of the adrenal function of mobilizing sugar and the pancreatic function of glycolysis

affected by a chemical substance. It is as though, as Schade suggests, the glycolytic ferment were a sort of catalyzer which might be thought of as affected by the thyroid secretion as catalase may be affected by cyanids. This seems to me much simpler than the hypothesis that the activity of the pancreas itself is in some way inhibited by the activity of the thyroid.

We know so little about the action of the hypophysis that it is difficult to discuss it here; but it may be recalled that glycosuria sometimes occurs in disease of the hypophysis, and Borchardt has been able to produce it by injections of hypophyseal extract.

Eppinger, Falta, and Rudinger have made a great many of these experiments, and have added much to the knowledge of the interrelation of the organs of internal secretion. These interrelations they attempt to express in the form of a scheme in which the thyroid, pancreas, and chromaffin system are shown in their relation to one another. In this triangle the thyroid and pancreas are represented as mutually inhibiting one another's activities; so, too, the pancreas and chromaffin system; while the thyroid and chromaffin system promote the activities of one another. On this basis they can explain, without too much forcing, all or nearly all of the phenomena. It must be said, however, that this seems to be merely stating in rather vague phraseology the results, of which we know so little, of the mechanism, and there can be no doubt, in spite of the possible value of this scheme in suggesting further experiments, that a satisfactory explanation can rest only on definite chemical studies.

To me it seems more probable that the chromaffin system is concerned, not with the activity of the pancreas, but with the mobilization of sugar; that the pancreas is similarly concerned, not with inhibiting the activity of the adrenals, but with causing the glycolysis of the free sugar; while the secretion of the thyroid, if in excess, interferes with this glycolytic action of the pancreatic ferment. How far the other organs of internal secretion are concerned in this usually smoothly working mechanism remains to be discovered.

The literature on any other internal secretion of the pancreas is relatively meager, and most investigators take it for granted that the appearance of fat in the stools in depancreatized animals is merely the effect of the loss of the fat-splitting ferment of the external secretion. The lipemia which sometimes occurs even in human cases of diabetes can not be explained thus, however, and Lombroso has shown that more fat appears in the stools than is taken in with the food, and that it has different characters and a higher melting point than that fed. It must be reexcreted into the intestine. The ligation of the pancreatic duct seems not to produce any such extreme disturbance in the fat metabolism, and on that account the suggestion is made that there may be an internal secretion governing this. Further investigations of this point are necessary.

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Fear.—Fear as an emotion is based on the instinct fundamental to all organisms, that of self-preservation, and so serves an important purpose in safeguarding the individual. In the presence of danger the emotion of fear spurs one on either to flight or to resistance against the threatened danger. When one knows that his life is threatened, his consciously felt emotion of fear is easily explained as a result of that danger. Man's reasoned or rational fears are the fear of death, the fear of pain, and the dread of disesteem. "To the fear of death are ultimately referable all emotions of fear, whether conscious or not; and pain is a motive for dread even when it is not mortal."—W. K. Walker, in *Pennsylvania Medical Journal.*

PRESENT KNOWLEDGE OF THYROID FUNCTION

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At the present time we know that the thyroid gland fills a very important function in the animal body. We do not know the precise details as to how this function is fulfilled, and because of our lack of knowledge on this point we may more readily turn the discussion to the consideration of theories than is the case in regard to the other tissues which have been more thoroughly studied and concerning which we have more definite information.

One of these theories is deserving of recognition merely for the purpose of rejection. I refer to the ideas sponsored by Blum, Notkin and others—the so-called neutralization theory. These investigators have stated that the function of the thyroid is to detoxicate certain metabolic products which arise in the animal body, and this action they conceive to take place in the thyroid itself and to be accomplished by the union of iodin with the metabolic product. By such a means the toxic, deleterious effects of these products are prevented, and one of the strongest arguments in support of their theory has been the experiment of Blum who showed that if the secretion from the thyroid gland was artificially combined with iodin, it no longer had characteristic thyroid effects. The more completely these proteins are saturated with iodin the less harmful they are.

Such being the case, it follows that if the extracts of the gland contain little iodin, we should expect very active toxic effects from it since the metabolic toxins have been only partially rendered innocuous. Second, it must follow that if the action takes place only within the thyroid gland, removal of the thyroid must render it impossible for thyroid function to be subserved in such an animal. We know that both of these propositions are incorrect. We know that if thyroid protein is administered to animals and patients in whom the gland is entirely lacking, or pathologically so damaged as to be incapable of function, it causes such physiologic changes as to make the animal in most respects normal. The proper functioning of the extract does not require the presence of the gland.

It must be evident, therefore, that the physiologic action of this secretion is exerted on other tissues than the thyroid. We know, likewise, that thyroids containing little iodin show comparatively little of the characteristic thyroid effect, while those containing much iodin are much more active physiologically. There is absolutely no reason whatsoever for supposing that the artificial addition of iodin to the thyroid protein *in vitro* is in any way comparable to the action which is accomplished by the epithelial cell of the gland. No artificially prepared iodin-containing substance has an effect similar to that of thyroid secretion, or can be used as a substitute for thyroid secretion. Both of these conclusions are well established and they are sufficient to controvert successfully the belief that the thyroid function is entirely accomplished within the gland itself. The function of the gland is to produce a substance which is absorbed into the circulating fluids of the body to act on some of the distant tissues, and it probably is not of benefit to the animal for physiologic purposes except as reserve material while it remains in the gland. Except for the fact that the gland does not have a definite duct,

there is no reason why it should be classed with the glands of internal secretion.

We know that the physiologically active portion of the gland secretion is a protein substance containing iodin in a specific organic combination. The iodin is probably combined with some aromatic group in the molecule. Precisely what its structure is, we do not know. No substance having similar properties has ever been prepared in the laboratory. It does not seem probable that there is only one kind of protein substance which contains iodin. There is a very wide variation in the size of the normal thyroid gland and likewise in the iodin content of the protein taken from glands of individuals who have no apparent thyroid abnormality, as regards either structure or function.

If one attempts to separate the proteins from the thyroid gland into various groups, one finds it possible to obtain a number of different fractions, all of which are true proteins and all of which contain iodin, though the iodin content varies widely. I have never been able to obtain a definite protein or proteose from the thyroid absolutely free of iodin. This is contrary to the findings of many other investigators. The protein which in my experience answers all the physiologic requirements is readily prepared from normal thyroid glands by extracting the pulverized tissue with physiologic salt solution, filtering through gauze and paper pulp and from this clear filtrate obtaining a precipitate by acidifying with acetic acid and heating to 44 C. This protein corresponds to the thyroglobulin described by Oswald. From the clear filtrate other proteins and proteoses may be separated by heating to a higher temperature, and by the addition of various salts. As previously stated, all these protein fragments contain iodin, but the protein first separated contains a much larger percentage of iodin than any of the others. In extracts of beef and pig glands, acetic acid gives an abundant precipitate before heating, but in human and sheep glands, the heating is necessary to cause a separation of protein.

It seems probable that the thyroid function is dependent on the presence of iodin in the molecule and most investigators are agreed that the physiologic activity of the secretion is at least roughly proportional to the iodin content. I believe that we do not yet have convincing evidence that iodin-free thyroid has characteristic function. Hunt has devised a quantitative method for measuring thyroid activity depending on the protection of mice to aceto-nitrile poisoning. In his hands this method has yielded most remarkable results. In my judgment the iodin value is quite as accurate and much simpler in application.

We have yet no evidence to show that differing qualitative effects are produced by thyroid from different types of glands with different iodin values. The normal thyroid contains alveoli filled with the colloid substance which is largely made up of the particular globulin having characteristic thyroid activity. The quantity of this particular protein varies widely in different glands. No structure in the body shows such marked changes in its histologic characteristics as the thyroid.

The facilities for the absorption of this material are apparently not such as to provide for taking up a large quantity in a short space of time, and the question arises as to how large an amount of this material must enter the circulation in a unit of time in order to satisfactorily carry on the thyroid function. As far as we can judge from experimental conditions, the sensitiveness of different animals and different individuals to thyroid shows wide variations. In some instances I have produced noticeable effect in a human adult by the hypodermic administration of 5 mg. of protein prepared as above from normal glands containing between 0.32 and 0.36 mg. of iodin per gram of fresh gland. In other cases, 0.01 gm. has shown decided activity, while 0.06 gm. usually shows quite pronounced effects even in normal individuals. In several cases of cretinism I have found 0.01 gm. of this protein has been effective in completely ameliorating symptoms. In myxedema, 0.03 gm. of these proteins taken each day has kept the symptoms completely under control. On the other hand, I have had individuals taking 0.5 gm. daily for considerable periods without producing any other effect, as far as could be determined, than that of general well-being. There is then a very wide variation between the limits of the amount required to maintain health and the amount which an individual may take without causing marked physiologic disturbance. Furthermore, if so small a quantity of protein as that mentioned is sufficient to satisfy the needs of the average individual for thyroid function, we need not suppose that the venous blood or the lymph coming from a thyroid should contain very much of this secretion. Three-hundredths of a gram of this protein put into the blood which flows through a normal gland in one day (and this has been estimated by Kraus to be fourteen times the total volume of blood in the body) would not give an appreciable addition in iodin. It furthermore indicates what a large factor of safety there is in a normal thyroid gland. Such a gland would average about 20 gm. in weight from which there might be obtained 3 gm. of the protein above used or one hundred times the quantity sufficient to fill the demand for this secretion in the case of a myxedematous patient.

Since the isolation of iodothyrin by Baumann it has been believed that the thyroid function might be served by the use of this small fragment of the protein, but it is my belief that the thyroid function is not in all respects to be filled by this fragment. The physiologic as well as the most effective method of administering thyroid secretion to an animal is to give the same biologic sort of secretion by hypodermic injection. I have in many instances been unable to get the same quality of effect or to produce the same change in the metabolism of an animal by administering thyroid by mouth as could be obtained when giving it directly into the circulation. We do not know on what tissue or set of tissues the thyroid secretion acts. It does not seem to me probable that it is to be compared to the exclusive action of secretin, but rather that most of the tissues in the body are in some way affected by this substance, perhaps in part through the medium of the nervous system. We know that it is connected in some way with the function of oxidation in the body. By the administration of thyroid to a cretin or patient with myxedema it is possible to increase the absorption of oxygen from 20 to 75 per cent. There is a corresponding increase in the amount of heat given off from the body. The removal of the thyroid in an animal will cause diminution in the absorption of oxygen which may be again increased by thyroid feeding. Administration of thyroid to a normal animal will cause an increase of from 10 to 40 per cent. in the oxygen demand. In comparing myxedema with Graves' disease, we find a very marked contrast in this respect. With the former the absorption of oxygen, the food requirement, the energy exchange is often not more than 40 to 50 per cent. of the normal, while in the latter we see these factors very much increased, occasionally to nearly double the normal. We are again confronted by our

lack of knowledge when we find that these changes do not always follow thyroid administration.

On the same diet the nitrogen excretion is less when the animal is deprived of the thyroid and markedly increased when thyroid is again given. Such a result is probably merely secondary to the question of oxidation in the different tissues. We do not know why this increased oxidation and nitrogen loss follows administration of thyroid, but Schryver has found that the liver of animals that have been fed on thyroid show during the first twenty-four hours more rapid autolysis than controls. Wells has found that the addition of thyroid to the autolyzing liver has no effect in this respect, but such an experiment is not exactly comparable to Schryver's and does not controvert the accuracy of his results. It seems probable some change has been effected in the liver cell making it more susceptible to autolytic destruction. But a point of great interest is that if the animal is fed for some time on thyroid the rapid autolysis is not seen. A somewhat similar phenomenon is seen in some cases of thyroid feeding to obese persons. A small quantity of thyroid will in the beginning cause a comparatively rapid loss in weight from 10 to 30 pounds, but then a refractory period is reached when a large quantity will cause little or no changes. The character of the nitrogenous metabolism, that is, the distribution of various nitrogenous constituents in the urine, is not markedly different in cases of myxedema and Graves' disease, but I have recently observed instances in which toxic symptoms of somewhat varying type have been associated with high ammonia and high rest nitrogen fractions in the urine and in which complete symptomatic relief and normal nitrogen divisions in the urine followed the administration of thyroid. It is not possible to say that these individuals were suffering primarily from a lack of thyroid function since there was no other evidence than the facts which I have stated.

The nitrogen requirement to maintain equilibrium is increased by the addition of thyroid. It has been observed that the protein-sparing power of carbohydrate is less rapidly manifested in the metabolism experiments on animals being fed with thyroid. We may compare such experiments to conditions found in patients suffering from exophthalmic goiter. We find during certain of the acute phases of the disease that the nitrogen requirements are very high indeed. I have seen a patient in the toxic phases lose weight and show a marked nitrogen loss when she was receiving a diet so rich in carbohydrate that she had an alimentary glycosuria; and with a nitrogen intake of 22 gm. the nitrogen loss at the same time was 4.5 gm. It is not possible to feed such persons a sufficient quantity of any form of diet to entirely prevent nitrogen loss. Such patients may show an elevation of temperature, 1 to 1.5 degrees. They are usually very nervous, although physically weak, and it is evident that we are not dealing here with physiologic conditions in metabolism in which the usual procedures for preventing nitrogen loss are available, but rather that the excessive quantity of thyroid secretion has so altered the metabolic processes that we have a toxic destruction corresponding to what takes place in some of the infections. Such a phase of the disease does not usually last long.

The thyroid function is in some way concerned with carbohydrate metabolism. Repeated observations have been made showing that the administration of thyroid renders the assimilation or retention of carbohydrate more difficult. Certain facts in regard to this matter have been observed clinically. In severe Graves' disease an alimentary glycosuria is not rare and occasionally a severe and rapidly fatal diabetes develops after this disease when all the other symptoms have been relieved or have abated. In myxedema, on the contrary, the limits of assimilation for carbohydrate are much above those observed normally. In relation to this matter, I will mention an instance of severe fatal diabetes occurring in a woman of 53 after recovery from Graves' disease. In this case, the administration of thyroid to the patient caused a marked increase amounting to 90 per cent. in the quantity of sugar excreted as well as marked increase in the excretion of diacetic acid, oxybutyric acid and acetone. The patient at this time had no symptoms of Graves' disease. There was no reason to suppose that the diabetes was in any way concerned with the hyperfunction of the patient's own gland.

One can scarcely discuss this question without referring to the theories which have been advanced by Falta and his co-workers. The supposed interrelations between the thyroid, pancreas and adrenal, which they have worked out, are suggestive and possibly point to a future explanation of some of these matters. The experimental results which they have used thus far to substantiate their theory are only suggestive, and in my judgment they have proved nothing more than that further investigation along those lines is necessary.

The reaction on the pupil of the enucleated frog's eye has been used to show an antagonistic action between the adrenal and the thyroid. Such a reaction indicates that we may get some antagonistic action between these two glands, but although we must suspect that the thyroid is closely related with other glands in the body, and we may say that we know that such interrelations probably exist, the majority of these theories regarding these interrelations are based on pathologic and clinical observations and not on accurate experimentation.

Attempts have been made to demonstrate that the thyroid gland serves a particularly valuable function in combating infections in the body. The expressed juices of the thyroid have been allowed to act directly on bacteria with apparent bactericidal effect, but not in any respect more than was obtained from extracts of the liver and kidney. The quantity of the alexin in the blood has been found to be increased in those animals to which thyroid has been given, and it is a commonly observed fact that cretinous and myxedematous patients do not bear infections well, while on the other hand certain observers believe that every infection stimulates the thyroid to additional activity. It is certainly open to question whether a specific effect in infections is to be ascribed to the thyroid. It rather appears that the effect is a general one and it seems improbable that the thyroid function is one of the specific means by which the body protects itself from infectious diseases.

From the evidence which is now obtainable I think we must conclude that the thyroid gland furnishes a hormone which may be present in the blood within wide limits in the condition which we call health, and which stimulates a variety of tissues to a physiologic, and at times a pathologic, degree of activity.

Occupation in Treatment of Neurasthenia.—Healthy occupation of body and mind, says D. Ferrier in the *Practitioner*, never does any harm to the most pronounced neurasthenic, but the reverse. If work at first is hard, it becomes easier by degrees, and patients who find the régime a hard one should be told that it is better to be ill at work than ill in idleness. The misfortune is that so many neurasthenics have neither the determination nor the courage to submit to the necessary training of their morals, and thus go to swell the crowd of able-bodied valetudinarians.'

REPORT OF A CASE OF EPIDEMIC ANTERIOR POLIOMYELITIS

DIAGNOSIS IN PREPARALYTIC STAGE BY LUMBAR PUNCTURE

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The patient, a young man of 21, was a member of the freshman class at Princeton, where he had been in attendance for five weeks before the onset of symptoms. At his home in Bernardsville, N. J., no cases of poliomyelitis were known to have occurred. At Princeton during the summer there had been several cases of the disease and in the college three cases, all in the freshman class, two of them fatal. The patients had all come from infected localities, though the disease did not appear until those attacked had been from two to five weeks in Princeton. The men did not know each other or room in the same dormitory, the only point of contact being in commons or recitation room. The patient had been under my care for a number of years. The only significant thing in his past history was pneumonia four years ago, and a rather run-down condition a year ago, at which time tuberculosis was suspected. He had had a slight cold the week before from which he had practically recovered. Three weeks before the onset of symptoms he had attended the funeral of one of the men who died of the disease. On October 29 he suffered from malaise, headache and chilly sensation, but felt well enough to take the train for Washington. On the next day, however, as the symptoms continued and became more severe, he returned to college and, as his bowels had not moved since the 29th, on the evening of the 30th he took a dose of salts and vomited immediately; the vomiting was repeated several times during the night, but there was no movement of the bowels. The following day, October 31, there was slight pain in the back of the neck and sense of fatigue in the gluteal region.

The patient was first seen by me on the evening of October 31, fifty-six hours after the onset of symptoms. At this time his temperature was 101 F., his pulse 90, respiration 22. The pharynx was slightly reddened, the tongue coated, eyes normal, heart and lungs normal. The abdomen was soft, a trifle distended and tympanitic; there was no enlargement of the spleen and no rose spots. The reflexes were exaggerated, patella, Achilles tendon, wrist and elbow. An ankle-clonus was obtained on both sides. Kernig's and Babinski's signs were not obtained. There were no paralyses or even muscle weakness. The neck seemed a trifle stiff, but only in a strained position when the patient sat upright in bed. In the dorsal decubitus the chin was readily brought forward to the chest. As a positive diagnosis was impossible, the patient was brought to New York where he was seen in consultation by Dr. T. C. Janeway, who concurred in the negative results of the previous examination. A blood-count and blood-culture were made the same evening. : red cells, 5,020,000; hemoglobin, 92 per cent; color index, 0.92; leukocytes, 12.000: small lymphocytes, 30.2 per cent.; large lymphocytes, 4.8; polymorphonuclear, 64.6; eosinophils, 0.2; basophils, 0.2; plasmodia of malaria, none. The Widal test was negative in dilution of 1 to 20. The urine was acid clear,; albumin, faint trace; sugar, none; indican, trace; specific gravity, 1,028. Microscopic examination showed few leukocytes. In view of the negative finding on physical examination, and in the blood and urine, it was resolved to wait for the result of the blood-culture, which might be expected to show *Bacillus typhosus*, were it present, and in the absence of this, if symptoms persisted, to introduce a needle into the spinal canal.

On November 1 the patient was more comfortable, though there was some pain in the lumbar region. High temperature persisted. The bowels, which had not moved since the 29th, were finally moved by calomel salts and rectal irritation. The results were foul-smelling.

On November 2 fever persisted. The second blood examination shows a slight fall in polymorphonuclear cells and increase in the small lymphocytes. Polymorphonuclears were 59 per cent, lymphocytes 34 per cent. The physical examination was still negative, but all the reflexes were less active and the ankle-clonus had disappeared. Rigidity of the neck as before. The diagnosis at this point was still obscure. The patient might have typhoid fever, gastro-intestinal toxemia, one of the more slowly developing cases of meningitis, or poliomyelitis. As the blood culture was reported sterile, lumbar puncture was performed. There was a rapid drop flow and 10 c.c. of fluid obtained. The fluid was practically clear; only a slight shimmering appearance was noticed on shaking the tube. Dr. Simon Flexner, of the Rockefeller Institute, who kindly offered to examine the fluid, reported as follows:

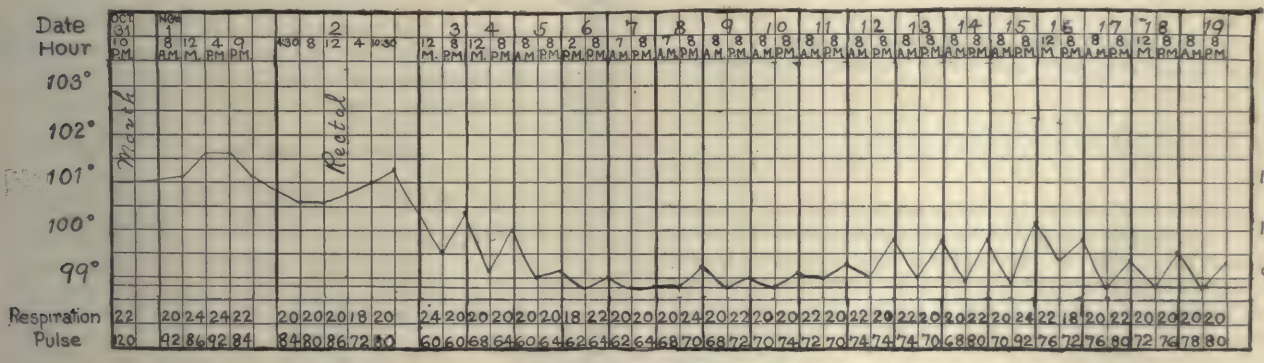


Chart of case of poliomyelitis.

"The first specimen, received on November 3, consisted of a limpid fluid, almost but not quite clear, and yet not turbid, showing on agitation a faint opalescence. On centrifugalization, the fluid yielded sediment containing a considerable number of small and a small number of large lymphocytes, and a very few polynuclear leukocytes. There were no red blood-corpuscles present. The perfectly clear supernatant fluid gave a marked protein reaction with Noguchi's butyric acid test. The specimen, therefore, contained excess of white corpuscles, chiefly lymphocytes, and of protein. The condition of the fluid resembled that seen in monkeys inoculated with the virus of epidemic poliomyelitis, just before the onset of paralysis."

As a result we felt that as tuberculous meningitis could be fairly excluded, a diagnosis of anterior poliomyelitis could be reasonably made; furthermore, that paralysis, if it ensued, would come shortly.

November 3, 9 a. m., temperature was still 101 F. The patient complained of muscular weakness and had some difficulty in turning in bed. There was, however, no paralysis of any muscle group. The reflexes of the upper extremities were still obtained, but the patella reflexes could be obtained only when the patient made a voluntary effort such as traction of the hands. No urine had been passed since 6:30 p. m. on November 2, but there was no evidence of enlargement upward of the bladder. The bowels had been moved with difficulty. At 2 p. m., inability to urinate continued. The bladder by

percussion extended 2 inches above the symphysis pubis. On catheterization there was no free flow of urine and pressure over the abdomen was required. There was some general weakness in the legs and a sense of weight in the right leg on flexion. At 6 p. m. a complete examination of the muscular system was made which showed paralysis of the left hamstrings, weakness of the quadratus lumborum and the lower belly of the right rectus, and slight weakness of the erector spini group. There was a sense of weight in the right thigh when the leg was lifted in extended position. The calf peronei, extensors of feet, abductors and rotators of thigh were normal; muscles of head, face, eyes, shoulder-girdle and arms normal. The wrist, elbow, biceps and Achilles reflexes were present; knee-jerks lost on both sides. Paralysis thus appeared at the end of the fifth day of the disease, and the muscle groups affected showed the presence of disease of lumbar enlargement of the cord with fairly general distribution. With the appearance of paralytic symptoms the temperature fell, gradually reaching normal on November 6.

On November 4, lumbar puncture was again performed and 10 c.c. of fluid obtained by a rapid drop flow. The leukocytes showed a slight increase; the polymorphonuclears dropped to 63.5 per cent., the lymphocytes to 27.5 per cent. Dr. Flexner's report justified the belief that the height of the irritative stage had passed. It was as follows:

"The opalescence is less, so that the fluid is, to all intents, 'clear.' The sediment obtained by centrifugalization showed still an excess of lymphocytes, but the supernatant fluid showed a diminished reaction for protein. This second fluid resembled that of monkeys after the paralysis had set in."

On the following day weakness of the extensors of the left foot and the anterior tibial group was first noted.

Pain in the back and muscles of the thigh was becoming very troublesome and was relieved only by baths of a temperature from 105 F. to 110 F. This symptom persisted until December 10 with varying intensity.

On November 7 the patella tendon reflexes were again obtained.

November 9, Kernig's sign was obtained, but no Babinski. This symptom was thought to be due to the shortening of the posterior thigh muscles. Paralysis of the hamstring muscles was of varying intensity. As early as November 7 the legs could be flexed on the thigh, but with difficulty in the ventral decubitus. The bladder paralysis lasted for twelve days, and the bowels were moved only with great difficulty for a month.

On November 27, after the temperature had been normal for ten days, the electric reactions were tested by Dr. J. Ramsay Hunt.

Reaction of degeneration was nowhere present. All muscles responded to faradism, but the left hamstring and left anterior tibial, extensors of the foot and peronei were most sluggish in response, though all the muscles of both legs and thighs were affected. The reflexes of the lower extremities had again become exaggerated and a patella-clonus was obtained.

Within a month the patient was up, and in six weeks walking, though at the time of writing there is a slight drop-foot on the right side which requires correction by orthopedic apparatus in order to prevent contraction of the stronger calf muscle. The prognosis is good for a practically perfect functional result.

As to treatment, from the start a nasal spray of a weak hydrogen peroxid solution was used, on the theory that the unknown organisms might be eliminated through the nose and reinfection thus produced. In infected monkeys Flexner has proved the infectiousness of the nasal mucous membrane. Counter-irritation to the spine by cupping and mustard was also applied early. Hexamethylenamin (urotropin) was administered in the hope that formaldehyd might be set free in the spinal cord. For the pain nothing proved so efficient as the hot tub bath, which also enabled the patient to move with ease his weakened muscle groups.

To summarize, one is impressed with the difficulty of diagnosis of this disease in its acute stage, in which it may resemble any of the infections, especially typhoid fever, influenza or intestinal toxemia. The very slight rigidity of the neck and the increase in the activity of the reflexes, which at that time we thought might be due to a hypersensitive nervous system, were suggestive, but only the presence of an epidemic put us on our guard as to the possibility of the correct diagnosis.

The exaggeration of the reflexes, gradually diminishing, and disappearing at the time of paralysis, only to become again exaggerated later, is another point in evidence of the general nature of the disease which cannot be exclusively confined to the anterior horn cells.

The inestimable value of lumbar puncture cannot be too strongly insisted on. By its means a diagnosis was established, and the fact that paralysis would probably follow determined twenty-four hours before its onset. Finally, by a second puncture twenty-four hours after the onset of the paralysis, the fact was determined that the height of the paralysis had passed and that the paralytic stage was nearing an end. As a matter of fact, within eighteen hours we had the last evidence of progression in the lesion. The puncture had, in this case, both prognostic and diagnostic value. In view of the number of normal lumbar punctures reported, it is fair to say that Dr. Flexner reports that the increase in lymphocytes and increased protein reaction are present in the spinal fluid of his experimental monkeys for a period of only a few days and incidentally that this is the first case in which he has followed the corresponding reactions in man.

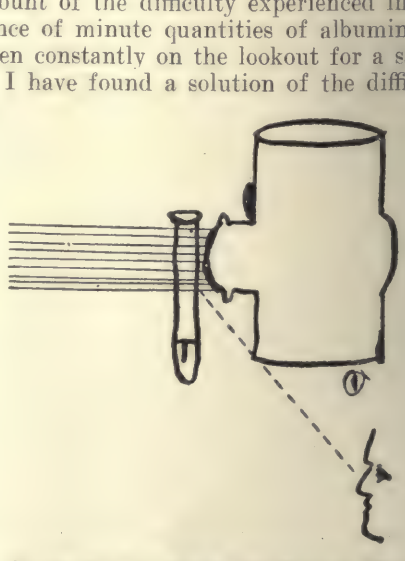
In conclusion, I wish to thank Dr. Flexner for his courtesy in examining the spinal fluid and for his many suggestions and keen practical interest in the case.

113 East Fifty-Sixth Street.

A SIMPLE METHOD FOR THE DETECTION OF MINUTE QUANTITIES OF ALBUMIN IN URINE

M. B. KATZENSTEIN, B.Sc., M.D., M.Sc.
PITTSBURG,

On account of the difficulty experienced in detecting the presence of minute quantities of albumin in urine, I have been constantly on the lookout for a satisfactory method. I have found a solution of the difficulty, and



Method for the detection of minute quantities of albumin in urine.

the method applies both to contact and to the heat and acid tests. The method is a very simple one and consists in passing rays of light through the fluid and looking at it at right angles to the rays, the principle being the same as that of seeing particles of dust in a ray of sunshine. For light I use the original bull's-eye lantern

used by nose and throat men for their reflected light. The detection of albumin is most satisfactorily done in connection with the heat and acid method. After heating and adding acid to the specimen the test-tube containing the fluid is held directly in front of the bull's-eye lantern and the specimen viewed from a point at right angles to the rays of light. In specimens in which I and others have failed to detect any cloudiness in all other lights, the cloudiness has stood out plainly when submitted to the above procedure. The urine should always be filtered, especially for the contact test. Any bull's-eye lantern will suffice. The great advantage of this method lies in the fact that it can be done at any time—night or day.

ABORTIVE CASES OF POLIOMYELITIS

AN EXPERIMENTAL DEMONSTRATION OF SPECIFIC IMMUNE BODIES IN THEIR BLOOD-SERUM *

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It has been pretty generally recognized, since the publication of Wickman's studies on epidemic acute anterior poliomyelitis in Sweden in 1905-06,[1] that cases of this disease may run their course without resultant paralysis. The evidence on which the occurrence of such so-called "abortive" cases is predicated is, briefly, the following:

Especially in epidemics, cases of acute anterior poliomyelitis are encountered showing all gradations in the degree and extent of paralysis. In the same group may be found cases resulting in extensive and lasting paralysis; cases with permanent paralysis of slight extent; cases in which the patients have transient paralysis, recovering completely within a few weeks or even a few days; other cases in which there is no definite paralysis, but merely muscular weakness, of short duration; still others in which the only motor disturbance is ataxia, tremor or a transient ocular disturbance such as diplopia or nystagmus. Finally, within the same group are seen cases of illness exhibiting only the symptoms of a general infection, usually accompanied by symptoms indicative of meningeal, spinal or encephalitic irritation, but without definite motor disturbances.

The diagnosis of acute anterior poliomyelitis in these cases is suggested usually by their close association with typical cases of the disease rather than by the distinctiveness of their symptoms. The symptoms are, however, sufficiently similar to the pre-paralytic symptoms observed in paralytic cases, and in many instances sufficiently different from the symptoms observed in the more common infectious diseases to justify a provisional diagnosis of poliomyelitis. The similarity of these abortive cases to cases of frank poliomyelitis in the early stage, the signs of involvement of the nervous system, their close and constant association with frank paralytic cases, and the gradation of symptoms above mentioned had convinced many observers of the etiologic identity of abortive and paralytic cases of poliomyelitis even before any light had been thrown on the subject by the study of experimental poliomyelitis.

It has recently been noted by several observers that monkeys inoculated with the virus of poliomyelitis occasionally pass through an indefinite illness without resultant paralysis, clinically similar to abortive attacks as observed in man.

It has been shown by Levaditi and Landsteiner,[2] Römer and Joseph[3] and Flexner and Lewis[4] that the serum of monkeys which have recovered from poliomyelitis, mixed in suitable proportions with an emulsion of the virus and allowed to remain in contact for a sufficient length of time, renders the virus inactive, so that when injected into fresh monkeys it fails to produce the disease.

Netter and Levaditi,[5] and Flexner and Lewis,[4] have demonstrated the same property in the serum of human beings who have recovered from acute poliomyelitis. This property has been found by all the above observers to be absent from the serum of normal persons and monkeys, and has therefore been considered a specific property, the demonstration of which in the serum justifies the inference that the subject has passed through the infection of acute anterior poliomyelitis.

Netter and Levaditi,[6] availing themselves of this test, have also demonstrated this germicidal property against the virus of poliomyelitis in the serum of a suspected abortive case, thereby giving additional confirmation of the etiologic identity of such cases with frank poliomyelitis.

The clinical history of the abortive case tested by Netter and Levaditi is as follows (translation from the French):

"CASE 3.—Henriette G., sister of Emile (see below), was with a nurse in L'Aveyron, returning in good health Dec. 15, 1909. Three weeks after her return the child fell off, lost appetite, became cross, showed less disposition to run about, complained of pain behind the knees when the legs were touched, and of the arms when they were pulled. These symptoms, which attracted the attention of Dr. Ergbischoff, caused no uneasiness to the rather heedless parents, who refused to show us the child on February 7. The mother thought the child was suffering from *mal du pays*. Whatever the trouble, it all disappeared in the course of three weeks. The child regained her normal appearance and showed every appearance of health the latter part of March."

A brother, Emile, 6 years old was taken ill either a few days before or a few days after this child (the dates given are not clear as to the sequence of cases) with a typical attack of acute anterior poliomyelitis, resulting in lasting paralysis of a leg and an arm.

The experiments which we here report are similar to the above experiment of Netter and Levaditi, undertaken on a more extensive scale, designed to throw some light on the diagnosis and epidemiologic significance of a class of cases encountered by one of us,[7] in a field study of acute anterior poliomyelitis at Mason City, Iowa, and other points in that state during the summer of 1910.

*From the Hygienic Laboratory

1. Wickman, Ivar: Beiträge zur Kenntniss der Heine-Medinschen Krankheit (Poliomyelitis acuta und verwandte Erkrankungen), Berlin, 1907, S. Karger.

2. Levaditi, C., and Landsteiner, K.: Compt.-rend. Soc. de biol., 1910, lxviii, 311.

3. Römer, P., and Joseph, K.: München med. Wchnschr. 1910, lvii, 568.

4. Flexner, S., and Lewis, Paul A.: Experimental Poliomyelitis in Monkeys, THE JOURNAL A. M. A., May 28, 1910, p. 1780.

5. Netter, A., and Levaditi, C.: Comp.-rend. Soc. de biol., 1910, lxviii, 617.

6. Netter, A., and Levaditi, C.: Compt.-rend. Soc. biol., 1910, lxviii, 855.

7. Frost, W. H.: The Field Investigation of Epidemic Poliomyelitis (What the Health Officer Can Do Toward Solving a National Problem), Pub. Health Rep., Nov. 18, 1910, p. 1663; Discussion of the Epidemic of Anterior Poliomyelitis at a Meeting of the Iowa State Board of Health, Iowa Med. Jour., Nov. 15, 1910, p. 236.

In Mason City, Iowa, a town of about 14,000 inhabitants, there occurred from April to September, 1910, forty cases of undoubted acute anterior poliomyelitis, resulting in typical flaccid atrophic paralysis. At the same time there occurred a considerable number of cases of illness with symptoms suggestive of the early symptoms of acute poliomyelitis, but not resulting in paralysis, and often of such mild character as not to come under the observation of any physician.

REPORTS OF CASES

Blood-specimens were obtained in the latter part of November from a number of these cases, whose clinical histories are given in abstract below. For the histories in several of these cases we are indebted to various physicians of Mason City. Other patients were not seen by any physician during their illness and the only histories available were such as could be given several weeks later by the patients and their families.

CASE 1.—*Control.*—Reported by Dr. C. M. Swale, Mason City. C. T., male, aged 48, laborer, was taken sick June 24 with a chill, fever, pains in the legs and back, stiffness of neck, some delirium. On the third day there was paralysis of both thighs and legs and both upper arms, and partial paralysis of the forearms. When last seen, Nov. 24, 1910, the lower limbs and upper arms were still paralyzed, flaccid and atrophic, but showing some improvement. This is a typical case of acute anterior poliomyelitis, included in our series as a control.

CASE 2.—Reported by Dr. B. F. Weston, Mason City. Mrs. W., 22, waitress, was taken sick the latter part of June, 1910, with fever and indefinite general symptoms. After several days she became paralyzed in both lower limbs. She was admitted to a hospital about one week after onset. She was said to have had, at that time, a flaccid motor paralysis of both lower extremities which, however, became spastic within a few days. When the patient was seen the latter part of July, 1910, both legs and thighs were quite spastic. No active motion was possible except of the toes and slight flexion of the left knee. Passive motion was limited to partial flexion of the thighs and slight flexion of left knee—almost none of the right knee. The patellar reflexes greatly exaggerated on both sides; ankle-clonus on right side; sensation for touch and pain was normal. Examination was otherwise negative. The patient's general health was good.

Nov. 25, 1910, the left leg could be moved, but rather awkwardly. The right leg showed little, if any, improvement. Patellar reflexes were still exaggerated, more so on the right side. There was no ankle-clonus and no atrophy.

The spasticity of the paralyzed limbs, exaggeration of reflexes and absence of atrophy in this case indicated a lesion in the upper motor segment, either in the motor cortex of the brain or in the pyramidal tracts of the cord. The case was included in our series in order to ascertain the diagnosis, since it represents a rare clinical type of poliomyelitis, the diagnosis of which has always been uncertain, and whose occurrence has been a matter of some dispute.

CASE 3.—Reported by Dr. C. E. Dakin, Mason City. H. G., a woman aged 23, nurse, was taken sick suddenly June 24, after a long walk in the hot sun, with violent occipital headache, vertigo and stiffness of the neck, causing some retraction of the head. She had chilly sensations, vomited, was extremely prostrated, and felt "crazy." Temperature was normal, pulse 80. The next day she had pains in the legs and back, with tenderness along the spine, and was very restless. There was no further vomiting; the patient was constipated. The third day she complained of cramps and a sensation of numbness in the left leg, and found, on attempting to get out of bed, that this leg was weak. These symptoms gradually improved, so that in a week the patient was able to be up with no sign of paralysis. The spine, however, remained tender for several days and sensitive to jarring. A week later she had a slight recurrence of similar symptoms, with a pharyngitis.

There was no elevation of the temperature at any time in this case, which was seen daily by the attending physician. The patient knew of no direct association with cases of poliomyelitis, within a month prior to her illness. She was, however, at the time of her illness living at the house of a physician who had recently attended patients who were suffering from this disease.

CASE 4.—Dr. C. E. Dakin, of Mason City, gives the following account of his own illness, the nature of which was hardly suspected at the time. He was taken sick about July 1, 1910, the onset being gradual. He lost appetite, was constipated, had a coated tongue and foul breath. He suffered from a persistent occipital headache, not relieved by treatment, and from severe pains in the upper dorsal and lumbar region. The neck was stiff, so that it was painful to bend the head forward although it could be rotated without pain. No retraction of the head was noted, but it was found that the most comfortable posture was lying on the back with the head extended over a pillow placed under the shoulders. He felt extremely nervous, irritable and inclined to worry over trifles. There was no elevation of temperature. These symptoms, which reached their height about July 7, gradually subsided within the next week, except the general nervousness and irritability, which persisted a good deal longer. During this time Dr. Dakin was not confined to bed, and continued his practice.

TABLE 1.—INOCULATIONS IN SERIES 1 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
16	Case 1 (control)....	Frank poliomyelitis	Adult.	Has remained well.
17	Case 2 ..,.....	Suspected poliomyelitis with spastic paralysis.	Adult.	Has remained well.
18	Case 3	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
19	Case 4	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
20	Case 5	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
21	Case 6	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
25	Case 7 †	Suspected poliomyelitis without paralysis (abortive).	16	Paralysis all extremities on sixth day.
26	Case 8 †	Suspected poliomyelitis without paralysis (abortive).	Child.	Paralysis all extremities, trunk and neck.
22	Case 9	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
23	Case 10	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
24	Case 11 †	Suspected poliomyelitis without paralysis (abortive).	.....	Paralysis all extremities on eighth day.
27	Control JR	Normal.....	Adult.	Paralysis of hind legs tenth day, all extremities twelfth day; chloroformed.
27A	Control JR	Normal.....	Adult.	Paralysis of all extremities tenth day.

* Each monkey inoculated intracerebrally Nov. 30, 1910, with 0.5 c.c. of a mixture of 5 per cent. emulsion of fresh spinal cord (of Monkey 15) 0.5 c.c.; serum to be tested, 0.5 c.c.; fresh normal serum, 0.1 c.c. Mixtures allowed to stand one hour at 37 C. and twenty hours at 15 C. before injection. ‡ Refers to same serum in Series 2.

A child of his family had an attack of acute poliomyelitis with slight peroneal paralysis in May. Also about June 23 Dr. Dakin attended a child suffering from what was clearly an abortive attack of acute poliomyelitis.

CASE 5.—The patient, Mr. S., aged 30, merchant, in Mason City, was not seen by a physician. The history was obtained some two months later from the patient and his family. He was taken sick rather suddenly about June 19, with headache, pain in neck, back and legs. The temperature was not determined. The patient felt ill for a week or more, but was not confined to bed; thought he had the influenza. For more than a week after recovery one leg remained weak and "rheumatic." No previous association with any case of poliomyelitis was known. About three weeks later a 3-year-old son (the only child of the family) developed a typical case of poliomyelitis, resulting in paralysis of the left thigh and leg.

CASE 6.—Reported by Dr. C. E. Dakin, Mason City, who first saw the patient October 25. E. D., 45, farmer, residing about 7 miles northwest of Mason City, about Oct. 16, 1910, began to feel fleeting, neuritic pains in various parts of his body. There was no special pain, tenderness or stiffness of neck or back. A chronic indigestion became much aggravated, causing gastric distress, especially after eating. The patient lost appetite, and was constipated; the tongue was coated and breath foul. He was unusually nervous, irritable and sleepless. He improved gradually, returning to his usual state of health within two or three weeks.

A boy living in the same house was taken sick with acute poliomyelitis Oct. 10, 1910, and died October 16. The other two members of the household remained well at this time; but, as stated in connection with Case 7, both had suffered somewhat, similar attacks about August 1.

CASE 7.—P. G., a girl aged 16, living about seven miles northwest of Mason City, was taken sick July 11 with headache, slight backache, pains in the knees, nausea and vomiting; diarrhea; fever doubtful. There was no stiffness of neck. The patient was in bed part of one day. Felt ill and unusually weak for several days thereafter.

There was no known contact with any case of poliomyelitis prior to onset. There had, however, been a considerable gathering of neighbors at this house one week prior, and the patient and other members of the family went back and forth to Mason City, where poliomyelitis prevailed at that time.

This was the first of a group of generally similar cases occurring in this and neighboring families. Other cases of similar illness occurred in this same family as follows: sister, aged 6, July 14; two sisters aged 7 and 8 respectively, July 15 or 16; brother, aged 10 (Case 8), July 22; father, aged 49 (Case 9), August 3. Two other members of the family, one adult and one aged 13, remained well.

It was stated that cases of similar illness had occurred about the same time in several neighboring families, all of which had been associated more or less closely with these cases, viz.:

Family B.—One case, adult, July 29.

Family W.—Five cases, about August 1.

Family D.—Two cases about the same time. This is the family of Patient 6. The two who were sick at this time remained well during the subsequent illness of the other members of the household.

Family M.—One case, date not known.

Family E. B.—One case, some time after August 15.

Family C. B.—Two cases (one of them Case 10), July 31.

CASE 8.—R. G., brother of Patient 7, aged 10, was ill with sudden onset about July 22; had fever, sore throat, headache, pains in neck, back and limbs; was at first resfless, then drowsy. After staying in bed one day he felt better and got up, but still had pain in the back. He fell down several times this day, apparently because of weakness of the legs. The third day he felt well, except for weakness, which gradually disappeared.

CASE 9.—W. G., father of Patients 7 and 8, aged 49, farmer, first noted, August 3, while driving his wagon, that the jolting caused him pain all over. Later in the same day he had a headache, chilly sensations and fever. The pain continued all day, chiefly in the back, neck and shoulders. The patient was constipated and had no appetite. The second day his ankles felt stiff and sore, and he felt extremely weak and uncertain on his legs. After the second day he felt much better, except for the weakness, which gradually improved, leaving him in his usual health.

CASE 10.—Reported by Dr. C. E. Dakin, Mason City. C. B., aged 48, carpenter, about July 31 began to have an occipital headache, was constipated, had no appetite; felt very weak, tired and faint. He was troubled at times with vertigo, brought on by sudden turning of the head. The cervical and dorsal spine was tender. The headache and vertigo were worse when in the sunlight. There was some photophobia. The pupils were contracted and reacted sluggishly to light. Reflexes otherwise normal. These symptoms continued for about a week and for a much longer time the patient suffered from indigestion and continued to feel weak and easily tired.

The wife of this patient was taken sick about the same time with practically identical symptoms. These two had been between July 14 and 31, to a house where a child was sick at the time with a pretty definite abortive attack of poliomyelitis. One of them had also been to a house where two sisters of Patients 7 and 8 had visited while sick. A member of the household of Patients 7, 8 and 9 was said to be a frequent visitor at the house of Mr. B. He and his wife are the family "C. B." mentioned under Case 7.

CASE 11.—Reported by Dr. Fred Albert, Mason City. J. A., male, aged 7, residing on a farm about 5 miles northeast of Mason City, was taken sick suddenly June 30 or July 1, 1910. When seen by Dr. Albert, July 2, he had a temperature of 102.5

TABLE 2.—INOCULATIONS IN SERIES 2 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
30	Control JFA ‡	Normal.....	Adult.	Has remained well to date.
31	Control CHL	Normal.....	Adult.	Paralysis and death fifth day.
32	Control WHF	Normal.....	Adult.	Paralysis, forelegs and neck, thirteenth day.
33	Control W ‡	Normal.....	Child.	Very doubtful, slight illness; sixth to twelfth day loss of appetite, nervousness, excitability, slight irregular rise of temperature.
34	Control R ‡	Normal.....	Child.	Very doubtful, slight illness; sixth to twelfth day; symptoms as above but less marked.
35	Case 11 †	Suspected abortive case.....	Child.	Has remained well to date.
36	Case 7 †	Suspected abortive case.....	16	Paralysis of all extremities ninth day; died ninth day.
37	Case 8 †	Suspected abortive case.....	Child.	Has remained well to date.

* Conditions of experiment the same as in Series 1, except that virus used was a *1 per cent.* emulsion of fresh cord (of Monkey 29). Inoculations Dec. 24, 1910. † Refers to same serum in Series 1. ‡ Refers to same serum in Series 3.

TABLE 3.—INOCULATIONS IN SERIES 3 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
38	JFA (see monkey 30) ‡	Normal.....	Adult.	Paralysis of all extremities thirteenth day; chloroformed.
39	R (see monkey 34)‡	Normal.....	Child.	Paralysis of all extremities tenth day; chloroformed.
40	W (see monkey 35)‡	Normal.....	Child.	Paralysis of neck and forelegs tenth day; chloroformed

* Conditions of experiment the same as in Series 1, using a *5 per cent.* emulsion of fresh spinal cord (of Monkey 9). Inoculations Jan. 12, 1911. This series is a control on Series 1. † Refers to same serum in Series 2.

F., had a severe occipital headache, pain and tenderness of the spine, and some inflammation of the tonsils. The next day the temperature was normal and the headache and pain and tenderness of the spine had disappeared.

Two other children in the same house were taken sick between June 29 and July 1 with similar symptoms. One recovered within a few days, while the other developed typical poliomyelitic paralysis of the arms.

Cases 3 to 11 inclusive are representative of a class of cases which were reported to be quite common in and around Mason City during the epidemic of poliomyelitis. While there is a considerable variety in their symptomatology there is, in most cases, a fairly distinct syndrome, viz., headache, more commonly occipital; pain and tenderness along the spine; neuritic pains and hyperesthesia of the limbs; a marked degree of restlessness or irritability; prostration out of proportion to the severity of the other symptoms; some gastro-intestinal derangement (anorexia, nausea, constipation or diarrhea); occasionally other symptoms of nervous derangement, as vertigo, photophobia, delirium, muscular paresis, disordered reflexes. The temperature was definitely determined to be normal in Cases 3, 4 and 10, and found elevated (102.5° F.) in Case 11. In the rest of the cases no exact information is available, as the patients were not under the observation of a physician during the acute stage. Dr. Dakin,[8] of Mason City, who has reported elsewhere 36 cases of poliomyelitis, including Cases 3 and 10 of the above series, describes, as very characteristic, a staring, terror-stricken facial expression, which he noted also in Cases 3, 6 and 10 of our series.

Blood-specimens were obtained from all these cases by venepuncture during the latter part of November. The serum was withdrawn after coagulation and kept in closely stoppered sterile bottles. Repeated tests showed all specimens of serum to be sterile when used.

The virus used was originally obtained from the Rockefeller Institute for Medical Research through the courtesy of the director, Dr. Simon Flexner. It had been propagated through a long series of monkeys at the Rockefeller Institute and found very uniformly virulent. We have found it virulent for all the fresh monkeys which we have inoculated other than those mentioned in the following series.

SERIES 1.—Monkey 15, inoculated with the above virus, developed complete paralysis of the hind legs on the seventh day; it was chloroformed and necropsy performed the same day. A 5 per cent. emulsion of the fresh spinal cord was prepared in normal salt solution, and filtered through paper to remove gross particles. One-half cubic centimeter of this emulsion was added to an equal amount (0.5 c.c.) of each of the serums to be tested.

To each mixture was added 0.1 c.c. of fresh normal human serum (J. R.). As controls, two mixtures were made with normal human serum (J. R.). The mixtures of serum and virus were kept 1 hour at 37 C., then placed over night (about 20 hours) at 15 C. A series of monkeys was inoculated in the brain, each monkey receiving 0.5 c.c. of one of the mixtures of virus and serum, Nov. 30, 1910.

The two control monkeys receiving the mixtures of normal serum and virus developed typical paralysis on the eighth and tenth days respectively.

The monkeys receiving the mixtures of virus with the serum of Patients 7, 8 and 11 also developed equally typical paralysis on the seventh, fifth and seventh days respectively. All the others have remained well up to the present time (Feb. 4, 1911).

It will be noted that the three specimens of serum which failed to affect the virus were from young persons (Patient 7, aged 16; Patient 8, aged 10; Patient 11, aged 7). The remainder of the serums were from adults. This suggested two possibilities:

1. The serum of normal adults may have considerable germicidal properties for the virus.

2. The serum of children, even when they have had an attack of poliomyelitis, may not develop germicidal antibodies; or may develop them in smaller amounts than the serum of adults.

SERIES 2.—To test these hypotheses, we inoculated another series of monkeys with exactly the same technic, except that, instead of a *5 per cent.* emulsion of spinal cord we used a *1 per cent.* emulsion (fresh cord of Monkey 29, inoculated December 13; paralysis of hind legs December 23; chloroformed and cord removed December 23).

In this series we used again the serum of Patients 7, 8 and 11, and for controls took the serum of three normal adults (J. F. A., C. H. L., and W. H. F.) and of two normal children (R. and W.). Granting an equal concentration of the virus in the two cords used in series 1 and 2 (Monkey 15 and Monkey 29), each specimen of serum would now be mixed with the same *volume* of emulsion as in Series 1, but with *one-fifth of the amount of virus.* Also, the amount used in inoculation (0.5 c.c.) would represent only one-fifth of the amount of virus inoculated into the animals of series 1.

The results in this series were somewhat irregular. The monkeys receiving the serum of two of the normal adults (C. H. L. and W. H. F.) developed poliomyelitis on the fifth and thirteenth days respectively. The monkey which received the serum of Patient 7 developed paralysis of all extremities on the eighth day. None of the other monkeys, including those which received the serum of Patients 8 and 11, the serum of one normal adult (J. F. A.), and of the two normal children, have developed paralysis up to this time. Two of the monkeys, however (those receiving the serum of the two normal children), appeared about a week after inoculation to have an indefinite illness, manifested by slight rises of temperature, loss of appetite, nervousness, and undue excitability. Whether these may be considered abortive attacks of poliomyelitis is extremely questionable.

These results would indicate that in this series we had approached the limit of proportions in which normal human serum may exert a neutralizing effect on the virus of poliomyelitis, or else had approached the minimum effective amount of virus for inoculation. They indicate pretty clearly that the serum of Patient 7 had no unusual germicidal properties, but leave the other two cases (8 and 11) in doubtful status.

SERIES 3.—Three specimens of normal serum having been found capable of neutralizing the virus in the proportion used in Series 2, that is, against equal volumes of a *1 per cent.* emulsion of virus, it remained to test these three specimens again under the conditions of Series 1. Accordingly we inoculated another series of monkeys, using a *5 per cent. emulsion* of virus (fresh cord of Monkey 9, inoculated Jan. 7, 1911; died fourth day; gross and histologic lesions typical).

The serums used were the same specimens which had shown neutralizing properties in Series 2, viz., from one normal adult (J. F. A.) and two normal children (R. and W.). The technic and proportions were exactly as in Series 1.

All three monkeys came down with typical paralysis between the eighth and the twelfth days.

The three series of experiments are presented in the accompanying tables.

SUMMARY

The results of these experiments may be summarized as follows:

Normal Human Serum.—The results in Series 2 indicate that normal human serum may have a germicidal action on the virus of poliomyelitis. If this is so, however, the action has quantitative limits which clearly differentiate it from the action exercised by the serum of persons who have had poliomyelitis as shown in

8. Dakin, C. E.: Iowa Med. Jour., Nov. 15, 1910, p. 229.

Series 1 and 3. No appreciable difference has been demonstrated between the normal serum of adults and of children in regard to their action on the virus.

Serum of Patients Who Have Recovered.—As shown by the workers above cited and by our results, the serum of persons who have recently recovered from frank attacks of poliomyelitis exhibits a germicidal action on the virus considerably greater than that exhibited by normal serum. Serum from a person suffering from paralysis of spastic type showed the same properties, thus confirming the clinical evidence that acute poliomyelitis may cause paralysis of this type.

The serum of six out of nine patients (66.7 per cent.) who had recently recovered from suspected poliomyelitis without paralysis (abortive cases) showed the same germicidal action as the serum from a frank case of poliomyelitis.

In the serum from the other three suspected abortive cases of poliomyelitis we were unable to demonstrate any germicidal property beyond that shown by normal serum. These three specimens of serum were all obtained from young persons. These three cases clinically resembled poliomyelitis more than did some of the adult cases; and the symptoms were, on the whole, equally severe. The following possibilities suggest themselves:

1. The cases may not have been poliomyelitis.
2. They may have been poliomyelitis, but, if so, antibodies were either formed in less amount, or disappeared more rapidly than in the adult cases.

The experimental evidence on which the specificity, constancy and quantitative relations of this reaction must be estimated is scant. So far as it goes, however, it justifies the inference that the reaction as demonstrated in our experiments is specific.

We feel justified in concluding that the diagnosis of acute poliomyelitis has been established in six of our nine suspected abortive cases. The diagnosis in the other three is not cleared up by the experiments. The clinical and epidemiologic evidence of poliomyelitis in these cases must be weighed against the absence of a serum-reaction of unknown constancy.

The facts here presented have a significant bearing on the diagnosis and epidemiology of acute anterior poliomyelitis.

DIAGNOSIS

The generally accepted criterion for diagnosis of poliomyelitis has been the development of paralysis or at least definite weakness. It has been urged that the attempt to make a diagnosis on any clinical evidence less than this would result in hopeless confusion; and this is partly true in the present state of our knowledge of the disease. In the cases of our series, however, poliomyelitis had been suspected on clinical evidence alone and confirmed by biologic test in 66.7 per cent., a fact which would indicate that the diagnosis of abortive cases of this class is not wholly a matter of guess-work, provided special attention has been directed to poliomyelitis, as was the case in Mason City. No laboratory diagnostic methods of demonstrated reliability and universal application have been evolved. The early examination of cerebrospinal fluid is the most reliable laboratory method at present known. Lumbar puncture for diagnosis is hardly justifiable, however, unless some consideration of the safety, either of the patient or of the community, makes an accurate diagnosis of special importance. Total and differential leukocyte counts offer a promising aid to diagnosis, but much more work will be necessary to establish the reliability of this method. But even in the absence of any specific diagnostic methods, much light can doubtless be thrown on the subject by a careful and conservative study of all cases which may reasonably be suspected of being cases of poliomyelitis, paying especial attention to examination of the nervous system and to association with cases of frank poliomyelitis.

Until the clinical recognition of poliomyelitis is placed on a more reliable basis there will remain an indeterminable factor in its epidemiology, a factor whose significance can only be surmised at present. Conclusions from epidemiologic data will have to be correspondingly conservative.

A more detailed discussion of abortive cases, as observed in Iowa, and of their epidemiologic relations will be reported in a forthcoming bulletin of the Hygienic Laboratory.

Therapeutics

PROPHYLAXIS OF SCARLET FEVER

Every physician, no matter how limited or specialized he may attempt to make his practice, is likely to encounter a case of scarlet fever, and to have his opinion asked in regard to what should be done to prevent the transmission of the disease to others. Even if he does not personally encounter the disease, he cannot avoid being asked the same question, apropos of some case he has not seen, by an anxious mother or a father seeking for positive information from one whom they believe to have the knowledge of an expert. It reflects no credit on his scientific attainments, it does not increase the confidence in him of his patients, if he cannot state promptly, clearly, concisely and positively what should be done by the family in which the disease occurs to prevent its spread to other individuals, what the family which does not have it, but is afraid of getting it, should themselves do, as well as what they have a right to expect others to do, in order to prevent the spread of the disease.

To the striking development of knowledge of sanitary science and preventive medicine which has taken place during the last three or four decades we are indebted for the wider recognition of the fact that scarlatina, scarlet rash and scarlet fever are synonymous terms, that they do not indicate different diseases, but one and the same disease. Formerly, many of the laity and not a few physicians believed, or at least said, that scarlatina and scarlet rash were different from scarlet fever. But numerous careful observations have shown, and the profession generally has learned, that while scarlet fever may be, and often is, a very serious disease with high temperature, severe sore throat, intense and widely spread eruption, followed by copious desquamation, the fever may be slight or entirely absent, the throat may not show more than slight congestion, the eruption, if not entirely absent, may be not very pronounced in appearance, not widely spread over the body and of rather transient duration, while the desquamation may be so slight as to be hardly recognizable.

Furthermore, it is now generally recognized not only that the very mild cases may be followed by the most serious sequelæ which are observed after the severe forms of the disease, and particularly by inflammation of the kidneys, but also that severe forms of scarlet

fever may be, and often are, contracted from patients whose symptoms have been exceedingly mild.

Scarlet fever differs from measles, with which it is often associated in discussions, and in popular thought, in the fact that everyone seems to be susceptible to measles, and to contract the disease on exposure, if he has not already suffered an attack; while many seem to be not susceptible to scarlet fever, and do not contract the disease after direct and frequent exposure. A possible explanation of this apparent immunity to scarlet fever may be, at least in some cases, that these immune individuals have in their earlier life passed through an attack of scarlet fever of so mild a type that no physician was called to the patient, or if one was called, he did not recognize the nature of the disease. This, however, probably does not explain all cases of apparent immunity. Undoubtedly there are many persons who never contract the disease except after unusual exposure. On the other hand, it is unjustifiable carelessly or wittingly to expose child or adult to the disease, no matter how mild the type may be.

At the outset of a discussion of the subject we are hampered by the lack of any definite, positive knowledge as to the exact nature of the disease, and the method in which it is transmitted from one individual to another. It has long been believed that the contagious element of the disease existed in the scales which occur in greater or less profusion during desquamation. At present there is a tendency to believe that the scales do not possess great power of transmitting the disease during all stages of desquamation, and especially toward the termination of that process. On the other hand, it has not been proved that the scales are innocuous, or that they become so at any definite period of the stage of desquamation. Consequently, it becomes of great importance to control the dissemination of these scales.

Furthermore, of late the belief has been gaining ground that the element of contagion exists actively and abundantly in the secretions from the throat and nose, and also in the discharges from the ear and from suppurating glands when they are present. Obviously then, the problem which confronts both family and physician, as well as sanitarian, is to control the dissemination of these various secretions, discharges, exfoliations, and the usual excretions.

The key to the mastery of the problem is a dual one and embraces first, isolation; second, disinfection.

The establishment of isolation often taxes severely the tact and good judgment of the physician. If the family is large and lives in a small house or apartment and on a limited income, and if the municipality of which they are citizens affords the luxury of an isolation hospital, or a hospital or wards of a hospital are set apart for the treatment of contagious diseases, obviously the easiest, and, for the family, the cheapest way out of the otherwise complicated situation is to transport the patient immediately to such an institution. Here he will be under the care of attendants who are accustomed to handling patients with the disease, and who are trained to exercise all the precautions necessary to prevent the spread of the disease.

But it is possible to make this disposition of the case in only a limited number of localities. Most towns have no special provision for taking care of scarlet fever, and in such cases the patients must be treated in their own homes. If the family has ample means and lives in a large house, a large room or a suite of rooms must be set apart for the exclusive use of the patient and the special attendant, who must be secured to give him exclusive attention. Such an apartment or suite should, if possible, be selected on the third floor of the house or at the end of a hall, so that the other members of the family will have no occasion to go near it. The room should be large and sunny, and all unnecessary articles, such as curtains, upholstered furniture, and ornaments, should be removed, so that there will be as few articles as possible to which the disease poison may adhere and which will need to be cleaned or destroyed after the recovery of the patient. The attendant should not invade other parts of the house. Food and other necessities should be left outside the door of the apartment occupied by the patient by another member of the household. Similarly, everything which requires removal from the infected apartment should be disinfected and placed outside the apartment, and thence carried away. The most important things which are likely to require removal are dishes, clothing, and excreta. These should be disinfected by being placed in suitable vessels and then allowed to soak for an hour in a 2.5 per cent. solution of phenol (carbolic acid). Things which are of little or no value and which are combustible, such as the remnants of food and pieces of cloth or paper which have been used about the room, should be burned. If the nurse finds it necessary to leave the patient's quarters, she should change all her outer garments outside of the patient's room, she should cover her hair, and avoid coming into close contact with anyone. These precautions of isolation should be carried out continuously and strictly until desquamation is entirely completed. During the period of desquamation the patient should be sponged or bathed once or twice a day with hot water (and if there are bath-room facilities the convalescent should have a daily hot tub bath), and then the skin should be anointed with adeps lanæ hydrosus (lanolin) which has been softened with almond (or other bland) oil, and perfumed to suit. Phenol (carbolic acid) ointments are inadvisable, as any absorption would irritate the kidneys. Sponging with alcohol is contra-indicated. After desquamation has ceased, the patient should remove all the clothing which he has been wearing, take a warm bath, with soap, and have his head well shampooed. Then he must dress himself throughout in fresh clothing.

After the patient has left the apartment it should be thoroughly disinfected. Formerly this was accomplished by burning sulphur in the room, but this has been superseded by formaldehyd, which is more efficient, is less injurious to the contents of the room, and is not more troublesome nor much more expensive. Drawers of bureaus and chiffoniers should be opened and their contents loosened, clothing should be hung on chairs or lines, and the bedding should be distributed so that the formaldehyd gas may easily penetrate everywhere. The 40 per cent. formaldehyd solution may be efficiently used by sprinkling it on wet sheets hung on lines stretched through the room. Keyholes and open spaces around doors and windows should be stuffed with cotton, cloth, or paper, so as to retain the gas in efficient concentration to disinfect the room. One pint of the so-called 40 per cent. solution should be used for a room of ordinary size. After twenty-four hours the windows of the room should be opened widely, and fresh air and sunlight should be allowed to enter freely and penetrate every part of the room. It should never be forgotten that outside air and sunshine are among the most useful of disinfectants. Carpets, rugs and bedding should be

hung outdoors, so as to be thoroughly exposed to the sun and wind. Such articles of clothing and bedding as are washable should be boiled for an hour.

When it is possible to carry out such strict isolation as has been described, there is no necessity of quarantining the rest of the family, but, unfortunately, such complete isolation is ideal, and can rarely be carried out in actual practice. Even when a large family occupies a few rooms, it is essential that one room be selected for the patient, and that he be kept in it constantly, and that the other members of the family be kept out of it entirely, except one who is selected to act as the attendant, usually the mother. Under such conditions it is usually entirely impracticable for the attentant to remain constantly in the room with the patient. She must frequently leave the room, not only to get things which the patient requires, but also to perform services for the remainder of the family. Under these circumstances it is desirable and is often entirely practicable that such members of the family as attend school, or work in stores or shops should leave home, and should live elsewhere for six or eight weeks. Those who are obliged to remain at home should avoid as much as possible coming into contact with the attendant. The latter should have several aprons, with sleeves, and large enough to cover all her other clothing. One of these she should wear constantly while in the patient's room. A sheet dampened with phenol (carbolic acid) solution, or other antiseptic solution, hung over the door is believed by many to assist materially in preventing the spread of the infectious agent.

Just here a word should be said of the physician's personal duty in order to avoid carrying the disease from house to house. It is generally believed by the medical profession that physicians who use even a moderate degree of caution rarely transport the disease from a patient to another individual, and when this does happen, the victim is usually a member of his own family.

Certain precautions he may wisely observe. He should endeavor so to arrange his calls that he will not go directly from a patient ill with scarlet fever to a family in which there is a child. On entering the house of such a patient he should put on a long cotton, linen or rubber coat, which should be left just outside the patient's door. He should avoid sitting on the bed, or allowing the bed-clothing to come in contact with his own clothing. He should not prolong his visit unnecessarily. Before leaving the room he should thoroughly wash his hands and dry them on a clean towel.

During the convalescence the patient should not be allowed to use books from the public library or the public school, and should use only such books, magazines and newspapers as can be burned when he is through with them, or when the period of isolation is ended. Neither should he be allowed to write and send letters through the mail or by messenger to his friends.

Can anything be done or any medicine prescribed which will prevent the development of scarlet fever in a person who has been exposed to the disease? Although many practitioners have been in the habit of prescribing medicine designed, so they claimed, to prevent persons exposed to the disease from contracting it or developing it, candor compels the statement that no drug or any treatment is known which will accomplish this result. Although belladonna has been extensively used for this purpose, and has been believed by many to have accomplished the prevention of the disease, there is no adequate reason for believing that it has ever produced this result.

If a physician feels inclined to do something, as he is often asked to do, it is perfectly legitimate to prescribe the use of an alkaline antiseptic gargle, but with the full realization on the part of the physician, even if he does not confide the fact to the family, that he cannot, thereby prevent the disease, though he may put the pharyngeal mucous membrane in a better condition to resist the invasion of pathogenic microorganisms, and consequently to lessen the severity of the inflammatory process in the throat should the disease occur.

Although often advocated, and sometimes used, the impregnation of the atmosphere of the room with antiseptics (phenol) and aromatic oils seems to be of no value in killing the germs or in hastening recovery. Various cresol preparations are recommended for this purpose, but their value is small, and the danger of too much absorption of phenol vapor causing kidney irritation is ever present. The fraudulent assertion that ozone-producing apparatus prevents the growth and dissemination of scarlet fever germs is little less than criminal.

It should not be forgotten that dogs and cats must be excluded from all patients suffering with contagious diseases, and this is especially true of scarlet fever. The doors and windows must be screened from flies, if it is the season for them.

Fatigue and the Hours of Labor.—After stating that the human body is the most efficient machine in existence. Dr. John B. Huber in the *Scientific American*, Jan. 21, 1911. says that the best surety against accident is an alert mind in a virile body, while, on the other hand, the ideal predisposition to accident is an exhausted, rundown, devitalized human machine. There is now no question, he says, of the reality of the relation between fatigue and accidents; in Europe this has been scientifically noted for practically all forms of human activity. Bank clerks make most of their mistakes in the late afternoon; and this appears to be one of the reasons for the comparatively early closing of such institutions, since bankers have found employees' mistakes to be expensive. Everyone now knows that dire calamity results when railway men work continuously too many hours. People should understand also that physicians are not to be overworked; and that rather than this, substitutes or assistants had best be willingly accepted; men who have in their charge the keeping of human health (the most precious thing in existence) must be vouchsafed normal minds in normal bodies. The part-time method of school attendance of children is, doubtless, often unavoidable. Still it has disadvantages; and of these by no means the least is that in the afternoons the minds of children are unfairly taxed, especially when they are made to grapple with such difficult subjects as mathematics, which should be a morning study, when the minds of children are clear and fresh. One here perceives the best of all arguments—from whatever viewpoint one chooses—for the eight-hour day for all forms of labor. For some kinds of labor even eight hours is much too long. It is melancholy to observe that for many employers the prevention of fatigue accidents can be brought about only by making them very expensive. A wise corporation, however selfish, will here instinctively reduce its hours of labor; for reasons of economy, if for no other. After all, it is gratifying to note that the essential parallelism of efficiency and humanity is being increasingly appreciated throughout civilization.

Correction in Salvarsan Technic Article.—In THE JOURNAL, Feb. 25, 1911, page 568, in line 8, instead of 15 c.c. read 25 c.c.

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CANCER IN FISH

Comparative pathology is rapidly adding much valuable material for our understanding of the biology of cancer, and we are in a fair way toward the establishment of a distinct branch of research in this direction. It certainly is of much significance that cancers, or growths which greatly resemble them, occur in all animal forms, at least in all vertebrates, and are not the unhappy heritage of the human race exclusively. We are coming to realize that not only our common domestic animals may succumb to cancer, but even the cold-blooded animals sometimes suffer the same fate. Typical malignant growths have been described in birds, reptiles, frogs, turtles, salamanders, eels, and especially in fish. Schmey,[1] who has recently reviewed the literature, has found reports of fifty-nine cases of tumors in fish, not including the large numbers of thyroid tumors described in certain epidemics in fish hatcheries.

At one time it was currently stated that cancer occurred in carnivora, but not in herbivora, which bit of evidence was eagerly seized and freely used by the vegetarians. They forgot, or at least neglected to emphasize, that cancer is a disease of mature life, and that the carnivora live to a ripe old age by cutting down the herbivora in their tender, non-cancerous youth. More abundant observation has shown that the herbivora also may become cancerous if they escape the maws of the carnivora and omnivora until late enough in life to entitle them to malignant disease. Another popular fallacy—that cancer was a disease of civilization and domestication from which wild animals did not suffer—has also been demolished. While wild animals with malignant tumors seldom come under the observation of persons competent to recognize the disease, enough cases have been described to show that free wild animals may develop cancer. Wild animals in captivity frequently show malignant tumors, a rhinoceros having recently succumbed in the Frankfort Zoological Gardens to a typical cancer of the uterus.[2]

It is the tumors in fish, however, which are just now of particular interest, because of recent observations on what have seemed to be epidemics of cancer of the thyroid arising in trout and salmon kept under rather artificial conditions in fish hatcheries. Pick and Plehn first made this condition generally known, describing epidemics in which as high as 7 per cent. of the fish developed thyroid growths. Similar epidemics have been studied in this country by Gaylord and by Marine and Lenhart. It is at once apparent that the occurrence of cancer as an epidemic in this way has an important bearing on the vital questions of the contagiousness and the possible parasitic origin of cancer, and it is desirable, therefore, to point out that the cancerous nature of these growths is by no means undisputed. Up to the present time this form of thyroid growth has been observed only in salmon and trout, apparently being peculiar to this variety of fish, just as the multiple epithelial growths of the skin are found only in the carp. The evidences of malignancy are furnished chiefly by the microscopic structure, which shows an invasion of tubules into muscle and bone adjacent to the thyroid, entirely comparable to the infiltration of tissues by cancer cells in human neoplasms; but metastases have not been found, and the behavior of the affected fish is not what one might expect in cancer.

The negative side of the question has been well presented by Marine and Lenhart,[3] who bring forward the following facts for consideration: The thyroid enlargement is found in fish kept under unfavorable conditions as to water-supply and crowding, and recovery occurs when the fish are given more freedom even in the same water, or when iodin is supplied in the water; the affected fish show nothing comparable to cancer cachexia, but are large, fat and sluggish, and probably in a condition analogous to cretinism; young fish are more affected than old fish. Furthermore, the microscopic evidence of malignancy, i. e., the invasion of muscle and bone, is not proof of the cancerous nature of the growth in fish as it would be in mammals, for the reason that in fish the thyroid is not normally enclosed within a capsule as it is in the higher animals, but consists of alveoli widely distributed in the areolar space about the ventral aorta. When the fish are kept under conditions which cause a proliferation of thyroid tissue similar to goiter in mammals, the new and enlarged alveoli cause pressure atrophy and replace surrounding structures until we have the picture which has been described as carcinoma of the thyroid. The non-malignant nature of the growth is shown by the fact that after such fish are placed in good water the hyperplasia may cease and a return to relatively normal thyroid tissue takes place. It is, of course, possible that in some cases the non-malignant goiter may become cancerous, just as it does in man, but the arguments of Marine and Lenhart that most of the supposed thyroid cancers of fish merely represent goiters seem well founded.

1. Schmey, Max: Ueber Neubildungen bei Fischen, Frankfurter Ztschr. f. Pathol., 1911, vi, 230.
2. Betke: Frankfurter Ztschr. f. Pathol., 1910, vi, 19.
3. Marine, David, and Lenhart, C. H.: Jour. Exp. Med., 1910, xii, 311.

IMPORTANT RECENT CONTRIBUTIONS TO OUR KNOWLEDGE OF POLIOMYELITIS

Landsteiner and Popper[1] first demonstrated experimentally the infectious nature of poliomyelitis. They showed that the disease could be produced in monkeys by inoculating them with an emulsion of the cord from a child who had died of poliomyelitis. This was soon confirmed by the work of Flexner and Lewis[2] who reported that, by using the intracerebral method of inoculation, they were able to transmit the disease to monkeys in series.

Since this pioneer experimental work, much has been added to our knowledge of the experimental disease by workers in this country and in Europe, reference to most of which has been previously made in these pages. Recently there have appeared in THE JOURNAL three papers by different workers which may almost be said to be the most important contributions to our knowledge of the disease since the early work above mentioned.

Osgood and Lucas[3] show that it is possible to produce typical poliomyelitis in monkeys by the inoculation of a filtrate of the nasopharyngeal mucosa of two monkeys dying without other discoverable infections six weeks, and five and a half months, respectively, after the acute stage of the disease. They were unable to transmit the disease by inoculation of the cord from the same monkeys. From this it follows that the virus of the disease may persist in an infective condition in the nasopharyngeal mucosa of monkeys several months after the acute manifestations of the disease have ceased, but that after the same period it is not demonstrable in the brain and cord.

These observations are of the highest importance and if similar results can be obtained with the nasopharyngeal mucosa from human cases it would seem that our present ideas as to the period of infectivity in recovered cases of the disease will have to be altered. These results may also explain some obscure facts in the epidemiology of the disease.

The most important feature of the paper by Drs. Flexner and Clark,[4] of the Rockefeller Institute for Medical Research, is in regard to the use of hexamethylenamin in the treatment of the disease. This drug has been used by clinicians in the treatment of poliomyelitis and has been thought by some to be of value. Theoretically, the drug should be of benefit, as it has been shown that after its administration *per os* formaldehyd can be detected in the spinal fluid. Flexner and Clark found that if the drug be given so that it be present in the spinal fluid of a monkey and its administration be continued by mouth, injection of the virus intracerebrally resulted, in some of the animals but not in all, first, in a prolongation of the period of incubation from six or eight days to twenty-four days; and, next, in the prevention of paralysis.

The authors emphasize the importance of these observations as showing that drug control of the virus in the body is a possibility, but that the successful results reported are in inhibiting infection, but not in restraining an already established infection with the virus. Flexner and Clark also report the demonstration of immunity principles in the serum of a suspected abortive case, and the confirmation of Osgood and Lucas' work as to the persistence of the virus in the nasopharyngeal mucosa of monkeys surviving the acute stage of the disease.

The paper by Anderson and Frost,[5] of the Hygienic Laboratory, which appears in this issue, deals only with the question of abortive cases. Since the publication of Wickman's[6] monograph on epidemic poliomyelitis, clinicians have come to believe that cases of the disease occur without subsequent paralysis. The clinical evidence on which such opinion is based is as follows: In outbreaks of the disease cases are encountered showing all gradations in the degree and extent of paralysis. In the same group may be found cases resulting in lasting paralysis; cases of transient paralysis, lasting only a few weeks; other cases in which there is no definite paralysis, but merely muscular weakness of short duration; and finally cases of illness with the symptoms of a general infection accompanied by symptoms indicative of meningeal, spinal or encephalic irritation, but without definite motor disturbances.

Taking advantage of the fact reported by several observers that the serum of persons who have recovered from an attack of poliomyelitis would neutralize the virus of the disease so that when injected into monkeys infection would not take place, Anderson and Frost studied the serum from nine suspected abortive cases of poliomyelitis without paralysis and found that the serum of six (66.7 per cent.) of the nine possessed the same germicidal action against the virus as the serum from a frank case of the disease with extensive paralysis. They thus established the correctness of the clinical diagnosis by confirmation with the biologic test. They also by the demonstration of neutralizing principles in the serum confirmed the clinical diagnosis of a type of poliomyelitis with spastic paralysis.

The importance of the results reported in these three papers can hardly be estimated, but their possible bearing on the epidemiology and control of the disease is obvious. The papers, however, bring out the following points very clearly:

1. The clinical diagnosis of abortive cases of poliomyelitis is a possibility and the fact that such cases have been definitely demonstrated may explain the apparent

1. Landsteiner, K., and Popper, E.: Zeitschr. d. Immunitätsforsch. Orig., 1909, ii, 377.
2. THE JOURNAL A. M. A., Nov. 13, 1909, p. 1639.
3. Osgood, R. B., and Lucas, W. P.: Transmission Experiments with the Virus of Poliomyelitis, THE JOURNAL A. M. A., Feb. 18, 1911, p. 495.
4. Flexner, S., and Clark, P. F.: Experimental Poliomyelitis in Monkeys, THE JOURNAL A. M. A., Feb. 25, 1911, p. 585.
5. Anderson, J. F., and Frost, W. H.: Abortive Cases of Poliomyelitis, THE JOURNAL A. M. A., March 4, 1911, p. 663.
6. Wickman, Ivar: Beiträge zur Kennitniss der Heine-Medinschen Krankheit, Berlin, 1907, S. Karger.

immunity of children in households where there are cases with frank paralysis.

2. It has been demonstrated that monkeys, after the acute stage of the disease has passed, are carriers of the infection in the nasopharyngeal mucosa; and the same thing is possible with human beings. If this is proved to be the case, efforts for the control of the disease must take into consideration such carriers. Cases of these two types add serious difficulties to the efforts for the control of poliomyelitis.

3. The results obtained in the use of hexamethylenamin in inhibiting, in a certain proportion of cases, the onset of paralysis suggests the possibility of the use of this drug in serious outbreaks of the disease as a prophylactic.

SUBACUTE INFECTIVE ENDOCARDITIS

Subacute infective endocarditis is a condition long recognizable by clinicians through certain signs and symptoms; the isolation of the infectious agent from the blood in order to clinch the diagnosis is, as yet, a method of examination too seldom used.

The disease is insidious in onset and may develop in any one of several ways. Thus, one patient may suffer from dyspnea, with or without precordial distress, general weakness, emaciation, vague pains, cough, or arthralgia; another may present a condition simulating subacute rheumatic fever and often indistinguishable from it; or a third may have fever, often unexplained by the physical examination.

Clinically, the manifestations of this type of endocardial disease may include: (1) signs of valvular disease, usually present, but occasionally lacking; (2) fever, often slight, at times high and intermittent, always irregular, with or without chills; (3) malaise, gastric disturbances, weakness and emaciation; (4) anemia, usually of marked grade, with a peculiar earthy pallor of the skin; (5) splenomegaly, ostealgia, and arthralgia, joint swellings and, as Libman has pointed out, tenderness over the gladiolus sterni.

Embolic aneurysms are common. Painful erythematous nodules—the *nodosités cutanées éphémères* of the French—are sometimes present. Petechiæ are common and hematuria is not a rare complication.

The disease is more often noted among private patients than in hospital wards. Its duration varies from two months to one and a half years and it is almost invariably fatal.

According to Horder,[1] infective endocarditis is preeminently a form of streptococcal disease "for streptococci occur in 66 per cent. of the cases." The organism isolated by him, however, was not the ordinary virulent *Streptococcus pyogenes,* but a form more nearly allied to the more saprophytic streptococci of the alimentary tract—*Streptococcus salivarius,* etc.

1. Horder: Quart. Jour. Med., 1909, ii, 289.

More recently, Rosenow,[2] and Libman and Celler[3] have studied the blood of patients with subacute infectious endocarditis and have isolated organisms the presence of which they consider of diagnostic import.

In thirty-six of the forty-three cases studied by Libman and Celler blood-cultures were made. In thirty-five of these they found atypical "endocarditis cocci" which were Gram-positive, round, ovoid or bacillary in form, occurring in clusters, in pairs or in chains, never encapsulated. These cocci are smaller than ordinary streptococci or pneumococci and grow more feebly. In the original cultures from the blood, growth was noted first after forty-eight hours, rarely as early as twenty-four hours, often not until after five or six days. On agar, a feeble translucent growth appears, adherent to the surface of the medium, a characteristic lost in subcultures. "On blood-agar plates a definite clear zone is sometimes, though rarely, seen, usually taking two to four days to develop. In transplantations this is lost. Colonies in the original plates are usually white in color, with or without a green or an opaque zone about them. In subsequent cultures on blood-plates three types of growth are seen. There may be a production of green pigment, there may be a moist white growth, or a dry, almost colorless, very slight growth." They are not dissolved by bile. About one-third of the strains ferment inulin. All strains precipitate or "whiten" serum-glucose agar.

The "endocarditis cocci" are not very pathogenic for mice, though peritonitis and endocarditis have been produced by them.

The attenuated nature of these atypical cocci—whether they be pneumococci, as Rosenow and Billings[4] regard them, or streptococci, as Libman and Celler and Schottmüller[5] class them—agrees with the course of the disease and may serve to explain several of its striking features, including: (*a*) the chronicity in many cases and the latency of the malady in others; (*b*) the slight grade or entire absence of leukocytosis often seen; (*c*) the afebrile periods which are common and the occasional absence of fever altogether; (*d*) the absence of suppuration in the infarcts; (*e*) the enormous numbers of the cocci that may be present in the blood-stream without causing grave symptoms.

These "endocarditis cocci" do not appear to be specific, though they have never been found in other conditions. The discovery of them gave rise to the hope of an antiserum or of a vaccine therapy, but so far treatment along such lines has been without favorable result. In fact, according to Rosenow, vaccine therapy may even prove harmful. Now that a more accurate knowledge of the disease has been reached, and the etiology cleared up, the dawn of a rational therapy would seem to be near.

2. Rosenow: Jour. Infect. Dis., 1909, vi, 224.
3. Libman and Celler: Am. Jour. Med. Sc., 1910, cxl, 516.
4. Billings, Frank: Arch. Int. Med., 1909, iv, 409.
5. Schottmüller, H.: München. med. Wchnschr., 1910, lvii, 617; abstr. in THE JOURNAL A. M. A., May 14, 1910, p. 1658.

THE TESTIMONIAL

It is reported that United States District Attorney Sims has obtained a ruling from the federal courts barring out testimonials as evidence in those cases in which the question of the curative properties of "patent medicines" are before the courts. It is gratifying to learn that the courts have at last taken a stand on this question. Week in and week out, for years past, THE JOURNAL has persistently and consistently maintained that testimonials from laymen regarding the curative value of medicine or medical appliances are intrinsically worthless and scientifically valueless. In taking this attitude, it has not been assumed that such testimonials are of necessity fraudulent in their origin. We believe that, at least during the last four or five years, a large proportion of testimonials published by "patent medicine" houses and quacks of various denominations have been genuine as documents; that is to say, a large proportion have been written in good faith by individuals who really believed, at the time they wrote these tributes, that they had received benefit from the drug or appliance whose praises they sang.

The reason for this condition of affairs is perfectly apparent to physicians, but not so evident to the public. Every physician knows that a large proportion of those who are sick, or who think they are sick, will recover whether they receive treatment or not. The average layman, however, has but little faith in the healing power of Nature, and persists in ascribing the "cure" to whatever artificial means he may have employed to bring about relief. In other words, few men without scientific training are able to discriminate between a mere relation of sequence in time and one of cause and effect. It is this very human weakness to give credit to human agencies for what rightly belongs to Nature, that is chiefly responsible for the testimonial—whether the testimonial be for a "patent medicine," for a worthless electrical device or for the various forms of "absent treatment."

No man in the United States has had a better opportunity of determining the worth, or worthlessness, of testimonials than has the assistant attorney-general to the postmaster-general, Judge R. P. Goodwin. On Judge Goodwin, for some years past, has devolved the onerous task of passing on the evidence submitted by post-office inspectors in the numberless cases of fraud perpetrated on the public by various promoters, especially by nostrum vendors and quacks. Judge Goodwin's reports have been very largely the basis on which the postmaster-general has issued the fraud orders in such cases. This is what Judge Goodwin says regarding testimonials:

> "Speaking generally, it may be said that in all my experience in this office never has a medical concern, no matter how fraudulent its methods or worthless its treatment, been unable to produce an almost unlimited number of these so-called testimonial letters."

It is rather surprising that testimonials have not been debarred as evidence long ago.

Current Comment

MORE DONATIONS FOR MEDICAL EDUCATION

It is pleasing to note that no one section of the country is receiving all of the gifts and appropriations for the improvement of medical education. From Oregon comes a report that the legislature has appropriated $30,000 for the department of medicine of the University of Oregon, to be used for the improvement of the college building, for laboratory equipment and for current expenses. In addition, the regents of the university have made an appropriation from the general funds of the university to pay the salaries of full-time professors in anatomy and physiology. From Tennessee comes a report that Vanderbilt University has just received a donation of $300,000, half of which came from the General Education Board as an addition to the endowment fund of the university; the remainder was a special donation from Mr. W. K. Vanderbilt for the purchase of the campus of Peabody Normal College, a sixteen-acre tract containing five or six buildings. These buildings are to be rearranged for the medical and dental departments of the university. The receipt of this money has made it possible for Vanderbilt University hereafter to assume full responsibility, financially and otherwise, for its medical department, and steps are now being taken to establish a university hospital. These developments in the extreme Northwest and in the South not only guarantee the continuance of medical education at the universities named, but also provide stronger and better-equipped medical colleges in sections of the country where, at the present time, their influence on educational standards will be particularly helpful.

NATIONAL TUBERCULOSIS DAY

The observance of National Tuberculosis Day in the churches all over the country on or about April 30 will be similar to that of Tuberculosis Sunday last year. This plan has been arranged by the National Association for the Study and Prevention of Tuberculosis. Instead of asking that the churches give the tuberculosis cause a special Sunday service, at which the subject of tuberculosis and its prevention can be discussed, it is requested that this service be held either on April 30 or on any day near that date. The idea is to have the subject discussed in all the churches at about the same time. The national association is attempting to arouse the churches to take further interest in the subject by soliciting their cooperation in the collection of statistics on tuberculosis. It has planned to distribute from the national office and from the headquarters of the 450 state or local antituberculosis associations millions of circulars. It is stated that the national association will, also, during the next three months, display on bill-boards throughout the country 20,000 educational posters. Free space on bill-boards in many parts of the country has been donated, as well as the printing of the posters. The posters show how fresh air,

good food and rest cure tuberculosis; how bad air, overwork and closed windows lead to tuberculosis; and how the careless consumptive menaces the health of his family by his careless habits.

REAL TALENT WASTED IN A NARROW FIELD

A country dairyman in Louisiana has given indications that he possesses talent of an order that seems to be in great demand among many modern business organizations. A law prohibiting the sale of watered milk threatened to interfere seriously with the vested rights, customs and emoluments of an ancient and honorable business. The canny dairyman at once surmounted the difficulty by a ruse that would delight the heart of a modern trust lawyer. "Surely they can't prevent me from selling people what they want," said he, and so when his attention was called to his little oversight in not complying with the law he answered that he sold pure milk to the customers who requested pure milk and charged them forty cents a gallon for it, but to those who preferred watered milk he sold a fluid (percentage of H_2O not stated) for which he charged twenty-five cents a gallon. Could anything be simpler? Was anyone cheated? Not according to the philosophy of our friend the dairyman who, like the Irish gentleman, probably thought, "What's the law, betune frinds, anyway?" The state board of health, however, will proceed with the prosecution.

PUCK ON ANIMAL EXPERIMENTS

Not all comic papers are silly, neither are all editors of such papers devoid of logic and common sense. After the unfair and ignorant diatribes of *Life* on animal experimentation, the cartoon in last week's issue of *Puck* is distinctly encouraging and refreshing. The artist has portrayed a venerable scientist standing by his laboratory table, on which is strapped a rabbit. The assistant, with ether cone in hand, is ready to administer the merciful anesthetic. On the one hand a crowd of sentimental antivivisectionists, well-fed, well-clothed and healthy, are crying "For Mercy's Sake, Stop!" On the other hand, a shadowy throng of sufferers, the maimed, the crippled, the sick and the dying are groaning "For Humanity's Sake, Go On!" The scientist, looking from one to the other, is evidently weighing in his mind the arguments for and against animal experimentation. *Puck's* cartoon, making an appeal to the reason and the intellect, is a distinct contrast to the frantic efforts of *Life*, which have appealed only to the ignorant, the emotional and the sentimental. In behalf of suffering humanity, we extend our thanks to *Puck*. May his shadow (and his circulation) never grow less.

Eyestrain and Neurasthenia.—The man or woman who leads a life of mental ease and muscular exercise, or the one who has a well-balanced nervous system, or a large reserve of vital energy, will probably withstand a nerve waste which in another individual leads to neurasthenic symptoms. It is possible that in the ages when the simple life was the rule, peripheral irritation and nerve waste, such as eyestrain produces, made little or no impression on the individual; but who can doubt its bad effect in this twentieth century of turmoil and worry?—E. Clarke in the *Practitioner*.

Medical News

ARKANSAS

Report of Sanatorium.—The new Arkansas Tuberculosis Sanatorium, Fayetteville, is practically full. The limit of the accommodation is seventy-four, after which patients can be received only when vacancies occur.

Elections.—At the annual meeting of the Sebastian County Medical Society, held in Fort Smith, Dr. John C. Amis was elected president; Dr. Samuel J. Ozment, vice-president; Dr. Clark S. Wood, secretary; Dr. Charles W. Garrison, treasurer, and Dr. St. Cloud Cooper, censor, all of Fort Smith.——Washington County Medical Society has elected the following officers: president, Dr. P. L. Hathcock, Lincoln; vice-president, Dr. Andrew J. Harrison, Spring Valley; secretary, Dr. Nina V. Hardin, Fayetteville; treasurer, Dr. Andrew S. Gregg, Fayetteville; delegate to the state society, Dr. Thomas W. Blackburn, Canehill, and alternate, Dr. Edward F. Ellis, Fayetteville.——At the annual meeting of Greene County Medical Society, held in Paragould, January 5 the following officers were elected: president, Dr. Jones H. Lamb, Beech Grove; vice-presidents, Drs. E. L. Kennedy Marmaduke; George T. Hopkins, Paragould; Felix M. Scott, Paragould; secretary-treasurer, Dr. Olive A. C. Wilson, Paragould; censors, Drs. Henry N. Dickson, Paragould; W. R. Owens, Paragould, and R. Edward Bradsher, Marmaduke; delegate to the state society, Dr. Thaddeus Cothren, Walcott, and alternates, Dr. George T. Hopkins, Paragould, and R. Edward Bradsher, Marmaduke.——Phillips County Medical Society, at its annual meeting in Helena, elected the following officers: president, Dr. Labrun Hall, Turner; vice-president, Dr. Albert A. Hornor, Helena; secretary-treasurer, Dr. M. Fink, Helena; censors, Dr. William C. King and James B. Ellis, Helena; delegate to the state society, Dr. J. W. Price, Marvell.

CALIFORNIA

Warrants Issued for Chinese Doctors.—Fourteen local Chinese practitioners of Los Angeles, charged with practicing medicine without a state license, were served with warrants, January 31. The charges were preferred by the special agent of the state medical society.

Society Meeting.—At the annual meeting of Santa Barbara County Medical Society, held January 16, the following officers were elected: president, Dr. Benjamin Bakewell, Santa Barbara; vice-presidents, Drs. William B. Cunnane, Santa Barbara; C. C. Park, Santa Barbara, and William T. Lucas, Santa Maria; secretary-treasurer, Dr. Thomas A. Stoddard, Santa Barbara.

COLORADO

Hospital Completed.—The east wing of the Denver County Hospital has been completed at a cost of $103,496.

Open-Air Rooms for School Building.—An open-air room will be constructed for the use of children suffering from tuberculosis in all new school buildings of Denver, and in all additions to existing school buildings.

School for Defective Children.—The board of education of Denver has assigned one of the school buildings for the especial use of pupils, who, for any reason, are three grades behind children of corresponding age. A relatively large number of teachers, and those of special qualifications, will be assigned to this school, which will receive pupils from any part of the county.

Nominated for State Board.—Governor Shaffroth, at an executive session of the senate, submitted the names of Dr. Sherman Williams, Denver, and Jacob C. Chipman, Sterling, and Mr. E. F. Trunk, a druggist of Denver, as members of the State Board of Health.——It is announced that the legislative committee of the state medical society will go before the committees on apportionment of both the house and senate and file objections to the appointment of Mr. Trunk as a member of the board. He is said to be willing to retire from the board on his appointment as pure food commissioner.

DELAWARE

Resident Physician Cleared.—After the investigation into the alleged death of two patients of the Delaware Hospital from poisoning by the administration of bichlorid of mercury instead of calomel, it was found that there was no trace of poison in the stomachs of the deceased, and a verdict was rendered that the deaths were due to natural causes.

Personal.—Dr. Henry W. Briggs, Wilmington, has succeeded Dr. Joseph W. Bastian, resigned, as coroner's physician.——At

the annual meeting of the Physicians and Surgeons Hospital, Wilmington, January 10, Dr. Joseph P. Pyle was elected president; Dr. Josephine W. DeLacour, vice-president; Dr. Thomas H. Phillips, secretary, and Dr. Smith Cooper, treasurer.

Society Meeting.—At the annual meeting of the New Castle County Medical Society, held in Wilmington, the following officers were elected: president, Dr. Henry W. Briggs; vice-president, Dr. James A. Draper; secretary, Dr. Albert Robin; treasurer, Dr. William H. Kraemer, all of Wilmington, and delegates to the state medical society, Drs. Harold L. Springer, Wilmington; Francis L. Springer, Newport; Henry W. Briggs, William H. Kraemer, Frank Belville, Delaware City, and Henry J. Stubbs, Wilmington.

GEORGIA

State Sanatorium to Open.—It is announced that the State Tuberculosis Sanatorium, Alto, will be opened March 1. A sufficient number of applications have already been received to more than half fill the institution. Dr. Edson W. Glidden, formerly of Wallingford, Conn., is superintendent of the sanatorium.

New Medical Association Organized.—The Jefferson County Medical Association was organized at Louisville, February 7, with the aid of Dr. Wyman W. Pilcher, Warrenton, councilor of the state medical association. Dr. James W. Pilcher, Stellarville, was elected president; Dr. G. F. Carpenter, Wrens, secretary; Dr. Pierce Hubert, Louisville, delegate to the state association, and Dr. Joshua R. Beall, Blythe, delegate to the Tenth District Medical Association.

ILLINOIS

Personal.—Dr. Guy G. Dowdall, Chicago, has been appointed chief surgeon of the Illinois Central System, vice Dr. John E. Owens.——Dr. William H. Holmes, Springfield, state bacteriologist, has resigned to enter the service of the State Board of Administration as assistant physician at the Kankakee State Hospital.——Dr. Dallas B. Phemister, Chicago, has returned from Europe.

Meeting of Medical Historians.—The third meeting of the Society of Medical History of Chicago was held February 24, when Dr. Otho B. Will, Peoria, the guest of honor, delivered an address on "A Chapter on the Pioneer Period of Medicine in Illinois." Preceding the meeting there was an informal exhibition of autographic material, participated in by many members of the society.

For a Fifth, a Clinical, Year.—Senate Bill 235, introduced February 23 at the instance of the State Board of Health, provides that when a medical college has a five years' course, the fifth year clinical, its students may be admitted to examination at the end of the fourth year and, if they pass, may receive a limited license good for eighteen months, entitling them to practice in a hospital. On graduation, the student will receive a permanent license without further examination. The bill also aims to give the State Board of Health jurisdiction, in the matter of revocation of certificates, over all issued since 1877.

KANSAS

Election.—At the biennial meeting of the Northwest Kansas Medical Society, held in Topeka, February 9, Dr. Mervin T. Sudler, Lawrence, was elected president; Dr. E. James Blair, Lawrence, vice-president; Dr. Louis V. Sams, Topeka, secretary-treasurer.——Leavenworth County Medical Society, at its annual meeting elected the following officers: Dr. Harley J. Stacey, president; Dr. Charles J. McGee, vice-president; Dr. Jacob L. Everhardy, secretary-treasurer, and Dr. J. Waldo Risdon, delegate to the state medical society, all of Leavenworth.——Harvey County Medical Society, at its annual meeting in Newton, elected Dr. Richard S. Haury, president; Dr. Max Miller, vice-president, and Dr. Frank L. Abbey, secretary-treasurer, all of Newton.

KENTUCKY

More Money for Hazelwood.—The subscription fund to provide quarters for more patients at the Association Sanatorium, Hazelwood, near Louisville, has been growing steadily, and now amounts to more than $10,000. The fund has already permitted the erection of one additional building.

District Nurses Work.—The district nurse work of the King's Daughters in their quarterly report shows 2,487 visits made to various Louisville families in the three months ended January 31. A new feature of the work recently inaugurated is the attendance of one of the district nurses on the session of the Juvenile Court on each Friday. During the past three months the children of this court have been given medical attention.

Tuberculous School Children.—Superintendent E. O. Holland of the Louisville public schools, is compiling statistics as to the number of school children suffering from tuberculosis and the number that are truant and subnormal, with a view of segregating them from other pupils. From reports he has already received from principals and teachers it is believed that such large numbers will be found in the public schools that several buildings will have to be provided for them. Twenty-five suspected cases of tuberculosis have been reported from two buildings alone. To overcome the crowding of some schools a number of grades have been assigned for afternoon study. He reports that forty of the fifty-six buildings of the city are not properly ventilated, and that in many of the buildings two pupils sit in a seat made for one. It is proposed to stimulate the mental activity of the abnormal pupils with the kind of manual training work that will most fit their individual needs. The method of dealing with the truant and semi-incorrigible pupils has not yet been determined, but it has been agreed by the Board of Education that something must be done to segregate them from other children.

LOUISIANA

Hookworm at State University.—Following the investigation made by Dr. A. S. J. Hyde, of the Hookworm Commission, it is announced that 25 per cent. of the students thus far examined at the state university are infected with hookworm.

New Hospital Opened.—The formal opening of the Presbyterian Hospital, New Orleans, occurred February 4. Addresses were made by the mayor, the president of the board of managers, the president of the parish medical society, and others. The free clinic of the hospital is located at 730 Baronne Street, and is open to the worthy poor, irrespective of religious denomination, not only by day but from 7 to 9 p. m.

Parish Society Meeting.—At the annual meeting of the Iberville Parish Medical Society, held in Plaquemine, January 31, the following officers were elected: president, Dr. Boote O. LeBlanc, Saint Gabriel; vice-president, Dr. G. A. Darcantel, Whitecastle; secretary-treasurer, Dr. Adrian A. Landry, Plaquemine; censors, Drs. Arthur A. Allain, Bayou Goula, and Rome Martinez; delegate to the state medical society, Dr. W. Glendower Owen, White Castle.

MARYLAND

Make Appropriation for Sewers.—The citizens of Easton have voted to spend $40,000 for sewerage and drainage system.

Personal.—Dr. Richard C. Massenburg, Towson, has entirely recovered from his recent illness.——Dr. Josephine A. Wright, assistant superintendent of the Eudowood Sanatorium for Consumptives, near Baltimore, has resigned and will practice in Towson.

Diphtheria in Johns Hopkins Hospital.—On account of an outbreak of diphtheria among patients, nurses and physicians in Johns Hopkins Hospital, where about 35 cases are reported, the public wards have been closed to students and the public, and the medical school has also been officially closed until further orders. Those affected have been isolated in the two wards where the first cases occurred.

Academic Day Exercises.—At the Academic Day Exercises of Johns Hopkins University, February 23, Hon. James Bryce, ambassador from Great Britain, the chief speaker, was given the degree of LL.D., and a portrait medallion of Dr. William H. Welch by Brenn of New York, and an oil painting of Dr. William H. Howell were exhibited and presented during the exercises. The Homewood Fund for the removal of the university to a new site in the suburbs now amounts to $1,200,000.

Banquet to Professor Howell.—Dr. William H. Howell of Johns Hopkins Medical School, was the guest of honor at a banquet, February 20, when a portrait of him by Cecilia Beaux, was presented to the university by Dr. Reid Hunt of Washington, and was accepted by the presiding officer, President Ira Remsen of the university. Dr. William H. Welch spoke of the valuable work done by Dr. Howell; Hon. John C. Rose, judge of the United States circuit court, spoke of him as a citizen; and Drs. Samuel J. Meltzer, New York City, and W. W. Willoughby on his work as a teacher. President Remsen stated that he had never done anything more important for the school than when he persuaded Dr. Howell, who had been offered an important position in another university, to remain with his alma mater.

Baltimore

Members of Advisory Council.—The following have been elected medical representatives of the Alumni Advisory Council of the University of Maryland: Drs. Charles E. Sadtler, Joseph W. Holland, Harry Adler, B. Merrill Hopkinson, Eugene F. Cordell, Nathan Winslow, Albert L. Wilkinson, J. Clement Clark, and James D. Iglehart.

Personal.—Dr. Henry M. Hurd has resigned the superintendency of Johns Hopkins Hospital, after having served twenty-two years. He will remain as secretary and advisor of the board of trustees. Dr. Winford H. Smith, general medical superintendent of Bellevue and Allied Hospitals, New York City, has been elected as Dr. Hurd's successor.——Dr. Summerfield B. Bond is ill in University Hospital with carcinoma of the liver and pancreas.——Dr. J. Hall Pleasants has been elected a member of the Alumni Council of Johns Hopkins University.

MASSACHUSETTS

Influenza in Worcester.—During January, it is stated that approximately 3,000 cases of epidemic influenza were reported in Worcester, with one death.

Personal.—Dr. Owen Copp, Boston, executive officer of the State Board of Insanity for twelve years, has resigned to assume charge of the Pennsylvania Hospital for the Insane, Philadelphia.——Dr. Alfred O. Hitchcock, chairman of the board of health, Fitchburg, has resigned and his duties have been temporarly assumed by Dr. Dwight S. Woodworth.——Dr. Paul Carson, port physician at Boston, has been placed in charge of the city health department's division of child hygiene and school medical inspection. Dr. William M. Gay, assistant port physician, is in temporary charge of the quarantine station.

Dental Dispensary for Children.—The Forsyth Dispensary for Children, incorporated last year by special act of the Massachusetts Legislature, is to be located at Hemenway Street near Huntington Ave., Boston, and will be one of the notable group of buildings which includes Harvard Medical School. The land, building, and a maintenance fund of $1,000,000 are the gift of John Hamilton and Thomas Alexander Forsyth in memory of their brothers, James Bennett and Thomas Henry Forsyth. The site on the Fenway consists of 51,000 square feet. The building is to be three stories and two partial mezzanine floors in height. The basement will be occupied by the general waiting room for children, janitor's rooms, boiler and engine rooms, etc.; the first floor will have a lecture room seating 250, which is intended to be used for popular lectures on dental hygiene; a room for visiting dentists, museum and research laboratory, and founders' room, and rooms for anesthesia and extracting, with male and female wards. The second floor will be used entirely for the infirmary, about which as a nucleus and subservient to the requirements of which the rest of the building is constructed. There will be in this infirmary accommodation for 108 operating chairs with waiting, *x*-ray and reserve rooms.

MINNESOTA

New Hospital.—Plans have been completed for the hospital building which Dr. George G. Eitel is to build at Fourteenth and Willow Street, Minneapolis. The building is to be five stories in height with high basement and is expected to cost $150,000.

Medical Society Meetings.—The Rice County Medical Association, at its annual meeting, held in Northfield, elected the following officers: president, Dr. Arthur C. Rogers, Faribault (reelected); vice-presidents, Drs. Warren Wilson, Northfield, and William H. Rumpf, Faribault; secretary-treasurer, Dr. Frederick U. Davis, Faribault; delegate to the state society, Dr. David M. Strang, Northfield; and alternate, Dr. Isaac F. Seeley, Northfield.——Waseca County Medical Society, at its annual meeting, elected the following officers: president, Dr. Alexander J. Rudolf, Waseca; vice-president, Dr. William M. Cory, Waterville; secretary-treasurer, Dr. Henry G. Blanchard, Waseca; censors, Drs. Frederick A. Swartwood, Waseca; W. A. Meiliche, Janesville; and Henry O. Hagen, New Richland; delegate to the state association, Dr. James F. Lynn, Waseca; and alternate, Dr. Edwin J. Batchelder, New Richmond.——At the annual meeting of the Upper Mississippi Valley Medical Association, held in Little Falls, Dr. Paul E. Kenyon, Wadena, was elected president; Dr. M. A. Desmond, Akely, vice-president; Dr. George H. Lowthian, Akely, secretary; Dr. William Reid, Deerwood, treasurer; Dr. Walter Courtney, Brainerd, censor; Dr. Frank H. Knickerbocker, Staples, delegate to the state association; and Dr. J. Burton Holst, Little Falls, alternate.

MISSOURI

Physicians Ignore Order.—Nine physicians of St. Joseph, who had failed to observe the ordinance requiring them to report cases of communicable diseases, have been cited to appear before the local board of health.

Bequest.—By the will of the late Dr. Ottoway T. Fields, a wealthy colored physician who died March 1, 1910, his medical library, surgical instruments and office appliances are bequeathed to Walden University, Nashville, Tenn., and $1,000 is devised to Provident Hospital, St. Louis.

St. Louis

Section Officers Elect.—At the meeting of the Oto-Laryngological Section of the St. Louis Medical Society, January 25, Dr. Albert F. Koetter was elected chairman; Dr. Max A. Goldstein, vice-chairman; Dr. Eugene T. Senseney, secretary-treasurer, and Dr. Frederick C. Simon, editor.

Social Hygiene Society Meeting.—At a meeting of the St. Louis Society of Sanitary and Moral Prophylaxis, held January 21, the following physicians were elected to office: president, Dr. George Homan; treasurer, Dr. Archer O'Reilly, and members of the executive committee, Drs. Francis L. Bishop, John Green, Jr., Carl J. Luyties, Walter H. Fuchs, Frederick K. Taussig and Bransford Lewis.

NEW YORK

New Society.—The Buffalo Society of Sanitary and Moral Prophylaxis has been organized, and the following officers have been elected: president, Dr. Lucien Howe; vice-president, George A. Lewis; secretary, Ada M. Gates; and treasurer, A. M. Cotton.

Judgment Against Milkmen.—The Supreme Court of Delhi is said to have rendered a judgment of $16,000 against Fish-handler and Abrams of New York for violating the pure milk law by shipping 836 cans of adulterated milk. This is one of the largest judgments ever secured for such a violation.

The Toll of Tuberculosis.—In connection with the tuberculosis exhibit at Ithaca, conducted by the New York State Department of Health and the State Charities' Association, Prof. Walter F. Wilcox, the Cornell statistician, placed the monetary loss to the State of New York from deaths by tuberculosis in 1910 at $64,000,000. He stated that one-ninth of the deaths in the state for last year were due to tuberculosis. Mr. Livingston Farrand, New York City, made a plea for more rural hospitals. Statistics gathered by the State Department for the last four years showed that the death-rate from tuberculosis is decreasing about three times as rapidly in the cities as in the rural districts.

Tuberculosis in Prisons.—Dr. Julius B. Ransom of Clinton prison, Dannemora, N. Y., in an address before the Society of Medical Jurisprudence at the New York Academy of Medicine, on Feb. 13, stated that from 40 to 60 per cent. of all deaths in the prisons of the world are due to tuberculosis and this percentage at times reaches 80 per cent. In this country more than one hundred thousand prisoners are annually discharged to the general community and more than 16 per cent. of these are infected with tuberculosis. Dr. Ransom gave statistics showing that of 46,129 prisoners in the Atlantic and middle west states only 125 are tuberculous, while of 4,624 in five southern states only 125 are tuberculous, and of the 8,540 in the western states only 118. This difference was due to the fact that in the South and West prisoners were put to work in the open air, whereas dust-raising industries in the eastern prisons were conducive to the increase of tuberculosis. Dr. Ransom urged the necessity for a systematic campaign for the treatment of the tuberculous inmates of prisons, jails and detention and charity institutions, advocating special institutions for treatment and the providing of outdoor work.

New York City

Hospitals for Measles.—A seven-story hospital, exclusively for the treatment of measles, with a capacity for 325 patients is to be built this summer at a cost of $275,000.

Bequests.—By the will of the late Mrs. Charlotte Garretson of New Hyde Park, L. I., Presbyterian Hospital is bequeathed $7,500 and the Flushing Hospital $10,000.——The will of Mrs. Caroline Lawrence leaves $20,000 to St. John's Hospital, Yonkers.

Milk Commission Asks Help.—The Medical Society of the County of New York has been appealed to by the Milk Commission to help the certified milk movement by recommending the use of certified milk in their practice. Accompanying the appeal is a description of the conditions under which certified milk is produced.

To Insane Hospital Instead of Penitentiary.—Dr. Ernest H. F. Pirkner, who conducted a so-called sanatorium in West Seventy-Ninth Street, and was recently indicted before the grand jury, tried and found guilty, and was about to have been sentenced to imprisonment in the penitentiary, became violently insane, and has been committed to the Morris Plains Hospital.

Personal.—Dr. Edward G. Janeway has been appointed head of the medical staff of the Presbyterian Hospital, vice Dr. W. Gilman Thompson.——Dr. Simon Flexner of the Rockefeller Institute for Medical Research will deliver the Harben Lectures of the Royal Institute of Public Health of London for 1912.——Dr. Fred J. Leviseur has been appointed consulting dermatologist to the Montefiore Home.

Lectures at Skin and Cancer Hospital.—The governors of the New York Skin and Cancer Hospital announce a course of lectures in the out-patient hall of the hospital every Wednesday afternoon, beginning on March 1 at 4:15 o'clock and continuing until April 26. Dr. L. Duncan Bulkley will deliver the first seven of these lectures and Dr. W. Seaman Bainbridge the last two. The subjects will be eczema, acne, psoriasis, syphilis and cancer.

City Provides Milk Stations.—The Sinking Fund Commission has provided for the distribution of pasteurized milk by the city at cost for the use of infants of poor families. Premises will be rented for the establishment of seven stations in Brooklyn, four in Manhattan and one in the Bronx. The city will employ six medical inspectors, ten nurses and fifteen assistants. The budget contains an item of $40,000 to defray the cost of this work.

The Practice of Midwifery.—At the meeting of the Section on Obstetrics and Gynecology of the New York Academy of Medicine, February 23, Dr. J. Clifton Edgar presented a preamble and resolution, which were unanimously adopted, setting forth that, as 50 per cent. of the births in the large cities of this country are attended by midwives; as the profession of midwifery in the United States is followed by ignorant, untrained and incompetent women; as some of the results of this practice are unnecessary blindness, mental and physical degeneracy and deaths of infants, and unnecessary suffering, invalidism and deaths of mothers; and, as although both physicians and nurses are given instructions in the training and care of childbearing women and new-born infants, provisions are made for the adequate training of midwives, the Section recommends that measures be taken in New York to secure new legislation which shall provide for the training, registration, licensure, supervision, regulation and control of women engaged in the practice of midwifery.

OREGON

Society Meetings.—Physicians of the county met recently at Wallowa Hospital, Wallowa, and organized the Wallowa County Medical Association, and elected the following officers: president, Dr. James H. Thompson, Joseph; vice-president, Dr. Clyde T. Hockett, Enterprise, and secretary-treasurer, Dr. Ralph M. Erwin, Joseph.——At a meeting of the Polk and Yamhill County Medical Association, held in McMinnville, Dr. Asa B. Starbuck was elected president, and Dr. Lenthal A. Bollman, secretary-treasurer, both of Dallas.

Medical College Gets Appropriation.—It is reported that the Oregon legislature has made a special appropriation of $30,000 for the Department of Medicine of the University of Oregon, to be expended for the improvement of the college building, laboratory equipment and current expenses. The regents of the university have made an additional appropriation from the general fund to cover the salaries of two full-time professors. These are Dr. David M. Roberg, who has been secured for the chair of anatomy, and Dr. John McLaren for the chair of physiology.

Personal.—Dr. Fred W. Vincent, Pendleton, who has been confined to the house on account of a fractured rib, is convalescent.——Drs. Eldred B. and Clara Waffle, Portland, started for Europe, January 17.——The office of superintendent of the Eastern Oregon Insane Asylum, which will not be ready to receive patients for a year and a half, and of which the incumbent was Dr. James D. Plamondon, Athena, has been declared vacant.——Dr. Herbert S. Nichols, Portland, has been appointed a member of the Oregon State Medical Board, vice the late Dr. Osmond Royal.——Following a hearing conducted by the Oregon State Board of Medical Examiners, Dr. William T. Eisen, Portland, charged with having procured an unlawful operation which resulted in the death of Mrs. Anna Foleen, the license of Dr. Eisen to practice medicine is said to have been revoked.

PENNSYLVANIA

Personal.—Dr. John B. Chapin, for many years chief of the Insane Department of the Pennsylvania Hospital, Philadelphia, has retired from active duty.

Gift to Tuberculosis League.—Henry Phipps, the first contributor to the Tuberculosis League of Pittsburg, has donated $25,000 to the league on the condition that $150,000 be raised by the members; $118,000 of this amount has already been secured, leaving a balance of only $32,000 to complete the amount.

Election.—At the meeting of the Pottsville Medical Society, February 9, the following officers were elected and installed: president, Dr. George R. S. Corson; vice-presidents, Drs. Merchant C. Householder and Thomas W. Swalm; secretary-treasurer, Dr. John J. Moore, and directors, Drs. George H. Boone, Patrick H. O'Hara and Joseph G. Kramer.

Philadelphia

Morgan Memorial Committee.—The proposed Dr. John Morgan Memorial at the University of Pennsylvania is in charge of Provost Edgar F. Smith, and Drs. S. Weir Mitchell, William Pepper, Jr., Clarence P. Franklin and Swithin Chandler, chairman.

Babies' Club Formed.—For the instruction of mothers in the care of infants and as a further prevention of infant mortality, the Public Health Committee of the Civic Club, has started a "Babies' Club" which meets weekly at the Southwark Neighborhood House. The lectures are really practical demonstrations by the nurse in charge and there is a room fitted up with everything necessary, weighing scales, bath tub and simple remedies.

Meeting Hall Referendum.—As a result of the recent postal referendum on the future place of meeting for the Philadelphia County Medical Society, it has been announced that there were 408 votes in favor of continuing the meetings at the College of Physicians and 197 favoring removal to a more centrally located hall. At the business meeting of the society held on January 18, it was finally settled in favor of the College of Physicians.

Fined in Measles Case.—Accused of having violated the health laws of the state, John L. Worshing, purchasing agent for the Huntingdon and Broad Top Railroad Co., is said to have pleaded guilty, February 2, and to have been fined $20 and costs. The charge against Mr. Worshing was that of removing his son, who was suffering with measles, from the Presbyterian Hospital to his home in Huntingdon before the period of incubation had passed, thereby exposing other passengers to contagion.

Hospital Inquiry Urged.—At the meeting of the Philadelphia County Medical Society on January 18, a resolution was adopted to investigate appropriations to hospitals not under state control. The resolution urges the governor to appoint a joint committee, consisting of three members of the senate, three members of the house, a member of the state board of charities, two licensed physicians, who are not connected with any institution receiving state aid, and a member of the bar, who has served as a manager of a hospital.

Personal.—Dr. George W. Mercher, chief resident physician of the Germantown Hospital is recovering from an operation for appendicitis.——Provost Edgar F. Smith, of the University of Pennsylvania, has been appointed a member of the college and university council in place of C. C. Harrison, resigned.——Dr. Adolph Feldstein, the first resident physician of the Jewish Hospital and for nearly fifty years one of the physicians to the institution, celebrated his seventieth birthday anniversary.——Drs. E. A. McLain and J. E. Murphy have been appointed physicians to the Insane Department of the Philadelphia General Hospital.

Popular Lectures on Tuberculosis.—The popular course of lectures at Logan Hall, University of Pennsylvania campus in charge of a committee of the faculty consisting of Dr. Charles K. Mills, chairman; Dr. Allen J. Smith, dean of the Medical School, and Dr. A. N. Richards, have been most successful. The lecture February 3, was "Tuberculosis from the Sociological Point of View" and one of its main points was that society must remove the ignorant and evil conditions which foster tuberculosis and that the campaign against it is one of education.

Annual Elections.—The following officers were elected for the year 1911 at the recent meeting of the Academy of Medicine: president, Dr. Robert G. LeConte; vice-presidents, Drs. Gwilym G. Davis and John H. Gibbon; treasurer, Dr. Edward B. Hodge; secretary, Dr. Charles F. Mitchell; recorder, Dr.

John H. Jopson, and councilors, Drs. Francis T. Stewart, Thomas R. Neilson and J. Chalmers DaCosta.——The following officers were elected by the Northeast Branch of the County Medical Society: Dr. J. Albert Bolin, chairman; Dr. Albert C. Buckley, clerk, and Dr. Frank Embery, associate vice-president.

SOUTH DAKOTA

Gift to Medical Library.—Dr. Frederick A. Spafford, Flandreau, and Dr. William E. Moore, Tyndall, have each presented to the library of the College of Medicine of the University of South Dakota more than one hundred volumes of medical books, journals and periodicals.

Election.—At the annual meeting of the Eighth District Medical Association, held in Yankton, Dr. Herman J. G. Koos, Scotland, was elected president; Dr. Nelgaard, Volin, vice-president; James Roane, Yankton, secretary-treasurer; and Dr. Silas M. Hohf, Yankton, delegate to the state society.—— Watertown District Medical Society, at its annual meeting, elected Dr. Charles S. O'Toole, Vienna, president; Dr. Harry M. Freeburg, Watertown, vice-president; Dr. James B. Vaughn, Castlewood, secretary-treasurer; and Dr. William O. Leach, Carthage, censor.——The Fourth District Medical Society, at its annual meeting in Pierre, elected Dr. Charles M. Hollister, Pierre, president; Dr. Napoleon B. Gerhart, Pierre, vice-president; and Dr. Joseph M. Walsh, Fort Pierre, secretary-treasurer.——At the organization of Gregory County Medical Society, at Dallas, recently, Dr. Harry A. Murnan, Gregory, was elected president; Dr. Edwin B. Bradley, Burke, vice-president; and Dr. Thomas R. Castles, Dallas, secretary-treasurer.

TENNESSEE

Medical College Suspended.—It is reported that the Knoxville Medical College, colored, has been temporarily suspended. There was only one graduate in 1910.

Society Elections.—The Montgomery County Medical Society, at a meeting in Clarksville, February 10, elected the following officers: president, Dr. Frank J. Runyon; vice-president, Dr. George E. Vaughn, both of Clarksville, and secretary, Dr. Lucullus E. Webb, St. Bethlehem.——McNairy County Medical Society, at its annual meeting in Selmer, elected Dr. E. Garry Sanders, Stantonville, president; Dr. James L. Smith, Selmer, vice-president, and Dr. Benjamin C. Dodds, Gravelville, secretary-treasurer.

Improvements at Medical School.—Vanderbilt University has received a donation of $150,000 from the General Education Board as an addition to its general endowment and a like sum from Mr. W. K. Vanderbilt to be used for the medical department. These contributions have made possible the purchase of the campus of the Peabody Normal College which contains 16 acres of ground. On this campus are five or six buildings which are to be used for the medical and dental departments of the university. It is planned also to establish at once a university hospital of at least one hundred beds.

TEXAS

Recommends New Laboratory.—As the result of the inspection of the State Medical College, Galveston, by the subcommittee of the senate, a strong recommendation is made for the construction of a separate chemical laboratory as a necessary addition to the equipment of the institution.

Medical Society Meeting.—DeWitt County Medical Association held its annual meeting in Cuero, February 7, and elected Dr. George W. Allen, Yorktown, president; Dr. William D. Finney, Cuero, vice-president; Dr. Bronislaw J. Nowierski, Yorktown, secretary-treasurer; Dr. Robert Westphal, Yorktown, censor; Dr. W. R. Gillett, Cuero, delegate to the state medical association, and Dr. Harry H. Brown, Yoakum, alternate.

Cities to be Admitted to Census Bureau.—Although Texas as a state is not included in the death registration area of the United States, formed for the compilation and study of mortality statistics by the bureau, there are two cities, Galveston and San Antonio, which because of the effective local death registration ordinances, have been considered in the area of the bureau for the last four years. Owing to the activity of Dr. William M. Brumby, late state health officer, in promoting the extension of the registration area, many requests have been received from Texas cities which desire admission to the area and the chief statistician believes it probable that a number of them, in which the ordinances are thoroughly enforced, will be admitted to the area for the current year.

WISCONSIN

Society Meetings.—At the annual meeting of Brown County Medical Society, held in Depere, Dr. Richard C. Buchanan, Green Bay, was elected president; Dr. Felix Moraux, Luxembourg, vice-president; Dr. Thomas J. Oliver, Green Bay, secretary-treasurer; and Dr. Daniel H. Gregory, Depere, censor.—— Langlade County Medical Society, at its annual meeting in Antigo, January 28, elected the following officers: president, Dr. Michael J. Donohue (reelected); vice-president, Dr. George H. Williamson; secretary-treasurer and delegate to the state medical society, Dr. John C. Wright, and censor, Dr. Ignatius D. Steffen, all of Antigo.——At the twenty-fourth annual meeting of the Fox River Valley Medical Association, held in Menominee, Mich., February 7, Dr. Henry W. Abraham, Appleton, Wis., was elected president; Drs. Benjamin T. Phillips, Menominee, Mich., and F. Gregory Connell, Oshkosh, vice-presidents; and Dr. W. Weber Kelly, Green Bay, Wis., secretary-treasurer (reelected).

Proposed Legislation.—Dr. Cornelius A. Harper, Madison, secretary of the State Board of Health and a member of the legislature, has set a good example to other legislators. He has declined to do professional work during the 100 days' session of the legislature. He is about to introduce a bill providing for a state sanitary inspector whose duty it will be to travel through the state inspecting hotels, jails, school buildings, public buildings of all kinds, streets, alleys and other places to see if they are kept in sanitary condition. The bill carries an appropriation of $3,500, one-half for salary, and one-half for expenses of the office. The second bill requires counties to make adequate provision for the care of advanced cases of tuberculosis. The state at present cares for incipient cases, but the State Board of Health wishes counties to take care of their own advanced cases. The third reform is the prohibition of the common drinking cup in all public buildings throughout the state.

GENERAL AND FOREIGN NEWS

Probably Not Plague in Spokane.—The daily press of February 28, reported that Passed Assistant Surgeon Bolivar J. Lloyd, U. S. P. H. and M.-H. Service, specially detailed for this service, has decided that the deaths in Spokane, supposed to have been due to bubonic plague, were not due to that disease but rather to a complication of influenza and pneumonia.

Cholera in Hawaii.—The Chion quarantine office, Honolulu, reported on February 25, four fatal cases of cholera among Hawaiians. Two of these were in the Kewalo suburb of the city, and two at a point nearly a mile distant in the city proper. On the following day two additional cases were reported, with one death. All necessary precautions are being taken by the Board of Health of Honolulu.

Conference on Education and Legislation.—As the Journal goes to press, the seventh annual conference of the American Medical Association on Medical Education and Medical Legislation is holding its opening session. The program was given in THE JOURNAL recently. An account will appear in these columns later and the full report will be published in the *Bulletin of the American Medical Association.*

Meeting of the Association of Colleges.—At the meeting of the Association of American Medical Colleges in Chicago, February 27 and 28, a number of amendments to the constitution were adopted, the principal one being in regard to the new curriculum for medical colleges and the raising of the entrance requirements to an unconditioned high-school certificate. Another amendment was the placing of the administration of the entrance requirements into the hands of proper educational authorities. The following officers were elected: president, Dr. William P. Harlow, University of Colorado, Boulder; vice-presidents, Drs. Henry A. Christian, Harvard Medical School, Boston, and Charles M. Hazen, Medical College of Virginia, Richmond; secretary-treasurer, Dr. Fred C. Zapffe, Chicago (reelected), and judiciary council, Drs. William J. Means, Columbus, O.; Randolph Winslow, Baltimore; Clarence M. Jackson, Columbia, Mo.; Charles R. Bardeen, Madison, Wis.; Egbert LeFevre, New York City; James R. Guthrie, Dubuque, Ia., and John A. Witherspoon, Nashville, Tenn. The next annual meeting will be held in Chicago.

Bureau for Distributing Bacterial Cultures.—The Department of Public Health at the American Museum of Natural History has equipped a laboratory to serve as a central bureau for the preservation and distribution of bacterial cultures of both pathologic and non-pathologic organisms. It is hoped that the laboratories of medical schools, colleges, boards of health, agriculture experiment stations, and individuals engaged in bio-

chemic work will furnish the museum with cultures in their possession. Types of new species and varieties are particularly desired at present. The laboratory plans also to keep on file descriptions of bacterial species in print or arranged in the form of standard card, and will be grateful for copies of any such descriptions. Descriptions filed in the department will be carefully preserved and living cultures will be supplied at all times without charge to corresponding laboratories, and so far as possible, and with a reasonable charge, to schools and other institutions which may desire cultures. Pathogenic forms will be sent only to properly qualified persons. The headquarters of the department are at Seventy-Seventh Street and Central Park West, New York City.

Sanitary Association Meeting.—At the fourth annual meeting of the Lake Michigan Sanitary Association, held in Chicago, February 18, addresses were made by R. R. McCormick, formerly president of the sanitary district, in which he stated that the power to protect the waterways from pollution rests with the federal government; and that if the people of the states of Wisconsin, Illinois, Indiana and Michigan do not take proper action the government will forbid all communities to empty refuse into Lake Michigan or adjacent waterways. Surgeon George B. Young of the U. S. Public Health and Marine-Hospital Service, discussed legislation now pending in congress relative to sanitation; Dr. Mazyck P. Ravenel, of the University of Wisconsin, spoke on "The Water of Racine, Kenosha, and Milwaukee;" Frank A. Windes discussed the progress in the improvement of north shore sanitary conditions; Langdon Pearse, of the sanitary district, spoke on "Sewage Disposal"; J. Herbert Brewster, of the Indiana State Board of Health, made a report on the condition of the Calumet River from Gary to its mouth; and Health Commissioner, Dr. William A. Evans, Chicago, discussed sanitary conditions.

Good Sanitary Conditions in Havana.—The *Revista de Med. y Cirugia* of Havana publishes an open letter from Dr. J. Guiteras, chief of the public health service of the island, protesting against certain statements that appeared in the *Boston Transcript* and were copied in the *Army and Navy Journal*, Oct. 10, 1910, to the effect that Cuba was dropping back into her old apathy in respect to sanitary matters. He deplores the fact that every year at the opening of the tourist season some paper in the United States makes some such statement and that it is copied from one to the other until it seems important enough to be reproduced by some standard periodical which does not take the trouble to verify its accuracy. On the contrary, Guiteras states in 1909 there were only forty-five deaths from typhoid at Havana, with a population of 300,000, and thirty-eight in the first eleven months of 1910; there has been no mortality from yellow fever for years; from tuberculosis it has been only 13.07 per 10,000 inhabitants, and the infant mortality has constantly declined, dropping from 196 in 1900 to 171 for each 1,000 births, while in the entire island it is only 116. The deaths from malaria have dropped from 19 in 1908 to 6 in 1909, and the general mortality of the island now is only 13 per 1,000. The republic goes to great expense throughout the island to keep up the mosquito campaign, but in 3,056,118 houses examined only 6,238 actual breeding-places were discovered.

Proposed Organization of the Profession in Cuba.—The Cuban Academia de Ciencias Medicas, Fisicas y Naturales, located at Havana, recently sent out an appeal signed by its president, Professor J. Santos Fernandez, to all the medical men of the island inviting them to a national gathering to discuss ways and means for organizing the profession to protect its material and other interests. At the meeting resolutions were adopted to have a petition drawn up to be presented to the national legislature asking for compulsory organization of the registered physicians of the country, regulation of the illegal practice of medicine, establishment of a minimum salary for medical state officials, with an increase of 10 per cent. for each five years of service, correction of hospital abuse by those able to pay, contract practice restricted to 500 policy-holders to one medical officer, etc. In the discussion of the subject one speaker cited the universal dissatisfaction with conditions in regard to contract practice in France, England, Germany and Spain, where the medical men have finally had to organize to protect themselves against further exploitation by outside interests. In Belgium, he added, the physicians have triumphed over these evil conditions, thanks to the union of their common interests in concerted action. The idea of organization in Cuba being made compulsory is combated by other physicians, the opposition being so wide-spread that it will probably cause the whole matter of organization of the profession in Cuba to be tabled for the present, although the leaven of the need for organization is surely working.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, Jan. 14, 1911.

Health and Sanitation in Indo-China

During a Christmas vacation just ended, I made a trip to Indo-China and while there visited some of the hospitals and inquired into the general health of the country and the sanitary measures in vogue. Indo-China is a French possession and the stronghold of the French in the far East. It is located south of the Canton district of the Chinese Empire and east of Siam and the Malay peninsula. The country has been under the control of France for about sixty years. During this time many improvements have been made and the country has many of the landmarks of western civilization. The roads are excellent and most of even the smaller towns are supplied with the best available water and possess underground sewage systems. Many of the latter improvements, however, are doubtless for the convenience and health of the government functionaries, most of whom are French. One quickly gathers the impression that the native gets far less consideration in Indo-China than in the Philippines. House servants get from $4 to $8 (Mex.) (about $1.80 to $3.60 U. S. standard) per month and the great mass of the rice-field laborers who make up by far the majority of the population are still permitted to live in the dingy little nipa shacks which usually are found in groups in a filthy swamp. In many respects Indo-China resembles the Philippines, both in climate and in topography.

The principal diseases of the former are said to be dysentery, skin diseases and malaria. Dysentery is quite prevalent and is often very severe on the European. It is asserted that bacillary dysentery is not found in the country, but the quickness with which people sometimes die with dysentery there would tend to make one a little skeptical. Cases often terminate fatally in one to four days. A source of a great deal of the dysentery, especially among the Europeans, is from fresh vegetables, both those from the local market and those imported from China. In either case they are grown by Chinese, and the Chinaman's system of gardening is not a particularly sanitary one. Human and animal excreta are collected in a cesspool or well and the whole mass of excreta and water is churned up into a fine emulsion. Each evening the truck garden is sprinkled from this pool. Thus fertilization and irrigation are accomplished at the same time and the vegetables thrive. This kind of vegetable naturally has a tendency to produce more fertilizer and the "heathen Chinee" profits additionally. As might be expected when vegetables of this kind are not well sterilized, there results serious infection with various microorganisms. This is probably the source of most of the dysentery among Europeans in Indo-China.

In the tropics, green vegetables, lettuce, tomatoes, etc., are especially palatable and one is tempted to eat them even when one has no assurance that they have been properly prepared.

Liver abscesses are quite common among the soldiers of Indo-China. At the hospital in Saigon there are several cases (four to ten) for operation each week. The Public Health Reports show a few cases of bubonic plague and cholera each week, but they seldom become epidemic. Yaws is said to be practically unknown in Indo-China, and leprosy occurs less frequently there than in the Philippine Islands. In regard to the occurrence of yellow fever, I was told that it was believed not to exist or at least is of very rare occurrence in recent years, but that when the French were attempting to dig the Panama Canal, it was always a source of anxiety and that cases appeared from time to time.

Major E. R. Whitmore, who has made a more extended tour of French Indo-China and a more complete inquiry into the medical problems of that country, has reported his observations to the Manila Medical Society for comparison with those of the Philippines. Among his notes are the following:

"The director of health is an army medical officer as well as the subdirectors. The army medical officers also furnish the quarantine service, such as boarding ships, etc., and do most of the teaching in the Medical School of French Indo-China at Hanoi. The manufacture of opium is a government monopoly and apparently there is no great restriction on the sale of the drug.

"The military hospitals are large permanent structures of brick, concrete and steel. In connection with the military hospitals at Hanoi is the Antirabic and Bacteriologic Institute of Hanoi. Drs. Mathis and Leger (majors of the colonial service) have done a great deal of work and have published freely on the diseases in Tonkin due to animal parasites. They have worked on the diseases around Hanoi and have

charted the various diseases in that part of Tonkin down to Haiphong and for some distance north and south on the coast.

"They have found that infection with *Filaria nocturna* is very frequent among the natives in north Indo-China and especially in Hanoi and Haiphong.

"Relapsing fever has been epidemic in Tonkin during the years 1907, 1908, 1909. It is especially prevalent in the delta of the Red River around Haiphong.

"Malaria is prevalent in Tonkin and the endemic index has been worked out to some extent. The endemic index (2 per cent. of apparently healthy children from 1 month to 5 years old found infected) runs according to the locality from 2.98 to 40.00 with an average of 7.33. It is interesting to note that their findings show that a large per cent. of the infections in children under 1 year are tertians, while quartans and subtertians are not nearly so numerous. But as the age of the child increases the proportions of quartan and subtertian infections increase as the tertians fall. However, they point out that their figures are still too small to base any conclusions on them.

"In connection with their work on malaria they have worked on the mosquitoes in Tonkin; six species of anophelines have been found in Tonkin, three in Hanoi.

"Infection with the Chinese liver-fluke is very common among the natives in north Indo-China and increases with age. Varying with the place, from a quarter to a half of the natives are infected with this fluke.

"They have studied the intestinal parasites of man in Tonkin and find infection about as common and with the same parasites as in the Philippines. Of a thousand natives examined, every one had at least one intestinal parasite, and the 1,000 had 2,289 infections.

"Intestinal amebiasis is very prevalent among the Europeans in French Indo-China. In the wards of the Military Hospital in Saigon they average about forty cases of it, and about eighty cases pass through the hospital every month.

"I saw three cases of sprue in Saigon and was informed that it was not very uncommon there, while the doctors in Hanoi told me that they do not have any sprue in Hanoi.

"Rabies is wide-spread among the animals, especially dogs, and the two institutes in Saigon and Hanoi have constantly from seven to thirty persons undergoing protective inoculations. Beside the rabies work, the Pasteur Institute at Saigon prepares vaccine virus and undertakes the study of material from infectious diseases, as plague, cholera, typhoid; of which diseases there are usually a few cases.

"At Nha Trang the anti-rinderpest serum is prepared, but all other serums (antidiphtheritic, etc.) are sent out from Paris.

"I was especially struck by the difference in the animal parasites found in the natives in Indo-China and what has been found in the Philippines. This is all the more striking when we remember that in Tonkin (in about the same latitude as Luzon), relapsing fever is epidemic, and infection with the liver-fluke is very prevalent. Relapsing fever has not been found in the Philippines, except an occasional imported case, and the liver-fluke is found only in Chinese who have probably brought it in with them.

"Similar conditions seem to hold good for parasites of lower animals, though this has not been worked on as much here as there, and save for the trypanosomes of rats and bats (which seem to be infected everywhere) little is known of the parasites of the lower animals in the Philippines.

"A hematozoon is found rather commonly in monkeys there, while D. Teague has examined a large number of monkeys here without finding a hematozoon and I think no one has ever found a hematozoon in monkeys here.

"I have examined the blood of doves, snipe and ducks without finding a leukocytozoon, while doves are commonly infected with a leukocytozoon there.

"But possibly when more work has been done on the animal parasites of man and the lower animals in the Philippines, we shall find that French Indo-China has not so many more animal parasites than we have."

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, Feb. 14, 1911.

The Lowest Birth-Rate and Death-Rate on Record

The continuous fall of the birth-rate in recent years is once more shown by the lowest birth-rate on record. The figures for 1910 have just been issued: the births numbered 897,100 and the deaths 485,321, the natural increase of population thus being 413,779. The average annual increase in the past five years was 404,656. The birth-rate was at the rate 24.8 per 1,000 of the population, which is 0.8 below the rate of 1909, and lower than any rate on record. Compared with the average of the decade 1900-1909 the birth-rate in 1910 showed a decrease of 2.7. The death-rate in 1910 was 13.4 per 1,000, which was 1.1 below the rate of 1909 and, again, the lowest record. Compared with the average of the decade 1900-1909, the rate in 1910 showed a decrease of 2.4. The deaths included 10,609 from diarrhea, 8,574 from whooping-cough, 8,172 from measles, 4,177 from diphtheria, 2,337 from scarlet fever, 1,848 from typhoid, and 19 from small-pox. Thus 35,736 deaths were due to these epidemic diseases, a rate of 0.99 per 1,000, against 1.28, 1.34 and 1.13 in the three previous years. The deaths of infants under one year of age was 106 per 1,000 births, which is three below the rate of 1909 and the lowest on record.

The Value of Heredity

At the Authors' Club Dr. G. Archdall Reid, the author of "The Principles and Laws of Heredity," opened a discussion on this subject. He said in part: Everyone believes in evolution, which implies adaptation to the environment; degeneration implies the contrary. All plants and animals are adaptional forms. Man and the beetle can live in their own environment but not in that of each other. The right theory of evolution, and the right theory of heredity must fit in with this fact of adaptation. Only one theory of heredity fits the facts—Darwin's theory of natural selection. Selection implies a selective mortality, that the fittest survive and the unfittest perish as a general rule. Many people die young because they are weak against various microbic diseases. Each disease weeds out in its own habitat the unfittest. One other source of elimination is alcohol to which people vary in susceptibility. If the ill conditions which affect the parent do not as a general rule tend to alter offspring then since the offspring does vary spontaneously the fit will be preserved and the unfit will be weeded out and the race undergo protective evolution. A very unhealthy condition is found in the slums of great cities which show unhealthy parents and puny children. Since the fit will survive the race will become more resistant to slums. The races most exposed to slum life are Jews and Chinese. These races have not grown degenerate but have undergone protective evolution. The races longest exposed to consumption are most resistant to it. Offspring is not rendered degenerate by the misfortune of the parents but races undergo evolution owing to the fire to which they have been exposed. Suffering does not affect a race; but the deaths of the race do. By means of these deaths the foundations of the empire are laid. Disease has created a void which the British have filled in Australia and New Zealand.

Typhoid and Water Storage

Dr. A. C. Houston, bacteriologist to the Metropolitan Water Board, has issued an important report on the vitality of typhoid bacilli in stored water, and with that of cultivated as opposed to uncultivated bacilli. Bacilli derived from a typhoid carrier and bacilli cultivated in the laboratory are added in similar proportions to samples of river water in a carefully conducted and protected series of experiments. Both varieties proved to be incapable of sustaining an independent existence during storage and perished within definite limitations of time. Dr. Houston concludes that even a week's storage of raw river water is an enormous protection and less than a month's storage an absolute protection against typhoid, and that it is in the power of the board by adequate storage to render the supplies drawn from rivers, however originally polluted, perfectly safe before filtration.

The Overcrowded Medical Curriculum

The progress of medical science renders increasingly difficult the teaching of the medical student all the subjects which it is thought he should master before he is allowed to practice. Some years ago, the time for the completion of medical studies was increased from four to five years, but the longer period has still proved too short and only a minority of students complete their curriculum in that period, six and one-half or seven years being usually required. The subject has engaged the attention of the General Medical Council (the body appointed by the government to supervise medical education and exercise discipline over the profession) but no solution of the difficulty has yet been found. A committee was appointed to consider the place in the student's career which the preliminary sciences should occupy and to frame and submit to the council a pattern scheme of medical education, whereby the required minimum of the several subjects to be included in the curriculum could be adequately studied, and the requisite examinations thereon be passed within the period

prescribed by the curriculum. The committee has declared itself unable to suggest any remedy for the congestion of the medical curriculum. To meet the difficulty, Sir Henry Morris, a member of the council, proposes that the preliminary scientific studies, such as chemistry, physics, botany and zoology, which now form part of the curriculum, should be removed from it and pursued by the students in the schools, leaving the five years of the curriculum free for the strictly professional subjects, anatomy, physiology, medicine, etc. The council, on the other hand, holds that as the supreme authority in medical education it cannot sanction any part of the medical education being undertaken except under its control. This objection seems captious and unreasonable. The greater part of the education of the student before he enters medicine is necessarily outside the control of the council and adding to it chemistry, physics, etc., involves no question of principle. By means of a preliminary examination the council could easily insist on an adequate knowledge of these subjects before the beginning of the medical curriculum.

Infectious Diseases in London in 1910

The returns just published of the Metropolitan Asylums Board (which controls all the fever hospitals of London) shows several facts of interest. During 1910, 15,053 patients with the most important of the infectious diseases were admitted to the hospitals. These diseases were as follows; scarlet fever, 9,682 cases; diphtheria, 4,698; typhoid fever, 673. Two hundred and six deaths from scarlet fever occurred, being a case-mortality of 2 per cent. This number is less than half the average annual number of the preceding nine years, and lower than that in any year for which statistics exist. There were 360 deaths from diphtheria in the hospitals, a case-mortality of 8 per cent. The total deaths from diphtheria in London during the year were 434. In the three preceding years the deaths numbered 781, 724 and 605 respectively, showing a steady decline which reached its maximum last year. The deaths from typhoid fever in the hospitals numbered 126, a mortality of 19.5 per cent. The total number of deaths in London was 198,107, below the average in the nine preceding years, but an increase of fifty-two on the unprecedently low number of 1909. Thus the mortality of scarlet fever in the metropolis has shown in recent years a continuous decline, the disease being evidently of a milder type. On the other hand the case-mortality of diphtheria and typhoid shows no such decline.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 10, 1911.

Radiography as a Means of Ascertaining Whether or not an Infant has Lived

The means of medicolegal investigation to ascertain if a child has lived or not have hitherto been much restricted and have offered no absolute certainty. It appears from the researches which Dr. C. Vaillant has reported to the Académie des sciences that radiography offers a means of determining this point. If the fetus has not lived, no organ is visible, even if radiography is practiced after the eighth day in summer and the fifteenth day in winter. Later on, in frozen subjects, the whole arterial and venous system becomes visible on the negative, because putrefaction begins in the organs which functionate during intra-uterine life. On the other hand, in the bodies of infants which have lived, all the organs are visible if radiography is used as late as the tenth day after death. The only perceptible modification is produced by the augmentation of gas in the abdominal organs. There is no room for error in the interpretation of the results of radiography, whether it is used immediately after birth or later, since in either case the results are different in the case of an infant which has lived from those in a fetus which has not lived.

Relapses and Complications After Injections of Salvarsan

On February 2, before the Société française de dermatologie et de syphiligraphie, Dr. Bodin reported the case of a patient with precocious malignant syphilids which were intractable to treatment with mercury and iodids, but which were cured within fifteen days after an injection of 55 cg. of salvarsan. A month afterward, however, the patient had a relapse which yielded to a new injection of salvarsan, relapsing a second time at the end of forty-six days.

Moreover, Professor Gaucher and Dr. Gougerot observed complications following immediately after injections of salvarsan (two cases of pulmonary embolism with sharp pain, and respiratory difficulty a few minutes after the injection, continuing for several hours), and later complications (two cases of phlegmasia alba dolens) appearing four or five days after the injection.

The Reform of Medical Instruction

The Association corporative des étudiants en médecine has just decided to demand: (1) the limitation of *stagiaires* to the number of twelve for each hospital service. which necessitates the extension of the *stage* to a greater number of services; (2) the creation of a superior medical council, composed in part of the professors of the Faculté, and in part of the delegates of the medical *syndicats*, with consultative voice for the corporative associations of medical students.

Moreover, considering that the organization of professional instruction demands a more complete reform of the hospital *stage*, the association demands an investigation looking toward the modification of the externship by which it should become a function open to all students by an examination and not by a *concours* as is the case at present. The association believes that all medical students should exercise this function for at least two years to obtain the diploma of doctor of medicine.

The Laborie Prize

The Société de chirurgie has divided the Laborie prize for 1910 as follows: $400 (2,000 francs) to Dr. Paul Sourdat of Paris for his radiographic study of tuberculosis of the bones and articulations, coxalgia and white swelling of the knee; $160 (800 francs) to Drs. Jules and André Boeckel of Strasburg for their study of the fractures of the spine without medullary symptoms; $100 (500 francs) to Dr. Guibé of Paris for his paper on the paralysis of the suprascapular nerve.

Personal

Dr. A. Kelsch, former *médecin inspecteur* of the service of military hygiene and member of the Académie de médecine has just died. After holding professorships in various French medical schools, he was appointed to the military hospital of Algeria, but was recalled to Paris two years later as professor of epidemiology at the Ecole d'application du service de santé militaire du Val-de-Grâce. In Algeria he accumulated much material on paludism, dysentery, liver abscesses, etc., which he utilized in the treatise on the diseases of warm countries, by himself and Kiener. He was the author also of a treatise on epidemic diseases in several volumes and numerous papers on epidemiology and hygiene presented before the Académie de médecine.

Dr. Claude Martin of Lyons, who had acquired great reputation in the practice of prosthesis of the face and mouth, has recently died. He was connected with the Hôtel-Dieu de Lyon, and was one of the most valued collaborators of Professor Ollier in all the procedures on the face which required the use of prosthesis appliances. He was appointed in 1908, national correspondent of the Académie de médecine de Paris.

Dr. William J. Mayo, of Rochester, Minn., is one of the foreign correspondents recently elected by the Société de chirurgie de Paris.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 10, 1911.

Personal

The noted Berlin physiologist, Prof. H. Munk, has been given the honorary title of doctor by the veterinary school.

R. Stern, director of the medical policlinic and head physician of All Saints Hospital at Breslau, died Feb. 1, of influenza, aged 45. In 1892 he joined the faculty as privat-docent. His work lay mostly in the field of experimental pathology, but he was chiefly known by his treatise on "The Traumatic Origin of Internal Diseases," which for the first time systematically set forth the importance of trauma in internal pathology. The book had a wide circulation. A few years ago some interest was aroused by the fact that Stern accepted a call as director of the internal medicine clinic at Greifswald and later declined it without special reason. At one time there was a rumor of mental aberration. He traveled for some months, but later resumed his work at Breslau, and at the last meeting of the scientific association at Königsberg he delivered a fine address on a bacteriologic theme.

The Journey of the Crown Prince Interrupted by the Plague

In consequence of the extremely severe outbreak of the plague in eastern Asia, the German Crown Prince has abandoned his tour of the world and will begin the return journey at Calcutta. As the wide extent of the plague in northern China precludes the return by the trans-Siberian railway, he

will come back by way of the Red Sea. Terrible reports are made in the newspapers regarding the daily spread of the disease in China. Probably the reports are exaggerated, and it is to be assumed that the epidemic had begun before the Chinese authorities permitted reports of it. According to statements made in the Reichstag by a representative of the imperial naval office, Tsingtau, a city lying in the German protected area, is threatened by the plague. As a result the city is isolated on the land side by a military cordon, the railroad is interrupted at Syfang, all persons remaining in the city are kept under strict surveillance, and all ships are subjected to quarantine. The military surgeons who have recently been discharged and were about to return to Germany will remain in Tsingtau. The Chinese government has requested the German government to send European physicians to the region infected with plague. Russia has suggested an international commission to investigate the conditions of the epidemic on the spot. As a precautionary measure our imperial health council will take up the question how far Germany itself is threatened by the plague, and formulate measures of protection at the proper time.

The Campaign Against Lupus

The department of education recently notified all school principals of the danger of lupus and the necessity for its early recognition and proper treatment. It also warned the medical inspectors of schools to pay especial attention to lupus cases and report to the school director any found.

Instruction of Soldiers on Tuberculosis

In a suburb of Berlin, Wilmersdorf, a tuberculosis exhibition was installed a few weeks ago by the municipal authorities to educate the public. Statistics on the spread of tuberculosis, anatomical preparations and directions for the repression and prevention of tuberculosis, are shown, and lectures on these subjects are held together with other matters of the same sort. Lately more than 100 under-officers of the Berlin garrison have been conducted through the exposition daily by military surgeons and instructed with reference to the significance of the individual objects on exhibition.

Presidency of the Berlin Medical Society

At a session held for the purpose a few days ago, Senator declined a reelection as first president on account of his advanced age. As Senator has lately been failing in energy the society accepted his resignation and selected Professor Orth, the director of the pathological institute, in his place. Professor Kraus, director of the second medical clinic, was elected as one of the three vice-presidents in the place of Orth.

International Prize Competition of the Red Cross

In 1902 the Empress Maria Feodorowna, protectress of the Russian Red Cross, established the "Empress Maria-Feodorowna Foundation," a fund for the purpose of promoting new inventions which are intended to relieve the suffering of the wounded and sick on fields of battle. The income from the capital is to be distributed every five years on the occasion of the International Red Cross Conference. This was done first at the seventh conference in London, 1907. For Germany at that time the Doecker's barrack system and the Linxweiler system of transportation were each rewarded with a premium of $1,500 (3,000 rubles). The next competition occurs at the international conference in Washington, 1912. The income accumulated for distribution amounts now to about $10,000 (40,000 marks). The German member of the jury of awards is Professor Pannwitz of Charlottenburg.

International Scientific Research Trip to the Canary Islands

A scientific study trip to Teneriffe will occur in March and April of this year. In the spring of 1910, at the suggestion of Professor Pannwitz, president of the international commission for investigation of altitude and sunlight, a scientific expedition to the mountainous region of Teneriffe was undertaken, in which under the direction of Professor Zuntz, German, Austrian and English physiologists as well as the astronomer Mascart, of Paris, and Professor Müller of Potsdam, took part. Further investigations on the action of light in those especially illuminated regions are to be undertaken, for which German, Russian and Danish investigators have promised their cooperation.

Complete Edition of the Works of Robert Koch

At the request of the heirs of Robert Koch, that is, his second wife and the daughter of his first wife, a complete edition of the works of this gifted bacteriologist will be published by Professor Schwalbe with the cooperation of Professor Gaffky, director of the institute for infectious diseases, and Professor Pfuhl, Koch's son-in-law. In particular, the different articles scattered in various journals and now difficult of access are to be collected. In addition to the articles already published, suitable material selected from the numerous reports that Robert Koch made for the government authorities will be published for the first time. It is expected that the work, which is appearing under the care of the well-known publisher, Georg Thieme of Leipsic, will be completed by the end of the year.

Increase in Fees for Foreign Students at the Prussian Universities

For some years the demand has been made in the Prussian parliament (Landtag), as I have previously informed you, to raise the matriculation and tuition fees for foreigners in the universities and technical high schools. The authorities have hitherto been opposed to this, principally because they feared that similar restrictions would be imposed against German students in the foreign universities. Now, inasmuch as the home students are being crowded out sometimes by foreigners, the authorities have yielded so far that they have imposed for the summer semester of 1911 a double fee on foreigners for laboratory work and attendance on lectures. For students of the natural sciences and medicine this amounts to an increase of $2.50 (10 marks) and for other departments $1.25 (5 marks).

The Death-Rate in Relation to the Standard of Civilization

Dr. Prinzing, the medical statistician of Ulm, published in the last number of the *Archiv für Rassen- und Gesellschaftsbiologie* a very interesting study of the development of civilization from the standpoint of the death-rate. He states that the high infant mortality in countries with a low state of civilization is probably chiefly attributable to the great prevalence of acute infections. Among adults the mortality of males in the more highly civilized countries approaches that in the less civilized because of the unfavorable influences of industry and of the abuse of alcohol, while the mortality of the female sex is greater among the less civilized because of their lack of protection and the excessive demands made on their productiveness. In civilized countries old age is characterized by a higher mortality because in these countries the working power of old men very frequently cannot be sufficiently utilized. It might be assumed that the slight difference in the death-rate in the adult period depends on the fact that by the high mortality of children in the less civilized countries, the weaklings are eliminated and only the most resistant remain. But the death-rate of the first year of life must be viewed apart because, for example, in spite of their slight infant mortality, Servia and Bulgaria show the same death-rate as Hungary and Russia, with their high infant death-rate. Also the numerous deaths in later childhood in these countries can have only a small influence on the question as very many of them are caused by infectious diseases and their results, in which cases the mortality depends less on hereditary resistance than on the occurrence and virulence of the infection.

We cannot assume that those predisposed to tuberculosis are early eliminated by the great infant mortality in eastern Europe and that by this means the mortality of adults is diminished; for the mortality from tuberculosis is greater in these countries than in western Europe. Furthermore we have seen that the slight difference in mortality of adult males in eastern and western Europe depends not on an especially low mortality in the east, but on an increase in the mortality in the civilized countries by the factors above named. Still it would be incorrect to deny that the high infant mortality of eastern Europe has any influence on the less unfavorable mortality of adults. In a number of infectious diseases (e. g., small-pox, measles, scarlet fever, typhoid fever) immunity is induced by a single experience of the disease, so that many persons are protected in later life by having had these diseases in childhood, although on the other hand, these children's diseases cause many deaths. If the children in these countries could be protected by any measures against infections, they would in later life fall victims to these diseases in increased measure, under the ordinary conditions of adult life. Here we have to do with an acquired peculiarity. Opinions differ as to whether there is a congenital hereditary immunity; at any rate, it is very rare in case of diseases like small-pox and typhoid fever. In respect to certain diseases the adult civilized man does not need to acquire an immunity, which is secured only with such great sacrifice of human life, for he knows how to protect himself in a simpler way, by vaccination against small-pox, by general hygienic measures against typhoid fever and similar diseases,

and by early isolation of patients or by avoiding them himself in case of other diseases. If a Servian or Russian family wishes to have three children who shall reach at least the age of 14, there must be five or six born in this family, whereas in an English family only four births would be necessary for the same purpose. This is without doubt of great value for the latter nation, as every birth means danger to the life of the mother, necessitates temporary inability to work and the trouble and expense attending the rearing and death of young children. It is not very probable that by the selection of four instead of five or six children, the likelihood of preserving lives of inferior value is markedly increased, for in civilized countries, in the majority of the population, that is, the working classes, the preservation of doubtful lives is rare. In this respect from an economic point of view there can be no doubt that the death-rate which is common in the more highly civilized countries, consisting of a low mortality before the age of 35, constitutes a great gain for these nations.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 14, 1911.

An Excursion of the American Medical Association of Vienna

The American Medical Association of Vienna has been mentioned several times in previous letters in THE JOURNAL. It has at present a fully recognized position among the medical associations of this city, and is held in high esteem by its Austrian confrères. Recently, the association was invited to visit the Semmering, a favorite health resort, about 80 miles south of Vienna, where splendid accommodations for health-seeking patients were erected a short time ago. The American physicians—a party of about eighty—were led through the two hydrotherapeutic establishments situated some 3,000 feet above sea level, and were shown the various electric and other physical equipments there. The local magistrates and the medical men of the district were unanimous in declaring that the visit of the foreign physicians was regarded as very flattering, while on the other hand, the invitation shows what a position the American association has attained here, for this kind of excursion is not very frequent in this country.

A Students' Strike in Cracow

The appointment of a reactionary professor of philosophy named Zimmermann in the University of Cracow has led to serious consequences in hospitals of that city. The majority of the students there belong to the liberal or anticlerical party. They remonstrated against the professor, and as the appointment was not cancelled, riots and other disturbances followed. Medical students took the lead in these demonstrations. It seems to be the privilege of medical students, at least in this country, to be always at the head in the defense of the liberty of teaching. A number of students were suspended for at least one term, while others were excluded permanently. These severe measures produced a general strike at the university, and since numerous medical students of the higher classes or near graduation were busy in the hospitals, they too had to strike. This serious condition has been prevailing for some time, and the senate of the university has been forced to reconsider its decision; the lack of students is felt keenly in the wards and the radical mind of medical thinkers seems to be predominant in students' circles. They will not give in before the "disease," the reactionary experiment, has been eradicated.

Titles for Practitioners

It is intended to grant certain titles to distinguish medical men not holding hospital or similar appointments in this country. The titles are to be "Medicinalrath" and "Ober-Medicinalrath," which mean in fact nothing but sound imposing. In several medical corporations an energetic movement has been set on foot to prevent the passing of such a bill by the board of health, within whose jurisdiction this matter falls. The possession of such a title would, in the opinion of those who oppose the idea, give an unfair advantage to these men, for our public is very fond of titles and believes that a title is equivalent to better knowledge. Hence the title of "privat-docent" for instance, is much coveted by physicians here. We have already many titled doctors. In Vienna alone, over 20 per cent. of the total have the title of "Professor." "Docent" or "Assistant," and in the country titles mean even more, being less common. It is therefore likely that the opposition will carry the day.

Death of Professor von Braun

The Nestor of the gynecologists of this city, Professor von Braun, died after a short illness a few days ago. He was the last one of the old Vienna medical school, which counted Skoda, Rokitansky, Billroth, Kaposi and Nothnagel among its members. Professor Braun was the first teacher of midwives in this country, and his earnestness, dexterity and sagacity soon gained for him a leading position and an enormous private practice in the highest circles. He found time for useful scientific work and published writings on extra-uterine pregnancy; the fetal malformations; the anatomy of the pelvis, and obstetric surgery. His death at the ripe age of 82 came as a shock to his numerous friends.

Marriages

REUBEN FRANK DAVIS, M.D., to Miss Bessie Lee Leckey, both of Glasgow, Va., February 15.

GEORGIANA MARGARET DVORAK, M.D., and John Joseph Theobald, both of Chicago, Oct. 29, 1910.

HARVEY WASHINGTON WILEY, M.D., Washington, D. C., to Miss Anna Campbell Kelton, February 27.

FREDERICK WILLIAM MAYER, M.D., Indianapolis, to Miss Margaret Welch, at Indianapolis, February 8.

DAVID WAYNE FOSLER, M.D., Indianapolis, to Miss Katherine Krauss Vonnegut, at Indianapolis, February 28.

ALBERT JULIUS GEIGER, M.D., U. S. Navy, to Miss Margaretta Benners Ashbridge of Philadelphia, February 15.

JOHN WATKINS WILLIAMS, M.D., Everetts, N. C., to Miss Bertie Zenobia Gardner of Williamston, N. C., January 18.

JONATHAN D. HINSHAW, M.D., Canon City, Colo., to Miss Elizabeth Love of Silver Cliff, Colo., at Canon City, February 8.

ORVILLE E. SPURGEON, M.D., Muncie, Ind., to Miss Ella Maria Worley of Washington Court House, O., at Muncie, January 18.

Deaths

Aloysius Oliver Joseph Kelly, pathologist, and diagnostician, editor of the *American Journal of the Medical Sciences,* died at his home in Philadelphia, February 23, from complications following an attack of influenza, aged 41. He was a native of Philadelphia, received the baccalaureate degree in arts in 1888, and three years later the degree of M. A. in LaSalle College. He graduated from the Medical Department of the University of Pennsylvania, Philadelphia, in 1891, and for two years did postgraduate work in London, Dublin and Vienna, where he devoted special attention to pathology and internal medicine. He was associate professor of medicine in his alma mater; professor of the theory and practice of medicine in the University of Vermont, College of Medicine; and professor of pathology in the Woman's Medical College of Pennsylvania, Philadelphia. He was a member of the American Medical Association, Association of American Physicians, and American Association of Pathologists and Bacteriologists; a fellow of the College of Physicians of Philadelphia, and of the American Academy of Medicine. He was visiting physician to St. Agnes and University Hospitals, and pathologist to the German Hospital. His literary work included a text-book on the practice of medicine, published in 1910; the joint editorship, with Dr. John H. Musser, of an extensive system of therapeutics; and, as stated above, he was for several years editor of the *American Journal of the Medical Sciences.* Dr. Kelly's death deprives the medical profession of one of its most promising pathologists and internists.

Edward Strong Bogert, M.D. Rear Admiral U. S. Navy, retired, died at the home of his daughter in New York City, February 16, aged 74. Dr. Bogert entered the Navy in June, 1861, served through the Civil War, and was on duty with Farragut's Squadron at the capture of New Orleans and the campaign of the Mississippi River; he was promoted to medical director, and was retired May 7, 1898. He was a graduate of the New York University Medical College in 1860, and a member of the Society of Bellevue Hospital Alumni.

William Henry McDonald, M.D. Bellevue Hospital Medical College, 1871; a member of the Colorado State Medical Society; a veteran of the Civil War, in which he served in both the Army and Navy; for twenty-four years resident physician at Pueblo for the American Smelting and Mining

Company, and surgeon for the Missouri Pacific and Santa Fe systems; died at his home in Pueblo, February 3, from chronic interstitial nephritis, aged 64.

George W. Osborne, M.D. Columbus (O.) Medical College, 1883; a member of the Ohio State Medical Association; died at his home in Dry Run, February 19, from paralysis, aged 58.

Charles Hamlin Phelps, M.D. Medical College of Ohio, Cincinnati, 1876; a member of the Ohio State Medical Association; president of the St. Mary's Board of Education; died suddenly at that place, February 21, aged 68.

Franklin J. Foster, M.D. Georgetown University, Washington, D. C., 1871; a veteran of the Civil War; and for twenty-five years an employee of the War Department; died at his home in Washington, February 5, from cerebral hemorrhage.

Joseph A. W. Hull, M.D. Medical College of Ohio, Cincinnati, 1880; died at his home in Stella, Neb., February 7, from hemorrhage of the stomach, aged 54.

Frederick Coggeshall, M.D. Harvard Medical School, 1892; a member of the American Medical Association, and American Academy of Medicine; a specialist in gynecology and neurology; a member of the neurologic staff of Boston Dispensary; formerly physician to the Boston Hospital and pathologist to Carney Hospital; died at his home in Boston, February 1, aged 50.

Thomas Markley Trego, M.D. College of Physicians and Surgeons, New York City, 1874; a member of the American Medical Association; attending physician to the Child's Hospital, St. Margaret's Home for Infants, and the Home for Aged Men, Albany; died at his home in Albany, N. Y., February 16, from pneumonia following a fall, aged 63.

Percy Duncan Littlejohn, M.D. Yale University, New Haven, 1897; a member of the Connecticut State Medical Society; and of the American Urological Association; first assistant to the chair of genitourinary surgery in the New York Post-Graduate Medical School; died at his home in New Haven, February 11, from heart disease, aged 36.

Albertus T. Ritter, M.D. Baltimore (Md.) Medical College, 1893; a member of the Medical Society of the State of Pennsylvania; physician to the Perry County Alms House, and the Tressler Orphans' Home; died at his home in Loysville, February 10, from the effects of an overdose of chloroform, aged 40.

Massillon Cassatt, M.D. Medical College of Ohio, Cincinnati, 1864; for many years a practitioner of Cincinnati; formerly a member of the American Medical Association; a life member of the Cincinnati Academy of Medicine; died in Jacksonville, Fla., January 5, from organic heart disease, aged 71.

David Marshall Devilbiss, M.D. University of Maryland, Baltimore, 1872; a member of the Medical and Chirurgical Faculty of Maryland; formerly health officer of Frederick County, and a member of the state senate in 1903; died at his home in Woodville, February 14, from nephritis, aged 66.

Benjamin T. Abbott, M.D. Jefferson Medical College, 1870; a member of the American Medical Association; president of the Cape May County and Ocean City, N. J., boards of education; died suddenly, February 17, in the Pennsylvania Railroad station, Ocean City, from cerebral hemorrhage, aged 67.

Henry Schmalhausen, M.D. Jefferson Medical College, 1867; a pioneer practitioner of Montana; a veteran of the Civil War; surgeon-major of the First Regiment, Mont., National Guard; a resident of Idaho since 1875; died at his home in Pony, recently, and was buried January 26.

Oscar F. Pile, M.D. College of Physicians and Surgeons, Chicago, 1888; a member of the American Medical Association, and Tri-State Medical Association; United States pension examiner; died at his home in Memphis, Mo., February 12, after an operation for duodenal ulcer, aged 52.

James Pickens Burke, M.D. University of Pennsylvania, Philadelphia, 1853; a member of the Medical Association of the State of Alabama; surgeon of a Mississippi regiment in the Confederate service during the Civil War; died at his home in Meridianville, February 12, aged 80.

George William Mahle, M.D. University of Maryland, School of Medicine, Baltimore, 1905; a member of the American Medical Association; on the staff of the Robert Garrett Hospital for Children, Baltimore; died at his home, February 20, from tuberculosis of the lungs, aged 29.

Robert Hamilton Phelps, M.D. Syracuse (N. Y.) University, 1894; a member of the American Medical Association; local surgeon at Norwich, N. Y., of the Delaware, Lackawanna and Western, and New York, Ontario and Western railways; died at his home, February 6, aged 41.

Charles Joseph Hamnett, M.D. Bellevue Hospital Medical College, 1865; formerly of Homestead, Pa.; a contract surgeon in the Army during the Civil War; died at the home of his daughter in Washington, Pa., February 3, from obstruction of the esophagus, aged 76.

Edwin D. Leidy, M.D. Jefferson Medical College, 1885; a member of the Medical Society of New Jersey; formerly medical examiner of the public schools of Flemington Borough and Raritan Township; died at his home in Flemington, February 17, aged 53.

Lloyd Alexander Craig, M.D. University of California, San Francisco, 1907; a member of the Medical Society of the State of California; resident physician at St. Mary's Hospital, San Francisco; died at the home of his brother in Oakland, February 7, aged 26.

John Loring Burnham, M.D. Dartmouth Medical School, Hanover, N. H., 1888; a member of the American Medical Association; formerly consulting physician to Elliot Hospital, Manchester, N. H.; died recently at his home in Las Cruces, N. M., aged 53.

William Palmer Chisholm, M.D. New York University Medical College, 1881; a member of the Massachusetts Medical Society; formerly consulting surgeon to Brockton City Hospital; died at the Insane Hospital, Taunton, Mass., February 16, aged 58.

William L. Egan, M.D. Tulane University, New Orleans, 1882; a member of the Louisiana State Medical Society; formerly a member of the Shreveport Board of Health; died at his home in that city, February 19, from heart disease, aged 55.

Thomas Tomelty, M.D. Rush Medical College, 1899; a member of the American Medical Association; for several years health officer of Vernon and Muskego, Wis.; died at his home in Big Bend, Wis., February 16, from pneumonia, aged 45.

Frederic Garvin Conger, M.D. Western Pennsylvania Medical College, Pittsburg, 1895; secretary of the board of pension examiners of Mondovi, Pa., died at the home of his sister-in-law, in Oakland, Pittsburg, January 31, aged 41.

James Youngs Tuthill, M.D. Bellevue Hospital Medical College, 1864; a member of the Medical Society of the State of New York; and Associated Physicians of Long Island; died at his home in Brooklyn, February 15, aged 69.

George Whitfield Ward, M.D. Bellevue Hospital Medical College, 1874; for many years a member of the staff of the Metropolitan Throat Hospital, New York City; died at his home in New York City, February 8, aged 60.

John H. Williamson, M.D. Jefferson Medical College, 1859; a member of the Medical Society of the State of North Carolina; died at his home near Rockingham, February 11, from heart disease, aged 82.

Clarence Howard Slightam, M.D. College of Physicians and Surgeons, Chicago, 1899; formerly of Eau Claire, Wis.; in charge of the Native Hospital, Juneau, Alaska; died in that city, recently, aged 34.

Robert H. McCamy, M.D. University of Pennsylvania, Philadelphia, 1879; for more than thirty years a practitioner of Kensington, Philadelphia; died at his home, January 5, aged 55.

Richard Asbury, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; for many years a practitioner of Monroe City, Mo.; died at his home in Hunter, Okla., January 19, aged 72.

Frank Orlando Webber, M.D. Harvard Medical School, Boston, 1877; a member of the Massachusetts Medical Society; died at his home in Cambridge, February 14, from pneumonia, aged 56.

Charles Franklin Kingsbury, M.D. Dartmouth Medical School, Hanover, N. H., 1856; a member of the Massachusetts Medical Society; died at his home in West Medford, February 14, aged 86.

Lafayette Summers, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; a member of the Iowa State Medical Society; died at his home in Milton, February 6, aged 61.

Charles Carroll McCaffrey, M.D. Eclectic Medical Institute, Cincinnati, 1908; of Huntington, W. Va.; died in Seton Hospital, Cincinnati, Dec. 21, 1910, from pneumonia, aged 36.

Orrel McFadden, M.D. Albany (N. Y.) Medical College, 1865; for forty-one years a practitioner of Massena, N. Y.; died at his home, Dec. 29, 1910, from nephritis, aged 74.

Alexander Franklin Binkley, M.D. Vanderbilt University, Nashville, Tenn., 1879; died suddenly at his home near Sycamore, Tenn., February 4, from acute gastritis, aged 66.

Adolph Kraemer, M.D. University of Zurich, Switzerland, 1894; a specialist on diseases of the eye; of San Diego, Cal.; died at his home in that city, January 24, aged 46.

David M. Miller, M.D. College of Physicians and Surgeons, Baltimore, 1887; died at his home in Indian Springs, Tenn., January 8, from disease of the kidneys, aged 69.

Daniel Franklin Royer, M.D. Jefferson Medical College, 1875; a practitioner of Orange, Cal., for twelve years; died Nov. 7, 1910, after an operation for appendicitis.

Theophilus N. Kirkpatrick, M.D. College of Physicians and Surgeons,, Keokuk, Ia., 1872; died at his home in Letcher, S. Dak., Nov. 8, 1910, from diabetes, aged 61.

Andrew Niles, M.D. Philadelphia University of Medicine and Surgery, 1852; died in his apartment in Carbondale, Pa., January 17, from senile debility, aged 79.

James C. Wright, M.D. Medical College of Georgia, 1894; a member of the American Medical Association; died at his home in Folkston, January 2, aged 52.

Helen M. Miller, M.D. Woman's Medical College of Pennsylvania of Pennsylvania, Philadelphia, 1884; died at her home in Cleveland, January 6, aged 58.

Frank R. Wyroznski, M.D. Ensworth Medical College, St. Joseph, Mo., 1906; died at his home in St. Louis, February 6, from tuberculosis, aged 32.

Frank Moore Doyle, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; died at his home in Pittsburg, February 7, aged 39.

Josiah M. Bosworth, M.D. Southern Medical College, Atlanta, 1887; died at his home in Atlanta, February 1, aged 69.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

PLANTOXINE

The Therapeutic and Commercial Possibilities in Milk Sugar

Some "patent medicines" are viciously fraudulent; others are simply fraudulent. Some contain habit-forming and dangerous drugs; others contain no drugs at all. Plantoxine is a nostrum marketed by the Plantoxine Company and we understand that the Plantoxine Company is really Edward W. Crittenden, a lawyer, who runs this business as a side line. The mere study of the advertising matter that accompanies Plantoxine would be sufficient to convince one that a lawyer had either written it or had very carefully "edited" it. Plantoxine is said to be:

"A Preparation of Constitutional Medicines formulated as a Corrective in Abnormal Conditions of the System which create Undue Susceptibility to Miasmatic Diseases, Plant Pollen, La Grippe, etc.; Chronic Malarial Diseases; Hay Fever, Hay Asthma, Rose Cold, etc.; Influenza and La Grippe."

In a descriptive booklet on the nostrum, the theory is advanced that "hay fever and malaria are regional associates," and that both of these pathologic states "viciate [*sic*] the blood." We are further told that "hay fever and la grippe are recognized as different forms of influenza." Having evolved these theories, the "inventor" of Plantoxine set about to discover a cure—or, as it is cautiously designated, "a successful treatment"—for these related diseases.

"After five years of diligent and painstaking effort along these lines such a remedy has been evolved."

The remedy, of course, is Plantoxine. Says the exploiter:

"In Plantoxine we now have a simple preparation of the classical constitutional medicines, delicately proportioned and adapted to the general pathology of these cases. It is guaranteed under the Pure Food and Drugs Act of June 30, 1906, and therefore may be considered perfectly safe, while its effectiveness in individual cases may be left to be decided by practical tests."

Naturally, a preparation possessing the properties claimed for Plantoxine would be brought to the attention of physicians by their patients. It is not surprising, then, that the Association's laboratory has been asked to examine this preparation to determine whether or not it contained cocain or any other dangerous or habit-forming drugs. The report of the Association's chemists follows:

LABORATORY REPORT

"The specimen received was a white, odorless powder having the physical properties of milk sugar. Qualitative tests demonstrated the absence of cocain and other alkaloids and indicated that the substance was probably milk sugar. Some time later the correspondent, who had first written to the laboratory, sent an original package of Plantoxine for examination.

"Plantoxine is sold in packages each containing 40 powders, each powder containing about 2 grams (30 grains) of the preparation. The package, which retails for $1.00, contains about 2¾ ounces of the preparation.

"Quantitative examination indicated that Plantoxine consists entirely of milk sugar. The presence of medicinal substances could not be determined. If present their quantities must be small.

"In this connection it should be pointed out that the effect of cocain or its substitutes on the tongue furnishes a very sensitive and fairly distinctive test which may be used by physicians with advantage. If a trace of a powder, such as this, produces no benumbing effect when placed on the tongue the practical absence of cocain or its substitutes may be assured."

The story is told by Mr. Adams in "The Great American Fraud," that a general agent for a jobbing house once declared that he could put an article on the market, possessing neither remedial nor stimulant properties, and by skilful advertising persuade people that it had great therapeutic virtues. Challenged to a bet, he put out his "remedy," and within a year had won the wager. His preparation was nothing but sugar! In the light of the analysis just given, one wonders whether Mr. Crittenden—The Plantoxine Co.—also, is trying to win a bet. As this business has been conducted now about four years, it has ceased to be an experiment and is, presumably, on a paying basis.

The original boxes in which Plantoxine comes, give the price as 75 cents. These words have been obliterated and the preparation is now sold for $1. Doubtless, the advance is due to the increased cost of living—sugar probably costs more now than it did four years ago.

We must give Mr. Crittenden credit for at least a certain degree of modesty in the claims made for his discovery:

"Plantoxine must not be expected to cure everything. Laxatives, lithia salts, calomel or other special treatment temporarily may be required, but it should be remembered that such measures are to be employed only when specially indicated and that they are not to be considered as being regularly associated with Plantoxine treatment."

Truly Mr. Adams was right when he said that "our national quality of commercial shrewdness fails us when we go into the open market to purchase relief from suffering." While, probably, it would be difficult to get the average, wide-awake American to purchase wooden nutmegs it seems to be an easy matter to sell milk sugar worth 10 cents a pound, wholesale, at $5.82 a pound, retail—providing it is sold as a "cure" for hay fever and "related diseases"!

Organic Iodin Preparations

Iodism is one of the serious disadvantages connected with the use of iodin. To obviate it various suggestions have been made but the combinations of iodids with other remedies designed to lessen their poisonous effects have failed to obviate the occurrence of iodism. This disadvantage of the iodids has led to the recommendation of numerous substitutes which are generally combinations of iodin with various organic radicals. The essential inadequacy of these preparations is emphasized by von Notthafft (*Monatsh. f. prakt. Dermat.*, Oct. 15, 1910, p. 343). He says: "Where iodism is indeed less frequently observed (in these cases indeed it is not wholly excluded), a more careful observation establishes the fact that the preparation either has other disadvantages or that the lower degree of toxicity has in fact its basis in a feebler activity; either the substitutes evolve too little iodin or they split it off with greater difficulty." This is true of substitutes

for iodids in general, such as iodoform, iodol, iodolacid, iodipin, iodolenum, iodomeninum, iodopyrin, iodeigone, sajodin and others.

Iodival has a peculiar position. It is true that it produces less irritation of the stomach and intestine but symptoms on the part of the nervous system occur so much the more readily. According to Notthafft, this is to be regretted as the remedy is especially recommended for syphilis of the nervous system. Iothion has the disadvantage of producing cutaneous irritation, so that it cannot be used on sensitive skins. Notthafft reports his experiences with iodoglidin, a preparation in which iodin is combined with a nuclein-free, non-irritating vegetable albumin. The claim has been made that this preparation is free from objectionable side effects. Notthafft is of the impression that it is somewhat better tolerated than the iodids, although he cannot base this on absolute figures because, as is well known, the tolerance of the iodids varies extremely with different people. He finds, however, that it sometimes disagrees with the stomach and may produce serious iodism of which he reports two interesting cases. He sums up his opinion of iodoglidin as follows: It is in general an effective preparation in syphilis, although it acts somewhat more slowly than the iodids. It induces toxic effects somewhat less frequently; still acne, coryza, intestinal affections and nervous disturbances are not rarely observed. While it is a practicable remedy and while it may be tried in certain cases in which other iodin preparations are not borne, and might have a field for application in cases in which the body should contain little salt, still the unlimited praise which it receives in certain circulars and abstracts cannot be accepted. Notthafft cannot agree with the opinion of Seifert and Imhoff that it is tasteless. On the contrary it possesses a somewhat sharp taste resembling mustard oil which is disagreeable to many persons. The claim of Zieler that it produces iodism only in persons with marked idiosyncrasy must be expressly denied.

It is evident from these observations that the claims made for substitutes for the ordinary preparations of iodin should not be accepted without critical examination.

Green Extracts

Green extracts or tinctures of fresh herbs have been introduced into pharmaceutical practice on the theory that they would possess therapeutic properties which would be dissipated by drying the herbs. This may possibly be true of a few plants but for the most part, especially for plants which contain non-volatile, active constituents, the plan is not a good one on account of the variable amount of water contained in the fresh plant. These extracts are official in the British Pharmacopeia and a general formula for tinctures of fresh herbs is included in the United States Pharmacopeia. The following from the *British and Colonial Druggist*, Jan. 20, 1911, shows the unreliability of these preparations:

Noteworthy among a large number of interesting points in the nineteenth annual laboratory report of Messrs. Southall Bros. and Barclay, Limited, are some observations on the green extracts of the B. P., which have again manifested their unreliability and variation in strength. Evidence of this is given by the following figures of total alkaloids in the green belladonna extract prepared from the herb of the last nine seasons:

1.38 per cent.	0.87 per cent.	1.57 per cent.
1.50 per cent.	1.04 per cent.	0.98 per cent.
1.08 per cent.	1.25 per cent.	0.80 per cent.

Thus, the extract of the last season was little more than a half the strength of that of 1908. Worse still, a sample obtained recently of undoubted purity gave only 0.73 per cent. And again, as regards hyoscyamus, the total alkaloid yielded by a bulk sample of last season's manufacture was 0.084 per cent.—a very low figure. These poor results may perhaps be traced to the wet season, but, having regard to the fluctuations indicated, the view that the green extracts will not survive the present edition of the Pharmacopeia is likely to be confirmed by the event. If they should be retained it appears to be very desirable that standards of alkaloidal strength should be fixed.

As extracts of green drugs in times past have frequently been shown to be variable and unreliable, the observations noted above form another link in the chain of evidence condemning such preparations.

While the formula in the United States Pharmacopeia for the preparation of green tinctures is a general one, the consideration of the facts cited, is recommended to the committee now engaged in revising the Pharmacopeia.

Association News

CENTRAL ROUTES TO LOS ANGELES

More Details of Railroad Plans for the Trip to the Next Session of the American Medical Association

The next annual session of the American Medical Association will be held in Los Angeles, Cal., June 27-30, 1911. Several announcements have appeared in THE JOURNAL: A list of hotels with rates was published February 18, page 527; the railroad rates from the Mississippi Valley were announced February 18, page 528; a preliminary announcement of the entertainments was given February 25, page 605. There will be a special convention issue of THE JOURNAL as usual in May, giving the program and full particulars; in the meantime various items of information will be given from week to week. The Transportation Committee has submitted the following:

CENTRAL ROUTES TO THE LOS ANGELES SESSION

Last week attention was called to the American Medical Special to Los Angeles over the Santa Fe and the reasons were given for selecting this route. This week, we call attention to the central routes and the points of interest along the following lines:

There are several excellent roads out of Chicago, among which may be mentioned the Burlington, the Rock Island, the Northwestern, the Chicago, Milwaukee and St.Paul, the Illinois Central and the Chicago and Great Western. Most of these lines run magnificent trains through to California. One may go by way of Denver, Salt Lake City and San Francisco to Los Angeles or take the short line from Salt Lake City directly to Los Angeles.

From Denver one may go south through Colorado or by the Denver and Rio Grande to Salt Lake City. On the Denver and Rio Grande is perhaps the most beautiful mountain scenery in this country. Salt Lake City is well worth seeing as is Salt Lake itself which is crossed by the train. West of Salt Lake on the Southern Pacific or Western Pacific one crosses the Great American Desert, then over the Sierra Nevada mountains to San Francisco and down through California to Los Angeles.

From Salt Lake City one may go by the San Pedro, Los Angeles and Salt Lake line directly to Los Angeles. This is the shortest route from Salt Lake City to Los Angeles and crosses a mountainous and desert country. Or one may go from Chicago to Omaha, then over the Union Pacific to Ogden and from there to San Francisco and then down to Los Angeles.

The fare over any of these routes is the same, namely $62.50 for the round trip from Chicago. This rate applies if one goes by any one of these routes and returns by the same or by any other of them; or if one goes by one of them and returns by a southern route; or vice versa. To go by any one of them and to return by one of the northern routes an additional fare of $15.00 will be charged. One cannot both go and return by one of the northern routes at the rates here quoted.

The time by all of the central routes is practically the same, namely, about three days unless stops are made on the way.

Details of the northern routes will be published next week; and later accounts of special trains will be given.

M. L. HARRIS, Chicago,
Chairman of the Committee on Transportation.

Correspondence

Danger of Trichinosis from Pork

To the Editor:—From time to time reports of outbreaks of trichinosis reach the Department of Agriculture, affording indisputable evidence that the extremely unhygienic custom of eating raw or imperfectly cooked pork is followed to some extent in the United States. On account of the danger involved in this custom, and on account of the common belief by persons aware of the existence of such a disease that pork inspected and passed under the federal meat-inspection law has been inspected for trichinæ, the Department of Agriculture has issued the following notice:

COOK PORK WELL

Cases of illness sometimes occur from eating uncooked or insufficiently cooked pork which is infested with a microscopic parasite commonly known as trichina or flesh-worm, the scientific name being *Trichinella spiralis*. An average of 1 or 2 per cent. of the hogs slaughtered in the United States are infested with this parasite. When transmitted to human beings, trichinæ may cause serious illness, sometimes resulting in death. Out of about 15,000 cases of trichinosis recorded in medical literature, most of which occurred in Europe, 830 resulted fatally.

No method of inspection has yet been devised by which the presence or absence of trichinæ in pork can be determined with certainty, and the government meat inspection does not include inspection for this parasite. All persons are accordingly warned by the United States Department of Agriculture not to eat pork, or sausage containing pork, whether or not it has been inspected by federal, state or municipal authorities, until after it has been properly cooked.

A temperature of about 160° F. kills the parasite; therefore pork when properly cooked may be eaten without any danger of infection. Fresh pork should be cooked until it becomes white and is no longer red in color in all portions of the piece, at the center as well as near the surface. Dry salt pork, pickled pork, and smoked pork previously salted or pickled, providing the curing is thorough, are practically safe so far as trichinosis is concerned, but, as the thoroughness of the curing is not always certain, such meat should also be cooked before it is eaten.

A pamphlet giving information on the subject may be obtained on application to the Secretary of Agriculture, Washington, D. C.

I desire to ask the cooperation of the medical profession in giving publicity to the fact that pork in its raw state is a dangerous article of diet, and would also request that any cases of trichinosis which may come under the care of readers of this article be reported to this bureau. The information especially desired is the number of cases and of fatalities, date and place of occurrence of the outbreak, nationality of the patients, and source of the pork which caused the outbreak.

A. D. MELVIN, Washington, D. C.
Chief of the Bureau of Animal Industry, United States Department of Agriculture.

Anesthetic vs. Carbon Dioxid

To the Editor:—I have read with interest your editorial on "The New Theory of Shock," in THE JOURNAL, Feb. 11, 1911, page 424.

In 1896, I was the guest of the Neurological Society of London, when Mr. Waller demonstrated the effects of anesthetics on peripheral nerves. He showed that ether was the safest anesthetic and that it was better combined with carbon dioxid, as then the nerve showed more rapid response to electrical stimulation. When chloroform alone was used he showed that the peripheral nerves would not respond to electrical stimulation but that when the chloroform was mixed with carbon dioxid they readily responded to electricity and returned to normal. Ever since then, when I administer chloroform I give a little of the drug but keep my hand over the mask, thus making the patient inhale his own breath, in this way giving a certain amount of carbon dioxid.

I have always had good results with this method of anesthesia. Once I was present at an operation when the patient stopped breathing; she was resuscitated and the operation carried to a successful conclusion by administration of chloroform plus rebreathed air—carbon dioxid. In December, 1901, a colleague had a chloroform fatality in a patient with nephritis, and as I had recently had personal experience with nitrous oxid-ether anesthesia, I advocated its adoption in this case; thereby I had the honor to introduce this form of anesthesia into Cincinnati with the original Bennett apparatus. This has been used continuously since at the Ophthalmic Hospital with satisfaction and success. Here, again, we have the carbon dioxid factor for the nitrous oxid only starts the anesthesia and then comes the ether, and by the closed rubber bag we again have the patient breathe carbon dioxid.

Your editorial explains Mr. Waller's demonstration of 1896 which showed that anesthetic plus carbon dioxid is safer than anesthetic alone, and that ether plus carbon dioxid is safer than chloroform in any combination.

W. EDWARDS SCHENCK, M.D., Cincinnati.

One Physician's Method of Increasing His Income

To the Editor:—I wish to contribute a statement to the subject of the remuneration of physicians:

I have been in the general practice of medicine since 1890 in Detroit on the same lot on which I was born. For twenty years I trusted all applicants for medical aid with results approximately as follows:

2 per cent. would pay me promptly.
13 per cent. could pay me only "when I went after them."
25 per cent. got out of paying me in every possible way.
60 per cent. did not pay me at all.

Jan. 1, 1910, I turned over a new leaf, and referred to other physicians all would-be patients who did not pay cash and had not approved credit. In 1910, the income from my practice was 98 per cent. greater than my average yearly income for the preceding twenty years and my expenses for 1910 were less than the average yearly expenses for the same period. Except for the fact that I gave my individual attention to my invalid mother for the three years prior to 1908, which cut into my practice considerably, I am unable to assign any other cause than this change of policy for the increase in income.

Since Jan. 1, 1910, I have had more time for reading, refreshment and sleep; and my present plan is preferable to that of those physicians whose ambition is to have the "largest practice" in a community at the cost of poor health or an early death.

JOHN L. IRWIN, M.D., Detroit.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRENKEL'S REEDUCATIVE MOVEMENTS

To the Editor:—Kindly give me some information about Frenkel's exercises. On page 453 of THE JOURNAL, of February 11, are references to them, and I would like to know the method of using these exercises. E. A.

To the Editor:—In the abstract of an article on locomotor ataxia by Dr. Billings, I notice his recommendation of Frenkel's reeducation movements. What are these procedures?

DR. C. F. BOUCEK, Allegheny, Pa.

ANSWER.—References to the principal articles dealing with the reeducation of the muscles in tabes dorsalis by the method of Frenkel are given in THE JOURNAL, July 18, 1908, p. 239. An abstract of one of Frenkel's articles is given in THE JOURNAL, July 22, 1905, p. 294. Some account of the treatment is given in various books on the practice of medicine, and in a recent article by J. K. Mitchell, "Treatment of Locomotor Ataxia by Exercises of Precision," in the *Old Dominion Journal of Medicine and Surgery*, June, 1909; this article was abstracted in THE JOURNAL, July 10, 1909, p. 149.

The principle of the method is that while the lesions of tabes cannot be affected by treatment, the lost coordination can be more or less completely restored. This treatment consists in a psychic training of the powers of coordination, not in the attempt to increase muscular power, which often is not impaired. For this reason, the fatigue which may interfere with coordination is a nervous phenomenon, and should not be increased by having the patient attempt severe exercise. Patients with tabes do not feel fatigue readily, but indicate it by loss of precision in their movements, increase in pulse-rate, etc. The patient must be watched lest he go too far, but also should be encouraged to undertake movements of which at first he may not deem himself capable. One of Frenkel's exercises is to have the patient lie in bed and try to place his heel in a set of cup-like depressions in a board placed across

the foot of the bed. In other instances, definite spaces are marked on the floor and he is directed to take steps that will bring the heel on each mark.

Precision in each exercise is insisted on by Mitchell, who says: "The exercises, from the simplest to the most complicated, must be performed accurately, with the idea always before both teacher and pupil that to do the prescribed movements correctly and exactly is the task—not just to do it. If the patient walks, he walks not to reach a certain spot, but to walk in a certain fashion. Individual teaching is absolutely required in the beginning. After the first lessons, and when the patient is once able to do a little work on his feet, he may join a class and find not only that the stimulus of competition is a help, but that his observation of the errors of others assists him to correct his own."

The exercises should not cause fatigue. As a rule, twice a day and not longer than from five to fifteen minutes at a time, and in the severer cases not longer than two or three minutes, should be the limit. Improvement is said to follow in every case, but the amount depends on the length of treatment rather than on the degree of incoordination. Several months are generally necessary if the patient is not to fall back into his old habits. Even the severest cases, if uncomplicated, give a good prognosis with persevering treatment. Some of Frenkel's patients, with complete loss of the power of standing or walking, had these faculties entirely restored after from six to twelve months of treatment. Orthopedic apparatus may be needed in some cases. Uibeleisen utilizes the buoyancy of water to help in the exercises, as described in THE JOURNAL, Jan. 14, 1911, page 162.

FIBROLYSIN IN OPHTHALMOLOGY

To the Editor:—1. With what success has fibrolysin been used in corneal ulcer?

2. What is the dosage used either as instillation into the conjunctival sac or as subcutaneous injection?

B. L. SCHUSTER, Port Huron, Mich.

ANSWER.—According to "New and Nonofficial Remedies" and Wood's "System of Ophthalmic Therapeutics," fibrolysin is the trade name for a sterile solution of thiosinamin and sodium salicylate, and contains about 15 per cent. of the double salt. It is used as a substitute for thiosinamin. As it readily decomposes on exposure to the air it is commonly marketed in ampullas (Merck), or in bottles containing one dose only, to be given subcutaneously. A hypodermic injection of this remedy is more quickly absorbed, causes less pain and is more efficacious than thiosinamin alone. The remedy is rarely or never used for ulcer of the cornea, but is almost invariably prescribed for the scars remaining after the ulcers have healed. Its effect on any of these lesions is of little account unless used hypodermically or subconjunctivally; even then the remedy is of doubtful utility. Brandenburg has also tried the preparation in the form of intramuscular injections in corneal opacity following keratitis scrofulosa, keratitis purulenta, keratitis trachomatosa, in chronic uveitis and chronic retrobulbar neuritis.

2. Pick has prescribed a subconjunctival injection of 0.5 c.c. of a solution of 2 gm. of thiosinamin in 20 gm. of water and 4 gm. of glycerin, corresponding to 0.45 gm. of fibrolysin (1/5 of an ampulla) once a week.

GALL-STONE FAKE

To the Editor:—Several months ago THE JOURNAL exposed a gall-stone fake, whereby the patient who took the "treatment" passed a quantity of "gall-stones" or, rather, "soap-stones." A person whom I know took a similar "treatment" and passed 125 soft gall-stones (some as large as hazel-nuts). One of my patients, who is suffering from acute gastritis, was requested to try the gall-stone remedy. I want to locate the article to show him how the fake works. If you can tell me the number of THE JOURNAL which contains this article I will be obliged to you. C. O. NELMS, M.D., Herscher, Ill.

ANSWER.—The "fake gall-stone trick" has been worked for some years by traveling fakers and more recently has been adapted to the "patent medicine" industry. In THE JOURNAL, Sept. 24, 1910, "Fruitola," one of the most widely advertised of the gall-stone cure fakes, was exposed, and this, doubtless, is the nostrum to which our correspondent refers. The analyses made by the Association's chemists indicated that Fruitola consisted essentially of anise-flavored olive oil and seidlitz powders.

GASOLINE FOR REMOVAL OF ADHESIVE PLASTER, ETC.

To the Editor:—Recent articles in THE JOURNAL make it a matter of conscience with me to announce that gasoline is the best solvent for the face of surgeon's adhesive plaster. The liquid should be freely applied with a wad of cotton. The plaster may then be removed without violence or depilation. So effectual is the solvent that the surgeon will not care whether the cementing material does or does not come away with the cloth. It is merely a matter of a few wads of cotton more or less.

In this connection, I wish to say that gasoline is an antiseptic and that it further commends itself by its power of removing machine-grease from injured fingers and of dissolving ointments at later dressings. Nothing in my office is so useful, with the sole exception of my ledger. Polished instruments, thoroughly dried, will not rust after receiving a dash of gasoline. When desired, one may use it as a solvent for paraffin and coat any instrument with a film. A few drops poured on the water in the wash-bowl will enormously increase the detergent power of soap and water and will prevent the deposit of smeary curds on the side of the bowl, even when hard water is used. A discreet use of it on the front of the doctor's coat and waistcoat will often exalt his personal pulchritude. Gasoline will clean up the bearings of the bicycle or centrifuge and will quickly remove all gum from the doctor's typewriter—or her writing-machine.

A liquid so inflammable should not be exposed in quantity. An ordinary oil-can is a fine dispensing apparatus, but a screw-cap bottle, such as the perfumers use for toilet waters, is much more elegant. I myself use a bottle that I got from my own wife—to avoid explosion. DAN MILLIKIN, M.D., Hamilton, Ohio.

To the Editor:—The articles of Drs. Beardsley and J. Scott Brown, in THE JOURNAL, January 28 and February 25, respectively, concerning the removal of adhesive plaster, are of general practical interest. The costliness of Dr. Beardsley's oil of wintergreen and the pain and friction required in Dr. Brown's method with ether cause me to suggest the use of gasoline for the removal of the plaster. For a number of years I have used gasoline in the following manner: Saturate a cotton sponge with gasoline and apply it directly to the posterior surface and the end of the adhesive plaster: This loosens the end effectively and allows it to be grasped by a pair of thumb forceps. Then, by gentle traction on the end of the plaster, it is lifted away from the surface, and by applying the cotton sponge at the junction of the skin and remaining plaster the plaster is easily and rapidly peeled off. If any of the adhesive material remains it is quickly dissolved and removed by gentle friction with the aforesaid sponge.

J. A. GANNON, M.D., Washington, D.C.

THE WORD APPENDICEALGIA

To the Editor:—Who was the author of the new word "appendicealgia?" Has anything been published on the subject? What are the symptoms of the disease? A. C. J.

ANSWER.—The word appears in Dorland's "Medical Dictionary," as also does the abbreviated form "appendalgia." We do not know its author. Both are merely terms for appendicular colic, and as such they are treated in practically all works on appendicitis.

THE BRACHIAL PLEXUS

To the Editor:—Does the second thoracic nerve have anything to do with the formation of the brachial plexus nerve normally?

L. S. GRIFFIN, M.D., St. Louis.

ANSWER.—Yes.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 25, 1911.

Norman, Seaton, M.R.C., on his relief from temporary duty at Fort Wingate, N. Mex., ordered to Fort Bliss, Texas, for temporary duty.

Farrow, Edgar J., M.R.C., left Fort Morgan, Ala., en route to Fort Sam Houston, Texas, for temporary duty.

Wolven, F. Homer, D.S., left Fort George Wright, Wash., en route to Boise Barracks, Idaho, for temporary duty.

Freeman, Paul L., captain, left Fort Riley, Kan., for temporary field duty in Texas.

Ferenbaugh, Thomas L., lieut., left Fort Des Moines, Iowa, for temporary duty in field in Texas.

Powell, William A., captain, ordered to the Presidio of San Francisco for duty.

Thomason, Harry D., captain, ordered to proceed at the proper time to Frankfort, Ky., for conference about Feb. 26, 1911, with the adjutant of Kentucky in connection with reorganization of the sanitary troops in that state.

Schlanser, A. E., lieut., left Walter Reed General Hospital, Takoma Park, D. C., en route to West Point, N. Y., for temporary duty.

Johnson, Thomas H., lieut., left Fort Baker, Cal., en route to Fort Barry, Cal., for temporary duty.

Dickenson, C. F., M.R.C., left Fort Barry, Cal., on ten days' leave of absence.

Pillsbury, Henry C., captain, left Jefferson Barracks, Mo., with recruits en route to Fort McDowell, Cal.

Phalen, James M., captain, left Columbus Barracks, Ohio, with recruits en route to Fort McDowell, Cal.

Allen, William H., lieut., left Fort Slocum, N. Y., with recruits en route to Fort McDowell, Cal.

Patterson, Edwin W., M.R.C., granted leave of absence for three months, with permission to go beyond the seas, to take effect on his relief from duty in the Philippines division.

Lynch, Charles, major, order directing him to proceed to the Philippine Islands for duty is revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

OPTOMETRY EXAMINATION QUESTIONS

Since 1901, laws creating state boards for the examination of practitioners in "optometry" have been adopted in twenty-four states. These are: Minnesota (1901), California and North Dakota (1903), Oregon (1905), New Mexico (1906), Arizona, Montana, Idaho, Utah, Tennessee, Indiana and Nebraska (1907), New York, Vermont, West Virginia, North Carolina, Delaware, Maine, Washington, Iowa, Rhode Island, Kansas, Michigan and Florida (1909).

Many physicians are apparently indifferent to this invasion of the field of medicine, and regard these self-styled "optometrists" as merely spectacle fitters. As an evidence of the extent to which they are endeavoring to cover the entire realm of the diseases of the eye, the examination questions used by the boards in a number of states are quoted herewith. As will be seen, the questions relate, not only to the correction of errors of refraction, but to practically all diseases of the eye. The questions given are quoted verbatim from the examination papers.

California.—Explain the following: Aberration, Aniridia, Actinic, Steigmatism, Cyclophoria, Dacryoma, Erucleation, Epicanthus, Senopia, Epilation, Caruncle, Myosis, Mydriasis, Cycloplegia, Chromatism, Nyctalopia, Keratitis, Leucoma, Hordeolum, Anisometropia, Ontimetropea. Describe the dilator iris, its function and nerves. Name the principal arteries of the eye. State shortly what you know of cataract diagnosis, its varieties, cause and methods of removal.

North Dakota.—What is blepharitis marginalis? Describe the difference between hordeolum and chalazion. Describe simple corneal ulcer, giving etiology and prognosis. Describe cataract in general and one kind or more in particular. Describe glaucoma. What are the objective symptoms? Describe emblyopia potatorum. How does the retina appear in a bad case of aluminuria?

Arizona.—What is blepharitis? If neglected, is it likely to become a permanent trouble? What is granular ophthalmia? What is conjunctivitis? What is iritis? What is glaucoma? What is choroiditis? Symptoms? What is apt to be the effect of rupture of the choroid?

Utah.—What is pterygium? trachoma? How would you detect cataract? What is it? What is nystagmus; anisometropia?

Oregon.—What is a cataract? How do you tell whether a patient has cataract or not? What is glaucoma and what are some of the most common symptoms? What is the choride and what are its uses? What is amaurosis? What does the motor oculi or third pair of nerves supply? What is cyclitis? What is the conjunctiva and what are its uses? What is the least and the most sensitive part of the retina and why? What are the lavator palpebræ and what are its uses?

Indiana.—What do you understand by the term homonymous hemianopsia? Describe the difference between the location of a ptergium and a cataract. Tell how to differentiate between a paralysis of an external muscle and a concomitant squint. What is a pupillary reflex? How would you examine the eyes to determine the pupillary action? Describe the action of an Argyll-Robertson pupil. How many layers has the retina? Name the most sensitive part of the retina. Describe the optic disk. From what source does the retina obtain its nourishment? Name the bones of the orbit. Describe the muscles of the eyelids. Where situated and what is the iris? Give its function. Name the humors of the eye. Describe the optic track from the eye to the optic thalamus.

Iowa.—What nerves supply the two muscles controlling the iris? Describe a cataract and tell what you know of the different kinds. What is keratitis? What is blepharitis? How does the ciliary muscle affect vision? How would paralysis of the fourth cranial nerve affect the eyes? How does the liver influence digestion? What are the functions of the thyroid gland?

Given a patient complaining of short periods of dimness of both near and distant vision, which are becoming more frequent, with occasional instants of complete darkness; these periods sometimes accompanied by pain in eyeball and orbital region; also states that during these periods halos are seen around the lamp or similar spots of light; that he has never worn glasses for distance, but that of late he has been compelled to change his reading glasses to higher and higher power at frequent intervals. On examination you discover a "hazy" appearance of the cornea, pupil dilated, and immobile or at least sluggish of response, and on pulsating the eyeball you discover an abnormally high tension, what would you diagnose this case to be?

What is the generally accepted theory as to its cause? What is meant by the term monocular diplopia, and what is usually indicated by it? Describe briefly arcus senilis. Define cataract, giving symptoms, and tests you use when you suspect its presence. Describe pterygium. What is a chalazion? What is a stye? What is trachoma? What is meant by scotoma?

Delaware.—Describe a cataract and tell what you know of the different kinds. What is blepharitis marginalis? Describe simple corneal ulcer and give the most conspicuous symptom. Name a disease of the eyes on account of which emigrants are refused admission to this country; give reason. Describe glaucoma and give the principal diagnostic features. What is hemiopa and its cause? What are the rods and cones and their function?

Rhode Island.—Describe cataract in general and some one particular kind fully. What is choroiditis, retinitis, iritis, conjunctivitis, blepharitis marginalis? Describe simple corneal ulcer and give the most conspicuous symptom. Describe glaucoma and give the principal diagnostic feature.

Maine has as yet held no examinations. The secretary of the Maine Board of Optometry, however, announces that the subjects for examination will be: Practical Optometry, Practical Optics, Physiological Optics, Theoretic Optometry, Anatomy and Physiology, Diseases of the Eye.

The Vermont, 1909, Handbook on Optometry announces the following subjects for the examination in Montpelier, January, 1910: Theoretic Optics, Practical Optics, Objective Optometry, Subjective Optometry, Anatomy and Physiology of the Eye, Physiologic Optics, Pathologic Conditions of the Eye.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—First Weekly Meeting

General Subject for the Month: Non-Inflammatory Diseases of the Uterus and Appendages

ANATOMY

UTERUS: Shape, size, position, important relations. Broad, round and uterosacral ligaments. Portions of uterus. Structure; serous, muscular and mucous coats. Attachments of vagina to cervix. Blood-vessels and nerves. Lymphatics, three groups.

FALLOPIAN TUBES: Position, portions, structure. Blood-supply. Broad ligament, structure, relations, contents.

OVARY: Shape, size, position, relations, ligaments. Structure and functions. Blood-vessels, nerves, lymphatics.

PELVIC FLOOR: Skin, superficial and deep fascias, levator ani, transverse perineal, ischiocavernosi and sphincter ani muscles. Functions and mechanism of pelvic floor.

DISPLACEMENTS OF THE UTERUS

ASCENT, descent, lateral, anterior and posterior, flexion and version.

PROLAPSE: Pathology: Degrees of prolapse, changes in uterus, in adjacent organs.
Diagnosis. Symptoms, physical examination.

ANTEFLEXION: Incidence, causes.
Symptoms. Dysmenorrhea, sterility, leukorrhea.
Treatment.

RETRODISPLACEMENTS, VERSION AND FLEXION

CAUSES: Injury to pelvic floor, subinvolution of uterus, too long on back after labor, overdistended bladder and rectum, dress, occupation, posture, chronic disease, etc.

SYMPTOMS: Backache, leukorrhea, headache, pelvic, rectal and bladder symptoms, menstrual disorders, nervous symptoms.

TREATMENT: Removal of cause. Replacement. Use of pessary and tampon. Operative treatment: Technic of shortening round ligaments, Montgomery, Barrett, Gilliam operations.

INVERSION OF THE UTERUS

Acute and chronic inversion. Symptoms. Treatment.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

Illinois July and October Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held at Chicago, July 20-22, and October 19-21, 1910. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75.

At the examination held July 20-22, the total number of candidates examined was 145 of whom 117 passed and 26 failed. Two candidates did not complete the examination. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Denver and Gross College of Medicine	(1908)	1
Georgetown University	(1909)	1
George Washington University	(1909)	1
Bennett Medical College, Chicago	(1910)	10
Chicago College of Medicine and Surgery	(1910)	15
Hahnemann Medical College and Hospital, Chicago	(2, 1909) (2, 1910)	4
Hering Medical College	(1910)	1
Jenner Medical College	(1910)	9
Illinois Medical College	(1910)	2
Northwestern University Med. School	(1909) (8, 1910)	9
College of Physicians and Surgeons, Chicago	(1909) (16, 1910)	17
Reliance Medical College	(1910)	4
Rush Medical College	(1899) (1909) (11, 1910)	13
University of Louisville	(1910)	12
Tulane University of Louisiana	(1903)	1
University of Michigan, Homeopathic College	(1910)	1
Homeopathic Medical College of Missouri	(1908)	1
St. Louis College of Phys. and Surgs.	(1906) (4, 1910)	5
Barnes Medical College	(1910)	3
Jefferson Medical College	(1910)	3
Vanderbilt University	(1910)	1
McGill University, Quebec	(1910)	2
University of Athens, Greece	(1901)	1
FAILED		
University of Arkansas	(1909)	1
Bennett Medical College, Chicago	(1909) (2, 1910)	3
Chicago College of Medicine and Surgery	(1910)	2
College of Medicine and Surgery, Physio-Medical, Chicago	(1910)	1
Hering Medical College	(1910)	1
Illinois Medical College	(1910)	1
National Medical University, Chicago	(1909)	2
College of Physicians and Surgeons, Chicago	(1910)	2
Keokuk Medical College, College of Physicians and Surgeons	(1908)	1
Sioux City College of Medicine	(1906)	1
Hospital College of Medicine, Louisville	(1904)	1
Barnes Medical College	(1910)	2
St. Louis College of Physicians and Surgeons	(1906) (1908) (3, 1910)	5
Meharry Medical College	(1910)	2
University of Naples, Italy	(1901)	1

At the examination held October 19-21, the total number of candidates examined was 81, of whom 34 passed and 42 failed. Five candidates did not complete the examination. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Bennett Medical College	(1910)	2
Chicago College of Medicine and Surgery	(1910)	3
College of Medicine and Surgery, Chicago	(1910)	1
Hahnemann Med. College and Hospital, Chicago	(1910)	1
Jenner Medical College, Chicago	(1910)	2
Illinois Medical College	(1910)	1
Northwestern University Medical School	(1910)	2
College of Physicians and Surgeons, Chicago	(1910)	9
Reliance Medical College	(1910)	2
Rush Medical College	(1910)	2
Indiana University	(1910)	1
University of Maryland	(1910)	1
Harvard Medical School	(1908)	1
Boston University	(1910)	1
St. Louis College of Physicians and Surgeons	(1910)	1
Washington University, St. Louis	(1903)	1
University of Buffalo	(1895)	1
Meharry Medical College	(1910)	1
University of Berlin, Germany	(1901)	1
FAILED		
University of Arkansas	(1910)	1
Bennett Medical College	(1909) (2, 1910)	3
Chicago Coll. of Medicine and Surgery	(1908) (2, 1910)	3
College of Med. and Surg., Chicago	(1908) (5, 1910)	6
Hering Medical College, Chicago	(1910)	1
Jenner Medical College	(1910)	2
Illinois Medical College	(1910)	2
National Medical University, Chicago	(1909)	2
College of Phys. and Surg., Chicago	(1909) (4, 1910)	5
Reliance Medical College	(1909)	2
Keokuk Medical College, College of Physicians and Surgeons	(1906)	1
Sioux City College of Medicine	(1906)	1
Hospital Medical College, Louisville	(1904)	1
Louisville and Hospital Medical College	(1908)	1
Barnes Medical College	(1903) (1907) (3, 1910)	5
St. Louis College of Physicians and Surgeons	(1907) (1908) (2, 1910)	4
St. Louis University	(1907)	1
Meharry Medical College	(1910)	1

Alabama January Report

Dr. W. H. Sanders, Chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, January 9-12, 1911. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 42, of whom 18 passed and 24 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of Alabama	(1910)	5
Birmingham Medical College	(1910)	2
Atlanta College of Physicians and Surgeons	(1910)	1
Tulane University of Louisiana	(1909) (1910)	2
Tufts College Medical School	(1908)	1
University of Michigan, Coll. of Med. and Surg.	(1909)	1
Leonard Medical School	(1910)	1
Jefferson Medical College	(1904) (1909)	2
Medical College of South Carolina	(1906)	1
University of Nashville	(1909) (1910)	2
FAILED		
University of Alabama	(2, 1909) (7, 1910)	9
Birmingham Medical College	(1910)	2
Atlanta College of Physicians and Surgeons	(1910)	2
Atlanta School of Medicine	(1909)	1
Louisville Medical College	(1907)	1
Tulane University of Louisiana	(1910)	2
Universities of Nashville and Tennessee	(1910)	1
Memphis Hospital Medical College	(*) (1908) (2, 1910)	4
University of Tennessee	(1908)	2

* No year of graduation given.

New Hampshire January Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Jan. 3-4, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Maryland Medical College	(1908)	75
Harvard Medical School	(1908)	81
Laval University, Quebec	(1909)	76
University of Athens, Greece	(1901)	75
University of Naples, Italy	(1906)	82
FAILED		
Baltimore Medical College	(1909)	60
Dartmouth Medical College	(1896)	61
University of Athens, Greece	(1903)	55

Book Notices

PELLAGRA. By Dr. A. Marie, Physician to the Asylums, Department of the Seine, Paris, France. With Introductory Notes by Professor Lombroso. Authorized Translation from the French by C. H. Lavinder, M.D., Passed Assistant Surgeon U. S. P. H. and M.-H. Service, and J. W. Babcock, M.D., Physician and Superintendent State Hospital for the Insane, Columbia, S. C. Cloth. Price, $2.50. Pp. 434, with illustrations. Columbia: The State Co., 1910.

The sociologic and economic importance of pellagra and the still unsolved mystery of its etiology are sufficient to ensure a welcome to any work presenting a good review of the subject. The comparative newness of the subject to the profession in the United States makes the preparation of such a book an unusually difficult task for an American physician. The authors, therefore, decided to present to English readers an authorized translation of the standard work of Marie, adapting it to American conditions by extensive additions and explanations. They were fortunate in securing the friendly interest of Lombroso, who shortly before his death wrote a preface for the work. The work of Marie is essentially an abbreviation of the larger work of Lombroso, so that the translators, in order to give a wider view of the etiologic theories, have introduced an account of the views of the antizeists. A chapter on symptomatology is also the work of the translators, so that the contributions to this work from their hands form an important feature of the book. The views on etiology are primarily those of Lombroso and connect the disease in some way with spoiled maize. The discussion of prophylaxis follows the same course as a necessary corollary. In this respect the European origin of the book necessitates a certain lack of adaptability to American conditions. The account of European varieties of maize and the methods of culture are of minor interest to the American farmer and sanitarian. The problems in this country concern more particularly the harvesting of unripe corn and the transportation of damaged or adulterated meal.

The authors give the conclusions and suggestions of Alsberg on the relations of corn culture in the United States to pellagra, but further study of this subject would be desirable. The account of symptomatology, diagnosis, prognosis and treatment is sufficiently complete. Two bibliographies, one English and the other foreign are appended. These are arranged chronologically and show the very considerably increased interest in the subject in the last few years, especially in the United States. The illustrations are mostly pictures of pellagrins, mostly Americans.

In general, the work may be unhesitatingly commended as a good presentation of this important subject.

THE PRACTICE OF SURGERY. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital. Cloth. Price, $7 net. Pp. 1015, with 682 illustrations. Philadelphia: W. B. Saunders Co., 1910.

This book is novel in the manner of its conception and in being a text-book for the graduate who has surgical aspirations and not for the student. It is a text-book on clinical surgery. The principles of surgery are not considered, and preliminary training in pathology, bacteriology and the principles of surgery is presumed. Mumford narrates his experiences with surgical operations extending over a considerable number of years, describing what, in his opinion, are the best procedures to adopt for a given case. Useless gossip and verbose descriptions of every known procedure, good, bad or indifferent, are wisely omitted. The book cannot fail to prove really useful to anyone who is looking for light in this field.

Surgical diseases are taken up in the order of their interest, importance and frequency, the sequence followed being, first, appendicitis; then surgical diseases of the abdomen and its contents, of female organs of generation, of the genito-urinary organs, of the chest, face and neck, of the head and spine; and minor surgery with diseases of structure. In the treatment of appendicitis the author prefers the muscle-splitting operation; he advocates removing the appendix (after the abdomen is opened for other reasons) if there is cause to suspect that it may become involved through the subsequent spread of peritoneal inflammation and the formation of adhesions about it. This is one of the few instances in which the author has allowed himself to indulge in an excursion into the field of debatable problems. Controversial points, such as the relative merits of cholecystostomy and cholecystectomy, are discussed briefly but pointedly, and the reader receives practical, dependable information on the subject.

One of the especially good features of the book is that the general cardinal principles for operation—gall-bladder operations, for instance—are stated, and then the special indications for performing a particular operation—as cholecystostomy or cholecystectomy—are given. The author has displayed unusually good judgment in his selection of operations. Every detail of surgical progress has been noted, applied, accepted if good and rejected if worthless.

The illustrations are excellent, numerous and helpful; they are elucidating and not confusing.

THE DISEASES OF INFANTS AND CHILDREN. By Edmund Cautley, M.D., Cantab., Senior Physician to the Belgrave Hospital for Children. Cloth. Price, $7 net. Pp. 1042. New York: Paul B. Hoeber, 69 East 59th Street, 1910.

Many new books on diseases of children have appeared in the last few years, and English writers have made three notable contributions. The books of Thompson and of Still made no attempt at completeness; they dealt at great length with things in which the authors were especially interested, and entirely passed over equally important subjects. Thus, while they are of value to the practicing physician, they cannot be considered as text-books. Cautley felt that "a new, systematic and up-to-date book on the subject was required," and the present volume is the result. This book is distinctly a British product. The British pediatricians are greatest as clinicians; they keep us constantly at the bedside rather than in the laboratory, but in spite of this reversal of the present tendency, we recommend this book as a text-book on diseases of children, both to the practicing physician and to the student. It is a marvel of completeness and thoroughness; the style is clear and forcible; the arrangement is excellent and the matter is strictly up to date, containing, for example, references to Flexner and Lewis' latest work on poliomyelitis. One marvels how the author has been able to keep his mind wholly uninfluenced by the epoch-making work that has been done recently in Germany on the subject of infant-feeding, but this peculiarity is shared by all other English and most American writers. Throughout the book one is constantly impressed with its completeness and with the systematic arrangement of the subjects. Thus at the end of the book we find three chapters on the ear, the eye, and the skin in childhood. It would be a pleasure to speak in detail of the chapter on nervous and mental diseases, which covers nearly 200 pages, and of many other equally valuable portions, but space will not permit. The author does not believe in pictures—"the kindergarten method of teaching," as he calls it—and so none appears in the book. The binding and the typographic appearance are all that could be desired.

DISEASES OF THE HEART AND AORTA. By Arthur D. Hirschfelder, M.D., Associate in Medicine, Johns Hopkins University. With an Introductory Note by Lewellys F. Barker, M.D., Professor of Medicine, Johns Hopkins University. Cloth. Price, $6. Pp. 632, with 329 illustrations. Philadelphia: J. B. Lippincott Co. (1910).

This volume is destined to become a valuable reference work for the practitioner and a more familiar and necessary companion to the teacher of internal medicine. A cursory comparison of this book with Samson's "Diseases of the Heart and Aorta," written twenty years ago, is instructive. In the older treatise symptomatology received more attention, and, of the methods of examination, auscultation and percussion were strongly emphasized. The sphygmograph was expounded at great length and an importance attached to its arterial tracings that is no longer conceded. Turning from the old to the present volume we note the dominant influence of physiologic studies, including the results of experimental observation. The arterial tracings have been replaced by simultaneous tracings of heart, artery and vein by which alterations and irregularities of cardiac rhythm can be definitely analyzed. The arterial sphygmomanometer has developed a great field of knowledge. The *x*-ray has given a clear photograph of heart and aorta. The discovery of the bundles of His has revealed many of the secrets of arrhythmia. The electrocardiagram has made its debut and promises well. The author has written a discriminating chapter on drug

treatment and has successfully condensed the methods and merits of gymnastics and hydrotherapy. A chapter on the effect of anesthetics on the heart and circulation and on the choice of anesthetics would be a desirable addition. The arrangement of the contents is sometimes difficult to follow and the inclusion of case reports is a doubtful asset. But on the whole the book represents one of the most solid contributions of recent years to medical literature.

A MANUAL OF NURSING. By Margaret Frances Donahoe, Formerly Superintendent of Nurses and Principal of Training School, Philadelphia General Hospital. Cloth. Price, $2 net. Pp. 489, with 52 illustrations. New York: D. Appleton & Co., 1910.

This manual takes the nurse through the whole course of her hospital training and makes the application of the knowledge thus acquired to her private work. The author, being herself a nurse and for many years a superintendent of nurses, has overlooked little that should be incorporated in such a book. Anatomy is not considered but diseases and their symptoms are described simply, so that the nurse may have a sufficient understanding of their nature to assist physicians. Critical symptoms or turns in the patient's condition are described, and what to do in emergencies so that the nurse is forearmed as well as forewarned in regard to exigencies. The nurse's point of view is the one constantly kept in mind, and the book, therefore, has not the fault of some books on nursing written by physicians, which enter too deeply into matters that belong properly in the province of the physician and not in that of the nurse. The author's style is simple and concise, and easily understood by the beginner. The manual is a good one.

PRAKTISCHE KINDERHEILKUNDE IN 36 VORLESUNGEN FÜR STUDIERENDE UND AERZTE. Von Dr. M. Kassowitz in Wien. Paper. Price, 18 marks. Pp. 653, with illustrations. Berlin: Julius Springer, 1910.

This book is in the form of a series of thirty-six lectures. Although not a complete treatise, it covers the more important subjects admirably with perhaps one exception, that of the gastro-intestinal diseases, which are all described in a single chapter. The book is of especial value since it represents the author's personal experiences with all of the conditions described, and one feels that it is his text-book, his point of view, his therapy, and not a mere compilation of the theories and practices of other authors.

The chapters on rickets are good. Kassowitz more than any other writer has been the advocate of phosphorus in the treatment of rickets, and goes into the subject, perhaps even to greater length than necessary. The four lectures devoted to rachitis and related conditions give one a good insight into the complex question of the relationship of rachitis and tetany, splenic anemia, etc. The chapter on congenital syphilis is also very instructive. Taken as a whole, the book is a valuable addition to pediatric literature.

THE CARE AND TRAINING OF CHILDREN. By Le Grand Kerr, M.D., Author of "Diseases of Children," etc. Cloth. Price, 75 cents net. Pp. 233. New York: Funk & Wagnalls Co., 1910.

The book deals with children after the age of infancy on to adolescence. The author speaks not only as a physician, but also from the experience of a parent who has given the subject careful study and attention, so that matters pertaining to the physical welfare of the child are entered into, such as clothing, diet, bathing, sleep, the bowels and teeth, and the lighting, heating, ventilation of living-rooms, education, parental relations, government, punishment, moral training, amusements, literature, friends, etc., and the important questions of sex enlightenment and the matter of evil habits are discussed in a practical, common-sense way. The book should be helpful to parents in the training of children.

DIÄTETIK INNERER ERKRANKUNGEN ZUM PRAKTISCHEN GEBRAUCHE FÜR AERZTE UND STUDIERENDE. Von Dr. Theodor Brugsch. Paper. Price, 4.80 marks. Pp. 245. Berlin: Julius Springer, 1911.

The author of this little work avoids theoretic discussions, and after a brief account of the physiology of nutrition enters at once on the description of the dietetic treatment of the various forms of disease. The pathology is briefly considered and the treatment is described in such a way as to give a clear statement of the general principles and at the same time sufficient detail for the practical guidance of physicians acquainted with German.

Medicolegal

Admissibility in Evidence of Physician's Account Books—Corroboration in Action Against Administrator

The Supreme Court of New Mexico affirms a judgment for the plaintiff in the case of Radcliffe vs. Chavez (110 Pac. R. 699), an action by a physician, against an administrator, on a claim for services. The court says that the testimony showed that the initial memorandum of professional visits was in two physicians' pocket day-books, which were received in evidence, but, while recording all the visits, they failed after a certain date to record the charges for such visits. However, two other books, called ledgers, might be classed as books of original entry and be considered admissible in evidence to the extent that the entries in them were original entries, if otherwise competent under the statute.

With reference to a statutory provision that the books of account of any merchant, physician, or other person doing a regular business and keeping daily entries thereof may be admitted in evidence as proof of such accounts on condition that he kept no clerk, or else the clerk is dead or inaccessible, on proof, by his customers, that he usually kept correct books, etc., the court holds that the fact that a physician's wife from time to time made entries in such books from his dictation did not constitute her a clerk so as to render the books inadmissible. The work "clerk," as used in the statute, implies more than a mere amanuensis. It means one having knowledge of the business so as to be able of his own knowledge to testify as to it. And as to proof by customers, it is sufficient if it be shown by them that during a period of years they have always found their accounts as tendered correct, coupled with testimony that such accounts were taken from the books in question; it not being essential that the customers shall have actually examined such books and compared their accounts with them. Where, therefore, as in this case, two patients come in and testify that their accounts as presented were uniformly correct, and where it is shown that such accounts were drawn from the books in question, the law infers from the treatment of the two a like treatment of the remainder, and considers the verity of the books established.

Then, books of account shown to conform to the requirements of the statute referred to are admissible in evidence, and, when so admitted in a suit against an administrator, may constitute "other material evidence" corroborating the claimant, as required by statute in an action against an administrator.

But the claimant went further in this case. His account was composed of several classes of items: (1) 167 visits for which $5 a visit was charged; (2) extra charges for some sixteen ordinary examinations of urine at $5 each; (3) five microscopic examinations necessitating trips to Albuquerque for which extra charges of $25 each were made; (4) washing out bladder six times at $10 each; (5) for limiting practice in order to stay near patient sixty-nine days at $5 per day; (6) for all-day and all-night service on the date of the patient's death $50. The plaintiff testified to the correctness of all of these charges, but, being of six separate classes, corroboration of all of one would not be sufficient to sustain the other.

Besides the claimant's books of accounts which, as has already been seen, were properly received in his behalf, and, when so received, were material evidence corroborating his testimony, the testimony of his wife showed that he had attended this patient as physician a number of times during the period charged for. Another physician testified to a knowledge of the case and to the necessity for examination of the urine, both ordinary and microscopic, to the fact that six of the former had been made with his help and to the reasonableness of the charges made therefor, to the presence of the claimant there night and day of the date of the last charge, to the fact that his presence was for the purpose of keeping the patient alive until some one who had been notified could arrive, and to the reasonableness of the charge of $50 therefor, to his knowledge of the fact that the claimant had for a considerable period previously to the death of this patient limited his practice to him, and declined outside prac-

tice, and that a charge of $5 a day was a reasonable charge for such limitation. He further testified that $2 was a reasonable price for the ordinary visit of a physician. A woman testified that she was nurse in attendance on the patient for two months and eleven days before his death, and that during that period, on the patient's request, the claimant attended, making sometimes two and sometimes three visits a day and sometimes at night, and that from about the beginning of such period the patient asked the claimant to be in attendance on him constantly during the time until he either died or got well. This last was corroborative of the claimant's testimony to the effect that he had on the special request of the patient limited his practice so as to be near him during the last sixty-nine days of his illness. The court deems this testimony, in connection with the books sufficient to corroborate and sustain all six of the classes of items above mentioned.

Testimony of a witness as to seeing the claimant's buggy stop at the patient's house was competent evidence as corroborative of the claim that he visited the patient professionally.

Practicing Medicine—Assignee of Claim of Unauthorized Practitioner

The Court of Civil Appeals of Texas affirms a judgment for the defendant in the case of Barnes vs. Sparks (131 S. W. R., 610), where he was sued on a note for $100 dated in January, 1905, and pleaded that the note was given for professional services rendered and to be rendered by one Dr. Dunnagan as a physician, and alleged that the latter was not at the time the note was given authorized to practice medicine in Hamilton county, where the note was executed, because he had not caused his license to practice medicine to be recorded in that county.

The defendant testified that he was afflicted with asthma and that Dr. Dunnagan came to his residence in Hamilton county, represented himself as a physician and agreed to cure him for $100; that he accepted the offer and executed to Dr. Dunnagan the note sued on; that immediately after the execution and delivery of the note Dr. Dunnagan gave him a dose of medicine, and that he thereafter received other medicine in pursuance of Dr. Dunnagan's contract, and did not know who sent it, unless it was Dr. Dunnagan. He also admitted that at the time he executed the note he signed a written contract with a medical institute, which was signed by the latter by said Dunnagan as diagnostician. Dr. Dunnagan testified that he did not prescribe for the defendant or give him any medicine; that he examined him, diagnosed his case; that he was prescribed for by a physician of the institute at Dallas, and that the medicine was furnished by that institute. The court thinks that the defendant's testimony warranted the conclusion that Dr. Dunnagan was practicing medicine on the occasion in question, and that at least part of the consideration of the note was for professional services rendered by him at that time.

Furthermore, the court overrules the contention that the laws of Texas do not make it unlawful for an assignee to maintain an action to recover for professional services of a physician prohibited by the statute from practicing. It holds that such defense is available against an assignee, unless such assignee is entitled to protection as an innocent purchaser and bona fide holder.

Refusal to Submit to Treatment Must be Unreasonable to Affect Verdict

The Supreme Court of Appeals of Virginia, in Roanoke Railway & Electric Co. vs. Sterrett (68 S. E. R., 998), a personal injury case brought by the latter party, holds correct an instruction which told the jury that if they believed from the evidence that the plaintiff unreasonably refused to submit to the treatment of physicians, or unreasonably refused to follow their instructions in regard to her injuries, and that in consequence of her refusal so to do her injury was aggravated and increased, then she could not recover damages to the extent that her conduct resulted in damage to her, and which might have been avoided and prevented by submitting to the treatment and following the directions of her physicians. The court says that objection was made to the interpolation of the word "unreasonably" in the instruction. The physicians alluded to were the surgeons of the defendant company employed by it to attend the plaintiff. She had also engaged physicians of her own selection, and by the instruction as originally offered was held bound at the risk of curtailing her recovery of damages to submit to the treatment prescribed by the defendant's surgeons whether reasonable or unreasonable. The amended instruction correctly told the jury that the plaintiff's right of recovery could be affected only by her unreasonably refusing to submit to the treatment or follow the instructions of physicians.

One Registration Only Required

The Court of Appeals of Georgia holds, in Jones vs. State (69 S. E. R. 315), that an indictment or accusation, charging a violation of section 1479 of the Political Code of Georgia of 1895, in that the defendant did practice medicine without registering in the office of the clerk of the superior court, is fatally defective, if it fails affirmatively to allege that the county in which he is charged with having practiced medicine without registering is the county wherein he resided. The law requires only one registration by a practitioner of medicine before he commences to practice medicine in Georgia, and that registration is required to be made in the office of the clerk of the superior court of the county wherein the practitioner resides.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 18

1 *Proper Management of Foundlings and Neglected Infants. H. D. Chapin, New York.
2 Syphilis and the Nervous System, with Remarks on the Wassermann Test and Salvarsan. W. M. Leszynsky, New York.
3 *Primary Sterility in Women. A. J. Rongy, New York.
4 Epidemic Poliomyelitis. E. E. Mayer, Pittsburg.
5 A Theory of the Etiology of Trachoma. D. S. Kanstoroom.
6 An Improvement in Audiometers. F. A. Faught, Philadelphia.

1. **Proper Management of Neglected Children.**—The plan of work followed by the Speedwell Society of Morristown, N. J., is described by Chapin; the infants are boarded out under supervision of visiting nurses. He shows that if the plan could be carried out generally in the place of institutional work for feeble, neglected babies, a large majority of them would be saved. No capital is required to be tied up in a large building or plant. The plan has proved to be economically sound as well as practically efficient.

3. **Primary Sterility in Women.**—The observations and conclusions arrived at in Rongy's paper are based on an analysis of 120 patients who presented themselves for treatment for primary sterility during the past ten years. Only those cases are included in which both husband and wife were examined. In eight patients there was sterility in either a brother or a sister. Three of these patients presented a few symptoms that pointed to some congenital defect of the genital organs. The husbands of these patients had active and living spermatozoa. Nearly 85 per cent. of the women suffered from dysmenorrhea, particularly during the first two days, a fact which goes to prove that the pain was not merely due to mechanical obstruction, but that some derangement of the genital tract, most probably of inflammatory origin, was present, for were it only of mechanical origin the pain would have ceased as soon as the full flow was established.

Most of the patients attended to their housework. Two were teaching school, six had millinery shops, eight divided their time between house work and small stores they owned, two were stenographers, one a dentist. Prior to marriage the majority of the patients had been engaged in sedentary occupations in close quarters and for prolonged hours, were rather anemic, and not in a robust state of health. Fifteen were

under 20 at the time of marriage, fifty-three between 20 and 25, thirty-eight between 25 and 30, seven between 30 and 35, four between 35 and 40 and one over 40. This is the proper ratio of the ages and therefore has no special significance. While some authors state that the marriages of near relations are more likely to be barren, in Rongy's experience this is not the case. Nine patients practiced masturbation daily from about the age of 16 until they married. Two continued the practice after marriage, stopping during the menstrual flow only. This continued practice resulted in complete sexual anesthesia in seven patients. In the presence of vaginismus sterility is the rule. Dyspareunia is usually a very prominent symptom in sterility. Thirty-two of the patients suffered from it.

In the 120 patients who came under Rongy's observation for the treatment of sterility he found that eighty-five, or 82 per cent. of the husbands admitted having been treated for gonorrhea for a period ranging from six weeks to two years. Eighteen had double epididymitis, with absolute sterility; twenty-one had single epididymitis, with absolute sterility in nine instances; nineteen gave a history of prostatitis and seminal vesiculitis; six of whom were operated on for stricture of the urethra, and three of whom suffered from azoospermia; the remaining twenty-seven evidently had anterior urethritis only, and in all spermatozoa were found. Three patients suffered from varicocele. In one patient the removal of this cured sterility of six year's standing. All the patients had azoospermia before the operation. Spermatozoa were found in all three cases three weeks after the operation. A small proportion of husbands suffer from azoospermia and oligospermia, which cannot be accounted for pathologically, and of necessity are classified as functional disturbances only. Closer inquiry brings out the fact that usually these patients have been excessively masturbating for a long period of time, with the result that the glandular structure of the testicles cannot supply the demand made upon them. Absolute impotence was found in three patients, two as the result of organic specific disease, one as the result of excessive masturbation. It is absolutely certain, says Rongy, that nearly 60 per cent. of women who suffer from primary sterility give evidence of gonorrheal infection. Next to the inflammatory processes the various displacements of the corpus and cervix uteri are the most important etiologic factors in primary sterility.

New York Medical Journal

February 18

7 Nature of Neurasthenia and Acute Insanity. C. P. Noble, Philadelphia.
8 Twilight Talks with the Doctor. G. F. Butler, Chicago.
9 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.
10 Subphrenic Abscess. H. Roth, New York.
11 *The Putrefactive Products of the Intestinal Canal as Etiologic Factors in Certain Forms of Neuralgias. J. Funke, Atlanta, Ga.
12 Postdiphtheritic Paralysis of Accommodation. J. Clothier, Philadelphia.
13 Simple Technic for Preparing Salvarsan in Oily Suspension. A. J. Hart, New York.
14 Origin of Cancer and Its Control. W. McDowell, Seattle, Wash.

11. **Intestinal Putrefaction.**—The conclusions to be drawn from Funke's paper are that a limited number of cases of neuralgia are due to putrefaction products, that these neuralgias are not due to the indican, that the mere presence of indican does not signify that a disease exists, and that it is only when the precursors of this substance are not oxidized to indican that disease results.

Boston Medical and Surgical Journal

February 16

15 The Aims and Possibilities of Neurologic Hospitals. P. Bailey, New York.
16 The New Neurologic Service at the Boston City Hospital. Its First Year's Work. P. C. Knapp, Boston.
17 The Youthful Psychopath. J. W. Courtney, Boston.
18 *Clinico-Pathologic Data on Bladder Tumors. L. Davis, Boston.
19 *Transperitoneal and Suprapubic Approach to Tumors of the Bladder. C. L. Scudder, Boston.
20 *Present Status of Intravesical Operations for Tumors of the Bladder. H. Binney, Boston.
21 Examination of the Nose and Throat in Relation to General Diagnosis: Results in Asthma Following Nasal Operation. H. Z. Giffin, Rochester, Minn.

18. **Data on Bladder Tumors.**—In only twenty-eight of forty-one cases of tumors of the bladder collected from the records of the Massachusetts General Hospital by Davis were microscopic examinations of the specimens recorded. Twenty-five belonged to the epithelial group, two were sarcomata, one was a myoma—showing a great preponderance of epithelial tumors. Seventeen of the specimens of epithelial tumors which had been preserved were personally studied; six of these showed satisfactory evidence of epithelial infiltration of the bladder wall and were classed as carcinomata; eleven or nearly two-thirds, were regarded as papillomata. Thirty-seven patients were operated on; in nine the operation resulted fatally within a month, giving an operative mortality of 25 per cent. In none of the malignant cases was a radical operation, as it is now understood, attempted, but merely such palliative measures as curettage, cauterization and partial removal resorted to, with the result that death from the disease occurred in every case within six months.

Of the twenty-eight patients who survived the operation, twenty-six were traced. Fourteen, or just 50 per cent., died of the disease, one of these surviving for five years in spite of repeated recurrences before finally succumbing. Twelve patients, including those who died of other diseases, had no recurrence so far as could be learned. Nine are known to have survived the operation one year. Seven survived the operation two years. Five survived the operation eight years. Three of the latter died of other diseases, leaving two patients living and well at the time of the report, respectively eight and ten years after operation. Of the five patients who survived for eight years, in only three were there pathologic reports on the specimens removed; one was a myoma, two were papillomata. Of the eight cases of papillomata in which the specimens were personally studied by Davis, one patient died as the direct result of the operation, one died of intercurrent disease eighteen months later without evidence of recurrence, one died two months after secondary operation for recurrence, one five years later of recurrence. One patient reported perfect health one year after operation, but has not been heard from since. One patient cannot be traced; one patient is well eight years after operation. One patient operated on in 1892, and again in 1897 for recurrence, has remained well up to the present time, thirteen years since the second operation. Davis has operated on fifteen patients. Nine had papillomata. Three were cases of cancer of the nodular, infiltrating kind. There was no operative mortality in these fifteen cases. Transperitoneal cystotomy was done in five cases, and simple suprapubic cystotomy in ten.

19. **Transperitoneal and Suprapubic Approach to Tumors of the Bladder.**—Scudder finds that, practically speaking, all tumors of the bladder cause death of the patient sooner or later. The supposedly benign papilloma causes death by hemorrhage or pyelonephritis. All so-called benign tumors are potentially malignant. A papilloma which shows no sign of malignancy may become malignant. If the operative deaths and the rapid recurrences of bladder tumors are combined under the one head of operative failures, these failures have occurred in 29 per cent. of the so-called benign tumors and in 46 per cent. of the cases of carcinoma. Of the urethral operations for papilloma, only 28 per cent. of the patients remained cured more than one year. Of the partial resections, 37.5 per cent. of the patients remained well more than one year. Of fifty-three patients with papilloma operated on through the urethra or suprapubically, or by partial resection, nineteen had recurrence. The statistics of Nitze in 1901 and 1905 are not corroborated by detailed reports of the cases and Scudder regards them as unusually fortunate results. In view of the above facts pointing to the great malignancy of papilloma of the bladder, and because of the poor surgical results that hitherto have been obtained by operative treatment, Scudder believes that we should regard, from an operative standpoint, all papillomata of the bladder as potentially malignant, and that they should be treated as if they were malignant growths, whether there are evidences of malignancy in any individual case or not. Certain of the small, apparently benign papillomata may safely be removed by the suprapubic method, but should be removed even with this

approach by a good margin of excised, healthy tissue. The transperitoneal approach to the bladder will enable the surgeon to attack successfully cases of malignant tumor of the bladder which, without this approach, might be forced to a more dangerous extraperitoneal cystectomy.

20. **Intravesical Operations for Tumors of the Bladder.**—According to Binney, the published results of intravesical operations do not, at present, warrant the adoption of the method for the removal of primary growths, except in cases of very small tumors or in patients in whom a suprapubic cystotomy under an anesthetic is contra-indicated. In cases of repeated recurrences after suprapubic operations, the method is to be recommended over the performance of frequent suprapubic operations.

American Medicine, Burlington, Vt.

January

22 The Physician in Court. L. R. Graham, New York.
23 Indican from the Standpoint of the General Practitioner. H. R. Harrower, Chicago.
24 General Anesthesia. A. M. Hellman, New York.
25 Memorial Address of Dr. Abram Brothers. R. Abrahams, New York.
26 Acute Labyrinthine Suppuration. O. Glogau, New York.
27 Four Cases of Cesarean Section. A. J. Rongy, New York.
28 Pellagra in New Mexico. D. H. Galloway, Roswell, N. Mex.
29 Hernia of the Lung, with Report of a Case of Spontaneous Hernia of the Right Lung. E. Adams, New York.

Philippine Journal of Science, Manila

October

30 *Tolerance for Alkalies in Asiatic Cholera. A. W. Sellards, Manila.
31 Effect of Concentration of Solution in Collapse in Asiatic Cholera. A. J. McLaughlin and A. W. Sellards, Manila.
32 *Chemical Composition of Blood in Asiatic Cholera. H. Aron, Manila.
33 Cholera and Cholera-Like Vibrios Encountered in the Philippines. A. J. McLaughlin and E. R. Whitmore, Manila.
34 *Specific Cure of Yaws with Salvarsan. R. P. Strong, Manila.

30. **Tolerance for Alkalies in Asiatic Cholera.**—The most important findings reported by Sellards are the tolerance for alkalies and the change in the course of the disease. This tolerance, he says, may be dependent either on the cholera infection, or on the accompanying nephritis; apparently it is related more closely to the uremia than to the enteritis. The condition will be of more general interest if it proves to be present in uremia from other causes than if it is specific for cholera. Examination of the urine in cholera showed an almost constant increase in the excretion of ammonia. Cholera patients showed a definite tolerance of alkalies, a considerable excess of sodium bicarbonate being required to render the urine alkaline as compared with normal individuals. Within certain limits, the administration of alkalies not only failed to render the urine alkaline, but the acidity was even increased, as measured by titration. Following the injection of alkalies, there was sometimes a sudden and marked increase in the excretion of urea. The early administration of alkalies practically eliminated death from uremia.

The choice of alkali for treatment may vary somewhat in the different stages of cholera. The chief advantage of the normal carbonate would depend on its ability to absorb carbon dioxid, but apparently few deaths occur primarily from failure of the internal respiration. Sodium acetate may have some advantages, especially for the stage of collapse. As much as 80 grams within twenty-four hours have been injected, but perhaps this amount is slightly excessive in certain cases. As a general routine, sodium bicarbonate has been the most effective of the three salts. Its administration in collapse has several advantages and, in selected cases, concentrations of from 1 to 1.5 per cent. may be used. A weaker solution would probably be chosen which would be suitable for routine use in all cases of collapse. Early in the stage of reaction, as much as 60 gm. may be given within twenty-four hours. The most important indication for discontinuing its administration is the development of muscular cramps or twitchings. These symptoms may appear, although the urine remains acid, and may be considered as a reaction to the alkali. Several cases in which excessive amounts of alkali were tolerated without the appearance of this symptom terminated unfavorably.

There was a wide variation in the amount of alkali which resulted in the production of muscular contractions. The quantity apparently varied in direct proportion to the severity of the disease, although Loeb has shown that the precipitation of the calcium salts by a carbonate gives rise to muscular contractions. If administration of alkalies is delayed until uremic symptoms develop, secretion of urine follows promptly after injection of sodium bicarbonate, but the final termination is usually unaltered. The most important single factor in determining the amount and frequency with which alkali should be injected is the quantity of urine excreted. Sodium bicarbonate, in 1.5 per cent. solution, in 2 liter quantities, has been injected as soon as patients come out of collapse, and repeated at intervals of from twelve to twenty-four hours until a free secretion of urine follows. Aside from mild convulsions, the only other untoward symptoms following the injection of alkali was a temporary hematuria. This occurred in three of the fifty-five cases; it was slight in amount and persisted for from two to four days.

32. **Composition of the Blood in Asiatic Cholera.**—In the stage of collapse in cholera a loss of water in the blood was regularly encountered by Aron, accompanied by a corresponding loss of chlorids (salts). This water loss was constantly high in the blood of persons who died of cholera. In the later stages of the disease, the blood again shows an almost normal content of water, but the salts are not replaced to the normal amount. Therefore, the blood at this stage has a diminished salt content and is hypotonic.

34. **Specific Cure of Yaws.**—After using salvarsan in twenty-five cases of yaws, Strong believes it to be an ideal specific for this disease. Three or four days after the injection of the drug, the granulomatous lesions begin to disappear and in the course of from ten to twenty days they usually have disappeared entirely leaving a perfectly smooth, pigmented skin where the lesions previously existed. The absorption of tumor masses measuring several centimeters in diameter and about a centimeter in thickness in so short a time, and under the influence of no local treatment whatever, has been striking and surprising. Even in cases in which large granulomatous masses or deep ulcerations existed, these were healed within from two to four weeks. None of the patients has shown any signs of relapse, although each received but a single injection, and over four months have elapsed since most of them were inoculated.

Mississippi Medical Monthly, Vicksburg

February

35 The Physician's Duty to the Public. T. Purser, McComb City.
36 Uses and Abuses of Quinin. F. M. Brougher, Belen.
37 The Differential Diagnosis in Coma. A. K. Naugle, Abbott.
38 Why Doctors Should Join Their County Medical Societies. G. C. Phillips, Lexington.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

January

39 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris.
40 *Present Status of Drug Addiction in the United States. L. F. Kebler, Washington, D. C.
41 *U. S. P. 1910. How May It Be Constructed? O. T. Osborne, New Haven, Conn.
42 Disability from Fracture of the Femur. O. H. Allis, Philadelphia.

40. **Drug Addiction in the United States.**—The thoughtful and foremost medical men have been and are cautioning against the free use of morphin and opium, particularly in recurring pain; and the amount they are using is decreasing yearly. Kebler claims that, notwithstanding this fact, and the fact that legislation, federal, state and territorial, adverse to the indiscriminate use and sale of opium and morphin, their derivatives and preparations, has been enacted during the past few decades, the amount of opium per capita imported and consumed in the United States has doubled during the last forty years. Not only has there been this increase in the use of opium, its preparations and derivatives, but large quantities of other habit-forming drugs have been used initially, introduced chiefly for medicinal purposes. For example, cocain (cocain hydrochlorid) has been employed for about twenty-five years, and the amount consumed at present per annum is estimated at approximately 150,000 ounces, an amount ten times as great as actually needed. In addition to this, it is well-known that large quantities of acetanilid,

antipyrin, acetphenetidin and diacetyl-morphin, and smaller quantities of hydrated chloral, codein, para-amino-benzoldiethyl-amino-ethanol, etc., are used. The amount of opium imported per annum during the past twenty years is slightly less than 500,000 pounds. The average yearly decrease during the past ten years is about 20,000 pounds. The present deterring factors are antinarcotic legislation and publicity.

From a comparison of the amount imported here with that in countries having efficient restrictive legislation, like Austria-Hungary, Germany, Holland, Italy and Spain, Kebler says it is clearly evident that from 80 to 90 per cent. of the opium imported is used improperly. It is variously estimated by those who are conversant with the situation that the number of drug habitués in the United States varies from 1,000,000 to 4,000,000. Most of the states have enacted laws forbidding the indiscriminate sale of cocain and cocain-bearing products, and to a certain extent this also holds true for morphin and preparations containing it. Still, in many instances, there are some features which do not render such laws as effective as they might be. Many states are enforcing local laws regulating the sale of morphin, cocain, etc., within their jurisdiction, but they are unable to control the introduction of these habit-forming drugs from localities outside of the state, and for this reason the officials find it difficult to make material headway. Manufacturers, importers and wholesalers, until recent years, have been supplying these agents to all comers, but recent activity shows that they are anxious to see the illegal use of such habit-forming drugs suppressed, notwithstanding the financial loss which they may encounter. It is a well-known fact that many wholesalers refuse to sell undue amounts of cocain to retailers, and from this it can readily be seen that there is a decided movement on foot toward suppressing drug addiction, not only on the part of the public, but also of manufacturers and dealers in these commodities.

It is well known that there are many factors at work tending to drug enslavement, among them being the host of soothing syrups, medicated soft drinks containing cocain, asthma remedies, catarrh remedies, consumption remedies, cough and cold remedies, and the more notorious drug addiction cures. It is often stated that medical men are frequently the chief factors in causing drug addiction. In order to obtain information on this subject, letters were addressed by Kebler to practicing physicians, sanitariums treating drug addiction under direct supervision, and sanitariums treating it both under direct supervision and in absentia only, throughout the United States. The data thus secured, with observations, are most interesting, but being published in tabular form cannot be abstracted.

41. Abstracted in THE JOURNAL, May 28, 1910, p. 1811.

Journal of Cutaneous Diseases, New York

February

43 Periadenitis Mucosa Necrotica Recurrens (Chronic Recurring Necrotic Granuloma of the Buccal Mucosa). R. L. Sutton, Kansas City, Mo.
44 Fibroma Molluscum, or Universal Neurofibromatosis. A. Ravogli, Cincinnati.
45 Isolation and Growth of the Acne Bacillus. E. D. Lovejoy and T. W. Hastings, New York.
46 Dr. Henry Granger Piffard: In Memoriam. G. H. Fox, New York.

American Journal of Surgery, New York

January

47 Pyuria. H. A. Kelley, Baltimore.
48 *Pylorospasm. S. McGuire, Richmond, Va.
49 Transfusion of Blood: Its Indications and Technic. J. S. Horsley, Richmond, Va.
50 Importance of Educating the Public in Regard to Cancer. S. Leigh, Norfolk, Va.
51 Gastric Symptoms from the Surgeon's Viewpoint. L. Frank, Louisville, Ky.
52 *Tumors of the Jaw Occurring Most Frequently in the Negro. W. F. Westmoreland, Atlanta, Ga.
53 Diagnosis of Obscure Cases of Appendicitis with Especial Reference to "Protective Appendicitis" (Morris). M. Rogers, Birmingham, Ala.
54 Quinin Anesthesia for Reducing Fractures, for Rectal Operations and for Prevention of Immediate Postoperative Pain in Amputation Stumps. V. Pleth and V. W. Pleth, Seguin, Texas.
55 Surgery Outside of the Hospital. J. W. Alsobrook, Plant City, Fla.
56 Eight Cases of *B. Aerogenes Capsulatus* Wound Infection. G. R. White, Savannah, Ga.
57 Cure of Stricture of the Rectum Complicating Fistulas. C. S. Venable, San Antonio, Texas.

February

58 *Intestinal Resection with a Technic Combining Murphy Button, Hartley and Lilienthal Methods. W. L. Wallace, Syracuse, N. Y.
59 *Abdominal Injuries and Their Treatment. C. H. Goodrich, Brooklyn, N. Y.
60 Medicolegal Aspect of Roentgen Rays from the Standpoint of the Surgeon. R. D. Mason, Omaha, Neb.
61 Metatarsalgia. H. C. Riggs, Brooklyn, N. Y.
62 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
63 Treatment of Acute Gonorrheal Urethritis. P. D. Littlejohn, New Haven, Conn.
64 A Case of Osteitis Deformans. N. P. Rathbun, Brooklyn, N. Y.

48 and 52. Abstracted in THE JOURNAL, Jan. 14, 1911, pp. 142 and 143.

58. **Intestinal Resection.**—When making an intestinal resection, Wallace found that a lateral anastomosis with a Murphy button by a certain method may be done with such rapidity that an immediate resection may safely be accomplished. He uses the Hartley method in making the lateral anastomosis, dropping half of a Murphy button into each end of the gut which is left after resection, and, after closing the ends of the gut by the Lilienthal method, pushes the halves of the button together. Lilienthal simply ties off the gut with twine instead of turning in or sewing up the end. Wallace has now used it six times with six successes. In three cases of strangulated hernia, he resected, made a lateral anastomosis with the Murphy button by the Hartley method, tied off the ends of the gut with fine linen or silk by the Lilienthal method, cut off the ends of the silk short and dropped the gut back, closing the abdomen without a drain. In another case of strangulated hernia he did the same, except that on account of the evident infection, he left a rubber drain down to the closed peritoneum. In one case of tuberculous salpingitis in which resection of the gut was necessary, it was accomplished in this way without drainage. In one case of appendicitis, in a child of 8, the end of the cecum, 1½ inches above the root of the appendix, together with the appendix and its mesentery, were tied off with one ligature and cut away.

59. **Abdominal Injuries.**—Goodrich urges an immediate aseptic abdominal section in every doubtful case of abdominal injury. Some of the important points in the surgical treatment of abdominal injuries are explained by him as follows:

1. Apply active measures to overcome or lessen shock, unless signs of active hemorrhage make quick action imperative. A reasonable time (one-half to three hours) may be allowed in cases of profound shock, to promote a helpful reaction.
2. Cleanse the skin as thoroughly and as widely as in any other abdominal case, notwithstanding the presence of indication for rapid work.
3. Precede an exploration by an intravenous saline infusion or a transfusion of blood when symptoms of hemorrhage are marked. As Crile has noted, "We may in this way transform a hopeless case into an average risk."
4. Make the search for intra-abdominal injuries thorough and systematic.
5. Cleanse the peritoneum thoroughly of septic material and blood, or fluid of any kind. This is best done by large gauze sponges, followed by copious irrigation, leaving the abdomen partly filled with saline solution.
6. Secure absolute hemostasis and water-tight repair of all wounds and ruptures.
7. Introduce drains whenever viscera have been penetrated or ruptured.
8. Use intravenous infusions of normal saline solution freely postoperatively in cases of marked shock or acute anemia.
9. Adopt the Fowler position and the ice coil in all cases as soon as reaction from shock is obtained.
10. If intestinal paresis supervenes, lavage every four hours will accomplish more than enemata.

Goodrich records a recent recovery from intestinal paresis so extreme as to be accompanied by frequent fecal vomiting, by the use of this measure.

Maryland Medical Journal, Baltimore

February

65 Importance of Direct Endoscopy in General Medical Practice. J. R. Winslow, Baltimore.
66 Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations. J. C. Bloodgood, Baltimore.
67 Advantages of Decompression in Treatment of Head Injuries. A. McGlannan, Baltimore.
68 The Faucial Tonsil—Its Relation to Systemic Disease and Results of Its Removal. S. Rosenheim, Baltimore.

Journal of Biologic Chemistry, Baltimore

December

69 The Refractive Indices of Certain Proteins: Serum Globulin. T. B. Robertson, San Francisco.
70 The Nitrogen Metabolism of the Coyote. A. Hunter and M. H. Givens, Ithaca, N. Y.

71 Comparative Analysis of the Urine of the Fox, Dog and Coyote. P. B. Hawk.
72 Fermentation of Citric Acid in Milk. A. W. Bosworth and M. J. Prucha, Geneva, N. Y.
73 Determination of Inorganic and Organic Phosphorus in Meats. H. S. Grindley and E. L. Ross.
74 *Persistence of Strychnin in a Corpse. M. P. Cram and P. W. Meserve.
75 Determination of Ammonia in Urine. O. Folin, Boston.
76 Determination of Total Sulphur in Urine. S. R. Benedict, New York.
77 Conception and Definition of the Term "Catalysor." A. E. Taylor.
78 Refractive Indices of Certain Proteins: Casein in Alcohol-Water Mixtures. T. B. Robertson, San Francisco.

74. **Persistence of Strychnin in a Corpse.**—On Nov. 15, 1909, a man of 53 died under suspicious circumstances. The body was buried on Nov. 19, 1909; on November 29 of the same year it was disinterred, and certain organs removed and sent to the late Franklin G. Robinson for analysis. Professor Robinson's notes record that he found strychnin, but, owing to illness, he was unable to appear personally at the trial. The body, therefore, was exhumed a second time on March 18, 1910, the other organs removed which were sent to Cram. The body had been frozen most of the time, but the grave when opened was full of water, which was allowed to drain off. An embalming fluid of acid reaction had been used when the body was first buried, which made it appear likely that any strychnin would be dissolved out. The method used for determining strychnin was the usual one of extracting with alcohol made acid with acetic acid, evaporating the extract to soft dryness, extracting the residue with water, extracting the acid water solution with chloroform, and then the same solution made alkaline with chloroform, the strychnin coming out in the last chloroform extract. The strychnin was then purified by absolute alcohol. From 454 grams of the lung, 133 grams of kidney, 446 grams of muscle, 850 grams of small intestine and 560 grams of brain, each being tested separately, no strychnin was obtained. From 803 grams of liver was obtained 0.0015 gram of strychnin, and from the spinal cord 0.0033 gram. The spinal cord itself weighed 25 grams. The note-books of Professor Robinson record that in 290 grams of stomach contents he found 0.0277 gram of strychnin, and in 45 grams of kidney 0.0003 gram of strychnin. The spinal cord, being better protected from the action of the water in the grave, which was acid from the embalming fluid, had retained the strychnin better than the other parts.

West Virginia Medical Journal, Wheeling

February

79 Pathology, Symptomatology and Diagnosis of Diseases of the Prostate. G. Timberlake, Baltimore.
80 Glaucoma. E. A. Hildreth, Wheeling.
81 The Physician—His Legal Rights and Responsibilities. T. Morrison, Keyser.
82 The Internal Secretions. G. D. Lind, Greenwood.
83 Hyperemia as a Curative Agent. H. G. Nicholson, Charleston.
84 Local Anesthesia in Rectal Work—Its History and Its Indications. J. M. Lynch, New York.

American Journal of Diseases of Children, Chicago

February

85 *Congenital Stenosis of Pylorus. A. D. Bevan, Chicago.
86 *Cerebrospinal Meningitis, Its Etiology, Diagnosis, Prognosis and Treatment. C. H. Dunn, Boston.
87 *Relation Between Carpal Ossification and Physical and Mental Development. E. Long and E. W. Caldwell, New York.
88 *Frequency and Significance of Albumin in the Urines of Normal Children. S. McC. Hamill, Philadelphia, and K. D. Blackfan, Cambridge, N. Y.

85. **Congenital Stenosis of the Pylorus.**—Bevan's conclusions are that congenital pyloric obstruction is a definite, well-established pathologic condition; that it produces, for him who has seen it, an easily recognized clinical picture; that it can, as a rule, be differentiated from other conditions simulating it; that if early recognized it can be permanently relieved by overcoming the obstruction by modern surgical methods; and that the individual so saved can grow up and develop in a perfectly normal way.

86. **Cerebrospinal Meningitis.**—The specific methods of treatment which in Dunn's opinion are available in the various forms of cerebrospinal meningitis, and which should be more widely tried, until further evidence proves or disproves their value, are: tuberculous—early and repeated lumbar puncture; epidemic—antimeningitis serum; pneumococcus—antipneumococcus serum; streptococcus—antistreptococcus serum; influenza—early and repeated lumbar puncture; staphylococcus—homologous vaccine.

87. **Carpal Ossification and Physical and Mental Development.**—The investigations described by Long and Caldwell were made with a view to applying the ingenious method proposed by Rotch, that the stage of ossification of the carpal bones as determined by the radiograph may be used to standardize or grade growing children as to their capacity for physical and mental work. As a result of their investigation, Long and Caldwell are led to believe that the ossification of the one wrist of an individual is not the exact index of the ossification of the other wrist, and therefore it seems probable that the same inexact relation exists between the wrist and the remainder of the skeleton. Age, height and weight increase in general with advance in carpal ossification, but with many exceptions among both sexes. It would be impractical at least to regulate the mode of life of these children according to this classification alone, e. g., Class B includes a very bright child, 2 years, 6 months and 15 days old, and a very dull child of 6 years, 7 months and 29 days; Class D includes a child of fair intelligence, 2 years, 2 months and 2 days old, with a very bright child of 7 years and 29 days. They can find no relation between the degree of carpal development and quality of mind. Some idiots are as far advanced in carpal ossification as some normal children of good mentality and similar chronologic age. The relation between the stages of puberty and those of carpal ossification is too indefinite to warrant the latter's use as an index of physiologic development. And, finally, though carpal development alone is not an exact index, still when observed at intervals, and considered with other factors, it may become an aid in estimating the rapidity of growth of the skeleton in children. They believe that closer attention should be paid by the medical profession to the regulation of physical and mental tasks more in accordance with the individual child's capacity, and that development of the ossification centers of the skeleton may become a factor toward this result.

88. **Albumin in the Urine of Normal Children.**—In each specimen of urine, Hamill and Blackfan determined the color, the appearance, the specific gravity, the reaction (in twenty-four-hour specimens, the total acidity), the presence or absence of albumin, sugar, acetone, diacetic acid, indican, urobiligen and phenol; and microscopically, the presence or absence of cells, casts, cylindroids and crystals. Four hundred and forty-five specimens of urine were examined. These were obtained from 124 children, ranging in age from 18 months to 14 years. During the period of examination the usual routine of life was followed, except that the children were kept from school. There was no relationship between the specific gravity and the form or amount of albumin. The reaction had no influence on the production of albumin. Sugar, acetone and diacetic acid were never found. They may, therefore, be considered as having no bearing on the production of albumin. Indican, phenol and urobilinogen, when present, were usually associated with albumin, but albumin was sometimes absent when they were all present, and the amount was never greater when associated with them than it was in the cases in which they were absent. Crystals, when present in amounts, such as are occasionally found in normal children, are in no way responsible for the associated albumin. The mild disturbances of the intestinal digestion, as shown by the examination of the stools, were not sufficient to account for the occurrence of albumin. The blood-pressure was within the normal range in all cases and, therefore, did not influence the albumin output. The albumin elimination was the same on mixed and exclusive milk diets. They found no children in whom the albumin excretion corresponded to the requirements for postural or orthostatic albuminuria, a rather surprising result in view of the frequency with which this condition is supposed to occur.

Thirty-two and one-half per cent. of the children showed occasional hyaline casts and cylindroids in the urine. The authors do not consider their "occasional presence" as indicative of a lesion of the kidneys, but rather as suggesting a temporary overtaxation of the kidneys resulting from variations in the habits of life of the individuals, which are too slight

to be recognized. Eighty-eight and seven-tenths per cent. of the urine of these 124 children showed albumin, 27.4 per cent. showed serum-albumin alone and in combination; and 85.4 per cent., an albuminous body precipitated by acetic acid in the cold. These two albumins were nearly always present in very slight traces, occasionally in slight traces and rarely in traces. In thirty-eight children the twenty-four-hour specimens showed nucleo-albumin in all but one, and in this case samples examined over prolonged periods of time showed nucleo-albumin frequently. In these thirty-eight children, the percentage of serum-albumin was very much larger (42.1 per cent.) than in the total number of cases examined. The authors believe, therefore, that it is possible to demonstrate in the urine of every presumably healthy child traces of an albuminous body precipitated by acetic acid. Consequently, this substance must be regarded as an exceedingly common, if not constant manifestation in the urine of children under 14 years of age, and as of no clinical significance. Hamill and Blackfan do not believe that serum-albumin in the amounts in which it appears in these children indicates a diseased condition of the kidneys any more than does the presence of occasional hyaline casts and cylindroids, and that its etiology may be considered the same as that given for these former elements.

Journal of the Medical Society of New Jersey, Orange

February

89 The Nasal Accessory Sinuses and the Eye. G. H. Ward, Englewood.
90 Injury to the Eye from Burns, Scalds and Chemicals. C. J. Kipp, Newark.
91 The Accessory Sinuses. T. R. Chambers, Jersey City.
92 A Few Fundamental Principles Applicable in Treatment of Diseases of Disturbed Metabolism. H. Beates, Philadelphia.
93 Indications for Operating in Extra-Uterine Pregnancy. W. O. La Motte, Riverside.

California State Journal of Medicine, San Francisco

February

94 Hyperchlorhydria. W. F. Cheney, San Francisco.
95 Value of Rectal Examinations. A. J. Zobel, San Francisco.
96 Functional Periodicity in Women and Some of the Modifying Factors. C. D. Mosher, Palo Alto.
97 Relation of Gastric Hemorrhage to Chronic Appendicitis. C. G. Levison, San Francisco.
98 Determination of Pus in Diseases of the Accessory Cavities of the Nose. H. Horn, San Francisco.
99 *Unusual Manifestations of Defective Feet. J. T. Watkins, San Francisco.
100 *Etiology and Treatment of Enuresis. E. C. Fleischner, San Francisco.
101 Criminal Abortion. J. H. Barbat, San Francisco.
102 Ophthalmologic Cases: Convergent Strabismus. F. A. Hamlin, San Francisco.
103 Rest in Treatment of Pulmonary Tuberculosis. R. A. Peers, Colfax.
104 Primary Carcinoma of Bronchus in the Mediastinum. H. R. Oliver, San Francisco.
105 Crusade Against the Anopheles. T. B. Reardan, Oroville.
106 Uncinariasis Among Mexican Track Laborers. J. W. Colbert, Albuquerque, N. Mex.

99. **Manifestations of Defective Feet.**—Watkins emphasizes the importance of always being on the outlook for what is called "pronated foot," a condition which is capable, without presenting subjective local manifestations, of giving rise to remote symptoms mistakable for those of lesions so dissimilar as sciatica, coccygodynia, uterine relaxation and allied disorders, a variety of backaches and spinal osteo-arthritis. The treatment of those defects for which pronated foot may be mistaken is either operative or mechanical. The explanations of the various subjective symptoms of pronated foot are found in the disturbances it inaugurates in the normal mechanics of the erect attitude. Watkins reports several cases in point and discusses the mechanism of walking from the anatomic viewpoint.

100. **Etiology and Treatment of Enuresis.**—With the object of determining the value of thyroid treatment of enuresis, Fleischner treated ten patients as follows: One-fourth grain thyroid extract was given three times a day, increasing to ½ grain three times a day. Fluids were not allowed after 4 p. m., and the foot of the bed was decidedly elevated at night. Of these ten patients, eight improved; two did not improve. Of the eight who improved, in four cases circumcision had been previously performed without result. Fleischner believes that the postural and dietetic treatment are of undoubted value; their action is, naturally, combined. Mothers are advised to give the children no fluid beyond a glass of milk for the evening meal, after 4 in the afternoon; then they are told to place blocks under the foot of the bed so that that part is raised about 8 inches. The object of this is to keep the urine from coming down and irritating the neck of the bladder, and it is often efficacious.

Military Surgeon, Washington, D. C.

February

107 *Aneurysms in the U. S. Army Medical Museum. D. S. Lamb, Washington, D. C.
108 Elementary Suggestions Regarding Plans for Our Large Naval Hospitals. F. S. Nash, U. S. Navy.
109 The New Type Naval Hospital. A. W. Dunbar, U. S. Navy.
110 The Sanitary Officer. W. W. Reno, U. S. Army.
111 Report of Venereal Diseases at Camp Stotsenburg, Pampanga, P. I. W. H. Wilson, U. S. Army.
112 Features of the Hernia Operation. A. McGlannan, N. G., Md.
113 Cases of Tuberculosis Sinuses Treated with Bismuth Paste. A. G. Chittick, N. G., Ind.
114 Report of Tropical Disease Board. Observations at Hanoi and Haiphong, Tonkin Province. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. Army.

107. Also published in *Washington Medical Annals*, January, 1911, and abstracted in THE JOURNAL, Feb. 11, p. 455.

Western Medical Review, Omaha, Neb.

February

115 *Stenosis of the Lower End of the Esophagus. H. L. Akin, Omaha.
116 Appendicitis. A. I. McKinnon, Lincoln, Neb.
117 Timely Ethical Problems. W. G. Hiltner, Lincoln, Neb.
118 Salvarsan in Syphilis. E. J. Angle, Lincoln, Neb.

115. **Stenosis of Lower End of Esophagus.**—Three cases are reported by Akin. He emphasizes several points, first of which is the importance of having the proper kind of bougie. The only reliable instrument, in his opinion, is a long 24 or 25-inch whalebone bougie, stiff enough so that it will not bend, but will go straight through where it is directed. His second point is the use of the silk thread swallowed the day before so as to allow it to become firmly engaged in the bowel below the stomach. This is a simple but highly commendable procedure, he asserts, because it enables the operator to introduce the bougie or dilator directly to the permeable point of the stricture and to use such force as is required to pass on into the stomach with a certain knowledge that his instrument is not going to deviate to the right or left and perhaps make false passage into the lung or pleural cavity. Akin favors dilatation of the stricture whenever this is possible.

Journal of the Michigan State Medical Society, Battle Creek

February

119 Surgical Treatment of Goiter. C. D. Brooks, Detroit.
120 Acute Poliomyelitis. G. L. Connor, Detroit.
121 Phases of Psychotherapy. C. W. Hitchcock, Detroit.
122 *A Business Man's Cold. J. V. White, Detroit.
123 Indication for Prostatectomy. F. B. Marshall, Muskegon.
124 Spina Bifida. N. S. MacDonald, Hancock.
125 Pregnancy and Fibroid Tumors of the Uterus. W. P. Manton, Detroit.

122. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1587.

Interstate Medical Journal, St. Louis

February

126 *Alterations of the Circulation in Goiter. C. C. Guthrie and A. H. Ryan, Pittsburg, Pa.
127 Abdominal Pain. H. A. Kelley, Baltimore.
128 Tuberculosis as it Concerns the Physician. L. F. Flick, Philadelphia.
129 A Frequent Etiologic Factor, Common to Facial Malformation and Acute Infectious Diseases. H. A. Potts, Chicago.
130 Uterine Hemorrhage: Its Relation to Uterine Cancer. F. Hinchey, St. Louis.
131 Artificial Feeding of Infant: Danger of Deficient Proteids. D. J. M. Miller, Atlantic City, N. J.
132 Case of Undescended Testicle. C. H. Chetwood, New York.

126. **Alterations of the Circulation in Goiter.**—Guthrie and Ryan record additional observations on the results following alterations of the circulation in goitrous thyroids, and further discuss these results in the light of other observations and considerations with a view of determining the factors concerned in their production. They found that marked anatomic changes occur in enlarged or goitrous thyroids of dogs after alteration of the circulation. The greatest changes observed occur when the circulation is reversed in the inferior thyroid vein by anastomosing this vein with the central end of the common carotid artery, or by making the anastomosis of the artery with the peripheral end of the internal jugular vein

below the point of origin of the inferior thyroid vein. The gross changes consist of a temporary swelling, followed by a marked decrease in size of the lobe on the operated side. The lobe feels much harder and denser. Microscopically, if the goiter be of the hyperplastic type, generally more normal staining colloid is seen after the operation; while if the goiter be of the colloid type, a decrease in the colloid substance is observed. In both cases the operated lobes in size, physical properties and histologic structure tend to revert to the normal. The authors believe that the change may rationally be interpreted from the standpoint of primary interference with the respiration of the tissues, which results in the death, disintegration and disappearance of abnormal tissue constituents. Also, accompanying the secondary effects due to the reactions of the tissues, absorption is probably increased so that the abnormal substances are quickly moved from the gland which accounts for their rapid disappearance. The more nearly normal tissue elements being more resistant or perhaps more favorably situated to revive, under the more nearly normal circulatory conditions established through the reaction of the tissues to the adverse condition, which indeed is strikingly similar to the current conceptions of an inflammatory reaction, resume and retain a more nearly normal function.

The reaction set up in the tissues is explainable as being due to the edema. But this may be only the indirect cause, for the accumulation of metabolic products together with substances originating from the death of tissue elements would probably act either together or the latter alone, more directly in producing an inflammatory reaction. On the whole, the results indicate that general symptoms of goiter are at least in part associated with deranged functions of the thyroid apparatus.

New Orleans Medical and Surgical Journal

February

133 Causes and Treatment of Backache in Women. A. de Roulet, Chicago.
134 Salvarsan in Syphilis. A. Nelken, New Orleans.
135 Treatment of Cardiac Insufficiency. J. B. Guthrie, New Orleans.
136 The Biology of *B. Leprœ*. C. W. Duval, New Orleans.
137 Practical Use of the Cystoscope in Differential Diagnosis. R. G. Holcombe, Lake Charles, La.
138 Problems in Obstetrics. E. M. Ellis, Crowley, La.
139 Advisability of Immediate Repair of the Cervix Uteri After Delivery. P. B. Salatich, New Orleans.
140 Toxemia of Pregnancy, Its Nature, Cause and Treatment. O. W. Cosby and R. H. Blackman, Monroe, La.
141 When Is Gonorrhea in Women Cured? W. B. Chamberlin, New Orleans.
142 Ligation of the Ovarian Vein for Thrombophlebitis of Puerperal Origin. C. J. Miller, New Orleans.
143 Removal of a Ninety-Five Pound Fibroid of the Uterus. H. S. Cocram, New Orleans.
144 Hygiene and Sanitation. I. J. Newton, Monroe, La.

Virginia Medical Semi-Monthly, Richmond

February 10

145 Case of Adams-Stokes Syndrome. T. C. Harris, Kenbridge.
146 *Advanced Extrauterine Pregnancy. S. C. Carson, Greensboro, Ala.
147 Treatment of Some Forms of Cardiac Failure. L. F. Barker, Baltimore.
148 *Peculiar Elongated and Sickle-Shaped Red Blood-Corpuscles in a Case of Severe Anemia. R. E. Washburn, Charlottesville.
149 Mastoiditis: Report of the Last Year's Work. W. F. Mercer, Richmond.
150 Work Done on the Verumontanum. L. T. Price, Richmond.

146. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1133.

148. **Peculiar Red Blood-Corpuscles in Severe Anemia.**—This patient has been under observation, at intervals, since 1907. She is a negress, aged 25, a native of southwestern Virginia and has lived there all her life. When first seen, Oct. 25, 1910, she complained of weakness, soreness and pain in the left side, and a sore on the left leg. She has never had good health. When a child she had measles. Menstruation began when she was eighteen and has been fairly regular, normal in amount, and with little pain. When a small girl, she had pneumonia, with pleurisy on the left side, and claims to have had pain in that side since that time. Three times within the last five years she has had chills and fever, supposedly malaria. She has never had rheumatism. There is no history of a chronic cough, but she is often troubled with epistaxis and sometimes spits up bloody mucus. She has shortness of breath on exertion, night sweats, and sleep starts, and is also troubled with swelling about the wrists and ankles. After eating, she occasionally has severe abdominal pain and is often troubled with indigestion and constipation. There is no history of any kidney or bladder trouble, gonorrhea or syphilis. The woman is a cook and has always done house work. In September, 1910, she weighed 155 pounds, but has fallen off since that time.

About five years ago she first noticed that she became dizzy and short of breath on slight exertion; and was also troubled with swelling in the feet and ankles. About the same time, she knocked the skin off of the left shin and the wound became infected, causing a bad ulcer. Some time after this an ulcer started on the right leg, though she does not remember having hurt it. She was also troubled with severe pains in the abdomen. These pains would start on the left side and radiate to the region of the liver, and were sharp and stabbing in character. She returned to her home in December of the same year feeling much improved. In March, 1908, she was operated on for gall-stones, 107 being removed. She continued to have good health until the following April; at which time she complained of severe pain in her left side. This pain was more or less constant, worse in the day than at night, and also increasing on taking a deep breath and on pressure. She also complained of being constipated—the pain being worse then than when the bowels moved regularly. Physical examination showed the mucous membranes to be pale; tongue coated; lungs and liver negative. The heart was slightly enlarged, with a systolic murmur heard best at the apex and transmitted to the axilla. The average temperature ranged from 99 to 100 F., pulse from 80 to 100, blood pressure was 105. Blood examination, April, 1909, showed: red cells, 2,000,000; white cells, 11,000; hemoglobin (Sahli), 50 per cent. Differential white count was as follows: polymorphonuclears, 63 per cent.; small mononuclears, 25 per cent.; eosinophils, 4 per cent.; mast cells, 6 per cent. The red cells showed poikilocytes in a variety of shapes, the most common variety being of a crescent shape. At several subsequent examinations cells of the same shape were found.

St. Paul Medical Journal

February

151 Prognosis in the Initial Stages of General Paresis. C. R. Ball, St. Paul.
152 The Southern Minnesota Medical Association. W. T. Adams, Elgin, Minn.
153 The Minnesota Valley Medical Association. E. J. Davis, Minnehaha, Minn.
154 Then and Now: The Medical Profession in Minnesota Thirty Years Ago and Its Standing at Present. J. W. Andrews, Mankota, Minn.
155 Jaundice. J. S. Gilfillan, St. Paul.

Louisville Monthly Journal of Medicine and Surgery

February

156 Chronic Lesions of the Stomach. J. G. Sherrill, Louisville.
157 A Case of Glanders in a Physician. C. Skinner, Louisville.
158 The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.

Colorado Medicine, Denver

February

159 Present Status of Bottle Feeding in Normal Infants. W. T. Little, Canon City.
160 Management of Difficult Cases of Bottle Feeding. H. B. Whitney, Denver.
161 Management of Breast Feeding. G. H. Cattermole, Denver.
162 Vaccine Therapy: Theories Regarding Certain Failures. G. B. Webb and G. B. Gilbert, Colorado Springs.
163 Infantile Indigestion. F. P. Gengenbach, Denver.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 4

1 *Medical Organization. W. Osler.
2 Anatomy and Morbid Anatomy in Clinical Surgery. C. B. Lockwood.
3 *Treatment of Gout and Rheumatism by Radium. W. His.
4 *Mechanical Effects of Right-Sided Pleural Effusion. A. C. Geddes.
5 *Treatment of 300 Nevi by Freezing. J. L. Bunch.
6 *Carcinoma of the Stomach in a Youth of Nineteen. J. R. C. Canney.
7 History of Yellow Fever in West Africa. Sir R. Boyce.
8 High Temperature After Labor and Its Treatment with Acetyl-Salicylic Acid (Aspirin). G. H. Fink.

1. **Organization in the Profession.**—Osler points out that there is an organization in the profession and an organization of the profession—the one deals with the mutual relations of medical men with each other and with the public, the other is concerned with his relations to the state, and with the faculty of medicine in its corporative capacity. There are numerous organizations, but the profession is not yet self-controlled through any one representative body, as it certainly should be in this democratic age. Than medical practitioners, says Osler, no men need more acutely the benefits of cooperation, and yet they are notoriously difficult units to unite. Once split off from the parent college or school, a majority of practitioners live lives of isolation, often, indeed, of great loneliness. Even in a city a very busy man may see surprisingly little of his colleagues and, what is worse, he may desire to see still less. Of the value to the local practitioner of a medical society and of a library all are agreed. The medical society may do three things. It is the most important single factor in the promotion of that unity and good fellowship which adds so much to the dignity of the profession. The second great function is postgraduate instruction; to each member the medical society should be a sort of clearing-house of his clinical experience. A third equally important function is the support of a library. A few good journals and the new books are all that the members should ask of the library committee. Osler then deals more particularly with the function of the county hospital in postgraduate education. As a class, he says, physicians do not appreciate enough the importance of continuous education in their professional life. To be up to date a man must keep in touch with the advance guard of the profession, and this is not easy to do in any course of reading, however thorough; he must come in contact with the men who are doing the work. While it is not too much to ask that a man should break away every few years from the routine of practice and go to a postgraduate school, there is another and easier way—the postgraduate school may be brought to him. Here comes in a function of the first importance in a county hospital, one can do his own postgraduate work.

3. **Radium in Gout and Rheumatism.**—Of 100 patients with chronic rheumatism treated by His with radium, forty-seven were improved, twenty-nine were considerably improved, five nearly cured, thirteen were uninfluenced by the treatment, and the result was not apparent in six. There were several cases of myalgia. A few of these patients have reacted in a most marked manner to the radium treatment, others were improved, and others, again, were absolutely uninfluenced. On the whole, His found that the younger the individual, the less advanced the illness, the better the results. Even in very long standing cases alleviation of pain may, at all events, be looked for. The results in gout were more striking. He was able to observe and treat twenty-eight patients for a considerable period. Of these four remained unaffected, while in twenty-four great improvement in the condition was achieved. Some of the patients have remained free from symptoms for a year after the termination of treatment. His was in a position to examine the blood for uric acid, both before and after the treatment, in eighteen cases. In fifteen the desired result was effected promptly; in a severe case of gout the blood was found to be free from uric acid after fourteen days' treatment by drinking water containing radium. He observed tophi in the ear disappear on two occasions during the treatment. The clinical improvement, however, did not always run parallel to the uric acid content of the blood. His noted marked improvement in a patient who was energetically treated, in spite of the fact that the blood retained its uric acid. In another patient, who had gouty nodules all over the body, no uric acid was present in the blood either at the beginning or toward the end of the treatment, and yet the patient had one attack after another during the entire time. In the majority of cases, at all events, His concludes that in the treatment of gout radium is a very powerful remedy, even if some persons are refractory to the treatment.

4. **Right-Sided Pleural Effusion.**—As a result of the consideration of his cases, Geddes is confirmed in his opinion that one cause of sudden death in cases of right-sided pleural effusion may well be occlusion of the great veins as they approach the heart, and more especially occlusion of the inferior vena cava.

5. **Treatment of Nevi by Freezing.**—Bunch has successfully treated with carbon dioxid 300 nevi of various extent and size. Most of these lesions were sources of disfigurement, many of them being on the face; but some were in positions where only a sentimental feeling on the part of the parents, and no cosmetic necessity, seemed to make their removal desirable. Such were nevi of the vulva, of the penis, and of the margin of the anus, and they were interesting from the point of view of the possibility of sepsis; but Bunch has not seen one in these positions which gave any trouble or failed to react in the ordinary way or to heal up normally. Most of these patients were treated at the hospital and included capillary, stellate, cavernous and pigmented nevi; some were small and some were several inches in diameter, flat, or markedly raised above the adjacent healthy skin, forming prominent red or purple swellings. For all such cases, Bunch says, treatment by solid carbon dioxid cannot be improved on, but for large port-wine stains, involving part or whole of one side of the face, where a considerable area has to be treated at a single application, he prefers to employ liquid air.

6. **Gastric Cancer in a Youth.**—One of the chief points in this case is that it illustrates how misleading the abnormal age incidence of a disease may be in coming to a correct diagnosis. The temporary improvement, with proper medical care and nursing in the earlier stages of the case, is remarkable.

Lancet, London

February 4

9 Color Vision and Color Blindness. F. W. Edridge-Green.
10 The Position of Sir Charles Bell Among Anatomists. A. Keith.
11 Treatment of Extensive Dental Caries in Children by Tooth Extraction. J. F. Coyler.
12 *"X" Bodies in Human Blood. A. Balfour.
13 Cases Illustrating Effects of Hyperemia by Elastic Bandage on Ununited Fractures. A. E. Barker.
14 Treatment of Skin Diseases by Hyperemia. W. K. Sibley.
15 *Magnesium Sulphate in Erysipelas. N. H. Choksy.

12. **"X" Bodies in Human Blood.**—These bodies were found in blood-slides made from a patient who was suffering from urticaria nocturna. The disease was of four months' standing. The patient was a white woman, aged about 18, married, and nursing a child 1 year old; the child was healthy. Every evening about 7 o'clock flat, solid, more or less elevated wheals, irregular in size and shape, began to appear all over the body. These wheals disappeared and others appeared till the early morning, when the eruption began to diminish, and about sunrise nothing was left and the patient looked normal, like any other person. The eruption was accompanied by a severe itching and burning sensation; there was no fever and no disturbance of any of the systems of the body. In one of the films, Balfour found typical "X" bodies in considerable numbers, free, and occasionally lying on the red cells. A fairly common form was a small body about one-eighth the size of a red corpuscle, spherical in form, and consisting of a faint capsule with a circular center staining deep blue. The majority, however, had centers more of a pale lilac than a blue color, and contained faintly staining material between their capsules and their centers. What may be called large and intermediate forms of a similar form were present, but in the former the capsule was not so defined, the appearance being rather that of a halo of more faintly staining substance surrounding a deeply stained spherical core. Very few forms with concentric rings were observed; and only one or two of large "solid" coccus-like type. Bodies described as fragmented were encountered. Some of these had only a chip, as it were, broken from them, or looked like biscuits from which one had bitten out a piece. Distinctly oval forms were seen, usually of considerable size, and also a curious oblong appearance. Small forms measuring 3 μ in diameter were met with, one of which showed a segmentation of the central spot into four; another no dark center, but dark spots at its periphery; and yet another a kind of inner capsule. Many of the smaller forms were homogeneous, showing no dark centers whatever, while some of the larger forms, with distinct cores, showed granular material between their

capsules and their centers. In this there were sometimes small blue spots or granules. Others, again, were irregular in shape, being what may be called "knobbed" bodies. Balfour found no trace of chromatin in these bodies; but lying free, there was a considerable amount of amphorous-looking material which took on a pale lilac stain like some of the smaller bodies. This was more plentiful in that part of the film where the bodies occurred. It will be seen, then, that the bodies are pleomorphic, although quite distinct from all the blood elements, and readily recognizable as specific entities.

15. **Magnesium Sulphate in Erysipelas.**—Four cases are reported by Choksy in which the immediate effects of the application of magnesium sulphate solution were extremely beneficial. Pain and swelling abated, fever decreased, and extension of the disease was controlled in the majority of cases. A saturated solution of magnesium sulphate in water (preferably strained through muslin) was applied round the limb or on the face as a mask, extending well beyond the inflamed area, in from 10 to 15 layers of gauze or a thin layer of absorbent cotton or lint, and covered with oiled-silk or wax paper. The dressing should be wetted as frequently as it gets dry, about once in two hours. It should be removed once in twelve hours for inspection and immediately reapplied. The affected area should not be washed during treatment.

Journal of Tropical Medicine and Hygiene, London

February 1

16 Trypanosome Diseases of Domestic Animals in Uganda. Sir D. Bruce.
17 Tropical Life as it Affects Life Insurance. J. Cantlie.

Australian Medical Journal, Melbourne

December

18 Tick Fever or Spirillosis and Monadinitis of Fowls. A. A. Brown.
19 Case of Gunshot Wound of the Heart. C. H. W. Hardy.
20 *Autoplastic Ovarian Transplantation and Its Clinical Significance. J. H. Nattrass.
21 *General Anesthesia. R. W. Hornabrook.
22 *Treatment of Acute Pneumonia by Continuous and Persistent Diaphoresis. G. M. Reid.

20. **Autoplastic Ovarian Transplantation.**—Nattrass is convinced that it is possible to remove the ovary from its normal position in the female body and to transplant it on to other tissues. In the experiments performed by him, ovaries were successfully grafted on to the kidney, spleen, subcutaneously on the external oblique muscle, on the peritoneum, periosteum and the external intercostal muscles. When the transplanted ovary is examined in the early stage, it is found to be firm in consistence, whiter and slightly larger than normal. This is shown by the microscope to be due to swelling of the cells of the stroma, which have undergone fatty degeneration. This degenerative change was found to be present in most of the specimens examined. The amount seems to be inversely proportional to the vascularity of the tissues receiving the graft, and directly proportional to the thickness and density of the graft itself. Thus there was more degeneration in a subcutaneous, than in a renal or splenic graft. In the older grafts there is a diminution in the size of the ovary. There is an increase in the amount of the fibrous tissue, a progressive absorption and repair of pathologic products, a continued development of egg cells, and production and maturation of Graafian follicles, although not nearly to the same extent as in the normal ovary. The grafts become firmly adherent to the adjacent tissues by dense fibrous bands. The graft when placed in its new position is undoubtedly nourished by transudation of fluid from the lymph spaces of the adjacent tissue, hence the periphery of the ovary, or the egg-bearing part, always retains its vitality; but later, blood-vessels become developed and vascular union is established, the graft thus receiving blood from the arterial system. A female dog whose ovaries were removed from the abdominal cavity and were grafted, one on the external oblique muscle, and the other in the sheath of the rectus muscle, repeatedly showed all the symptoms of sexual heat, i. e., vulvovaginal congestion, and sanguineous discharge, and was warded by the dog, showing that the ovaries, even though in this abnormal position, continued to carry on their functions as organs of internal secretion and to regulate the sexual life of the animal. Nattrass believes that the autoplastic grafting of ovaries is a measure that ought to take its place and fulfil a definite purpose in conservative gynecologic surgery.

21. Also published in the *Australasian Medical Gazette*, December, 1910.

22. **Treatment of Acute Pneumonia.**—Reid claims that if free and persistent diaphoresis, which necessarily entails a primary dilatation of the skin capillaries, can be established in the first or congestive stage of a threatening pneumonia, the attack can be aborted. When the second or exudative stage has begun, and is progressing, the same method of treatment will by its action still prove effective in limiting the exudative process, and may, furthermore, have a vitally beneficial action in preventing the fatal accumulation of carbonic acid, and other morbid products engendered by the diminished lung function, and increased metabolism by removing the same from the system in or with the sweat. *Pari passu*, diaphoresis reduces body temperature, and checks tissue waste, etc. In effecting his object, Reid has trusted mainly to medicinal agents, with, in children, the additional aid of the hot mustard bath, and in adults the hot-pack or warm sponging. The drug which he mostly employs is a physiologically pure salicylate of soda, in four-hour doses, up to 15 or 20 grains, according to age, and, guided and controlled by the patient's temperature, taken and recorded every four hours. He has also used acetphenetidin in doses up to 10 grains every four hours with the same precautions. With both drugs he has been in the habit of combining general and cardiac tonics and stimulants. His results, in a limited number of cases, have been good, and he has specially noted the absence of cerebral symptoms where the diaphoresis was satisfactory. Several cases in which sweating was interrupted, or could not be properly established for obvious reasons, terminated fatally.

Australasian Medical Gazette, Sydney

December

23 Better Medical Organization. D. Hardie.
24 The Tendency Toward Nationalization of Medicine. J. H. L. Cumpston.
25 Bearing of Recent Advances in the Physiology of the Digestive Glands on Gastric Surgery. J. Flynn.
26 Ununited Intracapsular Fracture of the Neck of the Femur. Successfully Operated On. M. Herz.
27 A Case of Retroperitoneal Abdominopelvic Lipoma. T. Fiaschi.
28 Surgical Dyspepsias, Especially Appendix Dyspepsia. G. Craig.
29 *General Anesthesia. R. W. Hornabrook.

29. Also published in the *Australian Medical Journal*, December, 1910.

Annales de Gynécologie et d'Obstétrique, Paris

January, XXXVIII, No. 1, pp. 1-64

30 Torticollis from Congenital Myopathy. A. Couvelaire.

Archives des Maladies de l'App. Digestif, Paris

December, IV, No. 12, pp. 689-748

31 *The Antitryptic Index for Serodiagnosis of Gastro-Intestinal Cancer. J. C. Roux and R. Savignac.

31. **The Antitryptic Index for Serodiagnosis of Cancer.**—Roux and Savignac have simplified the antitrypsin test devised by Müller and Jochmann and modified by Fuld and Gross. They found the test positive in 89 per cent. of fifty-three cases of certain cancer and in 80 per cent. of the suspects. Except possibly in exophthalmic goiter, tuberculosis and early in pregnancy, the test was negative in the controls, and the conflicting findings possible in the conditions named would seldom, they think, lead to any confusion in diagnosis of cancer. They are convinced that negative findings may be regarded as almost certainly excluding malignant disease. Their technic requires only an hour to complete the test. They use a mixture of equal parts of milk and 2 per cent. solution of agar, filtered while still hot. The whole is then heated to 100 C. in the water bath, then cooled to 60 C. and poured out in a thin layer on Petri dishes. One drop of blood-serum is mixed with 1, 2, 3, 4 or more drops of a 1 per cent. solution of trypsin, in turn, and 1 drop of each of the dilutions is placed on one of the Petri dishes, and near it is deposited a control drop of the pure trypsin solution. The dishes are then incubated for an hour at 50 C. The drop of trypsin digests out the milk casein in the agar mixture and

the antitryptic index is the number of drops of the solution mixed with the serum which are required to overcome the antitryptic power of the serum. Four drops is the highest normal range, and any index over this is strong evidence of the existence of malignant disease. The details of fifty-three cases are given in full and the findings tabulated—the whole forming, they think, an important brief in favor of the differential importance of this simple test.

Archives des Maladies du Cœur, Etc., Paris

January, IV, No. 1, pp. 1-62

32 Prognosis and Treatment of Arrhythmia. H. Vaquez.
33 *"Blood Diseases." (Les syndromes hématiques associés.) M. Labbé and Laignel-Lavastine.

33. **Blood Diseases.**—Labbé and Lavastine report two cases of chronic purpura and hemophilia in a girl of 16 and a woman of 34, the latter presenting also the signs of pernicious anemia. They comment on the fact that the so-called blood diseases are rather syndromes due to histochemical changes in the blood, resulting from a variety of causes. The clinical evolution of the cases and the action of the treatment instituted show that the three syndromes were not interdependent but merely casually associated. Under serotherapy the tendency to hemophilia was arrested in both patients; the first patient recovered, but the pernicious anemia in the other continued its fatal course unmodified.

Bulletin de l'Académie de Médecine, Paris

January 10, LXXV, No. 2, pp. 29-40

34 Advantages of Pyelotomy for Removal of Kidney Calculi. M. Le Dentu.

January 17, No. 3, pp. 41-58

35 Hectine in Syphilis. H. Hallopeau.
36 *Case of Rapid Actinomycosis. E. Schwartz.

36. **Actinomycosis.**—Schwartz' patient was a farmer who felt a sting on his cheek while sitting in the grass; a hard and painful tumor developed at the spot. It was excised the sixth week and proved to be an actinomycotic process. The true nature of the process had never occurred to any one or potassium iodid would have been given and operation not attempted, as it is liable to induce metastatic embolism. Letulle has recently encountered a case of circumscribed actinomycotic pleurisy in which the focus was excised and a few weeks later the patient succumbed to a metastatic abscess in the brain.

Bulletins de la Société de Pédiatrie, Paris

December, XII, No. 9, pp. 501-567

37 *Developmental Defects Connected with Suprarenal Lesions. (Dystrophies en relation avec des lésions de capsules surrénales; Hirsutisme et progeria.) E. Apert.
38 Hydrocephalus Following Meningitis. R. Voisin.
39 "Scapulum Valgum" in Rachitis. (Elévation congénitale de l'omoplate chez un enfant atteint de malformations multiples.) Nageotte-Wilbouchewitch and E. Apert.
40 Slight Hemiplegia. Nageotte-Wilbouchewitch.
41 *Insufficiently-Fed Infants. (Etude clinique de l'hypoalimentation chez les nourrissons.) P. Merklen.

37. **Developmental Defects Connected with Suprarenal Lesions.**—Apert reviews the necropsy findings in thirty-five cases of disease of the suprarenal cortex on record and describes the symptoms that had been observed in the individuals during life. They form a special syndrome different, he declares, from that of Addison's disease, but almost equally distinct. In fact there are two syndromes, he says, one resulting from excessive functioning and the other from defective functioning of the suprarenal cortex. The former is characterized by excessive development of the hair and of adipose tissue and of the body in general, with disturbances in the genital functions, while defective development in these directions is the result of imperfect development of the suprarenal cortex. He applies the term "hirsutism" and "progeria" to these different types and states that the former may reveal the presence of a tumor, possibly a cancer, in the suprarenal cortex, the removal of which is urgently indicated, while in the progeria type—senile dwarfism—organotherapy is indicated, the suprarenal capsule itself being administered and not an extract of the medulla.

41. **Insufficiently Fed Infants.**—Merklen comments on the crying of the infant when it does not get enough food at a meal, its restlessness and its gradual exhaustion and dropping to sleep, the whole picture being very different from the fatigue and slumber of the well-fed healthy child. Even during its sleep the child is still restless, and it whimpers at times, while the slightest noise rouses it, when it appeals anew for the nourishment it needs without having the strength to make its appeals very insistent. There is also, he states, a marked tendency to a false constipation, not enough food being obtained to make normal stools; the walls of the intestine, suffering from lack of nourishment, grow too weak to move the feces along. Sometimes this supposed constipation is the first sign to call attention to the fact that the child is not thriving. In other cases, the stools are regular but they have the aspect of those with ordinary enteritis; even diarrhea may be observed. The stools may be fluid even when the bowels can be moved only with a suppository. These diarrheic stools alternated with periods of constipation in one of the four cases reported in detail. The possibility of insufficient nourishment should never be forgotten as, if gastro-intestinal infection is assumed and the food still further reduced, serious trouble may follow. In two of his cases the infants vomited frequently; as a rule, the vomiting in these cases follows not long after the meal. The true cause for the vomiting can be detected by noting the amount of food the child is obtaining and the improvement that follows an ampler ration. One of the four children vomited in the morning before it had had any food. Another sign of defective nourishment is the small amount of urine although, like the constipation, it is a false oliguria; it was pronounced in three of the four cases reported. The way the child nurses is also characteristic, sucking slowly and stopping often; or it sucks and no swallowing movements can be detected. Some infants give up when they realize the futility of their efforts, and lie with open eyes or in a somnolent condition, while others fret incessantly. The flabbiness of the muscles is another sign, while the wrinkled skin and pallor also attract attention; but the infant's eyes are bright and its glance is vivacious until the defective nourishment becomes actual inanition. If recognized in time and the child is properly fed, it recuperates, he says, with astonishing rapidity.

Lyon Médical, Lyons

January 1, CXVI, No. 1, pp. 1-56

42 Postoperative Inflammatory Tumors in the Omentum. (Epiploites post-opératives.) X. Delore.

January 8, No. 2, pp. 57-96

43 Improved Technic for Induced Pneumothorax. (De quelques moyens pratiques destinés à prévenir les accidents immédiats du pneumothorax artificiel.) B. Lyonnet and M. Piéry.

January 15, No. 3, pp. 97-132

44 Pathogenesis of Progressive Scleroderma. C. Roubier and A. Lacassagne.

January 22, No. 4, pp. 133-168

45 Primary Melanosarcoma of the Rectum. A. Chalier.

Presse Médicale, Paris

January 18, XIX, No. 5, pp. 41-48

46 *Differential Importance of Albumin in Sputum. M. Gantz and R. Hertz.

January 21, No. 6, pp. 49-56

47 Meningeal Form of Actinobacillosis. P. Ravaut and Pinoy.
48 Congenital Myxedema from Defect in Thyroid Development. G. Roussy and J. Clunet.
49 Ptosis of Liver. (L'hépatoptose avec interposition de viscères entre le foie et la coupole diaphragmatique.) D. Chilaiditi.
50 Grafted Artery. (Cas de greffe artérielle.) A. Pirovano.

January 25, No. 7, pp. 57-64

51 Serodiagnosis of Echinococcus Disease. J. P. Urioste and A. Scaltritti.

46. **Diagnostic Importance of Albumin in Sputum.**—Gantz and Hertz applied tests to determine the presence of albumin in the sputum of 125 patients, each examined two or three times. The group included only sixty with known tuberculosis. The simplicity of the albumin test and its reliability in revealing an inflammatory process in the lung or pulmonary edema commend it for general adoption, they assert, as a valuable bedside test. The albumin reaction is not obtained in bronchial catarrh and it is dubious in fibrous pulmonary tuberculosis, but it is positive in advanced and incipient tuberculous pulmonary lesions, in pneumonia and embolism and in even slight pulmonary edema. The test was made by adding 2 c.c. of acetic acid and 10 c.c. of dis-

tilled water to 10 c.c. of sputum. The mixture was then stirred briskly with a glass rod, filtered and the filtrate boiled, when the albumin was thrown down. It was sometimes necessary to add a little sodium hydroxid when the fluid was too acid.

Revue de Gynécologie, Paris

January, XVI, No. 1, pp. 1-88

52 Artificial Vagina Made from Transplanted Intestine: Seventh Case on Record. J. Abadie.
53 Rupture of Large Blood Vessels in Abdominal Contusions. Ducuing and Florence.

Berliner klinische Wochenschrift

January 23, XLVIII, No. 5, pp. 153-196

54 Cyst Formation in Kidney, Liver and Spleen. (Cystenbildungen der Niere, Leber, Milz und ihre Entstehung.) H. Coenen.
55 Improved Radiologic Examination of Gastro-Intestinal Tract. G. Holzknecht.
56 *Salvarsan. (Zur Wirkungs- und Anwendungsweise von Salvarsan.) F. Lesser.
57 Pfannenstill's "Two-Route" Treatment of Lupus of the Nose. (Die Behandlung des Lupus cavi nasi mittelst Iodnatrium und Wasserstoffsuperoxyd nach der Methode von Dr. S. A. Pfannenstiel.) O. Strandberg.
58 Improved Technic for Staining *Spirochæta pallida*. E. Klausner.
59 *Apical Percussion Findings. (Zur diagnostischen Bewertung der Befunde über den Lungenspitzen.) E. Laser.
60 *Stammering. (Zur Psychologie und Therapie des Stotterns.) O. Aronsohn.

56. **Salvarsan and the Wassermann Reaction.**—Lesser emphasizes that medication in syphilis should be guided by the reaction to the Wassermann test, as he believes that only when the test is permanently negative can the disease be regarded as inactive or cured. The aim should be, he thinks, to give the salvarsan in doses that will tone up the organs and enable them to manufacture the necessary antibodies, giving up the idea of trying to kill all the spirochetes at one stroke. This tonic action on tissues and organs is realized better with small than with large doses; the latter have a toxic action and impair functioning rather than stimulate it in the various organs. His experience has been that the best technic on these principles is to inject 0.1 gm. of salvarsan, in suspension in oil of sweet almonds, once a week, according to the technic for injection of the insoluble mercurial salts. He thus injects 0.6 gm. of salvarsan in all in about 6 c.c. of oil. A week after the sixth injection the Wassermann test is applied and if the findings are still positive he continues the injections. These small doses are convenient for outpatients, and he advocates having the salvarsan put on the market in 0.1 gm. doses already mixed with the oil.

59. **Puzzling Physiologic Apical Findings.**—Laser has encountered a number of cases in which patients had been sent to a sanatorium for lung diseases on account of supposed pathologic percussion findings at the apices, but time revealed that the apices were physiologic. He comments on the trail of broken engagements, distress and poverty liable to follow a mistaken assumption of tuberculosis, and describes the features of the percussion findings at the apex which differentiate the physiologic from those with tuberculous processes. The patients in the cases he has encountered were mostly girls, inclined to be pale and thin, complaining of lassitude and cough, and some with mucous expectoration. The area of resonance over the right apex was abnormally small; frequently the right apex dragged behind, and the breathing sound was more distinct here than in the left apex; especially over the right supraspinous fossa the expiration sounded peculiarly loud and long, but there were never any râles, bacilli in the sputum or fever. These findings persist unmodified for years and if other persons not suspected of tuberculosis are examined systematically, as Laser has done on a large scale, similar findings will frequently be discovered in the healthy. He is inclined to explain them as the result merely of an unusually wide lumen of the right bronchial tube—a physiologic occurrence. In some people both apices present the same findings, and they are liable to occur in slender men as well as in women. Blümel has recently called attention to similar findings in persons unable to breathe freely through the nose, and in looking over his records Laser has also found it noted that some of the patients in question were mouth-breathers.

60. **Stammering.**—Aronsohn explains stammering as a psychologic infirmity. These individuals are generally morbidly afraid of laying themselves open to ridicule and consequently they strive to suppress emotional stress on what they are saying. Treatment should be along psychologic lines, he affirms. It is irrational to try to train the muscles to coordination when the trouble is in the mind and not in the muscles. The main point is to teach the individual to think simply and to express himself simply and genuinely, paying no attention to the way he speaks. Reading exercises are useful adjuvants except when the patient does not stutter when reading aloud.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

December 30, XIII, No. 23, pp. 881-928

61 *Hernia in the Linea Alba. (Hernien der Linea alba und ihre Bedeutung für die innere Medizin.) L. Müller. Commenced in No. 22.

61. **Epigastric Hernia.**—Müller summarizes in turn the principal points of sixty-eight articles that have been published bearing on hernia in the linea alba and its importance for internal medicine. The insignificance of the objective findings in comparison with the serious stomach and intestinal disturbances is a prominent feature. In one of Sebba's cases, a woman of 46 had suffered for eighteen years from gastro-intestinal disturbances with repeated green vomiting; finally symptoms of ileus developed. This led to the discovery of the epigastric hernia hidden behind the unusually thick layer of adipose tissue in the abdominal wall. Richter warns that the hernia may easily escape detection unless the patient is examined standing with the trunk bent forward. In the dorsal decubitus the hernia becomes spontaneously reduced and escapes discovery. A history of work requiring much bending forward and backward, carrying heavy loads, and other factors tending to weaken the upper abdominal wall, may give the clue to the source of the trouble, as these factors are seldom encountered in the history of gastric ulcer. The increased intensity of the symptoms after physical exercise also speaks more for hernia than for ulcer; the discomfort with the latter is generally associated with food. Temporary relief from discomfort is often obtained with ulcer when the patient lies on the right side, but with hernia, relief is obtained by reclining on the back. The tenderness also is more localized and constantly at the same point. Gastric ulcer is more common in anemic girls, and hernia in robust, hard-working men. Stomach colic and localized pain in the linea alba may sometimes result from purely nervous causes, from intercostal neuritis after influenza, from gall-bladder disease, pancreatitis or appendicitis, enteroptosis, and retroflexion of the uterus. In two cases reported by Mezger the disturbances were relieved by operative treatment of the epigastric hernia but recurred later and an accompanying or causal gastric ulcer was discovered. Ury and Strauss have reported eight similar cases and suggest that the traction from the hernia led to development of the ulcer. Kelling thinks that irritation of the nerves from the presence of the hernia may lead to secondary ulceration in the stomach by reflex action. Capelle has reported that the thirty-five patients with epigastric hernia who have been given operative treatment at the Breslau surgical clinic, were all apparently cured but reexamination a year later showed that the cure had been permanent in only nine; the others had more or less disturbances and the hernia had recurred in six. In seven cases non-absorbable sutures and cicatricial adhesions were probably responsible for the trouble; seven other patients complained of gastric disturbances and an ulcer was probably responsible in two. A truss is of little use for epigastric hernia as it will not stay in place at this point.

Deutsche medizinische Wochenschrift, Berlin

January 26, XXXVII, No. 4, pp. 145-192

62 *Epidemic Poliomyelitis. (Heine-Medinsche Krankheit.) A. Baginsky.
63 Esch's Cholera Hemoglobin Culture Medium. A. Friedrichs.
64 *Syphilis of the Stomach. (Syphilis des Magens.) M. Sieghelm.
65 *Febrile Liver Syphilis. (Klinischer Befund und pathologisch-anatomischer Befund bei zwei Fällen von tertiärer fieberhafter Leberlues.) L. Kirchheim.

66 Improved Technic for Epiphanin Serodiagnosis of Syphilis. W. Weichardt.
67 *Myeloid Chloroma. E. Paulicek and L. Wutscher.
68 Primary Typhlitis. K. F. Herhold.
69 Physiologic Action of Thallium. A. Buschke.
70 *Traumatic Sarcoma. E. Heinrich.
71 *Sodium Thiosulphate for Removal of Iodin Stains. (Natrium hyposulfurosum als Jodabwaschmittel.) F. Snoy.
72 Children's Sanatorium. (Die Kinderheilstätten vom roten Kreuz in Hohenlychen.) A. Bruck.
73 Biogenesis and Ontogenesis. (Haeckels biogenetisches Grundgesetz und das ontogenetische Kausalgesetz von Oskar Hertwig.) F. Keibel.

62. **Epidemic Poliomyelitis.**—Baginsky remarks that the term "spinal paralysis" will have to be dropped as the disease is so variable and is liable to include meningeal, bulbar and spinal symptoms. He urges sending out a question blank to the physicians in the district to get a general oversight of the conditions prevailing in the recent Berlin epidemic. It was noted at Graz that more cases developed in the surrounding country than in the town itself.

64. **Syphilis of the Stomach.**—Siegheim summarizes what has been published on the subject of gastric ulcer, gastric tumor and pyloric stenosis developing as a syphilitic lesion and a fourth form—hyperplastic cellular infiltration leading to fibrous induration. It is only three years since Brunner was able to compile from the literature thirteen cases in which an operation had been performed on the stomach on a mistaken diagnosis, the lesion in question proving to be of syphilitic origin. Surgical treatment of tertiary syphilitic lesions in the gastro-intestinal tract, Siegheim exclaims, in future should be referred to only as a historical reminiscence. The Wassermann reaction may clear up the diagnosis, as in a case he reports from his own experience: A man of 39 acquired syphilis and was given repeated thorough courses of mercurial and iodid treatment during three or four years. Sixteen years later occasional attacks of vomiting and oppression in the gastric region after eating were accompanied by loss of weight and other symptoms, dilatation of the stomach, lack of free hydrochloric acid and presence of lactic acid with radiographic findings typical of stenosis of the pylorus. All this, in connection with the fact that the patient belonged to a "carcinoma family," pointed to gastric cancer in an advanced stage. As a last glimmer of hope the Wassermann test was applied; the findings were strongly positive, and under energetic mercurial treatment all the symptoms subsided and the patient rapidly recovered apparently complete health and has no further gastric disturbances. The peculiar severity of the syphilis in this case is evident in the serious recurrence after sixteen years in the form of a gumma in the pyloric region leading to stenosis and consequent dilatation of the stomach. Einhorn has reported a similar case except that in his patient there was never any lack of free hydrochloric acid. In Siegheim's case the motor functioning of the stomach became normal but no free hydrochloric acid could be found at the last examination although the gastric functioning was apparently normal. He adds that his case teaches the importance of direct treatment of the syphilis so long as the Wassermann reaction is markedly positive.

65. **Febrile Syphilitic Lesions in the Liver.**—In Kirchheim's two cases the tertiary lesions in the liver had involved the adjoining diaphragm with perforation in one case and propagation to the right lower lobe, empyema and chronic inflammation of this part of the lung. In the other case the participation of the diaphragm in the process entailed a syndrome simulating acute pneumonia, although there had been no initial chill and the sputum was not characteristic. In the second week pleurisy with effusion developed requiring repeated tapping. The fever persisted after subsidence of the pneumonia but repeated examinations failed to reveal the clue until in the ninth week the liver was found to be enlarging and the progressive cachexia pointed to a subphrenic abscess and staphylococci were cultivated from the pus. Hemorrhagic nephritis followed with death the fifth month after the development of the pneumonia-like syndrome. The microscope disclosed typical gumma. In both cases secondary infection of the gumma in the liver was responsible for the protracted course and final fatal termination. Specific treatment had not been given in either case as there had been nothing to suggest syphilis until, a few days before death, one patient acknowledged old syphilitic infection; specific treatment then came too late. In a third case three small gummas in the liver had involved the diaphragm but had caused no further trouble, the patient succumbing later to a brief perforation peritonitis. Klemperer has asserted that ulcerating gumma alone is sufficient to cause fever; in his cases all symptoms disappeared under specific treatment.

67. **Myeloid Chloroma.**—Paulicek and Wutscher give the particulars of a case in which a chronic myeloid leukemia in a young man blended into chloromatosis. The Roentgen-ray treatment given the patient may have been responsible for the development of the latter.

70. **Traumatic Sarcoma.**—A man aged 41 was hit in the calf by an iron rod. The open wound healed in two weeks but a swelling persisted and the point became painful so that by the end of five months he had to give up work and take a course of rest and compresses for the assumed varicose disturbances. No improvement followed and the lesion was excised. The microscope showed a round-celled sarcoma, and the thigh was amputated at once but metastasis in the spine developed in a few months. The insurance company accepted without question the direct connection between the industrial accident and the following malignant disease.

71. **To Remove Iodin Stains.**—Snoy calls attention anew to the power possessed by sodium thiosulphate to cleanse the skin and linen of the stain left by tincture of iodin. He applies a warm concentrated solution of the sodium hyposulphite (as it is more generally called), to the iodin stain: A chemical change rapidly takes place, the two chemicals blending to form sodium iodid and tetrathionate which are both very soluble and readily wash off the skin and tissues. He has never observed any injurious by-effects from the procedure on either skin or linen.

Medizinische Klinik, Berlin

January 22, VII, No. 4, pp. 127-164 and Supplement

74 *Scarlet Fever and Its Complications. (Scharlachfieber und seine Komplikationen.) H. Lüdke.
75 *Symptomatology of Cerebral Embolism. (Gehirnembolie.) B. Hippel.
76 Serotherapy of Urticaria. P. Linser.
77 Acute Syphilitic Yellow Atrophy of the Liver. W. Braunschweig.
78 Respiratory Exercises in Treatment of Bronchial Asthma. L. Hofbauer.
79 Peroneus Paralysis After Administration of Salvarsan. (Zur neurotoxischen Wirkung des Salvarsans.) G. Walterhöfer.
80 New Technic for Determination of Tubercle Bacilli. (Neuere Methoden zum Nachweis von Tuberkelbazillen in Sputum und in pathologischen Sekreten und Geweben.) M. Kawai.
81 Salvarsan in Syphilis. E. Tomasczewski.

74. **Scarlet Fever Complications.**—Lüdke says in the course of his study of the subject that the temperature curve is a valuable guide to the prognosis; even the slightest rise after the disease has begun to decline indicates some complication, and reduction in the amount of urine is the most certain sign of severe nephritis. He states that one attack of scarlet fever generally confers immunity, and that the character of the prevailing epidemic determines whether the disease is to be mild or severe. Special attention must be paid to the middle ear with scarlatinal sore throat; tenderness in the mastoid region and any rise in temperature should be watched for. Even with mild scarlet fever the child should stay in bed three weeks, he declares, and not be allowed to get up until repeated examination of the twenty-four hours' urine shows the absence of albumin. The disease may occur merely as an ordinary sore throat and thus escape detection.

75. **Symptomatology of Embolism in Cerebral Vessels.**—Hippel has recently encountered two cases without the usual triad of symptoms—apoplectic seizure, loss of consciousness and hemiplegia. The first patient was a young man and hemiplegia developed insidiously, the left side becoming paralyzed for a few days and then the hemiplegia subsided and the patient felt comparatively well for two days, but then symptoms typical of meningitis developed and he died in coma. Necropsy revealed embolic obstruction of the right middle cerebral artery. Wernicke has reported a similar case in a woman of 73, death occurring from asphyxia. Hippel's

patient, after subsidence of the hemiplegia, showed no symptoms of embolism, merely the syndrome typical of meningitis. Death occurred two weeks after the first sign of trouble. Walker has reported three cases of cerebral embolism with symptoms suggesting merely acute meningitis. In Hippel's second case a boy of 8 convalescing from diphtheria suddenly developed symptoms of meningitis; there was no tendency to hemiplegia and no apoplectic seizure, but necropsy disclosed extensive embolism of the right middle cerebral and internal carotid arteries involving the finest ramifications.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 9, pp. 455-549

82 Influence of Heat on Infant Organism. H. Kleinschmidt.
83 Buttermilk in Infant Feeding. (Buttermilchernährung des Säuglings.) M. Menschikoff.
84 Respiratory Metabolism in New-Born Infants. (Zur Physiologie des neugeborenen Kindes. II.) W. Birk and F. Edelstein.
85 Duration, Extent and Course of Physiologic Decline in Weight of New-Born Infants. (Zur Physiologie des Neugeborenen.) W. Pies.
86 Lime Metabolism in Rachitis. (Kalkstoffwechsel bei Rachitis.) W. Birk and A. Orgler.

Münchener medizinische Wochenschrift

January 24, LVIII, No. 4, pp. 177-232

87 *Hemorrhages During Early Pregnancy and Their Relation to Abortion. L. Seitz.
88 Pharmacologic Research on Mixed Anesthesia. (Mischnarkose.) H. Führer.
89 *Metabolic Research During Exclusive Milk Diet. (Stoffwechseluntersuchungen bei der Karellschen Milchkur.) C. Hegler.
90 Stimulating and Coagulating Action of Epinephrin. (Zur kreislaufanaleptischen und telehämostyptischen Wirkung des Nebennierenextraktes.) R. von den Velden.
91 Dosage of Roentgen Rays. (Methode zur Messung der Röntgenstrahlung in der Therapie.) H. Meyer.
92 *Salvarsan in Syphilis. B. Spiethoff.
93 Cervical Cesarean Section. (Zur Methode und Indikationserweiterung des zervikalen Kaiserschnitts.) G. A. Walcher.
94 *Improved Technic for van Deen Blood Test. Wackers.
95 Regional Variability in Susceptibility to Iodin. (Empfindlichkeit gegen Iod.) P. Fleischmann.
96 Radiotherapy of Large Epithelial Defects. C. Widmer.
97 Historical Contribution to Treatment of Syphilis with Arsenic. G. Kirchgaessner.

87. **Hemorrhage During the First Months of Pregnancy and Its Relation to Abortion Later.**—Seitz states that hemorrhage in the first four months of pregnancy occurred in 87 of the 25,000 lying-in cases at the Munich maternity, the patients regarding it as recurring menstruation, and in an additional 273 there was atypical hemorrhage, but abortion did not follow at once in any instance. The fetus however had in some cases suffered so that only 145 of the children were carried to normal term and left the clinic in good health. Treatment of the hemorrhage has not much prospect of success in preventing serious injuries to the fetus except when the hemorrhage is due to trauma or endometritis. With trauma, the hemorrhage is the result of separation of some portion of the placenta, and treatment should aim to prevent any contractions of the uterus which might separate more of it. Strict rest in bed should be enforced. Only with bed-rest for from six to eight weeks is it possible to tide the patient past the critical period when she is subject to habitual abortions at the period in question or has been having long-continued hemorrhages. Opium should be given as indicated to prevent the uterus from contracting. Long-continued hemorrhage during the first two months seems to be inevitably fatal for the fetus, but during the third and fourth month it displays remarkable resistance. In conclusion he states that in two cases the ovum was expelled without decidua after hemorrhage during the second month, but to his surprise the pregnancy continued and a healthy child was born at term; there had evidently been a twin pregnancy and after expulsion of one fetus the other continued its growth.

89. **Restriction to Milk in Treatment of Obesity.**—Hegler records the metabolic findings in a number of persons taking the Karell cure, namely restriction to less than a quart of milk a day, the patient staying in bed, the bowels being kept loose with a laxative mineral water, with massage given daily—this treatment being kept up for from five to ten days. In one case the patient weighing 451 pounds, lost 101 pounds in the course of eighty days during which the Karell course had been repeatedly given and the patient never allowed over 700 calories a day. The general health was much improved and the patients felt stronger in every case. Practical experience seems to confirm the advantages of the Karell course, he states, although theoretically much can be said against such a starvation method of treatment.

92. **Salvarsan.**—Spiethoff has encountered a second case of collapse several hours after injection of salvarsan. His first case was mentioned in these columns Oct. 8, 1910, page 1331. In the second case the collapse occurred during the daytime, five hours after an intravenous injection of 0.45 gm. in an alkaline solution. The danger was promptly recognized and stimulants applied, soon restoring the patient, a robust young woman in the second stage of syphilis. In the other case the collapse occurred in the night after subcutaneous injection, and nothing was known of it in time. Since then Spiethoff has made the injections exclusively in the morning. The heart was not quite normal in either of these cases, but the collapse, he believes, was unmistakably the result of arsenic intoxication. His experience with salvarsan in 200 cases of syphilis confirms, he thinks, the advantages of the Iversen technic, first intravenous and then after four days a subcutaneous injection, with another intravenous injection four weeks later. Great attention must be paid to the heart both before and after the treatment and tobacco and alcohol must be avoided for a time. One young man attended a party eight days after injection of 0.6 gm., and he drank a great deal and smoked cigarettes, neither of which had ever previously affected him. But the next day acute heart weakness developed with which he had to contend for weeks. The action of the three poisonous substances together, the nicotin, alcohol and salvarsan, proved too much for his heart. Myocarditis and heart defects contra-indicate the use of salvarsan, Spiethoff insists, as also affections of the central nervous system localized in vital centers. Any local reaction to the salvarsan might prove dangerous under these conditions. In one of his cases a man had well compensated mild aortic insufficiency but no other pathologic findings could be detected in the heart. A few days after subcutaneous injection of 0.3 gm. salvarsan, signs of heart weakness became apparent, proving fatal on the eleventh day. Necropsy revealed unsuspected degeneration of the myocardium which had evidently become aggravated under the influence of the medication.

94. **Improved Technic for Test for Occult Blood.**—Wackers applies the test to the fluid to be examined diffused over the walls of a moist filtering paper funnel. It is astonishing, he says, how this magnifies the findings and does away with the uncertainty in case of highly colored urine. The advantages of the simple guaiac-turpentine test thus "enriched" are evident in case of convalescence from hemorrhagic nephritis, for example, permitting detection of even the slightest trace of blood in the urine. The test can be made with as little as 10 c.c. of urine.

Wiener klinische Wochenschrift, Vienna

January 26, XXIV, No. 4, pp. 115-152

98 *Pancreatic Extract in Epinephrin Glycosuria. (Hemmung der Adrenalinglykosurie durch Pankreaspräparate.) O. v. Fürth and C. Schwarz.
99 Origin of Melanotic Skin Pigments. K. Kreibich.
100 *Serotherapy of Cerebrospinal Meningitis. (Genickstarre und Heilserum.) E. Schepelmann.
101 Nail Extension for Fractures. (Nagelextension aus dringlicher Indikation.) H. Ehrlich.

98. **Research on Epinephrin and Other Glycosuria.**—Fürth and Schwarz report experimental research which has shown that injection of pancreas extract, turpentine or other irritating substance into the peritoneum injures the kidneys to such a degree that their functioning is seriously impaired and they are unable to eliminate salt and sugar as under other conditions. This simple explanation of the checking of the glycosuria which follows injection of epinephrin, by the injury of the kidneys after injection of almost any irritating substance into the peritoneum, destroys, they say, the foundations for Zuelzer's assumption of some chemical hormone inhibiting the epinephrin glycosuria when pancreas extract is injected into the peritoneum. Their findings also explain the familiar fact that in diabetes any injury of the kidneys is liable to reduce the output of sugar in the urine.

100. **Serotherapy in Epidemic Meningitis.**—Schepelmann reports an unusually severe case of epidemic cerebrospinal meningitis in a previously healthy woman of 26. No benefit seemed to be derived from the usual measures, including twice repeated lumbar puncture, but the thirteenth day of the disease a prompt turn for the better followed lumbar injection of antimeningococcus serum. The temperature dropped with sweating and recovery was soon complete. The only by-effects were recurring harmless urticaria and, the first day, there was some weakness of the heart requiring stimulants. He reviews the literature on the subject of serotherapy of meningitis, drawing the conclusion that all other measures have merely symptomatic action—the serotherapy alone is a causal remedy. The mortality of the disease has dropped since its introduction in Germany to two-thirds or a quarter of what it used to be, and the course of the disease is much milder and shorter. The earlier the injection is made, the better the results, and a single large dose is better than repeated small doses. Next to diphtheria, he declares, ranks the serotherapy of meningitis. No serious by-effects from its use have been reported.

Zeitschrift für Kinderheilkunde, Berlin

November, I, No. 2, pp. 139-206

102 *Pathogenesis of Digestive Disturbances in Infants. (Verdauungsstörungen im Säuglingsalter.) H. Bahrdt, F. Edelstein, L. Langstein and E. Welde.
103 Bacterial Content of Infant Feces. S. Kramsztyk.
104 Iron Content of Human Milk and Its Relation to Anemia in Infants. (Eisengehalt der Frauenmilch.) H. Bahrdt and F. Edelstein.
105 Behavior of Camphor in Infant Organism. (Zur Kenntnis der Ausscheidung von Glucuronsäure im Säuglingsalter.) F. W. Schlutz.

December, No. 3, pp. 207-314

106 Sugar Content in Infants' Blood. (Blutzuckeruntersuchungen bei Säuglingen.) S. Cobliner.
107 Action of Various Sugars in Dyspeptic Infants. (Wirkung der verschiedenen Zuckerarten bei ernährungsgestörten Säuglingen.) J. S. Leopold.
108 *Diagnostic Importance of Glycuronic Acid in Infants' Urine. (Klinischer Wert der neueren Glucuronsäure-Reaktion für die Beschreibung des Harnes der Säuglinge.) E. Mayerhofer.

January, No. 4, pp. 315-422

109 Experimental Psychology in Children. (Assoziationsversuche an Kindern.) T. Goett. Commenced in No. 3.
110 Influence of Phosphorus-Cod Liver Oil on Metabolism of a Rachitic Infant. C. Towles.
111 Elimination of Gastric Ferments in Infants' Urine. (Ausscheidung der Magenfermente im Säuglingsharn.) H. Pechstein.
112 *So-Called Alimentary Fever. P. Heim and K. John.

102. **Pathogenesis of Digestive Disturbances in Infants.**—Bahrdt and his coworkers have devised a method for quantitative determination of the volatile fat acids. The apparatus combines a vacuum and steam distillation, and they record the findings with human and cows' milk, infants' stools and dog stomach content and stools. Their research was undertaken to determine the actual source and nature of the hypothetical toxins developing in the course of digestion which are assumed to be responsible for the so-called alimentary intoxication.

108. **Diagnostic Importance of Glycuronic Acid in Infants' Urine.**—Goldschmiedt described last year a simple, rapid and sensitive test for glycuronic acid in the urine, and Mayerhofer here reports the findings in ten infants. They confirm the importance of the test for clinical purposes as the reaction was found almost invariably negative in healthy infants but it became promptly positive with any disturbance in the child's health, especially any febrile diarrheic trouble. In advanced stages, the findings may become negative again as ability to eliminate glycuronic acid becomes exhausted. The test is made by adding to 1 drop of urine 2 drops of a 10 or 15 per cent. alcoholic solution of alpha naphthol. The mixture is then poured cautiously on top of 3 or 4 c.c. of concentrated sulphuric acid. Colored rings form at the zone of contact between the two liquids, and on the side toward the sulphuric acid an intensely green ring forms in case of the presence of glycuronic acid in the urine. To have the test absolutely certain, the nitrites must first be excluded, which is easily done with the diphenylamin reaction. A positive alpha naphthol reaction in combination with a negative diphenylamin reaction reveals the presence of glycuronic acid in the urine, and this finding parallels the digestive disturbances and disappears as conditions return to normal. The findings with this test explain the danger of giving camphor to infants suffering from inanition. Hochsinger recently reported serious symptoms of intoxication in an infant with cholera infantum and inanition who had been given small doses of camphor.

112. **Alimentary Fever.**—Heim and John suggest that what has been called alimentary fever is in reality more a stasis fever—a stagnation of heat, and they present arguments and evidence to sustain this view.

Zentralblatt für Chirurgie, Leipsic

January 28, XXXVIII, No. 4, pp. 105-152

113 Operative Treatment of Cleft Palate. A. Codivilla.
114 *Improved Technic for Operations on the Thorax. (Handgriffe am Zwerchfell und Herzen für Thoraxoperationen.) H. Teske.

114. **Improved Technic for Operations Within the Thorax.**—Teske found on laboratory animals that the dangers from opening up the thoracic cavity could be obviated by mechanical means to prevent the diaphragm from making excessive excursions. Traction on the manubrium before opening the chest has this effect, and he suggests traction on the costal arches on both sides as liable to prove effectual in man. After the chest is opened he pushes down the bulging diaphragm with the tip of his little finger, or a spatula, repeating this rhythmically, and he found that the respiration became slower and regular at once when this was done. In applying the compression to the diaphragm, he manages so as to give a little support to the heart at the same time. By this means it is possible to ward off the momentary arrest of the respiration as the thorax is opened up, which he regards as the chief factor in pneumothorax shock.

Zentralblatt für Gynäkologie, Leipsic

January 28, XXXV, No. 4, pp. 137-176

115 Lymph Follicles in Mucosa of Cervix Uteri (Gehäuftes Vorkommen echter Lymphfollikel in der Schleimhaut der Portio vaginalis uteri.) H. Hauser.
116 Cancer in Stump of Cervix Uteri. R. v. Fellenberg.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 19, XXXII, No. 9, pp. 91-98

117 Incubation Period in Malaria. M. Gioseffi.

January 22, No. 10, pp. 99-114

118 Case of Tuberculous Process in Body of Uterus. P. Romeo.

Riforma Medica, Naples

January 1, XXVII, No. 1, pp. 1-56

119 Advantages of Proper Proportion of Animal Food: Tests on Vegetarians. (Influenza delle proteine animali nei vegetariani.) P. Albertoni.
120 *Cancer Involving Stomach and Spleen. (Lezione clinica.) G. Baccelli.
121 *Acute Sepsis in Children. A. Baginsky.
122 Variability of Diseases. G. Banti.
123 Symptoms with Disease of Parietal Lobe of the Brain. (Sindrome parietale.) L. Bianci.
124 *Omentopexy for Ascites with Valvular Defect. C. Bozzolo.
125 *Prophylaxis of Malaria. A. Celli.
126 Treatment of Surgical Tuberculosis, Especially of the Soft Parts. A. d'Antona.
127 Salvarsan in Syphilis. T. De Amicis.
128 Myelopathic Albumosuria. (Sul morbo di Kahler.) E. De Renzi.
129 Induced Pneumothorax. (Il pneumotorace artificiale guarisce la tisi? Ed in qual modo?) C. Forlanini.
130 Pharmacologic Study of Mercurial Compounds. (Albuminati mercurosi e albuminati mercurici in rapporto all'azione farmacologica dei diversi composti mercuriali.) G. Gaglio.
131 *Liver Percussion Findings on Left Side. (Sull'ottusita epatica vertebrale e paravertebrale sinistra.) P. Grocco.
132 Sydenham's Chorea a Curable Encephalopathy. V. Hutinel.
133 The Sugar in the Blood. (Lo zucchero del sangue.) R. Lépine.
134 *Present Status of Specific Treatment of Tuberculosis. (I nuovi orientamenti della pathologia e della clinica della tubercolosi in rapporto alla terapia specifica.) E. Maragliano.
135 *Chronic Hypothyroidism. E. Marchiafava.
136 *Serotherapy in Syphilis. G. Marinesco.
137 Salvarsan. A. Murri.
138 *Acetonuria and Its Influence in Treatment of Diabetes Mellitus. C. v. Noorden.
139 Exostosis and Talalgia. (Le esostosi sotto-calcanee e la talalgia.) P. Reclus.
140 *Sign of Metastasis with Cancer of Pylorus. I. Tansini.
141 *Phloridzin Test of Liver Functioning. (Nuove indagini sul valore semeiologico della glicosuria florizinica, considerata come segno d' insufficienza epatica.) I. Teissier.

120. **Study of the Patient.**—The *Riforma* opens its twenty-seventh year with a special number containing brief articles from twenty-six leading internists. Baccelli closes his bedside lecture on a case of cancer involving presumably the

stomach and spleen, with the remark that as Cato, in ancient Rome, used to close all his speeches, on every occasion, with the words "Carthage must be blotted out," so he never lets an opportunity pass to reiterate that the study of the patient is the fundamental basis of all medical training, that the laboratory is made for the clinic, and that the clinic is the supreme authority at all times and on all occasions.

121. **Acute Sepsis in Children.**—Baginsky reports a case of general pneumococcus sepsis evidently originating in the tonsils. Pneumococci were found also in the appendix. In a second case staphylococci were responsible. He has noticed signs of primary visceral tuberculosis in twenty-four children dying from malignant scarlet fever in the last few years, and also in nineteen cases of malignant diphtheria but no signs of tuberculosis or syphilis were apparent in the majority of his cases of fulminating sepsis in children.

124. **Omentopexy for Recurring Ascites from Valvular Disease.**—Bozzolo reports a case in which the tendency to recurring ascites was completely cured by the Talma operation—omentopexy—to provide a collateral circulation. The patient was a woman of 30 who had had several attacks of acute articular rheumatism leaving a valvular defect with cardiac cirrhosis of the liver and abdominal dropsy. There were no signs otherwise of adhesive perierditis and no traces of hepatitis were found at operation. A week later, the ascites had recurred and in the third week 6½ liters of fluid were withdrawn, and 8 liters again nearly three weeks later; after this the dropsy gradually subsided and by the end of two months there was no further trace of ascites and there has been no recurrence during the year and a half to date. Bozzolo knows of only one other case on record in which ascites from a cardiac defect was treated with omentopexy, and the result was equally successful.

125. **Prophylaxis of Malaria.**—Celli says that effectual prophylaxis of malaria requires time, organization, education, quantities of quinin and patient perseverance before it will be possible to eradicate the century-old plague of malaria in the endemic zones in Italy. The region is too vast for destruction of the mosquitoes by physical, chemical or biologic means, but with the aid of screening and quinin it would soon be possible to stamp out malaria even with persistence of the mosquitoes if it were not for the prejudice, the hatred of innovations among the authorities and the apathy and ignorance of the population, the obstacles and deficiencies of the rural public health service, the indifference of employers and the indolence of the local authorities. Preventive and curative quinin treatment is the natural base for the antimalaria campaign, he reiterates. This will cure and keep well the people in the endemic zones while the country is being drained and rendered fit for colonization—the ideal aim.

131. **Vertebral and Paravertebral Hepatic Dulness on the Left Side.**—Grocco calls attention to the extension on the left side of the area of hepatic dulness when the liver is enlarged. He has found the upper limit of the dulness extend for 7, 8, 10 or even 12 cm. beyond the median line in the back—a most instructive sign in some cases.

134. **Present Status of Specific Treatment of Tuberculosis.**—Maragliano comments on the increasing complexity of the morbid conditions as the tuberculosis progresses, other factors coming into play, secondary infection and the toxic products from disintegration of cells and bacteria, so that the primary influence of the tubercle bacilli is gradually overshadowed by the crowd of other pathogenic elements which in time dominate the situation. There is a vast difference, he reiterates, between tuberculosis and phthisis; the latter is a complex of dystrophic changes set in motion by the tubercle bacillus but having long outgrown its influence. Specific treatment of tuberculosis acts only on the primal tubercle bacilli and their toxins, and it is absurd to expect it to combat the other factors. If physicians will bear this in mind they will appreciate better the limitations of tuberculin treatment and not be disappointed when it proves impotent against the subsidiary but gradually overmastering factors.

135. **Chronic Thyroid Insufficiency.**—Marchiafava reports the case-histories of two men and a woman, between the ages of 44 and 55, who suffered for months or years from severe neuromuscular prostration, apathy and somnolency; they were incapacitated for business by dropping to sleep at any moment and snoring. The appetite and digestion remained normal but the face was swollen, although not edematous, and there was a tendency to obesity and chilliness; the skin was dry, the pulse weak and slow but regular, the gait uncertain and languid, the voice hoarse. The syndrome suggested possibly chronic uremic poisoning, but there was no headache or visual disturbance. He attributed the trouble to thyroid insufficiency and his diagnosis was confirmed by the prompt recovery under thyroid treatment. His records include two other cases of chronic hypothyroidism in which similar benefit was rapidly realized under organotherapy. In about two weeks all the patients had regained their strength and normal poise and resumed an active life. One patient had taken previously a long course of iodid as a preventive of dreaded arteriosclerosis, and this might have been responsible for the defective functioning of the thyroid; in the second case there had been a preceding attack of Malta fever which might have been the causal factor. The urine findings suggested chronic nephritis, but all these signs disappeared under thyroid treatment. The somnolency was the symptom that brought the patients to the physician, and the cure under thyroid treatment throws possibly some light on the mechanism of sleep. He warns that albumin and tube-casts in the urine must not always be ascribed to nephritis; his cases show that they may be the result of secondary changes in the kidneys from defective thyroid functioning and will subside as the latter is regulated.

136. **Serotherapy of Syphilis.**—Marinesco injected a few syphilitics with serum from other syphilitics who had been injected with salvarsan, but the results were disappointing.

138. **Acetonuria in Diabetics.**—The various types of diabetic acetonuria are here reviewed by von Noorden and the dietetic measures involved are discussed in detail.

140. **Abdominal Sign of Intestinal Metastasis of Pylorus Cancer.**—Tansini has noticed that with cancer at the pylorus the abdomen is sunken in, but that after metastasis has developed in the intestines the abdomen is no longer sunken in but has a normal aspect. In three such cases there was nothing to indicate the involvement of the intestines except the lack of this characteristic retraction of the abdominal walls which he has found constant with cancer at the pylorus. He was not positive enough in regard to the new sign to refrain from an operation on the pylorie cancer on that account alone. But in each instance the laparotomy revealed inoperable metastasis in the intestines.

141. **Phloridzin Glycosuria and Insufficiency of the Liver.**—Teissier presents evidence to show that the glycosuria which follows injection of phloridizin may be retarded or prevented by defective liver functioning even when the kidneys are intact. With diseased kidneys the liver may influence in part the reaction to the phloridzin test. The experiences with it show that the biologic phenomena are not simple but complex reactions, and that in pathology as in biology the functional synergy of the organs must be taken into account.

Hospitalstidende, Copenhagen

January 4, LIV, No. 1, pp. 1-24

142 *Direct Broncho-Esophagoscopy for Removal of Foreign Bodies. (Fjernelse af fremmede Legemer fra Lungen og Spiserøret.) E. Schmiegelow.

January 11, No. 2, pp. 25-48

143 Changes in the Secretion of the Cervix Uteri During Pregnancy. (Forandringer i Cervikalsekretet ved Svangerskab.) O. Jersild.

January 18, No. 3, pp. 49-72

144 *Salvarsan in Syphilis. C. Rasch.
145 Tenosynovitis in the Forearm. (Tenosynovitis i Iste Kulisse pa Antibrachium, ledsaget af Traktionsperiostitis paa Processus styloideus radii.) K. Poulsen.

January 25, No. 4, pp. 73-104

146 *Inherited Predisposition to Tuberculosis. N. J. Strandgaard.
147 The Air in Pneumothorax. (Undersøgelser over Pneumothorax.) F. Tobiesen.

142. **Foreign Bodies in Lungs and Esophagus.**—Schmiegelow describes nine cases in which under direct visual inspection it was possible to remove the foreign body promptly and without injury.

144. **Salvarsan.**—Rasch remarks in this discussion of his experience with salvarsan, that this drug will always stand as a milestone in the progress of medicine on account of the way in which it was introduced, instead of the manufacturing chemists casting their uncritically produced and untried remedies into physicians' hands. He adds that it is not every day that we encounter a remedy which seems to cure two diseases, relapsing fever and fowl spirillosis, while it has a powerful curative influence on two others, syphilis and frambesia, and is proving useful also in a fifth, quinin-proof malaria. He advocates giving salvarsan in syphilis in conjunction with mercury or in combination with other old antisyphilitic measures—such as antimony and potassium tartrate or chromium and gold compounds—which have recently been shown to have a destructive action on trypanosomes. A rational revival and combination of remedies has often given better results in Rasch's practice than a correspondingly large dose of a single drug, while the toxic action was much less. Ehrlich has also stated that his research on chemotherapy has confirmed the probable advantages of this method.

146. **Inherited Predisposition to Tuberculosis.**—Strandgaard has been studying conditions in eighty-nine families in which he has known of 197 cases of tuberculosis, and tabulates the details for comparison, listing the stage and extent of the pulmonary affection, the age at which it developed, the special symptoms and complications and the course. In twenty-three of the cases a parent and child were affected, in the others, brothers and sisters only. He does not draw any general conclusions.

Ugeskrift for Læger, Copenhagen

January 26, LXXIII, No. 4, pp. 105-140

148 *Recurring Mastoiditis. S. V. W. Jantzen.
149 *Unusual Causes for Restlessness in Infants. (Et Par vigtige Affektioner hos spæde Børn.) F. Ingerslev.

148. **Recurring Mastoiditis.**—Jantzen tabulates the details of twenty-one cases of recurring mastoiditis in which a second operation was required; the total mastoid operations at Mygind's clinic during the period 1905 to date was 225. Only one of the patients with recurrence was an adult. The interval ranged from a few months to five years. He discusses the causes for recurrence and the means to avoid and treat it, reviewing considerable literature on the subject.

149. **Unusual Causes for Restlessness in Infants.**—Ingerslev discusses adhesive balanopostitis and fissure of the anus as liable to make infants fret and cry when none of the usual causes for restlessness can be discovered. He thinks that fissure of the anus is much more common than is generally recognized.

Correction.—Serodiagnosis of Syphilis.—The temperature specified in the sixteenth line of abstract 95, page 547, Feb. 18, 1911, should have been 55 C. instead of 65 C., as printed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

MODERN TREATMENT. The Management of Disease with Medicinal and Non-Medicinal Remedies. In Contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, Assisted by H. R. M. Landis, M.D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania). In Two Volumes. Vol. II. Cloth. Price, $6 net. Pp. 900, with 88 illustrations. Philadelphia: Lea & Febiger (1911).

MODERN DIAGNOSIS AND TREATMENT OF DISEASES OF CHILDREN. A Treatise on the Medical and Surgical Diseases of Infancy and Childhood, with Especial Emphasis on Clinical Diagnosis and Modern Therapeutics. For Practitioners and Students of Medicine. By Herman B. Sheffield, M.D. (Co-Author of "Practical Pediatrics"), Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital. Cloth. Price, $4.50. Pp. 619, with illustrations. Philadelphia: F. A. Davis Co., 1911.

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New Patents

Recent patents of interest to physicians.

965555. Dispensing device for soda fountains. William H. Becker and C. W. Steed, St. Louis.
965556. Abdominal bandage. Josef Beltermann, Mannheim, Germany.
965273 and 965557. Making cuprammonium solution. Henry Bernstein, Philadelphia.
965276. Pocket sputum cup. John A. Brooke, Wilkes-Barre, Pa.
965564. Sanitary cover for flesh-contact implements. George H. Coates, Worcester, Mass.
965165. Shaker bottle. John L. Dunnock, Baltimore.
965174. Stethoscope. Nathan Fuchs, Chicago.
965704. Valve for carbonated liquid receptacles. George Goldberg, Amsterdam, Netherlands.
965630 and 965631. Briquet for making oxygen. George F. Jaubert, Paris, France.
965393. Einar H. Meyer and J. M. A. Stillesen, Niagara Falls, Ontario, Canada.
965533. *X*-ray screen or shield. Charles H. Meyers, Buffalo, N. Y.
965219. Quick-threading surgical needles. Martinus J. C. Nyborg, Minneapolis, Minn.
965257. Antiseptic mouthpiece cover. William H. Waldron, San Francisco, Cal., and L. R. Krumm, Columbus, Ohio.
966221. Truss. Walter Lange, Zwickau, Germany.
966225. Artificial leg. James A. Long, Fair Mount, Ga.
966050. Spirometer. George W. Ramage, New York.
966136. Compound or emulsion and production of same. Julius Stockhausen, Crefeld, Germany.
965966. Formalin vaporizer. Jena J. Van Dandaigue, Montreal, Quebec, Canada.
966642 and 966643. Medicament and making the same. Albert D. Barr, Batesville, Ark.
966786. Producing medicaments. Albert D. Barr, Jersey City, N. J.
966787. Supporting belt or truss. Henry L. Benner, East Mauch Chunk, Pa.
966900. Disinfector. George H. Garnet, Allentown, Pa.
966748. Combined stopper and connection for water-bottles. Jacob Honecker, Cleveland, Ohio.
967125. Syringe. John B. Huppert, Pittsburg.
966838. Antiseptic body germ protector. Herman Jaffee, Hoboken, N. J., and E. M. Dorstewitz, New York.
966840. Automatic mercury dropper. Ernest C. Ketchum, Boston.
967136. Hypodermic syringe. John E. Lee, Conshohocken, Pa.
966696. Method and apparatus for marking *x*-ray negatives. Walter H. Merrill, Washington, D. C.
966863. Abdominal supporter. Laura N. Saemann, Oak Park, Ill.
967081. Abdominal supporter. Samuel H. Sublett, Sr., Hatton, Ark.
966872. Pasteurizing apparatus. August Tiesse, Chicago.
967488. Making barium sulfite. Le Roy Baker, St. Louis.
967736. Suspensory bandage. Samuel D. Delp, South Bethlehem, Pa.
967638. Bed-pan. Daniel Hogan, Hoboken, N. J.
967533. Cushion for bed-pans. Amanda R. Logan, East Chelmsford, and M. A. L. Barelle, North Reading, Mass.
967805. Bone-saw. August Meyer, Oakland, Cal.
967547. Strap for surgical bandages, corsets, etc. Mary C. Ninde, Fort Wayne, Ind.
967840. Medicinal soaps. Walter Schoeller and W. Schrauth, Berlin, Germany.
967450. Combined mixer and sprinkler. Zalmon G. Sholes, New York.
967852. Dispensing container. Clarence E. Stubbs, Baltimore.
967584. Casein derivatives or compounds and making the same. Rudolf Tambach, Ludwigshafen-on-the-Rhine, Germany.
967269. Surgical appliance. Smith G. Tibbs, Akron, Ohio.
967688. Topical medicated pad. Charles P. L. Titherley, Formby, England.
967469. *X*-ray apparatus. Harry F. Waite, New York.

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CESAREAN SECTION, WITH SPECIAL REFERENCE TO THE TIME OF OPERATION AND ITS TECHNIC *

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One familiar with the history and progress of abdominal surgery must be impressed with the similarity in the development of ovariotomy and Cesarean section. The latter operation is much older than ovariotomy, but the indications for its application are less definite and positive, and it has been universally regarded as a final and desperate effort at delivery when other measures have been tried and have failed. Like ovariotomy in its early development, Cesarean section has been fostered under the care of a few operators, who have struggled on in their efforts despite the discouragement of a heavy mortality. That the Cesarean operation is so far behind ovariotomy and hysterectomy in professional favor and in general application when indicated is due for the greater part to the fact that the surgeon competent to do the operation rarely has access to the patient until she is exhausted, often infected, by futile efforts at instrumental delivery. With patients afflicted with ovarian and uterine tumors no other operation is considered prior to ovariotomy and hysterectomy, and the operations are eminently elective, instead of being, as too often obtains with the Cesarean section, operations of emergency.

The patients requiring delivery by abdominal hysterotomy who are so fortunate as to be confined in maternity hospitals, where every modern facility and surgical skill are at command, compose only a small proportion of the great number who meet the same issues of life and death amid the disadvantages of confinement in their own homes.

The late Dr. R. P. Harris, of Philadelphia, writing in 1889, reported that there had been 175 Cesarean operations in the United States with 110 deaths. He also states that from April, 1884, to February, 1885, six Cesarean sections were done in this country and all of the mothers and children died.[1] Lusk reports on high authority that in the lying-in hospital in Vienna during the nineteenth century up to 1880, not one woman had survived Cesarean section. On equally high authority, he reported that in Paris up to 1873 there had not been one successful Cesarean section in eighty years. I beg to follow this report of Lusk showing the results of the operation prior to the antiseptic era, and the report of Harris after the antiseptic era, but prior to the perfection of aseptic methods and before the general adoption of Sänger's technic, with present-day results.

In Germany the operation has attained a high degree of perfection in the hands of Sänger, Leopold and Olshausen. The latter (Olshausen) has reported a series of sixty-five cases with a mortality of 4.6 per cent. Reynolds, of Boston, reports in 1907 thirty cases without a death. In all these cases the operation was primary; it was elective, and the patients had not been subjected to repeated examination and efforts at delivery. These results mark the standard that can be attained by early examination, hospital facilities and surgical skill.

Dr. Asa B. Davis, of the Lying-in Hospital in New York, reports (September, 1910) that in a service of 68,200 obstetrical cases at that hospital there were 256 Cesarean sections performed. The maternal mortality was 14.06 per cent.; the fetal mortality 20.08 per cent. Of these, seventy-eight operations were performed by Dr. Davis, with a maternal mortality of 16.67 per cent. Of these thirteen deaths, the report gives among causes of death the following: "prolonged labor, sepsis, suppression of urine; midwife in charge for twenty-four hours"; another "prolonged labor, sepsis before admission to hospital"; and "prolonged attempt at high forceps by private physician; general streptococcemia." Twelve of the sixty-seven women had had repeated Cesarean sections; one had undergone the operation three times and one five times. In some of these cases the operation was necessitated by multiple sarcoma of abdominal and pelvic viscera, or by carcinoma of cervix and vagina; and there were seven cases of eclampsia. A study of this report will convince one that if every reasonable advantage be utilized, if the operation be not delayed and if the patient is not infected beforehand, this operation can be done under proper hospital conditions, in uncomplicated cases, with a mortality as low as that of ovariotomy.

As with all abdominal operations, the splendid results of the present time have been made possible by the discovery and perfection of aseptic surgery. In 1876 Porro made the great contribution to the operation which has forever attached his name to the radical operation. To Cesarean section as previously performed he added hysterectomy. By this procedure both hemorrhage and sepsis were materially lessened. It gave a great impetus to the operation, and in labor complicated by uterine neoplasms will remain a standard and perfected operation. The greater number of the Cesarean operations done by me have been based on this indication, and consisted of the Porro operation with retroperitoneal treatment of the pedicle. It is an ideal operation under such conditions.

* Read before the Southern Surgical and Gynecological Association, at Nashville, Tenn., Dec. 14, 1910.

1. American System of Obstetrics, 1889, Philadelphia, Lea Bros. & Co.

In 1882 Sänger made his epochal contribution to the technic of Cesarean section. Previous to this time, after incision of the uterus and delivery of fetus and placenta, the uterine walls were left to be approximated by the physiologic contraction of the uterus. Sänger demonstrated the importance of suturing the uterine incision with deep sutures down to, but not including, the uterine mucosa, and adding a neat suturing of the peritoneum over the entire length of the incision. As a result of Sänger's addition to the technic of the operation, and the simultaneous improvement in aseptic surgery, the operation was at once followed by unprecedented success and has attained its present high place as an operation of choice.

The operation as practiced by Sänger consisted of the median abdominal incision midway of the abdomen; turning the uterus out of the abdomen before opening it; two or three sutures were placed at the upper angle of the abdominal incision and tied after the uterus was delivered to protect the subjacent peritoneum; a sheet of rubber was then placed beneath the uterus to protect the lower peritoneum; the cervix was constricted with rubber tubing to control hemorrhage; the uterus was incised through its anterior wall vertically; fetus and placenta delivered; the rubber tube removed as soon as uterine contraction obtained; the uterine sutures were of silk and were placed as already described; before any of the sutures were tied the uterine cavity was washed out with an antiseptic solution, and the uterine cervix dilated to insure drainage. The uterus was then returned to the abdomen, and the abdominal incision closed.

As in all abdominal operations, this operative procedure as devised by its author has been simplified with experience. It was soon discovered that the elastic tube placed around the cervix produced atony of the uterus and predisposed to post-partum hemorrhage; also that it frequently encircled the child's head and interfered with delivery. The constricting tube was first replaced by manual compression of the uterine arteries by an assistant. Later even this was found to be unnecessary, as the hemorrhage can be effectually controlled by the pressure of a gauze towel packed into the uterine incision while the sutures are being placed. The uterus need not be brought out through the abdominal incision, and all exposure and handling of the abdominal viscera should be avoided. At the beginning of the operation an assistant should place his hands flat on the abdominal wall, one on each side, hold the uterus steady, and keep the abdominal wall closely in apposition with the uterus. A double tenaculum at the upper angle of the uterine incision, another fixed in the lower angle, will give the operator perfect control of the uterus while incising and suturing that organ. The utmost care should be observed to protect the peritoneum from the amniotic fluid. Davis assures us that in no instance has he found it necessary to dilate the cervix to secure drainage. No application of any kind should be made to the uterine cavity after the fetus and placenta have been delivered. The suture material best adapted for the uterine incision is chromic catgut, No. 2. The after-treatment is the same as that of other abdominal operations.

The operation should be performed with the same deliberate care and expedition as are observed in other abdominal operations. There seems to be a general impression on the part of surgeons that exceptional rapidity bordering on haste should characterize the steps of the operation. There is no valid reason for this.

Davis makes the abdominal incision above the umbilicus, and the uterine incision just below the fundus of that organ. I do not believe that the site of the incision is of essential importance. The abdominal wall at the full term of pregnancy is thin and relaxes easily. As soon as the abdominal incision is made and the uterus exposed, long gauze pads wrung out of warm salt solution are placed within the abdomen to hold back the omentum and intestines and protect peritoneal surfaces while the uterus is being emptied and closed.

Unfortunately, in the majority of cases, the operator has no choice as to the time of election for the operation, the patient being usually in active and prolonged labor when he is called on to operate. When the patient is under observation in advance and choice of time for operation can be made, it is preferable to operate after labor has assuredly begun. To elect this time from the menstrual history is inaccurate and will not infrequently result in the delivery of a premature child. No dilatation of the cervix or preliminary vaginal operation, other than thorough cleansing of the vagina, should be done.

With the demonstrated results of Cesarean section, as now obtained, the scope of the operation must necessarily be widened and its application greatly extended. What is most needed at the present time (and this thought has inspired this paper), is an active interest on the part of all abdominal surgeons, and such a campaign of education as was successfully applied some years since in behalf of early operation in other conditions requiring prompt surgical intervention. It is established that the primary Cesarean operation in skilled hands has a mortality quite as low as uncomplicated ovariotomy and clean hysteromyomectomy. With repeated examinations, cervical dilatation and application of forceps, carried out with crude and desultory observance of aseptic precautions, the mortality of abdominal hysterotomy is unnecessarily increased. The cooperation of the surgeon and the general practitioner is necessary to correct this fatal error.

Fourth and Chestnut Streets.

THE MOBILIZATION OF JOINTS BY MEANS OF THE RUBBER BANDAGE

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The mobilization of joints is a common field of neglect. The patient with a stiff joint following fracture is often told that time alone will bring a restoration of the normal range of motion, which is in a degree true, but the patient so dismissed feels, and is, neglected, for much time can be saved for him by proper treatment. Not this alone, but many a brilliant success in fracture treatment is greatly overshadowed in the patient's estimation by the resultant stiffness following the removal of splints. In addition to the cases in which time alone usually successfully obtains the normal range of motion, is the group of immovable joints, and cases of limited range, which, if neglected, do not improve, and which, with the exception of those of bony ankylosis, exuberant callus or displaced fragments following fracture—cases of mechanical obstruction to be relieved alone by operation—brilliantly respond to proper treatment in various degrees.

The causes of the stiff joint following fracture, exclusive of the results of direct injury of the joint, are: edema, atrophy, shortening and loss of elasticity of muscles and the periarticular tissues; cicatricial contraction and fibrous changes, more common in suppurating open fractures, and traumatic arthritis. This stiffness of joints, as is well known, obtains not only in the structures directly involved but in the related joints of the extremity, due to a coincident sprain or to enforced quiet, as a part of the dressing; i. e., stiff knee after fracture of thigh; stiff elbow, wrist and fingers after fracture of arm.

TREATMENT

Massage, hot and cold baths, high dry heat, active motion, *less passive motion,* and the method of mobilization by means of the rubber bandage to be now described, and which is not intended to replace or minimize the importance of the first mentioned measures, constitute the treatment.

Gradual strong flexion and extension is obtained by the application of a rubber bandage of the ordinary 2½ inch variety, or of double weight for most of the dressings. The manner of the application is made in accordance with the indications and requirements of each case,

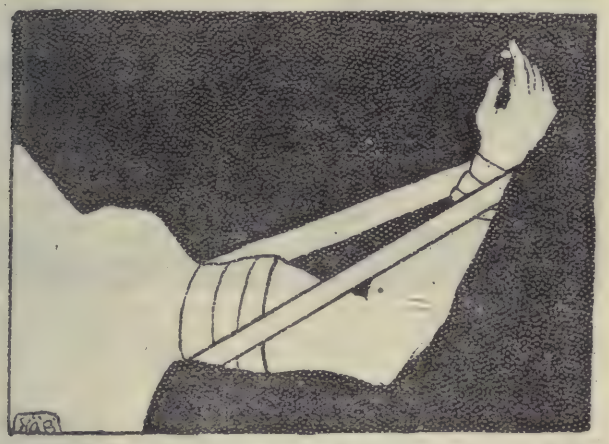


Fig. 1.—A method of securing flexion of the elbow-joint by means of a rubber bandage.

and is so made that the contraction of the bandage takes place in the line of the desired increase of motion; that is, in the line of normal movement.

The elastic contraction of the rubber bandage by its gradual, even, confidence-gaining quality, overcomes, first, the voluntary and spasmodic contraction of the guarding, protecting muscles and tires them out. Complete relaxation is so obtained, at which stage the contraction of the rubber bandage is exerted on the shortened, contracted structures and mechanically stretches them. By this means, at one sitting, a range of motion far greater than can be obtained by passive movement is realized, which is not followed by so great an irritative reaction and which is not so painful as effective passive movement. The patient's confidence in making greater active movements is also greatly increased by the demonstration of the degree obtainable with the rubber bandage, and his cooperation from now on is obtained.

A small amount of pain and discomfort is permissible during the treatment, the length of which is controlled by the patient's fortitude and disposition, the rule to be strictly adhered to being that the joint should not be tender on the following day. The first several applications are made every second day, after which they should be made daily.

Joints of false or fibrous ankylosis, in which there is no danger of making active a quiescent infection, should be broken up under anesthesia, the reformation of such ankylosis prevented, and the mobility increased by beginning on the second day following the forcible procedure, the application of the rubber bandage method.

TECHNIC IN SPECIFIC CASES

The Elbow-Joint.—For flexion: Secure the initial extremity of the rubber bandage without stretching by several circular turns around the forearm, just above the

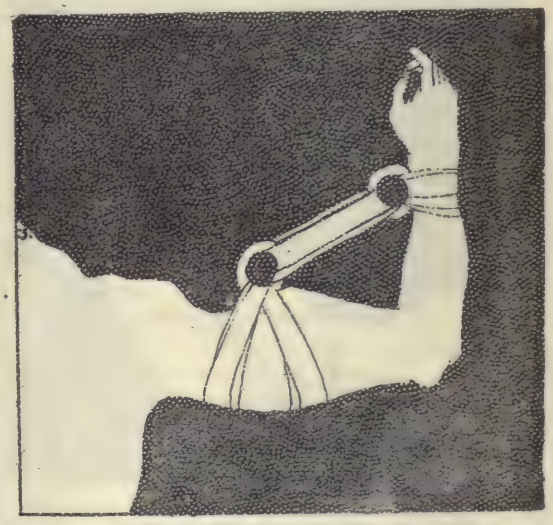


Fig. 2.—Another method of securing flexion of the elbow-joint; curtain rings are secured to the arm and wrist, through which the rubber bandage is drawn.

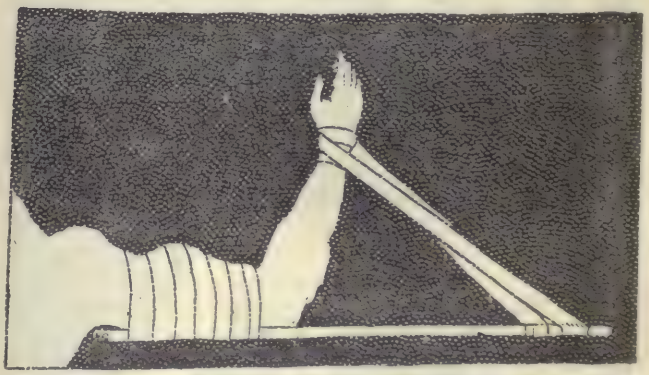


Fig. 3.—Method of securing extension of the elbow-joint. A straight splint is secured to the arm by means of a roller bandage and extension is made from the distal end of this by means of the rubber bandage encircling the wrist.

wrist; carry the stretched bandage to the upper end of the arm, making one unstretched circular turn around the limb, and then return with stretched bandage to the starting place above the wrist, where a single circular unstretched turn is made. Repeat the application between the wrist and arm several times with the bandage on the stretch, omitting the circular turns (Fig. 1). In certain cases it is of advantage to modify this dressing and those portions of the following in which the rubber bandage is secured by completely encircling the limb, by fastening by a gauze or muslin bandage at such places a large wooden curtain ring of the ordinary variety, the stretched rubber bandage being then carried through these rings instead of surrounding the limb, so insuring security and avoiding any possible constriction of the circulation (Fig. 2).

For extension: Fasten securely to the arm, by an ordinary gauze bandage, a firm, straight posterior splint, somewhat longer than the length of the complete upper extremity. Secure the initial extremity of the rubber bandage by several unstretched circular turns around the forearm just above the wrist; carry the stretched bandage to and around the free extremity of the posterior splint, and return with stretched bandage to the starting-place, repeating the application between forearm and splint a half a dozen times (Fig. 3).



Fig. 4.—Method of securing extension of the wrist. The rubber bandage encircles the arm above the elbow and the hand around the palm.



Fig. 5.—Method of applying the rubber bandage to secure flexion of the knee-joint. The patient sits on a chair and the bandage encircles the ankle and the leg of the chair.

The Wrist.—For flexion: Flex the supinated forearm on the arm at a right angle. Secure the initial extremity of the rubber bandage by several unstretched turns transversely around the hand; carry the stretched bandage over the flexor surface of the forearm to the lower end of the arm and make a single unstretched turn around the arm just above the elbow. Return with the stretched bandage over the flexor surface of the arm to the hand, and repeat the application between the hand and the arm several times.

For extension: Flex the pronated forearm on the arm at a right angle. The stretched bandage is carried over the extensor surface of the forearm; otherwise the application is the same as for flexion (Fig. 4).

For Finger and Thumb Joints.—For flexion: Completely cover and include the hand in a rubber bandage, the applications over the dorsum of the hand being made with unstretched bandage, and those over flexor surface or palmar surface being made with stretched bandage, securing by unstretched turns around the wrist. This may be combined with bandages for mobilization of the wrist-joint as described above.

For extension: Apply the stretched rubber bandage around the fingers and around the projecting extremity of a suitable posterior splint.

These hand bandages may be applied in Dupuytren's contraction, after operative extirpation of the contracted cirrhotic palmar fascia, and should also be instituted as early as possible after cases of suppurative tenosynovitis to prevent and break up the adhesions between the tendons and tendon sheaths.

The Knee-Joint.—For flexion: A strong chair of a height such that the feet of the seated patient hang free of the floor is necessary. These conditions can be met

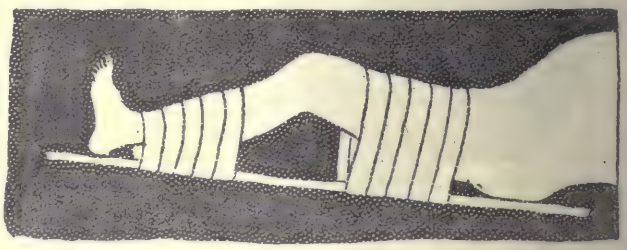


Fig. 6.—Extension of the knee-joint. With the limb on a long posterior splint held by loose gauze bandages, the rubber bandage is made to enclose the knee-joint and the splint, thus producing traction.

by the ordinary chair for an adult being placed on and at the edge of a firm table, box or platform. The patient is seated in the chair and secured by a broad bandage carried around the patient's body and back of the chair. A surcingle supplies the purpose very well. Fix the initial extremity of the rubber roller by several unstretched circular turns around the leg just above the ankle; carry the stretched bandage to and around the lower end of the corresponding leg of the chair, and back again to the starting place. Repeat the applications with stretched bandage several times (Fig. 5).

For extension: The method by pulley and weight is usually superior to the application of rubber bandage with a posterior splint, and is always to be used in cases of extreme contraction. When the flexion is slight and approximates the complete extension, the rubber bandage method is of value. Application: With the limb on a long strong posterior splint held by loose gauze bandage, place the initial extremity of the rubber roller at the lower end of the thigh just above the knee-joint, and fix by making one or two circular turns over the thigh, and around and including the posterior splint. Repeat the turns a half dozen times with the rubber bandage on the stretch. Repeat the same rubber bandage at the upper end of the leg just below the knee (Fig. 6).

I wish to give full credit to Momburg of the Bier Clinic, Berlin, for originating the idea of making use of the rubber bandage in the mobilization of joints.

704 Pillsbury Building.

THE CONTROL OF PASTEURIZATION*

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The proper control of milk pasteurization is highly important at the present time—not only to the sanitarian and the public, but also to the conscientious milk-dealer.

Pasteurization as commonly practiced is the heating of milk to a temperature varying from 140 to 185 F. for varying periods of time. This heating may or may not effect the results intended, and the product consequently may or may not be free from the constituents which are intended to be removed or destroyed by the process.

Pasteurization has been lauded and condemned. The misunderstandings are based on the different meanings of the term with reference to the amount of heat applied, the time of exposure and the results accomplished. Practically, pasteurization is resorted to for two reasons: first, and very extensively, to enhance the keeping qualities of the milk. This is accomplished by destroying or materially reducing the number of acid-producing bacteria. Inasmuch as this kind of pasteurization is for commercial purposes the lowest temperature which will serve to accomplish the desired result is employed. Milk treated in this way is not usually rendered safe from a sanitary standpoint, but is nevertheless, often advertised and tendered to the public as germ-free and safe milk. The conception of pasteurization held by some men is that the process described above is intended when pasteurization is recommended as a means of procuring a safe milk-supply for large cities, or when pasteurization is accepted in lieu of testing cows for tuberculosis or of instituting adequate inspection of dairies for contagious diseases.

Secondly, pasteurization is resorted to as a means of securing a safe milk-supply that could not otherwise be procured in large enough quantity to supply our rapidly increasing urban populations. In this case the pasteurization must be controlled and cannot be carried out in the manner ordinarily practiced in a purely commercial way for the simple purpose of enhancing the keeping qualities of the product.

Municipal authorities are becoming more and more active in safeguarding of cities against frequently contagious and infectious diseases, and in this work have frequently traced such infections to the milk-supply.

The need of safeguarding milk-supplies is becoming more and more imperative by reason of the relatively low price of milk and milk products, which has compelled the farmer to practice intensive dairying in order to make the business at all profitable. This has reacted on the dairy cows. The animals have been kept with the prime object of minimizing loss of energy. Exercise in the open air has been sparingly allowed. In housing the proper means of ventilation and lighting have often been disregarded. With these essential conditions neglected the resistant forces of the overworked dairy cows have been materially lowered, and a field has been prepared for the spread of tuberculous infection.

The effort thus far made to eradicate tuberculosis in cattle has served to demonstrate very clearly that for the present at least the killing and disposing of all tuberculous animals is impractical. Compensation by the state for animals condemned and destroyed is in many sections impossible on account of the magnitude of the valuations involved. The segregation of the animals according to the Bang system necessitates the pasteurization of the milk, if it is to be used. This pasteurization, in order to be effective against the spread of tuberculosis, must be properly carried out.

Our efforts to inspect the dairy farms supplying our large cities, for infectious diseases, such as typhoid fever, scarlet fever, etc., are at present rendered ineffective by the concerted opposition of the dairymen, physicians in charge of the cases, and health officers residing in the rural communities.

It is certain that this factor of human contagion cannot be controlled in Chicago without increasing the present force of inspectors manifold. From a medical standpoint, it will always be difficult or impossible to recognize the prodromal stage of measles, incipient tuberculosis, abortive cases of scarlet fever, mild non-exudative cases of diphtheria, and especially the so-called typhoid carriers.

The only practical way to eliminate the spread of contagious diseases under present conditions seems to be the proper pasteurization of the milk; and here again improper pasteurization would serve merely to foster a false sense of security. If the public is to be safeguarded, it must be adequately safeguarded, and this means that pasteurization practiced for the purpose of destroying the disease-producing bacteria must be subject to control by health authorities.

In taking up the subject of control of pasteurization, due consideration should be given to the various kinds of standards which may be made use of. These for the purposes of this paper will be classified under the following three headings: (1) chemical standards; (2) physical standards, and (3) bacterial standards.

CHEMICAL STANDARDS

Chemical standards have been suggested from time to time for control of the pasteurized product, but in practice they have not proved satisfactory. It is a well-known fact that milk heated above 176 F. fails to show the blue color when the Stork test for enzymes is applied. Our investigations have shown that the results obtained by this reaction are not very uniform and are dependent on a number of factors, including primarily the degree of temperature, and, to a certain extent, the time of exposure. Pjaden, working in the Kaiserliche Gesundheitamt, found that the amount of peroxidases on which this reaction depends varied considerably in the milk obtained from different breeds of cows. Finally, it is of great importance to recognize that certain bacterial products developing in consequence of bacterial multiplication in pasteurized milk have the property of transferring oxygen, and hence may be classed with the peroxidases. The other reactions for peroxidases, such as the guaiac test and the aloin test, are subject to the same influences and errors as the Stork reaction. Practically, then, the Stork test, or any test depending on the recognition of the peroxidases in the milk, is valuable only in determining that the milk has been recently heated above 176 F. It would of course also serve to detect all forms of boiled or sterilized milk.

The tendency at the present time, however, is to heat to as low a temperature as possible and only for a period such as will serve to kill all pathogenic organisms and a sufficient number of saprophytes, and at the same time

* Read at the annual meeting of the American Public Health Association, Milwaukee, Wis., September, 1910.

preserve the natural flavor and chemical composition of the milk. Exposure to heat above certain limits so alters the physical condition of milk that the cream does not rise naturally, but remains more or less completely emulsified. The public commonly judges the quality of milk by the amount of cream that has risen, especially in bottled milk, in which the cream line can be so clearly determined. Thus the demand to apply sufficient heat to destroy the peroxidases would necessitate the production of a pasteurized product of inferior commercial value, speaking of values as they are now appreciated. Such a demand would necessarily be harmful at the present time to the business interests of the dealer who is trying to place on the market a safe milk.

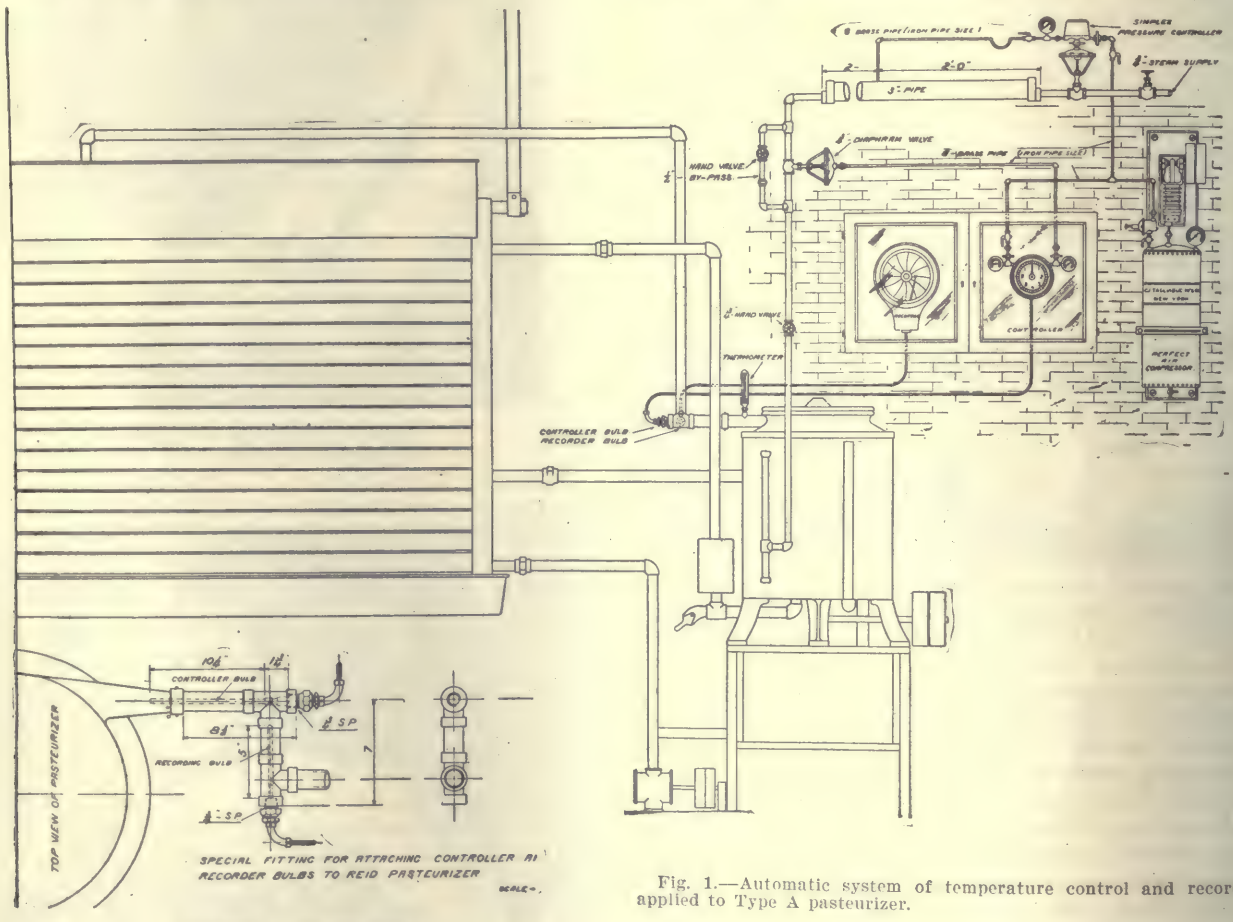


Fig. 1.—Automatic system of temperature control and recorder applied to Type A pasteurizer.

PHYSICAL STANDARDS

Physical standards, such as the degree of temperature employed and the time of exposure are most valuable in properly controlling pasteurization. In the case of continuous or so-called flash pasteurization, the degree of heat to be applied should be made to conform to certain minimum theoretical temperature standards plus such additional heat as may be required to kill about 99 per cent. of the bacteria in the raw product, both of which requirements will be discussed later. We have found that the time of exposure varies so much and is so indefinite of determination in the different types of flash machines, that it is practically impossible to prescribe the required amount of heat for a given type without determining this experimentally. The pasteurizer so operated should be equipped with a feed-pipe, which is so constructed that the pasteurizer cannot be fed in excess of its normal working capacity; that is, in excess of the working capacity of the machine at which 99 per cent. of the bacteria are killed when the required amount of heat is applied. After having determined either experimentally or theoretically the amount of heat required, it then becomes necessary to control this factor properly. This can be done most satisfactorily by equipping the pasteurizing machine with an apparatus regulating automatically the supply of heat or steam, so as to produce the required temperature of the outflow of the pasteurized product. Furthermore, a recording apparatus should be installed, to record during operation the temperature of the pasteurized product as it flows from the heater. The thermometer of this recording apparatus must be kept merged in the milk in such a way that it is not exposed to escaping steam or any other sources of heat than the heated milk. The records of the recording thermometer are made in a closed chamber, which may be kept under lock and key in the control of the sanitary officer or superintendent of the establishment, as the conditions may require. Daily temperature records show more accurately the lesser degrees of fluctuation, while weekly records are more convenient in those cases in which it is necessary to keep the records under lock and key in control of the sanitary officer. Temperature records kept in this manner indicate to the sanitarian the degree of efficiency, and to the operator of the plant are a valuable means of obtaining more perfect and uniform pasteurization. Commercially, this means less sour milk and less complaint from dissatisfied customers.

Whenever a holding device is employed whereby the milk is held at the temperature of exposure for a longer period of time, the control by graphic records becomes

somewhat more difficult. The mechanism of the pasteurizer, or rather pasteurizing system, is more complex and of the two important elements, namely, the temperature and the time of exposure, the time of exposure is relatively difficult to control.

The temperature may be controlled by an automatic regulator and recording apparatus, as indicated for continuous pasteurization. The time of exposure, however, may be changed by changing the mechanism of the machine. Such changes can readily be detected by an inspector on the ground, but cannot be indicated by any simple graphic record, although practically such a recording apparatus could probably be constructed. Diagrams showing the construction of satisfactory temperature-regulating and recording devices are herewith appended.

a temperature of 71 C. or 160 F. for one minute is sufficient to kill the tubercle bacillus in milk.

For holding devices the heat requirements determined experimentally by Rosenau should guide us in determining the required time and temperature. Rosenau concluded from his experiments that tubercle bacilli and other pathogenic bacteria in milk lose their infective properties when heated to 60 C. (or 140 F.) and maintained at that temperature for twenty minutes, or to 65 C. (or 149 F.) for a shorter period of time.

The minimum temperature requirements usually set are, therefore, for the continuous type of pasteurizer, 160 F. for one minute; for the machine equipped with a holding device, 140 F. for twenty minutes.

The percentage reduction standard usually adopted is a 99 per cent. reduction in the bacterial content of

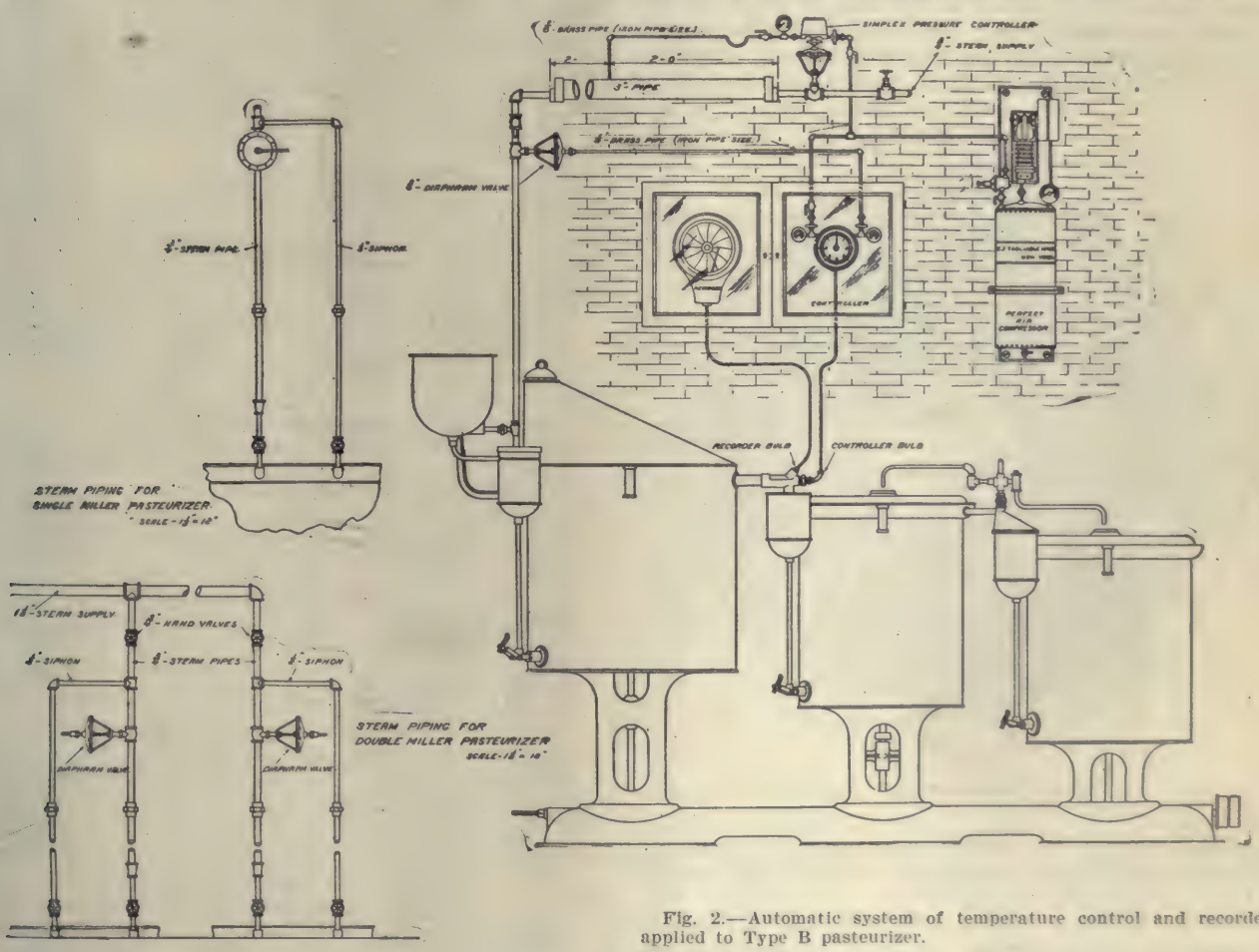


Fig. 2.—Automatic system of temperature control and recorder applied to Type B pasteurizer.

BACTERIAL STANDARDS

Bacterial standards should be threefold: a minimum temperature requirement, a percentage bacterial reduction standard, and a maximum permissible bacterial count.

Temperature standards should be determined by the thermal death-points, so far as we have definite knowledge of them, of the ordinary pathogenic bacteria conveyable in milk. A safe guide in the case of flash pasteurization is the degree of heat and time required to kill the tubercle bacillus, since it is the most difficult of the ordinary pathogenic micro-organisms to destroy, and inasmuch as one cannot hope to destroy spores with pasteurization temperatures. For this type of pasteurization, therefore, we should be guided by the results of Russell and Hastings, who determined that exposure to

the raw product. This, however, is not applied strictly, but in conjunction with a minimum allowable count of 100,000 per cubic centimeter, it being recognized that it is perfectly possible to produce a satisfactory product from initially good milk without an absolute 99 per cent. reduction, and on the other hand that a 99 per cent. reduction in an initially bad milk may still contain too many bacteria for safety. The strict application of the 99 per cent. standard places a premium on the use of raw milk having an initially high bacterial content. This is of course undesirable and is readily eliminated by application of the double standard (percentage reduction in conjunction with minimum allowable count).

During the past six months some seventy pasteurizing establishments have been subjected to bacterial invest

gation in the city of Chicago. A few representative results of these tests are here included.[1]

A study of the results of these seventy investigations reveals two interesting facts aside from the matter of temperature records. First, the percentage bacterial reduction under practical working conditions, as judged by the samples taken directly from the machine, is in general satisfactory for all five types of pasteurizers examined. Second, there is present in almost all establishments, irrespective of the type of machine used, a very constant and uniform element of recontamination. The significance of such recontamination may be considered from two angles, but depends in the last analysis on the extent to which it occurs. If the recontamination is extensive, it may mean practically the nullification of the work of pasteurization. In fact, instances have been noted in which the product of the plant contained more bacteria than the initial raw milk. On the other hand, if the recontamination is slight it may serve a very useful purpose, that is, it may be the means of

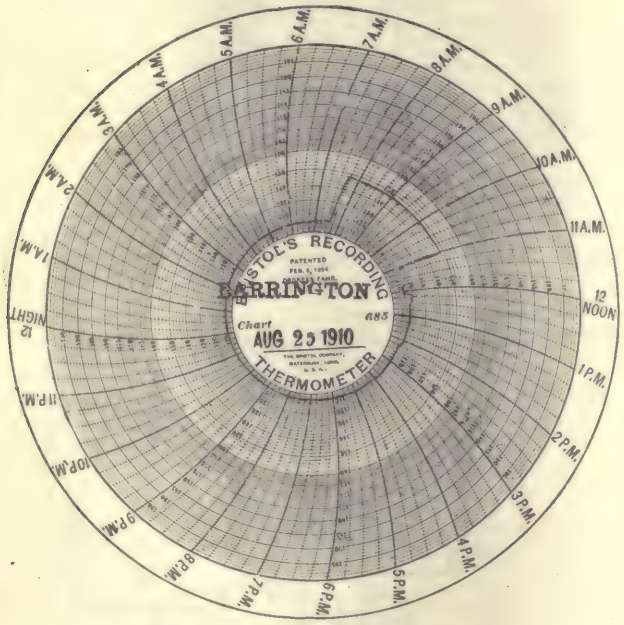


Fig. 3.—Graphic temperature record

introducing a few acid-forming bacteria, and thus improve rather than impair the quality of the product by causing it to sour naturally.[2]

If the bacterial count is sufficiently low to indicate a reasonable degree of safety from the standpoint of other bacteria, the reinoculation with acid-producers is of distinct advantage, inasmuch as it refutes the objection commonly raised that pasteurized milk putrefies when it is kept too long.

As a matter of fact, it is probably impossible in the control of pasteurization on a large scale to eliminate entirely the element of recontamination. Particularly

1. For complete tables, see reprints.

2. The fact that commercially pasteurized milk sours in the same manner as raw milk may be explained by one of two assumptions: (1) that there has been recontamination with acid-forming bacteria; (2) that a "resistant minority" of lactic acid bacteria has survived the heat of pasteurization. Ayers reports that a small percentage of the lactic acid bacteria may resist a temperature as high as 150 F., and also that one strain of *Streptococcus lacticus* had a thermal death-point of 168 F. (Bull. 126, U. S. Dept. of Agric., Bureau of Animal Industry). We are inclined to believe that the element of recontamination is the more important of the two, judging from the fact that samples taken from the pasteurizing machine proper do not usually develop acidity, while bottled samples taken from the same plants at the same time almost invariably develop about the same acidity as the raw samples.

TABLE 1.—BACTERIOLOGIC INVESTIGATIONS OF PASTEURIZING PLANTS IN CHICAGO, JANUARY TO JULY, 1910

PLANT 1.—TYPE A MACHINE—CONTINUOUS *

June—Temp., 160° F.; cooled, 45° F.

Serial No.		Bacterial Count.
1376	Raw	17,000,000
1377	Pasteurized 160° F.	8,700
1378	From cooler 45° F.	55,000
1381	Bottled	120,000

PLANT 6.—TYPE D MACHINE—CONTINUOUS †

August—Temp., 165° F.; cooled, 48° F.

Serial No.		Bacterial Count.
2860	Raw	650,000
2861	Pasteurized from machine 165° F.	4,500
2862	Cooler 48° F.	7,600
2863	Bottle filler	127,000
2864	Bottle uncapped	108,000
2865	Bottle capped	66,000

PLANT 7.—TYPE B MACHINE—CONTINUOUS ‡

April—Temp., 160° F.; cooled, 54° F.

Serial No.		Bacterial Count.
979	Raw	69,000
980	Pasteurized 160° F.	2,000
981	Cooler 54° F.	14,000
982	Bottle uncapped	16,000
983	Bottle capped	14,000

PLANT 11.—TYPE E MACHINE—HELD-TIME, 10 MINUTES §

March—Temp., 150° F.; cooled, 60° F.

Serial No.		Bacterial Count.
570	Raw	50,000
571	Pasteurized 150° F.	4,500
572	Pasteurized, held 10 minutes	2,500
573	Pasteurized bottle filler	3,200
574	Pasteurized	8,500

PLANT 19.—TYPE E MACHINE—HELD 20 MINUTES

March—Temp., 147° F.; cooled, 60° F.

Serial No.		Bacterial Count.
803	Raw	5,000,000
806	Held in can 20 minutes	22,000
807	Cooler	36,000
808	Bottle uncapped	77,600
809	Bottle capped	84,000

PLANT 21.—TYPE F MACHINE—CONTINUOUS ||

March—Temp., 150° F.; cooled, 45° F.

Serial No.		Bacterial Count.
734	Raw	450,000
735	Pasteurized	7,000
737	Cooler	10,000
738	Bottler	10,500
739	Bottle uncapped	8,600
740	Bottle capped	50,000

PLANT 21

May—Temp., 150° F.

Serial No.		Bacterial Count.
1240	Raw	1,900,000
1241	Pasteurized 150° F.	8,000
1242	Cooler	9,000
1243	Bottle uncapped	9,300
1244	Bottle capped	16,000

PLANT 32.—TYPE D MACHINE—CONTINUOUS

May—Temp., 162° F.; cooled, 42° F.

Serial No.		Bacterial Count.
1139	Raw	1,500,000
1140	Pasteurized 162° F.	2,200
1141	Cooler 42° F.	1,500
1142	Bottler	2,000
1143	Can	8,500

PLANT 35.—TYPE B MACHINE—CONTINUOUS

January—Temp., 164° F.; cooled, 50° F.

Serial No.		Bacterial Count.
98	Raw	701,000
99	Pasteurized	2,300
100	From cooler	6,000
101	Bottled and capped	10,000

PLANT 51—TYPE E MACHINE—HELD 20 MINUTES

August—Temp., 143° F.

Serial No.		Bacterial Count.
2999	Raw	21,000,000
3000	Pasteurized 143°	56,000
3001	Held 20 minutes	less than 1,000
3003	Bottle filler	18,000
3004	Bottle uncapped	16,800
3005	Bottle capped	17,900

PASTEURIZING MACHINES

* Type A.—A jacketed cylinder. Milk flows in at bottom, upward through center of cylinder and out at top. The jacket is filled with live steam.

† Type D.—Milk flows straight down over a heated cone.

‡ Type B.—A hollow cylinder with metal core. Milk flows in at bottom, upward in a thin stream between the core and jacket, and out at top. Heat is applied from outer jacket.

§ Type E.—Milk flows down in a spiral groove over a heated cone.

|| Type F.—A long trough in which hollow revolving disks are set at right angles to axis of trough. Disks are filled with steam. Milk flows along trough and is retarded by the disks.

Holding device may be attached to any of these types.

is this true when there are numerous small dealers to be covered who cannot afford the services of a bacteriologist. Nevertheless, it is obvious that this point should be closely studied and the effort made to reduce the recontamination to a minimum. It is of course a bacteriologic problem, and should be handled by a trained bacteriologist rather than by the ordinary milk inspector who has had little or no laboratory experience. That there is much recontamination still going on in Chicago is to be expected considering the fact that the work of pasteurization is at present in a transitional stage.

The control of conditions at the pasteurizing plant, however, is fairly simple compared to the control of the conditions under which pasteurized milk is marketed. In a large city, this feature of the work is necessarily difficult. It means the additional necessity of securing proper methods of cooling, of preventing the practice of selling kept-over samples, and of educating the entire milk-producing and distributing industry in the proper care of the pasteurized product. It involves the uprooting of old preexisting practices, which have been in vogue for years and are therefore extremely difficult to eradicate.

From a study of the accompanying monthly averages of the bacterial counts of raw milk, pasteurized milk from plants, and pasteurized market samples collected in Chicago, it appears that the general run of the pasteurized market samples is considerably higher than that of the samples from plants, and that in a general way the bacterial counts of market samples follow closely the temperature curve of the weather.

TABLE 2.—MONTHLY AVERAGES OF BACTERIAL COUNTS, JANUARY TO JULY, 1910

	Total Examinations.	Average per c.c.	Per Cent. Below 500,000.
January, 1910.			
Pasteurizing plants	41	40,700	100
Pasteurized market	112	277,800	84
Raw	64	1,067,000	45
February, 1910.			
Pasteurizing plants	41	213,000	88
Pasteurized market	155	938,000	69
Raw	61	1,768,000	46
March, 1910.			
Pasteurizing plants	80	334,000	85
Pasteurized market	154	1,580,000	45
Raw	17	1,664,000	35
April, 1910.			
Pasteurizing plants	36	124,000	94
Pasteurized market	120	694,000	78
Raw	43	5,948,000	70
May, 1910.			
Pasteurizing plants	39	79,700	95
Pasteurized market	76	1,273,000	63
Raw	61	4,892,000	57
June, 1910.			
Pasteurizing plants	28	371,000	75
Pasteurized market	66	1,492,000	53
Raw	44	4,507,000	25
July, 1910.			
Pasteurizing plants	74	185,000	95
Pasteurized market	129	3,106,000	49
Raw	588	12,235,000	19

During the month of January, 1910, the average bacterial count of market samples was 277,800 per cubic centimeter; in February, 938,000 per cubic centimeter. In March, which was an unusually warm month for this time of the year, the average rose to 1,580,000 per cubic centimeter. With the cool weather of April it fell to 594,000, and in the warmer months of May and June reached 1,273,000 and 1,492,000 per cubic centimeter respectively, while in the heat of July the average of market pasteurized samples reached the excessive figure of 3,106,000.

Obviously the control of the marketing of pasteurized milk in Chicago is still unsatisfactory, although it should be noted that the averages of this product are in every instance lower than those of the raw milk for the corresponding period, and that the percentage of samples, which may be considered reasonably safe (under 500,000 per c.c.) is much greater in the pasteurized series than in the raw.

The lesson to be drawn from the above figures is clearly that the temperature at which the product is delivered or sold must be subject to control, as well as the process of pasteurizing, if a safe market product is to be supplied to the consumer. This can probably best be attained by the passage of an ordinance establishing a maximum temperature, say 50 F., at which milk may be transported, sold or held for sale. Until such a measure is obtained in Chicago, it is manifest that there will continue to be undue multiplication of bacteria in the interval between pasteurization and delivery to the consumer, especially during the warmer months of the year. Such an ordinance has been advocated during the past few months—and is now scheduled to come up for passage during the fall of 1910.

A study of the more detailed monthly reports[2] from which the above-mentioned averages are derived is interesting in that it gives a better idea of the general run of the bacterial counts, and brings out more sharply the contrast between the raw and pasteurized series.

TABLE 5.—PASTEURIZED SAMPLES, FRESHLY BOTTLED AND ONE DAY OLD, TAKEN FROM PLANTS

101	Freshly bottled	10,000
102	One day old	1,200,000
124	Freshly bottled	37,000
125	One day old	70,000
174	Freshly bottled	8,000
175	Freshly bottled	3,600
176	One day old	3,500
177	One day old	404,000
212	Freshly bottled	25,000
213	Freshly bottled	45,000
214	One day old	18,000
215	One day old	94,000
297	Freshly bottled	1,380,000
299	One day old	4,800,000
298	One day old	256,000
334	Freshly bottled	92,000
335	Freshly bottled	127,000
336	One day old	182,000
337	One day old	210,000
353	Freshly bottled	21,500
354	Freshly bottled	24,500
355	One day old	800,000
356	One day old	800,000
422	Freshly bottled	12,000
423	Freshly bottled	14,400
420	One day old	36,500
421	One day old	45,000
433	Freshly bottled	116,000
434	Freshly bottled	135,000
435	One day old	315,000
436	One day old	372,000
467	Freshly bottled	43,500
468	Freshly bottled	32,900
469	One day old	760,000
470	One day old	470,000

The detailed February report[3] of pasteurized market samples presents another important lesson which must be applied to the control of the marketing of milk, that is, the fact that many of the high bacterial counts in market milk occur as a result of the common practice prevailing in milk depots and retail stores, of selling left-over milk from the previous day's supply. This factor no doubt accounts for more of the high counts in pasteurized market milk than appears in the tables, inasmuch as it is not always possible for the inspector to obtain accurate information as to the age of bottled samples. Table 5, showing the bacterial counts of freshly bottled samples and samples one day old taken from pasteurizing plants, illustrates the extent to which bacterial multiplication occurs under ordinary practical conditions in the pasteurizing establishment proper.

3. For this, see reprints.

To meet this phase of the problem an ordinance has been proposed for passage, which requires that the date of bottling or pasteurizing shall appear on every bottle of milk, both raw and pasteurized, offered for sale in the city of Chicago. This measure, if it successfully passes the city council, will make it possible for the consumer to determine at the time of purchase whether or not a fresh product is being vended.

By way of comparison, in order that the progress already made in the direction of a purer milk-supply may not be lost sight of, Table 6 is submitted showing the condition of the raw milk during the month of July, 1910. These samples were taken entirely from railroad platforms and represent the condition of the milk as it arrives in the city during the warmer weather. The urgent need of protection of the milk-supply is well emphasized by these results, the average of which reaches the enormous figure of 12,548,000 per cubic centimeter.

RAW MILK TAKEN FROM RAILWAY PLATFORMS, JULY, 1910 *

Serial No.	Bacteria per c. c.	Serial No.	Bacteria per c. c.
2187	240,000	2302	150,000
2188	7,850,000	2303	335,000
2189	74,000,000	2304	385,000
2190	6,800,000	2305	810,000
2191	3,350,000	2306	67,000
2192	8,200,000	2350	100,000,000
2193	54,000,000	2351	720,000
2195	8,100,000	2352	100,000,000
2259	11,000,000	2353	685,000
2260	35,000,000	2354	8,800,000
2261	13,400,000	2355	3,350,000
2262	40,000,000	2356	2,400,000
2263	5,200,000	2357	500,000
2264	4,200,000	2358	38,000
2265	100,000,000	2359	3,100,000
2266	145,000	2385	3,300,000
2267	10,000	2386	11,300,000
2268	21,700,000	2387	20,000
2297	1,550,000	2388	295,000
2298	54,000,000	2389	38,000
2300	2,700,000	2390	300,000
2301	300,000	2391	24,400,000

183 Samples; 12,548,000 average bacteria per c.c.

* A portion only of this table is given here; for complete table see reprints.

At the present moment, it cannot be justly claimed that pasteurization in Chicago is under satisfactory control. In fact, little more can be done in this paper than to point out a few important lessons, which are to be drawn from the experiences of the last eighteen months. Results as shown by the some 4,000 bacterial examinations made during the present year are not ideal. Nevertheless, it is our belief that there has been a sufficiently great improvement over the raw product formerly sold in the city to justify the effort which has been expended.

Tumors in Cerebello-Pontine Angle.—T. Schwartz reports in the *St. Petersburg. med. Wochenschrift*, January 14, the details of two cases in which the syndrome was apparently identical and typical of a circumscribed tumor in the cerebello-pontine angle. One patient died before the contemplated operation; the tumor in the other case was successfully removed at two sittings. Borchardt, who performed the operation, has compiled twenty-eight cases from the literature of the last two years with 50 per cent. recoveries. Schwartz states that his experience confirms the necessity for refraining from lumbar puncture in a case of a suspected brain tumor; in his first case although only 10 c.c. of fluid were released, intolerable headache followed and death occurred forty hours later, while removal of the tumor was being considered. In the two cases reported the Wassermann reaction was positive in the blood but not in the cerebrospinal fluid; necropsy revealed nothing suspicious of syphilis in the fatal case. The severe headache had improved and also the pulse under mercury and iodid in this case, evidently from the influence of the medication on the complicating hydrocephalus revealed by necropsy.

INJURIES OF ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF VIOLENCE *

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Subcutaneous or non-penetrating injuries of the abdominal viscera are of such frequent occurrence, and their early diagnosis so important, that it is somewhat surprising that they are not recognized earlier in the majority of cases than is the rule at present. A study of the early symptomatology of these visceral lesions is therefore desirable.

I shall consider only those injuries resulting from external violence of such character as does not produce any surface trauma of the abdomen, or at least leaves only slight evidence of external injury. I shall also further limit my subject by excluding injuries of the urinary tract.

Penetrating wounds of the abdomen naturally point to and make easy, comparatively speaking, the diagnosis of associated visceral lesions. When the internal injury is not accompanied by external abdominal trauma the diagnosis is usually difficult. Damage to other parts of the body often diverts the attention of the physician and the patient and the less apparent early abdominal symptoms are overlooked. Unfortunately, there are no signs that are pathognomonic of visceral trauma. In some instances symptoms appear early, while in others manifestations of the injury are delayed for hours or even days.

Many cases have been reported in which, after having suffered gross injury to some of the abdominal viscera, the patient has worked on for hours at hard manual labor before succumbing. In other cases the severity of the symptoms is often out of proportion to the existing lesions. Intense shock, pain and excessive vomiting may accompany an injury of no moment. The following case illustrates this:

CASE 1.—A. H., aged 45, male, at 4 p. m., four hours after last meal, while prying up the root of a tree with a pick, wrenched himself when the root pulled loose. He did not fall and was not struck on the abdomen. Pain in the splenic region followed immediately. It was sharp and lancinating in character, increased rapidly and was accompanied by nausea and faintness. I saw him twenty minutes after the accident, sitting on the edge of his bed, bending over with his hands pressed against his stomach. His skin was pale, cold and clammy with perspiration; pulse was rapid but fairly strong; respiration short and shallow; temperature 97.6 F. He complained of intense pain in the left hypochondriac region. There was some tenderness in the same region, and marked rigidity of all the abdominal muscles, especially in the left upper quadrant. Peristalsis was quite active and he had vomited once. Leukocyte count was 6,950. All symptoms gradually subsided, rigidity disappearing first. By the next day he was feeling all right except for a little localized soreness.

Cases have been reported in which mistaken diagnoses, based on alarming symptoms, have led to unnecessary operations. Again, the resultant injury often bears no relation to the degree of violence that produced it. Severe visceral lesions may follow slight accidents, and *vice versa*. For these reasons any symptoms, no matter how slight, referable to the abdomen, should be given due weight in any case in which the patient has been subjected to external violence. In no other class of cases is an early diagnosis so necessary. In most instances it

* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

* For lack of space, an extensive table of cases is omitted from THE JOURNAL. It appears in the Transactions of the Section and in the author's reprints.

is life-saving. A delayed diagnosis nearly always means a fatal termination.

In discussing the subject I wish to consider the different elements wholly from the standpoint of their relation to the question of diagnosis, and shall take up:

1. The nature of the violence as a causative factor in the production of the injury.
2. The character and extent of the injury.
3. The symptomatology and diagnosis.
4. Deductions from a synopsis of cases collected from the literature.

As to the nature of the violence: Deaver's classification of the forces which cause injuries to the abdominal viscera as compressive, percussive and concussive, is sufficient. Each variety of violence tends toward certain forms of trauma. Therefore it is most important to ascertain, as definitely as possible, the exact details of the accident. How did the accident occur? Was the injured one's part in the accident active or passive? Was he struck by a rapidly or slowly moving, a large or a small, a hard or a soft object? Was the force great or slight? Was he crushed or run over? Did he fall from a greater or less height, or was he thrown some distance? What part of the body received the impact or the brunt of the violence?

Compressive or crushing violence, according to the way in which it is expended, may bruise, tear or rupture both the hollow and the solid viscera. When the violence is in the nature of a crushing force, a steady direct compression, the solid viscera can be crushed or torn, and the hollow ones can be torn, bruised or have their blood-supply damaged.

Compression applied over the abdomen in a progressive manner, as when the body is rolled in a narrow space between two objects, or run over by a heavy-tired automobile, may burst a loop of intestine. The solid or hollow organs may be torn loose from their supports in the same way. These injuries are possible also when the compression is produced by the forcible doubling up of the body, as in railroad accidents or when the subject, caught in a stooping or sitting position, is crushed by a heavy weight falling on his head or shoulders.

Extreme or violent muscular action can, under certain conditions, produce visceral injury.

By percussive violence we mean that received from the impact of a rapidly moving object. Horse kicks, a blow from a piece of wood thrown from a circular saw, or flying objects in an explosion, are examples of percussive violence. This form of violence may rupture the solid viscera and likewise the hollow organs, if they are distended at the time of the injury.

Both compressive and percussive force produce visceral trauma by direct violence.

When the impact of the violence is received on any part of the body other than the abdomen, visceral injury may result from concussion, or as one might say, by *contre-coup*, the force being indirect or transmitted. In this way the solid organs and the hollow viscera, when heavily loaded, can be torn loose at their point of attachment, the tears often extending into the substance of the organ. The following case illustrates the results of concussive violence:

CASE 2.—R. T., aged 28, male, at 11 p. m. was thrown from a rapidly moving automobile, was struck on his shoulder but not run over; was able to crawl to the street curb and vomited before he reached it; was brought home in a state of collapse and was unconscious for two hours. He was ashy pale and vomited persistently. He complained of great pain in the upper abdomen and gave all the evidences of shock. There were bruises on the head, right shoulder and on the back near the right hip, none on the abdomen.

I was called in consultation the fourth day, two hours before death. The man was almost moribund and gave all evidences of profound general peritonitis. He had facies abdominalis to a decided degree. The abdomen was distended to its fullest extent and was tender all over. There was an entire absence of peristalsis. The liver dulness was obliterated and there was some dulness in both flanks, but the patient's condition did not allow me to determine if it was movable or not. The pulse was rapid and thready, about 140, temperature over 102 F.; respirations were shallow. The patient complained of great general pain and had vomited recently, what the doctor called stercoraceous matter. I was allowed only a partial post-mortem examination. No bruises or ecchymoses on the abdomen. The abdominal cavity was full of fluid blood and clots and there had been general peritonitis. There was a tear, about an inch and a half long, in the liver along the falciform ligament. I could find no other lesion.

Sometimes the mere forcible jolting or jarring of the solid viscera causes rupture of their substance. This is more likely to occur if the organ is enlarged or softened by any morbid state. Wind concussion from explosions is another possible source of visceral injury.

Certain circumstances tend to lessen the liability to intra-abdominal injuries from external violence. The amount of clothing will sometimes soften the force of the blow, and at least prevent the occurrence of any surface traumatism. A fat abdominal wall will lessen the liability to injury from percussive force, while it might increase the danger if the force was either compressive or concussive.

CASE 3.—R. B., aged 62, male, weight about 200 pounds, railroad superintendent, at 6 p. m., six hours after eating, accidentally fell or slid from the seat of a farm wagon. He dropped forward on the flank of the near horse, striking on the left lower ribs and upper abdomen. He fell only about three feet and struck against the rounded soft rump of the horse, and then slid off to the ground, landing on his knees. He was helped up and carried to the nearest house, a few rods away. He complained of intense pain in the region of the stomach. The doctor who saw him thirty minutes later found three lower left ribs fractured posteriorly and gave morphin to relieve pain in the upper abdomen. There were no marks of violence on the surface of the abdomen.

I first saw the man at 4:30 p. m. the following day, twenty-two and one-half hours after the accident. He was then lying on his back, slightly propped up in bed, with his knees drawn up. The expression on his face was anxious and indicative of suffering. The respirations were shallow and rapid; the pulse could scarcely be counted; temperature was subnormal. He was still vomiting and the abdomen was much distended and rigid. There was total absence of peristalsis. Great irritability of the bladder and constant desire to urinate were present. The patient's mind was slightly clouded, but he would rouse up enough to answer questions. There was great restlessness, with constant moving of the hands and arms. I made a diagnosis of rupture of the spleen and advised an immediate operation. Sudden collapse occurred soon after and the patient died before anything could be done, twenty-four hours after the accident. I was allowed to make a post-mortem examination of the abdomen only. The abdominal cavity was full of fluid blood and clots. There were two ragged tears near the upper border of the spleen. Death was due to hemorrhage.

I am sure that the weight of the patient and his fat abdominal wall influenced materially the results of what otherwise would have been an accident of no moment.

If the abdominal muscles are contracted and rigid in anticipation of a blow, as in athletic contests, the viscera are less likely to be injured than if the violence is unexpected and the abdominal wall is relaxed and soft.

The likelihood of internal injury being caused by external violence is materially influenced by the con-

dition of the viscera themselves. The presence of morbid conditions in any organ greatly increases its liability to injury. An enlarged viscus, by its increase in size and weight, offers, as one might say, a larger target. A congested or softened spleen, or an inflamed and edematous intestine, is much more easily torn than a normal one. Adhesions resulting from previous inflammations, by abnormally fixing any organ, may increase its liability to injury from violence. One of my own cases is illustrative:

CASE 4.—D. R., aged 61, male, dairyman, with history of having been gored in the abdomen by a bull twenty years previously, about 4:30 p. m., four hours after last meal, was stooping over to bandage a horse's leg and received a kick on the shin. As he straightened up he was squeezed between the horse's flank and the side of the stall, the abdomen receiving the brunt of the violence. When helped to his house a few minutes later he complained of great pain in the lower abdomen, over and above the bladder. He was nauseated but did not vomit. He looked ashy pale and the skin was cold and clammy. When first seen, about half an hour after the accident, he was lying still with his legs flexed. He complained of intense pain in the lower abdomen and of feeling chilly. There was marked general rigidity of the abdominal walls and the greatest tenderness was in the left lower quadrant. No dulness could be demonstrated. Peristalsis was absent and there was irritability of the bladder. The patient still gave some evidence of shock, but the pulse was of fair quality and its rate only slightly increased. Respirations were short and shallow. A diagnosis of probable visceral injury was made, and immediate exploratory operation was advised but refused. The patient could not pass urine and was catheterized. The urine was negative and contained no blood. Nausea continued, followed after ten or twelve hours by vomiting. Absence of peristalsis persisted and there were no bowel movements. Abdominal distention commenced in four or five hours. The pain over the bladder steadily increased. By 8 o'clock next morning, about sixteen hours after the accident, the pulse was 115 to 120 and thready, and the temperature was over 100 F. The abdomen was much distended, tender and rigid. Death occurred about fifty-six hours after the accident.

Post-mortem examination, made by Dr. Stanley P. Black, disclosed general peritonitis with extravasated intestinal contents. The intestines were more or less adherent from inflammation following the accident of twenty years previous. On the right side an adherent loop of the small intestine had been torn at the point of adhesion, an opening slightly over 1 inch in length being present.

A stomach distended with food, fluid or solid, or with gas, is more easily bruised or torn than an empty one. Therefore the relation of the time of the last meal and stool to the time of the receipt of the violence is of importance.

The part of the body impinged on, when violence is received, materially influences the nature of the resulting injury.

If the blow is delivered on the lower abdomen, injury to the small intestine, sigmoid or caput coli, may be suspected. Blows on the upper abdomen are not apt to injure the intestine unless received in the middle line and so directed as to crush the intestine against the spine, in which case the omentum and mesentery are also frequently involved. Violence received in either loin offers little danger to the intestines, except possibly the colon or duodenum, on account of their more fixed relations.

Force applied to the upper abdomen in the middle or on either side, as well as when delivered in the lumbar region, may injure the liver, spleen or pancreas.

Violence, of a crushing or gliding nature, delivered on the abdomen, too high for the intestines or too low for the liver or spleen, most frequently injures the mesentery.

A blow over a hernial sac, containing an intestinal loop, is often productive of injury to the intestine.

The character and extent of the injury to the viscera will depend on the nature and degree of the force, its application and the condition of the abdominal contents at the time of the accident.

The injury may be in the nature of a contusion, a crushing of the tissues, a tearing or a rupture of any of the viscera or their supports and attachments. It will also vary according as the organ affected is hollow or solid.

The damage may be direct and immediate to the organ itself, or it may be indirectly caused by injury to the blood-supply of the viscera affected.

The extent of the lesion will vary greatly. It may range from a slight bruising or abrasion of the peritoneal covering of the part affected to an extensive laceration of the substance, or even more or less complete disintegration of the whole of the viscera involved.

The state of the abdominal walls and the condition of the abdominal contents materially influences the degree and extent of the injury.

In considering the nature of these abdominal injuries, it is well to take up the different organs separately, dividing them into two main classes, the solid and the hollow viscera.

The solid viscera may be bruised, crushed or torn. A rupture of a solid organ is practically the same as a tear, except as to the mechanism of its production.

According to most authorities, the liver is the most commonly injured of the solid viscera, except, of course, the kidneys, which I am not considering, but in the accompanying series of cases collected from the literature, injuries of the spleen outnumber those of the liver. The liver may be crushed when the compression force is severe and applied directly over the region of this viscus, but this form of injury is not so common as the tears resulting from indirect violence, in which case the rents occur at or near the attachment of the supporting ligaments. Another form of tear is practically a rupture of the liver tissue resulting from extreme jarring or shaking of the organ. This is more apt to occur if the liver is enlarged or softened.

The spleen is subject to the same traumatisms as the liver, except that rupture of the splenic pulp is, by far, the most common form of injury to this organ. The spleen is so much smaller and lighter than the liver that it is less likely to have tears in its substance resulting from traction on its supports. Its small size, deep-seated position, and its surroundings, also afford greater protection against direct crushing.

The enlarged spleen is much more liable to injury than a normal one. Consequently splenic injuries are more common in tropical or malarial countries. According to Cantlie, most of the tears or ruptures of the spleen occur on its inner surface, especially when the organ is enlarged, owing no doubt to the fact that the outer surface is tougher than the inner one. "A spleen can therefore have its inner surface ruptured by a blow on the abdomen over the splenic area, without any evidence of injury on its outer surface." This is due to concussion.

The normal spleen is most likely to rupture at the height of its functional activity, *i. e.*, some hours after eating.

Traumatism of the pancreas seldom occurs and is usually associated with injury of other organs.

The omentum and various mesenteries can be torn, bruised or crushed, but an injury to them is generally

associated with corresponding traumatism to the intestine or other organs.

In women it is always well to remember the possibility of rupture of ovarian cysts or ectopic gestation sacs.

The hollow viscera liable to injury are the stomach, intestines, gall-bladder and ducts, the thoracic duct and the large blood-vessels.

The stomach may be torn in any of its parts, but the most common seat of injury is near the pyloric end. The tears may be small or extend completely across the stomach. When the latter occurs, it is always at the pyloric end (Deaver). The stomach is so well protected by its surroundings that it is seldom injured except when distended with food or gas, and in most instances injury of the stomach is associated with trauma of the liver or other viscera.

The intestines may be torn, crushed or ruptured. The injury may be slight or extensive, single or multiple, and may involve any portion from the pylorus to the rectum. The more fixed parts of the small intestine are most frequently affected, the upper end of the jejunum and lower ileum furnishing about 75 per cent. of all intestinal injuries, the duodenum nearly 5 per cent., the large intestine a little over 3 per cent., while 17 per cent. covers other parts of the small intestine. The extent of the rupture or tear is generally in proportion to the degree of violence.

When the intestine is crushed or torn by traction on its fixed points, the tear may be large. When it bursts from localized hyperdistention of one of its loops, resulting from external compression, the perforation in the inner coat is generally small and round, while the peritoneal coat is torn to a much greater extent, just as is seen in a blow-out of an automobile tire, the inner tube showing only a small opening while the outer casing is ripped open for several inches.

Tears and contusions of the intestine generally occur near its mesenteric attachment, while ruptures are usually found opposite the mesentery. When a loop of intestine, contained in a hernial sac, is injured, the lesion is apt to be single and in many instances the damaged intestine, as soon as it is relieved of its distention by leakage of gas and fecal contents, drops back into the abdominal cavity, leaving the hernial sac soiled with the extravasated matter.

Rupture of the gall-bladder or of the bile ducts is rare, occurring most frequently in the presence of stones or some prior pathologic condition of these viscera, and is almost always associated with trauma of the liver. According to Deaver the cystic duct is the part most commonly affected.

As it is an accepted fact that an early diagnosis is absolutely necessary if anything is to be done in these cases, the symptoms of the first few hours are the important ones. The later manifestations, coming on when the patient is beyond relief, are so easily appreciated that a discussion of them is not needed. I shall therefore confine myself, as much as possible, to the consideration of these earlier signs.

The fact that the symptoms vary so much and that none is constant, makes an early diagnosis, in most cases, a matter of extreme difficulty. In many instances it is practically impossible. For these reasons a diagnosis of suspicion or presumption should be adhered to until the element of internal injury can be positively eliminated.

Unfortunately, the severity of the early symptoms does not always correspond to the degree of injury. An extensive trauma may be followed by only slight primary manifestations. On the other hand, injuries of much less degree are often associated with a display of most alarming symptoms.

The train of symptoms is really governed more by the nature than by the degree of the trauma. In injuries of the solid viscera shock and signs of hemorrhage predominate, while a tear of the intestine or stomach is followed, more or less quickly, by the evidences of peritonitis. Where the intestine is simply bruised, without any perforation of its coats, or its mesentery injured the peritonitis may not develop until a necrosis permits leakage of its contents.

Pain is probably the most important symptom; not that it is the most constant or dependable one, but because it is generally the first and because it is the symptom that appeals most to the patient and influences him to apply to a physician for help. Unfortunately, it is often very slight and does not last long. It may be immediate or not appear for hours. Its relation to the degree of trauma is not a constant one, often being present in inverse ratio to the amount of injury. The character and severity of this symptom varies greatly. It may be slight or intense and agonizing. It is not like the pain of the ordinary functional or inflammatory abdominal troubles, but is like the pain that accompanies ruptured extra-uterine pregnancy, sharp and lancinating, as if something had given away or torn loose. It is often described by the patient as deep-seated and radiating. It is the pain of torn peritoneum and not that of inflammation, which appears later. The degree of the initial pain is often much influenced by the amount of shock present. In extreme shock the patient often makes but little complaint of pain, but as reaction sets in and the shock lessens, appreciation of his suffering becomes more evident.

The initial pain is generally localized, either at the site of the injury or at some point more or less distant, even beyond the region of the abdomen. The secondary or inflammatory pain follows the course of the extravasated blood or visceral contents, and as a rule is more generalized. Therefore this initial pain is important only as it calls our attention to the fact that an injury has occurred and that it may, by its location, indicate the probable site of the injury.

Next to pain, shock, varying in degree, is the most common accompaniment of intra-abdominal injuries. Like pain, it does not bear a constant relation to the gravity of the injury, but generally speaking the greater the injury the more profound the shock. The mere presence or the amount of initial shock, *per se,* is of no real diagnostic value and if profound often obscures rather than helps to make a diagnosis. Contrary to this, its progress or course is of the utmost import from a diagnostic and prognostic standpoint.

Rupture of hollow viscera is likely to be associated with early and deep shock, from which the patient rallies, except in the few instances in which the nature and extent of the injury is sufficient to cause death quickly. On the other hand, lacerations of the solid organs, in which hemorrhage is the cause of the symptoms, produce shock, which though slight at first steadily increases as the hemorrhage continues.

Progressively deepening and secondary shock are most serious manifestations.

Nausea and vomiting are often early symptoms, but as a rule do not appear until a short time after the occurrence of the accident. Early vomiting is not of much importance, but persistent or late vomiting is usually indicative of serious injury. The quality of the vomitus

will sometimes aid in diagnosis. The presence of blood in it will indicate trauma of the stomach or duodenum, but its absence will not exclude injury of these viscera. In large tears of the stomach vomiting is likely to be absent, or if present may or may not contain any blood.

Tenderness, either local or general, is commonly found. If early it is usually quite marked over the seat of the visceral injury. Later on when peritonitis intervenes, after rupture of the stomach or intestines or following marked hemorrhage, the tenderness, together with the pain, becomes general or may appear at a point quite distant from the site of the injury.

Another symptom closely associated with tenderness is rigidity. This may vary from a slight local stiffness or tenseness of the muscles to a board-like rigidity of the whole abdominal wall. This condition, in degree, bears a more definite relation to the amount or seriousness of the internal injury than any other manifestation. As a rule it occurs early and from that standpoint, although it may last only a short time, is of the utmost importance in helping to a timely diagnosis. When localized it bears a general relation to the site of the injury and often, in the absence of other leading symptoms, indicates the part of the abdomen to approach in operative procedure. Where there is general rigidity close observation may distinguish a greater resistance in some one part than in others. A board-like rigidity of the whole abdominal wall, when associated with shock, vomiting and pain, following any form of external violence, is always to be taken as presumptive testimony of serious injury. According to Deaver the so-called "checkerboard" abdomen is almost pathognomonic of grave intra-abdominal lesions.

Some rigidity may be present with bruising of the abdominal walls, but it does not progressively increase. Usually it is not apparent under light palpation, appearing only when pressure is made on the bruised and tender muscle.

Distention is generally a late accompaniment of trauma of the abdominal viscera. When it appears early, to any extent, it usually means gross injury with extensive extravasation of intestinal contents, both fluid and gas. The distention that appears later and comes on gradually is the result of intestinal paralysis, the earliest sign of which is lessening or cessation of peristalsis. This diminished or absent peristalsis is, to my mind, one of the most important signs that we have, though in the cases reported and in the articles written on this subject it is rarely mentioned, but one or two writers laying any stress on it. I think I place more dependence on it than on any other symptom, not only in the class of cases under consideration, but in the matter of diagnosis of all acute inflammatory and accidental troubles of the abdominal cavity, whether of internal or external origin. I think auscultation is as important as an aid to diagnosis in abdominal diseases as it is in those of the chest, and yet I know of no other means of examination that is so universally neglected. O. C. Gaub of Pittsburg has shown experimentally that peristalsis is obliterated very quickly, after a blow on the abdomen, to return inside of a few hours if the resultant injury is not serious. He reports some cases, in which operation was performed in the presence of peristalsis, other symptoms indicating visceral trauma, in which no injury could be found. Claybrook also emphasizes the importance of this symptom.

Early aperistalsis may only indicate that the abdomen has received some shock or violence, and does not necessarily show that an injury has been done, but if three or four hours after the violence, when reaction has taken place, there is still silence on auscultation and this condition persists, it is almost conclusive proof that the injury is of some moment. When aperistalsis recurs, or when it commences some hours after the receipt of the injury, it is always indicative of serious trouble. It appears more promptly and is more complete and persistent with perforations of the intestines than when associated with other visceral lesions.

Dulness on percussion is not a very dependable sign. If a movable area of dulness can be positively demonstrated, it is good proof that a quantity of fluid, blood or intestinal contents, is free in the peritoneal cavity. But a moderate amount of gaseous distention will obscure it and fresh adhesions will prevent the movement of the fluid when the body position is changed. The absence of liver dulness, asserted by some to be almost pathognomonic of intestinal perforation, is certainly deceptive.

The expression of the patient's face is of prime importance; the so-called facies abdominalis is a frequent accompaniment of serious visceral lesion. It is not a part of the symptom-complex of shock and, as a rule, does not appear until reaction sets in. It is rarely absent, but it may be present to only a slight degree. It is practically always absent when the injury is trivial. The expression is one of distress and anxiety, as if the patient were conscious of impending danger.

Early restlessness is common, especially when the amount of shock is slight. On the other hand, the patient lies quietly if there is profound shock, or, when, later, the peritoneum is inflamed. A reclining posture is generally assumed, the patient lying on his side with the thighs flexed, or he may sit up, leaning forward, with the knees drawn up toward his chin.

Thirst is quite common, especially when there has been much hemorrhage. In a few cases bowel movements occur early, but when the injury is of any extent, especially when the intestine is involved, the paralysis of the intestine precludes all possibility in that direction. A movement containing blood, if it does occur, may be of some value, according to the nature of the blood, in determining the location of the intestinal injury.

Irritability of the bladder is a common and moderately early symptom, commencing as soon as the pelvic peritoneum is irritated by the presence of a quantity of blood or infected by escaped bowel contents. It is in reality one of the earlier manifestations of a commencing general peritonitis, septic or otherwise. The urine in most instances will be negative unless the bladder or kidneys are involved, therefore its examination is useful only in eliminating the question of injury to these organs.

The temperature and pulse are those of shock, internal hemorrhage or peritonitis. The initial temperature is apt to be subnormal, rising as reaction sets in and going above normal with the development of peritonitis. An early, rapid and marked rise of temperature following abdominal injury is suspicious of intestinal rupture and leakage. A secondary fall of the temperature, to below normal, is indicative of serious trouble (Le Conte).

The pulse is variable, rapid, weak and thin if there is much early hemorrhage associated with shock. A pulse, of good quality at first, steadily losing in strength and quality, indicates progressive hemorrhage. According to Le Conte, a steadily rising pulse, after reaction has taken place, is a bad sign, but it must be associated with other symptoms to be alarming.

Dirt marks and tears of the clothing are of value, as are also superficial bruises, in determining the nature of the violence and its point of impingement, and should

always be investigated, for, in the absence of a definite history of the accident, either may be the decisive factor.

While an accurate or differential diagnosis is not essential, still it is desirable, to say the least. What is essential, however, is the ability to recognize that certain combinations of symptoms are presumptive of pathologic conditions which, if left to themselves, will jeopardize the life of the patient. It is not necessary to say that the intestine is torn or the spleen ruptured to be justified in advising operative treatment. To know, however, that some viscera has or has not been injured enough to necessitate operation is what is demanded.

A careful study of the initial symptoms, the character of the violence, and the part of the body receiving the force, should indicate the region of the abdomen containing the injured viscera.

A differential diagnosis, other than a presumptive one, is an extremely difficult matter, but certain symptoms when present are of differential value.

As stated before, an early appearance of signs of peritonitis is indicative of injury to a hollow viscus, while symptoms of hemorrhage point to trauma of one of the solid organs. In the latter case peritonitis is generally a late manifestation.

In rupture of the pyloric end of the stomach or of the duodenum the initial pain will be epigastric, but a little later is apt to be referred to the right side in the region of the appendix, as has been pointed out by Moynihan, in duodenal perforation from ulceration.

When the tear is near the cardiac end the pain will be more on the left side, gradually becoming lower as the extravasated stomach contents gravitate along the descending colon. If the tear is in the posterior wall the leakage is into the lesser peritoneal cavity, the resulting peritonitis is limited, and the accompanying pain is also more or less localized. The local pain of a ruptured stomach is often described as gnawing or burning in character.

In ruptures of the intestines the primary pain is usually local, but quickly becomes general. The lower in the intestinal tract the perforation occurs the more intense will be the peritonitis.

An empty condition of the stomach and intestines defers the appearance of peritonitis. When necrosis of the intestine follows injury to its mesentery, the sudden onset of symptoms, accompanying perforation, frequently occurs just after the ingestion of food.

The obliteration of peristalsis is one of the most important signs of perforation of the intestines or stomach. It is a most constant symptom and rarely absent.

The primary symptoms of injury of the mesentery are those of hemorrhage.

The pain of liver injuries is more or less influenced by anything which involves movement of the diaphragm, especially when it is sudden or excessive. It is intensified by hiccoughs and vomiting. Inspiration increases it and accordingly respiration is embarrassed. The pain is often referred to the right shoulder.

In injuries of the spleen precordial pain is often present and sometimes the pain is referred to the left shoulder. Air hunger and shortness of breath are prominent. Ballance's sign, dulness movable on the right side but not on the left, due to the formation of clots near the spleen, may be present when the splenic hemorrhage is slow.

When the pancreas is ruptured, torn or crushed, the hemorrhage or fluid accumulating in the lesser peritoneal cavity may create a cyst-like tumor. The pancreatic secretion induces peritonitis very quickly. The early presence of sugar in the urine is suggestive of pancreatic involvement.

The symptoms of rupture of the diaphragm are those of diaphragmatic hernia, but as the former is ordinarily associated with trauma of other viscera, its manifestations are obscured and it is practically never recognized before operation or autopsy. However, the signs of pneumothorax following an abdominal injury, when the usual causes of air in the pleural cavity can be excluded, point to a possible tear in the diaphragm. Hiccough also suggests injury to the diaphragm.

Rupture of aneurysm of the abdominal aorta or of any of the blood-vessels produces symptoms practically similar to those of rupture of the stomach, but in most instances death follows quickly. If the rupture of the vessel is not complete and a traumatic aneurysm is produced, the symptoms, although intense at first, do not progress as when the stomach or intestine is torn. The signs of peritonitis are lacking.

I have collected reports of some 350 cases of subcutaneous injuries of the abdominal viscera. Of these only 290 were available, as the rest were so lacking in details as to be of no use whatever. I have used those cases only in which actual visceral injury was either verified or disproved by operation or post-mortem examination. Of those tabulated* only a small proportion contained sufficient accurate data on which to base any deductions. Most of them were inaccurate and indefinite. Fully 20 to 25 per cent. did not mention or were indefinite as to the time of operation after the accident. About 2 per cent. left one in doubt as to whether the patient lived or died.

In the following figures I have added, to the 290 tabulated cases, three of my own reported in this paper. The causes of injury were as follows:

Explosion, 1; strain, 4; blows, 86; kicks, 51; run over, 38; falls, 53; thrown, 15; crushed, 42; not stated, 3.

The intestine was affected 181 times; liver, 22; spleen, 45; pancreas, 25; omentum or mesentery, 14; diaphragm, 5; ovarian cyst, 1.

Pre-operative or antemortem diagnosis was stated as made in 101 out of the 293 cases. Of these 101 diagnoses 28 were general, 17 were probable, 38 were accurate and 18 were wrong.

Of the 18 incorrect diagnoses, most were wrong as to the nature or location of the injury and not as to the fact.

In 9 cases the reporters frankly stated that no diagnosis was made, while in 183 cases the matter of diagnosis was not even mentioned. It is to be presumed that a diagnosis was not made in these cases.

In percentages, no diagnosis, 65.5 per cent.; wrong, 6.1 per cent.; probable or general, 15.4 per cent., and accurate or correct, 13 per cent.

One hundred and thirty-two patients died, 155 recovered, and the results were not stated in 6. They were divided as follows:

TABLE 1.—OUTCOME OF CASES

	Intestine.	Liver.	Spleen.	Pancreas.	Omentum and Mesentery.	Diaphragm.	Ovarian Cyst.
Died	94	11	10	10	2	5	0
Recovered ...	82	11	34	15	12	0	1
Not mentioned	5	0	1	0	0	0	0

Of the 293 patients 257 were operated on and 36 were not operated on.

Of the 36 patients not operated on all died.

Of the 257 operated on 96 died, 155 recovered and the results in 6 were not stated.

* As stated in the introductory footnote, the table is here omitted.

TABLE 2.—LENGTH OF TIME WHICH ELAPSED BETWEEN RECEIPT OF INJURY AND OPERATION

Operation following injury.	Total Cases.	Died.	Recovered.	Result Not Stated.
Within the first 6 hours	64	15	48	1
In the second 6 hours	36	12	24	..
In the third 6 hours	29	14	13	2
Over 18 hours	78	35	42	1
Indefinitely stated but presumably early	13	7	6	..
Time not stated	37	13	22	2

In injuries of the intestines the mortality of the patients operated on in the first six hours was 20 per cent.; the second six hours, 35 per cent.; third six hours, 56 per cent., and over eighteen hours, 66 per cent. Of the liver, first six hours, 71.5 per cent.; second six hours, 50 per cent.; over eighteen hours, the mortality was *nil*. Of the spleen, first six hours, 8.6 per cent.; second six hours, 40 per cent.; over eighteen hours, only 16.6 per cent. Early and late operations for injuries of the pancreas resulted in 29 per cent. and 33.3 per cent. mortality, respectively.

No definite conclusions can be reached as to the frequency of the various symptoms, as the majority of the cases were so indefinitely reported.

In the following figures I refer only to the symptoms of the first few hours:

In the reports of 265 cases pain was mentioned 182 times; as decided pain in 147 cases, slight in 29 and absent in 6; it was not mentioned in 83 cases.

Shock was mentioned 94 times; severe in 46, mild in 31 and absent in 17; not mentioned in 171 cases.

Rigidity was mentioned 159 times; marked in 125 cases, slight in 20 and absent in 14 (in about half of the 14 it appeared as a later manifestation); it was not mentioned in 106 cases.

Peristalsis was only mentioned in 5 instances; absent 3 times and present twice; in the two latter cases operation disclosed no trauma.

A study of these statistics will show the following:

The mortality of injuries to the abdominal viscera, from external violence—over 40 per cent.—is much higher than of corresponding lesions resulting from other causes, and is due no doubt to lack of early diagnosis and to operative hesitancy.

The death-rate of early operations averages less than one-third that of late operations.

The more commonly observed symptoms, pain, shock and rigidity, were present early in a large majority of the cases; pain 97 per cent., shock 82 per cent., and rigidity 90 per cent.

Peristalsis, one of the most important signs, was noticed or mentioned in less than 2 per cent.

SUMMARY

Anyone who has been subjected to external violence of such nature as could, either directly or indirectly, produce injury to any of the abdominal viscera, should be given the most careful examination, and be kept under close observation for several days. Any symptom, no matter how slight, referable to the abdomen, must be considered as a sign of possible visceral injury when it follows the receipt of any violence, regardless of the point of impact or the extent of the external force.

The degree of violence bears no relation to the extent or severity of the resulting injury.

A most thorough investigation as to the exact details of the accident is important as an aid in determining the possibility and the nature of any injury.

Blows, kicks, and crushing violence produce most of the intestinal injuries, compressive force is the most common cause of trauma of the liver, and concussion is responsible for most of the splenic ruptures.

The presence or absence of peristalsis is of the utmost importance from a diagnostic or prognostic standpoint. Its early presence indicates that the abdomen or its contents have received some shock or violence. The persistence of recurrence of this sign is conclusive proof of internal or visceral injury. A decided lessening of peristalsis is a danger-signal if it occurs more than three or four hours after the accident. Active peristalsis is always encouraging in the presence of any abdominal injury.

There are no symptoms that are pathognomonic, most of them being common to all injuries, but, in general, progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow tears of the stomach or intestine.

Pain as an initial symptom is important only in that it calls attention to the fact that an injury may have occurred and that it may, by its location, indicate the possible site of the trauma.

Shock possesses no real diagnostic value except as to its progress or course, which is of the utmost importance.

I also wish to emphasize this fact: that an exact diagnosis is not necessary, though it is highly desirable, and that the early recognition of the probability of visceral injury is absolutely essential to lower the death-rate in these cases.

Appreciation of possibilities, or, as Murphy has aptly expressed it, "a keen surgical sense," is what is needed by the doctor who first sees the patient.

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ABSTRACT OF DISCUSSION

Dr. Garry D. Hough, New Bedford, Mass.: There is one diagnostic sign in cases of internal injuries of the abdomen which was not referred to by Dr. Sherk. It is not always present—perhaps in only 30, 40 or 50 per cent. of cases. When present, it tells you exactly where the trouble is located. That sign is the hyperalgesic zone, which corresponds to the injured viscus. In 1893, an Englishman first brought out the fact of a hyperalgesic zone corresponding to disease in an abdominal viscus. When this sign is present, so far as cumulative experience can yet tell us, it is an absolutely certain thing, but unfortunately it is present in only about half of the cases.

Dr. Maurice H. Richardson, Boston: A most important point which is emphasized in this paper is abdominal diagnosis. In an abdominal case, the greater the difficulty of diagnosis the greater the interest, and the greater the satisfaction when exploration shows that diagnosis correct. Except in urgent cases, I take any amount of time necessary to come to a positive conclusion. But there is reason in all things. After violent blows on the abdomen, to wait for symptoms enough for a positive diagnosis is to let pass the only opportunity for successful intervention—so, too, in perforations of the alimentary canal, and in duodenal and gastric ulcer. On the other hand, it may save the patient an unnecessary exploration if the surgeon takes days, or even weeks, to make a diagnosis.

In teaching, I stand for extreme care in diagnosis, especially abdominal—for the exhausting of every symptom in the history, and of every sign in the physical examination, and for the education to the greatest nicety of the powers of observation and deduction, before subjecting a patient to even the slight risks of exploration. But when we come to abdominal emergencies we cannot wait. In large communities, where these acute emergencies are common, we cannot and do not wait for a positive diagnosis. We must feel assured that there is a reasonable certainty that some serious lesion demanding surgical remedy is present. The dangers of the exploratory operation are, of course, slight. I could pick out twenty-five men in this audience whose operations for chronic appendicitis

would number, in the aggregate, at least 50,000, with so small a mortality that it would be a negligible factor. And yet there is a certain risk which should be avoided in advising operation on inadequate study. When a surgeon advises a young girl to have the appendix taken out, and bases that advice on her saying that she has appendicitis, and on a physical examination which consists in leaning across his office table and pressing with his fingers on the right iliac fossa, through the clothing, corsets and all—I call that the extreme of absurd opinion and unjustifiable advice.

In abdominal trauma, whatever the cause, we must not wait until there is muscular rigidity, vomiting and distention. We all know that when these symptoms are present operations succeed only by a miracle. In chronic abdominal disease the benefit of the doubt means conservatism. Study the case with care and deliberation. What you lose in time you gain in prognosis. In acute abdominal emergencies, especially the traumatic, the benefit of the doubt means radicalism. Make the diagnosis with speed and operate immediately. What you gain in time you gain in prognosis. I could give my personal experiences, which have forced me, rather against my natural tendencies, to become extremely radical in the presence of sudden and severe abdominal symptoms, whether traumatic or not. If the surgeon ever needs to be prompt in the application of operative measures for the relief of acute abdominal symptoms, he must be prompt when those symptoms follow violence to the abdominal wall.

THE SECRET COMMISSION EVIL*

J. P. LORD, M.D.
OMAHA

There seems to me to be a greater need to discuss one of the ethical questions agitating the surgical world to-day, than to add another scientific paper. It has seemed to me that specialism, with all the advantages and benefits which it has brought to mankind, enabling specialists to render such distinct service to humanity, and thereby enhancing public confidence and esteem, has not been an unmixed blessing to the professional body. The new conditions, changed relations, variable rewards, and readjustments in the relationships of patient, family physician and specialist, together with new economic conditions, as developed by our numerous public and private hospitals, dispensaries, laboratories, corporation work, indemnity insurance, lodge and society practice, have brought problems for solution by the profession in general, and our specialty in particular. The commercial spirit, with which the present age is now credited, has added another factor, the control of which we, with our somewhat neglected code of ethics, have not kept. The rapid development of specialism, with its special rewards and the keen rivalry incident thereto, has developed a new order of things professional, the ethical adjustments of which have not yet been generally made.

There has been so much said on this subject that it would seem almost puerile to attempt to say more. Indeed, it is not my purpose to try to improve on what has already been so well and so fully presented. Realizing as I do that it is probably true that the practice of fee division, secret division, joint fees, commissions, so-called dichotomy, graft, and possibly obtaining money under false pretenses, is increasing, especially among the younger element, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this moral problem and will yield to the general trend of practice unless some aroused moral force within the profession, or the effect of publicity, checkmates this menace to professional honor, dignity and common honesty. I agree with those who favor publicity as the speediest and most effective remedy. Then, too, we need some Roosevelts to keep up a rapid-fire attack on this practice.

We should maintain a sentiment against any countenance of graft. Its devotees should not be given positions of honor. They should learn the penalty for unfair and unmanly competition. The present standards of membership of this society should prevail, and we would do well to revise our membership lists, since we have a considerable number who do business on a commercial basis. Our body is not in a position to reform the other fellows when we, too, are culpable. Scarcely a man among us is in a position to cast the first stone, but there are many who have recoiled from this thing on the discovery that this temptress had assailed their manhood and their integrity, and that they had actually violated their patients' confidences.

In writing on this subject several years ago I made the statement that the division of fees was not itself so bad as that to which it leads. The road is short and direct to the practice of graft. This may be a seemingly harsh term to apply to some of the more respectable forms of secret fee division. Secrecy, however, makes it dishonest and renders possible all forms of abuse. The results of the practice are so manifestly demoralizing as to cause all those who love their profession and cherish its sacred traditions, and who seek to uphold its honor and good name, to array themselves in opposition to those who seem concerned only for the monetary rewards of to-day.

It has been observed that those practitioners who work on a commercial basis are too prone to lose sight of the patient in their efforts better to serve their immediate selfish ends. Their lack of thorough conscientiousness leads them into questionable methods. They handle cases as merchandise instead of treating them as patients. This causes them to hold on too long before advising operation, and then to recommend operation on a moribund patient. Their zeal to have people operated on who are willing, causes them to work up cases, and this working-up process sometimes is so considerable that they claim compensation for it. The service is often times considered by them of monetary value equal to or greater than the skilled and experienced services rendered by the surgeon, who has possibly made or caused to be made various laboratory tests, and exhausted every resource to complete a diagnosis, and who has done the operating and given the after-care.

The specialists with their hospital connections and the valuable facilities for advanced and successful work, and the resulting wealthy and large clientele, cause the envious to consider that these men have the best of it, and they are willing to adopt grafting as their most ready means to easy money.

The practitioners who have for years adhered to an inelastic fee-bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is somewhat of a law to himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's facile faculty of fee-getting, by requesting the specialist

* Read before the Western Surgical Association, Chicago, December, 1910.

to add a sum for them, as the people would object to paying them a proper amount.

The specialists have often been accommodating in this way, and have saved themselves and the family physician the trouble of explaining the matter to the patient. The country doctor often plays "goody-goody," and says that he will not make a charge for accompanying the case if expenses are paid, of course depending on receiving a part of the specialist's fee. The specialist's fee is, therefore, under such circumstances, unnecessarily large. This gives the patient and all his friends an exaggerated idea of the value of the surgeon's services, and the relatively greater importance of the work of the specialist. The poor country doctor's services, therefore, become diminutive, judged by the cheapness of his fees. In other words, he is overshadowed and has cheapened himself.

Physicians of all classes must learn to make charges commensurate with the value of their services. Fee-bills hinder in this. The fee-bill is the union scale. It bolsters up the incompetent and often prevents the high-class, scientific man from getting his deserts. A hide-bound fee-bill and an increasing lack of appreciation of the practitioner's value, dwarf him, and compel him to resort to questionable methods for playing even. He must learn to elevate his standing by special fees for his improved methods of diagnosis and treatment. These have been acquired, perhaps, by special post-graduate courses, time abroad, and special equipment, and yet his price per visit or consultation is the same as it was twenty-five years ago.

Surgeon's fees may be no greater, but when we come to consider that it is possible for the surgeon to operate on several patients in the course of one morning, which is rendered possible by having the command of an unlimited hospital force, we can readily understand how the net results may be much greater than in the earlier days of surgery. On the other hand, the practitioner finds his work more exacting and painstaking, requiring more time, trouble and expense.

The rapid development of surgery during the last quarter century, with its greater rewards, has attracted so many to its ranks that competition for business has become so keen as to bring about these trade methods. Too many are now occupying the surgical field to be favored with teaching and hospital positions. Therefore, other means must be resorted to for attracting business. This custom of fee division, however, was probably established by some of the very men holding these places, and now their old weapon is turned against them.

Many of our surgeons throughout the country are ready-made after a few weeks at some of our large clinics, and then after self-styling themselves as surgeons and passing word along the line that they are liberal and fair with the general practitioner, they are soon doing business and are not embarrassed by that period of waiting so well remembered by some of us.

Our medical schools have been remiss in their ethical instruction to students. The subject of fee division has been eschewed in some faculties for fear of engendering feeling, developing strife and endangering the integrity of the organization. The same silence has prevailed in medical societies, because it might cost something to speak. Students are now without the close contact that was enjoyed in the days of the preceptor, whereas they now need more of the moral and ethical side than ever before.

Clearly so gross a violation of honesty and ethics, if continued, will lead to greater violations of fair play. If our tendency is to lower levels of conduct, it will be but a question of time until our noble profession will be out of favor with the people. There has never been a time when full confidence is more needed, because the cooperation and confidence of the people is necessary to secure the legislation needed for conserving the public health. This would aid the people in realizing our dreams of health and resultant happiness from the prevention of disease consequent on a universal crusade against violations of hygiene and health, and for the elimination of all preventable disease. A mercenary profession unworthy of public confidence will retard this movement and the unworthy members must be held to account by us and our standards maintained. At present the profession is becoming demoralized and our standards are being systematically assailed. Not only our standards, but those who stand for them, are attacked and their characters and motives are besmirched.

The graft element is going into medical politics and some county societies are controlled by this element. The old guard is discredited and lowered standards set up. The influence of these classes is against the American Medical Association, and their influence is soon to be felt in their organized opposition. The profession of Chicago and some other places do not have to go from home to read the handwriting on the wall.

The demoralization will be more complete when this practice extends to other lines than surgery. The movement has begun, and consultation practice and other specialties are now in the throes of this evil. The practitioner will call a man of sufficient standing to enable him to name a fancy price as the consultant's fee, which he collects and then remits the consultant the minimum fee. Any one of us can verify this by personal experience.

The primary object of fee-splitting is to get business. It is unfair competition. It has been my observation that fee-splitters are bad competitors in other ways. They will resort to other equally devious or questionable means of getting patients. They are usually under-bidders; they lack sincerity; they are dishonest; they do not stop at dividing with physicians; hotel clerks, hack-men, news-agents, bar-keepers, ordinary clerks, traveling men, medical students, priests and preachers—all are represented, though few of the latter classes stoop to this practice. Those who do this will not stop at wilful misrepresentation of men of high character and standing. Physicians go lower and lower who become infected with this vice, and their penchant for easy money becomes their undoing. Their methods become known in a community. Then they sell out, move to another locality, and immediately proceed to repeat their previous methods. These, of course, are exaggerated examples of the grafter, but a physician who grafts at all is not only unethical but also dishonest.

The graft spirit has developed alarmingly within a decade, but a reaction has set in. Encouraging reports of progress have come from Chicago, Minneapolis and St. Paul, and I am pleased to report that a stand has been taken by the faculty of the University of Nebraska and of the Creighton Medical College. Whole states are, however, reported in the grasp of the system. Kansas, Iowa and Missouri, as well as many other states, are affected by it. From Kansas specialists report that division of fees is too mild a term; that the surgeon must now accept what the general practitioner is willing to give him.

Hospital service is now required for graduation by some medical colleges, and considerable numbers who have had hospital training and are qualified tc do surgery go to our smaller cities and larger towns. To gain a foothold, notwithstanding the prestige of college professors and the large denominational city hospitals to meet competition, a resort to fee division and ultimate graft is the easiest course. The wail is going up in every quarter from our less enterprising but more conscientious confrères, and we are now hearing from some of our city brethren, who are beginning to observe the rather alarming prevalence of these methods of finance, exploitation of cases, and the merchandising of patients.

After all of this lugubrious, pessimistic and despairing talk of conditions in our profession I am still hopeful. Physicians as a class are the best people on earth, made so by their education, environment, every-day training in charity and human sympathy.

This evil thing had a very innocent and insidious start. The surgeon wanted to be fair and divided fees that the physician had in part actually earned. Nobody was harmed, for the patient had not been wronged. This seemed innocent enough. Then came the time when the physician collected the fee and told the surgeon that the patient could pay nothing, or could pay but little, and either kept the whole or an undue portion, or took the divided fee and then rendered a separate bill. After this he became money-mad and sought subjects on which to satiate his sordid desires for easy gain. If the honest surgeon turned him down he sought those who would not and he has been busy ever since.

The surgeon who follows the lines of least resistance in these moral matters soon finds himself in the grasp of the system. Many very good, but quasi-respectable, men follow this practice, persuading themselves that the doctor cannot be paid too much, and uphold the practice because it suits their convenience and is more profitable. Then, too, they say, "What's the difference?" The difference is most keenly realized when you have to tell your son, as I have mine, that our profession is becoming commercialized.

The prospects, therefore, are not encouraging for the profession, and we are compelled to admit that it is not what it once was. Its ideals are lowered. Its ethics may not be maintained and the best men under these conditions will not be eager to enter it.

Such courses, if pursued, will cost the profession its influence, cause loss of respect and confidence on the part of the people. Overcrowding and commercial competition will cheapen services and with the increase of endowed hospitals, dispensaries and laboratories, rewards for scientific medicine will be reduced. The general profession, which is already overshadowed by specialism will then be in hard lines. Every time a physician fails to make a proper and independent, self-respecting charge for the services rendered by him in the making of a diagnosis, recommending an operation, accompanying a patient to a hospital, being present, or assisting in an operation, he belittles himself, unduly aggrandizes the surgeon and discounts his own future usefulness, making it that much harder for those who follow him.

To be respected the physician must be self-respecting and respectable. He is the surgeon's friend and the surgeon will help him, if he wishes, to be independently, adequately, and respectably paid for his valuable services to the patient and to the surgeon as well. Division of fees is wrong, dishonest, and must be stopped for the good of all concerned. It has been my settled conviction for a long time that the physician is the ultimate loser by this practice, no matter how immediately profitable it may be to him. He is becoming dwarfed by his own short-sightedness and asphyxiated by a noose which was cast about him by a crafty specialist, perhaps, but which he himself is now tightening about his own throat.

There has been more harm done than can be overcome in a generation. Delayed action means more sacrifice. The organized profession should busy itself in reformation and take its stand in medical colleges, hospitals, and societies, and as individuals and organizations, educate the public and reform our own members. The most hopeful view may be taken of the result. Any practice which even smacks of graft, or of obtaining money under false pretenses, cannot endure before a righteous public opinion. Nor will it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority, during all the ages of the history of medicine.

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THE TREATMENT OF ANTEFLEXION OF THE UTERUS *

HENRY T. BYFORD, M.D.
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I have nothing new to offer in the treatment of anteflexion of the uterus, except the resolution not to offer anything new. The great and original Solomon knew of nothing new. In surgery most of the new things are nuisances because it takes so much writing of papers and mutilation of patients to demonstrate that the new usually eventuates in nothing, and should not be written about.

My experience with anteflexion is that somehow or other we have always been able to relieve our patients. Yet, judging from the new things that have been advocated from decade to decade, one would infer that up to the present time, or at least up to the last new thing that is offered for trial, the real thing had not been discovered. It is "off with the old and on with the new." There are many great operators, yet few great surgeons. The fact is that those who make real advances in surgery, as in other arts, do not look into the future but into the past. They take the good they find in old things and adapt it to the needs of the present, and thus advance our knowledge by giving us, not something new, but only the appearance of something new. But I am not going to offer even the appearance of something new. I am content, with Solomon, not to pretend to know anything new.

Instead therefore of looking toward the future which, until it comes, can have nothing reliable to teach us, let us review what the past has taught us. In mild cases of anteflexion with dysmenorrhea and sterility a few moderate dilatations by the sound have been followed by pregnancy and cure. In other cases divulsion and temporary packing of the cervix have sufficed. But we have not infrequently encountered cases in which congenital and developmental deficiencies were such that these methods only temporarily relieved the dysmenor-

* Read at the twenty-third meeting of the Southern Surgical and Gynecological Association, Dec. 13, 1910.

rhea, and the sterility not at all. In some of them the monthly crises have led to hyperplasia of the uterus and ovaries and chronic invalidism, and last, but not least, to a loss of the ovaries by operation. The uterine body is apt to be well developed, or to become so as the result of the excessive monthly hyperemia connected with its distention by the menstrual fluid and its efforts at expulsion; but in the cases of which I am speaking, the uterine ligaments remain short, the cervix and vaginal fornices poorly developed, and more or less pressure atrophy of the anterior cervical wall takes place.

A few dilatations with sounds, or divulsion and packing, unless followed by pregnancy, cannot rectify the last-mentioned conditions. Discission of the cervix, whether by the Simpson or Sims methods, or by the Dudley or Pozzi modifications, does not rectify them. These operations often cure the dysmenorrhea and establish uterine drainage, but they mutilate and tend to throw the cervix out of function, and thus favor atrophy rather than development. The relief from suffering is frequently, although not always, immediate, yet in quite a proportion of cases is not permanent. When it is permanent the mutilation is apt to be such that the uterus cannot retain the fecundated ovum. In short, such operations benefit the surgeon rather than the patient or posterity.

What is lacking in all of these procedures is the development of the cervix and vaginal vaults. The uterine cavity is not even made straight; its lower or cervical portion is destroyed, and thus a portion of the curve eliminated. But anteflexion is normal, and the cavity of the uterus does not have to be made straight. The entire uterine cavity can be made large enough to allow of a normal outflow of the secretions without destroying the lower or cervical portion. Such a condition we sometimes observe in multiparæ with extreme anteflexion. And just as we can obtain this result temporarily by an adequate dilatation, so we can secure it permanently by keeping the cavity adequately dilated. But there is only one way of keeping it dilated and that is by developing the cervix. Pregnancy does this and takes months to do it. We can also do it, but we must also take months, many months. Goodell tried to do it by the extent of the dilatation. Gill Wylie succeeded by a persistent use of a stem after the divulsion, and Davenport still uses the stem method quite successfully. The Outerbridge stem has, I think, been successfully used, but it is not a safe instrument. Vulliet kept the uterus packed with cotton balls for variable lengths of time with success. Experience and reason have taught us that almost any foreign body that cannot be accommodated in the uterine cavity without some enlargement or stretching of that cavity, will, if kept in it, cause some development of the uterus and its cavity in size. If the foreign body project down into the cervical cavity it will act similarly on the cervix. But any foreign body left in the uterus is liable to cause abrasions and infection, and, with the supervision that can ordinarily be given, invites disaster.

Since none of these methods has found general favor, and it is no longer considered an evidence of fogyism not to perform a radical operation, I shall venture to present the claims of the method I have always employed. It consists in introducing a body large enough to overdilate the cervix, and often enough to keep it overdilated. I have treated puerile cervices on this principle and feel that I am very far within bounds in saying that if we can keep the entire cervix dilated sufficiently for the passage through it of a number 20 (Am. scale) male urethral sound from one to two years the cervix will then continue to functionate normally. And this treatment is not so strenuous and tedious as the words "two years" would suggest.

Without the recital of individual cases I will say in a general way, that I have sometimes commenced by dilating biweekly with a small block-tin sound and have progressively dilated to about the size indicated. I have then maintained it by means of weekly dilatations for a time, then bimonthly, then monthly until the year was up. As a rule I have had the patients come back in six months or a year for a few weekly dilatations in order to be sure of permanency of results. In most cases I have preferred beginning with divulsion under general anesthesia and have then prevented contraction by the periodical passage of the sound. But the important and indispensable part of the treatment is its continuance for many months. In the event of a return of the dysmenorrhea an immediate resort to the treatment gives prompt relief. A few biweekly dilatations followed by a few monthly ones usually suffice to render the cure permanent.

The greatest objection to the treatment is that it is painful. I reduce this objection somewhat by passing the sound frequently at first, *i. e.*, by not giving the cervix time to contract too firmly between times. As the tendency to rapid, firm contraction diminishes, the dilatations can be made at longer intervals without increase of pain. I like, however, to dilate as widely each time as the patient will tolerate because the greater each dilatation and stimulation the greater the effect on development. As I have already said the tedium of the treatment is not as great as one might suppose, because, after the dilatations are a month apart, they occupy but little of the patient's time and attention, and can then be continued as long as desirable. The temporary pain of one or two treatments each month is more easily and willingly borne than the monthly dysmenorrhea, the more so as the patient knows that they will soon become less frequent. The pain ceases the moment the sound is withdrawn, and the patient may go out from the office to do her shopping.

With regard to the technic, the patient takes a copious normal salt douche before leaving home for the office. After the introduction and adjustment of a sterile bivalve speculum, the vaginal fornices and cervix are swabbed out thoroughly with a 5 per cent. solution of phenol, and the sound, after having been curved to suit the case, is dipped into the same solution immediately before being passed. Sometimes it is necessary to steady the cervix with vulsellum forceps, but the vaginal fornices are often so small that the expanded speculum puts them on the stretch and keeps the cervix from receding too far. Before removing the speculum I disinfect the uterine cavity, and introduce a dry sterile wool tampon under the cervix and leave the latter for twelve or twenty-four hours for its dilating effect on the vaginal fornices. The patient withdraws it by means of an attached thread and uses a copious normal salt vaginal douche.

I have thought it worth while to go into the details of this old, well-known treatment for the following reasons:

1. I know of no book or monograph in which its efficacy is given proper appreciation.

2. I know of none in which the necessity of such persistence in overdilatation is sufficiently emphasized.

3. I know of no method that will give better results if persisted in to the extent I have recommended.

4. I know of no cure that is as safe in the hands of the average practitioner.

5. I know of no book in which a sufficiently definite detailed technic is given.

6. The cutting methods are all objectionable and irrational in cases of arrested development.

I might add that, in patients who are hyperesthetic or intolerant of pain, this treatment can be combined with other treatment. For instance, if the patient will not allow a sound of the same size to be passed each time, and the cervix gradually contracts, divulsion under anesthesia can be performed two or three or four times at intervals of two or three or four months and the dilatation kept approximately at the same degree by the sound between times.

100 State Street.

THE IMPORTANCE OF THE AUTOPSY AND OTHER PATHOLOGIC-ANATOMIC EXAMINATIONS *

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STRASBURG, GERMANY

In 1761 Giovanni Battista Morgagni (1682-1771, Professor of Anatomy in Padua) published his famous work: "De Sedibus et Causis Morborum per Anatomen Indagatis," and thereby became the real founder of human pathology. He attempted to give a very complete picture of morbid processes by carefully comparing the clinical aspects of disease with the anatomic findings in a large number of cases. In the title of his work Morgagni summed up the chief problems of pathologic anatomy and in recognition of this fact Rokitansky (1844-1875 professor of pathology in Vienna) used the title in the following somewhat modified form, for the inscription on the pathologic-anatomic institute in Vienna: "Sedibus et Causis Morborum per Anatomen Indagandis."

As the sphere of pathologic anatomy has broadened since it became an independent science seeking to solve its own problems, not only by the examination of the cadaver, but also in other ways, for instance, by the experimental method, the position of the pathologist has correspondingly increased in importance. In the autopsy room the pathologist must take due cognizance of the ever-broadening and more exacting demands of the clinician; he must endeavor at each autopsy to give the physician a satisfactory explanation, and he must examine each case most minutely with the aid of modern methods of histology and bacteriology. By means of such elucidation, he will materially assist the clinician, and he will also develop new ideas in his own scientific field. In this way he can advance toward the goal of all the medical sciences, namely, the relief of human suffering.

Therefore there can be no doubt of the need of pathologic investigation. All the medical schools and hospitals are wise in striving for a large amount of autopsy material in order that the students may be instructed, that physicians may gain experience, and that the interests of science may be advanced. Naturally the autopsies must all be done with the strictest adherence to the principles of humanity, with careful consideration for the wishes of the relatives, and with the greatest precautions to avoid any mutilation of the body. To this end pathology has at its disposal a well-developed technic which is constantly being improved.

In order to give a graphic picture of the importance of post-mortem examinations, I should like to select a series of cases from the eighty-seven autopsies performed at the Pathological Institute in Strasburg during the month of June, 1910, and to discuss them somewhat in detail:

ILLUSTRATIVE CASES: CLINICAL AND PATHOLOGIC-ANATOMIC DIAGNOSIS

Eleven cases of fatal nutritional disturbances in infants between the ages of 2 and 6 months: six cases of enteritis; five cases of general atrophy.

Two cases of status lymphaticus:

Patient, male, aged 16. Otitis media with meningitis and chronic general tuberculosis. Death while under chloroform narcosis at the beginning of the operation.

Patient, female, aged 27. Ruptured tubal pregnancy in second month. Salpingectomy seven hours after rupture. Death three and one-half hours later. Moderate anemia.

Four cases of fatal embolism of the pulmonary artery:

Patient, female, aged 38. Death from thrombosis of the right femoral vein, four days after salpingectomy for gonorrheal salpingitis.

Patient, female, aged 53. Death from thrombosis of the ovarian vein of the left side, six days after double ovariotomy for carcinoma.

Patient, female, aged 58. Death from thrombosis of the left external saphenous vein, six days after operation for femoral hernia.

Patient, female, aged 63. Death from thrombosis of the right external saphenous vein, twenty-two days after encephalomalacia.

Two cases of auto-intoxication from incarcerated hernia:

Patient, male, aged 73. Incarcerated inguinal hernia for five days. Death one day after operation for hernia. Epithelial necrosis of the kidneys.

Patient, female, aged 58. Incarcerated femoral hernia for four days. Death three days after operation for hernia.

Two cases of latent septicemia:

Patient, female, aged 40. Clinical diagnosis: ileus from carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: streptomycotic peritonitis caused by suppurative salpingitis.

Patient, female, aged 56. Clinical diagnosis: chloroform narcosis after hysterectomy for ulcerating carcinoma of the cervix. Death one day later. Pathologic-anatomic diagnosis: streptomycotic septicemia.

Two cases of birth injuries:

Fetus of 9 months. Breach extraction. Compression of skull and rupture of the spinal column between the fifth and sixth dorsal vertebræ.

Patient, female, aged 25. Transverse position. Laceration of the vagina following attempted version outside of the hospital.

One case of criminal abortion:

Patient, female, aged 24. Pyemia after abortion. Laceration of the vagina, posterior labium of the external os and of the cervix.

One case of injury due to enema:

Patient, female, aged 38. Peritonitis from perforation of the rectum.

Two cases of latent carcinoma of the stomach:

Patient, male, aged 43. Clinical diagnosis: carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: carcinoma of the pylorus and secondary carcinoma of the peritoneum, with stricture of the sigmoid and of the descending colon.

Patient, female, aged 27. Clinical diagnosis: carcinoma of the ovaries. Pathologic-anatomic diagnosis: carcinoma of

* Address delivered before the Harvey Society, New York, October 15, 1910.

the posterior gastric wall and secondary carcinoma of the ovaries.

One case of latent pericarditis:

Patient, female, aged 71. Clinical diagnosis: lobular pneumonia. Pathologic-anatomic diagnosis: lobular pneumonia, tuberculous pericarditis with effusion, latent tuberculosis of the apex of the lung.

One case of late recurrence of carcinoma:

Patient, male, aged 47. Recurrence of carcinoma in the cicatrix four years after excision of the carcinomatous rectum.

One case of puerperal eclampsia:

Patient, female, aged 37. Multiple necrosis of the liver.

One case of Hodgkin's disease:

Patient, male, aged 27. Swelling of the left lymphatic glands and left tonsil. Nodes in the spleen, lungs and pleuræ. (The same diagnosis was made nine months previously from an extirpated axillary gland.)

One case of nephrolithiasis:

Patient, female, aged 67. Right hydronephrosis and uratic calculi. Left uratic nephrolithiasis. (Calculi in left kidney stained with methylene blue.)

COMMENT

The cases of nutritional disturbances in infants confirm the frequently expressed opinion that serious digestive disturbances occur without even microscopic changes in the intestines, which depend entirely on chemical alterations in the intestinal contents. These chemical changes are being carefully studied of late by pediatrists and thereby a real basis for a correct therapy is being established.

The cases of status lymphaticus show the great significance of this constitutional anomaly. Patients of this class stand chloroform anesthesia and loss of blood very poorly.

The four cases of fatal embolism of the pulmonary artery are good illustrations of the frequency of this lesion, which so often interferes with the success of operations. Such an embolism is not a rare occurrence, and it is easy to realize that surgeons take every precaution to avoid such a complication. This condition cannot always be diagnosed clinically with certainty, and therefore the autopsy is necessary to confirm the diagnosis.

The cases of incarcerated hernia serve to show how much danger attends the retention of the intestinal contents. Very commonly this decomposition of the intestinal contents causes an auto-intoxication to which the patients succumb in spite of a successfully performed herniotomy. In order to prove this point of view, I have but to refer to the first of the two cases in which the microscope showed diffuse necrosis of the renal epithelium. In other cases, on the contrary, the necrosis of the liver parenchyma is of special interest.

The two cases of septicemia emphasize the importance of bacteriologic examinations at the post-mortem table. In the first case, no positive clinical diagnosis could be made. The autopsy showed a streptococcic peritonitis due to a purulent streptococcic salpingitis, which in turn, judging from the nature of the bacteria, was of puerperal origin. In the second case, streptococci were cultivated from the heart's blood and from the various tissues of the body, and the case therefore had to be diagnosed as a streptococcus septicemia. Later, on talking the matter over, the clinician thought, and rightly, I believe, that the infection was due to the deep ulceration of the carcinoma of the cervix, which had been curetted.

The cases of birth injuries are of great importance because they can easily result in severe injury to mother and child. In the first case, the delivery was certainly difficult, and in spite of the fact that it was performed by a very competent obstetrician, it resulted in a fracture of the spinal column. In the second case, a physician not in the hospital had made several attempts to correct a complex presentation by means of version and had thereby lacerated the vagina so severely that there remained only a strip of its anterior wall behind the urethra. The patient was subsequently brought to the hospital and died of acute anemia.

The case of criminal abortion shows the typical lesions which we find in this class of cases. Frequently there occur punctured wounds of the posterior wall of the vagina, perforations of the cul-de-sac of Douglas, injuries of the posterior lip of the cervix and of the adjoining portion of the uterus. As these injuries are for the most part done with unclean instruments, the women so treated are very often victims of fatal puerperal infections.

The case of injury due to enema, which happened to a 38-year-old woman outside of the hospital, may serve as a warning. Pathologic anatomy teaches that such injuries from enemas are due to the use of hard cannulas, and are, especially in children, much more frequent than is generally believed.

The cases of latent carcinoma of the stomach are very important from a diagnostic point of view. In the first case, the secondary carcinoma of the peritoneum, which had invaded the sigmoid flexure and caused a stricture, was diagnosed as a primary lesion, and in the second case we were dealing with a condition frequently described of late, a primary carcinoma of the stomach with typical secondary implantation lesions in both ovaries in which the secondary metastases had been regarded as primary lesions.

In the same way, the case of latent pericarditis demonstrates the difficulty of many a clinical diagnosis.

The case of recurrent carcinoma in the scar four years after extirpation of the rectum for carcinoma, is instructive because this recurrence was a very late one. We now have, however, definite knowledge of much later relapses.

The case of puerperal eclampsia was typical. It showed perfectly the characteristic areas of necrosis and hemorrhage of the liver, which were first described by Schmorl.

In the case of Hodgkin's disease there was found the well-known histologic condition of granulation tissue with fibrous connective tissue and polynuclear giant-cells in all the diseased areas; these lesions had also been found in the axillary glands, which had previously been extirpated for diagnostic purposes.

The last case had the significance of an experiment. The 67-year-old woman had been given methylene blue on account of symptoms of cystitis. At the autopsy, the uratic calculi in the left kidney, which secreted urine, were stained with methylene blue, whereas those in the right kidney, which had ceased to functionate as a result of atrophy following hydronephrosis, were entirely free from any stain.

These cases, selected from the records of one month, well demonstrate the importance of the careful routine autopsy and indicate how much the student and physician can learn both from a scientific aspect and from the point of view of the welfare of the patient. Every autopsy adds to our store of knowledge and justifies the old adage which we often see inscribed in the autopsy room: "Hic est locus ubi mors gaudet succurrere vitæ."

A pathologic institute can be of service to the physician and of benefit to the sick in other ways. I refer to the microscopic diagnosis of tissue removed by the surgeon. I may here mention the results of the microscopic examination of curettings from the uterus. How often the examination does not determine whether we are dealing with an abortion, an endometritis or a carcinoma!

Furthermore, I may refer to the microscopic examinations for carcinoma of excised tissue, a recourse which so often saves the patient from the sacrifice of important organs, e. g., the tongue, the larynx, the penis, the cervix. On the other hand, if the carcinoma or other neoplasm is diagnosed, it may lead to an immediate life-saving operation. Finally, I wish to emphasize the importance of a careful examination of excised tumors, for this not infrequently, to the gratification of the pathologist, demonstrates that a condition which has been considered malign is in reality benign and permits of a favorable prognosis. These investigations are indeed very difficult and the pathologist cannot be too careful in his reports; otherwise there is danger that he will bring undeserved discredit on the value of diagnoses made from excised tissue. He must never hesitate to acknowledge that he is unable to render a definite diagnosis. Then he will rightly fulfil his duty and the clinician will appreciate the weight of his opinions.

Thus it is seen how important is the function of the pathologist in performing autopsies, and how his calling is not only didactic but humanitarian. His work, therefore, deserves support and encouragement from all sides, and especially from the laity. The public must be made to appreciate to an ever-increasing extent the importance of pathologic anatomy. That this hope may soon be realized is my earnest wish, especially for the American universities.

A METHOD OF TREATING THE PROSTATIC UTRICLE *

J. T. GERAGHTY, M.D.

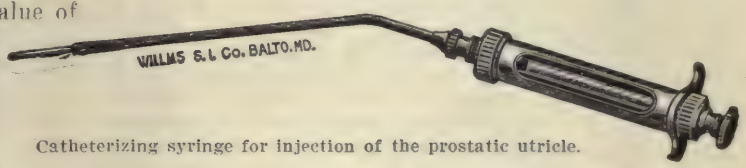
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Urethroscopy of the posterior urethra has been comparatively slow in developing, and not until the last few years has sufficient attention been directed to this important field. One result of this increased study has been the recognition of the important part which diseases of the verumontanum play in the production of severe and often distressing symptoms, generally classed as prostatic neuroses. In the milder cases remedial results were obtained by massage of the prostate, dilatations, instillations, etc. In others only temporary relief could be obtained by these measures, while in the aggravated cases frequently no amelioration was obtained.

Wossidlo was the first to call attention to the manifold symptoms which resulted from inflamed conditions of the verumontanum. He found that various symptoms usually ascribed to chronic prostatitis were not infrequently encountered in individuals in whom no prostatitis could be demonstrated. Sexual disorders such as precocious ejaculation, painful ejaculation, frequent seminal emissions, neuralgic pains in the perineum, groin and testicles, suprapubic region, sciatic pains, backache, etc., were associated commonly with the pathologic condition of the verumontanum. In the milder cases he recommended painting with tincture of iodin; in the severe cases he employed 10 to 20 per cent. silver nitrate or even a caustic stick, making direct applications through the urethroscope.

Young, for a considerable time, has practiced curettage of the verumontanum, following this by direct application of a pure stick of nitrate of silver.

The edematous condition of the verumontanum in many cases, with a normal appearance of the mucous membrane covering it, and the frequency with which one finds the orifice of the utricle intensely red and congested, suggested that in many of these cases the seat of the trouble lay in the utricle itself. In normal cases the verumontanum is seen through the open urethroscopic tube as a small, rather rounded, elevation; the mucous membrane covering it is distinctly pale and in marked contrast to the rather deep red of the surrounding urethral mucosa. In the midline and directly anterior, in the majority of the cases, can be seen the orifice of the prostatic utricle. The shape and size of the orifice varies; in some it appears as a minute, rounded depression, in others the orifice is a distinct slit, occasionally several millimeters in length. The ejaculatory ducts are usually not visible, but are situated laterally and generally lower on the wall of the verumontanum than the opening of the utricle. The cavity of the utricle varies some in size and shape. In most cases it is 0.5 to 1 cm. long. It may, however, be several centimeters long and extend up beneath the urethra as far as the bladder. I have found that the capacity of the utricle varies from 5 to 10 minims in the average case, but in an exceptional case it may be as much as 30 minims.



Catheterizing syringe for injection of the prostatic utricle.

The utricle is to be considered as a rudimentary organ representing the terminal portion of the Müllerian ducts, and for this reason it has been called the male uterus, although it is more correctly the analogue of the vagina.

It seems very probable that the utricle, on account of its size, can readily be the lurking-place for infection and as a result of the diseased condition in this cavity give rise to the pathologic picture so frequently seen in the diseased verumontanum. Although the literature is replete with references to the inflamed appearance of the utricular orifice, and numerous observations of pus exuding from the utricle have been made, no practical method of treating this sinus has, so far as I am aware, been suggested. The ease with which the orifice of the utricle can be observed in most cases, and the considerable size of the outlet, suggested the possibility of catheterizing through a straight urethroscopic tube and making injections directly into the cavity. By means of a syringe, shown in the figure, it has been found not only feasible, but surprisingly simple, to make injections directly into the utricular cavity.

Technic: A straight Number 24 (French) urethroscopic tube with an external light is passed into the prostatic urethra

* From the genito-urinary clinic of the Johns Hopkins Hospital.

beyond the verumontanum. Introduction of the straight tube to this point is practically always readily performed without the production of any trauma. The introduction of the tube beyond this point in occasional cases is accomplished with some difficulty, owing to the rather acute ascent of the posterior part of the prostatic urethra to the vesical orifice. When the tube, after passing some distance through the prostatic urethra, encounters resistance, one is practically always beyond the verumontanum. On moving the obturator one readily recognizes from the Y-shape of the urethral orifice that the end of the tube lies towards the vesical end of the verumontanum. The tube is then gradually withdrawn until the readily recognized verumontanum bobs into view. The tube is withdrawn until the anterior face of the verumontanum projects into the open portion of the tube. The mucous membrane is carefully and gently sponged with cotton swabs. The above position of the tube causes a tilting forward of the verumontanum so that the utricular orifice, which lies rather on the upper surface, comes directly facing the open end of the tube. The tip of the syringe can now be readily introduced into the orifice of the utricle, the contents of the utricle aspirated for microscopic examination, and injection readily made into its cavity. Not infrequently, owing to the edematous condition of the mucous membrane, the utricular orifice is not visible, but with gentle probing with the tip of the syringe in the middle towards the upper surface one will rarely have difficulty in accomplishing catheterization.

Silver nitrate has been the drug employed almost entirely, and it seems to give the most satisfactory results. While one can employ for external applications to the verumontanum silver nitrate in very concentrated solution, or the actual caustic, without the production, as a rule, of severe reactions, these strong injections are not well tolerated when given into the utricle. In patients with numerous neuralgic pains, the result of utricular disease, it is well to begin with injections of 1 per cent. and gradually increase the strength to 2 or 3 per cent. The employment of too strong a solution may cause intense pain lasting over several days. The injection should be given slowly, as forcible distention may be quite painful.

The reaction produced by too strong injections frequently reproduces in a striking manner the different neuralgic pains of which the patient has complained. When 1 to 3 per cent. solutions of silver nitrate are employed the injections may be repeated at intervals of from five to seven days, but when stronger injections are employed they should not be repeated more frequently than every two to three weeks.

Painful ejaculation, according to Wossidlo, is due to a sclerosed condition of the lower end of the ejaculatory ducts leading to more or less contracture. The forceful emptying of the seminal fluid through these narrowed inflamed ducts produces the pain which occurs, and in many cases the pain is so severe that the patient is forced to refrain from coitus. It seems probable, however, on account of the frequency with which one or both of the ejaculatory ducts open on the floor of the prostatic utricle, that when the seminal fluid is thrown into this cavity the sudden distention of the inflamed utricular wall may produce the sudden sharp pain occurring at the moment of ejaculation.

Hematospermia, which is seen in the absence of disease of the seminal vesicles, may result from congestion of the utricular wall. In one case of hematospermia aspiration of the utricular contents showed a considerable amount of bloody fluid.

The benefits ascribed to irrigation and injection of the vasa deferentia by some authors are probably explained in many cases by the flushing out of the prostatic utricle, which occurs owing to the fact of the ejaculatory ducts opening so commonly on the floor of the utricle. The good effects in these cases cannot result from the washing out of the seminal vesicles, as it is questionable whether the fluid injected into the vas finds its way to any extent into the cavity of the seminal vesicles, owing to their anatomic structure.

Dribbling of urine following the act of urination I have seen in many cases without any explainable cause. No stricture, sclerosed condition of the posterior urethra, pathologic conditions of the prostate or spinal cord trouble, could be demonstrated. In many cases observed, the dribbling has been a great annoyance to the patient and rebellious in responding to the usual forms of treatment. In four such cases in whom no improvement was obtained, as a result of dilatations, electric applications, massage, etc., the dribbling has been entirely relieved by applications to the verumontanum and utricle injections. In two of these cases only slight improvement followed treatment of the verumontanum, but they responded rapidly and promptly to treatment of the utricle. The explanation of this does not seem clear. Infection of the utricle not infrequently is the cause of persistent recurring posterior urethritis. One case of persistent posterior urethritis, due to the colon bacillus, which had resisted during several years all efforts to dislodge the infection, on careful urethroscopy of the posterior urethra showed pus oozing from the prostatic utricle. Injections of 1 to 2 per cent. silver nitrate into the utricle was very soon followed by a complete disappearance of the infection. Another patient with persistent posterior gonorrheal urethritis, who had been under treatment many months, was finally cured by the same procedure. Infection in the prostatic utricle is probably the cause of many cases resistant to ordinary forms of treatment. In some cases, particularly when the orifice of the utricle is small, it is well to snip out a wedge-shaped piece of the utricular roof, thus affording better drainage. This can be done by means of scissors devised by Young for excision of portions of the verumontanum.

AN IMPROVED GRAVITY APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN

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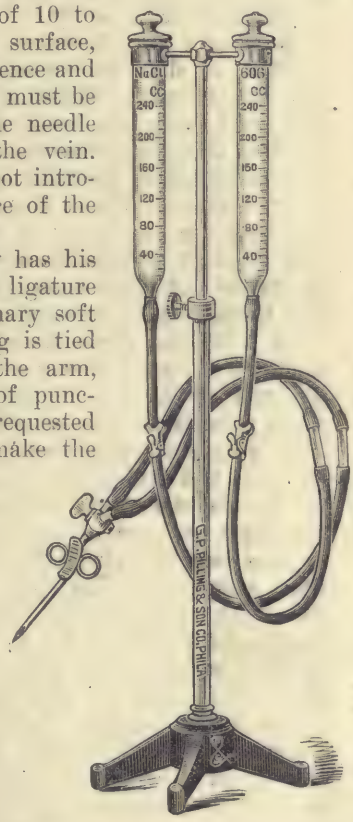
My improved gravity apparatus for the intravenous injection of salvarsan seems to overcome and solve many of the difficulties which, as reports have shown, are connected with this method. The aim is to avoid getting any of the solution into the subcutaneous tissues before the needle enters the lumen of the vein. The several syringes and forms of air-pressure apparatus already on the market have proved far from satisfactory, and leave much to be desired in the way of a perfect technic. My apparatus is portable, can be disconnected in all parts of the stand, and by a thumb-screw allows of lowering and elevating the containers to any desired level, so as to control the rapidity of the flow of the solution into the vein. No solution which is not absolutely clear and sterile should be introduced into a vein. Clearness is to be obtained only by filtration through sterile filter-paper. In my experience very commonly the salvarsan solution contains some foreign flocculent particles; and there is also danger of small particles of glass being chipped off, if glass beads are used in the mixing cylinder; even if a mortar and pestle are used to triturate the salvarsan, such flocculency commonly exists.

Two graduated glass containers of 250 c.c. capacity are used. Into one is poured 150 to 200 c.c. of sterile salvarsan solution. The other is filled with a like volume of sterile saline solution (made with sterile distilled water and chemically pure sodium chlorid).

The saline solution is allowed to flow out of the needle so as to expel all air from the tube. The stop-cock is now reversed, allowing the salvarsan solution to flow out of the needle, thereby expelling all air from its respective tubing. The stop-cock is now reversed to its former position, until the saline solution is running in a slow even stream from the needle. The desired site of puncture is selected on the arm or at the elbow, and the needle is gently pushed or thrust through the skin into the vein. Meanwhile the saline solution is continuously running from it. The needle is held at about an angle of 10 to 15 degrees to the skin surface, depending on the prominence and caliber of the vein. Care must be exercised not to push the needle through both walls of the vein. This can be avoided by not introducing too long a surface of the needle into the tissues.

The patient previously has his arm carefully cleansed, a ligature in the form of an ordinary soft rubber catheter or tubing is tied around the middle of the arm, above the selected site of puncture, and the patient is requested to tighten the fist, to make the superficial veins more prominent.

As soon as the needle has entered the vein, the rubber ligature is released by an assistant, the stop-cock of the needle is reversed, and the salvarsan solution flows through the needle into the vein. Hence, there is no danger of any salvarsan solution getting into the subcutaneous tissues. No injection should be given intravenously in less than about ten minutes, and the solution must be quite warm when poured into the container so as to allow for its cooling when poured into the apparatus; when it enters the vein, the solution should be about the temperature of the blood. An ideal intravenous injection is painless.



Improved gravity apparatus for intravenous injection of salvarsan.

The needle will not produce cramping of the hand of the operator, as the thumb and middle fingers pass through the rings, and the index-finger rests on the corrugated plate on its superior surface, thus affording firm support and preventing the needle from changing position after it has entered the vein, which may occur if the patient coughs or sneezes. It affords a firm and comfortable hold, even if the operator wears rubber gloves, as I have invariably done in all my work in this line.

Another advantage of this needle is that the stop-cock is readily adjusted. While the needle is being introduced into the vein, blood must not be allowed to flow out of the vein and enter the tube containing the salvarsan solution. Blood entering the needle at any time except when the saline solution is constantly flowing out of the needle would have a tendency to clot in it quickly and block its lumen.

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THE SANITARY INSPECTION OF OYSTER-GROUNDS IN THE UNITED STATES*

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The oyster industry forms a very important part of the marine fisheries of the United States. The market value of the products of the fisheries of this country (exclusive of Alaska) for the year 1908 was estimated by the Bureau of the Census[1] at $54,030,630. The income derived from the oyster trade alone, for the same year, amounted to $15,713,000, or nearly one-third the value of the total fishery products of the country.

The American oyster, *Ostrea virginia,* is found along the entire Atlantic coast from Maine to Texas. Two local varieties of oysters are also found on the Pacific coast. But the center of the oyster trade in America is confined to the Atlantic and Gulf states. The value of the product from these latter states amounted to $15,019,360 for 1908, while the output from the Pacific states for the same period marketed $695,640. Twenty-one states are interested in oyster production to a greater or less extent, the larger producers being Maryland, Virginia, Connecticut, Louisiana, New York and New Jersey. In 1908, Maryland marketed 6,231,967 bushels of oysters; Virginia, 5,075,014 bushels; Connecticut, 3,948,070 bushels; Louisiana, 3,650,456 bushels; and New Jersey and New York about two and a half million bushels each. South Carolina, Georgia, Rhode Island, Mississippi and Florida produced over 1,000,000 bushels each. The ten other oyster-growing states, with the exception of Maine and Oregon, marketed over 100,000 bushels each. In 1908 the oyster crop of the United States amounted to 33,329,925 bushels in market and seed oysters.

No very recent statistics on the extent of the oyster industry in other countries than the United States have been obtained, and in this connection reference is made to the data published by G. W. Fuller,[2] in 1905. This writer estimates the annual production of the United States at 28,138,434 bushels; of Great Britain at 2,760,000 bushels; of France at 2,000,000 bushels; of Holland at 70,000 bushels; and of the other oyster-producing countries at 610,580 bushels. From the above figures it would appear that the United States is by far the largest producer, and supplies the market annually with more than five times as many of these shell-fish as all the other oyster-producing countries combined. But, as is pointed out by Fuller, "these figures are not strictly comparable, as they refer in various instances to different years, beginning about 1890, and extending down to the present time (1905). But they serve to convey a general impression as to the relative extent of this important industry."

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* From the Department of Bacteriology and Hygiene, University of Wisconsin.
* Read before the Second International Congress of Alimentary Hygiene and of the Rational Alimentation of Man, Brussels, October, 1910.

1. Preliminary Report of the Bureau of the Census on the Fisheries of the U. S. for the year ending Dec. 31, 1908.
2. Fuller, G. W.: Jour. Franklin Inst., August, 1905.

A considerable proportion of the oyster-grounds in the United States, especially in the southern part of the country, is found in open water, quite remote from any possible source of sewage pollution. The sanitary condition of these grounds is, of course, above suspicion. A large number of oyster-beds, however, are located in inland tidal waters, many of them in the vicinity of large cities and towns which discharge their sewage directly into tidal water or into streams flowing into tidal water. Thus, oyster-beds exposed to gross sewage pollution are found in Boston Harbor, in the Providence River, in New York and Long Island waters, in Chesapeake Bay and numerous other places famous for the quality of their oysters. The federal government has no jurisdiction over these areas and under the existing laws, cannot control the pollution of tidal waters or prevent the taking of oysters from polluted localities. Very recently, however, the government has taken a step in the right direction by prohibiting the sale of polluted shell-fish in interstate commerce.[3] This law went into effect May 1, 1910, and is in substance as follows:

It is unlawful to ship or sell in interstate commerce oysters or other shell-fish which have been taken from insanitary or polluted beds, or which have become polluted by packing under insanitary conditions or by the use of unclean receptacles.

A second federal act,[4] in effect June 4, 1910, prohibits the shipment or sale of oysters "floated" in polluted waters. By the enforcement of these two measures the government hopes to control the shipment and sale in interstate commerce of polluted shell-fish, but places no restrictions on the sale of such shell-fish within the states in which they are grown.

The ultimate control of the oyster products in the United States, however, rests with the different state boards of health and shell-fish commissions, which should be vested with proper authority by their respective legislatures to act in cases of shell-fish pollution. Very carefully formulated and well-enforced laws protecting the natural oyster grounds and cultivated beds and regulating the sale or lease of land for oyster culture have been in effect in many of the principal oyster-growing states for some time. But it is only within the last few years that any measures have been taken to regulate the catch of oysters from polluted areas, or to prevent the sale of infected shell-fish in the local markets. Nearly all the more important oyster-growing states have caused their shell-fish grounds to be inspected by various authorities, but in most instances these inspections have been in the nature of hydrographic rather than sanitary surveys.

In 1901 the legislature of Massachusetts passed acts directing the State Board of Health to make annual examinations of the conditions about the main sewer outlets of cities and towns and to prohibit the sale of oysters and other shell-fish taken from polluted areas. The board was also empowered to examine all complaints relative to the contamination of tidal waters, and if necessary to fix the boundaries of such pollution, and prohibit the taking of shell-fish from areas thus defined. The Board of Health has made several extensive surveys of the productive localities, covering practically all of the shell-fish grounds of the state. These surveys include careful inspections of the shell-fish areas and the bacteriologic examination of several thousand oysters and many samples of sea-water. As a result of these investigations[5] approximately 1,500 acres of shell-fish grounds in Boston Harbor and 700 acres in New Bedford Harbor have been condemned, and the taking of oysters and other shell-fish from these localities prohibited by the fish and game commission acting under the direction of the board of health. A number of convictions have followed the violation of the above restrictions, and fines prescribed by law imposed. The situation in Massachusetts has been somewhat complicated by the passage of a bill in 1907, "permitting the taking of polluted shell-fish for bait on securing permits from the board of health, and providing heavy penalties for both buying and selling. As a matter of fact, it is well-nigh impossible to enforce this law . . . and complete prevention from the taking of such shell-fish is the only method by which the public health can be properly safeguarded."

A careful and thorough investigation of the whole problem of shell-fish pollution has been carried out by the Massachusetts Health Department during the last ten years, with the result that much of the very best work in this country along these lines has been done in the bacteriologic laboratories of the Lawrence Experiment Station. Up to the present year Massachusetts has been the only state to recognize the importance of this question sufficiently to legislate against the taking of oysters and other shell-fish from badly polluted areas, and to enforce its legislation.

In 1908 the State Board of Health of New York made an extensive survey of the more important oyster-grounds of the state. The outlets of sewers and all other possible sources of pollution as far as the oyster-beds were concerned were located; the effect of tides, currents and winds were studied in so far as the time at the disposal of the department permitted; and bacteriologic analyses of oysters and water samples from various localities along the New York and Long Island coast were made. The time at the disposal of the board for these investigations was somewhat limited, and[6] "while the results of the field and laboratory work are in close harmony, the studies can only be considered as preliminary, and as such the department is not warranted in passing final judgment on the results, for the purpose of administrative action." Yet a large percentage of the oysters examined bacteriologically would be considered polluted, if judged by the usual standards, on the strength of the figures published in the report of the board. The department of health has, however, been endeavoring to control the evident pollution of tidal waters under its jurisdiction and its "policy since 1905 has been that further and unrestricted pollution of the waters of the state should cease, and in so far as the department has the power, the existing discharge of raw and ineffectively treated sewage should as rapidly as possible be prohibited."

The sanitary aspect of the oyster industry in Virginia was investigated in 1909 by the state board of health in conjunction with the state board of fisheries. This investigation included a careful sanitary survey of all the oyster-growing districts of the state with the bacteriologic examination of representative samples of oysters and sea-water from all localities; also an examination of the method of handling oysters for shipment, shucking and packing, and of the alleged practice of "floating" of "drinking" oysters for the purpose of increasing the bulk of the product. The results of these

3. U. S. Dept. of Agri., Food Insp., Doc. 110, October, 1909.
4. U. S. Dept. of Agri., Food Insp. Doc. No. 121, May, 1910.
5. Report Fish and Game Commission on Mollusk Fisheries of Mass., 1909.
6. Twenty-Ninth Ann. Rep. N. Y. Dept. Health, 1908, p. 883.

investigations[7] show that the majority of the oyster-grounds of Virginia are "perfectly safe from a sanitary point of view. The streams condemned are small and constitute only a small percentage of the oyster-grounds of the state. Steps have already been taken to prevent the sale of oysters from these areas, and their sale will not be permitted in the future under any circumstances." In addition to the general survey of the oyster-grounds of the state, frequent inspections of the suspected localities are made by the department of health and the dairy and food commission, and planting in areas found to be polluted is prohibited by the local authorities acting on the advice of the inspecting boards.[8] Certificates of inspection are also issued by the department of health to approved grounds, stating that the grounds in question have been inspected by the department and found free from dangerous pollution; and that oysters taken from these grounds are safe for human consumption. The department of health has been very active during the past few years in controlling the hygienic condition of the oyster-grounds of the state, and has the problem well in hand. At the present time the sale of oysters taken from any territory known to be polluted is prohibited by law.

An act of the New Jersey legislature, in effect April 6, 1910, directs the board of health[9] "annually or oftener if the board considers it necessary, to inspect the oyster and clam beds within the state for the purpose of ascertaining the sanitary condition of the same." Official records of each inspection are kept and certificates setting forth the results of inspection are issued to the parties concerned. The taking of shell-fish from areas condemned by the board of health, with the intent to sell for food, is an offense punishable by a fine of $100.

The Dairy and Food Commission of Texas[10] makes annual inspection of the oyster-beds along the Texas coast, but there are no specific regulations applying to cases of shell-fish pollution.[11] The Texas pure food and drug law, passed by the legislature March 20, 1909, which is in the main a copy of the federal act, might possibly be construed to regulate the sanitary condition of the oyster industry of the state, but contains no specific reference to polluted oysters.

A sanitary survey of the oyster-grounds of Rhode Island was made by Fuller[12] in 1901-02. These investigations showed that the beds in the Providence River and upper portion of Narragansett Bay were badly polluted with sewage. There are, however, no state laws prohibiting the planting or dredging of oysters from polluted sources or their sale for food.

The surveys of the oyster-grounds which have been made in other states were mainly in charge of hydrographic engineers or biologists studying the problem of oyster-culture, so that little or nothing in the nature of systematic sanitary inspections has been accomplished. Various state laboratories have been called on from time to time to examine bacteriologically samples of oysters and other shell-fish for suspected sewage pollution, but up to the present year no systematic sanitary surveys of oyster-grounds, including the bacteriologic examination of oysters and other samples have been made except in the waters of Massachusetts, New York, Virginia and Rhode Island.

One of the most perplexing problems which has been brought up by the investigation of the pollution of shell-fish by sewage is the determination of accurate or safe standards of pollution. At the present time several state boards of health are independently making special efforts to formulate a series of tests by the application of which the analyst can determine with a fair degree of accuracy the amount of pollution of shell-fish and water and report correctly whether or not oysters taken from any given locality are safe for human consumption. In the main, these tests consist in bacteriologic analyses of samples of oysters and water from suspected grounds, with the purpose of determining the presence or absence of the colon bacillus, the characteristic organism of sewage.

Early investigations have shown that this organism is not normally found in unpolluted sea water or in shell-fish taken from unpolluted sources. In their report on the investigation of the pollution of shell-fish by sewage, the Massachusetts Board of Health[13] states that "the evidence gathered in this work is fairly conclusive that *B. coli communis* and the streptococcus are not normal inhabitants of the shell water or body of either oysters or clams, and that their presence there must be considered proof of pollution." At a later date, Gage[14] states that "*B. coli* and sewage streptococci are absent or present in only a small proportion of samples [of shell-fish] collected from sources remote from pollution. On the other hand, the test organisms are always present in a majority of samples from sources whose pollution is evident."

Fuller[12] in his study of the oyster-beds of Rhode Island, found that *B. coli* was not normally present in oysters or sea-water collected from localities remote from sewage pollution.

The results of the bacteriologic analyses of market oysters obtained by the Connecticut Board of Health are similar to the above.

After the examination of a considerable number of oysters from presumably unpolluted sources, the Virginia Health Department[7] concludes "that the colon bacillus is not found as a normal inhabitant of the oyster either of the natural fluid of the shell or of the intestine."

The investigations of Hewlett,[15] Klein[16] and Houston,[17] point toward the same general conclusions. Dr. Houston says, "As regards deep-sea oysters, results are not quite decisive, but point strongly to the conclusion that not only typical *B. coli* but as well coli-like microbes are absent from them."

Evidently the weight of opinion leans toward the view that the colon bacillus is not found in shell-fish under normal conditions, and that mollusks containing this organism must be contaminated. But it is obvious that longshore oyster-grounds, particularly those in the neighborhood of cities and towns, are rarely if ever free from sewage pollution to some extent, so that in the majority of cases in which the sanitary condition of oyster-beds is under investigation, the question of standards of pollution becomes rather a problem of determining the amount of pollution permissible without danger to health, than one of determining merely the presence

7. Bull. Va. Dept. Health, May, 1909, p. 308.
8. Communication from the Asst. Health Commr., Va., June 17, 1910.
9. Chap. 97, Laws of New Jersey, session of 1910.
10. Communication from Dairy and Food Commission of Texas, June 20, 1910.
11. Texas Pure Food and Drug Law, House Bill 28, March 20, 1909.
12. Fuller, C. A.: Appendix, Rep. U. S. Com. of Fisheries, 1904, p. 198.
13. Rep. Mass. State Board of Health, 1905, p. 449.
14. Gage, S. De M.: General Infectious Diseases, January, 1910, p. 78.
15. Brit. Med. Jour., 1903, p. 1082.
16. Fourth Rep. Royal Comm. on Sewage Disposal, 1904, ii, 61.
17. Fourth Rep. Royal. Comm. on Sewage Disposal, 1904, iii.

or absence of characteristic sewage bacteria in oysters and the water in which they grow.

Fuller[12] has regarded as polluted all shell-fish which were found to contain *B. coli*, but in the work in Rhode Island in 1901, he did not attempt to fix an arbitrary standard for the condemnation of oyster-grounds, beyond the determination of the presence or absence of sewage pollution as indicated by the bacteriologic analysis of these shell-fish for *B. coli*.

Conn[18] has regarded "all oysters contaminated which have shown the presence of *B. coli*." This "work has been on market oysters and not on oyster-beds" so that "no rule as to the proportion of contaminated oysters necessary to condemn an oyster-bed has been formulated" by him.

The New York Board of Health[19] did "not attempt to fix standards of pollution" deduced from their own experiments, merely "tabulating their results on the basis of the relative conditions as found" and using the "assumed standards" of other bacteriologists.

The federal government[3] has recognized the possibility of fixing a standard of shell-fish pollution by the food inspection decision of Oct. 14, 1909, in which it is stated that "the pollution of oysters with sewage can be readily detected by bacteriologic examination."

The Massachusetts State Board of Health has made a more thorough and systematic investigation of the whole problem of shell-fish pollution than the other health departments in this country, and for this reason the opinion of the Massachusetts authorities on this question is frequently sought by outside laboratories. And up to the present time standards for judging the sanitary condition of shell-fish which have been worked out by the Massachusetts board have been used in many of the bacteriologic laboratories in the United States. The position of the Massachusetts Department of Health on this question has been stated by Gage[14] as follows:

> With a sufficient number of samples the absence of *B. coli* or of positive fermentations followed by an overgrowth of streptococcus can be safely taken to indicate freedom from pollution, and when ten individuals are tested, a negative test in eight out of ten or 80 per cent. of the samples, can be assumed to be an indication of reasonable safety. Under the same conditions, a positive test in 50 per cent. or more of the samples must indicate pollution of a more or less dangerous character. Between these extremes, the interpretation is a question of individual judgment for which no hard and fast rules can be made.

In these tests the water within the shells and the intestinal content of suspected specimens are tested by the usual methods of water analysis.

The above statements unquestionably represent the fairest grounds that can be taken on this important question with the present knowledge of the subject. The examination of single specimens of shell-fish can have no more value than the bacteriologic analysis of isolated samples of water from unfamiliar sources. Sanitary inspection of the grounds themselves is often of greatest service in interpreting the results of laboratory analyses, and sometimes absolutely necessary in order to form a correct judgment when the bacteriologic examinations are of a doubtful character.

The period is distinctly constructive in tendency. Much work on the problem of shell-fish pollution is now in progress in American laboratories. Massachusetts and Virginia have been most active and apparently have the problem well in hand. New York has made a preliminary survey of its oyster-grounds, but the department of health does not feel that it has done sufficient work to warrant the fixing of definite standards of shell-fish pollution. New Jersey[20] is now taking active measures to control the hygienic condition of its large shell-fish areas. The shell-fish commission of Rhode Island is now making a very comprehensive survey of the waters of the state. Connecticut[18] is about to commence a sanitary survey which will cover all the tidal waters of the state. The Maryland Health Department[21] is examining bacteriologically various samples of market oysters but have formulated no standards of pollution. The present year will unquestionably be productive of important results which will add to the knowledge of the problem of shell-fish pollution and aid in formulating a more accurate and safer standard of pollution.

NOTE: Since the preparation of the above paper, the results of several laboratories, which have been engaged on oyster work during the past year, have been presented at the meeting of the American Public Health Association. The situation was carefully gone over and proposed standards of purity discussed. Among the more prominent of these was that recommended by the United States Bureau of Chemistry which has in charge the bacteriologic examination of oysters and other shell-fish for pollution under the food and drug acts of 1909-1910. This standard condemns all oysters in the shell which "show the presence of *B. coli* types of organisms when present in three out of five oysters in 0.1 c.c. of the shell liquor. These examinations are supplemented by an inspection of the beds from which the oysters were obtained, also by the bacteriologic examination of the water bathing the oysters from these localities."[22] The government has prevented the shipment and sale of several lots of these shell-fish which have not come up to the standard.

The survey of the oyster-grounds of Rhode Island has also been completed. The state shell-fish commission has used the federal standard of purity in interpreting the results of bacteriologic analysis and has condemned and refused certificates of inspection to more than half the oyster-grounds of the state, comprising an area of over 3,000 acres of cultivated oyster-grounds. About 25 per cent. of the beds were passed conditionally, subject to later inspection. Official certificates of inspection were issued by the commission only to grounds which came up to the federal standard of purity.

While a number of bacteriologists have employed the standard of the federal government in judging the sanitary condition of oysters, the general opinion of the American Public Health Association seems to be that it is too high. The committee on standard methods of analysis failed to recommend a definite standard of purity for shell-fish analysis since they felt that further investigation of the problem must be carried on before they were warranted in adapting any definite standard. The federal standard is a tentative one and "as yet there are no established standards for the bacteriologic examination of shell-fish."[2]

18. Communication from bacteriologist, Conn. Board of Health, July 21, 1910.
19. Twenty-Ninth Rep. N. Y. Dept. of Health, 1908, pp. 846 and 856
20. Communication from Chief of Div. of Food and Drugs, N. J., July 18, 1910.
21. Communication from the Bacteriologist, State Dept. of Health, Md., July 21, 1910.
22. Communication from U. S. Bureau of Chemistry, Dec. 21, 1910

Acid Intoxication in Cholera.—During the stage of reaction in cholera it is not uncommon to see an almost abnormally bright color of the mucous membranes associated with a type of dyspnea approaching air-hunger. Such patients usually have either a partial or complete suppression of urine and an increase in the blood-pressure, which is sometimes as high as 200 millimeters of mercury. In cholera the symptoms of acid intoxication become so intimately related to those of uremia that differentiation is hardly possible. Indeed, it has been suggested by Senator that uremia from any cause whatsoever is only an acid intoxication.—A. Watson Sellards, in *Philippine Journal of Science.*

THE PLAGUE IN NORTH CHINA

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The plague is very properly divided into three types: the bubonic, or that from affecting the lymphatic system which is usually the most common type; the septicemic, or that affecting the blood-system; and the pneumonic type, or that affecting the lungs more especially. The latter two types are usually most fatal.

The epidemic which was, in January, 1911, overrunning North China was of this last type—the pneumonic type—largely and of excessive virulence; although there were, as in all epidemics of this disease, some cases of the other two types, and more of the septicemic type than of the bubonic type. So far as our experience here is concerned—and that experience is confirmed by reports coming from other infected regions—scarcely any who have taken the disease have recovered.

The disease, so reports have it, has been found in sporadic cases, and even in small epidemics in southern Russia for several months, but the Russian authorities took strenuous methods to eradicate it and they had got it fairly well under control in Russia when in November, 1910, it was found to have come to Harbin. Harbin is in Manchuria, which, as is well known, is under the control of the Chinese government. Harbin is moreover on the Trans-Siberian railroad.

It is interesting to know how the disease got to Harbin. It is now believed that the disease was brought to Harbin through the infected hides which hunters and trappers brought to Harbin for market. It is known now that there was an epidemic among a certain fur-bearing animal, an animal something like the American muskrat, which the hunters of the north kill for the hides and sell in large quantities at Harbin. It has been found that the disease among these animals was due to plague; and the furs brought to Harbin for sale are believed to have brought the infection. Whether this be absolutely true, or whether the disease was brought to Mukden, Shanhaikwan, Tientsin, and Pekin through persons traveling on the railroad cannot be stated definitely. The fact is that Harbin was the original hotbed of the disease. It spread from there in all directions, usually following the lines of traffic, the principal of which is, of course, the railroad. The city of Harbin is divided into a Russian, a Japanese, and a Chinese part. The Russians and the Japanese took strenuous measures at once to stamp out the disease in their quarters, and they have it well under control, in their respective parts of the town; but the Chinese problem was a much more complex one, and their people much more numerous and perhaps less enlightened; consequently, the disease got beyond their control and it was from the Chinese native city of Harbin that the disease spread. The thing to do would have been to stop all railroad traffic from that city early in the epidemic, but that meant, of course, great loss of money and much inconvenience; so it was allowed to go on until, I fear, it was too late, for this disease in January was found as far south as Chefu, and had got to several towns some distance away from the line of the railroads. This meant that it would spread inland, for the Chinese villages and towns are numerous and usually not far apart in this region, so that people traveling by cart and on horseback would spread it to other inland villages.

If the disease gets to Central China, where the climate is warm and damp, it will find a soil excellently adapted for the spread of the disease. It may die out here in the North with the coming of the warm dry season, but with the coming of the wet season again it will be, doubtless, brought up from the south and central provinces again and practically become endemic unless the Chinese authorities employ most stringent methods to check the spread of the disease at once. It is due to them to say that they were in January rushing both foreign and Chinese doctors and assistants to the cities of Harbin, Mukden, Shanhaikwan and Tientsin, which are the largest cities on the line of the Imperial Chinese and the Manchurian railroads, but I fear that they waited too long. January is a most advantageous time of the year for the spread of the disease, for thousands of coolies at that time are returning from Manchuria to the provinces of Chili, Shantung, etc., after having spent a summer and fall in earning their bread in the wheat fields or lumber forests of Manchuria, and also because it is just about the time of the Chinese New Year, when every Chinaman who can returns to his home for the festive season.

But to get down to a few more specific data about this epidemic: 1. The disease started at Harbin. Up to January 24, 1911, about 1,500 Chinese and twenty-seven Europeans had died, of whom two were physicians and one an assistant. 2. The disease is met with, mostly, in the pneumonic and septicemic types. 3. Inoculation with Haffkine's antibubonic vaccines seems to be of considerable value as a prophylactic measure. 4. The administration of Yersin's serum in treatment does not seem to be of much value, although it should be said that it has not been given a full trial. If it were possible to take, say, forty or fifty cases and administer the serum to the patients and compare them with a like number that had not had the serum, we could say something more definite, but so far as I am able to learn this has not been done in this epidemic. 5. It has been conclusively shown that the disease, in the pneumonic form, is transmitted by the sputum and by contact with persons sick of the disease, and that the wearing of respirators is good prophylaxis. 6. The rat, or the rat flea, does not seem to have nearly as much to do with the spread of the pneumonic type of the disease as it has in epidemics of the bubonic type. 7. So far as I am aware this is the first definite epidemic of the pneumonic type of the bubonic plague. 8. The disease spread along the line of railway traffic from Harbin to Mukden, to Shanhaikwan, to Tientsin and to Pekin and to several smaller places. It also got to Chefu, which is a seacoast town, probably through some Chinese coolies returning from the North in a Chinese junk or fishing boat.

Hopkins Hospital, Methodist Mission.

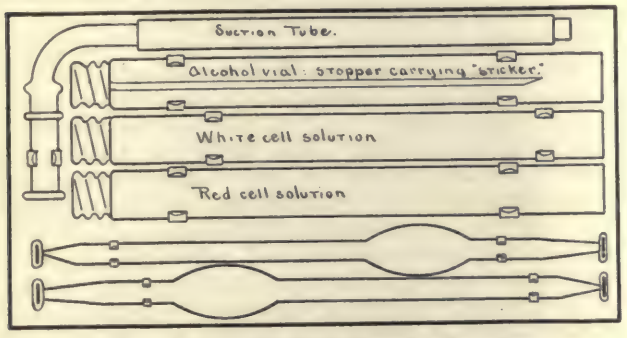
A HANDY POCKET CASE FOR BLOOD PIPETTES AND SOLUTIONS

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The inconvenience of carrying about the usual blood-pipette case and separate solution bottles has resulted in many efforts on the part of pathologists, hospital interns and others to devise a convenient means of collecting and carrying pipettes and smears of blood. The device herewith figured meets all the requirements in perhaps the smallest possible space, since the entire outfit may be comfortably carried in the vest pocket. As is easily seen from the illustration, the set contains two pipettes, a 2-dram bottle of alcohol in the stopper of which is mounted a long cutting-edge needle, two

2-dram bottles containing diluting fluid for red and white cells respectively, and the usual rubber suction-tube. These are held in place on a thin metal plate by appropriate clips. The pipettes have in addition end-clips, each shod with a piece of soft rubber tubing, which, by pressing against the ends, prevent leakage from the filled pipettes. These, however, may be omitted in favor of short rubber caps for the pipette-ends, or of the time-honored rubber band stretched over the pipette from end to end. The straight portion of the suction-tube lies in a short piece of brass or copper tubing soldered to the metal plate.

I use two 1 to 100 pipettes, making either red or white counts with either pipette. Thus, the case will provide for two red-cell counts, two white-cell counts or



Handy pocket case for blood pipettes and solutions.

one of each. Slides or cover-glasses for blood-smears are carried in the case simply wrapped in tissue-paper. The metal plate which carries the outfit is preferably fastened to the cover of the case, since the fastening prevents breakage and the low edges of the cover do not interfere with the removal of the pipettes or bottles from their places. The advantage of the clean needle continuously immersed in alcohol over the usual unclean pocket "sticker" need scarcely be mentioned. The actual size of the case is 4¾ by 2½ inches and the depth ⅝ inches.

Dr. F. Hecker has made the useful suggestion that if the depth of the case were slightly increased a Sahli hemoglobinometer might be added to the outfit.

PNEUMOCOCCEMIA; BILATERAL EMPYEMA; RECOVERY *

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AND

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Patient.—M. D., a boy aged 4½ years, was admitted to Mount Sinai Hospital June 14, 1910. He was the second of four children. The mother had had no abortions; father denied syphilis; the other children were all healthy. The delivery of this child was normal; it was breast-fed, and always well up to time of its present illness.

Present Illness.—This began with an eruption four weeks before admission. This eruption was described by the father as a "red shine." At the onset there was fever but no vomiting. The duration of the fever was not noted, but the child appeared well enough two weeks later to be taken out and exposed to cold, which was followed by elevation of temperature, slight cough, generalized edema of the face and body and bloody urine. A physician, called in for the first time on the latter occasion, diagnosed the condition as postscarlatinal. The child did not improve and was admitted to the hospital two weeks later, June 14.

Examination.—On admission physical examination showed that the general condition of the child was very poor; there was marked apathy, and extreme dyspnea and cyanosis. In short, the child looked almost moribund. The throat showed slight reddening. The chest showed marked inspiratory retraction of the lower ribs.

Lungs: The lungs anteriorly were negative; posteriorly the right lung showed flatness over the entire chest almost to the apex; breathing was diminished above, absent below. On the left side there was dulness from the angle of the scapula to the base, where it became flatness; no breathing at the base.

Heart: The apex beat could not be made out; right border, mid-sternum; left border, one finger-breadth outside of nipple line; action was regular, rapid, and of small force, and the pulse was of correspondingly poor quality.

Abdomen: Slightly distended and tympanitic; no tenderness anywhere.

Liver: Fifth space above and felt three finger-breadths below the free border of the ribs; edge sharp and not tender.

Spleen: Palpable one finger-breadth below free border of ribs.

Skin: A few small pustules over the chest, and the abdomen was covered by a number of dry crusts. Desquamation was noted on palms of hands and soles of feet.

There was some glandular enlargement.

Urine: Normal, grossly and microscopically.

Blood-Count: Leukocytes 23,800; polynuclears 82 per cent.; large lymphocytes 5 per cent.; small lymphocytes 11 per cent.; large mononuclears 2 per cent.

At the time of admission the pulse was 128; respiration 58; and temperature 101.4 F.

A bilateral empyema was suspected and then confirmed by aspiration.

Treatment and Course of Disease.—On account of the patient's poor condition, it was decided to relieve him at once, at least temporarily, by aspirating the left chest; ten ounces of pus were withdrawn. This afforded him some relief but four hours later, under local anesthesia, an intercostal incision was made by Dr. Leo B. Meyer, the surgeon in charge of the service, and pus was evacuated; a drainage-tube was inserted, and the patient reacted well after the operation. The child's condition precluded any more radical procedure than simple incision.

June 17, two days later, the patient's condition became very poor again; the dyspnea increased and the temperature ran up to 104.2 F.; respiration 60 and pulse 160. The left side was discharging freely, but owing to his poor condition, we decided to resect a rib on the right side two fingers below the angle of the scapula. This was done without anesthesia, by Dr. Meyer. Drainage was introduced and the wound dressed.

June 18: Patient's condition improved; respirations less labored, and pulse still rapid. The patient did fairly well for the following ten days when the temperature began to rise again, although both sides were discharging freely.

June 1: General condition poor; patient complained of some pain in the right hypochondrium and some tenderness in this area. Wounds look clean and are discharging quite freely.

July 4: Temperature 103.6 F.; pulse 140; tenderness over the whole liver area, some bulging in the lateral aspect of the upper right abdomen.

July 6: On the fifth the temperature dropped from 103.8 to 97.4 F.; general condition very poor; heart irregular at times; quality of pulse fairly good; liver area remained about the same. There was a swelling in the right cheek directly over the superior maxilla, showing slight fluctuation.

July 8: The face swelling increased in size, and was incised through the mouth. A large amount of very foul pus was evacuated. This pus contained a large number of saprophytic bacteria. A blood-culture made showed the presence of pneumococci.

* From the Isolation Service, Mount Sinai Hospital.

July 11: Owing to the frequent variation in temperature and the persistent tenderness in the right hypochondrium, the right subphrenic space was repeatedly aspirated, but no pus was found.

July 13: General condition somewhat worse; marked cyanosis and dyspnea noted; wound of the right cheek drained well. The lung signs showed dull tympany over the front of both lungs, some dulness and even flatness behind with numerous fine crepitant râles over the whole lung area. The heart was negative. The child was unable to sit up without apparent pain and difficulty in breathing. Lying on the right side caused the child to cry out and become markedly dyspneic and cyanotic. The liver was enlarged and tender, though somewhat less so than formerly. The bulging over the liver area was unchanged; spleen still palpable.

July 19: Until this time the child was in fair condition, but on this day the temperature rose again to 104 F.; this rise was due to retention of pus on the right side. The pus was evacuated and the wound drained.

July 27: A second blood-culture showed the absence of pneumococci.

July 29: Temperature rose on this date, due to retention of discharge.

August 1: Condition better; liver tenderness less marked; heart action rapid, regular, and fair. Dr. A. V. Moschcowitz was asked to see the patient on account of suspected subphrenic abscess. His opinion was that there was retention above the diaphragm, and he advised more complete drainage. This was done and the signs rapidly cleared up.

August 10: The condition of the wound on the right side was very much improved; probe could still be introduced for several inches; discharge was slight and of a serous character.

August 13: Discharge had entirely ceased; wounds closed; liver tenderness had disappeared and the child was discharged cured.

A study of the case shows the following facts: 1. The child had scarlet fever. 2. Two weeks after the onset of the first symptoms he was probably exposed to a pneumococcus infection. 3. On admission there was no evidence of pneumonia, but of a bilateral empyema. 4. A pneumococcemia was shown by a blood-culture taken on July 8. 5. There was a possible metastasis in the cheek. Recovery ensued.

We find that the presence of scarlet fever was shown by the history of a rash, and of a general edema, and by the desquamation of the hands and the soles of the feet on admission. Many authors make but casual mention of the occurrence of empyema after scarlet fever, although we do know that it may occur after any of the infectious diseases. While empyema is of frequent occurrence, bilateral empyema is rather rare and varies according to different authors. We can say, however, that it occurs in from 1 per cent. to 3 per cent. of all cases of empyema. The pus in empyema following scarlet fever most frequently contains the streptococcus or the staphylococcus, and less often the pneumococcus, which, if present, may follow as a result of a pneumonia complicating the scarlet fever. As to the pneumococcus infection, we have a history of probable exposure to the pneumococcus two weeks after the onset of the first symptoms. The patient may, at that time, have had a pneumococcus infection of the lung, of which on admission, two weeks later, there were absolutely no signs.

Endeavoring to account for the pneumococcus infection, we find that our patient was exposed two weeks after the onset of the scarlatinal symptoms. We know that the pneumococcus inhabits the normal throat. Taking into consideration the diminished resistance of the child following scarlet fever, plus these pneumococci, which, as Arnold and Grawitz have shown, can pass through the lung tissue and into the pleural cavity without infecting the lungs), plus a hydrothorax accompanying the general edema, we can perhaps conclude that the pneumococcus empyema possibly followed such an infection.

Desguin, in his excellent monograph,[1] says that a pneumococcus infection of whatever part of the body is always accompanied by a pneumococcemia. He states further that the pneumococcemia may precede the appearance of a local lesion. As the presence of the pneumococcus in the blood is not a normal condition, in our case the micro-organism may have entered the blood from the congested throat usually seen in scarlet fever. From this it may also be possible that the empyema was secondary to the pneumococcemia. We must not lose sight, however, of the fact that there may have been a preceding pneumococcus pneumonia followed by empyema, although from the history and the signs on admission this could not be positively determined. The empyema was confirmed by the aspiration of pus from both sides of the chest, each of which showed the presence of pneumococci as reported by the pathologic department: Pus from left chest: pneumococcus, polynuclears 100 per cent.; pus from right chest: pneumococcus, polynuclears 97 per cent., lymphocytes 3 per cent.

The first blood-culture also showed the pneumococcus as seen from the following report: Culture made by Dr. Olsan July 8, 1910, 5 c.c. of blood being used. This blood was incubated partly in glucose-bouillon, partly in agar, and partly in 2 per cent. glucose-agar. In all the media pneumococci were found, there being on solid media seven colonies to the cubic centimeter of blood. The organism was typical in every respect. This culture was found positive six weeks after probable infection, which is an unusually long time for a pneumococcemia to persist, according to Desguin. A second blood-culture was made by Dr. Celler July 22, 1910, 5 c.c. of blood being used. This was incubated in glucose-bouillon, in agar, and in glucose-agar. All the media remained sterile, the time of observation being six days.

At the time the face induration appeared pneumococci were still probably present in the blood, and although pneumococci were not recovered from the pus evacuated from the swelling, owing to exuberant growth of saprophytic bacteria, there is a strong likelihood that this focus can be considered a metastasis. Two weeks after the first culture was made, a second was taken and found to be negative. At the time the general condition of the boy improved considerably, and although at times there was a tendency for the temperature to rise again it was always found to be due to slight retention of pus. Dr. Meyer in his comment on the case says, that from the surgical standpoint the method of treating a bilateral empyema is of interest, especially if the patient is in as bad a condition as this one was. To have opened the two sides of the chest at the same time would probably have been fatal. Incision and drainage of one side so as to give the child some lung with which to breathe, and to permit some lung expansion on one side before opening the other, seems to be the best method of procedure. If the child's condition had not been so desperate, rib resection would have been performed at the first operation, but the first consideration was to get the chest opened and drained and the child removed alive from the operating-table.

As a matter of fact, in young infants, intercostal incision is frequently sufficient and is certainly worthy

1. Desguin: La septicémie à pneumocoques, 1908.

of a trial as being the simpler operation. In this case drainage was as satisfactory from simple incision as from the site where the resection was done. Up to this time, three months after discharge from the hospital, the boy has remained entirely well.

FRACTURE OF THE CLAVICLE

ITS DIAGNOSIS BY TRANSMISSION OF RESPIRATORY SOUNDS *

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In a paper, read before The Society of Practical Medicine in May, 1907, entitled, "Diagnosis of Fracture of the Clavicle by Auscultation of Voice and Breath Sounds," I called attention to the fact that in normal individuals there is distinct transmission of both voice and breath sounds probably from the trachea, outward along the shaft of the clavicle to its outer extremity.

When a small-belled stethoscope is accurately applied to the outer extremity of the clavicle, breath sounds and voice sounds of a distinctly bronchial or tracheal quality are to be heard.

In a series of over 300 normal persons thus tested, it appeared that the whispered voice was the most reliable test and that in over 95 per cent. of all the cases a more or less intensely bronchial whisper could be heard over the acromial end of the clavicle.

In over two-thirds of the cases the spoken voice as well as the whisper was of this quality, and audible. In about one-third of the cases the respiratory murmur was distinctly audible and of this bronchial character, in addition to the spoken and whispered voice.

It was also noted that the transmission of these sounds was limited very strictly to the area over the shaft and outer extremity of the clavicle, and that if the stethoscope were moved even one-half inch forward, or outward, or backward, away from the clavicle, the sound transmissions were lost or so completely modified as to offer a clear demarcation.

Conclusions: Granted that there exists normally a transmission of voice sounds from the trachea outward along the clavicle, a fracture of the bone should cause a break in sound propagation; and such is found to be the case.

In the series of fifteen cases reported at that time, the results were most striking, for, in all these cases of fracture, there was complete loss of these auscultatory signs on the injured side, in contrast to their presence on the normal clavicle. In one case of green-stick fracture, the intensity of the sounds was very much diminished although they were not entirely lost.

As bony union takes place, there is a gradual return of these signs, but this does not seem to occur until after the fourth week from the time of fracture.

In cases of prominence of the inner fragment of the clavicle, it is often very easy to place the stethoscope over this fragment and to recognize clearly the sounds which no longer are audible over the outer fragment.

TRANSMISSION OF FREMITUS

Since writing the above-cited paper, I have made use of a still simpler method, based on the same principles, but dependent on the fact that vocal "fremitus" is likewise transmitted along the clavicle unless there be a break in the continuity of the bone.

Whereas the diagnosis with the stethoscope as above mentioned can usually be made, nevertheless there are a number of patients, especially children, who apparently cannot whisper and thus the test is rendered unsatisfactory; or there is difficulty in applying the stethoscope.

On the other hand, the recognition of vocal fremitus by the palpating finger is more easily attained and even the cries of the youngest child afford means for this test.

METHOD

The examiner stands directly behind the patient, who should best be seated on a plain stool or chair. Place the thumb or index-finger of each hand on the corresponding clavicle of the patient, and without pressure.

Commencing near the sternal end of the shaft of the clavicle gradually move the examining fingers symmetrically outward along the clavicles while the patient repeats some sonorous words, e. g., "ninety-nine, ninety-nine, etc."

In the absence of a fracture the palpable fremitus will be easily detected and of equal intensity on the two sides, all the way out to the extreme end of the bone.

If there be a complete fracture, the fremitus is suddenly lost or very greatly lessened at the point of fracture and beyond. So delicately may this sign be elicited that it is often possible to follow accurately the obliquity of the line across the shaft at the point of fracture.

The normal fremitus of the whole scapular region and chest is very different in intensity and is easily distinguishable.

VALUE OF THE METHOD

In many cases of fracture of the clavicle, inspection alone, or the most superficial palpation, reveals without difficulty the presence and the site of the break, and no further examination is necessary; but for the above method I claim the ease with which the signs are to be elicited, the freedom from painful palpation of the fractured bone, and its great value as an aid in the diagnosis of the cases in which the fracture is in the outer end or in the shaft without deformity, and in all doubtful cases.

LITERATURE

Auscultation to elicit crepitus at the site of fracture has long been in use, especially for fracture of the ribs: but in 1893, Vajana[1] of Palermo described a method for diagnosis of fractures of many of the long bones and bones of the skull by combined percussion and auscultation.

The stethoscope is placed on a subcutaneous portion of the bone and, with the plexor and pleximeter, percussion is now made at points along the bone in all directions from the stethoscope, and when a line of fracture is crossed there is loss of the sound transmission.

In 1902, J. Plesch[2] of Budapest, described the same method as original, having doubtless overlooked Vajana's communication.

A. H. Andrews[3] suggests the use of the tuning-fork instead of the plexor and pleximeter.

* Comunication received July, 1910, for publication.

1. Riforma med., June, 1893, ix, part 2, p. 651.
2. Ungar. med. Presse, August, 1902, vii, 497.
3. Chicago Med. Recorder, 1903, xxiv, 182, 185.

However, in the case of the clavicle, neither percussion nor tuning-fork is necessary, for the vocal and respiratory organs by way of the trachea, which is so close to the inner end of the clavicle, furnish all needed vibrations for our test, and, moreover, these are transmitted in a uniform direction, outward.

32 East Seventy-Sixth Street.

TUMOR IMPLANTATIONS IN THE DEVELOPING EMBRYO

EXPERIMENTS WITH A TRANSMISSIBLE SARCOMA OF THE FOWL*

PEYTON ROUS, M.D., AND JAMES B. MURPHY, M.D.
NEW YORK

The fate of tumor cells implanted in the developing embryo has from several points of view a considerable interest. The superficial similarity between neoplastic cells and the cells of embryonic tissue is striking; and it has given rise in part to a widely discussed theory of tumor origin. While this theory well explains a certain class of congenital growths, its more general applicability is questionable. But there is no doubt that the parallel study of embryonic and neoplastic cells can throw much light on important problems of growth.

MATERIAL USED

The implantation of tumor in developing embryos does not seem to have been accomplished heretofore, despite the evident bearing of such an experiment on the supposition that all tumors are of congenital origin. Indeed, it is most difficult with mammalian material, although we have found it not impossible. After laparotomy of the pregnant rat under ether, a fine, hollow needle is run for some distance in the uterine wall, and thence into the amniotic sac and embryo. When the needle is withdrawn after the injection, there is usually little loss of amniotic fluid. But the percentage of failures from one cause and another is high, and since it is necessary for the survival of the injected embryo that it be large, birth takes place before the tumor has opportunity to grow.

The difficulties are less with developing hen's eggs and a transmissible avian sarcoma.[1] But before describing our results mention should be made of a unique and significant finding recently obtained with this tumor, and now repeatedly observed. It is transmissible to new hosts by means of a filtrate free of the tumor cells.[2] The tumor has also been successfully transmitted in adult fowls by means of dried material kept at room temperature for three days. Nevertheless the growth metastasizes by the proliferation of transported cells and its tissue is in the strict sense transplantable.[3] Indeed, it exhibits to a special degree, not merely a few, but all those features by which the malignant neoplasms are characterized.

METHOD

For the inoculation of the sarcoma into developing chick-embryos, we have slightly modified a method devised by Peebles[4] for another purpose. A small window is cut in the egg-shell, a smaller one torn in the shell membrane, and through a needle a minute portion of the finely divided tumor is injected into the chick, now plainly visible. The window in the shell is then closed, preferably with the piece first cut out, and is sealed with strips of moist shell membrane.

When the operation is conducted carefully and with sterile instruments, many of the embryos continue to develop. The eggs used were laid by pure-bred fowls of the variety most susceptible as hosts for the tumor, namely, barred Plymouth Rocks. At the time of inoculation, the embryos were from six to sixteen days old. Most of our observations thus far have been on tumors in the embryonic membranes, because here even small growths are sharply defined and easily accessible. Furthermore, it is difficult to inoculate the embryo without at the same time inoculating the membranes pierced by the needle.

GROWTH IN THE EMBRYO

When an egg is opened on the sixteenth day of incubation, and a week after a successful tumor inoculation, one observes a slight puckering and opacity where the needle was thrust through the outermost embryonic membrane (fused chorion and allantois). From without no tumor is visible, but on cutting and turning over the membrane, there is usually found on its inner surface at the scarred spot, a sessile nodule like a flattened sphere, of which practically the whole bulk projects into the allantoid cavity. The mass is firm, yellowish or grayish white, nearly opaque, with extremely well-defined contour. Dilated blood-vessels converge to, and course over it. The tumor, after only seven days' growth, may measure 1.2 cm. in diameter, and it is extremely striking to see so large a mass dependent on a filmy membrane for support and vascularization. Scattered near by are perhaps a few small nodules, 0.1 to 0.2 cm. broad, and sometimes others lie in the deeper membranes. In the embryo tumor masses are found along the track of the needle. Our observations on them have been few as yet. In the best instance found thus far—that of a nineteen-day embryo inoculated a week previously—a large mass lay in the chest wall and projected inward toward the heart. Sessile on this organ was another mass, and two smaller ones were embedded in the liver substance. All were invading the surrounding tissue.

We have once found a "rice-body" free in the fluid between the membranes. It was made up entirely of living and dividing tumor-cells, was unprovided with blood-vessels, and was quite bare of endodermal or ectodermal covering.

GROWTH CAUSED BY A CELL-FREE FILTRATE

Some Ringer's solution in which ground tumor had been suspended and shaken, was passed through a Berkefeld filter impermeable, under the same conditions, to *Bacillus prodigiosus*, and of the resulting fluid, small portions were injected into developing eggs. In one, after the lapse of thirteen days, small, discrete tumor nodules were found on the membranes. A microscopic examination of these well demonstrated the specific action on connective tissue of the agent causing the growth. The fluid had been injected into an extra-embryonic body cavity at a time when it was lined by mesoderm, and the tumors occurred as localized growths in this mesodermal lining. Some of them, like the mesoderm about them, were still bare of any covering on one side. During our experiments the ectoderm and endoderm have been often injured and presumably

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* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

1. Rous: Jour. Exper. Med., 1910, xii, 696.
2. Rous: Transmission of a Malignant New Growth by Means of a Cell-Free Filtrate, THE JOURNAL A. M. A., Jan. 21, 1911, p. 198.
3. Rous: Metastasis and Tumor Immunity with a Transmissible Avian Neoplasm, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1805.
4. Peebles, F.: Arch. f. Entwcklngsmechn., 1908, vii, 405

brought into association with the agent causing the growth, but they have never undergone a neoplastic change.

HISTOLOGY OF THE GROWTHS

The tumors obtained on implantation resemble microscopically those in adult fowls except that the cells lie in a loose reticulum and are often of most attenuated spindle form. Slight variations occur in the morphology of the different growths, owing presumably to variations in the implanted material. But the cells are of one type, growing in a diffuse mass; and a cellular reaction is quite absent from the normal tissue round about. In general appearance the tumor cells are markedly different from those of the normal embryonic connective tissue next to them.

SUSCEPTIBILITY OF THE EMBRYO

Some embryos are naturally resistant, as are some adult fowls, and tumor implantation in them fails of success; but in most, the growth greatly surpasses that seen in adult hosts. This refers only to tumors in the embryo's membranes, since the implantations in the embryo's body have been as yet too few for a generalization. But there the findings will probably be the same. It is well known that young animals form more favorable hosts for transmissible tumors than do old. One of us has recently investigated the point further by inoculating with tumor many new-born rats and mice. These showed themselves much more susceptible than control animals three-fourths grown.

Sixty-Sixth Street and Avenue A.

PRIMARY ORCHITIS WITH SECONDARY PAROTITIS

THE REVERSE OF METASTATIC MUMPS

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NEW HAMPTON, IA.

The case in question is that of a young man, aged 18, in high school.

Dec. 3, 1910, the patient was found in bed with temperature 101 F., pulse 90, complaining of pain and tenderness in the left testicle. I questioned him as to his having had mumps recently, the disease being prevalent at this time. He denied ever having had mumps, lues, gonorrhea, tuberculosis or having received any injury, and could not in any way account for his present trouble.

On examination, I found the left testicle very tender, quite tense, and swollen to about twice its normal size, with no evidence of the usual causes of this condition. My opinion at the time was that the patient must have had a mild attack of mumps, and that his present condition was the sequel. On the usual line of treatment he seemed to improve. Six days afterward the right testicle became swollen, much the same as the left one had been. This condition lasted for seven days, and the patient was feeling pretty well when he noticed a slight swelling below each ear, in the angle of the jaws, accompanied by considerable pain. The parotid glands became very much swollen, and the patient developed a classical case of mumps.

When I last saw him sixty days after the first symptom of orchitis appeared the testicles were nearly normal. Although he wore a suspensory, he felt that he could dispense with it.

Having excluded, so far as I knew, the ordinary causes of orchitis, with one testicle involved at a time, and the parotid glands becoming involved so soon after the orchitis, I arrived at the conclusion that the order of metastasis in mumps had been reversed in this case.

I have not been able to find a parallel case.

THE STIMULATION OF ADRENAL SECRETION BY EMOTIONAL EXCITEMENT*

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BOSTON

Dreyer's demonstration that splanchnic stimulation increased the content of epinephrin in blood from the adrenal veins has been confirmed by several observers. Adrenal secretion therefore is under control of the sympathetic system.

Major emotional disturbances indicate the dominance of sympathetic impulses. In the cat, for example, fright causes dilatation of the pupils, inhibition of the stomach and intestines, rapid heart, and erection of the hairs of the back and tail. Do not the adrenal glands share in this wide-spread subjugation of the viscera to sympathetic control?

To try this suggestion the inhibition of contraction in strips of longitudinal intestinal muscle, sensitive to epinephrin 1 to 20,000,000, was used as a biologic test. Blood was obtained from the cat when quiet, and again after the animal was excited by the presence of a barking dog, by introducing, through the femoral vein, into the inferior vena cava to the region of the liver, a small catheter lubricated with petrolatum. The blood thus obtained was defibrinated and applied to the intestinal strip at body temperature.

After an initial shortening the strip contracted rhythmically in blood from a quiet animal. In no instance did such blood produce inhibition. On the other hand, blood taken from animals after the emotional disturbance showed more or less promptly the typical relaxing effect. As the emotional period was prolonged, the effect became prompter and more profound.

The view that inhibition of the contracting intestinal strip is due to an increased epinephrin content is justified for the following reasons: 1. The effect was obtained in blood from the vena cava near the liver when that from the femoral vein taken simultaneously produced no inhibition. 2. Removal of the adrenal glands after tying the adrenal vessels resulted in a failure of excitement to produce the effect. 3. Adding varying amounts of adrenalin to inactive blood evoked all the degrees of relaxation that have been observed in excited blood. 4. Excited blood which produced prompt inhibition lost that power on standing or on being agitated by bubbling oxygen. These conditions, together with the evidence that sympathetic impulses increase the secretion of the adrenal glands, and that during such emotional excitement as was here employed signs of sympathetic discharges were observable in the animal from the eye to the tip of the tail, prove that the epinephrin effect was due to epinephrin.

Injected epinephrin is capable of inducing an atheromatous condition of the arterial wall in rabbits, especially in elderly individuals, and is also capable of evoking hyperglycemia with glycosuria. As Ascher has shown, by prolonged stimulation of the splanchnic nerves, prolonged secretion of epinephrin with maintained high blood-pressure can be produced. In the light of the results here reported the temptation is strong to suggest that some phases of these pathologic states are associated with the strenuous and exciting character of modern life acting through the adrenal glands. This suggestion, however, must be put to experimental test.

* From the Laboratory of Physiology in the Harvard Medical School.

REPORT OF A CASE OF PARALYSIS OF THE BLADDER

ILLUSTRATING THE IMPORTANCE OF CATHETERIZATION BEFORE OPERATION

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SANBORN, IOWA

In this case of paralysis of the bladder the patient was operated on under the diagnosis of ovarian cyst with twisted pedicle complicated by pelvic infection. The condition followed normal labor and delivery, and shows the importance of catheterization before operation.

Patient.—Married woman, aged 30, mother of three normal children; previous history negative; in the second stage of labor when first seen. A normal living child was delivered without the use of forceps and without laceration of the mother's tissues. Delivery of the placenta was normal. For the first six days after delivery the patient's condition was normal. On the sixth day, the uterus was six finger's-breadths above the pubis. The urine was examined and found normal. The patient felt well. On the seventh day, the temperature was 102 F., and pulse was 120. The patient complained of great abdominal pain, more especially on the right side. The abdomen at this time began to distend rapidly and in size simulated a six-months' pregnancy. The bowels were regular and a normal amount of urine was being passed though there was some irritability of the bladder. On the eighth day, the temperature was 103 F. and the pulse 140 and poor in quality. All the symptoms pointed to puerperal sepsis except the distention of the abdomen, especially the lower part. Pain at this time was only controlled by administration of ¼ grain of morphin sulphate as necessary. By this time the size of the abdomen resembled a full term pregnancy.

Examination.—This showed great abdominal distention, especially in the lower portion. Percussion showed a cyst or watery tumor in the median line, especially in the pelvis. It seemed to be of great size and a diagnosis was made of ovarian cyst with twisted pedicle accompanied by pelvic infection, and immediate operation was advised.

Blood Examination: White cells, 18,000; red cells, 5,000,000; hemoglobin, 90 per cent. Differential count showed: small mononuclears, 18 per cent.; large mononuclears, 6 per cent.; eosinophils 2 per cent.; polymorphonuclears, 74 per cent.

Urine Examination: The urine was being passed every two to four hours in quantities of from 4 to 6 ounces. The reaction was alkaline. Otherwise it was normal.

Operation.—As the patient had been passing urine at regular intervals and had passed eight ounces just before the operation it was not thought necessary to catheterize her. An incision about 4 inches long was made in the median line. A large blue, thin-walled tumor presented which resembled in every way a cyst of ordinary character. A trocar was inserted and 3 gallons of urine were withdrawn. The fact that the tumor was not a cyst but the bladder was not recognized til lthe urine escaped through the trocar. The viscus was closed with No. 2 Chromic catgut, great care being exercised not to injure the mucosa. The abdominal incision was closed in the usual way and both wounds healed by primary union.

Postoperative History.—The ordinary treatment in any postoperative case was carried out, plus, of course, treatment of bladder symptoms. There was no complaint of pain. The patient was catheterized three hours after the operation and three times a day thereafter, the strictest antiseptic precautions being observed each time. After the fourth day, after the last catheterization of the day, a few drops of silver nitrate solution were left in the urethra. Hexamethylenamin (urotropin) was given regularly. On the fifth day as often happens after repeated catheterization, the bladder became infected. The patient had chills and the temperature rose from normal to 103 F.; the pulse was 138. The kidneys also became infected. Analysis of the urine showed: color, dark cloudy; specific gravity, 1026; sugar, negative; albumin, negative; indican, present; bile, negative. Microscopic examination showed many motile bacteria, numerous crystals (calcium oxalate), granular casts and blood-cells. There was also excess of mucous and triple phosphates. By the twelfth day the patient was in excellent condition and she was discharged well on the eighteenth day.

A CASE OF ENTERITIS FROM TRICHOCEPHALUS DISPAR

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CHICAGO

Patient.—An Austrian woman, aged 22, entered the Cook County hospital suffering from an intractable anemia and it was not until after her stools had been examined that the etiologic factor was discovered. She had lived in Boston until four months prior to admission. She had worked as a laundress; never used alcoholics; food was of poor quality; she ate in cheap restaurants. Fourteen months prior to admission the patient began to lose strength, and finally had to quit work; suffered with severe headaches, which were always in the occipital region. Her appetite was poor, and eating would nauseate her, and often caused vomiting, but she never vomited blood; had not vomited or even been nauseated for several months; the bowels had always been regular. The patient had had a slight bronchitis ever since the trouble began; had never been troubled with fainting spells or palpitation, although at times she became very weak and dizzy; on exertion, she would become short of breath. The patient had lost 50 pounds in weight. When the trouble first came on, the patient suffered a great deal from epistaxis, but had never lost any great amount of blood from this source; had complete amenorrhea since the beginning of the illness and during the time of the menstrual periods would often have nose-bleed. Previous to this the menstruation was normal. The patient stated that the muscles in her arms had pained ever since she took sick, and they were somewhat tender, and became stiff on exercising them. This myalgia was most severe at night. The patient also complained of a dull aching pain in the abdomen, especially in the splenic region, and said that it was always present; there was a drowsy feeling all the time. The patient had never felt this way until this trouble came on.

Physical Examination.—The patient appeared languid and apathetic; was pale and anemic; pulse and temperature were normal. The tongue was coated white, and the breath exceedingly foul. The chest and cardiovascular system were negative. There was some tenderness in the left epigastric region and over the descending colon; liver and spleen normal. On vaginal examination, there was extreme tenderness in the posterior fornix; rectum was somewhat tender. The stools were foul-smelling, greenish in color and watery in consistency. They contained many ova of the *Trichocephalus dispar*, which were of the characteristic brown oval forms with clear polar bodies. Each field contained four or five ova. After repeated examinations, the parasites themselves were found but once. There was no occult blood in the stools; small particles of undigested foods were present and mucus was also present to some extent.

Blood Examination.—Red cells, 3,100,000 per c.mm.; leukocytes, 8,300 per c.mm.; hemoglobin, 80 per cent. The differential count showed an eosinophilia of 10 per cent.; the other cells were present in about normal percentage.

The urine showed the presence of indican; otherwise it was normal. The stomach contents were also normal.

Treatment.—Two weeks after the patient was put on thymol, gr. 2, t. i. d., the ova completely disappeared from the stools. The bowels were kept open with calomel and Epsom salts, and an occasional colonic flushing was also given. The anemia was disappearing under the use of Fowler's solution and elixir, iron, quinin and strychnin.

My reasons for reporting this case are, first, to emphasize the importance of examination of the stools as a routine procedure, and especially in cases of anemia when no cause is evident; and second, because this is a disease which is either infrequent in this section, or one which is commonly overlooked.

Therapeutics

THE PROPHYLAXIS OF MEASLES

It is difficult to find either a physician or a layman to-day who has the temerity to expose a healthy child to contact with one who is suffering from scarlet fever, with the avowed object of infecting the healthy child. With measles it is different. Not a few non-professional people are inclined to advise, and even take pains to expose healthy children to infection from patients suffering from measles with the hope that the healthy children may contract the disease.

The circumstances connected with the two diseases are somewhat different. Scarlet fever, as has been pointed out in THE JOURNAL, is a disease to which not all persons are susceptible, a considerable number enjoying either an absolute immunity because they never contract the disease, or an immunity because they have already passed through the disease in so mild a form that it has not been recognized. Measles, on the other hand, is a disease to which practically every individual who has not already suffered an attack is susceptible. It is one of the most contagious of all diseases, ranking in this respect with small-pox and typhus (the genuine typhus, not typhoid) or ship fever.

It seems almost invariably true that one attack of the disease protects against subsequent attacks, though most writers teach that a second, third, and even fourth attack are not uncommon. It is probable that when these repeated attacks are alleged to have occurred, some of them at least were other cutaneous infectious diseases, especially so-called German measles, or some eruptive but non-contagious disease.

Many cases might be cited illustrative of these points, but only two or three will be mentioned here. The famous epidemic reported by Dr. Panum, the Danish physician, in the *Archives générales de médecine,* April, 1851, has been mentioned by numerous writers from Watson to Osler. This epidemic occurred in the Faröe Islands, in 1846. No measles had been known in this group of seventeen small islands since 1781 until on March 28, 1846, the disease was introduced by a man who had come from Copenhagen. In October of the same year the disease had entirely disappeared, and during the interval which had elapsed, of 7,782 inhabitants of the islands, 6,000 had had the disease; 1,500 persons who had established quarantine against the disease escaped.

In 1875, it is reported that measles was carried by a ship of the British navy from Sydney to the Fiji Islands, and in the succeeding epidemic 40,000 out of the 150,000 inhabitants died in four months. This shows the terrible severity of the disease in people who have no hereditary partial immunity.

In the Civil War, a large number of soldiers had measles, and many died from it. This disease occurred more frequently in the regiments which were recruited in the country towns than in those which were recruited in the large cities, this being explained by the fact that in country towns epidemics occur at longer intervals, so that a large number of boys reach manhood without having had the disease, while in the large cities epidemics are frequent and few boys grow to manhood without having experienced it.

These instances show that practically everyone is susceptible to measles until he has had it, and that an attack in adult life is generally more severe than in childhood.

Taking these facts into account one may well question first, whether it is possible entirely to prevent epidemics of measles; and second, whether, if it is possible to prevent them, it is desirable to do so?

On the other hand, it has been observed that children under six months of age are less likely to take this disease than older children, and that extremely old people are also less susceptible. Also, it seems to be a fact that the disease is most disastrous in its effects on infants, on children who have scrofulous glands, on persons who are tuberculous, or who have any tendency to tuberculosis, on individuals who are debilitated from any cause, and on women who are pregnant or who have recently been confined.

The above being true, it certainly can be reasonably asserted that the effort should be made to isolate children who are suffering from measles in order to prevent the spread of the disease, at least to people in whom an attack of the disease is likely to be followed by disastrous results. The details which should be carried out in order to accomplish this are not very different from those applicable to the prevention of scarlet fever, as given in THE JOURNAL, March 4, p. 667.

The contagious element of measles appears to have less vitality and to resist the ordinary measures of disinfection, including sunlight and fresh air, much less strongly than does the contagium of scarlet fever. The contagion of measles seems to exist very extensively in the secretions from the nose, throat and mouth, and the disease seems to be especially contagious during the period when the catarrhal symptoms are manifest, but before the cutaneous eruption appears. This increases the difficulty of enforcing efficient quarantine, for ordinarily, before the eruption appears, the child is believed to be suffering merely from a cold, and by the time the eruption appears and the quarantine is enforced many children have been exposed to the disease. When the disease is prevalent, children who show symptoms of a cold in the head should be suspected of perhaps having measles and should be promptly quarantined, but at the beginning of an epidemic it is rare that a child will be placed in quarantine before the eruption has appeared.

The general rule that well children should be kept apart from sick children is not usually followed with reference to children who are suffering from catarrhal affections of the nose and throat. When the rule is extended so as to apply to these patients, both whooping-cough and measles will be less rapidly passed around among the children.

The measures enumerated as applicable to scarlet fever and which are also applicable in cases of measles may be briefly summarized as follows:

The isolation of the patient in a remote room of the house.

The selection of a single immune person to care for the patient.

The wearing by the physician of a linen or rubber coat, when he visits the patient, which is removed outside of the patient's door.

The destruction of books and toys, which have been used by the patient, at the end of the period of quarantine.

The disinfection of dishes and clothing before they are removed from the sickroom.

At the end of the period of quarantine, which in the case of measles unattended by complications should be three weeks, the bathing and shampooing of the patient, and dressing him in fresh clothes.

The disinfection of the room, after it has been vacated, by the vapor of formaldehyd and by exposure of the room so far as possible to fresh air and sunshine.

The carrying out of these rules is a duty which every head of a family owes to the community, and especially to his neighbors who are at either extreme of life, or who are in delicate health. Such preventive measures should be enforced not only by the physician, but also by the sanitary authorities of the town.

As has just been said, sunshine and light are essential to the killing of the germs of all disease, and especially of measles; hence the room of a patient suffering from measles *should only rarely be kept dark during the day.* The patient's eyes may be efficiently protected from light by blue or smoked glasses.

The prolonged cough of measles after the period of quarantine is over should be treated as though the patient had incipient tuberculosis, and then the number of secondary deaths from measles will be cut in half.

OXYURIS VERMICULARIS: PIN-WORMS

The pin-worm, thread-worm, or seat-worm, as it is commonly known, is the most frequent intestinal parasite of man. It occurs frequently in children, but is also found in adults, in whom it may continue to cause the most annoying symptoms for a prolonged period.

The most common symptom is itching about the anus, which is due to the presence of the worm in this locality. It may, however, migrate to adjacent parts, causing also pruritus vulvæ which in turn may lead to masturbation. This itching comes on in the evening or at night after the patient has retired. It frequently causes restlessness and disturbance of sleep. It may interfere with the appetite and nutrition of the patient, causing anemia and emaciation. Less often it produces more serious nervous disturbances, and rarely even convulsions.

The male worm is smaller in size than the female, the latter being about three-quarters of an inch in length, and the male about one-fifth of an inch.

The eggs are taken into the mouth with the food or from the fingers which may become infected during the scratching caused by the itching. Passing into the stomach, the eggs hatch out and the worms develop and pass into the small intestine, and from there into the large intestine and rectum, where the female deposits its eggs in immense numbers, frequently passing out from the rectum to the anus for this purpose.

The treatment should be internal, local, and general. The internal treatment should be directed toward removing the parasite from the intestinal canal as rapidly as possible. For this purpose magnesium sulphate is perhaps the simplest remedy, and it is usually efficient. Calomel is preferred by some, and should be given in a good sized dose, as, for instance, 5 grains for an adult. Santonin has been recommended, but on account of its toxic effects should not be employed, except in obstinate cases.

The local treatment consists of rectal injections of various sorts. Water is very destructive to both the worms and the eggs, and in many cases copious injections of water are all that is necessary to effect a cure. Commonly recommended are infusions or decoctions of quassia, made by steeping one ounce of quassia, powdered or in chips, in one pint of hot water. When this has become cooled to the temperature of the body, a portion of it may be injected into the rectum and retained, if possible, for from ten minutes to half an hour. In many cases injections of warm soapsuds have proved efficacious. In cases which resist these remedies, a solution of the corrosive chlorid of mercury of the strength of 1 to 10,000 may be used. In using these injections it is necessary to inject as large an amount as can be retained with comfort. Young children cannot usually be expected to retain more than from 2 to 4 ounces. Adults can frequently readily retain from half a pint to a pint, especially if the hips are raised; or the patient may be given a colon wash. The larger injections are desirable in order to distend the rectum thoroughly and to remove the mucus in which the worms find an agreeable habitat.

If the itching and scratching about the anus have resulted in congestion and thickening of the skin, the subsequent itching may be irrespective of the presence of the parasite. For this condition the official unguentum phenolis (a 3 per cent. ointment of phenol) may be employed with benefit.

As the persistence of the parasite in the intestine is favored by an unhealthy condition of the mucous membrane, general treatment should be directed toward restoring the intestinal canal to a healthy condition.

The prophylactic treatment, which is of considerable importance, embraces frequent bathing of the parts with soap and water, thorough washing of the hands after they have been used in scratching or other manipulations, and boiling of the clothing and bed-clothing to destroy any eggs which may be deposited on them. The treatment with enemata should be repeated daily until the trouble is thoroughly removed. This can be definitely determined by microscopic examination of the feces, which should show entire absence of the ova.

Before the treatment of the individual patient is complete, inquiry should be made in regard to the presence of the parasites in other members of the family, including not only the children and parents, but also nurses and other attendants.

Essentials of the Campaign Against Tuberculosis.—Stating that tuberculosis is "a disgrace to our civilization," in a recent address Ex-Governor Charles E. Hughes of New York, now a justice of the Supreme Court of the United States, outlined the essentials of the work against tuberculosis. He said: "Here is a chance for the cooperation of all, no matter what their political views may be, no matter what their theories of government may be. I recognize the necessary limitations of governmental action. And here, not only must we have the action of government within its proper sphere, but this must be supplemented by the cooperation of those voluntary agencies which work outside the domain of government. Necessary information can be brought home to those who are in unfortunate circumstances which are remediable, so that they may know that the conditions may be a little less unfortunate by attention to a few simple rules with regard to hygiene and the proper ordering of life and its surroundings. Those who house other people and profess to have some patriotic pride in our institutions, can more clearly realize what they should do in the interest of the entire community in providing decent abodes for those from whom they take rent. Local authorities in our cities must appreciate the importance of securing prompt and full information in regard to cases and the faithful execution of our health laws so that this shall not be a paper program, but a realized advancement. In our counties the boards of supervisors are having opportunity, and should realize the necessity of improving conditions. This work must find its support in the sentiment of our communities. You cannot carry it by main strength against the will of the people. The people must be brought to realize what can be done, what is practicable, and support it because they understand it. Every man and every woman who knows the situation can be a conductor of electrical energy and give this movement its needed power."

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SATURDAY, MARCH 11, 1911

INFECTION AND ANAPHYLAXIS

As a result of work on anaphylaxis, the belief is gaining ground that many of the toxic processes of infections are to be explained on this basis. Rosenau and Anderson,[1] among others, have shown that true anaphylaxis can be produced to bacteria as well as to other proteid-containing substances, and von Pirquet and Schick[2] some time since went so far as to conclude that "the pathogenic substance has in itself no disease-producing effect; but rather, the symptoms of disease appear only when changes effected in the pathogenic substance, by the host, have attained a certain degree." Needless to say, such infections as produce true toxins, as diphtheria and tetanus, do not come under consideration, and the theory is particularly applicable to those diseases in which we were formerly accustomed to assume the existence of bacterial endotoxins as the cause of the process. The essential difference from this latter view is the belief that the bacteria in themselves have little or no toxic effect; that this results from an interaction of bacterial proteid (antigen), antibody and complement, the two latter being contained in the serum of the host. In this way the assumption of specific bacterial toxins with every infection becomes unnecessary; and the failure to obtain antitoxins with so many microorganisms is readily explicable.

It is evident that the phenomena of an acute anaphylactic reaction—convulsions associated with air hunger—are rarely, if ever, those of an infection. But the much more gradual addition of the foreign material in the latter case affords a satisfactory explanation for this difference. Indeed, Friedberger,[3] by injecting sensitized animals with repeated small doses of the foreign proteid, was able to produce continuous and remittent and intermittent fevers, and he concludes that "anaphylaxis is an extreme and acute form of infection, and infection a milder, more protracted form of anaphylaxis."

Neufeld and Dold[4] have taken up the problem of the possible identity of bacteriolytic antibodies with those associated with the process of bacterial hypersensitization. In the case of the cholera vibrio, anaphylaxis occurred only when lysis of the organism by the immune serum was prevented by keeping the mixture of organism and sensitized serum at freezing temperature. When lysis was allowed to take place, the resulting mixture produced no acute toxic effects. With the pneumococcus, on the other hand, there was no bacteriolysis to be guarded against, and the anaphylactic reaction was obtained regardless of the temperature at which the mixture was kept. Solution of this organism by autolysis, or by chemical means, gave inactive mixtures. Hence it would appear not only that the antibodies associated with bacteriolysis and with anaphylaxis are distinct from each other, but that the one process places itself in direct opposition to the other. So that bacteriolysis acts to some extent as a protective measure against anaphylaxis; and in the case of a disease like cholera, the clinical picture becomes the resultant of two opposing forces—the bacteriolysis in part preventing acute anaphylactic intoxication, but meanwhile liberating a noxious, but less acute endotoxin.

It is of course obvious that diverse bacteria can produce similar clinical conditions depending largely on the localization of the infection. And the present theory, departing largely from the assumption of specific toxins for the different organisms, gives this an adequate explanation. The theory also explains nicely the incubation period of disease, as being the interval elapsing between the actual invasion by microorganisms and the formation of a sufficient quantity of antibody to produce the toxic effects resulting from the combination of antigen plus antibody.

1. Hyg. Lab. Bull., 1907, 36.
2. Wiener klin. Wchnschr., 1903, xvi, 758.
3. Berl. klin. Wchnschr., 1910, xlvii, 1922.
4. Berl. klin. Wchnschr., 1911, xlviii, 55

SEX AND THE INSTRUCTION OF THE YOUNG

The attitude of the modern world toward the problem of sex, and especially of education in the hygiene and ethics of sex, seems an anomalous one. The subject has always been surrounded with mystery; but simpler and more primitive peoples find life full of mysteries, which they confront smiling and unabashed. We have few mysteries left to us; and the antiquated taboos which overshadow this one appear scarcely sufficient to account for the feeling, curiously compounded of dread, aversion and curiosity, which any discussion of the subject seems to arouse in most people to-day. The pagan world of antiquity frankly glorified sex, even in its sensual aspect; the asceticism of the middle ages rigorously condemned all aspects as sinful. The modern world professes to repudiate both doctrines; but the two seem to mingle in the ill-balanced and feverish sensitiveness on the subject often betrayed to-day, both in silence and in speech.

For a long time the outwardly predominating factor of asceticism has conspired with a host of shadowy, undefined motives to keep all enlightenment on the subject from the young with the same fearful zeal that

guards a powder-magazine from sparks. Experience and observation have taught, however, that the dreaded explosive force in humanity is not, like the powder, dead until awakened by a spark from outside; rather it is like live steam, dangerous only if not provided with the proper outlet. The ban of silence has, therefore, been lifted, and organized effort has set unflinchingly about the task of revealing the consequences, frightful or loathsome though they may be, of transgressions against the hygiene and ethics of sex.

Even yet, however, the ascetic view predominates; the destructive aspects of this ever-present natural force are the ones emphasized. That impulse which the Greek saw as a part of the vivifying forces of an august yet genial Nature, typified by the fertile earth and the quickening rain and sunshine—that impulse which has directly inspired much, if not most, of the greatest efforts in all forms of art, and which in subtler ways has entered into the greatest achievements of humanity—that impulse which, after all, not only perpetuates, but forever binds together the race with ties growing out of family, kinship and friendship—that impulse is presented to the impressionable mind of youth chiefly in its perverted aspects—aspects which shock and repel. Is there danger of permanently distorting the point of view—of infecting the susceptible youthful mind with suspicion and pessimism and, indeed, of actually degrading its ideals and possibilities?

This question has been stated clearly, forcibly and thoughtfully by W. D. Parkinson.[1] "The merit of truth," he says, "is not in its nakedness. To depict in startling colors the awful consequences of vice and to dwell on its equally appalling prevalence have never been found effective in advancing the standards of virtue. Indeed, these are the very measures oftenest employed by the two most active promoters of vice—the quack who deals in startling consequences and the evil companion who is always ready with the assurance, 'They all do it.' . . . Fear of consequences is not the ultimate appeal to a robust nature. No degree of danger will deter a youth from venturing into experiences which he believes he is to share with those who constitute the real world: and vice always claims to be the real side of human life. . . . Society is so permeated with this tone of patronage toward the poor fellow who has not sown and reaped wild oats that no threatened consequences can avail much with a youth who would rather be penalized than patronized. The half-contemptuous attitude toward innocence, maintained so conspicuously by the more outspoken portion of the public, is more impressive to the average youth than all the scareheads that benevolence may display in his path. For every man desires to be a sharer with other men. Unless he can be assured that reality reaches as far upward as it does downward, that the upper world is as rich to the explorer as the nether and affords at least equal manly companionship, he will cast in his lot with the underworld and take his chances with his fellows in spite of all warnings."

This touches the root of the matter. The negative sanctity of the ascetic—the insulated safety of the anchorite—make no appeal to most young people, and especially to boys, who look forward to living in a "man's world." Warning alone is not likely to save any but the weaklings, if indeed it saves them. The salvation of more robust natures must be positive. There is much wisdom, therefore, in Mr. Parkinson's assertion that the sex relationship should not be presented either as a menace in itself or as a mere matter of personal or social hygiene, but as "one of the fundamental—perhaps the most fundamental—of all the factors of social and spiritual progress." His article is worth reading, and his conclusions are worth pondering over.

1. Parkinson, William D.: Sex and Education, Educational Rev., January, 1911, p. 42.

THE LENTICULAR ZONE AND ANARTHRIA

The aphasia storm which had its origin in the "Revision" paper of Marie in 1906, and which broke with such violence in the discussion before the French neurologic society in 1908, has now almost passed, leaving the situation somewhat clearer, but still possessing most of its ancient landmarks.

It will be recalled that Marie maintains that Broca's convolution plays no rôle whatever in the zone of language; that aphasia is always due to a lesion of Wernicke's zone, and is always the "sensory aphasia" of the classical adherents; and that a lesion of the lenticular zone, of which he makes a tentative description, produces an anarthria—which anarthria plus the sensory aphasia equals the classical Broca's aphasia.

Thus: An isolated lesion of the zone of Wernicke=aphasia of Wernicke; an isolated lesion of the lenticular zone=anarthria; a lesion of the two zones=aphasia of Broca.

Dejerine stood by the classical conceptions, as did also Liepmann, Ziehen, Bianchi, Grasset and a host of others; v. Monakow took a median position, while Marie, Souques, Moutier and others defended the new theses in whole or in part.

It soon became evident that Marie's first contention was false. It has been proved without doubt that Broca's convolutions do play an important rôle in the function of language. The second contention never contained anything particularly new, save the added claim made by Marie that there was always an intelligence defect involved in Wernicke's aphasia; this has been effectually disproved by a number of recent studies. Now Mahaim[1] and Van Gehuchten[2] enter the lists and show that lesions of the left lenticular zone in right-

1. Mahaim: Un cas d'aphasie motrice et sensorielle sans hémiplégie, avec intégrité de l'opercule, de l'insula, et du noyau lenticulaire, Bull. de l'Acad. roy. de méd. de Belgique, December, 1909, and Feb. 27, 1910.

2. Van Gehuchten: Lésion de la zone lenticulaire gauche sans troubles de la parole, Le Névraxe, Dec. 20, 1910.

handed individuals may occur without anarthria—in fact, without any trouble with speech whatever.

Both Mahaim and Van Gehuchten have studied cases by means of serial microscopic sections in which the "lenticular zone," as described by Marie, has suffered almost total destruction, and yet there have been no speech disturbances of any kind. Furthermore, Van Gehuchten analyzes in detail the proofs advanced by Moutier in his thesis on which Marie bases his contentions, reproducing all his pictures, and shows that Marie's anarthria is really an anarthria of projection.

Thus, while aphasias still need more extended study by serial microscopic sections in order to clear up many vexed points regarding the rôle played by a number of projection and association paths in the function of language, it would appear that the final *coup de grâce* has been given to the last of Marie's primary contentions in his initial famous "Revision."

THE CIRCULAR AROUND THE BOTTLE

The Council on Pharmacy and Chemistry has certain rules governing the admission of proprietary and other medicinal products to New and Nonofficial Remedies (N. N. R.). A large number of preparations are ineligible to N. N. R. because they are exploited in nonconformity with Rule 4, which reads:

"*Indirect Advertising.*—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is said to be indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to vaccines and antitoxins, or to directions for administering or applying remedies where similar immediate, heroic treatment is indicated.)"

In other words it is held that circulars describing the diseases in which the remedy is useful are distinctly detrimental to public health; the tendency always is to exaggeration, not only as to their value, but also as to the variety of diseases in which the remedy is indicated.

A considerable proportion of the medical profession may still be charged with heedlessly playing into the hands of the "patent-medicine" man. The "circular around the bottle" is a striking instance of this. The patient has placed in his hands a preparation in the "original bottle" wrapped around which is a circular containing a comprehensive list of all the ills and pains and various derangements for which that product is supposed to be valuable. He is also given with the same package a supplementary list of a dozen or so of other prescriptions, and what diseases they will cure. He is at once advised how he may at all times and of his own initiative obtain these wonderful remedies. And all this with the (presumed) full endorsement of the family physician! Could anyone devise or imagine a more effective way of starting a patient on the road to self-drugging? And is not this the nature and purpose of the fanciful "circular around the bottle?" There are dozens, probably scores, of preparations which have never been advertised directly to the public and yet which are bought by that public, over the drug store counter, like the rankest of "patent medicines." These self-druggers have been made such by the carelessness of physicians who have prescribed "original packages" of such proprietaries as those under discussion. It is necessary only to call to mind such preparations as Antikamnia, Micajah's Wafers and Glycothymoline as some of the most flagrant examples, to realize the evil of prescribing a product having a "circular around the bottle."

Nevertheless, the Council has been assured by several manufacturers that their preparations would be unsalable if they omitted this circular; that physicians would not use or prescribe these preparations without the circular, and—the saddest part of it all—these manufacturers appear to be serious and honest in their contention. What is the meaning? Do physicians really need the circular around the package or bottle to tell them why they are using this or that drug? Or does the circular confer some peculiar potency on the drug which would be lost if the circular were omitted? Or is the circular one of those bad but seductive habits which we would rather suffer than do without? Or, finally, are these manufacturers mistaken in their estimate of what physicians really want?

THE SECRET COMMISSION EVIL

The giving and receiving of secret commissions has been discussed with increasing frequency for several years. Although the existence of this practice has long been recognized, we have always believed that it has been confined to a comparatively small number of physicians. Condemnation of this evil by the Association, by THE JOURNAL and by various medical societies, as well as occasional local investigations and exposures, have apparently failed to abolish it. Recent discussion shows that the better men in the profession appreciate the importance of the problem and the need of its solution by physicians. In this issue appear two articles on the subject, one the president's address before the Western Surgical Association,[1] and the other an editorial from *Colorado Medicine*.[2] Both of these articles are severe and carry the impression that the practice is widespread. We are loath to believe that conditions are as bad as represented. Yet this evil, if existent to any extent, should be freely discussed and unsparingly condemned. Its correction is of vital importance to the public as well as to physicians. While it has long been recognized as existent by the profession, the rapidly growing interest of the public in professional matters and the increasing disposition of physicians to take the people into their confidence, have apprised the public, apparently for the first time, of the existence of this condition. Now that the people are informed, the evil must be

1. THE JOURNAL A. M. A., this issue, page 725.
2. Colorado Medicine, February, 1911; see THE JOURNAL, this issue, page 770.

speedily corrected by the profession, for if it is not, the people themselves will demand the right to suppress it.

It is significant that, in spite of the specious arguments brought forward in defense of this practice in professional circles, no one has attempted to defend it before the public. The misleading excuses of "paying the attending physician for his time," "recognizing the diagnosis as of equal value with the operation," and other fallacious arguments which have been advanced in extenuation of this practice, will count for nothing with the public. Logically, they belong in the same category as the "poor boy" excuse for cheap medical colleges and night schools. Popularly, they will have much less weight, since the layman does not recognize, as yet, the importance of medical education to him and to his family, but does see, in the secret payment of commissions, that the patient, instead of being a sacred trust, is made an article of merchandise, whose money is divided without his knowledge.

The issue is so plain that it needs only to be stated to carry conviction to the unprofessional mind. It has been condemned and denounced repeatedly by medical organs and organizations and by high-minded medical men everywhere. Yet, we are told, the evil exists and is becoming more prevalent. If this be true, there is but one remedy, the remedy which in recent years has corrected many other pernicious and secret practices: Graft in the medical profession must receive the same treatment as graft in politics or in business—publicity. If the people and the profession are given the names of surgeons and specialists who offer secret commissions and of physicians who accept them, this wretched business will soon come to an end.

Apparently there is one community in which this remedy is to be applied. The Denver *Times*, an evening paper, which has for a long time excluded all objectionable medical advertisements, says editorially in a recent issue:

> . . . It is disquieting to learn from the organ of the Medical Society of Colorado that many physicians and surgeons are commercializing their practice through that system of secret rebates known as "fee-splitting." The method is about as follows: A patient consults a physician. The physician discovers that the case calls for the knowledge of a specialist or operation by a surgeon. Ethically it is the duty of the physician to seek the services of the most highly qualified man. But the sight of some possible dollars blinds the vision to ethical considerations and the patient is sent to the specialist or surgeon who agrees to pay to the physician the largest percentage of his fee. It is a debasing custom of course; it admits of neither extenuation nor excuse; but it seems to be a custom to which numerous physicians and surgeons of repute are addicted, and we believe that it can only be abolished by the publication of the names of the men practicing it. Some of those names we have obtained and authenticated already; we are investigating others now; and when the list is tolerably complete we will print it and gladly face the libel suits that such publication may involve. The men who do this kind of thing are well known already to the men who do not; in professional circles their names are a matter of common gossip; but they should be known equally well by the lay public, and we hope, shortly, to be able to give them the kind of advertising they merit.

And yet in this question, as in other complicated social problems, the public itself is to a certain extent to blame for existing conditions. In the majority of communities, the family physician is to-day receiving the same compensation which was paid his professional forefathers two or three generations ago; and this in spite of the enormous increase of the cost of professional education and of the standard of living, as well as of the quality of medical services. Whether wisely or not, the physician fears in many cases to raise the price of his services or to charge on any other basis than the time-honored, but economically absurd, basis of the number of calls made on the patient. The result is that in many cases the patient pays willingly and promptly the large fee demanded by the surgeon, but settles his bill with his family physician grudgingly and after long delay. The family physician often gives far more in time and services to the patient than he can expect to receive compensation for; and he has consequently turned to the surgeon to receive as a gift what he should have received from the patient as a right. If the public will compensate the family physician fairly and promptly for his services and will insist that all transactions between the physician and the consultant be carried on with the full knowledge of the patient, the cause and the possibility of this evil will speedily disappear. Physicians and surgeons must recognize the existence of this evil, must admit the rights of the public in the matter and must lead the way in abolishing it, but the public, on its part, must recognize the conditions which have given rise to this problem, must do its share to help the profession to solve it; and must support the family physician, both financially and morally, so that he may be able to deal honestly and fairly with his patients.

Current Comment

THE COST OF CLEAN MILK

On the principle that one cannot get something for nothing, it must be conceded that one result of the requirements for a cleaner, purer milk-supply will be an increase in its cost to the consumer. Official recognition of this fact is found in the report of the Philadelphia Milk Commission which recently investigated the matter of the milk-supply of that city. This report seems to cover fully the production and distribution of milk in all their phases, as relates to Philadelphia. The commission believes that milk can be produced and distributed under proper regulations with fair profit to all concerned at an advance of one cent a quart over present prices, making the price nine cents. They say that "the public is fully awakened to the danger of milk as received to-day, and will accept a proper increase in price to secure the protection that proper regulations will give them." They believe that though this might seem to be hard on the poorer consumers, really they will be most benefited, as at present they receive much milk that is unfit for consumption, and the amount

which they will save by decreased illness on account of having a healthful milk-supply will more than compensate for the increased cost. They recommend that this increase should go to the farmers, who should receive not less than five cents a quart for milk produced under proper conditions. To this allotment, of course, the milk distributors demur. It is probable that the objection of the consumer to an increase in the price of milk has hitherto been because it benefited only the distributor, who already received the larger share of the selling price, for the smaller share of the labor and expense. The findings of the Philadelphia commission will no doubt apply, with modifications, to the milk question elsewhere, and their conclusions that the farmer should get more, and that the consumer will be willing to pay more, for clean, safe milk, will be generally accepted.

PLAGUE IN CHINA

Dr. Mullowney's account in this issue of the plague in North China illustrates one disadvantage of western civilization superimposed on a somewhat unprepared eastern population. The spread of plague would probably have been much less rapid in that section, as has been the case in the Hunan province in the south, had it not been for the existence of railroad communication. This, together with the insanitary conditions existing in the Chinese cities, and the unreadiness of the government to cope with the epidemic, make the condition there a very serious one. An infection like plague may readily spread along the main arteries of communication that have been opened up in such a country as China. The disease has continued to spread in many provinces, according to reports later than that of Dr. Mullowney, and probably will die out only after it has exhausted the susceptible material. Famine and rioting are adding to the horror of the situation and the extent of the devastation cannot be predicted. The "yellow peril" with this complication is a very real one and may be a matter of international concern at any time.

EASY WRITING VERSUS EASY READING: A HINT TO AUTHORS

The considerable amount of work required of the editor in preparing manuscripts for publication has led the editor of the *Journal of the Indiana State Medical Association* to voice a protest against the carelessness of authors in sending in their papers. The indictment is a true one. Writers could relieve the editor of much unnecessary work by a little care; and since, after all, no one should be so competent to set forth a man's own ideas and experiences as himself, such care would result in a better presentation of the subject than can be given by the most careful reviser. We refer particularly to case-reports, which are often presented in varying degrees of unprintable condition, sometimes being sprinkled with abbreviations devised by and intelligible only to the author, and sometimes merely defiant of grammar and syntax, but frequently requiring what amounts practically to rewriting. It would seem that the reports usually consist of disjointed, fragmentary notes jotted down at the time of examination, without revision, with verbs omitted from sentences, words, clauses and phrases separated by periods, the whole sounding like a telegram, with every rule of construction and punctuation violated. It would be no more difficult to make a case-report a plain, consecutive narrative, conforming to the rules of good style, than to write the remaining text of the article in the same manner. The little time required would be well spent, for the "easy writing" which, as Byron said, "makes d—d hard reading," might almost as well not be done at all. We endorse the sentiments of the editor from Indiana.

Medical News

ALABAMA

Tuberculosis Ward Equipped.—W. E. Colwell, Birmingham, has donated equipment for a ward in the new sanatorium established at Red Mountain by the Birmingham Antituberculosis Society. Ten of the twelve rooms have already been furnished and the patients were removed to the institution last week.

Society Elections.—Dale County Medical Society held its annual meeting in Ozark, January 11, and elected the following officers: president, Dr. Robert D. Reynolds, Jr., Ozark; vice-president and censor, Dr. Andrew J. Morris, Newton; secretary-treasurer, Dr. M. O. Grace, Ozark; censors, Drs. Erastus B. Ard, Ozark; Samuel M. C. Howell, Midland City; William D. Mixson, Ozark, and Henderson L. Holman, Ozark; county health officer for four years, Dr. Erastus B. Ard, Ozark; health officer for Ozark, Dr. M. O. Grace; for Midland City, Dr. Samuel M. C. Howell; for Pinckard, Dr. R. G. Cary; for Newton, Dr. James E. Stokes, and for Ariton, Dr. C. R. Athey. ——At the annual meeting of the Barbour County Medical Society held in Eufaula, the following officers were elected: president, Dr. John S. Tillman, Clio; vice-president, Dr. Benjamin F. Jackson, Clayton; secretary-treasurer, Dr. William P. McDowell, Eufaula; county health officer, Dr. Clarence Long, Comer; county physician, Dr. James J. Winn, Clayton, and councilor, Dr. Benjamin F. Bennett, Louisville.——Coosa County Medical Society has elected the following officers: president, Dr. Julius Jones, Rockford; vice-president, Dr. S. F. Jones, Rockford; health officer for five years, Dr. William H. Moon, Goodwater, and censor, Dr. Eugene Argo, Goodwater.

CALIFORNIA

Additional Gift to Hospital.—Mrs. Whitelaw Reid has given an additional $60,000 to the Red Cross Guild Hospital, San Mateo, which was erected as a memorial to her parents, Mr. and Mrs. D. O. Mills.

Election.—At the annual meeting of the Humboldt County Medical Society, held at Sequoia, the following officers were elected: president, Dr. John N. Chain, Eureka; secretary, Dr. John M. Mill, Arcata; and treasurer, Dr. Francis R. Horel, Arcata.

Dr. Royer is Not Dead.—In the *Southern California Practitioner*, December, 1910, appeared the death notice of Dr. Daniel Franklin Royer of Orange, and on this authority his name was included among the dead in this journal. Dr. Ida B. Parker of Orange informs us that the notice was incorrect, and that Dr. Royer is alive.

COLORADO

Commissioners Approve Dr. Cassidy's Plan.—The board of commissioners of Denver County, on February 9, placed itself on record as favoring Dr. Elizabeth Cassidy's move for more careful selection of the medical staff of the city and county hospital, by adopting resolutions endorsing the provisions of the bill now in the hands of committees in the house and senate, which place the appointive power in the faculty of the state university, medical department.

Personal.—Dr. Leonard Freeman, Denver, who was recently operated on for appendicitis at St. Joseph's Hospital, is reported to be convalescent.——Drs. Henry W. Hoagland, P. Oliver Hanford and Gerald B. Webb, Colorado Springs, have

been appointed to the medical staff of Sunny Rest Sanatorium.——Dr. James C. Todd, Denver, has been appointed professor of pathology and secretary of the first and second year divisions of the University of Colorado Medical School, Boulder.

GEORGIA

New Officers for Medical Board.—At the February meeting of the medical board of Grady Hospital, Atlanta, the following officers were elected: president, Dr. John C. Olmstead; vice-president, Dr. F. Phinizy Calhoun; and treasurer, Dr. L. Benjamin Clarke.

Long Memorial Infirmary.—Crawford W. Long Infirmary banks were opened at various places in Athens, March 2. These take the place of a personal canvass for the establishment and endowment of a Memorial Infirmary for the University of Georgia in honor of the late Dr. Crawford W. Long.

District Society Election.—At the fourth annual meeting of the Tenth District Medical Society, held in Augusta, February 14, the following officers were elected: president, Dr. Joshua R. Beall, Blythe; vice-president, Dr. William W. Beattey, Jr., Augusta; and secretary-treasurer, Dr. George A. Taylor, Augusta (reelected). The society was entertained at a banquet by the Richmond County Medical Society in the evening, when addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky.; Dr. Albert Vanderveer, Albany N. Y., and others. The society adopted a resolution highly commending the faculty of the medical college for its efforts in behalf and in connection with the college-hospital movement.——The annual meeting of the Fourth District Medical Society was held in Carrollton, February 21. Addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky., and Dr. Eduard C. Davis, Atlanta, president of the Medical Association of Georgia. The following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr H. J Goodwyn, Roopville; and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

ILLINOIS

Maternity Hospital for Aurora.—The Sisters of Mercy announce that they have purchased the Ryburn Flats, with the surrounding property, for $18,000, and will establish a maternity hospital to be known as St. Joseph's Infirmary.

Hospital Staff Resigns.—Fifteen of the eighteen members of the medical staff of Oak Park Hospital resigned March 3, the cause assigned being the interference with the duties of the staff, by the Sisters of Misericordia, who are in charge of the hospital.

Personal.—Dr. Jesse M. Threadgill, New Douglas, was recently operated on in Rebecca Hospital, St. Louis, for a ununited fracture of the arm, due to a runaway accident, January 30.——Dr. Paschall N. Bowman, Springfield, charged with manslaughter, is said to have been freed from that charge, February 27, and committed to the Jacksonville State Hospital.——Dr. Lucinda H. Corr, Carlinville, was awarded $1,000 in her suit for damages against the Chicago and Alton Railway, for injuries received in a wreck.

Commend Association for Education Work.—The Williamson County Medical Society, at a special meeting held for the purpose, February 28, passed resolutions commending the American Medical Association for its services in elevating American medical standards and urging further effort until standards of preliminary education and of medical practice in the United States shall be fully equal to those of Europe. The preambles recite that there are many unnecessary medical colleges which are run for commercial purposes, and that, because of competition between these colleges, many incompetent and even illiterate physicians are graduated; and that these factors together with commercialism in professorships and lack of stringency in examinations are causing harm to the general practitioner, without any benefit to the public.

Chicago

Money for Sanatorium.—In the state tax levy for 1911 is included an item of $442,184.64 for the Municipal Tuberculosis Sanatorium.

Many Appointments to Medical Reserve Corps.—The President has sent to the Senate the nominations of sixty-seven more physicians of Chicago as first lieutenants of the Medical Reserve Corps.

Site for Tuberculosis Sanatorium.—The city of Chicago has taken title to the remaining 60 acres of the 160-acre tract purchased for the Municipal Tuberculosis Sanatorium at North Fortieth and Bryn Mawr avenues.

Trouble at Hospital.—As a result, it is said, of disloyalty and insubordination on the part of members of the staff of Mary Thompson Hospital, seven members have been dismissed. The physicians in question claim that the trouble lies in the appointment of a lay superintendent, and in the overbearing treatment of the physicians by the superintendent.

Personal.—Dr. David J. Davis of the Memorial Institute for Infectious Diseases has been appointed pathologist to St. Luke's Hospital.——Dr. Katherine B. Rich has been appointed assistant city physician, and began her duties February 24.——Dr. B. Brindley Eads, who was operated on at the Presbyterian Hospital, March 6, is making satisfactory progress toward recovery.

Society to Support State Institution.—The council of the Chicago Medical Society, at a meeting February 14, unanimously adopted resolutions endorsing the request of the trustees of the University of Illinois for an annual appropriation of $100,000 for the equipment, maintenance and extension of the medical school, and appointed a committee to assist in presenting the matter to the legislature and the governor.

Contagious Disease Hospital.—The common council has decided to add the fund of $75,000 bequeathed to the city by the late Mrs. Annie C. Durand for the establishment of a public bathhouse, to another fund, the combined fund amounting to about $200,000, to be used for the construction of a hospital for the treatment of contagious diseases, and an arrangement has been made with the trustees of the McCormick Memorial Institute for Infectious Diseases, whereby that institution will meet any expense of maintenance not covered by the Durand endowment fund.

To Avoid Undesirable Newspaper Publicity.—At its last meeting, the Council of the Chicago Medical Society adopted certain preambles and resolutions relative to newspaper publicity. The Council expressed the opinion that reporters should be excluded from all meetings of medical societies during the consideration of all strictly scientific matters, except those bearing on sanitation, public policy, hygiene or sociology; also that abstracts of such papers that come within the range of subjects considered as proper for publication in the public press be handed to the secretary, before or at the meeting, to be given by him to the press.

INDIANA

Contract for Hospital Let.—The contract for the erection of the new St. Vincent's Hospital, Indianapolis, was let March 2. The main building will be five stories in height and of steel, fire-proof construction. There will be two diet kitchens on each floor, and there will be fourteen operating rooms in the building, the entire top floor being given up to surgical purposes.

Leaves Estate to Hospital.—Hon. David Darwin Dykeman has left the bulk of his estate for the establishment of a city hospital in Logansport, to be known as the Mary Dykeman Memorial Hospital, to be in charge of a hospital commission to be composed of three members, one to be elected by the city council, one by the commissioners of Cass County, and one by the circuit court judge.

Twin City Physicians Meet.—A meeting was called in Indiana Harbor, February 21, which was attended by most of the physicians of that place and East Chicago. The object of the organization, which is to meet semi-monthly, is to establish a schedule of fees and to promote a more friendly feeling among physicians of the twin cities. Dr. George Orf, Indiana Harbor, was elected president of the new organization.

Personal.—Dr. Edward J. McOscar, Fort Wayne, has returned from a trip to Panama and Central America.——Dr. Matthias Muhlhausen, Evansville, is reported to be critically ill.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia due to an operation wound, is convalescent.——Dr. William H. Williams, Dale, has retired from the practice of medicine.——Dr. Walter M. McGaughey, Greencastle, sustained a fracture of the arm, February 16, by back-fire of his automobile.——Dr. Charles W. Corey, Hartford City, dislocated his left arm in an automobile accident, February 14.——Dr. Alfred Henry has been appointed chief of the Free Tuberculosis Clinic, Indianapolis, vice Dr. William T. S. Dodds.——Dr. Walter H. Peters, Lafayette, who was operated on recently in Rochester, Minn., is reported to be convalescent.——Dr. Abraham G. Shortle, formerly of Indianapolis, has been appointed medical director of the Albuquerque (N. Mex.) Sanatorium.——Dr. William H. McClurg, Kokomo, while crossing a railroad track recently, was struck by a passing train but was not seriously injured.

KENTUCKY

Sanitary School Incorporated.—The Louisville School of Sanitary Instruction has been incorporated by Drs. W. E. Grant, Ezra O. Witherspoon and William E. Gary.

Gift to Hospital.—The Jewish Hospital Association, Louisville, has received as a gift from Mr. Bernard Bernheim 70 feet of ground on Kentucky Street, adjacent to the hospital, which is valued at more than $10,000. The property includes a new two-story brick residence. The house is to be used as a nurses' home, and is to be called the Bernard Bernheim Annex.

Want Public Abattoir.—Dr. W. Ed Grant, city health officer of Louisville, has called a conference of all the butchers in the city to discuss the establishment of a public abattoir to cost in the neighborhood of $150,000. A joint investigation by the City Health Office and the State Pure Food Department has shown the slaughterhouses in the city of Louisville to be in a very insanitary condition.

Care of the Insane.—At the recent meeting of the State Board of Control of Charitable Institutions, a special committee of the State Federation of Women's Clubs advocated training school for nurses and attendants in state asylums for the insane, shorter hours of work and living rooms apart from those of the patients. At this meeting it was pointed out that there is no great need for an increased per capita allowance for the care of the insane, and it was also suggested that the names of the state asylums be changed to "state hospitals."

MAINE

Appeal for Bowdoin.—The president of Bowdoin College has issued an appeal to the alumni association for $140,000 for the use of the medical department. The most pressing needs of the institution are new laboratories and improvements and hospital facilities for the establishment of a dispensary in Portland.

Society Meetings.—York County Medical Society, at its annual meeting, held in Biddeford, elected Dr. Fritz E. Small, Biddeford, president; Dr. Eduard C. Cook, York Village, vice-president; Dr. David E. Dolloff, Biddeford, secretary; Dr. Lawrence E. Willard, Saco, treasurer; Dr. Frank H. Hobbs, Waterboro, censor.——Kennebec County Medical Association, at its annual meeting in Bangor elected Dr. Richard H. Stubbs, Augusta, president; Dr. Donald B. Cragin, Waterville, vice-president; and Dr. Wellington Johnson, Augusta, secretary-treasurer.——At the annual meeting of Androscoggin County Medical Association, held in Lewiston, the following officers were elected: president, Dr. Alonzo M. Gracelon, Lewiston; vice-president, Dr. Louis C. Baribault, Lewiston; secretary-treasurer, Dr. Joseph W. Scannell, Lewiston; and censors, Drs. Laureat P. Ducharme, Ernest V. Call, and Harold E. E. Stevens, all of Lewiston.——Portland Medical Club, at its annual meeting, elected the following officers: president, Dr. Ambrose H. Weeks; vice-presidents, Drs. Daniel Driscoll and Harold A. Pingree; secretary-treasurer Dr. Harold J. Everett; and censors, Drs. Bertrand F. Dunn, and Thomas J. Burrage.

MARYLAND

State Society Meeting.—The annual meeting of the Medical and Chirurgical Faculty of Maryland will be held in Baltimore, April 26-28, inclusive.

Personal.—Dr. Henry P. Fahrney has been appointed physician of Montevue Hospital, Frederick.——Dr. Daniel S. Jenifer, formerly of Atlantic City, N. J., has begun practice in Towson.

Increase Capacity of Sanatorium.—A new administration building and two additional hospital wings will be erected at the Maryland Tuberculosis Sanatorium, Sabillasville, this spring, increasing the accommodation for patients from 200 to 400. The new building will be about 500 feet in length and two stories in height.

Baltimore

Enlarge Dispensary.—The directors of the Baltimore General Dispensary have purchased a site 25 by 61 feet and will erect on it a two-story and basement building.

Personal.—Dr. Arthur Marriott was seriously injured by the bite of a baboon which escaped from its cage at the Custom House, February 28.——Dr. Covington has resigned as a member of the staff of the Presbyterian Eye, Ear, Nose and Throat Hospital.

Gift to Children's Hospital.—Dr. James Lawrence Kernan has given to the Kernan Hospital and Industrial School for Children a further gift of $10,000, which will be applied to the building fund. The previous gift included a large colonial house and 60 acres of land.

Fined Under Drug Law.—Dr. John F. Lang, is reported to have pleaded guilty in the criminal court, March 2, to four indictments, charging him with unlawfully issuing prescriptions for morphin and cocain to habitual users of these drugs, and to have been fined $50 and costs in each case, making a total of more than $300.

The Diphtheria Situation.—As the result of the conference between the health department and medical staff of Johns Hopkins Hospital, a canvas of boarding houses in which students of the medical school live, was begun February 26, to determine the presence or absence of diphtheria. The city was divided into four groups and eight employees of the health department and four members of the hospital staff were detailed on this work. About 175 homes were visited and 1,700 cultures made. The total number of cases of diphtheria in the hospital up to March 4, was fifty-nine, including three physicians. There are also five cases of diphtheria at the Church Home. The dispensary has been closed to all cases except those of throat trouble. The office of the medical school and postoffice have been moved to the house adjoining the hospital. The Hebrew Hospital and Dispensary nearly opposite Johns Hopkins Hospital was closed to visitors and new patients, February 28, on account of the prevalance of the disease in that section. For the same reason all visitors have been forbidden entrance to St. Joseph's Home for Incurables, the Maryland Home and Hospital, and St. Agnes' Hospital. Visitors are also prohibited at Mercy Hospital, Maryland General and University Hospital. Dr. J. Whitridge Williams, dean of Johns Hopkins Medical School, has announced the resumption of first and second year work, March 8, but throat cultures are made before admission of students.

MASSACHUSETTS

Illegal Practitioner Fined.—Edward E. Hosmer, Lynn, who burned several children with a powerful acid in an effort to cure infantile paralysis, is said to have been found guilty of practicing medicine without a license, and to have been fined $250, February 25.

Society Meeting.—The Eastern Hampden Medical Society, at its thirty-first annual meeting, February 9, in Springfield, elected Dr. Albert M. Belden, Northampton, president; Dr. Arthur L. Damon, North Wilbraham, vice-president, and Dr. Raymond A. Kinloch, Springfield, secretary-treasurer.

Money for Hospitals.—By the will of the late Mrs. Rosa Cobb Cole, Plymouth, $100,000 is devised to the Jordan Hospital in that city.——By the will of ex-mayor George W. Fifield, Lowell, $20,000 is devised to St. John's Hospital, Lowell, and a similar amount to the Lowell General Hospital.

NEBRASKA

Personal.—Dr. Adolph Sachs, Omaha, has returned from Europe.——Dr. Frank M. Barnes, Omaha, was struck by an automobile, February 21, spraining his ankle.

Change of Staff of State Hospital.—On February 2, Dr. William B. Kern succeeded Dr. Mark W. Baxter as superintendent of Ingleside Asylum, Hastings. The new superintendent announces the following appointments: first assistant, Dr. F. H. Juegle; second assistant, Dr. C. A. Oaks; third assistant, Dr. M. J. Gilfillan, and fourth assistant, Dr. Mercer B. Croll.

Annual Meeting of Casualty Company.—At the annual meeting of the Physicians' Casualty Association of America, the proposal to remove the home office from Omaha to Chicago is said not to have been favorably received. Dr. DeWitt C. Bryant was reelected president; Dr. Dellizon A. Foote, vice-president, and Drs. LeRoy Crummer, Robert A. Gilmore and Charles C. Allison were reelected directors, all of Omaha.

County Medical Society Meetings.—At the annual meeting of Boyd County Medical Society, held in Lynch, February 10, Dr. George W. Ira, Lynch, was elected president; Dr. George E. Darrow, Butte, secretary-treasurer; and Dr. John R. Beatty, Butte, delegate to the state society.——Nuckolls County Medical Association, at its recent meeting in Nelson elected Dr. John W. Mitchell, Superior, president; Dr. Edwin M. McGee, Nelson, vice-president; Dr. Frank Mitchell, secretary.——York County Medical Society has elected the following officers: president, Dr. Orville M. Moore; vice-president, Dr. Frank G. Snyder; secretary-treasurer, Dr. James N. Plumb; delegate to the state society, Dr. Walter F. Reynolds, all of York; and alternate, Dr. George A. Morrison, Bradshaw.——Physicians of Stanton County met January 31,

and organized a county medical society and elected Dr. William R. Peters, president; Dr. Emil C. Underberg, secretary, and Dr. William H. Person, treasurer, all of Stanton.

NEW HAMPSHIRE

Bequest.—By the will of the late Dr. George F. Wilbur, Nashua, about $60,000 is devised to the Nashua Emergency Hospital.

Personal.—After a continuous service of twenty-one years, as executive officer of the Dover Board of Health, Mr. Charles M. Jones has retired.——At the annual banquet of the Manchester Medical Association, held February 14, and at which Dr. Wellington A. Thompson presided, the addresses of the evening were given by Dr. Edward W. Taylor, Boston, on "Infantile Paralysis," and by Dr. Harvey P. Towle, Boston.

NEW JERSEY

Wall Paper Regulation.—The Bayonne Board of Health has added to the sanitary code of the city rules prohibiting the placing of new wall paper on the walls of any dwelling until the old paper has been removed and the wall thoroughly cleansed.

Personal.—Dr. Ervin C. Towne, resident physician at Cooper Hospital, Canton, is reported to be seriously ill with septicemia.——Dr. Wells P. Eagleton has succeeded Dr. Charles J. Kipp as medical director of the Newark Charitable Eye and Ear Hospital.——Dr. Edward S. Sharpe, Salem, is reported to be ill at his home.

Societies May Unite.—At a meeting of the Passaic Medical Society, February 9, a motion to unite with the Passaic County Medical Society, was adopted, contingent to the granting of certain conditions, and Drs. George T. Welch, William H. Carroll and Gilbert Van Vranken were appointed a committee to treat with the county society.

Academy of Medicine Organized.—Formal organization of the Academy of Medicine of Northern New Jersey was effected at a meeting held in Newark, February 25. A constitution and by-laws were adopted and the following officers were elected: president, Dr. Edward J. Ill, Newark; vice-presidents, Drs. Thomas N. Gray, East Orange; Wells P. Eagleton, Newark, and secretary, Dr. Julius Levy, Newark. One of the provisions of the constitution is that dentists may become associate fellows of the organization and have a separate section where they can pursue their own branch of study.

Health Lectures.—A series of free public lectures on health is being given at Newark under the auspices of the Public Education Committee of the Essex County Medical Society, the Public Health Committee of the State Federation of Women's Clubs, and the College Women's Club. Lectures have already been given on "Food Fads" by Dr. Richard C. Newton, Montclair; on "The Eye in Health and Disease" by Dr. Linn Emerson, Orange; and on "Clean Streets for Health" by Dr. William Buermann, Newark. On March 22, W. F. Barry, Orange, will speak on "The Care of the Teeth in Relation to Health;" on April 10, Dr. Christopher C. Beling, Newark, will take up "The Cause and Prevention of Nervous and Mental Diseases;" and on May 1, Dr. Thomas N. Gray, East Orange, will discuss "The Social Evil and Its Effects on Public Health."

NEW YORK

Bequest for Nassau Hospital.—The will of Mrs. Alice Hicks of Westbury, L. I., gives $100,000 to the Nassau Hospital, Mineola, L. I.

Hospital Closed.—The New Amsterdam Eye and Ear Hospital in West Thirty-Eighth Street has received permission from the courts to sell its property for $60,000. The reason given for this action is that the institution is not paying.

Wood Alcohol Kills Three.—Three out of five persons who drank wood alcohol believing it to be grain alcohol at a wedding anniversary celebration near Middleton, N. Y., died from the effects of the beverage. The man who sold the stuff has fled and the authorities are searching for him.

Bill to Protect Marriage.—A bill has been brought before the legislature providing that no marriage license shall be issued until each party has presented a doctor's certificate of freedom from any contagious, infectious or transmissible disease, and making it a misdemeanor to procure such a certificate by fraud.

For Better Milk.—The committee of the New York Milk Committee, known as the Committee for the Reduction of Infant Mortality, in its endeavor to raise the sum of $300,000 has sent appeals to a large number of women who were thought able to contribute, and women will follow up this appeal by a street canvass for contributions to this fund.

Harvey Society Lectures.—The seventh of this course of lectures will be delivered on March 25 by Prof. H. Gideon Wells, of the University of Chicago, on Calcification and Ossification. The eighth and last lecture of the course will be delivered on April 1 by Dr. S. Weir Mitchell of Philadelphia, the subject being "William Harvey, the Discoverer of the Circulation of the Blood."

Bellevue Alumni Dine.—After participating in the twenty-fifth annual meeting of the organization 250 Bellevue alumni dined at Delmonico's and listened to addresses by Dr. Charles F. Stokes, Surgeon-General of the Navy; Drs. William K. Polk, Joseph D. Bryant, John W. Brannan and Floyd M. Crandall. Dr. Starling Loving of Columbus, O., who was one of the first paid interns and served in 1849 and 1850 at the time of the cholera epidemic, was present.

New York City

Bronx Hospital for Bronx Physicians.—Declaring that Bronx physicians exclusively are entitled to attend Bronx patients, a number of medical men of the borough protested to the State Board of Charities, February 27, against the opening of a new hospital in that borough by Dr. Abraham Jacobi and seventeen physicians and surgeons, fifteen of whom are said to be residents of Manhattan.

Personal.—Dr. Theodore C. Janeway has been appointed senior attending physician of the Presbyterian Hospital as the result of a recent tentative agreement between the hospital and Columbia University. Dr. William G. MacCallum has been appointed pathologist to the hospital.——Dr. Williams McKim Marriott, assistant to the chair of physiologic chemistry in Cornell Medical School, has been appointed instructor in biologic chemistry in Washington University, St. Louis.

Gifts to Hospitals.—The late Melville W. DeWolf left a bequest of $5,000 to the Presbyterian Hospital to establish the Emma DeWolf bed for children, and $5,000 to Roosevelt Hospital to establish the Carlton DeWolf free bed.——The Society of the Lutheran Hospital of the City of New York, formed for the purpose of building a Lutheran Hospital in this city, has received a donation of eight lots near Central Islip, L. I., on which to erect a home for convalescents. The name of the donor is withheld. The society has been pledged about $250,000 toward the erection of a city hospital, of which $100,000 was given by John Riehle.

OKLAHOMA

County Medical Society Election.—At the recent meeting of the Tillman County Medical Association, held in Frederick, the following officers were elected: president, Dr. Adam B. Fair, Frederick; vice-president, Dr. Francis E. Rosenberger, Grandfield; secretary-treasurer, Dr. John P. VanAllen, Frederick; alternate delegate to the state association, Dr. James D. Osborn, Frederick; censor, Dr. John H. Hanson, Grandfield.

Personal.—Dr. William N. McGee, local surgeon of the Rock Island System at Shawnee, has resigned and has been succeeded by Dr. Charles H. Blickensderfer, Tecumseh.——Dr. W. H. Slaughter, a colored physician of Oklahoma City, was seriously injured recently in a collision between his buggy and a heavy wagon.——Dr. Walter Hardy, Ardmore, has approved plans for a sanitarium to be built by September 1.——Dr. C. A. Steward, Allen, is reported to have been convicted of manslaughter in the second degree, and to have been sentenced to imprisonment for three years in the pentitentiary. The charge was that he shot and instantly killed a formerly intimate friend, during a quarrel, on Christmas eve, 1909.

PENNSYLVANIA

Hospital Opened.—After unexpected delays the Meyer Emergency Hospital, Erie, was opened for patients, February 19.

New Bulletins for Health Department.—Bulletins 16 and 17, issued by the State Department of Health are on "The Conservation of Infant Life in Pennsylvania," and on "Pennsylvania's Standing Army of Health."

Personal.—Dr. Charles P. Woodring has been appointed a member of the board of health of Meadville.——Dr. Leroy W. Braden had a narrow escape from drowning while attempting to ford a flooded creek near his home at Ten Mile.

Gifts to Hospitals.—Mrs. Minnie Bachman, Sharon, has given $10,000 to Lancaster General Hospital, to provide a free room in memory of the donor's husband, Morris Bachman.——By the will of the late Abraham Weitzenkorn, $500 is bequeathed to Pottstown Hospital.

Philadelphia

Hospital Addition Dedicated.—Bradley Hall, the new addition to the Methodist Episcopal Hospital, was formally dedicated on February 25. Bishop C. W. Smith made the principal address at the exercises. Mr. Thomas Bradley, president of the board of trustees, is the donor of the building, which cost $40,000, and will be used for kitchens, store-rooms, dining rooms and dormitories.

Personal.—Drs. Charles K. Mills and William G. Spiller have been elected foreign corresponding members of the Société de Neurologie, Paris.——As Dr. John H. Musser has refused to allow his name to be considered for the professorship of practice of medicine in the University of Pennsylvania, Dr. Alfred Stengel, professor of clinical medicine, has succeeded to the chair.——Dr. S. Weir Mitchell celebrated his eighty-first birthday, February 15.

New Officers.—The president of the Philadelphia County Medical Society, Dr. Christian B. Longenecker, has made the following appointments for the year 1911: Committee on Public Policy and Legislation, Drs. Hobart A. Hare, George A. Knowles, Wilmer Krusen, John D. McLean and L. Webster Fox, chairman; committee on membership, Drs. Mary Buchanan, M. Howard Fussell, George C. Yeager, Milton F. Percival and Samuel Wolfe, chairman; committee on library, Drs. Edward E. Montgomery, Elizabeth L. Peck, Albert M. Eaton, Herman B. Allyn and James M. Anders, chairman; and reporter, Dr. Howard C. Carpenter.——At the meeting of Philadelphia Medical Club, January 20, the following officers were elected: president, Dr. William L. Rodman; vice-presidents, Drs. S. Lewis Ziegler and Gwilym G. Davis; secretary, Dr. J. Gurney Taylor, and treasurer, Dr. Lewis H. Adler, Jr.; governor (for 5 years) Dr. Edward L. Duer.——The new officers chosen by the Kensington Branch of the County Medical Society include: chairman, Dr. George H. Nofer, and clerk, Dr. Valentine R. Manning.——The Northern Medical Association has elected the following officers: president, Dr. O. Luther Latchford; vice-president, Dr. Paul F. Bremer; secretary, Dr. Lee Boyce; corresponding secretary, Dr. Thomas Shriner, and treasurer, Dr. John W. Millick.——The following officers were elected by the North Branch of the County Medical Society for the year 1911: Dr. Wilmer Krusen, chairman; Dr. John Leedon, clerk; Dr. Samuel P. Gerhart was elected associate vice-president of the county society to represent this branch.

VIRGINIA

Sanatorium Opened.—The Birdville Sanatorium for Consumptives, Petersburg, was formally opened, February 14.

Election.—At the quarterly meeting of the Alexandria Medical Society, the following officers were elected: president, Dr. William M. Smith, Alexandria; vice-presidents, Drs. Samuel B. Moore, Alexandria; and T. F. Dodd, Fairfax County; secretary, Dr. Llewellyn Powell, Alexandria, and treasurer Dr. R. J. Yates, Alexandria County.

Undergraduates' Association.—Students of the third and fourth year classes of the University College of Medicine, Richmond, have organized an undergraduate surgical association according to the plan adopted a few years ago by the University of Pennsylvania. The association meets every Thursday evening and discusses surgical questions. The officers of the association are: president, W. M. Burnett; vice-president, O. L. Hamilton, and secretary-treasurer, C. J Allen.

Personal.—Dr. Alexander G. Brown, Richmond, has been commissioned captain, Medical Corps, Virginia Volunteers.——Dr. Frank H. Hancock, Norfolk, has been appointed quarantine officer of the Elizabeth River District, vice Dr. Powhatan S. Schenk.——Dr. William E. Jennings, Bedford, has been appointed resident physician at the Catawba Sanatorium, vice Dr. William D. Tewksbury, resigned to accept the position of superintendent of the District of Columbia Tuberculosis Hospital.

GENERAL NEWS

New Member of Referee Board.—Secretary Wilson has appointed Dr. Theobald Smith, Harvard Medical School, to fill the vacancy in the Referee Board of Consulting Scientific Experts caused by the death of Dr. Christian A. Herter, New York City.

Report on Cholera in Honolulu.—Up to March 5, nineteen cases of cholera have developed in Honolulu, with fifteen deaths, all the deaths being of native Hawaiians. As a precautionary measure the schools in one district of the city have been closed.

Orriss Under Arrest.—A. W. Orriss, concerning whom a warning was published in THE JOURNAL, February 11, page 432, has been arrested on complaint of Dr. J. C. Atwell, Butler, Pa., and is in jail at that place, charged with obtaining money on false pretenses.

New Officers of Sanitary Association.—At the meeting of the Lake Michigan Sanitary Association, noted in the issue of March 4, page 679, Dr. William D. Weis, health commissioner of Hammond, Ind., was elected president; Dr. Henry B. Favill, Chicago, first vice-president; and Dr. Aaron J. Lauer, Whiting, Ind., member of the executive committee.

Tri-State Medical Society Meeting.—The annual meeting of the Tri-State Medical Society of Virginia and the Carolinas was held in Raleigh, N. C., February 22 and 23, under the presidency of Dr. Joseph A. White, Richmond, Va. The following officers were elected: president, Dr. J. Howell Way, Waynesboro, N. C.; vice-presidents, Drs. Thomas E. Anderson, Statesville, N. C.; William E. Anderson, Farmville, Va.; and Frank H. McLeod, Florence, S. C., and councilors, Drs. Edward C. Register, Charlotte, N. C.; William W. Fennell, Rock Hill, S. C., and Samuel Lile, Lynchburg, Va. The next meeting will be held in Columbia, S. C., Feb. 21 and 22, 1912.

Sanitation of the Canal Zone.—The annual report of the Department of Sanitation of the Isthmian Canal Commission for 1910 shows a slight increase in the death rate over the previous year due to external violence, but a decrease as compared with the death rate of previous years. During the year 558 deaths occurred among the 50,802 employees, equivalent to an annual mortality of 10.98 per 1,000. The death rate among white employees from disease was 2.63 per 1,000. Typhoid fever caused 13 deaths during the year; dysentery, 21; pneumonia, 73; and malaria, 50. One death from yellow fever occurred January 24. This case was imported from Carthagena, and with this exception no yellow fever, plague or smallpox has occurred during the year.

Life Insurance Directors Meet.—The Medical Section of the American Life Convention held its semi-annual meeting in New Orleans, February 23-25. Among the important papers presented were those by Dr. H. A. Baker of the Pittsburg Life and Trust Company on "Substandard Risks," in which he stated that the officers of sailing and steam vessels are undoubtedly the greatest risks to insurance companies and next to these come actors, glass workers, naval officers, railway trainmen, seamen and fishermen, overweight and underweight risks. In overweights there is likely to be degenerative change, and underweights a great risk of tuberculosis. Dr. Frank L. B. Jenney, medical director of the Federal Life Insurance Company, Chicago, read an interesting paper on "Office Methods and Reporting of Impairments"; and Dr. Amand N. Ravold, St. Louis, discussed "Uranalysis and Preservation of Urine." The reasons for a national board of health were considered by Dr. Albert Anderson, medical director of the Jefferson Standard Life Insurance Company. The association endorsed the Owens bill, and appointed a committee, consisting of Drs. Albert Anderson, F. M. Cross, and Victor C. Vaughan, Jr., Detroit, to represent the association in the advocacy of this measure.

Discovery of Poliomyelitis Organism.—The Department of Health of Pennsylvania announces that in examining blood in acute cases of poliomyelitis in human beings and monkeys, in which the disease was produced experimentally, an organism has been found different in morphologic characteristics from any hitherto described, which may or may not prove the etiologic factor in the causation of the disease. Blood smears being fixed in methyl alcohol and stained with carbol-thionin, the organism appears as a faintly-stained blue rod with regular cell wall about 10 microns long and .8 microns in width curved at an angle of 60 to 75 degrees at one end, and occasionally at both ends. At times the curved end is bulbous. Some of the organisms appear to have a very finely granular protoplasm, and they are found free in the serum as well as in the body of the red blood cell. The organisms do not retain the violet color when stained by the Gram method but assume the color of the counter stain which is a very dilute solution of carbol fuchsin. The specimens of blood examined were from ten children who had anterior poliomyelitis during the epidemic of last summer and autumn, and from thirteen cases of the disease in its acute stage, which had been produced experimentally in monkeys. Blood smears examined from three normal human beings and thirteen normal monkeys were carefully examined with negative results. After inoculation with the virus, these monkeys gave positive results. Blood smears were stained with iodin and sulphuric acid in order to test the organisms for cellulose. Smears from the cords and brain-

of paralyzed monkeys, and from one human being were examined, but none of the new organisms was found. Filtered virus stained with carbol-thionin by Gram's method showed none of these organisms. Defibrinated blood, from three weeks to two months old, from two paralyzed monkeys showed the forms in increased numbers. Cultures made from blood of a paralyzed monkey in blood bouillon, plain bouillon, and blood-agar, examined after an inoculation of three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time, but the organism was not found in smears from surface of the medium or from the water of condensation. Search was made without success for moving organisms in fresh blood, in old tubes of defibrinated blood from paralyzed monkeys, blood bouillon, plain bouillon, serum bouillon cultures three weeks old, and in the condensation water of three-weeks-old cultures on Dorsett's egg medium, under decalcified illumination. Success in isolating the organisms has not yet been reached.

FOREIGN NEWS

Deaths in the Profession Abroad.—Christian Böhr, the leading physiologist of Denmark, professor of the University of Copenhagen, died February 3, aged 56. He was a pioneer in work on the gases in the blood and the gaseous interchanges in the lungs and had recently worked out an ingenious method for determination of the output of blood for the heart beat. He would soon have completed his twenty-fifth year as teacher at the university, and a *Festschrift* is in press intended for that occasion, but which now will serve as a memorial.——G. Mya, an eminent pediatrist of Italy, professor of medical pathology and later of pediatrics at the University of Florence for thirty years, died February 6, aged 63.——James Edward Pollock, F.R.C.P.; one of the oldest fellows of the Royal College of Physicians, London; a pioneer specialist in and writer on tuberculosis; died at his home in London, December 18, aged 92.

Pellagra in Italy.—An official commission has recently been appointed in Italy to study the application of the newer views of the etiology of pellagra. At the first meeting the fine results accomplished to date by the regulations adopted in the last few years were emphasized. In 1888 Italy had 117 pellagrins for each 1,000,000 inhabitants and 80 in 1903. The antipellagra law was then passed and the number was reduced to 39 per 1,000,000 in 1908. The pellagrins formed 7.9 per cent. of the inmates of the insane asylums in 1903, while in 1908 they were only 3.5 per cent. Alessandrini ascribes the disease to a parasite in drinking water and Tizzoni to a special streptobacillus, and both these men are in the commission, so the matter will be thoroughly studied. If either of them is right, then the benefit realized to date by the measures based on the assumption that spoiled corn is responsible for pellagra, is due merely to the improved hygiene. Antonini stated that research in the United States is confirming the corn theory.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 17, 1911.

The Refilling of Medical Prescriptions

The Société de thérapeutique, some time ago, appointed a commission to investigate and report on the regrettable practice of refilling prescriptions (previously mentioned in THE JOURNAL, Feb. 4, 1911, p. 360). The commission found nothing in existing laws which applied to the subject. It offered to the society the following resolutions, which were adopted: 1. When a physician writes a prescription calling for a poisonous drug, the prescription should name, in accordance with the law, the prescribed quantity of the toxic substance, the mode of administration of the medicine, and when necessary, the maximum number of times the prescription may be filled without fresh authorization. 2. Whenever a pharmacist fills a prescription calling for a poisonous substance, he should place his stamp and a new number on it, even if this prescription is already on his register. 3. Prescriptions for solutions for hypodermic use should never be refilled without special authorization of the physician who has prescribed them.

Measures Against the Plague

It is reported from Russia that Professor Zabolotny, who has returned from a tour of investigation in the far East, states emphatically that at present neither Siberia nor European Russia is threatened with the plague. This optimistic assurance, however, fails to quiet public alarm in view of the frightful rapidity with which the plague has spread southward among the people of the yellow races. In spite of the activity of the Russian and the Japanese governments, which are aided by a knowledge of the customs and the language and therefore find the population with which they have to deal more tractable, the situation is a grave one, all the more that the portion of the Manchurian region under Japanese control is only a small part of the immense Chinese empire, and that the Chinese administration has shown itself so unequal to the situation that Chinese physicians themselves have refused their assistance so long as the sanitary administration is not organized along European lines.

In France, the parliamentary commission of hygiene has just decided to ask the minister of the interior to hasten the meeting of an international conference to study the means of checking the epidemics of plague and cholera. Moreover, Dr. Broquet, of the Institut Pasteur, has just left for Manchuria, taking with him a large number of chests containing ampullas of Haffkine's serum, which are intended for our soldiers and countrymen sojourning in the threatened localities of the far East. It is felt that the time has come to organize in defense of the civilized world a new scientific expedition to China for the study of this scourge, like that which studied the bubonic plague in Bombay in 1897.

The Name of Malta Fever

The governor of the Island of Malta recently complained that the name of "Malta fever" was not suitable for a disease which is found all along the Mediterranean coast as well as in other countries not bordering on the Mediterranean. The question was laid before the Académie de médecine, which appointed a commission to study the subject. Professor Widal, who presented the report of the commission, proposed to replace the name of "Malta fever" by that of "Mediterranean fever." Professor Blanchard objected that this term seemed scarcely better justified than Malta fever, since the disease is found in other regions. Geographical names, moreover, have the disadvantage of being restricted and incomplete. Blanchard, therefore, proposed to call the disease "undulating fever" (*fièvre ondulante*). Professor Chauffard preferred the name "melitosis," which has the advantage of recalling the cause of the disease, the *Micrococcus melitensis*. Drs. Landouzy and Vaillard supported Chauffard's proposition, on the ground that, in man, the undulating character of the fever may not be evident in the abortive forms and that, moreover, though the *Micrococcus melitensis* produces an undulating fever in man, its manifestations in animals are quite different.

Agitation Among Students in Dental Surgery

A delegation of students in dental surgery has laid before the Chamber of Deputies a petition protesting against the reservation of certain posts, such as that of surgeon-dentist of the hospitals, for doctors in medicine alone. The students believe that, since five years of study, attested by a series of difficult examinations, are demanded of surgeon-dentists, the latter should have the right to compete for the post of surgeon-dentist on the same terms as doctors in medicine.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 16, 1911.

Pay Wards in Municipal Hospitals

The question of the establishment of wards for pay patients in the municipal hospitals, of which I have written several times, has lately made some progress. The administration has agreed to the suggestions of the commission which has been considering this matter. All that is needed now is the consent of the city council. According to the resolution, a special building with fifty to sixty beds is to be erected in connection with the surgical clinic at the Moabit Hospital as an experiment, the beds to be available for paying patients of the so-called middle class. These patients, as a rule, are to be placed in small wards of from three to five beds. A number of single rooms is to be provided for patients who need temporary isolation. This section of the hospital is for the benefit of those members of the middle class who are not in position to pay higher fees without too much of a drain on their means. The daily fee for care including the physicians' services amounts to $1.60 (6.50 marks). For the more important operations a special fee as high as $25 (100 marks) may be charged. Also other special services are to be compensated

at moderate fees. If patients are received whose circumstances warrant it, higher fees may be charged and in such cases the physician may make special charges. The decision as to whether the circumstances warrant higher or lower charges is reserved to the city authorities.

Regulation of Automobile Traffic

At the request of the Royal Automobile Club of Bavaria the Munich Ophthalmologic Society has made the following report in regard to the requirements for the visual capacity of automobile drivers: 1. The lowest capacity of the eye with the better vision must be 2/3, and of the eye with the poorer vision 1/3 of the normal. The highest permissible correction is + 8.0 diopters. Spectacles and reserve spectacles with an arrangement to protect the glasses from rain and snow must be provided. 2. A retraction of the field of vision which is distinctly demonstrable with the perimeter even in one eye, is a disqualification. 3. A reduction of the sensitiveness to light also disqualifies. 4. Congenital color blindness is not to be considered. 5. Ptosis, paralysis of the eye muscle, considerable disturbance of the mobility of the pupil, aphakia and especially external inflammations, which are accompanied by photophobia, for instance, render the applicant unfit. 6. Goggles are recommended. 7. There should be reexamination every two years.

Statistics of Curative Treatment of Tuberculosis

From the latest statistics of the Imperial Insurance Office on the curative treatment of tuberculosis in the institutions for invalid insurance, a number of important results can be deduced especially because they extend over the period from 1897-1909. During this time, 275,000 patients with pulmonary tuberculosis have received prolonged expert treatment, costing in all over $25,000,000 (100,000,000 marks) Since 1897, the number of men treated for tuberculosis of the lungs has increased more than eleven times and that of women nearly eighteen times. The cost of treatment has continually increased in correspondence with the increased cost of living. The average expense for a tuberculosis patient in 1897 was $76 (307 marks), in 1909, $96 (386 marks) The expense for a day's treatment has risen from $1 (4.05 marks) in 1897 to $1.35 (5.41 marks) in 1909. The treatment of patients with pulmonary tuberculosis was carried out in the so-called people's sanatoria. There are thirty-seven establishments for treatment of diseases of the lungs and thirty-four sanatoria, convalescent homes and hospitals, which are essentially sustained by the invalid insurance societies. On account of the well-known difficulty of keeping a patient who has a family to support in the sanatorium for a sufficient length of time, the law provides for aid to those dependent on the patient, allowing half of the amount paid for sickness by the Krankenkassen or one-fourth of the day's wages; in some cases this is doubled or even tripled. Unmarried insured patients in many cases are assured especial allowance for illness according to the rates of the Krankenkassen, up to one-fourth of the day's wages. In this way, between 1897 and 1909 the sum of $4,250,000 (17,000,000 marks) was paid to relatives and for the special sick benefit; in 1909, $37,000 (148,000 marks) was paid. The results obtained each year at the close of the treatment have been followed for five years so that the latest statistics give the conclusions for nine such periods of five years. In the last eight control periods the initial successes compared with the first period have risen in tuberculous men from 4 to 13 per cent. and in tuberculous women from 5 to 15 per cent. The end-results, on the other hand, have risen from 3 to 19 per cent. in tuberculous men and from 3 to 20 per cent. in tuberculous women. The women treated in all the control periods show a markedly greater permanence of the cure than the men, a result which must be referred to the more marked vitality of women. While at the end of 1901 of 100 men treated for tuberculosis in 1897 only twenty-five had preserved the favorable initial result, the number of those treated in 1905 who showed a continuance of the cure in 1909 was forty-four. On the other hand, for every 100 tuberculous women treated in 1897 at the end of 1901 there were thirty-two able to work and of those treated in 1905 at the end of the year 1909 fifty-two were still able to work. These numbers show also that from year to year better results have been achieved in the treatment of tuberculosis. Of the patients treated in 1909, 1,215 men and 5,826 women were found at the beginning of the curative treatment in the first stage according to the Turban-Gerhardt classification: 9,161 men and 3,399 women in the second stage; 3,550 men and 1,154 women in the third stage. Of all three stages there were at the close of the treatment 535 men and 358 women in stage O. The first stage showed in comparison with the beginning an increase of 1,489 men and 521 women, while the second stage showed a decrease of 1,475 men and 757 women; the third stage a decrease of 553 men and 122 women. In order to reach as completely as possible those persons whose health is endangered the military examinations have been put at the service of the campaign against tuberculosis. It has been arranged that the data regarding the health of those examined for military service by the military surgeons should be communicated to the tuberculosis authorities. In 1909 the organization learned of 575 tuberculous patients in this way.

Improvement of Instruction in Pediatrics

The pediatric society has called attention in memorials addressed to the governments of the various federal states to the insufficient opportunities for instruction in diseases of children in most of the German universities and has made the following demand: It is imperatively necessary that every university possess a children's clinic with a modern infant ward (of at least sixteen beds and some nurses), and a policlinic for children, separate from that for adults. These institutions should be under the direction of a special professor who is to have a voice in the faculty in matters pertaining to the pediatric department. Two hours a week for only one semester are not considered sufficient for attendance on these pediatric clinics. The importance of diseases of children in practice makes an examination in this department necessary for the state license, and this examination should be held by a special professor and rank in importance with the examination in internal medicine. How far these demands will be accepted by the government remains to be seen. Many university professors and many physicians take the position that pediatrics should not be regarded as a specialty, but that it falls properly in the field of instruction in internal medicine and in practice belongs to the sphere of the family physician. This conception is justly opposed. The field of investigation in pediatrics has widened so much in late years that its facts cannot be sufficiently considered in the instruction in internal medicine, and the difficulties in diagnosis and therapeutics in the practice of diseases of children require occasionally the counsel of a specially educated pediatrician, although it must be admitted that every practitioner should understand so much of pediatrics that he will have a sufficient experience for ordinary cases.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 23, 1911.

Sudden Death of Professor Escherich

The news of the death of Professor Escherich, the well-known professor of pediatrics, will without doubt be received with great regret by the numerous American doctors who have been working under him in this city. His clinic was a Mecca for all these men, for it hardly had its like in Europe as regards the advantages for study. Besides, Escherich himself was a very good teacher, who understood how to captivate the thoughts of his students and to direct them to certain roads of reasoning. Out of the great number of his pupils von Pirquet's name is familiar to all practitioners. Escherich's efforts were directed to the prevention of infantile mortality by recommending breast-feeding in all cases, and by the institution of milk distribution for those who were unable to obtain it in a sufficiently pure state. His school is famous for the chemical and biologic researches undertaken under his supervision; the discovery of the *Bacillus coli* is due to one of his earliest undertakings in this line, and has made his name a household word in scientific medicine. He was the representative pediatrist invited to present this specialty at the Congress of Arts and Sciences at the St. Louis Exposition in 1904. He was only 54 years of age when his brilliant career was closed by an attack of apoplexy, brought on by an early arteriosclerosis.

Celebration of Washington's Birthday

This national festival was celebrated in Vienna by a reception in the halls of the embassy of the United States, where Mr. Richard C. Kerens, the ambassador to the Austrian court, gave a formal evening to the members of the American colony at present living in our city. A large number of those present were doctors, members of the American Medical Association of Vienna, which at present is flourishing as never before. The ambassador is a frequent guest in the headquarters of the Association, and thus excellent relations are kept between the two "powers."

BUDAPEST LETTER

(From Our Occasional Correspondent.)

BUDAPEST, Feb. 7, 1911.

State Protection of Children in Hungary

Hungary is justly proud of her system of caring for dependent children, of whom there are now 50,000 in the special institutions provided for them by the Hungarian government. In addition to this large number at present under its protection, the state has previously had 50,000 other wards who either have since been given back to their parents, or, having reached their fifteenth year, have been dismissed from the charge of the state. The system in vogue is generally regarded as one of the foremost humanitarian institutions of the civilized world, and has been lauded as such at recent international congresses of hygiene and child welfare, while experts come to Hungary from all parts of the civilized world to study the details of the methods.

DETAILS OF THE SYSTEM

The homes for children consist of seventeen large buildings in different parts of the country. Every child who has no supporter, or whose maintenance and education are not sufficiently ensured, either on account of poverty or bad hygienic conditions or other adverse circumstances, has a legal right to be cared for by the state. He is not obliged to sue for admission, but he can present himself and claim admission on the ground of legal right. Nowhere else in the world does a child possess such a privilege. In Germany, for instance, the child has no such right, as regards the state, and deserted children are referred to the village charity. In France such cases have to be brought to the notice of the county council.

ABSENCE OF RED TAPE

Another prominent feature of the Hungarian system is that no documents are necessary for proving the fact of a child's abandonment. The Hungarian homes, therefore, take in any child who appears not to be under proper guardianship, and only after the state has received him into its care will inquiries be made through the Society for Protection of Orphans as to whether he is really dependent on the state's care or not. Illness among the children in these homes is treated by medical experts, who have at their command a large number of wet-nurses, assistants, incubators and all necessary surgical appliances, constituting a well-equipped modern hospital.

HEALTHY CHILDREN BOARDED OUT

Healthy children are not brought up in the institutions as "hot-house specimens of humanity," not knowing the trials and troubles of life. Such children are placed by the state in suitable households of the artisan or agricultural class, where they grow up as members of the family and ultimately become useful Hungarian citizens, irrespective of their former nationality. Even though such families are carefully chosen, the state still reserves the right of control. For this purpose, the services of the county physician are requisitioned, extra payment being made for this work. He is required to assure himself as regards the health of the children, their bodily and mental development, and their condition with respect to cleanliness and clothing. In the case of infants, he must supervise the feeding of the child and take its weight from time to time. The state will shortly appoint a lady supervisor, in addition to the already existing district medical officers. Her duties will be the carrying out of the details prescribed by the medical officer and repeated visits to the foster-families, wherein she will take the part, not so much of a government official, as of an aunt to the adopted child and a relative of the family. In the event of the foster-parents proving unsuitable, she will have the child removed to more appropriate surroundings.

TIES OF RELATIONSHIP FOSTERED

The intercourse between the child and its blood relations does not cease when it becomes the ward of the state. This is not the case in other countries; in Paris, for instance, as soon as a child is taken into a foundling asylum the mother is not allowed to apply for information respecting it more than four times a year. In the Hungarian institutions a very different system prevails. It often happens that, in the case of infants, the mother and child are not only separated, but, if the mother requires it, suitable accommodation is provided for her by the state. In the case of children the mother is requested to visit the child, and, as far as possible, to help in its up-bringing. Should she in any case be of the opinion that her child's surroundings are unsuitable to its proper physical or mental development, she can, by reporting this to the state authorities, have the child removed elsewhere, even though her complaints should be due merely to a mother's natural anxiety. Should the mother's or the relations' or even the child's circumstances change, so that the child could be brought up at home, the mother may at once reclaim the child without being put to the expense of any reimbursement of its past maintenance.

SUPERVISION OF STATE CARE BY CITIZENS' ASSOCIATION

The relations between the child and state are controlled by an independent body called the Orphans' Protection Society, which is chosen from among the citizens of the community and is invested with magisterial authority. The result is expected to be a decrease in infant mortality, and also in the number of juvenile criminals, because it has been found that the majority of such criminals were those who had been abandoned to chance in their early years.

MORAL WELFARE OF CHILDREN GUARDED

The Hungarian government also takes measures to prevent the corruption of children's morals. By an order of the minister of the interior, children are taken charge of by the state if it is found that they are being brought up in immoral surroundings. Children in such a case, even though the parent may be in a position to provide for all physical wants, are removed from these evil influences.

EXPENSE TO THE STATE

By protecting children in these various ways, the state is accomplishing a great work which cannot fail to have a beneficial effect on the whole Hungarian people. The yearly expenditure by the state for the protection of children amounts to $2,000,000.

The Outlook for Medical Men in Hungary

The number of medical men in Hungary is increasing constantly, but the prospects of the practitioners are not increasing at the same rate. This is chiefly important for a large percentage of the present doctors in Hungary, for as an investigation conducted by a medical corporation in this country shows, fully 32 per cent. of all medical students and recently graduated doctors come from the poorest and often lowest strata of the population. Therefore medical organization could not be successful in this country, for the newly qualified M.D. is always willing to do anything to earn even a small living as quickly as possible. The Hungarian ministry for education has just now ordered that the holders of diplomas gained abroad (Austria included) can apply for the right to practice only under the condition that they produce proofs of having passed examinations absolutely equivalent to those required from a medical student in Hungary (knowledge of Latin, Greek, an equal curriculum, and the same subjects as are required in Hungary).

Marriages

JOSEPH B. COX, M.D., to Miss Dollie Clements, both of Howell, Ind., March 1.

EBB. C. JOHNSTON, M.D., to Miss Madge Good, both of Chattanooga, Tenn., February 23.

EUGENE D. REGAN, M.D., to Miss Marion Smith, both of Milwaukee, Wis., February 22.

A. F. MCKAY, M.D., to Mrs. Laura V. Smith, both of Colorado Springs, Colo., February 22.

EUGENE E. COERPER, M.D., Fredonia, Wis., to Miss Madeline A. Oppen of Milwaukee, February 22.

PAULINE I. MYERS TOWNSEND, M.D., and Lawrence A. Hanson, both of Marshalltown, Ia., recently.

HARRY WILLIAM ACKERMANN, M.D., Rockford, Ill., to Miss Maud Goodspeed of Elgin, Ill., February 21.

ISAIAH J. WATERMAN, M.D., Creston, Ia., to Miss Rachel Kegley of Colfax, Ia., at Des Moines, February 20.

CLAUDE W. ASBURY, M.D., Hymera, Ind., to Miss Abby Lucas of Sullivan, Ind., at Terre Haute, Ind., February 21.

FRANK M. HUMPHREY, M.D., Bluemont, Va., to Miss Lillian Rosa Belle Talbott, at Washington, D. C., February 22.

FRANK JOHN HIRSCHBOECK, M.D., Chisholm, Minn., to Miss Elizabeth Robertson Carmichael of Lansing, Mich., February 16.

Deaths

Walter Remsen Brinckerhoff, research worker and pathologist, who spent five years as director of the Molokai (H. I.) Leprosy Investigation Station of the U. S. P. H and M.-H. Service; died at his home in Jamaica Plain, Boston, Mass., March 2, from pneumonia, aged 36. Dr. Brinckerhoff graduated from Harvard University in 1897, and from Harvard Medical School four years later. His expert training in pathology was obtained in the laboratory of the Boston City Hospital, where he was successively intern and second and first assistant in pathology. In 1902 he was made assistant in pathology in his alma mater. Two years later he was made a fellow of the Rockefeller Institute for Medical Research, and in 1905 was appointed physician to the Carnegie archeologic expedition to the Transcaspian Territories. He made researches on the white cells of the blood and small-pox, carrying on the latter work in Boston in 1901 and 1902, and in Manila in 1903 and 1904. In 1906 he was placed in charge of the Leprosy Investigation Station at Molokai, and remained there for nearly five years, returning a few months ago to accept the assistant professorship of pathology in Harvard University. He was a member of the Massachusetts Medical Society, the American Association of Pathologists and Bacteriologists and the Society of Experimental Medicine. Dr. Brinckerhoff was highly esteemed by his associates, and his untimely death deprives the scientific world of a notable research worker.

William Worrall Mayo, M.D., pioneer surgeon of Minnesota, died at his home in Rochester, March 6, aged 91. He was born near Manchester, England, received his preliminary education at Manchester College, and took his medical lectures at the Indiana State Medical College in 1852, and at the University of Missouri Medical Department, Columbia, from which he received the ad eundem degree of M.D. in 1854. He first settled in Lafayette, Ind., but soon moved to Rochester, Minn. He was for many years a member of the American Medical Association and was president of the Minnesota State Medical Association in 1872. Soon after his arrival in Minnesota he was made surgeon-in-chief of the provost-marshall's office for the southern district of Minnesota. Dr. Mayo was the pioneer surgeon of the northwest and established a reputation which has resulted in making Rochester the surgical Mecca of the United States.

Albert Sydney Ashmead, M.D., of New York City; research worker in leprosy, pellagra and Asiatic diseases; died in Jefferson Hospital, Philadelphia, February 20, after an operation for disease of the intestines, aged 60. He received his medical degree from the University of Pennsylvania, Philadelphia, in 1869, and four years later was appointed foreign medical director of the Tokyo Fu Hospital, Tokyo, Japan. He also taught the first class of students in the Tokyo Charity Hospital Medical School. After three years he returned and practiced in Doniphan County, Kan.; and while there was local surgeon for the St. Joseph and Grand Island Railroad. In 1882 he removed to New York City. He was one of the founders of the Berlin Leper Conference of 1897, and contributed largely to the literature of leprosy.

Thomas Berton Davis, M.D. University of Louisville, Ky., 1869; a member and formerly president of the Arizona Medical Association; organizer and first president of the Yavapai County Medical Society; a pioneer physician of Arizona; formerly medical cadet and acting assistant surgeon, U. S. Army, with Civil War service; died at his home in Prescott, February 17, from intestinal obstruction, aged 66. At a special meeting of the Yavapai County Medical Society, resolutions were unanimously adopted setting forth the high personal and professional attainments of Dr. Davis, and expressing regrets at his death. These resolutions were endorsed by the druggists of the city.

Edwin H. Carter, M.D. Eclectic Medical Institute, Cincinnati, 1865; Rush Medical College, 1897; for several years a member of the Iowa State Board of Health; and State Board of Medical Examiners; vice-president of the Iowa Public Health Association; formerly professor of surgery and clinical surgery, theory and practice of medicine and clinical medicine, and dean of the faculty of Drake University Medical Department; died at his home in DesMoines, February 24, from cerebral hemorrhage, aged 74.

James Crawley Donoghue, M.D. *cum laude,* Harvard Medical School, 1897; of Boston; a member of the American Medical Association; instructor in histology in his alma mater; and last year appointed instructor in diseases of the blood in Tufts College Medical School; physician for twelve years at the Boston Dispensary and visiting physician to St. Mary's Infant Asylum; died at the home of his parents in Georgetown, Mass., February 26, aged 46.

Franklin Cooley, M.D. University of Louisville, Ky., 1848; surgeon of the Tenth Missouri Volunteer Infantry and Seventh Missouri Volunteer Cavalry during the Civil War; for sixteen years a member of the local pension examining board of Lexington, Mo.; founder of the first medical college in Kansas City, and professor of surgery for three years; died at the home of his daughter in Kansas City, February 16, aged 90.

Edward Hitchcock, M.D. Harvard Medical School, 1853; senior professor and professor of hygiene and physical education in Amherst (Mass.) College and of physical culture and hygiene in Cornell University; a pioneer in the physical training of students, and the author of a number of text-books on physiology and anatomy; died at his home in Amherst, February 15, aged 82.

Floyd Preston Sheldon, M.D. University of Michigan, Ann Arbor, 1878; an eye and ear specialist of New York City; and a director and vice-president of the Citizens Loan and Saving Association; oculist and aurist to the Home for the Friendless, and consulting oculist to the Webb Home; died at his home in New York City, February 18, from nephritis, aged 53.

Thomas James Manahan, M.D. Harvard Medical School, 1899; assistant surgeon on the hospital ship *Bay State* during the Spanish-American War; a member of the staff of the Massachusetts General Hospital, and proprietor of the McDonald Hospital, Corey Hill, Brookline; died in that institution, February 14, from pneumonia, aged 37.

Francis M. Greene, M.D. Jefferson Medical College, 1860; a member of the Kentucky State Medical Association; for more than half a century a practitioner of Fayette County, Ky.; acting assistant surgeon U. S. Army during the Spanish-American War; died at his home in Lexington, February 19, from senile debility, aged 77.

Homer Baxter Sprague, M.D. Bellevue Hospital Medical College, 1881; a member of the Medical Society of the State of New York; for twenty-six years a practitioner of Yorkville, New York City, and a prominent social worker; a member of the State Lunacy Commission; died at his home, February 25, from pneumonia, aged 51.

Carroll Thrasher, M.D. Cooper Medical College, San Francisco, 1900; at one time police surgeon of San Francisco, and superintendent of the small-pox hospital; and later surgeon on a steamer plying between San Francisco and Panama; died suddenly at his home in San Francisco, February 10, from heart disease, aged 34.

Llewellyn Thomas Botsford, M.D. New York Homeopathic Medical College, New York City, 1878; for several years health officer of Colton, N. Y., and for six years coroner of St. Lawrence County; a member of the board of education of Canton for many years; died at his home in Potsdam, February 8, from diabetes, aged 58.

Stephen Tabor Birdsall, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; New York Homeopathic Medical College and Hospital, New York City, 1868; a member of the American Electrotherapeutic Association; died at his home in Glens Falls, N. Y., January 27, from cerebral hemorrhage, aged 65.

James Kelley Farnum, M.D. University of Michigan, Ann Arbor, 1870; surgeon for the Pere Marquette and Grand Trunk systems for several years; died in the City Hospital, Port Huron, Mich., February 11, from shock following the amputation of a foot as the result of a street-car accident four days before, aged 64.

Benjamin Franklin Cessna, M.D. University of Michigan, Ann Arbor, 1852; Jefferson Medical College, 1858; for many years a trustee of Ohio Wesleyan University, in which he endowed a chair of English language and literature; died at his home in Kenton, Ohio, January 1, from acute gastritis, aged 84.

John C. Nottingham, M.D. Bennett Medical College, Chicago, 1873; a veteran of the Civil War; at one time treasurer of Delaware County, Ind.; a charter member and one of the organizers of the Saginaw Valley Medical Society; died at his office in Bay City, Mich., February 25, from heart disease, aged 69.

Alexander S. Stewart, M.D. Eclectic Medical Institute, Cincinnati, 1865; a pioneer practitioner of South Dakota; a veteran of the Civil War; and a member of the legislature from Pawnee County, Neb., in 1869; died at his home in Hot Springs, S. Dak., January 22, from nephritis, aged 71.

Hannibal Amilcar Beeson, M.D. Miami Medical College, Cincinnati, 1879; for many years a practitioner of Leesburg, Ohio; hospital steward and assistant surgeon in the Navy during the Civil War; died at the home of his son in Roswell, N. M., February 11, from angina pectoris, aged 69.

Thomas K. Reed, M.D. University of Pennsylvania, Philadelphia, 1864; vice-president and one of the organizers of the First National Bank of Atlantic City, N. J.; a surgeon of volunteers during the Civil War; died at his home in Atlantic City, February 12, from heart disease, aged 72.

Charles Spinning Cowan, M.D. Miami Medical College, Cincinnati, 1880; formerly president of the Shelby County (O.) Medical Association, and Siskiyou County (Cal.) Medical Society; died at his home in Fort Jones, Cal., Nov. 26, 1910, from angina pectoris, aged 60.

John A. Rynard, M.D. Jefferson Medical College, 1872; formerly councilman and a member of the school board of South Harrisburg, Pa.; local surgeon for the Pennsylvania System at Goldsboro from 1880 to 1888; died at his home in Harrisburg, February 10, aged 71.

Alonzo R. Stephens, M.D. Albany (N. Y.) Medical College, 1865; a member of the Bradford County Pension Board; assistant surgeon in the Federal service during the Civil War; died at his home in Herrickville, Pa., February 10, from heart disease, aged 75.

Philo Kelly Stoddard, M.D. Buffalo (N. Y.) Medical College, 1848; surgeon of the One Hundred and Sixty-First New York Volunteer Infantry for two years during the Civil War; died at his home in Prattsburg, N. Y., February 3, from gastritis, aged 85.

Caleb Horace Closson, M.D. Jefferson Medical College, 1872; a member of the Medical Society of the State of Pennsylvania; first secretary of the Altoona Board of Health; died at his home in that city, February 24, from cerebral hemorrhage, aged 62.

E. B. Harrell, M.D. Tennessee Medical College, Knoxville, 1907; a member of the American Medical Association, and of the pension board of Unicoi County, Tenn.; died at his home in Unicoi, Nov. 23, 1910, from typhoid fever, aged 35.

William J. Middleton, M.D. Kentucky School of Medicine, Louisville, 1891; a pioneer practitioner of Idaho; for many years a member of the Idaho State Medical Association; died at his home in St. Anthony, January 13, from paresis.

Wallace Deane Carr, M.D. University College of Medicine, Richmond, Va., 1908; a member of the Medical Society of Virginia; a specialist in diseases of children; died at his home in Richmond, February 24, from heart disease, aged 35.

Amy Garrison Brown Kimball, M.D. Cleveland College of Physicians and Surgeons, 1878; for three years intern in the Northeastern Hospital for Women, Boston; died at her home in Jackson, Mich., January 29, from pneumonia, aged 63.

Emmet Densmore, M.D. New York University, New York City, 1885; of New York City; an apostle of natural food and simplicity in living and diet; died at his cottage in Cassadega, Fla., February 19, from tuberculosis, aged 73.

John J. Sweeney, M.D. College of Physicians and Surgeons, Baltimore, 1910; of Govanstown, Baltimore; died in Mercy Hospital, February 18, from the effects of bichlorid of mercury, self-administered in mistake for candy, aged 25.

Nellie Knowles Horn, M.D. Fort Worth (Tex.) University, 1908; a member of the Tarrant County Medical Society; died at her home in Altus, Okla., January 16, eight days after an operation for cancer of the uterus, aged 36.

Jesse W. Buell, M.D. New York Homeopathic Medical College, New York City, 1877; attending physician to the Rochester (N. Y.) Homeopathic Hospital; died at his home in that city, February 17, from pneumonia, aged 59.

Thomas E. Briggs, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1903; of Saginaw; a member of the Michigan State Medical Society; died at the Saginaw General Hospital, February 23, from pneumonia, aged 32.

Arthur B. Ralph, M.D. Washington University, St. Louis, 1859; of Orrick; a member of the Missouri State Medical Association; died at the home of his daughter in Orrick, February 17, from pneumonia, aged 74.

Gustavus Adolphus Tucker, M.D. Jefferson Medical College, 1854; for thirty-one years an employee of the *Chattanooga Times;* died at the home of his daughter in Hill City, Chattanooga, Tenn., February 10, aged 82.

Joseph W. Bourne, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1889; formerly of South Auburn, Neb.; died at his home in Omaha, February 14, from arteriosclerosis, aged 53.

George W. Seymour, M.D. New York Homeopathic Medical College, New York City, 1872; for more than forty years a practitioner of Westfield, N. Y.; died at his home, February 13, from pneumonia, aged 69.

David Dunn Martin, M.D. Starling Medical College, Columbus, O., 1851; (license, Okla., 1908); a practitioner for nearly sixty years, died at his home in Newkirk, Okla., February 5, from cancer, aged 82.

James M. Patterson, M.D. University of Nashville, Tenn., 1859; a Confederate veteran; formerly a member of the Tennessee legislature; died at his home in Verona, Tenn., February 18, aged 82.

Rufus C. Corey, M.D. Homeopathic Medical College of Missouri, St. Louis, 1887; of Seattle, Wash.; died in the City Hospital, February 13, from the effects of an overdose of morphin, aged 46.

William G. Mangold, M.D. College of Physicians and Surgeons, New York City, 1889; of Brooklyn, N. Y.; died in the Brooklyn Hospital, February 15, from cerebral hemorrhage, aged 47.

Edward Clay Reid, M.D. Louisville (Ky.) Medical College, 1875; president of the school board of Tulsa, Okla.; died at his home in that place, Nov. 20, 1910, from acute nephritis, aged 58.

Napoleon B. McKay (license, Kansas, 1901); of America City; for fifty-four years a practitioner of Kansas; died at the home of his daughter near America City, February 4, aged 84.

James Kennedy Johnstone, M.D. Victoria College, Coburg, Ont., 1870; government inspector of electric meters; died at his home in Toronto, Aug. 12, 1910, from pneumonia, aged 61.

Lee Washington Fulton, M.D. Rush Medical College, 1869; of New Berlin, Ill.; a practitioner for fifty-four years; died at the home of his son in Alexander, Ill., February 18, aged 73.

Sands Macamly Davis, M.D. New York University, New York City, 1853; died at his home in Sugar Loaf Valley, Mass., January 8, from organic heart disease, aged 81.

Henry J. Weyl, M.D. Eclectic Medical Institute, Cincinnati, 1875; a veteran of the Civil War; died at his home in Decatur, Ill., February 23, from prostatic hemorrhage, aged 75.

Albert Seessel, M.D. University of Leipsic, Germany, 1876; of New York City; died in the German Hospital, New York City, Dec. 24, 1910, from lobar pneumonia, aged 60.

Henry Lewis Perney (license, Iowa, years of practice, 1886); for nearly half a century a practitioner; died at his home in Wilton, February 13, from cancer, aged 74.

Charles Westley Throckmorton, M.D. Western Pennsylvania Medical College, Pittsburg, 1909; died at his home in Johnstown, Pa., February 16, from pneumonia, aged 23.

Joseph E. Ferte, M.D. Ecole de Médecine et de Chirurgie, Montreal, 1853; died at his home in Livingston, Mont., February 12, from cerebral hemorrhage, aged 78.

John F. Michael, M.D. College of Physicians and Surgeons, Baltimore, 1885; died at his home in Morgantown, W. Va., Sept. 26, 1910, from prostatitis, aged 70.

Frank B. Behner, M.D. Kentucky School of Medicine, Louisville, 1902; of Marion, Ohio; died in Richmond Township, February 19, from tuberculosis, aged 30.

George Thomas Borden, M.D. Hahnemann Medical College, Philadelphia, 1876; died at his home in Caledonia, N. Y., February 14, from nephritis, aged 57.

N. W. Williams, M.D. Tulane University, New Orleans, 1875; formerly of Holly Springs, Miss.; died at his home in Gulfport, Miss., February 21, aged 53.

Mathew Wilkinson Ross, M.D. Jefferson Medical College, 1889; died at his home in Scranton, Pa., Sept. 3, 1910, from sarcoma of the lower jaw, aged 56.

Constantine H. Murphy, M.D. Washington University, St. Louis, 1854; died at his home in Chesterfield, Ill., February 13, from heart disease, aged 83.

Jeremiah B. Dustin, M.D. Medical College of Ohio, Cincinnati, 1874; died at his home in Bidwell, O., February 17, from cerebral hemorrhage, aged 62.

William M. Glass, M.D. Medical College of Indiana, Indianapolis, 1871; died at his home in Summitville, Ind., January 27, from nephritis, aged 80.

[**Dr. Daniel Franklin Royer** is not dead; see California news, this issue.]

Association News

THE LOS ANGELES SESSION

List of Meeting Places and Section Hotels—The Northern Railroad Routes

We give here a schedule of meeting places for the various sections and other gatherings and of the hotels designated for the various sections. A map of Los Angeles will be published in the special number of THE JOURNAL to be issued in May giving full details of the session. Some information about the meeting is being published in each issue of THE JOURNAL. For example, a list of hotels, with description and rates, appeared February 18, page 527.

THE NORTHERN RAILROAD ROUTES

DR. M. L. HARRIS, Chicago, chairman of the Committee on Transportation, makes the following announcement, continuing the subject of railroads from the issues of the past few weeks:

The northern routes include the Northern Pacific, the Chicago, Milwaukee & Puget Sound, the Great Northern and the Canadian Pacific railroads, and, for a part of the distance, the Oregon Short Line. All of these routes lead to the northwest, namely, to Vancouver, Seattle, Tacoma and Portland.

On the Canadian Pacific the mountain scenery is perhaps the most beautiful on this continent, and this part of the great Rocky Range frequently has been called the Alps of America. On the other lines, although the mountain scenery is very beautiful, the greatest attraction is undoubtedly the Yellowstone Park. All those who have not visited ths great National Park should not fail to improve this opportunity to see the wonderful geysers, the lake, the beautiful Yellowstone falls, the deep canyon with its gorgeous colorings, and many other interesting formations.

There are many beautiful and interesting sights along the Columbia River, including the great salmon fisheries, which are the largest in the world.

The Shasta route between Portland and San Francisco is justly famous, for the stateliness and grandeur of Mount Shasta is unsurpassed.

For those who enjoy the water there is an excellent line of boats between San Francisco and Portland.

The rate over any of these northern lines is $62.50 round trip from Chicago, plus $15 arbitrary for the coast line, but attention is again directed to the fact that this rate is not available for both going and returning by a northern route.

As it requires so much time thoroughly to see and enjoy the Canadian Rockies, Yellowstone Park and the other places of interest, it is suggested that it is perhaps better to go by one of the southern or central routes and to return by a northroute; stop-overs on the return trip may be had at almost any place and for any length of time within the final limit of the ticket, September 15.

SPECIAL TRAINS

Announcement of special trains will be made in THE JOURNAL in the issue of March 25. All who are concerned in the arranging of special trains to Los Angeles from any part of the United States, or from Los Angeles on the return trip, are asked to notify THE JOURNAL at once with full particulars so that this announcement may be complete.

Correspondence

Federation of Women's Clubs Starts Educational Campaign in Social Hygiene

To the Editor:—It may be of interest to your readers to know that the General Federation of Women's Clubs, with a membership of 800,000, has decided to take up an educational campaign on social hygiene. A committee of three physicians and one lay woman was appointed by the president to start the work. The opportunity is a great one, but the task of doing it wisely and yet of facing the facts honestly is no small one. A large number of women in the federation are not even acquainted with the name "social hygiene;" a still larger number are afraid of the subject.

Our experience in Illinois has been of the most encouraging nature. In the last four years a committee, consisting of a number of women physicians and some lay members of the Chicago Woman's Club, in cooperation with the Chicago Woman's Club and the Chicago Society for Social Hygiene, carried on extensive educational work.

Before almost every club in the city and in the state one or more lectures on social hygiene have been given. Members of the committee have also spoken before mothers' meetings and fraternal organizations. Several public courses of lectures, including the anatomy and physiology of the organs of generation, embryology, sexual awakening, dangers of syphilis and gonorrhea, have been given at the Chicago Woman's Club, at the Chicago Public Library, and at the Chicago Academy of Science. The audiences in many cases were large and apparently took the profoundest interest in the subject.

(*Continued on page 761*)

LIST OF SECTION MEETING PLACES AND HOTELS

Section, etc.	Name of Hall	Location of Hall	Hotel Headq'ters	Location of Hotel
General Hotel Headquarters	.....	.....	Alexandria	5th and Spring
Registration	Hamburger (4th floor)	8th and Broadway	.....	.....
House of Delegates	Armory	7th and Spring	.....	.....
Commercial Exhibit	Hamburger (4th floor)	8th and Broadway	.....	.....
President's Reception	Shrine Auditorium	655 W. Jefferson	.....	.....
Smoker	Hamburger (roof garden)	8th and Broadway	.....	.....
Scientific Exhibit	Hamburger (4th floor)	8th and Broadway	.....	.....
Information, P. O., etc	Hamburger (4th floor)	8th and Broadway	.....	.....
Practice of Medicine	Majestic Theater	8th and Broadway	Lankershim	7th and Broadway
Nervous and Mental Diseases	Walker (McKinley)	7th and Grand	Westminster	4th and Main
Diseases of Children	Walker (Lincoln)	7th and Grand	Westminster	4th and Main
Dermatology	Blanchard (Broadway)	3d and Broadway	Hollenbeck	2d and Spring
Pathology and Physiology	Blanchard (Symphony)	3d and Hill	Hollenbeck	2d and Spring
Surgery	Baptist Auditorium	5th and Olive	Alexandria	5th and Spring
Genito-Urinary Diseases	Blanchard (Music)	3d and Hill	Hollenbeck	2d and Spring
Obstetrics	Baptist Aud. (Berean)	5th and Olive	Hayward	6th and Spring
Preventive Med. and Public Health	Hamburger's	8th and Broadway	Alexandria	5th and Spring
Pharmacology	Walker (Garfield)	7th and Grand	Lankershim	7th and Broadway
Ophthalmology	Parish (2d floor)	6th and Olive	Van Nuys	4th and Main
Laryngology and Otology	Parish (1st floor)	6th and Olive	Angelus	4th and Spring
Stomatology	Dental College	5th and Wall	King Edward	5th and Los. A.

[The Local Committee on Arrangements sends the above schedule of meeting places and of the hotels designated as headquarters.]

This committee feels very strongly that in order to awaken similar interest among women all over the country, the cooperation of physicians is absolutely necessary. Physicians are the properly qualified people to discuss the dangers of disease, as well as to teach the lay public the principles of health in a rational and scientific manner. The lay public must understand these principles if we are to have an advance in the control of venereal disease. The principles of ignorance on matters of health and disease have been the methods of the past and have served us very poorly.

The committee has sent out letters to all state federations of women's clubs requesting them to urge the clubs in their federations to have at least one meeting during the months of March and April on the subject of social hygiene, advising them to apply for speakers to the physicians in their locality.

The committee has also suggested that the following outline be substantially adhered to by the clubs: (1) How prevalent is gonorrhea? (2) How is it contracted and communicated? (3) What are its dangers to mother and child? (4) What is its treatment and how can it be exterminated? (6) How prevalent is syphilis? (7) How is it contracted and communicated? (8) What are its dangers to mother and child? (9) What is its treatment and how can it be exterminated?

This apparently extreme outline for lay clubs is deemed necessary because the temptation to dodge the real issue is too great.

It is hoped that the physicians in each community will respond to the request on the part of women's clubs for such lectures.

RACHELLE S. YARROS, M.D.,
Chairman Social Hygiene Committee of the General Federation of Women's Clubs.

The Septic Tank

To the Editor:—THE JOURNAL, Dec. 10, 1910, contains an editorial on the septic tank in which there is a quotation from the well-known sanitary engineer, Mr. Rudolph Hering. The quotation does not fairly represent Mr. Hering's views, and the general trend of the editorial is hardly in keeping, apparently, with the present state of engineering thought.

It is true that the former septic tank has proved a disappointment; it is true that the sludge so treated is often more difficult to manage than the untreated sewage; it is true that not unfrequently the rising sludge breaks up the scum, and creates a disagreeable condition; but it is not true that the septic tank idea is being abandoned.

In the Emscher Valley, in Germany, there is a sewage district of 308 square miles, containing a population of about 2,000,000 persons, and the population is rapidly increasing. Dr. Ing. Karl Imhoff, of Essen, is the Chief of the Sewerage Department (*Abwasserabteilung*) of the Emschergenossenschaft. The Emscher, or, as it is more frequently called, the Imhoff tank is proving thoroughly satisfactory. In that German district there are seven now in operation, serving 250,000 persons. Ten more are being built, and thirty additional tanks are projected for the district. In America, a trial tank has been in operation for some time at Philadelphia, and another is located at the Thirty-Ninth Street testing station of the Chicago Drainage District. A large tank is under construction at Holmsburg, near Philadelphia, and another is being built to care for the entire sewage of Atlanta, Ga. According to a recent number of the *Municipal Engineer*, Erie, Pa., is to construct one, on the advice of Mr. Hering. Similar tanks have been advised for Batavia and Oswego, N. Y.

In the *Engineering News*, Dec. 1, 1910, Mr. Hering says: "It was apparent to me that the sludge question, which had been the *bête noire* for 30 years, was nearing a satisfactory solution. The Imhoff tank, based on what had appeared to me a rational principle, was completely fulfilling its promises of two years before by transforming the compacted suspended matter into inoffensive humus material. The reason for this inoffensiveness was a complete digestion under favorable conditions, of all the material that usually becomes foul."

The gases arising are approximately 75 per cent. marsh gas, and 25 per cent. carbon dioxid. (In the articles of Dr. Imhoff in the *Engineering Record*, and by Hering and Saville in the *Engineering News*, the carbon dioxid is called monoxid, but in a private communication to me Dr. Imhoff corrects the misstatement.) Saville says that it has only been necessary to remove the sludge from some of the tanks once or twice a year. In others it was done more frequently. The removed sludge is inoffensive, and when spread on the drying beds becomes spadeable in from one to four days.

The test tank in Chicago is by the side of the Dortmund test tank. The effluent from each is perfectly clear, but whereas that from the Dortmund tank is very offensive, on account of the large amount of hydrogen sulphid contained, that from the Imhoff is as sweet as spring water.

The drying bed for the Bochum, Germany, plant, which cares for the sewage of 145,000 persons, is only half an acre in size, and the entire sewage of Schwerin, Mecklenburg-Schwerin, is treated within sight of the ducal palace, without offense.

HENRY B. HEMENWAY, M.D., Evanston, Ill.

[COMMENT:—We are at a loss to understand the statement in the first paragraph of the above communication regarding the views of Mr. Hering. If Mr. Hering's own words do not represent his views, we cannot understand why he should have written them or whose views they do represent.

As regards the Imhoff tank, our correspondent is evidently unfamiliar with the history of septic tank treatment, with the characteristics of the Imhoff tank itself and with current nomenclature. The Imhoff tank, as is well-known among sanitary engineers, is so arranged that the sewage with which it is filled is not allowed to reach a "septic" condition. The Imhoff tank is ordinarily spoken of as a purification tank or, as Mr. Saville calls it in the article cited by Dr. Hemenway, "strictly speaking a clarification tank." The distinction between the Imhoff tank and what for many years has gone under the name of septic tank is clear and sharp, and is thoroughly understood by practical workers in this field. —EDITOR.]

Encouragement of the Nostrum Evil by "Reputable" Physicians

To the Editor:—Permit me to ask a question. Why is it that medical men of repute will write articles for so-called medical periodicals whose advertising pages are reeking with advertisements of the worst nostrums, the very kind that the presumed leaders of the profession have set their faces against? I have before me a sample copy of such a periodical making a specialty of surgery. The leading article is written by an eminent surgeon of Baltimore, who specializes in gynecology. What are we to think about such doings? If he is of the rank and file that fight the nostrum evil, why does he not write only for such periodicals as have taken up this fight?

A. E. CONTER, M.D., Apalachicola, Fla.

[COMMENT.—We do not know why reputable physicians will write for such medical journals as those described by our correspondent. Probably for the same reason that equally reputable men will allow their names to appear as "associate editors" or "collaborators" in connection with the same kind of journals. The most disheartening phase of the fight for decency and truthfulness in medical advertising is the apparent indifference, on the part of many physicians of high standing, to the character of the advertising found in medical journals for which they subscribe and to which they contribute. As has been stated time and again in THE JOURNAL, if physicians would insist that the journals they patronize shall be as clean in their advertising pages as they are in their editorial pages, the evils connected with the "proprietary" business would be solved in six months. So long as the leading members of the medical profession give financial support—as subscribers—and moral support—as contributors—to those medical journals whose advertising pages are a disgrace to medicine, so long will the great American fraud—as it relates to the medical profession—flourish. So long, too, will these journals that are trying to be decent labor under a grievous disadvantage.—EDITOR.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WANTED—FICTION EXTOLLING THE AIMS OF PHYSICIANS

To the Editor:—Kindly send me the names of books—modern fiction—in which the aims and ideals of modern physicians are extolled. MONTE STERN, M.D., South St. Paul, Minn.

ANSWER.—To reply to our correspondent's query with anything like completeness would require much time and original investigation. It would be well worth doing, however, and we suggest the subject as an inviting one to some physician with literary tastes. If our readers will inform us of books which they have found worthy of commendation along this line we will make up a list and print it in this column for the benefit of all. Such a list will doubtless be of service, as a suggestion for gifts, for placing on reception-room tables, and for the leisure reading of persons interested in the lives of physicians, etc.

THE MANDELBAUM TEST IN TYPHOID FEVER

To the Editor:—Will you kindly publish in your department of Queries and Minor Notes the method of carrying out and the value of Mandelbaum's test in typhoid fever? E. D. W.

ANSWER.—Mandelbaum's method for rapid and early differentiation of typhoid was described in THE JOURNAL, March 5, 1910, page 827, with illustrations of the pipettes used and of the negative and positive reactions as observed in the hanging drop. Corroborative testimony as to its value was mentioned in THE JOURNAL, Aug. 6, 1910, page 543, and a few other writers since have endorsed its value, especially for detection of healthy bacillus-carriers. It does not seem to have been given much of a trial in this country to date.

TUBERCULOSIS SANITARIUMS—PUBLIC AND PRIVATE

To the Editor:—Can you supply me with a list of the tuberculosis sanitariums in this country, both private and public?
WALTER RITTENHOUSE, M.D., Lake Geneva, Wis.

ANSWER.—A book entitled "The Campaign Against Tuberculosis in the United States, Including a Directory of Institutions Dealing with Tuberculosis in the United States and Canada," may be obtained from Dr. Livingston Farrand, 105 East Twenty-Second Street, New York City. This is a cloth-bound book of 467 pages and gives much other information besides that mentioned in the title. The price is $1.

REMOVAL OF IMPACTED CERUMEN FROM THE EAR

To the Editor:—The removal of hardened wax from the ear is often a tedious matter, because of the time required to soften it with the usual solution of soda, glycerin and water. I have found that a mixture of acetic acid 1 part and water 3 parts has no injurious effect and will soften the wax very quickly. It may be dropped in and allowed to soak, or used with a syringe in large quantities. A. T. BLACHLY, M.D., Woodstock, Ore.

ANSWER.—Hydrogen dioxid is another efficient agent. It should be dropped carefully into the ear, with due regard to the pressure that may be caused if the escape of the resultant foam is hindered.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 4, 1911.

Wolven, Homer F., D.S., reports for temporary duty at Boise Barracks, Idaho.

Ford, Joseph H., major, ordered to duty with troops from Fort Wadsworth, N. Y., to Fort Crockett, Texas.

Stallman, George E., D.S., granted three months' leave of absence about June 15, 1911.

Woodbury, Frank T., major, granted leave of absence for one month and ten days, about April 21, 1911.

Dean, Elmer A., major, granted leave of absence for one month, about March 1, 1911.

Wheate, J. Marshall, M.R.C., orders to proceed to the Philippine Islands for duty is revoked.

Wheate, J. Marshall, M.R.C., relieved from duty at Fort Lincoln, N. Dak., and ordered to Boise Barracks, Idaho, for duty.

Clarke, Joseph T., lieut.-col., assumed temporary charge of office of chief surgeon, Department of the Columbia, and as attending surgeon, department headquarters.

Welles, E. M., Jr., lieut., ordered to proceed from Army General Hospital, San Francisco, to Presidio of Monterey, Cal., for temporary duty.

Kremers, E. D., lieut., left Presidio of San Francisco, en route to San Francisco, for duty as surgeon, U. S. Army transport *Buford*, during the trip to China and return.

Field, Peter C., major, relieved from duty at Fort Slocum, N.Y., and ordered to Philippines division for duty on the transport sailing from San Francisco about June 5, 1911.

Miller, Reuben B.; Eastman, William R., and Hall, James F., captains, ordered to Washington, D. C., on May 22, 1911, for examination to determine their fitness for promotion.

Stallman, George E., D.S., ordered to Fort Clark, Texas, for temporary duty.

Kellogg, Preston S., M.R.C., granted leave of absence for one month.

Qualls, Guy L., M.R.C., recently appointed, is ordered to Jefferson Barracks, Mo., for duty.

Connelly, Philip B., M.R.C., recently appointed, is ordered to Fort Monroe, Va., for duty.

Mitchell, Leopold, M.R.C., recently appointed, is ordered to Washington Barracks, Washington, D. C., for duty.

Baker, Frank C., major, left Fort Moultrie, S. C., on tour of inspection of Medical Department, North Carolina National Guard.

Newlove, George, M.R.C., reports arrival at Fort Sam Houston, Texas, for temporary duty in the field.

Myers, William H., M.R.C., reports for temporary duty at Fort Moultrie, S. C.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended March 1, 1911.

White, J. H., surgeon, granted eighteen days' leave of absence from Feb. 16, 1911, without pay.

Earle, B. J., P. A. surgeon, granted ten days' leave of absence from March 1, 1911.

Lloyd, B. J., P. A. surgeon, directed to proceed to Spokane, Wash., on special temporary duty, Feb. 28, 1911.

Creel, R. H., P. A. surgeon, directed to make such trips as may be necessary in investigation of oyster beds of Virginia, Feb. 17, 1911.

Turnipseed, D. C., asst.-surgeon, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty, Feb. 16, 1911.

Stiles, C. W., professor of zoology, detailed with the mine rescue car of the department of the interior on special temporary duty Feb. 14, 1911.

Allan, A. Smith, A. A. surgeon, granted seven months' leave of absence from April 1, 1911, without pay.

Hasse, P. F., A. A. surgeon, granted seven days' leave of absence from Feb. 11, 1911, under paragraph 210, Service Regulations.

McLarty, A. A., A. A. surgeon, granted thirty days' leave of absence from Feb. 25, 1911.

Schug, F. J., A. A. surgeon, granted thirty days' leave of absence from Feb. 18, 1911.

Storrs, H. R., A. A. surgeon, granted thirty days' leave of absence from March 1, 1911.

Wood, J. E., A. A. surgeon, granted fifteeen days' leave of absence from Feb. 24, 1911.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

CONFERENCE ON MEDICAL EDUCATION AND ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

Seventh Annual Conference, Held in Chicago, March 1-3, 1911

DR. ARTHUR DEAN BEVAN in the Chair

Dr. A. D. Bevan stated that as chairman of the Council on Medical Education of the American Medical Association he had for seven years made a special study of medical education including the conditions in foreign countries. From this study the following conclusions may be drawn: First, medicine is to-day a science just as chemistry and physics are sciences. The art of medicine to-day rests as firmly on a scientific basis as does the practical application of chemistry and engineering, and as there can be but one science of chemistry, so from now on there can be but one science of medicine. The fads and "pathies" that existed under the old empirical practice of medicine become impossible in the light of modern scientific medicine. A thorough training in the sciences on which medicine is based is now essential and a thorough

familiarity with disease processes in the living patient must be mastered before the student is permitted to begin practice.

A close analysis of all the facts and a careful study of the results arrived at in other countries leads to the conclusion that the minimum amount of training which will make of a medical student a safe practitioner of medicine is the following: After graduating from high school he should have at least one year of training in physics, chemistry and biology; two years in the science of anatomy, physics, pharmacology and pathology; two years in the study of medicine, surgery, obstetrics and the specialties, with the opportunity of studying these subjects in the dispensary and hospital, and lastly a year's practical training as an intern in a hospital.

The program of this conference has been framed for the purpose of presenting in detail this conception of the essentials in modern education. I hope that as a result of this meeting the medical schools and the state boards represented will use all the influence in their power to secure, as soon as possible, the adoption of these requirements in their own schools in their own state.

Progress and Needs in Medical Education

DR. N. P. COLWELL, Chicago, Secretary of the Council on Medical Education: Changes for the better in medical education have been particularly rapid since 1904 when the Council on Medical Education was organized. Up to that year the number of medical colleges continued to increase regardless of the frequently published references to the overcrowded condition of the profession and reports showing the need of better rather than of a larger number of medical colleges. The increase in number continued until in 1904 the maximum of 166 medical colleges was reached, constituting practically half of the world's supply.

Since 1904, however, there has been a decrease in the number of colleges until now the number has been reduced to 129. Of the forty-four colleges closed since 1907, twenty colleges were closed outright, and twenty-four by merging with others. This decrease has been due to the closing of weak and inferior colleges, or by the merging of two or more medical colleges, forming in each instance one invariably stronger and better equipped college. Instead of a serious matter, therefore, this decrease in the number of medical colleges has been of positive benefit, resulting as it has in the formation of fewer but better colleges.

Since 1904 there has also been a decided advancement in the standards of admission. Until 1904, only three or 1.9 per cent. of all medical colleges were requiring for admission more than a high-school education, but now 41 or 31.8 per cent. (nearly one-third) of all colleges are requiring for admission one or more years of collegiate work, and the teaching of medicine as a whole has been placed more largely on a university basis.

In the last seven years, however, other radical improvements in medical education have taken place. College terms have been lengthened, new methods of teaching have been adopted, more salaried teachers have been employed, more endowments secured, new buildings erected, better laboratories and laboratory equipment installed and better hospital connections and clinical facilities secured. In the last year, several of the larger medical schools have received large donations, have been thoroughly reorganized, have built teaching hospitals, and have adopted higher standards of admission. And reports of other similar changes of importance have continued to come in.

Under the methods and conditions which still exist, there is scarcely any person so ignorant that he cannot gain admission to some medical college. So long as an applicant can pay the required fee, there are still colleges which are only too glad to accept him regardless of his lack of preliminary education. The low-standard colleges referred to can exist only in states where the laws regulating the practice of medicine are inadequate or are not enforced.

The solution of many of the problems of medical education rests in the hands of the state licensing boards and doubtless will be solved by them if they are given a fair chance. In many of the states, the medical boards are seriously handicapped. In the first place, as a rule, the board is too closely connected with politics, and in some states the members are appointed largely for political reasons, and are liable to be changed with every turn of politics. It is often difficult, therefore, to get good men to accept places on the board. In several states, the board is not given full authority in the premises. Either it is hindered, because of a very poor practice act, or the authority is limited or divided by the establishment of special boards for the various medical sects, which make impossible a satisfactory regulation of the practice of medicine. In the fifty states and territories of the Union there are eighty-three different licensing boards—counting the osteopathic.

At most, there should be but one board in each state; that should be a permanent board and should be composed of men appointed for their particular skill in the examining and licensing of physicians, and not for political reasons. If possible, the board should have a permanent secretary who is selected by the board and who is not subject to removal with every change of governors.

Not only should there be but one board in each state, but there should be a single educational standard to which every applicant for license to treat the sick, by whatever means or method, should comply. Let there be but one portal of entry to the practice of medicine. All who are to treat human ailments, no matter whether they are regulars, homeopaths, osteopaths, or the followers of any other school, are alike in that they must make a diagnosis; they must be capable of differentiating between the various diseases in order to treat intelligently the patients who may come to them.

Entrance Examinations

DR. THOMAS S. FISKE, Secretary of the College Entrance Examination Board, New York City: Certain classes of men may be admitted to the study of medicine with comparative safety on the basis of credentials issued by their former teachers. These are: (1) college graduates and students who have completed at least a part of a college course, when they can present credentials issued by some college in good standing showing that they have studied physics, chemistry and biology, in addition to the fundamental elements of an ordinary education; (2) graduates of accredited high schools, who have completed a four-year course in which the subjects just mentioned have been included. The North Central Association of Colleges and Secondary Schools, like several other similar associations, has prepared a list of accredited high schools whose credentials are recognized by a large number of colleges and universities. In addition to candidates belonging to the two classes already specified and able to present satisfactory credentials, there are numbers of young men who every year demand the privilege of being admitted to the study of medicine. In this number will be: (1) college men and high-school graduates whose credentials do not cover all the required preliminary studies; (2) candidates from unaccredited institutions, that is, from colleges and schools which have not received the privilege of issuing acceptable credentials; (3) candidates of irregular preliminary education, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course.

Standing at the point of contact between the secondary school and the college, the fundamental principle first in order of importance is that of cooperation between school and college. The board represents a cooperation between the colleges on the one hand, and the secondary schools on the other in respect to a matter of vital importance to both. The secondary schools as well as the colleges have a voice in framing and administering the policies of the board. In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall

surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificates.

The following manifest advantages of the examinations held by the College Entrance Examination Board are: 1. They are uniform in subject-matter. 2. They are uniformly administered. 3. They are held at many points to meet the convenience of students at one and the same time. 4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality. 5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both. 6. By reason of their uniformity they aid greatly the work of the secondary schools. 7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

Subjects Included in the Two Years of College Work Required for Admission to Medical Colleges

DR. CHARLES R. BARDEEN, Madison, Wis.: During the two years of college work required by the majority of medical colleges which can afford to maintain high preliminary standards, about half the time should be devoted to physics, chemistry, biology and English. The other half should be divided between the study of foreign languages and one or more non-technical studies such as art, history, economics, civics, mathematics and philosophy. The aim of this preliminary college work should be to produce breadth of view as well as to give some understanding of scientific knowledge and methods.

Five-Year Medical Course

DR. J. G. ADAMI, Professor of Pathology, McGill University, Montreal: From an educational point of view the great danger of democracy lies in the fallacy that since every individual has the right to equal opportunities all individuals must be given the same opportunities. As a consequence, precise and cast-iron regulations would become the order of the day, and one fixed curriculum would be laid down as the *sine qua non*, whereby at 10:30 a. m. across the whole continent, from the Atlantic to the Pacific and from the Polar regions to the Gulf of Mexico, in country school and crowded city, the individual who has attained to a certain standard in a certain year of the course is being taught the subject-matter of a particular chapter of a particular book on a particular subject. In medical education, it is essential that there be established a minimum of knowledge, and also a minimum time requisite for the acquirement of that knowledge. The Council on Education of the American Medical Association has accomplished a work, the value of which it is difficult to estimate, in making this recognized, and in establishing what should be the minimum. Nevertheless, this minimum should not be regarded as the optimum, and no cast-iron routine should be established to which every medical student should be subjected. Hence, in speaking of the five-year course in medicine, now in operation in the leading Canadian schools, it is not deemed essential that all the medical schools of the continent should adopt such a course. There might be other medical schools having a similar environment, however, which might obtain the best results educationally by establishing a similar course.

Two main reasons led McGill University, four years ago, to change from the four to the five-year system. The first was to make sure that the students possessed a sound training in the preliminary sciences, biology, chemistry, physics, etc. The second reason was to insure thorough hospital training, and to afford adequate time for clinical work. Since our students came from a wide area in a young country, a certain number possessed no opportunity for instruction in the elementary sciences, and as a matter of economy of effort it was better that McGill should have the supervision of the courses in those sciences, rather than that the students should attend courses not specially devised for medical students. Educationally, the graded course bearing a definite relationship to future teaching is of foremost value. It might be well if the courses in physics, chemistry and biology were not delivered in the medical college itself, but in the laboratories of another faculty; it might also be well if the actual teachers were not medical men. Nevertheless, the teaching of these elementary branches should be given with special reference to the future needs of the student. As a matter of fact it was found possible to give the ordinary medical student as sound and generally useful a course in these preliminary sciences in one year as ordinarily consumed two years in the arts or academic course.

This is not the optimum; the man who desires to do so might well take a complete academic course or to specialize in certain scientific branches. It is necessary, however, to fix a minimum for the ordinary students, the men who at most look forward to ordinary practice, and who constitute the bulk of students in the medical school.

Briefly, the objects in the development of the curriculum at McGill have been: (1) to give a sound course in the preliminary sciences subjects; (2) to make the courses from the third to the fifth year as practical as possible; (3) to observe a natural sequence in the various courses; and (4) to give the maximum of hospital instruction with the freest employment of the wards and of bedside instruction.

Equipment and Instruction of the Laboratory Years

DR. E. P. LYON, Professor of Physiology, St. Louis University School of Medicine: The chief function of a medical school is to make good physicians. The good doctor must be an accurate observer; for training observation anatomy and its related sciences are valuable. He must be a skilful experimenter; chemistry, bacteriology, physiology and pharmacology are preeminently experimental sciences, and each has its peculiar methods and value for medical training. The good physician must further be a man who is able to interpret the facts gained by observation and experiment; all the sciences are valuable as training for this power, but pathology is especially useful. The sciences fundamental to medicine are, therefore, justifiable in the medical curriculum on account of their disciplinary value.

The scientific instruction must be in the hands of professional scientists, not practitioners of medicine. These men must be provided with proper laboratories for teaching and research, with equipment, materials, libraries and assistance. Anything less than this provision is to disregard the model which the school is trying to realize, namely, the good physician.

The laboratory work should be conducted by the professors and not by cheap assistants. If the right men are chosen for heads of departments, the choice of specific equipment may be left to them. The state boards would do well to insist that the colleges have trained instructors, rather than publish lists of required equipment which may or may not be used.

The powers of good observation, experimentation and judgment are necessary for the technical work of the physician. But on account of his intimate relation to the people he needs many other traits which may be summed up as character. The medical school can do little by precept but much by example. The medical teachers should be men of character and culture.

Instruction and Equipment of the Clinical Years

DR. GEORGE BLUMER, Dean of the Medical Faculty, Yale University: The problem of teaching in clinical years is a threefold one. The student should receive a training in the fundamental principles of medicine, surgery and obstetrics. He should also receive a practical training in physical and clinical diagnosis and surgical technic and should have an opportunity to apply the principles and technic by actual contact with patients. The proportion of clinical and didactic teaching as methods of imparting fundamental training should be determined by local conditions. There is an unfortunate tendency to overemphasize didactic teaching. On the contrary technical training in clinical and physical diagnosis should be by labo-

ratory methods. There is a marked advantage in the use of living animals in teaching surgical technic. The contact of students with individual patients is the keynote of the fourth year of instruction. A system of clinical clerks is desirable. In regard to the equipment necessary there should be laboratories with sufficient microscopic and other necessary apparatus for each student; a dispensary especially equipped for teaching with abundant material and a hospital especially equipped for teaching under competent medical school control. The greatest needs at present are proper endowment and properly paid and well-trained men in the clinical years. There is also a lack of absolute control of hospitals by medical schools.

DISCUSSION

MR. ABRAHAM FLEXNER, New York City: It is absolutely necessary that the function of passing on preliminary credentials or holding preliminary examinations should be taken away from the medical schools, and in the case of independent medical schools and of medical departments which nominally or actually belong to universities, the entire business of passing on credentials should be handed over to the academic department. Even this latter step will not insure us any more conscientious or intelligent passing on credentials than the medical department is in the habit of giving, and the more one becomes familiar with the details of administration of American colleges and universities, the more one is inclined to think that the medical schools are not in that matter the only offenders. There are very few colleges or universities that handle the subject of admitting students either intelligently or conscientiously. The recent reports of the president of the Carnegie Foundation show that the admission requirements of American colleges are, without exception, largely nominal; that is to say, the conditions are such that students are so freely admitted and the conditions under which they are admitted are such that it is difficult for any institution with which I am acquainted to make clear the precise basis on which entrance conditions are enforced. The remedy and improvement for this condition are more likely to come if we can secure concentrated criticism and publicity regarding entrance records of the American colleges than if the responsibility is distributed among a great many registration offices or township offices largely without any of the necessary facilities for dealing with records intelligently.

DR. CHARLES W. DABNEY, President of the University of Cincinnati: The authors of these papers have thrown light on the difficult problem of medical education from different points of view. One of the most gratifying observations is that wherever we find advanced entrance standards, the colleges having such high standards have prospered and are prospering. That has been true everywhere, and I am delighted with the progress being made in the advancement of medical education. A thought that has come to me in my own experience in the last few years is that we are in danger of making our methods in medical colleges too mechanical, too fixed, and I hope that some one will tell us how we are going to overcome that. I would like to enter a protest against too mechanical requirements. In our institution we are conscientious in the enforcement of entrance requirements. A general thought I would advance is this: in medical schools, as in engineering schools and colleges of liberal arts, we are introducing too many mechanical methods. We want educated men. We want to produce men who can observe and think and reason. Four years is a desperately short time to give a man an education. He can be given a start, and can probably be trained to observe and to think in that short period of time.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: We must not have cast-iron rules in the teaching of medicine: we must have diversity. We must not expect any two medical schools to teach medicine in exactly the same way. The individual teacher must always be given a certain amount of freedom in the management of his department. I do not expect to dictate to the professor on physiology how he shall teach physiology. If he is a capable man, that must be left to him. I recognize that the fifth-year medical course, adopted in the Canadian medical schools, as referred to by Professor Adami, is applicable to, and probably must be adopted by, certain schools in the United States, but I do not believe that it is comparable with the six years combined course. I do not believe it is so good.

DR. HENRY A. CHRISTIAN, Boston: Of the various methods of increasing the curriculum, three general suggestions have been made. One concerns itself with the increasing the required hours within the assigned time. More has been said about that in the past year than this year. The result of that suggestion has been that the curriculum has been crowded. The limit has been reached already. At present, our curriculum needs energetic surgical treatment. In other words, we need to reduce materially the number of subjects taught, and the number of hours of required work. So far as the curriculum is concerned, leaving it as a four-year curriculum, the war cry now should be simplification. A second method suggested of increasing the curriculum has been along the lines of increasing the preliminary requirements of students before they enter a medical school. We have gradually increased the standard of medical education by increasing the preliminary preparation of the medical student. The method of pediatrics can well be applied to that phase of the subject; we should continue to feed the preliminary requirements until students gradually grow to a larger size. It may be that breast milk, or modified milk, will be best for the infant, but the infant at the present time to my mind needs a little more food and a little more growth. A third method suggested of improving the curriculum has been by the addition of a fifth year. Dr. Wesbrook, of the University of Minnesota, proposed that the fifth year shall be a hospital year. In discussing that paper I offered certain objections, not to the student having as much clinical experience as he could possibly get, but to incorporating a fifth year in the medical curriculum and making the medical school responsible for that hospital year.

SYMPOSIUM ON STATE LICENSE

Valuation of Credentials

DR. FRANK B. HILLER, Secretary Missouri State Board of Health: There rests on a medical licensing board a responsibility and duty threefold in character: (1) that highest and greatest duty of safeguarding the public against the unworthy acts of the unqualified who desire to engage in the practice of medicine; (2) the duty of demanding of the institutions teaching medicine and surgery, that these schools and colleges shall so measure up to the standard of equipment and teaching capacity as to permit none to leave their halls with the degree of M.D. except those who are well-rounded and qualified morally and professionally to take their places in the ranks of a profession whose standards and knowledge are advancing with remarkable rapidity of force; (3) that of dealing justly and adequately with the applicant as he appears before such a board, an aspirant to have conferred on him the legal right to engage in the practice of the profession he has chosen. The standards demanded by the board must and necessarily do form the basis from which the valuation is computed, and the quality and uniformity of requirements constitute the rock on which reciprocity suffers injury, and in many instances wreckage. In other words, uniformity of medical requirements and standards exacted by all examining boards in the country is the ideal for which we are working. The agitation by the American Medical Association has brought about many reform methods in the examining boards. The work of the Association necessarily has been along the lines of agitation and education, the Association not having within itself the legal power to enforce the requirements it has advocated. The state examining boards, however, in practically all states, are supported by statutory law enabling them to enforce many or all of the advanced requirements that have been set forth by the Council on Medical Education, and all boards should vigorously assume the responsibility and boldly and justly administer the duties with which they are charged.

Interstate Reciprocity

DR. W. T. GOTT, Secretary Indiana State Board of Medical Registration and Examinations: Under our form of government the physician's license makes him a professional prisoner in the state which granted him his license. If the exigencies

of climate, fortune, or business make it necessary for him to change his location to some other state it is necessary that his qualifications be again tested, and he must undergo another examination. Is this right? If the United States is one country and one people, is it fair or reasonable to require a citizen to submit to forty-eight examination tests in order to demonstrate his fitness to practice medicine in this country? Under our form of government by federated states, however, that is necessary unless some plan of interstate agreement can be secured that will in a measure nationalize the licensing of physicians. That plan is by interstate reciprocity by which due weight is given by one state to credentials obtained from a sister state whose requirements and standards are substantially equivalent to those of the state of proposed residence.

Some men hold that such reciprocity agreements cannot be fairly entered into until all states secure uniform practice acts and uniform requirements; and without question such uniform legislation and requirements would be a great advantage to society, to the individual and to the public. However, if no attempt has been made to establish reciprocity relations between states until all states have adopted by legislative enactment uniform medical practice acts, the millennium would have been reached before a single license would have been issued through reciprocity.

In recognition of a strong demand in the profession, some states entered into reciprocal agreements as early as 1901, and at present the majority of states have such agreements with certain other states. Reciprocity in medical licensure, if conscientiously administered, has a favorable influence on educational standards. State practice acts are not apt to be weakened or the standards lowered since that would endanger the reciprocal relations with other states. Medical colleges also are urged to keep their standards high since their students are thereby made eligible to registration through reciprocity in a larger number of states.

So long as cults in the healing art exist, it is a serious mistake, in my opinion, to provide for each a separate board of medical examiners. The administration of such boards is consciously or unconsciously influenced, biased, and unnecessary temptation is put in the hands of such boards to be lax in passing on the credentials of applicants of their own system of practice. The credentials issued by a board composed entirely of representatives of one system of practice should not be acceptable for a certificate through reciprocity and such a ruling would have a salutary effect in upholding the standard of educational qualifications throughout the country.

Examinations

DR. WILLIAM S. FULLERTON, St. Paul: The primary object of a state board examination is not to protect the physician against the unlicensed man, but the one and only object for the existence of the state board is to protect the public against the incompetent practitioner of medicine, and on that ground, and that alone, state boards rest. So long as the appointment of a state medical examining board is a political favor for party allegiance, irrespective of selecting the best men for the position, just so long will the public fail in being protected to the degree to which they are entitled. Men appointed on boards of examiners should not be behind those who are teaching the subjects in colleges, and they should not be subject to removal at the end of a short term. They should be chosen on the recommendation of the medical profession to the appointive power. These men should have facilities, both financial and otherwise, for carrying on the examinations.

Discussion on State License

DR. HERBERT HARLAN, Maryland: Are examinations as now conducted the best method of testing a candidate's fitness to practice medicine? I should say, unqualifiedly, no; they are not. I believe that a practical examination is feasible, but not on every subject in every department; but I believe that it can and will be slowly introduced. I recognize that there are many difficulties in the way. The Maryland law says that the examination shall be written, but when we succeed in having the law amended, as we hope to do, practical examinations will be provided for.

DR. G. B. YOUNG, United States Public Health and Marine-Hospital Service, Chicago: My experience on an examining board has led me to arrive at the conclusion that a high school certificate is very indefinite as far as giving a reliable test of the candidate's educational fitness to study or to practice medicine is concerned. What we want in education preliminary to study of medicine, as I understand it, is not simply the acquisition of certain knowledge which makes the acquisition of subsequent medical knowledge easier, but such a training of the student's mind will produce a candidate who is intellectually fit to master the problems which are presented in acquiring a medical education, and has ability to apply that knowledge to practice. Is it not worth while for the organized boards to consider the propriety of including in their examination some test or means of ascertaining the definite value to be assigned to the certificates which are presented?

DR. CHARLES H. COOK, Natick, Mass.: Boards of registration in medicine are to protect the public or the citizens of the commonwealth, and the members are state officials, rather than physicians, appointed to those positions, not for the benefit of physicians primarily, but to protect the public. It is a question whether the power of officials of one state can be delegated to the officials in another state. So far as I know, this point has never been carried to the courts. If it were, I would be interested to know what the decision would be.

MR. ABRAHAM FLEXNER, New York City: None of the European countries I have visited—France, Germany, Austria or England—still makes exclusive use of the written examination. Although they all to some extent employ a written examination, the emphasis falls strongly on the practical features. One hears in America many different objections to the introduction of the practical examination. In some instances the laws seem hostile. Whether the law which prescribes a written examination could not really be circumvented, so that a practical examination, so far as the answers go are concerned, can take more or less a written form, I do not know. I should think it not impossible that a little ingenuity expended on that point might bring forth some interesting results and avoid the necessity of recasting the state law. It is alleged, also, that the numbers to be examined in this country are fatal to the introduction of the practical examination. I believe that the Minnesota State Board, for example, is not now embarrassed by the question of numbers. I suspect that any state board now undertaking to examine its candidates practically will find that the embarrassment due to the popularity of the examination will prove decreasingly important. As a matter of fact, if the practical examination were introduced, I believe it would be found that the question of numbers would cut no figure whatsoever. The most efficient practical examination which it was my good fortune to witness was also the largest from the standpoint of numbers, this examination having been held by the Conjoint Board, in London, England.

DR. GEORGE H. MATSON, Columbus, O.: The Ohio State Board has undertaken practical examinations in physical diagnosis. We have now finished three examinations of this kind. The applicants who have appeared before us have been called on to test their ability on patients who were suffering with various cardiac and pulmonary diseases, with enlarged livers and spleens, and some of them with incipient nervous affections, tabes particularly, and one or two patients with hemiplegia. We secured these patients from the county infirmaries and from the dispensaries, and the first exhibition of this practical examination was remarkable. Formerly, we had at our June examination from 240 to 250 applicants, but since we have established practical examinations we are having from 125 to 140.

Universal reciprocity can never obtain for three reasons: first, because universal uniformity can never obtain in medical colleges. Second, universal laws can never obtain in a progressive body of states, and, third, we can never have uniformity in the personnel of medical boards, so that when we speak of having universal reciprocity we can only look in the future to the minimum medical requirement and never to a maximum. Practical examinations are a reality, and not a theory.

Evening Session

Standards and Authority

PROF. GEORGE EDGAR VINCENT, President-Elect of the University of Minnesota: Physicians are rightly regarded as social servants; their skill and fidelity are obviously vital to the community. Yet this view is far from universal. Individuals by tens and thousands see in a medical career chiefly a means of livelihood. They resent the rising standards of medical education as obstacles to the early enjoyment of an income. Many of these individualists resort to short-cut schools and to least resistant states. But these outcasts are embittered by exclusion from prestige in practice. They swell the ranks of the quacks and unfurl the black flag of the medical privateer. The discredited schools and diploma mills also insist on the old dogmas of liberty and *laissez faire*, and make appeals to the traditions of the fathers, the spirit of '76 and other quaintly irrelevant ideas and shibboleths. To the influences which resist the standardization of medical education may be added makers of proprietary remedies whose success varies directly with the credulity of the public. But in spite of impatient selfishness, mental inertia, sincere fanaticism, unscrupulous greed, the standardizing of medical education goes steadily if too slowly on. The association under whose auspices we meet affords an example of that extra-legal centralized organization which creates national institutions amid what often seems a chaos of state particularism. Slowly but inevitably we are selecting a medical élite, experts to whom we entrust a constantly growing body of scientific knowledge and an elaborated technic. If the community for its own protection insists on testing and training its social functionaries, it must provide a way of finding and encouraging unusual ability however this may be circumstanced. A system of scholarships awarded by competent authority after adequate tests and continued only so long as the scholar's work justifies the support would seem to be a socially necessary consequence of the increased demand of medical education. Medical associations, individuals, institutions and the state should all have a share in creating such a system.

Scientific men should face facts as they are. The public mind is like a force of Nature. It is childish to rail at it, to denounce it, to expect it to be docile about technical matters. Physicians should diagnose the condition of the public mind calmly and in a scientific spirit. They should try to trace the play of cause and effect, and then take measures to bring desired results to pass. In this they have the right to ask the cooperation of all thinking men and women. The public is controlled by leaders. These leaders must be informed and intelligent. Colleges and universities have a responsibility in training these leaders. Every institution of higher education should be a model of public sanitation and hygiene. Every graduate should be well-grounded in the principles of personal and community health. The public schools could do much more than they do at present to train children in hygienic habits and in intelligent deference to sanitary regulations. Popular literature, lectures, parent's meetings, visiting nurse associations, organizations like the antituberculosis societies, city and state health departments and boards—agencies of many kinds are all engaged in the work of popular health education. Would that Mr. Carnegie's next $10,000,000 gift might be devoted to publishing in newspapers authoritative advertising bulletins on hygiene and sanitation. Many an editor would be glad to be freed from irksome slavery to the "patent-medicine" men.

Great responsibility for the education of the public must fall on members of the medical profession. Physicians and professors of medicine must devote some time to public addresses, to cooperation with public school authorities, to hearty support of local health authorities when these are reasonably competent, and to civic movements designed to improve a defective public health service.

Movements for legislation affecting medical education, admission to the practice of the profession, the organization of health boards, the enactment of sanitary regulations, etc., should all be regarded as a part of the process by which the expert few and the many are to be brought into relations of mutual respect and good will.

The State and Medical Education

PROF. WILLIAM L. BRYAN, President of Indiana University: The first appropriation of public funds for medical education in Indiana was made within the past thirty days. The schools of medicine have come together. Aside from the two-year school at Valparaiso, for which I wish to say a good word in passing, we have now in Indiana one school of medicine, and that is a department of the state university. The sects have come together on the terms of the law governing the medical schools. The language of the statute is as follows:

> That there shall be no discrimnation for or against any school or system of medicine in the university, and that all or each of the schools or systems of medicine now recognized by the state shall have adequate opportunity to teach the practice of medicine in the university according to the principles advocated by them respectively, and that it shall be the duty of the trustees of Indiana University to provide such instruction in as thorough a manner as the means at their disposal will permit, and as nearly as possible to provide the same quality of instruction whenever a reasonable demand shall be made for the same.

Everybody agreed to that. The university holds the doors of the school hospitably open to every variety of medical theory on the conditions set forth in the law. Up to this time no particular school of medicine has taken advantage of this law.

The Responsibility of State Universities in Public Health Matters

PROF. GEORGE E. MACLEAN, President, State University of Iowa: A college of medicine first should turn out well-prepared practitioners, not simply to cure disease, but educated as sanitarians, and conscious that the medicine of to-day must lend itself to the science of preservation and health and prevention of disease. The practitioner must be more than a mere medical man. He must be a citizen, and with large functions for society. He, therefore, will study in the university psychology, sociology, philanthropy, social pathology. Experience shows that he ought to know something of political and economic science, for more physicians break into the legislature than into the penitentiary. The state board of health should find the highest expert service, free from all political contamination, in the men of laboratories of the State University. The university students, and especially the medical students, should have the benefit of these health experiment stations, for enlarging the scope of their undergraduate education, and in order to be trained for sympathetic cooperation with the health authorities and the university as they settle in their professions throughout the state.

The Board of Control in Iowa is charged with inspection of poor-houses, and even of private eleemosynary institutions, and the state board of health with inspection of hospitals, maternity and children's homes. This accepted responsibility by the state opens the door when correlation of all the state bodies is effected, for the university to aid by its experts, and to make all these institutions in some sense adjuncts to the university laboratories. A federation of the hospitals, public and private, with the university, which might furnish interns, would not only give a proper extension of the course in medicine, but would disseminate missionaries of public health. Most naturally, the university becomes as much of a coordinating point in sanitary matters as it is in educational affairs.

Impressed by our opportunities and the vision of the future possibilities of public health, we put up the prayer to you medical men: "Come over into Macedonia and help us."

The original Macedonian cry was a missionary call and a crisis in civilization when the Occident turned to the Orient for the life of Christianity. At this moment, according to Edward A. Woods, America is awakening to the realization that the chief wealth of her country is not in its material resources, but in the lives and health of its people. The lives of a nation, according to the insurance men, are worth three times its property, or over three and one-half billions of dollars. In the light of the inestimable worth of life in a nation with a Christian faith, how great our responsibility in this tremendous public health movement now just starting to conserve health and even lengthen life!

JOINT CONFERENCE ON MEDICAL PRACTICE ACTS

Medical Practice Acts and the Public

HON. EDWARD J. BRUNDAGE, Corporation Counsel, City of Chicago: Notwithstanding the vastly greater importance of the public health, all requirements for the practice of medicine have been left by the people to the physicians themselves. While watchful over the possession of things material, the people have been careless in their dealings with the most precious of all assets—good health. If unfit men are practicing medicine in this day, the fault is not with the profession, but with the public that permits quack-producing conditions to exist. There has been a great advance in the last decade in the standard for the practicing of medicine, and physicians are entitled to the credit for raising the standard. The public, through ignorance or lack of understanding, has contributed little toward helping physicians in this work. The state of the public health is dependent on the progressiveness of the medical profession, but the profession is not responsible if the public is lax. Some of the people have become aware of this situation, but the vast majority are still unable to discriminate between physicians properly trained and those untrained. The title of doctor is the most abused of all. In its common use it signifies nothing as a title of learning or distinction. Doctors are of as many varieties as the product of a pickle factory. The thing essential for the protection of the public is some way to discriminate between men bearing the title. In my judgment a man of training, high education and character, ought to possess a title distinguishing him from the man who treats the diseases of animals or practices chiropody. But one course appears to the layman to protect the public against such incompetency, and that is to raise the standard of admission to medical colleges by requiring a preliminary degree in arts or sciences as a prerequisite. Even then, after graduation, no license should be granted to practice medicine or surgery until actual experience in a hospital or similar work has been obtained, for a sufficient period to demonstrate ability.

The best evidence that the public is becoming aware of the importance of the physician to the welfare of the community is the growing demand for the creation of a national department of health. Problems in matters of health are constantly being created with the rapid growth of urban life. Medical science is taxed to its greatest capacity to obviate the danger caused by the massing of people in restricted areas. No branch of science has progressed so rapidly, no profession contains more thinkers, willing to devote their lives to the betterment of mankind. The public is learning more and more to depend on physicians, and I am sure the progressive men of the medical profession will find increasing support from the public at large.

Attitude of the Judiciary in Enforcement of Medical Practice Acts

JUDGE JESSE A. BALDWIN, Appellate Court, Chicago: The medical practice acts in the various states have been vigorously contested on the ground of alleged unconstitutionality. A proper consideration of the basis on which such legislation rests readily discovers satisfactory reasons why the courts, in more than thirty of the states where the legislation was directly attacked, have distinctly sustained the constitutionality of such legislation. With the medical practice acts varying, as they do, in the several states, and with supreme courts, and in many instances appellate courts, in each of the states, it is not surprising that there should be a lack of absolute uniformity either in the legislation or in the decisions of the courts under it. It is difficult to draw any conclusion as to the attitude of the judiciary in the enforcement of medical practice acts from the decisions, and yet examination makes it safe to say that so far as they are criminal statutes, enforcible by fine and imprisonment, the courts are required by the accepted canons of construction to construe them strictly, but examination also shows that both the judiciary and the medical fraternity are applying a progressive science.

While possibly the courts are even more conservative, and more subservient to precedent than the medical profession, no one, after a careful review of the situation, can deny that even the courts are affected by new and progressive views and constructions which are, by changed conditions and necessities, made applicable to the case under consideration. The statutory regulations in regard to the practice acts must be adopted in good faith, must be reasonable, must operate equally on all alike, must prescribe qualifications reasonably possible of attainment by study and character, and fairly intended to protect the public against fraud and imposition. If these requirements are met, the acts will be sustained by the courts, even though the conditions are rigorous, and though sometimes the provisions are not such as the court would itself deem the wisest.

"Let me urge you to move forward unitedly, and secure in the interests of suffering humanity the strongest and best legislation possible; continue in your efforts to compel higher standards in your profession, subordinating selfish interests to the public good, and be assured that the attitude of the judiciary in the enforcement of legislation enacted under such conditions and to embody such purposes will be cordially sympathetic."

What Should be the Attitude of the State Toward the Practice of Medicine

DR. M. L. HARRIS, Chicago: The only justifiable pretext for a medical practice act is that it shall protect the people against ignorance and incompetence on the part of those who treat the sick. It was thought that this might be accomplished by prohibiting anyone from practicing medicine who had not been licensed so to do, and in not licensing anyone who had not proved himself qualified. A law carefully drawn up on these lines and strictly enforced would undoubtedly restrict the practice of medicine to those qualified. But none of the acts so far passed adhere strictly to this plan nor are any of those which closely approximate it strictly enforced. The state should not attempt to restrict the practice of medicine to a particular class, but should designate those who are competent so that the public may be able to distinguish between the competent and incompetent. Joined to this duty of guidance is the equally important duty of protection. None but qualified physicians should be eligible to any medical position in the public health service, or in any public or charitable institution under the control of the state or any of its municipalities. As all contagious diseases are a menace to the public, and as most of them should be reported to the proper health officers, no unqualified person should be permitted to treat or to assume the medical care of people suffering from these diseases. All parents, guardians and institutions having minors under their care or control should be obliged to furnish them with qualified medical attention in case they are sick or injured and require it. No death certificate should be accepted by the authorities unless signed by a qualified physician. In this manner the state will be able to carry out its duty of protection.

The restrictive or licensing plan of regulating the practice of medicine is fundamentally wrong in principle in that it makes the state dictatorial in a matter of personal rights which is best left to the thinking individual.

Regulation of the Practice of Medicine for the Public Good

MR. CHARLES R. HENDERSON, Professor of Sociology, University of Chicago: Studies and experience disclose the necessity of training in purely scientific investigation. Every advance movement in public hygiene must start from a new laboratory revelation, as the control of diphtheria, typhoid, tuberculosis, summer diseases of infants. Not all, not even a majority of physicians, can be pioneers, but every one should have the fundamental discipline which will make him intelligent and sympathetic toward the investigators. The educated physician is needed to save the nation from quackery which fattens on popular ignorance and inherited superstition. The "patent-medicine" vendors and the faith-healers thrive because science is not a common heritage. The alcoholic superstition owes its survival partly to the want of unanimity among doctors. Free competition in each calling has limits of usefulness. A physician's "trust" is desirable on certain conditions: it must admit all who are competent; it must use fair tests to exclude all others; its charges must not be prohibitive to the poor. Some affect to fear that examinations will snuff out some spark of genius; but the criticism of scholars is a

guarantee that no valuable idea will be lost. Indeed, the higher the standard of state examination, the more certain it becomes that every possible hypothesis will be adequately tested by men who try their experiments cautiously on animals before they take too great risks with human patients.

The Administration of Medical Practice Laws

DR. A. B. BROWN, Secretary Louisiana State Board of Medical Examiners: In order for the Board of Medical Examiners to administer usefully the functions that should belong to such a board, it is essential that there should be legislative authority broad enough to permit the board to cover the entire field of regulation of practitioners of medicine. Such a statute must not be too strict in limiting the power of such board. It is humanly impossible for the author of a statute of this nature to foresee all the possible changes that may occur in connection with the development of medical science. The definition of the practice of medicine must be comprehensive. It must enable the board to reach every person who professes to cure disease, or to remedy defects in human beings, or to relieve physical pain or to rectify mental aberration. As a prerequisite to the right to take examinations. the statute should require the presentation to the board of examiners of a diploma, or equivalent certificate showing that the candidate had completed, to the satisfaction of the medical college issuing it, his course in said college; said diploma or equivalent certificate must be issued by a college the requirements of which are satisfactory to the board. The standing of each college must be left to the judgment of the board of examiners. There can be no other judge of the collegiate standing than the board. The legal procedure by which the law is to be enforced should be such as to render the board independent of any local influences that might attempt to obstruct the provisions of the board.

Financing of State Board Work

DR. HERBERT HARLAN, President, Maryland State Board of Medical Examiners, Baltimore: The objection to the financing of state boards by the state, is the difficulty in arranging for a liberal expense account under the control of the board. For example, would the average controller pass the voucher for *per diem* and traveling expenses of a representative of a board to attend such a meeting as this one? Again, the state law officers would surely be expected to act as counsel in defending suits and pushing prosecutions. Many state's attorneys have shown themselves to be, if not hostile, at least very indifferent in regard to enforcing medical practice acts. In Maryland we had great difficulty on this point even though we have our own attorney to aid us. It is my opinion that the best results would come from leaving the distribution of the funds entirely with the boards. In certain states, where the amount is large, larger than is needed for all expenses and for reasonable compensation of the secretary and members, as the money all comes from the physicians, there could be no serious objection to having the surplus turned over to the uses of the state medical society.

CONFERENCE OF THE NATIONAL LEGISLATIVE COUNCIL

The chairman, Dr. H. B. Favill, appointed the following committee on resolutions: Dr. E. J. McKnight, chairman, Hartford, Conn.; Dr. A. B. Brown, New Orleans; Dr. R. M. Funkhauser, St. Louis; Dr. Charles F. Whithington, Boston; and Dr. Frederick R. Green, Chicago, secretary of the Council on Health and Public Instruction, ex officio.

DR. F. R. GREEN, Chicago, presented his report, after which there was a roll-call by states and presentation of reports from state representatives. There were also reports from interim committees, Carroll memorial, medical expert testimony and optometry.

Report of Committee on Optometry

DR. JOHN C. BOSSIDY, Chairman, Boston: Twenty-four states had legalized optometry by the end of 1909; or, as opticians claim, had recognized it as a profession. In 1910 physicians vigorously fought the further extension of this pernicious measure, and the opticians were beaten in every state where they made their effort. The committee finds apathy on this subject in the medical ranks. The fight in the past has been by a few medical men, and this state of affairs should be remedied. Columbia University, of New York, was persuaded during the last year to establish a course in optometry. The university prescribed a minimum of twelve students before starting the course. The result of the establishment of this course has been that Columbia University has been quoted in many states as the chief argument for the establishment of further optometry laws; and yet, with all this effort, there were on the first of February of this year, but eleven students taking this course. The committee is impressed with the great harm that can be done to the public through unwise legislation, and its members hope that every medical man present at this conference will see this subject in all its present and future dangers.

Educational Work in Vital Statistics

DR. CRESSY L. WILBUR, Chief Statistician, Bureau of the Federal Census, Washington, D. C.: One of the chief assets of the Bureau of the Census in its work of endeavoring to promote the better registration of vital statistics in the United States is the continued earnest cooperation of the organized medical profession. Nothing could be done if the physicians of the United States were opposed to the enactment and enforcement of effective registration laws, and practically all that has been done to secure such legislation has been through the active efforts of the medical profession. The registration service in the United States is too often treated as merely clerical or the mechanical part of public health organization and entrusted to utterly incompetent hands. The result may be exceedingly disastrous when the health officer undertakes to test his work by the use of vital statistics, and in general it may be said that all sanitary workers in this country are hampered by the lack of uniformity and thoroughness in statistical publications; hence the desirability of building up, with its roots in the broad scheme of medical education, a body of trained practical workers in vital statistics and appreciative students and users of their results. This object is nearer to accomplishment than ever before, but it will take many years of earnest cooperative effort on the part of these councils of education and legislation, with the full support of the entire profession before we shall bring this neglected subject up to the full measure of its usefulness.

REPORT OF COMMITTEE ON RESOLUTIONS

The Committee on Resolutions presented the following report, which was adopted:

WHEREAS, The Committee on Carroll Memorial has completed its work in a highly satisfactory manner to all concerned; therefore, be it

Resolved, That the final report of the committee be accepted and the committee discharged; and be it further

Resolved, That the committee recommends that the cordial thanks of the conference be extended to Major Ireland and his committee for the efficient manner in which they have accomplished their work.

Resolved, That the thanks of the conference be extended to Drs. Halsey, Gay and Bristow for their individual efforts in the consideration of medical expert testimony, and that this committee be discharged; and, be it further

Resolved, That the Council on Health and Public Instruction be requested to establish a standing committee to give this matter thorough consideration and, if possible, to confer with a committee of the American Bar Association.

Resolved, That the Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation deplores the action of Columbia University, of New York, in establishing a course of study in optometry, for the reason that opticians have never succeeded in founding an official school of optics or optometry, but have relied on the recognition or legalization of the word optometry to make them a profession, and for the further reason that the existence of such a course at Columbia University has this year been used in many states as the chief argument for the further enactment of optometry laws, which are designed to permit opticians to practice medicine in a limited degree; and, be it further

Resolved, That a copy of these resolutions be transmitted by the secretary of the conference to the president of Columbia University of New York.

Resolved, That this conference reaffirms its endorsement of the model bill on vital statistics and expresses its appreciation of the interest shown by Hon. E. D. Durand, director of the census, and by Dr. Cressy L. Wilbur, chief of the division of vital statistics, in promoting the adoption of uniform vital statistic laws in the various states, and that the secretary be instructed to furnish a copy of these resolutions to the above-mentioned gentlemen.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE SECRET COMMISSION EVIL

The following editorial appeared in *Colorado Medicine*, February, 1911:

"EVERY MAN WHO DOES GOOD WORK SHOULD BE PAID FOR WHAT HE DOES, AND NO MAN SHOULD BE PAID FOR WHAT HE DOES NOT DO."

1. A surgeon who lets it be understood that he will give to every doctor sending him a case, a certain proportion of the fee, whether he earns it or not—say half, as is frequently done—really makes every one who agrees to this his hired agent, just as much as if he sent him out to canvass the incoming railroad trains with the promise of a fat commission for every patient he might steer in.

These agents are sometimes beginners in practice or else more or less unsuccessful and unscrupulous practitioners. They soon discover that they can make more money and make it easier by furnishing cases on commission than they can through legitimate practice, and their hunt for subjects for operation becomes a frantic one. With a poorly paying practice on the one hand and a rich bait of 50 per cent. of the fee dangling within easy reach on the other, they soon begin to strain a point and urge operations where operations are unnecessary. It becomes easy to say: "If you are not operated on you will die." Under the circumstances excuses for this questionable conduct are easily found.

Now, the surgeon who employs these agents is a more or less unscrupulous man, who is wildly grasping for work and does not care how he gets it. He is not willing to earn it by proving to others that he can do things well, thus establishing a legitimate reputation—the recognized and approved method—but he is anxious to buy his work and let the proof of ability come afterward, if it ever does come.

It may be said that such a man may soon become an expert operator, owing to the amount of work which he will do. True: but an expert operator does not constitute a good surgeon—this requires, in addition, judgment, learning, conscience, and an undeviating purpose to do that which is best in every respect for the patient, irrespective of fees and operative statistics. In this sense, he who buys his cases can seldom become a good surgeon.

When an agent sends a case to such a commission-paying employer, the necessity for an operation has often been exaggerated so as to make sure of bagging the game. Hence, in order to protect the interests of his agent, as well as the interests of his pocket, the surgeon *must* operate; but it can readily be conceived that his already elastic conscience is usually equal to the emergency; and I venture to say that few such cases are ever turned down, even when an operation is not really called for.

2. Hence, the commission business leads to indiscriminate, reckless and useless operating; and in these days, when the tendency in this direction is already too great, owing to the comparative ease with which many operations can be done, this is unforunate, to say the least.

3. Individual ability in different lines of work should be encouraged and not hampered. In every community there are surgeons who are noted for certain things—one is particularly skilful in hysterectomy, another in operating on the brain, a third in the surgery of the appendix, a fourth in stomach and gall-bladder work. The general practitioner is supposed to find out in the course of time who these men are, and his patients have a right to expect that he will use this knowledge for their benefit. But how can a fine, or even a coarse discrimination be exercised with 50 per cent. of the fee obscuring the vision, and with nothing to do but reach out and take it? The doctor's employer, the commission-paying surgeon, inevitably gets the case, whether he is the best man to handle it or not.

Suppose your wife were very sick and required the services of a surgeon, and you trusted your family physician to pick out the one best suited to operate on this particular case; and you found out afterward that the surgeon had really been selected not because of fitness, but because he paid your doctor half the fee for selecting him. How would you feel about this? Would you not feel that you had been buncoed? Would you not call it an unjustifiable traffic in human misfortune? Would you not feel like shooting your family physician, especially if disaster resulted to your wife?

4. Publicity is what is needed: If but two doctors resided in a small town and one was known to be a "commission-doctor," while the other carried on a legitimate business of his own, being in the employ of no one and choosing his surgeons according to their merits alone—if this state of affairs existed, other things being equal, how long would it take the populace to make a selection between these two men?

And this suggests the easiest, best and quickest manner of doing away with the commission evil—publicity. Such things flourish in darkness. Turn on the light and they run for cover. Is there any doubt that if the public knew a surgeon obtained his work by paying commissions rather than by proving his skill it would express its disapproval by avoiding him?

5. Every man should be paid for what he does, and no man should be paid for what he does not do:

Simply referring a case to a surgeon without further action should usually mean a consultation fee only, which the patient will generally pay without question. It is true, however, that in surgical cases the responsibility is often increased by advising operation; but if the case is one which should go to the surgeon, is not the responsibility even greater if he is not so advised? In fact, the responsibility cannot be escaped either way. It would be right, however, for medical men to demand a larger fee for the added responsibility and trouble accompanying the diagnosis of many surgical cases, the selection of a surgeon, and other matters incidental to the necessary arrangements for an operation. When this matter is presented in a proper light to the public it is always quick to see its justice.

When a case is sent to a surgeon, especially to a strange surgeon in a strange city, the patient often desires his physician to accompany him. Even when this is not actually necessary, it contributes a feeling of security and backing which would otherwise be absent. In addition, most individuals wish their physician to be present at an operation, and it gives them confidence to know that he is there and watching over their interests. They also want him to see them during their convalescence, to cheer them up and to make such suggestions as his knowledge of their peculiarities may prompt.

There can be no question that these attentions should be paid for according to their value; but this is not yet sufficiently recognized. Physicians too often give their time and skill and receive no pay in return. Undoubtedly, the proper method would be for the patient to meet these obligations directly. At present, however, he often does not see it in this light, and in order to educate the people up to this point (6) it is permissible for the surgeon and the physician to present a joint bill—for services rendered by Dr. A. and Dr. B. This can be itemized if desired, or at least it should be if the patient request it. Understand, what makes such a joint bill legitimate is that it is clearly indicated that it is for services rendered by both the attendants, and not by the surgeon alone. In this way it not only assists the physician in collecting his just dues, but also helps to educate the public to understand that the physician's time and services in connection with an operation are worth something—a point well worth driving home at every opportunity, because services for which nothing is charged are usually estimated as being worth nothing.

The other day a Denver surgeon remarked: "It is nobody's business what I do with a fee, as long as I do not overcharge—if I want to give half of it away, that is my affair, and does not concern the patient or anyone else." But it does concern some one else. It concerns the patient, the public and the whole medical profession.

If we wish to retain the confidence of the public, and our own honesty and self-esteem, no transaction should be entered into that we cannot openly lay before the patient and his friends. This is a precept which we cannot afford to neglect. The tendency is already too great to distrust the actions and motives of doctors, and we should do all in our power to combat it rather than to encourage it. We should in every way endeavor to convince people that we are honest men with right motives, who are trying, within our limitations, to cure the sick without taking undue advantage of them. This is really what separates us from the charlatan and the quack. It is the standard raised by our forefathers, and we should endeavor to maintain it.

7. When an agent receives part of a fee without earning it, somebody suffers—either the surgeon gets too little or the patient pays too much. In the former instance the rights and dignities of the profession are trampled on, and in the latter the individual is buncoed.

For the surgeon's agent to receive from the patient something for nothing without the patient's knowledge, is as culpable as if he engaged in a get-rich-quick scheme, or robbed a bank or held up a citizen on the highway. Because surgeons are popularly believed to make more money than the general practitioner, which in the long run is questionable, is no reason why

the latter should graft either on the surgeon or on the public. If there is a real grievance it should be rectified in some more legitimate manner, in accord with the high ideals and moral responsibilities which physicians are supposed to possess—for instance, by educating the public to understand that with the growth of surgery increased responsibilities and duties have been thrust on the general practitioner, which should receive increased remuneration.

It goes without saying that every surgeon will be glad to assist in such a campaign of education so far as lies within his power. For instance, a few words to the patient in explanation of the situation are usually sufficient to bring about a proper understanding of the value of the services rendered by the physician before the operation, during or after it; assuming, of course, that the physician is not a grafter and desirous of obtaining remuneration for something he does not do. It is usually easy enough to convince a patient that a good diagnosis, involving the responsibilities and trouble of an operation, is worth more than ordinary medical services, and should be paid for accordingly, but this can never be done by the medical man pretending to work for nothing and then getting half the fee from the surgeon.

8. Buying cases is worse in some ways than advertising in the daily press, because the public has no way of protecting itself against this form of graft. All members of the profession recognize that advertising in the newspapers or on bill-boards is a serious breach of ethics. This is one thing on which we fully agree and are extremely "touchy." The reason for this is not so much because it lowers our dignity and cheapens us, although this is of importance, but because advertising enables men to make false and wonderful claims to deceive the public, the extent of which is limited only by their ability to write and pay for advertisements. From time immemorial it has been recognized that the only decent and honorable course for the doctor to pursue is to let his work speak for itself, and not cry his accomplishments from the house-tops, this being left to the quacks and to the charlatans. If we acknowledge this to be true, how do we reconcile with it the actions of the commission-paying surgeon? Instead of letting his work speak for itself, he pays for his cases—he does not make his reputation, he buys it like any other charlatan. He introduces into the profession a form of advertising much more pernicious than that which employs the newspapers, because against its secret practice the public cannot defend itself. People may be too intelligent to be misled by the allurements of an ordinary advertisement; but when they are steered against a commission-paying surgeon by his paid agent they are helpless, because the game of graft and bunco is a hidden game and not an open one, like that of the ordinary quack.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Second Weekly Meeting

TUMORS OF THE UTERUS

FIBROMYOMATA: Histologic varieties, number, size, rate of growth. Clinical varieties; interstitial, subperitoneal, submucous and intraligamentous. Secondary changes: Atrophy, calcification, fatty degeneration, infection, edema, necrobiosis, cystic degeneration, malignancy.

DIAGNOSIS: History, symptoms, physical examination.

1. Interstitial, pelvic and abdominal in situation.
2. Subperitoneal, pelvic and abdominal in situation.
3. Submucous fibroma. Uterine polypi.
4. Intraligamentous, between folds of broad ligament, anterior and posterior tumors.

CHORIOEPITHELIOMA, DECIDUOMA MALIGNUM

ORIGIN: Fetal or maternal. Location. Microscopic diagnosis. Metastasis.

SYMPTOMS: History, hemorrhage, discharge, pain, anemia, cachexia, etc. Physical examination. Symptoms of metastasis. Differentiate from carcinoma and sarcoma, incomplete abortion, submucous fibroid.

CANCER OF UTERUS: (a) Of the body, (b) of the cervix. Diagnosis, history, symptoms, physical signs, microscopic examination.

SARCOMA OF THE UTERUS: 1. Fibrosarcoma, affecting primarily the parenchyma. 2. Diffuse sarcoma, affecting primarily the endometrium. Diagnosis of each type.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Indiana January Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Jan. 10-12, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 16 passed and 1 failed. Seven reciprocal licenses have been granted since Jan. 1, 1911. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1910)	86.7
Northwestern University Medical School	(1892)	88.9
College of Med. and Surg., Physio-Medical, Chicago	(1911)	85.6
Chicago College of Medicine and Surgery	(1910)	89.5
Indiana University	(1910)	83.9
Hospital College of Medicine, Louisville	(1892)	75.7
University of Louisville	(1910)	87, 92.1
Southwestern Homeopathic College, Louisville	(1906)	75.0
University of Michigan, College of Med. and Surg.	(1910)	85.3, 84.6
Eclectic Medical Institute, Cincinnati	(1910)	85.2
Ohio-Miami Medical College	(1910)	89.7
University of Toronto, Canada	(1907)	89.8
University of Aberdeen, Scotland	(1889)	90.4
Regia University, Pavia, Italy	(1891)	84.4

FAILED

Indiana University, School of Medicine	(1910)	67.3

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Coll. of Phys. and Surg., Chicago (1905) (1908)	(1909)	Illinois
University of Maryland	(1898)	Maryland
University of Michigan, College of Med. and Surg.	(1909)	Michigan
Cleveland Homeopathic College	(1909)	Ohio
Western Reserve University, Cleveland	(1909)	Ohio

North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 3-5, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1892)	83
University of Iowa, College of Medicine	(1910)	84
Keokuk Medical College, College of Phys. and Surg.	(1891)	75
Baltimore Medical College	(1910)	84
Johns Hopkins University	(1905)	82
Western Reserve University	(1908)	85
Jefferson Medical College	(1910)	90

FAILED

Chicago Physio-Medical College*	(1896)†	

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1905) (1909)	Minnesota Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
University of Minnesota, Coll. of Med.	(1906)	(1909) Minnesota
Hamline University	(1906)	Minnesota

* In 1899 this college became the College of Medicine and Surgery, Physio-Medical, Chicago.
† No percentage given.

Book Notices

PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

In the second edition of this book the original arrangement has been adhered to, but the matter has been thoroughly revised. Chapters on immunity, anaphylaxis and poisonous snakes have been added, and the matter on the important subject of animal parasites has been rewritten, as has also the section on the bacteriology and parasitology of the body fluids. Other additions are, an outline of methods for the chemical examination of urine and gastric contents, and for the determination of nitrogen elimination. The author has avoided theoretical consideration, and does not hesitate to say plainly what is and what is not important in laboratory diagnosis. This is an advantage, when spoken with the authority of knowledge and experience. The book is well illustrated. Methods and procedures are concisely yet clearly given. The usefulness of the index, however, and consequently of the book as a work of reference, is impaired by the fact that the parasites are indexed solely under the name which the author has adopted, even though that may be less familiar than another name. Thus, *Lamblia intestinalis*, *Acanthia lectularia* and *Necator americanus* are indexed under those names alone; one looks in vain for *Cercomonas*, *Cimex* and *Uncinaria*. Unfortunately, moreover, the index is not complete, even as to names used by the author.

THE HYGIENE OF INFANCY AND CHILDHOOD AND THE UNDERLYING FACTORS OF DISEASE. By A. Dingwall Fordyce, M.D., Extra Physician, Royal Hospital for Sick Children, Edinburgh. Cloth. Price, $2.50 net. Pp. 289. New York: William Wood & Co., 1910.

In this book the author has attempted to "correlate the primary scientific facts of medicine as they apply especially to pediatrics," in order to assist the pediatrist in keeping abreast of the scientific advances associated with his own clinical work. Food, heredity, environment, bacterial infections and the different age periods with their characteristics and susceptibilities to disease and their developmental peculiarities, are discussed.

FEVER-NURSING. Designed for the use of Professional and other Nurses, and especially as a Text-Book for Nurses in Training. By J. C. Wilson, M.D., Author of "A Treatise on the Continued Fevers." Cloth. Price, $1 net. Pp. 248. Philadelphia: J. B. Lippincott & Co., 1910.

The text of this book, which originally embodied the substance of Dr. Wilson's lectures before the nurses' class at the Philadelphia Hospital, has gone through revisions until this, the fifth edition, contains only the essentials of nursing in fevers according to present ideas. The demand for a new edition gives evidence that it is meeting its purpose.

THE PRESCRIBING OF SPECTACLES. By Archibald Stanley Percival, M.B., Senior Surgeon Northumberland and Durham Eye Infirmary. Cloth. Price, $2 net. Pp. 159, with 24 illustrations. New York: William Wood & Co., 1910.

The author presents the subject of refraction in a practical manner, enabling one to quickly grasp the essentials in determining the errors of refraction and of ocular muscle balance. The use of the various instruments of precision is well treated, and some space devoted to the various types of lenses. A large part of the book is given to the mathematical problems connected with this subject.

NOTES ON DENTAL METALLURGY. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School. Cloth. Price, $2 net. Pp. 213. New York: William Wood & Co., 1911.

This work is a most complete summary of dental metallurgy. It is written on a short, concise plan, and the subjects can be quickly and easily referred to by the student. Those making a specialty of this line of work should have this book within reach for reference.

STUDIES IN INVALID OCCUPATION. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

Although this book is not directly medical, it is of interest to physicians, and to all who have to do with invalids. Practically every sort of work that may be employed to pass the tedious time of persons crippled or otherwise shut-in has been explained and illustrated here.

Medicolegal

Insufficient Evidence of Malpractice and Erroneous Rulings

The First Appellate Division of the Supreme Court of New York reverses, in Brown vs. Goffe (125 N. Y. S. 458), a judgment for malpractice, and orders a new trial. It deems it sufficient to say that the principal operation performed by the defendant involved the removal of certain of the plaintiff's organs which had become diseased. Later in the same day a condition arose which required a second minor operation, mainly for the purpose of drainage, and some time later a second incision was made for the same purpose. Still later, after the plaintiff had sufficiently regained her strength, a fourth operation was performed, consisting of opening one of the incisions already made and securing so far as possible some of the spots found to have been weakened by the infection found on the occasion of the first operation.

The burden of the complaint was that the defendant, while possessing the requisite skill and learning, did not use reasonable care in the exercise of his skill and the application of his knowledge. But there was no evidence in the case from any qualified witness to the effect that any one of the operations performed by the defendant was improper, or was carelessly, negligently, or unskilfully executed. Furthermore, the charge of negligence and carelessness in the aftercare of the patient rested entirely on the evidence of the plaintiff herself, a young woman about 25 years of age who had been employed as a waitress in a restaurant, contradicted in the main not only by the defendant, but also by his assistants and the house surgeons of the hospital. It was insisted throughout the trial and on the appeal that the defendant had compelled the plaintiff to lie for days at a time with unchanged bandages and dressings. This insistence had no better foundation than the plaintiff's inadmissible evidence that one of the hospital staff had told her that the defendant had given orders that the bandages should not be changed. No legal evidence of such an order was given. But counsel quoted a sentence from the defendant's evidence that "I never ordered the bandages removed," but carefully refrained from quoting the very next sentence, that "the bandages were taken off every day after they were soiled." It is well settled that the burden of establishing affirmatively either want of skill or negligence in the care and attention of a patient must be assumed by him.

A very important inquiry in a case like this is whether or not the defendant did that which his best judgment dictated. One of the obligations resting on a surgeon or physician is to use his best judgment in exercising his skill and applying his knowledge, and when his acts are challenged it must necessarily be open to him to show that they accorded with his judgment as to what should have been done. So the defendant was prevented from showing precisely that which it was incumbent on him to show, when this question was excluded: "Now, in performing this operation did it, in your judgment, become necessary to separate the tissues in either way from the sac in which the pus was found?"

The necessities of the case required that the defendant should leave, in a large measure, to the hospital staff the care of the patient after the operations, which it was shown was the usual and proper practice in hospital cases, and it was error not to allow him to answer the perfectly proper question as to what instructions he left with the hospital physicians or nurses as to care of the patient.

Practice of Medicine by "Suggestive Therapeutics"

The Fourth Appellate Division of the Supreme Court of New York in People vs. Mulford (125 N. Y. S. 680) affirms a conviction of the defendant of practicing medicine without having a license and being registered as required by Chapter 344 of the Laws of New York of 1907, which declares that "A person practices medicine within the meaning of this act . . . who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

It appeared from the evidence, without contradiction, that the defendant had an office, where he received patients, and treated them for physical ailments, and received compensation therefor; that he gave no medicine, and prescribed none; that he performed no surgical operations, and used no surgical instruments; that his entire treatment consisted of the laying on of hands, and manipulation, breathing and rubbing his hands together; and that his treatment was beneficial to his patients. The sign in front of his office indicated that his treatment was known and designated as "suggestive therapeutics." On the evidence he was practicing medicine, the court holds, as defined by the above statute, and was guilty of a misdemeanor thereunder.

The only contention of the defendant was that the statute is a violation of the state and United States constitutions, but it does not seem to the court to require any extended discussion to show that the legislature had the right to enact the provisions of this law, and that it does not violate the provisions of the constitutions.

It was said that the defendant could do no harm, if he did no good, and that he should therefore have been permitted to practice his calling without interference, and that this law, which brought him within the definition of one who practiced medicine, and was therefore prohibited from doing so without a license and being registered, deprived him of a legal right to carry on a proper business, and was a violation of the provisions of the constitutions. But a patient may often suffer as well from a failure to prescribe proper remedies, or afford surgical relief promptly, as from making improper prescriptions, or performing unskilful operations. A physician who holds himself out to treat patients for physical ills should know whether to do anything, and what to do, to relieve his patient; otherwise, he should not be permitted to practice, and impose on the unfortunate sufferers who, like the poor, are always with us, and many of whom need the protection of the state against quacks in and out of the profession of medicine. "I [Justice Williams wrote the opinion] have no sympathy with this class of practitioners, who seek to remain outside of the control of the state, for the welfare of the people."

School Boards May Employ Suitable Persons to Ascertain Physical Condition of Pupils

The Supreme Court of Minnesota holds, in State ex rel. Stoltenberg vs. Brown, City Comptroller (128 N. W. R. 294), that a school board may employ a suitable person to ascertain the physical condition of the pupils in attendance on the public schools of the district.

The court says that the education of a child means much more than merely communicating to it the contents of textbooks. But, even if the term were to be so limited, some discretion must be used by the teacher in determining the amount of study each child is capable of. The physical and mental powers of the individual are so interdependent that no system of education, although designed solely to develop mentality, would be complete which ignored bodily health. And this is peculiarly true of children, whose immaturity renders their mental efforts largely dependent on physical condition. It seems that the school authorities and teachers coming directly in contact with the children should have an accurate knowledge of each child's physical condition, for the benefit of the individual child, for the protection of the other children with reference to communicable diseases and conditions, and to permit an intelligent grading of the pupils.

In this case the board of education of Minneapolis, pursuant to a previously adopted resolution recommending the employment of a suitable graduate nurse for one month to make an inspection of the physical condition of the pupils of certain named schools, appointed the relator to make such inspection at a salary of $60 for the month's services. She performed those services, a warrant for her pay was drawn and signed by the president and secretary of the board, but the city comptroller refused to countersign the warrant. The above considerations and many others not deemed by the court necessary to mention leads it to the conclusion that the comptroller was properly directed by mandamus to countersign the warrant.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

February 25

1 A Case of Meningomyelite with Complete Recovery. W. M. Leszynsky, New York.
2 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
3 Neurofibromatosis. W. B. Trimble, New York.
4 *Nature of the Virus of Yellow Fever, Dengue and Pappataci Fever. C. F. Craig, Washington, D. C.
5 Relation of the Doctor to the Church. C. E. Nammack, New York.
6 Two Cases of Renovesical Tuberculosis Treated with the Bacillus Emulsion. J. Pedersen, New York.
7 Chyluria Containing the *Cercomonas Hominis*. C. Rosenheck and G. L. Rohdenburg, New York.

4. Nature of Virus of Yellow Fever, Dengue and Pappataci.—In reviewing the work which has been done on the nature of the virus of yellow fever, dengue and pappataci fever, Craig says that one is impressed with the similarity existing between them, a similarity which points to the close relationship of the causative organism. Clinically, there is considerable resemblance, all three diseases having a sudden onset, running a comparatively rapid course, and terminating by crisis rather than by lysis. In point of severity, pappataci fever is the mildest, yellow fever the most severe, while dengue occupies the position between the two. In all three the cause is present in the blood, but only during certain periods; in yellow fever during the first three days of the disease; in pappataci fever during the first day; and in dengue, so far as is known, during the third and fourth days of the attack. In all, the injection of filtered or unfiltered blood produces the disease. All three of the fevers are transmitted by an insect; in two, yellow fever and dengue, by a mosquito, and in pappataci fever by a biting fly. In yellow fever and pappataci fever the causative agent undergoes a cycle of development within the transmitting insect, while in dengue this point is still undetermined. In yellow fever the mosquito does not become infective until twelve days after it has bitten the infected individual, while in pappataci fever the fly does not become infective for from seven to ten days. In all three diseases the causative agent is ultramicroscopic in size, as is passes through the best filters that can be obtained, and because the most careful examinations of the blood both microscopically and culturally have failed to show any parasite. In addition, there is conclusive evidence that these diseases are not contagious. The careful consideration of all of these facts impresses Craig with the belief that yellow fever, dengue, and pappataci fever, as well as other diseases due to a filterable virus, are caused by parasites which differ markedly from any with which we are acquainted. The evidence goes to show that they differ from one another in virulence, thus producing the variations in the clinical picture of the three diseases, just as in malarial infection we have different species of plasmodia which produce mild or severe attacks. In many respects these fevers resemble those due to the malarial plasmodia. Like the malarial fevers, they are transmitted by insects, but may be produced by the injection of blood from an infected individual; while there is almost as much difference in the severity of the fever due to the benign tertian plasmodium and the often fatal infection produced by the estivo-autumnal plasmodia, as there is between yellow fever and severe dengue. The discovery of the actual organisms concerned in the production of these fevers is apparently impossible until we can perfect the microscope or discover some method of staining or cultivating them, but Craig believes that, in time, it will be proved that these fevers are due to closely related species belonging to the same genus, and that in all probability they will be found to belong to that great class of organisms which are daily becoming of more vital interest to the physician, the protozoa.

Lancet-Clinic, Cincinnati

February 18

8 Acute Lung Tuberculosis: A Contagious Serolymph Disease. "Aerogenous." F. Gaertner, Pittsburg, Pa.
9 Conclusive Researches of Medicine. A. R. Peebles, Boulder, Colo.
10 The Adjustment of Eyeglasses. F. W. Davis, Cincinnati.
11 Examination of Prof. Irving Fisher's Report on National Vitality. L. Irwell, Buffalo, N. Y.

Illinois Medical Journal, Springfield

February

12 *Bismuth Paste in Rectal Fistula. E. G. Beck, Chicago.
13 A Clinical Service in Our State Hospitals. F. P. Norbury, Kankakee.
14 Ligation for Partial Thyroidectomy for Hyperthyroidism. C. H. Mayo, Rochester, Minn.
15 *Vital Statistics in Illinois. G. W. Webster, Chicago.
16 The Matas Operation for the Cure of Aneurysm. D. A. K. Steele, Chicago.
17 Leukocytes in the Diagnosis, Classification and Prognosis of Pulmonary Tuberculosis. J. F. Hultgen, Chicago.
18 *Hemolytic Jaundice. W. S. Thayer, Baltimore.
19 Report of Work Done at Ottawa Tent Colony, with Suggestions for Improvement. J. W. Pettit, Ottawa.
20 The Spread of Venereal Diseases. E. W. Fiegenbaum, Edwardsville.

12. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1584.

15. **Vital Statistics in Illinois.**—The history of the vital statistics movement in this country is discussed fully by Webster. His concluding remarks, based, in the main, on the Illinois situation, although applicable to other states occupying the same position as Illinois in this matter, are, in part, as follows:

It is the duty of the State of Illinois to see to it that at least the three principal events in the life of each of its citizens be made a matter of public record. These three principal events are birth, marriage and death. Illinois has spent $40,000,000 on a sanitary canal, largely for the purpose of improving the water supply of some of her cities and chiefly for the purpose of diminishing deaths from typhoid. To what extent has the typhoid death-rate of the state as a whole been affected? Nobody knows. Owing to the lack of any adequate system of sanitary bookkeeping, we don't know the actual annual death-rate in the state, from typhoid, or any other disease, either before the canal was opened, or afterward. What would you think of the business sagacity of a corporation that would spend $40,000,000 on some improvement and then fail to keep a set of books that would enable it to know whether it was a paying investment or not? For several years the Illinois State Board of Health has been engaged in a state-wide antituberculosis crusade. And with what result? Nobody knows. We do not know the exact death-rate from this disease and consequently are not in a position to estimate correctly the value of any or of all the methods instituted for its suppression. The Illinois State Geologic Survey and the Illinois State Water Survey have done splendid service in showing the need of a better water-supply and how to obtain it. What effect has it had on the typhoid or other mortality? Nobody knows. In Illinois, the birth or the death of a blooded horse or a Jersey bull is at once recorded in a herd-book, but the people of southern Illinois, through the voice of their chosen representatives, have gone on record as saying that it is too much trouble to obtain legal permission to bury their dead or to make a legal record of the event and, consequently, in this state, outside of cities having ordinances with a compulsory burial-permit feature, a human being may be placed underground without the slightest legal note or record. What a disgrace to our state that we should be found holding open the door for graveyard insurance. When a human being can pass, or be sent, from this world to the next, without a single formality, inquiry into or record of the cause of the death, and the body buried like a dog, it is time we enacted and enforced a suitable law, if for no other reason than as a deterrent of crime. Good laws are the expression of an enlightened public sentiment enacted for the protection of society as a whole, and not for any class, and another failure to enact a satisfactory birth and death law in Illinois will be greatly to the discredit of the intelligence and public spirit of the people of the state. For sanitary, legal, social, economic reasons, Illinois should prepare and enact, and then enforce, such a birth and death law as will enable her to take her proper place among, not only foreign countries, but her immediate neighbors in the Registration Area of the United States, to the end that sanitary science can be advanced, preventive medicine be improved, the legal rights of every citizen be better protected, a proper foundation be laid for the working out of many social problems of vital importance, the health of every citizen be better protected and life prolonged.

18. **Hemolytic Jaundice.**—Thayer shows that the studies of the last several years have brought out a fairly definite clinical syndrome, that of acholuric jaundice associated with splenomegaly and fragility of the red blood-corpuscles. In its purest form, this group of symptoms is manifested in a sharply defined disease picture, congenital, often familial, splenomegalic jaundice. It is probable that many of Gilbert's cases of chronic simple jaundice with splenomegaly as well as of Hayem's infectious splenomegalic jaundice are examples of the disease. A similar condition is, however, not infrequently encountered in adult life. In these so-called acquired cases the symptoms are, as a rule, considerably more acute and severe than in the congenital malady. The syndrome has, moreover, been found in a variety of other instances of non-obstructive jaundice associated with various infections or poisons. What the essential primary element in these cases may be, is not at present clear. Most important is the recognition of those apparently idiopathic examples of acquired hemolytic jaundice simulating pernicious anemia, cholelithiasis, the so-called splenic anemias or indeed, icterus gravis; most important because of the fact that the recognition and persistent treatment of some of these patients with iron may bring a great improvement, and perhaps permanent recovery. The recognition of this syndrome has opened again, and in an interesting manner, the question as to the possibility of a purely hematogenous jaundice. The methods of studying the corpuscluar resistance necessary for the diagnosis of such cases are, of course, too delicate for use by the busy practitioner, but they may be carried out easily in any well-equipped laboratory. In the severe acquired forms, rest in bed and the other adjuvants suitable for the treatment of any grave anemia should be adopted. In congenital hemolytic jaundice recovery is unknown, but a temporary improvement in the anemia may be obtained by persistent treatment with iron. In acquired hemolytic jaundice long continued treatment may result in apparent, perhaps, indeed, in complete recovery. This is a very important fact when one reflects on the futility of treatment with iron in Addisonian anemia, a malady which may so closely resemble this syndrome.

Ohio State Medical Journal, Columbus

February

21 *Two Cases of Heart Block. L. C. Grosh, Toledo.
22 Natural History of Appendicitis. J. C. Oliver, Cincinnati.
23 Thyroid in Infancy. A. J. Bell, Cincinnati.
24 Possible Abuse of the Eustachian Catheter. J. B. Alcorn, Columbus.
25 Radical Treatment of Abortion. G. W. Kosmak, New York.
26 The Rôle of Functional Conditions in Psychiatry. J. C. George, Dayton.
27 Alimentary Toxicoses and Intoxication. J. J. Thomas, Cleveland.

21. Abstracted in THE JOURNAL, July 16, 1910, p. 244.

Journal of Experimental Medicine, New York

February

28 *Cardiac Hypertrophy. H. A. Stewart, New York.
29 Mercury Bichlorid and Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
30 Barium Sulphate Absorption and Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
31 Effects of Mechanical Agitation and of Temeprature on Complement. H. Noguchi and J. Bronfenbrenner, New York.
32 Morphologic Changes in a Mouse Carcinoma in the Course of Long-Continued Transplantation. R. Kilduffe, Philadelphia.
33 Relations of Embryonic Tissue and Tumor in Mixed Grafts. P. Rous, New York.
34 *Effect of Pregnancy on Implanted Embryonic Tissue. P. Rous, New York.
35 Influence of Mouse-Rat Parabiosis on the Growth of Rats of a Transplantable Mouse Sarcoma. R. A. Lambert, New York.
36 *The Estivo-Autumnal Parasite: Its Sexual Cycle in the Circulating Blood of Man. M. Rowley-Lawson, New York.
37 *Malarial Pigment (So-Called Melanin): Its Nature and Mode of Production. W. H. Brown, Madison, Wis.

28. **Cardiac Hypertrophy.**—Stewart deals with first, the development of the reactive processes known as hypertrophy, in point of view of time after the establishment of a condition favorable to its onset; second, the question of co-hypertrophy; and third, the relation which the altered muscle bears to the normal. He found that hypertrophy induced by the production of aortic insufficiency involves all the chambers of the heart. The greatest absolute increase in weight is in the left ventricle. The remaining segments, arranged in the order of

decreasing increments are septum, right ventricle and auricles. The greatest relative increase is also in the left ventricle, but the auricles show a relative hypertrophy greater than that of the septum or right ventricle. The co-hypertrophy of the auricle is not due to an altered venous pressure, but results from an increased force of auricular systole. The heart shows an increase in weight within one week after the production of aortic insufficiency. The increase in weight is due only in part to an increased water content.

34. **Effect of Pregnancy on Implanted Embryonic Tissue.**—Rous found that grafts of embryonic tissue, obtained at operation and implanted in the mother, will grow well in case she no longer carries young. The growth is no more rapid than that in favorable non-pregnant aliens, but persists for a longer period without retrogression and results in a greater variety of tissues. The superiority of auto-transplantation over iso-transplantation is responsible for this fact. No evidence of a specific "growth-substance" peculiar to the pregnant state is furnished by the experiment. When a mouse is implanted with embryonic tissue from its own uterus, and still carries developing young, the fate of the grafts is very different from that just described. They are vascularized from the host but fail to grow or differentiate. Yet they do not die, and after pregnancy is concluded they may start to grow. The finding is strikingly like that of others of implanted tumor in pregnant hosts. It seems probable that some general factor affecting the growth of implanted tissues is here concerned.

36. **The Estivo-Autumnal Parasite.**—The description of two distinct types of estivo-autumnal crescentic parasites given by Craig, Rowley-Lawson has been unable to confirm. She says that the crescentic parasite is throughout the entire existence extracellular (i. e., not without the substance of the red corpuscle, but attached to its surface). It develops from the familiar small ring-form parasite, retaining a circular contour until fully matured. The very young ring-form parasite has no capsule; the macrogamete has one during its development and sexual activity; while the microgametocyte has it only during its development. The sexual cycle of the crescent may occur in the circulating blood of its human host. The cycle is probably very rapid, for practically the whole cycle can be seen in a few smears taken from one puncture. This microgametocyte, or male, develops a flagellum (microgamete) which, after the parasite has assumed the crescentic phase, leaves the body of the parasite and enters the body of the macrogamete, or female, during its existence as a round body. Fertilization is then accomplished. The microgametocyte, after the escape of the flagellum, shows evidence of degeneration and is probably cadaveric. After fertilization, the macrogamete assumes the crescentic form, reaches the reproductive phase and undergoes sporulation, the product of which appears to be the small ring-form parasite. Renewed infection of the red cells then takes place.

That the sexual cycle is not seen oftener in the circulating blood of man, Rowley-Lawson believes, may be due to one or more of the following reasons: (a) The process of reproduction may be and probably is very rapid (some forms of protozoa are exceeded in rapidity or reproduction only by bacteria). (b) The cycle may usually take place in some of the internal organs. (c) It may be that the sexual cycle occurs in the peripheral blood only at intervals, when it becomes necessary for the parasite to renew its exhausted vitality. (d) The occasional occurrence of the sexual cycle in the circulating blood may be due to some slight chemical change in the composition of the host's blood-serum. She finds no good evidence of conjugation-forms in estivo-autumnal malaria. She found some of the young ring-form parasites in close approximation or overlying each other. As the sexual cycle does not take place in the blood of man, such a process of conjugation would seem unnecessary, unless it occurred as an atypical process. The fact that the crescent is more resistant to quinin than the other varieties of malarial parasites might be explained by the presence of a capsule which appears to protect the parasite, certainly during the sexual phase and probably during the "resting" period (when not undergoing sexual changes). The youngest form of ring parasite shows no evidence of encapsulation. This may explain the fact that quinin is best administered just before the paroxysm when the parasite is undergoing segmentation.

37. **Malarial Pigment.**—Two important methods for the study of malarial pigment are described by Brown: (a) a method for obtaining a solution of malarial pigment from fixed tissues without the removal of a trace of hemoglobin from the red blood-corpuscles; (b) a method for obtaining an iron reaction in malarial pigment. By comparing the bleach reactions and solubility of melanins and malarial pigment, the dissimilarity of the two classes of pigments has been demonstrated. The spectroscopic examination of a solution of malarial pigment proves conclusively that the pigment is hematin. It is suggested that the action of a proteolytic enzyme of the malarial parasite on the hemoglobin of the red corpuscle is the most probable mode of elaboration of malarial pigment. The difficulty with which the human organism disposes of malarial pigment indicates that the production of hematin cannot be considered as a normal intermediate process in the formation of bile pigments from hemoglobin.

Journal of the Oklahoma State Medical Association, Muskogee

February

38 Some Disorders of Sleep. A. D. Young, Oklahoma City.
39 Difficult Surgical Cases. V. Berry, Okmulgee.
40 Thrush. W. L. Davis, Kingston.
41 Nephrectomy for Infected Cystic Kidney; Recovery. J. H. White, Muskogee.
42 Diagnostic Relationship Between Internal Medicine and Special Surgery. J. Block, Kansas City, Mo.
43 Salvarsan in Syphilis. E. S. Lain, Oklahoma City.
44 Ergotin. H. H. Redfield, Chicago.
45 Sterilization of the Unfit. S. M. Jenkins, Enid.

Annals of Surgery, Philadelphia

February

46 *Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
47 *Intussusception, with Special Reference to Adults. E. Eliot, Jr., and J. A. Corscaden, New York.
48 *Diverticula of the Lower Bowel: Their Development and Relationship to Carcinoma. L. B. Wilson, Rochester, Minn.
49 *The Coincidence of Volvulus and Real or Simulated Strangulated Hernia. R. T. Miller, Jr., Pittsburg, Pa.
50 *Restoration of Fecal Continence After Iliac Colostomy. A. Marro, Turin, Italy.

46. **Intratracheal Insufflation of Air and Ether.**—This paper is devoted to the subject of anesthesia itself, with special reference to the technic of the method. The apparatus used for intratracheal insufflation is described. Elsberg has so far anesthetized about thirty patients by intratracheal insufflation. Some of them were operated on for intrathoracic disease, many for abdominal or other affections. He has found the anesthesia very useful in operations on the head and neck, as the anesthetist was never in the operative field or in the way of the operator or his assistants.

47. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298. Appended to this paper are the abstracts of 264 cases recorded in the literature.

48. **Diverticula of the Lower Bowel.**—Fifteen cases of diverticula of the lower bowel were studied by Wilson up to Dec. 1, 1910. Three of these were cases of peridiverticulitis. In these the inflammation did not involve the mucosa. Its presence in the peridiverticular fat was apparently due to leakage through the thin-walled diverticulata—a condition similar to that seen in old umbilical hernias. The symptoms were those of peritonitis or obstruction from pressure. In four cases carcinomata had developed in the diverticula, probably from epithelium segregated by chronic inflammation.

49. **Volvulus and Strangulated Hernia.**—Miller presents two cases, with abstracts of the cases reported since Knagg's paper in 1900. Volvulus, he says, may produce in a hernia signs and symptoms which accurately simulate hernial strangulation; or it may be associated with actual strangulated hernia. Volvulus, in either association, may readily escape recognition; it is probably contributing heavily to the mortality of strangulated hernia. The diagnosis before operation is usually exceedingly difficult; there are, however, certain very suggestive features, viz., advanced age, the presence of hernia for

many years, shock out of proportion to the signs about the rupture, and marked abdominal pain and tenderness with occasionally a palpable mass. The diagnosis at operation depends on careful observation, there being certain signs which are pathognomonic; an operation undertaken for strangulated hernia must demonstrate absolutely the strangulation. Volvulus proximal to actual strangulated hernia apparently offers no sure means of diagnosis other than routine abdominal exploration—a procedure which is manifestly not to be recommended.

50. **Fecal Continence After Colostomy.**—The fundamental idea of the method Marro applies consists in causing the proximal end of the resected intestine, properly mobilized, to cross a subcutaneous tunnel, which is parallel to the exterior border of the rectus muscle, in such a way that a simple belt (that of the drawers, for instance), going round the trunk and passing over the iliac wings, should play the part of an effectual and comfortable band of compression on the intestinal segment running between skin and aponeurosis. Such a compression may be rendered more active by a contraction of the abdominal wall, in the moments in which the individual feels the need of it, e. g., in diarrheic attacks and during active peristalsis of the colon. Theoretically, its function would thus imitate well enough the natural function of the sphincters. Three cases are reported in which the method proved quite successful.

University of Pennsylvania Medical Bulletin, Philadelphia

January

51 The Public Health Course at the University of Pennsylvania. A. C. Abbott, Philadelphia.
52 Therapeutic Results from the Use of Salvarsan in Twenty-One Cases of Syphilis. J. F. Schamberg and N. Ginsburg, Philadelphia.
53 Studies in Spirochetal Infections. D. H. Bergey, Philadelphia.

Journal of Abnormal Psychology, Boston

February-March

54 *Hysteria and Modern Psychoanalysis. A. Friedländer, Frankfort, Germany.
55 *Fundamental States in Psychoneurosis. B. Sidis, Boston.
56 *The Mechanism and Interpretation of Dreams. E. Jones, Toronto.
57 *Id. M. Prince, Boston.
58 Raymond—His Life and Example, 1844-1910. W. B. Swift, Boston.

54. **Hysteria and Modern Psychoanalysis.**—According to Friedländer, we do not possess a therapy applicable in all cases of hysteria. The cathartic method of Breuer and Freud, from the theoretical standpoint, has been very fruitful for the psychology of hysteria; it is of practical value in certain cases of traumatic hysteria. The association studies of Jung and others deserve critical consideration. The psychoanalytic method, he says, is surely not the only one that is of value in the treatment of hysteria, neurasthenia or obsessions. In so far as the method is connected with the detailed discussion of sexual matters and perversities, it is justly rejected by many authors. Psychical treatment, as it is practiced by those who do not belong to Freud's school, accomplishes as much as sexual psychoanalysis, but it must be aided according to the particular case by general therapeutic measures applicable to functional neuroses and psychoses. (Training in work, hydrotherapy and electrotherapy, dietetics, etc., and, under certain conditions, hypnosis.) The procedure of those authors who carry on a propaganda in lay journals about this method of treatment, which at best is not proved, and which is rejected by many, Friedländer holds deserves emphatic disapproval.

55. **Fundamental States in Psychoneurosis.**—Sidis says that in all his phobia cases, he found as the basis of the morbid condition the primitive instinctive fear of the unknown, of the unfamiliar, a fundamental fear instinct rooted in the impulse of self-preservation, and an overdeveloped sense of the mysterious. The recognition of these fundamental states by the psychopathologist and their disintegration by treatment are of the utmost importance for psychopathology and psychotherapeutics. The fear of the mysterious is the beginning of phobia.

56 and 57. **The Mechanism and Interpretation of Dreams.**—Jones holds that up to the present no one who has taken the trouble to acquire the psychoanalytic method has failed to confirm Freud's theory in all essential particulars. Prince, on the other hand, holds that no one who has shown by his writings that he is thoroughly trained in and conversant from first-hand knowledge with all the phenomena of abnormal, experimental and functional psychology has accepted Freud's theory.

Ophthalmic Record, Chicago

February

59 A Fatal Case of Dementia Following Cataract Extraction. E. Hill, Philadelphia.
60 A Case of Anisometropia. R. P. O'Connor, U. S. Army.
61 Contusion of the Eyeball. E. E. Blaauw, Buffalo, N. Y.
62 Soft Fibroma of the Conjunctiva. J. S. Wyler, Cincinnati.
63 Use of Diagnostic Doses of Old Tuberculin in Determining the Etiology of Optic Neuritis and Neuroretinitis of Obscure Origin. W. E. Gamble, Chicago.
64 *An Unusual Case of Foreign Body in the Eye. R. S. Lamb, Washington, D. C.

64. **Foreign Body in Upper Eyelid.**—The patient in this case was suffering from a condition of the left eye which to all appearances was a trachoma with pannus, or possibly a kerato-iritis with vascularization of the cornea of such long standing as to have caused the beefy-looking inflammation of the upper lid. He gave a history of having got a piece of hair in the eye and of having it removed at one of the hospitals, since when the eye had been better and worse, but always somewhat inflamed. After bleaching with cocain and adrenalin as much as possible, a thorough search failed to discover any sign of any foreign substance, and Lamb concluded it was a case of syphilis, even though the patient denied the knowledge of having been infected. He treated him accordingly internally with Donovan's solution, external mercury rubs and locally with yellow oxid and atropin sulphate 1 per cent., having him use smoked glasses. In the course of a few days the man was better, but complained now of a more marked scratching sensation, whereupon Lamb took cocain and adrenalin, bleached as best he could, and searched carefully and long, finally locating in one of the fleshy masses of the upper lid, near its center at the upper border of the cartilage, a small black point. The surrounding flesh was removed and a wiry hair ¼ inch long was pulled out. It had been imbedded in the lid at right angles to its surface, and so whenever the granulating flesh grew smaller the hair presented itself and began again the process of scratching the cornea.

Yale Medical Journal, New Haven, Conn.

January

65 *A Rare Type of Unilateral Hematogenous Infection of the Kidney. G. E. Brewer, New York.
66 Duties of the State in the Prevention of Tuberculosis. H. F. Stoll, Hartford, Conn.
67 A Case of Dystrophia Adipose Genitalis or Hyposecretion of the Pituitary Gland. F. E. Johnson, Providence, R. I.
68 Treatment of Pulmonary Tuberculosis Outside of the Sanatorium. D. B. Deming, Waterbury, Conn.
69 Some Features of Rectal Alimentation. L. M. Gompertz, New Haven, Conn.
70 *Chronic Family Jaundice. W. Tileston, New Haven, Conn., and W. A. Griffin, Sharon, Mass.

65. **Unilateral Hematogenous Infection of the Kidney.**—Brewer has encountered fourteen cases of this severe type of unilateral infection. Of these, two patients were untreated; both died within twelve days. Four patients were treated by nephrotomy and drainage; all died shortly after operation. Eight were treated by early nephrectomy; all recovered. He also reports a number of cases of some of the milder types of the affection in which measures less radical than nephrectomy are indicated. These cases, like the preceding group, often simulate in their symptomatology, appendicitis, cholecystitis, or abscesses of the liver. If unrecognized and unrelieved by appropriate treatment, they go on to the formation of the more definite and more easily recognized lesions, as renal abscess, perinephritic abscess, pyelonephritis, or pyonephrosis. The lesions in these cases, while the same in general character as in the severe type, are fewer and more scattered, and the amount of renal tissue involved is less. Stripping the capsule from the organ when the lesions are small, or combined with the openings and drainage of cortical abscesses or areas of necrosis when present, constitutes the best treatment. In certain instances, when the treatment has been delayed too long, the suppurative process continues and

a secondary nephrectomy may be necessary. Brewer has operated in about twelve cases of this type, and while there was no postoperative death in the series, on one occasion he was obliged to perform a secondary nephrectomy for advancing sepsis; in another patient in whom the function never returned, he performed nephrectomy for persistent renal neuralgia; and in at least one other case a persistent pyelonephritis has resulted. The end-results in most instances, however, have been satisfactory.

There is still a milder type of the disease, the so-called idiopathic pyelitis, which, as a rule, requires no treatment other than rest, hexamethylenamin, and the ingestion of a large amount of pure water. The symptoms are mild in character, and when on the right side are often mistaken for a subacute appendicitis or cholecystitis. The disease may or may not be ushered in by a chill. When present, the chill generally indicates a severe type of infection. The initial rise of temperature is high, generally 104 F. (40 C.), or 105 F. (40.5 C.); pulse is frequently 120, or above. The toxemia is marked from the first and, with the high fever, suggests often an acute grippe, lobar pneumonia, or one of the exanthemata. Then follows a more or less vague pain in the abdomen, or flank, corresponding to the side of the lesion. Tenderness and muscular rigidity over the region of the appendix, or gall-bladder, leads often to error in believing one of these organs to be the seat of the disease. As the urinary secretion from the infected kidney is greatly diminished, and is largely diluted by the abundant secretion from the unaffected organ, the mixed urine, when passed or drawn from the bladder, is often quite normal in appearance, and the slight trace of albumin, blood and pus, is often overlooked unless a more than ordinary careful examination is made. The one pathognomonic sign present in all cases is a marked unilateral costovertebral tenderness.

70. This article was also published in the *American Journal of the Medical Sciences*, June, 1910.

Iowa Medical Journal, Des Moines

February

71 Indication for Removal of Tonsils. R. M. Lapsley, Keokuk.
72 Function of the Vestibular Apparatus. E. R. Lewis, Dubuque.
73 Relation of the Faucial Tonsils to General Infection. G. F. Harkness, Davenport.
74 Fractures. J. W. Osborn, Des Moines.
75 Salvarsan in Syphilis. R. A. Weston, Des Moines.
76 Case of Syphilis Treated with Salvarsan. J. J. Murphy and W. J. Neuzil, Cedar Rapids.

Kentucky Medical Journal, Bowling Green

February 15

77 Occupational Diseases. C. Weidner, Louisville.
78 The Surgical Patient. M. Casper, Louisville.
79 Points in Diagnosis as Revealed by the Roentgen-Ray. E. T. Bruce, Louisville.
80 *A Case of Heroin Poisoning. J. T. Trawick, Louisville.
81 Postoperative Hernia and Intestinal Resection. Intraligamentary Myoma. W. H. Wathen, Louisville.
82 Endothelioma of the Ovary with Involvement of the Ileocecal Junction. W. H. Wathen, Louisville.
83 A Case of Head Injury. Osteoma of the Uterus. J. H. Peak, Louisville.
84 A Case of Puerperal Eclampsia. J. Hancock, Louisville.

80. **Heroin Poisoning.**—Trawick reports a case of severe poisoning following the injection of ½ grain of heroin, a short time after an operation for chronic appendicitis. The symptoms appeared within ten minutes. The patient had the appearance of a person profoundly under the influence of an opiate. After about an hour of medical and mechanical stimulation and manipulation, the respiration count was about ten to the minute, but during that hour it had been very irregular, going from four to eight a minute, and back to four. The pupils were contracted to pinpoints during this time. The patient recovered.

Chicago Medical Recorder

February

85 *Painful Affections of the Feet. J. L. Porter, Chicago.
86 *Local Paresis of the Bladder. G. Kolischer and H. Kraus, Chicago.
87 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.

85. Also published in *Surgery, Gynecology and Obstetrics*, January, 1911, abstracted in THE JOURNAL, Feb. 4, 1911, p. 379.

86. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 536.

87. This article has also appeared in the *Illinois Medical Journal*, November, 1910; *Toledo Medical and Surgical Reporter*, December, 1910; *Texas Courier-Record of Medicine*, December, 1910; *Nashville Journal of Medicine and Surgery*, December, 1910; *Medical Summary*, January, 1911; *Pacific Medical Journal*, January, 1911; *Denver Medical Times and Utah Medical Journal*, February, 1911; and the *Medical Fortnightly*, Jan. 25, 1911.

Annals of Otology, Rhinology and Laryngology, St. Louis

December

88 The Maxillary Sinus in the Embryo, Child and Adult Man. J. P. Schaeffer, Ithaca, N. Y.
89 Effect of Maxillary Readjustment on the Development of Nasal Chambers and Face. G. V. I. Brown, Milwaukee, Wis.
90 Widening the Dental Arches in Nasal Stenosis; Its Results and Possibilities. N. M. Black, Milwaukee, Wis.
91 Comparative Anatomy of the Larynx in the Anthropoidea. J. G. Wilson, Chicago.
92 Physiology of Tone Perception. G. E. Shambaugh, Chicago.
93 Present Status of Labyrinthine Surgery. S. J. Kopetzky, New York.
94 Capsulated Bacteria in Production of Acute Middle-Ear Affections. H. B. Graham, San Francisco.
95 Anatomic Explanation of Vestibular Nystagmus. L. K. Guggenheim, St. Louis.
96 *Investigation of Postoperative Conditions from Five to Ten Years After Intubation. B. R. Shurly, Detroit.
97 A Case of Purulent Pachymeningitis with Extradural Abscess, Subdural Abscess and Septic Thrombosis of the Lateral Sinus, Complicating Chronic Suppurative Middle-Ear Disease. J. J. Carroll, Baltimore.
98 Annual Report of the Sanatoria for Tuberculosis in the United States of America and in Canada. J. W. Gleitsmann, New York.
99 A Case of Brain Abscess with Rare Ocular Symptoms. C. Barck, St. Louis.

96. **Postoperative Conditions After Intubation.**—Of a carefully recorded series of 437 intubations for laryngeal diphtheria, in 80 per cent. of which the patients were alive when the tube was removed, Shurly has been able to locate and examine thirty of the older children. All these patients had clinical laryngeal diphtheria. The age varied at operation from seventeen months, the youngest, to eleven years, the oldest. The smallest dose of antitoxin given was 1,000 units; the largest 4,000 units. The time during which the tube was worn consecutively was from forty-eight hours to one hundred and twenty-four hours. No instance of retained tube occurred in any of these cases. Four patients required reintubation. In one case intubation had been attempted by two other operators during some hours, without success. Other cases of diphtheria appeared in the same family or in the neighborhood, from which the contagion could be traced in five of these cases. The subsequent statements show the extent of susceptibility of infectious or contagious diseases in these cases, as follows: Measles, ten cases; chicken-pox, four cases; mumps, four cases; whooping-cough, two cases; scarlet fever, three cases. Partial or complete aphonia remained for from one day to seven years after the removal of the tube. "Throat disease" was claimed in ten cases. Four patients were partial, periodic or complete mouth-breathers. Other adenoid symptoms were present in six cases. Lung or heart disease was noted in six cases. Affections of the ears were acknowledged by four. A greater susceptibility to coryza was observed in seven cases. Dyspnea, asthma or hay fever was present in two cases (from adenoids).

The examination was made five years after intubation in one case, and from eight to twelve years in the other cases. Nasal conditions requiring operations were: Deflected septum, four; intumescent and hypertrophied turbinates, two. In eight nasopharyngeal conditions required operation (tonsils). No laryngeal conditions required operation. Enlarged cervical glands were found in nine cases. Thickening of the interarytenoid fold was observed in four cases. Every patient in this series was intubated for laryngeal diphtheria. Shurly concludes that intubation in laryngeal diphtheria is required more frequently when marked tonsillar hypertrophy exists, and that pathologic adenoids and tonsils are prominent predisposing factors in diphtheritic infections of the larynx. No deleterious effects of antitoxin were noted. Laryngeal paralysis is extremely rare after intubation, he states. Scar tissue was observed in two cases. The cicatrix was insignificant and apparently produced no modification in function. No case of laryngeal paralysis was found, although one with motor insufficiency was observed. Children developing laryn-

geal diphtheria show, Shurly says, a marked tendency to other infections in childhood. So-called chronic catarrhal inflammation of the upper respiratory tract is usual after severe diphtheria.

Medical Fortnightly, St. Louis

January 25

100 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.
101 *Abdominal Position for Drainage in Suprapubic Prostatectomy. H. J. Scherck, St. Louis.
102 The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.

February 10

103 The Need of an Adequate Alphabet. A. L. Benedict, Buffalo, N. Y.

100. This article has also appeared elsewhere. See No. 87.

101. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 535.

Therapeutic Gazette, Detroit

February

104 Value of Taka-Diastase in Diabetes Mellitus. E. J. G. Beardsley, London.
105 *Relative Value of the Various Methods for the Determination of Kidney Sufficiency. B. A. Thomas, Philadelphia.
106 Teaching of Therapeutics. H. C. Wood, Philadelphia.
107 Case of Vincent's Pseudomembranous Angina. W. E. Shea, Missoula, Mont.
108 *Surgical Anesthesia and Blood-Pressure. G. F. Lull and C. H. Turner, Philadelphia.

105. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

108. **Surgical Anesthesia and Blood-Pressure.**—The authors made a study of the blood-pressure and its relations to the pulse rate during administration of various anesthetics, hoping to determine by instruments of precision the onset of untoward symptoms. In all cases, the pressure was taken the day previous to operation, one hour before operation, at the starting of the anesthetic, every five minutes during the operation, one hour after the operation, and the day following; the pulse rate being recorded each time the pressure was taken. In some cases the Stanton instrument, in others the Tycos, was used. They learned that when ether is used the blood-pressure rises at first in nearly every case. When the ether was preceded by ethyl chlorid the pressure remained unchanged during the few moments of ethyl chlorid administration, but when the ether was started, the pressure rose as in the cases in which ether alone was employed. When the skin incision was made it was found that there was a fall in the blood-pressure, which was more marked if the patient was but lightly anesthetized; this fact was also noted in operations in which the peritoneum was incised. One point already well known was once again confirmed, namely, that if the ether was pushed to the point of very deep anesthesia during the operation the blood-pressure fell in proportion to the degree of ether saturation. They conclude that artificial anesthesia causes in many cases a marked alteration in the ratio between the blood-pressure and the pulse rate; this is augmented by anything that produces shock to the nervous system during the operation, notably incision of the skin or peritoneum or drawing on the pedicle of an organ. If at the time of this shock anesthesia be light, the shock will not be so marked as if the patient were under deep anesthesia. In certain operative cases in which the patients show abnormal blood-pressure, on the one hand whether it be high or low, or on the other hand present evidences of cardiac fatigue or actual myocardial weakness, a suitable course of treatment would likely be to diminish chances of circulatory complications both during and after operation to a considerable degree.

Denver Medical Times and Utah Medical Journal, Denver

February

109 *Varicocele of the Spermatic Cord. (a) When to Operate? (b) How to Operate? A. P. Heineck, Chicago.
110 Penetrating Wounds of the Eyeball. L. W. Snow, Salt Lake City, Utah.

109. See No. 87.

Canadian Medical Association Journal, Toronto

February

111 Surgical Treatment of Gastric and Duodenal Hemorrhage. G. E. Armstrong, Montreal.
112 Exophthalmic Goiter. A. McPhedran, Toronto.
113 *Death and Disability Resulting from Childbirth. H. M. Little, Montreal
114 Two Cases of Typhoid Spine. J. Halpenny and D. F. McIntyre, Winnipeg.
115 Origin of Urinary Calculus. G. S. Gordon, Vancouver, B. C.
116 Sarcoma of the Lung. E. S. Jacques, Montreal.

113. **Death and Disability.**—From the opening of the new Montreal Maternity, Oct. 17, 1905, to Oct. 1, 1909, there were treated at that institution 2,634 patients. Of these thirty-five died. It is admitted that this 1.33 per cent. unexpurgated mortality is unusually high, but no patient seriously ill was refused admission, even postpartum, and during the entire four years no patient whose death seemed imminent was allowed to be removed from the hospital. The causes of death were one or other of the forms of toxemia, 40 per cent.; infection, 37 per cent.; and all other causes, including placenta prævia, 23 per cent. Of thirteen patients dying as the result of infection, seven came to the hospital after treatment outside; four had been delivered; two partially delivered; and in one, a placenta prævia, had been repeatedly examined. Another patient with a streptococcus sore throat died of peritonitis within a few hours of delivery, and the child likewise died of streptococcus septicemia. One case of Cesarean section terminated fatally after operation, as did also one case in which pubiotomy was done. For the three remaining cases there is no excuse offered by Little. Two of the patients were delivered spontaneously and one by a low forceps operation, all within two weeks of one another. He says that while laceration of the cervix and of the perineum may account for a certain number of the conditions noted, one further feature in the general management of cases postpartum seems to be accountable for much later distress. This is the custom of tightly bandaging the patient after delivery, and leaving her in such a condition that she is comfortable only when lying flat upon the back. This procedure has, he believes, three distinct disadvantages. In the first place, it absolutely opposes any involution of the round ligaments, which would tend to draw the uterus forward; it prevents the falling forward of the uterus on the bladder, with the consequent tendency to spontaneous micturition; and, finally, tends permanently to hold the uterus back, so that the anterior lip of the cervix is drawn forcibly from the more or less fixed posterior lip, and laceration, if present, is prevented from healing by the formation of scar tissue in the angle of the wound. Not only does this permanent opening of the cervix cause discomfort later, but it is usually associated with a permanent displacement of the uterus. Opposed to these three marked disadvantages of the binder, there is, in Little's opinion, no definite advantage to be claimed for its use.

Texas State Journal of Medicine, Fort Worth

February

117 Modern Civilization's Greatest Blot—Our Care of the Insane. J. M. O'Farrell, Richmond.
118 Reasons Why the Care and Treatment of Mental Diseases in Texas State Hospitals Are Not Ideal. J. R. Nichols, San Antonio.
119 Prophylactic Suggestions in Degenerative Tendencies. G. H. Moody, San Antonio.
120 Pneumonia: Its Symptomatology and Diagnosis. G. B. Foscue, Waco.
121 The Adenoid Operation. H. C. Haden, Galveston.
122 Treatment of Syphilis with Salvarsan. M. W. Colgin, Waco.

Journal of Ophthalmology and Oto-Laryngology, Chicago

February

123 *Recent Contributions to Our Knowledge Concerning Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
124 Use of Scarlet Red in Corneal Diseases. W. O. Nance, Chicago.
125 Acute Purulent Frontal Sinusitis. C. M. Miller, Richmond, Va.
126 Objective Aural Tinnitus Associated with Hyperthyroidism. D. Yates, New York.

123. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

St. Louis Medical Review

January

127 Physiology and Hygiene of Puberty. H. Ehrenfest, St. Louis.
128 Pelvic Diseases Associated with Puberty. E. Marx, St. Louis.
129 Relation of Puberty to Nervous Diseases. M. W. Hoge, St. Louis.
130 Cutaneous Accidents of Puberty. J. Grindon, St. Louis.
131 Other Diseases Associated with Puberty. I. Gray, St. Louis.
132 Conditions Producing the Nervous Child. S. R. Roberts, Atlanta, Ga.
133 Salvarsan in Syphilis. J. L. Bohm, St. Louis.
134 Leprosy. J. Knott, Dublin.

Journal of the Delaware State Medical Association, Wilmington

February

135 Pulmonary Tuberculosis. W. C. Pierce, Wilmington.
136 Value of Laboratory Findings in Diagnosis and Prognosis of Abdominal Surgical Diseases. B. W. Goldsborough, Cambridge.

Journal Minnesota State Medical Association and Northwest Lancet, Minneapolis

February

137 Orthopedic Treatment of Infantile Paralysis. A. J. Gillette, St. Paul.
138 *How Shall We Treat Appendicitis After the First Forty-Eight Hours? J. E. Moore, Minneapolis.
139 Iodin in Surgery. F. E. Walker, Hot Springs, S. D.

138. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1923.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 11

1 *The Choice of a Diuretic. E. Smith.
2 *Serotherapy of Diphtheria. E. W. Goodall.
3 *The Argyll Robertson Sign in Cerebral and Spinal Syphilis. J. M. Clarke.
4 Tuberculin Dispensaries. A. M. N. Pringle.
5 Color Vision and Color Blindness. F. W. Edridge-Green.
6 Yellow Fever in West Africa. Sir R. Boyce.
7 *Poisoning After Small Doses of Acetyl-Salicylic Acid (Aspirin). C. Morgan.

1. **The Choice of a Diuretic.**—The citrates, acetates and tartrates of sodium, potassium and ammonium, Smith says, increase the osmotic pressure of the blood and draw water from the tissues into the blood stream. They do not, therefore, irritate the kidneys, and may be used without fear, he declares, even when these organs are acutely inflamed. It is important that when taken, these drugs should be well diluted, for their action on the kidneys is thus rendered more certain; and it is useful to combine them with spirits of nitrous ether, which, on account of the nitrite of ethyl it contains, is a useful agent in causing dilatation of the afferent vessels of the kidney. In cases of renal dropsy, if the illness be acute, the saline diuretics are the only remedies of the kind which can be given without risk of further injury to the affected organs. That they may act with success, it is of the highest importance to make sure that there is no obstruction to the portal circulation through the liver. A preliminary dose of blue pill followed by a liberal saline aperient is always advisable; and if during the course of the treatment the action of the remedies is found to be getting uncertain or ineffectual, especially if the arterial tension be high, a repetition of the dose will prove to be of service. In all cases, a careful watch should be kept on the work of the bowels, and their action should be encouraged by sufficient doses of a watery aperient every day or every other day, such as the compound jalap powder. To be effectual, this powder must be ordered in adequate dose, and its action can be rendered more energetic by the addition of jalap. In the treatment of adults, elaterium is a useful remedy, but in early life its action is uncertain, and the jalap powder is to be preferred in the case of a child.

The remedial action of pilocarpin Smith has not found very satisfactory. When the acuteness of the attack subsides and the complaint begins to settle down into a chronic course, Smith advises the use of some of the special drugs which act directly on the secretory apparatus, such as digitalis and caffein. In the choice of a diuretic in cardiac dropsy, we must bear in mind that the cause of the edema lies primarily in the chest, and not in the abdomen, and that remedies which act on the kidney are of little or no value unless combined with others which strengthen the action of the heart. We must remember, too, that when blood-pressure is low, drugs which tend to lower arterial tension still further are not only useless, but become an actual source of danger. Digitalis, strophanthus, convallaria, squill and some other drugs act as cardiac tonics, but digitalis, as a rule, is the most prized. Its efficacy as a diuretic may be further enhanced by giving it in combination with other drugs which promote diuresis by different means. The citrate of caffein is, perhaps, the most useful of these drugs in ordinary cases. The combination is further strengthened by the addition of sweet spirits of nitre, as dilator of the afferent vessels of the kidney, in doses of from 30 to 60 drops. In giving this combination it is best to prescribe the digitalis alone or in conjunction with the nitrous ether for two or three days before adding the caffein, as digitalis requires to be taken several days before its effects become noticeable. The dose of caffein should be moderate (from 2 to 3 grains two or three times a day), as stimulation of the epithelial cells of the kidney should always be looked on as a temporary measure which is not to be abused, and may do harm if carried to excess.

The infusion of broom-tops (scoparius) is another safe remedy which may be usefully combined with digitalis. It contains spartein, an alkaloid which has an action on the heart similar to that of caffein, and also contracts the afferent vessels of the kidneys. An ounce of the infusion given in conjunction with a dram of the infusion of digitalis, from 30 to 60 drops of spirits of nitrous ether, and from 60 to 90 drops of the acetate of ammonia solution is a diuretic of great value, both in cardiac dropsy and in that which results from renal disease after the acute stage is at an end. Nitrous ether is one of the most valuable diuretics and can be included in most combinations; but it is incompatible with salicylates, and also with antipyrin and any drug containing tannin. Its good effects are most noticeable when given in combination with acetate of potash, digitalis and squill.

When progress seems at a standstill, there are two drugs, either of which will often bring about a welcome change in the situation—tincture of cantharides, from 2 or 3 to 10 minims, and mercury. Either calomel or blue pill may be employed, but Smith prefers the latter. Mercury is to be avoided, he says, if renal disease be present, and when given should not be pressed if diuresis does not result in the course of three or at the most four days, for it is in such cases that the system may possibly be unfavorably affected by the treatment. Smith has given blue pills in doses of 3 grains, three times a day, in many cases, both to young people, 10 or 12 years of age, and also to the adult, and has found it to be very well borne and to produce free secretion; but when diuresis has been fully established, he has made it a rule to discontinue the mercury and replace it with a mixture of caffein and spirits of nitre with infusion of broom-tops. If the mercury be continued too long there is the risk of setting up stomatitis; and in any case it is wise while the remedy is being taken to wash out the mouth several times a day with a suitable antiseptic solution.

2. **Serotherapy of Diphtheria.**—Goodall is averse to using antitoxin as a prophylactic. He says that not only might it happen that the person treated was especially and peculiarly susceptible to the action of serum, even if he was not known to be asthmatic, but supposing he was not naturally susceptible, it would not be unlikely that by the injection one would render him artificially so, in which case, if subsequently it were found to be necessary to use antitoxin remedially, he would run the risk of undergoing a very unpleasant illness. There are outbreaks of diphtheria in institutions for the care of children, in which, Goodall thinks, the use of antitoxin as a prophylactic, given cautiously and after due inquiry into the children's life history, may be justified. But he is strongly of the opinion that an indiscriminate use of serum as a prophylactic is not only unnecessary, but unjustifiable.

3. **Argyll-Robertson Sign in Cerebral Syphilis.**—In a recent analysis of forty-eight cases of syphilis of the brain and twenty-one of the cord, sixty-nine in all, Clarke obtained the following results with regard to the Argyll-Robertson pupil: In every case there was a clear history of syphilis, or some undoubted syphilitic lesion, and, in addition, in the later cases Fleming's test was positive. Out of the sixty-nine cases, the Argyll-Robertson pupil was present in two of cerebral syphilis. One patient was a man, aged 32, apparently with syphilitic meningitis of the convexity; he had headaches, was apathetic, forgetful, depressed, with indistinct or slightly slurring speech and exaggerated knee-jerks. He showed

no improvement under treatment, and his symptoms suggested the possibility of an early stage of general paralysis. The other patient was a woman, aged 45, who suffered from right facial paralysis twelve years ago, five years ago was under Clarke's care for cerebral syphilis, with right hemiplegia and Argyll-Robertson pupil, and has developed on the hemiplegia a typical tabes dorsalis. In another patient there was paralysis of the right third nerve, with complete iridoplegia, the left pupil did not react to light on admission, but recovered fully under treatment. In six patients the pupil reaction to light was sluggish, but not absent, and in three it became much brisker after treatment. One patient suffered from epileptiform fits, both general and localized, with headache and vomiting; two from hemiplegia, with headache and vomiting; one from meningitis of the convexity, with hemiparesis, cranial nodes and double optic neuritis; the fifth was a patient with hereditary syphilis, with cerebral symptoms and optic neuritis; and the sixth was a patient suffering from syphilitic cerebrospinal meningitis, with hemiplegia and intense optic neuritis. Optic neuritis, in varying intensity, was present, therefore, in three of the six patients with sluggish reaction; optic neuritis does not, of course, abolish the light reaction.

Of the twenty-one spinal cases, in one the light reaction was sluggish, and in two the Argyll-Robertson sign was present. Of the latter, one was a rather remarkable case. The patient was a man, aged 32, who had had left hemiplegia two years before, from which recovery was not complete. When admitted, he was dull, apathetic, and had some mild delusions as to place and as to his circumstances. The cord affection corresponded to Erb's syphilitic spinal paralysis, and was of very gradual onset, with the usual affection of the bladder, great exaggeration of deep reflexes, and double extensor plantar reflex. The pupils were very small. Under mercurial treatment he made an unexpectedly good recovery, both as to his mental and physical state, and was able to return to work. The Argyll-Robertson sign persisted. In the other case the cord affection was of the same kind, with no affection of sensation, no ataxy, and no symptoms, except slight incontinence, beyond those clinically referable to degeneration of the pyramidal tracts; the disease was also of very gradual onset. It is an interesting point that the only cases presenting the Argyll Robertson sign among Clarke's cases of syphilitic disease of the cord are cases belonging to the clinical group of syphilitic spastic paraplegia, first described by Erb.

7. **Poisoning After Small Doses of Acetylsalicylic Acid.**—Morgan reports a case of a rare idiosyncrasy to acetylsalicylic acid, a vasomotor neurosis, allied to angio-neurotic edema, but without visceral symptoms. Half an hour after taking 5 grains of the drug, the patient noticed that her lips were swollen. The swelling spread rapidly all over the face, and finally the tongue and throat became affected. In twenty-four hours all swelling had disappeared. Several months later the patient was told to take the drug again. Within an hour she became very anxious and restless, her face was enormously swollen, especially the eyelids, lips and nose. The tongue was swollen so much that it was with difficulty protruded between the teeth. The fauces also were much swollen, and she complained of great discomfort in her throat. There was no headache, but she complained of her head being "funny and uncomfortable." On her hand and forearms there was an urticarial rash. The pulse was 110, feeble. The pupils were moderately dilated, and the conjunctiva of both eyes were bloodshot. Next morning the swelling was much less, but the eyelids were still very puffy, and the vessels of the conjunctiva engorged; in fact, this symptom did not disappear for a week. The pulse was 80, and she felt well.

Lancet, London

February 11

8 Clinical Aspects of Emotion and Action. T. C. Shaw.
9 *Color Vision and Color Blindness. F. W. Edridge-Green.
10 *Pathology and Treatment of Injuries Caused by Electricity. Sir T. Oliver.
11 *Possibility of Modifying the Effect of an Inoculation of Tuberculin by Combining with It a Local Anesthetic. H. W. Crowe.
12 Pantopon Anesthesia. C. L. Leipoldt.
13 A New Method of Administering Nitrous Oxid, with or Without Oxygen, for Prolonged Dental Operations. N. S. H. Warner.

9. This article also appears in the *British Medical Journal*, Feb. 11, 1911.

10. **Treatment of Injuries Caused by Electricity.**—There are two main theories as to the cause of death in electric shock: (1) inhibition of the medulla oblongata, leading to arrest of respiration, followed by cessation of the beat of the heart; (2) death directly from the heart without the intermediary of respiration. Oliver's experiments seemed to show death to be of cardiac origin. After death from electric shock there is usually rigidity of the muscles. The heart is flaccid, especially the right ventricle, which contains dark fluid blood. The left ventricle may be empty. The lungs may show nothing abnormal, or there may be signs of congestion, if death was not immediate and artificial respiration had been resorted to. The pupils are dilated. The brain and spinal cord may be congested, and the abdominal veins and viscera full of dark blood. There may be hemorrhage in the brain and petechial hemorrhages in the pleura and pericardium. Although the blood is usually fluid, it is occasionally coagulated. On spectroscopic examination, it is found to contain both oxyhemoglobin and reduced hemoglobin. Chromolytic changes in the cerebral cells were found in two cases reported by Oliver. For slight shock followed by recovery no treatment is required. For burns the application of boric acid compresses, or charcoal poultices, if there is much destruction of tissues, is called for. When an injured workman is in contact with or cannot lose grip of live metal, the greatest care must be exercised in touching his body, for any attempt to separate the two might be followed by a disastrous shock to the person rendering assistance. Under any circumstances the breaking of the current means a fresh shock to the individual concerned. Once the circuit is broken, should there be no signs of life, the body must be placed on its back and artificial respiration immediately resorted to and continued for a considerable time, even if there is no quick response. In Oliver's experiments he succeeded in resuscitating animals whose heart beats and respiration had ceased for several minutes.

11. **Inoculation of Tuberculin with Local Anesthesia.**—The only question on which Crowe attempts to throw light is whether the inoculation of tuberculin produces its effect in any degree by stimulating afferent nerve endings at the site of the injection. His procedure has been to combine a considerable proportion of a 4 per cent. solution of beta-eucain lactate with varying doses of tuberculin in cases of phthisis under treatment by vaccines. Daily observations of the opsonic index were recorded during the whole course of the investigation, and as far as possible the blood specimens were taken at the same hour of the day. There was a distinct difference in the response to an inoculation of tuberculin in phthisis if eucain was combined with the dose. The chief proof of this rests on the form of opsonic curve which follows such doses as compared with doses in which no eucain was given. There is a possibility that an inoculation of tuberculin produces its effect, in part, by stimulating the central nervous system. Such stimulation may take place at the site of the inoculation.

Indian Medical Gazette, Calcutta

January

14 The Uncovenanted and Subordinate Medical Services. D. G. Crawford.
15 Cholera in India. P. Hehir.
16 Arrows and Arrow Wounds in Manbhum. S. Anderson.
17 The Health of a Bengal District. H. Sen.
18 Two Cases of Ascariasis. A. D. Stewart.
19 General Paralysis of the Insane in a Native of India. P. Heffernan.
20 The Ipecacuanha Treatment in Liver Abscess. E. Muir.
21 Traumatic Rupture of the Prostatic Urethra. L. P. Stephen.

Journal of Laryngology, Rhinology and Otology, London

February

22 A Clinical and Bacteriologic Study of Thirty-Six Cases of Mastoid Suppuration, Including Ten Cases of Intracranial Complication. A. L. Turner and F. E. Reynolds.

Practitioner, London

February

23 Improved Diagnosis of Cancer of the Large Intestine. A. E. Barker.
24 Extraperitoneal Cesarean Section and Its Scope in Modern Obstetric Surgery. A. W. Russell.
25 General and Spinal Anesthesia. A. Brownlee.
26 Indications and Contra-Indications for Spinal Anesthesia. E. C. Ryall.
27 Cocain Anesthesia in Minor Surgery. L. R. Braithwaite.

28 Administration of Anesthetics on the Open Mask. W. Rankin.
29 Behavior of the Blood-Pressure in Chloroform and Ether Anesthesia, with Special Reference to Shock. H. P. Fairlie.
30 Surgical Treatment of Chronic Pleural Effusions. J. L. Stretton.
31 Neuroretinitis in Anemia. R. B. Hird.
32 *Relation of the Chemical Compositions of Human Milk to Chronic Diarrhea and Eczema in Nurslings. W. J. Maloney.
33 Treatment of Acute Pneumonia. A. G. Reid.
34 Review of Diseases of Children. H. Thursfield.
35 A Retrospect of Otology, 1910. M. Yearsley.
36 The Ament. A. R. Douglas.
37 Medical Practice in Stuart Times. A. Shepperd.

32. **Human Milk and Diarrhea.**—Maloney found that diet and exercise seem to have little or no influence on the sugar and fat content of human milk. Menstruation may coincide with marked impoverishment in fat. The amount of fat in milk varies as the hour and phase of the food, and also according to individual peculiarities of mothers; a rigorous maternal régime does not appreciably influence the richness of the milk in fat; but an impoverishment may appear simultaneously with the menses. The lactose of human milk is remarkable for the constancy of its amount, which seems indifferent to feeds, days, régimes, and menstrual periods. In sixteen milks examined by Maloney, varying in age from 3 weeks to 7 months, the amount of lactose was only once below 5.28 per cent., and twice above 6.50 per cent. The average age of these milks was 3.12 months, and the average percentage of lactose they contained was 5.82. The percentage of lactose usually attributed to human milk seems, therefore, to be too high. Diarrhea in breast-fed infants whose feeding is carefully directed may persist in some cases owing to excess of fat in the milk; in others, either owing to the presence of an abnormal laxative principle in the milk, or to the undue irritability of an otherwise normal intestinal tract. In none of Maloney's cases could excess of sugar be incriminated. A state of chronic diarrhea prevailed in seven nurslings whose feeding was carefully directed, and whose food was not abnormally rich either in fat or in lactose. Regulation of the mothers' régime did not influence this diarrhea. From three to six, usually four, motions occurred daily; they were characteristically of a light yellow color, semifluid, inoffensive, and without curds. The infants steadily gained in weight, were apparently content, enjoyed an average amount of sleep, and were not unduly querulous. Four of these babies had a history of a persistent tendency of looseness of the bowels from birth. This benign diarrhea resulted, therefore, says Maloney, either from some relatively harmless laxative principle in the mother's milk, or from an excessive irritability peculiar to the infant's intestine. If, on transferring the child for a time to a healthy wet-nurse whose own charge was progressing normally, the diarrhea should cease, the mother's milk would be proved abnormal; if, however, it should continue, the infant's intestine would be proved hypersensitive. The three or four motions each day represented the child's habit. The only treatment required was to discourage weaning and to reassure the mother; for her benefit a little bismuth was usually given to the child. Eczema may arise in nurslings from overfeeding, from richness of the milk in sugar, and from the influence of a faulty maternal hygiene on the chemical composition of the milk. But undoubtedly it may, as in Maloney's six cases, exist in the absence of overfeeding and when the milk contains only a normal amount of sugar. It may remain unaffected by the sacrifice of all the maternal indiscretions of diet. Probably it may arise independently of its commonly alleged factors; yet the co-existence of diarrhea and eczema in three babies makes Maloney reluctant to exonerate the milk-supply in any case of eczema occurring in a nursling.

Medical Press and Circular, London

February 1

38 Vaccination Treatment of Gonorrheal Complications. W. Friedländer and H. Reiter.
39 Treatment of the Chronic Stage of Infantile Spinal Paralysis in General Practice. F. Hernaman-Johnson.
40 Modern Treatment of Gonorrhea. C. F. Marshall.
41 Urine Analysis. J. B. Smith.

February 8

42 Prognosis in Pulmonary Tuberculosis. T. D. Lister.
43 Treatment of Puerperal Eclampsia. W. J. Smyly.
44 A Case of Eclampsia. K. Maguire.
45 Pathology of the Embryo in Relation to Abortion. J. Lindsay.
46 Modern Treatment of Gonorrhea. C. F. Marshall.

Bulletin de l'Académie de Médecine, Paris

January 24, LXXV, No. 4, pp. 59-108

47 *Vaccination Against Typhoid. H. Vincent and Committee.
48 Cicatricial Stenosis of the Esophagus Due to Cardiospasm. A. Chauffard and G. Guisez.

47. **Vaccination Against Typhoid.**—Vincent summarizes in detail the efforts in this line in various countries and the results obtained, presenting finally the conclusions of the majority of the committee of ten that had been appointed to study the subject. The conclusions were given in the Paris Letter in THE JOURNAL, February 25, page 601, together with the adverse minority report.

Presse Médicale, Paris

January 28, XIX, No. 8, pp. 65-80

49 Experiences with Salvarsan in Nervous Disease. G. Marinesco.
50 Local Anesthesia in Treatment of Tuberculosis of the Larynx. M. Boulay.
51 Physiology of the Corpus Callosum. J. Lévy-Valensi.
52 Recovery in Two Cases of Atrophic Cirrhosis of the Liver. Le Play and Doury.

February 1, No. 9, pp. 81-88

53 Emotional Shock and Confusional Psychoses. J. Seglas and A. Collin.
54 *Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis. S. Banzet.

54. **Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis.**—THE JOURNAL, May 28, 1910, page 1829, mentioned encouraging results that have been obtained by flushing the abdominal cavity with a constant stream of oxygen which escapes through drains at the lowest points. Banzet's experience in a case of diffuse peritonitis in a woman of 30, confirms the advantages of this simple measure. Besides the biologic stimulating effect of the oxygen, the gas helps, he asserts, to expel all morbid products and fluids. From the previously almost dry drains poured a flood of serous and purulent fluid after the jet of oxygen was turned into the abdomen. Banzet did not have at his disposal a tank with a stopcock to regulate the flow, and consequently he had to apply the oxygen from rubber bags, a bag containing 20 liters taking about half an hour to empty itself. The drains should not be perforated, he says, and he found that the oxygen acted more effectively when it was introduced through the different drains in turn.

Semaine Médicale, Paris

February 1, XXXI, No. 5, pp. 49-60

55 *Determination of Hydremia by Refractometer. (L'hydrémie chez les brightiques et las cardiaques oedemateux: son étude à l'aide de la méthode réfractomètrique; comparaison de ses variations à celles du poids.). F. Widal, R. Benard and E. Vaucher.

February 8, No. 6, pp. 61-72

56 *Combinations of Drugs in Therapeutics. (Les associations médicamenteuses et le renforcement de l'activité d'un médicament par une autre substance ajoutée à petite dose.) P. Chapelle.

55. **Estimation of Hydremia in Nephritis and Cardiac Edema.**—Widal has long insisted on the importance of daily weighing of patients with a tendency to failing compensation and chronic kidney trouble as it is thus possible to detect retention of fluids before the edema becomes clinically manifest. The blood itself early becomes diluted, and he has found that the refractometer is a sensitive index of the degree of this dilution. He here gives the clinical findings in a number of cases in which both the changes in weight and the refractometric hydremia index were recorded in parallel tracings and the various types of the curves determined for interstitial and epithelial nephritis and in heart disease alone or associated with kidney disease. The findings are also recorded during and outside of courses of salt-poor dieting and administration of digitalis. They show that the serous infiltration of the tissues is accompanied by corresponding dilution of the blood; an "edema of the blood," he remarks, is the natural accompaniment of the edema of the tissues. As the weight declines, the refractometric index rises, but the change in weight becomes apparent first. The refractometer shows that as the excess of fluid is thrown off first from the tissues, the blood remains diluted for a time, and only later becomes concentrated. The action of digitalis is shown by the refractometric findings as it causes a sudden influx of the edema fluid into the blood. The fluids impregnating the tissues interfere with their normal nutrition and when the fluid is drained

away part of the constituents of the cells are washed away with it, and the patient emerges from the course of treatment much thinner, but recuperates afterward like a typhoid convalescent. The increase of weight later may be due to reaccumulation of the edema, and this can be determined by the refractometer; if the curve persists within normal limits, there is no dilution of the blood and no paralleling edema of the tissues. The refractometric findings also reveal at once if the course of dechloridation has not been continued long enough; the drop in the index is a warning to abstain still longer from salt.

56. **New Combinations of Old Drugs.**—Chapelle reviews recent research which has shown that the therapeutic efficiency of certain drugs can be materially enhanced by addition of even a minute amount of some other drug. The data learned recently in regard to the action of ions, of the colloids and metallic ferments, superficial tension, radio-activity, anaphylaxis, immunity, etc., have thrown much light on biologic processes and have shown the infinite variety of conditions in which there is an unstable balance between the cellular elements and the media laving them, so that the possible increased efficacy of combinations of drugs no longer seems paradoxical. They open new horizons and virgin fields for applying the old weapons in new ways and combinations.

Berliner klinische Wochenschrift

January 30, XLVIII, No. 5, pp. 197-240

57 *Radium in Gout and Rheumatism. W. His.
58 *Pylorospasm. M. Einhorn (New York).
59 *Therapeutic Action of Shutting Off Part of Circulation. (Künstliche Verkleinerung des Kreislaufs als wirksame Heilmethode.) J. Tornai.
60 *Cirrhosis of the Liver. (Entstehung des Ascites.) F. Klopstock.
61 *Experiences with Subcutaneous Arthrodesis. S. Peltesohn.
62 Tonsillectomy. (Totale Ausschälung der Rachenmandeln.) Sturmann.
63 Transmission of Rat Sarcoma and Mouse Carcinoma to New-Born Animals. A. Buschke.
64 Infectious Conjunctivitis in the Samoan Islands. (Epitheliosis desquamativa conjunctivae.) A. Leber and S. v. Prowazek.
65 *Mydriatic Action of Organ Extracts and Fluids. E. Catapano.
66 Medical Impressions of America. W. Nagel.
67 *Differential Reaction in Human and Cow's Milk. G. Tugendreich.

57. **Treatment of Gout and Rheumatism with Radium.**—His thinks that there are great therapeutic possibilities for internal medicine in radium treatment, his experience having shown the efficacy of radium emanations in a number of cases of gout and rheumatism as adjuvants to the ordinary measures. He gives the radium emanations usually by inhalation, having the patients stay for two hours daily in air containing from 2 to 4 Mache units, equivalent to 1,000 electric units. The apparatus used provides a stream of oxygen bubbling through a fluid containing the radium salt and saturated with its emanations, a ventilator distributing the emanations through the room. He regards it as important to distinguish between gout and rheumatism as the dietetic indications are important and vary widely. The only criterion is the presence of uric acid in the blood, and he deplores the fact that he knows of no simple and easy technic for detecting uric acid in the blood. The only reliable method, he states, is that of Krüger and Schmidt, applied to as much as 80 or 100 c.c. of blood. Since he has systematically investigated the blood by this method, he has had many surprises, finding that uricacidemia is evidently responsible for the frequent myalgias in the back of the neck, shoulders and lumbar muscles in many cases while they are of rheumatic origin in others. Many insidious and symmetrical affections of the smaller joints, which seem to be rheumatic, are shown by the blood-test, he asserts, to be due to uricacidemia, as also neuralgia, especially sciatica, in many cases. He hopes that a reliable unit for work with radium will soon be developed and possibly that some commoner substance may yet be discovered with radio-active powers. In conclusion, His remarks that old exostosis, indurations, loose bodies in joints and extreme atrophy of the muscles and similar irreparable conditions are not amenable to radium or any treatment; the best results may be anticipated in the more recent cases of not too long duration, in which the main changes are merely from infiltration of the joint capsule. See Ab. 3, page 700.

58. Practically the same article was published in the *Medical Record*, New York, Jan. 21, 1911.

59. **Shutting Off Part of the Circulation as a Therapeutic Measure.**—Tornai applied Klapp's suggestion to shut off part of the circulation as an improved method of giving anesthetics, but Tornai uses it without regard to any drug. He found that by applying a constricting band to arrest the venous circulation in the limbs, the heart had less than half the former area to serve and could work with so much less blood that its task was proportionately lightened, and it was thus given a chance to recuperate. He has applied this as a therapeutic measure in a number of cases, shutting off the circulation in the limbs for twenty or thirty minutes every morning for a week or so. The effect was striking, he reports, in cases of fatigue and dilatation from stasis of the right heart, the right ventricle being too weak to empty itself completely during the systole. By holding back part of the blood, the right ventricle was able to accomplish its task better, with less expenditure of energy, and was given a chance for rapid recuperation. The most striking benefit was obtained with mitral affections, but benefit was also realized even with degeneration of the myocardium and with beer heart, the tachycardia, arrhythmia and insufficient systole subsiding. After release from the constriction the pulse becomes slower and more regular. In the severer cases in which heart tonics fail, little can be expected from the constriction method, but he has obtained good results in a few exceptional cases even of this kind. The relief from the measure is so great that often the patients await its application with impatience. Diuresis is generally promoted, and there was profuse sweating in some cases as the constricting bands were removed; this must be done very slowly and gradually. He uses rubber tubing for the constricting band as for the Momburg technic. He attempted to enhance the action of drugs by this means, finding that a small amount had an immeasurably greater effect when the limbs were excluded from the circulation, but in order to accomplish this the arterial circulation in the limbs had to be arrested likewise, and the constriction kept up for an hour or more; the patients objected to this, so he has abandoned the method.

60. **Etiology of Cirrhosis of the Liver.**—Klopstock presents arguments to show that ascites is not always due to disturbances in the portal circulation, but is more liable to be the expression of chronic peritonitis. This theory throws light on the infectious and toxic factors in the origin of cirrhosis, and it also suggests that the Talma operation of omentofixation is not applicable in every case. The very fact that the ascites was cured immediately by this operation in a number of cases showed that the cure could not have been due to establishment of a collateral circulation as this requires time to develop. He knows of over 300 cases in which the Talma operation has been employed, but permanent benefit was obtained in only 30 per cent. of the 274 cases compiled by Bunge. It is adapted only for the cases in which the portal circulation is actually the causal factor.

61. **Subcutaneous Arthrodesis.**—Peltesohn reports three cases in which he followed Bade's technic of hammering an ivory peg into the joint. The outcome was a failure in every case, although all the wounds healed by primary intention, and there was no reaction of any kind on the part of the tissues to the presence of the foreign body. The trouble was in the ivory pegs which seemed to disintegrate; one broke, and in each case the ivory had to be removed.

65. **Mydriatic Action of Organ Extracts.**—Catapano describes experimental work which demonstrated that extracts of the suprarenals and hypophysis have a distinct and intense mydriatic action, while a weaker action was observed in the same line with extracts of the thymus, kidney, pancreas, liver, ovaries, testicles and muscle tissue, but not with the thyroid, brain or spleen. The mydriatic action is thus shown to be not an exclusive property of the suprarenals.

67. **Differentiation of Human and Cow's Milk.**—Tugendreich states that human milk gives a brown color reaction, while there is no reaction with cow's milk, when 3 c.c. of the milk are mixed with an equal amount of a 1 or 2 per cent. solution of silver nitrate and rapidly heated to boiling, three times in succession. He thinks this color reaction is connected with the

urine reaction mentioned by Engel and Turnau, whose article was abstracted in THE JOURNAL, February 18, page 546. [A later article by Boschan explains the reaction as merely the reduction of the silver nitrate by the chlorid in the urine. The brown stain occurs when the proportion of chlorids is low.]

Correspondenz-Blatt für Schweizer Aerzte, Basel

February 1, XLI, No. 4, pp. 113-144

68 *Varying Susceptibility to Opium with Age. E. Döbeli.

68. **Opium for Children.**—Döbeli reports extensive experimental research and clinical experiences which supplement the data in the literature, all proving that infants are especially susceptible to opium, but that older children are no more sensitive than adults if the dosage is proportional to their age. Suckling rabbits were twice as sensitive to opium and morphin as adult animals, but after the young rabbits had been eating ordinary food for a time they were no more sensitive than adults. He found, however, that the susceptibility to codein was alike at all ages.

Deutsche medizinische Wochenschrift, Berlin

February 2, XXXVII, No. 5, pp. 193-240

69 Treatment of Benign Superficial Tumors. (Gutartiger Hautgeschwülste.) H. Paschkis.
70 Fifth Edition of the German Pharmacopeia. (Pharmakopoea Germanica Ed. V, 1910.) E. Harnack.
71 *Lack of Durable Action of Salvarsan in Neutral Suspension in Treatment of Syphilis. T. v. Marschalko.
72 *Technic of Intravenous Injection of Salvarsan. (Zur Frage der Gefahr endovenöser Einspritzung saurer Lösungen von Salvarsan.) v. Notthafft. (Nadel für intravenose Injektion von Salvarsan.) H. Loeb.
73 Serodiagnosis of Syphilis. J. Traube.
74 *Treatment of Lupus of Mucous Membranes. (Behandlung des Schleimhautlupus.) M. Senator.
75 *Symptoms of Thyroid Intoxication After Iodid Medication. G. Wolfsohn.
76 Advantages of Chloroform Anesthesia in Normal Deliveries. (Schmerzlinderung bei normal Geburten.) B. Ehrlich.
77 Cholera Vibriones Found in the Donau River. E. Strószner.
78 Action of Hydrogen Dioxid on Enzyme-Producing Property of Mucosa and on the Enzymes. (Einwirkung von Wasserstoffssuperoxyd auf das enzymproduzierende Vermögen der Schleimhaut und auf die ausgeschiedenen Enzyme.) L. E. Walbum.
79 *The Picric Acid Test for Seminal Fluid. (Neuer Beitrag zu meiner Spermareaktion.) M. Barberio.
80 *Fatal Diabetes Mellitus in Five Brothers and Sisters Between Ages of 4 and 11. T. Langaker.
81 Venereal Disease in Goethe's Poetry. (Die "Liebeskrankheit" in Goethes Dichtung.) M. Levor.

71. **Salvarsan in Syphilis.**—Marschalko has never witnessed any serious signs of arsenic intoxication in the course of salvarsan treatment of almost 400 patients, but he warns that subcutaneous and intramuscular injections have no durable curative action. In fifty-four cases in which the patients have been under continued observation for from two to five months, recurrence has been the rule in nearly 50 per cent., and he advises other physicians not to waste their efforts with these ineffectual technics, but to use the intravenous technic which, he states, seems to be far more reliable in respect to the durable action of the drug. He ascribes great importance to the Wassermann reaction, having found it a most valuable guide in over 4,000 cases of syphilis in the last two and a half years. In most of the cases in which salvarsan was given the Wassermann reaction gradually declined in intensity, but it became absolutely negative in only a few. He thinks that salvarsan given by the intravenous route, supplemented by mercury, is the technic for the future. He refuses now to inject salvarsan when there is a tendency to paralysis, as one patient who had had paralysis for some years died two weeks after injection of 0.3 gm. of salvarsan. There seemed to be considerable improvement for ten days after the injection, but then severe paralysis developed; there were no symptoms of arsenic intoxication at any time.

72. **Technic for Intravenous Injection.**—The danger with intravenous injection is that the needle entering the vein may go too far and injure the posterior wall of the vein. To avoid this secondary injury, von Notthaft always exposes the vein, incises it between clamps and then cautiously introduces the needle in the incision. This technic cannot be applied casually in the office or home.

74. **Treatment of Lupus of Mucous Membranes.**—Senator states that expert examination of the mucosæ is indispensable for detection of all foci and lesions, and that surgical treatment will succeed while other methods are liable to fail. Long-continued supervision is necessary to attack recurrences at their first inception.

75. **Thyroid Intoxication After Iodin Medication.**—Wolfsohn reports the case of a woman of 42 who was given potassium iodid in treatment of leg ulcer, as the lack of benefit from other measures suggested a possible syphilitic factor in the lesion. The day after the iodid had been commenced, the patient complained of enlargement of the neck and malaise, with tremor of eyelids, tongue and fingers; the pulse increased to 128 and the heart-beat was unusually loud and fast, with slight enlargement to the left; there was no fever. The iodid was suspended at once and the symptoms had disappeared by the end of a week. Three months later, the leg ulcer showing no improvement, it was dressed with vioform, a powder containing iodin, and in half an hour the entire leg burned and itched and in the evening the neck had become enlarged and an erythema developed, with tremor; both lobes of the thyroid were found enlarged, but not tender. During the intervals and beforehand there had never been any signs to call attention to the thyroid. In another case a woman of 32, with an old tendency to goiter and nervousness, developed Basedow symptoms after a course of iodids and thyroid tablets. The injury from this treatment persisted unmodified after the suspension of this treatment and the exophthalmic goiter syndrome has continued a progressive course during the five years since. Injection of 5 c.c. of this patient's serum into a guinea-pig evidently induced a special hypersusceptibility to iodin in the animal as it died with signs of anaphylaxis when injected with a little iodin which the control animals bore without disturbance. Wolfsohn's experiences further warn of the necessity for constant supervision of patients taking iodin, whether there is a manifest goiter or the thyroid is not palpable. The possible injury from iodin cannot be estimated beforehand; even minimal amounts are liable to induce signs of severe thyroid intoxication.

79. **Picric-Acid Test for Seminal Fluid.**—Barberio here reviews all that has been published on this forensic test for differentiation of human seminal fluid, the general conclusions testifying to the sensitiveness and reliability of the test. An equal volume of a saturated aqueous solution of picric acid is mixed with the fluid to be examined, after filtration; the specific crystals soon form even in a concentrated solution of five-year-old fluid. The crystals dissolve if the mixture is heated, but after filtering they recrystallize out again as the fluid cools. The crystals are insoluble in cold water, but dissolve in dilute hydrochloric acid and in solutions of the halogen salts of the alkaline metals. The specific crystals are octahedrons, and the findings parallel those with the Florence test, but the reaction can be obtained for years after the Florence test has ceased to give positive findings.

80. **Diabetes Mellitus in Children.**—Langaker reports from Christiania the history of a healthy family with eight children, all apparently robust, until one after the other five of the children died between the ages of 4 and 11 of typical diabetes mellitus. The environment was good and the children well cared for, but five died thus in the course of nine years. Nothing grossly pathologic was found at the necropsy of the first child that died but in the last child the pancreas seemed to be much degenerated; the others were not examined post mortem.

Medizinische Klinik, Berlin

January 29, VII, No. 5, pp. 165-206

82 Modern Progress in Treatment of Nervous and Mental Diseases. A. Pilcz.
83 *Tuberculosis of Iris After Chilling. (Iristuberkulose durch Erkaltung.) B. Fleischer.
84 *Differential Diagnosis of Exophthalmic Goiter. (Zur Klinik des Morbus Basedowii und seines Grenzgebietes.) C. Kraus.
85 Dissecting Metritis and Uterine Abscess. J. Risch.
86 Suprarenal Treatment in Bronchial Asthma. E. Pick.
87 Chemotherapy of Spirilloses. P. Uhlenhuth.
88 Treatment of Earache. (Inwieweit kann man auch ohne Ohrenspiegeluntersuchung den Ohrenschmerz behandeln?) F. Bruck.
89 Technic for Wassermann Reaction. A. Alexander.

83. **Acute Tuberculous Iritis After Chilling.**—The importance which industrial insurance is assuming in Germany lends interest to the case reported: A boy of 14 was driving a wagon through a small stream when the pole-pin broke and

he had to work breast-high in water for some time to remedy the trouble. A few days later he developed acute tuberculous iritis of the right eye, compelling enucleation. Signs of a slight apical process were detected with the Roentgen rays. Fleischer admits the possibility of the effects of the chilling mobilizing bacilli in the lungs and setting up an acute process in the eye, but he does not regard it as very probable. The lack of similar cases on record in the literature testifies against the etiologic importance of the chilling; otherwise such occurrences would be common.

84. **Differentiation of Exophthalmic Goiter.**—Kraus calls attention to sudden attacks of intense pain in the upper abdomen and to increased radiation of heat as signs of possibly latent exophthalmic goiter. The abdominal pain in two of the most typical of his fifty cases came on suddenly, resembling gall-stone colic or the crises of tabes, and was so intense that only large doses of morphin could control it. The celiac plexus was tender but not the gall-bladder region. The attacks did not correspond to intake of food; they came on generally at night and application of cold or heat gave no relief. The pain was ascribed at first to spasm of the abdominal vessels, and drugs to act on the kidneys were given but without effect. One patient also had the typical "giving way of the legs" sign of exophthalmic goiter but there was no paralysis; the extensors of the knees gave way completely all at once and the patient required aid to get up from the kneeling posture. The very severe acute condition in the other patient had evidently been aggravated by local application of iodin. After exclusion of all other causes for the pain, nothing was left but the assumption of action on the solar plexus of the toxin causing the exophthalmic goiter. In a third case, a man of 28 had suffered for seven years from mild exophthalmic goiter which was finally aggravated by overwork. Then attacks of pain came on in the night accompanied by vomiting. In a fourth case the spasmodic pain was the first symptom of trouble; a man of 52 was suddenly attacked with violent abdominal pain—neuralgia as he supposed. The pain persisted and he lost 21 pounds in weight in two weeks and by the end of the month his weight had dropped from 172 to 118 pounds. Several courses of sanatorium treatment brought no relief. By the end of three months symptoms of exophthalmic goiter developed, including restlessness, insomnia, palpitations and pains in the shoulders, but the appetite remained good. On suspicion of "Basedowoid," he was given antithyroidin and the pains gradually subsided under this and hydrotherapy with application of the continued current to the neck. The Basedow triad since has become more pronounced but the general health has improved and there has been no recurrence of the abdominal pains. Another important sign of hyperfunctioning of the thyroid is the increased radiation of heat from the skin. The temperature in the axilla is liable to be as high as that in the mouth or even a trifle higher. The burning skin with otherwise latent exophthalmic goiter may suggest latent tuberculosis. Cardiovascular neuroses may simulate exophthalmic goiter but the lack of rapid drop of weight speaks against the latter. Hyperthyroidism may induce a condition resembling chlorosis, and during the menopause disturbances may develop suggesting the Basedow triad. This borderland disturbance deserves special attention, Kraus remarks, as the prevailing tendency to give iodids in prophylaxis or treatment of arteriosclerosis is liable to induce these nervous disturbances or aggravate a latent tendency to exophthalmic goiter. Another sign of hyperfunctioning of the thyroid is the tendency to frequent and copious stools. This sign is particularly instructive when individuals long constipated suddenly find bowel functioning becoming regular as other signs of hyperfunctioning on the part of the thyroid develop. In all dubious cases the scale is turned by the disproportion between an abundance of nourishing food and the progressive decline in the body weight.

Münchener medizinische Wochenschrift

January 31, LVIII, No. 5, pp. 233-288

90 *Experiences with Salvarsan. C. Kopp, Treupel and Levi.
91 Syphilitic Pemphigus of New-Born Infants. K. Baisch.
92 Technic for Intravenous Injection of Salvarsan. A. Stühmer.
93 *Determination of Diastolic Blood-Pressure by Palpation of Ulnar Artery. H. Ehret.
94 *Treatment of Eclampsia by Method of Stroganoff. E. Roth.
95 *Rigid Arteries in Children. (Arterienrigidität im Kindesalter.) F. Hamburger.
96 *Exercises in Repose. (Ueber Ruheübungen und Ruheübungsapparate.) L. Hirschlaff.
97 Transformation of *Staphylococcus aureus* into *Staphylococcus albus*. E. Palier (New York).
98 Multiple Arthritis After Test Injection of 0.5 mg. Tuberculin. W. Diem.
99 Resection of Larynx or Esophagus. R. Zimmermann.
100 Teaching of Pathology in the United States. H. Chiari.

90. **Salvarsan in Syphilis.**—Kopp was discouraged by the frequent local necrosis with subcutaneous injection, and he now uses the intravenous route exclusively. In his experience with 130 cases he had this necrosis in 20 per cent. of the subcutaneous cases, but has had no mishaps in the forty-eight patients treated by the intravenous route. In three cases the injection was made soon after infection, before the primary exanthem had developed, and none of the three patients has shown any sign of recurrence during the five months since, so that he regards them as probably cured.

Treupel and Levi have also changed to the intravenous route but warn that this method cannot be applied to outpatients. In one case they noticed total facial paralysis and considerable deafness after two injections of salvarsan, the symptoms resembling those reported by Finger in a few cases.

93. **The Diastolic Blood-Pressure and Palpation of the Ulnar Artery.**—Ehret has compared the findings with his method of palpation of the ulnar artery with those from auscultation, and with von Recklinghausen's method of oscillation. He says that with a simple Recklinghausen cuff, a rubber bulb and a manometer both the systolic and diastolic pressure can be determined by his method with as much precision as with a more expensive apparatus. He gives the conclusions from study of the findings on application of his method in over 1,000 cases.

94. **Stroganoff's Prophylactic Method of Treating Eclampsia.**—Roth reviews the experiences at the clinic in charge of Leopold at Dresden where Stroganoff's method was applied in fifty cases. The results were encouraging and justify, he declares, the adoption of this method in routine treatment of eclampsia in the home when removal to an institution is impracticable for any reason. The main point is to commence the treatment early and carry it through systematically according to Stroganoff's directions. [They were given in THE JOURNAL, July 3, 1909, page 86.]

95. **Rigidity of the Arteries in Children.**—Hamburger has frequently noticed unusual size and hardness of the arteries in children between the age of 8 and 14; the findings are sometimes so pronounced that they suggest arteriosclerosis or kidney disease, but he ascribes the phenomenon to nervous vasomotor influences. Certain signs of neurasthenia and nervous irritability can usually be detected in these children, and this exaggerated tonus of the artery is encountered during the years when school life makes special demands on the nervous system. Disturbances of this kind are more common in ambitious, studious children.

96. **Exercises in Repose.**—Hirschlaff has devised a system of exercises which aim to relax all the volitional muscles while excluding external impressions and promoting mental concentration. The patient reclines on a lounge, the eyes covered and the attention concentrated on his slow breathing. He has the patient do this for five respirations and repeat every hour or so during the day. A little perfume on the upper lips helps to concentrate the attention, and he describes other devices to promote absolute repose of the muscular and nervous systems in treatment of cramps and tics, professional neuroses, chorea, tremor, etc.

Therapeutische Monatshefte, Berlin

February, XXV, No. 2, pp. 81-144

101 *Treatment of Diabetic Acidosis. L. Lichtwitz.
102 *Albumin Milk in Infant Feeding. (Erfahrungen mit Eiweissmilch.) E. Welde.
103 Lime Metabolism in Connection with the Food. (Der Kalkstoffwechsel in seiner Abhängigkeit von der Nahrung.) M. Kochmann.
104 The Organism Does Not Become Accustomed to Action of Certain Narcotics. (Ueber die Gewöhnung an die Narkotika der Fettreihe.) F. Japhé.

101. **Substitutes for Sodium Bicarbonate in Acidosis.**—Lichtwitz discusses the mechanism of the acid intoxication in diabetes and shows that sodium salts with anions capable of combustion are preferable to the bicarbonate. Sodium citrate is advantageous as its taste permits it to be added to certain dishes or given with lemon juice as lemonade. It does not cause disturbance in the stomach like the bicarbonate; the appetite does not suffer, and he has never observed diarrhea even with 50 gm. (750 grains) a day. In a typical case 20 gm. a day of the bicarbonate caused diarrhea; it was then suspended and 30 gm. of the citrate given daily, which seemed to have an equally good effect on the metabolism while no further bowel trouble was noticed. The elimination of nitrogen also increased under the citrate. The citrate might be injected intravenously in emergencies; the bicarbonate is less adapted for this method of administration on account of its strong alkaline reaction. The citrate has only a weak alkaline reaction and this can be neutralized by adding a little citric acid.

102. **Casein Milk in Infant Feeding.**—Welde reports a year's experience with the Finkelstein and Meyer *Eiweissmilch*; it contains very little sugar and salts and proportionately large amounts of casein. He says that this albumin milk fulfilled all his anticipations and more, and may possibly prove the best substitute for mother's milk, at least during periods of indigestion accompanied with diarrhea. It has the disadvantages of a high price and uninviting aspect and taste. One new-born infant tested thrived on it; three infants with eczema were cured soon after being put on the albumin milk, twenty-three of twenty-five infants with severe indigestion were cured, as also sixteen in twenty in the phase of "decomposition," two of three infants with acute intoxications and six of eight with severe infectious processes. Only seven of the fifty-six very sick babies died, while among those saved were a number who had seemed to be actually moribund. Some of the children taking the "albumin milk" passed safely through an intercurrent influenza. This modification of milk was described in THE JOURNAL, July 2 and 30, 1910, pages 93 and 407.

Therapie der Gegenwart, Berlin

February, LII, No. 2, pp. 49-96

105 *Typhoid in Children. (Abdominaltyphus der Kinder.) A. Baginsky.
106 *Syphilis of the Liver. (Luetisches Leberfieber.) O. Huber.
107 Enhancing of Action of Narcotics by Combination with Others. (Verstärkung der Wirkung verschiedener Narkotika speziell des Pantopons durch Skopolamin.) J. R. Hani.
108 Nature of Hysteria. O. Kohnstamm.
109 Anaphylaxis. (Wesen und die Bedeutung der Ueberempfindlichkeit.) E. Friedberger and F. Klemperer.

105. **Typhoid Fever in Children.**—Baginsky discusses the points in which typhoid in children differs from that disease in adults. He feeds the child milk, broth and raw yolks of eggs, with a little wine during the entire febrile stage and convalescence. He thinks the wine is important to keep up the general nutrition. He warns in particular to be on the watch for otitis. The child's heart can be depended on much more than the heart of the adult, and drugs are seldom necessary for disturbances in the heart action, but too much attention cannot be paid to prevention of boils and other disorders of the skin as secondary septic infection may have most serious results.

106. **Febrile Liver Syphilis.**—Huber describes a case in which a man of 31, four years after infection with syphilis followed by energetic mercurial treatment, had violent attacks of pain in the liver radiating to the right shoulder; the liver was much enlarged and after two years and a half fever developed with night sweats and chills. Gall-stones had been diagnosed; no improvement followed systematic medical treatment on this assumption and an operation for the supposed gall-stones followed. None was found but signs of gumma of the liver were discovered; under a single injection of salvarsan the entire syndrome subsided. Tertiary syphilitic liver fever is of the hectic type, intermittent or remittent, with night sweats and more or less pronounced chills. With all this the general health suffers little for a long time. The absence of jaundice is also suggestive.

Wiener klinische Wochenschrift, Vienna

February 2, XXIV, No. 5, pp. 153-190

110 *Changes in the Pancreas in Diabetes Mellitus. A. Weichselbaum.
111 Behavior of Albuminuria and Tube-Casts in Urine During a Course of Mineral Waters at Marienbad. K. Zörkendörfer.
112 Leg Phenomenon in Hysteria. (Ein dem "Beinphänomen" der echten Tetanie in seinem klinischen Aussehen gleichendes, vielleicht richtiger als "Pseudo-Beinphänomen" zu bezeichnendes Symptom in einem Falle von Pseudo-tetania hysterica.) W. Buettner.
113 Globulins in Syphilitic Serums. (Vergleichende Globulinmessungen an luetischen Seris.) R. Müller and W. Hough.
114 Metaplasia of Gastric Epithelium. A. Hermann.

110. **The Pancreas in Diabetes.**—Weichselbaum found the islands of Langerhans strikingly pathologic in the 183 cadavers of diabetics he has had opportunity to examine, while no changes of the kind in the islands could be detected in the seventy-three cases of chronic tuberculosis he examined post mortem. He states further that his findings demonstrate that it is not any special changes in the islands but the extent of involvement which determines the development of diabetes. In some non-diabetics the parenchyma was found atrophied while the islands were not much degenerated; in a few cases the pancreas weighed less than 35 gm. or even 20 gm. but the islands had maintained their integrity; although the urine had been examined repeatedly for sugar during life the findings were constantly negative. The type of the diabetes corresponds to the different forms of the changes in the islands, the graver forms accompanying complicating arteriosclerotic changes in the islands. The practical conclusion is that everything that tends to favor arteriosclerosis should be carefully avoided when diabetes is feared or is established. Chronic alcoholism is a factor of this kind; it seems to be able to induce not only cirrhosis of the liver but a chronic interstitial pancreatitis which may lead to sclerosis of the islands.

Zentralblatt für Chirurgie, Leipsic

February 4, XXXVIII, No. 5, pp. 153-184

115 *Opening New Collateral Blood and Lymph Routes. (Eröffnung neuer Abfuhrwege bei Stauung in Bauch und unteren Extremitäten.) O. Lanz.
116 *Urethral Injection of Glycerin to Facilitate Passage of Sounds. (Perurethrale Glyzerin-Druckinjektion zwecks leichteren Entrierens sog. impermeabler Strikturen.) T. Goldenberg.
117 *Improved Technic for Nephropexy. Liek.

115. **Operative Opening of New Collateral Circulation.**—Lanz has applied the Talma operation in four cases of ascites from cirrhosis of the liver, with complete success in two cases and absolute failure in the others. In a more recent case the patient was a man of 69 with enormous ascites and suspected cirrhosis of the liver and alcoholism. The absence of enlarged veins in the abdominal wall and the age of the patient suggested carcinomatous peritonitis. In order to divert the fluid into a new route, after removal of 12 or 15 liters of fluid, Lanz drew the right testicle upward out of the scrotum by pulling on the spermatic cord, and implanted it in the open abdominal cavity, suturing the spermatic cord its entire length around the peritoneal incision. The discovery of tuberculous nodules in the peritoneum had left little hope of permanent recovery and the patient died five weeks later. There had been no recurrence of the ascites but the spermatic cord and the retroperitoneal tissue were found gorged with serous infiltration, everything showing that the operation had provided a collateral circulation for the lymph with direct drainage of the peritoneal cavity along the spermatic cord with its wealth of lymphatics. The outcome might have been still better if the testicle had been wrapped in omentum. The findings at necropsy corroborated the advantages of this method of internal drainage; the results are more promising, Lanz declares, than when the omentum is merely fastened—as by the Talma operation—to the abdominal wall which is not so rich in lymphatics.

116. **Glycerin for Impermeable Urethral Stricture.**—Goldenberg injects about 20 c.c. of glycerin under considerable pressure and at once the catheter finds its way through the previously impermeable stricture. The glycerin has the further advantage of being completely soluble in water, thus obviating all danger of embolism.

117. **Nephropexy.**—Liek used the capsule of the kidney to fasten it in its proper place in a case reported, drawing the slit capsule up around the lower pole of the kidney and fastening it to the twelfth rib. The technic is illustrated.

Zentralblatt für Gynäkologie, Leipsic

February 4, XXXV, No. 5, pp. 177-224

118 *Technic of Pubiotomy. R. Costa.
119 Operative Sensibility of Female Genitalia. (Sensibilität der weiblichen Geschlechtsteile.) J. v. Mann.
120 Treatment of Placenta Prævia in the Home. (Zur Behandlung der Placenta praevia in der Aussenpraxis und zur extraovulären Einführung des Metreurynters.) J. Füth.
121 Perforation of Intestine During Curettage of Uterus. K. Justi.

118. **Technic of Pubiotomy.**—Costa gives an illustrated description of an improved method of pubiotomy which ensures preventive hemostasis of the vessels under the pubis. In carrying out the operation as described on ten cadavers, the bladder had been filled with a blue stain; no trace of injury of this organ could be detected.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 26, XXXII, No. 12, pp. 123-130

122 Acidity of Urine Not Constant in Tuberculosis. Barabaschi.

January 29, No. 13, pp. 131-146

123 Internal Hypersecretion. (Il concetto clinico dell'ipersecrezione interna.) G. A. Pari.

Riforma Medica, Naples

January 16, XXVII, No. 3, pp. 57-84

124 *Inherited Hemorrhagic Telangiectasia. W. Osler.
125 *Exploratory Puncture of Bone Marrow. G. Ghedini.
126 Isolytic and Heterolytic Power of Organic Fluids. E. Cedrangolo.

January 23, No. 4, pp. 85-112

127 Pathogenesis of Infectious Purpura Hemorrhagica. S. Cannata.

124. **Inherited Hemorrhagic Telangiectasia.**—Osler reports a fifth case of this anomaly, his other four having been published at various times since 1901. Others have reported similar cases since so that he now knows of fourteen or fifteen families in which two or more members through from two to five generations had these multiple telangiectasias of the skin and mucous membranes, bleeding frequently and leading in some cases to repeated and almost fatal epistaxis. The only etiologic factor of any account seems to be the heredity. One of his patients had had repeated epistaxis for over forty years; another had frequent hemorrhages from a vascular nevus on the hand and another on the arm. Probably in many of the cases the anomaly has been regarded as a manifestation of hemophilia, but this is incorrect, he thinks. The trouble is a dilatation of the capillaries and smaller veins and much can be done in treatment by cauterization. In his last case he warded off danger by destroying the dilated vessels in the nose and on the tongue by cauterization. The patient was a woman of 35 and the lesions had notably increased in number and size during the last six years. Coe has reported benefit from administration of calcium lactate in such cases, and Osler suggests that if the angiomas are large it might be wise to apply radium treatment.

125. **Exploratory Puncture of Bone Marrow.**—Ghedini here reports the experiences on which he based his conclusions recently summarized in these columns, February 4, page 389. Application of the measure in twenty-four cases has demonstrated, he remarks, the ease and simplicity of the technic and its harmlessness.

Hospitalstidende, Copenhagen

February 1, LIV, No. 5, pp. 105-136

128 *Multiple Punctures in Treatment of Cystic Disease of the Kidney. (Behandling af det multilokulære Nyrekystom med multiple Punkturer.) T. Rovsing.
129 Inherited Predisposition to Pulmonary Tuberculosis. (Arvelighed af Disposition til Lungetuberkulose.) N. J. Strandgaard. Commenced in No. 4.

128. **Multiple Puncture in Cystic Disease of the Kidney.**—Rovsing had a patient, a man of 41, who had been healthy until about a year before when violent pains in the left kidney region came on suddenly and the attacks returned from time to time, with occasionally mild pains in the right side. There was considerable albuminuria and the left kidney was found much enlarged. On the diagnosis of tumor of the kidney, Rovsing exposed the left kidney and found it studded with cysts. Nephrectomy was contra-indicated as cystic disease is generally bilateral, and the urine from the other kidney was not normal. He at once punctured the superficial cysts and then the deeper and deepest ones. There was scarcely any bleeding and after the puncture the kidney subsided to less than half its former size. He left a wick in the wound and the diuresis increased while the albuminuria disappeared. The patient was freed entirely from pain and regained full earning capacity, dying three years later from uremia following an acute febrile disease. Rovsing had been very dubious in regard to the outcome, for, if the "retention cyst" theory of cystic disease of the kidney is correct, the multiple puncture holes would have drained away the urine and infiltration and a fistula would have been the result. On the other hand, if the disease were in the nature of a new growth, there was danger that the tumor mass would proliferate into the adjoining tissue. Nothing of the kind occurred; the wound healed rapidly and there was no question but that the operation was not only palliative but improved the kidney functioning; there must have been considerable sound kidney tissue which was able to resume functioning when released from compression by the cysts. Encouraged by this success he applied the same measure in two other cases later, with equal benefit, as he relates in detail.

Norsk Magazin for Lægevidenskaben, Christiania

February, LXXII, No. 2, pp. 105-224

130 Clinical Experiences with Thiosinamin and Fibrolysin. H. L. C. Huitfeldt.
131 Fibrolysin in Chronic Adhesive Peritonitis. N. B. Koppang.
132 Clinical Experiences with Salvarsan. K. Grøn.
133 *Bile Pigment in Blood Serum and Its Clinical Significance. (Galdereaktion i blodserum og dens kliniske betydning.) O. Scheel.
134 Improved Cuff for Dosage of Constriction Hyperemia and Blood-Pressure. (Professor Perthes' apparater.) E. E. Lindboe.

133. **Clinical Importance of Bile Pigment in the Blood Serum.**—Scheel reports his experiences with tests applied to detect the presence of bile pigment in the blood in health and in various diseases. An instructive diagram shows at a glance the findings in the urine with the Gmelin test in these different conditions and the proportion of bile pigment in the blood serum as determined by the Gilbert reaction, the original test slightly simplified. The reaction was naturally most pronounced in jaundice, next in pernicious anemia and pyemia while failing compensation with a heart defect came next. Chronic nephritis without stasis was within normal range; with stasis there was a slight positive reaction.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE NINTH YEAR-BOOK OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION. Part II, The Nurse in Education. By Thomas D. Wood, A.M., M.D., Professor of Physical Education, Teachers College and Columbia University; M. Adelaide Nutting, Professor of Nursing and Health, and of Household Administration, Teachers College, New York City; Isabel M. Stewart, Instructor in Nursing and Health, Teachers College, New York City, and Mary L. Read, B.S. Supplement to the Year-Book on "Health and Education" Discussed at the Indianapolis Meeting of the National Society, Feb. 28, 1910. Paper. Price, 78 cents. Pp. 76. The University of Chicago Press, Chicago.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medicolegal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Price, $3. Pp. 365. Cincinnati: Harvey Publishing Co., 1911.

TWENTY-SIXTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND. For the Year Ending Dec. 31, 1903, and Including the Report on the Registration of Births, Marriages and Deaths in 1902. Cloth. Pp. 300. Gardner T. Swarts, M.D., Secretary, 70 Waterman Street, Providence, R. I.

A MANUAL OF PHYSICAL DIAGNOSIS. By Brefney Rolph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NINETY-SEVENTH ANNUAL REPORT OF THE TRUSTEES OF THE MASSACHUSETTS GENERAL HOSPITAL. Including the General Hospital in Boston, the McLean Hospital and the Convalescent Hospital in Waverley. 1910. Paper. Pp. 294, with illustrations.

REPORTS OF THE TRUSTEES AND SUPERINTENDENT OF THE BUTLER HOSPITAL. Presented to the Corporation at its Sixty-Seventh Annual Meeting, Jan. 25, 1911, Providence, R. I. Paper. Pp. 55. G. Alder Blumer, M.D., L.R.C.P., Superintendent.

FORTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Public Document No. 34. Cloth. Pp. 917. Mark W. Richardson, M.D., 145 State House, Boston, Secretary. 1909.

THE JOHNS HOPKINS HOSPITAL REPORTS. Volume XVI. Paper. Pp. 670, with 151 illustrations. Baltimore: The Johns Hopkins Press, 1911.

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THE INTERPRETATION OF PAIN AND THE DYSESTHESIAS

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In one of Horace's Epistles, he speaks of an *ægrimonia fastidiosa,* an expression which indicates an illness characterized by certain niceties of suffering, and not by the common and every-day variety of pain.

It is to this field of what may be called fastidious, though not unreal, distress that I invite some attention now; and my excuse is, that I believe it greatly deserves and will amply repay serious study and patient attention. For the time has come for the physician to study the subjective side of his patient more carefully, and the psychology of suffering in general, so that he can learn and interpret the patient's state of mind, as thoroughly as he does that of the body.

The research into human ailments by present methods has nearly reached its limit so far as clinical study goes. It must be continued in the laboratories, and from the methods of the laboratory we may yet expect our richest finds. A field most fertile for the neurologist now is that of studying the mental make-up of his patient, his habits of thought and feeling, the quality of his reactions and the mold in which education and environment have shaped his character. Then we begin to understand what he means by his complaints. The elements of psychology, when properly taught, do not form a difficult subject, or one which medical students cannot easily master. I can heartily second the advice recently given by President Schurman of Cornell, that this branch be taught to the medical student as an obligatory part of his course. So far, it is only the psychiatrists who have seriously taken up and applied psychology to medicine; but by doing so they have given to that branch the enormous impulse which it has received during the last decade. Neurology will fall behind if it does not make use of the same instrument.

THE DOCTRINE OF PARALLELISM

Let me now apply this preaching and come to the subject in hand. Psychology has shown that all mental activities are accompanied by neural activities, and that there is such a thorough-going parallelism between the two that when the mental state is disordered the accompanying neural activity must be also disordered. As Mr. Marshall puts it, "All neurotic activity is but an emphasis of a corresponding neururgic activity."[1]

We cannot imagine for example, a hallucination (which is an abnormal mental state) to be the production or the parallel of a perfectly normal neural state, or that there can be a perfectly normal neural activity of any kind running parallel with a morbid mental activity.

We cannot, as psychologists, imagine an agonizing pain disturbing our consciousness, without supposing that there is an abnormal neural state associated with it. Thus it must be that all pains and all suffering are real things. There is no such thing, strictly speaking, as an imaginary pain; that is, a pain which has no morbid neural condition underlying it. There is, furthermore, no such thing as a purely mental disease, for all disturbances of the mind are associated with some abnormal neural change. I assert, therefore, that whenever a person believes that he is suffering, he really is suffering. There are no functional psychoses and no functional neuroses. I emphasize this point, because it is so easy and so common a thing for physicians to dismiss a certain class of patients by saying: "There is nothing the matter with you; forget it and you will be well." The view of human suffering which I take is directly the opposite of that of the late esteemed Mrs. Eddy, but I must bear the obloquy. The surgical method of treating hysteria is to say: "You are a damned fool; go and behave yourself." Sometimes this form of therapeutic procedure answers, but it is not because the statement is strictly true that it succeeds. The fact that there is a system of therapeutics, based on the view that pain or morbidly unpleasant sensations do not exist, is not a proof of its veracity, even though the theory may often answer well. Pains do disappear when the attention is directed elsewhere, and the threshold of consciousness is raised so that the disagreeable sensations are excluded; but there was all the same an abnormal condition, cured by opposing to it a mental state; just as by changing the gait, certain strains are removed and ease of walking returns.

This paper is an attempt to study pains and dysesthesias and to show what they mean and how serious they are. I shall say little about the ordinary pains due to lesions of the peripheral and spinal sensory tracts; the facts here do not need much further interpretation.

SENSORY TRACT PAINS

We have a rather different kind of pain according to the seat of the irritation in the sensory nerve-tract.

1. For example, lesions of the cutaneous terminals of sensory nerves, such as occur in diabetic neuritis and certain forms of toxic and arteriosclerotic neuritis, cause symptoms more of the nature of paresthesias, burning sensations and soreness, than of actual pain.

2. Lesions of the muscular and visceral sensory terminals cause colicky, anginal and cramping pains.

3. On the other hand, lesions of the nerve-trunks themselves, as in alcoholic or rheumatic neuritis, cause a distinct aching and throbbing kind of pain, with occa-

1. Marshall, Henry Rutgers: Consciousness, Macmillan Co., 1910.

sional shooting pain running more or less along the nerves, with the complicating feelings of heaviness, weakness and some minor paresthesias.

4. Lesions of the posterior ganglia and sensory roots cause sharp, shooting pains more particularly, together with vasomotor disturbances.

5. Lesions of the sensory tracts of the cord and brain, (aside from the thalamus) rarely cause pain; more often only numbness and other paresthesias, such as cold and hot sensations.

6. Lesions of the thalamus cause burning, smarting pains.

7. Lesions of the sensory cortex of the brain cause no pain.

Of course the character of pain depends much on the nature, intensity and duration of the stimulus, but the general facts are about as I have stated.

Now, in clinical examinations, it is usually quite easy to interpret the description of the pains complained of and to determine that they are caused by some irritation of a nerve terminal as in diabetic neuritis, or of the trunk, as in brachial neuritis, or of a posterior ganglion and root, as in tabes and tumors of the cord.

PSYCHIC AND ATTENTION PAINS

But there is another group of sensory complaints. For ten or fifteen years, it has been my custom when a patient was particularly eloquent and emphatic in the description of various painful symptoms, to write down the characteristics on a slip of paper, add to it the name, age and diagnosis and file away the semeiologic note. I have collected these multitudinous scraps of sensorial description and have tried to associate them with some definite group of nervous or mental ailments. I have not been able entirely to clear up the mystery of bizarre complaints by this plan, but I have got thus far, namely, that now when certain groups of sensory symptoms are told me, I can often infer at once that the patient has one or another form of a psychoneurosis, or has some degree of arteriosclerosis, or of toxic or neuritic irritation.

There are two tendencies among those studying the psychoneuroses just now. One is to group what we may call the minor psychoses into three or four classes; and to put our patients into Class A, B, C, or D, and then treat each as we would the similar patients of this class.

Other psychoneurologists advocate the individual treatment of patients, and deny the importance of making any very definite diagnosis. Each individual and disease-condition, they say, should be treated by himself and itself. The past history is unfolded to the last detail, the present state is analyzed and the disordered associations are then treated and educated into right channels again.

The true method lies probably in the golden mean, but my habit and practice, I confess, go more with the first group. It seems to me that there are three or four broad general lines in which chronic forms of psychoneuroses shape themselves, and that nearly all cases can, with proper caution, be merged into one or other of these groups.

There is, for example, a certain condition which is known as neurasthenia, in which the cerebral and spinal centers are weak and irritable and easily exhausted and tired. In these cases, there is sometimes no important psychic defect.

There is another group which has received the name of psychasthenia, in which there is always present some psychic defect. The dominant and important symptoms are mental, and the patient has fears and doubts, tormenting ideas, depression and panics. Belonging to this group are those persons also who are subject to hysterical crises and to the impulsions and explosions characteristic of the inebriate.

There are, again, forms of mild depression which usually in early life are not accompanied with any nervous or physical symptoms, but in later life are very closely associated with physical symptoms. These depressions are for practical purposes called the manic depressive type and involution type of melancholia.

Finally, there is a condition of constitutional inferiority in which the individual has always an undue sensitiveness to irritation.

In looking over my Pandora's box of woe, I find that a rather distinct kind of pain and dysesthesia goes more or less with each of these groups.

THE PAINS OF THE OBSESSIVES

In interpreting the tales of suffering and pains which are unfolded to us, by persons who have no grave organic disease, one has to note carefully the attitude of mind of the patient towards his own suffering. In a certain class of patients, the pains are described with enthusiasm and intensity of feeling—with, indeed, a sort of joyful emphasis—the sufferers using a most rich vocabulary of superlatives as they point out their woes. The patient, with a smile, says that she is suffering untold and infinite agony from a pain which has not left her arm or head or back for six months. Another, with a certain expression of satisfaction, says that she has had a headache for fourteen years, always very severe. Another describes in a tumultuous flow of words a succession of curious and unpleasant sensations for which we have no definite names in our clinical symptomatology.

These patients, who with a healthy look and a somewhat earnest and satisfied way describe their sufferings, always belong in general to the class of obsessives or psychasthenics. Their pains are generally pretty definite. It is always a neuralgia of the arm or a pain over the kidney or the liver, or a steady pain in the back or on the side of the head.

The symptoms are those which involve especially the epicritic nerves; in other words, they are clear-cut, severe pains, or definitely outlined and located feelings of heat, cold, or tactile dysesthesias.

The localization of these pains is usually in some spot that does not correspond with the course of a nerve or with any nerve plexus. They are in the shoulder, or a joint, or the side of the head or back. Very often they lie in or over the abdominal viscera, and include neuralgias or paresthesias of the rectum, stomach, intestines or uterus. As a rule, these pains have no doubt been originally started by some definite sensory irritation, such as an injury or a disturbance of visceral function, or a strain put on the eyes or brain. In the obsessive patients, there is usually also an undercurrent of neurasthenia, and their pains, brought on at first by exhaustion and toxic conditions, are emphasized and glorified by the psychasthenic condition.[2]

2. Psychasthenic and Neurasthenic Pains.—The following are from notes of cases: a favorite sore spot on the side of the head; a tremulous jelly-like feeling in the back; a pain in the ovary, when excited; a painful globus; a localized paresthesia over the supraclavicular and infraclavicular region, lasting several years; a dysesthesia fixed definitely in the knees, elbows and epigastrium; fixed pains in side of head, in side of chest, in arm, fingers, ovaries; pressure, soreness and heat of occiput, tightness around jaw or neck; helmet sensation, sensation of the head being a vacuum; of the body being too short or too long; sensations of nervousness, tension, apprehension, uncertainty, restlessness, inside trembling, sinking feeling, as if about to faint, or die; sensations of unsteadiness, defective equilibrium; extreme painful sensory reaction to certain sights, to noises, disorder, developing pains, nausea, faintness, vertigo, etc.

The pains of the obsessives are such as can be argued with. They will admit that they should not have these pains, that perhaps they are imaginary, though they do not really believe it; they will often try conscientiously to forget them. And by suggestion, by earnest explanation, by various therapeutic incantations or by long and patient reeducation, often excellent results are produced.

A healthy woman about 40 years of age was met one day by her son, who had returned after a long absence and who grasped and squeezed her hand with an extra degree of filial earnestness, so that he practically crushed some few peripheral nerve filaments of the hand and caused her great pain. This lasted throughout the day; the next day, instead of subsiding, it increased. The hand was bandaged and kept at rest, but the pain still continued, and after some weeks was so severe that it was determined there was a neuritis. This neuritis, it was supposed, ascended, so that in the course of the next nine months, the several nerves of the arm were cut, three different operations being done on it, all without relief, and with the result of still greater suffering. At the end of the nine months I examined the hand and found nothing objectively wrong, except what had been done by the surgeons. On my telling her to let her hand alone and go about her work, the pain in the course of a few weeks subsided, and she recovered the use of her hand.

In this case, the pains from which the woman had suffered for nearly a year were not due to any irritation of importance in the sensory tracts. The pain was central and would ordinarily be called "imaginary" or hallucinatory.

The psychology of it is not so simple. It means that there was a disorder of attention and a lowering of the threshold of consciousness; all the time there was some real neural irritation which occupied and morbidly enlarged the field of attention. It is not necessary to invoke hysteria or necessarily the subconsciousness or the memory of the painful squeeze tucked away in the optic thalamus. The term "attention-pains" offers a sufficient psychology to begin with. With these pains is usually an egotistic and anxious feeling, and these factors furnish the indications for treatment.

A patient of mine, now a man of 60, has for fifteen years been going around on crutches because he has so much pain in the knees. These knee-pains are always present slightly, but are greatly increased by walking, or by any serious vibration; so that he cannot use a motor car or carriage, and he travels, whenever it is possible, by boat. This patient is an educated and intelligent man, without any observable psychosis or stigma of hysteria, so called. The most elaborate methods of physical and clinical exploration have failed to discover anything wrong with his knees. He intelligently appreciates the explanation that his trouble is purely an idea and tries to follow the suggestion based on this line, without avail. For he gave up business and devoted his attention to his knees. Naturally he has attention-pains.

A woman aged 40, of good general health, came to me complaining of pain over the region of the liver, which she had had for nearly three years continuously. It was a kind of pain which would be associated with some disturbance of the gall-bladder. She had been examined in every possible way by the best experts, who all reached the conclusion that it was, as they termed it, "nervous." She had nothing to gain by having the pain, and seemed earnestly to try to raise herself above it. She and a devoted husband worked together daily over the pain, but it continued obstinately despite every kind of cure, until the time when I saw her. It then gradually disappeared under a course of educational therapeutics which was given to her. Her pain began from an acute local disturbance. It kept up through her attentions to it.

These examples illustrate some of the types of attention-pains which often baffle us.

The use of the word "hysterical," much used in this connection, conveys a very vague explanation to serious minds, and arouses generally indignant protest from the patients, who know perfectly well that the pains are not hysterical, or as they interpret it, "imaginary." And in fact the worst and crudest method of interpreting them is to say with finality that they are imaginary or hysterical. I will admit, however, that just as fetich-worship suits the savage, so the theory of a hysteria or the philosophy of mental science may sometimes answer for the ignorant.

NEURASTHENIC PAINS

There is such a condition as neurasthenia or nervous exhaustion, but it quite rarely exists by itself. It has certain painful symptoms connected with it which are real and due, it is to be supposed, to tired nerves, which means often persisting autotoxemia. The pains of the neurasthenics and of the constitutionally inferior are mainly headaches, occipital and frontal, and are associated with sensations of pressure and constriction or fulness and discomfort about the head. Pains along the back, such as occur in spinal irritation, are largely due to the condition of the muscle mass which supports the spine. There are also direct and reflex symptoms that come from tired hearts and stomachs and lazy intestines. These pains are described in a rational way, as a rule, and are usually recognized by the fact that they are increased by exertion, and lessened by rest.

The pains of neurasthenia, however, are apt to become associated with the attention pains, and an obsessive state sometimes develops on a neurasthenia.

DEPRESSION PAINS

The attitude of the morbidly depressed patient, who has pains, and especially of those who have that form of depression associated with anxiety, a malady allied closely to the melancholia of involution, is quite different, and the description of pains and suffering is given in more serious style. The patient says with shut jaw and serious look that he has not ceased to have pains in his knees for fifteen years; he has not slept for weeks; he has sensations of prickling, boiling, bursting, coldness and heat along the spine and knees which annoy him to a point beyond endurance. He says this with a weary, anxious look; the tears come to his eyes. His pains are more than real; they are frightening and agonizing.

No amount of reasoning has much effect on these patients, except for an hour or for the moment, for these sufferings are deep-seated and a part of their conscious life. They show you their hands, which seem to them hot or badly nourished and ask you to feel of them; they want you to examine the disturbed area and feel or see that there is something wrong in the tingling forearms, the drawing sensations about the knees, or the pulling sensations about the neck.

These are the patients who have the most curious and bizarre kinds of sensory complexes. One will tell you that he feels as though his legs were bursting, or as though his body was stuffed with pricking burrs. He has sensations about the head, not merely of pressure and constriction, but of some substance under the skin

which is twisting or jumping or crawling. He has curious visceral pains, such as "boiling in the stomach" and feelings of heat deeply seated within the trunk, or within the limbs. He has sensations of coldness as though there was a piece of ice on the back, or of heat like a band over the chest, or of prickling irritation over the shoulders or in the knees.[3]

The general character of these sensations would make one think that in the dysesthesias of melancholia, the protopathic nerves are especially affected, while in psychasthenic pains, it seems to be more the epicritic nerves—sensations of a finer quality and more definite character.

When the patient comes to the physician's office, and begins to say that he has hot and annoying sensations in the knees and burning irritation along the back, disagreeable and rather indefinite disturbances of sensation about the hands and feet; when he begins to show you his limbs and point out the places where he suffers, one can infer at once that he is dealing with a person who has a hypochondriacal depression.[4]

By carefully recording the descriptions of symptoms given by patients, one can after a few interviews construct a sensory syndrome. If this is once done and attached to the history, it saves much trouble, time and repetition. Besides, when the patient knows you have all his troubles typewritten, he ceases to talk so much about them, and it does him good, for he knows that he has had a complete mental catharsis.

If one were to interpret these sensations psychologically according to the scheme which is presented below, I should say that in the psychasthenic pains there has ceased to be any peripheral irritation. The neuritis is gone; the nerve injury is healed, and the only neural disturbance is a morbid change in some primary sensory center, like the optic thalamus, where sensory impressions are first received and distributed. In other words, there is slight or no disorder of the sensory nerves, but there is some disassociation and disorganization in the work of the higher sensory mechanism. But beyond this there has occurred disorder of attention; the patient's mind has become so fixed on this slight neural change that the threshold of consciousness is greatly lowered; and even slight neural disturbance keeps up an agonizing suffering. I would still insist that there is a neural change, and that the pains are not imaginary, but the neural disturbance is always a minimum, while the focusing of attention on it is at a very morbid height. This may be shown in the diagram (Fig. 1 at A). It means, of course, that in these cases the therapeutic attempt should be directed toward turning away the field of thought to other channels and reestablishing the proper associations.

On the other hand, in the pains and dysesthesias that go with the anxious depressions, there is probably present a real morbid condition affecting perhaps especially the protopathic nerves. These usually do not arouse sensations in consciousness, but through conditions of autotoxemia, arteriosclerosis and the rheumatic and bad metabolic conditions, that usually accompany the period of involution, these nerves are irritated.

In addition to this the mind of the patient is depressed by his psychosis and made more sensitive and attentive to the inflow of sensory impulses. There is then both an increase in the stimulus and a lowering of the threshold of consciousness. These pains of the anxious depressives have a certain physical basis in the badly nourished and irritable nerves, and the alertness of self-attention which exists in anxious minds.

So we find that, in these cases, there is not much to be accomplished by attempting to divert the attention of the patients by therapeutic talks. They are relieved most by measures which improve the bodily condition—by rest, diet, fresh air and eliminatives.[5]

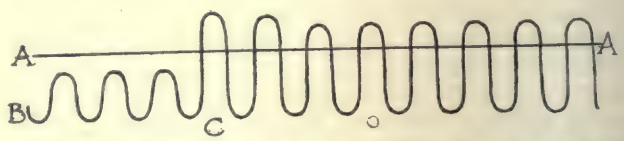


Fig. 1.—Diagram illustrating the conditions when a painful stimulus continues causing constant real pain. A, threshold of consciousness; B, waves of sensory stimuli; C, waves of abnormal and painful stimuli rising into consciousness.

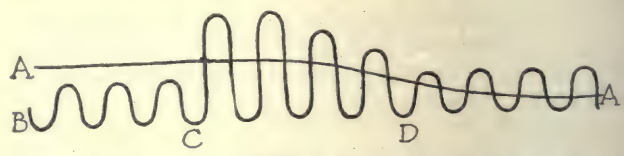


Fig. 2.—Diagram illustrating habit or attention pains. A, threshold of consciousness; B, waves of normal sensory stimuli; C, waves of abnormal sensory stimuli from trauma, inflammation, etc. At D the sensory stimuli have dropped to normal, but the threshold of consciousness has been lowered so that ordinary stimuli are felt as painful.

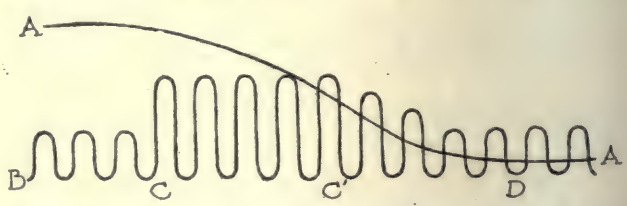


Fig. 3.—Diagram illustrating post-traumatic pains. A, B, and C, as in other diagrams. At C^1 the painful stimuli begin to cease, but the attention keeps the threshold of consciousness abnormally low and pain continues to be felt.

THE PSYCHOLOGY OF FUNCTIONAL PAINS

The accompanying diagrams and parts of the description have been prepared for me through the courtesy of Mr. Marshall.

The word "consciousness" is used in two ways: First, as an equivalent of *psychic existence as such,* as when we question whether the plants have consciousness, or say that stones have no consciousness; second, as the equivalent of *awareness,* which is a narrow phase of

3. Depression Pains.—The following are actual descriptions given by different patients: feeling as if a piece of ice was between the shoulders with paresthesia and stiffness of neck; cold sensation in small of back as if it had shrunk up; burning pain on top of head; burning pain in the back; sensations of coldness of certain parts of the body; sense of heat and fever over chest and neck and head; sensations of burning, smarting like bee-stings over head, arms and back; sensations of body being filled and stuffed with pricking burrs; a feeling as if fine needles were sticking out of the scalp, or as if something were working and wriggling under the scalp; a feeling as if a ton-weight were pressing on the top of the head; hot hands and feet; dysesthesias of legs, arms and epigastrium; pricking over sides of chest and top of head, which becomes actual pain when worried.

4. The custom of internists is to ascribe them to arteriosclerosis, a custom not founded on sound data.

5. There has been a great deal said and written about the pains and dysesthesias of arteriosclerosis and of the gouty and arthritic states. Many symptoms, such as cold sensations, heat sensations, numbness and paresthesias of the hands and feet, are due in part at least to those causes. The burning feet and hand in diabetes and peripheral neuritis must be recognized, the dysesthesias (very rare) in central lesions, must be considered. But in these there is lacking the peculiar mental state. As for arterial sclerosis, one sees it repeatedly in the most intense degrees without the patient complaining of those sensory syndromes which go with neurasthenic, obsessive and depression states; hence, I do not accept the explanation commonly given of arteriosclerosis as a cause of the many pains and dysesthesias complained of by people who really have such vascular condition; the psychic factor is the important and real one.

psychic existence as such. Thus, when one forgets, one is likely to say that he is not conscious that he did so and so.

The term "threshold of consciousness" is in common use. It indicates that there is a something below this so-called threshold. What we really mean is that we have a threshold of awareness within our psychic existence. All that is within the consciousness of any moment and that is below the threshold of awareness is part of what Marshall calls subattentive consciousness, and is what is generally called the subconscious. There are many different thresholds of awareness, and these thresholds shift sometimes suddenly. Such a shifting takes place when we wake up. If we represent the threshold of consciousness in any moment by an approximately straight line, then we may represent special mental items by waves as in Figure 1; the rise of each wave above the level of the threshold indicating the degree of its emphasis.

We suppose now, in Figure 2, the normal waves of stimuli are abnormally increased at C by some injury or inflammation. The waves of stimuli pass up above the threshold of consciousness and pain is felt. After a time the injury is healed and only normal sensory stimuli are propagated, but, the attention of the patient being directed to these stimuli, the threshold of consciousness is lowered and the pain is still felt. We have now the psychic, or attention or habit pains.

Figure 3 illustrates a somewhat similar condition. In the heat of battle or excitement of accident, the threshold of consciousness is greatly raised, *quoad* the sensory stimuli from an injured part. No pain is felt until later, when quieter and more normal conditions are brought about. Then at C^1 the real pains begin to be felt. They excite the attention of the patient and the threshold of consciousness is lowered at D and pains continue to be felt even when the injured part is healed. These are the pains of the traumatic psychoses.

SUMMARY

A more careful study should be made of the psychology of patients who complain of chronic pains and dysesthesias not due to objective causes. The study of elementary psychology in the medical schools should be obligatory. Clinical neurology will not make much further progress without psychology.

I have collected and analyzed the symptoms of pains and dysesthesias not directly due to organic disease, and have here tried to group them according to the neurosis or psychosis.

1. I find a certain kind of pains characteristic of simple neurasthenia.

2. Also pains, etc., of psychasthenia and the obsessives are peculiar to that psychosis. These perhaps involve especially the epicritic nerves. The mental attitude and reactions of the patient have to be considered. The pains of the traumatic psychoses mostly belong in this class.

3. The pains of the anxious and involutional depressions are especially numerous, bizarre and characteristic. They form for each patient a sensory-complex, and they seem especially to involve the protopathic nerves.

I interpret the symptoms of pains, etc., in terms of the psychology of Marshall. These are not imaginary pains, because there is a thoroughgoing parallelism between mind and body and there can be no morbid mental change without a corresponding neural change. Psychic pains are called "attention-pains," and the overemphasis in activity of minor psychic symptoms is invoked to explain their existence. There is not yet any simple test by which we can tell surely when a pain is not a real, but an attention or habit pain. A thorough study of the psyche and soma of each patient and a knowledge of the characteristic pains in the various groups will clear up most cases.

53 West Fifty-Third Street.

MIGRATION BY AMEBOID MOVEMENT OF SARCOMA CELLS GROWING IN VITRO

AND ITS BEARING ON THE PROBLEM OF THE SPREAD OF MALIGNANT GROWTHS IN THE BODY*

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It is the object of this note to describe certain ameboid phenomena observed in the cells of rat and mouse sarcomas when cultivated *in vitro*, and to suggest that these phenomena probably play an important part in the infiltrative and metastatic growth of tumors.

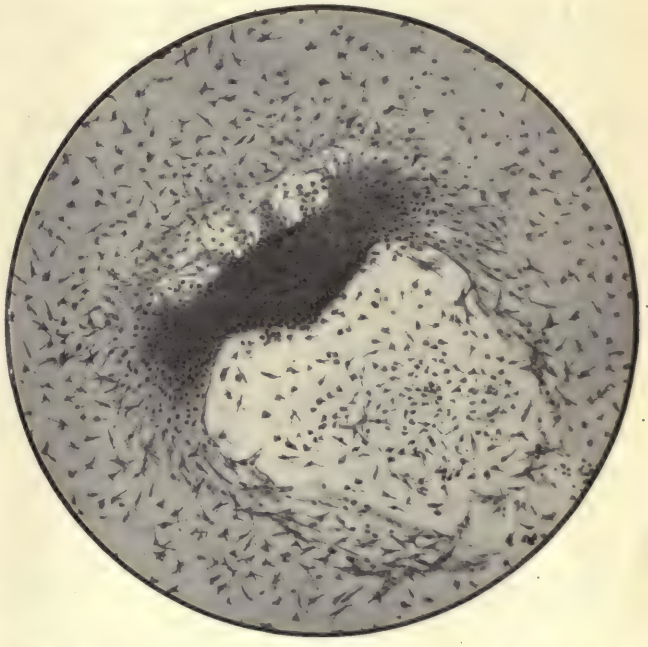


Fig. 1.—The edges of the sarcomatous tissue are beset with long, projecting sarcoma cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines.

We have employed in this study Burrows'[1] modification of Harrison's[2] technic, as applied by us[3] to rats and mice.

Since rat and mouse sarcomas do not differ essentially from one another in their behavior when cultivated *in vitro*, we shall confine our description, for the sake of clearness, to the various changes observed in the cells of a mouse sarcoma growing in mouse plasma. The edges

* From the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York City (the George Crocker Special Research Fund).

1. Burrows, M. T.: The Cultivation of the Tissues of the Chick-Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2057.

2. Harrison, R. G.: The Outgrowth of the Nerve Fiber as a Mode of Protoplasmic Movement, Jour. Exper. Zool., 1910, ix, 787.

3. Lambert and Hanes: Growth in Vitro of the Transplantable Sarcomas of Rats and Mice, THE JOURNAL A. M. A., Jan. 7, 1911, p. 33.

of a freshly implanted piece of tissue, examined under the microscope, are sharply defined and free from projecting cells. The tissue itself looks compact and homogeneous. Twelve hours later the edges of the tissue are beset with long, projecting cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines (Fig. 1). The original piece of tissue is no longer uniformly dense and compact, but has become thinner and more translucent. The number of cells in the surrounding plasma increases now, from hour to hour, largely at the expense of the original tissue, which gradually grows thinner, until at from thirty-six to forty-eight hours, its volume has decreased to one-half or one-third its initial size. Indeed, the original mass of tissue may become resolved completely into its component cells, which pass into the plasma. Mitoses are seen, both in the original piece of tissue, and in the cells which have migrated from it.

The exact mechanism of this migration of sarcoma cells is observable with ease under the higher powers of the microscope. They pass from the tissue to the plasma



Fig. 2.—The sarcoma cells migrate from the tissue to the plasma by ameboid movement. Pseudopods are thrown out on all sides in characteristic fashion.

by ameboid movement. Pseudopods are thrown out on all sides, and these increase or decrease in size in characteristic ameboid fashion (Fig. 2). The ameba itself scarcely furnishes more exquisite figures than do sarcoma cells. There is one difference however; the movements of amebas are much more rapid and active. This may be due to the rather firm consistency of the coagulated plasma in which the sarcoma cells are living. Fat granules appear very early, and it is quite interesting to watch them stream into a newly formed pseudopod. One is reminded forcefully of the movements of erythrocytes and other inclusions in the cytoplasm of the *Entamœba histolytica*. If a specimen showing active ameboid movements of the cells is removed from the warm chamber, and examined under a microscope at room temperature, the majority of the cells retract their pseudopods and become spherical.

The phenomenon of ameboid migration of sarcoma cells growing *in vitro*, seems to us readily applicable to the explanation of the spread of malignant growths in the tissues of the body. Carl Lewin[4] has urged, on theoretical grounds, the necessity of such a conception. A critical discussion of the subject of tumor metastasis cannot be attempted at this time, but we should like to point out that the conception of ameboid migration of tumor cells explains most reasonably the invasion of tissues, lymph-spaces, and lymph-vessels and blood-vessels by malignant growths. It is especially helpful as an explanation of the dissemination and localization of cancer in serous cavities.

437 West Fifty-Ninth Street.

DUODENOJEJUNOSTOMY

FOR THE CURE OF POSTOPERATIVE REGURGITANT VOMITING OF BILE AND PANCREATIC JUICES, FOLLOWING GASTRO-ENTEROSTOMY

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NORFOLK, VA.

Necessity is the mother of invention, and it was necessity that forced me to "dig up," so to speak, the ascending or terminal portion of the duodenum and "buttonhole" it to the distal portion of the jejunum in the case of a patient operated on six weeks previously for ulcer of the stomach, in which a posterior, no-loop gastro-enterostomy had been performed. The operation, though it relieved the original symptoms entirely, yet by some spur or kink occurring at the anastomosis, caused, about every second day—sometimes oftener—a profuse vomiting of biliary and pancreatic fluids. This vomited material rarely contained any food; and, although great quantities of fluid would be vomited at one time (at least a quart sometimes), it did not accumulate in the stomach, as lavage just before vomiting commenced would often fail to bring any of it away—the water returning clear—when, in less than an hour, bright yellow bile with no food particles would be vomited.

The operation which I performed for the relief of this regurgitant vomiting is not necessarily tedious or long. I believe that it will be performed more frequently in the future, primarily perhaps through election, to prevent the possibility of regurgitant bile-vomiting, and secondarily—as was my case—through necessity. The operation consisted of anastomosing the ascending or terminal portion of the duodenum—just as it turns upward—to the jejunum, for the drainage of bile and pancreatic fluid. The operation is best described by citing the case:

History.—Mrs. S., aged 28, white, married several years, having no children, formerly a seamstress, came to me July 5, 1909, with the following symptoms: pain in epigastric region; periodic vomiting some hours after eating; emaciation; history of vomiting for fourteen years; blood said to have been vomited years ago; none in recent years. The patient was having a temperature every day from 99 to 100.5 F., she had irregular chills, and vomited a great deal. She improved somewhat on stomach lavage, diet, and drugs, but after three weeks' trial, consented to an operation. Lavage was kept up until the operation was performed, July 30. I did the no-loop operation of posterior gastro-enterostomy, as described by Moynihan, the ulcer being at the pyloric end of the stomach. The patient recovered very rapidly and left the hospital in less than two weeks, vomiting in this time only once or twice. She very soon, however (in a week or two), began to vomit great quantities of clear bile. The patient would vomit a

4. Lewin, Carl: Die bösartigen Geschwülste, 1909, Leipsic.

great deal, and then have a period of rest for a day or two, especially if given a purgative. She never vomited food; had a most excellent appetite, and would become ravenously hungry just after vomiting the bile. I began to irrigate the stomach again every morning before breakfast, but seeing no benefit after ten days' trial, I finally suggested another operation which the patient, after a few days more of vomiting, urged me to perform at once. This was done October 9, sixty-nine days after the first operation.

Operation.—I went in to relieve the vicious circle, and intending undoing my work on the stomach, if I could not see any other way to do it. Adhesions were so dense around the site of my first operation that it would have been very difficult to undo the work. The engorgement of the bile and other fluids in the duodenum, however, made it stand out very prominently, so I at once decided to work up this ascending portion of it, and make a lateral anastomosis with the descending or distal portion of the jejunum, about 2 or 3 inches below my first operation. I used a Roosevelt clamp and had no great difficulty in doing the anastomosis. Barring a rather protracted period of nausea and retching following the operation,



Duodenojejunostomy after a gastro-enterostomy, the ascending portion of the duodenum being joined by a lateral anastomosis with the jejunum 2 to 3 inches distant from the gastrojejunostomy.

or rather, the anesthetic, which she took poorly, the patient made a rapid recovery. She has never vomited any bile since, and fourteen months after the operation was in most excellent health, having fattened about 35 pounds.

The points to commend the operation are these: The possibility of draining the duodenum directly into the jejunum—a safety-valve, so to speak, in the operation of the gastro-enterostomy—which can be done either at the time of the gastro-enterostomy operation, or later if it becomes a necessity. Either a suture, side-to-side anastomosis may be performed—as was done by me—or a Murphy button may be used. I prefer the former, however. I have performed posterior gastro-enterostomy since, but did the operation as described by W. J. Mayo, and, having no subsequent vomiting I have had no opportunity of performing again the operation described above. I have since twice operated on the cadaver, however, and had no difficulty in pulling a loop of duodenum through the peritoneum covering it, and anastomosing it to the jejunum.

Vomiting of bile from any cause can be safely and comparatively easily corrected without having to undo the work on the stomach—when it has been performed—which work may, indeed, be serving a good purpose. The operation is more difficult than a simple gastro-enterostomy, yet it is not a desperate operation and should not take any longer than gastro-enterostomy. It is an operation that will not be performed very often, as the necessity for it is rare, and indeed will become more so; but it can be done; and with marked benefit to the patient. I know of one or two patients now walking around the country on whom gastro-enterostomy has been performed, and who suffer so much from vomiting or other causes, that it would be well for them if they had a little safety-valve to let that bile directly through from the duodenum into the jejunum.

I hope it will be my pleasure some day to hear that some one else has tried the operation with the same happy result.

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THE DIAGNOSIS OF MAMMARY TUMORS

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PHILADELPHIA

Twenty years ago I felt sure that a differential diagnosis between benign and malignant tumors of the mammary gland could be made with reasonable certainty. An increasing experience has taught me year by year the fallacy of this opinion, which, I may say, was at the time quite orthodox. Then benign growths were considered to comprise less than 10 per cent. of all mammary neoplasms. We now know that this estimate of Gross and others was far too small, just as we also appreciate that their estimate of sarcomas was much too large. To-day we increase the number of benign growths measurably and restrict the number of sarcomas greatly. Gross estimated that non-carcinomatous growths comprised 18.27 per cent. of mammary neoplasms, and that they were about equally divided between benign growths and sarcomas—9.52 per cent. of the former and 8.75 per cent. of the latter.[1]

I have carefully analyzed the statistics of 5,000 cases of mammary tumors, taking them largely from German clinics where accuracy was likely to obtain, and as a result have found that 16.5 per cent. were benign and that 2.7 per cent. were sarcomas. Thus we find 19.2 per cent.—slightly more than Gross found—non-carcinomatous, but, unlike him, find that sarcomas comprise only a very small part of such lesions and may, indeed, be considered as rare in this situation.[2]

Bloodgood,[3] in an analysis of 694 mammary neoplasms in the Johns Hopkins Hospital, encountered 14 sarcomas, or exactly 1.5 per cent, a still smaller proportion than we found.

It is of the greatest importance to settle this question before taking up the differential diagnosis, as it is my belief that the comparative rarity of sarcoma in the breast is not generally appreciated. Its infrequency in

1. Gross, S. W.: Tumors of Mammary Gland, 1880, Appleton & Co.
2. Rodman: Diseases of the Mammary Gland, 1908, P. Blakiston's Son & Co.
3. Kelly and Noble: Gynecology and Abdominal Surgery, 1908, ii.

this organ is in marked contrast to its frequent occurrence in many others. At the same time it is now appreciated more than ever before that many of the benign tumors tend markedly, in time, to undergo malignant transformation; and so much so is this the case with some of them, notably the papillary cystadenomas, that they should be looked on from the very beginning as potentially malignant.



Fig. 5.—Photograph of patient shown in Fig. 2. Left nipple shows marked retraction, in association with abnormal involution.



Fig. 7.—Side view of growth shown in Fig. 6.

ABNORMAL INVOLUTION

Another condition of the greatest importance and frequency has been given much attention during recent years, and its careful study has shown that it manifests a decided tendency to result in carcinoma. I refer to abnormal involution, or, what is perhaps a better term, fibrous and glandular hyperplasia with retention cysts (Whitney), or senile parenchymatous hypertrophy (Bloodgood). It has also been called Schimmelbusch's disease, the disease of Reclus, general cystic disease of the breast, etc. Warren, in a careful analysis of his series, found resulting or coincident carcinoma in 13 per cent. of his cases; Greenough and Hartwell in 10 per cent. of theirs; other authors have made a much higher estimate, some as high as 50 per cent.. This condition is most likely to be encountered between 40 and 50 years of age, though it often occurs much earlier and not infrequently later. Thrice within a year I have encountered it resulting in malignancy in women aged 36, 38 and 41 years. All the patients were unmarried. It is far more



Fig. 6.—Growth clinically diagnosed as a sarcoma in a woman 47 years old. Pathologically diagnosed as either a myxoma which has undergone sarcomatous change, or benign growth.



Fig. 8.—Periductal fibroma (fibroadenoma), the largest the author has encountered. In size and shape it resembled a goose egg. Photograph showing tumor after removal shown on page 112 of the author's work on Diseases of the Breast.

likely to occur in maiden women, married women who are sterile or in mothers who have not suckled their children. All parts of the breast may be involved, but in my experience, if the condition is limited, as it sometimes is, to a single quadrant, it is most likely to be the lower and outer one. Occurring usually at the cancer age, having clinically many of the signs of malignant dis



Fig. 1.—Acute cancer in a patient 45 years of age. The color of the skin is accurately portrayed in the drawing, also the indentations resembling the skin of an orange.



Fig. 2.—Typical retraction of the nipple, also a watery discharge therefrom, in a patient 58 years of age with abnormal involution. The discharge at times is sanguinolent.



Fig. 3.—Cross-section of breast after removal. No evidence of malignancy. Typical abnormal involution.



Fig. 4.—Cross-section of sarcoma of the breast which in places has undergone marked cystic degeneration. The case is interesting from the fact that it has been considered by some excellent microscopists as showing carcinomatous spots also.

ease, its recognition becomes a matter of the first importance. More than any other condition will it, in my judgment, occasion embarrassment to the diagnostician and perplexity to the surgeon even at the time of operation. Usually its nature will be revealed after incision and macroscopic examination, particularly if it has advanced to what Bloodgood has described as the adenocystic stage, or where there are numerous small, almost microscopic cysts. But in the first or hyperplastic stage nothing short of the microscope will positively reveal its nature. I shall subsequently refer to it more at length.

I would again emphasize the danger of coincident or resulting carcinoma, and that it is too great to be assumed until every safeguard has been taken. In the cases at the Hopkins Hospital associated with carcinoma, fourteen in number, all were, according to Bloodgood,[3] of the adenocystic type. This is most suggestive and should influence materially the treatment.

The several forms of mastitis, pyogenic and non-pyogenic, will not infrequently embarrass even the most careful and expert diagnostician. So great a surgeon as von Langenbeck amputated the entire breasts in at least two patients without suspecting that he was dealing with a simple inflammatory lesion (Keen[4]). All have encountered instances of mastitis in nursing mothers which for a time at least were puzzling, particularly when occurring during the first three or four months of lactation.

ACUTE CARCINOMA

I would here call attention to acute carcinoma of the mammary gland, which so closely simulates inflammation that Volkmann has described it under the name of carcinomatous mastitis. It usually begins as a diffuse rather than a discrete process, in this respect differing from the ordinary forms of carcinoma. Not infrequently has it been associated with pregnancy. Whether such be the case or not, it runs a remarkably rapid course, oftentimes destroying life within six months. The entire gland is enlarged, hard, tender, and the skin covering may be red and edematous. The symptoms of cachexia manifest themselves early and general metastases occur quickly.

I have encountered four well-marked instances of this affection during the past eighteen months. Three of them began as diffuse processes and had been treated with local applications with the belief that they were abscesses. One of them was actually incised. One of these occurred in a woman 45 years of age who had not been pregnant for twenty years. She was treated for several weeks in the out-patient department of the Pennsylvania Hospital, where, I assume from her statement to me and the nature of the local treatment employed, that a diagnosis of mastitis had been made. When I saw her later a diagnosis of acute carcinoma was evident. The breast was at least one-half larger than its fellow, the skin covering red, edematous and tender. The glands of the axilla were extensively involved and there were numerous shot-like bodies in the skin between the nipple and axilla. A complete operation was at once performed, but more with the hope of giving temporary relief to the intense pain from which the patient was suffering than with any expectation of a permanent cure. She lived more than six months after operation, dying from metastases to the lungs, liver and opposite breast.

The second case I saw at the clinic of Dr. W. L. Estes, at South Bethlehem, in a stout woman about 45 years of age. The appearance of the breast was almost identical with that in the case just described. It was explored under the belief that it was inflammatory, but the exploration was at once followed by a complete operation. I have no records of this case, as it occurred in the practice of another surgeon.

The third case I saw November, 1909, in a woman aged 35. She noticed, four months previously, when she was one month pregnant, a small lump in the upper and outer quadrant of her left breast. At the time when she first consulted me she was five months pregnant and the disease had advanced so rapidly that the entire breast was enlarged, tender and involved throughout. If her statement that it began and for three months remained as a small lump in the upper and outer quadrant of the breast can be relied on (and I am not disposed to question it, inasmuch as the breast was harder and more involved at this point) it indicates that the disease sometimes begins as a discrete process. S. W. Gross reported a similar case.[1] There were several shot-like bodies in the skin over the outer hemisphere of the affected breast.

I explained to her husband, a dentist with medical training, that the outlook was a gloomy one, and that the operation promised little further than temporary relief from her pain, which was marked, and improvement in her mental condition. She was greatly distressed in mind, worrying constantly about her condition. Her husband insisted on an operation, which was performed in the Presbyterian Hospital. She experienced entire relief, mental and physical, for nearly two months.

Later I was called in consultation by Dr. W. R. Nicholson, who had been engaged for her accouchement. She was then suffering great abdominal pain due to the conjoint pressure occasioned by a very much enlarged liver and a uterus seven months pregnant. He believed, and I concurred in his opinion, that a premature delivery would soon be necessary. This was brought on a fortnight later, the patient dying about two months subsequently.

On May 17, 1910, I operated in another and most typical case of acute cancer, which had been seen and referred to me by Drs. Darnell and Stewart of Atlantic City. The patient was 45 years of age, married, with one child 24 years old. She had not been pregnant since, but had had an abscess of this breast after her child was born. Attention was not attracted to the breast until three weeks prior to operation, when it was seen to be enlarged somewhat and the site of dull pain and throbbing at night. At the time of operation the integument was distinctly reddened and presented the most characteristic orange-skin appearance that I have ever seen. It is quite well portrayed in the colored drawing herewith shown (Fig. 1).

Of the four cases of acute cancer that I have encountered in the past eighteen months only one was associated with pregnancy. In all of the others the patients were about 45 years of age and none of them had been pregnant for many years.

I have partial records of other cases of acute cancer seen and reported by Prof. Edward P. Davis and others. I am sure that the condition is more common than has been hitherto thought, and that it is perhaps as frequent in non-pregnant as it is in pregnant women.

DIFFERENTIATION OF CYSTS

Difficult as it is to diagnosticate the several conditions already mentioned, it is more difficult to differentiate between benign and malignant cysts, with or without a

4. Keen: Amputation of the Female Breast, Cleveland Med. Gaz. December, 1894.

discharge from the nipple. The character of the discharge, when present, is by no means the aid to diagnosis that I formerly thought and that some others still think it to be. A scanty, thin, sanguinolent discharge is certainly suggestive of carcinoma, whereas a mucoid one is evidence of a benign growth. Thick, granular contents always suggest malignancy. A discharge of blood or markedly bloody fluid strongly suggests an intracystic papilloma. The latter condition, though originally benign, shows a marked tendency to undergo malignant change. Unless a discharge of blood can be clearly shown to have resulted from an intracystic papilloma the malignancy of the cyst should be assumed and the entire breast removed. A more or less blood-stained fluid, however, is now and then found discharging from the nipple in association with abnormal involution.

I have encountered several cases of this nature, one that of a colored woman, aged 39, kindly sent in to my service at the Presbyterian Hospital by Dr. Edward B. Hodge on December 1, 1909. She was married, had borne five children, the youngest being 11 years of age. There had for two years been a watery discharge from the left nipple, which in time became yellow and afterward noticeably bloody. The breast was explored by the plastic resection method of Warren. A rather large cyst was found behind the nipple. In addition there were numerous shot-like cysts throughout the gland, which caused me, in spite of the frozen section report, which indicated the part examined to have been benign, to sacrifice the entire breast. It was a typical case of abnormal involution. Had there been only the single cyst behind the nipple I should not have resorted to such drastic treatment, but the associated minute cysts scattered throughout the breast caused me to feel that the patient's safety demanded removal of the entire breast.

I recently encountered in a widow, aged 58, a typical case of abnormal involution with a discharge from and *marked retraction of the nipple*. The discharge, which began seven or eight years ago, was first watery, later on becoming yellowish, and for the last year has been at times bloody. The retraction of the nipple has, so she states, been evident for two years, but during the last six months has been marked. Notwithstanding the discharge and retraction of the nipple, a clinical diagnosis of abnormal involution with cysts was made and complete removal of the breast advised. It was practiced on April 21. The condition before operation is well shown by Figure 2. The macroscopic appearance of the removed breast is also shown in the colored drawing (Fig. 3).

The microscopic report confirms the clinical diagnosis, showing no malignant change whatsoever. The case is interesting on account of the discharge from and marked retraction of the nipple in association with abnormal involution.

It is of the utmost importance to recognize cancerous cysts before or at the time of operation, for if such is not the case the prognosis is extremely bad. Both Halsted[5] and Bloodgood[3] positively state that not a single permanent cure has resulted from operations performed in the Johns Hopkins Hospital when the cancerous nature of the cyst was overlooked at the time of the first operation. Even though soon afterward a second and complete operation was done, the ultimate result was invariably bad.

I made such a mistake in September, 1906, when operating on a patient with a very large cyst situated in the lower and outer quadrant of each breast. Each cyst was as large as a tangerine orange and contained several ounces of a thin, brownish fluid. My pathologist was not present prepared to make frozen sections, having misunderstood the time of our engagement. The character of the fluid aroused my suspicions and almost all of each breast was removed. The muscles, however, were not disturbed, nor were the axillæ cleared. I confess that I was somewhat surprised to receive Prof. Joseph MacFarland's report, ten days after operation, stating positively that each growth was a medullary carcinoma. Feeling it my duty to suggest a second and more thorough operation, I candidly explained the facts to the patient, admitted my mistake and requested the privilege of doing a second operation. This was declined. I am happy to state that the patient when examined for me by her physician, Dr. John B. Cassidy, of Burlington, N. J., was reported as perfectly well generally and free from recurrence locally. It is nearly four years since the operation.

5. Halsted: Tr. Am. Surg. Assn., 1907.

RETRACTION OF NIPPLE

Retraction of the nipple is most significant, but not, as often stated by some high in authority, *pathognomonic* of carcinoma. In the first place it will be encountered in only 52 per cent. of undoubted cancers—those which are situated behind or sufficiently near the nipple to compress and pull on its trabeculæ; in the second place, retraction sometimes is present, in more or less degree, in perfectly benign conditions—as, for instance, congenitally depressed nipples; in patients who have had mastitis, with or without abscess; those with marked hyperplasia of the connective tissue in connection with abnormal involution; and in some who have benign tumors. Gross found the nipple retracted in 5.22 per cent. of non-carcinomatous growths. It is, however, in the latter, and indeed in all non-carcinomatous conditions, more or less mobile and rarely if ever infiltrated. In malignant conditions it is both immobile and infiltrated.

FIBROMA AND MYXOMA

It is manifestly impossible for a paper of this character to describe accurately each mammary growth. I shall only refer to the most common benign neoplasms, the adenofibroma or periductal fibroma and the periductal myxoma.

The periductal fibroma is either solitary or multiple, more often the former, and is not infrequently found affecting both breasts at the same time. It is situated indifferently in all parts of the breast. If it is more obnoxious to any portion of the gland it would seem to be the upper hemisphere. It is freely movable, encapsulated, occasionally lobulated, and now and then is the site of moderate discomfort, if not actual pain. In a few instances I have seen rather marked pain associated with very small fibromas. It is said to follow trauma in from 10 per cent. to 25 per cent. of cases.

Periductal myxoma is also common in women under 30, but occurs more frequently than does fibroma in older women. It also attains a greater volume, is of more rapid growth and is less apt to be accompanied by pain than fibroma. It is somewhat elastic to the touch, is always lobulated and is more frequently multiple than fibroma.

I have recently operated on a woman 47 years of age for such a growth, which was the largest tumor of this character that I have ever seen. It was of two years' duration. Its growth had been rapid during the past six

months, and was accompanied with some pain. The appearance of the breast was so suggestive of malignancy that it was pronounced inoperable carcinoma by a prominent surgeon of this city; hence, he declined to operate. Figures 6 and 7 show the appearance of the breast before operation. This case shows the fallacy of depending on the age of the patient as a guide to diagnosis. The patient's age, and the duration and size of the neoplasm with the discolored skin, certainly indicated the growth to be probably malignant. The absence of enlarged axillary and supraclavicular glands led me to operate. I had made a clinical diagnosis of sarcoma. The pathologists differ as to its microscopic appearance, one maintaining that it is a myxoma which has undergone sarcomatous change, the other denying that there is evidence of malignancy.

DIAGNOSIS

Enough, it seems to me, has been said concerning the several varieties of cysts. Suffice it to say that in the majority of instances they cannot be accurately diagnosticated clinically and their true nature will be revealed on exploration and macroscopic inspection or by means of only frozen sections.

The most reliable evidence of incipient cancer will be furnished by an examination of the entire breast after comparing it with its fellow. If there is atrophy of the superficial fascia over a mass, however small, and if in addition there is dimpling of the skin, however slight, over it, a diagnosis of cancer is reasonably certain, provided one can eliminate a previous mastitis. To detect this atrophy of the superjacent fat, and especially the dimpling or puckering of the skin, over a mass which may or may not be distinctly felt, is not easy if only a cursory examination be made. It is particularly difficult in small, deep-seated retromammary growths. In such circumstances pulling the breast forward with both hands will often exaggerate and make evident dimpling of the skin, and also perhaps retraction of the nipple, when such signs had not hitherto been elicited. A better test in my judgment is to move the breast freely, making it take the widest possible excursion, when the attached skin above is certain to be pulled on and to show noticeable dimpling if there has been any shortening whatsoever of its trabeculæ. In tumors situated superficially, the corrugated or orange-like skin may be either apparent or made so by pinching the skin between the thumb and fingers. Palpation is of the very greatest value. A benign growth feels more or less soft, smooth, circumscribed, encapsulated, and movable; carcinoma is hard, irregular, non-encapsulated, infiltrating, and immovable. Not infrequently are carcinomas movable for a time, but in my experience this is exceptional. Recently I saw, in consultation with Dr. L. W Steinbach and Dr. David Reisman, an unmarried woman, upward of 40, with a small, movable tumor, situated in the inferior and inner quadrant of the gland. It was extremely low down, growing from the periphery of the breast. Its nature was evident macroscopically, and the microscope showed it to be a typical scirrhous carcinoma. Sometimes, a better impression as to the nature of the growth will be furnished by palpating with the flat hand, pressing the breast firmly against the costal wall, rather than by using the fingers alone.

In conclusion, I wish to state positively my conviction that no one, however skilled, experienced, or careful he may be in his examination or in eliciting the history of the case, can safely determine the nature of a lesion before operation in more than 75 per cent. of his cases. In the remaining 25 per cent. *at least* either diagnostic incision or the use of frozen sections will be necessary. There is no doubt but that one of experience in such lesions will, as a general rule, be able to recognize them macroscopically, and it is very much better to do so, when possible, as it does away with the necessity of having present an experienced pathologist with his necessary apparatus. I maintain, however, that it will be only the very experienced surgeon, and moreover, one who has had considerable laboratory experience, who will be able to recognize benign and malignant growths with sufficient accuracy to warrant him in employing or withholding radical operation. It can usually be done in solid growths, but cannot be done with cysts, and the difficulty is greater in abnormal involution.

Macroscopically, periductal fibroma presents a distinct fibrous capsule. The tumor is rather hard and on section the surface is pinkish-white in color, especially in young tumors. In those which have remained in the breast for some years, the color is more apt to be white. The knife meets more resistance in cutting these growths than in sectioning normal breast tissue. There is occasionally slight lobulation. The cut surface is convex. These tumors rarely attain large size, though I have removed one as large as an orange from the upper and outer quadrant in a woman four months pregnant. The method of Warren was followed. Subsequently the child nursed this breast. The patient called to see me recently, four years after operation, to report herself as well and to thank me for sparing her breast.

Figure 8 represents very well the appearance of the breast before operation.[6]

A periductal myxoma also presents a fibrous capsule. To the palpating finger there is a more or less characteristic elasticity. The growth sections easily and the cut surface is distinctly lobulated. The glistening myxomatous lobule projects beyond the ring-like depressions of the firmer connective tissue.

The gross pathology of abnormal involution depends on the stage of the process. The early changes are those of hyperplasia. The affected breast is probably slightly larger than its fellow. It is firmer, but not usually uniform in this firmness. When cut, the breast is found to contain an excess of connective tissue, although the parenchyma is also increased. There will nearly always be minute cysts found here and there, no matter how early the process is discovered. Later on, these tiny cysts dilate, and then the cystic stage may be said to have been reached. The thickened areas are not so hard as those characteristic of scirrhous carcinoma, and do not show the same tendency to infiltrate the surrounding fat. The color is whiter than carcinoma. The lymph-nodes may be somewhat enlarged, but do not show the appearance typical of cancer.

It is exceedingly difficult to differentiate abnormal involution from scirrhous carcinoma, and in fact, it is my opinion that it frequently cannot be done without the aid of the microscope. Scirrhous carcinoma has certain characteristics that should be recognized from gross appearances. It usually begins as a more or less localized area of intense hardness, with the characteristic adhesions to skin and muscle, with, frequently, retraction of the nipple. On section, the tissue cuts with increased resistance, but it is perhaps not so difficult to section as an area of abnormal involution. The color

6. The appearance of the tumor itself after removal is shown in Figure 20, page 112, in my book on Diseases of the Breast.

is distinctly gray, a contrast to the white normal breast, and dense strands of connective tissue may be seen running between yellowish streaks composed of epithelial tissue. The cut surface retracts after sectioning. The mass can be seen to have no definite limitations, but to be sending infiltrating processes in various directions. Of course, if there have been metastases to the lymphatic glands in the axilla, the diagnosis of malignancy becomes more certain. Metastases may be recognized in general by large, white, firm glands which, if carefully examined, however, will show some remaining portion of the normal gray lymphoid tissue.

FROZEN SECTIONS

I am fully aware that some excellent microscopists more or less discredit the reliability of frozen sections and do not think freshly stained as reliable as fixed specimens. I am not sufficiently experienced in microscopy to discuss this subject. I do know, however, that in more than fifty cases where frozen sections have been made for me during the past seventeen years, but two mistakes have resulted. One of them was made by a young man, inexperienced in the method, who volunteered, in the absence of my customary pathologist, to act for him. He had never resorted to the method before. He reported a case of abnormal involution in a woman 46 years of age as malignant, when a subsequent and more careful examination failed to reveal positive evidence of cancer. I do not think, however, that a mistake was made in sacrificing the entire gland in this instance, inasmuch as the breast was affected throughout by well-marked abnormal involution. Moreover, the patient's mother and sister had died of cancer of the breast. The second mistake was made in a case in which a clinical diagnosis of probable carcinoma had been made in an unmarried woman 41 years of age. It was more than pardonable, as when the second examination was made from fixed specimens ten days later, not the slightest evidence of malignancy was encountered until the thirteenth section was examined. So the mistake might just as well have occurred as a result of the second examination as the first, had not so many sections been prepared and carefully examined. The result of the second examination was promptly and candidly reported to the patient, who was fortunately intelligent enough to accept it in the proper spirit and submitted the next day to a radical operation. I am pleased to state that at the end of eighteen months she remains entirely well.

It is most important to give to the pathologist the entire tumor, and not a small portion taken at random. The mistakes reported are not due to the method or principle, but to its interpretation. In other words, the surgeon, and neither the method nor the microscopist, is at fault.

Dr. Charles Mayo and his pathologist, Dr. Louis B. Wilson, write me that during the last five years more than three hundred tumors of the breast have been removed and a microscopical diagnosis made from frozen sections while the surgeon waited for a report. I quote Dr. Wilson's words:

> No positive diagnosis has ever been given on a specimen which subsequently proved to be not carcinoma. So far as we have any history of the cases, no negative diagnosis has ever been given on a case which subsequently proved to be carcinoma. This rather unusual record is probably due to the fact that the surgeon almost invariably removed the entire tumor with a bit of the surrounding breast tissue before submitting it to the laboratory. When the tumor is very large, of course this cannot be done, but in such cases it is usually possible to make the diagnosis clinically. Cases positively diagnosed as carcinoma clinically are not included in the three hundred. If the tissue contains the pathologic evidence of carcinoma, it can be determined quite as well by a fresh stain as in fixed specimens.

Dr. Mayo also says that he does not think it possible for anyone always to tell the character of a solid or cystic growth of the breast by naked eye appearances. I am certainly of the same opinion, as said before, and I have found frozen sections so satisfactory for many years that I feel it my duty to make use of them in every doubtful case. I invariably explain the situation to the patient and get her consent for a complete operation, should it be necessary. Moreover, there is this advantage in the practice—I find that some patients who would refuse a radical operation offered unconditionally will consent to it on the condition of the microscope's furnishing undoubted evidence of malignancy. In other words, they will consent to a mutilation probably necessary when they would refuse such assent believing that it would certainly be necessary.

OPERATIVE METHODS

During the last five years, I have invariably practiced Warren's method of plastic resection in all benign growths and in those of questionable nature. No matter where the tumor is situated, or whatever its size, be it large or small, I think that the free incision, beneath the breast, which leaves no unsightly scar and which furnishes the best opportunity to examine the entire breast carefully, is much better than a smaller incision directly over the tumor. I have not had in a single case the slightest reason to regret its employment, for in cases of advanced abnormal involution, or even malignancy, I have been prevented from going astray by depending on the report promptly furnished from examination of frozen specimens. In all cases of doubt, the wound is promptly cauterized with the actual cautery, and plugged with gauze while awaiting the microscopic report.

I must insist that the danger of infecting the wound by liberating cancer cells has been greatly overestimated, and that such danger is reduced to a minimum provided the actual cautery is employed. I am unwilling to say that the risk is entirely overcome in this way, but it is rendered so slight that it is practically negligible and is as nothing to the hazards of delay until a clinical diagnosis can be made.

Better results in the operative treatment of malignant disease here and elsewhere must come, if they come at all, only by resorting to diagnostic incision and frozen section reports in doubtful cases. I have greater faith in frozen sections, and always rely on them in hospital practice; but when operating apart from a hospital and a competent pathologist, have tried to teach myself to recognize macroscopically the several conditions likely to be encountered.

I wish to state positively my position concerning incision for diagnostic purposes *only*, the wound being closed and the action of the surgeon governed by a report from the laboratory made days or weeks subsequently. In the light of our present knowledge there is no warrant for such procedure, as cancer cells are disseminated thereby, and a radical cure from a second operation, however early and extensive, is rendered far less likely.

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RECENT STUDIES ON LIPOIDS*

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The constituents of any tissue can be conveniently subdivided into three main groups, according to their physical properties.

1. Solid aggregates (fat droplets, glycogen granules and solid structures).
2. Colloids (proteins and lipoids).
3. Crystalloids (salts, water-soluble extractives like creatin, etc.).

In the first group, the fat droplets and glycogen granules occupy about the relation to a living cell that the coal in the tender does to a locomotive. They serve as a convenient source of energy, but do not represent an essential part of the functionally active machine. The crystalloids in a good many cases, but by no means in every case, represent end-products of chemical activity, and as such do not concern us here. The colloids, a name originated by Graham,[1] form an essential part of the mechanism of the living cell, and as such represent larger aggregates of molecules, which are on the borderline between suspensions and true solutions.

Their ability to change this state of aggregation is of great functional significance as will be illustrated later. A very good discussion of the properties of colloidal solutions has been given by A. A. Noyes.[2] The colloids of the tissues are further subdivided into two main groups, the proteins and the lipoids. The term "lipoid" was introduced by Overton[3] to designate a class of compounds which are characterized by their solubility in various fat solvents, and occur in large quantities in the nervous system. In their chemical properties and structure the lipoids do not resemble one another very closely, but their relation to fat solvents and their peculiar ability, as distinguished from the neutral fats, to form permanent emulsions or colloidal solutions with water, make it convenient to consider them as a group.

A study of their biologic properties has further served to justify this classification. The credit for first calling attention to certain members of this group belongs and has always been given to Hoppe-Seyler.[4] The pioneer work on the lipoids of the nervous system has, however, been done by Thudichum,[5] and it has been my privilege at various times to call attention to the splendid work of this much-neglected investigator, who during his lifetime received practically no recognition, even from his immediate colleagues. The classification of lipoids given in the table is essentially due to Thudichum, although the term "lipoid," as already stated, was introduced more recently by Overton.

CLASSIFICATION OF LIPOIDS ACCORDING TO THUDICHUM

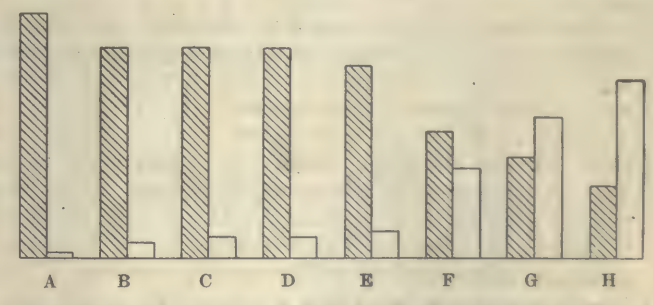
1. Cholesterols (carbon, hydrogen and oxygen).
   Structure: Unknown.
   Example: Cholesterol (formerly incorrectly called cholesterin).
2. Cerebrosids (carbon, hydrogen, oxygen and nitrogen).
   Structure: Unknown.
   Groups isolated and identified: Galactose.
   Example: Phrenosin (cerebrin).
3. Phosphatids (carbon, hydrogen, oxygen, nitrogen and phosphorus).
   Structure: Not satisfactorily known. Esters of orthophosphoric acid.
   Groups isolated and identified: Palmitic, stearic, oleic, linolinic and glycerophosphoric acids, cholin.
   Examples: Lecithin, kephalin.
4. Sulphatids (carbon, hydrogen, oxygen, nitrogen, sulphur, and sometimes phosphorus).
   Structure: Unknown. Esters of sulphuric acid.
   Example: Cerebrosulphatid.

The anatomic term "myelin," introduced by Virchow,[6] and the rather indefinite protagon first mentioned by Liebreich[7] have been omitted from the above classification as not sufficiently well characterized chemically. The chemistry of the above groups is still in an unsatisfactory condition, but a considerable number of investigators are at present engaged on this subject. The biologic significance of the lipoids has also until recently been very much overshadowed by the greater interest in the proteins. The relative proportions in which the two groups occur in various tissues is shown by the illustration.

The fact that most tissues contain more protein than lipoids does not, however, argue for the relatively lesser importance of the latter group, for as will be shown presently, even the comparatively small quantity of lipoids in the erythrocyte have an important biologic function. The biologic rôle of the various lipoids will be considered under the headings as outlined in the table.

CHOLESTEROLS

Cholesterol, or to use the older less correct term, cholesterin, is familiar to everyone as a pearly white crystalline substance, which is found as the constituent of some



Proportion of protein (shaded) to lipoid (white) in different tissues. A, erythrocyte; B, striated muscle; C, heart muscle; D, kidney; E, liver; F, brain at birth; G, adult brain; H, corpus callosum.

gall-stones and can sometimes be observed in museum jars in which brains have been preserved in alcohol. Cholesterol by itself is probably of very little value to the organism, but in conjunction with the other lipoids, there is good reason to believe that it has an important function in adding stability to certain membranes. The very considerable quantity in which it occurs in the sheath of the medullated nerve fiber lends support to this suggestion. That it may serve a similar function in the stroma of the red blood-cell has been demonstrated to be probable by Ransom[8] who showed that saponin in producing hemolysis does so by interaction with cholesterin. K. Meyer[9] has lately suggested that the lecithin may also play a rôle in saponin hemolysis.

The recent observations of Faust[10] that the hemolytic substance of the flat worm *Bothriocephalus* is a cholesterol oleic acid ester, is also of interest in this connection, on account of the significance which has been attached to this finding regarding the etiology of certain

* Read before the Pathological Society of Philadelphia, Dec. 8, 1910.

1. Graham, T.: Phil. Tr. Roy. Soc. London, 1861, cli, part 1, p. 183.
2. Noyes, A. A.: Jour. Am. Chem. Soc., 1905, xxvii, 85.
3. Overton, E.: Studien über die Narkose, Jena, 1901, Gustav Fischer.
4. Hoppe-Seyler. Med.-Chem. Untersuch. Tübingen, 1867, i, 215.
5. Thudichum: Die chemische Konstitution des Gehirns des Menschen und der Tiere, 1901, F. Pietzcker, Tübingen. (See also for review of older French literature Chap. I.)
6. Virchow, R.: Virchow's Arch. f. path. Anat., 1857, xii, 483.
7. Liebreich: Ann. d. Chemie, 1864, xxix, 134.
8. Ransom: Deutsch. med. Wchnschr., 1901, xxvii, 194.
9. Meyer, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 363.
10. Faust, E. S.: Arch. f. exper. Path. u. Pharmakol., 1907, lvii, 367.

forms of pernicious anemia. The finding of hemolytic lipoids in cancer tissue may also be mentioned here, but the nature of the lipoid concerned has not yet been made out.

CEREBROSIDS

The principal member of this group, cerebrin, was first described by Müller.[11] The fact that the cerebrosids occur principally in medullated nerve fibers led Takaki[12] to investigate their possible relation to the ability of the tetanus toxin to follow a nerve trunk and thus reach the central nervous system from the periphery. The experiments, which consisted mainly in the study of the power of cerebrin and some of its derivatives to neutralize the toxic action of tetanus toxin, were not very conclusive.

Similar experiments with a greater variety of preparations were tried some years ago in cooperation with the late Dr. H. T. Ricketts. The variations were, however, within the variations to be expected in this kind of work and consequently were never published. The fact that this group contains galactose might suggest a nutritive function for the nerve fiber, if it were not such a common phenomenon to have the organism build up into structural elements and thus render useless as food certain groups which might otherwise serve as sources of energy. The high carbohydrate content of the chitinous shells of certain crustaceans is a good illustration of this phenomenon.

THE PHOSPHATIDS

The phosphatids, so named by Thudichum,[5] usually appear as yellowish, waxy substances which show some tendency to crystallize when dry, but very quickly soften and lose this tendency when exposed to the air.

Exposure to the air also causes them to darken in color, so that old preparations may appear quite dark. The phosphatid with which we have been up to the present most familiar is lecithin. It was first carefully studied by Hoppe-Seyler[4] and found by him to be pretty generally distributed in all forms of protoplasm. The various subgroups into which the phosphatids have been divided for purposes of chemical study will not be here taken up, but the considerable variety of biologic phenomena will be considered in which this interesting group of lipoids appears to play a rôle.

Relation to Inorganic Salts.—The fact that in the extraction of a tissue with a fat solvent, the greater part of the ash constituents, especially the sodium and potassium, follow the phosphatids, and do not remain behind with the proteins to any appreciable extent, is of significance.

A protein after purification may retain an ash content of 0.5 and 1.0 per cent., but phosphatids will carry through such solvents as anhydrous ether an ash content ranging from 2 to 5 per cent.

The importance of this relationship is further illustrated by direct experiment. It is possible by precipitation reactions on colloidal solutions of lecithin to reproduce both qualitatively and quantitatively the antagonism between calcium chlorid and sodium chlorid observed by Loeb[13] on such living forms as starfish eggs or frogs' muscles. In the presence of sodium chlorid the amount of calcium required to cause a precipitate is materially increased. As the amount of sodium chlorid is increased, greater amounts of calcium are required; in other words, sodium chlorid antagonizes the calcium, an action which Mathews[14] has shown to be due to the chlorin ion.

Williams[15] has made the interesting observation that the increase in sodium chlorid, however, cannot be carried beyond that of a physiologic salt solution. As soon as the concentration exceeds this, the chlorin of the sodium chlorid can no longer antagonize the calcium, and the sodium now begins to aid the calcium in the process of precipitation.

The importance of a physiologic salt solution appears, then, to be not only to keep up the osmotic pressure, but also to keep the physical state of aggregation of the colloids at an optimum. It seems tempting to bring the phenomenon of chlorid retention in the tissues in certain diseases into relationship with changes in the colloids, which so change their state that this optimum is shifted and a higher concentration of sodium chlorid can still antagonize the calcium.

Relation to Hemolysis.—Hemolysis may be considered as a type of reaction in which a stroma or plasma membrane, which is considered by Overton to contain lipoids, undergoes changes of permeability as the result of variation in external conditions. Hemolysis is thus a special case of that larger type of biologic reactions of which plasmolysis in plant cells, cytolysis in animal cells, the fertilization of the egg cell and the phenomenon of bacteriolysis are further examples.

Hemolysis by cobra venom, according to Ehrlich, takes place as the result of the interaction of three factors—the amboceptor or cobra venom, the complement present in the serum and the receptor group in the corpuscle itself. Kyes[16] has made the very interesting observation that lecithin, which is itself not hemolytic, can enter into the reaction and behave like the complement. The reaction of cobra venom with lecithin was interpreted by Kyes as in the nature of a combination with the formation of a cobra lecithid. Manwaring,[17] in a recent repetition of this work, has come to the conclusion that the cobra lecithid of Kyes is a lecithin from which the oleic acid has been split off by a lipolytic ferment contained in the venom. The fact that the cobra lecithid, the product of the action of cobra venom on lecithin, is highly hemolytic, remains unaltered by this interpretation.

More recently Noguchi[18] has shown that in the Wassermann complement deviation reaction for syphilis, the antigen may be in the nature of a lipoid, which in its solubilities resembles the phosphatids.

Relation to Products of Tissue Metabolism.—Williams[15] has shown that lecithin may combine with and be altered in its state of physical aggregation by such tissue metabolites as ammonia and bile-salts, epinephrin, etc.

In the case of the epinephrin it has the power to protect this substance from oxidation. Thus a watery solution of epinephrin, which quickly oxidizes and loses its physiologic activity on standing, can in the presence of lecithin retain its activity for weeks, provided bacterial decomposition of the lecithin is avoided.

Relation to Drugs.—The theory of narcosis originated simultaneously by Overton[3] and by Meyer[19] was one of

11. Müller, W.: Ann. d. Chemie, 1858, cv, 361.
12. Takaki, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 288.
13. Loeb, J.: Am. Jour. Phys., 1902, vi, 411.
14. Mathews, A. P.: Am. Jour. Phys., 1904-1905, x, xi, xii and xiv.
15. Koch, W., and Williams, A. W.: Jour. Pharmacol. and Exper. Therap. 1911, ii, No. 3.
16. Kyes, P.: Biochem. Ztschr., 1907, iv, 99.
17. Manwaring, W. H.: Bull. Johns Hopkins Hosp., 1910, xxi, No. 234.
18. Noguchi, H.: Jour. Exper. Med., January, 1911.
19. Meyer, H.: Arch. f. Exper. Path. u. Pharmakol., 1901, xlvi, 338.

the first studies to call attention to the subject of the lipoids in relation to pharmacologic problems.

A glance at the illustration will show why a substance soluble in fats or lipoids should become largely localized in the nervous system, on the theory that a substance distributes itself between two solvents in proportion to its relative solubility in each.

The very marked affinity which the anesthetics and hypnotics possess for the nervous system is correlated with the high lipoid content of that tissue. The assumption that changes in the physical state of aggregation of the phosphatids, induced by the presence of the anesthetic, are responsible for the phenomenon of narcosis, was investigated by McLean[20] and found not to hold as far as the general phenomenon is concerned.

He did find, however, that chloroform changed the state of aggregation of lecithin, and presented evidences of chemical combination, while ether, alcohol and chloral did not. It seems more reasonable therefore to bring this phenomenon into relation with the well-known difference in the elimination of ether and chloroform and the consequent tendency of the latter to produce delayed poisoning.

An interesting clinical application of the theory of Overton and Meyer has recently been made by Graham.[21] On the basis that the nausea and vomiting following an operation are largely due to the excretion of the anesthetic into the stomach, he gives his patients pure olive oil. This absorbs the anesthetic and has so far been attended with very satisfactory results.

Overton also extended his theory to other drugs and suggested that the alkaloids may be taken into the nervous system by the lipoids. He does not give any experimental evidence. This has been supplied by Mostrom[22] in the case of strychnin in the following experiment:

The free alkaloid strychnin, which is only very slightly soluble in water, is shaken with water for one hour; 0.3 c.c. of the resulting filtered solution injected into a 40-gm. frog, requires thirty to forty minutes to produce tetanus. If instead of distilled water an emulsion of lecithin is used, a much larger quantity of strychnin goes into solution and tetanus now occurs in two or three minutes.

We see from this that the lecithin by combining with the strychnin is the means of bringing it into solution. We can conceive that the lecithin of the nervous system picks up the strychnin from the blood-stream in a similar fashion. Lecithin would be behaving, then, in this case as a chemoreceptor group in Ehrlich's interpretation of the term. The fact that the strychnin, when combined with this chemoreceptor group, can still exert its physiologic activity, is characteristic of this type of combination. If we were dealing with a toxin of the nature of tetanus toxin, which also has an affinity for the nervous system, the combination would be much less dissociable, and the toxin consequently not free to act. (The chemical nature of the receptor group for tetanus toxin has not yet been determined: see under cerebrosids.) This difference is dissociability between an alkaloid receptor combination and a toxin receptor combination is undoubtedly one of the reasons why all attempts to produce antiserums for alkaloids, as for instance morphin[23] have failed.

20. Koch, W., and McLean, F. C.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
21. Graham, Evarts A.: Olive Oil for Postanesthetic Anesthesia, THE JOURNAL A. M. A., Dec. 18, 1909, p. 2094.
22. Koch, W., and Mostrom, H. J.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
23. Cloetta, M.: Arch. f. Exper. Path. u. Pharmacol., l, 453.

Relation to Problems of Specificity.—It is tempting to extend such observations as the above to the problem of the specific attraction which certain tissues have for certain drugs. An observation which has a bearing on this was made by Erlandsen[24] when he discovered a phosphatid to which he gave the name "cuorin," which occurred only in heart tissue and in no other type of muscular tissue. Whether or not such compounds can be brought into relation with such specific affinities of the tissues remains to be more carefully studied. The observation made by Pike[25] that the proportion of potassium to sodium is higher in kephalin (2 to 1) than in lecithin (2 to 8) may be interpreted as indicating a specific attraction of kephalin, as distinguished from other colloids, for potassium.

This observation has an important bearing on the ability of tissues to preserve a higher concentration of potassium than occurs in the surrounding fluids.

SULPHATIDS

This interesting class which occurs largely in the medullated nerve-fiber has only recently been obtained in a state approaching purity, and consequently very little studied biologically.

In concluding, then, it is interesting to note the considerable number of biologic phenomena in which the lipoids play a rôle. The only practical application which has come to the attention of the medical profession has been the attempt to exploit lecithin commercially as a brain and tissue food. The fallacy of this I have already pointed out in a previous article,[26] and it is to be hoped that such attempts will not detract from the interest which should attach to further work on the subject of the lipoids.

24. Erlandsen, A.: Ztschr. f. physiol. Chem., 1907, li, 71.
25. Koch, W., and Pike, F. H.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
26. Koch, W.: Phosphorus Compounds as Brain Foods, THE JOURNAL A. M. A., May 1, 1909, p. 1381.

A REPORT ON THE THERAPEUTIC EFFICIENCY OF SALVARSAN

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During the early part of September, 1910, I personally investigated Ehrlich's work in the treatment of syphilis with salvarsan. I have not made a report earlier, first, because I wished to make some observation of the results obtained by physicians in this country, and to acquire some experience in using the remedy in my own work; and second, because I believed that it would be dangerous to permit the idea to become general that a single dose of salvarsan would permanently cure syphilis.

My own experience with salvarsan, and the observations I have made of this work carried on both in this country and in Europe, lead me to the conviction that under no circumstances should it be used without also using mercury or the iodids. If we can conceive of making a diagnosis of syphilis so early that not a single spirochete has become encapsulated, but all lie free in the circulation, then we might entertain the theory of a single injection of salvarsan destroying completely the invading organisms.

The question naturally arises: What is the rôle of this new treatment, and what is its real merit?

Experience in the treatment of syphilis with the preparation appears to be sufficient at this time to warrant the statement that it is the therapy of election in the following stages of the disease:

1. With the appearance of the chancre, or sooner, if an absolute diagnosis can be made, with the hope that this remedy may reduce to a minimum the possibility of general contamination during this stage of the disease.
2. In all affections of the mouth, throat and mucous membrane of the nose.
3. In the class of obstinate cases with cutaneous lesions that do not yield to mercury or the iodids.
4. In all cases of gummata.
5. In those affections of the central nervous system in which the spirochete may remain as the exciting element.
6. In congenital syphilis.
7. In the galloping syphilis of Unna.

Of course it is understood that before salvarsan is used in any case the tenets of Ehrlich should be fulfilled—that is, that the patient be kept under observation in a hospital for four days, where a careful record of his physical condition may be made, particular attention being paid to the condition of the heart, kidneys, eyes and ears. In other words, aside from the syphilitic taint, the patient must be in a healthy condition. The fatalities and serious complications have occurred in patients with lesions other than those due to syphilis.

Ehrlich's studies led him to believe that parasites can be destroyed only by substances to which they have a certain relation, which substances he designated as "parasitotropes." Poisons which have relations to essential organs he termed "organotropes." Ehrlich pointed out that only such substances can be used as remedies in which organotropy and parasitotropy have a right relation. This investigation led to the conclusion that when a parasitotrope was injected into the host either the invading organisms were immediately killed, or if any organisms lived through this form of treatment they were rendered tolerant to subsequent injections of this substance.

Consequently the early treatment of syphilis by the injection of salvarsan was based on the above theory. It seems difficult to conceive a condition in any stage of syphilis in which every single spirochete was free in the circulation at the same time. One can scarcely reconcile this condition even at the moment of reception of the spirochete into the host because of Nature's ability to wall off invading organisms; yet it is just possible that a complete extirpation of the spirochetes might be accomplished in this way, if the diagnosis of syphilis could be made early enough. It does not seem as though the disease could be recognized early enough to make the hope of having an absolute cure of syphilis from a single injection of salvarsan a well-grounded one.

The determination of the immediate efficiency of this form of treatment is based on the Wassermann reaction becoming negative within a reasonable length of time after the injection, usually in about five weeks. An idea of the efficiency of salvarsan can best be given by recording a brief summary of the results of the Wassermann test in some of the clinics in which this treatment was first carried out.

The following compilation of results is made from a recent report from Dr. Ehrlich, entitled, "Die Salvantherapie: Rückblicke und Ausblicke":

1. In the Weintraud Klinik, 124 patients in the second and third stages of syphilis were all Wassermann-positive before treatment. After a single injection of salvarsan fifty-seven became negative, while sixty-seven remained positive. Weintraud was of the opinion that by systematic reinjections it is possible to bring the percentage of Wassermann-negative cases to 90 per cent.; then by the use of mercury to bring about a negative Wassermann in the remaining 10 per cent. of cases.

2. Gennerich[1] treated 81 patients with severe cases and produced a negative Wassermann in all but three cases.

3. Schreiber, Magdeburg, succeeded in producing a very high percentage of Wassermann-negative conditions by a repetition of the injection.

4. Fabry-Dortmund, with the alkaline solution introduced by the intramuscular method, had only six recurrences out of 385 patients treated.

5. Dr. Schulz, Strassburg, by the subcutaneous method, had four recurrences out of sixty-three cases. Two of these returns were due to a gangrenous condition at the site of the injection, which necessitated incision and drainage. All four became Wassermann-negative in a short time, after being treated by the intravenous method.

6. In this country, Murphy, of Chicago, has had an extensive experience in the use of salvarsan. Out of 100 patients treated by the "suprafascial" method, he has had one bad result, which was due to an encapsulation and lack of absorption of the mixture at the site of the injection, that had to be opened and drained. The suprafascial method introduced by Murphy is as follows:

The needle is inserted at the level of the tenth rib, and at a point one and one-half inches from the median line posteriorly. The needle is directed outward and downward parallel to the tenth rib reaching to the fascia overlying the loins, and the mixture is deposited on the fascia.

Another point of much importance to decide in this connection is the safest and most efficient method of administration. Of the various methods used, only two need be considered, viz., the intramuscular (including the suprafascial), and the intravenous. A solution of this problem can best be reached by presenting a brief résumé of the results obtained by some of the most experienced and accurate workers.

The following is a translation of an extract from a letter just received from Dr. Ehrlich, under date of Frankfort a/M., 4 Feb., 1911:

"I should like to remark that I, as you well know, am much in favor of the intravenous injection, and that preferably this should be repeated two or three times in very early cases (the second stage), as Weintraud does in Wiesbaden. He makes an intravenous injection three times within four or five weeks, using 0.4, or at most 0.5 in men, and the result is that in over 90 per cent. of cases the Wassermann reaction is negative."[2]

The results reached, as already cited, by Fabry-Dortmund in a large experience with the intramuscular method, and by many other workers of large experience who use this method of administration, and those of Murphy of Chicago by the suprafascial method, should prove conclusively that the extravenous methods are efficient. Whether this efficiency reaches the same degree as that of the intravenous I cannot say. On the other hand, I can state most emphatically that the latter method is much more dangerous, and while this danger

1. Berl. klin. Wchnschr., 1910, No. 46.
2. "Ich möchte mir noch die Bemerkung erlauben, dass ich, wie Sie wohl wissen, sehr für die intravenöse Injection bin und dass diese zumal bei ganz frischen Erkrankungen (Syphilis II), am besten 2-3 Mal widerholt wird, wie dies Weintraud in Wiesbaden tut. Er injiziert innerhalb 4-5 Wochen 3 Mal intravenös. Männern 0.4 bis höchstens 0.5 und erreicht, damit dass in weit über 90% der Wassermann negative wird."

may be reduced to a minimum by scientific management and the experience in technic possessed by the operator, still there is an element of danger over which experience exerts no influence, viz., the possibility that this arsenical preparation undergoes a chemical change when introduced into the direct circulation, which at times may have a deleterious or even fatal effect.

Since all operations or methods of therapy have as a purpose, first, the saving of life, and second, efficiency, it would seem most rational to conclude by strongly recommending the administration of salvarsan by the extravenous methods, viz., the intramuscular and the suprafascial, and in those cases proving refractive to this mode of treatment, readministering it by the intravenous method.

My own experience in the administration of salvarsan has been by the extravenous methods, both the intramuscular and the suprafascial. Sufficient time has not elapsed to make a complete report on these cases; however, I wish to state that there have been no complications and the patients have experienced very little distress after this form of administration. From a clinical point of view they show evidence of a subsidence of the disease.

CONCLUSIONS

1. The medical profession should use every effort possible to eradicate the idea that appears to have become prevalent in the minds of the laity, and, indeed, of many of the profession, that a single dose of salvarsan will permanently cure syphilis.

2. Salvarsan should be administered under the best scientific conditions possible, which means that no patients should be treated until they have been in a hospital four days and careful records made of their physical condition. Only patients in a healthy condition, aside from the syphilitic taint, should receive this form of treatment. Any attempt to treat patients when these precautions have not been taken, or any unscientific use of the preparation, should be strongly opposed by the profession, as these attempts are sure to result disastrously to the patient and also to detract from the merits of the remedy.

3. Salvarsan is the treatment of election in the conditions of syphilis enumerated in this paper, but under all circumstances should be followed by mercury or the iodids, or by both.

4. Administration by the intramuscular or suprafascial route should first be instituted, as it is the safest method, and in the event of the patient not becoming Wassermann-negative, it is then time enough to employ the more dangerous intravenous method.

100 State Street.

Intestinal Anastomosis.—The various instruments and appliances formerly used to facilitate work on the intestines have nearly all been discarded for the simple but efficient method of intestinal anastomosis by thread and needle. The general condition of the patient should be as near par as is consistent with the exigencies of the case. All organs should functionate properly and the temperature and blood should be about normal, to obtain the maximum results in surgical work on the intestines. The work should be carefully but rapidly performed, which is oftener the case when the surgeon has from practice or experimental work on the lower animals become skilful in the use of needle and thread. A positive blood-supply to the tissues making up the anastomosis is necessary. The end-to-end method is not so certain, therefore the side-to-side anastomosis should be chosen whenever convenient. A. E. Benjamin, in *Lancet-Clinic.*

A CASE OF HEMATOSALPINX WITH CERVICAL ATRESIA

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Patient.—N. H., aged 15, white, schoolgirl, was eldest of three children, complained of pain in the left lower abdominal quadrant with nausea and vomiting.

Family History.—This was unimportant. The mother menstruated at eleven.

Personal History.—Birth was normal. The history was taken after the operation. General health had never been good. During childhood the girl had measles, mumps, whooping-cough, chicken-pox, diphtheria, scarlet fever, chorea and one attack of "slow fever" lasting a week, with severe headache and delirium. She had always been nervous and delicate. Appetite was somewhat inordinate, and she craved unusual and unreasonable foods; digestion was good. There was no nausea or vomiting except during the attacks. Bowels usually moved every day. The urinary condition seemed to have been normal up to present illness, during which she suffered severe dysuria. Following diphtheria and scarlet fever at the ages of 5 and 6, patient had a troublesome white discharge (leukorrhea) irritating but not malodorous. Although 15 years old, the patient had never menstruated. Four years ago her mother noticed that she was unusually nervous, with dark circles under her eyes, and had headache and nausea, and thought that menstruation was about to begin; no flow ever appeared. In February, 1907, following such a train of symptoms as just mentioned, the patient had a sudden severe attack of pain in the right lower abdominal quadrant, associated with nausea and vomiting, lasting three or four days. Each month since, the girl has had headache with dark circles under her eyes. Never has there been a drop of menstrual flow. Similar attacks to the one in February, 1907, occurred in February, 1908, February and June, 1909, and June 12, 1910, the present one.

Present Illness.—Three days before consulting me, the patient began having a dull aching pain, sometimes sharp in character, in the left lower abdominal quadrant. It grew steadily worse and was so severe next day that nausea and vomiting set in. The pain became general and the right side was involved. She was not constipated.

Physical Examination.—Patient was an emergency case, and came to the hospital suffering severe pain in both lower abdominal quadrants. She looked ill. Pulse was 120, respiration 26, temperature 102.4 F., by rectum. The abdomen was rigid, and there was general resistance and tenderness, palpation being most painful in the left lower quadrant. A mass was distinctly felt in the right iliac fossa.

Diagnosis.—A diagnosis of appendix abscess was made.

Operation.—A small gridiron incision was made in McBurney's region. On opening the peritoneum, dark bloody fluid welled out. The examining finger encountered a smooth, elastic, crepitating mass, filling the right iliac fossa and extending to the median line. In appearance the mass was lobulated, and of dark bloody color. As it was impossible to deliver it through the small incision, an opening was made in the median line. The mass proved to be a large left-sided hematosalpinx, with twisted pedicles, containing 8 or 10 ounces of blood-clot. The tube at the cornu measured from 1 to 1.5 cm. in diameter; the ovary could not be distinguished from the mass. It was tied off with catgut and removed. The right tube and ovary were found lying in the cul-de-sac; the tube was dilated slightly, and the ovary enlarged and cystic, measuring 8 or 9 cm. by 4 cm. Both were removed. The uterus was normal. After cleaning out the small amount of dark bloody fluid the abdomen was closed in layers. The appendix was not seen.

Postoperative Notes.—Aside from inability to void urine for five days after the operation, the patient made an uneventful recovery. Temperature reached normal on the fifth day, never being over 101 F. The pulse dropped to 80 on the fifth day. Before discharge from hospital a vaginal examination was

made, using a cystoscope. The vulva was normal, the vagina narrow, measuring 9 cm. from a normal hymen to the cervix. There was a white thick leukorrheal discharge. The cervix was flush with the vaginal vault, completely closed, and the os marked with a dimple.

The case was one of cervical atresia, probably caused by the diphtheria or scarlet fever during childhood. The amenorrhea was the result of obstruction and the menstrual flow had accumulated in the tube. The patient, six months after operation, is in perfect health but has not menstruated.

I am indebted to Dr. K. P. Moore for allowing me to report this case, which came under his care in the Macon Hospital.

ARRESTED DEVELOPMENT OF ABDOMINAL PARIETES

ASSOCIATED WITH SHORTENED UMBILICAL CORD

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History.—The mother was a strong, healthy woman, Danish, aged 26, a teacher before marriage, and gave no history of uterine or pelvic troubles. No known relatives have been deformed. It was a first labor and a midwife was in attendance for about twenty-four hours. When I arrived I found the position to be R. O. P. The cervix was dilated to about 5 cm. Mother and fetus were apparently normal. Uterine inertia and powerful uterine contractions alternated for the next five hours without dilating the cervix to any extent. Chloroform was then given, the cervix dilated manually and high forceps applied. After each pull on the forceps, the head sprang back to its original place as if pulled on by elastic band. There was considerable hemorrhage between and during the efforts at traction. After about one hour the head reached the vulva; a pair of hemostats was clamped on the cord and the cord cut. The child was then delivered with ease. The placenta was immediately removed by the hand placed in the uterus. It was attached on the anterior superior part of the interior of the fundus.

Examination of Child.—The child was a female weighing 8½ pounds. A thin semitransparent membrane about the thickness of tissue paper extended from the xiphoid cartilage to one inch below the umbilicus. This membrane was elliptical in shape and about four inches across the broadest part. The abdominal organs—liver, spleen, stomach, and intestines—could be easily seen through this membrane.

The umbilical cord was 12 cm. (5 in.) long and 0.6 cm. (¼ in.) in diameter and lacking in the usual spiral windings. The greatly diminished diameter of the cord and lack of windings give one the impression that the cord was even shorter than 5 inches, its present length; but during the latter months of pregnancy had been elongated at the expense of diameter by the tension of the fetal weight and movements. The specific gravity of the fetus is always greater than that of the amniotic fluid; hence, with a cord suspended from the fundus of the uterus and not long enough to allow the fetus to reach the opposite extremity of the uterus, there would be tension on the cord. (In this case the uterus was 12 inches and cord only 5 inches.)

Operation.—At end of fourteen hours a red line extended all around the border of the membranous part of the abdominal parietes of the child. Chloroform was given, the membrane dissected off and the abdominal walls brought together, with through-and-through silkworm sutures. The umbilical vein was tied and cut under the liver. The urachus was patent from the bladder to the umbilicus. The urachus was closed by suture. A small Meckel's diverticulum was present and left untouched. Considerable difficulty was experienced in pulling the abdominal walls together over the liver and in replacing the intestines. The time of operation was one and a half hours. The baby left the operating table in fair condition, but died eight hours later.

Fourteen and a half months later the same woman gave birth to a healthy eight and a half pound boy. This second labor was normal, a L. O. A. position, and there was no deformity of child or cord.

This case emphasizes the fact that an abnormal position or presentation of a fetus should always cause us to suspect and search for some abnormality of fetus or mother's pelvis before considering it a mere chance abnormality. Most faulty presentations and positions have an ascertainable cause other than chance. In this case the presentation was cephalic:

1. Because the fetus was suspended by the short cord from the fundus of the uterus, and the cephalic end (from head to umbilicus) being longer than the caudal end (from umbilicus to coccyx) gravitated to the bottom of the uterus. Also the distance from sacrum to umbilicus is not long enough to allow the sacrum to reach the cervix, when the fetus is suspended on a five-inch cord.

2. The position was posterior, because in this position, with the placenta on the upper, anterior surface of the uterus, the short cord would reach furthest. In order to have allowed for an anterior position, with the placenta in this position, the cord would have had to wind around the fetus from umbilicus to back, which would have taken up so much of its length that the head could not have reached the cervix.

3. Hemorrhage during and between efforts at traction on the forceps was due to pulling on the placenta, causing some separation thereof.

4. Recoil of the head after traction on the forceps was due to the uterus assuming its original shape.

5. The fact that the head could be dragged to the vulva by the forceps with such a short cord was due to a partial inversion of the uterus during traction.

6. Uterine inertia was due to inability of the uterus to expel the child.

7. The statement of the midwife, if a correct observation, that the patient carried the child high in the abdomen and that there was no descent of the head until labor began, is also explained by the short cord.

A CASE OF SO-CALLED BOTTLE-MAKER'S CATARACT *

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Cases of bottle-maker's (often called glass-blower's) cataract, supposed to be due to prolonged exposure to excessive heat and bright light, are rarely seen except in localities where the industries that produce these changes are situated. This case is interesting on account of its occurring in one who has been a baker for many years, subjected daily to the continued high temperature of the bake-room.

History.—J. W., aged 41, has been working steadily as a baker for twenty-four years past. His sight, so he says, was always good. Three years ago he began to notice a gradual failure of vision, and now he cannot read the newspaper. He had not consulted anyone until Nov. 10, 1910, when I first saw him at my office.

Examination.—Vision, right eye, 15/80; left eye, 15/200; no improvement with glasses; urine negative for sugar and albumin; no signs of other intra-ocular disease. The lenses are absolutely clear, except in the posterior cortical zone, where there is situated a slightly irregular disk of opacity—half the size of the lens. The disk, especially by direct focal

* Read and patient exhibited before the Chicago Ophthalmological Society, Dec. 19, 1910.

illumination, can be seen to have a well-defined and somewhat thickened, irregular border. Slight hazy opacities can be seen in the center of the disk, and the same to a less degree outside of same in the posterior cortical plane of the lens.

That this case is exactly similar in type to glass-blower's cataract is proved by the words of Herbert Parsons and Marcus Gunn, who, in 1908, visited some of the important glass-works in England for the Royal Society, to gather statistics of industrial diseases for the framing of the Workmen's Compensation Act. They say:

Bottle-makers are subject to a form of cataract which appears to be characteristic, and is unlike other forms of cataract commonly observed. In its typical form there is a dense, well-defined disk of opacity in the center of the posterior cortex. Not infrequently slighter hazy opacities are seen around this posterior cortical disk.

Hirschberg describes it in a similar way, and in 1898 exhibited five cases of glass-blower's cataract. At the same time he drew attention to the peculiar color of the faces—the effect of heat on the skin. Most of the German literature on the subject seems to concede that heat is the factor that produces these changes in the lens and skin.

Weyl* mentions fire-workers, blacksmiths, puddlers, bakers and cooks as subject to this same change in the lens.

In a volume on industrial diseases, 1909, Greer says of bottle-maker's cataract: "It commences as a saucer-shaped opacity like a cobweb in appearance, and situated immediately within the posterior capsule of the lens."

The treatment which I am using is the method of von Pflugk and Verderau—instillations of 2 per cent. solution of potassium iodid, to be followed later by subconjunctival injections of the same. According to Hirschberg, these cases progress very slowly until 20/200 vision has been reached, when often a more rapid decline follows. When ready for operation they present a most favorable type for successful extraction.

34 Washington Street.

THE DIAGNOSTIC VALUE OF THE PARADOXIC REFLEX

AN ADDITIONAL ANATOMIC PROOF OF ITS PRACTICAL IMPORTANCE

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In December, 1904, I described[1] a new reflex under the name of paradoxic flexor reflex. I found it then present in cases the history of which pointed to organic diseases of the nervous system and especially of its motor tracts, and always associated with exaggerated knee-jerks. As is well known, Babinski's toe phenomenon is the clinical expression of a disease of the motor pathway.

The reflex can be elicited in the following manner: The patient may either lie on his back or sit on a chair with the feet (not the legs) on a stool. The feet must be slightly rotated externally; in this position complete relaxation of the muscles of the leg is obtained. The examiner must always place himself at the outer side of the leg; the thenar and hypothenar muscles of the right hand must be placed on the inner surface of the tibia of the patient and the fingers press deeply on the middle or the lower portion of the calf muscles. I say "deeply" because the pressure must be transmitted to the flexor muscles of the deep layer; sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe, or of all the toes, will be noticed. There is evidently no other muscle except the flexors that could be brought into display. The tibialis posticus, the peronei have an entirely different function from flexion or extension of the toes.

During my investigations I observed a peculiar relationship between these two reflexes. Babinski's sign was sometimes present and sometimes absent, but in the majority of my cases the paradoxic reflex was present on the side on which the Babinski sign was either absent or slight. It was present in those obscure cases in which the Babinski reflex was not obtainable.

My first series comprised thirty organic cases, in nineteen of which I observed that Babinski's sign and the paradoxic reflex showed a tendency to replace each other; viz., when one was slight, the other was marked and *vice versa*. There was a species of antagonism between the two reflexes.

My observations at the time of the first report were purely clinical. I had no anatomic proof to offer.

In December, 1908, I made a second report to the Philadelphia Neurological Society on fifty-eight cases. The diseases in which the reflex was studied were as follows: transverse myelitis, amyotrophic lateral sclerosis, hemiplegia, Jacksonian epilepsy, disseminated sclerosis, cerebrospinal syphilis and essential epilepsy. Here again I observed the same antagonism between the Babinski and paradoxic reflexes, viz., when one was present and pronounced, the other was absent; when one was mild, the other was pronounced. The latter fact was particularly conspicuous in seven cases of transverse myelitis: at first Babinski's sign was absent on one or both sides and the paradoxic reflex was present; two or three months later Babinski's sign made its appearance, and the paradoxic reflex completely disappeared or was faintly present. In one case of cerebrospinal syphilis in which the spinal symptoms were the most conspicuous, energetic mercurial treatment was instituted. The patient's mental functions, the ataxia and sphincters improved considerably. The knee-jerks, however, remained markedly exaggerated; ankle-clonus was present on one side, but Babinski's sign disappeared on one side and was only slightly preserved on the other; the paradoxic reflex remained intact and was easily obtainable.

As another illustration of the antagonistic relationship of the two reflexes may be mentioned six cases of Jacksonian epilepsy of the same series. In all there was paresis on the same side. When the examination was made immediately or shortly after the attacks, the knee-jerk was exaggerated on the affected side and the paradoxic reflex was easily elicited in all the cases, while Babinski's sign was in three cases only slightly present and in two others absent.

An analysis of all the facts observed and followed up led me to the conclusion that the paradoxic reflex is a valuable sign for diagnostic purposes at the beginning of an organic affection showing that the motor tract is being irritated; while Babinski's sign is of inestimable value in cases of a well-established lesion of the motor tract, the paradoxic reflex is a sign, to say the least, of a transient irritation or of a slight lesion of the same tract.

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* Weyl: Handbuch der Arbeiterkrankheiten, 1908.

1. Am. Med., 1904, viii, 971.

That a transient irritation may be the cause of the reflex can be seen among other facts, especially from the following case:

CASE 1.—A lad of 12, in the course of typhoid fever, developed meningeal symptoms. He then had an attack of epileptiform convulsions on the right side which were followed by paralytic symptoms on the same side. I had an opportunity to examine him twice at an interval of two weeks. On both occasions the right knee-jerk was markedly exaggerated, there was no ankle-clonus and no Babinski sign, but the paradoxic reflex was present and easily elicited. The patient made a complete recovery; the paralytic symptoms, the increased knee-jerk and the paradoxic reflex disappeared.

My systematic study of sixty cases of paretic dementia[2] with reference to the reflexes of the lower extremities demonstrate the great rarity of the Babinski sign (on both sides in three cases and on one side in four cases), but the great frequency of the paradoxic reflex (in forty-two cases) in this disease. According to the pathologic reports in cases of paresis, the motor pathway is involved only to a very slight degree in the majority of instances. As Babinski's sign is usually the clinical expression of a well-defined degenerative lesion of the motor tract, the very moderate degree of pyramidal involvement will perhaps explain satisfactorily the rarity of Babinski's phenomenon in paresis. On the other hand, the presence of the paradoxic reflex in the largest number of my paretic cases finds its logical explanation in the slight degree of pyramidal involvement. This observation in paresis is therefore analogous to, if not identical with, the observation made in other organic nervous diseases, and tends to show, I believe, the correctness of my contention made in my earliest study of the significance of the paradoxic reflex.

From the clinical standpoint the diagnostic value of the paradoxic reflex appeared therefore to be established; it remained for me to corroborate it by anatomic proofs. That is to say, it was necessary to show that a real anatomic lesion was present in those cases in which during life the paradoxic reflex was the only or the most conspicuous sign and in which operative procedures were undertaken for this reason with satisfactory results so far as the finding of the lesion is concerned. Soon such opportunities presented themselves.

In 1906 and 1907, I had the opportunity to observe two cases.[3]

CASE 2.—In this case, in which a localized hemorrhagic pachymeningitis was found in the right motor area, the paradoxic reflex was very distinct on the left together with a slightly exaggerated knee-jerk on the same side, but there was total absence of Babinski's and Oppenheim's toe phenomena and of ankle-clonus. The paradoxic sign was the most prominent symptom. When the blood was removed by the surgeon from the right hemisphere, the patient regained consciousness (he was deeply comatose before the operation), improved considerably and on the second day the patellar tendon reflex became normal and the paradoxic sign totally disappeared. Four days later, the same phenomena returned and the patient again became stuporous; the abnormal reflexes returned. The patient died two days later. Autopsy showed a reformation of the blood clot in the right hemisphere over the Rolandic area.

CASE 3.—This concerns a man who complained of pain in the right side of the head in the same place where he received an injury six months previously. There was also marked mental hebetude and somnolence. The left knee-jerk was exaggerated and the paradoxic reflex was obtained with the greatest facility. There was no Babinski reflex, no Oppenheim sign, no ankle-clonus. The contrast between the flexion of the toes on the right side and extension on the left on pressure of the calf muscles was most striking. Trephining of the skull with exposure of the upper part of the Rolandic area was performed. As the opening was made, the cerebral tissue bulged out; it was evidently under high tension. The surgeon immediately closed it up. Rapidly the patient regained his intelligence; the somnolence and headache totally disappeared. At the end of forty-eight hours the paradoxic reflex became weaker and on the fourth day could no more be elicited. The patient was reexamined six weeks later; the paradoxic reflex and the increase of the knee-jerk were totally absent.

These two cases with the anatomic proofs corroborated in the most forceful manner the conclusions which I reached at the beginning of my studies from purely clinical observations, to wit, that the paradoxic reflex is a sign of value in the beginning of an organic affection of the motor system or in cases of its irritation, while Babinski's sign is of inestimable value in cases with a definitely established lesion of the motor pathway.

I wish to add a third anatomo-clinical case which, like the previous two, presents an exceedingly definite illustration of the diagnostic value of the paradoxical reflex and of its practical bearing.

CASE 4.—*History.*—An Italian laborer, aged 23, of excellent health, during a quarrel sustained an injury over the left frontoparietal region at its upper level. He was struck with a piece of heavy iron. Laceration of the scalp ensued and a swelling of the parts of the size of a silver half dollar followed. There was no loss of consciousness, but mental hebetude and distinct motor aphasia developed. All the man could say was "yes" or "no." The patient came under my observation through the courtesy of Dr. I. Cortese about ten days after the trauma. On examination I found the above-mentioned hebetude and the motor aphasia. The patient could comprehend fairly well when spoken to, but was unable to articulate. Various objects were shown him and wrong names given them; when asked whether they were the proper names of the objects, he answered correctly "yes" or "no." Voluntarily, he could not articulate other words, or repeat them when spoken to him. There was no word-blindness or word-deafness.

Examination.—Physical examination showed good station and gait. The power of the right lower extremity was very slightly diminished, so slightly that the defect could be easily overlooked if the patient were not very closely examined. This was done by testing the resisting power of the thigh, leg and foot and comparing it with that of the corresponding segments on the opposite side. The right knee-jerk was also slightly more marked than the left; nevertheless the difference was distinct on repeated examinations. There was no ankle-clonus, no Babinski reflex, no Oppenheim sign. The paradoxic reflex was present on the right side in the most conspicuous manner; it could be elicited, with the greatest facility, during the entire fifteen days before the operation. The scalp presented the above-mentioned elevation over a small area at the uppermost portion of the left fronto-parietal region. The thickness of the lacerated surface prevented an exact determination of the condition of the underlying bony tissue; pressure provoked pain, however.

Treatment.—After the patient was placed in the Northwestern General Hospital his mental condition began to improve and the aphasia gradually disappeared. Both the paradoxic reflex and the slightly increased knee-jerk persisted with the greatest obstinacy and at no time could either Babinski or Oppenheim sign be elicited. The condition, in my opinion, therefore, indicated an involvement of the left motor area, probably only an irritation, but not a distinct lesion, in view of the absence of Babinski's sign. I advised an operation over the injured region of the scalp. Before operating an *x*-ray picture was taken, and a distinct involvement of the bony tissue was detected on the skiagraph. Dr. J. Thompson Schell performed an osteoplastic operation. The upper half of the Rolandic area, including the lacerated region, was exposed. A small fragment of the inner table of the skull was found imbedded in the dura, producing a subdural hemorrhage lying over the

2. Jour. Nerv. and Mental Dis., July, 1907.
3. Rev. Neurol., No. 22, 1906; and Am. Jour. Med. Sci., August, 1907

uppermost portion of the left motor area. The outer surface of the skull was intact. The opening of the lacerated dura was enlarged, the coagulated blood removed and the cortex exposed. The latter's surface was found intact; no laceration could be seen.

Result.—The patient gradually improved and finally recovered. The mental hebetude completely disappeared. During the first two days the knee-jerk remained slightly exaggerated, but on the fourth day became normal. On the sixth day, the paradoxic reflex became fainter and on the twelfth day after the operation it could no more be elicited. It was interesting to observe its gradual diminution and disappearance and it was also interesting to notice its conspicuous presence on the morning before the operation and its gradual obliteration after the operation. The patient was subsequently seen by me several times during a period of two months and at no time could I detect the presence of an abnormal knee-jerk or of the paradoxic reflex.

This case, I believe, is the most striking illustration of my contention concerning the practical value of the reflex. Added to the first two cases published in 1906 and 1907,[3] it furnishes decisive anatomic proofs for the *a priori* deductions made from clinical observations. The reflex has its diagnostic value and deserves a place in nosology of the nervous system.

In conclusion, I may mention that a systematic investigation was made by me in 800 individuals free from diseases of the nervous system, also in 250 cases of functional nervous diseases and at no time was extension of the toes elicited by the method employed by me for the detection of the paradoxic reflex.

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THE AUTOLYSIS OF THE CRYSTALLINE LENS

A PRELIMINARY REPORT

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In the study of traumatic cataract and the needling operation, I was struck with the very scant description of the manner in which the lens becomes opaque and the causes for its opacity and final absorption.

Parsons[1] states that after exposure of the lens fibers to the action of the aqueous they swell up, become opaque, protrude through the capsular wound, and finally break up in the usual manner; absorption being largely due to the leukocytes, which become swollen and filled with granules.

Schlösser[2] (1887) in an article on traumatic cataract, and Schirmer[3] (1889) have studied the microscopic changes very thoroughly, but without throwing much light on the cause of these changes.

Fuchs[4] states that the fibers swell up and become opaque through absorption of water; some are broken off and drop into the anterior chamber and are absorbed. But he also says that concussion without rupture of the capsule may cause the development of complete opacity of the lens. He, however, fails to state just why this occurs.

De Schweinitz[5] says that the opacity and liquefaction are explained by the action of the sodium chlorid of the aqueous on the globulin of the lens substance, as globulin is normally soluble in weak sodium chlorid solution. This theory was, I think, first suggested by Marcus Gunn in 1899 in the *Ophthalmic Review*.

In further search of the literature on the subject I have found no elaboration.

In order to understand the subject it is necessary to have a knowledge of the chemistry of both the aqueous and the crystalline lens.

Halliburton gives the composition of calves' aqueous as in Table 1.

TABLE 1.—COMPOSITION OF THE AQUEOUS

Water	986.87
Solids	13.13
Albumin	1.12
Extractives	4.21
Inorganic salts	7.70
Sodium chlorid	6.89

Thus it will be seen that it consists practically of normal saline solution with a trace of albumin and extractives.

The composition of the lens as given by Neumeister is set forth in Table 2.

TABLE 2.—COMPOSITION OF THE LENS

		Per cent.
Water		63.50
Solids		36.50
Albumins	35.00	
Insoluble albuminoids	17.00	
Crystalline (b)	11.00	
Crystalline (a)	6.80	
Albumin	0.20	
Fats	.29	
Lecithin	.23	
Cholesterin	.22	
Salts	.80	

It will be seen that the lens contains 35 per cent. of protein, the highest protein percentage of any tissue of the body. Of this 35 per cent. protein, 17 per cent. is in the form of an insoluble albuminoid which is insoluble in normal saline or water.

It is a true albumin and constitutes most of the lens fibers, its amount increasing from without inward in accordance with the increasing age of the lens fibers. The remaining protein consists of a small amount of serum albumin and two vitellins which are soluble in dilute saline or in water.

If these analyses are correct, we have great difficulties in explaining the foregoing theories.

I can hardly agree with Parsons' statement that most of these fibers are carried off by the leukocytes. In the first place, if there is no infection there should not be many polymorphonuclear leukocytes about, as they occur chiefly in inflammatory troubles; and secondly, it would not explain the traumatic cataract with absorption in those cases of concussion without rupture of the capsule.

Fuchs seems to keep on the safe side by simply stating that the fibers become opaque and are finally absorbed, and by giving no explanation for the cause of the concussion cataract.

De Schweinitz's promulgation of Marcus Gunn's suggestion is, if the chemistry be correct, entirely untenable. To be sure the (a) and (b) crystalline bodies would be dissolved out either by water or the aqueous, but the insoluble albuminoid which makes up the greater portion of the protein, and which occurs chiefly in the lens fibers, is insoluble in either the water or the saline.

It is easily seen from a study of the chemistry of the lens why it becomes opaque either after injury with the entrance of aqueous or even from concussion. In case of rupture of the capsule and entrance of the aqueous there would occur an immediate precipitation of this insoluble albuminoid, while the remaining portions

1. Parsons: The Pathology of the Eye, 1904.
2. Schlösser: Experimental Studies on Traumatic Cataract, 1887.
3. Schirmer: Arch. f. Ophth., 1889.
4. Fuchs: Text-Book of Ophthalmology, 1908.
5. De Schweinitz: Diseases of the Eye, 1910.

would be soluble and could be carried off by the circulation of the aqueous. In cases of concussion without rupture of the capsule, there undoubtedly occurs some rupture of the lens fibers, and then this insoluble albuminoid is brought into contact with the lens lymph which acts in the same manner as the aqueous in precipitating the albuminoid.

But what is the factor which causes the solution of this albuminoid so that it can pass off in the circulation?

As we have known for several years that most of the organs and tissues of the body show autolytic activity under favorable conditions, we believe that this autolytic action also takes place in the lens substance after the rupture and breaking up of the lens fibers. There is also quite a possibility that there is some ferment in the aqueous which hastens this action. It is more probable, however, that the aqueous serves its chief purpose in carrying off the liquefied lens substance. Therefore, in order either to prove or to disprove our theories, the following experiments were carried out, using calves' eyes as the working material. They were enucleated at the abattoir and transported immediately to the laboratory and kept on ice until used, which was always within six hours after enucleation.

Nov. 1, 1909, I received thirty calves' eyes and drew off the aqueous with a sterile hypodermic needle. The lenses were removed and macerated, then diluted with normal saline solution, so as to make a dilute solution of lens albumin of about 1 per cent. This was agitated so as to make as nearly a homogeneous suspension of the insoluble portions as possible, and 5 c.c. were measured into three test-tubes. To the first were added 5 c.c. of the aqueous solution. To the second were added 5 c.c. of the boiled aqueous. To the third were added 5 c.c. of normal saline solution. These were stoppered tightly and placed in an incubator at 36 C. and allowed to remain for twenty-two days.

Chloroform and toluol were added to prevent bacterial action. They were then removed and the amount of soluble nitrogen was determined in each tube. They were precipitated by the action of heat and acetic acid, filtered and washed, and the amount of nitrogen determined in the filtrate by Kjeldahl's method, which consists of digesting with concentrated sulphuric acid and copper sulphate and distilling the remains, after rendering strongly alkaline, into a measured amount of tenth-normal sulphuric acid and titrating the excess of the acid.

By this procedure I obtained the results shown in Table 3.

TABLE 3

No. 1.—5 c.c. lens albumin
5 c.c. aqueous
= 2.1675 c.c. N/10 H_2SO_4

No. 2.—5 c.c. lens albumin
5 c.c. boiled aqueous
= 1.9675 c.c. N/10 H_2SO_4

No. 3.—5 c.c. lens albumin
5 c.c. normal salt
= 0.8175 c.c. N/10 H_2SO_4

By this experiment it appears that the boiling of the aqueous has some inhibitory effect on its action on the lens albumin. It also appears that the aqueous either increases this process, or at least hastens it, because as will be seen, there is over twice as much soluble nitrogen in No. 1, which was combined with the unboiled aqueous, as in No. 3, in which there was only salt solution.

On account of lack of aqueous these experiments were not done with a control, so that the results are open to more criticism than they would otherwise be. All other experiments along similar lines with equal quantities of lens and aqueous were spoiled so that I lack confirmatory evidence, which I hope I shall be able to supply shortly.

Nov. 8, 1909, I started another series in the following manner:

Twenty calves' lenses were macerated with the accompanying aqueous, 15 c.c., and the whole made up to 500 c.c. with normal salt solution. Chloroform and toluol were added to prevent bacterial changes.

The preparation was then placed in a tightly stoppered flask and set in an incubator at 36 C., a measured amount being removed from time to time and the soluble nitrogen being determined by precipitating with heat and acetic acid and doing the Kjeldahl test on the filtrates as in the preceding experiment, with results given in Table 4.

TABLE 4.—VARIATIONS IN SOLUBLE NITROGEN AS DETERMINED BY HEAT AND ACETIC ACID

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/ 8/09	4.8000
11/16/09	2.6750
11/23/09	3.5875
11/30/09	4.3375
12/ 7/09	3.9625
12/15/09	3.8375
1/ 5/10	4.0875
2/17/10	5.9625
3/17/10	5.8375
5/23/10	8.1175
10/25/10	8.9125

The autolytic material was now set at room temperature until October 25.

As will be seen by a glance at these figures there was a considerable lessening of the soluble nitrogen immediately after starting the process, after which, with practically one exception, a gradual rise until the quantity was nearly twice that of the original amount.

This initial decrease could be explained by the possibility of a reversible action of the ferment and a building up instead of a tearing down, as is seen in some other instances in physiologic chemistry, notably some of the fat ferments.

The influence of the small amount of aqueous in this experiment was, I believe, almost *nil*, as I will show in the following experiment a similar picture without the presence of any aqueous.

Nov. 18, 1909, twenty calves' lenses were macerated and made up to 500 c.c. with normal saline solution. Chloroform and toluol were added and placed in an incubator at 36 C., being placed in a tightly stoppered flask to prevent evaporation; 20 c.c. was removed from time to time and the precipitable protein removed by Abeles' method, which is as follows:

Fifty c.c. of absolute alcohol, 2.5 gm. zinc acetate, and 50 c.c. of the fluid are mixed and allowed to stand ten minutes and then filtered through a filter moistened with alcohol; the residue is rubbed up in a mortar several times and filtered; the zinc is precipitated with 20 per cent. sodium carbonate solution; this is filtered, acidulated with acetic acid, evaporated and a Kjeldahl test done on the filtrate.

This method is claimed to give more accurate results than the heat and acetic acid method. By the use of this method I obtained the following results:

TABLE 5.—VARIATIONS IN SOLUBLE NITROGEN BY ABELES' METHOD

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/18/09	1.8375
11/22/09	2.5875
11/29/09	2.4625
12/ 6/09	2.5875
12/14/09	2.3275
1/ 3/10	2.4625
2/14/10	3.4625
3/17/10	4.4625
5/23/10	7.3675
10/20/10	7.3675

Set at room temperature until October 20.

In this and the preceding series, double estimations were made and when there was a variation the average of the results were taken.

It will be seen, as in the preceding experiment, that there was very little change for the first three months

and then there was such a pronounced change that one could hardly believe it to be accidental.

Here, as in the preceding series, there was little or no action while the material was at room temperature, from May to October, 1910.

Whether this was due to the slightly lowered temperature I cannot say. Neither can I say whether the increase in soluble nitrogen would have continued, as I had insufficient material to continue the experiment.

The tryptophan reaction was negative in both of these last experiments, on Dec. 11, 1910, showing that there was no very active ferment at work which would split up the amido-acids. Both preparations were tested for bacterial growth Dec. 12, 1910, by inoculating slant agar, with negative results.

If further investigation confirms my preliminary findings, then I think that it is safe to say that when the lens fibers are broken up they undergo autolytic changes. Whether this is increased by the action of some specific enzyme in the aqueous or whether it is due entirely to autolysis, it is difficult to say. If this be a ferment, then what is its source? Is it produced through the breaking up of the lens fibers, or is it derived from the circulating lymph? These questions I cannot answer.

These results coincide nicely with the facts as we know them. The lens of the young is much more easily liquefied and carried off, from the fact that there is less of the insoluble albuminoid present and the enzymes are all very active. In the aged, on the contrary, there is a much larger amount of the insoluble portion and all of the enzymes are relatively weak.

In closing I wish to thank Dr. E. L. Whitney for his many kind suggestions, and for the use of his private laboratory and apparatus at the Baltimore Medical College.

412 Cathedral Street.

TESTS OF THE VIRULENCE OF DIPHTHERIA BACILLI *

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Many times the laboratory worker is requested to test the virulence of diphtheria bacilli, especially in cases running for a long time, or in those occurring in institutions, and as we have had many interesting results from these tests we present some of them for consideration.

Our laboratory has always made virulence tests, on request either from the Board of Health or from the attending physician, the procedure being to isolate either by the streak-out method or surface seeding. For the former a series of eight or ten tubes is used, a fresh tube being inoculated from the incubated one; then, after sterilizing the needle, another from the freshly inoculated one, and so on through the series, taking from the first tube to the second, from the second to the third, etc., sterilizing the needle after inoculating each tube. In that way isolated colonies may be found on the later ones, as of course a smaller number of organisms is carried over each time. For the surface-seeding method five tubes are used, those being selected which contain a fair amount of water of condensation. This is rubbed over the surface in order to insure an even distribution at the proper time. Inoculation is made directly into the water of condensation of the first tube, the needle is sterilized, and a loopful is carried into the water in the second tube; sterilization and inoculation being repeated throughout the series. The tubes are then laid down at the proper angle to cause the water to flow over the surface of the serum and allowed to remain for from two to five minutes, when they are taken up carefully and put into the incubator in the upright position. After incubation isolated colonies are "fished" and planted on serum and in sugar-free broth, and a microscopic examination is also made.

If there is no particular need for haste, or, in cases in which the organisms are very few, we sometimes make serum and microscopic examinations only, inoculating several colonies one above the other on a single serum tube, thereby making a great saving in the amount of media used; for many times we "fish" from twenty to forty colonies from a single series, especially from long-standing cases, the broths being made from the serum tubes after incubation.

These are incubated for forty-eight hours and pigs inoculated subcutaneously, using 0.5 per cent. of the body weight. The reaction may be local or general, or, as is usual in positive cases, both, and is generally present the following day, although a negative report is never given until forty-eight hours after the inoculation.

The virulence of morphologically typical diphtheria bacilli (Wesbrook's A C D) varies, not only in different cases but in different strains from the same case, from those absolutely non-virulent to those which cause death within thirty-six hours.

This was first brought to our notice in December, 1906, when a series of six pigs was inoculated, each with a different strain isolated from the same release culture.

In order to hasten the report one strain was inoculated at the end of the twenty-four hours and this proved virulent, the pig being so nearly dead on the second day that it was chloroformed.

The other five strains were all incubated for forty-eight hours and the difference in their virulence was very marked:

1. This was the pig previously mentioned.
2. This pig died on the eighth day, the reaction being local and general.
3. This pig died on the second day.
4. This pig showed a very slight local reaction on the second day, which increased slightly during the next week, but at no time was there a marked reaction. This pig was kept under observation for six weeks, complete recovery resulting.
5. This pig died on the ninth day.
6. In this instance there was a slight local reaction at the end of twenty-four hours which became more marked daily for some time and there was a slough surrounding the point of inoculation, the pig dying at the end of six weeks.

All of the above strains, grown fifteen hours on serum, were of Wesbrook's A A1 types. A rush of work prevented further tests at this time but an interesting problem had been presented.

Nov. 9, 1907, three pigs were inoculated with three strains isolated from a release culture, two dying within forty-eight hours and the other showing no symptoms; in order to rule out a possible difference in the resistance of the pigs we kept the cultures and eleven days later inoculated the surviving pig, and a new one to serve as a control, with the avirulent strain and at the

* Read before the Society of American Bacteriologists, at Ithaca, N. Y., Dec. 28-30, 1910.

same time another pig with one of the virulent strains; the first two showed a very slight local reaction the following day and the one receiving the virulent strain showed a marked reaction but lived three weeks from the date of inoculation, dying at that time. On the twenty-second, or two days after the last inoculation, the two pigs receiving the avirulent strain were reinoculated—the original pig with the virulent strain and the control with the avirulent; the original pig developed marked local and general symptoms, dying on the eleventh day from the last inoculation, and the control never showed anything beyond a slight local reaction, from which a complete recovery was made within a few days.

Since this time we have endeavored to make inoculations from several strains from each case, although until recently we have not had a similar case. Aug. 14, 1910, three pigs were inoculated with three strains isolated from a release culture, one of which was virulent and two avirulent.

On several occasions we have been requested to make retests on cases running a protracted course, but it has been our experience that when it has been demonstrated that a virulent organism has caused the condition the virulence remains to the last, and two cases are presented:

CASE 1.—Duration from first positive culture to release by two successive negatives, seventy-six days. December 29, 1906, two pigs were inoculated, one dying on the second and one on the third day; December 30, one pig, which died on the second day. Jan. 17, 1907 (this was the last positive culture), two pigs were inoculated, both dying three days later.

CASE 2.—Culture was first taken Jan. 10, 1910, and a positive diagnosis returned; all symptoms disappeared within ten days, but the case ran until March 30, when the patient was allowed by the board to go into the country. Virulence tests, made January 28, February 13, and March 26, were all positive.

In general we have found the organisms persisting after a clinical case of diphtheria virulent, but the non-clinical carriers usually harbor non-virulent organisms, an example of this being presented before this society last year.[1] One of the conclusions drawn from that work was as follows: "Where virulent diphtheria bacilli are present, as shown by outbreaks of the disease, cultural tests of all contacts, and isolation of those showing positive cultures, is a duty owed to the community."

An illustration of the truth of this conclusion was demonstrated recently in an institution in which there are about 150 boys. Oct. 8, 1910, the first positive case was reported; another on the sixteenth, one on the twentieth, one November 3 and five on the fourth. This opened the eyes of those in charge and on November 6 seventy cultures were taken from the two cottages in which cases had occurred, fourteen of which were positive; on the eighth 136 cultures were submitted, of which six were positive. The clinical cases had been removed before the general culture taking began, so the last twenty positives were non-clinical cases; but of six cases on which virulence tests were made three were positive, from four to six strains being tried from all cases as follows:

Boy 1.—Six strains inoculated November 14, all positive, the pigs dying within forty-eight hours.

Boy 2.—Seven strains inoculated November 14, all positive, two pigs dying on the second day, two on the third, and three on the fourth.

Boy 3.—Seven strains inoculated November 16, all positive, two pigs dying on the second, four on the third, and one on the fifth day.

Boy 4.—Five strains inoculated November 16, and one December 11 from another culture; all negative.

Boy 5.—Three strains inoculated November 21 and two December 11; all negative.

Boy 6.—Four strains inoculated November 21, all negative; one strain December 1, the pig dying on the second day; two strains December 5 and ten strains December 12, being negative.

It occurred to us that possibly there might be a cause for the variation in virulence in the source of the primary infection. Accordingly the school hospital was consulted and we found that the first four boys, or three with virulent and one with avirulent organisms, came from the same cottage and the remaining two came from two other cottages where there had been no clinical diphtheria. Thus it will be seen that all the boys who were harboring virulent organisms came from a single cottage, and from this cottage most of the clinical cases had been taken, and that also a carrier of non-virulent organisms came from the same cottage. Boy 1, three days after the culture taking, became a clinical case and was sent to the contagious hospital, the others being isolated on the institution grounds.

It is interesting to note that those cases which showed a positive virulence at all times cleared up more quickly than the others. The last positive cultures from Boys 2 and 3 were taken twenty-one and twenty days, respectively, after the primary one, the others still being positive three weeks later.

While working on these institutional cases we had a few positive cases from another institution where they had a single clinical case, and the virulence was tested on two of them, one being the clinical case, and the other, one of the exposed children. From the clinical case five strains were inoculated, four of them being positive and one negative; of the positive pigs three died on the second and one on the third day; from the other case all three were positive, the pigs dying within forty-eight hours.

One other case occurred at the same time. A boy at home had clinical diphtheria and both his mother and brother had positive cultures. The mother's throat cleared within six days but the brother's persisted. A virulence test was made from the primary culture of the brother, who was never a clinical case, two strains being tested, one killing the pig on the third day, the other being non-virulent.

CONCLUSIONS

1. Clinical diphtheria is caused by virulent diphtheria bacilli.

2. As a rule, following clinical diphtheria, the organisms retain their virulence as long as they persist.

3. As a rule, virulent and avirulent bacilli are not found in the same case, but, as these cases do occur, several strains should be tested before they are reported non-virulent.

4. In diphtheria outbreaks a large percentage of the "carriers" harbor virulent organisms, although such carriers may develop no symptoms whatever.

5. Cultures should be taken from all contacts before terminating quarantine in all cases of diphtheria.

30 Huntington Avenue.

1. Slack, Arms, Wade and Blanchard: Diphtheria Bacillus-Carriers in the Public Schools, THE JOURNAL A. M. A., March 19, 1910, p. 951.

TREATMENT OF SINUS AND MIDDLE-EAR DISEASE WITH THE VACUUM-PUMP

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AURORA, ILL.

Careful study of the nose impresses one with the fact that the sinuses play a greater part in its troubles than we have ever imagined.

Many headaches which oculists formerly ascribed to eyestrain are now found to be caused by sinus trouble. As a rule, sinus headaches are easily diagnosed, as they are intensified by lowering the head, but frequently there are obscure cases in which diagnosis is difficult; it is well, therefore, in patients complaining of continuous or interrupted pain in the head, not increased by eye work, to make a thorough examination of the sinuses. Frequently the most painstaking examination fails to reveal pus at the natural openings of the sinuses. If the ostia are not patulous and the confined pus or secretion lacks the pressure necessary to force its way out, the physician is apt to miss the diagnosis of sinusitis and to ascribe the headache to some other cause. It is in such cases, that application of the vacuum-pump for a few minutes demonstrates the sinusitis by relieving the headaches. This is particularly true in acute cases, especially before they become purulent, and in my opinion the vacuum-pump should be used as a regular routine measure for diagnostic purposes in patients with these vague head symptoms.

In middle-ear diseases in which there is a patulous tube, the vacuum-pump is of inestimable value, as the secretions of the middle ear, antrum and even of the mastoid, if there are patulous openings, are easily drawn into the throat, the natural drainage spot. With suppurating otitis media with perforation the condition of the tube may be ascertained by inflation.

A suction-pump should never be applied to the external meatus, because while by this means the secretions are drawn from the middle ear and its adjacent cavities, one is also apt to draw germs and secretion from around the pharyngeal opening of the Eustachian tube up into the middle ear, and it is possible to reinfect or doubly infect that cavity. By covering a small cork with a piece of soft tubing and plugging the external meatus, after all available secretions have been swabbed out, and then applying the vacuum-pump to the nose the secretions are sucked out by the way that Nature intended they should go.

While we cannot tell positively the function of the different sinuses, we know that they must be well ventilated, and that the hypermoistened air and what little secretion is present are drained into the nose and pharynx by the vacuum pressure caused by the air as it rushes to and fro in the nasopharyngeal passage. In using the vacuum-pump we are simply magnifying Nature's method of emptying these spaces, and by this increase in power we are able to overcome partial stenosis of the ducts and openings leading from these sinuses to the upper air tract.

The first principle of good surgery is to drain if pus be present; and by use of the vacuum-pump, we are applying to these chambers this great principle. Relieving Nature of this extra work is frequently the turning-point in a cure.

Surgery should not be abandoned. Every nose should be made as nearly normal as possible so that there will be proper ventilation of the nasal chamber. All pressure should be removed from the openings of the sinuses; then with the vacuum treatment the radical operation can frequently be avoided. Unless there are urgent symptoms, such as pain and necrosis, months instead of weeks, as recommended by Ballenger, should be devoted to this line of treatment, for all operators know that the radical operation is not followed by prompt recovery, and that frequently months of post-operative treatment are necessary. Whether the patient should have a radical operation or not must be decided by the physician. Knowing that pus under pressure is very virulent and destructive to tissue, we should at once relieve these cavities when they contain pent-up secretions, and this the vacuum-pump enables us to do.

By using the vacuum-pump we do not leave solution in a sinus, nor do we infect cavities, as we are apt to do in the washing-out treatment.

Very little has been written on this subject and Ballenger's is the only book I have seen that mentions the vacuum method. The technic of using the pump is very simple. The patient's nasal cavity is thoroughly cleaned, and then sprayed with a 2 per cent. cocain solution to contract the tissues and render the sinus openings more patulous. After the pump is attached to the water faucet, the patient is instructed to close one nostril and insert the nasal tip in the other; by swallowing, the soft palate is then raised and closes off the nasopharyngeal space, while the suction of the pump holds the velum tightly in place. As soon as the patient feels the suction he should open his mouth, allowing the tongue to lie perfectly relaxed and breathing through the mouth.

In my experimental work along this line, I find that ten minutes of actual suction is sufficient to empty the sinuses and to give their membranes a stimulating hyperemia.

When the discharge is very profuse, I give the treatment twice a day, and if necessary, I give the instrument to the patient for home treatment.

A report of a few cases may be of interest:

CASE 1.—Mr. S., aged 42, had chronic frontal sinus trouble for some years. When first seen some years ago, a deviating septum was operated on, and the anterior third of both middle turbinates removed, thus curing the right sinus by establishing good drainage. The left sinus still discharges, as the patient will come to the office only when in pain, caused by the retained secretion during nasal congestion. A treatment by the vacuum-pump relieves the symptoms for weeks. This is one of the many cases every physician has in which the patient is too busy to be cured.

CASE 2.—Miss B., aged 18, had had headache for three days which was worse when the head was lowered. The nasal mucous membrane was congested; there was very little secretion. After five minutes' application of the pump the pain was entirely relieved. Treatments were given for three consecutive days; there was no pain or discomfort after the first treatment.

CASE 3.—Mrs. S., aged 45, had had intense frontal headache for six weeks; it was slightly worse on the left side. Glasses were fitted by two different physicians but with no relief of pain. Pain was continuous night and day; at times it was so great that the patient threatened to end her life if not relieved. The pain was exaggerated on leaning forward, and by jars. There was no discharge from nose or throat. The nasal examination showed no hypertrophies and the only discharge found was a very small drop of pus at the nasal opening at the left posterior ethmoid sinus. The vacuum-pump relieved the pain in two minutes, when a mucopurulent mass was blown from the left nostril; after the ten minutes' treatment there was absolutely no pain; a slight sense of fulness returned the next day but without pain. The patient was not seen for twelve days; there was no further complaint.

CASE 4.—Miss H., aged 16, a schoolgirl, came to be examined for glasses as her head had been aching for a week. Sinusitis was diagnosed; three treatments with vacuum pump effected a cure.

CASE 5.—Mr. H., aged 40, electrician, had previously been fitted with glasses. He has an extreme deviation of the septum to the left completely blocking the left nostril, and during the past year he twice set date for submucous operation. He complained of photophobia and pain in and over the left eye, radiating to the occiput. The pupil was contracted; there was no nasal discharge, and headache was not particularly increased by leaning forward. The pain was severe enough to awaken the patient. The pupil was dilated and he was sent home. On the following day there was no relief of symptoms, but the patient was relieved at once by application of the vacuum-pump, and there was no return of symptoms after the fourth treatment. The pump certainly corrected this diagnosis and as I look back I can recall many cases that would have been cleared up by this little instrument.

CASE 6.—Miss H., aged 25, has had progressive deafness with tinnitis and fulness of the ears for two years. There was partial stenosis of the nasal passage, which was relieved by operative means, and then inflations employed with benefit up to a certain point. After inflation, the patient would soon complain of stuffiness and noise. The vacuum-pump has started this patient on the road to recovery, as the serous secretion is now sucked from the middle ear; the sense of stuffiness and noise rarely returns and the hearing is now steadily improving, while before it was at a standstill.

There are great possibilities in these cases in which there is hypersecretion of the middle-ear and its accessory cavities. Many physicians are undoubtedly using the vacuum-pump, but in my clinical wandering I have not come across them. Future reports along these lines will be interesting.

A CASE OF PRIMITIVE OBSTETRICS

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History.—On Jan. 1, 1911, at 1:30 p. m., I was called to a negress, iii-para, age 22, unmarried, a domestic in a boarding house who had given birth to a boy at 3:30 a. m. of the same day under the following circumstances: Thinking herself pregnant for but seven months, she had made no arrangements for the birth of this child, as she had had twins about a year and a half ago, both children dying soon after birth. On Dec. 31, 1910, at 11 p. m., while alone in the house, she experienced a sudden pain in the abdomen which made her "double up." It soon passed off, and she thought it was simply cramp. In a short time pains began again, and she suspected that they were labor pains. After four and a half hours a boy was born. She waited till the placenta was born, and with scissors cut the cord about six inches from the umbilicus, and did *not* tie the cord which was still attached to the child. Washing herself as well as she could, and wrapping the child up in a blanket, she went to sleep. Next morning at 6:30 a. m. she rose, dressed, prepared breakfast for the family, did her other work, and then told her mistress what had happened early in the morning. She then wrapped all her bloody linen around the placenta, placed the bundle in a suit case, wrapped the child in some blankets, and went home on foot, a distance of six squares. Reaching home, which by the way was the home of the father, she went to bed and called me.

Examination.—I found the patient to be a fairly well-developed young woman, of apparent good health. Temperature was 98.6 F., pulse 65, respiration 18. Vaginal examination showed a slight median tear of the perineum, but the uterus was in normal condition following delivery. She was given a uterine douche. The child was fully developed, about 8 pounds in weight, and showed no marks or deformities. After giving the child a bath, I tied the cord about one and a half inches from the umbilicus, and cut off the rest. This procedure was, I think, not absolutely necessary, as the cord was absolutely bloodless, but was done for sake of precaution.

Subsequent History.—The mother never had a temperature above 98.8 F., or a pulse rate above 70 during her six days in bed. She got out of the bed on Jan. 6, 1911, and went back to her position. The child is doing well, and seems in no way concerned as to the attention he received when he entered this world.

The long time the child was attached to the placenta, a period, so far as the mother can guess, of ten minutes, probably saved it from hemorrhage. This case seems to emphasize the point that in a normal case the less the attending physician does the better it will be for the mother.

44 West Chelten Avenue.

A METHOD OF STAINING GRANULAR CASTS AND OTHER TUBE PRODUCTS

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Since it is often desirable to stain and mount tube-casts for preservation, the following method is suggested as being simple and easily carried out, and at the same time showing distinctly many features difficult to recognize in the unstained specimen:

Sediment the fresh urine in a centrifuge; pour off the supernatant urine, and fill the tube with 0.4 per cent. sodium chlorid solution. Gently shake the deposit, centrifuge, pour off the solution, and repeat the washing, this time centrifuging till the sediment forms a dense clump at the bottom of the tube.

Slowly pour off the solution, invert the tube and allow it to drain for a few moments; the sediment will remain in the point of the tube.

With a long pipette transfer a small drop of sediment to a cover-glass, gently spread with a fine platinum wire loop, and dry in air. The spread must be thin.

Treat for three minutes with a 5 per cent. aqueous solution of mercuric chlorid. Wash thoroughly in water.

Stain for five minutes with a fresh mixture of equal parts of the following solutions: methylene blue, 0.3 per cent. aqueous solution; fuchsin, 0.02 per cent. aqueous solution; wash in water, dry, and mount in balsam.

To demonstrate fat, stain the fixed spread for five minutes with a solution of Sudan III in 70 per cent. alcohol. Wash in water, and apply the double stain as before. Mount in glycerin or glycerin jelly.

Mucin and chromatin stain violet to indigo, granular casts and protoplasm stain from pink to dark red, waxy casts stain bright red and fat globules bright orange.

One washing may suffice when the urine contains a very small amount of sediment. The stains may be used singly, first staining with fuchsin, washing in water and counter-staining with methylene blue.

Leukocytes and epithelial cells stain distinctly, the protoplasm of renal epithelium usually taking a dark red color, that of squamous epithelium a light pink. Red blood-cells may show a pale salmon color. Mucinous products are distinguished chiefly as filaments, agglutinations, showing their structure by longitudinal or spiral striations, and homogeneous casts. These forms merge into each other, there are no sharp dividing lines. They are probably not of much significance when not accompanied by granular casts.

Granular casts stain red and are thus more easily found than in the unstained sediment. Homogeneous casts staining red may be found in connection with granular casts. They are frequently of high density and refraction, assuming a waxy character. Epithelial cells may be embedded in mucinous, granular or waxy material.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

COMPRESSED OXYGEN: Oxygenium compressum.—Compressed oxygen is gaseous oxygen, O_2, in a compressed state.

Compressed oxygen is a colorless, odorless and tasteless gas, slightly soluble in water and neutral to ordinary indicators. The gas is not inflammable but supports combustion much more vigorously than does air. Ignited carbon, sulphur, phosphorus and heated iron burn with an intense light in the gas. It colors colorless reduced indigo—carmine blue.

Compressed oxygen should be neutral toward litmus and when passed through an aqueous solution of silver nitrate no turbidity should be produced.

No color should be produced when 4 liters of the gas are passed through water containing potassium iodide and starch solution.

Not more than an opalescence should be produced when 4 liters of the gas are passed through an aqueous solution of barium hydroxide.

When 4 liters of the gas are passed through an aqueous solution of sodium hydroxide, then over heated platinum, and finally through an aqueous solution of barium hydroxide, no turbidity should be produced in the latter. When shaken in a gas burette with an alkaline solution of pyrogallol at least 94 per cent. of the gas should be absorbed.

Actions and Uses.—Compressed oxygen is administered for the purpose of relieving difficult respiration in cases of mechanical hindrance to the ingress of air to the lungs.

Dosage.—It is inhaled from a mouth piece attached to the cylinder.

TUBERCULIN PREPARATIONS (SEE N. N. R. (1911), P. 196)

Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Triturated Tubercle Bacilli.—Used for the preparation of an agglutinating liquid for the detection of agglutinins in the blood serum of tuberculous patients. The bacilli are rubbed in a mortar with 0.8 per cent. sodium chloride solution containing 0.5 per cent. phenol and centrifugalized for a short time; the preparation is to be diluted 1 to 10,000 before using. Marketed in bottles containing 0.1 Gm. triturated tubercle bacilli.

Spinal Anesthesia and Shock.—The principal agencies in the production of surgical shock and collapse are those which make a sudden and deep impression on the central nervous system or the large sympathetic ganglia through the medium of the sensory nerves. Experimental researches have shown that if we block the passage of such impulses by means of a local anesthetic drug injected into the large nerve trunks leading from the part, or into the dural sac, we safeguard the patient against shock. Spinal anesthesia, therefore, prevents shock by blocking off the centripetal impulses passing to the nervous centers. To obtain a perfect result by this method it is essential to produce a complete block, otherwise shock to a greater or lesser degree will result.—E. C. Ryall, in the *Practitioner.*

Therapeutics

ASCARIS LUMBRICOIDES

ROUND WORM

Many years ago it was a common belief among members of the medical profession that large numbers of children suffered from worms. More recently, the presence of these parasites as the cause of unpleasant symptoms has been in a measure neglected by the profession. While mothers, nurses and friends have been quick to suggest worms as the cause of noticeable symptoms, physicians have ridiculed the idea with the result that many a physician has been humiliated by having exhibited to him a worm, which had been passed by a child, after he had expressed the opinion that there were no worms. The fact is that worms are sufficiently prevalent among children for the physician to bear in mind the possibility of obscure symptoms being due to this cause.

In the case of the *Oxyuris vermicularis,* or thread worm, the presence of itching about the anus is so common and so conspicuous a symptom that there is little excuse for overlooking the presence of the parasite, but with the *Ascaris lumbricoides,* or round worm, the case is different. One or more of these worms may be present in the intestine without giving rise to any symptom of sufficient importance to attract the attention of either the parent or the physician. This renders it all the more important that the physician should be on the lookout and consider the possibility of the presence of this parasite in any child, who for a considerable period suffers from indefinite symptoms for which no clear explanation can be found.

The round worm is considered by some to be the most common of the intestinal parasites found in the human subject, although others believe that the pin worm is more common. The round worm is of a reddish or brownish color, about ¼ inch in diameter, the size of a goose quill. The male varies in length from 4 to 8 inches, the female from 6 to 12 inches. The male is the more curved, and the female the straighter. It has been estimated that the genital tubes of a large, mature female may contain 60,000,000 eggs. The eggs after having been passed from the intestine are exceedingly tenacious of vitality, which may be retained even for two or three years. These worms live, also, in the intestinal canal of cattle and hogs, and the eggs may be conveyed with the excrement of these animals to fields where vegetables are cultivated, and either on such vegetables, which are not carefully cleaned, or in water which is consumed in the fields or at the table, the ova may be taken into the stomach of the human subject.

The eggs are destroyed by boiling, and may be removed by filtration, so that people who use distilled or filtered water need have little fear of becoming infected with the round worm. After having been taken into the stomach, in the course of one, two, or three weeks, the worm is hatched out and then continues to live, ordinarily, in the upper part of the small intestine. From this, its usual habitat, it may travel into the stomach, and is sometimes expelled from this organ by vomiting. Sometimes it comes into the throat, from which it may be removed by the fingers. Rarely it enters the larynx, where it may produce asphyxiation; or it may go into the trachea and produce gangrene of the lungs. Sometimes it enters the nose, and in rare instances has passed

through the Eustachian tube into the middle ear. From the intestine it may also enter the bile ducts. The intestine may contain a single worm, but generally there are several, perhaps six or eight, and over a hundred have been found. When there are very many, they may collect together into a mass, and may cause intestinal obstruction.

As has been stated, worms may be present in the intestine and give rise to no noticeable symptoms. Probably many of the symptoms which have been attributed to worms are not really due to them, but to some other condition.

The symptoms which are due to their presence are: transient pains in the abdomen of varying severity; changes in the appetite, either impairment of appetite or ravenous appetite; occasional attacks of diarrhea, the movements sometimes having a mucous character; sometimes nausea and vomiting; distention of the abdomen; loss of flesh; and itching about the anus and about the nose. Nervous symptoms are frequently attributed to presence of worms in the intestine. These may be restlessness, especially during sleep, irritability, choreic movements and, in rare instances, epileptic convulsions of greater or less severity.

The presence of worms is definitely determined by finding the worm in the feces. This is most likely to be possible after the patient has taken a cathartic. A more certain way of making the diagnosis, but one which, of course, is more troublesome, is to examine microscopically the solid residue obtained by filtering the liquid feces. If worms are present, their eggs will be found in the fecal matter.

Associated with the worm is a peculiar, disagreeable odor, which is characteristic, and which is believed by some to belong to a toxic product produced by the worm, which toxin gives rise to symptoms referable to the nervous system.

Treatment directed toward the removal of the worm should not be commenced until a positive diagnosis has been made. The drugs most frequently used to extirpate this parasite are santonin and spigelium. The one in most common use and most effective is santonin, though it is a drug that may readily cause poisoning and, therefore, should be used with caution, especially in young children.

As is so well understood in the treatment for the extirpation of a tapeworm, the emptier the upper part of the intestine is, the less food or nutriment the worms have had, the better will they partake of the drug that stupefies or kills them. After they are stupefied, ordinary catharsis will eradicate them. The younger the child, naturally the less severe must be the treatment.

Taking a child 5 years old as a type, it should be given a cathartic dose of a laxative at night, such as an aromatic fluidextract of cascara or the aromatic tincture of rhubarb. The next morning the child should receive for breakfast only a cup of weak tea or a cup of clam broth, just so that it will feel it has had something to eat. Then the specific should be used, either santonin or spigelium. If the child is weak, or much younger than 5 years, spigelium should be the drug relied on.

For a child 5 years old:

℞	Gm. or c.c.		
Fluidextracti spigeliæ	50	or	fl. ʒii
Fluidextracti sennæ	25		fl. ʒi

M. et Sig.: One-half a teaspoonful, in water, every hour for three doses.

If it is thought best to use the more powerful drug, santonin, it may be administered as follows:

℞	Gm. or c.c.		
Santonini	0.30	or	gr. v
Hydrargyri chloridi mitis	0.20		gr. iii
Sacchari lactis	3		gr. xlv

M. et fac chartulas 10.

Sig.: A powder, in water, every hour for three doses.

If the above does not move the bowels in four hours after the first dose of the vermifuge, some other cathartic must be given, such as castor oil, or such portion of a seidlitz powder as is advisable for the age of the patient. In an hour after the last dose of either the spigelia or santonin, the little patient may have a good meal. At any time during the treatment if the child seems weak, a little brandy stimulation should be given.

Wormseed oil (*oleum chenopodii*) has long been used to eradicate this worm, and is more or less efficient. The dose is about 5 drops, several times repeated. A cathartic should follow. When this oil is used, it may be given on a lump of sugar or in a teaspoonful of granulated sugar.

Whatever the treatment, it is advisable to repeat it in three days, and again in a week. After the catharsis is complete, in the latter part of the day of treatment, a catheter should be inserted through the rectum, well up through the sigmoid, and a colon wash should be given with a small amount of warm saline solution, stronger with salt than the physiologic saline. This will wash out many of the eggs of the worms that have not been removed by defecation.

While the above treatment seems more or less elaborate and looks almost like a surgical proposition, it is not good sense to dally with a patient who has these worms. They must be eradicated, if possible.

It should not be forgotten that an unhealthy condition of the intestinal tract is usually associated with the presence of the round worm, and a chronic catarrh of the intestine is conducive to their welfare and encourages their growth and persistence. Hence we should always, after the above treatment, carefully regulate the diet and give such medication, bismuth and soda perhaps, or magnesium, as will cause normal movements of the bowels and cure the chronic catarrh of the upper intestine.

SANTONICA, U. S. P.

LEVANT WORMSEED

This is also known as Aleppo, Alexandria or European wormseed. It is a small shrub, about a foot in height (*Artemisia pauciflora*), which grows in Europe and Asia, and the part used is the "dried, unexpanded flower-heads" (U. S. P.). These flower-heads are very small, and are of a pale, greenish-brown color, and have a camphoraceous odor and a bitter taste. They contain from 1 to 2 per cent. of santonin, about 2 per cent. of a volatile oil, artemisin, a resin and a gum.

SANTONIUM, U. S. P.—SANTONIN

Description.—Santonin is a neutral principle obtained from santonica, and is "the inner anhydrid or lactone of santonic acid" (U. S. P.). Santonin undergoes changes if exposed to the light. It occurs in shining, colorless prisms, has no odor, is not readily soluble, but if held long in the mouth gives a bitter taste.

Action.—Santonin is not irritant, very slowly dissolves in the stomach and intestine, and but a small amount, ordinarily, is absorbed. If much is absorbed, it causes

nervous phenomena, one of which is yellow sight, zanthopsia, i. e., objects look yellow. This is a harmless condition, and may last for from several hours to a day. It may be due to an action on the cerebrum or on the retina, as the fluids of the eye are not colored. If a poisonous amount is absorbed, the nervous system is seriously affected and the circulation is depressed. There may be also some kidney irritation. If there is much absorbed, the urine becomes yellow, which in the presence of an alkali is changed to red. A bloody-appearing urine after santonin has been administered should be treated with acid, which will change the color to yellow. This would differentiate the santonin product from blood. After the administration of santonin, it is not unusual to have increased frequency of urination, and sometimes irritability of the bladder.

Fortunately, but a small portion of the drug is absorbed, and this is absorbed as sodium santoninate. The major part of the drug ingested passes through the intestine unassimilated and stimulates the intestine somewhat, causing increased peristalsis. It has not been determined whether santonin stupefies the round worm, or whether it sets up an intoxication of the worm which kills it. At any rate, the round worm, under the influence of santonin and a cathartic, is expelled, sometimes dead, sometimes alive.

Toxic Action.—If a poisonous amount of santonin is absorbed (and if santonin remains long in the stomach and intestine such an amount is readily absorbed) the hands and feet become cold, the face pale, there may be profuse perspiration and a weak pulse, typical collapse symptoms. On the other hand, there may be dizziness, tremblings, and convulsions, followed by coma, and death from failure of the respiration. The treatment is rapid evacuation of the stomach and bowels, the administration of strychnin, coffee and whiskey or brandy if there is circulatory failure, and the application of dry heat to the body. If the nervous symptoms are much in evidence, and especially if there are convulsions, inhalations of chloroform should be given, and then later the collapse symptoms treated.

Therapy.—There is only one legitimate use for santonin, and that is to remove the *Ascaris lumbricoides,* or round worm of the intestine. It has been recommended and used for incontinence of urine in children, in epilepsy, and in some diseases of the retina and optic nerve, but there is no justification for such use of this drug.

Administration.—It has been stated that an oil would cause this drug to be more readily absorbed, and therefore, poisoning could more readily take place. This seems not to be true. In fact, castor oil administered with, or perhaps better an hour or two after the santonin, is a preventive of its absorption.

The dose for a child 5 years old is 0.03 gram (½ grain), well combined with a small dose of calomel. This dose may be repeated once an hour for three times, and then not repeated for at least three days.

Sodium santoninate is more soluble, and therefore more rapidly absorbed than santonin, and hence is more dangerous than santonin, and should not be used.

It is needless to state, after the description of the above toxicology, that santonin should not be given carelessly to young children. In fact, it should not be sold by a druggist except through the prescription of a physician. Serious poisoning not infrequently occurs.

Official Preparation.—Trochisci santonini, troches of santonin, contain 3 per cent. of santonin, with sugar, tragacanth and a small quantity of orange flower water. Each troche contains 0.03 gram (½ grain). The dose for a child 5 years old would be one tablet, thoroughly chewed up, every hour for three doses, this followed by a cathartic.

SPIGELIA, U. S. P.

PINK-ROOT

Description.—Spigelia, genitive spigeliæ (*Spigelia marilandica*) is a plant of the states around or near the Potomac River. It is variously known as the Maryland, Carolina or Indian pink; often also called worm weed and American worm-root. The plant grows to a height of one or two feet, and the part official is the dried rhizome and roots. It contains a volatile alkaloid, spigelin, a bitter principle, a volatile oil, resins, tannin, wax, fat and a gum.

Action.—This drug has no special action externally. When taken internally it causes, ordinarily, no systemic effects. If it remains long in the intestine not accompanied by or soon followed by a cathartic, enough may be absorbed to be depressant to the nervous system and circulation. In exceedingly rare instances it might cause irritation to the nervous system and could cause death. In the intestine it exerts a stupefying or toxic effect on the round worm, and catharsis completes the extirpation of the parasite. The drug passes out of the body principally by the intestines, without any absorption having taken place.

Toxic Action.—It is exceedingly rare for any toxic effect to occur from spigelia. If, however, it remains long in the alimentary tract, enough could be absorbed to cause muscle and circulatory weakness, impairment of vision, dilatation of the pupil, possibly delirium and convulsions, with general paresis and coma. Such action from this drug, however, is exceedingly rare, and could only occur when the mistake was made of not combining in some way the administration of the drug with a cathartic. The treatment would be evacuation of the stomach and bowels, cardiac stimulants, especially strychnin, and surrounding the body with dry heat.

Therapy.—The only therapeutic use for spigelia is to promote the removal from the intestine of the round worm, and occasionally to aid in the removal from the rectum of the pin worm.

Official Preparation.—Fluidextractum spigeliæ. The single dose for a child of 10 years is 5 c.c. (1 fluidram), a teaspoonful.

Administration.—The fluidextract is the best preparation of this drug, and it is used combined in the same prescription with the fluidextract of senna, with one part of the fluidextract of senna to two parts of the fluidextract of spigelia, and the dose for a child five years of age would be about one-half a teaspoonful of the mixture, every hour for three doses, and then if the bowels do not move in two or three hours, some brisk purgative should be given.

For efficient action of any anthelmintic the bowels should be well moved some hours previous to the administration of the anthelmintic, and any nourishment given during the period of activity of the treatment should be either simple bouillon or weak tea.

It should be remembered that spigelia does not kill round worms, but stupefies them; consequently, if good cathartic action does not soon occur after the administration of the spigelia in combination with a laxative, a brisk cathartic, as a saline, should be administered, else the worms revive and are again difficult to remove.

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[For other information see second page following reading matter]

SATURDAY, MARCH 18, 1911

ANIMAL EXPERIMENTATION

The Bureau for the Protection of Medical Research of the American Medical Association has had prepared, by experts in the several fields, pamphlets on the relation of animal experimentation to practical medicine and surgery.[1] The latest pamphlet and one of the best and, we believe, most effective of the series, on "Some Characteristics of Antivivisection Literature," is by Dr. W. B. Cannon, the chairman of the bureau.[2] In it the nature of antivivisection methods is discussed after an extensive study of antivivisection pamphlets, leaflets and letters to the daily press.

The antivivisectionists have always made much of the testimonials of physicians in their behalf. Examination of the list of physicians whom they quote gives an instructive revelation of the methods of the agitators. Sir Charles Bell, dead nearly seventy years, secured the final proof of his greatest discoveries by experiments on animals done a hundred years ago; he is quoted as opposed to present methods of medical research. The address of Dr. Henry J. Bigelow, delivered forty years ago and based on experience in pre-anesthesia days, is quoted without reference to a later letter in which he admitted the utility of experimentation and objected sharply to the failure of antivivisectionists to discriminate between painful experiments and those in which pain is minimized. Dr. Lawson Tait, known generally as "a man of wild statements," whose denunciation of Koch, Pasteur and Lister has been widely quoted, is shown to have "enjoyed being in a minority," which led him to champion many lost causes.

Other physicians, whose opinions are quoted in antivivisection pamphlets, are as follows: Dr. Charles Clay, born in 1801, "interested in geology and archeology and collector of fossils." Dr. Charles Spooner, born in 1806, veterinary surgeon. Dr. John Elliotson, born in 1791, mesmerist, and founder of a mesmeric hospital. Dr. J. E. Garretson, born eighty-two years ago, and Dr. Elizabeth Blackwell, born eighty-nine years ago. Sir William Fergusson, M.D., born more than a century since, said to be ill-advised in some expressions of opinion, "especially in matters requiring more knowledge of physiology and hygiene than he possessed." Charles Bell-Taylor (dead in 1909, aged 80) who originated the widely quoted sentence: "Pasteur does not cure hydrophobia, he gives it"; and who, ignoring our great debt to animals for the medicines that induce sleep, for all those that give us local freedom from pain, for physostigmin, amyl nitrite, epinephrin, and many others, told his antivivisection admirers that experiments on animals have yielded us no knowledge of drugs. Sir Richard Owen, M.D., comparative anatomist and zoologist, born in 1804. Dr. John Abernethy, who *died* in 1831. J. J. Garth Wilkinson, born ninety-eight years ago, holder of an *honorary* M.D. degree, poet, mystic, expositor and editor of Swedenborg, author of "Improvisations of the Spirit," etc.

Information regarding the living "physicians and surgeons of greatest eminence" was obtained from the little autobiographies in "Who's Who." Dr. Arabella Keneally sets herself down as novelist and contributor to magazines, author of "Molly and Her Man of War," "Some Men are Such Gentlemen," and other volumes. Dr. W. Gordon-Stables describes himself as novelist, journalist, professional writer for twenty-four years, author of 136 books and serial novels; "In the Dashing Days of Old" and "The Pirates' Gold" are cited as examples. Dr. W. R. Hadwen is secretary of the British Union for the Abolition of Vivisection, public advocate of the repeal of the vaccination acts and the prohibition of experiments on animals; is engaged in reform movements relating to temperance, food, hygiene, sanitation, education, and burial laws; he finds his recreation in changing his occupation. Dr. Edward Berdoe, born seventy-four years ago, reports himself as a writer; author of Browning studies, "Browning and the Christian Faith," "A Browning Primer," "The Browning Encyclopedia," "The Biographical and Historical Notes to Browning's Complete Works," and several other books; also editor of the *Zoophilist*. Dr. Josiah Oldfield is given as a lawyer, and senior physician to the Lady Margaret Fruitarian Hospital, strong advocate of the fruitarian diet; author of "Flesh-Eating as a Cause of Consumption," "Butchery and Its Horrors," and other volumes. Dr. J. D. Buck, 72 years old, is said to be president of the Theosophical Society of Ohio, author of "Nature and Aims of Theosophy," "Mystic Masonry," "Why I am a Theosophist." Dr. Stephen Townsend is given as novelist, surgeon, and actor, on the stage for years, playing prominent rôles in "Sowing the Wind," "Slaves of the Ring," "Black Tulip," and others.

This completes the list of "eminent" physicians and surgeons who have opposed vivisection, concerning whom any characterization whatever was found—the rest are not of sufficient importance to be mentioned in any of the dictionaries or cyclopedias of biography searched through for information. And this is the array of medical experts who have denounced the method of

1. See advertising page 34, this issue.
2. Critic and Guide, February, 1911

investigation which, according to Osler, "did more, in the half-century between 1850 and 1900, to emancipate medicine from the routine and thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner."

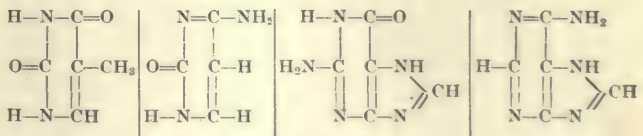
Dr. Cannon next examines some of the accounts of experiments cited in antivivisection pamphlets, and shows how persistently the opponents of medical research have refused to correct serious misstatements regarding the work of medical investigators. Fifteen years have passed since Dr. H. P. Bowditch pointed out the absurdity of the charge that supreme "agony" was caused by stimulating a piece of nerve separated from the central nervous system—the slander is still being distributed. Ten years have passed since Dr. W. W. Keen laid bare in THE JOURNAL instances of repeated interpolations, mistranslations, and garbled, inaccurate accounts of experiments in a single antivivisection publication—the New York Antivivisection Society is now circulating literature in which the deceptions and evil insinuations are still retained. Two years ago, Dr. F. S. Lee again indicated publicly definite instances in which the antivivisectionists were deluding the public—in pamphlets now sent broadcast these misrepresentations are still present, unchanged. Two years are not enough for the antivivisectionists to learn a proper sense of honor, nor are ten years, nor fifteen, for during these long intervals there has been no attempt of the prevaricators to reconstruct their statements in conformity with the facts.

In conclusion, Dr. Cannon points out the fundamental wrong committed by the antivivisectionists, which is the presentation of accounts of medical research without any reference to its motives or its triumphs. They fail to express the important issues of disease and death which depend on the results of medical investigations, and they refuse to recognize that by the sacrifice of some animals the chances for life and health for mankind and for myriads of other animals as well, are enormously enlarged. The accounts of these inestimable blessings which have resulted from animal experimentation are now available to everyone in the pamphlets above referred to published by the American Medical Association.

It is clear from the considerations given in this pamphlet that before the antivivisectionists can command the respectful attention of intelligent people they must fundamentally change their tactics. They must clear their literature of the superseded testimony of men long since dead, men who had no conception of the merciful procedures of modern experimentation, or of its life-giving results. They must rid their publications of the testimony of "experts" whose reputations, such as they are, were made in literature, art or theology, and not in medicine. They must purge their propaganda of the fraud and trickery and evil insinuation that have for years characterized it. And the process of making their methods clean and their ways straight should involve paying some respect to the high purpose of biologic investigation and its beneficent achievements for human welfare, which together give meaning and sanction to the experimental use of animals.

THE CHEMISTRY OF THE NUCLEINS

There is probably no field of science in which greater progress has been made recently than in organic chemistry, and not the least spectacular development of this has been along physiologic lines. Late years have witnessed a fairly adequate solution of the riddle of proteid composition, and in a recent article Kossel,[1] himself among the foremost investigators, summarizes the progress made toward the analysis of a similar problem—the composition of the nucleins. Nuclear materials from manifold sources all indicate these substances as the essential element in the composition of the nucleus; and when the importance of the latter is realized in all processes that are considered most peculiarly vital, the value of the study of the nucleins can be appreciated. In general it has been found that these can be split into two main constituents, a proteid and nucleic acid. The former does not differ radically from proteids from other sources; and it is the composition of the latter that forms the main problem of this particular phase of organic chemistry. By subjecting various nucleic acids to the less powerful means of chemical decomposition, it is possible to obtain certain groups which, by their junction, apparently build up the complex molecule. The nitrogen-containing groups so far found are four in number—thymin, cytosin, guanin, and adenin. The two former have a single, the two latter a double, carbon and nitrogen ring—this last being the so-called purin ring.



The remaining part of nucleic acid can in turn be broken up into two main constituents—phosphoric acid and a carbohydrate.

Although the chief groups entering into nucleic acid are thus enumerated, their quantitative relations and their arrangement in the molecule still remain to be investigated. In regard to the former point, it has been found that for each of the four nitrogen-containing groups there are in the molecule one each of the carbohydrate and phosphoric acid groups, thus giving at the very least twelve of these simpler bodies for each nucleic acid molecule. Needless to say, the nucleic acids from various sources differ in composition, and there are countless ways in which this may occur. So nucleic acids have been found in which one or more of the four

1. München. med. Wchnschr., 1911, lviii, 65.

nitrogen-containing groups are absent. The carbohydrate in turn may have only five carbon atoms, instead of the usual six, or conceivably even less.

The proteid and nucleic acid, forming by their union a nuclein, may vary considerably in the way they are joined. In some cases the union is a feeble one, and in others it is so strong as to offer obstinate resistance to decomposition. One of the chief sources of material for the study of the nucleins has been the heads of spermatozoa of various animals, and it is a peculiar fact that the firm type of union has been found in the sperm nucleins of warm-blooded animals, while lower forms of life have the other type. Unfortunately, not enough work has as yet been done to justify generalization on this point. In those cases in which the proteid molecule has been found loosely held, the union is similar to that of a base and an acid to form a salt. Such proteids are much more strongly basic in character than usual, and the explanation has been found in their chemical composition. The groups forming a proteid molecule are for the most part of the "amido-acid" type—that is to say, they possess an acid as well as a basic, amido (NH_2) radicle. A simple instance of such an amido-acid is amido-acetic acid, $H_2{=}C(N)H_2{-}COOH$, in which the COOH group possesses acid, the NH_2 basic properties. In the more complex amido-acids there may be more than one amido group, and it is of this type that the basic proteids—those found loosely bound to the nucleic acid—are composed. Other more complex nitrogen groups, that also impart basic properties to the molecule, occur in them as well, giving these proteids a nitrogen percentage much higher than that of the more usual forms.

It will be seen that considerable progress has already been made toward the solution of the problem of nuclear composition. Since it is the chromogenic—the nuclein—portion of the nucleus that initiates cell division and, according to our present belief, transmits the hereditary functions of all life, the further developments of this subject assume an importance far beyond the scope of the chemical problems involved.

VAN 'T HOFF AND MEDICAL SCIENCE

There are certain persons who are fond of insisting that the fundamental medical sciences should be taught in what they are pleased to call a "practical" manner. They resent the growing tendency to insist that the preliminary education in science subjects should be given in colleges and universities rather than in the medical schools. "Medical chemistry and medical physics," they say, "should be taught by medical men in medical schools, so that the students may learn what is of practical use to physicians without wasting their time on matters of mere theory."

If a refutation of these arguments were necessary there could be found no illustration better than that furnished by the entrance of physical chemistry into medical science. How many men who were taught chemistry in the average American medical school by the "practical teacher" two decades ago, or even half as long ago, were given the slightest inkling of the then theoretical subject of physical chemistry? We doubt that there were any — certainly they were few, and fortunate in that their teachers were less "practical" than they were supposed to be. Yet at this time the same graduates, now in their best years, know that progress is being made behind what to them must remain a closed door, unless they have the time and the rare energy to go back and make up one of the many defects in their training, for which not they themselves but a faulty system of education is responsible. None of us can foretell what direction progress will take, and we know not which scrap of theory of to-day will be the foundation of our great advances a few years hence. The plant cells and salt solutions of de Vries and the semipermeable membranes of Traube, unknown to the medical teacher two decades ago, were then pointing out lines of investigation whose fruits are now being reaped by physiology and pathology, and prepared for the clinical medicine of the near future. Therefore we must teach our fundamental sciences as sciences, and provide our students with a grasp of principles which will enable them to understand the new developments in these sciences, rather than equip them with a catalogue of supposedly useful information which may be useless slag by the time their diplomas are framed.

We are impelled to the foregoing reflections by the news of the death of Prof. J. H. van 't Hoff, the eminent Dutch chemist, since 1895 professor of general chemistry in the University of Berlin, and in 1901 awarded the Nobel prize for physicians. His was one of the great minds in which were developed the fundamental ideas which have brought physical chemistry into the foreground during the past quarter of a century, and for the assistance afforded to physiology and pathology over many hard places in their road by this new arm of chemistry must medicine be grateful.

The botanists Pfeffer and de Vries developed many of the fundamental facts on which depends the theory of osmotic pressure, advanced by van 't Hoff in 1885, and on which his fame most largely rests. This theory, amplified, and corrected as to certain features by the discovery of Arrhenius of the principles of electrolytic dissociation, has been of the utmost service in all the biologic sciences. It is, indeed, impossible to consider any vital phenomena without taking into account the osmotic pressure of the solutions in which they occur, and the influence of the diffusion membranes which form the cell walls and the nuclear boundaries. To understand hemolysis, phagocytosis, absorption, secretion, edema, expansion and contraction of cells, the

action of drugs and poisons, without a real knowledge of the principles of solution and osmotic pressure, is entirely out of the question, and the terminology of physical chemistry is as familiar to the well-trained medical student to-day as was Gray's "Anatomy" to the student of an earlier generation. It is perfectly safe to say that physical chemistry will give fully as much to medicine as organic chemistry, and it is our duty to realize that it is to such masters as van 't Hoff, who furnish us with principles, that we are indebted, more than to those who merely apply them to our immediate needs and uses.

ADVERTISING—LAY AND MEDICAL

The fight during the last five or ten years for decency and truthfulness in advertising has had one result: many newspapers and magazines no longer accept advertising "copy" in which untruthfulness and fraud are evident. As a corollary of this state of affairs, many advertisers no longer prevaricate in the advertising pages of the journals they patronize; they confine their untruthfulness to the circular letters and advertising leaflets which they send out direct. For this reason it has become increasingly difficult to convince publishers that many a firm whose advertising they accept is perpetrating a fraud on the readers of their magazines and newspapers.

This point was recently emphasized in a letter from the editor of a popular health magazine—*Life and Health*—calling attention to the degree of watchfulness that a publisher must exercise, if he desires to keep his advertising pages clean. The editor in question sent us a booklet issued by a firm that advertised in his magazine—the Robinson Manufacturing Co. of Toledo, Ohio. This concern manufactures and sells portable Turkish-bath cabinets—devices, one would imagine, that could be sold on their merits. The advertisements, as they appeared in different magazines, were practically unobjectionable; the booklet, however, sent direct from the company to the prospective customer, contained the most preposterously false and fraudulent claims. For example:

"Kills the poisons of nearly every disease known to physicians."

"Quickly destroys the uric acid of rheumatism and malaria."

"Destroys the germs of consumption or tuberculosis by the heat produced."

These are but some of the claims made for the Robinson bath cabinets. The editor of *Life and Health* says that as soon as he saw the booklet, he at once rejected the firm's advertising on the grounds that he does "not believe it is consistent with our policy of teaching right principles to advertise such literature."

The effect this action had on the advertising agent of the magazine was thus described by the editor:

"I have constantly refused to accept this class of advertising, and it has rather 'queered' our advertising agent, who thinks I have taken an extreme view of things, and it certainly has been a policy that has very greatly diminish our advertising receipts. It is not a policy that helps o subscription list very much."

We have here, briefly, the problem that confronts t publisher of every journal, lay or medical, when uses discrimination in the acceptance of advertisement It is not surprising that the advertising agent thinks t publisher of a lay journal is "extreme" when he refus to accept any advertisement that finds acceptance supposedly reputable medical journals. Yet, we fin a well-known New York medical weekly as well as oth medical journals carrying advertisements of this bat cabinet and reputable physicians lending moral an financial aid to these journals both by subscribing f and by contributing to them. No wonder newspape and magazines accept advertisements of things of a me ical nature that are fraudulently exploited, so long medical journals will accept similar advertisement Nor is it surprising that the physician who writes to lay publication, protesting against the medical advertis ments therein, receives a letter suggesting that, befo the medical profession tries to reform the lay press, should first clean its own skirts.

Current Comment

A DEMONSTRATION OF ARMY SANITATION

The mobilization of a large force of men on t Mexican border by the military authorities will giv opportunity for a demonstration of such improvement i army sanitation and hygiene as has been made since t Spanish-American War in 1898. The lesson of that wa was severe. On account of lack of an adequate medic staff, organization, equipment and appropriations— grievous unpreparedness for actual field conditions—t mortality and morbidity of the forces, under simp camp conditions, which, on account of the absence o danger of invasion by the enemy, should have been unde complete control, were not much better than those of t Civil War. The possibilities of camp and army sanita tion under actual war conditions were well demonstrate by the Japanese in their war with Russia. It remains t be seen whether our army has profited by these tw examples. Improvement has undoubtedly been made and conditions, in the regular army at least, unde practice-camp conditions, with comparatively sma forces, have perhaps become almost ideal. The experi ence with small forces in the Philippines has also n doubt served a useful purpose in teaching the require ments of army sanitation under war conditions. Eve though the mobilization of the present forces is onl intended for maneuver purposes, the conditions will mor nearly simulate actual war conditions than any move ments of the army during the last decade. In a semi tropical country, with scant or defective water-supply with possibilities of malaria and other infectious dis eases, the resources and organization of the medica department would be practically tested.

COMPRESSED OXYGEN

The report of the Council on Pharmacy and Chemistry in another part[1] of this issue shows how the work of this body is broadening. In the past the Council's reports have dealt with proprietary articles or with non-proprietary drugs which form the basis of proprietary medicines. The present report relates to an entirely different substance—oxygen—which, so far, is one of the few things which have not been appropriated by proprietary medicine houses. The purity of oxygen is a most important matter—more important than the purity of many official drugs—because it is often depended on to save a life that is at its lowest ebb, and where the slightest impurity might have the most serious consequences. While to those unfamiliar with analytical work of this nature, the amount of labor represented by the report of Professors Smith and Leman will not be apparent, it was none the less real. It is gratifying to find men of high standing outside of the profession ready to cooperate with the Council in its efforts to bring about better conditions. The good quality of the oxygen on the American market is a matter for congratulation.

PHYSICIANS AND DREADNAUGHTS

Spectacular heroism usually has a prompt reward in homage and praise; but that is a truer heroism which is unostentatious or unrecognized, because it is not for glory; rather it is an unselfish self-sacrifice. "Those missionary doctors who are going among the stricken natives in an effort to stamp out the plague are as great heroes as any who ever faced the yellow fever in their own country, and more so, because the duty did not come to them. They sought it out." Thus speaks the St. Louis *Star* of the situation in China, and adds this pointed comparison: "The missionary doctor presents a less spectacular picture to the eye than a dreadnaught, but he is a far better messenger for civilization to send to those who dwell in darkness." The spread of the bubonic plague in the East has inspired terror in the inhabitants and foreign visitors and many of the latter have made a hasty departure from the stricken regions. The physicians,[2] as always, are going about combating the pestilence in the most vigorous fashion, uninfluenced by fear or terror; and to compare them with dreadnaughts is indeed appropriate.

FAKES AND THEIR IMITATORS

The success, through advertising, of a nostrum which has little or no special merit, causes a host of imitators to spring up, in the hope of reaping a like profit in humbugging the people. But failure often results, because these imitators do not possess the business shrewdness or the means for advertising which were at the disposal of the original fake. This is emphasized in the March number of the *California State Journal of Medicine* which describes the Viavi fake. Its imitators are clumsy, but "they may be also deadly, as when they imply that cancer may be prevented or cured by the use of their stuff. They all forget that what has made the monumental success of the Viavi fake is not the fake itself—it is the keen, shrewd, cunning brain of the little Law brother, one of San Francisco's most wealthy and distinguished citizens. It is not the three little shells and the elusive little pea that are so valuable to the 'shell game' faker; it is the dextrous way in which he works the fake. The promoters of these clumsy imitators of the Viavi fake will never get to be directors of the Young Men's Christian Association; they have not the guiding genius of the little Law brother to manipulate the fake."

1. N. N. R., page 813; Propaganda for Reform, page 833.
2. In this connection it will be of interest to note a letter from a missionary physician in China which appears in our Correspondence Department in this issue.

FIRST AID TO INJURED CREDIT

The general advantage to the public of instruction in "first aid to the injured" seems not to have been wholly realized heretofore. In a recent instance, after purchasing some goods in a store, a man offered in payment a check signed by a physician and asserted that he was the physician. The clerk, whose suspicions were aroused, asked the customer to state how many bones there are in the human body. The alleged physician was unable to do so, became confused, was arrested and proved to be an impostor. We hope that the employer appreciates the value of such a clerk. He has learned the first principle underlying first aid to the injured—that prevention is better than cure.

Medical News

ALABAMA

Society Meetings.—Hale County Medical Society, at its annual meeting in Greensboro, elected the following officers: president, Dr. Reuben F. Monette; vice-president, Dr. R. A. White, Jr.; censor, Dr. Edgar P. McCollum, and secretary-treasurer and county health officer, Dr. Charles A. Poellnitz, all of Greensboro; health officer, Dr. Shelby C. Carson for Greensboro; Dr. Elisha N. Driver for Newbern, and Dr. Rufus J. Griffin for Moundsville.——Dallas County Medical Society, at its annual meeting, held in Selma, elected the following officers: Dr. William W. Harper, Selma, president; Dr. Lawrence H. Moore, Orrville, vice-president; Dr. James S. Chisholm, Selma, secretary, and Dr. Samuel B. Allison, Carlowville, county health officer.

CALIFORNIA

Milk Commissions to Meet.—The third annual meeting of the California Association of Medical Milk Commissions will be held at Santa Barbara during the meeting of the State Medical Society which convenes April 18. The chief subject to be discussed at the meeting will be "Bovine Tuberculosis in Relation to Public Health." Papers on this subject will be read by Dr. George S. Baker, inspector in charge of the Bureau of Animal Industry, United States Department of Agriculture; Dr. C. M. Haring, professor of veterinary science in the University of California; Dr. M. E. Jaffa, professor of agricultural chemistry in the University of California, and Dr. Chester Roadhouse, formerly United States Meat Inspector, and expert to the San Francisco County Medical Milk Commission. Physicians, sanitarians and producers and consumers of milk are invited to attend the meeting.

ILLINOIS

Supreme Court Decision.—By a recent ruling of the supreme court in the case of The People vs. Wilson, paragraph 12 of the Medicine and Surgery Act is declared unconstitutional. This section has to do with the licensing of itinerant vendors

of patent and proprietary medicines, which makes it necessary for such persons to pay a license of $100 a month for the privilege of selling medicines.

Personal.—Dr. Frederick A. Renner has been appointed local surgeon of the Illinois Traction System Hospital Association and of the Illinois Traction System at Benld.——Dr. Charles G. Beard, Sterling, has been appointed local surgeon for the Burlington System at Sterling and Rock Falls.——Dr. N. E. Wayman, Chicago, has been appointed state bacteriologist, vice Dr. William H. Holmes, resigned.

Chicago

Dismissal Confirmed.—Twelve members of the Board of Managers of Mary Thompson Hospital met, March 4, and confirmed the dismissal of seven members of the staff and two interns, who are said to have threatened to disrupt the hospital if they were not reinstated.

Get Together Banquet.—At the get together banquet, held March 9, by the Chicago Retail Druggists' Association, members of the Chicago Medical Society and the Chicago Odontographic Society were entertained. Dr. Alexander Hugh Ferguson presided as toastmaster. Harmony was the dominant note of the meeting.

Death-Rate Increasing.—In the quadrennial report of the department of health, the annual mortality for the period is given as 15.72 per 1, 000 in 1907, 14.49 in 1908, 14.58 in 1909 and 15.21 in 1910, showing an increase in the mortality rate for last year. This increase is in the deaths by violence, heart disease, cancer and nephritis. In the preamble of the report the health commissioner lays the responsibility of the increasing death-rate to lack of appropriations properly to carry on the work of the health department, which he says is handicapped by lack of men and money.

MARYLAND

Inmates Build New Asylum.—In the erection of the new State Insane Hospital for Negroes at Crownsville, near Annapolis, much of the labor is being done by negro inmates of the different asylums of the state.

Baltimore

New Hospital.—The South Baltimore General Hospital was chartered in January last. Among those connected with the institution are the mayor, and Drs. Guy L. Hunner, Harry E. Peterman and Anna S. Abercrombie. The incorporators are endeavoring to raise $100,000 for the buildings of the new hospital. A site will probably be chosen on the water front at Locust Point in the Fort McHenry district.

Diphtheria at Johns Hopkins.—The outbreak of diphtheria in Johns Hopkins Hospital is practically over. The health department publishes figures to show that the outbreak was confined to the hospital and to the Church Home and Infirmary, and that there has been no increase in the prevalence of the disease in the city at large. None of the cases in the hospital was serious as antitoxin controlled the disease satisfactorily. On March 11 there were still eight cases in the hospital, all in the isolation ward. Work at the Johns Hopkins Medical School was resumed March 8 and 9. The dispensary was opened March 9, and the dispensary at the Hebrew Hospital on the same date. The Church Home has been reopened for patients.

MASSACHUSETTS

Bequest to Hospital.—By the will of Mrs. Rosa A. Cole, Kingston, a bequest of $100,000 is made to the Jordan Hospital, Plymouth, and in addition the hospital is made residuary legatee of the estate.

Personal.—Dr. John W. Chase, Dedham, was struck by an automobile, March 5, fracturing two ribs and causing injuries to his knees and internal injuries.——Dr. William H. Ruddick, South Boston, has been appointed chief marshal of the Evacuation Day parade.

Benefactions to Hospitals.—By the will of the late Mrs. William O. Moseley, Newburyport, the sum of $200,000 is devised to Anna Jaques Hospital, Newburyport, and $60,000 to Harvard University for two fellowships to enable medical students of marked ability to pursue studies abroad.——The late Sullivan Niles, Cambridge, bequeathed $3,000 to the Cambridge Hospital.——Salem Hospital was bequeathed $5,000 by the late Edward Lane, Salem, for the establishment of a free bed.

MICHIGAN

Medical School Anniversary.—On February 22, the Coll of Medicine and Surgery of the University of Michigan, A Arbor, celebrated the anniversary of its foundation. Alfred S. Warthin addressed the evening meeting on "Dise in Art."

Object to Newspaper Exploitation.—The Hillsdale Coun Medical Society, at its meeting, March 3, adopted resolutic requesting the newspapers of the county to refrain fr noting the names of physicians in connection with operatio or cases of illness, on account of the publication bei unethical and in the nature of advertising.

Reference Library for Kalamazoo.—It was announced the February meeting of the Kalamazoo Academy of Medici that a medical reference library will soon be installed in th city and made available for members of the professio *The Bulletin*, a semi-monthly publication of the Kalamaz Academy of Medicine, made its first appearance, February 2 It is an eight-page sheet, and contains the program for t succeeding session of the academy, and also other news iten and reports of special cases.

Personal.—By the will of Miss Sarah Finney, $100,000 devised to Dr. Andrew W. Imrie, Detroit.——Dr. A. Mari Allen, Adrian, was thrown from his buggy, February 2 breaking his clavicle.——Dr. Charles L. Grube, Saginaw, h compromised his claim against the city of Saginaw for se vices during the small-pox epidemic to $2,434.95.——D Charles F. Kuhn, Detroit, was severely shaken up and bruise in a collision between his automobile and another car, Fe ruary 13.——Dr. Joseph Foster, Lansing, who has been with influenza, is reported to be convalescent.——Dr. Hen F. Thomas, Allegan, was seriously injured in a runaway acc dent, March 4.——Dr. Jean H. Whitney-Morse, Battle Cree sailed for Porto Rico, March 11.——Dr. J. Earl McIntyre h been appointed local surgeon of the Grand Trunk System Lansing, vice Dr. George E. Ranney, promoted to distri surgeon.

MISSOURI

Physicians Indicted.—Eleven indictments are said to ha been returned by the United States grand jury at Kansas Ci against physicians of that city charged with violation of t federal statute which makes it a crime for any one to use t mails for the dissemination of information regarding t induction of abortion. The accused were arraigned Februa 28, pleaded not guilty and were released on bonds of $5,0 each.

Medical License Law Valid.—In the case of George F. Smit Webster County, a chiropractic charged with "treating a attempting to treat the sick and afflicted without first havi obtained a license from the State Board of Health," in whi the defendant appealed to the supreme court, a decision h been handed down which sets forth "that the method of pra tice disclosed by this record may be harmless and useful, b this treatment for sick related, to say the least, to the practi of medicine or surgery and so within the terms of the statute

St. Louis

Personal.—Dr. C. W. Gould, assistant city bacteriologis who has been ill at the City Hospital, is reported to be impro ing.——Dr. Frederick B. Hall has been appointed roentgeno ogist at the City Hospital, vice Dr. Russel D. Carman, resigne

Section Officers Elected.—The Section on Internal Medici of the St. Louis Medical Society has elected Dr. Louis Behrens, chairman; Dr. Oliver H. Campbell, vice-chairman a editor, and Dr. Llewellyn Sale, secretary-treasurer.——T surgical section of the society has elected Dr. M. George Gori chairman; Dr. Roland Hill, secretary, and Dr. Edmund A. Ba ler, treasurer.

NEW YORK

Physicians in State Legislature.—The assembly numbe among its members four physicians: Drs. Minor McDaniel health officer of Enfield Center; Charles S. Butler, health of cer of Harpersville; Robert P. Bush, Horseheads, and Joh Seeley, Woodhull.

College Seeks New Site.—It is reported that Albany Medic College is endeavoring to secure from the board of supervisor of Albany County an easement transferring to the college t property formerly occupied by the Albany penitentiary as site on which to erect new college and laboratory buildings.

Rochester Academy Meeting.—Owing to sudden illness, D Frederick G. Novy, Ann Arbor, Mich., was unable to be prese

at the meeting of the Rochester Academy of Science, March 1, and the dinner in his honor was cancelled. Dr. Luzerne Coville, Ithaca, presented a paper before the academy on "Arteriosclerosis."

Hospital Notes.—Physicians of Babylon desire the establishment of a hospital in that village. The nearest hospital at present is that at Hempstead. The Board of Trade of Babylon has adopted a resolution favoring the project.——Auburn City Medical Society has adopted a resolution favoring the conversion of the present municipal hospital into a sanatorium for the care and treatment of tuberculosis patients.——Herkimer Emergency Hospital was obliged to close its doors, March 1, on account of financial stress. It is hoped that the hospital can be reorganized on a satisfactory basis.

New York City

Donation to Hospital.—Mr. Adolphus Busch, on the occasion of his golden wedding, March 7, donated $5,000 to the Children's Hospital.

Last Harvey Society Lecture.—The last lecture in the Harvey Society course will be delivered at the New York Academy of Medicine, April 1, by Dr. S. Weir Mitchell, Philadelphia, and will be "A Lecture on William Harvey, the Discoverer of the Circulation of the Blood."

Hospital in Hotel.—A unique feature in a new hotel now in the course of construction at Thirty-Fourth Street and Broadway, will be a hospital so arranged as to accommodate twelve patients at one time. This hospital is to be situated on the twenty-third floor of the hotel.

Department of Health Bulletin.—The Department of Health of the City of New York has undertaken the publication of a monthly bulletin which is supplied free of cost. The bulletin is intended for the information of public health officials, physicians and laymen interested in health problems, and will contain in each issue editorials and special articles dealing with various phases of public health work. The bulletin will appear about the fifteenth of each month.

Bellevue Overcrowded.—In this institution, whose normal capacity is 1,050, the average census for February was 1,200. On March 2 the number of patients was 1,330, the highest in the history of the institution. The authorities complain that they have been unable to transfer patients to the Metropolitan or the City Hospital for several weeks as these institutions are also overcrowded. The charter of Bellevue provides that whenever a case ceases to be a proper one for treatment at Bellevue, it shall be transferred to the Metropolitan or City Hospital on Blackwell's Island and a meeting of the trustees has been called to request the city to make some provision for patients from Bellevue.

Reorganization of Hospital.—At the reorganization of St. Mark's Hospital, March 7, the following new board of directors was elected: president, Dr. Benjamin T. Tilton; vice-president, Dr. Alexander Shulman; secretary, Dr. Andrew Von Grimm, and Drs. Otto Maier, Caesar A. Von Ramdohr and Charles R. L. Putnam. The following were added to the medical board: Drs. Benjamin T. Tilton and Charles R. L. Putnam, visiting surgeons; Dr. Andrew Von Grimm, visiting gynecologist; Dr. Otto Maier, visiting pediatrician and obstetrician; and Dr. Harry G. Watson, attending physician and visiting gastro-enterologist to St. Mark's Hospital Dispensary. Dr. Carl Beck resigned as visiting surgeon.

Medical Conferences.—Conferences have been arranged by the Educational Alliance with the endorsement of the Comitia Minora of the Medical Society of the County of New York and of the Council of the New York Academy of Medicine. They are given in the Auditorium, 197 East Broadway, corner Jefferson Street, at 8:30 p. m. On March 30, Dr. Henry C. Coe will speak on "Gynecological Operations by the General Practitioner." On April 9, Dr. Albert A. Berg will speak on "Lodge and Contract Practice." On April 17, Dr. Wm. M. Polk will speak on "Medical Ethics and Their Application to Practice." On April 23, Dr. Joseph Brettauer will speak on "The Secret Division of Fees." On April 27, Dr. Sigismund S. Goldwater will speak on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only.

NORTH CAROLINA

District Society Meeting.—The Fourth Councilor District Medical Society held its annual meeting in Wilson, February 14. The following officers were elected: president, Dr. James J Philips, Tarboro; vice-presidents, Drs. William Spicer, Goldsboro, and Lacy D. Wharton, Smithfield, and secretary-treasurer, Dr. Michael M. Saliba, Wilson (reelected). The next meeting of the society will be held in Smithfield.

McCormack in North Carolina.—Dr. Joseph N. McCormack, Bowling Green, Ky., delivered an address before the North Carolina Association for the Prevention of Tuberculosis, and the members of the state legislature, Raleigh, February 1. At the conclusion of the address, State Senator Boyden, leader of the majority, rose, and in words of strong commendation told Dr. McCormack to have the physicians ask for what was needed to carry out the principles of public sanitation advocated by him, and the appropriation would be forthcoming. During the following week, Dr. McCormack in company with Dr. Chalmers M. Poole, Salisbury, president of the Medical Society of North Carolina, visited a number of the larger cities of the state and addressed large audiences.

Responsibility of Hotel Keepers.—The Supreme Court of North Carolina has recently handed down an opinion of possible interest to sanitarians, in the case of Patrick vs. Springs. Action was brought in the superior court several months ago against the keeper of a hotel in Washington, N. C., for damages suffered by the plaintiff by reason of having been assigned to an unsanitary room in which there was an unsafe or leaky gas fixture. The lower court awarded the plaintiff $250, and this award was sustained by the opinion of the supreme court, which was as follows: "It seems now to be well settled that in case of an injury occurring in consequence of the unsanitary and defective condition of the inn, premises or room to which a guest is assigned, the innkeeper is liable on the same principles applicable in other cases where persons come on the premises at the invitation of the owner or occupant and are injured in consequence of their dangerous condition."

OHIO

Personal.—Drs. Oscar Hasencamp, Toledo; Henry T. Sutton, Zanesville, and Robert H. Grube, Xenia, have been appointed members of the State Board of Health.——Dr. Thomas M. Sabin has been reelected president, and Dr. Frederick K. Smith, secretary of the staff of the Warren City Hospital.——Dr. Andrew J. Timberman, Columbus, is reported to be seriously ill with septicemia, due to an operation wound.

Tuberculosis Workers Incorporate.—The Columbus Society for the Prevention and Cure of Tuberculosis was incorporated March 4. The charter gives the society the right to acquire property, erect a hospital, employ nurses for patients, and teach methods of combating the disease. The prime object is to open the fresh-air school for which option on the Guerr Park property has been taken. Of the $5,500 required for this project, $3,600 has already been subscribed.

New National Guard Surgeons.—Dr. Edwin A. Hamilton, Columbus; John R. McDowell, Zanesville; James C. Pence, Lima; Don C. Hughes, Findlay, and Edward J. Wilkinson, Toledo, have passed the promotional examination and have been commissioned captains and assistant surgeons, M. C. O. N. G. Drs. Elijah J. Gordon, Columbus; Charles W. Stone, Cleveland, and Paul W. Tappan, Dayton, have passed the examination and have been commissioned first lieutenants and assistant surgeons in the medical corps.

Addition to Hospital.—Flower Hospital, Toledo, is about to award the contract for a new building which will more than quadruple the present capacity. The new building will contain ninety rooms and will cost about $100,000. The new staff of the hospital is made up as follows: chief of staff, Dr. Sidney D. Foster; surgical chief, Dr. Charles N. Smith; medical chief, Dr. Willard J. Stone; surgery, Drs. Sidney D. Foster, Albert F. McVety, Homer H. Heath and Clarence D. Selby; gynecology, Drs. Charles N. Smith, C. W. Worts and Joseph F. Fox; medicine, Drs. Willard J. Stone and Charles F. Tenney; pediatrics, Dr. George L. Chapman; eye, ear, nose and throat, Drs. Charles Lukens and Walter H. Snyder; obstetrics, Dr. William G. Dice; nerves, Dr. Louis Miller; dermatology, Dr. Edwin D. Tucker, and *x*-ray, Harry Dachtler.

Cleveland

Midwife Imprisoned.—Mrs. Annie Smith, a midwife of Cleveland, is said to have been committed to the workhouse for failure to report a case of ophthalmia neonatorum.

Personal.—Dr. Albert M. Dunlap, ward physician of the Eleventh Ward, is reported to be seriously ill with scarlet fever, contracted while attending a case in his district.——Dr. Hal F. Bishop, Cleveland, was committed to the Cleveland State Hospital for the Insane, March 6.——Dr. Charles M. Simpson has returned from abroad.

Hospital Notes.—Charity Hospital is endeavoring to raise $210,000, $150,000 of which will be used to erect a new surgical ward, and the remainder to liquidate a debt of the

institution.——A site has been secured by Lakeside Hospital, on which a maternity and children's hospital will be erected. Work on these will be started this year.

PENNSYLVANIA

Electrocution Bill Passes House.—The Morris electrocution bill passed the house on final reading on March 9 and was presented to the senate on March 12. The bill provides for the substitution of the electric chair for the gallows in carrying out the death penalty.

Women Elect New Officers.—At the annual meeting of the Woman's Medical Association of Pittsburg, held February 28, Dr. Caroline S. Marshall was elected president; Dr. Bertha E. Dornbush, vice-president; Dr. Elizabeth Anderson, secretary, and Dr. Johanna Baltrusaitis, treasurer.

Charity Home Fund.—Mrs. Eckley B. Coxe, on March 1, contributed $2,000 to the fund being raised for a United Charities Home in West Hazleton. Her subscription was the first received. The organization is attempting to raise $15,000.

Site for Convicts' Hospital.—Robert J. McKenty, warden of the Eastern Penitentiary, Dr. Samuel Dixon, State Health Commissioner, and John Francis, warden of the Western Penitentiary, form a committee of three, provided for by a bill introduced into the senate by Mr. McNicholls of Lackawanna County, to visit Far View, Wayne County, to select a site for a hospital in which tuberculous convicts will be segregated.

Railway Fatalities.—Statistics gathered by the State Railway Commission show that during January, 87 persons were killed and 664 injured on the steam railroads of the state. Of the fatalities, 34 were employees, 2 passengers, 48 trespassers and 7 others. There were 8 deaths at grade crossings. During the same period, there were 13 killed on the street railways and 272 injured. Of the killed, 5 were trespassers and 8 others.

Conflict Between Health Department of State and City.—A conflict between the State Health Department and the Lancaster Board of Health has resulted in the arrest of Dr. J. Miller Shartle, Lancaster, state registrar. A local ordinance requires that physicians shall report deaths to the City Board of Health. Dr. Shartle holds that having reported to the State Health Department, he had fulfilled all legal obligations. As it is desirous to determine the authority of the state in the premises, Dr. Shartle will be represented by counsel from the attorney general's department.

To Investigate Rittersville State Hospital.—An investigation of the construction of the Homeopathic State Hospital for the Insane at Rittersville, is provided for in a resolution presented to the senate, February 27, by Senator Judson. The resolution, which is referred to the judiciary special committee, recites that more than $1,700,000 of the State's money has been expended by the commission appointed to construct the institution; that the hospital is not yet completed, and has never housed or treated a patient, although the commission has been in existence since 1901. The resolution provides for the appointment of a committee which shall make a full investigation of the matter and hold public hearings.

Fireworks Manufacturers Favor Sane Fourth.—The Pennsylvania manufacturers of fireworks have volunteered to support the bill that has been presented to the legislature for the restriction of the sale and use of high explosives. The bill was formulated by the president of the Philomusian Club, who has been assured by virtually all the large dealers in fireworks in the state that, although the bill will certainly injure their trade, they feel it such a needed protection for children that the bill will not be contested, and its success therefore seems assured. The bill is aimed principally against the blank cartridge and provides that no blank cartridge, pellet or tablet, composed of chlorate of potash, dynamite or other high explosive compounds, shall be used in pistols, hollow canes or other toys for explosive purposes; that no fireworks containing gunpowder or like explosive material shall be over 6 inches in length and that no firecrackers containing gunpowder or like explosive materials shall be over 6 inches in length, and that firecrackers from 3½ to 6 inches long shall not be more than ¾ of an inch in diameter. The bill also aims to prevent manufacturers from importing the materials above mentioned from other places.

Philadelphia

Personal.—Dr. Harry Toulmin sailed for Europe, March 11. ——Dr. Helen Kirshbaum was operated on for appendicitis in the German Hospital, March 2

Trichinosis Prevalent.—It is reported that trichinosis is again prevalent in this city, causing at least one death during the past week. It is believed that the meat containing the trichinosis germ has been sold principally in the southeastern sections of the city as the majority of cases have been reported from that district.

The Midwife Abuse.—The weekly roster of the medical organizations of Philadelphia states that "a serious problem that soon must be solved by the Philadelphia profession is the present inadequate requirements for licensing of so-called midwives. This lawless element is a large factor in the growing crime of criminal abortion and must be controlled or perhaps suppressed. The Board of Health censured a local physician as recently as last week, for his carelessness in recommending certain women for licensure of this kind."

Cocain Users Sentenced.—A raid on a house at Thirteenth and Kenilworth Streets on March 8, resulted in the arraignment of seven alleged cocain users before Magistrate Barrett the next day. Mulvena Winter and Robert Sampson, colored, keepers of the house, were held in $500 bail each, for court, charged with obtaining and selling cocain among the colored people. Two men and two women, colored, were given three months each in the House of Correction. A white man also arrested at the house was given 6 months.

Dealers Oppose Milk Test.—On March 8, the "Downtown" Milk Dealers Association met in Ritter's Hall to protest against a bill introduced in the legislature by Representative McGuire, of Lackawanna County, providing for a 60 degree test in milk and for pasteurization of all milk. They declared that a 60 degree minimum temperature requirement would be an impossibility in the summer months, that the farmers oppose it and the railroads, by furnishing refrigerating cars, will raise rates, thereby forcing an increase in the retail price of milk.

Eulogium on Dr. Kelly.—At a special meeting of the faculty of the Woman's Medical College of Pennsylvania, March 3, a minute was adopted on the death of Dr. Aloysius Oliver Joseph Kelly, formerly professor of pathology in that institution, setting forth their appreciation of his rare mental qualities and his judicial character. He was from the first a leader in the cause of advanced medical education. He was a rare combination of amiability and strength, of a peace-maker and a combatant. He was most esteemed by those who knew him best.

Pure Food Work.—Gorgonzola cheese, imported into this city from Italy, has been found to bear a thick coating of paint said to contain barytes or barium sulphate with iron rust sprinkled on it for color. These cheeses were analyzed by Charles H. LaWall, Department Chemist.——On February 28, the federal agents confiscated 10,800 packages or 1,350 pounds of alleged impure gelatin at a wholesale grocery store on South Front Street.——On March 1, S. Sklaroff and Sons, smoked fish dealers, paid to Magistrate Beaton four fines amounting to $265, for selling smoked fish said to have been dyed.

Plans for Immigrant Hospital.—Plans for utilizing the upper deck of the new Vine Street Pier, or perhaps building a third deck to the pier to be equipped for a detention hospital for immigrants, was considered at a conference held February 27 and attended by Mayor Reyburn, Director Neff of the Department of Health and Acting Director Hasskarl, of the department of wharves, docks and ferries. A great many cases of contagious diseases, not extraditable under the quarantine laws, are brought into the city by immigrants exposing the public to risk. It is planned that all immigrants who show any symptoms of illness shall be detained at this new hospital for treatment and observation.

Pupils Begin Lunch Test.—At the request of the Home and School League, 50 children of the Woods School have been selected for experimental purposes, that is they are to be given warm luncheons at recess time, consisting of soup, stewed fruits, cocoa and bread for the period of a month. Since November, the League has been serving a three-cent lunch in two schools. As the children are unable to secure the luncheons daily, however, the league is determined to prove the value of the institution by providing the food free for fifty children and, by comparing their condition before and after the lapse of a month, obtain the needful argument in favor of the substantial lunch. These children have been subjected to a strength test, been weighed and careful notation of their physical condition made. The lunches will be varied each day and only the most nutritious food will be served.

Open-Air Schools to be Established.—Through the aid of the Phipps Institute, the first open air school for tuberculous chil-

dren will be opened on the roof of the McCall School, April 1. March 8, Alexander Wilson, secretary of the social service department of the Phipps Institute, met the elementary school committee and offered in the name of the institute to provide the equipment and organize the class if the board would allow the use of the school roof and furnish a teacher. The roof will be furnished with needed protection at the expense of the institute and the children will be provided with extra clothing. It will be conducted on the lines of a hospital with given hours for recreation, light occupation and study. Cots will be provided where the children will be required to rest at stated intervals and milk and eggs will be fed to them. Another class of less advanced cases will be conducted in an open air room of the Jackson School at Twelfth and Federal Streets. Director Neff has notified the committee that the State Antituberculosis Association has in its possession about $2,000 as its share of the proceeds of the Fairmount Park automobile races which could be used for this purpose.——Residents of South Philadelphia have begun an agitation in favor of an open-air school for children of their section, who may be suffering from tuberculosis or threatened with the disease.

TENNESSEE

New Methodist Hospital—Plans are being formulated by the members of the Memphis, White River, North Mississippi and Mississippi conferences of the Methodist Episcopal Church, South, to erect a hospital in Memphis to cost $250,000.

Health Board Appointments.—At a meeting of the Nashville City Board of Health, Dr. William E. McCampbell was elected chairman, vice Dr. W. Frank Glenn. The board has reelected Dr. R. Logan Jones as city bacteriologist and chemist; Dr. John T. Altman has been reappointed a member of the board.

Closer Union of Medical Schools.—Two years ago the Medical Department of the University of Nashville was united with the Medical Department of the University of Tennessee, taking the name of the Medical Department of the Universities of Nashville and Tennessee. The union, however, was only for a limited number of years. Efforts are now being made, according to reports, to secure legislation making this union permanent.

TEXAS

Quarantine Fees for Hospital.—The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point.

Yellow Fever in Mexico.—Reports of yellow fever in Mexico have caused the state health board alarm, and it is likely that a rigid quarantine will at once be established. On March 8, the state health officer, Dr. Ralph Steiner, went to Brownsville, on the Mexican border, to investigate the situation.

Health Bills.—The Texas Legislature is being asked to enact a law providing for the establishment of a state tuberculosis sanitarium; one to prohibit the use of public drinking cups; one to give the so-called "optometrists" a monopoly of the glass-fitting business, and one to perform on criminals and defectives the operation of vasectomy. Nearly all of these measures will die on the calendar.

Enacting a Sanitary Code.—The Texas legislature, now in session, will enact into law the sanitary code for Texas, which has had thus far only quasi-constitutional standing, in that the legislature at first sought to delegate to the state health board authority to enact the code. In Texas the legislature cannot delegate authority to make laws, so it has been difficult hitherto to make fines hold in the case of violators of the health laws. The bill has been unanimously passed by the senate and will undoubtedly receive similar treatment in the house, and the signature of the governor.

Distribution of Diphtheria Antitoxin.—State Health Officer Dr. Ralph Steiner, Austin, has just made arrangements whereby the state health board is enabled to distribute diphtheria antitoxin at exceedingly low prices for the benefit of city and county health officers and other physicians who desire antitoxin for indigent patients. The state health officer will handle no funds, but will merely hold the antitoxin subject to the order of those who will be directly responsible to the manufacturing company. It is hoped that city and county administrators will take suitable official action for the free distribution of diphtheria antitoxin.

Hookworm Campaign.—Wickliffe Rose, secretary of the Rockefeller movement against the hookworm, has just conferred with the state health authorities, relative to the perfecting of a plan for the extermination of the parasite in Texas. Last fall Governor Campbell disapproved the plan to accept Rockefeller's aid, saying that Texas can better endure the hookworm than to lay itself debtor to Rockefeller. Governor Colquitt may entertain similar views. State Health Officer Dr. Ralph Steiner, however, will exert every energy to secure a portion of the Rockefeller fund. Recent investigations among the students of the medical branch, at Galveston, of the University of Texas, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis.

WYOMING

Personal.—Dr. John B. Tyrrell, Laramie, has been appointed a member of the State Board of Medical Examiners, vice Dr. Samuel B. Miller, Laramie, resigned. Dr. Miller has moved to California.——Dr. W. W. Vance, recently appointed a member of the board of health of New Castle, at the organization of the board, was elected secretary.

FOREIGN NEWS

Northland Congress of Internal Medicine.—The seventh Scandinavian congress for internal medicine is to be held early in July, 1911, at Bergen.

International Congress of Pathology.—The date of this international gathering of pathologists has been fixed as Oct. 2-5, 1911; Turin is the place of meeting. The notices are being sent out by Prof. P. Foa, Corso Raffaello 30, Turin, in the name of the Societa Italiana di Patologia.

International Congress of Surgery.—The third congress of the International Surgical Association is to be held at Brussels Sept. 26-30, 1911, with an exhibition of fractures and methods of treatment in addition to the usual exhibition of surgical instruments and appliances. The three subjects to be discussed are surgery of the lungs and pleura, colitis and pancreatitis. Prof. Depage is the secretary general, Avenue Louise 75, Brussels, Belgium.

The Plague Abroad.—Cable despatches of March 13 state that with the exception of Mukden, the rate of mortality from the plague is decreasing in all the affected districts in Manchuria and China. Egypt reported 37 cases of plague, with 13 deaths, in the week ending February 10, while India reported 15,003 cases with 12,143 deaths in the week ending January 14. Russia has renewed her demand to be allowed to conduct the quarantine along the border and China has replied in favor of a dual quarantine, similar to that maintained in conjunction with the Japanese along the western boundary of Korea. The first cases of plague among hoofed animals are reported from the Fushan collieries, where bacilli were found in the carcasses of donkeys.

The Campaign Against Rats at Buenos Aires.—The *Semana Medica* opens the new year with the illustrated official report of the methods in use at Buenos Aires for extermination of rats. The work is centralized and squadrons are despatched to the premises to be attacked. They wall them off with sheet zinc and inside the buildings and yards use asphyxiating gases pumped into the rat-holes and tunnels through a hose from the generating cart or hand apparatus. The gas is produced by combustion of sulphur and arsenic or sulphurous acid gas is generated by the Marot apparatus which, the report says, is proving more and more valuable every day; it kills the rats and the insects on and about them while, properly managed, it is free from danger for the men and the building. A good rat dog is also regarded as indispensable for each squad of four men. The main point is to locate the actual breeding place, tracing the rats back from hole to hole until their permanent home is reached. The force of 100 men, supplemented by ten carpenters and masons, has become very efficient. The city is considered one of the most difficult to free from rats on account of the numerous livery and other stables and grain warehouses. The public garbage dumps are also great breeding places for rats: the dumps are now walled in with sheet zinc and incinerators are soon to be installed. The rats seem to prefer to make their permanent nests in vacant lots and gardens and particularly in chicken coops, near buildings to which they repair in search of food. The nests were sometimes found three feet and more underground. It is generally found necessary to take up part of the floor, to remove the rats asphyxiated by the gas. On suspicion of plague, cement is used to rat-proof the premises. The latest records given show from 12,000 to 14,000 rat holes thus cleared out each month with from 6,000 to nearly 9,000 rats killed. Dr. P. G. Rivero, who is in charge of the public health service which includes the deratization,

does not approve of offering premiums for rat-killing, as untrained persons are not competent to exterminate the rats and in time of epidemics do not take precautions against infection from them, while there is danger that rats may be bred for the bounty. Poisons and traps are of little use.

CANADA

Club Election.—Dr. Adam H. Wright has been elected president of the Æsculapian Club, Toronto; Dr. George Elliott, secretary and Dr. Edmund E. King, treasurer.

Militia Surgeons Elect.—The medical officers of the militia of Canada met in Ottawa on February 24. Major Edward A. Lebel, Quebec, was elected president and Captain L. S. MacKid, Calgary, Alta, secretary.

New Medical Journal.—The *Western Medical News* appeared in January as the successor of the *Saskatchewan Medical Journal*. The new journal is announced as the official organ of the Alberta and Saskatchewan medical associations.

Medical Reciprocity.—In a bill which will shortly be presented to the legislature by Mr. Mousseau of Soulanges, the endeavor is made to place medical men in the Province of Quebec and other provinces on an equal footing, providing these provinces accept medical certificates issued in Quebec. At present there is no reciprocity between the various provinces of the dominion.

Hospital News.—The Vancouver, B. C., general hospital treated 4,184 patients in 1910 as against 3,042 in 1909. The number of patients admitted during that year was 3,983. The percentage of deaths was 5.87. The Montreal General Hospital treated in the wards 3,586 patients, an increase of 284 over the previous year. There were 272 deaths. In the out-door departments the total number treated amounted to 13,588.

Registration Legislation.—There is every prospect of the bill before the House of Commons to provide for Dominion Registration becoming a law. British Columbia, Saskatchewan and Alberta, which have no universities teaching medicine, cannot have any university representation on the Dominion Council, but two of the three councilors the Government will name, will be appointed from these provinces until the teaching of medicine is begun there.

Report on Tuberculosis.—The report of the Royal Commission on Tuberculosis appointed by the Quebec Government, has been presented to the Legislature. The document gives very explicit and definite recommendations as to the most practical and efficacious measures to adopt to combat the white plague. It is signed by Drs. Emmanuel P. Lachapelle, J. George Adami, both of Montreal; Michael J. Ahern, Quebec; Thomas G. Roddick, James J. Guerin, both of Montreal, and other prominent physicians of Quebec.

Personals.—Dr. Harry B. Anderson, Toronto, has gone abroad to work at the von Noorden clinic.——Dr. E. G. Kidd has been appointed chief of the anatomical department of Queen's University medical department, in succession to Dr. Frederick Etherington, Kingston.——Drs. Helen MacMurchy, Estella O. Smith, Frederick S. Minns, C. E. Hill, George A. Winters, F. G. Munn and William Morrison have been appointed assistant medical inspectors of schools in Toronto.——Dr. Charles H. Vrooman, Winnipeg, late superintendent of the Manitoba Tuberculosis Hospital has been appointed superintendent of the Tranquille, B. C., institution.——Dr. J. Alexander Hutchison, chief surgeon of the Grand Trunk system, Montreal, is spending a holiday in the Mediterranean.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, Feb. 25, 1911.

Small-Pox in London

An outbreak of small-pox has occurred in the east end of London, and there are now twenty-five cases. The first patient was a Jewess, aged 12, who was admitted to the Mile-End Infirmary, February 5, after a few days' illness, suffering from an eruption. She was treated in one of the general wards till February 22, when the fact that other patients in the ward became ill led to a correct diagnosis. She was sent to the Small-Pox Hospital; soon after a patient from the same ward, a nurse, and a woman who scrubbed the ward were also sent to the Small-Pox Hospital. Another nurse was soon found to be affected. The nurses attacked had not been revaccinated. Three sisters of the first patient were found later to be affected with the disease. In all, eighteen cases arose in the infirmary. The ward in which the outbreak began has been isolated and its inmates have been detained under inspection for a fortnight. Every endeavor is being made to trace all persons who have been brought in contact with the disease, and extensive arrangements have been made for vaccination in the district. Small-pox in London shows great fluctuation. From time to time the disease is imported and gives rise to more or less serious epidemics. From 1885 to 1901 there was a period of comparative freedom, the number of cases falling as low as twenty-nine in 1899. In 1901 an epidemic of 1,700 cases occurred, which was followed by 7,796 in 1902. Since that year the disease has almost disappeared. In 1907 there were only eight cases and in 1908 four cases. In 1909 there were fifteen. The large number of unvaccinated persons, the result of the pernicious antivaccination campaign, is a cause of anxiety. The epidemic of 1901-2 gave a great impetus to vaccination, but this has now largely exhausted itself. In the locality of the present outbreak it is estimated that 32 per cent. of the children are unvaccinated.

Plague in India

The latest estimate of the ravages of plague in Manchuria gives 19,000 deaths in four months, and suggests comparison with India, where the disease has existed since 1896, and probably has caused no fewer than 9,000,000 deaths. In 1907 the death-roll culminated in the appalling figure of 1,300,000. Since that year there has been a remarkable decline. In the week ended Jan. 14, 1911, there were 12,943 deaths, and in the following week there were 20,157. There is one great difference between the pandemic in India and in Manchuria. In the former country the disease has taken the bubonic form, in the latter the pneumonic, and is, therefore, hardly less fatal to Europeans than to Asiatics. But, as the figures show, plague in India is much more deadly. Again, pneumonic plague is a winter disease, while the bubonic form increases during the first three or four months of the year and reaches a maximum in March or April.

The Eating of Cordite

During the late South African war a new drug habit came to light. Owing to the dearth of matches, the soldiers got into the habit of using the little rods of the new explosive, cordite, with which their cartridges were loaded, in order to light their pipes. By igniting one at a comrade's pipe other pipes could be lighted. Some of the men found that inhalation of the fumes of burning cordite had a narcotic effect. This led to the taking of cordite by the mouth, either solid or dissolved in tea. In those unaccustomed to the drug, even a small dose causes most unpleasant symptoms, chiefly severe headache, but those accustomed to the drug can swallow the whole contents of a cartridge. The face flushes, the head seems to swell, and after about a quarter of an hour the subject falls into a deep sleep. On awaking he suffers from thirst and headache. When taken in hot tea, cordite produces delirium, followed by sleep. Opium and alcohol taken in small quantities are used as "pick-me-ups" after cordite eating; and, inversely, cordite is used as a reviver after alcoholic intoxication. From the long use of cordite optic and mental delusions, timidity, weakness and a general breakdown, moral and physical, result.

Another Expedition Despatched by the Liverpool School of Tropical Medicine

The Liverpool School of Tropical Medicine has despatched its twenty-seventh expedition to Gambia and Senegal to investigate sleeping sickness. The members of the expedition are Prof. J. M. Todd, Dr. Wolbach of Harvard University and Mr. E. D. Todd.

Bonesetter Successfully Sued for Negligence

Mr. H. A. Barker, the well-known "bonesetter," and the successor of Hutton and Atkinson, has been successfully sued for negligence. For years he has been carrying on a large business. Extensive advertising has rendered his name a household word; the "oblique" form of advertising, in the shape of interviews illustrated with his portrait, which have appeared in the leading journals, has been largely used. He can boast of as large and fashionable clientèle as any leading surgeon. Indeed, in cases of bone and joint trouble, when dissatisfied with the advice of a great surgeon, many patients have resorted to Mr. Barker. Among athletes and football players he has a great reputation and is said usually to be consulted by them for injuries received in their pursuits. His methods are entirely manipulative, and, no doubt, prove successful in suitable cases. But the ignorant vaunting of a form of treatment, good for certain conditions, for every condition which human credulity will accept, has its dangers.

A man, aged 24, brought an action against Mr. Barker. In 1906 he twisted his knee in springing from a diving-board. From time to time subsequently he suffered from weakness, stiffness and pain in the joint. In 1909 he consulted Mr. Barker, who said it was a very bad case, but promised him a cure. Barker first ordered radiant-heat baths. On Nov. 25, 1909, he performed some manipulations under gas. For some time afterward there was slight improvement, and the knee could be moved better, but then the pain returned and he again suggested baths. On December 16 further manipulations were performed under anesthesia. Ten days later an ulcer appeared over the knees. Medical advice was then sought and the knee was found to be tuberculous, and the ulcer due to the extension of the tuberculosis produced by the manipulation. There was a sinus extending to the interior of the joint, and the latter was not only tuberculous, but septic. To save the man's life amputation was necessary. A letter was sent to the defendant by the plaintiff's solicitors claiming damages. To this he made the extraordinary reply that he treated the case on condition that he undertook no responsibility—a statement contradicted by the plaintiff. For the defendant it was stated that he had attended 30,000 cases, was a perfect genius at his profession, and cured 94 per cent. of his patients. He denied that he manipulated the joint, and alleged that the anesthetic was administered only for purposes of examination. But the eminent surgeons who gave evidence for the plaintiff said that to administer an anesthetic for examination of the knee was both unnecessary and improper. In his evidence the defendant said that when he first saw the plaintiff there was extensive tuberculous disease, the hamstrings were contracted, and the tibia was displaced backward on the femur and flexed at an angle of 40 degrees. For the defendant, Mr. Whitehead, the well-known Manchester surgeon, said that he examined the amputated leg, and that the knee must have been in hopeless condition when the man first consulted Mr. Barker. The jury gave verdict of $100 for the plaintiff (a small sum under the condition), —probably because they thought that he was to blame for taking unqualified advice.

A New Departure in Medical Defense

There are two societies for medical defense in Great Britain —the London and Counties Medical Protection Association and the Medical Defense Union. For an annual payment of $2.50 these societies undertake to provide legal defense for a physician who may have an action brought against him for anything done in his professional work. Unfortunately, it is not uncommon for unscrupulous or dissatisfied patients to bring action against physicians for negligence in treating them. Such patients usually have no money and obtain the services of some speculative lawyer who will take the case on a contingent fee. Even when the physician wins, he is liable to incur the heavy legal expenses of defending the case, because the plaintiff has nothing. Until the medical protection societies were started, a physician was thus practically at the mercy of poor and unscrupulous patients. If the physician loses the case, all that the societies have done in the past is to pay the cost of the defense, leaving him liable for any damages obtained against him, as well as the costs of the other side. After a discussion extending over several years, the London and Counties Medical Protection Association has made a new departure and has undertaken to pay the costs of the other side in case the doctor loses, as well as any damages obtained against him not exceeding $10,000 in any one year. For these increased benefits it has been found necessary to increase the annual subscription from $2.50 to $5.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 24, 1911.

Adult Mortality in France

The government commission on mortality, presided over by Professor Lannelongue, who is also a senator, reports that in France, as in most civilized countries, the adult death-rate is continually being lowered. The death-rate from transmissible and avoidable diseases has become continually smaller, both absolutely and relatively to the general death-rate. The tuberculosis death-rate alone, though it does not appear to be increasing, remains stationary and amounts sometimes to a fifth, sometimes a fourth, of the total death-rate. Prophylactic measures are therefore recommended, especially such as check the progress of alcoholism and give aid to the victims of tuberculosis at the first appearance of symptoms.

An International Sanitary Conference at Paris

The French government has just addressed to the countries of the two continents invitations to take part in an international sanitary conference at Paris next May. The conference was decided on in view of the epidemic of cholera last year in certain parts of southern Italy and the pneumonic plague which is raging in Manchuria, the frightful conditions of which recall the worst days of the epidemic in the Indies. The last sanitary conference on cholera, plague and yellow fever was held Dec. 3, 1903. Seven years constitute, as the government says, a long period to allow the matter to be in abeyance, especially in our days, when the progress of science and the diffusion of methods resulting from it are particularly rapid.

In order to facilitate as much as possible the task of the future conference, the French government has had the bases of the discussion prepared by the permanent committee of the international office of public hygiene (THE JOURNAL, Nov. 21, 1908, p. 1794). This committee, since 1907, when it was formed in Paris, has been accumulating and publishing the most complete information possible on all questions of sanitary organization. As soon as the conclusions of the permanent committee on the subject-matter of the future conference have been formulated they will be communicated to all the governments invited to the conference for their use in preparing their contributions.

A Proposition for the Reform of Medical Education

Dr. Lannelongue, professor at the Faculté de médecine de Paris and senator, has proposed to the senatorial commission of higher education to make the medical teaching body distinct from the examining body, for the following reasons: Medical instructors are overworked and it is important to relieve the professor from the drudgery of examinations which prevent him from doing justice to his pupils or contributing to the advancement of science. An examination conducted by an outsider would necessarily be more impartial. The pupil would not be tempted to try to secure good marks by studying the personal predilections of his professor. Lannelongue believes that it would be easy to secure a corps of competent examiners in the great university centers by utilizing the services of the numerous *agrégés libres*. The *agrégé* professors, it should be explained, are appointed for a period of only nine years. After the lapse of this time they become *agrégés libres;* that is, they no longer form a part of the teaching corps. Their anomalous situation has often aroused keen criticism. In the rôle of examiner they might find the normal employment of their knowledge.

Limitation of the Number of Physicians

At the last meeting of the Association de la presse médicale française the question of the limitation of the number of physicians was discussed. The same question will soon be taken up by the vigilance committee of the Congrès des praticiens. The members present unanimously empowered their delegate to reject the limitation but to demand a due severity in examinations and sufficient preliminary qualifications in the way of general education, such as classical studies, before permitting candidates to undertake medical studies.

Memorial to Dr. Mesny, a Victim of the Plague

The minister of war has just received the report of our military attaché in China in regard to the circumstances of the death of Dr. Gerald Mesny, physician of the colonial troops, who died of the plague at Harbin, January 13, last, and whose name was incorrectly given in the first despatches as Meunier. Dr. Mesny was a professor in the Chinese medical school at Tien-Tsin when the plague broke out in Manchuria. The authorities asked him to organize measures of defense. He did not hesitate to leave his wife and children to put himself at the head of the Chinese physicians, and went to meet his death at Harbin. When stricken with the plague, he gave evidence of real heroism. In an interview with the French consular agent he declared that, according to all probability, he had still two days to live, and added, smiling, "I do not say au revoir but adieu."

The director of the Ecole d'application du service de santé des troupes coloniales, after relating these facts to the students, declared that he had decided that Dr. Mesny's name should be inscribed on the marble tablets of the school devoted to the officers of the sanitary corps of the colonial troops whose death is the result of devotion to duty.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 24, 1911.

Personal

Professor Uhlenhuth has accepted a call as director of the hygienic institute at Strasburg.——The report has been repeatedly circulated by the newspapers that Waldeyer contemplates resigning during this year. As I am reliably informed, this statement is not correct. Although the distinguished anatomist enjoys an enviable vigor in spite of his 75 years, nevertheless, it would seem that consideration for the rising generation would justify professors of his age in retiring.

The Plague

According to the latest information, the plague in China is receding and it is to be hoped that Europe in general and Germany in particular will be spared from its visitation. For the present the German government has not seen fit to establish any special regulations aside from the ordinary quarantine requirements for ships. The Imperial Health Council, the *Reichsgesundheitsrat*, met to discuss the question Feb. 14, without adopting any definite measures. No plan has been so far developed by the officials for sending German physicians into the plague district.

Improvement of the "Practical Year"

As you are aware, medical students in Germany after they have passed their state examination are required to spend a year for practical education at the university clinics and hospitals, and are only licensed as physicians when they have successfully complied with this requirement which is certified to by the director of the hospital. This arrangement, which has existed for some years, has shown various defects which have constantly become more evident. During the "practical year" they bear the name of "medical practicants" (*Medizinalpraktikant*). The medical councils (*Aerztekammer*) have considered this matter and have reached the conclusion that the institution must be improved. The difficulty consists essentially in an insufficient opportunity for independent activity, an excessive number and unsuitable selection of the hospitals which are qualified for the reception for practicants, the constantly increasing employment of the medical practicants as assistants, and their insufficient instruction in social medicine. The employment of medical practicants in place of assistants has led to complaints by many hospital directors because on that account a lack of actual assistants has arisen. Many young physicians used to feel the need of supplementing their practical education by service as assistant, for one or more years, but now the medical practicants believe that they have sufficiently fulfilled the demands for practical education by their work as assistants during the practical year. In consequence of these difficulties the minister has required the provincial officers to institute an investigation into the training and work of the practicants and make a report on the matter. There is no doubt that the government will endeavor to remove the causes of complaint.

Official Supervision of Homes for Toilers

An important institution for improving the public health will begin its practical activity in Charlottenburg, March 1. In order to remove housing conditions which are insanitary and unsatisfactory in moral and other respects, an inspection service for all small dwellings in which sleeping rooms exist is to be established. This shall also control the permits for laborers, factory hands, apprentices and servants to sleep in the houses of their employers. For the performance of this service two house inspectors are to be appointed by the city and their number will be increased later. These officials with the aid of two assistants from the housing office are to examine all suspected houses, to ascertain if they meet all sanitary and building requirements and if this is not the case to see that the defects are remedied. An information bureau for dwellings is to be associated with the housing office. This is to make possible a substitute for each dwelling that is found insanitary. Together with the inspection of dwellings and the information bureau, a department for statistics in regard to housing is to be established. If this shows a deficiency of sanitary apartments, the care for housing must be extended and provision must be made for the erection of suitable houses which will assure sanitary dwellings to people of small means. With the establishment of this housing office the city of Charlottenburg has instituted a philanthropic enterprise which may serve as a model.

Cancer Statistics in Bavaria

Bavaria has just published the official statistics with reference to cancer collected in 1909. Dr. Teilhaber of Munich gives some results of the investigation in the last number of the *Münchener medizinische Wochenschrift*. According to the figures cancer of the rectum appears to affect in particular those engaged in office work and professors, and secondarily carpenters and tailors. Teilhaber considers that congestion in the pelvic organs is responsible for this predilection. Cancer of the stomach is especially a disease of the poorer population and particularly in Bavaria the peasant class are especially affected by it. From this Dr. Teilhaber draws the conclusion that advancing civilization cannot constitute a cause for the appearance of cancer, for the Bavarian peasants live under the simplest conditions. Cancer of the face is chiefly found in persons who do work in the open air. The conclusions of the author are of uncertain value because of the relatively small number of cases. Still the material thus obtained must be regarded as valuable since from it, in combination with more like material, it is probable that definite conclusions can be reached.

Cancer Statistics in Baden

On the authority of the Baden National Committee for Cancer Research a few years ago a new census of the cancer patients in Baden was undertaken. The material obtained in this way has been elaborated by Privat-Docent Dr. Werner, an assistant of Professor Czerny of Heidelberg, and he has reached some results which, although they deal with comparatively limited material and must, therefore, be accepted with caution, appear to be of interest in several particulars. The distribution of cancer in the individual communities is shown to differ widely. Werner tries to draw conclusions from this fact with reference to the etiology of cancer and he recognizes five factors: heredity, inbreeding, occupation, mode of life (especially nutrition) and race.

Hereditary taint appears to play no great rôle, according to the Baden statistics, but the author emphasizes the fact that the data do not permit any decisive conclusion on account of their meagerness and uncertainty. Inbreeding seems to have no significance in the etiology of cancer, but more careful study of this question is also desirable. The communities in which consanguineous marriages are common, so far as known to the author, are not the ones in which cancer is specially prevalent. As to occupation, a great increase is found in the groups of men servants and day laborers, without reference to age. Similar conditions in this respect were found by another investigator in the statistics of cancer in the kingdom of Saxony. Nevertheless the author holds this finding of no essential importance in determining the etiology of cancer.

He considers that it would be much more reasonable to determine the occupation in families in which cancer is rare or especially prevalent in order to determine whether occupations which produce certain injuries or which bring the worker in contact with certain objects or animals are responsible for the frequency of cancer or whether certain occupations are frequent among cancer patients because they are chiefly followed in regions where cancer is prevalent. The ordinary differences in nutritive conditions as between city and country, agricultural and manufacturing communities, winegrowing districts and other localities show no corresponding differences in the death-rate from cancer.

As for the contagiousness of cancer, no especial frequency is found in cases where a considerable number of persons live in narrow quarters, from which Werner draws the conclusion that direct contact plays but a slight rôle in the causation of cancer. Neither could a special predisposition of any race be established. The same is true for the influence of the place of residence and the housing conditions. The influence of climate on cancer mortality is also negative. Neither could any parallelism be discovered between the distribution of the higher animal and plant species and the occurrence of cancer, so that the assumption of Behla, which was in itself very unlikely, is shown to be fallacious. The supposition that the parasites of cancer are conveyed by stinging insects is not sustained. No parallel could be traced between the distribution of human and animal cancers.

Altogether, Werner concludes from his statistical investigations that there must be assumed to exist some locally prevalent factors, not connected with the age of the person, which occasion or favor the occurrence of cancer and depend on the character of the locality rather than on that of the inhabitants. As to the question whether the frequency of cancer and the danger of acquiring it are increasing, Werner believes

that we must admit an actual increase in the disease, although much of the increase shown by statistics must be attributed to better diagnosis, greater supervision of the population by physicians, better opportunities for observation in hospitals, etc.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 23, 1911.

Unexpected Help for Medical Institutions

The danger threatening the Viennese medical institutions from political parties that wish to control them has been averted, at least for some time, by an unexpected occurrence. The government has come into possession of some 25,000,000 kronen ($5,000,000), as the tax to be paid on the estate left by the late Baron Rothschild on his sudden death quite recently amounts to at least this sum. Out of this tax, the hospital fund must receive 24 per cent., or about 6,000,000 kronen. This will be sufficient to pay the deficit of this fund and also to stop any controversy as to responsibility for hospital relief to the poor, a fruitful source of interference for the above-mentioned political parties. The deceased, a member of one of the wealthiest private banking houses of Europe, has also left liberal legacies to various charitable institutes, so that these at least will have no need to appeal to the public corporations for help; another obstacle for political enterprise.

The Successor of Strümpell: A Recommendation by the Faculty

To-day a meeting of the professors of the medical faculty of Vienna took place, in which a special committee published the names of the professors it recommended as eligible to the appointment to the third medical clinic. Professor von Noorden had studied the problems connected with the affair. When von Strümpell suddenly resigned his post here, and went to Leipsic, in the place of Curschmann, the reasons given for his abrupt termination of an appointment were so serious that a most unpleasant controversy ensued. The medical faculty was justly offended at the manner the professor had been treated by the responsible officials, and for some time the relations between government and university were strained. When in December the possibility of the clinics becoming a domain of political influences was imminent, the faculty refrained from making the necessary recommendation of a competent successor, as it did not want to bind a first-class man to unstable conditions. After certain guarantees had been given by the government concerning the liberty of teaching and the independence of the clinics, the faculty reconsidered its position, and recommended the following candidates, who are named in the order of preference: Prof. Herman Sahli (Berne); Prof. E. von Romberg (at present in Tübingen), and two Austrians, Prof. F. Chvostek (Vienna) and M. Ortner (in Innsbruck). There is a certain tendency in the government circles to exclude candidates from Germany, since there are already several men here from that country, and because of the affair with Strümpell, who also came from that country. It is therefore probable that an Austrian will be appointed, and of the two the better chances are with Ortner.

Miscellany

Symptoms of Exophthalmic Goiter in Pulmonary Tuberculosis.—F. Bialokur noted Basedow symptoms in twenty-seven of 337 patients with pulmonary tuberculosis during 1908, and in twenty-eight in 1909. He tabulates the details of ten typical cases, remarking that the Basedow symptoms must be often overlooked in such cases elsewhere or ascribed to the tuberculous infection. The connection between the Basedow symptoms and the tuberculosis is more than casual, as is shown by the benefit that follows treatment addressed to the exophthalmic syndrome. As this improves, the pulmonary symptoms subside and the patient may be clinically cured. There is probably a vicious circle, the tuberculous toxin exerting an injurious influence on the thyroid, stimulating it to increased secretion, and this secretion may enhance the virulence of the tubercle bacilli, which, in turn, may rouse latent lesions into active processes. In his experience, every patient with exophthalmic goiter was already tuberculous; other physicians seldom examine the lungs with sufficient care with Basedow patients, as their attention is concentrated too exclusively on the exophthalmic goiter. When enlargement of the thyroid is discovered with pulmonary tuberculosis measures to reduce it to normal size should be instituted at once, as thyroid functioning impresses a special character on the course of the tuberculosis. The changes in the lungs are of different kinds, and there may be great destruction, but, as a whole, the lesions are not the most malignant; obstinate diarrhea is the rule; the thyroid is not much enlarged and pronounced exophthalmos is rare; the patients are gloomy and despairing instead of the hopefulness common with tuberculosis. There is generally a tendency to sweats and the temperature is usually subfebrile, the urine normal. It is difficult to find any tubercle bacilli in the sputum, so that the trouble seems to be bronchitis rather than tuberculosis. The overwhelming majority of his patients were women. Pregnancies recurred with remarkably brief intervals, and the sexual instinct was strong and the menses abnormally frequent and profuse. In the ten typical cases described in detail besides the usual strychnin, arsenic or iron treatment, he exposed the thyroid to the Roentgen rays or had it removed. One man of 56 had had the Basedow syndrome and pulmonary tuberculosis for twelve years, and his daughter the same for four. Both were clinically cured by thyroidectomy. Bialokur's article was published in the *Zeitschrift für Tuberkulose*, 1910, xvi, 567.

Social Hygiene in Its Pedagogic Aspects.—A knowledge of the function of reproduction and a proper attitude of mind regarding it must be recognized by educators to be a necessary part of the equipment of every young person for life, says W. S. Hall (*Journal of Preventive Medicine*, February, 1911). Parents and teachers are morally bound to treat all questions of sex in the same simple, straightforward, truthful way that other life problems are treated. Responsibility for instruction of the young in sexual development and sexual right living should rest on parents; but as a rule parents do not discharge this responsibility, and therefore it devolves on the physician and the educator, and the societies formed for the purpose of educating the public on moral and social prophylaxis. The important lesson learned by Hall from years of experience in teaching emphasizes the importance of segregation of the classes to whom he talks. Boy hearers should be separated from men; mothers should be separated from fathers; mothers and daughters should be addressed in separate audiences. The more homogeneous the audience the more definite and positive can the statement of the speaker be. It is easy to see that in an address to a mixed audience of parents and children, sex problems would have to be discussed in a most general and indefinite way. The circumlocutions would have to be so veiled and the allusions so remote that they would be understood only by the most intelligent, and would probably be grossly misunderstood by the less intelligent and experienced. If the audiences were separated into the boys and men, and the women and girls, the situation would be somewhat better, but not wholly corrected. Concerning a division of the audience on age lines, the sexes being mixed, Hall's experience is that a speaker, particularly a physician, can talk much more freely to an audience of mothers than to a mixed audience of mothers and fathers. A frank statement of certain subjects in the daily journal, or in journals of hygiene, is a valuable method of imparting information, as they are read by the individual and here we have segregation carried to its ideal limit. Hall then discusses the matter to be presented to classes of boys or girls of different ages, and refers to the broader range of facts which may obviously be presented to parents. Hall has used three methods of presentation—the biologic, the moral and the heroic. The biologic is the ideal method of presenting the subject of reproduction and sexual life, but is feasible only for the teacher of biology of a high school or college, and is out of the question for social workers, physical directors and public lecturers. The moral method, an appeal, from a moral standpoint, for right living, Hall found to be not effective. The heroic method is based on the human instinct for hero worship. One can get hold of an audience of boys by a discussion of some of the world's great heroes, and will have their undivided, almost painful attention, when he

asks the questions: What is the secret of manhood? And: What can a boy do to grow into the highest type of virile manhood, which alone makes possible heroic deeds? Hall says that the lecturer can answer that question in the last five minutes of a forty-five minute talk, and leave every boy in the audience convinced and determined. He is convinced that incomparably the most effective method of presenting these matters to young people and parents, is a frank presentation of the findings of science. Don't try, he says, to point too many morals. If the presentation has been clear and convincing, the listeners will readily draw their own conclusions and formulate their own morals.

A Method for Determining the Absolute Pressure of the Cerebrospinal Fluid.—M. A. Cassidy and C. M. Page (*Proc. Roy. Soc. Med.*, January, 1911), have devised a simple apparatus for determining the absolute pressure of the cerebrospinal fluid with the escape of only an inappreciable and constant volume of the fluid. It consists of a hollow needle of 1.5 mm. bore, provided with a close-fitting stylet, the pointed ends of both of which are cut at an angle of about 35 degrees. Two cm. from the blunt end of the needle there is a simple cock. Into the lumen of the needle beyond this cock can be fitted a tapped nozzle, which is connected to an open glass tube 18 cm. in length and 15 mm. in diameter by means of rubber pressure tubing 1 meter in length. A wooden clip to which is attached a measuring tape can be fixed to any point of this glass tube. In order to take a reading the following technic is observed: After sterilizing the apparatus the patient is placed on the side with the lumbar spine well flexed, with the cerebrospinal axis horizontal. Normal saline solution at 120 F. is poured into the glass tube and pressure tubing, and the tap on the nozzle is closed when the glass tube is half full of the solution; the wooden clip is then fixed on the glass tube to mark the level of the saline solution. The theca is punctured through one of the lumbar spaces, the needle being introduced exactly in the middle line and perpendicular to the coronal plane; the stylet is withdrawn and the cock is closed as soon as the cerebrospinal fluid appears at the orifice of the needle; not more than a drop or two should be lost. The pressure tubing is then connected to the needle by means of its nozzle, and the glass tube is held so that the level of the fluid in it is at a height above the needle roughly equal to the expected reading. Both the taps, that is, that on the needle and that on the nozzle, are now opened so that the saline solution may be balanced against the cerebrospinal pressure. If the latter is greater than the height of the saline solution, fluid will rise above the level of the wooden clip, and vice versa. The glass tube is quickly raised or lowered, as may be necessary to keep the contained solution at its original level; the vertical height of the clip above the needle will then give the intrathecal pressure in terms of centimeters of normal saline solution. The density of normal saline solution at 120 F. is almost identical with that of water. When proper communication has been established between the saline solution in the tube and the cerebrospinal fluid, a regular rise and fall in the pressure to the extent of about 1 cm. will be observed, synchronous with the respiratory movements; unless this respiratory excursion is present no reading is of value. The method has been used in over sixty cases. The highest pressure observed by Cassidy and Page was 100 cm. saline in a case of cerebral abscess, and the lowest 7 cm. in a case of diabetes insipidus.

Fallacies Regarding the Transmission of Infectious Diseases.—With the establishment of the germ theory and the discovery of certain organisms always present in certain diseases we began to reconstruct our ideas regarding the manner with which these diseases are spread and new ways of prevention and cure are sought. B. R. Rickards (*Quar. Bull., Ohio State Board of Health*, October-December, 1910) says that old ideas in regard to the transmission of infectious diseases are hard to eradicate. Diphtheria, prior to the discovery of the Klebs-Loeffler bacillus, was supposed to have some connection with sewer gas or broken drains, and wherever a case of diphtheria was found a faulty trap or other imperfection was hunted for and usually found. We know now that the diphtheria bacillus is not found in the air or soil of drains. The only significance of the sewer-gas theory is that continually breathing such gas lowers the vitality and renders the person more liable to infection. It is now generally believed that diphtheria is almost always conveyed from mouth to mouth by means of kissing, public drinking cups, spoons, gum, etc. It seems probable that diphtheria is not conveyed by clothing, wall paper or other inanimate objects, except perhaps articles like handkerchiefs. It may be conveyed from persons who are perfectly well, who harbor diphtheria germs in their throats, but who possess sufficient resistance to prevent the development of the disease in themselves. Typhoid fever was formerly supposed to originate from filth such as decaying garbage, etc. This conception contained a grain of truth, but not the whole truth. Filth does serve as a breeding-place for flies, which are active spreaders of disease, including typhoid fever. The disease cannot originate except from a previous case and rural wells are only sources of typhoid when they are contaminated by human excrement from a patient with typhoid fever. It has been believed that street dust infected by spitting, infected rooms, milk from tuberculous cows and the like, are factors in spreading tuberculosis, and this is perhaps true to a certain extent. Experiments conducted by Rickards and others tend to show that heavily-infected sputum is rendered harmless in an apparently short time by the effect of the sun, and that after drying sufficiently so that it can be blown about as dust, the germs will be destroyed. Infected rooms undoubtedly play a larger part, as direct sunlight cannot reach all parts of the rooms and reflected light has a slower destructive action on the germs. The milk from cows is no doubt responsible for some tuberculous infection, but to a lesser degree perhaps than are human sources. The milk becomes infected most frequently from the excrement and it is probable that in babies the infection is most frequently communicated by kissing or by feeding utensils. What has been said regarding these common diseases applies also to such infections as measles, scarlet fever, small-pox, etc. Rickards urges that in the work of combating infectious diseases we should abandon exploded theories and get down to the actual facts and modify our quarantine and other measures accordingly.

Unusual Complications of Chronic Nephritis.—A. Pollak reports some interesting cases in the *Wiener klinische Rundschau*, 1910, xxiv, showing that pleurisy, pericarditis, peritonitis and even meningitis may develop as a complication of chronic nephritis. Also that in the stage before actual uremia, symmetrical fibrillary twitching may be observed or a syndrome suggesting multiple sclerosis and hysteria. In one case acute peritonitis developed in the course of a mild chronic nephritis in a middle-aged man. In another case acute meningitis developed in a woman of 47 with signs of nephritis. He has encountered three cases of the complicating pericarditis. In all the above cases the serous membrane became suddenly affected in the midst of apparent health except for the mild nephritis. All the patients died except one man who passed through two attacks of the pericarditis and succumbed a few months later to a heart lesion. In another case a woman of 56 with chronic nephritis began to notice fibrillary twitching in the extremities. In a few days a typical attack of uremia followed in which the patient succumbed. Another patient was a young woman who complained of headache frequently recurring during the last four months. Physical examination was negative but he urged the patient and her mother to send him some urine for examination. Under tonics the young woman's symptoms subsided and she neglected to send the urine. Nearly a year afterward he was called in again and found the young woman with severe symptoms suggesting multiple sclerosis. Two days after this rapidly fatal uremia cleared up the diagnosis. It is rarely, he says, that chronic nephritis runs its course in this way without attracting attention to the kidneys. If his warnings in regard to urine examination had been heeded, the nephritis might have been detected and treated in time. In another case a little girl grew pale and the medical inspector of the school found dulness over the right apex and râles, and gave directions for general treatment of tuberculosis. He sent

the child to a lung specialist a week later who confirmed his diagnosis, and referred the child to Pollak for a certificate entitling her to a course in a sanatorium for lung affections. Pollak examined the urine and found 2 per cent. albumin with tube-casts and red corpuscles; the child died in six weeks. He comments that this case speaks volumes for the necessity of medical school inspectors confining themselves to mere detection of illness and warning the parents that the child is sick and should be taken to a physician. The physician can then make an examination much more thoroughly than is possible in the school, and institute appropriate measures in time.

Sanitary Food Production.—Declaring that food, though chemically pure, may be sanitarily unfit to eat, H. E. Barnard, State Food and Drug Commissioner of Indiana, in an address delivered before the Association of State and National Dairy Departments, at New Orleans in December, 1910, stated his belief that this fact will be the basis of future food legislation, and that the work of the food departments, commissioners and inspectors will be less and less given to controversial discussions of labels and manufacturers, and instead will be devoted to the promulgation of the old maxim in a new version, "cleanliness is godliness," among food producers and distributors. To him the astonishing thing is that for so many years we have trailed after the milk wagon in search of watered samples, and never entered the dairy to hunt the reason why the infant mortality of our cities is ten times as high among bottle-fed as among breast-fed infants; that we have frantically fought the rainbow-hued demon whose dye-pot made strawberry pop, jellies and confectioneries esthetically attractive, forgetting in the fray that polluted water in the pop bottle is a thousand times more dangerous to the consumer than anilin red, and that rotten fruit is a worse adulterant of jam than an atom of Biebricht scarlet; that we have fought relentlessly the substitution of oleomargarin for butter on the boarding-house table and never made a move to prevent the sale for food of rancid, filthy country butter, infinitely worse for the consumer and a more vigorous competitor of the product of the trained buttermaker than all the oleomargarin factories in the country. The fact faces us that the grocer who is honest but dirty strikes a more direct blow at the health of the community than his competitor, who does not hesitate to sell distilled water for cider vinegar and cotton-seed oil for olive oil, but who in the commission of his crimes sees to it that his hands are sanitarily clean, his goods free from dust, and his clerks undiseased; and that the butcher who sells tuberculous meat is infinitely more dangerous than he who mixes stearin in his lard or puts cracker crumbs in his sausage. The one class robs us of our heritage of health; the other steals but the lining of our pocket-books.

Report of Loomis Sanatorium.—The 1910 report of Loomis Sanatorium, Liberty, N. Y., for the treatment of tuberculosis, shows that 416 patients were admitted during the year and 411 discharged. The physician in chief, in summing up the work of the year, emphasizes the fact, to which attention was called in the report for 1909, of the undoubted relation between the length of stay in the sanatorium and the result of treatment, at least so far as the class of "apparent cures" is concerned. Thus, in 1907, with an average stay in the institution of 31.44 weeks there were 18.80 per cent. of apparent cures; in 1908, with an average stay of 43.09 weeks, the apparent cures were 21.52 per cent.; in 1909, with an average stay of thirty weeks, the apparent cures were 15.61 per cent.; while in 1910 the average stay was 26.62 weeks and the apparent cures amounted to but 12.30 per cent. This relation is also borne out in the class of incipient cases. In 1908, for instance, 72 per cent. of incipient cases were discharged as apparently cured, after an average residence of 25.83 weeks; in 1909, but 43.75 per cent. after a stay of 19.62 weeks, and about 50 per cent. in 1910 after an average residence of 19.66 weeks. It is found that this applies not only to the immediate results, but has a bearing on the ultimate results after the patient leaves the sanatorium. Forty-nine patients received tuberculin treatment in addition to the other measures, thirty-three of these for a period exceeding ninety days. One died. All the rest were improved, arrested or apparently cured. Following out the plan conceived and mentioned in the report for 1909, a more scientific method of feeding the patients has been followed during the past year. Careful weighing of the food, and computation of the chemical constituents, and more extended experience have permitted the division of the patients into three classes with regard to their diet, with the result of securing a diet more nearly adapted to the individual requirements, with consequent greater benefit to the patients. The report still further confirms the conclusion that the sanatorium treatment of tuberculosis presents great advantages over any other plan.

Pregnancy After Nephrectomy.—At the recent annual meeting of the French Société d'obstétrique, de gynécologie et de pédiatrie, several members reported cases of apparently normal pregnancy in women who had had one kidney removed on account of tuberculosis. Pinard, Pousson and Hartmann reported experiences in this line, the total on record, according to them, being now 113 cases in which an operation on the kidney for tuberculosis or other cause was accompanied or followed by a pregnancy. In the thirty-five cases in which the operation was done on the pregnant woman, the pregnancy did not seem to be affected in any way and it did not render the prognosis of the kidney operation any more serious. In seventy-four other cases the women became pregnant after the nephrectomy. With the exception of one woman who died from eclampsia and another from renal insufficiency during the puerperium, the single kidney answered every purpose, although it was itself diseased in a few cases and delivery had been difficult in a few others on account of contracted pelvis or other cause. In three cases the pregnancy followed nephrotomy; it terminated in abortion in one case but the other patients had two and three normal pregnancies. In another case a normal pregnancy followed bilateral decapsulation of the kidney. The conclusions were that even when the kidney has been removed for tuberculosis, if the urine is free from bacilli, marriage may be permitted to girls. Pousson stated that fifty-nine out of sixty-five women on whose kidneys he had operated have passed through a normal pregnancy since and some three pregnancies. In seven others there was abortion. In every instance the puerperium was free from complications, and most of the women could nurse their children, one becoming a professional wet-nurse. The children were all healthy at birth and to date, except that one has died of whooping-cough and another at the age of 15 months of tuberculous meningitis.

Conservative Treatment of Total Rupture of Lower Segment of Uterus.—A. Boero, Buenos Aires, in a communication to the *Semana Medica*, 1910, xvii, 1657, reviews the indications in such cases and reports five cases from his own experience in which notwithstanding this serious complication of childbirth all the patients but one recovered. The aim is to refrain from anything that might increase the shock from which the woman is suffering. The uterine artery is rarely involved in the laceration and what hemorrhage there is comes from the site of the placenta. When there is no shock he removes the uterus at once, but in the severer cases he tries to tide the patient past the shock period and give her time to recuperate. A month or two later it is a comparatively simple matter to remove the whole or part of the uterus. The fetus is nearly always dead after such a rupture, he says, and it should be extracted with a mutilating operation if necessary to get it and the placenta out of the way as rapidly as possible, without version. There should be no rinsing out of the uterus or vagina. The obstetrician's hand is introduced and the lower lips of the upper segment are drawn together and held between the thumb and index finger and thus worked down inside the lower, torn-off segment; the fingers are then replaced by forceps and the upper segment is securely fitted into the lower segment, thus shutting off all communication between the vagina and uterus and the peritoneal cavity, except for a small tunnel made in the broad

ligament for drainage, through which a wick of gauze is pushed. The lower segment and vagina are then packed with gauze. The obstetrician must realize that his hand is the vulnerable point in the procedure and that on his sterilization of his hands depends the outcome of the case. In the one fatal case in his experience several hours had elapsed after the rupture before the patient was brought to the clinic and various forceps applications had been made.

Loss of Appetite in Tuberculosis.—B. Schleisiek contributes an article on this subject to the *Zeitschrift für Tuberkulose* in which he states that the loss of appetite with a tuberculous pulmonary process may be the result of the action of toxins or of a latent tuberculous process in the cecum. The latter is more common than generally recognized; it may be discovered by systematic palpation, eliciting mild pain in the region. The diagnosis is confirmed by an injection of tuberculin which induces a typical focal reaction at this point. He adds that the tuberculous process in the cecum once diagnosed, operative treatment should follow at once, as tuberculosis of the intestines seldom heals spontaneously and in the appendix practically never. The operation is simple and easy at this early stage. Persistent lack of appetite may be the only sign of the intestinal process for a long time. Even the toxic anorexia may be favorably influenced by tuberculin treatment. The abnormal secretory conditions in the stomach return to normal under the influence of the tuberculin.

Soil Pollution by Hookworm.—Stiles and Gardner (Bulletin U. S. P. H. and M.-H. Service) have conducted experiments for the purpose of determining the length of time hookworm eggs may retain their vitality in the soil and under various conditions of drying and temperature. The soil under and around the privy is not entirely free from infection with hookworm even five months after the privy was last used, although the infection is considerably reduced at the end of four months. When the fecal material has undergone decomposition under water most of the hookworm eggs are dead in about ten weeks, though some still survive but they would probably all be dead in three months. It would not be safe to use such material as a fertilizer in less than three months. It has been shown that chlorid of lime fails to kill hookworm eggs in twenty-two to forty hours. The eggs of the typhoid fly and other species of fly are still capable of development after that length of time, and the flies are capable of reaching the open air even when material in which they breed has been buried under from 17 to 72 inches of sand.

American Achievements in the Tropics.—In declining an invitation to attend a banquet President Taft made this fine tribute: "We have real ground for national pride in the fact that England, France, Germany—Germany not so much so—and Holland have been engaged in the colonial business in the tropics for 100 years, some of them 200 years, and yet it remained for American physicians, and especially the physicians in the army to discover more things in the ten years since the Spanish-American War than were discovered in the whole two centuries before that time; and if nothing else justified the Spanish-American War, the discoveries of the American physicians since that time—what I may term the sequence of the war—were ample to justify the expenses of that war to ten times over. It is a real record of achievement of a national character that everyone who understands it must dwell on with sincere pride."

Marriages

HENRY FRANCIS BALLARD, M.D., to Miss Louise Myers, both of Chenoa, Ill., February 22.

JOHN STEPHAN NAGEL, M.D., Chicago, to Miss Evelyn Morrison Robinson of New York City, March 7.

EDWARD MONTGOMERY WELLBERY, M.D., to Miss Rosemary Carney, both of Brooklyn, N. Y., February 28.

BLEEKER J. KNAPP, M.D., Evansville, Ind., to Miss Eleanor Dee Gordon of Madisonville, Ky., recently.

MARTIN WASHINGTON YENCER, M.D., Richmond, Ind., to Miss Jeanette Hill, at Richmond, February 23.

PRESTON WORLEY, M.D., Clovis, N. Mex., to Miss Ethel Audrey Kennedy of Youngstown, O., February 28.

NATHANIEL H. MANRING, M.D., Elwood, Ind., to Mrs. A. C. Gordon of Indianapolis, at Louisville, Oct. 31, 1910.

GEORGE GRAHAM HUNTER, M.D., Los Angeles, Cal., to Miss Grace Geraldine Hildreth, at Los Angeles, Dec. 20, 1910.

GEORGE ALFRED LAWRENCE, M.D., to Mrs. Julia W. M. Curtis, both of New York City, at Wilmington, Del., February 14.

FRANK LOSSING CARPENTER, M.D., Berkeley, Cal., to Mrs. Mary Saylor Bingham of Glens Falls, N. Y., at Oakland, Cal., February 1.

Deaths

Henry Pickering Bowditch, physiologist of world-wide fame, formerly dean of Harvard Medical School, died at his home in Jamaica Plain, Boston, March 13, aged 70. He was graduated from Harvard University with the degree of A.B. in 1861, and served during the Civil War in the Massachusetts Volunteer Cavalry, attaining to the rank of major. At the close of the war he entered Harvard Medical School and was graduated from that institution in 1868. He then pursued studies in his chosen branch of physiology for three years in Germany, and on his return to the United States in 1871 was made assistant professor of physiology in Harvard Medical School. From 1876 to 1903, he was professor of physiology in that institution, dean of the school from 1883 to 1893, and George Higginson professor of physiology from 1903 to 1906. He was given the honorary degree of D.S.C. by the University of Cambridge in 1898, and the degree of LL.D. by Edinburgh University in 1898, Toronto University in 1903, and the University of Pennsylvania in 1904. He was a member of the American Medical Association, American Academy of Arts and Sciences, National Academy of Sciences, American Philosophical Society, American Society of Naturalists, and American Physiological Society. In 1896 and 1900 he served as vice-president of the American Association for the Advancement of Science, and was also a corresponding member of the British Association for the Advancement of Science. Dr. Bowditch was a prolific writer on his specialty of physiology. Aside from his eminence as a scientist, Dr. Bowditch endeared himself to all who knew him by his character as a man; especially to his students was he the ideal of the scholar, the man, and the courteous, polished gentleman, and his influence in arousing in them a desire for thorough work and for living up to the highest ideals of the profession was great and permanent.

Daniel Augustus Currie, M.D. Buffalo (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New Jersey; and of the Association of Military Surgeons of the United States; past president of the Alumni Association and for five years a trustee of the university; one of the organizers of the Englewood, N. J., Hospital; a member of the operating staff of the Hackensack Hospital; major-surgeon of the Fifth Infantry, N. G. N. J., and lieutenant colonel of the Second N. J. Infantry, U. S. V., during the Spanish-American War; local surgeon of the Erie Railroad; first mayor of Englewood, and afterward reelected to that office; died at his home, February 28, from cancer, aged 70.

Eugene Kingman, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association, and Boston Society of Psychiatry and Neurology, and president of the Rhode Island Medical Society in 1910; neurologist to the Rhode Island Hospital; organizer and first chief of the staff of the Providence Lying-In Hospital; a charter member and first president of the Rhode Island Hospital Club; died at his home, February 26, from uremia, aged 67.

Albert Joseph Erdman, M.D. Jefferson Medical College, 1873; a member of the Medical Society of the State of Pennsylvania, and formerly president and treasurer of the Lehigh County Medical Society; for seven years a member of the local pension examining board; for several years school director of Allentown, and for thirteen years physician to the Lehigh County Almshouse; died at his home in Allentown, March 1, from cerebral hemorrhage, aged 58.

Bartlett Norton Torrey, M.D. Washington University, St. Louis, 1874; a member of the American Medical Association; formerly local surgeon of the Burlington System, and vice-president of the Cottage Hospital, Creston, Ia.; superintendent of the Omaha General Hospital in 1905 and 1906; for the last

two years a resident of Detroit; died in Harper Hospital, March 2, from nephritis following prostatectomy, aged 66.

Skiles McKechan Woodburn, M.D. University of Pennsylvania, Philadelphia, 1872; a member of the American Medical Association; and for many years inspector of the State Board of Health for Bradford County; for nine years local pension examiner; a member of the board of health, town council and board of education of Towanda, Pa.; died at his home, February 22, from pneumonia, aged 60.

John Williams Coe, M.D. Johns Hopkins Medical School, Baltimore, 1898; a member of the American Medical Association; and New York Academy of Medicine; instructor in clinical pathology in Cornell University Medical College; and physician to the skin department of the Presbyterian Hospital, New York City; died at that institution, March 6, from pneumonia, aged 38.

Daniel Maynard Burgess, M.D. New York University, New York City, 1852; a member of the American Medical Association; surgeon of the steamship *Atlantic* in 1856; health inspector for the United States government in Cuba from 1874 to 1898; an authority on yellow fever; died at his home in New York City, March 1, from pneumonia, aged 82.

Oswald Warner, M.D. College of Physicians and Surgeons, New York City, 1854; a veteran of the Civil War; formerly assistant on the medical staff of the New Jersey State Hospital, Morris Plains; for several terms president of the District Medical Society of Passaic, N. J.; died in Newark, February 20, aged 77.

Theodore Bacmeister, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1856; a pioneer practitioner of central Illinois; professor of materia medica and therapeutics in Hahnemann Medical College, Chicago, in 1869 and 1870; died suddenly at his home in Toulon, Ill., March 8, from angina pectoris, aged 81.

William Wheeler Hewlett, M.D. Bellevue Hospital Medical College, 1869; a member of the Medical Society of the State of New York; formerly president of the Suffolk County Medical Society; twice president of Babylon village and twice health officer; died at his home, March 5, from heart disease, aged 63.

George Duffield Stewart, M.D. Detroit (Mich.) Medical College, 1878; sheriff of Wayne County, Mich., in 1898 and 1899; formerly city physician of Detroit and physician of Wayne County; afterward a resident of Mt. Clemens; died at his home in that place, March 7, from nephritis, aged 55.

Girard Bryce Edwards, M.D. Ohio Medical University, Columbus, 1905; a veteran of the Spanish-American War; of Cheraw, Colo.; formerly of Clearfield, Pa.; and jail physician of Clearfield County; died at his home, March 1, from tetanus following an injury to the left ankle, aged 35.

Lowrie Payne Hapgood, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; a member of the American Medical Association; formerly president of the school board of Bedford; died at his home in South Side, Pittsburg, March 6, from pneumonia, aged 34.

John T. Wilkins, M.D. Jefferson Medical College, 1843; University of Maryland, Baltimore, 1851; a member of the Northampton County (Va.) Medical Society; died at his home in Vaucluse near Eastville, Va., Nov. 16, 1910, from senile debility, aged 90.

Leonidas E. Best (license, Ontario, 1865); formerly of Grand Rapids, Mich.; for two terms coroner, and a member of the board of supervisors of Kent County; died at the home of his daughter in Salt Lake City, February 28, from cerebral hemorrhage, aged 66.

John S. Boyd, M.D. University of Pennsylvania, Philadelphia, 1870; superintendent of admission of Girard College, Philadelphia; and connected with the Girard estate for twenty-seven years; died at his home, March 6, from pneumonia, aged 62.

William T. Carpenter, M.D. University of Nashville, Tenn., 1864; of Iron Mountain; a veteran of the Civil War, and one of the founders of the Ishpeming Hospital; a member of the Michigan State Medical Society; died in Maitland, Fla., March 6, aged 73.

William A. Whitlock, M.D. University of Tennessee, Nashville, 1885; of Ukiah, Cal.; died in St. Winifred's Hospital, San Francisco, February 26, from brain disease following an infection received during an operation four months before, aged 58.

George Delos Coe, M.D. Eclectic Medical Institute, Cincinnati, 1872; a veteran of the Civil War; for several years city physician of Carthage, Mo.; died at his home in San Francisco, February 5, from acute intestinal disease, aged 73.

Alfred Lewis Wolfe, M.D. Washington University, Baltimore, 1877; a member of the American Medical Association; for several years a practitioner of Elkton, Va.; died at his home in Roanoke, Va., March 2, from tuberculosis, aged 57.

Thomas R. Mask, M.D. Leonard School of Medicine, Raleigh, N. C., 1889; an esteemed colored practitioner of Wilmington, N. C.; and a member of the New Hanover County Medical Society; died at his home, February 19, aged 48.

James Mooney, M.D. Detroit (Mich.) Medical College, 1877; a member of the American Medical Association, and Panhandle Medical Association; died at his home in Wellington, Tex., Dec. 4, 1910, from pneumonia, aged 58.

James B. Judson, M.D. Homeopathic Hospital College, Cleveland, O., 1876; a veteran of the Civil War, and a practitioner since 1863; died at his home in Springport, Mich., January 21, from cerebral hemorrhage, aged 66.

J. A. Parsons, M.D. Atlanta (Ga.) Medical College, 1884; of Bowersville; a member of the Medical Association of Georgia; died in the Grady Hospital, Atlanta, February 25, from cerebral hemorrhage, aged 49.

Elijah B. Woolston, M.D. University of Pennsylvania, Philadelphia, 1854; a member of the Medical Society of New Jersey; died at his home in Marlton, Dec. 17, 1910, from cerebral hemorrhage, aged 77.

Colin Bancroft McKenzie, M.D. University of Michigan, Ann Arbor, 1891; acting assistant surgeon U. S. P. H. and M.-H. Service; died at his home in Harbor Beach, Mich., March 6, from heart disease, aged 50.

M. Duke Kimbrough, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Mocksville, Nov. 26, 1910, aged 72.

Robert W. Joyner (license, North Carolina); a member of the American Medical Association and Seaboard Medical Association; died at his home in Woodland, January 11, from myocarditis, aged 70.

Frederick Howard Files, M.D. Medical School of Maine, Brunswick, 1888; a member of the South Dakota State Medical Association; died at his home in Madison, March 1, from pneumonia, aged 48.

King Holt, M.D. Tulane University, New Orleans, 1871; of Baton Rouge, La.; for several years a sanitary officer of the United States government in South America; died at his home, February 18.

Lewis Nathaniel Howard, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; a Confederate veteran; died at his home in Indianapolis, February 23, from interstitial nephritis, aged 73.

Charles Austin Jennings, M.D. Starling Medical College, Columbus, O., 1889; formerly of Delevan, Ill.; died at the home of his aunt near Olathe, Kan., February 21, from tuberculosis, aged 43.

John P. Johnston, M.D. Jefferson Medical College, 1879; a member of the West Virginia State Medical Association; died at his home in Wellsburg, March 6, from ptomain poisoning, aged 55.

Edmund Roy Gustin, M.D. University of Buffalo, N. Y., 1893; of Harrison Valley, Pa.; coroner of Potter County in 1895; died in the Williamsport General Hospital, February 9, aged 30.

Augustine Gandier, M.D. Queen's University, Kingston, Ont., 1890, and gold medalist of his year; M.R.C.S., L.R.C.P., L.S.A., London; died at his home in Sherbrooke, Que., Dec. 15, 1910, aged 45.

Charles Lisle Bond, M.D. University of Buffalo, N. Y., 1903; a member of the Medical Society of the State of New York; died at his home in Valois, February 25, from pneumonia, aged 38.

Frank J. Maschek, M.D. Rush Medical College, 1882; formerly a member of the American Medical Association; died at his home in Chicago, February 10, from cancer of the tongue, aged 50.

Lonnie Ray Wood, M.D. Vanderbilt University, Nashville, Tenn., 1910, and recipient of the Founder's Medal; died at his home in Attalla, Ala., February 9, from pneumonia, aged 23.

Oscar W. Roberts (license, Arkansas, 1907); an eclectic practitioner of Reyno; is said to have been killed by a blow from the mace of the city marshal of Reyno, Dec. 5, 1910, aged 26.

William B. Hart, M.D. University of Buffalo, N. Y., about 1846; for nearly sixty years a practitioner of McHenry County, Ill.; died at his home in Greenwood, February 19, aged 99.

Washington Jackson Caldwell (license, Tuscaloosa County, Ala.); a Confederate veteran and one of the oldest practitioners of Tuscaloosa; died at his home, February 28, aged 81.

Addison Wilson Bare, M.D. University of Louisville, Ky., 1860; a member of the Indiana State Medical Association; died at his home in Bryantsville, February 27, aged 84.

Merrill James Galloway, M.D. Philadelphia University of Medicine and Surgery, 1874; died at his home in Philadelphia, February 28, from heart disease, aged 72.

Isaac M. McBride, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; died at his home in Rugby, N. Dak., March 1, from tuberculosis of the lungs, aged 56.

Maria Stewart Loughborogh Edwards, M.D. American Medical Missionary College, Chicago, 1899; formerly of Moline, Ill.; died in St. Helena, Cal., February 28.

Thomas A. Andrews, M.D. Jefferson Medical College, 1868; a Confederate veteran; died at his home in Seagoville, Tex., January 26, from pneumonia, aged 64.

George E. Williams, M.D. Medical College of Virginia, Richmond, 1902; formerly of Richmond; died at his home in Pearisburg, Va., February 21, aged 35.

Francis Marion Moore, M.D. Rush Medical College, 1876; Kansas City (Mo.) Medical College, 1879; died at his home near Perry, Mo., February 17, aged 55.

Edmon C. Waltersdorf, M.D. Hahnemann Medical College, Chicago, 1881; died at his home in Detroit, March 5, from accidental gas asphyxiation, aged 58.

L. B. Chilton, M.D. Shelby Medical College, Nashville, Tenn., about 1860; died at the home of his niece in Guthrie, Ky., January 5, from nephritis, aged 72.

Valentine Fritts, M.D. Kansas City (Mo.) Hospital College of Medicine, 1885; died at his home in Luray, Kan., February 5, from pneumonia, aged 61.

William C. Moughon, M.D. University of Louisville, Ky., 1876; died at his home in Wills Point, Tex., March 2, from laryngeal tuberculosis, aged 56.

John Biggs Standlee, M.D. American Medical College, Eclectic, St. Louis, 1904; died at his home in Peoria, Ill., February 17, from tuberculosis, aged 33.

Herschel Josephus Logan, M.D. University of the South, Sewanee, Tenn., 1897; died at his home near Plains, Ga., February 26, aged about 40.

George Davis (license, Iowa, years of practice, 1886); of Canton, Ia.; died at the home of his brother in South Garry Owen, February 9, aged 58.

Thomas Blackwood, M.D. Jefferson Medical College, 1874; died suddenly at his home in Flushing, O., February 20, from heart disease, aged 62.

John B. Hollingsworth, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Quaker City, O., January 16, aged 78.

Eugene Orville Bardwell, M.D. University of Buffalo, N. Y., 1879; died at his home in Emporium, Pa., Jan. 4, 1910. from pneumonia, aged 55.

Francis J. J. McHugh, M.D. Detroit (Mich.) College of Medicine, 1889; died at his home in Detroit, February 25, from pneumonia, aged 50.

John E. Sommers, M.D. Eclectic Medical Institute, Cincinnati, 1892; died at his home in North Baltimore, O., February 26, aged 56.

Thomas Crosgrove, M.D. Rush Medical College, 1869; died at his home in Hubbard, Ia., February 18, from cancer of the face, aged 69.

N. L. Holt (license, Texas, 1907); died at his home in Chillicothe, February 22, four days after an operation for appendicitis, aged 36.

Lewis Addison Fairchild, M.D. Rush Medical College, 1890; died at his home in Peru, Neb., February 22, from diabetes, aged 62.

Charles J. Sherer (license, Oklahoma, Act of 1908); died suddenly at his home in Kent, Oct. 21, 1910, from heart disease.

C. Almon Paul, M.D. Hahnemann Medical College, Chicago, 1889; died at his home in Solon, Me., February 22, aged 57.

Thomas E. Tribble, M.D. University of Tennessee, Nashville, 1883; died at his home in Bloomfield, Mo., February 23.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

COMPRESSED OXYGEN

Report of the Council on Pharmacy and Chemistry

The referee of the Council appointed to report on the composition of compressed oxygen as found on the market and to make recommendations as to its inclusion with New and Nonofficial Remedies submitted the following report:

The Section on Stomatology at the 1909 session of the American Medical Association having recommended the inclusion of compressed oxygen with the U. S. Pharmacopeia, the Council voted to describe this product with New and Nonofficial Remedies until such Pharmacopeial recognition had been secured. This action having been decided on, it became necessary to provide standards of purity for this substance. Correspondence both with firms who make the product as well as with those who use it gave the referee of the Council little information as to what degree of purity should be required for this substance, and it therefore became necessary to examine the product as it was found on the market.

Professor Warren R. Smith of Lewis Institute, Chicago, kindly offered to cooperate with the Council and to make an examination of this product. The referee herewith transmits the very thorough report regarding the composition of commercial compressed oxygen which has been made by Professor Smith in collaboration with Edwin D. Leman. The referee recommends that the Council express its appreciation for the work and that it request publication of the report in THE JOURNAL. The referee further recommends that the description of compressed oxygen submitted herewith be adopted for inclusion with New and Nonofficial Remedies.

This report was adopted by the Council and in accordance therewith the examination of Smith and Leman is published below and the description of compressed oxygen appears with New and Nonofficial Remedies on another page of this issue of THE JOURNAL.

W. A. PUCKNER, Secretary.

The Purity of Compressed Oxygen

PROF. WARREN R. SMITH AND EDWIN D. LEMAN

We have recently examined three specimens of commercial oxygen, purchased in the open market, with the results shown in the accompanying table.

Maker	Chicago Oxygen Gas Co., Chicago		Ohio Chemical and Mfg. Co., Cleveland		S. S. White Dental Mfg. Co., Philadelphia	
Per cent. oxygen	94.78	94.80*	97.84	97.85*	96.84	96.76*
	94.78	94.80†	97.84	97.86†	96.84	96.93†
Per cent. nitrogen[1]	5.22	5.20*	2.15	2.16*	3.09	3.17*
	5.22	5.20†	2.14	2.16†	3.09	3.00†
Potassium iodid test	Negative.		Negative.		Negative.	
Per cent. carbon dioxid	Negative.		Negative.		0.06	0.07*
Carbon monoxid methane, etc.	Negative.		Negative.		Negative.	

1. That is, not absorbed by potassium pyrogallate.
* Smith.
† Leman.

The gas from the Chicago Oxygen Co. was claimed to be under a pressure of 16 atmospheres. The amount of nitrogen found in this sample is just about that which would be present if pure oxygen were forced into a container filled with air under one atmosphere pressure until a pressure of 16 atmospheres was reached. The other samples were stated to be under a pressure of 1,600 lbs., so that the amounts of nitrogen found cannot be accounted for by a similar hypothesis.

The potassium iodid test mentioned in the table consisted in passing from 2 to 4 liters of the gas through a solution containing starch and potassium iodid. A negative result in this test shows that the gas is free from chlorin, ozone, oxids of nitrogen, etc. The negative results for carbon dioxid mean that not more than a slight opalescence was obtained by passing 2 to 4 liters of the gas through a solution of barium

hydroxid. The carbon monoxid test was made by passing the gas through alkali to remove all carbon dioxid, then over heated platinum, and finally through barium hydroxid solution. A negative result here shows freedom from carbon monoxid, methane and other hydrocarbons.

Shot-Gun Prescriptions and Shot-Gun Specialties Combined

A physician in a small town in Nebraska writes: "In looking over a prescription file not long ago I found a prescription which I copied and am sending to you. It is a good example of shot-gun prescribing. I do not give the name of the prescriber, and you will please not mention from whence this comes. The doctor who wrote this has had about ten years' experience."

Here is the prescription given exactly as transmitted by our correspondent:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	3i
Bromoform Bronchial Anodyne	℥ii
Syrup Cocillana Comp. q. s. ad	℥vi

Teaspoonful every two or three hours.

It is evident that the prescriber is an eclectic. As a matter of fact, in a second letter from the physician who forwarded the prescription, we are informed that the prescriber is a graduate of an eclectic institution not a thousand miles from where he practices. The "Sp" in the prescription does not mean "Spiritus," but specific tincture. The prescriber is an advocate of specific remedies, one of which should fit the condition, but he is broad-minded enough to call help from the outside, and so adds fifteen other remedies to the specific selected, including alcohol. The inability of one mind to remember all the ingredients of so complex a mixture will explain the fact that ipecac is duplicated, occurring both as a specific tincture and as an ingredient of Bromoform Bronchial Anodyne. The latter, the manufacturers tell us, contains in one fluidounce:

Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.

Syrup Cocillana Comp., one of the "elegant specialties" of Parke, Davis & Co., of which they certainly ought to be very proud, contains, we are told, in one fluidounce:

Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Syrup of squill comp.	24 min.
Cascarin, P. D. & Co.	8 grs.
Menthol	8/100 gr.

This "elegant specialty" of Parke, Davis & Co. is not only a shot-gun prescription, but has as one of its ingredients a mixture itself containing three ingredients, namely: Syrup Squill Comp. (Coxe's Hive Syrup), making ten in all—a beautiful example of scientific pharmacy.

We wonder if our eclectic brother really appreciated that his prescription, written out, would be as follows:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	3i
Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.
Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Fluidextract of squill	60 min.
Fluidextract of senega	60 min.
Antimony and potassium tartrate	1 gr.
Cascarin, P. D. & Co.	8 grs.
Menthol	8/100 gr.

To use a slang expression, this is certainly going some!

Correspondence

Certified Butter in California

To the Editor:—Certification of butter in California was developed as an outgrowth of a series of experiments carried on in the laboratory of applied hygiene of the University of California by Mr. James M. Stephenson and myself. These experiments were undertaken to determine the need for municipal control of the butter supply of the city of Berkeley, and developed the presence of tuberculosis in much of the high-grade butter tested.

A review of the federal literature on the vitality of typhoid and tuberculosis bacilli in butter showed that previous experiments had been carried on with sweet cream butter. We therefore carefully followed the commercial process of souring and churning previously pasteurized cream. The cream samples were inoculated at the time of churning with pathogenic organisms, and the resulting butter was examined directly, plated and inoculated into guinea-pigs intraperitoneally.

Our results in brief were as follows:

Typhoid bacilli were recovered during the fourth week from endo-plates inoculated from broth subcultures of butter samples.

Diphtheria bacilli were recognized in smears made from blood-serum tubes inoculated with butter samples 26 days old, and guinea-pigs showed characteristic lesions at autopsy when inoculated from subcultures on blood-serum of butter 8 days old.

Generalized tuberculosis developed in guinea-pigs inoculated with butter 2 weeks old which had been contaminated at the time of churning by a small quantity of feces from a cow with tuberculosis.

In addition, generalized tuberculosis developed in guinea-pigs inoculated with three out of five high-grade butters obtained in open market. One of these had been intended as a control, as the butter was supposed to be made from pasteurized cream; but investigation revealed that not all of the cream coming to the butter factory was pasteurized.

Having been satisfied as to the need for pasteurized cream butter, the next step was the development of municipal butter control. For this purpose a score card for butter factories was devised on the basis of the federal score card for city milk plants, and a score card for butter which was in effect an extension of the present federal butter card. One of these cards gave due credit for pasteurization apparatus and its use, and the other gave ten points for a butter which would be Storch-test positive, showing that the cream had been heated to 80 C. It was also planned that butter factories where pasteurization was practiced might designate their product "inspected butter," under the supervision of the Berkeley Board of Health.

These points were incorporated in an ordinance governing the sale of milk products which was then submitted to the Board of Health, and by it recommended to the city council for passage.

A bill was also prepared and submitted to the California legislature, giving county medical milk commissions the authority to certify butter as free from pathogenic organisms, if the butter in question complied with regulations of the commission. The bill further penalized the use of the term "certified butter" without the authority of a medical milk commission. This bill has passed both houses of the present legislature, and the Milk Commission of the Alameda County Medical Association has agreed to adopt regulations for certified butter based on the pasteurization requirements as found in the milk-products ordinance of Berkeley.

The plan is not extreme, nor does it work a hardship on the producer. All butter in Denmark must be made from pasteurized cream, and it seems inconceivable that we have hitherto bent all our energies toward certified milk production and allowed this menace to our later years to persist without legislative correction.

JOHN NIVISON FORCE, M.D., M.S.,
Lecturer in Hygiene, Univ. of California, Berkeley, Cal.

The Philadelphia Idea as to Medical Teaching

To the Editor:—In THE JOURNAL, February 25, p. 608, under the above heading, there is the following extraordinary statement, by Prof. H. A. Hare, of Philadelphia: "As a matter of historical fact, Jefferson Medical College was the first medical institution in America to establish clinical teaching."

Now, "clinical teaching" is as old in this country as medical colleges; for, at the very beginning of the Philadelphia Medical College (University of Pennsylvania), we find that such instruction was given the students in the Pennsylvania Hospital. The first medical diploma, that of John Archer, of Maryland, (1768), is signed by "Thomas Bond, Collegii & Academ. Curator et Praelec. Clinicus" (clinical lecturer), with the following endorsement: "Fidem facio Virum ornatum Joannem Archer Praelectionibus Clinici et Praxi in Nosocomio Philadelphiense interfuisse et Fructus Diligentiæ suae uberrime consecutum fuisse."

The younger Wiesenthal, of Baltimore, describes these clinics in letters to his father, while a medical student in Philadelphia, and the elder Wiesenthal (a most competent judge) speaks highly of Bond's qualifications for the task. The medical histories, as Mumford and Packard, show that these Philadelphia clinics were "rich and abundant."

Nor were the Boston, New York and Baltimore schools without their clinics. The New York Hospital was available from 1807 on, and the Massachusetts General Hospital was opened in 1821. In Baltimore, during the period from 1807 to 1823, clinical lectures were given by Davidge, Potter, William Gibson, Pattison, George Frick, the oculist (and author of the first American work on the eye) and others, at the Maryland Hospital, on Broadway, at the City Almshouse Hospital, on Harvard Street, and at Dr. Gibson's private hospital.

"As a matter of historical fact," however, the first medical school in the country to have its own hospital was the Department of Medicine of the University of Maryland. This was opened Sept. 20, 1823, in a building, especially erected for the purpose, just across the street from the medical college. It had at first four wards, one being for the eye.

Jefferson Medical College was founded in 1824, but the course of lectures did not begin until 1825. I have seen somewhere a statement by the late Prof. Samuel D. Gross, similar to that of Professor Hare, that Jefferson Medical College was the first in this country to establish a college hospital, which it did in 1825.

EUGENE F. CORDELL, M.D., Baltimore.
Professor of the History of Medicine, Univ. of Maryland.

Incomes of Physicians

To the Editor:—I enclose a newspaper article purporting to be an abstract of the address of Dr. H. W. Wiley of the Department of Agriculture. I have marked a paragraph in which he is quoted as saying: "There are 120,000 physicians in this country—120,000 men living on princely salaries because we ignore the possibility of our losing our health."

This article has been published broadcast and will give the public another wrong impression of our profession. People already think that physicians charge too much and this only adds to the false ideas as to the income of a medical man. Dr. Wiley knows that the average income of physicians in the United States is less than $1,000 a year. A princely salary, indeed! The physicians of this country are having a hard enough time to get along without such statements being made—false statements at that. The American Medical Association should take some action to contradict such statements.

F. E. WALLACE, M.D., Pueblo, Colo.

[This letter was referred to Dr. Wiley, who replies as follows:]

To the Editor:—The remarks attributed to me in the address before the Republican Club were evidently made by one of the other speakers. I have forgotten which speaker it was who gave statistical data as to the number of sick people and the cost of their medical attendance, but it was not I. I said nothing at all about the matter. I did, however, say in an address before Columbia University on the evening of the same day that young men might just as well give up the idea that there was any learned profession which gave promise of princely salaries and I stated that in my opinion the average salary of the physicians of the United States was less than $1,000 a year, which is about the same as the estimate given by Dr. Wallace. I suppose that there are twenty-five or perhaps a hundred in this country who do earn "princely" salaries, but it never entered my mind that such earnings were common to the profession.

H. W. WILEY, Washington, D. C.

Plague in China

To the Editor:—I expected to take my furlough in the early spring . . . My plans have recently been changed owing to the arrival of the plague in this vicinity, making it necessary for me to remain at my post. . . .

I have been in the vicinity of plague before, but it was not like that which is surrounding us at the present time, viz., pneumonic and septicemic. The pneumonic is by far the most common. It seems to me to be reasonable to ascribe the presence of these two varieties to the intense cold and to the conditions under which the people live. The temperature is often 30 below zero and the Chinese huddle together on large brick beds, as they go up to Manchuria from the northern provinces of China to do coolie work. Under these conditions, if bubonic plague got under way it would not be strange if its virulence should increase and take on the more severe forms. The septicemic type seems to be less contagious, or the contagion does not emanate from the patient in a continuous stream as it does from the pneumonic variety. The matter vomited in the latter type contains the bacilli.

J. H. INGRAM, Tungchou, Peking, China.

[COMMENT:—The above is taken from a letter of a subscriber who is writing on other matters. What is said regarding the plague is incidental. This is an example of one man sticking to his post in time of danger.—EDITOR.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EFFECTS OF THIOSINAMIN

To the Editor:—I would like information from the profession at large in regard to the effects of thiosinamin. In a case of polymyositis I have been giving hypodermic injections of this drug. The patient has been affected with this trouble for more than a year and the muscles are in a stage of fibrous degeneration. The drug has been administered with the view of obtaining its reputed effect of causing an absorption of cicatricial tissues.

The patient has received two injections weekly for the past seven weeks with but little beneficial effect. After the last five injections, however, there has been a uniform marked reaction, as follows: About two hours after the injection of 3 grains of the drug a severe chill occurs, followed by a rise of temperature to about 102 F. This temperature persists for from twenty-four to thirty-six hours. After the first two days it is accompanied by profuse perspiration and marked heart weakness. During the second day improvement begins. By the third day the patient is in her usual condition.

I would like to know if any other physician has ever used this drug with benefit, and if they have seen any such reaction.

I am unable to find any literature relating to this effect.

CHARLES F. CLOWE, M.D., Schenectady, N. Y.

ANSWER.—There are numerous reports in the literature in which beneficial results from the use of thiosinamin and the solution of thiosinamin and sodium salicylate are said to have been obtained. There is considerable doubt as to its permanent value in removing or softening scar tissue.

Thiosinamin poisoning has been reported in the last few years by a number of authors. Fever produced by this agent was noted by Hebra, who introduced the drug into medicine. His patient was tuberculous but free from fever. After the injections fever occurred, but it was uncertain whether it was due to the thiosinamin or to the tuberculosis.

Kunkel (Manual of Toxicology, 1901) reports headache, nausea, vomiting and lassitude after large doses (1 gm.) in man.

Brinitzer observed repeatedly attacks of fever up to 39.8 C. (103.6 F.) in a patient whom he was treating for scleroderma.

P. Grosse (*München. med. Wchnschr.*, April 28, 1908, p. 910) reports a case in which slight symptoms appeared after the first five injections, but the sixth was followed by a rise of temperature to 39.1 C. (102.4 F.), with weak pulse, loss of appetite, etc. A striking feature repeated in other cases was a loss of memory of the period in which the symptoms appeared.

Baumstark observed similar symptoms in a patient whom he was treating for cholecystitis.

F. Hayn (*München. med. Wchnschr.*, Feb. 15, 1910) reports a case in which the ordinary dose, 0.2 gm. (3 grains), produced chills and fever, severe headache, thirst and marked weakness. Severe vomiting occurred with the first symptoms of poisoning. In this case the symptoms began with the fifth dose.

R. Neisse (*Therap. Monatsh.*, May, 1910) reports a case of fever occurring after injection of solution of thiosinamin sodium salicylate in a patient in whom there was suspicion of tuberculosis, and recommends that caution be used in treating tuberculous individuals with thiosinamin.

Kölliker reports (*München. med. Wchnschr.*, July 19, 1910, p. 1550) a case of thiosinamin poisoning in a young woman to whom it was being administered for the relief of keloid. The first symptoms appeared after the fifth injection and consisted of chilliness, sweating, general malaise and severe headache. These symptoms appeared after every injection but were variable in duration. The headache lasted for from two to eight days and was entirely independent of the interval between the two injections. After an interval of nineteen days the symptoms of poisoning appeared with the same intensity as after an interval of one day. The injections, however, were continued and the treatment was successful. No influence on menstruation was observed.

HEMOPHILIA

To the Editor:—Two children, aged respectively 6 and 8 years, have been under my care since birth. On their mother's side they belong to a family of bleeders. They have severe attacks of epistaxis and also have frequent attacks of acute articular rheumatism; both have valvular disease. I have given suprarenal preparations and also the elixir of chlorid of calcium; both seem to do good, but for a short time only. Can you recommend anything better?

N. C. MILLER, Stroudsburg, Pa.

ANSWER.—Good results have followed the use of normal blood-serum (rabbit, horse or man), locally, subcutaneously and intravenously. A serum injection of from 20 to 30 c.c., subcutaneously, usually suffices, although it may be necessary to repeat the injection daily or every two or three days if indicated. The ordinary antidiphtheritic serum has been used. It does not need to be fresh; Hare has used serum that had been kept for six months. It is possible that the attacks of "acute articular rheumatism" are in reality "bleeder joints," the pain being due to small hemorrhages into the joint and subsiding with absorption of the blood.

HICCUP NOT ATTRIBUTED TO BACILLI

To the Editor:—Please inform me if a bacillus causes hiccup (singultus). If so, has it been isolated, and by whom? I have a case of hiccup of three years' standing. Can you furnish any literature on the subject or inform me where I can obtain any data?

F. H. LONGLEY, M.D., North Platte, Neb.

ANSWER.—A bacillus of hiccup—singultus—has not been isolated and it is hardly expected that one will be found, since hiccup is merely a symptom. The condition is discussed in the various textbooks on medicine and therapeutics; there is practically no current literature in regard to it. We have reference to one article during the last five years:

Bassler, A.: Singultus Gastricus Nervosus, *New York Med. Jour.*, Aug. 13, 1910; abstr. in THE JOURNAL A. M. A., Aug. 27, 1910, p. 800.

Complications of Typhus Fever.—E. Legrain and R. Treille review their experiences in northern Africa and assert that disinfection of the sick-room and sterilization of the mouths of patients with exanthematous typhus have always proved effectual in warding off complications in their experience. In epidemics in which these measures were neglected, complications were frequent and severe. In their communication on the subject in *Afrique Médicale*, 1910, xi, 377, they report some typical cases of severe complications, parotitis, joint affections and psoitis in the course of convalescence. Other patients presented symptoms suggesting secondary pancreatitis, suppurative meningitis, or abscesses in the mouth and neck. They cite a description of typhus A. D. 1300, and others by Italian writers in the fifteenth and sixteenth centuries.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 11, 1911.

Stallman, George E., D.S., March 2, reported for temporary duty at Fort Clark, Texas.

Dougherty, James C., M.R.C., February 9, reports in field for duty along Mexican boundary.

Daywalt, George W., M.R.C., March 6, ordered to proceed to his home, and on arrival there will report to the adjutant general of the Army for further orders.

Allen, John H., major, March 8, left Fort Myer, Va., with 3d Field Artillery en route to San Antonio, Texas, for field duty.

Wickline, William A., captain; Schlanser, A. E., and Bastion, J. E., lieuts., March 9, left Walter Reed General Hospital, Takoma Park, D. C., with Co. C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Bartlett, William K., captain, March 7, appointed member of commission to meet at Washington, D. C., relating to the establishment of maneuvering ground and camp of inspection, rifle and artillery ranges near Chickamauga Park, Ga.

Krebs, Lloyd Le R., captain, March 7, honorably discharged from the service of the U. S.

Birmingham, H. P., lieut.-col., March 7, assigned to duty as chief surgeon of division now being concentrated at San Antonio Park.

Persons, Elbert E., major, March 7, ordered to San Antonio, Texas, for duty in chief surgeon's office, division at that place.

Whitcomber, C. C., captain, March 7, ordered to San Antonio, Texas, for duty as medical supply officer.

Roberts, William M., major, March 7, relieved from temporary duty at Fort Oglethorpe, Ga., and ordered to proceed with the 11th Cavalry to Fort Sam Houston, Texas.

Straub, Paul F., major, March 7, ordered to proceed to San Antonio, Texas, for duty as sanitary inspector of division.

Truby, Willard F., major, March 7, ordered to proceed to San Diego, Cal., and report for duty as commanding officer of the field hospital at that place.

Dutcher, Basil H.; Gilchrist, Harry L.; Hartsock, F. M., and Patterson, Robert U., majors, March 7, ordered to San Antonio, Texas, to assume command of the four field hospitals to be assembled at that place.

Jones, Percy L., captain, March 7, ordered to San Antonio, Texas, for duty in command of Ambulance Co. No. 2 at that place.

Baker, David, major, and Darby, Taylor E., lieut., March 7, left Fort McPherson, Ga., en route to Fort Sam Houston, Texas.

O'Connor, R. P., major, March 8, left Fort Screven, Ga., with troops en route to Galveston, Texas.

Bartlett, William K., captain, March 8, left Fort Oglethorpe, Ga., en route to Fort Sam Houston, Texas.

Hill, Eben C., lieut., March 8, left Madison Barracks, N. Y., en route to Fort Monroe, Va., for temporary duty.

Ford, Joseph H., major, March 8, left Fort Wadsworth, N. Y., with troops for duty in Texas.

Persons, Elbert E., major, March 8, left Fort Jay, N. Y., en route to San Antonio, Texas.

Fauntleroy, P. C., major, March 8, left Fort Benjamin Harrison, Ind., with the 10th Infantry en route to Fort Sam Houston, Texas.

Halliday, Charles H., M.R.C., March 9, left Fort Fremont, S. C., en route to Jackson Barracks, La., for temporary duty.

Waterhouse, S. M., major, March 9, left Fort Washington, Md., with troops en route to Fort Monroe, Va., and for duty in Texas.

Long, Charles J., D.S., March 9, left Fort Andrews, Mass., en route to Fort Constitution, N. H., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Cecil, A. B., asst.-surgeon, detached from the *Nebraska* and ordered to the naval station, Gauntanamo, Cuba.

Changes during the week ended March 11, 1911.

Olcott, F. W., P. A. surgeon, commissioned passed assistant surgeon from Feb. 13, 1911, and transferred to the retired list from that date.

Richardson, R. R., surgeon, detached from the navy yard, Portsmouth, N. H., and ordered to the *Prairie*.

Downey, J. O., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the *Prairie*.

Pugh, W. S., P. A. surgeon, detached from the naval hospital, New York, and ordered to the *Dixie*.

Elmore, B., A. A. surgeon, commissioned acting assistant surgeon from March 4, 1911.

Beyer, H. G., medical director, commissioned medical director from Feb. 27, 1911.

Mink, O. K., P. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *West Virginia*.

Miller, J. T., P. A. surgeon, detached from the Navy recruiting station, St. Louis, and ordered to the *Franklin*.

Abeken, F. G., P. A. surgeon, detached from the *West Virginia* and ordered to the Navy recruiting station, St. Louis.

Higgins, M. E., P. A. surgeon, ordered to the naval medical school, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 8, 1911.

Cofer, L. E., assistant surgeon-general, granted ten days' leave of absence from March 6, 1911.

Pettyjohn, J., P. A. surgeon, granted one month's leave of absence from Feb. 23, 1911, on account of sickness.

Hamilton, H. J., A. A. surgeon, granted seven days' leave of absence from March 6, 1911.

Schug, F. J., A. A. surgeon, leave of absence for thirty days from Feb. 18, 1911, revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

The progress of legislation and the new bills introduced regarding which THE JOURNAL has been informed, are reported below by states.

ALABAMA

A bill is introduced by Senator Justice to amend the existing medical practice act by giving the State Board of Medical Examiners power to revoke a physician's certificate for use of liquor or narcotic drugs to such an extent as to render him unsafe or unreliable as a practitioner; being so infirm mentally as to render him unsafe and unreliable; being guilty of gross immorality and unprofessional conduct likely to deceive, defraud or injure the public; advertising himself or his practice; inducing or aiding in inducing a criminal abortion; performing an operation of major surgery when his certificate does not entitle him to do so or being convicted of any offense involving moral turpitude. The bill also provides the manner of bringing charges and of procedure on the part of the board. This bill has passed the senate. An optometry bill has also been introduced.

CALIFORNIA

The senate has passed a bill making it a felony to trade in medical certificates or diplomas from medical colleges or to use the title of "doctor" or any other title having a similar meaning for fraudulent purposes. A bill has also passed the senate providing that an applicant for a license to practice medicine or other form of healing who passes the examination in seven of the ten required subjects shall be allowed a reexamination in the remaining three. A bill to repeal the compulsory vaccination law has passed the lower house. A bill to amend the present medical practice act has been defeated in the senate.

COLORADO

The following bills have been introduced: to regulate slaughter houses; a meat inspection bill; to create local boards of health; to provide for the medical inspection of school teachers and children for contagious diseases; to regulate the use of the common drinking cup; to prohibit the sale of undrawn cold storage poultry, fish or game; to amend the vital statistics law; to provide for the sanitary keeping, storing and transportation of foodstuffs; to repeal the compulsory vaccination law; to provide for the sanitation of bakeries, canneries, packing houses and all places where food is prepared, manufactured, packed, stored, sold or distributed; to provide for dental examination of children; to regulate the location of sanitariums for tuberculosis; to regulate the sale of habit-forming drugs; to provide for the supervision of lying-in hospitals and maternity homes; to regulate embalming; to establish a chiropractic board of examiners; to establish an optometry board of examiners and to amend the pure food law.

CONNECTICUT

An optometry bill has been introduced, also a bill to repeal the compulsory vaccination law. Several bills to amend the act of 1909 establishing country homes for the care of tuberculosis, have been introduced. One of the most unusual of state enactments is a bill passed by the Connecticut legislature giving Stephen Benoni Sweet, son of Dr. J. Byron Sweet, a member of the lower house of the legislature, the right to practice bone-setting and to call himself "doctor." According to newspaper reports, this act is due to the "wonderful gift that has been in the Sweet family since 1630." No statement appears in the press reports as to why this "wonderful gift" was not supplemented by a course of medical instruction.

ILLINOIS

The following bills have been introduced in the Illinois legislature: H. B. 29, to amend the employer's liability law; H. B. 94, to enable boards of education in cities to establish classes and schools for deaf, dumb, crippled children, blind, truant, subnormal, convalescent and incipient invalid children; H. B. 140, to establish a surgical institute for children; H. B. 146, to provide a pension fund for municipal employees; H. B. 152, to prevent fraud in the sale of dairy products, etc.; H. B. 153, to regulate the sale of concentrated food stuffs; H. B. 154, to regulate the manufacture, packing, storing and sale of food articles; H. B. 169, to make appropriations for the maintenance of the College of Medicine of the University of Illinois; H. B. 193, to regulate hotels, inns and lodging houses; H. B. 201, to regulate the practice of chiropody; H. B. 213, to authorize the improvement of streams; H. B. 214, to create a state board of forestry; H. B. 215, to create a state board of education; H. B. 241, to revise the divorce law by making the habitual use of morphin for two years grounds for divorce; H. B. 260, to protect employees of the state from the dangers of occupational diseases; H. B. 260, to regulate the work of children under 16 years of age; H. B. 380, to amend the medical practice act; S. B. 246, to amend the coroners' law; S. B. 249, to revise the law regarding the commitment and detention of lunatics; S. B. 260, to provide for the inspection, license and regulation of cold storage houses; S. B. 264, to amend the factory inspection law, and S. B. 459, to establish a state colony for epileptics.

INDIANA

The school medical inspection bill, drafted by the State Board of Education, to authorize school authorities to institute medical inspection of school children and to make such inspection compulsory after 1915, passed the senate. It further authorizes the State Board of Health and the State Board of Education to prepare leaflets on the prevention of disease and the conservation of health and to teach these subjects in all public schools. It also provides for sanitary sites and buildings for public schools and for proper heating, lighting and ventilation. A bill has been introduced to provide for the reporting of all defective children to the State Board of Health; also a weights and measure bill, to establish standards and to authorize the State Board of Health, through its food and drug inspectors, to enforce these standards. A bill to appropriate funds for a state hospital for tuberculosis and for the collection of vital statistics has been introduced. A bill has passed the house to require medical examination and certification of freedom from venereal diseases on the part of male applicants for marriage licenses. A bill to require a license fee of $10 a month for itinerant vendors has been introduced in the house; a child labor bill, a bill to prevent spitting in stores, public buildings and public places, and a bill to regulate the storing of food products in cold storage warehouses, have also been introduced. Governor Marshall has signed the cold storage label bill, the medical inspection bill and the ophthalmia neonatorum bill. A bill introduced by Senator Stotsenburg would provide for the issuance of medical licenses without examination until July 1, 1911. It is alleged that this bill was introduced for personal reasons, in order to obtain a license for a woman who has failed to pass the state board examination. The bill is opposed by the state board of medical examiners and the state society. Dr. W. T. Gott, secretary of the state board, states that there are about 600 persons in Indiana who have failed to pass the state board examination who would take advantage of this opportunity to register, as well as many others from the surrounding states who would flock in at once. Probably the bitterest fight in the legislature has been over the Gers bill, which was intended to deprive the secretary of the State Board of Health of most of his power. The bill was voted down by the senate, 41 to 7.

IOWA

A bill to change the composition of the State Board of Medical Examiners has passed the house. This bill provides that in addition to the superintendent of public instruction, the state board shall consist of one county superintendent, one member of the school board, one superintendent of city schools, one primary teacher and one teacher of a rural school. A bill to abolish the state board of veterinary examiners has been introduced. A bill to provide for the sterilization of criminals, idiots, feeble-minded and epileptics, modeled after the Indiana law, has been introduced.

KANSAS

A bill to appropriate $100,000 to build a clinical hospital in Kansas City, Kan., in connection with the Kansas University Medical School, has been introduced; also a bill to provide for the registration of births and deaths, drafted on the lines of the model bill of the American Medical Association. This bill has been favorably reported on by the house committee.

MAINE

The osteopathic bill has been defeated in the senate by a vote of 15 to 14 and in the house by a vote of 91 to 36. A bill to prohibit the issuance of insurance policies protecting

physicians and surgeons against malpractice damages has also been defeated. A bill to amend the medical practice act has been introduced.

MASSACHUSETTS

A large number of bills of interest to the medical profession have been introduced, among them bills to prohibit the sale of intoxicating liquor and narcotic drugs to hospital patients; to regulate the cold storage of food products; to regulate the lighting of factories and work shops; to regulate meat inspection; to regulate the sale of cocain; to regulate the practice of healing by unregistered physicians; for the prevention of cruelty to animals; to regulate the distribution of milk; to prohibit spitting in public places; to require practitioners of Eddyism and hypnotism to register with the State Board of Health; to prohibit the use of suction shuttles in factories; to regulate the sanitary arrangements of factories, work shops, etc.; to regulate the sale of opium; to provide for the disinfection of public telephone stations; to regulate the cutting of ice, and to establish a board in optometry.

MICHIGAN

A "chiropractic" bill has been introduced.

MINNESOTA

A bill has passed the senate to create a state tuberculosis commission and to authorize the establishing of public tuberculosis sanatoriums in each congressional district. This bill has been prepared by the legislative committee of the Minnesota Association for the Prevention and Relief of Tuberculosis. An itinerant vendors' bill has been introduced and a bill to authorize the appointment of sixty-three state medical inspectors and sanitary inspectors.

MISSOURI

A bill to establish a board of examiners in optometry has been defeated in the senate. A bill to require all who profess to cure physical and mental ills to have diplomas from medical colleges has been introduced.

MONTANA

The Montana legislature has adjourned. The following bills have become laws: S. B. 134, providing that sewage systems must be approved by the State Board of Health and relating to the pollution of water supply; H. B. 27, regulating the sale of habit-forming drugs; H. B. 115, providing for the payment of physicians in insanity examinations; H. B. 290, prohibiting the possession or sale of toy pistols, blank cartridges and explosive caps; H. B. 34, the pure food law; H. B. 121, the dairy law, and H. B. 139, providing for state veterinary surgeons passed both houses and are now in the governor's hands; H. B. 364, to regulate the lighting, heating and ventilating of public buildings was not passed. The bill providing for a tuberculosis sanitarium passed both houses and has been signed by the governor; also a bill appropriating $5,000 for 1911 and an equal sum for 1912, to continue the investigation of spotted fever.

NEVADA

An osteopathic bill passed the house but failed to pass the senate. Bills to amend the medical practice act to create a state board of health have been introduced.

NEW HAMPSHIRE

Bills have been introduced to amend the medical practice act, to prevent the pollution of the Winnepesaukee River, to regulate weights and measures and to provide for the medical inspection of schools.

NEW JERSEY

An osteopathic bill, a bill to regulate cold storage and a bill to raise the standard of medical practice in the state have been introduced.

NORTH DAKOTA

A bill to regulate the management of hospitals has been introduced, containing a section providing that no major operation shall be performed on any patient in any licensed hospital, except in an emergency, until the attending surgeon has filed with the superintendent of the hospital a statement giving the reasons for the operation and the pathologic conditions which render it necessary. This statement must be approved and signed by an independent physician not in any way a financial beneficiary from the operation. An additional section provides that all diseased organs or tissues removed in the course of an operation must be sent to the state public health laboratory for examination.

OHIO

An optometry bill, similar to the one which Governor Harmon vetoed last year, has been introduced; also a bill for instruction of persons suffering from tuberculosis; a bill for the sterilization of criminals, imbeciles, epileptics and others; a bill to regulate the medical inspection of public school children; a bill to regulate the sale of articles of food held in cold storage; a bill to authorize boards of health to establish dispensaries; a bill to regulate the requirements for admission to any college of law, medicine, dentistry or pharmacy; a bill to provide for the proper certification of deaths in municipal hospitals; a bill to make vaccination optional and a bill separating inmates of the penitentiary and reformatory suffering from tuberculosis. A housing bill, endorsed by the associated charities of the state, as well as a sanitary bill, placing all members of the sanitary police force under civil service, and a bill to place infantile paralysis and ophthalmia neonatorum on the list of communicable diseases, have also been introduced.

OREGON

A bill has been introduced to recognize "Naturopathy."

PENNSYLVANIA

An optometry bill has been introduced, also a number of bills to regulate the practice of medicine. A bill to authorize the sterilization of idiots, feeble-minded and insane persons has been introduced; also a bill to regulate the sale of cocain; a bill to appropriate $425,000 for Jefferson Medical College and a bill to prevent the issuance of marriage licenses to imbeciles, epileptics or persons afflicted with a transmissible disease or under the influence of intoxicating liquors or narcotic drugs, have also been introduced.

RHODE ISLAND

The usual osteopathic bill has been introduced.

TENNESSEE

A vital statistics bill has been introduced; also a bill to create county boards of health; a bill to amend the pure food law and a bill to provide for medical inspection of schools.

TEXAS

An optometry bill has been introduced; also a bill to appropriate $150,000 for a tuberculosis sanitarium and a bill to incorporate the sanitary code of the health department as a law and to reenact the law creating the State Board of Health; a bill to exempt graduates of the Medical Department of the State University from examination by the state board has been reported on adversely by the house committee.

UTAH

A bill to empower the State Board of Health to revoke the licenses of physicians who fail to report contagious diseases and deaths; also a bill to regulate the sale of narcotic drugs, and a bill to provide for the examination of school children have been introduced.

WASHINGTON

A bill to provide for the appointment of a tuberculosis commission has been introduced; also a bill to amend the medical practice act. The State Board of Health is supporting a bill for the supervision and preservation of the water supplies for cities; also a bill to remove the health officers of the state from politics and to place them under the control of the State Board of Health.

WEST VIRGINIA

Governor Glascock has signed a bill to establish a state tuberculosis sanitarium, and a bill to regulate the sale of habit-forming drugs; a bill to establish medical inspection in public schools has become a law; a bill to amend the child labor law has passed the house; two bills to amend the medical practice act in an undesirable manner have died in the committee.

WISCONSIN

The following bills have been introduced: for the prevention and suppression of contagious diseases among live stock; to abolish the use of the common drinking cup on railway trains; for the prevention and control of dangerous communicable diseases; to regulate the hours of labor for women in manufacturing establishments; to provide for the registration of

nurses; one relating to the organization of local boards of health; to regulate the pollution of streams and public waters; to regulate the sale of undressed poultry; to provide for the medical inspection of public school children; to forbid expectoration in public places; to make provision for the care of indigent, crippled and deformed children; to provide for the incorporation of medical milk commissions and the certification of milk.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Third Weekly Meeting

DISEASES OF THE OVARIES

OOPHORITIC CYSTS: Glandular and dermoid; pathology and description of each.

PAROOPHORITIC CYSTS: Pathology, description.

COMPLICATIONS OF OVARIAN CYSTS: Inflammation, hemorrhage, twisting of pedicle, rupture and adhesions; symptoms and diagnosis of each.

DIAGNOSIS OF OVARIAN CYSTS: Pelvic stage: Position, mobility, relations, shape and consistency of tumor. Abdominal stage: Physical signs on inspection, palpation, percussion, mensuration, auscultation. Exploratory incision.

DIFFERENTIAL DIAGNOSIS: Differentiate from pregnancy, phantom tumor, encysted ascites, fibrocyst of uterus, cystic tumor of kidney.

PAROVARIAN CYSTS: Pathology: Size, characteristics, cyst wall, contents. Symptoms: Pressure symptoms, menstrual disorders, sterility.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

CALIFORNIA: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

COLORADO: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

IDAHO: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

MINNESOTA: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

MONTANA: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

OKLAHOMA: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

RHODE ISLAND: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

UTAH: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

WEST VIRGINIA: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

A Diploma Factory

In September, 1910, there came to this office several copies of a circular advertising the Gate City Medical College of Dallas, Tex. (formerly of Texarkana, Tex.). This circular was widely distributed through the southern states. It gave no street address for the college but contained the following specific directions as to how an applicant might reach the right parties:

When you arrive in Dallas go to some hotel or business house and call us over the telephone. Our number is Main 3941 and Main 6631, or take the Hickory Street car and come to the Hickory Street drug store, corner Hickory and Nettie Streets, where you can get all desired information. Hickory cars pass in front of the postoffice, making it easy to find.

The suggestion was made to a Mississippi physician, who had sent us one of the circulars, that he endeavor to learn on what terms a diploma might be obtained, whereon he sent the following letter:

————, Miss., Oct. 8, 1910.

Dr. J. W. Decker, Dean,
Dallas, Texas:

Dear Sir.—I am convinced of the great nead of a Diploma for a practitioner. I wish I could atend the Gate City Medical College but I have a very large practice No Doctor in 15 miles and sickness in my family. It is impossible for me to come. I would not mind the expense. Is it possible for me to pay like I was there and you give me the Diploma without Coming. I am a lisensed Doctor and can give best references.

Your friend, . . .

And here is the reply:

Gate City Medical College
J. W. Decker, M.D., Dean.
Dallas, Texas, ————190

Dear Doctor ————.

In reply to yours of some days ago I will say that I can arrange to give you some home reading and give you a diploma same as if you were here. It will be genuine and will be entered upon the records same as if you were here, and you can refer to us as a graduate of the school at any future time should you wish to do so as many have done.

Very truly yours,
J. W. Decker, M. D., Dean.

P. S. The whole fees will be only $50 professors fee. No extra charges for anything else and I will guarantee you to get your diploma. D.

If satisfactory send fee at once and I will send you some work to be looking over and enter your name for a diploma. Give me your full name.

In the meantime one of the circulars and copies of the above correspondence were sent to the former secretary of the Texas State Board of Medical Examiners, who referred the matter to the board's attorney, Mr. J. N. Wilkerson. The attorney reported that he personally called at Dr. Decker's office and that he succeeded, in about half an hour, in purchasing outright two diplomas for the stipulated sum of $50, without having ever taken any medical work and without having passed an examination. The so-called regular diploma, he said, was printed in Latin, since avowedly that "would fool 'em," and the other was a special certificate for a special course on the diseases of women and children. It is stated that these diplomas were dated two years back to "show additional experience." The attorney further states that the federal court found a bill of indictment against Decker for using the United States mails to promote a fraudulent scheme.

Virginia December Report

Dr. R. S. Martin, secretary of the Virginia State Medical Examining Board, reports the written and oral examination held at Lynchburg, Dec. 20-23, 1910. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 35, of whom 28 passed and 7 failed, including 1 osteopath. Eight reciprocal licenses were granted. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
George Washington University	(1909)	75
Howard University, Washington, D. C.	(1904)*	
College of Physicians and Surgeons, Chicago	(1908)*	
University of Louisville	(1910)	78, 85
University of Maryland	(1910)	80, 81
Baltimore Medical College	(1909)	77
College of Phys. and Surg., Baltimore	(1904)* (1910)	82
Maryland Medical College	(1909)*	
Johns Hopkins University	(1910)	83
University of Buffalo	(1895)*	
Leonard School of Medicine, (1907) 76; (1909) 78; (1910)		75, 80.
Hahnemann Medical Coll. and Hosp., Philadelphia	(1894)*	
University of Pennsylvania	(1897)* (1906)*	
University of the South	(1904)*	
Vanderbilt University	(1901)*	
Medical College of the State of South Carolina	(1910)	79
University College of Medicine, Richmond	(1910)	76
University of Virginia	(1910) 77; (1911)†	84
Medical College of Virginia	(1900)* (1910)	88

FAILED

Maryland Medical College	(1909)	61
College of Physicians and Surgeons, Boston	(1907)	73
Leonard School of Medicine	(1908) 73; (1910)	71
Hahnemann Medical Coll. and Hosp., Philadelphia	(1896)*	
University of the South	(1908)	68

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University	(1900)	Dist. Colum.
Howard University, Washington, D. C.	(1890)	Kentucky
Tulane University of Louisiana	(1903)	Louisiana
Maryland Medical College	(1901)	N. Carolina
University of Maryland	(1909)	W. Virginia
Hahnemann Med. Coll. and Hosp., Philadelphia	(1907)	Dist. Colum.
Tennessee Medical College	(1904)	Tennessee
University College of Medicine, Richmond	(1909)	N. Carolina

* Took oral examination.

† Certificate will not be granted until applicant gets diploma in June, 1911. Full course completed, but will not receive diploma until above date.

Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 10-12, 1911. The number of subjects examined in was 13; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 11, of whom 10 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Baltimore	(1909)	84.3
Harvard University Medical School	(1908)	82.8
University of Vermont, (1910) 76.1, 79.2, 80.4, 81.1, 82.7, 83.5, 84.3, 86.5.		

FAILED

College of Physicians and Surgeons, Boston	(1909)	73.8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hahnemann Medical Coll. and Hosp., Chicago	(1908)	Illinois
Maryland Medical College	(1910)	Maine
Boston University	(1896)	New Hamp.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1900)	New Jersey
Laval University, Quebec	(1907)	Maine

Book Notices

INDUCED CELL-REPRODUCTION AND CANCER. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Croper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The object of this ambitious book is to present the details obtained by the study of living human cells under the microscope and the bearing of the results especially on the causation of cancer. The living cells, principally blood-cells, "are examined by placing them, under a cover-glass, on the surface of a film of jelly, which may contain dissolved in it any substance we may wish to experiment with, and which has, while in a molten condition, been poured on the microscopic slide and allowed to set there." The substance used in making the jelly is agar. It proving impossible to prepare permanent specimens by fixation of the jelly films, a rapid and ingenious method of photomicrography was worked out so that the appearances presented by the cells under observation could be reproduced accurately at any moment. The illustrations in the book have been made from photographs thus obtained.

Ross has found that by means of certain diffusible substances mixed with the jelly, leukocytes and other cells placed on the jelly may be caused to divide (once only) under the eye of the observer. This is the "induced cell reproduction." Such substances are called "auxetics," from the Greek meaning "exciters of reproduction." Among these substances are besides atropin and other alkaloids, xanthin, creatin, globin; now because these last and similar bodies occur in dead and disintegrating tissue, the cell proliferations of simple healing of wounds and of tumors are traced to the "auxetic" action of the bodies just mentioned—"the remains of dead tissue." On the basis of this notion chronic ulcers have been treated with applications of globin; the authors remark, "We think we can say safely that it causes more rapid healing of them than if they were treated in the usual way." The view that carcinoma is the result of "auxetics" the action of which is augmented by cholin, cadaverin and other putrefactive alkaloids and "the crucial experiment" are discussed in the last two chapters. It was found that normal serum has the power to restrain the "natural" auxetics from inducing cell-division and it was resolved to try to increase in the cancer patient the amount of this restraining body by injecting 6 ounces of defibrinated sheep's blood per rectum every morning. "The serum contains the restraining body, and it was argued that the red cells would be destroyed in the rectum, the hemoglobin decomposed, and in time the globin would become augmented by the action of the bacteria present. It was presumed that the restraining body of the serum, the auxetic in the globin and in the remains of the white cells, and lastly, the products of the decomposition would be gradually absorbed, and that they might raise the content of restraining body in the patients; in other words, they might act as a sort of 'vaccine.'" In the two principal cases in which this treatment was employed it is not known whether the patients had carcinoma or not; in both there seemed to be some temporary improvement. But the real "crucial test" was made on a patient with an ulcerating inoperable carcinoma of the breast; a part of the ulcer was treated with globin until the glistening malignant surface gave place to normal granulation tissue as shown by microscopic examination; a mixture of five parts of globin and one part of cholin was evaporated to dryness and small pieces applied to a minute area of the edge of the treated part of the ulcer. "In forty-eight hours a conical excrescence appeared at the seat of application" with "apparently new malignant cells." Ross freely admits that "this test is by no means conclusive."

Ross' studies of the behavior of living cells outside the body are of interest. That his "induced cell reproduction," which is the corner-stone of the whole work, is a real cell division of the same nature and significance as that which takes place in the body, is unproved. Successive generations of living cells must be produced *in vitro* before his claims on this point will stand.

So far as the applications of the observations to cancer are concerned, the credulousness of the author and the impudence of the publishers' circular in speaking of the methods used as indicating "that the cause of cancer has been discovered and a way opened for successful treatment" cannot but cause amazement.

A SYSTEM OF SYPHILIS. In Six Volumes. Edited by D'Arcy Power, F. R. C. S., and J. Keogh Murphy, F.R.C.S. With Introduction by Sir Jonathan Hutchinson, F.R.S. By Various Authors. Cloth. Price, $13.50. Vol. V, pp. 356, with illustrations. Vol. VI, pp. 514, with illustrations. New York: Oxford University Press, 1910.

These two volumes, closing the "System," contain a group of articles which consider various special topics belonging to a complete exposition of syphilis. Being exhaustive articles on special subjects in syphilis, written by men of authority in the various fields, the contributions are all of them interesting and useful and some of them are notable.

Volume V contains "Affections of the Skin in Syphilis," by Phineas S. Abraham and Haldin D. Davis; "Ocular Syphilis," by C. Devereux Marshall; "Aural Syphilis," by C. Ernest West, and "Syphilis in the Upper Air Passages," by St. Clair Thomson. All of these authors are well known and their contributions are of the high character that would be expected of them. Each of the articles is very full; one may consult any of them for almost any fact in its scope, and they are thus exceedingly useful possessions for any medical library. They are all copiously illustrated, with colored illustrations for the most part. These illustrations, as those in the other volumes, constitute a valuable feature of the work. The English color prints of pathologic objects have not reached the remarkable excellence that we have become used to in recent German publications, but these are good and they serve their purpose of depicting for the reader the conditions which they are intended to portray.

Volume VI is unique, in that it brings together in one book a complete consideration of syphilis in the public services

especially the army and navy. It is a very proper conclusion to such a system, and is an eminently valuable work.

Its scope is shown by the titles and authors of the various papers: "Introduction," by Sir Alfred Keogh, late Director-General of the Army Medical Service; "The History and Epidemiology of Syphilis in the More Important Armies," by Lieut. Colonel Charles H. Melville of the Royal Army Medical College; "Pathology and Microbiology of Syphilis as Applied to the Public Services," by Captain L. W. Harrison; "Clinical Course and Treatment of Syphilis in the Army," by Major C. E. Pollock; "Syphilis in the U. S. Navy," by Surgeon Charles N. Fiske; "The Epidemiology of Syphilis in the Royal Navy," by Fleet Surgeon E. P. Mourilyan; "The Practical Treatment Afloat of Syphilis in the Royal Navy," by Surgeon Charles K. Bushe.

It is evident from this enumeration that there must be considerable repetition in some of these contributions of matter discussed elsewhere in the "System," but this is a small objection in comparison with the very valuable lights thrown on the sociologic aspects of syphilis by a consideration of it from the standpoint taken in this work. Since syphilis first spread over Europe with the mercenaries of the army of Charles VIII of France, armies and navies have always been fruitful fields for syphilis, and this volume is a veritable thesaurus of knowledge in this field. We know of no single place where such a collection of knowledge of this sort is available.

In conclusion, a word of strong commendation should be said for the "System" as a whole. We believe that the time spent in reading its six volumes will be found very profitable in additions to the knowledge of even the well-informed reader, while many of the topics considered have been treated with so broad a view and contained so much of unusual information that their reading will afford the pleasure that comes from stimulated interest. The "System" constitutes a notable contribution to the permanent literature of syphilis and is an honor to British medicine. But it is more than that; such a monumental work can hardly hope for adequate monetary returns from its sales, so that its publication is a credit to the spirit which insured its issue and to the fine zeal for the advancement of knowledge of its editors and contributors. It is a work which highly deserves to be in every scholarly physician's library.

THREE CONTRIBUTIONS TO THE SEXUAL THEORY. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

No man in modern neurology can boast of more ardent adherents and more violent enemies than Sigmund Freud, of Vienna. Not even his critics, however, can deny that he is a pioneer in a field hitherto but little cultivated. But while neurologists are discussing the merits and demerits of Freud's theories of the neuroses, the members of the medical profession as a whole know little of the points at issue. Unfortunately for the English reader, the German text of Freud's scattered articles is rather involved and abounds with a newly created, and therefore unknown, terminology. Hence the many misunderstandings. It is therefore well that the translation of the "Selected Papers on Hysteria and Other Psychoneuroses" has been followed by a translation of the "Three Contributions to the Sexual Theory." Whatever views one may hold concerning Freud's theories, it is essential that they be based on a first-hand acquaintance with the author's writings, not the least important of which is the present volume. As Putnam has already stated, no one can understand Freud's views until he has carefully read the several fundamental articles on which these are based. Brill's attractive translation of the present volume is the more welcome as it will have a tendency to moderate the tone of those of Freud's critics who only half-understood the author's meaning in the original German text. Careful reading of this interesting monograph carries the conviction that regardless of the question whether or not his psycho-analysis and mental catharsis will ever become popular, Freud has probed the innermost recesses of the normal and abnormal human mind. The contributions deal with (1) the sexual aberrations, (2) the infantile sexuality, and (3) the transformation of puberty. Psychologist, educator, jurist and physician will therein discover viewpoints on the sex-question which must stimulate further research in this hitherto neglected field.

SYPHILIS: ITS DIAGNOSIS, PROGNOSIS, PREVENTION AND TREATMENT. By Thomas P. Beddoes, F.R.C.S., Surgeon to the London Hospital for Diseases of the Skin. Cloth. Price, $2 net. Pp. 224. New York: Paul B. Hoeber, 1910.

In this work the author gives most of his attention to the cutaneous manifestations of syphilis. In addition, the clinical course, including the symptoms of the disease as a general infection, is given, but syphilis of the various structures besides the skin is given such brief consideration that the work can hardly be regarded as covering the subject of syphilis. For example, syphilis of the vascular system is given six small pages, about 1,500 words; syphilis of the bones, six pages; and that of the nervous system, including parasyphilitic diseases, five pages.

The author evidently has first-hand knowledge of syphilis, but, like so many of our English colleagues, is extremely careless in his manner of imparting it to others. Every cutaneous lesion, from roseola to ulcerating gummata, is a "rash." "The macule . . . is the first rash to appear." Of course a macule is an individual lesion and not a "rash." Such examples could be multiplied at length. The work cannot be said to be up to date. There is no distinct consideration of the serum-complement reaction in the diagnosis of syphilis; no reference to it in the index; and a rather careful reading of the work does not leave in our mind any memory of a single reference to it. Under prophylaxis no reference is made to Metchnikoff's important contribution to the subject—the most important contribution of recent years. Of course a work which leaves out such important additions does not satisfactorily represent the subject. Perhaps the explanation of the lack of consideration of these comparatively recent additions to syphilology lies in the fact that the work is older than it seems; an explanation that is supported by the observation that, while the publisher's imprint bears the date 1910, the author's preface is dated 1908—and these days knowledge is moving fast in syphilis.

THE MENTAL SYMPTOMS OF BRAIN DISEASE. An Aid to the Surgical Treatment of Insanity, Due to Injury, Hemorrhage, Tumors and Other Circumscribed Lesions of the Brain. By Bernard Hollander, M.D. With Preface by Dr. Jul. Morel, Late Belgian State Commissioner in Lunacy. Cloth. Price, $2. Pp. 237. New York: Rebman Co., 1910.

In this work, the author deals with insanity based on focal lesions in the brain. Through the study and proper interpretation of symptoms, their mode of onset and associated conditions, he emphasizes the possibility of making a true pathologic diagnosis. Hollander cites many case records collected from various sources, including many of his personal observations, which demonstrate this possibility of localizing mental diseases. His study of these cases has enabled him to attach certain symptoms to lesions in the frontal lobes where the centers of perception and of special memories are located. He discusses lesions in the parietal, temporal and occipital lobes in a similar manner. The study of such mental diseases demands that one should be a close student of psychology. Dr. Hollander does not state that surgery should be employed in the majority of cases of insanity, but believes that a certain per cent. of these cases if studied early in their course may be greatly benefited by surgery.

MANUAL OF SURGERY. By Alexis Thomson, F.R.C.S., Professor of Surgery, University of Edinburgh, and Alexander Miles, F.R.C.S., Surgeon, Edinburgh Royal Infirmary. Vol. I, General Surgery. Pp. 886, with 339 illustrations. Vol. II, Regional Surgery. Pp. 861, with 227 illustrations. Third edition. Cloth. Price, $7. Pp. 861, with 227 illustrations. New York: Oxford University Press, 1909.

This is a comprehensive and systematic review of modern surgery, sufficiently detailed for the practitioner and not beyond the scope of the manual for students. It incorporates the important advances of the past two years, since the second edition, such as the Bier treatment, vaccine therapy, and the newer surgery of the peripheral nerves as worked out by Head and Sherren. Less attention is paid to description of operations than to careful description of symptoms, pathology and indications including principles of operating

The book is quite up to date in matter likely to be considered catch questions by examination boards, such as "snapping hip," "Madelung's deformity," and other rare conditions. The work is a standard compact summary of the best method of the Edinburgh school and should prove useful to medical students and practitioners everywhere. The illustrations consist of photographs and wood-cuts. The volumes are small and compact.

A HANDBOOK OF THE SURGERY OF CHILDREN. By E. Kirmisson, Professor of the University of Paris. Translated by J. Keogh Murphy, F.R.C.S., Surgeon, Miller General Hospital for South East London. Cloth. Price, $7. New York: Oxford University Press, 1910.

This book may be considered as a compilation of surgical monographs, rather than as a treatise covering the subject. It presents, in a very attractive manner, a discussion of some of the more common surgical disorders of childhood which the general practitioner may be called on to treat. In the first part are considered congenital defects and malformations. This is a masterly presentation of the subject. In the chapters on fractures, however, while those of the upper extremities are discussed very thoroughly, it is difficult to understand why some other common fractures are not mentioned at all. For instance, fracture of the clavicle surely deserves some discussion among the fractures of children, but it is not mentioned. The book, however, will be of assistance to anyone who wishes to consult a special work on the surgery of childhood.

LEHRBUCH DER UROLOGIE UND DER KRANKHEITEN DER MÄNNLICHEN SEXUALORGANE. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Paper. Price, 13.50 marks. Pp. 522, with 162 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

This book presents the merits and demerits frequently observed in the products of German authors; it is cyclopedic rather than concise, scholarly rather than didactic; it enables the reader to know many things, but to do few things; and its therapy is curiously incomplete. Thus tuberculin therapy and the entire subject of vaccine therapy receive each just enough space—three lines—to be named and dismissed without comment. That part of the book devoted to cystoscopy and urethroscopy is modern, and bears the stamp of personal experience.

Medicolegal

Evidence Barred in Nymphomania Case

The Court of Criminal Appeals of Texas holds, on the appeal of Jenkins vs. State (131 S. W. R., 542), a prosecution for rape on a female under the age of consent, that whether the prosecuting witness was laboring under the disease of nymphomania could not be established by the general reputation of the blood relatives in the ascending line. On the trial she had testified that she was about 13 years old; that she had voluntarily entered into the act of intercourse with the accused; that she had been doing such things ever since she was nine years of age, and with a great many persons. An examination by physicians showed a full development of parts, etc., but there was a division of opinion as to whether the girl was a nymphomaniac, as contended by the accused, or not. Whether, if her mother and blood relations were people of inordinate passions, it would predispose the girl to nymphomania, the court does not decide, but merely that there was no error in refusing to permit the accused to prove the general reputation for chastity of the mother and sisters of the girl, as that could throw no light on the issue before the court, because reputation is one thing, and the facts another.

The court also holds correct an instruction which told the jury that if they believed and found from the preponderance of the evidence in this case that the girl, at the time she testified in the case, was laboring under such a defect of reason from nymphomania or other disease of the mind, and under such derangement of the mind, as to render her incapable of receiving a sound mental impression of the transaction regarding which she testified, or if the jury believed that she had the capacity to receive such mental impression as would render it impossible for her to retain and impart such impression correctly, or if she was laboring under such defect of reason from disease and derangement of mind as would render it impossible for her to know and understand the nature and obligation of an oath, then in law she would not be a competent witness, and the jury should disregard her testimony altogether.

Furnishing of Water and Ice by Municipalities to Promote Health

The Supreme Court of Georgia says, in Holton vs. City of Camilla (68 S. E. R., 472), that the object in bringing, by means of a waterworks system, water in pipes from a distance for use in supplying the needs of a city, is not alone to obtain a sufficient quantity, but also to secure that which is freer from impurities than it is possible to obtain in the city itself. And if, in the hot season of the year, the inhabitants of the city must, for sanitary reasons, relinquish the cool draught from the well because, as has been demonstrated, wells of pure water cannot be maintained in populous communities, surely the city would have the right, were it practicable, to cool the water which it delivers through pipes as a substitute, and which ofttimes is scarcely drinkable in its heated condition. If not practicable to cool it in the pipes, and if it be necessary to the welfare, comfort and convenience of the inhabitants that its temperature be lowered before being used for drinking purposes, why cannot the city provide for the delivery of a part of it in a frozen condition, to be used in cooling such part of the balance as is used for drinking purposes? If the city has the right to furnish its inhabitants with water in a liquid form, the court fails to see any reason why it cannot furnish it to them in a frozen condition. If in the hot climate in which the city of Camilla is situated ice is necessary for the comfort, health and convenience of its inhabitants, why should not the city be permitted to furnish ice to its inhabitants? And if the furnishing of ice to its inhabitants is conducive generally to their health, comfort and convenience, it is certainly being furnished for a municipal or public purpose. It is a well-known fact that one of the main uses to which ice is put is the cooling of water for drinking purposes; and when it is used for this purpose, if impure, it is as apt to be deleterious to the consumer as any other impure water. Why, then, in the exercise of its police power, may not a city guard against impurities in the ice, as well as the water, used by its inhabitants? Nor does the court see any rational objection on the idea that the city will be engaging in a manufacturing enterprise. The city might perhaps equally as well be said to be manufacturing when by the use of a filtering process it changes impure water into that which is pure.

Proof of Death

The United States Circuit Court of Appeals, Ninth Circuit, says, in Northern Pacific Railway Co. vs. King and others (181 Fed. R. 913), an action brought by the latter parties to recover for the alleged wrongful death of one H. A. King, that the fact of one's death may be proved by circumstantial evidence, provided the facts and circumstances going to show such death be sufficiently strong. It is also true that under some circumstances the fact of death, as well as of birth, marriage, pedigree and the like, may be proved by hearsay evidence. It has been held by many courts that the death of an individual, though disconnected with any question of pedigree, and for whatever purpose sought to be established, may be proved by hearsay, subject to the same restrictions that are applicable to cases where matters of pedigree are involved. But the court knows of no case which holds that it is competent to prove the basic and controverted fact by hearsay testimony, pure and simple, under circumstances like those presented here, where the accident resulting in the injury of H. A. King had but recently occurred, and whether or not it resulted in his death was susceptible of easy proof. As a matter of course, no inference of his death could be properly drawn merely from his injuries and the amputation of one of his legs, it having been affirmatively shown that he survived such injuries and amputation for a week or ten days.

Employment of Physician by One Member of County Board

The Supreme Court of Oklahoma holds, in Mahr vs. Board of County Commissioners of Pottawatomie County (110 Pac. R. 751), that one member of a board of county commissioners cannot bind the county to pay for the services of a physician in attending on the poor without first having been authorized thereto by the majority of said board whilst in session. The plaintiff set forth that the defendants were indebted to him in the sum of $423 for professional services as a physician and surgeon rendered and performed in giving medical care to the poor and paupers and county charges in the city of Shawnee and vicinity thereof. He further alleged that all and each item of such services were rendered in case of an emergency, that is, in which the patient was in absolute need of medical attention, and at the time of the rendition of such services there was no physician in the employ of the city of Shawnee and vicinity, and that in each the services were performed at the instance of one of the commissioners of said county, said city being within his district. But the court, for the reason first above stated, holds that a demurrer was properly sustained to this cause of action, as it was not alleged that, by any resolution of the board of county commissioners, this one commissioner was authorized to employ the plaintiff to perform the services herein sued for.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

The President, DR. J. A. WITHERSPOON, Vanderbilt University, Nashville, Tenn., in the Chair

A list of the officers elected at this meeting was published in THE JOURNAL, March 4, 1911, p. 678.

The following amendments to the constitution were adopted:

Amendments

ARTICLE III: SECTION 1.—Every college holding membership in this association shall, on and after Jan. 1, 1912, require for matriculation a completed or unconditioned medical student's certificate, to be granted by a state medical examining and licensing board, or a board empowered by statute to grant such certificates, or a certificate of entrance to the academic department of any state university, or a certificate of entrance to an accredited university or college, providing that said certificate is granted on no less than the following requirements:

(a) A baccalaureate degree from an accredited college or university.

(b) and (c) Unchanged.

(d) and (e) Eliminated.

SECTION 2. This examination must be conducted by or under the authority of the board of medical examiners of the state in which the college is located, or by a duly authorized examiner of the college entrance examination board, or the authorized examiner of an accredited university, state or otherwise, or by an examiner whose certificates are accepted by accredited colleges or universities, or by a method approved by the judicial council of this association.

SECTION 3. The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the State University of their respective states, or by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities and the Association of State Universities, provided that such accrediting is based on Article III, Section 1, of this constitution.

SECTION 4. Colleges in membership in this association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this association, excepting for the fourth year of their course, but no member of this association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receive from the dean, secretary or registrar of such college a direct written communication certifying to the applicant's standing. Credit for time or scholarship cannot be given beyond that of the college issuing the credentials, except by mutual agreement between the colleges.

SECTIONS 5, 6 and 7. Unchanged.

SECTION 8. Each student shall be obliged to attend not less than 80 per cent. of the exercises in every annual course of study for which he seeks credit. No student shall be given credit on examination unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. And no student shall be graduated unless he shall have attained a passing grade in each and all subjects of the required curriculum.

ARTICLE V: SECTION 1.—The entire course of four years shall consist of at least 4.000 hours for each student, and shall be grouped in divisions and subdivided into subjects; each division and subject to be allotted the number of hours as shown in the following schedule:

DIVISION 1.—ANATOMY, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Gross anatomy (including applied anatomy)	510	120	390
(b) Histologic and microscopic anatomy	135	30	105
(c) Embryology	75	30	45

DIVISION 2.—PHYSIOLOGY AND CHEMISTRY, 600 Hours (15 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Inorganic chemistry	180	60	120
(b) Organic chemistry	75	30	45
(c) Physiologic chemistry	104	30	75
(d) Physiology	240	140	100

DIVISION 3.—PATHOLOGY, BACTERIOLOGY AND HYGIENE, 450 Hours (11.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Bacteriology	135	30	105
(b) Hygiene and general dietetics	45	45	...
(c) Pathology	270	60	210

DIVISION 4.—PHARMACOLOGY, MATERIA MEDICA AND THERAPEUTICS, 240 Hours (6 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Pharmacology	105	40	65
(b) Materia medica and pharmacology	80	...	...
(c) Therapeutics	55	...	...

DIVISION 5.—MEDICINE AND MEDICAL SPECIALTIES, 970 Hours (24.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General medicine (including clinical microscopy)	640	...	...
(b) Pediatrics	150	...	...
(c) Nervous and mental diseases	105	...	...
(d) Jurisprudence, ethics and economics	30	...	...
(e) Dermatology and syphilis	45	...	...

DIVISION 6.—SURGERY AND SURGICAL SPECIALTIES, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General surgery	510	...	...
(b) Orthopedic surgery	45	...	...
(c) Genito-urinary diseases	45	...	...
(d) Eye	60	...	...
(e) Ear, nose and throat	60	...	...

DIVISION 7.—OBSTETRICS AND GYNECOLOGY, 300 Hours (7.5 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Obstetrics	195	...	...
(b) Gynecology (including some abdominal surgery)	105	...	...

Colleges may reduce the number of hours in any subject not more than 20 per cent., provided that the total number of hours in a division is not reduced. Where the teaching conditions in a college are best subserved, the subject may be, for teaching purposes, transferred from one division to another. When didactic and laboratory hours are specified in any subject laboratory hours may be substituted for didactic hours.

SECTION 2. Each college in membership in this association shall print in every annual catalog or announcement a table of the total number of hours' work given in said college arranged both by subjects and years.

SECTION 3. Each college in membership in this association shall print annually a list of its students by classes.

ARTICLE VIII: SECTION 1.—The stated meetings of this association shall occur annually at such place as the association may designate by vote, the time of meeting to be set by the officers and judicial council of the association.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 22, 1911

The President, DR. C. B. LONGENECKER, in the Chair

DR. T. J. O'DRAIN read a paper on "Ischemia versus Bier's Passive Hyperemia."

DR. ROBERT H. IVY, read a paper on "Industrial Phosphorus Poisoning."

Breaking Down of Wounds Following Operations

DR. JOHN J. GILBRIDE: The breaking down of wounds following operations is caused by infection. Since the application of iodin for sterilizing the skin it is also used by surgeons in the preparation of their hands. One of the best means of preventing suppuration of wounds is to have them dry. The unnecessary use of hemostatic forceps which "chew" and devitalize the tissues should be avoided. Iodin catgut is now much in favor. The use of large-sized suture material is undesirable. Undue tension should not be placed upon the sutures nor should they be placed too closely together. The so-called stitch abscess has occurred, in my experience, most frequently when the cutaneous stitches were left in for a longer period than three or four days. I further believe that not a few wounds, by displacement of dressings, hands of patients, etc., become infected subsequent to operation. It is not possible to prevent all wounds from breaking down, but perhaps, by a little closer application of old facts one may lessen the number of wounds that break down through infection.

DISCUSSION

DR. JOHN A. MCGLINN: All of us who have no fear of telling the truth have trouble with our wounds. Doubtless since the use of iodin, infections have been less. The fewer assistants a man has when operating the less likely is he to have infection. The use of retractors is also a factor in the production of infection. It is much better to have the patient well relaxed and have the incision sufficiently large than to have the sides of the incision forced back with retractors. In dealing with pus cases in the pelvis it is advisable not to have great pressure on the sutures.

DR. L. JAY HAMMOND: It has always seemed to me that a potent factor in wound infection is an excessive amount of dressing applied over the abdomen, and for a number of years I have made this dressing rather scant, using only sufficient to cover thoroughly the surface and not to add to body temperature. My feeling regarding the iodin treatment is that it has no advantage over other methods, and is only an additional agent to trust to the hands of our nurses who are already overburdened with technic. For fear of strangulation of tissue, I use as few sutures as possible, and, when the abdominal walls are not too fat, I prefer the use of the through-and-through suture.

Tinea Favosa

DR. LEONARD D. FRESCOLN: This is a vegetable parasitic infectious disease, generally of the scalp, called contagious by most text-books, but better limited to the term infectious according to modern terminology; not taken from mere surrounding atmosphere of patients and not very readily, as seen in the hospital, from living long with patients. The etiologic factor known is the *Achorion schönleinii* found in 1839, and named by Remak. Many of the mycelia and spores make up the characteristic "scutulum," a sulphur-like cup having the odor of mice, from which the disease may be contracted. Some cases have involvement of parts other than the scalp, as nails, trunks, knees (Fox) and mucous membrane (Kaposi). The affection is liable to be confounded with ringworm. Apart from the characteristic lesions of favus the microscope shows the large mycelium branching and broad spores. The disease is said, by Peyritsch, to take from three to six weeks for its development. It is very refractory to treatment, some cases lasting years; bald spots are a frequent evidence of the disease. In treating we soften the lesions with 5 per cent. carbolized petrolatum, epilation is practiced, sulphur or chrysarobin preparations are used. The best treatment is a long Roentgen-ray exposure repeated. Carbon-dioxid snow has been used with uncertain results. I recently excised a lesion to hasten cure. Favus is one of the deportable diseases, with a fine, in the United States. If a patient is not at once deported he must be under treatment until cured and remain so a month at least. Crocker says: "The disease may be considered cured when after six weeks' discontinuance of treatment there is no localized scaliness." Of course, some cases are very pitiable, but care must be exercised in handling immigrants. Twenty-six of forty-eight patients at our hospital were Russians; average age, 13½ years.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 23

1 *A Review of the Midwife Situation. A. B. Emmons and J. L. Huntington, Boston.
2 *Dislocation of the Hip and Its Reduction by the Method of Bigelow. G. H. Monks, Boston.
3 A Case of Ovarian Pregnancy. E. B. Young and L. J. Rhea, Boston.
4 Symptomatology of Abscess of the Liver. W. C. Quinby, Boston.
5 Disappearance of a Catheter in the Bladder and Its Subsequent Spontaneous Passage. W. E. Wilson, Pawtucket, R. I.

March 2

6 Studies in Intestinal Disturbances in Children. W. E. Fay, Boston.
7 *Bacillary Dysentery. A. I. Kendall, Boston.
8 *Infectious Diarrhea. H. Bowditch, Boston.
9 *Silver Nitrate Irrigations in Treatment of Infectious Diarrhea in Infants. R. M. Smith, Boston.
10 Analysis of 178 Cases of Infectious Diarrhea in Infants. J. H. Young, Newton, Mass.
11 The Flora of Bacillary Dysentery. A. I. Kendall and A. W. Walker, Boston.
12 *Two Methods of Obtaining Human Milk for Hospital Use. F. B. Talbot, Boston.
13 *Diarrhea in Infants Associated with the Gas Bacillus in the Stools. A. I. Kendall and R. M. Smith, Boston.
14 Double Otitis Media. Dehiscence of the Floor of the Cavum Tympani. Streptococcus Meningitis. D. W. Drury, Boston.
15 A Case of Intussusception. B. Vincent, Boston.
16 A Method of Collecting Urine from Female Infants. C. H. Lawrence, Boston.

1. **The Midwife Situation.**—In reviewing the midwife situation abroad and in this country, Emmons and Huntington found two standards of skill and a divided responsibility. The midwife must either be a competent, trained obstetrician, or she must become a subordinate, cooperating with the obstetrician, as does the trained obstetric nurse, relying on his judgment and leaving with him the responsibility of the two lives, before a system harmonious and satisfactory can result. The authors believe it to be the duty and the privilege of the obstetricians to safeguard the mother and child in the dangers of childbirth. The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators and the public. A resolution of the Women's Municipal League

awaits only a formal endorsement to urge the importance of legislation, not for the licensing and regulating of the midwife, but for such minor changes in the laws as will make the present statutes effective in dealing with the midwife in Massachusetts. It has remained for this and other charitable organizations to point out the necessity for bettering obstetric conditions in the state. Let the medical profession, they urge, not only cooperate with these forces for good, but let obstetricians consider well the situation in obstetrics throughout the state to-day; let them look into the future and consider means of furnishing efficient trained service to rich and poor alike.

2. **Dislocation of the Hip.**—The points especially emphasized by Monks are (1) for practical purposes, all regular dislocations of the hip are, in reference to the acetabulum, either posterior or anterior; and (2) whichever the dislocation, an imaginary arrow on the exposed surface of the lower leg pointed toward the flexed knee will, in case the Bigelow method of replacement is to be used, remind the surgeon during the flexion whether to make the knee describe an inward or an outward curve.

7. **Bacillary Dysentery.**—It has been shown that bacteria acting on protein (nitrogenous substances), in the absence of fermentable carbohydrate, form putrefactive products, some of which may be very toxic. The dysenteric flora is essentially putrefactive in character. These products are absorbed in part, at least, from the alimentary canal, paired in the liver and excreted through the kidneys. The patient, therefore, in receiving no food, is being poisoned by the bacterial products elaborated in the intestinal tract, and attempting to detoxicate and excrete these substances in addition to maintaining the normal vital functions of respirations, heart beat and so on. Realizing these conditions, Kendall proposes feeding such patients from the start with carbohydrate. The principle involved is a twofold one: to furnish an easily assimilable and readily fermentable carbohydrate to change the character of the bacterial activity in the alimentary canal from the proteolytic to the fermentative type, and to furnish nourishment to the patient. The patient is first given a dose of castor oil or other cathartic to clean out the intestinal tract thoroughly. All food except sterile water is withheld for from twelve to fifteen hours to facilitate this cleaning out. Lactose, 5 per cent. solution in sterile water, is then fed by mouth for several days, until the acute symptoms abate, or until it becomes apparent that the patient requires some nitrogenous food. Whatever nitrogenous food is selected must be given cautiously, in small amounts, simultaneously with an excess of utilizable carbohydrate to protect it from bacterial attack. The lactose should be fed in rather small amounts, often repeated, to keep up a stream of this sugar in the alimentary canal, otherwise the proteolytes will be able to attack whatever nitrogenous substances may be present in the alimentary canal between the doses of lactose. Dextrose (Kahlbaum's) may be infused, preferably as a 2.5 per cent. solution in physiologic salt solution to bring to normal the dextrose content of the blood and to furnish fluid to the patient. This feeding of lactose is intended to accomplish a twofold purpose: to furnish to the host a readily assimilable food, requiring a minimal expenditure of energy to metabolize it, and to change the character of the metabolism of the dysenteric flora from the proteolytic to the fermentative type. This change in the type of the intestinal flora is particularly desirable to prevent further intoxication of the host and to give him a better chance to combat the poisons already absorbed.

8. **Infectious Diarrhea.**—The plan of treatment outlined by Bowditch is based on a trial in thirty-nine cases of children, from 3 to 16 months of age. They were not taken "*in serium*," but were chosen where some hope of life and chance for study existed. Of these, practically 50 per cent. died (nineteen). The duration of disease on admission varied from one to sixty days (an average of twelve) in the fatal cases; of those who recovered, from one to twenty-eight days (an average of eight days). Treatment was divided into: (1) the initial attack on the specific organisms and their resultant symptoms; (2) treatment of supplementary symptoms and supportive treatment. The former consisted of catharsis, using castor oil, calomel and sodium sulphate, colonic irrigations with normal saline solution, plus lactose or dextrose, adding silver nitrate or tannic acid, if necessary—gastric lavage only when necessary. Temporary abstinence from all nutrition is imperative. This period lasts theoretically until the infection has subsided, temperature has fallen and the nervous irritability of the gastro-intestinal tract has improved. During this time ingestion of water is necessary to keep the fluids of the body and blood as normal as possible. Boiled water amounting to the quantity of food usually ingested is given by mouth. Lime water and alkalies have been added according to the digestion.

Of the thirty-nine children herein reported, all received sterile water for not more than three days (an average of two) in contrast to the usual prolonged starvation. After this short interval they received 5 per cent. lactose. Of the twenty discharged well and the nineteen who died, fourteen and ten, respectively (58 per cent.), received lactose up to 5 per cent. for an average of eight days. Seven of these died during the treatment. The temperature fell in seventeen and remained stationary or increased in seven. The movements diminished in thirteen and increased in eleven. Blood was increased in seventeen and diminished in five. Of those who recovered, an average of 25 ounces of sterile water was well taken, while barely 17 ounces was ingested by those who died. Lactose solution (5 per cent. administered for an average of eight days) was readily taken by all to an average quantity of 36 ounces. Of the remaining fifteen, two died before lactose administration was given. Six received whey (an average of 40 ounces in six days), while the remaining seven were given various foods and subsequently died. Seven of the twenty who recovered received at first dilutions of sterilized fat-free milk strengthened slowly to whole milk; three got whey at first, later straight dilutions of milk; five got buttermilk, and three got straight dilutions of sterilized milk to whole milk. Of the ten fatal cases that continued through the lactose administration, no definite result in regard to food can be stated. The majority of the children succumbed to the too early administration of milk or too rapid change of nourishment. The reason for the too early giving of food was the necessity for some nitrogenous nourishment to sustain life. Toxemia was fought largely symptomatically. The stimulants were mostly given hypodermically. Brandy was seldom used. Strychnin, from 1/250 to 1/500 grain, was given when cardiac failure was imminent. Bowditch says that lactose and dextrose in the irrigations gave no demonstrable therapeutic value, and that dextrose infusions were certainly an improvement.

9. **Treatment of Infectious Diarrhea in Infants.**—During the last season at the Boston Floating Hospital colon irrigations of 3 per cent. silver nitrate were employed in the treatment of infants ill with infectious diarrhea. The technic of the irrigation did not differ essentially from that of ordinary irrigations. Smith says that it is advisable, however, to clean the rectum, and as much of the colon as possible, before using the silver nitrate solution. A cleansing irrigation with sterile water is given and continued until the water comes back clear. Salt solution should not be used for this preliminary cleansing, since the sodium chlorid forms with the silver nitrate an insoluble silver salt which is precipitated and the strength of the silver solution is weakened. When the cleansing has been completed, 1 pint of a 3 per cent. silver nitrate solution is allowed to run into the colon and the tube then withdrawn. Some of the solution will be expelled, but no attempt is made to recover the entire amount used. In adults there is considerable pain after the injection, but none of Smith's patients showed any marked evidence of discomfort.

The treatment was used in thirty-two cases. None of the patients was in any way harmed by the treatment. Three infants showed a rather severe reaction, but it was only temporary in character. In twenty-two of the cases, treatments were given early in the disease. Eighteen of these patients were improved by the procedure, eleven markedly so, and seven slightly. Six patients were given the injection late in the disease; three, or one-half, were benefited. In six cases no report can be made. Smith claims that in a certain number

of cases of infectious diarrhea in infants, an early colon injection of 3 per cent. silver nitrate solution apparently hastens the disappearance of blood and pus from the stools and shortens the course of the disease. In some late cases, when blood and pus persist in the movements, the ulcers can be stimulated by silver nitrate injections and the stools cleared.

12. **Two Methods of Obtaining Human Milk for Hospital Use.**—The hospital of the Massachusetts Infant Asylum, which uses the method of most foreign hospitals, has resident wet nurses who are part of the organization of the institution. These women are secured from other charitable institutions, and from the lying-in hospitals. They are not permitted to do any heavy work or scrubbing, but should only dust a certain number of rooms and do their own washing. They are allowed to have as much as they want of a liberal diet, which costs the hospital from 43 to 45 cents a day for each person. The milk of these wet nurses is used in two ways: (a) The milk is drawn with breast pumps for the very weak and delicate babies. It is placed in sterile jars and kept in an ice-chest until used. (b) The stronger babies are put to the breast. The amount of milk taken is recorded by a trained nurse, who weighs the baby before and after the nursing. The women are paid according to the amount of milk they supply, at the rate of 2 cents an ounce for "drawn breast milk" and 1 cent an ounce for nursed breast milk, up to a limit of $16 a month. The Boston Floating Hospital collects the milk from nursing mothers in the tenement district. Precautions are taken to have the milk drawn in a cleanly manner and put in sterile bottles and then kept at a low temperature. The women are paid at the rate of 60 cents a quart.

13. **Diarrhea in Infants Associated with the Gas Bacillus in Stools.**—In the opinion of the authors there exists a group of diarrhea in infants impossible to differentiate clinically from infectious diarrhea caused by the dysentery bacillus. These cases are associated with the presence of large numbers of gas bacilli in the stools. The bacilli occur in such numbers and in such relations that it seems reasonable to believe that they are the etiologic factor of the diarrhea. This diagnosis, when made, gives the indication for treatment with buttermilk.

Medical Record, New York

February 25

17 Preliminary Report of Cases of Syphilis Treated by Salvarsan. C. H. Chetwood, New York.
18 *A Simple Method for Relief of Certain Forms of Odynphagia. P. T. Hald, Copenhagen, Denmark.
19 *A Case of Aneurysm of the Heart. J. B. Betts, Buffalo, N. Y.
20 Stock Vaccines in Acute Gonorrhea. F. A. Palmer, Morris, Ill.
21 Gastric Ulcer: Hemorrhage, Operation, General Peritonitis, Vaccine Therapy. J. R. Verbrycke, Washington, D. C.
22 *Melted Iodoform Ointment in Treatment of Suppurative Bubo and Ischiorectal Abscess. H. A. Royster, Raleigh, N. C.
23 *Is Cancer Contagious? G. D. White, Jersey City, N. J.
24 A Case of Multiple Pregnancy with Eclampsia. E. A. Griffin, Brooklyn, N. Y.

March 4

25 Resection of the Posterior Roots of the Spinal Nerves to Relieve Pain, Pain Reflex, Athetosis and Spastic Paralysis—Dana's Operation. R. Abbe, New York.
26 Diagnosis of and the Feeding in Gastric Ulcer. W. G. Morgan, Washington, D. C.
27 Appendicitis and its Moving Pathology. G. K. Dickinson, Jersey City, N. J.
28 Vaccination in the Philippine Islands. R. Olesen, Manila, P. I.
29 Bilateral Nephrolithiasis; Left Nephrolithotomy. L. B. Bangs, New York.
30 Short Talks with My Students and Others; Being Random Suggestions for the Younger Practitioners. R. H. Dawbarn, New York.

18. **Method for Relief of Odynphagia.**—Some time ago Howell claimed that relief of laryngeal pain may be secured by firm pressure on the ears and mastoid region in swallowing. Hald tried this method in thirty-three cases of inflammatory diseases of the tonsils and their surroundings. In twenty-four cases pain was considerably relieved by pressure against the tragus, or against the upper part of the mastoid. Tragus pressure was most efficient. He explains the process by supposing that it exercises a strong counterirritation of the skin area, whose sensitive nerve supply is in intimate relation to the sensitive nerve supply of the diseased tonsil. He limits the area to the lateral portion of the posterior meatal wall.

19. **Aneurysm of the Heart.**—In Betts' case the aneurysm arose from a gradual occlusion of the coronary artery by atheromatous changes. There was extreme generalized arteriosclerosis, not caused by syphilis. The diagnosis was made post mortem.

22. **Melted Iodoform Ointment in Treatment of Suppurative Bubo.**—The principle of the treatment employed by Royster is that of attempting to promote resolution of the inflamed glands, to secure rapid pointing, if suppuration occurs, and, finally, to evacuate the pus and fill the cavity with melted iodoform ointment. When the inguinal swelling first begins, daily application is made of a salve composed of equal parts of pure ichthyol and the official ointments of iodin, mercury and belladonna. A small portion of this is rubbed in well and another portion spread thickly on a gauze dressing, which is held tightly against the area by a spica bandage. If absorption fails to take place and breaking down ensues, as generally happens, the following procedure is carried out, when the suppuration is at its height. A spot on the softest and most prominent part of the swelling is infiltrated with a 1 per cent. cocain solution and a very small incision made here with a bistoury—an opening just large enough to let out the pus. When the cavity has been emptied by the aid of pressure it is washed out two or three times with hydrogen peroxid, diluted one-half with sterile water, followed by flushing with sterile water alone. For these washings an ordinary glass piston syringe is used. A quantity of 10 per cent. iodoform ointment is now melted (it can conveniently be done in a large spoon over a gas, alcohol or oil flame), sucked up into the same syringe, and injected into the suppuration cavity with some force, so as to completely fill it. Over this is immediately placed a cold bichlorid of mercury gauze compress, which is retained by the spica bandage, as before. The dressing is not disturbed for five days. At the end of this time it is removed and the excess of ointment is squeezed out; if any pus remains a second injection of ointment is made; otherwise the gauze and bandage are reapplied for some days longer. In the majority of cases one treatment suffices to cure. Ischiorectal abscess, while not at all related to bubo, affords an opportunity of applying the method just outlined, thereby saving the patient time and trouble.

23. **Is Cancer Contagious?**—White reports five cases of cancer, four of which terminated fatally, three occurring in one house and two in another; all the patients were blood relations or lived in close contact with one another, as husband and wife. All have been infected within five years.

New York Medical Journal

March 4

31 Treatment of Syphilis by Intravenous Injections of Salvarsan. A. G. Rytina, Baltimore.
32 Oily Suspensions of Salvarsan. S. Pollitzer, New York.
33 *Diet in Heart Disease and Arteriosclerosis. L. F. Bishop, New York.
34 *Are We in Danger of Trachoma? A. Brav, Philadelphia.
35 Forecasts of Medical Practice in the Future. T. D. Crothers, Hartford, Conn.
36 *Operative Technic of Acute Suppurative Appendicitis. W. Bartlett, St. Louis.
37 Acute Amygdalitis. N. Settel, New York.
38 Prolonged Epistaxis Associated with Increased Vascular Tension. H. Hays, New York.
39 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

33. **Diet in Heart Disease and Arteriosclerosis.**—The importance of proper diet in heart disease is emphasized by Bishop. He says that in acute heart disease, the simplest and best diet to begin with is a milk diet, but that must very soon be supplemented by other simple and nutritious foods. In chronic heart disease the quantity of food should be reduced to the amount necessary for the maintenance of the body, the weight, and strength. The food should be divided into five small meals, the largest meal being taken in the middle of the day. The food should also be as dry as possible. In considering a specific choice of diet in heart disease, he divides the cases sharply into two classes. There are those cases in which, on account of a lesion of the heart of a mechanical nature, the welfare of the patient depends on the maintenance of a healthy heart muscle, able to do an extra amount of work. In these cases the problem is the same as that presented by patients suffering with tuberculosis or any other condition in which

the maintenance of health depends on the maintenance of resistance. In these cases, also, diet must be reasonable, but there is no necessity for careful chemical observation. The second class of cases, and the one which Bishop considers, is that in which the heart trouble is part of a general cardiovascular disease, and is of chemical, or at least toxic, origin.

34. **Trachoma.**—Brav feels that the data with reference to the contagiousness of trachoma are exaggerated. He is convinced that trachoma is not so contagious as it has been thought to be, and that it is a curable disease. Only neglected cases terminate in a reduction of vision. In this country, it never leads to total blindness, except, perhaps, among the Indians. Inasmuch as there is no trachoma problem in our country, laws on this subject, he thinks, need not be oppressive. Trachoma is not on the increase, but rather on the decrease. To create fear among the laity to the existence of imminent danger resulting from trachoma, which is purely imaginary, Brav believes, is entirely unscientific and harmful to the best interests of the community.

36. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298.

Lancet-Clinic, Cincinnati

March 4

40 The Time Element in Operations. C. A. L. Reed, Cincinnati.
41 Gonorrhea, the Problem. W. S. Ehrich, Evansville, Ind.
42 Approximation of Widely Separated Wound Margins. J. R. Eastman, Indianapolis.

Journal of the South Carolina Medical Association, Charleston

January

43 The Hyperemic Treatment. G. E. Thompson, Inman.
44 The Anesthetist. J. B. Townsend, Anderson.
45 Operation for Correcting the Deformity of Undeveloped Lower Jaw or Receding Chin. R. S. Cathcart, Charleston.
46 Eye and Ear Troubles that Pertain to General Diseases. L. O. Mauldin, Greenville.
47 The Alkaline Treatment in Typhoid. R. E. Yellott, Lynchburg.

Bulletin of the Johns Hopkins Hospital, Baltimore

February

48 Relation of the Amnion to the Origin of Human Malformation: Necrosis of the Pancreas. Spondylolisthesis. H. Chiari, Strassburg, Germany.
49 Diabetic Acidosis. A. Magnus-Levy, Berlin.
50 Bacteriology of Baltimore City Water. W. W. Ford, Baltimore.
51 *Case of Congenital Deformities: Patent Ductus Botalli; Absence of Left Kidney and Chronic Peripheral Edema. C. R. Kingsley, Baltimore.
52 Transverse Fracture of the Body of the Ischium in 1893; Terminal Displacement in 1902; Diagnosticated in 1909. N. W. Sharpe, St. Louis.
53 Peritonsillar Abscess. M. Warfield, Baltimore.

51. **Congenital Deformities.**—The interesting points in the necropsy findings of Kingsley's case were a very inconspicuous thymus, there being practically no tissue where the gland should be; normal heart valves, but an open ductus Botalli, measuring about 1 millimeter in diameter; an acute diffuse cellular myocarditis; no special hypertrophy of the ventricles; scattered areas of bronchopneumonia in both lungs. The left ureter appeared normal at its entrance into the bladder and as far as followed up to the brim of the pelvis. Here it was lost and no remnant of kidney tissue was found in this area. The left adrenal was close to the diaphragm and appeared normal. The right kidney was very large, about the size of two normal kidneys. There was a single distorted pelvis coming from the anterior median portion of the irregular kidney mass, the long axis being nearly parallel with that of the vertebral column and lying almost completely to the right of the vena cava, which crossed over its mesial surface. The kidney looked in no way abnormal. An acute enteritis throughout the ileum was found. The thyroid was small, pale, and uniform on section. The bone marrow appeared normal. Permission to examine the brain could not be obtained.

Southern Medical Journal, Nashville

February

54 The Gamete Carriers. Their Rôle in the Etiology of Malaria. G. E. Henson, Crescent City, Fla.
55 Malarial Manifestations in the Eye. M. H. Bell, Vicksburg, Miss.
56 Value and Limits of Laboratory Diagnosis. A. E. Thayer, Dallas, Texas.
57 A Summary of Cases of Malaria and of Cases Suspected to be Malaria, Examined in the Past Three Years. J. M. Swan, Watkins, N. Y.
58 *The Radical Cure of Malaria. S. Harris, Mobile, Ala.
59 Underlying Causes of the Existence of Soil Pollutions in Rural Districts. C. W. Stiles.
60 The Quick Macroscopic Typhoid Agglutination Test, Its Application and Advantages. C. C. Bass, New Orleans.
61 What Is Heat Exhaustion? W. H. Rennie, U. S. Navy.
62 *Progress Made in Intestinal Surgery, with a Demonstration of a New Method of Suturing the Bowel. A. E. Benjamin, Minneapolis.

58. This article was published in THE JOURNAL, Nov. 26, 1910, p. 1879.

62. This article was also published in the *Lancet-Clinic*, Feb. 11, 1911; abstracted in THE JOURNAL, Oct. 1, 1910, p. 1222.

Surgery, Gynecology and Obstetrics, Chicago

February

63 *Abdominal Myomectomy for Myomata of the Uterus. W. J. Mayo, Rochester, Minn.
64 Inflammatory Tumors of the Abdomen Simulating Malignant Disease. H. A. Bruce, Toronto.
65 Injuries to the Kidneys with End-Results. P. M. Pilcher, Brooklyn, N. Y.
66 Primary Multiple Malignancy. C. B. Davis, Chicago.
67 *Large Ovarian Cysts. J. S. Horsley, Richmond, Va.
68 *Functions of the Great Omentum. I. C. Rubin, New York.
69 Primary Sarcoma of the Appendix; Report of a Case. E. O. Jones, Seattle, Wash.
70 *Calculus in the Ureter. R. C. Bryan, Richmond, Va.
71 Technic of the Radical Abdominal Hysterectomy for Uterine Cancer. R. Peterson, Ann Arbor, Mich.
72 *Operative Method for Exstrophy of Bladder. A. Werelius, Chicago.
73 Abdominal Exclusion of the Fundus in Complete Procidentia. J. R. Eastman, Indianapolis.
74 Open Treatment of Fractures. C. G. Levison, San Francisco.
75 An Efficient Inexpensive Enteroclysis Apparatus. W. A. Dewitt, Philadelphia.
76 A Speedometer for Proctoclysis Apparatus. W. S. Sutton, Kansas City, Kan.
77 An Aid to Radiography of the Urinary Organs. D. N. Eisendrath, Chicago.
78 Legal Aspects of Post-Mortem Cesarean Section. C. S. Bacon, Chicago.

63. **Operation of Abdominal Myomectomy.**—Some interesting mortality data are furnished by Mayo in his review of cases of uterine myomata operated on by himself and Charles Mayo during the past ten years. These statistics include all varieties of operations and the various complications, such as cancer, tubal infections, necrosis and degenerations of the tumor, etc. Every patient dying in the hospital, irrespective of the cause of death or the length of time following operation, is counted as dying from the operation. Total number of operations for uterine myomata, 1,244; deaths, 30, or 2.3 per cent.; number of cases of myomata of the uterus which necessitated total abdominal hysterectomy, usually because of malignant degeneration or acute infection, 66; deaths, 2, or 3 per cent.; number of supravaginal hysterectomies, 900; deaths, 23, or 2.5 per cent.; number of abdominal myomectomies, 157; deaths, one, or ⅔ of 1 per cent.; vaginal hysterectomies, 77; deaths, 2, or 2.75 per cent.; vaginal myomectomies, 50; deaths, 2, or 4 per cent.

67 and 70. Abstracted in THE JOURNAL, Jan. 14, 1911, pp. 140 and 141.

68. **Functions of the Great Omentum.**—As a result of his studies, Rubin claims that the omentum has no spontaneous motility. The displacements of the omentum may be explained by: (a) intestinal peristalsis; (b) intra-abdominal tension; and (c) the static condition of the stomach and colon and of the small intestine; (d) the anatomic relationship of the omentum to the gall-bladder and spleen. The omentum has no demonstrable "chemotaxis." The amount of intraperitoneal fluid plus the amount of gas contained in the large intestine account for this apparent intelligent retreat of the omentum from virulent infective processes. In addition the suction action of the diaphragm under changed conditions of intra-abdominal tension explains the apparent upward "chemotaxis" of the omentum in inflammatory lesions of the upper abdomen. The omentum has no intelligent and spontaneous protective rôle. Such protection as it apparently displays is simply due to its properties as peritoneum, and not as a superior organ with definite functions. It cannot restore vitality to necrotic organs nor vascular supply to those deprived of their circulation. The end-product of an adhesion between the omentum and a foreign body is the destruction of the foreign body; between the omentum and any other abdominal viscus is scar tissue. The omentum does not invariably repair spontaneously defects in hollow or

solid viscera; it does this imperfectly in man. Experimentally, when the rent is not too large, the omentum seems to occlude it and prevent leakage from the intestine. In perforated appendicitis, for instance, while the omentum is present in a great number of cases at the seat of the perforation, peritonitis, due to leakage, nevertheless frequently occurs.

The usefulness of the omentum in inflammatory lesions of the abdomen depends on (a) its power to form adhesions which isolate and render innocuous toxic products; (b) to its power of absorbing and eliminating toxic products or destroying them by virtue of its phagocytic elements. But when contrasted with the sequelæ, intestinal obstruction, pain, etc., its beneficence is overbalanced. The chief functions of the omentum are those of any other mesentery, namely: (a) fixation of viscera; (b) vascular supply. When the omentum is found adherent to an intra-abdominal tumor the probabilities are that the mass is inflammatory, and not neoplastic. If the tumor is adherent to a neoplasm, the tumor invariably has undergone inflammatory changes. (Ovarian dermoids.) In exploratory gall-bladder operations it is well to remember that an "adhesion" between this viscus and the omentum does not necessarily mean inflammation. The adhesion may be a normal mesentery of the gall-bladder, contributed by the omentum. Care should be exercised, therefore, in the examination of the adhesion before it is unnecessarily separated, and before the gall-bladder is removed. The best method of preventing adhesions between abdominal incision and omentum consists in the application of a continuous peritoneal catgut suture. Areas of the abdominal cavity uncovered by peritoneum lead almost invariably to adhesion formation. The omentum is capable of absorbing large quantities of fluid and particles in suspension. Large particles are attached in a purely mechanical way. Too much should not be expected from grafts of the omentum. A detached piece of omentum rapidly becomes necrotic, and is useless. Only intact portions of the omentum produce serviceable adhesions.

72. **Operative Method for Exstrophy of the Bladder.**—The operation devised by Werelius is done in two stages: The first stage consists of the formation of an artificial bladder (urodenum). The operative field (left abdominal side), after ordinary preparations, is painted with tincture of iodin and protected from the area of exstrophy by placing an adhesive strap obliquely across the lower abdomen and over a towel covered with oiled silk, which is then turned over the exposed bladder, completely excluding it from the operative field. The patient is then tilted over on his right side to allow the urine to flow away from the working area, and also to get the small gut out of the way. An oblique incision is then made in the left inguinal region, much the same as for appendectomy on the opposite side. The sigmoid is delivered through the wound and divided about 7 inches above the rectosigmoidal junction and the proximal end anastomosed to the upper part of the rectum, leaving a future artificial bladder about 6 inches long. The abdomen is closed in the usual manner without drain. In the second stage, a flap of bladder containing the ureters is dissected and all of the bladder mucosa is cut away. Through a median abdominal incision the intestinal pouch is exposed and partly delivered through the wound and clamped with rubber-covered forceps. The clamped gut is opened into the lumen. The bladder flap is then approximated to the intestinal opening and sewed to the edge, through and through with linen. The opposite edge is sewed with a Connell stitch, so that, when finished, the gut somewhat overlaps the bladder flap. If the intestinal tissue is abundant, serosa may be drawn over so as to cover the flap completely. The abdomen is closed, with gauze drain *in situ*.

New York State Journal of Medicine

February

79 Tuberculous Peritonitis. N. Jacobson, New York.
80 Dermatologic Observations of Interest to the General Practitioner. J. M. Winfield, Brooklyn, N. Y.
81 Infant Mortality in Greater New York. A. E. Shipley, Brooklyn, N. Y.
82 v. Mikulicz Disease. W. Lintz, Brooklyn, N. Y.
83 Sacral Suspension of the Uterus. J. VanD. Young, New York.
84 Mistakes in the Use of Obstetrical Forceps. J. M. H. Rowland, Baltimore.
85 The Physician and the Mental Development of the Young. P. W. T. Moxom, Brooklyn, N. Y.
86 Recognition and Treatment of Acute Mastoiditis. G. H. Rockwell, Syracuse, N. Y.
87 The Medical Profession as Related to the Community, State and Nation. T. D. Mills, Middletown, N. Y.
88 International Commission on Control of Tuberculosis Among Domestic Animals. M. H. Reynolds, New York.

American Journal of Medical Sciences, Philadelphia

March

89 *Presence of a Venous Hum in the Epigastrium in Cirrhosis of the Liver. W. S. Thayer, Baltimore.
90 Diagnosis of Duodenal Ulcer. W. F. Cheney, San Francisco.
91 *Traumatic Diabetes in Children. I. A. Abt and S. Strouse, Chicago.
92 *Biot's Breathing. L. A. Conner, New York.
93 Myogenic Doctrine of the Cardiac Activity and Its Relation to Arrhythmia. J. H. Musser, Philadelphia.
94 *Interrelations of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
95 Acetabular Fracture with Intrapelvic or Central Dislocation of the Femoral Head. W. Fuller, Chicago.
96 *Congenital Syphilis of the Heart. A. S. Warthin, Ann Arbor.
97 Personal Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kaliski, New York.

89. **Cirrhosis of the Liver.**—A venous hum, accompanied sometimes by a well-marked thrill, has been detected by Thayer in the epigastrium in some instances of hepatic cirrhosis. He says that the thrill and murmur may be appreciable: (a) directly over the extensive cutaneous varicosities, or (b) in instances where there is little or no external evidence of venous engorgement. In most of the cases in which an epigastric venous hum has been heard in cirrhosis, in the absence of cutaneous varicosities, the sound has been audible best about the umbilicus and along the median line in the epigastrium—in other words, along the course of the round ligament. In a few of these instances it has been found that the incompletely closed umbilical vein has become greatly dilated as a result of increased portal pressure. In others, a large dilated vein has been found in the round ligament running alongside of the obliterated umbilical vessel—doubtless a dilatation of a small para-umbilical vein. Thayer points out that these murmurs should be distinguished from the slight venous hum sometimes heard in the anemic just above and to the right of the umbilicus, over the inferior vena cava—murmurs which may be brought out by pressure in thin individuals. These murmurs are said to disappear in some cases with pressure on one or another femoral vein (Friedreich). A venous hum has been described in Traube's space and in the left side of the epigastrium in the angle between the large liver and spleen in cirrhosis (v. Jacksch, 1899) and in splenic enlargement (Piazza-Martini, 1898), which may arise in a varicose splenic vein. A well-marked thrill and an intense venous hum may be heard in hepatic cirrhosis over a limited area in the epigastric notch, in the immediate neighborhood of the xyphoid cartilage, at a point so far above the lower border of the enlarged liver that it cannot depend on currents in a varicose umbilical or para-umbilical vein. Such murmurs may, in some instances, arise in varicose coronary veins (v. Jacksch), while in others, as those observed by Catti and the author, the seat of origin is probably in anastomoses between the roots of the internal mammary and the inferior deep epigastric vessels, very possibly to the entrance into these latter veins of an enlarged para-umbilical-xyphoid vein of Braume.

91. **Traumatic Diabetes in Children.**—Two cases of diabetes are reported by Abt and Strouse in which the glycosuria first came to light after the patients had suffered injury. The first child sustained injuries to the leg and abdomen in an automobile accident; the second child fell from a second-story window, striking on his head. In addition to the possible traumatic origin of these cases, there is an added interest in that both patients continue robust and in good health in spite of the daily elimination of a considerable quantity of sugar. This is in contrast to the text-book descriptions of cases of diabetes in children, which usually relate that in young individuals, more particularly children, diabetes runs a rapidly unfavorable course. It is also of interest to note the effect of the v. Noorden oatmeal diet on sugar elimination and acid retention. The ordinary clinical study of the first case showed an apparent anomaly in the production of an acidosis by the v. Noorden gruel. This point was especially

investigated in the second case. For certain periods the patient was allowed a somewhat restricted diet, containing gluten bread, supposedly starch-free, but actually, on analysis in the laboratory, yielding 32.5 per cent. starch. For the first ten days the food was not measured accurately enough to allow complete figures of food value to be stated; but from March 21 to April 9, each article was carefully weighed and its value computed, mainly from Atwater's tables, partly from analyses made in the laboratory. Very little restriction, except of carbohydrate, was enjoined during the period of liberal diet, and at all times the patient was allowed to roam about the wards, under surveillance, to prevent secret taking of food or loss of urine. The absolute reduction in sugar output as soon as the patient was put on v. Noorden's gruel was striking, and was in perfect accordance with the claims of v. Noorden and the experiences of other workers. In both cases, however, acetone, which was practically never present during the periods of glycosuria, invariably appeared after administration of the oatmeal gruel.

Clinically associated with this were symptoms suggesting acidosis, such as nausea, rapid pulse and headache; the ferric chlorid reaction, however, generally was absent. Since it is very unusual for acidosis to follow the use of v. Noorden's gruel, it was thought that the quantitative determination of the nitrogen and ammonia output might explain the apparent deviation from the usual reported reaction. There was a relative increase of ammonia each time the v. Noorden diet was given, but the nitrogen excretion always fell markedly because of a low protein intake. The figures representing total ammonia vary considerably and are not in agreement with the percentage curve. In fact, during the periods when the ammonia was 10 per cent. of the total nitrogen, the actual ammonia output was lower than it was at any other time during the period of observation. It is probable that the increased ratio is due to the low total nitrogen excretion, corresponding to the sudden diminution in the nitrogen intake. But the figures at the first and last v. Noorden period show an absolute increase of ammonia. After three days of the gruel, 4 grams of ammonia, or 22 per cent. of the total nitrogen, were excreted in the urine, and with the reduction of the glycosuria after the gruel later, the actual as well as the relative ammonia elimination was increased. The use of fresh vegetables and the v. Noorden gruel resulted in raising strikingly the patient's tolerance for carbohydrates and in reducing considerably the degree of acidosis. These two cases of traumatic diabetes ran a milder course than is usually seen in diabetes in children, but otherwise in their urinary and therapeutic reaction they did not differ essentially from cases of diabetes of non-traumatic origin.

92. **Biot's Breathing.**—During the past two years, in the course of a more or less systematic graphic study of pathologic types of breathing, Conner has encountered typical examples of Biot's type of respiration seven times. In six instances it occurred in the course of meningitis; in the seventh, it was found in a child suffering from some intracranial complication of suppurative mastoiditis, the nature of which could not be determined. The characteristic features of this form of respiratory arrhythmia may be stated as follows: (1) periods of apnea, which vary in length and occur at irregular intervals; (2) constant irregularity in rhythm, and in the force of the individual respirations; (3) frequent occurrence of deep sighs; (4) great uniformity of the expiratory level, a point noted by Conner and one not previously described.

94. **Interrelation of Organs of Internal Secretion.**—Hoskins says that most of the available evidence indicates that the thyroid stimulates the adrenals. Hypothyroidism causes hypertrophy in the pituitary, probably due to a vicarious assumption of thyroid function. It is fairly well demonstrated that there is a relation between the thyroid and the gonads, which are probably stimulated to normal activity by the former. The frequent association of abnormal conditions in the thyroid and thymus points toward a relationship between them, but definite evidence on the point is meager and conflicting. The theory that the thyroid inhibits the pancreas is probable, but more data are needed.

96. **Congenital Syphilis of the Heart.**—It is stated by Warthin, that gumma of the heart is rare in congenital syphilis, but that congenital syphilis of the heart, in the form of a localized or diffuse interstitial myocarditis, is most probably not rare. The new criterion is the demonstration of the *Spirochæta pallida* in the proliferating interstitial tissues of the heart wall. Adler could base his diagnosis of syphilis only on the endarteritis. Warthin has shown that the same type of interstitial myocarditis in the absence of coronary endarteritis is syphilitic, by demonstrating that these light-staining patches of proliferating stroma represent localized colonies of the spirochete and that the organism occurs in such patches in extraordinary numbers. The myocarditis described by Coupland, Hektoen and Le Count, Warthin believes to be of the same type, sufficiently localized in the cases reported by the last two writers to be visible to the naked eye and to be interpreted as gummata. In all cases of cardiac disturbances in children, congenital syphilis should be carefully considered as a possible factor.

Warthin's series of cases also show that it can be a cause of asphyxia neonatorum and unexplained sudden death in infancy. Under such circumstances, the possibility of congenital cardiac syphilis must be borne in mind and a thorough microscopic study of the heart carried out. The same thing is true of cases of non-development, infantilism, chronic valvular lesions in children and young adults, etc. For all of these conditions an etiology of congenital syphilis of the heart is possible, and the diagnostic criterion is the demonstration of fibroblastic areas in the heart wall containing colonies of spirochetes. Congenital syphilis of the heart occurs most frequently in the form of a diffuse interstitial myocarditis due to the presence of the *Spirochæta pallida* in large numbers, without ordinarily producing characteristic macroscopic changes so that the absence or presence of congenital cardiac syphilis can be told only by a thorough microscopic examination of the heart wall.

Archives of Diagnosis, New York

January

98 Factors Influencing Mortality in Appendicitis from a Medical Viewpoint. J. M. Anders, Philadelphia.
99 Diagnosis of Acute Anterior Poliomyelitis. L. H. Mettler, Chicago.
100 Diagnosis of Small-Pox. J. M. Armstrong, St. Paul.
101 Diagnosis of Chronic Pancreatic Disease. N. Stadtmüller, New York.
102 Diagnosis of Toxemias Due to *B. Coli Communis*. F. B. Turck, Chicago.
103 Technic of Colonoscopy H. Stern, New York.
104 Diagnosis of Pneumonia. A. A. Eshner, Philadelphia.
105 Differential Diagnosis Between Tumors Located in the Colon and Tumors Located in the Mesocolon. A. L. Soresi, New York.
106 The Duodenal Tube. M. Gross, New York.

Laryngoscope, St. Louis

February

107 *Preparation and Use of Thrombokinase. L. W. Strong, New York.
108 A Case of True Papilloma of the Nasal Septum. H. Arrowsmith, Brooklyn, N. Y.
109 Submucous Resection, with a Description of the Author's Special Instruments. M. Metzenbaum, Cleveland.
110 Sarcoma of the Nasal Wall of the Maxillary Antrum. O. T. Freer, Chicago.
111 Case of Chronic Progressive Bulbar Paralysis. R. H. Good, Chicago.
112 *An Unusual Case of Papilloma of the Larynx. W. W. Carter, New York.
113 *Fatal Case of Quinsy in an Adult. S. W. Prowse, Winnipeg, Man.
114 New Instruments: Antral and Frontal Sinus Illuminater; Frontal Sinus Rasp; Compressed Air Irrigator. J. J. Sullivan, Scranton, Pa.

107. **Thrombokinase.**—Believing that it would be interesting to take animal extracts and use them locally, Strong employed Batelli's method which consisted in extracting the tissue of the lung of the sheep with distilled water or salt solution, and then precipitating it with a very weak percentage of acetic acid; then centrifuging the precipitate, evaporating and adding alcohol to preserve it. He found that alcohol did not render it perfectly sterile, so he tried 1 per cent. thymol, and evaporated the precipitate at a low temperature with the electric fan, and then added an equal bulk of 1 per cent. thymol in alcohol. In order to determine if there was anything specific in the powder, whether it was

different from any other foreign body in its effect on coagulation, Strong conducted a number of experiments noting the coagulation time with rabbit blood, and found that he could secure coagulation within forty-five seconds. He also used various powders, and found that sometimes these delayed clotting rather than hastening it, and sometimes they had no special effect. So, apparently, here was something specific in its action. It did not lose its power when heated dry, but when it was moistened and heated with a very moderate degree of heat, 60 C. for thirty minutes, it became inactive. On that demonstration Strong based his claim of there being a ferment body in this preparation. No clinical data on the use of this substance, which Strong calls "thrombokinase," are available, although it has been used by a number of clinicians.

112. **Papilloma of the Larynx.**—The following are the most interesting features of the case: It gives the natural progress of papilloma of the larynx beginning in infancy and continuing undisturbed by treatment up to the age of 47 years. The very unusual fungoid appearance of the growth (so far as Carter can discover no case like it has been recorded), and the subsequent history are also of interest, whether the patient develops a speaking voice and whether there is a recurrence of the growth. The latter, Carter believes is unlikely, as the growths were thoroughly removed and the patient has passed that age when there is a tendency to warty developments. The larynx before operation was almost completely blocked by fungoid papillomatous masses, the largest of which, attached to the left side of the larynx, acted like a ball-valve and caused almost complete obstruction on inspiration. The edematous condition of the surrounding tissues gave the impression of an active inflammatory process.

It is also worthy of mention that these extensive growths were all removed endolaryngeally. Carter regards the endolaryngeal operation as the ideal one in these cases, and can scarcely conceive of a case of papilloma of the larynx justifying thyrotomy. In operating, he prefers the snare to any other instrument for the reason that the growth can be removed more accurately, more thoroughly and with far less injury to the surrounding healthy parts. The latter is most important, for it is the common observation of laryngologists that recurrences are more apt to spring from those portions of the larynx that have been injured during the operative procedures than from the bases of the primary growths.

113. **Quinsy in an Adult.**—The quinsy in Prowse's case was bilateral, the abscesses extending far down the neck, practically enveloping the whole larynx laterally and anteriorly; the characteristic doughy swelling was evident before the section was begun, and there had been no rupture of the abscess into the air-passages. Death had been preceded by violent struggling for air and clutching at the throat, and the post mortem disclosed that death had been due to edema of the glottis, hastened, no doubt, by the exertion of walking, and that an intubation and laryngotomy would probably have saved the patient's life.

Memphis Medical Monthly

January

115 Our Relations Toward the Peritonitides. J. A. Crisler, Memphis.
116 *Plaster of Paris as a Primary Dressing for Fractures. J. W. Barksdale, Vaiden, Miss.
117 *Prevention of Infantile Diarrhea. A. G. Jacobs, Memphis.
118 Importance of Elimination. D. M. Hall, Memphis.
119 Was It an Abscess of the Temporal Lobe? J. R. Nelson, Whiteville, Tenn.

116 and 117. Abstracted in THE JOURNAL, Dec. 10, 1910, pp. 2091 and 2092.

Bulletin of the Medical and Chirurgical Faculty of Maryland, Baltimore

March

120 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.

120. **Management of Nervous Children.**—Barker insists emphatically that in any case nervous children should not be sent to school too early; preferably they should start a year or even several years later than the normal child. And in the schools they should never be pushed ahead too fast; competition is dangerous for the nervous child. The mistaken ambition of parents who desire their children to head the class is often responsible for serious injury to health. Sleeplessness is always a danger signal. In children it is frequently due to indigestion or to mental overstrain; occasionally to premature sexual excitations. If insomnia appears, and especially if it persists, the parents should consult a physician.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

February

121 *An Anatomic Study of the Fasciculus Occipito-Frontalis and the Tapetum. J. H. W. Rhein, Philadelphia.
122 A Case which Exhibited Thermomanesthesia: a Perversion of Thermal Sensation. L. Newmark, San Francisco.
123 A Brain of About One-Half the Average Size from a White Man of Ordinary Weight and Intelligence. B. G. Wilder, Ithaca, N. Y.
124 Dislocation of the Sixth Cervical Vertebra Forward on the Seventh. M. A. Bliss, St. Louis.

121. **The Fasciculus Occipito-Frontalis.**—In his anatomic researches on the brain Rhein found that there is in the upper levels on the right side a band of degenerated fibers more intense in the posterior wall of the lateral ventricle, which can be traced to hemorrhage in the levels below which destroys the tapetum to a certain extent. This band of degenerated fibers is continuous with a faint line of unstained or poorly stained white matter which at the uppermost levels surrounds the lateral ventricle, leaving a band of well-stained white matter between it and the ventricular wall. Forward and in the outer wall of the ventricle, this band corresponds to the position of the fasciculus occipito-frontalis as described by Marburg's atlas recently published. At a little lower level, this band cannot be traced all around the ventricle but is present still to a marked degree in the posterior wall of the lateral ventricle. These areas of degeneration, Rhein believes, may probably be interpreted as being fibers of the fasciculus occipito-frontalis which have been pushed to the side by the distention of the ventricle. At levels still lower the fasciculus occipito-frontalis is undoubtedly degenerated, and the unstained bundle of fibers can be traced in the corpus callosum as far as the median line, and when the same level on the left side is studied this can be followed into the fasciculus occipito-frontalis on this side. What appears to be degeneration can be traced into the splenium on the right side, but what the fate of these fibers on the opposite side is cannot be determined. Probably, though, they extend into the tapetum of the left side, as in one section the tapetum was degenerated and degenerated fibers could be seen in the splenium. There is little doubt in Rhein's mind that the degeneration of the fasciculus occipito-frontalis can be traced directly to the degenerated tapetum on the right side. That the degeneration in the corpus callosum is continuous with the degeneration in the fasciculus occipito-frontalis seems more than probable. This finding is uniform in a great many sections, and in comparison with sections from another brain recently studied, it appears to be undoubtedly abnormal. These findings support the views of those who claim that the tapetum is a part of a long association bundle connecting the frontal and occipital lobes. Whether the tapetum is made up exclusively of fibers from the fasciculus occipito-frontalis or in part from the corpus callosum cannot be definitely stated from the findings in this case, in spite of the fact that degenerated fibers could be found in the splenium directly traceable to the original hemorrhagic focus, since the white matter of the occipital and temporal lobes was implicated as well. In Rhein's opinion, it seems probable that there is a long association bundle corresponding in position to the "*faisceau occipito-frontal*" described by Dejerine, of which the tapetum is a part, and which sends some fibers across the knee of the corpus callosum to the fasciculus occipito-frontalis of the opposite side.

Southern California Practitioner, Los Angeles

February

125 Diagnosis of Duodenal Ulcer. E. C. Moore, Los Angeles.
126 Surgical Treatment of Duodenal Ulcer. W. A. Edwards, Los Angeles.
127 Osteofibroma Occupying the Tonsillar Fossa. A. L. Kelsey, Los Angeles.

128 Diseases of the Gall-Bladder and Its Ducts, with Their Treatment. C. P. Thomas, Los Angeles.
129 Rabies and the Public Health. S. P. Black, Los Angeles.
130 Diagnosis of Fractures. B. J. O'Neill, San Diego.

Northwest Medicine, Seattle, Wash.

February

131 Colon Bacillus Infection of the Urinary Tract. C. B. Lyman, Denver.
132 Ocular Manifestations of Arteriosclerosis and Their Diagnostic and Prognostic Significance. C. A. Veasey, Spokane, Wash.
133 Non-Specific Prostatic Hypertrophy. L. W. Hyde, Portland, Ore.
134 What Medicine Has Done and What It Will Do in the Conservation of Human Health. G. W. States, Franklin, Idaho.
135 Direct Blood Transfusion. A. T. R. Cunningham, Spokane, Wash.
136 Present Status of Treatment of Goiter. E. M. Rininger, Seattle, Wash.
137 Common Eye Symptoms and What They Indicate. J. Jones, Tacoma, Wash.
138 A Case of Epiphysitis. R. H. Fisher, Rigbym, Idaho.
139 Moist Dressings in Surgery. J. T. Townley, Milwaukee, Ore.
140 Amebic Dysentery Contracted in the Arctics of Alaska. W. H. Axtell, Bellingham, Wash.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 18

1 *John Hunter and His Museum. E. Owen.
2 *Operations for Calculus in the Male Bladder. W. E. Haslam.
3 *Clinical Symptoms and Treatment of Chronic Subcutaneous Fibrosis. R. Stockman.
4 *Leukocytic Extract in Infective Processes. D. M. Alexander.
5 Electricity in Neurasthenia. J. Metcalfe.
6 Simulated Disease Occurring in Persons of Hysterical or Neurotic Temperament. J. Ewens.
7 *Eucalyptus Oil Poisoning. W. E. Foggie.
8 Curative Effect of Salvarsan in Frambesia. H. Alston.
9 Salvarsan in Three Cases of Syphilis.

1 and 2. Published also in the *Lancet*, February 18.

3. **Chronic Subcutaneous Fibrosis.**—It is held by Stockman that chronic inflammation of the subcutaneous connective tissue is a very common affection. It is secondary to various acute and chronic infections. The implication of the small peripheral nerves in the chronic inflammatory process gives rise to sensations of aching, stiffness, numbness, fatigue, etc. When persons already stout, or who afterward become so, are affected, the fat tends to form larger or smaller masses round the hypertrophied connective tissue. These masses are often very painful on pressure owing to the nerve twigs being in a condition of interstitial neuritis. The fatty masses are deposited mostly in the ordinary situations of fat accumulation. The abdomen, flanks, hips, thighs, shoulders and upper arms are in general the parts most affected, but sometimes fat is also deposited in the face, forearms, hands, legs and feet, either diffusely through the hypertrophied fibrous tissue or in lobules. When there is a large amount of subcutaneous fat the secretion of sweat is interfered with, but in most cases the amount of perspiration is normal. The morbid anatomy is very simple. When excised portions of subcutaneous tissue are examined microscopically, the fibrous tissue, the peripheral nerves and the blood-vessels are found to be in a condition of chronic interstitial inflammation; the fat cells are normal in appearance. In some cases, the fibrous tissue is much denser than in others. The condition is analogous to fibrosis of the lung, liver, kidney or ligaments, and, as, in these cases, is due to chronic local irritation from the toxins of germs or more definite chemical bodies. The most suitable name to apply to the condition, Stockman says, is probably the pathologic one of "chronic subcutaneous fibrosis." He reports five cases.

4. **Leukocytic Extract in Infective Processes.**—Alexander thinks that a new view may be taken of these extracts. They may in themselves be bactericidal and bacteriolytic to some slight degree, and they may contain natural anti-endotoxins. But they seem to act chiefly as leukocytic stimulants, inducing a huge outflow of cells, whose function is to protect the body from infection.

7. **Eucalyptus Oil Poisoning.**—A boy of 6, who had occasionally been in the habit of getting a drop or two of eucalyptus oil on sugar, was given by mistake a teaspoonful. This was about 6 o'clock one evening. About 8 he had his usual light supper, and within two hours thereafter abdominal pain and severe vomiting set in. The vomiting continued without cessation of any length and diarrhea soon became marked. By 11 o'clock the boy became drowsy, and when he was seen about this time by Foggie, he was semi-comatose. He was pale and collapsed, with a small but not very quick pulse. The muscles generally were flaccid. The pupils were medium in size and equal. The conjunctival reflex was not quite abolished. The tendon reflexes were present and were not exaggerated. There was no cough and the breathing was shallow. He could be roused by very vigorous slapping of the face, but each time he looked dazed. Every time he was wakened the nausea and vomiting set in. The vomited matter, which consisted of mucus and watery material, had a strong smell of eucalyptus oil. After two or three hours of external stimulation very much along the lines usually adopted for opium poisoning, the heavy comatose condition seemed to pass off, and the child was allowed to sleep. He slept well, and next morning, beyond being a little tired, was quite himself again. The breath had a smell of eucalyptus oil for three days. There was never any irritation of the urinary tract. In brief, the poison showed itself by gastro-intestinal irritation and cerebral paresis.

Lancet, London

February 18

10 *John Hunter and His Museum. E. Owen.
11 *Operations for Calculus in the Male Bladder. W. F. Haslam.
12 The Sphygmomanometer and the Sphygmograph. C. O. Hawthorne.
13 Eye-Strain and General Health. J. Hinshelwood.
14 Diffuse Latent Labyrinthitis: Its Dangers in the Radical Mastoid Operation. J. Harper.
15 Present Position of the Roentgen-Ray Treatment of Ringworm. S. E. Dore.

10. Also published in the *British Medical Journal*, February 18, and the *Medical Press and Circular*, February 15.

11. Also published in the *British Medical Journal*, February 18.

Medical Press and Circular, London

February 15

16 Angina in Tuberculin Treatment. R. Kramer.
17 *John Hunter and His Museum. E. Owen.
18 The Medical Examination of Employees. H. G. Langwill.
19 Suppression of Quacks and Quackery. D. Walsh.
20 New Points in Urine Analysis. J. B. Smith.

17. Also published in the *British Medical Journal*, February 18, and the *Lancet*, February 18, 1911.

Clinical Journal, London

February 15

21 Syphilis in Consulting Practice. E. M. Corner.
22 Diagnosis in Diseases of the Rectum and Anus. J. P. L. Mummery.
23 A Retrospect of Dermatology. E. G. Little.

Glasgow Medical Journal

February

24 Position of Laryngology and Rhinology in Medicine. R. Fullerton.
25 *Hematoporphyrinuria Not Due to Drugs. T. K. Monro and H. H. Borland.
26 Recent Advances in Hematology. W. K. Hunter.
27 *Cases Resembling Atrophy of the Optic Nerves which Recovered Under Treatment. L. Buchanan.

25. **Hematoporphyrinuria Not Due to Drugs.**—The patient, an unmarried woman, aged 27, housekeeper by occupation, came under the observation of Munro and Borland on account of symptoms resembling those of a mild type of diabetes. One week after a very severe chilling received while sea bathing, she observed the "bright magenta" tint of the urine. Her general condition was not satisfactory; she frequently vomited and ever since the chill she had been compelled to rise several times each night to micturate. The depth of the color varied. After a large dose of salts, the urine might be less dark, and occasionally seemed to clear for two or three days, but it invariably resumed its reddish color. She suffered a good deal from thirst and dryness of the mouth, and recently lost weight somewhat, and has been troubled with boils of the axillæ. Two of four specimens of urine examined contained sugar.

27. **Cases Resembling Atrophy of the Optic Nerves.**—During the past six or eight years, Buchanan has seen a considerable number of patients who presented many symptoms of atrophy of the optic nerves, but who have, fortunately, recovered the visual power fully both as regards central and peripheral vision. All the patients have been males between 30 and 50 years of age, and all have been steady, healthy looking men, working in responsible positions. None of the patients exhibited the signs or symptoms of toxic amblyopia; none was addicted to the overuse of either alcohol or tobacco; and none complained of, or exhibited evidences of either digestive derangement, kidney disease, or syphilis. In each case the complaint was of slowly increasing defect of vision both for near and for distant work, without any head pain or other evidence to lead to a definite cause. There can be no doubt that the diminution of vision must have been of recent origin in several. The symptoms have been diminution of central vision—both form and, less markedly, color—and peripheral contraction of the visual field, generally symmetrical. The optic nerves presented the appearance of early atrophy, pallor and sharp outline, without diminution of the caliber of the central vessels. In none of the patients was there any evidence of nervous disorder, and the subsequent history of such of the patients as Buchanan has been able to watch for one, two, three or more years has proved that the disease was not due to advancing sclerosis of brain or spinal cord. Examination of the urine showed that there was no disease of the kidneys, and careful inquiry failed to show any point from which toxic influences could start. The treatment in all cases has been purely medicinal—either tincture of nux vomica or strychnin, combined with iodid of potassium, in doses which were moderate at first, but later increased to full. In general, no benefit was experienced until a month or two had elapsed, and then it was slow but steady for about a year. Treatment was kept up until the visual acuity and the field of vision ceased to improve. In general, no improvement or alteration of the appearance of the optic nerve was seen, the size, outline and hue remaining much as at first. No diminution of caliber of the vessels was seen in any case.

British Journal of Children's Diseases, London

February

28 Four Cases of Hereditary Syphilis Treated by Salvarsan. J. H. Sequeira.
29 Pyloric Stenosis in Infancy. Indications for Operative Treatment. N. P. Marsh and K. W. Monsarrat.
30 Genesis of Hysterical States in Childhood and Their Relation to Fears and Obsessions. T. A. Williams, Washington, D. C.
31 *Subcutaneous Emphysema in a New-Born Infant. H. Wilkins.

31. **Subcutaneous Emphysema in a New-Born Infant.**—Wilkins reports the case of a primipara, aged 33, who, after a prolonged labor in which delivery was affected by axis-traction forceps, gave birth to a male child on Sept. 22, 1910. Although the heart was working well, artificial respiration had to be employed for about twenty minutes as the infant at first refused to breathe, and a large quantity of liquor amnii was expressed from the mouth and nose. The following day acute edema developed over the head, thorax and scrotum. The bowels and urine were normal. On September 26, the child, which had been crying lustily for the last twenty-four hours, suddenly became silent. The edema was then being rapidly replaced by a subcutaneous emphysema over the front and back of the head and thorax. The child could swallow well, but had complete aphonia. The breathing was slightly stridulous. There was no cough. Hot fomentations were applied to the neck, the nostril and nasopharynx were sprayed with normal saline solution, and 3 ♏ doses of wine of ipecacuanha were given every two hours. At midnight the emphysema had increased, and there was considerable dyspnea. Râles and rhonchi were heard over both lungs, the respirations were 48, and the pulse was feeble. The infant was listless and showed no desire for food. Hot fomentations were then applied to the chest and back and 20 ♏ of brandy were given every hour, together with wine of ipecacuanha and syrup of tolu and squills. The following day, September 29, the child was better generally, and took its food well. The emphysema was less on October 1, the child could cry loudly and the emphysema has almost gone. Subsequent recovery was uneventful.

Dublin Journal of Medical Sciences

February

32 Solid Solutions and Crystalline Liquids. W. G. Smith.
33 A Trip to India During the Plague Season. R. W. H. Jackson.
34 *A Case of Thrombosis of the Superior Mesenteric Vein. J. Burgess.

34. **Thrombosis of the Superior Mesenteric Vein.**—In addition to its rarity the interesting points in Burgess' case are: (1) the vagueness and mildness of the early symptoms; (2) the superimposition of a second group which completely masked the preceding; (3) the rapid course to its fatal termination in a few days from a condition of health. When first seen the man seemed in no way ill. The previous day he had suffered from diarrhea with griping pains in the abdomen. The former had ceased, but the pains had not altogether disappeared. He was a stout, florid man, aged 65. A year previously he had suffered from a similar attack, which had yielded to simple remedies. Burgess prescribed a carminative for him and saw no cause to apprehend any further trouble. Late in the evening, the pain, although not severe, was continuous, and he had passed no motion or flatus during the day; he had retched bile (sic) three times. At this time temperature was normal, pulse 112, very high tension, heart sounds were distinct; there was no murmur present. The pain was referred to the left hypochondrium. There was no tympanites, and, although suffering, he made light of his condition. The urine was high-colored, but contained neither albumin nor sugar. A symptom which puzzled Burgess was a hyperesthesia of the rectum. The next day the pain was less, otherwise the man was no better. Temperature was subnormal, and pulse was 120, wiry in character. There had been one attack of vomiting in the early morning. No motion of flatus had passed. There was absolutely no rigidity, tympanites, or pain on deep pressure of the abdomen. The symptoms present were the continuous pain (by no means severe), the quick pulse and the rectal tenderness. The vomiting occurred on such few occasions that Burgess does not feel justified in giving it prominence. Repeated turpentine enemas, opium and hot fomentations failed to give relief. Three days later, temperature was normal, pulse 120, respirations 24. The patient was semicomatose; he could be aroused to answer questions, but his replies were erratic. There was no paralysis; the pupils acted normally. There was no vomiting. The bowels had acted after an enema had been given. There was absence of rigidity of the abdominal muscles. No complaint now of pain. A blood-count was made with negative results as to leukocytosis. Like negative results attended a lumbar puncture. The urine, except showing a slight trace of bile, was normal. On the following day, a change for the better occurred, but temperature was 101 and pulse 120. Then the man became deeply comatose; his face was suffused, and the pupils were equally dilated. Breathing was stertorous, without any Cheyne-Stokes character. He was passing urine involuntarily, and his temperature was 103 F. He was restless, rolling from side to side, perspiring freely; and at times trying to get out of bed. There was no paralysis of any muscle group. The pulmonary signs were loud rhonchi over both lungs. The abdomen was very slightly, if at all, distended. The liver dulness was normal in position, there was no enlargement of the spleen; but, being a fat subject, a satisfactory examination was difficult. There was no rigidity of the muscles. The coma deepened, and the man died the following morning. At the necropsy the liver showed a marked grade of atrophic cirrhosis, the typical hob-nail, alcoholic variety, with thrombosis of the superior mesenteric vein, as high up as the junction with the splenic; two loops of small intestine were ecchymosed, partly gangrenous, were adherent to each other and to the mesentery of the sigmoid; there was no perforation of the bowel, and there were about 150 c.c. of free fluid in the peritoneum. Other findings, including the head, were negative.

Annales de l' Institut Pasteur, Paris

January, XXIV, No. 1, pp. 1-96

35 Experimental Research on Exanthematous Typhus. C. Nicolle.
36 Globulins in Human Blood. M. Aynaud.
37 Flies Reared in Aseptic Conditions. (Contribution à la connaissance du rôle des microbes dans les voies digestives.) E. Wollman.
38 Action of Intrapleural Injection of Mellin's Food on Course of Fowl Cholera in Rabbits. M. Margoulies.

Annales des Maladies des Org. Génito-urinaires, Paris

January 1, XXIX, No. 1, pp. 1-96

39 Anatomy and Pathology of Tissues Adjoining the Prostate. (Aponévroses et espaces périprostatiques. Suppurations périprostatiques.) Averseng and Dieulafé.

January 15, No. 2, pp. 97-192

40 *Operations on the Kidney and Pregnancy Later. (Operations sur le rein et la grossesse.) Hartmann and Pousson.
41 *Reflex Calculous Anuria. H. Eliot.
42 *Aspiration Treatment of Chronic Urethritis. Bronner.
43 Anuria from Concrement in Single Kidney Cured by Catheterization of Ureter. (Anurie calculeuse dans un rein unique traitée et guérie par le cathétérisme urétéral.) André.

40. **Operations on the Kidney and Pregnancy Later.**—Hartmann reports normal pregnancy in eight women in whom a kidney had been incised or removed a year or more before. He has compiled sixteen other cases of the kind, and adding these to eighty-nine already published brings to 113 the number of cases on record in which an operation on the kidney was followed by pregnancy. In none could any influence be detected on the pregnancy from the fact of the preceding nephrotomy or nephrectomy. In thirty-five cases the operation was done during pregnancy, so that the latter is no contraindication for nephrectomy. He concludes from the data presented that marriage may be authorized in such cases, even if the operation had been done for renal tuberculosis, if the urine is sterile, as determined preferably by inoculation of animals. Pousson deduces similar conclusions from sixty-six cases he has compiled except that he insists on a careful study of the general health before authorizing marriage after nephrectomy, especially the functioning of the cardiovascular apparatus and liver and the anatomic and functional condition of the remaining kidney. Even with profound changes in the remaining kidney, with purulent urine, he has known nephrectomized patients to bear healthy children; but it would be taking too many chances to authorize marriage in such a case. In twenty-nine out of thirty-two patients in whom the nephrectomy had been done for tuberculosis, the pregnancy developed apparently normally, as also in nine of ten women operated on for lithiasis, and in all of the thirteen women in whom the operation had been for a suppurative process in the kidney.

41. **Reflex Anuria.**—Eliot remarks that a pathologic kidney is especially susceptible to reflex influences, and particularly organs in which there are concrements. He analyzes nineteen cases on record and reports one from his own experience. In the latter, the obstruction of the left ureter by a concrement induced total anuria. The concrement was dislodged and expelled by the simple expedient of distending the bladder, when the anuria at once subsided. Py Suner has demonstrated an antitoxic power in the kidney enabling it normally to neutralize toxic substances circulating in the blood. He has further demonstrated that uremic blood has an inhibiting action on the secretion of urine. When suffering from the presence of concrements, the antitoxic power naturally is enfeebled, while the uremic intoxication although possibly still latent may aid in inducing anuria.

42. **Aspiration in Treatment of Chronic Urethritis.**—Bronner introduces a perforated sound connected with a water jet vacuum pump and manometer, insuring a constant aspiration inside the urethra, maintained for ten or fifteen minutes at a time. The urethra is thus cleansed from all secretions and débris while the aspiration acts as a kind of massage of the walls and induces a healing local hyperemia. The results have been satisfactory, he reports, in over a dozen old chronic cases, and he thinks that the method deserves a wider trial.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XV, No. 1, pp. 1-36

44 *Curable Forms of Acute Tuberculosis in Children. E. C. Aviragnet and L. Tixier.
45 Recovery After Operative Treatment of Cerebral Abscess Seven Months After Trauma. H. Triboulet and M. Savariaud.
46 *Peritoneal Complications of Scarlet Fever. A. Touraine and H. Fenestre.

January 18, No. 2, pp. 37-72

47 General Principles for Examination of a Sick Child. E. Périer and E. Gaujoux. Commenced in No. 1.

44. **Curable Forms of Acute Tuberculosis in Children.**—Aviragnet and Tixier declare that the discovery of tuberculous tracheobronchial glands is important both for diagnosis, prognosis and prophylaxis. With acute symptoms, this discovery clinches the diagnosis and after their subsidence shows persistence of a dangerous focus, while it often clears up the diagnosis in latent tuberculosis. All children with swollen glands in the mediastinum should be regarded and treated as tuberculosis suspects, and should be guarded with special care against whooping-cough and measles which seem to be particularly disastrous for the general evolution of tuberculosis. These infections seem to display a special predilection for the lymphatic system and for the glands in particular. If the tuberculosis in an old tuberculous patient does not flare up anew after these infections or influenza, this may be accepted as a sign that the process has definitely healed and that the patient need no longer be classed as tuberculous.

46. **Peritoneal Complications of Scarlet Fever.**—The prognosis of peritonitis seems to be favorable when it is a scarlet fever complication. In a case described by Touraine and Fenestre, a boy of 14 developed scarlet fever during convalescence after an operation for appendicitis and scarlatinal acute peritonitis developed, but all disturbances subsided as the exanthem disappeared. They analyze a few similar cases on record in which an exanthem seemed to have developed on the peritoneum and disappeared with the superficial eruption under medical measures only. This peritoneal syndrome differs completely from the secondary peritonitis which may develop a week or weeks later, and which has quite a different prognosis.

Archives des Maladies de l'App. Digestif, Paris

January, V, No. 1, pp. 1-48

48 Peritonitis from Perforation in Tuberculosis of Large Intestine. C. Roubier and R. Crémieu.
49 Malt and Curdled Milk in Infant Feeding. (A propos de l'emploi combiné de la bouillie de malt et du lait caillé dans les troubles digestifs du premier age.) E. Terrien.
50 *Operative Treatment of Typhoid Perforation. E. Giordano.
51 *Lavage and Massage-Lavage of the Colon. J. Baumann.

50. **Operative Treatment of Typhoid Perforation.**—Giordano says that he has been able to save only about half of the patients operated on for this condition, but that they would all have inevitably succumbed if he had not operated, and he advises prompt surgical treatment and close supervision afterward in every case of peritoneal complication of typhoid, occlusion or perforation. He adds that he will not say that no one dies now from peritonitis, since Murphy introduced prôctoclysis, but he will assert that not so many die from it. A typical case of typhoid perforation is reported in detail.

51. **Massage-Lavage of the Colon.**—Baumann makes a rectal injection of about a pint of fluid, which is ejected at once. This is followed by a second injection of about a quart. The patient then reclines in the dorsal decubitus and the physician, at his left, massages the fluid up into the colon and spreads it around with gentle manipulations. After massaging against the normal current, he massages then with it, the superficial effleurage toward the anus starting the bowel content in its natural course and regulating peristalsis. This procedure should not be often repeated or the bowel may become accustomed to it, and it should always be done very gently, never hurting the patient.

Archives de Médecine des Enfants, Paris

January, XIV, No. 1, pp. 1-80

52 *Differential Diagnosis of Cerebrospinal Meningitis and Epidemic Poliomyelitis from Spastic Paralysis and Encephalitis. A. Moussous.
53 *Koplik's Spots. (Les taches de Koplik.) M. de Biehler.
54 *Perivascular Localization of Intestinal Tuberculosis in Infants. M. Péhu.
55 *Serologic Differential Diagnosis of Whooping-Cough. (Diagnostic de la coqueluche fruste par la réaction de Bordet-Gengou.) A. Delcourt.

February, No. 2, pp. 81-160

56 *Eczema in Infants. C. Rocaz.
57 Lactose in Infant Feeding. M. Péhu and C. Porcher.
58 *Infantile Scorbutus. E. Lust.
59 *Scarlet Fever in a Nursing Mother. B. Delmas.
60 *The Elbow Sign of Scarlet Fever. C. Pastia.

52. **Differentiation of Epidemic Poliomyelitis and Meningitis.**—Moussous reviews the difficulties encountered in distinguishing between cerebrospinal meningitis, epidemic paralysis, infantile paralysis and acute encephalitis, stating that only the

newer differential methods allow correct differentiation, examination of the cerebrospinal fluid, etc. The lack of these in the past has led to much confusion. He insists that the sequels of cerebrospinal meningitis should be studied anew on the basis of the most modern methods, as he is convinced that many evils have been attributed to it for which it is not responsible—this mistake being the natural result of its having been confounded with other diseases.

53. **Koplik's Spots.**—Biehler has examined 947 measles patients for the Koplik spots and extols their diagnostic importance in permitting recognition of the disease before any other signs become apparent. They were found the day before the eruption in 864 cases, two days before in forty-two and up to ten days before in one case.

54. **Perivascular Localization of Intestinal Tuberculosis.**—Pöhu has been studying for years the localization of tuberculous lesions in the intestine and states that they always are found close to the blood-vessels. This proves, he is convinced, that these lesions are of blood-borne origin and that the tubercle bacilli must have gained access to the body by inhalation, finding their way then from the air passages into the blood and settling at points of lessened resistance. He adds that the rarity of primary intestinal lesions is another argument in favor of this view, and also the fact that notwithstanding the general practice of pasteurization, boiling or otherwise sterilizing the milk, tuberculosis has never been so frequent nor so deadly in young children as at present. The infant consultations and sterilized milk depots are only an indirect means of prophylaxis, as Comby has recently pointed out; they are useful mainly in detecting latent or masked tuberculosis in the family and thus permitting proper measures to prevent infection of the infant by inhalation.

55. **Serologic Diagnosis of Whooping-Cough.**—Dekourt extols the advantages of the complement-fixation test in revealing latent or masked cases of whooping-cough in children and adults. Epidemics are kept up by these unsuspected cases, and their discovery is naturally of great importance for prophylaxis.

56. See abstract in THE JOURNAL, Dec. 10, 1910, p. 2099.

58. **Infantile Scorbutus.**—Lust remarks that he had encountered only seventeen cases of infantile scorbutus during eight years of practice when six came under observation in the course of three months. The cases were all in well-to-do families.

59. **Scarlet Fever in Nursing Mothers.**—Delmas' patient developed typical scarlet fever while nursing her month-old babe. The disease ran the usual course without complications and the infant continued to nurse and thrive without contracting the disease. Scarlet fever is rare in infants less than a year old, and it is possible, he thinks, that the mother's milk confers a passive immunity on the child.

60. **The Elbow Sign of Scarlet Fever.**—Pastia gives two illustrations of the stripe or stripes across the bend of the elbow to which he has called attention as an early sign of scarlet fever. The linear eruption is first pink, then dark red or dregs of wine color, or like an ecchymosis, and it leaves a pigmented stripe for a time after recovery.

Bulletin de l'Académie de Médecine, Paris

January 31, LXXV, No. 3, pp. 113-154

61 *Present Status of Cholera. (L'extension du choléra pendant l'année 1910 et le rôle de l'émigration.) A. Chantemesse.
62 Sterilization and Desiccation of Medicinal Plants. E. Bourquelot.
63 Vaccination Against Typhoid. E. Delorme and A. Netter.

61. **Cholera During 1910.**—Chantemesse regards emigration as the most important factor in the spread of cholera nowadays. Recent experiences have shown that infection was spread by individuals who had left the endemic focus twenty-five or thirty days before, and their goods had been disinfected several times, and they themselves inspected by physicians at two or three different times in the interval. Thus all the provisions of the present maritime sanitary police had been fulfilled to the letter, and yet cholera developed among them. Epidemics and poverty are driving people to emigrate, and the poverty pilgrimages are as dangerous to the health of the world as the religious pilgrimages which have so long been the concern of the public health authorities, while the present international five-day supervision and other regulations are proving inadequate, he declares, to cope with present conditions.

Lyon Chirurgical, Lyons

February, V. No. 2, pp. 109-208

64 *Adomino-Perineal Technic for Removal of Cancer of Uterus and Rectum in Women. (De l'ablation en un seul bloc de la masse recto-utéro-annexielle et du tissu cellulaire périphérique comme méthode opératoire dans le cancer du rectum chez la femme.) Albertin.
65 *Idem. (De l'amputation abdomino-périnéale du rectum, avec hystérectomie concomitante.) Goullioud.
66 *Abdominal Hysterectomy in Treatment of Cancer of Uterus, Rectum and Colon. L. Tixier.
67 *Sigmoiditis and Cancer. X. Delore and L. Lambert.

64. **Cancer of the Uterus and Rectum.**—Albertin advises removing the uterus with the cancer mass in the rectum, all in one piece. He first opens the abdomen and detaches the whole mass, preserving in the pelvis the ureters and the bladder. The abdomen is then sutured and the cancer mass and the adherent genitals are removed through the perineal incision. This technic is for the cases in which partial resection is inadequate and an iliac anus is necessary.

65. **Id.**—Goullioud has operated in five cases of rectal cancer in women by amputating the rectum with concomitant hysterectomy. Two women survived for fifteen and sixteen months and the others are in good health after two and four years to date.

66. **Id.**—Tixier advocates preliminary abdominal hysterectomy which, he thinks, reduces the gravity of the operation. He describes two cases in which this technic was applied on women aged 33 and 58 and both are in good health at present, respectively six and nearly four years later.

67. **Sigmoiditis and Cancer.**—Delore and Lambert report three cases of apparent simple sigmoiditis in which operation showed a malignant tendency or a tuberculous stricture. The patients were a woman of 48 and two men, 60 and 69 years old. None survived the peritonitis for which the operation was done. Histologic examination alone permits the differentiation in dubious cases when there are suppurative complications. In one case there had been symptoms for nearly two years, in another for one year and in the third the syndrome of peritonitis and occlusion developed abruptly.

Lyon Médical, Lyons

January 29, CXVI, No. 5, pp. 133-212

68 Biting the Nails Cured by Device Covering the Teeth. (A propos d'un cas invétéré d'onycophagie.) A. Pont.

Obstétrique, Paris

January, IV, N. S., No. 1, pp. 1-120

69 Evolution of Obstetrics in France. P. Bar.
70 *Classic and Modified Cesarean Section. B. J. Kouwer.
71 *Momburg-Belt Constriction for Obstetric Hemostasis. P. Guéniot.
72 Congenital Absence of Peroneus Muscle. L. Dieulafé.

70. **Cesarean Section.**—Kouwer states that in Holland obstetricians still prefer the classic technic and his own experience confirms its advantages. It has its drawbacks, but he is convinced that not one is suppressed by the extraperitoneal, suprasymphyseal technic while the latter exposes the woman to graver dangers than the classic method. He has done Cesarean section in sixty cases among 18,200 parturients, and he reviews this experience in detail, tabulating the various groups for comparison. The mortality for which he considers the operation responsible was only 1.72 per cent. although not all the patients were free from suspicion of infection. The chance of infection is increased by the longer duration of labor.

71. **Momburg-Belt Constriction to Arrest Obstetric Hemorrhage.**—Guéniot reviews eighteen articles that have been published on this subject and his own experience. In the majority of the cases the hemorrhage was arrested at once. The method produces disturbances in the circulation and arterial pressure but if the cardiovascular system is in good condition, he says, no harm results. It is better to refrain from this method in case of heart disease or arteriosclerosis, especially in surgical cases, but in obstetrics the method may prove a life-saving measure, especially in country practice and even

in well-equipped institutions. Some recommend that the Momburg tubing should be carried in every obstetrician's bag. The rubber tubing preferred is about the size of a finger, but ordinary gas tubing or the tube from a fountain syringe may be used. The technic was illustrated in THE JOURNAL, Oct. 30, 1909, p. 1519.

Presse Médicale, Paris

February 4, XIX, No. 10, pp. 89-96

73 Classification of Ptosis of Liver. D. Chilaiditi.
74 Modified Cystoscopy. (Cystoscope pour les sondes urétérales à large diamètre.) E. Garceau.

February 8, No. 11, pp. 97-104

75 Arguments in Favor of Vaccination Against Typhoid. L. Landouzy.

Revue de Médecine, Paris

January, XXXI, No. 1, pp. 1-80

76 *Protracted Fever in Certain Infectious Diseases. H. Bernheim.
77 Metabolism of Ammonia Compounds. I. (Contribution à l'étude du metabolisme des composés ammoniacaux. Toxicité et élimination au cours du jeûne.) H. Labbé.
78 *Hemolytic Jaundice with Occasional Hemoglobinuria. A. A. H. van den Bergh.

76. **Protracted Fever in Infectious Diseases.**—Bernheim called attention in 1876 to cases in which the fever of an infectious disease persisted after subsidence of all other symptoms and, although apparently doing no harm, yet the temperature kept above normal for weeks, months or even years. The fever was generally noted in the evening, the temperature being normal the rest of the day. He has encountered the phenomenon with typhoid and paratyphoid, influenza, acute articular rheumatism, erysipelas, catarrhal pneumonia and pleurisy. The disease does not run itself out like the eruptive fevers and fibrinous pneumonia, but the fever-inducing microbes or their toxins evidently linger in the organism. The trouble is rather a tendency to relapses and recurrences than a steady febrile condition, as he shows by thirteen case-histories reported in detail. In one of bronchopneumonia all other symptoms had subsided by the forty-fifth day, but fever persisted to the eightieth day. In a case of right pleurisy all symptoms had disappeared by the twenty-seventh day, but the fever was evident until the one hundred and third day. The influence of influenza was evident in a few of the cases.

78. **Hemolytic Jaundice with Hemoglobinuric Crises.**—The patient in the case reported was a man of 47 who since 1899 has had recurring jaundice with occasional attacks of hemoglobinuria. Each attack is accompanied by more or less anemia, oppression in the cardiac region and pain in the hypogastrium, some of these symptoms persisting between the attacks to some extent. The blood findings are those of secondary anemia. The trouble seems to be an exceptional fragility of the man's blood-corpuscles in the presence of carbon dioxid at body temperature. This could be shown *in vitro*.

Archiv für Gynäkologie, Berlin

XCIII, No. 1, pp. 1-188. Last indexed January 28, p. 309

79 Causes and Importance of Phagocytosis in the Lochia. T. Heynemann.
80 Development of Placenta Prævia. R. Jolly.
81 Hemolysis in Relation to Jaundice in New-Born Infants. (Hämolyse in Beziehung zum Icterus neonatorum.) B. Slingenberg.
82 Interstitial Pregnancy. (Die interstitielle Tubargravidität.) E. Glaesmer.
83 Atresia and Torsion of One Fallopian Tube. E. von Graff.
84 *Treatment of Eclampsia. H. Heinze.

84. **Treatment of Eclampsia.**—Heinze's method is: (1) Rapid artificial delivery without the cooperation of uterine contractions; vaginal hysterectomy or abdominal Cesarean section if cervix and os are not dilated; forceps and version if sufficiently dilated; (2) curetting the uterus if eclampsia persists after delivery, even if the placenta has apparently been removed; (3) decapsulation of the kidneys if the eclampsia still persists and there are signs of serious injury of the kidneys; (4) general measures, including venesection, proctoclysis, the Jaquet pack, diuretics, heart stimulants, artificial respiration and inhalation of oxygen. He gives the case-histories of three very severe cases in which treatment on these principles proved successful. In a fourth case this entire battery had not been brought to bear and the patient succumbed, which he thinks might have been prevented with a little more energetic treatment. Hall, Tatzke and Fellner have reported cases in which puerperal psychosis or eclampsia subsided after curetting.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 3, pp. 303-421. Last indexed February 18, p. 545

85 Remarkable Case of Bronchiectasis. A. Bauer.
86 *Pseudo-Tuberculin Reaction. (Ueber Injectio vacua bei Tuberkulösen.) K. Weihrauch.
87 *Serodiagnosis of Pulmonary Tuberculosis. O. Roepke.
88 Estimation of Earning Capacity of the Tuberculous. (Beurteilung der Erwerbsfähigkeit bei der chronischen Lungentuberkulose.) T. C. Curschmann.
89 Tubercle Bacillus Emulsion in Treatment of Tuberculosis. (Spezifische Therapie der Tuberkulose.) Krause-Hannover.
90 Unfavorable Experience with Endotin. (Ueber Tuberculinum purum—Endotin.) F. Walterhöfer.
91 *Behavior of the Heart in Pulmonary Tuberculosis. (Verhalten des Herzens bei Lungentuberkulose.) J. Fürbringer.
92 Manometer Findings in Induced Pneumothorax. (Manometrische Beobachtungen bei der Ausübung der Therapie des künstlichen Pneumothorax.) L. v. Muralt.
93 Spengler's I. K. in 400 Cases of Tuberculosis. F. Lukin.
94 *Lung Findings in Scoliosis. (Der Lungenbefund bei Skoliose.) W. Neumann.
95 *Tables for Ready Reference with the "Tuberculin Titer" Test. (Tabelle für die Bestimmung des Tuberkulintiters nach Ellermann-Erlandsen.) A. Erlandsen.

86. **Sham Tuberculin Reaction in the Tuberculous.**—Weihrauch has tested the reaction in 212 tuberculous patients to a sham test injection of tuberculin. The instability of the heat center in the tuberculous was evidenced by the rise in temperature in 56, that is, in 26.4 per cent. after the slight trauma of the injection of mere water or the introduction of the needle without any injection; the reaction was more pronounced when aided by verbal suggestion by the physician. The rise in temperature was accompanied by general disturbances only in two cases, that is, in 0.9 per cent. The pseudoreaction may prove misleading in the clinic; the real criterion is the reaction in the tuberculous focus. There is no focal reaction after the sham injection and the temperature also drops more rapidly than after the real tuberculin injection. There did not seem to be any difference between the length of the interval before the temperature rose after the real and the sham injection except that a positive reaction was obtained between the twelfth and the twenty-fourth hours in eight patients with tuberculin and only in two so tardily with the sham tuberculin.

87. **The Serodiagnosis of Tuberculosis Not Practicable.**—This is the conclusion reached by Roepke after extensive experimental research on the possibility of transmitting to guinea-pigs the anaphylaxis possessed by tuberculous human beings.

91. **The Cardiovascular System in Pulmonary Tuberculosis.**—Fürbringer discusses the toxic influence on the heart and vessels of the tuberculous infection and the organic changes liable to result therefrom. Auscultation rarely shows normal conditions in the heart action. Accentuation of the second pulmonary sound is extremely frequent, he says, even with slight infiltration of the left, upper lobe, of which it may be the first sign in adults. The toxic influence of the tuberculous infection is felt mainly by the myocardium, and this permanent overirritability of the heart almost inevitably entails in time organic injury of the heart muscle and arteriosclerosis.

94. **Deceptive Lung Findings in Scoliosis.**—Neumann analyzes the percussion and auscultation findings liable to be encountered with curvature of the spine and mistaken for the results of tuberculous processes in the lungs. He cites some typical examples of various types of this scoliotic pseudotuberculosis and complications. In one case there was deformity of the chest plus acute bronchopneumonia. In another case the scoliosis was accompanied by a recent active tuberculous process in the lung, and in another with relics of an old healed process. Only a thorough knowledge of the findings to be expected in the chest with curvature of the spine will permit correct differentiation in such puzzling cases as these. He has found them comparatively frequent and, oftener than not, tuberculosis has been incorrectly diagnosed. In a typical case a high school graduate was rejected by a medical examiner on account of pronounced dulness over the back of the right apex, assumed to be a sign of a tuberculous process. The young man held himself straight, but closer examination

of the back showed that the left iliocostal muscle was abnormally prominent. A tendency to scoliosis was thus detected and the findings over the lungs proved to be those characteristic only of curvature of the spine. Such cases are frequently encountered, the patients passing through the hands of many physicians, none of them discovering the scoliosis responsible for the pseudotuberculosis findings. Many of the patients were regarded as holding themselves unusually straight; in some cases lordosis in the middle thoracic segment of the spine contributed to the stiffly erect posture. The scoliosis in these puzzling cases is too slight to attract attention unless especially sought for. One shoulder a little higher than the other, lordosis in the thoracic vertebræ or undue prominence of the sacrolumbal muscle on one side may be the only sign of the tendency to scoliosis. Neumann's experience has further shown, he asserts, that persons with kyphoscoliosis and mitral defects are exceptionally resistant to pulmonary tuberculosis. Among 1,767 cadavers only 59.5 per cent. were found free from tuberculosis, while of 120 cadavers with mitral defects, 77.6 per cent. were free from tuberculosis and 73.4 per cent. of 49 kyphoscoliotic cadavers. Among the typical findings with scoliosis Neumann mentions contralateral apical dulness, that is, on one side in front and on the other side in the back; dulness over the apex at the rear with dulness over the base on the other side. If dulness is noted over a lung corresponding to the extent of the scoliosis, this cannot be accepted as an indication of tuberculosis. Another sign of the pseudotuberculosis is the lesser movability of the base of the lung on the side opposite the convexity of the curvature of the upper thoracic vertebræ. This sign was constant in his cases. With light percussion the lung was found two or three finger-breadths above that of the other side and the margin of the lung did not share in the excursions of the other side.

95. **The "Tuberculin Titer" Quantitative Test.**—THE JOURNAL, May 15, 1909, page 1634, described the method devised by Ellermann and Erlandsen to test the hypersusceptibility of the organism to tuberculin by a graduated cutaneous tuberculin test with varying concentrations of the tuberculin. Erlandsen states that further experience has confirmed the simplicity and reliability of the method. He has worked out a set of tables for exact mathematical recording of the individual findings. All that is necessary to know is the average diameter of the four papules that follow inoculation with the four concentrations (0.5, 2, 8 and 32 per cent.), and the average of the differences between the diameters of the papules. The table shows at a glance the corresponding titer within a range of titers from 25 to 5,846, thus enabling instructive comparison of cases, and estimation of the individual conditions.

Berliner klinische Wochenschrift

February 6, XLVIII, No. 6, pp. 241-280

96 Tobacco Psychosis in Boy of Thirteen. P. K. Pel.
97 *The Wassermann and Cutaneous Tuberculin Reaction in Scrofulous Children. R. Hertz and O. Thomsen.
98 Chronic Tetany with Epileptiform Attacks and Psychosis. G. Salz.
99 *Specific Differential Reactions with Vaccines According to Wright. (Vaccinediagnostik.) H. Reiter.
100 *Rachitis as Causal Factor in Curvature of the Spine. (Rachitis als ursächliches Moment für Rückgratsverkrümmungen.) M. Böhm.
101 *Couching for Cataract. (Reklination des grauen Stars.) G. Levinsohn.
102 Recurring Cutaneous Local Reaction During Pasteur Treatment of Rabies. (Eigentümliche Komplikation während der Pasteur'schen Schutzimpfung gegen Lyssa.) C. Frugoni and C. Gargiano.
103 Changes in Views Concerning Typhoid Epidemiology. G. Sticker.

97. Practically the same article was abstracted in THE JOURNAL, Jan. 28, 1911, page 314.

Vaccine Diagnosis.—Reiter reiterates that every infected organism for a certain period is in a condition of specific allergy, during which it reacts in a specific manner to renewed introduction of the substance inducing the allergy. If this premise is correct, administration of the allergy-inducing substance is a valuable means of differentiation of the infection in question by the specific reaction that follows. Vaccines prepared according to Wright's method answer the desired purpose, and he has found it possible to confirm by this means the diagnosis of streptococcus, gonococcus, pneumococcus and other infections—the specific vaccine induced in every instance a strictly specific biologic reaction. Reiter would like to see this allergic reaction used in other diseases besides tuberculosis and anthrax to which now it is generally confined. It may render good service in other occult infections; the polyvalent vaccines are proving most useful. The serologic determination of the negative phase will further perfect our knowledge of differential biologic reactions in general and the vaccine diagnosis is liable to prove exceptionally valuable in differentiating extra-uterine pregnancy, appendicitis, oophoritis, cystitis, etc. The reaction should not be regarded as more than an adjuvant diagnostic measure; only a focal reaction, he adds, is positive proof of a specific affection. The vaccines are best tested on absolutely healthy individuals; no harm can result, he declares, with the minute dosage required.

100. **Rachitis as a Causal Factor in Curvature of the Spine.** Böhm gives illustrations of a number of cases of curvature of the spine to show that it can be traced in an unsuspectedly large proportion of cases to rachitis in early infancy. Treatment should begin earlier than has been the rule hitherto; physicians should search for the tendency to curvature of the spine in young children with signs of rachitis, and institute treatment in time to prevent irreparable injury. He decries the assumption that faulty postures and school work can induce curvature of a healthy spine. The Roentgen rays, etc., always reveal some anatomic basis for the deformity.

101. **Couching of the Lens for Cataract.**—Levinsohn thinks that under certain urgent indications this operation deserves reinstatement. Such indications are hemophilia and restless mania preventing a cutting operation on the eye. He has recently done reclination in two elderly insane women, and the results, he reports, were highly gratifying; there has been no tendency to glaucoma or other complication during the four and six months to date.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 5-6, pp. 421-630. Last indexed February 11, p. 463

104 The Pneumogastric Nerve. (Beiträge zur Anatomie, Histologie und Physiologie des Nervus vagus, zugleich ein Beitrag zur Neurologie des Herzens, der Bronchien und des Magens.) L. R. Müller.
105 The Specificity of the Wassermann Reaction and Study of Incomplete Reactions Sometimes Observed in Wasting Diseases. E. Scheidemandel.
106 Radical Treatment of Appendicitis: 611 Cases. A. Ebner.
107 Slight Clinical Value of Antitryptic Action of Pathologic Urine. J. C. Schippers.
108 Two Cases of Aortic Aneurysm Perforating Into the Pulmonary Artery. P. Geipel.
109 Increased Vibration of Chest Wall Always Sign of Infiltration of Lung. (Ueber den Pektoralfremitus.) H. Hochhaus.
110 The Sahli-Seiler Butyrometric Test Breakfast. (Zur Kritik des Sahli-Seiler'schen Probefrühstucks.) O. Prym.
111 Vascular Reflex Disturbances in Syringomyelia. H. Stursberg.

Deutsche medizinische Wochenschrift, Berlin

February 9, XXXVII, No. 6, pp. 241-288

112 *Secretory Disturbances in the Stomach. (Diagnose und Behandlung der Sekretionsstörungen des Magens.) D. v Tabora.
113 *Blotting-Paper Test for Free Hydrochloric Acid in Stomach Content. (Eine neue Methode zur Bestimmung der freien Salzsäure im Magensaft.) I. Holmgren.
114 Functioning of Lung After Release from Induced Pneumothorax. C. Forlanini.
115 Salvarsan in Syphilis. W. Heuck and J. Jaffé.
116 Case of Verrucous Tuberculosis of the Skin and Lymphangitis Due to Bovine Tubercle Bacilli. K. Heuser.
117 Opsonin Treatment of Skin Diseases. M. Bab.
118 Treatment of Detachment of the Retina. (Behandlung der Netzhautablösung.) R. Deutschmann.
119 Inflatable Pessary for Hemorrhoids, Etc. (Pneumopessar für Haemorrhoiden und Analprolapse.) E. Schlesinger.

112. **Abnormal Gastric Secretion.**—Tabora reviews recent progress in treatment of secretory stomach disturbances, especially hyperchlorhydria. It used to be supposed that sodium bicarbonate taken after a meal was the most effectual means of combating hyperacidity, but the laboratory has shown that secretion in the stomach is checked by taking the alkali fasting—checked both directly in the stomach and by reflex action from the passage of the alkali into the intestine. The more rapidly the alkali passes into the intestine, the sooner this inhibition occurs, and consequently the best results are obtained when the alkali is ingested fasting. Treatment of hyperacidity, therefore, is by having the patient take half

an hour before each meal a little alkali, and Tabora prefers for this a mixture of 20 parts magnesium usta, 10 parts sodium citrate and 5 parts sodium or magnesium sulphate. A four or six weeks' course of this generally suffices. He has abandoned the use of the bicarbonate as it is liable to induce discomfort and the carbonic acid evolved is a stimulant to further secretion. Sodium and magnesium sulphate have also an inhibiting action on gastric secretion in addition to their valuable laxative powers. The diet should be regulated to postpone as late as possible the production of free acid in the stomach, and this is best realized with an albumin-fat diet; he restricts the diet to albumin and fat more exclusively the severer the secretory disturbances but otherwise prefers a mixed diet. The articles of food should be in such a form as to expose the largest surface to the action of the gastric juice. It is better consequently to have the food in a soft mashed or finely chopped form than to have the patient chew it long, as mastication in itself induces by reflex action secretion in the stomach. Meat is less stimulating in this respect when boiled. The meals should be reduced in number but copious. If the alkali treatment does not cure, a course of oil, 3 tablespoonfuls daily between meals, for several weeks, and eventually a little belladonna may be advisable. With chronic hypersecretion atropin is indicated in case the above measures fail, and the patients should be taught how to use the stomach tube themselves to siphon out the stomach content in case of much pain, especially before retiring at night. He adds that in this case as in all other affections the patient must not be forgotten in treating the stomach trouble, the blood, the mental poise, etc., must be considered. When the stomach trouble is an insufficiency of the secreting powers, rinsing out the fasting stomach with a dilute saline solution is useful, as also administration of hydrochloric acid. The latter not only aids in digestion but starts pancreas functioning, checks putrefaction in the intestines and by reflex action opens the pylorus.

113. **Blotting-Paper Test for Free Acid in Stomach Content.**—Holmgren has discovered that when a dilute solution of hydrochloric acid is dropped on blotting paper, as the fluid spreads by capillary attraction the water spreads farther and fastest while the acid only spreads to a limited distance around the center of the spot where it was deposited. The proportion between the percentage of acid and the proportional extent to which the acid spreads is a constant figure. From these premises he has worked out a simple quantitative test for determination of the free hydrochloric acid in the gastric juice. He applies with a pipette to a square of blotting paper a series of dots, 1 mm. apart, of a 1 per cent. aqueous solution of Congo red. He then deposits a small quantity of stomach content or solution of hydrochloric acid on one of the dots. The fluid spreads but the color reaction is obtained only with a certain number of the dots, those beyond not giving the reaction. By comparing the number of reacting dots with those beyond this zone but reached by the spreading moisture, we have the percentage of free acid in the fluid examined.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, CVIII, Nos. 3-4, pp. 221-428

120 Advantages of Bismuth Paste in Fistulas. M. Brandes.
121 *Surgery of the Lungs. S. Solieri.
122 *Modified Technic for Gastrostomy. (Eine neues Gastrostomie-Verfahren.) P. Lofaro.
123 Diagnosis and Treatment of Acute Osteomyelitis and Purulent Spinal Meningitis. R. Goebell.
124 Ossifying Myositis or Callus Around the Bone? P. Sudeck.
125 Nail Extension in Treatment of Fracture. K. Heinemann.
126 Plastic Method for Mobilization of Stiff Elbow. (Interposition eines frei transplantierten Fascienstreifens bei knöcherner Ankylose des Ellenbogengelenks.) V. Thom.

121. **Surgery of the Lungs.**—Solieri, of Siena, Italy, reports six cases in which an operation was done on the lung for abscess or gangrene, with recovery in all but one case in which the lesions were multiple and the patient a feeble young child. One patient was a man of 54 with a large post-pneumonia gangrenous process in the right lower lobe. The cavity was the size of a man's fist and the man collapsed as it was evacuated under local anesthesia and hovered between life and death for several days; the lips of the wound became gangrenous. Cautious cleansing with potassium permanganate and hydrogen dioxid gradually conquered this tendency and the patient left the hospital in good condition by the end of the month. The lung was entered from the rear in all the cases. Echinococcus cysts in the lungs promise better results after operative treatment, Solieri says, than any other surgical pulmonary affections.

122. **Improved Technic for Gastrostomy.**—Lofaro gives an illustrated description of his technic for making a permanent and continent opening into the stomach. [The main points were given in THE JOURNAL, Jan. 7, 1911, page 78.] He compares it with the various technics in vogue and extols its superior advantages. He has done the operation on eight large dogs and watched its ultimate outcome; complete and permanent continence was obtained in every case, the gastrostomy showing no change in any case during the months since, and his experiments on cadavers indicate that the same results can be counted on in human beings.

Jahrbuch für Kinderheilkunde, Berlin

February, LXXIII, No. 2, pp. 131-258

127 Hemoglobinuria After Chilling. (Paroxysmale Kältehämoglobinurie.) M. Brückner.
128 Bacteriology of Respiratory Diseases in Children. I. H. Vogt.
129 *Casein Curds in Infants' Stools: Biologic Proofs of Their Casein Origin. (Kasein-Gerinnsel in Kinderstuhl. Biologischer Beweis ihres Ursprungs aus Kasein.) F. B. Talbot.
130 *Early Mortality of Several Children in a Family. (Frühzeitiges Sterben zahlreicher Kinder in einer Familie.) K. Stolte.
131 Water Content of Infants' Blood in Health and Disease. (Wassergehalt des Blutes.) F. Lust.

129. Practically the same article appeared in *Archives of Pediatrics*, June, 1910.

130. **Familial Mortality in Children.**—Stolte gives the details in respect to 100 families in which from two to ten children died before reaching the age of six, or still larger numbers died under the age of fourteen. In one family five children died about the end of the third month with diarrhea, although breast-fed and well tended. They were all "nervous" children and a neuropathic tendency seemed to prevail in the children of most of these families. The children in each family succumbed with apparently the same syndrome. Knowledge of such occurrences suggests antisyphilitic treatment of the parents in case of another pregnancy, if syphilis is suspected. When there is an unusual susceptibility to infections, general measures are useful in prophylaxis, but the physician is practically powerless in the cases where degeneracy is responsible for the lack of vitality.

Medizinische Klinik, Berlin

February 5, VII, No. 6, pp. 207-248

132 *Cystic Serous Meningitis of Posterior Cranial Fossa. (Meningitis cystica serosa der hinteren Schädelgrube.) R. Bing.
133 *Connection Between Civilization and Mental Disease. (Zusammenhang zwischen Zivilisation und Geisteskrankheiten.) A. Tamburini.
134 Zinc Ions in Local Treatment of Septic Corneal Ulcer. (Heilung des septischen Hornhautgeschwurs durch Zinkionotophorese.) Lubowski and P. W. Sachs-Müke.
135 Antiperistalsis of Large Intestine in Man. W. Bloch.
136 Salvarsan in Office Practice. R. Lenzmann.
137 Treatment of Developmental Defects of the Brain with Pituitary Extract. (Erfolgreiche Anwendung von Hypophysispräparaten.) Bahrmann.
138 Physical Measures in Treatment of Asthma. Pescatore.
139 *Injection of Gelatin for Functional Test of Bone Marrow. (Funktionsprüfung des Knochenmarks am Menschen mittels Gelatininjektionen.) A. v. Decastello and A. Krjukoff.

132. **Serous Meningitis of Posterior Cranial Fossa.**—The patient in Bing's case was a man of 27, previously healthy, who developed symptoms suggesting compression of the cerebellum and adjacent organs, commencing with weakness of the legs, and gradually increasing during the year until the patient was in constant dread of falling. He also felt dizzy in walking, sitting and reclining except when he reclined on the left side. Occasionally he vomited without preceding nausea. There was no actual headache but a sensation of oppression at the base of the skull. Numbness in the left hand was another symptom, and during the last few weeks there had been some impairment of vision and hearing. The appetite was good, sleep restless, bowel functioning defective, and there was left facial paralysis, but the eye reflexes were unmodified. On the diagnosis of tumor in the left cranial fossa—possibly serous meningitis—the focus was exposed and a cystic ac-

cumulation of fluid found in the posterior fossa, adhesions walling it in perfectly. As the adhesions were divided the fluid escaped and all trouble was at an end, the patient promptly recovering and the symptoms gradually subsiding. Six months later some of the symptoms returned to a slight extent but under potassium iodid they partially subsided anew and the cure was finally completed by substituting for the iodid, tincture of nux vomica, and pushing the dose rapidly to 40 drops a day. Improvement kept pace with it, the patient soon being freed from all symptoms. There was no history of trauma or syphilis in this case but the patient had had at one time a bilateral middle ear affection which might have been responsible for the development of the adhesions. The experience with this case testifies, Bing thinks, in favor of operative treatment at once without wasting time on lumbar puncture which could not possibly have done any good as there was no apparent communication between the cyst and the spinal fluid, while there is always a possibility of serious damage from lumbar puncture with any tumor in the brain. The case further teaches, he declares, the inadvisability of wasting precious time with antisyphilitic measures; an old syphilitic may have a non-specific tumor in his brain. In a case recently reported by Oppenheim he had diagnosed a tumor in the cerebellopontine angle and advised immediate operation, but as the Wassermann reaction was positive, although there was no history or sign of syphilis, a course of mercurial treatment was instituted and transient benefit was realized; soon, however, recurring severe symptoms brought the patient to the operating table and a fibroma as large as a hen's egg was easily shelled out of the angle. The patient died five days later of cardiac paralysis.

133. **Relation Between Civilization and Mental Disease.**—Tamburini cites historical data to show that mental disease was common among ancient and historical peoples and is common among the less civilized at the present day. The progress of civilization has eradicated the epidemic forms of mental disease, while the greater attention and care now paid to the insane has apparently increased the proportion of the mentally unsound, but he is convinced that this increase is only apparent. Civilization is now confronted with the task of eradicating the causes which breed mental disease, and he pleads for concerted international action, collecting and comparing data and teaching physical and moral hygiene—science, practical pedagogics and legislation all working toward this end.

139. **Gelatin Test of Bone-Marrow Functioning.**—Subcutaneous injection of a little gelatin is followed by marked hyperleukocytosis if the bone marrow is capable of responding to stimuli, as Decastello and Krjukoff found in tests of forty-two patients. The findings are important both for diagnosis and prognosis in certain circumstances.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

February, XXXIII, No. 2, pp. 125-264

140 The Ovaries with Constitutional Anomalies. (Die weibliche Keimdrüse bei Anomalie der Konstitution.) J. Bartel and E. Herrmann.
141 Absence of One Ovary with Rudimentary Tube and Normally Developed Uterus. E. Sachs.
142 *Puerperal Inversion of the Uterus. F. Pachner.
143 Vaginal Cesarean Section in Abortion and Premature Delivery. (Sectio caesarea vaginalis als Methode der künstlichen Fehl- und Frühgeburt.) G. Klein.
144 Bacteriologic Study of the Blood in Puerperal Fever. M. Semon.
145 Case of Fatal Staphylococcus Aureus Hæmolyticus Sepsis After Abortion. A. J. M. Lamers.
146 *Variations in Weight of New-Born Infants. (Ueber Gewichtsschwankungen Neugeborener mit besonderer Berücksichtigung der Resultate bei vierstündlichem Anlegen.) M. Heidemann.
147 Intra-Uterine Fracture of the Humerus. (Intrauterine in Pseudarthrose geheilte Humerusfraktur und Anencephalus.) T. Rosenthal.
148 Pyelitis in Pregnancy. S. Mirabeau.
149 Tuberculosis of the Female Urinary Apparatus. S. Mirabeau.
150 Chronic Intermittent Hydronephrosis in Women. S. Mirabeau.

142. **Puerperal Inversion of the Uterus.**—Pachner ascribes the inversion to relaxation of the muscular wall of the uterus, or of its lower segment. This view is sustained by the recurrence of the inversion at different deliveries, the peculiar thinness of the uterine wall in such cases, and the fact among others that inversion occurs more frequently at the first delivery and with younger women.

146. **Variations in Weight of New-Born Infants.**—In this communication from the Heidelberg Maternity, Heidemann states that he has made a practice during the last four years of having the infants nursed at intervals of four hours, that is, allowing only five feedings in twenty-four hours. This gives both mother and infant a chance to rest better, and systematic weighing of the children showed that they thrived unusually well under this arrangement. The nipples were less liable to crack with these long intervals, and working women found them much more convenient as the infant grew older.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 10, pp. 549-592

151 *Influenzal Meningitis. G. Simon.
152 *Cardiospasm in Infants. C. Beck.
153 *Scarlatinal Thyroiditis. J. Bauer.

151. **Influenzal Meningitis.**—Simon reports two cases in previously healthy infants about eight months old. After a week of cough and fever, suppurative meningitis developed and influenza bacilli were found in the spinal fluid and pus in the cerebral ventricles, joints or middle ear. The primary focus was in the lung in one case and in a joint in another. He tabulates the details of forty-one somewhat similar cases he has found in the literature; thirty-three of the patients were under the age of 2 and 90 per cent. under 9. Only 10 per cent. recovered, including one woman of 33, two children about 8, and two infants, 9 and 14 months old respectively.

152. **Cardiospasm in Infants.**—Beck reports two cases in young infants causing uncontrollable vomiting; at first milk poured into the stomach through a tube was not vomited in one case. Later the cardia became impassible in both and the children were fed by the rectum for a time. Then under a little tincture of opium, feeding by the mouth was gradually resumed and there was no further trouble, the infants rapidly recuperating.

153. **Scarlatinal Thyroiditis.**—In Bauer's three cases there had been no tendency to goiter but the thyroid increased in size during the course of scarlet fever. It returned completely to normal size in one boy of 13 by the thirtieth day, but in another boy, traces of the swelling were still perceptible on the sixty-sixth day, as also in the third patient, a young woman, on the forty-third day. The thyroiditis in this case was evidently one of the primary manifestations. The scarlet fever had been of a mild type, with no other complications, in all.

Münchener medizinische Wochenschrift

February 7, LVIII, No. 6, pp. 289-336

154 Oxidation Processes in the Cells. O. Warburg.
155 Plastic Operation for Femoral Hernia. (Radikale Operationen des Schenkelbruches durch Faszienplastik.) M. Wilms.
156 *Artificially Induced Petechiæ as Sign of Scarlet Fever. (Hautblutungen durch Stauung hervorgerufen als diagnostisches Hilfsmittel beim Scharlach.) C. Leede.
157 Acute Pustulous Exanthem in Brazil: White-Pox. (Weisse Pocken.) M. Rudolph.
158 Cutaneous Aphthæ. (Dermatitis fibrinosa faciei.) E. Moro.
159 *Gastric Fever. A. Scheglmann.
160 Salvarsan in Syphilis. (Ueber 60 mit Salvarsan ambulatorisch behandelte Fälle.) E. Freund. (Klinische Prüfung des Dioxydiamidoarsenobenzol.) G. Treupel and A. Levi. Commenced in No. 5.
161 Glycerin as Part Vehicle for Salvarsan. (Zur Technik der Zubereitung der Salvarsanlösung zu Zwecken der intramuskulären Injektion.) B. Kozlowski.
162 Testing Vision in Examining Chauffeurs. (Das Sehorgan des Automobilführers.) G. Freytag.

156. **The Tourniquet Sign of Scarlet Fever.**—Leede has found that a slightly constricting band applied to the upper arm causes petechial bleedings below in case of the existence of scarlet fever. He has been applying this tourniquet sign in cases of suspected scarlet fever and obtained a positive response in all but 1 of the 200 patients tested; the single exception being a very fat girl, while a positive response was obtained only in one of the control cases—a syphilitic woman who proved to be free from scarlet fever. Nothing like the specific petechial spots in the bend of the elbow could be obtained in any other disease except that there was a slight tendency in this line in measles. In some cases the sign was positive the first day and the findings grew gradually less pronounced as the disease subsided, but it was still evident by the end of six weeks in some, and with hemorrhagic nephritis the sign was still positive by the fifteenth week.

The most convenient method of applying the constriction was with the Riva-Rocci cuff; the petechiæ developed in from five to twenty minutes. [Compare with Abstract 47 in THE JOURNAL, Feb. 18, 1911, page 545.]

159. **Gastric Fever.**—Scheglmann during the last two summers in his rural practice has encountered a number of cases of what can only be styled gastric fever. The last epidemic embraced 140 cases; after three days of fever at 39.5 or 40 C. (about 103 and 104 F.) the fever gradually declined and by the end of two weeks the patients had entirely recovered. The onset was stormy, with a chill and intense persisting frontal headache, with vomiting during the first two or three days; the patients also complained of oppression in the chest, pain in the stomach and all the limbs and extreme prostration. When they were able to get up they staggered, and the digestive organs were extremely sensitive so that the slightest indiscretion in diet during the second week brought on the whole syndrome again. No complications were observed, the kidneys appearing to be intact. He regards influenza as excluded on account of the total absence of catarrhal symptoms, the upper air passages persisting normal throughout, and there being no sacral pain. But the main argument against the diagnosis of influenza is the fact that other members of the family were not affected. An epidemic of influenza in the summer is also a rarity. No one seemed to be affected except harvest workers. The agglutination test for typhoid and paratyphoid was always negative.

Wiener klinische Wochenschrift, Vienna

February 9, XXIV, No. 6, pp. 191-226

163 *Non-Destructive Action of Placenta Serum and Serum of Pregnant Women on Human Cancer Cells. R. Kraus and E. v. Graff.
164 Reciprocal Relations Between Inflammatory Processes in Appendix and Tubes. (Zur Frage der Wechselbeziehungen zwischen entzündlichen Erkrankungen des Processus vermiformis der Tuba Fallopii mit besonderer Berücksichtigung der Perforation des Wurmfortsatzes in die Tube.) I. I. Grekow.
165 Corporal Proportions of Cretins. A. Flinker.
166 Streptothrix Disease in Man. G. Gjorjevic.
167 Quarantine Studies. E. Wiener.

163. **Non-Destructive Action of Placenta Serum on Human Cancer Cells.**—The results of the research reported by Kraus and von Graff supplement the recent findings by others that under certain circumstances the human blood-serum loses the property of destroying carcinoma cells. Normal serum dissolves human and mouse cancer cells, while the serum of persons with cancer has lost this property, and Kraus and von Graff announce that the serum from the umbilical cord behaves in this respect like the serum from cancer patients. The blood-serum of pregnant women nearing term has the same property in a lesser degree. These facts seem to indicate that it must be the placenta which is responsible for the abnormal behavior of the pregnancy serum in respect to cancer cells and that the chemistry of metabolism is evidently involved in the phenomenon.

Zeitschrift für Urologie, Berlin

January, V, No. 1, pp. 1-80

168 *Atony of Bladder Without Obstruction or Signs of Organic Nervous Disturbances. J. W. Thomson Walker.
169 Simple Pyonephrosis. (Zur Kasuistik der geschlossenen Pyonephrosen.) E. Meyer.
170 Case of Addison's Disease in Connection with Urogenital Tuberculosis. A. Werner.

168. **Atony of the Bladder Without Obstruction or Organic Nervous Disease.**—Walker reports nine cases in which nothing could be found to explain the insufficient expulsive power of the bladder. The age of the patients ranged from 22 to 59; two had had syphilis, four gonorrhea. The disturbance had come on slowly and gradually in all the cases, and in only one had there been acute retention at any time. The bladder was chronically dilated in four cases, but evacuation was finally complete, while in the others there was from 100 to 300 gm. of residual urine. In every case the bladder showed pronounced trabeculæ, but they were distributed differently from those observed in cases of obstruction, the side walls and apex being mostly involved. He regards the trabeculæ as secondary to the atrophy, and cites two additional cases in which the atony had progressed until the catheter had to be used constantly. He has been able to find only a few similar cases on record; he cites the details of Albarran and Nogues' cases in men of 27 and 28.

Zentralblatt für Chirurgie, Leipsic

February 11, XXXVIII, No. 6, pp. 185-224

171 *Modified Vein Anesthesia. A. Brüning.
172 *Plastic Closure of Fistulas Opening Out of Internal Organs. Abrashanoff.
173 *Chronic Catarrh of Breast. (Chronischer Katarrh der weiblichen Brustdrüse.) W. Mintz.

171. **Modified Technic for Vein Anesthesia.**—Brüning avoids the drawbacks of expulsion of blood from the entire limb—bloodlessness is an imperative condition for the success of vein anesthesia—by restricting the induced anemia to a comparatively narrow segment of the limb. This is accomplished by raising the limb for a time to expel the blood by force of gravity; then a constricting band is applied between the lesion and the trunk. Commencing at this band, the blood is expelled toward the trunk as by the ordinary technic, and then a second constricting band is applied above. By this means it is possible to obtain a bloodless zone of from 10 to 15 cm. wide between the lesion and the trunk, and here the anesthetic is injected to deaden the nerve trunks innervating the field of operation below. By the modification described, both constricting bands are applied above the field of operation leaving the lesion undisturbed until ready to operate. [The technic for vein anesthesia was described in THE JOURNAL, May 1, 1909, page 1466.]

172. **Fascia Plug for Fistulas.**—Abrashanoff cuts a strip of fascia, twists it around and pushes it down to the bottom of the fistula, holding it in place with a few sutures. It speedily grows to the freshened walls of the fistula and the spaces left are soon filled with regenerating tissues. He has applied the method in three cases with ideal results to date, over nine months in one case. The theoretical objections that might be made to the procedure do not seem to materialize in practice.

173. **Chronic Catarrh of Mammary Gland.**—Mintz applies this term for want of a better to a chronic secretion of yellow serum from one breast, persisting for from months up to several years, in the eight cases of the kind which he has encountered in the last six years at Moscow in women 30 years old and upward. The interval since the last pregnancy was nine or more years. Some had nursed and others had not nursed their last child. No subjective symptoms or appreciable changes in the breast could be discovered in six cases. In the seventh a carcinoma developed finally in the breast affected. In the eighth case an adenoma developed as the abnormal secretion became apparent, but the secretion persisted after removal of the tumor, and a superficial mastitis developed the sixth year. In the fifth year another adenoma developed in the other breast. He declares that the anomaly has nothing to do with Paget's disease of the nipple. In one case the secretion had persisted for two years, when it ceased after a course of potassium iodid, and there has been no recurrence during the three years to date. The secretion did not seem to have any connection with menstruation or the menopause. In the woman with carcinoma the secretion became hemorrhagic after three years as the tumor developed. He is inclined to explain the trouble as transudation from connective tissue accompanying a desquamating process in the acini, but he has not been able to examine a specimen anatomically. The affection has certain points in common with chronic cystic mastitis, of which he has encountered a special form, the mammary gland being studded with cysts with connective tissue walls, as he found in an operative case. He described this type in 1899, the subepithelial proliferation of connective tissue causing the casting off of the acinus epithelium, the latter forming, with the secretion from the granulations, the contents of the cysts.

Zentralblatt für Gynäkologie, Leipsic

February 11, XXXV, No. 6, pp. 225-256

174 *Allowing Patients to Get Up Early After Operations and Delivery. (Das Frühaufstehen der Wöchnerinnen und Operierten und die hierbei beobachteten Todesfälle.) O. Aichel.
175 Technic of Suprasymphyseal Cesarean Section. E. Frank.
176 Rubber Cap to Draw Over Cancerous Uterus During Hysterectomy. (Vorschlag zur Verhütung von Impfmetastasen im Paravaginalschnitt.) K. Czerwenka.
177 Hypnosis. ("Suggestionsnarkose und Hypnose.") A. Rieck.

174. **Allowing Patients to Get Up Early After Laparotomies and Deliveries.**—Aichel reviews the cases on record in which thrombosis developed in patients allowed to get up on the second or third day and analyzes the circumstances to determine whether this was responsible for the fatal outcome which has been reported in six cases. His conclusions are that this is possible only for two of the cases, Fromme's and Scherer's, and closer analysis of these fails to demonstrate that thrombosis and embolism are more liable to occur when patients are allowed to leave the bed earlier. The method has the great advantage that when patients are allowed to get up earlier they are kept under closer supervision than formerly, and this goes a long way, he remarks, toward prevention of sudden fatalities in parturients and patients after operations. Scherer has stated in regard to his case that it was his impression that the outcome of the thrombosis might have been more favorable if the patient had stayed quietly in bed, but Aichel comments that although this may be true, it is impossible to prove it.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 31, XXXII, No. 14, pp. 147-154

178 Operative Treatment of Relics of Inflammation in Peritoneal Cavity. (Laparotomia per placche adhesive inflammatorie nella cavita peritoneale.) N. Federici.

February 2, No. 15, pp. 155-162

179 Varices in Round Ligament During Pregnancy Simulating Inguinal Hernia. I. Bruchi.

February 5, No. 16, pp. 163-178

180 *Relations Between the Kidneys and Suprarenals in Chronic Nephritis. F. d'Alessandro.

180. **The Suprarenals in Chronic Nephritis.**—D'Alessandro analyzes the clinical syndrome in eleven cases with necropsy findings in five, in which chronic nephritis was accompanied by lesions in the suprarenals. The latter, however, proved to be only such as are found with ordinary infectious diseases or in the aged, there being nothing to sustain the assumption that chronic nephritis induces a compensating hyperfunctioning of the suprarenals.

Policlinico, Rome

January, XVIII, Surgical Section No. 1, pp. 1-48

181 Surgery of Blood-Vessels. (Suture, anastomosi artero-venose e trapianti vasali. Studio sperimentale.) A. Curcio.

182 Frambesia in Brazil. (Nota sopra alcune affezioni framboesiche osservate in Brasile.) A. Splendore.

Riforma Medica, Naples

January 30, XXVII, No. 5, pp. 113-140

183 *Wassermann Reaction in Malaria. (La prova della deviazione del complemento della malaria.) F. Valerio.

184 Diabetes Insipidus. T. Silvestri. Commenced in No. 4.

185 Blood Findings in Malta Fever. (Ricerche ematologiche nelle suppurazioni da micrococco di Bruce.) F. Addari.

February 6, No. 6, pp. 141-168

186 Insufficiency of Several Ductless Glands. (Caso di insufficienza pluriglandolare.) A. Murri. Commenced in No. 4.

187 *Simplified Technic for the Wassermann Reaction. (Una notevole semplificazione di tecnica per la prova della fissazione del complemento.) L. Ferrannini.

188 Study of Coagulation of Blood. (Il tempo di coagulazione del sangue. Sostanze coagulanti e decoagulanti.) C. Mantelli.

183. **Wassermann Reaction in Malaria.**—Valerio found a positive reaction in 40 per cent. of a number of cases of recent malaria, free from syphilis. In advanced malaria and in old cases in which no parasites could be found in the blood the reaction was negative.

187. **Improved Technic for the Wassermann Reaction.**—Ferrannini writes from the medical clinic of the university of Naples, in charge of Professor Rummo, to state that it is possible to use in fixation of complement the blood of eels. Eel serum has long been known to have remarkable hemolytic powers. It was with the serum of eels that the well-known work on hemolysins and antihemolysins was done by Camus, Gley and Kossel in 1898 and Tchistowitch in 1899. The eel serum thus provides the hemolytic amboceptor for the fixation of complement test. From an eel weighing 200 gm., by cutting off its tail, enough blood can be obtained to yield 2 or 3 c.c. of serum after centrifugation or spontaneous clotting. This serum is especially hemolytic for rabbit red corpuscles. He has been making extensive comparative tests with the original Wassermann technic and with the eel serum used in place of the prepared hemolytic serum from rabbits—which it takes three or four weeks to obtain by repeated treatment of the rabbit. The findings were parallel in the long series of parallel tests and he thinks that as eels are readily procured and the serum does not lose its hemolytic property for some time after death, this modification of the technic will prove a welcome simplification.

Hygiea, Stockholm

January, LXXIII, No. 1, pp. 1-128

189 *Spondylarthritis. (Studier öfver reumatiska och reumatoida sjukdomar. I.) I. Hedenius.

190 Elimination of Mercury Through the Kidneys. (Om kvicksilfvereliminationen genom njurarna vid intramuskulära injektioner af merkuriololja.) M. Möller and A. Blomquist.

189. **Spondylarthritis.**—Hedenius gives the details of seventeen cases of spondylarthritis, his analysis convincing him that there are two well-defined forms of arthritis of the spine which have frequently been confused in the past. The first is of an infectious-toxic nature generally but it can be likewise induced by trauma, severe or slight but often repeated. This form, which he calls ankylopoetic or adhesive spondylarthritis, usually attacks individuals in early middle age. The primary lesion is the ankylosis of the vertebræ as described by Bechterew, Strümpell, Marie and others. The other form, deforming spondylarthritis, has been described for centuries. It is not of infectious origin, so far as known to date is not accompanied by fever, and in most cases is localized in the lower segments of the spine. The trouble is generally stationary and displays little tendency to spread upward. Ankylosis of the spinal articulations is not the primary but a secondary phenomenon in this type; the pathologic process is often symptomless. Of course transitional forms may be frequently observed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

CESAREAN SECTION IN GREAT BRITAIN AND IRELAND. With Tables of 1,282 Cases of Cesarean Section by over 100 Living Obstetricians and Gynecologists in Great Britain and Ireland. By Amand Routh, M.D. (Lond.), F.R.C.P. (Lond), Obstetric Physician to Charing Cross Hospital, London. Being a Report on the Subject read at the V-me Congrès International d'Obstétrique et de Gynécologie at St. Petersburg in September, 1910. Cloth. Price, 5 shillings net. Pp. 233. London: Sherratt & Hughes, 34 Cross Street, Manchester, 1911.

CROWN-GALL OF PLANTS: ITS CAUSE AND REMEDY. By Erwin F. Smith, Pathologist in Charge of Laboratory of Plant Pathology, Nellie A. Brown, Scientific Assistant, and C. O. Townsend, Formerly Pathologist in Charge of Sugar-Beet Investigations. Bull. 213, Bureau of Plant Industry. U. S. Dept. Agric. Issued Feb. 28, 1911. Paper. Pp. 215, with illustrations. Washington: Government Printing Office, 1911.

MANUAL OF CYSTOSCOPY. By J. Bentley Squier, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Morocco. Price, $3 net. Pp. 117, with illustrations. New York: Paul B. Hoeber, 1911.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XXVIII. Edited by Archibald Maclaren, M.D., Recorder of the Association. Printed for the Association. Robert G. LeConte, M.D., Secretary, 1530 Locust St., Philadelphia. Paper. Pp. 664, with illustrations. For sale by William J. Dornan, Philadelphia, 1910.

A MANUAL OF GYNECOLOGY. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital. Cloth. Price, $5 net. Pp. 632, with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

BIENNIAL REPORT OF THE NEBRASKA ORTHOPEDIC HOSPITAL, LINCOLN, NEB. For Period Ending Nov. 30, 1910. To Hon Ashton C Shallenberger, Governor, and Honorable Board of Public Lands and Buildings. Paper. Pp. 40, with illustrations. J. P. Lord, Superintendent.

DIE ERWEITERTE ABDOMINALE OPERATION BEI CARCINOMA COLLI UTERI. (Auf Grund von 500 Fällen.) Von Dr. E. Wertheim in Vienna. Paper. Price, $3.65. Pp. 203, with illustrations. Vienna: Urban & Schwarzenberg, 1911.

TEXT-BOOK OF MASSAGE. By L. L. Despard, Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.

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THE AUTONOMIC MANIFESTATION AND PERIPHERAL CONTROL OF PAIN ORIGINATING IN THE UTERUS AND ADNEXA*

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CINCINNATI

GENERALITIES RELATIVE TO THE AUTONOMIC NERVOUS PHENOMENA

The word "autonomic" as applied to the manifestations of pain of visceral origin, signifies the expression of that pain in some superficial muscle or muscles rather than in the viscus in which it has its initial causation. The phenomena clearly imply the existence and coöperation of three distinct factors, namely:

1. Some more or less profound disturbances, functional or organic, of certain of the viscera.
2. The transmission of a painful impulse, thus originated, over or through what Head[1] has designated as the autonomic nervous system.
3. The registration of that impulse and its expression as pain in the muscle or muscles to which the respective external or peripheral autonomic filaments (muscle nerves) are distributed.

It is through this mechanism and by the coöperation of these factors, according not only to Head,[1] but to Ross[2] and Mackenzie[3] that the phenomenon of muscular rigidity occurs autonomically, for example, over an inflamed appendix vermiformis or over an impacted gall-bladder, or over the seat of an intususception.

Through this same mechanism in each of the instances given, and for manifest reasons, the intensity of the pain and of the muscular rigidity are relative each to the other, while both are relative to the intensity of the causative change in the viscera.

The peripheral control of pain thus originating and thus manifesting itself implies either one of two hypotheses. The first is that if an algetic impulse can be telegraphed, as it were, from viscus to muscle, it would seem possible to telegraph an analgetic impulse back over the same wires, i. e., from muscle to viscus. The second hypothesis is that if the functions of the external autonomic filaments can be inhibited the algetic impulse cannot reach the muscles and must consequently fail of expression as pain.

Whether an algetic impulse originating in a given viscus *per se*, or whether, after transmission through the autonomic nerve filaments, it is expressed exclusively in or through its corresponding muscles, is a theoretical problem, the solution of which is quite apart from my present purpose.

AUTONOMIC AND OTHER NERVOUS RELATIONS OF THE UTERUS AND ADNEXA

The application of these general principles to conditions originating within the pelvis necessarily involves at least a brief consideration of the autonomic relations of the intrapelvic organs.

I find that the more convenient way to present this subject is to divide the genital organs into three zones, viz.:

1. The first or upper genital zone, consisting of the fundus of the uterus, the Fallopian tubes and the ovaries. To this zone are supplied:
   - A. Sympathetic branches from the plexus hypogastricus through the plexus arteriæ ovaricæ in the broad ligaments.
   - B. Sensory branches from the twelfth dorsal and from the first and second lumbar nerves.
   - C. Autonomic filaments afferent from the zone indicated to the spinal centers.

   These filaments occur coincidently with the sympathetic and reach the spinal cord through the communicating branches in the lower dorsal and upper lumbar regions. Their terminal distributions are to the intertransversæ and to the quadratus lumborum and to the two psoas muscles.
2. The second or middle genital zone, consisting of the cervix uteri, to which are supplied:
   - A. Sympathetic branches from the lower ganglia.
   - B. Sensory branches from the second, third and fourth sacral nerves.
   - C. Autonomic filaments efferent from the cervix to the spinal centers through (a), the communicating branches of the sympathetic, (b), the second, third and fourth sacral, distributed to the two glutei muscles, to the quadratus femoris, the coccygeus, and the levator ani muscles.
3. The third or lower genital zone, consisting of the external genitalia including the vagina, is not considered in this connection.

THE RELATION OF AUTONOMIC NERVOUS PHENOMENA TO THE DIAGNOSIS OF INTRAPELVIC CONDITIONS

The nervous connections of the uterus and adnexa just given, taken in connection with the autonomic function as outlined by Head,[1] have an obviously important relation to diagnosis. Familiar phenomena of pain have a more definite meaning when interpreted in the light of these fact

* Read before the Fifth International Periodical Congress of Obstetrics and Gynecology, St. Petersburg, Russia, Sept. 22-28, 1910.

1. Head, Henry: Brain, 1893, Part 1, p. 1.
2. Ross, James: Brain, 1888, x. 333.
3. Mackenzie, James: Brain, 1893, xxi. 321.

I have been able in this way to associate pain in the costo-iliac interval and in areas representing the distribution of the posterior ramus of the twelfth dorsal nerve with conditions in the upper genital zone as follows, viz., (a) a small submucous nodule in the fundus of the uterus, (b) adhesions of the fundus uteri in the cul-de-sac of Douglas, (c) fixation (hysteropexy) of the fundus uteri to the abdominal wall (an operation never done by myself), (d) premenstrual engorgement of the uterus and ovaries, (e) cirrhosis with follicular degeneration of the ovaries, (f) distention of occluded Fallopian tubes, and (g) ectopic pregnancy.

I have likewise been able to demonstrate the relationship of pain in the ileogluteal area, supplied by the posterior rami of the second, third and fourth sacral nerves, with conditions in the middle genital zone, chief among which are the following, viz., (a) painful cicatrix of the cervix, (b) cervical erosion, (c) intramural myomata of the cervix and (d) cystic Nabothian follicles.

INTRAPELVIC CONDITIONS CAUSING AUTONOMIC MANIFESTATIONS OF PAIN

From the observations just recorded and from a general survey of the subject I am impressed with the probability that, in the majority of instances, more or less definite autonomic manifestations of pain will be found in conditions as follows, viz.:

1. In the uterus: malformations; certain new growths, both hyperplastic and inflammatory; certain premenstrual congestions; mechanical occlusions; displacements; infections.
2. In the Fallopian tubes: infections; occlusions with distensions; ectopic pregnancy.
3. In the ovaries: displacements; pressure from superimposed viscera; infections; tunicæ adventitiæ; adhesions; follicular degenerations; dermoids.
4. In the cervix: cicatrices; erosions; infections; distortions; neoplasms.
5. In pregnancy, complicated with neoplasms or neurasthenia or both.
6. In parturition, in which, ordinarily, the autonomic manifestations of pain shift from the upper to the lower (superficial autonomic) zones coincidently with the progress of the labor.

THE PERIPHERAL CONTROL OF AUTONOMIC PAIN OF INTRAPELVIC ORIGIN

If, from what I have already presented, we are to assume that pain originating in the uterus or adnexa is not pain until it is registered in the form of tonic contraction of the autonomically associated muscle or muscles, it would seem that inhibition of the autonomic function of the respective muscle or muscles would inhibit the manifestation of the pain. I have, in fact, successfully reduced this postulate to practice in a sufficient number of instances to convince me of its general tenability. It is accomplished, in brief, by deep analgetic injections into the substance of the affected muscles themselves. Whether the results depend on the analgetic agent or agents used in these injections, or on the water used, or whether both elements are of importance may will be taken up by the experimental pharmacologist.

I wish here to record, however, that, something like forty years ago the late Prof. C. G. Comegys of Cincinnati successfully inaugurated the practice of treating lumbago by injections of distilled water into the substance of the quadratus lumborum muscle. The practice is yet kept up with uniform success by my colleague, Prof. F. W. Langdon[4] of the University of Cincinnati with whom, in these cases, aquapuncture is a matter of routine in his wards. In later years, following the introduction of cocain and its congeries of analgetic agents, and especially since the excellent work of Schleich[5] some fifteen years ago, there has been a tendency to rely on the injection of these agents rather than on the infiltration of water for the inhibition of nervous and muscular irritability.

It would seem, however, that in such conditions as lumbago, as shown by Langdon,[4] and in sciatica, as shown by Lange,[6] Sicard,[7] Hecht[8] and other neurologists, there is an increasing tendency to recognize the water as the relatively more important analgetic element of the solution. The three last-named authors are inclined to the use of water in the form of normal salt solution because of its assumed greater isotonicity. Then, too, we must recognize that another and a chief object that they have in using perineural infiltration of large quantities of water in sciatica is mechanically to break up inflammatory connections between the nerve and adjacent structures. Langdon insists, however, that it seems plausible to him "that distilled water would be effective and probably in smaller quantity since the 'affinity' of the nerve tissues (containing salts) would be greater, perhaps, for pure water"—a consideration which offers a rational explanation of his success in the treatment of lumbago by aquapuncture. But without going into this aspect of the subject, and without assuming for a moment that either lumbago or sciatica is autonomic in cause or character—although the former may be—both of these conditions present the phenomenon of muscular irritability and, in that particular, become important criteria for the control of muscular irritability from whatever cause it may occur.

THE RÔLE OF THE AUTONOMIC NERVES IN THE TREATMENT OF VISCERAL PAIN

It seemed to me,[9] after some study of this question, that if the autonomic nerves conveyed an irritating impulse from affected viscera to the surface, those nerves might be employed for telegraphing a corrective impulse back from the surface to the affected viscera. In other words, if, as Nothnagel and Lennander[10] insist, visceral pain is really pain manifested chiefly in the phenomenon of muscular hyperalgesia, why would not the inhibition of the muscular hyperalgesia inhibit in turn the visceral pain? Acting on this theory I promptly had an opportunity to put it to test. I had done a gastro-enterostomy to control pain and rigidity—epigastric hyperalgesia—following which I had applied heat to relax the muscles and given morphin with which to benumb the sensorium. Thirty-six hours of this treatment had failed to bring relief and the patient was crying to be reanesthetized. I therefore injected into the belly of the rectus abdominis muscles at several points on either side of the incision a solution of cocain and morphin in the form of a Schleich solution. Within twenty minutes the patient dropped into a comfortable sleep

4. Langdon: Personal letter to the author.
5. Schleich: Schmerzlose Operationen, 1895.
6. Lange (Leipsic): Deutsch. med. Wchnschr., 1908, No. 6.
7. Sicard: Quoted by Hecht: The Treatment of Sciatica by Deep Perineural Infiltrating Injections of Salt Solution, THE JOURNAL A. M. A., Feb. 6, 1909, p. 444.
8. Hecht, D'Orsay: THE JOURNAL A. M. A., Feb. 6, 1909, p. 444.
9. Reed: New York Med. Jour., March 5, 1910.
10. Lennander, K. G.: Abdominal Pain, Especially Pain in Connection with Ileus, THE JOURNAL A. M. A., Sept. 7, 1907, p. 836.

and from that time on had no recurrence of epigastric hyperalgesia. The pain following hysterectomies, oophorectomies, and other uncomfortable operations on the uterus and adnexa have been similarly relieved by deep muscular injections into the hyperalgetic areas. In a number of cases I have had entirely satisfactory results from the use of the cocain alone, and latterly with novocain, thus showing that it is sufficient to overcome what I look on as entirely normal but none the less painful muscular irritability, and to do so without hypnotics addressed to the general consciousness. Even in some instances, as in a case of a firm intra-uterine pack following a curettage, in which the superficial hyperalgesias were also present, the inhibition of the muscular irritability within the involved superficial areas was followed also by cessation of the pain referred by the patient to the uterus. From this experience, interpreted in the light of the facts which I have presented, I arrive at the object that I had in preparing this paper, and that was to emphasize, by brief summary, the treatment of various pains of visceral origin.

TREATMENT OF POST-OPERATIVE, PARTURIENT AND OTHER PAIN OF VISCERAL ORIGIN

1. Visceral pain, so far as the abdomen, pelvis and thorax are concerned, is expressed chiefly but not exclusively in the autonomic algetic areas of the protective walls covering the respective viscera, such algetic areas corresponding in extent with the peripheral distribution of the autonomic nerves coincidently with the peripheral distribution of the respective spinal nerves in the muscles and subserous connective tissue.

2. These distributions can generally be determined clinically by determining the area of partial hyperalgesia.

3. The pain itself, consisting chiefly of hyperexcitation of muscle irritability, can be partially and, as a rule, entirely, inhibited by inhibiting the muscle sensibility in the hyperalgetic areas.

4. The same principle applies to the peripheral control of pain originating in the parturient uterus, with the difference that the infiltration of succeeding muscle zones must be practiced with the corresponding advance of the delivery.

METHOD OF TREATMENT

My method of treatment, briefly stated, is as follows:

1. Have prepared a standard analgetic and local anesthetic mixture as follows:

	gm. or c.c.
Morphin hydrochlorid	0.01
Novocain	0.04
Scopolamin	0.015
Normal salt solution	1

This represents a single dose which, before administration, is further diluted with physiologic salt solution to permit of its distribution by numerous deep punctures with an ordinary hypodermatic needle into the hyperalgetic areas.

2. For analgesia, after thoroughly cleansing the integument, all of the mixture is injected into the muscular layer, several punctures being employed and care being taken to make them at points that approximately define the circumference of the hyperalgetic area. The analgetic effects will be realized within from five to ten minutes, and in consequence of the presence of the scopolamin, will be continued often from six to eight hours, while in some instances they will be permanent.

3. For local anesthesia, the same solution is used in the same way, with the exception that it is discharged into the subcutaneous connective tissue at points that approximately define the circumference of the area that it is desired to anesthetize. The sensibility will disappear in from five to eight minutes and will remain absent for a period varying from an hour to three hours.

4. The infiltration treatment practiced by Schleisinger, Hecht and others in sciatica involves the injection of large volumes of the solution, thus, (a) 10 to 20 c.c. of the normal salt solution reduced to zero (Centigrade); (b) 80 to 100 c.c. of normal salt solution at the temperature of the body; (c) 60 to 120 c.c. of beta-eucain solution at the temperature of the body. Langdon's method of treatment by pure aqueous infiltration involves the use of smaller volumes of fluid.

DISCLAIMER

Now that I have presented briefly this phase of the manifestation and control of visceral pain, and in view of the tendency to give a wider scope than is intended to a single idea, I wish, in conclusion, to make a few points clear. In the first place (1) the details of the autonomic phenomena are only beginning to be understood; (2) while I believe that these phenomena when once understood may be classed among the clinical constants, I do not believe that they can have a significance that will justify failure to consider all other diagnostic factors; (3) and I recognize the possibility and, under certain obvious circumstances, the desirability of temporary control of pain by the method I have indicated. I do not recognize the possibility that it can ever supplant the rational curative method which always implies the removal of the cause for the cure of the effect.

THE OPEN TREATMENT OF FRACTURES

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It is admitted that a large proportion of fractures can be successfully treated by manual reduction and by the ordinary external appliances, designed to retain the fragments in place; but we are all familiar with the difficulty of securing and maintaining perfect reduction by these methods. Further, we know now that in many cases in which we have felt sure of having secured a satisfactory reduction, a subsequent radiograph has too frequently proved the error of our conclusions, and shaken our confidence in the time-honored tests of mensuration and palpation. Particularly is this true in fractures of the femur and humerus, in which we have to contend with a large amount of surrounding soft tissues, and especially when the fracture is oblique or comminuted. It is safe to venture the statement that in such cases an anatomic reduction is seldom, if ever, accomplished by the closed method; and if accomplished, it is next to the impossible to retain the fragments in position.

The recognition of these facts has led surgeons to resort to the apparently more radical procedure of the open treatment, which renders reduction comparatively simple and makes it possible to apply one of the many mechanical devices intended to retain the fragments in position. These devices are numerous, as the archives of surgery give evidence; but they may for practical consideration be divided into two classes, viz., those to be removed after repair of the fracture, and those to be left *in situ*.

The former have the apparent advantage of leaving no foreign body permanently imbedded in the tissues. The danger of trouble from leaving an aseptic metallic substance at the seat of the fracture has been greatly overestimated, however, and is not to be compared with

the increased danger of infection common to all devices designed for removal after union has been established. Further, it is a physical impossibility to secure perfect immobility with any of this class of appliances, on account of the necessary distance of the fixation bar from points of application to the fragments. Their external portion makes dressings more difficult, and, if the limb is accidentally harshly touched, causes the patient pain with more or less disturbance of the fragments.

Of the latter class, devices designed to be left *in situ*, none is to be compared with the steel plate devised by Mr. Arbuthnot Lane in ease of application, the immediate perfect immobilization of the fragments and their satisfactory retention in position. They seldom cause any irritation, and, if it becomes necessary to remove them, this is not difficult.





Figs. 1 and 2.—Compound infected fracture of radius and ulna, with displacement of the lower fragment of the radius; the bones are shown from two different positions (Case 1).

In using these plates there are several points which are worthy of consideration. Those of scrupulous asepsis and careful handling of the soft tissues are so well recognized as hardly necessary to be mentioned. Nothing but the judgment of the operator and the special features of the individual case can determine the best time to operate. It is generally better to wait, however, until the tissues have recovered somewhat from the devitalizing effect of the traumatism and attained a certain degree of resistance to infection. The selection of the proper drill for the size of the screw is important. A drill which will make a hole just large enough to allow the screw to be driven without splitting the bone gives the best results. It is not necessary, however, to have the hole so small as to make it difficult to drive the screw "home" with the ordinary screw-driver. By experimenting on a fresh beef-bone one can easily select the drill adapted to the screws to be used, which should have a "wood" thread with medium chamfer. The retention of the fragments in position while the operator is drilling the first two holes is not always an easy task for the assistant, and the special forceps designed by Mr. Lane for holding the fragments is undoubtedly superior to the ordinary forceps, although one can get along very well with the latter. In my judgment, a fair trial of the open treatment of properly selected cases of fracture will verify the following conclusions:





Figs. 3 and 4.—Two views of fractures shown in Figure 1 after treatment by Lane's plates, showing perfect adjustment and alignment of the fractures. The dimness of the plates is due to their having been made of aluminum.



Fig. 5.—Fracture of left femur at middle of lower third with the usual backward displacement of the upper end of the lower fragment (Case 2). Reduction was thought to have been accomplished, but this conclusion was erroneous, as is shown by the radiograph.



Fig. 6.—Reduction, by open operation and the use of the plate, of fracture shown in Figure 5.



Fig. 7.—Fracture of the left humerus five inches above elbow involving the musculospiral groove, with marked forward displacement of the lower fragment (Case 3).

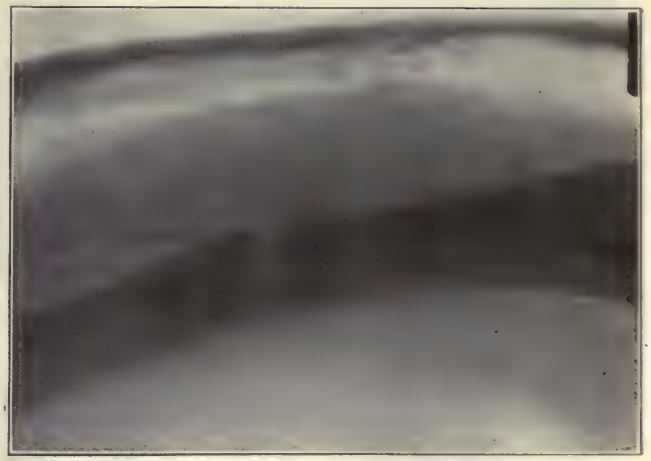


Fig. 8.—Reduction of the fracture shown in Figure 7, by the open method; alignment not perfect, but improved by splints and compresses.



Fig. 9.—Fracture of upper third of left femur. Three unsuccessful attempts were made to reduce this fracture by the closed method (Case 4).



Fig. 10.—Reduction, by open method, of fracture shown in Figure 9, showing perfect alignment.

1. The open treatment of fractures insures practically anatomic reduction.

2. We have overestimated the danger of making a compound out of a simple fracture.

3. The Lane plate is the simplest and most efficient fixation device yet designed.

4. It insures immediate immobilization, which in turn means rapid repair and reduction of pain to a minimum.



Fig. 11.—Comminuted fracture of left humerus with marked displacement and hematoma in axilla and on chest (Case 5).



Fig. 13.—Compound, comminuted fracture of the left humerus with crushing of the soft parts, caused by being run over by a loaded wagon (Case 6). Fragments of bone were removed and the fracture reduced and held in place by the bone plates. The wound healed without infection.

5. Its application is easier and requires less mutilation and smaller incision than the use of wire.

6. It is a great aid in the management of compound infected fractures.

7. Direct mechanical fixation of fractures greatly simplifies after-treatment.

8. The *x*-ray has shaken our confidence in manual reduction, and will force us to more accurate methods.

In support of these conclusions I wish to report six cases in which operation was done this year:

CASE 1.—Man, aged 34. Compound infected fracture of left radius, with inward displacement of lower fragment and fracture of ulna without displacement (Figs. 1 and 2). Arm, forearm and hand were greatly swollen from infection of a lacerated wound over the seat of the fracture, which prevented



Fig. 12.—Reduction, by open method, in case shown in Figure 11, some fragments of bone being removed, as shown in the radiograph.

any splinting. The limb was bound in pillows for ten days and the wound infection treated with moist antiseptic dressings. Three or four days prior to operation a 10 per cent. balsam of Peru ointment was used. At time of operation the granulating wound was scrubbed with gauze and Harrington's solution until all granulations were removed. The wound was closed entirely, except the space occupied by a small cigarette drain, which was removed two days afterward. Union by first intention was obtained. The result as to reduction is shown in the radiographs (Figs. 3 and 4).

CASE 2.—Woman, aged 49. Fracture of left femur at middle of lower third, with the usual backward displacement of upper end of lower fragment (Fig. 5). Reduction was attempted and thought to be satisfactory. Radiograph proved this conclusion to be erroneous, or there was subsequent displacement. Considerable difficulty was experienced at the operation to accomplish reduction. After application of plate convalescence was uneventful. The incision healed by first intention. The patient walked on the limb nine weeks after operation, and measurement shows no shortening (Fig. 6).

CASE 3.—Man, aged 44. Fracture of left humerus about five inches above the elbow, involving the musculospiral groove. Several attempts were made at reduction, with and without anesthesia. Radiographs revealed marked forward displacement of the upper end of the lower fragment (Fig. 7). At operation the musculospiral nerve was fixed in the soft tissues by catgut sutures. Convalescence was uneventful. Union of operation wound took place by first intention. Alignment in this case was not as good as it should have been, but was improved by splints and compresses (Fig. 8).

CASE 4.—Boy, aged 13. Fracture of upper third of left femur (Fig. 9). Three unsuccessful attempts were made at

reduction. Reduction and alignment are shown by radiograph to be almost anatomic (Fig. 10). Convalescence was uneventful. Union occurred by first intention. There was no shortening.

CASE 5.—Man, aged 32. Comminuted fracture of left humerus, with marked displacement (Fig. 11). There was a large hematoma extending into the axilla and on the chest anteriorly and posteriorly. Operation was done nine days after the injury. I considered it safe to wait until the tissues had gained some resistance. Several fragments of bone were removed at the operation. Their absence is well shown in the radiograph (Fig. 12). Convalescence was uneventful. Union by first intention took place. The patient undressed and dressed himself without assistance thirty-two days after the operation.

CASE 6.—Boy, aged 18. Compound comminuted fracture of the left humerus, caused by passage of two wheels of a loaded coal wagon (7,450 pounds) over the member. Operation was performed two days after the injury. The patient traveled 150 miles from an inaccessible part of the state. The comminuted fragments were removed. The extensor muscles of the arm were severed by the crushing force of the wheels. The musculospiral nerve was tucked into the lower segment of the triceps. There was no infection of wound, which healed kindly as soon as the devitalized soft parts separated. Alignment is well shown in the radiograph (Fig. 13). There was some paresis of the flexors and extensors of the forearm, but at the time of the last report (nine weeks after the injury) power was rapidly returning.

1723 Tremont Place.

A METHOD OF TONSILLECTOMY BY MEANS OF A GUILLOTINE AND THE ALVEOLAR EMINENCE OF THE MANDIBLE

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ST. LOUIS

I wish to describe a method of tonsillectomy which, so far as I can learn, has not heretofore been described or used. The essential and distinctive feature of this method is the fact that it moves the tonsil completely out of its normal bed in the forward and upward direction and then utilizes one of the anatomic markings of the lower jaw as a vantage-point in putting it through the aperture of the guillotine. This anatomic marking is the well-defined eminence just above the mylohyoid line, produced by the last-formed molar tooth in its socket (Fig. 1, a, Fig. 2, I, a, Fig. 2, II, a), which is rendered even more prominent in the mouth by the tissues of the gum. In childhood the posterior, unformed molar as it lies imbedded in the alveolus helps to make the eminence (Fig. 2, II, a). This marking has not been given a name in any of the treatises on anatomy. I have taken the liberty of naming it "the alveolar eminence of the mandible," in order to facilitate the description of this procedure.

The instrument used (Fig. 3, I and 3, II) is a modification of what I have nearly always heard called the "Mackenzie guillotine"; but it occasionally has been called the "English guillotine" to distinguish it from the "Mathieu" or "French guillotine." Sir Morell Mackenzie,[1] however, relates that the instrument which nowadays bears his name is a modification of the one described by Dr. Physick[2] of Philadelphia in 1827, the difference being that he (Mackenzie) made the handle reversible, so that it could be applied to either side of the shaft. In this way he facilitated its use by surgeons who used the one hand for removing both tonsils. He also narrates that Dr. W. B. Fahnestock[3] of Lancaster, Pa., in 1832, first described the modification which consists of a circular aperture and a transfixing needle, with a ring knife to cut on the pull (the

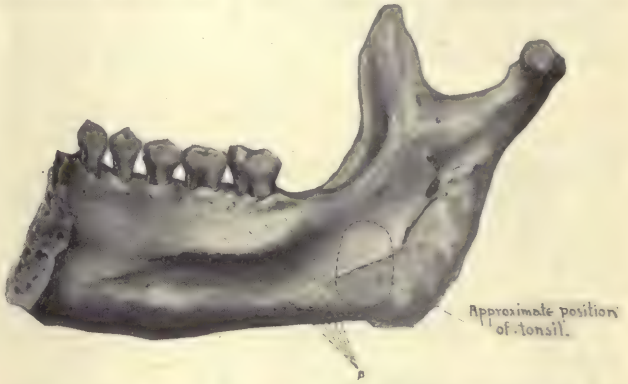


Fig. 1.—Inner surface of the right half of the mandible, showing the alveolar eminence, A, and its relation to the usual position of the tonsil.



Fig. 2.—I. Right half of a mature mandible seen from above, showing alveolar eminence, A, with fully cut third molar and buccinator ridge B. II. Right half of young mandible seen from above, showing uncut third molar and the part it takes in the formation of the alveolar eminence A.

"French guillotine") and that Guersant[4] in 1864 changed the shape to an ellipse and at the suggestion of Velpeau added the elevating prongs. He furthermore states that the guillotine idea was first published

1. Mackenzie, Morell: Diseases of the Pharynx, Larynx and Trachea, New York, Wm. Wood & Co., 1880.
2. Physick: Am. Jour. Med. Sc., i, 262. Quoted by Mackenzie.
3. Fahnestock, W. B.: Am. Jour. Med. Sc., xi, 248. Quoted by Mackenzie.
4. Guersant: Hypertrophie des amygdales, Paris, 1864. Quoted by Mackenzie.

by Dr. Benjamin Bell[5] in 1783 in his description of the uvulatomes used in England in the latter part of the eighteenth century.

The guillotine which I use (Fig. 3, I and II) is therefore a modification of that of Dr. Physick, which consisted of a shaft of metal with a circular aperture at its distal end through which the tonsil was inserted, and cut through by a blade pushed across the aperture. I have altered the original model in order to accomplish two definite objects: (1) to get greater strength

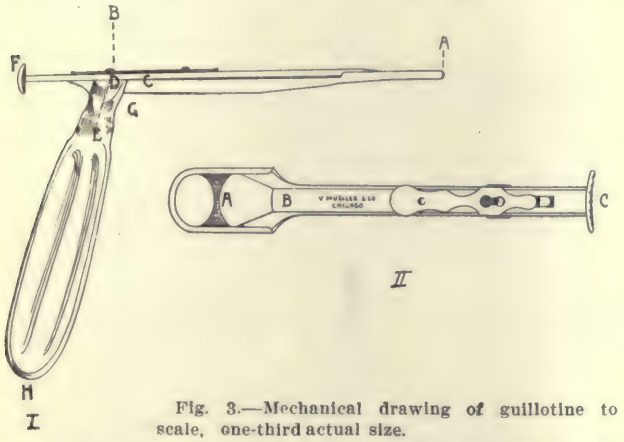


Fig. 3.—Mechanical drawing of guillotine to scale, one-third actual size.

in the instrument; and (2), to increase the leverage employed in its use. These are attained (1), by doubling the thickness of the shaft; and (2), by shortening its length, and making the handle longer. I greatly prefer an elliptical aperture. The usual model of Dr. Physick's guillotine at present to be found in the instrument shops is the Mackenzie modification, which has a round aperture. In a few shops in the United States it has been made with an elliptical aperture the long axis of which is transverse to that of the shaft.

In this operation a correct instrument is of very great importance. I believe it to be of far greater importance than is usually the case in surgical procedures. For this reason I feel that an accurate description ought to accompany its pictures.

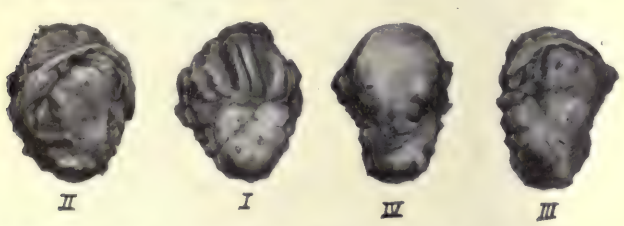


Fig. 4.—Tonsil removed from young adult: I, internal surface as it appears while still in the grasp of the guillotine, having the appearance of being turned inside out; II, same tonsil, external surface, with the capsule invaginated; III, internal surface after its parts have been replaced; IV, external surface after capsule has been replaced.

DESCRIPTION OF THE GUILLOTINE

(In the following use of terms I assume that the surgeon is holding the instrument, with its aperture from him). It is made entirely of metal. It measures 13. cm. from *A* to *B* (Fig. 3, I) which is from 2 to 4 cm. shorter than the models usually found for sale. The angle at which the shaft and handle join, *C, D, E*, is 115°. This is the most comfortable position for the handle in the surgeon's hand; and sacrifices almost none of its leverage. The handle should be large and rough, measuring 11.5 cm. from its free end *H* to its junction with the shaft *G*; and should be of a shape that is comfortable in the grasp, thus facilitating the use of strength. The shaft is thin, 3 mm., at its distal end where the aperture is cut; but is reinforced on the handle side, proximal to the aperture, by another piece of steel of the same or greater thickness, they being welded together and the handle attached to these. Special attention should be paid to details in order to make the instrument as strong as possible, such as putting a bolt through the full length of the handle in addition to its being welded to the shaft. Its strength should be so great that the shaft cannot be bent or the handle broken off by the power of an ordinary man. The blade is 2.5 mm. thick. Its proximal end, *F*, when closed (Fig. 3, I, is drawn with the blade open) should extend 2.5 cm. beyond the distal side of the handle at its attachment to the shaft *G*. Its cutting edge should be made dull for the reason that it will then readily follow in the connective tissue between the capsule of the tonsil and the constrictor of the pharynx on which it lies, whereas a sharp edge easily cuts through the tonsil or the constrictor. Less bleeding follows from the wound of a dull blade, which is an additional advantage. The edge should be made by grinding the blade 2.25 cm. back (Fig. 3, 11, *A, B*), because by so thinning the cutting end of the blade the field of operation is

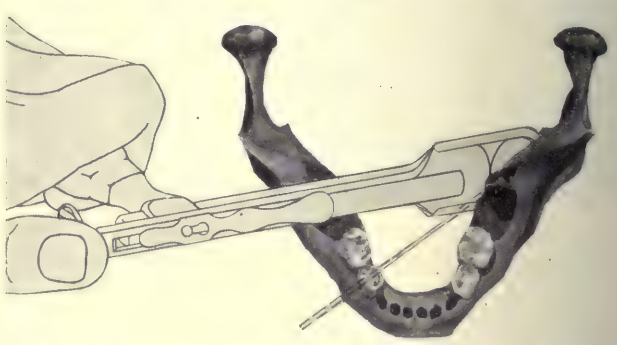


Fig. 5.—A young jaw showing guillotine in position. The dotted lines show the usual position of guillotine for mature jaws.

made wider, as will be shown later. The proximal end of the blade is provided with a cross-bar *F*, which should be comfortable under the thumb so as to permit of great pressure without hurting the surgeon's hand. A ring may be substituted for the cross-bar and the surgeon's thumb inserted through it. The assumed advantage in this is that, in case he should not apply the instrument perfectly, he could readily withdraw the blade by means of his thumb without removing the instrument from its position, and immediately push it down again. This might be repeated until he had the tonsil properly through the aperture, with small loss of time; but he soon learns to do this with the cross-bar too, so at present my feeling is that this must be a matter of individual choice.

The blade must slide to and fro with the least possible friction. The aperture is elliptical, with its long axis transverse to that of the shaft. Its distal arc should be lined around with a soft metal into which the dull blade may be forced in the act of cutting through the tissues. The surgeon should have two guillotines, one with an aperture 2.5 cm. by 1.8 cm., the other 1.75 cm. by 1.5 cm. The two instruments should be alike in every measurement except the distal part of the shaft

5. Bell, Benjamin: System of Surgery, 1783, iv, 144, Plate 52, Fig. 1. Quoted by Mackenzie.

which bears the aperture; the two should be of the same great strength. If the shaft is not strong enough it will be bent slightly in the act of operating and then the blade will not slide with the ease that is required of this instrument. If the handle is not securely attached to the shaft it will be broken off during the operation.

ANATOMIC RELATIONS

In the following use of terms indicating direction I assume the body of the patient to be erect and facing the surgeon. I have already mentioned that one of the essential and distinctive features of this method is the utilization of the alveolar eminence of the mandible in manipulating the tonsil. I have also stated that this eminence is made by the internal ending of the alveolus, with the gum covering it.

It should be remembered that the tonsil lies posterior to and for the most part below the eminence, in childhood appearing much further back and much lower than in maturity. This arises from the fact that an uncut tooth is in the alveolus posterior to the one showing through the gum membrane, causing a greater elevation at this site and making it seem that the teeth are much further forward, and the tonsil lower. In cases of great enlargement of the tonsil more of it will lie even with or a part may possibly lie above the eminence. It will also extend forward, approaching the eminence from behind.

The surface of the jaw-bone posterior to and below the eminence slants downward, backward and outward at an angle that may vary considerably, but is approximately 45°—that is 45° downward and outward from the transverse, and at the same time 45° outward and backward from the anteroposterior axis. This slant arises in large part from the fact that the alveolar arch as it proceeds backward tilts more and more inward from the body of the jaw. Its posterior end faces inward as well as upward (Fig. 2, I *A*). Looking backward or downward it is seen that the ending of the alveolus lies completely internal to the line of the buccinator ridge were it prolonged as it descends on the coronoid process (Fig. 2, I *B*); and the impression thus given is that this line when carried downward represents the jaw proper and that the end of the alveolus lies internal to it. This is shown better on mature jaws. This slant is crossed by the mylohyoid line, which is well marked in maturity. On young jaws this surface is more nearly smooth, although that marking is always to be seen.

The angle of this slant is subject to considerable variation because the relation of the breadth of the alveolus to the height of the horizontal portion of the jaw (alveolus and body together) varies very much according to age. The breadth of the alveolus in the young is actually wider (3 mm. sometimes) than that of the adult. This is true for two reasons; (1) that in the young, these alveolar dimensions are made by the crown of the molar, whereas in maturity they are made by its neck; (2) that although the tooth may be through, the bone surrounding it has not yet been absorbed to the extent that it is in maturity. On the other hand the height of the horizontal portion in maturity is twice that of early life, for the reasons that the young jaw consists largely of alveolus, and that the body is added to it only by development with the years. For these reasons the angle of the slant in young jaws may rise to even more than 60° outward and backward from the anteroposterior axis (Fig. 5), and to even more than 60° downward and outward from the transverse; while in maturity these angles may be less than 45° in one or both directions. The alveolar eminence is therefore very much more prominent in the young, despite the fact that the inward tilting of the alveolus is greater in maturity than in early life. The edentulous jaw need scarce be considered in this connection, because the operation in question is rarely needed by the aged. Anatomically, however, it is usually marked by a very heavy mylohyoid line which, since the absorption of the alveolus, lies near the upper margin of the body which alone remains. There is usually a trace of the alveolar eminence still to be observed.

These differences may be accurately estimated in the living by introducing the index-finger into the patient's mouth, downward, outward and backward from the alveolar eminence pushing the soft tissues aside as far as may be necessary. It is distinctly advantageous to make this estimate just before operating in order that the direction of the guillotine may be varied to suit that individual's requirements. The buccinator ridge is frequently helpful in making this estimate.



Fig. 6.—The guillotine in position, showing its general relationship to the bones.

THE OPERATION

In order to use the alveolar eminence of the mandible as a vantage-point from which to manipulate the tonsil—that is, to use this prominence to put or help to put the tonsil through the aperture of the guillotine—it is necessary to move it completely from its normal position which is posterior to and below the eminence (see above). It must be moved forward and upward. The elasticity of the soft parts of the throat readily allow the necessary movement. In this way the tonsil will be moved out of a hollow, soft, moving bed and be brought up on to a motionless, hard hump—a solid, fixed, somewhat hemispherical convexity.

Under these altered conditions it is not difficult to place the blade of the guillotine at its base. The eminence is then sometimes found to be all that is required to hold it for a perfect adjustment of the instrument, which is done by pressing it against the bone. The prominence of the eminence then stuffs the tonsil through the aperture. Often, however, in operating, especially with a large, flat (thin) imbedded tonsil, it is

necessary to use the tip of the index-finger of the other hand to put the final bit through. If it be soft in addition to these qualities, the difficulty is increased to the fullest possibility. A firm tonsil is manipulated without difficulty, regardless of size or imbedding, provided it be not too thin (flat). Should it be soft, large, flat (thin) and imbedded, great care and some dexterity must be exercised in order to secure it entire.

Under these conditions the surgeon will find sometimes that he has removed only the central portion of the capsule with tonsil tissue surrounding it. A little more familiarity with the method and possibly a little greater dexterity in managing the instrument will usually permit him to secure it entire. (I can, however, picture to myself a tonsil that is so soft, thin and spread out that it could not be removed entire with one stroke, despite all the care and dexterity that might be exercised; but it must needs be rare.)

Under conditions presenting difficulties a perfectly satisfactory guillotine is indispensable. Precise knowledge of the topography and all the variations is necessary at all times.

THE OPERATIVE PROCEDURE

The use of this type of instrument, so far as I am able to learn, has always been by preference with the smooth (proximal) side of the blade applied to the tonsil. Mackenzie[1] made his modification with its detachable and reversible handle that this might be done more readily (see above). Its method of use was, that it was inserted into the mouth in an anteroposterior direction and the aperture put over that part of the tonsil which protruded beyond its surroundings into the cavity of the throat. The blade was then pushed across, cutting off that portion.

With my method one must approach the tonsil at an angle, approximately 45°, which requires the shaft of the instrument to cross the mouth entirely from the opposite side. This necessitates the distal side of the shaft being applied to the tonsil. It at the same time has the great advantage of leaving the lateral portion of field of operation wide open for view and the use of the fingers of the other hand. Having the blade ground far back widens it further. (The use of the proximal side will be found exceedingly awkward or even impossible as the surgeon's hands are interfered with and the lateral portion of the field of operation covered from view.)

It is a very great advantage to operate on the right tonsil by holding the guillotine in the right hand and on the left tonsil by holding it in the left hand. If the surgeon can use only one hand, the position of the patient should be recumbent. Assuming that he uses his right hand for both tonsils and stands on the patient's right: for the right one he faces the patient's head; but for the left one he must turn around so that he faces the patient's feet, and stand somewhat beyond (above) his head. (These relations might be sustained in the erect posture also.) The head should be held firmly by an assistant to prevent rotation, and the mouth kept fully open by a gag.

Regardless of what may be the position of the patient's head, the surgeon takes his bearings from the lower jaw. The guillotine, with the transverse axis of the aperture vertical, is introduced into the mouth at an angle of 45° outward and backward, passing back until the distal arc of the aperture is completely behind the tonsil. The direction of the shaft is then changed to point downward in order to get the ring of the aperture under the lowermost part of the tonsil. The instrument at this moment may sometimes to advantage be rotated slightly by turning the handle downward (toward the feet). This tends to enlarge the field of vision. It is then pressed outward until the distal arc of the aperture has been pressed against the ramus of the jaw, or, in case the patient is not anesthetized, against the firmly contracted internal pterygoid muscle which is inserted here. It is now brought slightly forward and upward, but held firmly against the bone and muscle, when it will be seen that the lower distal arc of the aperture has acted very much like a scoop, having secured the lower part of the tonsil and brought it forward and upward into the neighborhood of the alveolar eminence. In case the shaft has been rotated to secure its lower part, it is now put back into its original position by turning the handle upward. The upper portion of the tonsil is usually put into the grasp of the distal arc of the aperture by this rotation. If the tonsil is not too large and flat (thin) it is usually secured, both lower and upper portions, in the first setting of the guillotine and no rotation is needed. The distal arc of the aperture is now firmly held behind the posterior border of the tonsil and the instrument drawn forward and upward at an angle approximately 45°, which will be found to have pulled it upward and forward onto the eminence of the alveolus. The blade is now pushed down with the gentlest possible pressure until the surgeon sees that it is in contact with the tissues. It should not be pressed forcibly until the parts are engaged satisfactorily in the aperture. The blade, being in contact with the tissues, prevents the portion of tonsil which has gone through from slipping out again.

At this moment the surgeon may perceive that although the distal arc of the aperture is entirely behind and external to the tonsil, a part of its anterior portion has still not gone through. This is usually readily seen, but may be more definitely determined by feeling with the tip of the index-finger of the other hand; and at the same time it may be pushed through. This is done by the gentlest massage—simply stroking it in the direction of the aperture with the ball of the index-finger and, at the same time, pushing the blade very gently across the remaining portion of the aperture. When the last of the anterior portion has gone through it may be readily seen as a rule; but may be determined with great accuracy by feeling with the ball of the index-finger—passing it up and down over the end of the blade as it closes the aperture. If all of the tonsil has gone through, the distal arc will be felt smooth and firm and to be covered by what seems to be a thick mucous membrane. (It is of course two layers of membrane.) If a part of the tonsil has not gone through, it can easily be felt and recognized as a mass of tissue harder than membrane and usually irregular.

All of the tonsil having gone through, the blade is now pushed across with all the power of the surgeon's hands. Great pressure is usually required because the blade has been made dull. If it be too dull or if it does not fit perfectly into the soft metal lining of the distal arc of the aperture, it will not cut altogether through. The instrument must then be pulled forward a little and its end be stripped off with the finger of the other hand. This does not delay the operation. It may possibly make a little more subsequent pain; but I am by no means sure that it does.

On examination of the extirpated tonsil while it is still held in the grasp of the instrument—that is, just as it comes from the patient's mouth—it will be seen

that its surface which was exposed in the throat has the appearance of having been turned inside out (Fig. 4,I). On loosening it from the instrument it is seen that its capsule side—its lateral surface—bears further proof of this fact. The capsule appears completely invaginated (Fig. 4, II); but it can be readily replaced—that is, turned over into its original relations, thereby restoring the tonsil to its customary appearance, as it is in the throat (Fig. 4, III), covered on its lateral, convex aspect by the capsule (Fig. 4, IV). This phenomenon is readily explicable when one remembers that it was brought up on to the eminence to have the ring of the guillotine, as it were, stuffed down over it, converting its convex bed into a concave one at the time of cutting. Further examination of the specimen reveals that a little of the free edge of the anterior pillar, including a few fibers of the palatoglossus muscle, is attached to it. I always remove this bit of the anterior pillar with the tonsil because it leaves a more open wound and a more open fossa when healed. There seems to be no surgical reason against it; on the contrary, it makes the tension of the scar begin at a point anterior to and below what would otherwise be the case, which tends to draw the palate forward and downward. In cases in which the tonsil is to be removed because of Eustachian tube irritation this seems to me to be advantageous. In operating under general anesthesia I prefer to have the pharyngeal reflex present. I much prefer to have the aperture fit rather snugly over the tonsil.

This method will be found to be satisfactory under all usual conditions, provided the variations in the jaws of different ages are borne in mind. For the young jaw the angle of the instrument must sometimes be increased to even more than 60° outward and backward and to even more than 60° downward and outward. It does not require grasping the tonsil in a vulsellum and pulling it out. The imbedded tonsil is usually removed as easily and as quickly as the protruding one (see above). No loosening of the pillars is required, because I prefer to take a little of the anterior one. Familiarity with the method will enable the surgeon to remove a tonsil in its capsule complete in from five to eight seconds. I think that the shock from this method is less than from the longer operations.

Stumps of tonsils left from previous operations are usually as easily removed as the original tonsils.

3542 Washington Avenue.

Intestinal Sutures.—The evolution of the intestinal suture has brought us to the point where we are certain of good results when the sutures are properly applied and are of the right material. Non-absorbable suture material should be cast off into the lumen of the intestine after serving its period of usefulness. This is best accomplished when used for the inner layer. There is also less destruction of tissue. When placed externally it promotes unnecessary adhesions, plastic exudate and fibrous bands, and may interfere with the proper bowel function because of its prolonged irritation. Absorbable suture material used for the outer layer is soon taken care of, and does not cripple the action of the intestine. The suture in intestinal work must control hemorrhage, secure proper coaptation of the tissues, prevent leakage, avoid pursing, be quickly introduced and must not strangulate the tissue. The back lockstitch of Pagenstecher's thread serves all these purposes. Experimental work has demonstrated that chromic catgut when employed as the outer suture lasts sufficiently long for positive and firm union to occur.—A. E. Benjamin, in the *Lancet-Clinic*

LIPOMATOSIS OF THE LOWER EXTREMITIES WITH REPORT OF A CASE

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AND
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BOSTON

This case of lipomatosis of the lower extremities is reported on account of its rarity. Its steady progression suggested a malignant process. No literature is found bearing on this subject.

Patient.—R. R., a girl aged 10, was seen in consultation with Dr. B. L. Dwinell of Taunton, Mass., Dec. 8, 1907. She had suffered since birth with slowly progressing deformity of feet. The family history was negative. "Both feet at birth were shaped like animals' feet, and much larger than normal in proportion to the body; weight at birth, 4½ pounds. Patient had on left side a peculiar mark which looked like an old burn: otherwise had been normal and healthy. The patient's mother was not as well as usual when carrying the child, and had a great deal of pain at night. At the age of 6 months, the child's toes were amputated. At this age the feet were noted to be growing faster than the rest of the body. At the age of 10, patient weighed 70 pounds. From this time on the left leg, especially, grew very fast. The mental development of the child had been excellent. She walked and ran like the other children, but tired very easily. Feet sounded not unlike elephant's feet when walking." Double amputation had been advised.



Fig. 1.—Lipomatosis of feet and legs; front view.

Examination.—General condition fair. Patient was thin and had a peaked expression; seemed active and well; pulse slightly rapid at the time of examination. Running down the left arm and leg was a crusty, eczematous lesion, not progressive. The left foot was larger than the right, but both feet were markedly enlarged and lobular in character, the swelling involving the whole of both feet. The same lobulation extended up to the

knee, but was there less marked than in the feet. Masses the size of two fists stood out on the left calf. These were not adherent, and could be easily picked up. There was a pad of fat about 4 inches thick on the left foot. The dorsum of the foot was probably five or six times the normal in circumference. Examination of heart, lungs, and abdomen were negative. Urinalysis was negative.

The patient had not been seen for about two months prior to this date, Feb. 16, 1908, during which time the legs rapidly



Fig. 2.—Lipomatosis of feet and legs; lateral view.



Fig. 3.—Cross-section of amputated left foot.

increased in size. A consultation was held with Dr. E. G. Brackett, and we advised conservative operative treatment before amputation was done.

Feb. 29, 1908: Radiograph of left foot, and also photographs were taken (Figs. 1 and 2).

Operations.—March 30, 1908, ether was given and operation performed. An incision running from the tibial tubercle on the outer side of the left leg was made down to the ankle-joint. Masses of fat, encapsulated and running between and into the muscles, were dissected out. Some were easily taken out by blunt dissection, while others seemed a part of the muscle substance. The muscle was pale and there was considerable fatty tissue between the fibers. The operation lasted three hours. The wound was closed with silkworm gut and a slight drain left. Recovery from the ether was poor. Patient had an elevation of temperature for three days, and then became normal. There was considerable shock. The convalescence was otherwise uneventful.

April 20, 1908: Under ether a similar operation was done on the right leg. As much of the fatty tissue as possible was dissected out. The wound was drained. There was some sloughing of the skin flaps. Convalescence was otherwise uneventful.

May 17, 1908: Results from previous operations were good; still there was a large amount of fat on the feet; patient was gaining in weight.

Oct. 11, 1908: A second operation was done on the right foot. A large amount of fat was dissected from plantar surface of the foot. Patient made a very poor recovery from the ether. On the second day she had a pulse of 160 and temperature of 103 F., but under treatment recovered.

The skin flaps in these operations even under hot towels grew cold. Sloughing of the flaps occurred after each operation. Following each of these three operations the patient suffered shock, although the last operation lasted only about



Fig. 4.—Longitudinal section of amputated left foot and leg. Note the lobular fatty deposits and fatty infiltration and degeneration of muscular tissue.

one and one-fourth hours. The patient's general condition seemed poorer each time, and there was a very marked increase in weight throughout the whole body, but especially in the abdomen.

The patient now weighed 137 pounds at the age of 12. It seemed as though she would not be able to withstand more operations. The confinement to the house told on her general condition. The right leg, while not normal, was about one-half the size that it was previous to the operations. The left leg, not having been controlled by operation, had continued to grow. Amputation of the left leg was therefore advised. Dr Dwinell of Taunton was seen in consultation.

March, 1910, under ether, a regular amputation of the left leg was done at the point of election; silkworm gut sutures were used. There was a good recovery from the ether.

The general condition of patient has been materially better since this operation. She now walks about well with crutches, while awaiting an artificial limb. The right foot has ceased to grow.

Vertical and cross sections of the amputated foot, natural size, are shown in Figures 3 and 4.

411 Marlborough Street.

ANGIOSARCOMA OF THE LIVER IN AN INFANT

JULIUS BONDY, M.D.
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CASE.—Baby N., born April 10, 1910; male, second child.

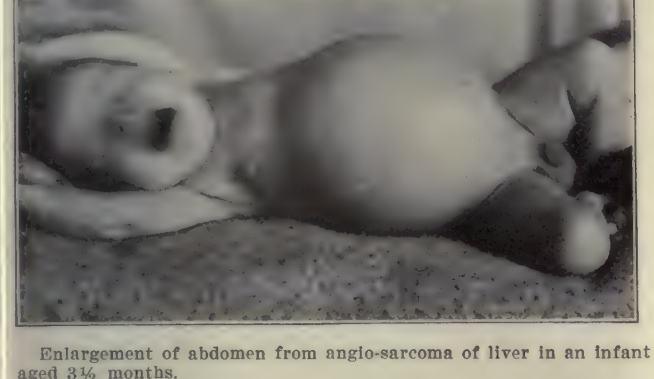
Family History.—The history of the father and mother, as well as that of the grandparents on either side, showed absolutely no record of malignant growths. The mother's age was 28; that of the father 32.

Past History.—The child was delivered instrumentally, due to *inertia uteri*. It had no deformities and seemed to grow normally until the third week.

Present History.—Three weeks after the birth of the child, while the mother was bathing it, she noticed that the child's abdomen was somewhat protuberant. One week later the child was brought to me for this reason alone. No other symptoms of disease had been noticed; the local condition was evidently as yet causing the child no inconvenience. The stools were normal and digestion good. The child was breast-fed.

Examination.—The child was somewhat pale and languid. The head and neck were normal; there was no glandular enlargement. The apex of the heart was in the fourth intercostal space, in the nipple line; no murmurs were heard. Lungs were normal. No deformities of either extremities.

The abdomen was markedly protuberant, especially in the upper right hand quadrant, and dilated veins were perceptible over the liver region. The circumference of the abdomen was



Enlargement of abdomen from angio-sarcoma of liver in an infant aged 3½ months.

eighteen inches at a point one and a half inches below the costal border. Percussion gave a flat sound over the upper three-quarters of the abdomen. On palpation, an indistinct mass was felt filling both sides of the upper abdomen. The surface of the mass was smooth and the edge was distinctly palpable below the umbilicus. This mass could not be definitely connected with any organ.

Exploratory Operation and Findings.—The case was referred to Dr. Henry Roth, attending surgeon to Lebanon Hospital, and he performed an exploratory laparotomy over the mass in the median line, which showed the tumor to be an enormously enlarged liver, filling three-quarters of the abdominal cavity. The liver was dark brown in color and mottled with small blue areas averaging one centimeter in diameter. Its surface was smooth. The spleen and kidneys were not enlarged, nor was there any apparent invasion of any other abdominal organ.

A small section of the liver was removed from the upper surface for microscopical examination and the abdomen closed. The child made an uneventful recovery from the operation. Following the operation, the child's girth progressively increased, until, just before its death, at the age of 3½ months, it measured twenty-nine inches at the umbilicus.

The extremities became edematous, but at no time was there ascites or jaundice. Diarrhea finally set in and the child died of exhaustion. No autopsy was permitted, although strenuous efforts were made to obtain it.

The section of liver removed at the time of operation was sent to Dr. Eugene P. Bernstein, pathologist to Lebanon Hospital, who reported it to be angiosarcoma.

This case is reported because of its extreme rarity and the difficulty of making an accurate diagnosis. On reviewing the literature, I find that Arnold[1] reports two cases. The first of these was in a boy of 15 years, and the second in a man of 53 years. Both died in a short space of time, and the diagnosis was apparently made at autopsy. Arnold, after reviewing several cases of malignant disease of the liver, comes to the conclusion that several of these cases strongly resemble angiosarcoma of the liver. Dervaux[2] reports a case of angiosarcoma of the liver, secondary to sarcoma of the testis.

The chief features in my case are, first, the early period of life at which the tumor started (possibly during gestation); second, the rapid increase in abdominal girth; third, the early death of the infant; and last, the paucity of symptoms noticeable until just before death.

1266 Boston Road.

A SIMPLE APPARATUS FOR PROCTOCLYSIS

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Not knowing whether any one has been using a similar apparatus, but not having seen anything like it mentioned in the medical journals, I wish to describe a simple apparatus which I put into use in the Presbyterian Hospital in Philadelphia in 1910, which fulfils all the requirements for carrying out the drop method of proctocylsis.[3]

It is simplicity itself, the requisites being a glass cylinder of 4 oz. capacity, drawn out at the end to carry rubber tubing; a No. 7 rubber stopper with a hole in the middle to carry a pipette, and another hole in the side for an air vent; a Moore pinch-cock, and a proctoclysis nozzle.

To apply the apparatus simply take an ordinary fountain syringe, found in any household, cut the tubing about three inches below the bag, put the pinch-cock on the short tube thus formed and shut it off tight about 1½ inches from the bag. Now run the short end of the tube over the pipette, securing it with a ligature. To the lower end of the glass cylinder attach the remaining rubber tubing, and in place of the ordinary irrigation nozzle apply a hard rubber proctoclysis nozzle. Then fill the bag with normal salt solution and run the lower end of the tubing between two hot water bags. The illustration shows the entire apparatus assembled and the bag filled with salt solution (which is well to have warm, though that is not of great importance). A short distance from the nozzle the rubber tubing is carried between two hot water bags partially filled with water at about 150 to 175 F. Clinically it has been found that the salt solution, passing, as it does, a drop at a time between the two hot water bags, is thus heated to the proper temperature before entering the rectum. The temperature of the solution in the douche bag is not of much importance, as it will be cooled in dropping into the cylinder. Both hot water bags are surrounded by a blanket which acts both in retaining the heat and in protecting the patient's skin from burning.

1. Beitr. z. path. anat., 1890, viii, 123.
2. Journal de sc. méd. de Lille, 1902, xxv, 131.
3. Since the above was written there has appeared in Surgery, Gynecology and Obstetrics an article by Dr. W. A. Dewitt of Philadelphia describing the same apparatus, with a slight modification, leaving it to be inferred that it was original with him. Dr. W. A. Dewitt was a resident in the Presbyterian Hospital in Philadelphia at the time I introduced and first put in operation the apparatus described above, with the origination of which he had nothing whatever to do.

Having set up the apparatus, loosen the pinch-cock until the solution drops from the pipette at the rate desired; then introduce the nozzle just within the sphincter. It will be noticed that an important feature of this apparatus is that its operation is always capable of inspection.

Should the nozzle become blocked, a rise of fluid in the cylinder will be noticed, and by shutting the pinch-cock and removing the rubber tube from the lower end of the glass cylinder a small quantity of salt solution can be forced by means of any syringe through the lower tube and thus clear the opening in the nozzle without removing it from the rectum; then by reattaching the tube to the glass cylinder and opening pinch-cock the flow is reestablished.



Illustrating parts of proctoclysis apparatus assembled ready for use.

As only the contents of the small glass cylinder and the small column of water in the tube press on the bowel, the bag can be raised to almost any height desired without causing expulsion of fluid alongside the nozzle; but the best results are attained when a moderate elevation of from two to three feet is maintained.

This apparatus has been in use for over one year with marked success, and its simplicity admits of its use in general practice as well as in hospitals, as it is inexpensive, efficient and cleanly, all parts being capable of sterilization.

Attractive Diet in Neurasthenia.—In order that a diet may be available, it must be palatable, and especially is this the case in dealing with neurasthenics.—D. N. Paton in the *Practitioner*.

A NEW METHOD FOR APPLYING PLASTER JACKETS IN HYPEREXTENSION *

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NEW YORK

There seems to be little diversity of opinion as to the theoretically simple mechanical problem involved in treatment of Pott's disease. The object is to support an upright column which has become weakened at one point and either bends or threatens to bend, and at the same time to abolish or minimize friction on the articular surfaces of the diseased vertebral body, thereby lessening the likelihood of deformity and giving Nature opportunity to limit the lesion and to effect a cure. In dealing with the flexible spine there is but one way to accomplish this, and that is by throwing the burden of weight-bearing on the articular processes—in other words, to put the spine in a position of hyperextension. This



Fig. 1.—Roberts' jacket and sling.

would seem simple enough, and yet the study of a large number of hospital cases forces the conviction that it is seldom achieved by present methods. There are various roads to the end sought. One may choose the spinal brace, the gas-pipe frame or the plaster jacket, but it is the last of the three that will here be considered, for the jacket has many advantages in hospital and dispensary practice.

Except in certain localities, notably Boston and Baltimore, it is the custom to apply plaster by the Sayre suspension apparatus or some modification of it, and this of itself is eloquent testimony of the value of a method which has undergone so little change in nearly forty years. But no one ever asserted that the Sayre method produced hyperextension. It does not. It is, nevertheless, a simple and effective way of securing immobilization, and the results obtained by it have warranted its continued use over a long period of time. Realizing its one shortcoming, a number of men have produced devices for applying plaster-of-Paris jackets in hyperextension. These have been effective, but fail

* Read before the Orthopedic Section of the New York Academy of Medicine, Nov. 18, 1910.

either in the element of simplicity or in accuracy, or both, and consequently have not been widely accepted in routine work. To overcome such objections I have evolved an apparatus which utilizes the bandage sling in combination with an ordinary jack, the simplicity and efficiency of which are shown in the illustrations.

To determine just what is accomplished in the way of position by the use of the familiar head-sling, tracings have been made in about fifty cases with the patients prone on a hard table and strung up ready for a jacket. Most of these showed some correction of deformity, but only a little, as will be observed on referring to lines 1



Fig. 2.—Tracings showing correction of deformity obtained by "jack and sling." 1, contour of spine with patient prone on a hard table; 2, contour of spine with patient in upright suspension; 3, contour of spine with patient suspended by "jack and sling."



Fig. 3.—Patient suspended by "jack and sling" ready for jacket. Note extent and thickness of padding.



Fig. 4.—Jacket finished but not trimmed.

and 2 (Fig. 2) of the tracings presented herewith, which are typical of the entire number. In contrast with line 2, traced by a lead tape with the patient in upright suspension, is the third of each set, which gives the contour of the same spine suspended by the jack and sling.

The apparatus illustrated in Figure 1 consists of an automobile jack, to the movable upright of which is attached a horizontal bar, and to the base two foot-pieces to insure lateral stability. On the bar are two shaped wire loops, over which are pinned the ends of a muslin bandage. Its simplicity is evident.

It is used as follows: The patient lies on the back and a two-inch muslin bandage is passed under the body, bearing exactly on the kyphos; the bandage is padded generously the whole breadth of the body. This form of padding, which is a departure from ordinary practice, is absolutely essential to avoid excoriations. Felting at least one-quarter of an inch in thickness is the best material for the purpose. The ends of the bandage are pinned over loops on the horizontal bar and the jack is set in motion, a hip-rest and shoulder-rest being placed in position as the patient rises. The desired degree of hyperextension having been obtained, the usual pads to protect the spinous processes and iliac prominences are placed in position. The plaster bandage is started at the pelvis. When the suspending sling is reached, the bandage is crossed over the body from the lower border of one upright to the upper border of the other. To give strength to the front of the jacket several folds of plaster bandage are passed longitudinally between the muslin supports, being carried down on either side of the sling as it leaves the body. When the cast has hardened the sling is cut away close to the jacket. It is unnecessary to close the remaining slits except for appearance, as they in no way interfere with the strength of the jacket.

In simplicity, the jack and sling compares favorably with the usual method of upright suspension. By allowing the terminal parts of the spine to fall automatically and abruptly away from a narrow point of support it secures the greatest degree of hyperextension obtainable in any given case within the limits of safety. Further advantages over the upright method are greater steadiness of the patient, greater comfort of the patient, an easier attitude for the operator, less splashing of plaster, greater convenience in the application of jackets away from the plaster room—that is, in the home or hospital wards—the requirement of fewer assistants, and, of greater import than all the rest, the natural assumption of a better mechanical position for the diseased spine.

With this apparatus, I have applied jackets on patients ranging in age from 3 to 40 years, and in weight from 30 to 140 pounds, and all have been apparently comfortable. By the use of two slings, Calot jackets and jackets with jury-masts may be applied. While it is too early to report a convincing series of cases, there is reason to believe that persistent use of the jack and sling method, with frequent changing of jackets, will show a real correction of deformity in a large percentage of long-standing cases.

134 West Forty-Eighth Street.

PRIMARY SUTURE OF SUBPARIETAL RUPTURE OF KIDNEY

WITH REPORT OF CASE *

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OSHKOSH, WIS.

CASE OF SIMPLE SUBPARIETAL RUPTURE OF LEFT KIDNEY, LUMBAR INCISION AND SUTURE OF KIDNEY FORTY-TWO HOURS AFTER ACCIDENT, RECOVERY

History.—M. M., a schoolboy, aged 11, about 8:30 a. m., Oct. 26, 1910, in attempting to alight from a moving bicycle, slipped and fell, striking his right lumbar region against the edge of the street curbing. There was very severe pain in the right loin, but no collapse, shock, or vomiting; but for a period of about five minutes he was unable to walk because of general weakness, with dizziness and nausea. After a short rest, in a sitting, doubled-over posture, he was able to walk a distance of about half a mile to his home, and as he still complained of very severe pain he was put to bed.

* Read at the meeting of the Western Surgical Association, December, 1910.

Dr. F. W. A. Brown was called and examined the boy very carefully. There was no fractured rib or evidence of serious injury, the tenderness and rigidity in the lumbar region being the only apparent result of the tumble the boy had taken. The severe pain persisted until about 1:30 p. m., when about 8 ounces of bloody urine were passed, after which the pain was markedly lessened; half an hour later vomiting occurred, after which there was a still greater sense of relief.

Examination.—About 2:30 p. m. I saw the patient in consultation with Dr. Brown, at which time the boy did not complain of much pain, other than a severe and constant ache in the left lumbar region. One was impressed at once, by the "bad appearance" of the patient. The skin was sallow or yellowish and the face had a drawn, anxious expression, despite the fact that the boy was making light of his injury and was asking for some chewing-gum. Pulse, temperature and respirations were normal; there was no dyspnea but deep inspiration caused pain under the left lower ribs. Abdominal palpation revealed marked rigidity and tenderness in the region of the kidney, more marked posteriorly. Deep palpation was impossible, and a tumor mass could not be made out, either by palpation or percussion. There was no free fluid demonstrable in the peritoneal cavity, nor was there any external evidence of the injury.

Diagnosis.—Because of the nature of the trauma, hematuria and rigidity of muscles in the region of the kidney, rupture of that organ was diagnosed, and exploratory incision advised. This advice was refused.



Illustrating the author's case of a stellate, traumatic rupture of the kidney, extending into the pelvis, in a boy aged 11.

Course of Injury.—During the following afternoon and evening the boy was better, in that the pain was not so severe, but he was unable to rest because of the constant dull ache at the site of the injury, and the passage of bloody urine about every hour. The act of micturition was without pain or tenesmus. The next morning there was an attack of vomiting, the bloody urination continued, and the patient became drowsy and weaker. The parents then became alarmed, realized the seriousness of the boy's condition, and sent him to the hospital for operation. On admission the patient was very weak, unable to sit up, the face was drawn and pinched, and there was a distinct yellowish tinge to the skin. His only complaint was a dull ache in the lumbar region, with a more severe pain on moving. Examination revealed a distinct fulness in the left iliocostal space, with marked tenderness on pressure; there was rigidity of the lumbar and abdominal muscles, and on bimanual palpation a mass could be detected, which was dull on percussion, but there was no free fluid in the peritoneal cavity. The temperature was subnormal, pulse 130, small and collapsible, and the respirations 24 and superficial.

Operation.—This was performed at St. Mary's Hospital, Oct. 27, 1910, at 2 p. m. Ether anesthesia administered by Dr. W. P. Wheeler, and Dr. F. W. A. Brown assisting. the kidney was approached through the usual lumbar incision. Division of the transversalis fascia revealed the fatty capsule of the kidney, through which blood was apparent, similar to the appearance of the peritoneum in cases of intra-abdominal hemorrhage. Division of this capsule was followed by the escape of considerable blood and many clots. The kidney was promptly delivered through the wound, and examination revealed a stellate tear extending into the pelvis of the organ in the upper pole of the kidney as shown in the illustration. A transverse tear was situated at about the junction of the upper and middle thirds, extending from side to side, practically separating the upper pole from the remainder of the organ. This upper fragment was divided into two unequal parts by a longitudinal tear extending from the transverse rupture to the upper extremity of the organ. This longitudinal tear was not located in the mid-line of the convex surface, but was situated about a quarter of an inch behind the mid-line at its lower part, and about half an inch behind, at its upper extremity, on a line probably analogous to the avascular line of Broedel. After cleansing the wound margins of blood-clot by salt sponges that passed into the pelvis, the wounds of the kidney were sutured with chromic catgut mattress stitches, which were inserted deeply into the parenchyma of the organ. Ordinary round curved needles were employed, and there was no tearing out of the stitches. After these deep mattress stitches were inserted and tied loosely, there was absolute control of the bleeding, and a layer of superficial circular or over-and-over stitches were inserted to effect accurate coaptation of the wound edges. An effort was made to close the fibrous capsule but this was found to be impossible. A cigarette drain was inserted to the lower pole of the kidney and the lumbar wound closed except at the passage of the drain.

Outcome.—Recovery was uneventful; there was very little discharge from the wound, no urine; and the drain was removed October 30. The patient was discharged with the wound healed, a perfect recovery, November 13.

REVIEW OF SUBJECT

That subparietal rupture of the kidney is not common is shown by the fact that in 1903 Watson[1] was able to collect reports of only 660 cases from the literature. Neilson[2] in 1908 added reports of thirty-four cases in which operation had been done, making a total of 694. In the same year Lardennais[3] collected reports of 771 cases (this, an inaugural thesis, has not been available in the original).

Since Neilson's report in 1908, I have been able to find either mere mention, or a more or less complete report, of 147 additional cases, in seventy-nine of which operation was not done and in sixty-eight operation was done. This rapid recent increase in the number of reported cases would tend to show that the above figures fall far short of the actual number of cases.[4]

1. Watson: Boston Med. and Surg. Jour., 1903, cxlix, 29.
2. Neilson: Am. Jour. Med. Sc., 1908, cxxxv, 54.
3. Lardennais: Thèse de Paris, March, 1908; Zentralbl. f. Chir., 1908, No. 45, p. 1328; Jour. de Chir., May, 1908.
4. The collected cases are set out below.

Operations:

Tilton (1 case): Ann. Surg., 1909, l, 812.
Nassau (1 case): Ann. Surg., 1907, xlv, 792.
Eisendrath and Herzog (1 case): Ann. Surg., 1908, xlviii, 709.
Bauman and Lower (1 case): THE JOURNAL A. M. A., May 1, 1909, lii, 1401.
Fredet (1 case): Rev. de gynéc. et de chir. abd., 1909, No. 2, Surg., Gynec. and Obst., 1909, ix, 696.
Bugbee (1 case): Med. Rec., Nov. 5, 1910.
Connell (1 case): Report herewith.
Griffith (2 cases): Brit. Med. Jour., April 25, 1908, p. 979.
Kaarsberger, H. (2 cases): Ugesk. f. Laeger, 1909, lxxi, 557. Abstracted in THE JOURNAL A. M. A., Aug. 21, 1909, p. 663.
Fischer (2 cases): Zentralbl. f. Chir., 1909, No. 33, p. 1156.
Martin (2 cases): Old Dom. Jour. Med. and Chir., 1910, x.
Rossi (3 cases): Zentralbl. f. Chir., 1908, No. 16, p. 510.
Ponomarew (3 cases): Zentralbl. f. Chir., 1909, No. 13, p. 477.
Gibson: In a personal communication reports four cases.
Yoshikawa (5 cases): Zentralbl. f. Chir., 1909, No. 18, p. 655.
Frank (5 cases): Arch. f. klin. Chir., 1907, No. 2; Year Book of Surg. (Murphy), 1908, p. 535.
Brewer (6 cases): Am. Jour. Med. Sc., May, 1908, cxxxv, 635.
Johnson (7 cases): Ann. Surg., 1909, l, 715.
Tromifow (20 cases from the Russian literature): Zentralbl. f. Chir., 1908, No. 10, p. 312.

The non-operative cases were reported by Frank, 34; Ponomarew, 29; Trofimow, 13; and Rossi, 3.

The kidney seems to be as well protected from injury as other of the abdominal viscera, if not better, yet the kidneys are the most frequently injured in case of abdominal contusion. The fact that there are two kidneys, one on each side, of course, accounts in a large measure for this frequency.

ETIOLOGY

The theory as to the cause that may explain a majority of the cases is that of Küster, in which the rupture is supposed to be due to hydraulic pressure acting through the full vessels and the pelvis and causing the organ to burst along lines radiating from the hilum toward the point of maximum impact against the lower ribs, the opposing resistance being supplied by the vertebral column.

Abdominal contusion most liable to cause damage to viscera, is that in which there is a sudden, strong impact against the anterior or lateral abdominal wall, often when the patient is taken unawares, and the abdominal muscles do not have time to contract in self-defense; such contusions are inflicted by a fall against a sharp object or blows from a hoof, a fist, a thrown ball, a carriage-pole, or a piece of wood from a circular saw. A simple fall on the feet, or muscular action alone, may produce rupture of the kidney; a dozen of the latter variety of cases are on record.

Another type of injury, such as being run over by a wheel, or crushed between car-bumpers, more often results in a complicated rupture. There is usually very little or no external evidence of injury in the former class of cases.

CLASSIFICATION

Ruptures of the kidney must be divided into complicated and simple. In the former there are additional injuries to other organs or structure; in the latter the kidney is the only organ damaged. A classification has been based on the extent of the damage to the kidney, but this is of very little clinical or practical value.

Simple rupture of the kidney is much more common than are the complicated injuries. In Watson's and Neilson's cases 512 were simple, and 125 complicated. This approximate proportion is maintained in the report of Frank, in which there were thirty simple and nine complicated.

SYMPTOMATOLOGY

A most important element in the recognition of these cases is attention to the history of the accident and the nature of the traumatism.

Shock and collapse are often absent or but transitory, and the lack of recognition of this fact has been the cause of mistaken diagnoses and delay in proper treatment in a great many cases.

Pain is usually very severe at the time of the injury. It may be diffused or localized in the kidney region. Its duration varies greatly, but it is usually present and is followed by tenderness and a dull ache in the region of the ruptured organ.

Rigidity of the muscles over the kidney, with tenderness on palpation, is practically constant, and is of great importance.

Hematuria is generally present; it may be delayed in onset, or may occur with the first urination. In cases in which the ureter is blocked with a blood-clot, with a transverse tear of the pelvis or ureter, or with complete pulpification of the organ, hematuria may be absent. It must be remembered that hematuria following trauma in the region of the kidney is not pathognomonic of injury to that organ, as the bleeding may originate in the bladder or urethra, or there may be a hemorrhagic nephritis, or idiopathic or other types of bleeding from the kidney.

Tumor in the kidney region, may be absent, may develop within a short time, when it is usually due to a perirenal hematoma, or it may be of late development. In such cases it is probably caused by infection, or more rarely, secondary hemorrhage.

DIAGNOSIS

The diagnosis of kidney lesion demanding an exploratory incision, may generally be based on a history of a particular abdominal contusion, with rigidity, tenderness or tumor and hematuria.

TREATMENT

Treatment may be expectant or operative. A most important feature of the treatment, and of great influence on the result, is a recognition of the indications for treatment, and the selection of the proper line of treatment for the individual case. The results are important from this point of view, and Watson's series shows, that with expectant treatment 27 per cent. of the simple ruptures resulted fatally; and in the complicated injuries that the death-rate was 91 per cent. Radical operative treatment, i. e., nephrectomy, resulted as follows in Watson's and Neilson's series:

Complicated, 51 with 21 deaths (41 per cent.).
Simple, 132 with 30 deaths (22.5 per cent.).

Conservative operative treatment, *i. e.*, gauze packing, drainage or suture, had the following results:

Complicated, 18 with 7 deaths (38 per cent.).
Simple, 107 with 9 deaths (8.5 per cent.).

Of the 125 cases in which conservative treatment was employed, gauze pack or drainage was done 115 times, with sixteen deaths; suture of the renal wound or wounds was done ten times, with no fatality.

The decision between expectant and operative treatment is a momentous one, as the fate of the patient often rests on this decision. Concerning the former Neilson says:

> So-called expectant treatment is permissible only in cases in which the local symptoms are insignificant, constitutional symptoms absent, and slight hematuria alone directs attention to the probability of renal injury.

Yet there are many severely damaged kidneys which if left alone, will cause death or prolonged illness, and in which the local symptoms are insignificant, the constitutional symptoms absent, and with but slight hematuria. There may be no differential sign or symptom between slight injury and complete rupture; therefore it would seem advisable to expose the kidney and arrive at a positive determination as to the extent of the injury in every case in which we can arrive at a probable diagnosis of injury of the kidney, and not guess at the seriousness or the triviality of the injury. By so doing a certain number of unnecessary exposures of the kidney will be made, but, on the other hand, a certain number of deaths will be prevented, and many prolonged illnesses and unsatisfactory results will be substituted by prompt and satisfactory recovery. As it is, in certain cases,

impossible to separate the slight from the extensive injury it behooves one to treat all cases as though they were serious until they have been proved to be otherwise.

All operations for rupture must be exploratory at the onset, and may then be either radical or conservative. Nephrectomy has, in the past, been employed quite extensively; but, from a theoretical point of view, from the experiments of Dolgoff,[5] who found that severe laceration, even tearing the organ in halves, in dogs, did not result fatally; and from the clinical evidence, in the frequent, satisfactory recovery after conservative measures, it would seem that packing, draining or suture might be more frequently substituted for nephrectomy. Gauze packing or drainage is the most common method of conserving damaged kidney, being employed 115 times in 125 cases in which conservation was attempted. Primary suture has been performed on but few occasions, though it is the ideal method of dealing with such injuries. Watson was able to collect reports of eight cases, and Neilson added two that were treated in this manner. Since the report of the latter I have been able to find reports of three additional cases in the literature, which, with the case reported in this contribution, makes a total of fourteen. In these fourteen cases there was no death, and only two unsatisfactory results. In one (Delbet) a secondary nephrectomy was necessary, and in the second (Watson) a pseudo-hydronephrosis and fistula resulted.

In every case the sutures, when placed, caused satisfactory hemostasis. In one of Griffith's cases, that of a man aged 48, the mattress sutures pulled through the very friable organ, and the fibrofatty capsule was sutured enclosing the kidney as in a bag, with a satisfactory outcome. Dolgoff found that wounds of the kidney healed much more rapidly if the capsule was preserved, and especially if its cut edges were united. In my own case the capsule of the upper third of the organ could not be united, yet the result was entirely satisfactory. In this case the wound was closed with interrupted mattress stitches that passed deeply into the parenchyma, and the wound margins were then accurately coapted by over-and-over superficial stitches.

In Fredet's case the patient had a nephritis, and it was for this reason that nephrectomy was not done. As a consequence of the most encouraging result in this case Fredet, in his enthusiasm, says: "Nephrectomy is indicated as a late operation only where there is widespread infection."

REPORTS OF OTHER CASES

A synopsis of cases collected from the literature since Neilson's article is given below:

GRIFFITH: A man aged 22, while running, slipped and fell, striking the left side below the ribs against the sharp edge of a piece of coal. He was able to walk some distance and climb two ladders, felt generally bad, but had no particular pain in the side. Five minutes after the injury he urinated what seemed to be pure blood, after which he felt much worse and nearly fainted. On admission to hospital he complained of pain all over the abdomen but more especially in the left lumbar region. One and three quarter hours after admission, the kidney was delivered through an oblique lumbar incision and was found to be torn on its posterior aspect at about the middle, extending from the convex surface to the hilum. Suture of the wound with catgut was done, which controlled the hemorrhage; a gauze wick was inserted to the kidney and the lumbar wound closed. The patient was discharged, well, on the eighteenth day.

GRIFFITH: A man aged 48, was struck on the left loin by one end of a heavy timber. On admission to the hospital shortly after the injury the patient was in a kneeling posture, being unable to either sit or lie down because of the intense pain. The pulse was good, but there was vomiting of bile, tenderness and dulness in the region of the kidney, with hematuria. Exploration revealed the lower third of the kidney nearly detached, with a longitudinal tear extending along the mid-line of the convex surface of the upper portion. Mattress sutures were inserted to close the wounds, but many of them cut through the abnormally friable organ. The fibrofatty capsule was then sutured, enclosing the kidney as in a bag. The lumbar wound was closed with a tube drain reaching to the capsule. The patient was discharged, well, on the twenty-third day.

FREDET: A male was struck in the left flank by a heavy falling body; there was brief loss of consciousness, followed by severe pain in left side with a hematoma but no free fluid in the peritoneal cavity. Catheterization revealed hematuria. Exploration revealed lesions on the anterior and posterior surfaces of the kidney. Nephrectomy was thought to be indicated, but because of a nephritis, it was deemed safer to suture the tears in the organ. Recovery ensued.

CONCLUSIONS

1. Owing to the rapid recent increase in the number of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe.
2. Shock, injury to other organs, and external evidence of trauma are frequently absent.
3. A history of an abdominal contusion, followed by rigidity and hematuria, is sufficient data to lead to an exposure of the organ.
4. Slight lesions, and complete rupture of the kidney, can not be differentiated by clinical signs or symptoms.
5. Proof that there is an absence of serious rupture is called for before instituting the so-called expectant treatment.
6. Nephrectomy should be reserved for very extensive disintegration of the organ.
7. Conservative treatment, preferably by suture, is indicated in the majority of cases.

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5. Dolgoff: New York Med. Jour., 1900, lxxii, 871.

THE ADENOID AND TONSIL OPERATION*

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The general practitioner first comes in contact with the child, and on him must largely rest the responsibility of recognizing the symptoms of these conditions as they appear in extreme cases. He should, moreover, appreciate the fact that there are remote and often less-pronounced symptoms connected with the adenoid and tonsil question that are as much a menace to the health as the others. It is not difficult to decide that a child who presents very large tonsils and adenoids and who breathes with open mouth, vacant expression, etc., should have an operation that removes the mechanical obstruction to a normal breath-way. But there are many cases in which the mere mechanical obstruction is the least important of the considerations involved, and the decision must often be based on symptoms not directly connected with the nose and throat, and which we are coming to recognize more and more fully as proper subjects for the operation, involving as much for the

* Read at a meeting of the Southside Branch of the Chicago Medical Society, Dec. 13, 1910.

child's future as the other. In adults, too, we are now removing the tonsils frequently for far more important reasons than that they are large, and at times in cases in which, though very little tonsillar structure is visible on casual inspection, much is found to be imbedded in the tonsillar triangle.

I shall not attempt to speak extensively of the anatomic features of this subject. It must be recognized that tonsils when they are diseased form a culture medium for bacteria, and the pathogenic germs often enter the system. Rheumatic fever, myocarditis, endocarditis, nephritis, arthritis and arthritis deformans, adenitis and other conditions and infections are thus traced to the tonsil as the primary focus in many cases. The cicatrized tonsil, the result of chronic inflammation, often giving rise to peritonsillar abscess, should be mentioned in this connection.

The faucial tonsils and the pharyngeal tonsil are a part of the so-called Waldeyer's ring, draining into the secondary lymphatic ring; the faucial tonsil drains into those glands situate at the angle of the jaw, in front of the sternocleidomastoid muscle, and the hyoid; the pharyngeal tonsil drains directly into the retropharyngeal glands. These connections will explain very definitely the close relationship and frequent involvement of these glands in diseases of the lymphoid structures. It should be a routine practice to examine the glands at the angle of the jaw and along the border of the sternocleidomastoid in every case brought to us for treatment of the tonsils. It is surprising in what a large number of cases the infection has traveled that far, with a resulting enlargement of the glands. The manifest treatment should then be directed, of course, not to the gland primarily, but to the infecting tonsil, and yet in many cases the latter have not been the subject of concern by patient or friends. In these cases until the tonsils are removed other treatment is practically useless.

The pharyngeal tonsil is a mass of lymphoid tissue lying in the vault of the nasopharynx, and its upper, posterior wall; a mass somewhat lobulated longitudinally with a marked median recess, when markedly enlarged, and extending laterally into the fossæ of Rosenmüller. In addition to this there is sometimes found a mass of lymphoid tissue called the tubal tonsil on the posterior upper lip of the Eustachian cushion, and very often bands of tissue extend from this across the fossa. Scattered masses of lymphoid tissue are often seen also over the pharyngeal wall, extending down over the oropharynx. This condition of the pharynx is often indicative of the presence of adenoids, especially if the faucial tonsils are also enlarged. In some extreme cases, I have found masses of the lymphoid tissue extending down from the Eustachian eminence over the upper surface of the veil of the palate for a considerable distance. In such cases, manifestly, the curette could not complete an operation.

Rarely is it possible to make a satisfactory examination of the child's nasopharynx with the rhinoscope mirror. Occasionally a child, tractable and unafraid, will allow the tongue to be depressed and the small mirror to be carried to the pharyngeal wall, when a complete view of the nasopharynx is sometimes possible. Ordinarily, however, palpation is necessary and will give the information needed.

I prefer to have the child held on the lap of the nurse, arms and feet confined by the nurse, the head of the child against the shoulder and steadied by an assistant standing behind. The examiner then seats himself in front of the child. A gag is inserted in the left side of the child's mouth and held by the examiner's right hand while the clean index-finger of the left, previously oiled, is carried up behind the palate into the vault.

The nasopharynx of very young children can be examined in this way, and one sometimes finds adenoids in children as young as three or six months which need an operation when interfering with the nourishment of the child.

Another method equally good is to have the child on the left side of the examiner sitting in the lap of the nurse, or in a chair; then the head, grasped with the open left hand, is held firmly against the left side of the examiner, the fingers are placed under the ramus of the jaw, the thumb pressed against the cheek, carrying it between the teeth, thus forcing open the mouth, and preventing the child from closing it on the examiner's fingers. The first finger of the right hand is then easily slipped behind the uvula and up into the nasopharynx. This can be done gently and quickly, but seldom without causing the child fright and some bleeding, as the lymphoid mass in young children is friable, soft, and easily injured. Cocainization of the nasopharynx is sometimes desirable, but usually unnecessary. In very young children it is better to use the little finger for palpation.

Hypertrophied faucial tonsils are easily recognized. Lying between the anterior pillar (the palatoglossus muscle) and the much thicker posterior pillar (the palatopharyngeus muscle) is the triangular tonsillar area. It is divided by the plica triangularis, a thin sheet of mucous membrane passing from the upper third of the anterior pillar downward and backward to the posterior pillar. This plica is the usual antero-inferior limitation of the lymphoid tissue of the tonsil and is adherent to the surface of the tonsil. In simple hypertrophy, in children especially, it is often fused in the tonsillar mass in which the enlarged tonsil occupies not only the space inclosed by the plica, and anterior and posterior pillar, but that below the plica—an inferior lobe—reaching at times the border of the base of the tongue. In projecting tonsils the enlargement may be inward, a large mass extending quite to the median line of either side, or the mass may be broadened from before backward and above downward but projecting very little.

Another variety, often encountered in practice, is the imbedded form. The tonsil is generally confined to the supratonsillar fossa, or it may include almost the entire triangular area. Such tonsils do not project into the throat on casual examination, but have enlarged outward, tonsils of considerable size being sometimes completely imbedded in the tissues of the lateral wall and soft palate. By palpation, a method that should always be employed, it is often found as a distinct mass as large as a filbert, or larger, entirely hidden in these tissues. Such tonsils can be recognized often by causing the patient to retch, when the muscular action projects them into the fauces. At other times a blunt hook can be used to pull forward and press outward the anterior pillar, when they are brought plainly into view. This is the variety that is frequently found in the toxic conditions spoken of, and when they are removed there may often be expressed from the crypts numerous masses of white, cheesy exudate.

These are the tonsils also overlooked by the practitioner until the infective results of their diseased condition have already been brought about. These are the

tonsils, too, on which so many inadequate operations are done, leaving much of the lymphoid masses still in the fossæ to continue their ravages on distant structures through systemic absorption. This may be partly explained by the fact that the tonsils are considered an operative field by the most inexperienced, and to this fact nothing has contributed more than that remarkably ingenious instrument, the tonsillotome, so easily manipulated that it appeals at once to every tyro.

The tonsillotome is not an instrument for every case, and indeed a very limited number only are suitable for its use. In the somewhat pedunculated tonsils, projecting into the fauces and easily engaged in the fenestrum of the instrument, a good operation can sometimes be done easily and swiftly. In other cases the instrument is an excellent one to cut off an enucleated tonsil which has been grasped and drawn inward by suitable vulsellum forceps. The ease of manipulation of the instrument and the idea once prevalent that a tonsillotomy was an all-sufficient operation in any case, has led to the universal use of the instrument. Our ideas, as specialists, have changed, and the instrument has been relegated to its proper position, for carefully selected cases only. It is not possible where the major portion of an imbedded tonsil lies submerged in the triangular fossa to do a proper enucleation with a tonsillotome alone, and to attempt to do it with this instrument is poor surgery, and not for the best interest of our patients. I condemn the practice because of these facts, and because it is possible to do an operation, in nearly every case, that is adequate and surgically right.

Let me preface my remarks on the method I follow with the statement that I have no particular instrumentarium to recommend for the use of others. Every operator has one to which he is accustomed. Every man should work with the tools he likes best, but I should insist that, if the operation is indicated, one should be satisfied with nothing less than the complete excision of the tonsil with its underlying capsule and the removal of every vestige of the adenoids in the nasopharynx, as far as possible. However, the matter of whether tonsillotomy is or is not advisable in some cases is one on which there has been, and is now, much debate, and one in which I should not care to be arbiter. It seems to me, however, that if the removal of the tonsils is indicated for any other reason than that they are a mechanical obstruction, the operation should include the crypts of the mass, which usually reach the underlying capsule, and therefore there should be a complete enucleation.

TECHNIC

The child should be in the hospital, if possible, the night before the operation, in order that it may become accustomed to the surroundings, and have the advantage of a night's rest.

I think it is not essential to precede the operation with any local treatments by antiseptics, although a mouth-wash and a nasal douche in the morning may be used.

Ether is the anesthetic for which no adequate substitute has been found. Since the investigation of Dr. Hinkle, given in a paper before the American Laryngological Association a few years ago, and of other writers, many specialists in this country have given up the use of chloroform and rely entirely on ether. I have used some of the shorter anesthesias, but have not been pleased with them, and prefer ether, as a rule. Nitrous oxid with oxygen is safe, and can be prolonged almost indefinitely, but, since administration is so much interfered with by the operation itself and the profuse bleeding, it cannot be satisfactorily administered continuously and in these cases the period of unconsciousness is of too short duration, while relaxation is not as complete as with ether. The final stages of the operation, therefore, are apt to be performed on a struggling, semiconscious child, even when employed for adenoids alone. The same may be said of ethyl chlorid and ethyl bromid, although the effects of these are rather more prolonged. The child should be quite profoundly anesthetized, so that the subsequent operation need not be too much delayed by further use of the anesthetic.

There is no better point than this at which to insist that an adequate tonsil operation is often by no means an easy task. It should be done under a general anesthetic, in children up to 15 years of age, certainly; and in certain circumstances in adults. In adults, however, I prefer local anesthesia—of which I shall speak presently—if the patient has a little courage and can control the reflexes of the tongue and pharynx sufficiently not to interfere with the necessary surgical manipulation.

For illumination I use the Jansen photophore (an electric head-lamp), and therefore prefer to operate in a darkened room. I have the child placed in a partially prone position on the operating table, the left arm drawn backward under the body, the right shoulder being pulled backward by the assistant, to whom is entrusted the holding of the gag, which is placed in the right side of the mouth. I prefer the Allingham gag. The child's face is brought to the edge of the table, and underneath the head a Kelly pad may be placed, all pillows being removed. The gag is very apt to slip out of position unless held firmly, and the assistant should be cautioned regarding it. In this position there is no danger of blood reaching the larynx and trachea, and there need be no change of position in removing both tonsils and adenoids.

It seems to me that one of the most important steps in the operation is the adequate enucleation of the tonsil. To accomplish this a sharp knife, bent on the flat, is placed behind the anterior pillar, cutting from above downward, through the mucous membrane reflected from the tonsil to the posterior surface of the pillar or severing adhesions when they exist. In children, always, and sometimes in adults, as a rule I cut through the plica triangularis, severing it from the attachment to the pillar. In adults it is sometimes possible to save this sheet of mucous membrane by passing the knife from above downward and backward between it and the tonsil, the under surface of which it covers. Then the velar lobe may be freed from its attachment to the posterior pillar in the upper angle, in the same way. The latter is not often necessary in a child. A hook knife may be necessary, too, for freeing the very upper angle, the tonsil being seized with a vulsellum forceps and drawn inward. This is seldom needed. After these attachments have been properly freed, a surgically clean finger is passed around the tonsillar mass, firmly, enucleating it still more from before backwards by lifting the mass with its underlying capsule from its bed on the superior constrictor muscle, as far as possible. Some force is sometimes needed in passing the finger between the anterior pillar and the tonsil and underneath the tonsil. I believe that this complete enucleation is a most important part of the operation, as was

well emphasized by Shurly in the last meeting of the A. M. A. at St. Louis.

The tonsil is then seized with an Ingals tonsil forceps and drawn inward with slight force. It is often seen almost completely everted. Over the handles of the forceps a wire loop is then carried, and over the head of the instrument to its base, and the loop is then tightened. Great care should be taken here not to include the uvula in the loop of the snare. I cut the tonsil off rapidly with this cold wire snare in children, as it is quite friable. In older children and adults the loop is closed slowly as it crushes through the tonsil. In adults it is so fibrous that the milled wheel of the snare will have to be used to sever it. Indeed, a larger wire than a No. 5 piano wire, which I ordinarily use, may be needed and a more powerful instrument than the one I generally employ (the Bosworth snare, modified).

The lower tonsil, the left, is removed first, then the right. The Rhodes punch forceps may be needed, if small masses of lymphoid tissue remain in the triangle, and these are easily recognized and can be carefully picked out. The space can be well exposed with a small, long-stem double tenaculum and thorough examination made.

Bleeding should always be controlled before the adenoids are removed. Usually pressure with small sponges attached to uterine hemostatic forceps is all that is necessary. I always have ready a pair of Jackson hemostatic forceps and a Mikulicz clamp. In some cases a ligature may be passed over the Jackson forceps and the bleeding vessel ligated. Seldom is this necessary.

In the removal of the adenoids I find the Lowenberg forceps the most satisfactory, as the finger of the left hand may be held in the nasopharynx and the tissue removed can be controlled absolutely. I usually reinforce this by passing a Gottstein curette to remove small vestiges of lymphoid tissue on the upper and posterior wall. I have at hand also Freer's pernasal forceps to remove small masses in the fossæ of Rosenmüller or other portions of the vault. Bleeding is of course very free at this time, but ceases in a very short time. Sometimes it may be necessary to carry a sponge into the vault with a finger of the left hand and use pressure for a brief time.

The child is then placed in bed for a few hours, a light diet is recommended for four days, and the patient kept in the house for a week. Twenty-four hours in the hospital is usually sufficient. A gargle of 1 per cent. solution of phenol may be used every hour for two or three days, and less frequently for a week. Iodole may be insufflated through the nose three or four times a day.

I have found the method described one that is adequate for every kind and size of tonsil, and is radical. I believe, too, that there is much less danger of hemorrhage in the snare operation, although bleeding sometimes takes place, whatever method is used, and one must always be prepared for such an emergency.

Local anesthesia may be used for adults, but one cannot promise absolute freedom from pain and discomfort, although I have sometimes removed the tonsils with scarcely any. If it were perfectly safe to use injections of cocain and adrenalin this would be quite ideal. I have used the method a good many times. Reports of cases of death following such injections were made at the last session of the American Medical Association at St. Louis, and I should hesitate to recommend it as a routine practice. On the other hand, the use of adrenalin (1/1000) swabbed over the surface of the tonsil and pillars, followed by the local application of a 10 per cent. solution of cocain freely, or the powdered crystals of cocain have had no fatalities so far as I know. When injections are made, a 1 or 2 per cent. solution of cocain is made, to a dram of which 5 to 10 minims of a 1/1000 solution of epinephrin, adrenalin or suprarenalin (fresh) may be added. The injection should be carried deeply into the base of the tonsils along the line of the anterior pillar, about ½ inch from the border of the pillar, using 10 to 15 minims of the solution for each tonsil. I now use local applications, usually of cocain crystals alone.

The instruments employed are a tonsil separator, curved tonsil knives, for each tonsil, a hook-shaped knife for the disengaging of the velar lobe, vulsellum forceps (Casselberry's), tongue depressor, sponges, etc. I favor seizing the tonsil with the vulsellum forceps first and then dissecting. A Freer right-angle knife is passed deeply into the tissues between the anterior pillar and the tonsil and brought down along the posterior edge of the upper posterior surface of the plica triangularis, saving this intact, which can be done in many instances. I believe, however, we will get better results usually if this plica is removed also. The same procedure is carried through with the separation of the posterior pillar and the tonsil, care being taken not to cut into either pillar. While the assistant depresses the tongue, traction is made on the partially separated tonsil and the hook-knife is carried over the top of the tonsil, almost at right-angles to it at first and separation of the tonsil from above downward, with the underlying portion of the capsule, is begun. As soon as the velar lobe is free, the remainder of the separation can be done with the Freer flat knives, care and discretion being used so as not to remove any of the underlying muscular tissue of the superior constrictor, on which the tonsil lies. The cutting should then be done downward and inward toward the fauces. The operation is often comparatively painless, with moderate hemorrhage. This same operation may be done equally satisfactorily under ether.

In this article I have given the details, as briefly as possible, of a method that has proved very satisfactory in a large number of cases. While the technic is rather difficult, at first, it can be acquired, and the results are usually so good that the painstaking care is justified. It enables one to deal with every form of tonsil, and leaves the throat in a surgically satisfactory condition.

Peoples Gas Building.

Elbow Sign of Scarlet Fever.—C. Pastia, in the *Tribune Médicale*, states that he found the characteristic sign he describes in 94 out of 100 scarlet fever patients in Grosovici's service at Bucharest and in all of twenty-three scarlet fever children examined in Paris. The sign is an exanthematous, linear, continuous eruption, localized in the bend of the elbow and very intense. At first the eruption is pink, then it turns a deep red or "dregs-of-wine" color or may resemble ecchymosis. The linear eruption is generally single but there may be several lines in some cases; between them the eruption resembles that of the ordinary scarlatinal exanthem. This linear exanthem develops early, he says, and persists to the end of the general eruption, leaving a pigmented line as it subsides. It is often useful for differentiation of the disease when the general exanthem is too faint to be positively recognized or is already past. He has never found it in any other eruptive diseases.

THE PRESERVATION OF ANATOMIC DISSECTIONS WITH PERMANENT COLOR OF MUSCLES, VESSELS AND ORGANS

A SUPPLEMENTARY NOTE

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This supplementary note is to record the changes and improvements in the method described in the preliminary note published in THE JOURNAL (Aug. 22, 1908, p. 642).

Certain subjects only will secure the color by the embalming solution and the method. They are cadavers whose muscles are of a dark color before being embalmed. This is determined before the embalming by making a long and deep incision (3 inches by 1) into the deltoid or the femoral vastus externus. If the muscles show a black cherry color, the preparations will present a satisfactory color. If the muscles show a deep red cherry color, they may make good preparations, but not so surely. If the muscles show a light red cherry the color of the muscles in the preparation will not be satisfactory and no ultimate treatment or procedure will improve it. The embalming solution and the method preserve the color that the muscles present in the subject, but will not give a dark color to muscles which present a light color in the subject before embalming. As a rule, negroes present blacker muscles than white subjects. It took a great deal of time and labor to find out these important facts.

I have finally reached the conclusion that the following steps are the best to produce satisfactory results. They are somewhat different from the ones described previously.

1. Use only lean male subjects. Fat, however small in quantity, makes bad preparations.

2. Embalm the subjects with the following formula:

A: Arsenious acid (saturated solution) 2.5 gallons; nitrate of potash, 1 pound; liquor formaldehydi 6 ounces. B: Alcohol, 16 ounces; liquefied phenol (carbolic acid), 6 ounces; glycerin, 16 ounces; creosote (beechwood), 2 ounces. The two solutions, *B* and *A*, must be mixed and strained. The proper color may show only a few days after the embalming. Articulations and visceral preparations should be dissected without delay.

3. The arteries and the veins may now be injected, if desired.

4. Now partition the subject off, that is, divide it into a number of pieces according to the preparations that it is desired to make.

5. Place each piece in a glass jar with a solution of 1 ounce of liquefied phenol to the gallon of water (C 1; see previous article).

6. Then place the specimen in an empty jar with a lid, and leave it to drain. Hang with hands and feet up. The draining requires about ten to fifteen days. Visceral preparations should not be allowed to drain more than two or three days.

7. When the dissection is completed the preparation should be placed in a jar containing a solution of 1 ounce of liquefied phenol to 1 gallon of filtered water (C 1).

8. When the dissection has ceased to purge it is placed in an empty glass jar with a lid on and is left to cure. Visceral preparations should not be cured.

9. The arteries must be painted with a vermilion red, and the veins with cobalt blue. The moist (gouache) colors are good. They should be allowed to dry thoroughly before the dissection is placed in the first solution. This drying requires fifteen to twenty hours. Experiments seem to indicate that the ordinary house-paints prepared ready for use have the advantage of doing away with these long hours of drying. The vessels to be painted with oil paints should be well mopped with cheese-cloth or absorbent gauze, and left exposed to the air for about two hours. They are then dry enough for the oil paint to take or stick. Two thin coats are better than a single thick coat. After the painting is done, leave the vessels exposed to the air for about two hours; then place them in the permanent solution.

10. Finally, the preparation is placed in a glass jar filled with a solution of 20 ounces of alcohol to every gallon of filtered or distilled water (A 20; see previous article). Visceral preparations, brains, and articulations and ligaments seem to do better in a solution composed of 20 ounces of alcohol and 1 ounce of liquor formaldehydi to the gallon of water (A 20 F 1; see previous article). The alcohol seems to prevent the snow-white bleaching action of the formaldehyd and the formaldehyd the ivory bleaching action of the alcohol.

11. The solutions should be changed as soon and as often as they become slightly cloudy or discolored. The refraction of the water has often a very marked effect in reducing the intensity of the dark brown color which the muscles present when they are out of the solution. If this could be remedied, it would be a great improvement.

I have experimented extensively with solutions of glycerin by immersing in them preparations without proper color to improve their color. It did have that result, but as soon as the preparations were placed in A 20 or any other solution the improved color disappeared and the original unsatisfactory color returned. Instead of placing these preparations in A 20 I placed them, after the curing, in paraffin oil or ordinary white petroleum oil and the improved color remained, but after awhile the oil became cloudy.

Attempts were made to paint muscles with bad color. Moist colors (brown madder) gave a good result, but in course of time the color fades. Oil paints stand better, but at close range they do not look natural.

On being removed the brain should be placed in a solution composed of 1 ounce of liquor formaldehydi and 20 ounces of alcohol to 1 gallon of water (A 20, F1). The solution must be changed as soon and as often as it becomes discolored by the blood. Preparations of the brain which require dissections should be made before the brain hardens too much. Those preparations which require only sections should be done when the brain has hardened.

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TYPHOID MENINGITIS

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Clinically and pathologically typhoid meningitis is of especial interest, because of the common occurrence of nervous symptoms during the course of a severe typhoid, and because of the several types of meningitis that occasionally occur. R. Cole[1] has critically reviewed the subject of typhoid meningitis, adding a number of new cases to a list based on bacteriologic findings. He divides the cases into three groups:

1. Meningism. Symptoms of meningitis are present but there are no meningeal lesions and no direct relation between the bacteria and the symptoms. This condition is produced by the toxins in other specific fevers.

2. Serous meningitis of Quincke, in which there are symptoms of meningitis; the brain shows, microscopically, edema and round-cell infiltration, and a serous

1. Johns Hopkins Hosp. Rep., 1904, v, 12.

exudate is present, in which is found the typhoid organism.

3. Suppurative or purulent typhoid meningitis.

For purposes of more definite classification we prefer to subdivide Class 3 into purulent typhoid meningitis with and without intestinal lesions.

The difference in symptoms between a severe typhoid with marked nervous symptoms and meningism is very slight in many cases, and of degree only. Muscular twitchings, severe headache, delirium, carphologia, stiff neck and occasional presence of Kernig's sign are seen in many typhoids, without special features. A step further and the presence of palsies, convulsions, eye lesions and vomiting makes the diagnosis of meningism or meningitis, depending on the cellular and bacterial content of the cerebrospinal fluid. A differential diagnosis between meningism and serous meningitis is made by the presence of the typhoid bacillus in the cerebrospinal fluid of the latter. Is this sufficient evidence? Is it not possible that the typhoid bacillus occurs in the cerebrospinal fluid during the course of a fair proportion of typhoids, just as it is found in the urine, gall-bladder and blood in many cases? If the typhoid bacillus is present in the cerebrospinal fluid as part of a general distribution of the organism, we must assume that in many cases it produces very few, if any, symptoms and no pathologic changes; and in other cases that it produces marked symptoms and no pathologic changes; and again, marked symptoms and definite lesions of meningitis. We have studied the cerebrospinal fluid from twelve patients with typhoid fever of varying severity with a view of determining the bacteriologic content and the possible therapeutic benefit to be derived from lumbar puncture in cases with marked nervous symptoms.

FINDINGS IN CEREBROSPINAL FLUID OF TWELVE PATIENTS WITH TYPHOID FEVER

Severity of Case.	Drops per Minute.	Color of Fluid.	Therapeutic Effect.	Culture.
1. Average	118	Clear	None	Negative.
2. Average	32	Clear	None	Negative.
3. Average	Increased pressure	Clear	None	Negative.
4. Average	Increased pressure	Clear	None	Negative.
5. Mildly nervous	104	Clear	None	Negative.
6. Mildly nervous	Increased pressure	Clear	None	Negative.
7. Nervous	80	Clear	None	Negative.
8. Nervous	?	Clear	None	Negative.
9. Nervous	190	Clear	None	Negative.
10. Nervous	Stream	Clear	None	Negative.
11. Nervous	Stream	Clear	None	Negative.
12. Nervous	Stream	Clear	None	Negative.

Cultures were made from the cerebrospinal fluid on bouillon and slant agar. To a large tube of bouillon about 7 or 8 c.c. of cerebrospinal fluid were added and about 1 c.c. on slant agar. The cultures gave no typhoid growth in any of the twelve cases. Two tubes showed a growth of staphylococcus, which was probably a contamination, as the cases were complicated by furunculosis, and by a bed-sore in one instance. In the six nervous cases, delirium, carphologia, involuntary discharges, and, in one case, stiff neck were present, and in none of them was positive improvement noted after lumbar puncture. In all cases, after the fluid necessary for cultures was withdrawn, the fluid was allowed to escape until it came to about twenty drops a minute. None of the cases showed any unfavorable symptoms after the lumbar puncture. The pressure under which the fluid escaped was almost uniformly increased in the very nervous cases. The cases were all typhoid fever as determined by the presence of a positive agglutination test, or a positive blood-culture. They were in the second to the fourth week of the disease.

Rocaz and Carles[2] report eight cases of typhoid fever in children from 4 to 12 years old, in all of whom the classical symptoms of meningitis, including Kernig's sign, strabismus and irregular pupils, were present. Lumbar puncture showed an increase in tension of the cerebrospinal fluid in all of the cases. In two cases there were a number of lymphocytes in the fluid, but in the remaining six cellular elements were lacking. Cultures from the fluid were all sterile. A marked improvement followed spinal puncture in all of the cases. The authors divide the contents of the cerebrospinal fluid of meningeal typhoids into four classes: A. Containing pus, typhoid bacilli alone, or, at times, other organisms. B. Colorless fluid containing the typhoid bacilli. C. Clear fluid with abnormal cell content, as excess of lymphocytes. D. Normal fluid but under high tension. R. Stein[3] also reports three cases with symptoms of meningitis in the course of typhoid fever in which lumbar puncture revealed a sterile fluid. Improvement followed the withdrawal of the fluid.

Under the head of serous typhoid meningitis Cole reported eight cases from the literature and added five more of his own. The interesting points are brought out that in one case recovery occurred and in several others the meningeal symptoms cleared up, the fatal issue being due to other causes. The time of the onset of the meningeal symptoms was variable and in severe cases the symptoms differed only in degree from those of a severe typhoid. In other cases the symptoms of meningitis were classical. Since Cole's paper cases of serous typhoid meningitis have been reported by Nieter,[4] A. Schutse,[5] Sicard,[6] and E. H. M. Milligan.[7]

We wish to report a case of serous meningitis occuring in a typhoid patient during the fourth to fifth week of the disease, from whose cerebrospinal fluid a motile bacillus was recovered which was agglutinated by the patient's serum, which previously had agglutinated known typhoid bacilli.

CASE 1.—*History.*—P. Y., a middle-aged Austrian laborer, entered Cook County Hospital, September 29, 1909, on the service of Drs. Kerr and Elliot, with a diagnosis of typhoid fever. He gave a history of the usual prodromes of typhoid.

Examination.—On admittance the patient had rapid respirations and flushed face. His spleen was palpable and some abdominal tenderness was elicited; lungs, heart and reflexes seemed normal; temperature was 104, pulse 112, and respirations 28. The urine was acid, specific gravity 1.020, negative for sugar but positive for albumin, and microscopically hyalin and granular casts were found. The white blood-count was 3,500 and agglutination of typhoid bacilli was positive in fifteen minutes in dilution of 1 to 50.

Course of Disease.—From September 30 to October 10 the patient had involuntary discharges, was drowsy and stupid

2. Gaz. hebd. d. Soc. méd. de Bordeaux, 1908, xxxiv, 39.
3. Am. Jour. Med. Sc., 1910, i, 542.
4. München. med. Wchnschr., May, 1908, lv, 1009.
5. Berl. klin. Wchnschr., 1905, xlv, 1465.
6. Semaine méd., 1905, xlvii, 559.

and occasionally irrational. The temperature ranged from 103 to 105.2 F. per rectum. October 5, examination revealed typical findings of consolidation in the right lower lobe. The respirations became 40. On October 11 the patient had a severe chill and complained of pain in the head and abdomen. On October 13 he had another chill, and examination showed his neck to be rigid and extended. The eyes and reflexes were normal. The Kernig sign was present on the next day, and rigidity of the neck and opisthotonos were marked. Lumbar puncture was made and a clear fluid escaped at a scant 6 drops a minute. Cellular elements in the fluid were few. Cultures from the fluid showed next day a motile bacillus, morphologically like *Bacillus typhosus*, which was agglutinated by the patient's serum in fifteen minutes in a dilution of 1 to 40. From this period the patient grew constantly worse and developed twitchings of the muscles and stupor, and died October 18. Unfortunately no autopsy was obtained.

In reviewing the literature on purulent typhoid meningitis Cole found many cases reported, but few bacteriologically proved. He cites fifteen authentic cases, all showing intestinal lesions. In these cases the onset was acute, beginning in the second or third week of the typhoid and lasting from two to seven days. They were all fatal. Kernig's sign was absent in two out of three cases. Netter has reported 313 uncomplicated typhoid cases with the Kernig sign present forty-four times. Since Cole's communication no other cases of purulent typhoid meningitis with intestinal lesions have been reported.

We wish to report a case in a 4-year-old girl, in whose cerebrospinal fluid typhoid bacilli were present during life, and at the autopsy, were isolated from the meninges, lateral ventricles and cord. Characteristic intestinal lesions were found at autopsy.

CASE 2.—*History.*—Annie S., 4 years old, Belgian, entered Cook County Hospital, June 20, 1908, on the service of Drs. Abt and Butler. The history of her illness was unsatisfactory, but her parents had noticed that she had had fever, no appetite and had been extremely restless during the week previous to admission.

Examination.—The patient was a well-nourished but restless child with flushed face and sordes on the lips. The neck was not rigid, no herpes were visible and the tongue was dry and coated. The pupils were equal and reacted normally; heart beat 180, and lungs normal. The abdomen showed no rose spots, was not tympanitic, tender nor rigid; spleen was not palpated; knee-jerks were not elicited, neither was there any Kernig sign, ankle-clonus or Babinski sign. Temperature on entrance was 104 F, pulse 136, respirations 36. The white cells were 6,000 per cu. mm.

Course of Disease.—The next day the general symptoms improved. There was no agglutination in a dilution of 1 to 40. On June 24 the spleen was palpable and there was a positive diazo reaction in the urine, which was otherwise normal. The patient was very sick at this time and extremely restless, tossing about continuously. Leukocytes on June 29 were 9,500. On June 30 the patient's condition was very poor. She lay in a stupor with divergent strabismus and stertorous breathing. Heart and lungs were normal. There was still no rigidity in the neck and Kernig's sign and ankle-clonus were absent. The feet were in marked plantar flexion and a suggestion of a Babinski sign was present. Agglutination still was negative. In the evening there was a positive Kernig, rigid neck, opisthotonos, and the respirations were Cheyne-Stokes in character. The pupils were equal but reacted sluggishly to light. The next morning the pupils were unequal, the left being larger than the right, and twitching of the corrugator muscle was noticed over the left eye together with twitching of the left cheek and left hand. Opisthotonos was marked, the hands were in flexion and the back was board-like. The ears were normal. Temperature was 107 F.; pulse could not be counted. By lumbar puncture about seven drams of a turbid, opalescent fluid escaped under pressure. This fluid was secured in a sterile test-tube and cultures were immediately made in bouillon. A smear made of the fluid was found to contain equal numbers of polynuclear and mononuclear leukocytes and great numbers of short, thin bacilli, mostly extracellular. These organisms were Gram-positive. No tubercle bacilli were present. The patient died at 2:15 p. m.

Macroscopic Post-Mortem Findings.—Twenty-three hours later, the ileum and jejunum were found to be the seat of an extreme degree of ulcerative enteritis. In all there were forty ulcers, round or elliptical in shape, longitudinal to the axis of the bowel and occupying the position of Peyer's patches. The base of the ulcers in several instances was on the serosa. Almost all were in the stage of healing, and the shaven-beard appearance was frequently seen. There were no lesions in the duodenum, appendix or colon. On opening the skull cavity the dura was found adherent to the calvarium. On removing the dura a greenish-yellowish exudate was found filling the sulci and following the course of the vessels. At the base of the brain was found about two ounces of a cloudy flocculent exudate. The vessels of the brain were everywhere injected. Considerable bloody fluid was found in the lateral ventricles. The base and cortex of the brain seemed to be equally involved in the inflammatory process. On opening the dura of the cord a quantity of cloudy purulent fluid escaped. The vessels of the cord were prominent and injected. All levels of the cord were involved. The post-mortem diagnosis was: (1) acute purulent cerebrospinal leptomeningitis; (2) typhoid ulcerative enteritis; (3) acute splenitis; (4) mesenteric lymphadenitis; (5) right fibrous pleuritis; (6) passive hyperemia of the lungs and kidneys.

Microscopic Post-Mortem Findings.—Microscopically, different sections of the brain showed a thick cellular exudate over its surface, dipping down into the sulci. The blood-vessels on the surface of the brain were dilated and surrounded by thick masses of exudate, but in no place was the intima of the arteries lifted up by the cells of the exudate, as described by Ohlmacher in his case. In the walls of the vessels and in their proximity, especially, were seen large cells almost four times the size of a polynuclear cell, with vesicular, bladder-like nuclei. These cells were not observed to contain bacilli, which were numerous throughout the exudate. The cellular elements of the exudate varied in different places. In some areas the polynuclears numbered as high as 80 per cent., and in others the cells seemed to be mostly mononuclears. The large mononuclears were in preponderance. The brain membranes were almost exclusively involved in the inflammatory process as the brain substance itself seemed quite normal. The changes in the cord were similar to those described in the brain. The exudate seemed to be composed of polynuclear and mononuclear leukocytes and was especially marked about the anterior roots in the subdural space. There were also patches of extradural exudate and mononuclear cells were seen in the central canal of the cord.

Bacteriology.—Cultures made in bouillon from the cerebrospinal fluid during life showed a diffuse cloudy growth at the end of twenty-four hours. Hanging drop revealed motile bacilli with motion of the whirling, darting type. A smear from this culture showed many short thick-and-thin bacilli which were Gram-positive. Subcultures were made from the bouillon culture on the following media:

Agar Slant.	*Litmus Milk.*	*Potato*	*Glucose-Agar.*
	24 Hours		
Slight, whitish, pearly growth.	Faint pink....	Faint dry line.	Deep growth; no gas.
	48 Hours		
Only slightly increased growth.	Lilac pink.....	Moderate	No gas.....
	6 Days		
Growth still localized.	Still lilac pink.	No odor; moderate.	No gas.....

No indol in sugar-free bouillon.

With known typhoid blood this bacillus was agglutinated in a dilution of 1 to 40 inside of an hour.

At the autopsy cultures were made from the heart's blood, the pericardial fluid, bile, cerebrospinal canal, base of the

brain, lateral ventricles and dura. Smears of these fluids, except the heart's blood and pericardial fluid, showed a short thick-and-thin bacillus. The typhoid bacillus was isolated in pure culture from the base and cortex of the brain, lateral ventricles and from the spinal cord. The colon bacillus was isolated from the bile. The typhoid bacilli, thus obtained, were agglutinated by the serum of a known typhoid.

Extremely interesting and somewhat rare are the cases of typhoid without intestinal lesions. Flexner and Harris[8] reported a case with an acute splenitis, with no intestinal lesions, in which typhoid bacilli were isolated from the spleen, lung and liver in pure culture. Opie and Bassett[9] report a similar case, clinically typhoid, with no intestinal lesions, but in which typhoid bacilli were found in the liver, gall-bladder and kidney. Neumann and Schaffer[10] report a case of suppurative meningitis, due to the typhoid bacillus, without intestinal lesions. Henry and Rosenberger[11] report a case of purulent typhoid meningitis with a bacteriemia, enlarged spleen and enteritis, but no ulceration of Peyer's patches. Southard and Richards[12] report a case of suppurative typhoid meningitis, in a tabo-paretic with bronchopneumonia, in whom there were no intestinal lesions, but typhoid bacilli were isolated from an enlarged mesenteric gland. R. S. Lavenson[13] reports a localized collection of pus in the pia arachnoid on the left and right cerebral hemispheres in a case from which typhoid bacilli were cultivated from the cerebrospinal fluid *intra vitam*. Smears from the pus at autopsy showed Gram-negative bacilli. The spleen was not enlarged and the intestines were normal.

We wish to report a case of suppurative typhoid meningitis with a bacteriemia without intestinal lesions, in which the typhoid bacillus was isolated from the cerebrospinal fluid during life and at autopsy.

CASE 3.—*History.*—J. S., aged 48, entered the Cook County Hospital, Jan. 8, 1905, on the service of Drs. Preble and Reed. He was in a semiconscious condition.

Examination.—The temperature was 102 F. and pulse was 104. There was no enlargement of the spleen; reflexes were sluggish; leukocytes, 9,500 per cu. mm.

Course of Disease.—On the second day the patient had a convulsion which lasted ten minutes. Distinct nystagmus, vertical and horizontal, was present and the head and eyes were turned toward the right. On the third day he developed stiffness of the neck and legs and a lumbar puncture was made. A small amount of turbid fluid dropped out under no pressure. Smears of this showed an equal number of polynuclear and faintly staining mononuclear cells. A considerable number of organisms were present which were either diplococci or short bacilli in pairs. They were arranged in chains or pairs of four and were not intracellular, nor did they stain by Gram stain. Cultures were made from the spinal fluid as well as from the blood. In thirty-six hours these cultures showed a pure growth of a very short, thick bacillus, actively motile, Gram-negative, which grew culturally like *B. typhosus*. On the fifth day the eye-grounds were examined and found negative, but Kernig's sign was positive and the tongue protruded to the right. The nystagmus was less pronounced. Goose-flesh phenomenon was seen on the left side of the body, there being a sharp dividing line anteriorly and posteriorly. The patient was semicomatose; temperature 106.4 F. The patient died on the fifth day at 12:30 p. m.

Macroscopic Post-Mortem Findings.—The necropsy was held two days later by Dr. Reed. The anatomic diagnosis was purulent cerebrospinal leptomeningitis, chronic diffuse nephritis, atrophic cirrhosis of the liver, old depressed fracture of the skull, epigastric hernia, pulmonary congestion and edema.

The intestines were entirely normal. Peyer's patches were neither swollen nor ulcerated. The spleen weighed 280 gm. and had five notches. Its pulp was soft but the markings were quite distinct. On opening the skull cavity the dura was found adherent to depressed bone at the site of an old fracture. The meninges were much injected over the vertex, and above the Sylvian fissure was a fibropurulent exudate in the pia following the lines of the vessels on both sides and along the longitudinal fissure and temporal lobes. The exudate was more marked along the perforated spaces at the base of the brain, covering the pons and the region between the medulla and cerebellum and the upper surface of the cerebellum. In the lateral ventricles was a turbid, bloody fluid. The meninges of the cord were hyperemic in their whole extent, and beneath the meninges was a fibrinous exudate.

Microscopic Post-Mortem Findings.—Sections of the cord, occipital lobe and cerebellum were examined microscopically. In all there was a large amount of exudate on the meninges, composed mostly of polynuclear and large mononuclear cells This exudate was most intense around the veins and arteries and separated the meninges freely from the substance of the brain and cord. In no instance was the exudate present in the brain substance. In the sections studied there was not observed any lifting of the endothelium of the vessels by exudate. In the sections stained with methylene blue there were numerous bacilli seen, arranged in chains of three and four. No other organisms were seen.

Bacteriology.—Cultures were made at the autopsy by Dr. Stober. The *Staphylococcus albus* was grown from the pericardial fluid. The colon bacillus was isolated from the cord, cerebrospinal fluid, lateral ventricles and meninges of the brain. The typhoid bacillus was isolated from the cerebrospinal fluid and its identity made certain by subcultures, the description of which we omit. This organism was agglutinated by known typhoid serum in a dilution of 1 to 40 at the end of forty minutes.

SUMMARY

Typhoid bacilli are not found in the cerebrospinal fluid in uncomplicated cases of typhoid fever.

Typhoid patients suffering the ordinary nervous manifestations such as delirium, involuntary discharges, carphologia and severe headache are not benefited by withdrawal of cerebrospinal fluid, although the fluid may be under increased tension.

In typhoid patients showing classical symptoms of meningitis, the cerebrospinal fluid may be sterile, but lumbar puncture and withdrawal of fluid has improved the clinical condition in a striking way in some cases.

When typhoid fever patients show meningeal symptoms such as rigidity of the neck, Kernig's sign, convulsions, strabismus or irregularity of the pupils, lumbar puncture should always be done, and the fluid obtained examined bacteriologically and microscopically.

72 East Madison Street—5831 Washington Avenue.

8. Bull. Johns Hopkins Hosp., 1897, viii, 259.
9. Bull. Johns Hopkins Hosp., 1901, xii, 198.
10. Virchows Arch. f. path. Anat., 1887, ix, 477.
11. Am. Jour. Med. Sc., 1908, i, 240.
12. Jour. Med. Research, 1908, p. 513.
13. Univ. Penn. Med. Bull., 1908, xxi, 55.

Abdominal Pain and Loose Sacro-Iliac Joint.—There is one source of pain, and an important one which it behooves the surgeon always to be looking for, and that is the one due to loose sacro-iliac joint, first discovered, investigated and heralded by Joel E. Goldthwait of Boston (*Boston Med. and Surg. Jour.*, 1905, pp. 593, 643). This pain is apt to be associated with more or less severe backache, generally on one side over the sacro-iliac joint. It sometimes extends through to the front of the joint, where it is most apt to be mistaken for an affection of some pelvic organ. It can, as a rule, be demonstrated by a shortening of the affected leg and by rotating and forcing it strongly or by pulling it outward. In other instances the reasoning is more by exclusion. The therapeutic test is a valuable one, as most of these patients are relieved by a strong bandage made like a surcingle.—H. A. Kelly, in *Interstate Medical Journal*.

A CASE OF EPITHELIOMA OF THE VULVA AND A CASE OF RECURRENT GROWTH OF THE MEATUS URINARIUS TREATED BY IONIC SURGERY AND PLASTIC OPERATIONS*

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The case of epithelioma of the vulva is reported as presenting somewhat unusual features, and also as illustrating one type of malignant growth for which the ionic method of destructive sterilization is peculiarly adapted. The permanence of the result attained is fairly assured by the fact that nearly two and a half years have passed since the operation was performed. The salient points of this case were as follows:

Patient.—Miss E. Z., aged 49, was referred to me by Dr. Marie Formad, of Philadelphia, June 16, 1908.

History.—Four years ago a lump the size of a pea appeared on the right labium majus; it increased in area and ulcerated. Two years ago, Dr. Formad sent her to a hospital where a microscopic examination was made and the case pronounced inoperable. During the past two years the increase in the area of the growth has been rapid.

Examination.—The condition on admission to the Oncologic Hospital was as follows: An eroded and proliferated surface extended from the clitoris to a point below the anus, involving the whole vulvar area and extending some distance into the urethra, vagina and rectum. There was a characteristic discharge accompanied by a foul odor. No enlarged glands were discoverable. The blood-examination showed erythrocytes, 5,550,000; leukocytes, 5,800, and hemoglobin, 81 per cent.

Treatment.—On June 24, 1908, the patient was placed under ether and a major monopolar application of zinc-mercury ions was made with a current of from 1,000 to 1,200 milliamperes for one hour. This application was accomplished by the ionic dissolution of sixteen zinc needles, each heavily coated with quicksilver and inserted in the periphery of the growth. The needles were connected with the positive pole of the direct current, the negative being a large kaolin pad under the patient's back. On separation of the large mass of sterilized tissue two weeks later an immense cloaca-like opening was revealed, into which the three pelvic outlets coalesced, the cavity extending so far on the right as to expose the lower edge of the pubic ramus. The wound was painless, and filled in rapidly. By August 18 the patient had regained partial control of both rectum and bladder.

Subsequent History.—Four months after the operation the floor of the pelvis had become partially replaced by healthy scar tissue, though this tissue was insufficient to prevent a protrusion of the vaginal and rectal walls, the prolapsed anterior vaginal wall containing a cystocele and giving marked discomfort when the patient sneezed or laughed. Dr. Longenecker, of the hospital staff, kindly did a plastic operation at this time on the anterior vaginal wall, with excellent results.

Plastic Operation.—Ten months after the ionic operation the cicatrization was still incomplete at a central point around the urethral opening, this opening existing at about the middle point of the normal urethral length, the external portion having been involved in the disease and destroyed at the operation. It was decided that a plastic operation for covering the bare area would be tried, and this was done by Dr. Hewson, April 18, 1909, a square flap of skin and subdermic tissue being dissected from the left side of the scar and side of the thigh and transferred to the freshened surface, an opening having been made in the middle of the flap to correspond with the urethra. A soft catheter was placed securely in the partly artificial urethra thus made and kept in position for six days, leaving some vesical irritation.

Result.—At the present time, two years and five months since the ionic operation, there is no evidence of recurrence of the malignant growth, and the patient's only discomfort is due to the practical absence of the lower rectal sphincter, making it difficult to retain flatus, and permitting soiling of the clothing when the feces are unformed. The bladder retains some of the sensitiveness acquired at the time of the last plastic operation, and micturition is somewhat precipitant.

Examination of Growth.—A specimen of the tissue was removed just prior to the ionic operation and was reported on as follows by Dr. John M. Swan, the pathologist of the hospital:

"A piece of tissue from the vulva, submitted for examination: The specimen is composed of skin and subcutaneous tissue. The epidermis has grown down into the underlying connective tissues, where it forms irregular islands of epithelial cells surrounded by young connective tissue. The cells in the epithelial islands are squamous in type. There are no pearly bodies. Diagnosis: squamous-celled epithelioma of vulva."

The other case to which I invite attention is an illustration of the difficulties that sometimes surround the diagnosis of growths of the urethral orifice in women. The appearance presented by this growth when first seen was that of a typical caruncle, the bright red color of the round protuberance showing within the urethral orifice, and its exquisite tenderness, both indicating a benign neoplasm. Yet a measure of destructive sterilization adapted to such a diagnosis was followed by the recurrence of a distinctly malignant growth in the same situation a few months later. The successful destruction of this second manifestation of the growth by an ionic application fully adapted to the malignant conditions will illustrate also, I think, the value of this form of surgery in this situation, and the opportunity that it presents for conserving the unaffected urethral tissues.

Patient.—Miss F., aged 33, was referred to me by Dr. J. B. Shaw, of Trenton, N. J., May 12, 1909. Her father died of cancer of the liver, otherwise the family history was negative. During the past five years the patient had lost 35 pounds in weight, and for two years she had suffered from a burning sensation at the urethral opening, greatly aggravated by the passage of urine, and from a more constant soreness referred to the bladder, with considerable mucopurulent leukorrhea.

Examination.—The patient was rather thin and somewhat bronzed in color. Inspection revealed a bright red caruncle-like body the size of a pea projecting slightly from the meatus urinarius. It was smooth and excessively tender to the touch. On urethroscopic examination the caruncle could be traced as an elongation up the urethra about one inch, it being attached as a sessile growth to the right side of the urethral mucous membrane.

Treatment.—The patient was admitted to the Oncologic Hospital and placed under ether for ionic destruction of the growth May 13, 1909. After etherization, a specimen was removed for microscopic examination; this caused free hemorrhage, which was quickly arrested by placing a zinc-mercury needle in the wound and turning on from 30 to 40 milliamperes of the direct current, positive. The hemorrhage being controlled, another positive zinc-mercury needle was thrust into the base of the growth, and, with both needles active, the current was raised to 80 milliamperes and maintained at this strength until the whole of the growth appeared to be devitalized and white, the total duration of the application being sixteen minutes.

Result.—The patient required catheterizing for twenty-four hours, after which time urine was voided. There was no rise of temperature. The small slough separated one week later, and the patient was discharged from the hospital at the end of two weeks.

* Read before the Obstetrical Society of Philadelphia, Dec. 1, 1910

Examination of Growth.—The specimens removed were submitted to Dr. Swan, who made the following uncertain report, the cause of the uncertainty possibly being the failure to secure a portion of the base of the growth.

Pathologic Report on First Specimen.—"A few fragments of tissue removed from the external urinary meatus. The tissue is composed of a surface epithelium of the stratified squamous type lying on a connective tissue groundwork. The majority of the sections are of such a nature that no opinion can be given as to their character, but in one slide the connective tissue portion of the specimen is composed of a loose reticulum of cells of varying type mixed with an extensive exudate of red blood-corpuscles. Many of the cells, I believe, are epithelial cells, and I think the tumor is malignant, but I am not prepared to give an opinion as to its proper classification. Diagnosis: questionable."

Subsequent History.—The patient was kept under close observation, and seven months later (Dec. 13, 1909), there was distinct evidence of a recurrence of the growth in the shape of an ulceration at its site with raised, hard edges that refused to heal. She was readmitted to the hospital under the belief that the growth was originally and still malignant, with a view to its thorough destruction. On this occasion a current of 200 to 300 milliamperes was employed for double the previous time, or thirty-four minutes, and with six larger needles completely circling the growth at its base. Both operations were monopolar, that is, the negative pole was a large kaolin pad beneath the patient's back. Special efforts were made at this second operation to reach the highest point of the growth in the urethra with as little loss of muscular tissue as possible.

Pathologic Report on Second Specimen.—The pathologic report on the specimen removed at this time is as follows: "Three fragments of tissue removed near the orifice of the urethra, submitted for examination. The largest of these fragments is composed of very much hypertrophied squamous epithelium, which is in one place thrown into numerous folds so that it resembles the duct of a gland. Many of the cells of this epithelium are hydropic. No place can be found in which this epithelium extends into the underlying connective tissue, but the connective tissue just beneath it is the seat of a very well-marked round-celled infiltration, and these cells are principally of the plasma-cell type. The tissue is markedly congested, and in some places there is free hemorrhage. The round-celled infiltration above referred to is seen in scattered areas throughout the connective tissue, here and there associated with polymorphonuclear cells. There are a great many new blood-vessels in the tissue. One of the smaller bits is elliptical in outline, surrounded throughout its entire extent with a stratified squamous epithelium which does not dip down into the underlying connective tissue. This connective tissue is rich in blood-vessels, which are filled with blood, and shows numerous fibroblasts, and areas of small round-celled infiltration of the plasma cell type, mixed with lymphocytes. The third piece is composed of masses of round cells of varying type; polymorphonuclears, lymphocytes, plasma cells and fragmented nuclei. The tissue contains numerous blood-vessels with fairly thick walls. In several places there is free hemorrhage. In one part of this piece the endothelial cells forming the walls of the blood-vessels appear to be proliferating. Diagnosis: infective granuloma (?)."

Third Operation.—On Feb. 24, 1910, the patient was admitted a third time for the destruction of three nodules of bright color at the meatus. A current of from 100 to 150 milliamperes was used for twelve minutes, with three needles.

Result.—Her progress thereafter was steady, the parts closing in with tissue of normal color, somewhat retracted, but with complete control of the bladder and absence of unpleasant sensations, except a hypogastric discomfort for a time, apparently referable to the bladder. At present, ten months after the last operation, there is smooth scar tissue occupying the whole site of the growth, the external layer being regenerated mucous membrane by peripheral budding. The urethra seems healthy and of normal caliber, with the meatus retracted about one inch. This retraction has tilted the anterior wall of the vagina outward at the urethral orifice. The patient's unpleasant sensations on micturition have ceased and she has good control over the bladder. No evidence of a return of the disease can be found, and she has gained in weight and color.

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EARLY DIAGNOSIS OF GALL-STONE DISEASE

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The success of surgery of the bile-tract within the last ten years is due to more effective cooperation between the surgeon and the general practitioner, to closer observation of pathology, and to the contributions of experimental medicine. The opportunity of the surgeon to study pathology at the operating-table has brought about a clearer understanding of the significance of symptoms which heretofore have not been appreciated. The great work done by the Mayos and their associates, by Deaver, Moynihan and others, in calling attention to pathologic conditions found in the living has revolutionized our former conception of gall-stone disease. We now know that gall-stones, instead of being frequently present without symptoms, create a distinct type of clinical phenomena, which in the past we did not properly interpret. The picture of the terminal stage has been too frequently used for a general description of gall-stone disease.

The close association of the organs of the upper abdomen often causes diseases of any of these organs to find expression in the stomach. To assign these stomach symptoms to their real cause requires careful study. Except in ulcer or cancer, the stomach is seldom the seat of primary trouble, though it may be the agent through which distress in many abdominal organs may manifest itself.

The classical picture of gall-stone disease, accompanied by attacks of severe pain radiating to the right shoulder, nausea, vomiting and jaundice, is a late stage and results from complications that a calculous cholecystitis may cause. It is most unfortunate that these symptoms are still regarded by many as necessary to a diagnosis, thereby delaying proper treatment and prolonging disability. To prevent complications such as adhesions, perforation, obstruction of the common duct and chronic pancreatitis, it is necessary to recognize what Moynihan calls the "inaugural symptoms" of gall-stone disease, and to dismiss from our minds the typical text-book description of gall-stone colic.

Disease of the gall-bladder has its own type of digestive disturbance. According to Graham, we may distinguish four stages in its development and symptomatology.

In the first stage we see mild disturbance of the stomach, which occasions little distress to patients or anxiety to the physician. Irregular attacks of indigestion accompanied by gas formation and a feeling of epigastric constriction or tightness are observed. These discomforts are sudden in their onset and are frequently accompanied by chilliness, belching, regurgitation, or vomiting. Such dyspeptic attacks, sudden, irregular and mild, are as characteristic of early gall-bladder disease, as the typical attacks of gall-stone colic, which may ensue unless the trouble is recognized and proper treat-

In the second stage the disease occurs with pain, which may be dull or severe, and is located under the right costal arch. This pain may be aggravated by food, by sudden exertion or deep inspiration, and unless a careful physical examination of the chest is made, the physician may explain the symptoms by a diagnosis of pleurisy. These attacks of pain and dyspeptic disturbances are frequently evanescent in type, and with their going the patient enters on a period of good health.

In the third stage we have attacks of gall-stone colic, and here the diagnosis is easy. It is in this class of cases that the surgeon is most frequently called. These patients come with a well-defined history of sudden, excruciating pain located in the upper part of the abdomen, radiating to the right scapula and attended by nausea and vomiting. We have here, also, gas formation and spasm of the diaphragm; vomiting may give partial or complete relief, though morphin is most frequently required. A characteristic of these attacks is the suddenness of the onset and disappearance. The patient is unable to trace any connection between the beginning of the attack and the taking of food. Even in this advanced stage of the disease there may be a return of perfect health, which may continue for an indefinite period, to be suddenly interrupted in most cases by another severe attack.

The fourth stage represents chronic gall-bladder disease, with further complications of adhesions, obstruction of the common duct or pancreatitis. The diagnosis is not clear in this type unless the history of the case is carefully studied. Too frequently the significance of the symptoms or the urgency of the case is not appreciated until this stage is reached, and in view of former teaching, such a mistake is entirely reasonable.

Unless one has seen patients with gall-stone disease in the first or second stage operated on, it will be difficult for one to appreciate the constancy with which operation in these cases shows pathologic conditions of the gall-bladder. That operation relieves such patients and cures their "dyspepsia," is amply proved by the large number of patients operated on in most of the clinics in this country. These patients, who have definite symptoms of the first or the second stage, and are cured by operation, are the best proof of the association of gastric disturbances with the presence of gall-stones. Occasionally, we see cases in which the gall-bladder is packed with stones, thickened and adherent, and still there have been no symptoms other than the gastric disturbances already mentioned. The following case in the service of Dr. J. Shelton Horsley illustrates this point.

CASE 1.—*History.*—Mrs. P., aged 37, a thin, emaciated woman, had suffered with stomach trouble and indefinite dyspepsia for the past twenty years. She complained of a "dull, aching, swollen feeling" in the upper abdomen, which sometimes radiated to the right shoulder and was frequently made worse by eating. She had had considerable bloating and belching. There had been no colic, jaundice, or pain severe enough to require a physician. Vomiting, which occurred only a few times, brought relief, though she usually obtained relief by drinking hot water. She said, "I have taken a lot of medicine for indigestion, which would relieve me for a while."

Diagnosis and Treatment.—Cholecystitis, with probably enlarged gall-bladder. Operation showed that the gall-bladder was enlarged, adherent to the anterior abdominal wall and surrounding tissues, and its walls thickened from chronic inflammation. It contained a thick purulent fluid, twenty-two large stones, with one stone completely occluding the cystic duct. We have here an illustration of the fact that even advanced pathologic lesions of the gall-bladder may exist in a patient who complains of nothing but stomach trouble and slight pain. A letter recently received from this patient states that she is feeling better and weighs more than she has for sixteen years.

In making a diagnosis of gall-stone disease the etiologic possibilities should be gone into. It has long been noted that gall-stones often occur after typhoid fever, and are most frequent in women after pregnancy. It is probably also true that any systemic infection which produces toxins that irritate the mucosa of the gastro-intestinal tract may be a cause of cholecystitis, which, as we know, in its mild form is a forerunner of gall-stones. In the following case the patient's symptoms dated quite definitely from an attack of influenza.

CASE 2.—*History.*—Mr. D., aged 45. The patient has had recurring pains in the epigastrium and lower abdomen for the past eighteen months; was well up until that time, when he contracted influenza. Since then he has had indigestion and pain in the stomach and lower abdomen. Pain and attacks of indigestion were irregular and alternated with periods of partial relief. There was no history of colic, cramps or jaundice, but his complexion he thought was slightly tinged at times.

Diagnosis and Treatment.—Operation showed cholecystitis and chronic appendicitis. The appendix was removed and the gall-bladder drained. This case gave a somewhat mixed type of stomach disturbance from both the appendix and the gall-bladder and may be an instance of cholecystitis from a general influenzal infection. The experiments of Else show that the gall-bladder is frequently infected through the general circulation and not through the portal system. If we accept his conclusion we can readily believe that a severe systemic infection without intestinal lesion could produce gall-bladder trouble. The operation revealed an appendix that was inflamed and moderately diseased and a gall-bladder somewhat thickened and congested and containing thick dark bile, but no stones. Removal of the appendix and drainage of the gall-bladder were followed by prompt recovery.

This patient was a farmer and had been in good health until the attack of influenza. So the relation of cause and effect between the influenza, the cholecystitis and the appendicitis may be assumed with apparent justification. It is probable that in such a case the gastric and intestinal mucosa are as much irritated as that of the gall-bladder and appendix, but the poor drainage of these two organs seems to render them unable to throw off the effect of the irritation as the stomach and intestines do.

Gall-bladder disease must be differentiated from ulcer, cancer, gastric neurosis, and reflex disturbance from chronic appendicitis. In ulcer of the stomach and duodenum there is a history of pain in the upper abdomen, coming on from one and one-half to four hours after meals, and relieved by food or by vomiting or by alkalies. The periodicity in ulcer is lacking in gall-stones. There is a definite relation between the taking of food and the relief of pain in ulcers, which contrasts with the sudden, irregular, and fleeting attacks of cholecystitis, which, in most cases, are not influenced in any way by eating. Formation of gas and the feeling of constriction, with belching, constitute a type of disturbance which accompanies gall-bladder trouble and which is not often found in ulcer.

Cancer of the stomach in about 70 per cent. of cases is said to result from ulcer, and its incipiency is diagnosed with great difficulty. A history of previous ulcer of the stomach should warn us of the approach of malignancy, and suggest a careful study of the case and gastric analysis. In cancer, the appearance of the patient, the irregular vomiting and the disgust for food, contrasted with the symptoms and well-preserved appearance of the patient suffering with ulcer or gall-stones, should be of

some assistance in making a correct diagnosis. Blood is rarely found in gall-bladder cases. In ulcer it is present in one-fourth as against two-thirds of the cases of cancer of the stomach. Gastralgia is found in neurotic individuals, is relieved by pressure, and is not usually attended by nausea or vomiting. It is significant that a more thorough study of the pathology of lesions of the stomach and associated organs of digestion materially reduces the number of patients suffering with so-called gastralgia and other neuroses.

We might be called on to distinguish the girdle pain of locomotor ataxia from an attack of gall-stone colic. Here the Argyll-Robertson pupil, Romberg symptoms, loss of tendon reflex, and other signs of tabes would serve to differentiate.

Disturbance arising from the appendix, shown by gastric indigestion and pyloric spasm, are extremely difficult of diagnosis from primary gall-stone disease, and the two troubles frequently co-exist.

There may be no tenderness over McBurney's point or any other of the usual signs of appendicitis except a type of continuous stomach trouble. In these cases, however, the history may show an attack of appendicitis, which was not treated at the time of its occurrence, and the patient is able to date his indigestion from this attack. There is generally a loss of weight and considerable impairment of health. The effect of food on the pain is variable and the pain is usually in the neighborhood of the umbilicus. In appendical dyspepsia, its continuous type is in marked contrast to the fleeting, irregular and sudden attacks of gall-bladder trouble, and to gastric ulcer, in which there is generally a definite relation between pain and the taking of food. Cannon, of Boston, has succeeded in producing erosion and ulceration of the stomach by the injection or irritants in the cecum. These experiments would seem to indicate that even organic trouble of the stomach may be produced by disturbance in the region of the ileocecal valve.

The only satisfactory treatment of gall-stones is their surgical removal. Occasionally patients recover after passage of the stone by ulceration through into the bowel or into the stomach, or the patient may go through life a chronic dyspeptic and die of some other disease. It is as much the mission of physicians and surgeons to relieve morbidity as to lower mortality, and though the relation between these two things is not always directly apparent, it nevertheless exists in every case. A patient with indefinite stomach trouble, such as is found in the early stage of gall-stone disease, is more susceptible to other diseases, even if the gall-bladder trouble never assumes a threatening attitude in itself.

The medical profession is practically going through now, in regard to gall-bladder disease, what they have already learned in regard to appendicitis. The modern physician does not think of waiting in appendicitis until an abscess has formed, but recommends that the appendix be removed as soon as it is known to be diseased. So in the case of gall-stones, instead of waiting until the patient has had the early stages and has begun to suffer from colicky pains, vomiting and jaundice, the gall-stones should be diagnosticated in the first stage when the irregular attacks of gastric disturbance, with the feeling of constriction and the formation of gas in the stomach, show that as yet there has been practically no organic change in the liver, gall-tracts, or pancreas. Removal of the stones at such a stage will almost certainly insure a return of the patient to perfect health.

VACCINATION AND SMALL-POX IN JAPAN

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Since Jenner introduced the practical use of vaccination over a century ago, mankind in general has been well protected from the cruel onslaught of small-pox wherever the process is carried out. We are greatly surprised every now and then to find antivaccinationists among people far advanced in civilization like those of the United States of America. I should, however, never have attempted to make any criticism on their presumption, had not one of them, namely, Dr. Hodge, of Niagara Falls, referred to the facts gathered from our Japanese statistics in his paper in the *Twentieth Century Magazine*. I may be permitted, therefore, to try to make clear how vaccination is serving to wipe out small-pox in Japan.

I. EPIDEMIOLOGIC OBSERVATIONS ON SMALL-POX AND ON PREVENTIVE MEASURES IN JAPAN

The free communication between Japan, China and Corea in earlier days was the source which gave rise to great epidemics of small-pox quite frequently, until at last vaccination was introduced. Japanese history tells us that small-pox was imported for the first time into Kyushyu in the month of February, 123 B. C., after which it gradually spread toward the east as far as Kyoto, causing a great epidemic all over the country, creating sad havoc, and strewing the high roads with the dead and dying. From this first great epidemic down to 1868, when the restoration of the present Meiji Era set in, about fifty epidemics broke out, each one of which extended over a number of years, sweeping all through the country, diminishing the population considerably and devastating the fertile country everywhere. Towards the end of the Tokugawa Shogunate the measure introduced by Jenner was adopted in Japan, with what favorable results we shall see below. During the ten years from the beginning of the Meiji Era—i. e., 1875-1884—the number of patients suffering from small-pox averaged 2,008.1 per hundred thousand population, while the deaths were only 494.6, which was deemed to be a remarkable improvement.

One of the greatest epidemics of small-pox during the past forty years broke out in 1885 and lasted three years, with 125,315 cases and 31,960 deaths. The epidemic began to decline in 1888. It reappeared in 1892 and again lasted three years. During this second outbreak 88,095 cases were recorded, of which 23,603 patients died. The third outbreak extended over two years, 1896-1897, with 52,650 cases and 15,664 deaths. During the next ten years, a few cases were imported from China every now and then, without any ensuing serious outbreak. Since 1900, the cases in the whole empire were remarkably few, until in 1907, when the disease reappeared at Kobe. This caused an uncommonly severe epidemic, which spread all through the empire. It began to die out in the spring of 1908. During this fourth epidemic 19,101 cases and 6,273 deaths were reported. This outbreak, however, completely subsided by July of the same year, without any trace left. The diagram inserted shows these epidemics most clearly.

Let us now turn our attention to what has been done to avoid the wretched results brought about by small-pox in Japan. In olden times when people were ignorant

superstitious means to attempt to subdue the natural processes. One of the scientific measures, i. e., variolation, was introduced by a Chinese merchant, Lee-Nin-Shan, in the year 1745. That often caused an outbreak of small-pox, and so many fell victims to it that people felt that they were doomed to suffer from small-pox once during their lifetime.

In 1849, i. e., fifty-three years after Jenner had introduced vaccination, the process was first demonstrated in Japan by a Dutch physician, Monicke. The Japanese people were soon convinced of the marvelous effects of vaccination. Vaccinating stations were established in various great cities, e. g., Yeddo (now Tokyo), Kyoto and Osaka, in order to give the public the benefits of vaccination on a broader scale.

Japan, at that time, underwent a political change, and even medical science, which had begun to follow the teachings of the European school, was forbidden to continue by the Shogunate government. Vaccination was the only survivor of the newly introduced methods of the European school. This fact alone explains how far even the obstinate Japanese authorities were convinced of the efficacy of vaccination. The radical change

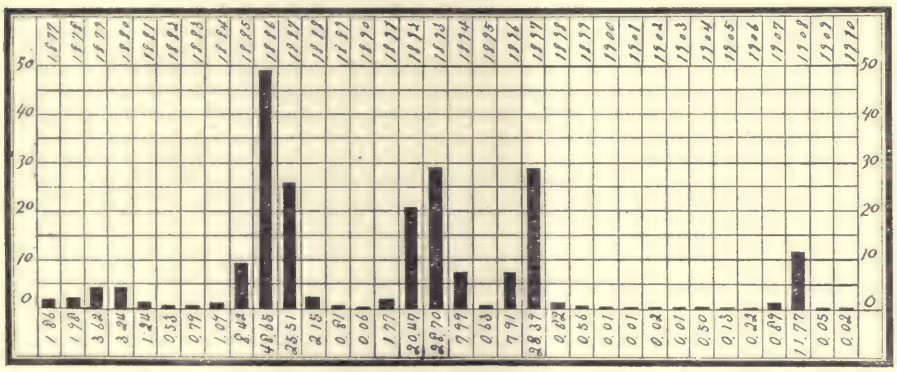


Diagram of small-pox mortality in Japan.

of government just forty-four years ago, which is known to history as the Restoration of the Meiji Era, brought about a completely new mode of politics, everything Occidental being introduced. In 1874 the first vaccination law was enacted, and in 1876 the regulations for the prevention of small-pox were promulgated, which provided for compulsory vaccination. In 1885 a revised law concerning vaccination was enacted. It comprised all the data included in the former two regulations. It provided that every baby should be vaccinated within the first year of its age, and revaccinated every five or seven years. The violation of this regulation was punished with a fine not less than 5 and not exceeding 50 sen (or approximately, from 2½ to 25 cents in U. S. currency). It was in the same year, just after the enactment of these regulations, that the great epidemic broke out which is mentioned above. This regulation remained unchanged during twenty-four years; a new revision took effect in the year 1909. This new law provides that each new-born baby shall be vaccinated within ninety days after birth and before June of the next year. Revaccination shall be made at the tenth year from birth (including the year in which the child was born). If either the primary or the secondary vaccination is unsuccessful, the child shall be revaccinated before December of the next year.

Formerly Japan, as well as every other country, used humanized lymph only. The retrovaccine was then used from 1892 till 1900. In 1900 the present "pure animal lymph" was substituted. While humanized lymph was used, the original vaccine was supplied from the vaccinating stations. In 1874 the Japanese government established a calf-lymph farm, in order to meet the demands of the general public. In 1888 the preparation of calf-lymph was entrusted to the Japan Health Association, which continued to prepare the lymph for eight years. During these years, other private institutions made their appearance which prepared calf-lymph for pecuniary considerations. The products of these private enterprises were unsatisfactory, for the efficacy of such lymph eventually became questionable and at last public opinion was aroused to establish a national institution for the preparation of calf-lymph, and in 1896 such an institution was established. In this institution Dr. Umeno tried the experiment of preparing a "pure animal lymph" by passing the virus only through the calf, never using a human body as had been done previously. He succeeded in this experiment, and since 1900 this kind of calf-lymph has been supplied to the public. The original calf-lymph farm was closed in the year 1906, and the calf-lymph is now prepared in the Institute for Research on Infectious Diseases.

II. THE CAUSES OF THE EPIDEMICS OF SMALL-POX IN JAPAN

Ever since the promulgation of the first vaccination law in 1874, and that of the second one in 1876, when compulsory measures were first adopted, Japan has suffered from epidemics from time to time. The inefficacy of vaccination might therefore seem to be proved to shallow-minded observers, who do not fully realize the complicated nature of the origin of small-pox as well as of other infectious diseases. These various causes should be thoroughly examined before the reliability of vaccination is questioned. Let us now, therefore, review the epidemiology of small-pox in Japan.

There seem to be at least five principal causes to account for the presence and continuance of small-pox:

1. The Importation of the Virus.—Japan is surrounded by seas, beyond which lie several countries where preventive measures have never been taken. In these countries, small-pox exists continuously and at every possible opportunity invades Japan. When we had only a limited means of communication some centuries ago, each epidemic could be traced back to importation of the virus from China through Corea, and in course of time the more the facilities of communication were augmented the more the country was found to be liable to infection. This compelled us to establish quarantine stations, which were opened in 1899. Since that date, and until the end of 1909, the number of detected cases of small-pox at these stations amounted to seventy-one, as is shown in Table 1:

TABLE 1.—NUMBER OF CASES OF SMALL-POX DETECTED AT QUARANTINE STATIONS DURING THE YEARS FROM 1899 TO 1909

Quarantine Station	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	
Yokohama	1	3	.	.	1	.	1	2	3	5	.	—16
Kobe	1	1	1	.	1	3	7	2	1	7	2	—26
Moji	.	1	.	.	.	5	4	.	1	6	2	—19
Nagasaki	1	.	2	1	.	1	.	1	3	1	.	—10
Total	3	5	3	1	2	9	12	5	8	19	4	—71

These figures, of course, exclude by necessity those who passed the stations in the stage of incubation, which obviously made the prevention of the disease most difficult. The same difficulty is encountered in the most completely vaccinated country — Germany — which is bounded on one side by Russia, a non-vaccinated country. This is why there exist a few unavoidable cases of small-pox annually in that country. Imagine, then, how great is the chance of infection in Japan, which is in close proximity to China and Corea, whose condition of national health hardly admits even any comparison with that of Russia. This is one of the most conspicuous causative factors in the reappearance of small-pox in Japan. Japan is therefore never tired of preaching the gospel of vaccination, not only within her own dominions, but also as far as her sphere of influence permits.

2. Non-Vaccinated People.—Laws cannot be expected to be all-powerful. Wherever there is a law, there are also to be met not a few law-breakers, even when the breach is met with severe penalties. It admits of no doubt that such laws as regulate matters of public health provide but slight penalties, and consequently there are not a few law-breakers among the ignorant mass of people. This fact will appear when we come to examine the figures given in our statistics, which equal nearly the whole population of the country. But the more minute particulars, which are not shown in the statistics, will clearly show the vague notion we have of the number of non-vaccinated individuals there are scattered throughout the country. Among the 10,600 persons with small-pox reported during the five years including 1878-1882, non-vaccinated individuals were found to amount to 63 per cent., or 6,690. Then again, during the latest epidemic, in the years 1907-1908, 1,527 non-vaccinated persons among 5,215 small-pox patients were found in one prefecture, i. e., in Hiogo.

Such law-breakers probably will be found in any nation where a vaccination law is enacted. The middle and higher classes of Japanese people never allow their children to go unvaccinated, but the lower classes, who constitute the majority of the nation, often neglect their duty. They are, like kerosene oil in a house where a fire breaks out, fuel for the flames, furnishing every possible chance for the spread of the disease. Under the revised vaccination law taking effect in the year 1909, the hitherto irresponsible protectors of children were subjected to penalties for failure to have them vaccinated.

3. Unsuccessful Vaccination.—The protection of the individual against small-pox is never complete unless the points of inoculation develop the typical pustules, and the patient undergoes a regular symptomatic change. In order to bring about complete immunization in a human body, the quality of the vaccine lymph and the technic of vaccination must be considered.

In Japan, from the first year of the enactment of the vaccination law in 1887 up to 1907, covering twenty-two years, the reported number of vaccinations was 97,355,246, of which 73,259,278 were compulsory and the remaining 24,355,968 voluntary. The average number of vaccinations per year was more than 4,420,000. Comparing this number with the whole Japanese population, there seems to be no one who has not been vaccinated; but a close examination of the real state of affairs will make clear the fact that in the above-mentioned large number of vaccinations are a certain number of unsuccessful vaccinations. Of course this large number of unsuccessfully vaccinated persons may also comprise some who have already acquired immunity by previous vaccination. At the same time we must not overlook those who have been unsuccessfully vaccinated because of unskilful manipulation on the part of the physicians, who had practiced the puncturing system instead of the cutting method, even when the lymph had been changed for the retrovaccine and this again for the "pure animal lymph." The effect of this may be seen from the statistics, which show a great difference between the percentage of the primary vaccinations gathered from the eight years before 1891 and after 1892. In the first eight years when the humanized lymph had been used the percentage of successful vaccinations was high, ranging from 85 to 90 per cent., but in the later eight years when the retrovaccine was introduced the percentage fell suddenly to 75 or 80. The figure, however, has been greatly increasing since 1900, when it reached as high as 88 per cent.

In short, it must be acknowledged that vaccination in Japan is so irregular that while there are some who receive no vaccination until five or six years of age, others have been vaccinated three or more times during the same period of time, and the consequence is the comparatively less number of genuine vaccinations. This evil will be overcome by the adoption of the latest radical policy.

4. The Immunity Acquired Through Vaccination.—Immunity through vaccination is not complete before three weeks after successful vaccination. This is why there are some cases of small-pox immediately following vaccination. Then again, the immunity is gradually weakened by the course of years. This fact may be seen from the following statistics:

Successful revaccination after—

1 year	13.6 per cent.	4 years	57.3 per cent.
2 years	32.9 per cent.	5 years	51.1 per cent.
3 years	46.6 per cent.	6 years	63.8 per cent.

This shows the percentage among the 951 cases observed in Japan.

7 years	72.5 per cent.	9 years	85.0 per cent.
8 years	80.0 per cent.	10 years	88.6 per cent.

These results were obtained by Weil in the year 1899.

The government report of the German Confederacy shows 91 to 93 per cent. of successful revaccinations after ten years from the primary. In other words, the immunity acquired through vaccination begins to disappear from the second year and by the tenth year it disappears almost completely. And therefore in Germany, and in some other countries, a law has been enacted to have the people revaccinated at the eleventh year from the primary vaccination.

The general statistics do not give these minute facts in detail, and therefore the deduction is imperfect. Had not the critics excluded these cases from the total revaccinated ones, they could not come to the conclusion which Dr. Hodge reached. For instance, during the latest epidemic in Japan, which broke out in 1907-1908, 608 patients were admitted into the Higashiyama Hospital in Kobe; 267 of the number were non-vaccinated, the past history of thirty-eight was uncertain as to the vaccination, twenty-five had contracted the disease within three weeks after vaccination, four had had small-pox previously, nineteen contracted the disease within five years and 225 over five years from the last vaccination. This shows also how far the immunity is impaired by the lapse of time.

5. Virulency of Small-Pox.—The virulency of small-pox is not constant in each epidemic. The higher the virulency of small-pox rises, the larger the number of cases among those who have passed several years from the last vaccination. Then, it may be asked, how can the virulency of small-pox be estimated? The simplest

way, it seems to me, is to estimate the death-rate among the non-vaccinated patients. The average death-rate of small-pox is estimated at from 20 to 40 per cent. in the European literature. In Japan, it shows a higher standard, ranging from 25 to 30 per cent. even during the small epidemics. During the epidemic of 1896-1897 it averaged 55.08 per cent., and that of the years 1907-1908 reached the high standard of 69.4 per cent. When the virulency reaches this high point, higher than has been encountered in European or American epidemics, even individuals previously attacked, as well as those vaccinated, contract the disease. During the latest epidemic, such cases were numbered at 242 in seven prefectures, viz., Hiogo, Osaka, Tokyo, Kanagawa, Hiroshima, Aichi and Wakayama, and fifty-seven died. The death-rate, therefore, was 23.5 per cent. This is unmistakable evidence of the strong virulency of the small-pox which prevailed at that time. It is like a devastating fire which consumes everything in its path and to which nothing is fire-proof. Japan dreads this kind of small-pox, which is also abetted by the other circumstances, but its direct results are by no means due to the inefficacy of vaccination.

III. THE EFFICACY OF VACCINATION

The efficacy of vaccination can be demonstrated by experiment, experience and statistics.

1. The fact that vaccinated individuals do not contract small-pox was made clear by Woodylle, William and others immediately after Jenner's experiment, by inoculating the virus of small-pox into the vaccinated individual. In modern times the same experiment has been made, of course for different purposes, with monkeys. Brinkerhoff and Magrath before the year 1904, and Dr. Miyajima, one of my assistants, in 1908 vaccinated a large number of monkeys with calf-lymph, and then inoculated them with the virus of small-pox, but none of the experimental animals contracted the disease. This is an established fact in science, and there is none who can deny it.

2. Empirical testimony can be best drawn from the great epidemics, in which a great many persons engage in transporting, nursing, inspecting and disposing of both the sick and the dead without the least apprehension, because every one of them has received a thorough vaccination. In Japan, those who engage in this kind of work are vaccinated regularly within a certain period of time, and the consequence has been that none of them fell a victim to the pestilence. If, on the contrary, they had never been vaccinated, the result would be nothing but disastrous. If vaccination had no preventive effect on small-pox, they would have fallen victims before anybody else. If, then, the results had occurred just the reverse to the real state of things as claimed by the Jennerists, they should have abandoned their claims a long time ago. But the general public outside the profession is well convinced of the efficacy of vaccination simply because of this empirical testimony, which constitutes an indisputable fact.

3. Statistical facts also bear witness to the efficacy of vaccination. But tables and diagrams shown in statistics do not explain themselves. The most minute and scrupulous examination as to the hidden meaning of them, which only can breathe into the dry framework of figures the spirit of truth, is necessary, so that fallacy may be avoided. In almost every civilized country where there is a perfect system of vaccination in vogue, there occur no great epidemics of small-pox, and consequently the death-rate among them is very low. If an epidemic should occur, it would soon yield to vaccination.

Unfortunately, in Japan we are still having occasional epidemics of small-pox, which constitute for certain fanatic superficial observers a sad example of the inefficacy of vaccination. We have ample reason to believe, however, that the very things which Dr. Hodge and other antivaccinationists hold as evidence against Jennerism are the solid rocks on which the statistical proof of the efficacy of vaccination rests.

In the first place, in proportion as the system of vaccination had been perfected, the period of each epidemic and the number of deaths are diminished. This fact may be seen from Table 2:

TABLE 2.—NUMBER OF CASES, DEATHS AND DEATH-RATE PER HUNDRED IN VARIOUS EPIDEMICS

First Epidemic

	Cases	Deaths	Death-Rate per 100
1885	12,759	3,329	26.09
1886	73,337	18,676	25.47
1887	39,779	9,967	25.06
Total	125,315	31,962	

Second Epidemic

	Cases	Deaths	Death-Rate per 100
1892	33,779	8,409	24.89
1893	41,898	11,852	28.29
1894	12,418	3,342	26.91
Total	88,095	23,603	

Third Epidemic

	Cases	Deaths	Death-Rate per 100
1896	10,704	3,388	31.65
1897	41,946	12,276	29.27
Total	52,650	15,664	

Fourth Epidemic

	Cases	Deaths	Death-Rate per 100
1907	1,034	437	42.25
1908	18,067	5,836	32.32
Total	19,101	6,273	

The first and the second epidemics each lasted fully three years, and the third two years, while the fourth broke out in December, 1907, and ceased completely in August of the following year, covering a period of less than a year. The number of cases again shows a gradual decrease. While the first epidemic had over 100,000 cases, the second had 80,000 and the third 50,000, the fourth had less than 20,000.

The marvelous effect of vaccination on the epidemics of small-pox is manifested in Table 3, which shows the sudden fall in new cases during the epidemic, which otherwise would have increased. The table does not show the long list of the vaccinated persons, but from the beginning of the epidemic down to the close a special vaccination was enforced on all persons who were brought under the control of the hygienic police power.

TABLE 3.—MONTHLY REPORT OF SMALLPOX DURING THE YEARS 1907 AND 1908

	Cases	Deaths
August, 1907	4	2
September, 1907	1	0
October, 1907	25	6
November, 1907	90	31
December, 1907	770	383
January, 1908	4,481	1,394
February, 1908	5,424	1,498
March, 1908	4,685	1,461
April, 1908	1,815	895
May, 1908	926	314
June, 1908	526	185
July, 1908	121	73
August, 1908	36	28

During this epidemic a striking effect of vaccination in mitigating the virulency of small-pox was experienced.

While it prevailed in Hiogo and Osaka, special compulsory vaccination was enforced, and consequently in Kanagawa, Tokyo, Aichi and Kyoto it prevailed less furiously, as is shown in Table 4:

TABLE 4.—RESULTS OF COMPULSORY VACCINATION

Place and Date First Case Appeared	Cases	Deaths	Death-Rate, Per Cent.
Hiogo, August, 1907	5,215	2,315	44.4
Osaka, November, 1907	3,431	1,641	47.9
Kanagawa, December, 1907	684	209	30.5
Tokyo, January, 1908	1,479	379	26.8
Aichi, January, 1908	800	169	21.1
Kyoto, December, 1907	263	38	14.4

The drop in the figures in cases and deaths could never have been so great had it not been for the effect of vaccination.

6. The death-rate in small-pox is given as about 30 per cent. by authorities, but it shows a wide range of figures in various epidemics, just as we see in any other infectious disease. Again, the comparison between the death-rate of small-pox among vaccinated persons and non-vaccinated ones cannot be established unless the data be collected from only one locality in the course of one epidemic. In Japan we have rare statistics which show such comparison. They cover five years from 1878 to 1882. The total number of cases during that time amounted to 10,600, of which number the following figures are given:

	Cases	Deaths	Death-Rate per 100
Non-vaccinated	6,690	2,190	32.73
Vaccinated	3,910	455	11.63

From the above figures it will be seen that the mortality among the vaccinated persons was not more than one-third of that among the non-vaccinated.

The following figures show the same conditions, where clear distinction could be made between the vaccinated and non-vaccinated, in Tokyo, Kyoto, Osaka, Hiogo, Kanagawa and Aichi, where during the latest epidemic the cases numbered 10,286:

	Cases	Deaths	Death-Rate per 100
Non-vaccinated	2,932	2,031	69.3
Vaccinated	7,254	1,926	26.6

The above figures show the decrease in the death-rate among the vaccinated persons to one-half that of the non-vaccinated ones.

The vaccinated persons in the above table include those who were vaccinated within three weeks from the time of exposure and those who had passed the time assigned as the infective period. If these cases be deducted from the number the result would be more accurate.

During the epidemic of 1907-1908, the first case appeared in Kobe City and the disease prevailed most severely there. The Higashiyama Hospital at Kobe admitted 608 patients in all, who may be classified as in Table 5:

TABLE 5.—CASES IN HIGASHIYAMA HOSPITAL

Class	Cases	Deaths	Death-Rate per 100
Non-vaccinated persons	267	134	50.19
Uncertain	38	6	15.79
Vaccinated	274	19	6.90
} Within five years	19	0	0 }
} Over five years	255	19	7.84 }
Vaccinated during incubation period	25	3	12.00
Having previous attack	4	0	0
Total	608	159	26.15

From this table it will be clear that the death-rate among the non-vaccinated persons was 50 per cent., while that of the vaccinated was 6.44 per cent., i. e., one-seventh that among the non-vaccinated. Again, all the deaths among the vaccinated persons occurred exclusively among those who had passed over five years from the last vaccination and among those who had been vaccinated during the incubation period. No one will doubt the efficacy of our Japanese vaccination, now that such a clear table of statistics is produced. Besides, the table shows that even among those who were vaccinated during the incubation period, the death-rate was four times smaller than that of the non-vaccinated ones.

7. There is, besides the above statistics, the following circumstance which constitutes still another strong piece of evidence. I refer to the statistics of our army during the two great wars, the Chino-Japanese and the Russo-Japanese. Our army engaged in both wars in Corea and Manchuria, where small-pox is endemic, and therefore the soldiers were constantly exposed to the danger of contamination; the more so when the unhealthy way of living which is a necessary concomitant of war is taken into account. However, the Japanese authorities took care to have every soldier who went to the seat of war vaccinated, and the happy result was that in an army consisting of not less than a million of men, the following small number of cases of small-pox appeared:

Chino-Jap. war: 155 cases; 34 deaths; death-rate, 21.93 per cent.
Russo-Jap. war: 362 cases; 35 deaths; death-rate, 9.66 per cent.

As the total number of men engaged in both wars is not yet made known, the rate of contamination and the death-rate cannot be accurately stated; however, we get from these approximate figures some notion as to the paucity of cases. The results are equal to, if not better than, those of the Prussian army during the war of 1870.

CONCLUSION

Japan is surrounded by non-vaccinated countries, whence contagion may flow in at any time, while the ignorant people do not care to receive vaccination; those who neglect it are therefore predisposed to be infected at the slightest chance. The enormous number of vaccinated individuals which appears in our statistics does not include all the people who should be vaccinated, but it does include a large number of persons revaccinated at an earlier time than the law of immunity requires, because they are well aware of the efficacy of vaccination as well as very anxious to protect themselves from the dangerous contagion.

From these various causes, there still prevail epidemics of small-pox in Japan. I regret that these statistics presented by our Japanese government have seemed to afford data for upholding the theory of the antivaccinationists in America. Every civilized individual of Japan knows the benefit of the marvelous discovery of Jenner, because he sees from time to time how he himself and his neighbors are protected from horrible epidemics. It seems to me that the presence of such an antivaccinationist as Dr. Hodge, who denies the efficacy of vaccination so frankly in the United States of America, is a striking witness to the fact that the people of America are already well protected by not having had the sad experience of an attack of small-pox for a long time, and by the fact that their neighbors are being thoroughly vaccinated. The antivaccinationists are like those who would deny the benefit of sunshine. It gives them every kind of joy and happiness, and yet they are so familiar with it that they are not aware of its good. They would come to know the vast protective power of vaccination, had they once experienced the terrible outbreaks of small-pox in their communities, in which thousands on thousands fall victims while the vaccinated ones go freely through the epidemic without the least danger of contagion.

STANDARDS AND AUTHORITY *

GEORGE EDGAR VINCENT

Dean of the Faculties of Arts, Literature and Science, University of Chicago; President-Elect, University of Minnesota

CHICAGO

"Monarchy," said Fisher Ames, "is like a merchantman; it sails well, but sometimes strikes a rock and goes to the bottom; democracy is like a raft; it never sinks, but your feet are always in the water." Thus with homely piquancy the Revolutionary sage set forth the conflict between the efficient élite and the unspecialized many. These contrasted views persist. In every institution, community, nation, these problems will not down: How shall the knowledge, experience, skill of the few be put at the service of all? If need be, how shall this wisdom be made coercive? How shall richer resources of science and technic be discovered and applied? With the change from country-side to city, from household to factory industry, from infrequent journeys to shuttle-like travel, from local to world markets, the problems of industry, commerce, health and politics become complicated and insistent. The horse-sense of a few decades ago will no longer serve an age of motor cars. The expert few are coming into their own. They assert superior knowledge and skill; they ask that these be recognized; they demand protection against sciolist, incompetent and quack. They seek to establish tests of individual training and efficiency for the few and to prescribe forms of conduct for the many. Thus fundamental questions are raised—questions of standards and of authority.

Plato in the "Republic" recognized these problems and provided for their solution. His "Republic" was an aristocracy of experts, an oligarchy of scientists. These guardians were highly trained, devoted to the common welfare. They could not transmit authority or privilege; they recruited their ranks from every social stratum in which they found ability. They were clothed with unquestioned power. They redistributed wealth, transferred children to the classes to which their aptitudes assigned them, censored literature and the drama—in short they made all decisions and imposed these on the mass of citizens. Plato assumed that truth could be discovered, that men could be trained to apply it and enforce it for the common good. Accurate science, a competent élite, and coercive power are to-day, as in Plato's time, conditions of adjustment to the life conditions of any social group, be it corporation, institution, community, state or nation.

Auguste Comte believed that authority ought to come from agreement; not agreement from authority. He had faith that with popular scientific education, "intellectual anarchy" would gradually disappear. Men would cease to explain phenomena by theological notions and metaphysical superstitions. They would, by the very constitution of their minds, be forced to agree, first, about mathematical relationships, then about celestial mechanics, next about physics and chemistry, finally about biology and social science. With the few something like this has come to pass. About most questions of the exact sciences educated men cannot differ. Discussion tends to take refuge in the fields of biology, psychology, philosophy and the social sciences. Even here science is steadily making conquests and robbing the intelligent of subjects for debate. But in another sense Comte's dream seems almost pathetic in its futility. The idea of the many accepting scientific knowledge from an appreciation of its validity and conforming their conduct to its demands, is still rather utopian. There are many who take a cynical view of popular education. They see medieval ignorance invading the twentieth century. Charlatanism, quackery and superstition run riot. Vagaries and absurdities sweep through a credulous public. Even they who have hope of making headway with scientific truth are not overconfident. "Against such education" writes one of these, "are naturally trained all the resources of quackery whose trade would be gone. And when free expression is accorded all alike, progress must be made in the teeth of ignorance too dense to have any conception of its own depth, and in the face of brawling charlatanry and screaming fanaticism."[1] In a sense, scientific knowledge and technic must always be a monopoly of the trained, efficient few. At any rate the participation of the many in this knowledge must be of a very different kind. To speak of modern science as a common possession of a whole population is misleading. The growth of science means specialization, and that means an élite. The degree to which the many appreciate the methods and spirit of science and recognize expert authority is a measure of popular intelligence.

There are professions and occupations that must be thought of as forms of social service rather than as personal careers. Thus doctors are rightly regarded as social servants. Their skill and fidelity are obviously vital to the community. Yet this view is far from universal. Individuals by tens of thousands see in a medical career chiefly a means of livelihood. They resent the rising standards of medical education as obstacles to the early enjoyment of an income. Many of these individualists resort to short-cut schools and to least resistance states. But these outcasts are embittered by exclusion from prestige and practice; they swell the ranks of the quacks and unfurl the black flag of the medical privateer. The discredited schools and "diploma-mills" also insist on the old dogmas of liberty and *laissez faire*, and make appeals to the traditions of the fathers, the spirit of '76 and other quaintly irrelevant ideas and shibboleths. Then, too, curious cults, recrudescent superstitions, attractive half-truths, esoteric mysteries are constantly arising to demand in the name of religion, free thought, or psychology, recognition as therapeutic agencies. To the influences which resist the standardizing of medical education may be added makers of proprietary remedies whose success varies directly with the credulity of the public. But in spite of impatient selfishness, mental inertia, sincere fanaticism, unscrupulous greed, the standardizing of medical education goes steadily, if too slowly, on. The Association under whose auspices we meet affords an example of that extra-legal centralized organization which creates national institutions amid what often seems a chaos of state particularism. Slowly but inevitably we are selecting a medical élite, experts to whom we entrust a constantly growing body of scientific knowledge and an elaborated technic.

It is essential that such an élite should be recruited from the widest area of possible ability. Society must provide a "drag-net" for special capacity. There is danger that the raising of standards may limit the field of choice to those groups which can afford the cost of long and expensive preparation. Socially and profes-

* Read before the Conference of the American Medical Association on Medical Education and Medical Legislation, Chicago, March 1-3, 1911.

1. Hodges: Pop. Sc. Monthly, xlix, 6167.

sionally such a result would be deplorable. If the community for its own protection insists on testing and training its social functionaries, it must provide a way of finding and encouraging unusual ability however this may be circumstanced. A system of scholarships, awarded by competent authority, after adequate tests, and continued only so long as the scholars' work justifies the support, would seem to be a socially necessary consequence of the increased demands of medical education. Medical associations, individuals, institutions and the states should all have a share in creating such a system.

So far medical men have been spoken of as one body. It is worth while to mention here the subdivision of the group into the teachers of medicine, practitioners and sanitarians. These sub-groups overlap somewhat, but on the whole they differentiate themselves rather clearly. Medical teachers may be further divided into those who investigate and those who give instruction. It is of prime importance that all these groups should work in closest harmony and loyalty. Their task is in a large sense common to all. Each group for its own highest efficiency must keep itself informed of the work the others are doing.

Granted that a body of medical experts is in existence, that the recruiting of this body is being more carefully supervised, that it is being gradually protected against the worst forms of competition, and granted, further, that this élite is able to formulate policies to protect individual and public health, how bring about the acceptance of these policies by the community? An enlightened despotism could impose such regulations on humble and submissive subjects. Model industrial villages have at times afforded modern instances of sanitation by ukase. One can imagine Peter the Great bringing things to pass quickly in Petersburg when once he had been convinced of the germ theory of disease. Experts have a kindly feeling for despotism. They know what ought to be done and they are impatient of delay. They often display a trace of autocracy when they have a situation in hand. A bureaucratic system under which the masses transfer to a body of government officials much of the deference once shown to the nobility, may display, as in Germany, or even in Switzerland, a high degree of efficiency. Under a régime which places the center of the franchise high up in the social scale, gives a thorough system of elementary and technical education, passes its male population through a rigorous military machine, exalts technical skill and scientific knowledge, there is a remarkable yielding to expert guidance. No wonder that the medical élite turn their eyes enviously toward Berlin where the details of conduct are rigorously enforced. But there is a vast difference between the down-trodden victims of a scientific paternalism and the untrammelled citizens of triumphant democracy. A German must keep the soles of both feet on the floor of a tram car, but the free-born American may extend his boot to be polished by every passing skirt, and in the State of Alabama is protected by at least one court in asserting his inalienable right to copious and casual expectoration.[2] Obviously the central problem in democracy is to give prestige and authority to the élite and to their prescriptions.

While rising democracies like those of France and England preserve traces of traditional deference to the upper classes, the American people show no such attitude. On the contrary, they usually display hostility, or at least derisive disrespect, for the specialized and their opinions. To the unspecialized average man the expert is in a way a personal affront. He suggests the idea of a superior class, and seems to reflect on the competence of the ordinary citizen. This feeling is a natural survival from the early days, especially on the frontier. The problems of that simple life demanded not highly trained specialists, but men who could turn their hands to many different kinds of work, none of which was searchingly tested by competition or other spur to efficiency. Slowly, grudgingly the technical expert, the railway and mining engineer, the architect, of late the agricultural specialist, have been given recognition by the many. But against doctors, especially experts in insanity, sanitarians, university professors, and others who arrogate to themselves special knowledge that is not easily tested in tangible, material ways, the American democracy still directs a large measure of incredulity and derision. And this, too, in spite of constant resort to physicians and personal confidence in them in individual cases. It is the difference between "my doctor" and "the doctors." Then, too, for obvious reasons the antagonism is much more marked toward bacteriologists and sanitarians than toward physicians in private practice.

There are other causes of popular distrust of the specialized few. The public attributes to them motives of cupidity and of class interest. Such a phrase as the "Doctors' Trust" by its sinister suggestions is a clever device for appealing to this latent suspicion. Again, the traditional idea that it is derogatory to personal dignity to defer to superiors, the hypnotizing influence of cherished "inalienable rights," the tendency to identify opinionated obstinacy with personal liberty—all these curious confusions of ideas play some part in making the many hostile to the few. Universal schooling and access to newspapers, periodicals and books of popular science create in tens of thousands a sense of familiarity with the latest thought. They pick up phrases, they are the victims of verbal suggestion, they have the pride of opinion. They set their neighbors right about current questions and warn them against the selfish recommendations of the experts. One of these local oracles in stopping his subscription recently wrote the following lines to the *Outlook*:[3]

> I have carefully studied the vaccination question for several years, and am thoroughly conversant with the expressed views of many of the most prominent advocates and opponents of the practice in the world, and I assert, knowing absolutely that I cannot be intelligently and successfully contradicted, that there is now nowhere to be found a man of proven competency and well-established reputation for truth and probity, either in or out of the medical profession, who advocates vaccination.

The doctors are not blameless for a good deal of the popular prejudice. By a sometimes tactless assertion of superior knowledge they commit the unforgivable American sin of "setting themselves up to know more than other people." When a prominent medical man in testifying before a senatorial committee says: "My position is that of an expert whose testimony cannot be impeached," he is doubtless stating a fact, but to the average man the cool assertion is irritating. It arouses antagonism. Another cause of popular distrust of expert opinion and professional probity is the widespread belief that physicians and professors of medicine can be induced to give testimony on either side of a legal case. The public cannot enter into all the intricacies which

2. THE JOURNAL A. M. A., 1900, XXXV, 433.

3. Outlook, Feb. 11, 1911.

make possible honest disagreement between well-trained men. The easy inferences are that medicine is mere guess-work, or that doctors are hypocritical and venial. If the proposal to make medical experts an impartial special jury, summoned and paid by the court itself, can be carried out, there will be a gain for the prestige of the profession. It is to be hoped, too, that the conviction of the poor that they are regarded as mere clinical material for human vivisection may be gradually removed. This persistent misconception plays some part in the prejudice against medical men. Obviously the profession suffers seriously, not only from the quacks and charlatans without the pale, but from the self-seeking and disloyal who violate the spirit while they cleverly keep within the technical rules of the medical fraternity. By playing on the ignorance of patients, by prolonging the period of treatment, by prescribing futile remedies and advising unnecessary operations, by extortionate charges, these men do untold damage to the profession and furnish just grounds for popular distrust and resentment. The medical élite must have the vigilance and courage to protect itself, not only against enemies without, but against traitors within. Again, it is possible, with some show of truth, to charge the doctors with being slow to recognize new knowledge and better methods. There are extremists who insist that the profession has always opposed progress. The injustice of so sweeping an assertion does not prevent its having a certain effect on public opinion. The industrious incompetence of large numbers of practitioners who, graduated from preposterous schools and admitted to practice by ridiculous boards of examiners, run their devastating careers in some of our states, does not deceive all who know them. Even if the public is undiscriminating enough to put all doctors into one class, it is not wholly to be blamed for regarding the entire group with a good deal of suspicion and derision.

Thus the more or less expert few face the many who trust individuals, but are slow to recognize the authority of the profession. What are the possibilities of reaching better understanding? The answers are obvious: The few must deserve and win popular confidence; the many must learn to appreciate the competence and devotion of the few. And the state must formulate and enforce the terms of this better understanding. If the cure for democracy is more democracy, the corrective of a little education is more education. The only alternative is a return to autocracy. To the millenium-chaser, the short-cut reformer and the efficient administrator, the slow process of education is an irritating suggestion. They object to having their "feet always in the water."

But scientific men should face facts as they are. The public mind is like a force of nature. It is childish to rail at it, to denounce it, to expect it to be docile about technical matters. Doctors should diagnose the public calmly and in the scientific spirit. They should try to trace the play of cause and effect, and then take measures to bring desired results to pass. In this they have the right to ask the cooperation of all thinking men and women. The public is controlled by leaders. These leaders must be informed and intelligent. Colleges and universities have a responsibility to train these leaders. Every institution of higher education should be a model of public sanitation and hygiene. Every graduate should be well grounded in the principles of personal and community health. The public schools could do much more than they are doing at present to train children in hygienic habits and in intelligent deference to sanitary regulations. Popular literature, lectures, parents' meetings, visiting nurses' associations, organizations like the antituberculosis societies, city and state health departments and boards—agencies of many kinds are all engaged in the work of popular health education. Would that Mr. Carnegie's next ten million dollar gift might be devoted to publishing in newspapers authoritative advertising bulletins on hygiene and sanitation! Many an editor would be glad to be freed from irksome slavery to the patent medicine men.

A large responsibility for the education of the public must fall on members of the medical profession. Doctors and professors of medicine must devote some time to public addresses, to cooperation with public school authorities, to participation in local movements for improved sanitation, to hearty support of local health authorities when these are reasonably competent, and to civic movements designed to improve a defective public health service.

There is much platitudinous talk about legislation and public opinion. On the one hand are the doctrinaires whose one idea of social progress is to get some law passed. At the other extreme are to be found those who are so convinced that law unsupported by public opinion is futile, that they are in danger of neglecting legislative aid. As a matter of fact, oftentimes agitation for legislation is in itself a valuable means of public enlightenment. In any event the gains in public opinion should always be fixed as soon as possible in well-drawn laws. Movements, therefore, for legislation affecting medical education, admission to the practice of the profession, the organization of health boards, the enactment of sanitary regulations, etc., should all be regarded as a part of the process by which the expert few and the many are to be brought into relations of mutual respect and good will.

But it remains true that in a democracy, back of the coercive power of the law there lies the social authority which in the long run is vested in the few who by their approved competence and by their spirit of social service command the confidence and respect of the public. With increasing intelligence the many learn to protect themselves against quackery and to place confidence in tested leadership. If the raft of democracy cannot be transformed into a swiftly sailing ship, there is hope, at least, that it may be built up far enough above the waves to carry its passengers dry-shod.

PELLAGRA TREATED WITH SALVARSAN (606)

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In the light of early and material improvement of symptoms in three typical cases of pellagra following the administration of salvarsan, it has appeared wise to make this preliminary report. The final results, deductions, photographs and later cases will be embodied in a future report.

CASE 1.—*History.*—W. H. R., aged 43, white, is an electrical engineer. The patient's family history is negative, except that one sister died some years ago of tuberculosis. The patient had malaria and rheumatic arthritis in youth. Since, he has enjoyed good health until the present condition began. About the middle of January, 1911, the patient was suddenly seized with cramping pains in his abdomen, followed by a profuse and weakening diarrhea. This persisted and did not yield to treatment. Some days later he noticed that his hands were burned to the elbows, which he attributed to hot

oil. No similar burn ever occurred, though his work had remained the same. There was also a burn on his thigh, due "to a rent in his trousers." The patient was nervous and cried over small matters. His mouth became sore and he lost weight rapidly. He was confined to bed six weeks.

Examination.—March 4, 1911. The patient was about 5 feet, 7 inches tall, was greatly emaciated and weighed 100 pounds. His expression was dull and he answered questions sluggishly, Pupillary reflexes were normal; tongue red, moist and patchy; lungs were negative; liver two inches below costal margin; abdomen tender; patellar reflex exaggerated. There was a brownish indurated lesion of the skin over the hands and thick crusting over the points of the elbows. The intermediate forearms were pigmented, with paler areas of desquamation. There was also a large encrusted area on the inside of the thigh and the feet were somewhat involved. The urine contained albumin and a few granular casts. The blood showed 6,000 whites, 325,000 reds, 70 per cent. hemoglobin. The stools were six to eight a day, foul, containing macroscopic blood. There were no amebas, hook-worms or other important findings. Von Pirquet and Wassermann tests were negative. The pulse was 108 to 116; temperature slightly subnormal.

Treatment and Course.—After observing the patient two days, and the case being a frank one, it was decided to administer salvarsan (606), which was done by the intravenous method in a 0.05 gm. dose on March 6. There was a rise of temperature to 99.2 F. that evening. Aside from being restless, there was no inconvenience. The following day, the patient said he was better; the bowels had moved only once in twenty-four hours.

March 8, the patient was sitting up in bed and said he was hungry; did not cry when spoken to and looked brighter.

March 9, pulse lowered to 96. The patient knew he felt better. The skin condition had materially faded. The legs showed only a brownish discoloration; exfoliation from the hands marked.

March 12, improvement continued; practically all local signs of the disease had disappeared.

March 15, patient was walking around the ward; had gained weight; said he felt fine and was very hungry. He went home and will return for observation.

CASES 2 and 3.—March 7 and 8, two female negroes, with well-marked pellagra and giving negative Wassermann reactions, were given, intravenously, 0.05 gm. and 0.06 gm. of salvarsan, respectively. An improvement was noted in forty-eight hours.

After a week had elapsed the skin lesions had changed materially as had the ptyalism, vaginitis, weight and mental symptoms. Both were eating heartily, the diarrhea had abated and constant improvement was recorded. There appears to be an early and real improvement with no untoward effects from the administration.

SODIUM CACODYLATE IN TERTIARY SYPHILIS

REPORT OF A CASE *

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NEW YORK

As comparatively few cases of tertiary syphilis treated with sodium cacodylate have been reported, and as widespread interest has been awakened in the treatment of syphilis with arsenical compounds by Ehrlich's new discovery, I wish to report the following case:

History.—J. L., aged 27, presented himself for examination and treatment at the Manhattan Eye and Ear Hospital Sept. 28, 1910, complaining of faucial irritation, for which he sought relief. He was referred to the throat department, where he was examined, and the following history obtained: About June 15 an indurated sore developed on the glans penis just back of the corona, followed in a few days by other sores on the body of the penis. Four weeks later there developed the eruption, followed by the faucial irritation from which he sought relief.

Examination.—The posterior pharyngeal wall was found ulcerated with two or three deep-seated ulcers on the buccal mucous membrane. The skin over the body showed numerous large and small rupial ulcers in various stages of development and necrosis. The patient stated positively that he had never had any other lesion previous to the one reported as occurring ten weeks previously.

Treatment.—A diagnosis of rupial syphilis was made with tertiary manifestations in the throat, and the patient put on bi-weekly injections of salicylate of mercury, together with suitable means for the relief of the local irritation.

Transfer to Eye Department.—After about four weeks' treatment the man was no better, and owing to the fact that a large rupia had developed on the right upper eyelid, with the possibility of its destruction, the patient was transferred to the eye department, where I first saw him on October 19. The diagnosis of rupial syphilis was confirmed by several of my colleagues, and in spite of the fact that the patient had had repeated injections of mercury, the Wassermann reaction was taken and found to be positive. The gumma in the lid was progressive.

Sodium Cacodylate Treatment.—The patient was put on daily injections of sodium cacodylate, ¾ grain to a dose. Within forty-eight hours the surface of the ulcer was smooth and healthy in appearance, the slough having been dissected away. At the end of one week the lid had entirely healed with very little deformity, considering the size of the slough, With the exception of two or three of the larger foci situated on subcutaneous bone surfaces near the skin and elbow, there was rapid cicatrization and healing of the ulcers. At the end of one week the injections were discontinued for a week, at the end of which time a second Wassermann test was negative. The treatment was then resumed in 1½ gr. doses daily for one week longer, after which the man received three injections weekly till November 21,

No internal medication was given until the reaction became negative, when strychnin and iron were given in tonic doses, three times a day. The patient has in no way suffered from the administration of arsenic. The case was apparently a very malignant one. It is possible that some lasting effect of the disease will continue to manifest itself owing to the destructive action of some hidden lesion, and since there are already numerous reports of recurrences after the use of salvarsan, it is not likely that the treatment in this case will completely eradicate the disease. In view of the fact, however, of the non-toxicity of sodium cacodylate, the simplicity of administration, and the rapidity with which it seems to arrest progressive lesions, it should be given whenever the proper administration of salvarsan cannot be carried out.

I hope to be able to report the future progress of this patient at a later date.

57 West Fifty-Eighth Street.

* Read before the Ophthalmological Section of the New York Academy of Medicine, Nov. 21, 1910.

The Anesthetist.—An expert anesthetist is quick to note every change, and can so "nurse" his patient that it is seldom he has any anxiety from the appearance of untoward symptoms. These difficulties may turn up in the hands of the less experienced, who must at times give an anesthetic, and who must, therefore, get the most thorough training possible. No man can have confidence in his power to administer an anesthetic safely who has not a very clear idea as to what constitutes a danger signal and a definite knowledge of how to proceed instantly and without hesitation to get his patient into a safer condition.—W. Rankin, in the *Practitioner.*

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 25, 1911

MUSCULAR EFFICIENCY AND PAIN

One of the most interesting subjects of discussion in industry and manufactures which has arisen in recent years is the question of human efficiency. In the effort to increase the output in the various trades and crafts a special study of the movements required for various accomplishments has been made. It was shown, for instance, that a bricklayer at work stooped many times a day in order to pick up the bricks. In doing so, each time he stooped he had to support, under varying conditions, the weight of his body and to lift at least one-half of it to the erect posture. On the other hand, it was shown that a good deal of this crude labor with the consequent exhaustion of muscular energy, might be saved by having the bricks so placed that he could reach them without stooping, and that this might be accomplished by means of machinery or scaffoldings, and the employment of cheaper labor than that of the skilled workman. It was found that a man might lay in this way one and a half times as many bricks as he was able to lay by the old method with the expenditure of actually less energy than before. It would seem that this improvement in method, which saved useless movement and expenditure of muscular energy, would surely have been developed by the workman himself; but it was not, and only when a skilled engineer deliberately set himself to study the workman's movements in order to eliminate all those that were unnecessary, was it found how much time and muscle-energy could be saved.

The lesson is rather pertinent for the physician who has to deal with the working classes. It is often found that the source of pains and aches, which are worse on rainy days, and in damp weather generally, and which are therefore usually referred to as "rheumatism," are often the consequence of efforts to use muscles under bad mechanical conditions or in unfavorable circumstances, and then to use them much more than the result aimed at demands. As a consequence of this, in practically all occupations there are painful conditions. In the old days when dentists used foot-power engines, most of them acquired a distinct halt in their gait known to the profession, at least, as the "dentist's halt" or "gimp"; this halt occurred in the leg on which the dentist stood, while the other was used in developing the power. Workmen who are employed on foot-power lathes suffer in the same way, and the only relief for them is to change the foot applying the power, or to occupy a sitting position, from which they can use both feet.

Workmen who are employed at benches in various trades are likely to suffer from corresponding painful conditions of the arms as a consequence of faulty use of the arm muscles. Filers, for instance, who work long hours at filing, are almost sure to have severe aches and pains in their forearms, unless their benches are so low that they can apply from the shoulders whatever pressure is necessary. Men who use a hammer often suffer in the same way, unless care is taken that there is no lost movement or waste of energy in their work. Women who sweep often suffer much more on the right side from painful fatigue (worse on rainy days, and therefore regarded as "rheumatism") than would be the case if they alternated hands in the use of the broom, and changed from a broom to a brush occasionally in order to vary the muscular movements. There is scarcely a trade or occupation in which some of the supposedly inevitable occupation-aches and pains could not be greatly modified for the better by proper direction in the use of the muscles, and by variation in the methods of work. This would save much pain and discomfort and avoid the objectionable use of anodyne drugs. This is the physician's department in the improvement of human efficiency that is occupying so much attention at the present time.

THE FUNCTION OF THE THYMUS

Not least among the problems confronting the physiologic investigator is that presented by the thymus, that mysterious organ which, culminating in its development early in life, normally undergoes early involution and by its persistence not infrequently produces the sudden, so-called thymic death. Friedleben,[1] who attacked this problem as far back as 1858, by attempting to remove the organ from various animals, failed to demonstrate any appreciable physiologic alterations in the animals so treated. Unfortunately, his work was done before the development of aseptic methods and was complicated by infection; nor is it very probable that he succeeded in complete extirpation of the organ. Of the great amount of more recent work, that of Basch[2] stands out prominently, because of the positive results which he reported. Following removal of the thymus in puppies from three to four weeks old, he observed marked, though transient, osseous changes, setting in as early as from two to three weeks after the operation. These changes took the form of deficient ossification

1. Die Physiologie der Thymusdrüse in Gesundheit und Krankheit. Frankfurt, 1858.
2. Wien. klin. Wchnschr., 1903, xvi, 893; Ztschr. f. exper. Path. u. Therap., 1905-06, ii, 195; Jahrb. f. Kinderh., 1906, lxiv, 285, 1908, lxviii, 649.

with abnormal flexibility of the long bones, and with diminished resistance to fracture, the epiphyseal cartilage being thicker than normal, and at points of fracture there was transitorily deficient calcification of the callus. He obtained also marked nervous changes, the animals showing hyperirritability of the peripheral nerves, and less intelligence than the control animals from the same litter. Occasionally, also, they suffered from convulsive attacks which usually were fatal.

Recently Klose[3] has reported the results of a repetition of Basch's work, selecting, however, animals in the height of thymus activity, and not, like Basch's animals, in the period of involution of the organ. By working with puppies from ten to twenty days old, and by observing them over longer periods, he was able to obtain results even more striking than those of his predecessor. The alterations after removal of the organ could be divided with some readiness into several distinct phases. Following an initial latent phase of about two weeks, there came a period of from two to three months characterized by marked increase in adiposity, excessive eagerness for food, and diminished activity and muscular strength. Next came a period of rapid loss of weight, and of muscular and bony strength, although the animals still ate eagerly. Psychically they degenerated until they became practically idiotic. This stage lasted, in different animals, from three to fourteen months, and ended in death preceded by coma. A study of the bones made during the later stages showed marked osteoporosis, with multiple cysts in the spongy parts, and irregular and indefinite limitation of the compact portions. Also there was irregular thickening of the epiphyseal cartilages, and deficient linear growth. Along with these changes, there was a pronounced tendency to spontaneous fracture, followed as a rule by fibrous callus formation only. With the anatomic alterations in the bones there was a corresponding chemical change. While the bones of the control animals showed 65 per cent. of calcium salts, the animals operated on had only from 32 to 34 per cent. This diminution was at the expense of all the calcium salts alike, as the relations between the mineral constituents of normal bone were not altered. The brain also showed definite changes; it was relatively large, and markedly edematous. Klose believes that the changes can all be explained on the basis of an acidosis, acting on the bones by draining them of their lime salts, and acting on the nervous tissues by increasing their affinity for water. In view of the great content of nucleins in the thymus, he believes that nucleic acid may be specified as the offending agent, and regards the thymus as furnishing a site for the synthesis of the nucleins, with accompanying neutralization of the nucleic acid. That there would be an excessive nucleic acid metabolism at the time of greatest growth, corresponding with the period of thymus activity, is self-evident. From the fact that his experimental animals showed at first splenic hypertrophy with later degeneration, Klose concludes that it is the spleen which in later life, after the period of greatest stress, assumes the function of the thymus. Additional support for this view is afforded by the association of hypertrophy of the spleen and lymphoid tissues with that of the thymus in the "status lymphaticus," and by the fact, to which Rachford[4] calls attention, that on exposure of the thymus alone in this condition to the *x*-ray, the decrease in size of the thymus is accompanied by that of the other organs as well. Klose calls attention to the similarity between the osseous findings in his thymectomized animals and those in cases of human rickets and osteomalacia. While at this time no definite rôle can be assigned to the thymus in the production of these diseases, the analogy is too striking not to deserve attention, particularly with diseases of such obscure etiology.

As regards the "thymic death," the conditions shown by surgery seem to justify the conclusion that this is mainly mechanical in character, by pressure on the trachea or large vessels by the enlarged organ. Nevertheless, in view of the pronounced physiologic processes which his work appears to assign to the thymus, Klose believes it probable that altered functional activity plays at least some part in the causation of death. As accessory thymus tissue occurs in the human being in and around the thyroid, and as this is capable of rapid hypertrophy, the surgical extirpation of the organ in the human being in all probability seldom can evoke such results as occur in the dog.

3. Arch. f. Kinderh., 1910, lv, 1.

4. Tr. Assn. Am. Phys., 1910, xxv, 570.

INDUSTRIAL DISEASES

The State of Illinois has recently made an important contribution to the literature of industrial hygiene. About a year ago, the Illinois Commission on Occupational Diseases[1] began its work of investigation and the results of this investigation together with recommendations for the legal regulation of certain dangerous trades have been sent to the governor of the state.

We understand that though other states have made formal inquiry into industrial accidents, Illinois is the first to attempt a study of industrial diseases.

The commission had only about ten months in which to work and wisely decided to make an intensive study of one or two restricted fields, such as that of industrial

1. Report of Commission on Occupational Diseases, C. R. Henderson, secretary, University of Chicago. The commission consisted of the following persons: George Webster, M.D., president of the State Board of Health, chairman; Charles R. Henderson, University of Chicago, secretary; Ludvig Hektoen, M.D., Memorial Institute for Infectious Diseases; Walter S. Haines, M.D., Rush Medical College; W. H. Allport, M.D.; James Simpson, Marshall Field & Co.; and the following state officials: Chief Factory Inspector Edgar T. Davies, Secretary State Board of Health J. A. Egan, M.D.; Secretary Bureau of Labor Statistics David Ross.

The appropriation granted to the commission was expended almost entirely on the field work of investigation, office room being donated by the university and laboratory facilities by members of the commission. Twenty-one investigators were employed, including eleven physicians and ten laymen, the former taking up the hygiene of the different trades and the physical condition of the work-people, the latter investigating factories and examining records of hospitals, dispensaries and sick-benefit societies.

poisons and of caisson disease, rather than to make a general survey of the whole subject. By choosing the poisonous trades rather than the dusty trades they were able to show clearly the causal connection between occupation and disease. The dusty trades are really the most important numerically considered, but the question of morbidity in these trades is always closely bound up with housing conditions, standard of living, etc., and the influence of the trade itself is less clearly demonstrable. In caisson disease we have a clearly marked trade disease.

The poisonous industries to which most study was devoted are the lead trades (Alice Hamilton), the brass and zinc trades (Emory R. Hayhurst) and the trades involving exposure to carbon monoxid (M. Karasek and G. Apfelbach), these being important industries in Illinois employing large numbers of workmen. In addition, there are short papers on arsenic, turpentine, the cyanids, hydrofluoric acid, nitrate of silver, metol, platinum, the chromates and chromic acid.

The report on the lead trades shows that this metal is used to an enormous extent in modern industry and that lead poisoning is probably in Illinois, as it has long been known to be in Europe, the most important industrial disease. The list of trades in which lead poisoning was found to have occurred numbers twenty-eight, but the classification of these trades is not very carefully made, and if industrial processes were counted instead, it is probable that the number would come not far from 120, which was Thomas Oliver's estimate of the number of processes in which lead is handled in Great Britain. Several trades are included in this list which the ordinary man does not think of as lead trades. For instance, the making of storage batteries is described as one of the most dangerous; in Europe, this trade is strictly regulated by law. The work of commercial artists is said to involve a fairly large amount of lead poisoning owing to careless methods of using the white paint which the artists suppose to be a harmless zinc white. Apparently physicians are sometimes led astray in their diagnosis of these cases, for their patients assure them that they have never been exposed to lead poisoning, although the investigators found that all but four of the seventy-four engraving establishments visited used white lead paint.

Other unfamiliar lead trades are the making of litho-transfers for pottery, the polishing of cut glass, making and hanging lead-colored wall-papers, enameling bath tubs, and laying electric cables. Five hundred and seventy-eight individual cases with six suspected cases are reported as having occurred in Illinois during the last three years in these twenty-eight trades, but it is stated that this figure represents only a fraction of the real number, for it was impossible to obtain even approximately accurate information as to any trade except the well-organized plumbers, and the partially organized printers and painters. The remaining lead workers are said to be composed largely of newly arrived foreigners "who enter on the work utterly ignorant of its dangers, or with only a vague, unintelligent dread." They are "a notoriously unsteady, shifting class," and "as it is only with a steady force of workmen that the oversusceptible can be weeded out and the others trained to protect themselves, it follows that this shifting of men from place to place is productive of far more poisoning than would occur among a permanent force of men." The investigators find that for the most part very little care is taken of the men employed in the dangerous lead-trades and statistics are given to demonstrate the contrast between European conditions and those in Illinois.

"In one English white lead factory employing 182 men, careful medical inspection failed to discover one case of lead poisoning in the year 1909-10. In an Illinois factory employing 142 men partial inspection revealed twenty-five men suffering from lead poisoning last year. In another English factory employing ninety men no case was discovered for five successive years. In an Illinois factory employing ninety-four men 28 per cent. of all employees have had lead poisoning and 40 per cent. of all employed in the dustier work."

Dr. Hayhurst's report on the brass industry includes a study of "brass-founders' ague," an industrial disease which has been the subject of much controversy in Europe, some authorities even denying that there is an affection peculiar to this trade. The description of symptoms given by Dr. Hayhurst is detailed and clear, but it would be more convincing had he given his personal observation of some one case. Probably the fact that the paper was written for a lay audience made him confine himself to more general statements. He agrees with the generally held opinion that the "ague" is caused by the sublimation products of zinc.

The brass industry in Illinois is apparently in as much need of hygienic regulation as the lead industries, for the prevention of brass-founders' ague seems to be simply a question of the proper removal of fumes. "In large foundries with good ventilation, either natural or artificial, brass chills practically never occur." But the investigators found that only four of the eighty-nine foundries visited could be classed as well-regulated and free from trade sickness, sixty-three were acknowledged to be centers of trade sickness and seven were suspected to be equally bad. Of 189 men from seventy-eight foundries who were examined by Dr. Hayhurst, 146 complained of some sickness traceable to their employment, forty-five had had "brass chills." As brass founders are also exposed to the action of arsenic, antimony, phosphorus, lead and the cyanids, brass ague is not the only industrial disease to which they are subject.

The newly employed men are said to be more susceptible to ague; the older men acquire a certain tolerance, but there is apparently a chronic form of poisoning which shows its effects on the lungs, digestive tract, kidneys and nervous system. Dr. Hayhurst's statistics as to longevity are almost startling. Of 1,761 foundry men, only seventeen were over 50 years of age.

The study of carbon monoxid poisoning is of great interest. Ample material was found in the great steel works of western Illinois where this gas is produced during the smelting of the iron ore with coke and lime. The symptoms of acute poisoning are much like those of ether narcosis, and if the sufferer is rescued in time an apparently complete recovery occurs. Drs. Karasek and Apfelbach undertook to determine the effect of frequent or constant exposure to smaller amounts of gas, chronic carbon monoxid poisoning. For this purpose they examined 240 steel workmen, and found them for the most part in poor physical health and with deficient muscular power, as indicated by the hand dynamometer. A careful control examination made of men of the same nationalities engaged in similar work, but not exposed to gas, showed that the gas workers had actually less muscular strength, a fact which "means a large economic loss in the numerous industries where workers are exposed to carbon monoxid."

Blood examinations of sixty-eight steel workers showed that "in practically all those exposed to blast gas there was a polycythemia numbering between 5,500,000 and 9,600,000. No embryonal or other unusual forms of red cells were present. Seemingly this is a conservative action on the part of the system whereby the harmful effects of the gas are mitigated and great toleration established."

The industrial hygienists of Europe are always reproaching us with our failure to collect data on industrial diseases in the United States. Let us hope that the report of the Illinois Commission will prove to be the first fruits of a widespread effort to make up for our former shortcomings in this respect.

THE NAME "EPINEPHRIN" VERSUS THE NAME "ADRENALIN"

There are thirty or more different brands of the blood-pressure-raising principle of the suprarenal gland on the market, five being in this country alone. These products are identical so far as their chief constituent is concerned; they differ, however as to the solvent and the preservative used. The processes of manufacture of some of them are patented; all of them are sold under trade names.

Until two years ago there was no common name applicable to this active principle; whenever reference was made to it a trade name had to be used. At that time the Council on Pharmacy and Chemistry, realizing the need of a generic term, adopted "epinephrin" as such a term. This name was selected in part because Abel had adopted it in 1899; in part because, so far as could be discovered, it was the name under which, through Abel's publications, the substance first appeared in medical literature; and in part because it seemed to be the only suitable one not already appropriated by some commercial firm.

After the publication of the Council's report, THE JOURNAL began gradually to use the term in those cases in which it seemed clear that the proprietary term was used in a generic sense. The substitution of the name "epinephrin" for "adrenalin" in the abstracts of certain foreign articles caused Parke, Davis & Co. to write a letter of protest which called forth the discussion appearing in the Propaganda Department of this issue.

The amount of space devoted to this matter may be criticized and considered unwarranted by those who do not realize the importance of the subject. The criticism is, to a certain degree, just. The somewhat inordinate length of the article is due in part to the unfortunate fact that, in availing themselves of the courtesy extended by THE JOURNAL, Parke, Davis & Co., in their reply, have injected into the discussion side-issues, such as the priority of discovery, the superiority of their product, etc., whereas, the question under discussion is simply that which relates to the name. It is, however, not altogether a matter for regret that the discussion has been thus broadened, for it brings before our readers many facts regarding the discovery of an important medicinal agent that are not generally known, at least by physicians.

Whether or not "adrenalin" is superior to "adrin," "suprarenalin," "suprarenin," "adnephrin," or to any other of the preparations is entirely immaterial in this connection. The point is that the active principle of the suprarenal gland is on the market under various trade names, and that a name common to all has been selected to be used when no particular brand is referred to. The fact that "adrenalin" is regarded by many, both here and abroad, as a common, generic name does not alter the fact that it is claimed as a trade name by a commercial house and, therefore, presumably at least, cannot be used except as such.

Among the facts brought out in this discussion, one stands out clearly: that Abel deserves as much credit for the discovery as any other man, if not more. Credit belongs to Takamine for making use of reactions which were already well known. His work was a step in the progress of knowledge of the substance, but it was a step which he could not have taken but for what others, Abel especially, had accomplished and published. Abel's magnificent work, covering several years, deserves as much credit, to say the least, as that of Takamine. And it should be kept in mind that the former worked in the interest of science, and published his results for the benefit of all. He had no hope of pecuniary reward, asked for none, and received none.

Let us repeat, however, that these are side issues; the question is simply that of name. It cannot be too strongly emphasized that "epinephrin" is a true scientific name for the active principle of the suprarenal gland, and that it should be used on all occasions when the active principle and not some particular firm's make is referred to.

Current Comment

A FIFTH YEAR AS A HOSPITAL INTERN

Probably the next important advance in medical education will be the requirement of a fifth year to be spent by the student as an intern in some good hospital. In the majority of our better colleges even now most of the graduates are obtaining internships and it is claimed that there are more opportunities for such positions than the colleges are able to fill. It is also stated that the students who do not accept such internships, as a rule, are the very ones who should be required to take that work. Therefore, the requirement of the fifth year as a part of the course for the medical degree, in such institutions at least, could easily be brought about. In some states, however, where colleges have desired to make this additional requirement, they cannot do so because of the wording of the medical practice acts. In these states the law provides that only graduates of medical colleges may obtain licenses and that only licensed physicians can serve as interns in hospitals. Thus the colleges are unable to withhold the degree until after the fifth year is completed. A way out of this difficulty would be to secure an amendment to the medical practice act such as is being sought in Illinois. This amendment provides that the board in its discretion can admit to its examination a student who presents a certificate from a reputable medical college, showing that he has completed four years in medicine and has passed the examinations of that college. If it should be considered necessary or advisable, the state board could issue a limited license authorizing him to practice medicine and surgery in a hospital, this limited license to remain in effect for a period not exceeding eighteen months and to be exchanged for the permanent license as soon as the student has completed his internship and obtained his M.D. degree. Surely, an arrangement of this sort would in no way lower the standards of medical licensure in any state; on the contrary, it would strengthen the practice act and aid in securing better qualified physicians. The time is rapidly approaching when no one should enter on the practice of medicine without first having completed a year of clinical training under the direction of the attending staff of some good hospital.

POSITIVE RESULTS OF SANE FOURTH AGITATION

Over eight years ago, THE JOURNAL published its first report, showing that as a result of the use of fireworks in the celebration of the Fourth of July in that one year, 466 persons were killed and nearly 4,000 injured. Of those killed, over 400 died from tetanus, probably the most awful death known in modern times, while of those injured, many of them were blinded, or had their arms, legs, hands or fingers torn off, or were otherwise mutilated for life. For a few years previously a prominent newspaper, the *Chicago Tribune*, had been publishing, as a news feature, the immediate results of the celebration, but the complete figures, including the deaths from lockjaw, were not presented until in 1903 THE JOURNAL published its first report. This report, awful as it was, scarcely disturbed the self-complacency with which these matters then were viewed, and apparently any criticism of the methods of celebrating the anniversary of the signing of the Declaration of Independence was looked on as unpatriotic. But year after year THE JOURNAL has persisted not only in revealing the horrifying results of the use of fireworks, but also in pointing out how silly and inexcusable was a "patriotism" which demanded each year such a wanton destruction of life and limb. Gradually, however, results began to be seen. At first a few cities adopted prohibitive or restrictive measures with such positive reductions in the number of killed and injured that other cities have followed suit. The most positive evidence of the nation-wide movement for a sane celebration and for the lessened use of fireworks, is the dissolution of the Pain Manufacturing Company, the largest and best known fireworks firm in the country. Here is what the firm says regarding its failure:

> The season for the business conducted does not commence until June and runs for several months; the main business is done around and immediately previous to the Fourth of July each year. For the last years, or since the movement for what is commonly termed the "sane Fourth" has spread over the country, the value of the business done by the company has been reduced, so that at the present moment the amount of business the company is enabled to do is not sufficient to warrant the company's continuance.

Although one may have sympathy for those who have lost money or fortunes in the failure of this business enterprise, there is reason to rejoice, nevertheless, in the change of sentiment regarding the use of fireworks in our celebration which means, in future, the saving of thousands of lives, the prevention of many thousands of accidents and the saving from destruction by fire of property worth millions of dollars. It is gratifying to note, also, that instead of being continued as a hideous nightmare of disorder, danger and tumult, our Independence Day is being changed into a day for the development of genuine patriotism—respect for law and order, and pride in our national achievements.

NEITHER CLEVER NOR TRUTHFUL

The attempts of the lay press to comment on medical subjects are often most amusing when most seriously intended. Enjoyment of the unconscious humor in otherwise rather feeble witticisms like some which have recently appeared in *Life*, is hampered by the fact that these gibes at medical science are sometimes not only absurd, but viciously and maliciously untruthful, and, if they were seriously regarded, might result in public injury. For instance, *Life* comments as follows on the recent report that a Russian physician had committed murder by the use of diphtheria germs:

> "Why, in the name of common sense, didn't he employ typhoid fever 'germs' in the pretense of immunizing the count from ever having that disease, as our army surgeons are doing with all soldiers and sailors who 'volunteer'—under the pressure of the anger of their superior officers in case of refusal? Every such inoculation makes the lads ill ('reaction' is the technical term), and occasionally one of them will pass on, as the saying goes."

The item is headed "Not Clever." It should have been "Neither Clever nor Truthful." According to the

surgeon-general of the Army, about 20,000 antityphoid inoculations have been made in the Army of the United States. Of these, 85 per cent. caused no disagreeable symptoms whatever; 4.5 per cent. caused headache and slight temporary fever; and 0.5 per cent. more severe symptoms lasting several days; but in not a single instance has the procedure had any effects that could be called dangerous. There has been no death from this cause. The protective results of antityphoid vaccination in European armies, especially in the British army in India, have been so favorable as to warrant the continuance of inoculation. The comments of *Life* show glaring ignorance. We do not expect scientific accuracy from that publication, but even clowns should strive to keep within the bounds of common honesty by being truthful when they attempt to deal with serious matters, especially those which have a practical bearing on the public welfare.

AN "ALL-ROUND SPECIALIST"

Few there are who have looked to see a reincarnation in these days of the sage who took "all knowledge for his province." Viewing the vast and hitherto undreamed-of realms brought to human cognizance by specializing discoverers, timorous souls have believed—and the belief has become all too general in learned circles—that the complete mastery of even the complex science of medicine in all its divisions and branches was not to be expected of one human brain. It is now plain to be seen that we have despaired too soon. A prodigy has arisen in the west who announces himself on his letter-heads as an "All-Round Specialist." We should like to feel that the nursery of genius which produced the "All-Round Specialist" was engaged in fostering others of the same remarkable stock. We should then hear no more of the much-vexed problem of the division of fees between the specialist and the general practitioner, while the tedious distinctions between psychiatrist, ophthalmologist, pediatrist, gynecologist, dermatologist, and all the other medical specialists, would melt away like mist before the morning sun. Unfortunately, we are unable to find this gentleman's name on the alumni list of any medical college; so we fear that there is no hope for the present of a school of pan-specialists.

PROFESSOR VINCENT AND HIGHER EDUCATIONAL STANDARDS

If all statements appearing in the public press may be judged by those regarding the recent address by Prof. George E. Vincent,[1] then, indeed, very little confidence should be placed in newspaper reports. By quoting only the first part of a paragraph, the reports made it appear that Professor Vincent opposed higher standards of medical education, although a reading of the entire paragraph shows that the opposite is true. In fact, the address as a whole contains a severe arraignment of those who are opposing higher standards. Professor Vincent points out that one danger in raising educational standards—namely, limiting "the field of choice to those groups which can afford the cost of long and expensive preparation," which "socially and professionally . . . would be deplorable"—could be offset by establishing "a system of scholarships" which could be "awarded by competent authority, after adequate tests, and continued only so long as the scholar's work justifies the support." It can be seen how easily a wrong impression could be conveyed by omitting the latter part of the paragraph. And that is what was done in the newspaper reports. This misquotation might have passed without comment, except for two reasons. The first is that Professor Vincent is soon to take the presidency of the University of Minnesota and, therefore, his views will have much to do in shaping the future educational policy of that state. The second is that Minnesota is on the firing-line in the fight for higher standards of medical education, and the enemies of such standards have widely circulated this erroneous report of Professor Vincent's views in an effort to obstruct the movement for higher standards. In the paragraph just preceding the one misquoted, the speaker makes special reference to those who are opposing higher standards of medical education. He shows these to be self-interested persons who look on the "medical career chiefly as a means of livelihood," and who "resent the rising standards . . . as obstacles to the early enjoyment of an income." It is important that this misquotation should be corrected, and especially that the people of Minnesota should appreciate the fact that in Professor Vincent they will have an able champion in their battle for higher standards of medical education.

1. Standards and Authority, p. 894, this issue.

STREET DUST AND FOOD

House Bill 154, now before the Illinois legislature, contains some provisions which will scarcely be welcome to street vendors of goods and delicacies, and probably not to the larger retail dealers. Among these are provisions to suppress the nuisance of the exposure on the streets, without protection from the street dust or other contamination, of fruits, vegetables and other foods. It is unfortunate that the average buyer has not that keen realization of the history and composition of street dust which, if generally diffused, would make goods so exposed unsalable. On the contrary, dealers complain that their sales are lessened if they do not so expose their wares. Instruction in the schools, showing the sources and components of street dust, as well as the peril of insect contamination, might be an effective way of agitating the subject and reaching homes where at present even newspapers do not penetrate freely—not that the illiterate are the only persons who ignore the dangers of street dust. To make them effective, the excellent provisions of this bill should be reenforced by popular education, since it will be most difficult to enforce in those quarters where enforcement is most needed.

Fibroids and Pregnancy.—A fibroid projecting into the uterine cavity—that is, a fibroid inside of the uterus—usually acts as a barrier to pregnancy, and if this does occur an abortion is likely to follow.—M. A. Tate, before Obstet. Soc. of Cincinnati.

Medical News

ILLINOIS

Personal.—Fire at Abingdon, March 11, destroyed the office equipment of Drs. Charles F. and Everett H. Bradway, the loss being estimated at $1,000.——Dr. Barret B. Griffith, Springfield, who has been in Colorado Springs for several months on account of ill health, reports that he is slowly recovering from the injury to his foot.

Hospital Notes.—The John Warner Hospital, Clinton, is open for the reception of medical and surgical cases. Patients entering the hospital will be under the control of their own physicians as the hospital has no attending staff.

Chicago

Healer Fined.—A jury in the municipal court, on March 14, is said to have returned a verdict assessing a fine of $200 against Mrs. M. Selike, a Milwaukee Avenue healer.

Personal.—Dr. Svenning Dahl, while attempting to get into a moving elevator at the Norwegian Lutheran Deaconess Home and Hospital, March 14, fell, sustaining a compound fracture of the right leg.

INDIANA

Tuberculosis Hospital Almost Ready.—It is announced that the State Tuberculosis Hospital, Rockville, will be ready to receive patients, April 1.

Dispensary Opened Twice a Week.—It is announced that the Free Dispensary of St. Mary's Hospital, Evansville, will now be open on Tuesday and Friday afternoons between 3 and 4 o'clock.

Semi-Centennials.—Dr. Carter H. Smith, Lebanon, was the guest of honor at a banquet given by the Boone County Medical Society, March 7, on the occasion of his completion of half a century in the practice of medicine.——The semi-centennial of the practice of medicine of Dr. William B. Graham, Noblesville, was celebrated, March 14, at a banquet tendered Dr. Graham by the Hamilton County Medical Society.

Personal.—Dr. and Mrs. Bleeker J. Knapp, Evansville, sailed for the Mediterranean, March 4.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia, is now reported to be improving.——Dr. John S. Whitson, Jonesboro, was thrown from his automobile when it was struck by a trolley car, March 15, but sustained only slight injuries.——The trustees of Indiana University have acted favorably on the request of Dr. Henry R. Alburger of the medical department, to come to Indianapolis and assume the position of pathologist at the City Hospital.——Dr. David H. VanNuys is reported to be seriously ill at the home of his son in Anderson.——Dr. Charles S. Goar, Indianapolis, while crossing the railroad tracks, March 17, was struck by a switch engine, but was not seriously injured.

MARYLAND

New Officers Elected.—The section on Neurology and Psychiatry of the Baltimore City Medical Society, at its annual meeting, March 10, elected Dr. Arthur P. Herring, president; Dr. G. Lane Taneyhill, secretary, and Dr. William R. Dunton, a member of the executive committee.

Personal.—Dr. H. Barton Jacobs sailed for France, March 18.——Dr. William H. Welch has been honored by the emperor of Germany with the decoration of the royal crown of Prussia, second class.——Dr. Christopher Johnston, professor of Egyptology in Johns Hopkins University, is ill with organic heart disease.——Dr. George F. Speicher, intern at the Maryland General Hospital, was operated on at the hospital, March 6, and is reported to be doing well.

The Recent Diphtheria Epidemic.—Dr. William H. Welch, professor of pathology in Johns Hopkins University, delivered an address to the medical students in Hopkins Hospital, March 13, in which he reviewed the recent diphtheria epidemic. He stated that of the sixty-three persons who gave positive cultures, about forty showed symptoms of the disease, while the others were carriers. There were only two deaths, both in cases of children who were already victims of malignant disease. Dr. Welch complimented the hospital staff on the energetic way with which the diphtheria epidemic had been handled. No new cases have developed at the Johns Hopkins Hospital or at the Church Home and Infirmary, and these institutions as well as the Hebrew Hospital are open as usual. A case developed, March 15, at University Hospital, but the patient was promptly isolated and no other case occurred. Two cases have also been reported among the lodgers at the Central Young Men's Christian Association, but the patients were promptly sent to the Infectious Disease Hospital.

MICHIGAN

Antituberculosis Society Organized.—Manistee County Antituberculosis Society has been organized with Prof. S. W. Baker as president, and Dr. Szymon Szudrawski, Manistee, as secretary, and has begun an organized campaign against the disease. Dr. Alfred S. Warthin, Ann Arbor, will deliver two lectures before the society in April.

Personal.—Dr. Charles A. Walsh, Bay City, is reported to be in a critical condition from cerebral hemorrhage.——Dr. Herbert A. Eades, Bay City, was thrown from his automobile, March 13, receiving bruises and cuts.——Dr. Robert H. DeCoux, Grand Rapids, was thrown from his buggy in a runaway accident, March 8, fracturing three ribs and a clavicle.

State Sanatorium.—Admission to the State Sanatorium, Howell, is obtained after examination by physicians appointed for each county, and on furnishing a certificate by the family physician. A charge of $7.00 per week is made to those who are able to pay, but those who are unable to pay will be provided by the state with free care on proper certification from the superintendent of the poor and the judge of probate. No patient is allowed to remain longer than six months in the sanatorium save in unusual cases. It must be understood that the institution is for patients in the incipient stage of pulmonary tuberculosis, and in which a cure or arrest may be hoped for.

MINNESOTA

Interns Leave Hospital.—Three interns at the Swedish Hospital, Minneapolis, resenting the suspension of another intern, are said to have abandoned their work and left the hospital, February 25.

Speed Parting Guest.—Dr. Edward M. Gans, Eveleth, was the guest of honor at a dinner given, February 28, at which about 100 were present. Dr. Gans has severed his connection with the More Hospital and is about to move to North Dakota.

Deficiency Appropriation.—The senate committee has recommended that deficiency appropriation of $13,000 be made to enable the State Board of Health to continue its fight against tuberculosis.——The bill to appropriate $8,000 for the continuance of the work of the State Tuberculosis Commission was recommended for passage by the Senate Committee on Public Health, March 3.

NEW YORK

Medical Women Meet.—At the fifth annual meeting of the Women's Medical Society of New York State, held March 10, in the Academy of Medicine, New York City, Drs. Elizabeth M. Cushier, Manhattan, and Eliza M. Mosher, Brooklyn, delivered memorial addresses in honor of the late Drs. Elizabeth and Emily Blackwell. The following officers were elected: honorary president, Dr. Eliza M. Mosher, Brooklyn; president, Dr. Grace Peckham Murray, Manhattan; vice-presidents, Drs. Helene J. C. Kuhlmann, Buffalo; Angenette Parry, Manhattan, and Evelyn Garrigue, Millbrook; secretary, Dr. Eveline P. Ballintine, Rochester, and treasurer, Dr. Marion Craig Potter, Rochester. A banquet was given to the visiting delegates in the evening, over which Dr. Eliza M. Mosher presided.

Buffalo

Hospitals Opened.—The Ernest Wende Hospital, the temporary municipal hospital for contagious diseases, which has been renovated and newly equipped, is ready to receive patients.——The new contagious disease pavilion of the Children's Hospital is completed and ready to receive patients.

Personal.—Dr. Francis C. Goldsborough, formerly instructor in obstetrics at Johns Hopkins University, Baltimore, has succeeded Dr. Matthew D. Mann as professor of obstetrics at the University of Buffalo.——Dr. Archibald D. Carpenter has been elected chairman of the Civil Service Commission.——Dr. John D. Howland, deputy medical examiner of Erie County, has been appointed superintendent of the Erie County Hospital, vice Dr. Carroll J. Roberts, who has gone abroad.——Dr. Pierce J. Candee is ill with typhoid fever.——Dr. George B. Stocker has been appointed deputy medical examiner of Erie County.——Dr. Daniel V. McClure has been certified by the State Civil Service Commission at the head of the list of successful candidates at the recent competitive examination for medical superintendent of Erie County Almshouse.——Dr. Edward J. Meyer, who was operated on for hernia and appendicitis at St. Mary's Hospital, Rochester, Minn., February 13, is convalescent.——Dr. William H. Mansperger, who was recently operated on at St. Mary's Hospital, Rochester, Minn., is reported to be convalescent.

New York City

Middleton Goldsmith Lecture.—The Middleton Goldsmith Lecture of the New York Pathologic Society was delivered at the New York Academy of Medicine, March 18, by Prof. Frank P. Underhill, Yale University, on "A Consideration of Some Chemical Transformations of Proteins and Their Possible Bearing on Problems in Pathology."

Personal.—Dr. John N. Beekman, a retired practitioner, was knocked down by a truck at East Fourteenth Street, March 13, and painfully injured.——Health Commissioner Lederle returned from a vacation in a houseboat in Florida, March 12. ——Dr. Robert S. Adams, house physician at the Waldorf-Astoria, is reported to be seriously ill at Murray Hill Sanitarium.——Dr. Burt D. Harrington, Brooklyn, is reported to be critically ill with erysipelas.——Dr. Godfrey R. Pisek has been appointed attending physician to the Willard Parker Hospital.

For the Control of Venereal Diseases.—At the meeting of the New York Obstetrical Society, held March 14, the subject for the evening was "Some of the Duties of the Gynecologist to the State and Public." The following resolution was adopted: Resolved, That it is the opinion of the New York State Obstetrical Society that the time has come to make a beginning in the control of venereal diseases: That the first necessity is for the provision of a place for the detention and care of flagrant and especially dangerous cases: That in pursuance of this object the Board of Estimate and Apportionment be requested to grant the request of the Board of Health for the provision of such a hospital.

Meningitis on Liner.—The Greek steamship *Patris* arrived at quarantine with five cases of cerebrospinal meningitis. Six other passengers died from the disease at sea. Dr. Alvah H. Doty said that for several years he had been watching for this disease and had found that as a rule it is brought on steamships from Greece.——On the steamship *Martha Washington*, which arrived a few days later from Trieste, Patras, Palermo and Algiers, there were four steerage passengers who seemed to be suffering from cerebrospinal meningitis and one passenger had died at sea whose symptoms were those of meningitis. All the patients were treated with Flexner's serum and the steamer will be held at quarantine until bacteriologic examinations have been made.

Health Bulletins.—The first of the three latest press bulletins of the Department of Health deals with fresh air, which is a great preventive of many infectious diseases, and states furthermore that the polluted atmosphere of ill ventilated rooms is one of the important factors in promoting the spread of diseases; the second warns the public, particularly those living on the lower East Side, against the danger from the use of wood alcohol which is mixed with cheap drinks by certain unscrupulous and criminal proprietors of barrooms and itinerant venders; and the third, details the work of the department in the supervision of midwifery, and states that out of 129,031 births reported in the city in 1910, 52,010 were under the care of midwives. Since February 15 a new system has been inaugurated and put in effect by the Division of Child Hygiene. The city has been divided into 140 districts, corresponding to the school inspection districts, each under the charge of a medical inspector. Each inspector has a card index of each midwife in the district, and visits each midwife at least once a month. Any irregularity in equipment or manner of work of the midwife, or any insanitary condition in their homes is at once reported by the inspector. Investigations are made in all cases in which complaints are made.

Announcement of the Monthly Bulletin.—The ultimate object of all public health work is the preservation of health and the prolongation of life. As there can be no subject of more vital interest to each individual, the Department of Health desires the cooperation of every citizen, and presents the Bulletin as a means towards this end. It was interesting to note a steady fall in the death-rate from 28 per 1,000 in 1868 to 16 per 1,000 in 1910. From another table it was interesting to note the enormous reduction in mortality which had taken place in those whose ages were below 45; there had been no decline but an increase in the mortality in the ages over 46. While there has been a decided reduction in the mortality from smallpox, typhoid fever, diphtheria and pulmonary tuberculosis, there has been but little change in the mortality from measles, scarlet fever and bronchitis, and there is an increase in that from pneumonia, cancer, Bright's disease and heart disease. The division of communicable diseases is charged with (a) the sanitary supervision of tuberculosis, typhoid fever, cerebrospinal meningitis, malaria, puerperal septicemia, abortion and erysipelas; (b) the conduction of tuberculosis clinics and boat camps; (c) the administration of antitoxin and the performance of intubation in diphtheria; (d) the management of the diagnosis laboratory, and the collection of specimens from branch stations throughout the city. The division of child hygiene has the following functions: (a) the control of the practice of midwives; (b) the supervision of foundlings; (c) the supervision of day nurseries and institutions for the care of dependent children; (d) the care of babies and prevention of infant mortality; (e) the medical inspection of and examination of school children; (f) the issuance of employment certificates.

PENNSYLVANIA

Personal.—Dr. John W. Beckett, Pittsburg, was struck by a trolley car, March 10, and seriously injured.——Dr. William M. Johnson, a retired practitioner of Harrisburg, is said to have been adjudged insane by the county court of Davidson County, Tenn.

New Medical Club.—The physicians of York have organized the York Medical Club with an initial membership of forty-five, and elected the following officers: president, Dr. Edward W. Brickley; vice-president, Dr. Lawton M. Hartman; secretary, Dr. William S. Weakley, and treasurer, Dr. Parker N. Wentz.

White Haven Report.—At the annual meeting of the White Haven Sanatorium Association, held March 13, Dr. Lawrence F. Flick, the president, announced the completion of an administration building, the completion of which added $11,000 to the debt of the association, making a total debt of $25,000. Last year 552 patients were admitted and a total of 683 patients treated. Of these 477 left or were discharged and there were 38 deaths. The report also showed that in 31 cases the disease was arrested; in 50 cases much improved; in 254 improved; of the other patients, 106 were not improved and one-third of these left the first month. The average cost of maintenance per patient per week was $8.81 and the total amount expended for maintenance was $67,282.99. The total receipts, including the balance for last year, was $112,000. The total expenditures for the year were $109,487. There was a loss of nearly 12 cents daily in the maintenance of each patient. There are 206 beds available for patients, of whom there have been 5,550 since opening. A building has been donated by Mrs. Eckley Coxe for the care of patients received in a dying condition.

Philadelphia

Medico-Chirurgical's New Building.—Plans are being prepared for several new buildings for the Medico-Chirurgical College, to be built on the south side of Cherry Street, between Seventeenth and Eighteenth Streets. The first building will be a one-story structure with a glass roof to be used for laboratory purposes. A fifth story will also be added to the present dispensary building on Cherry Street. Plans have been completed for the erection of a large corrugated-iron building on the lot adjoining the Medico-Chirurgical Hospital. The first use to which the addition will be put will be a bazaar and fair, to be held from May 29 to June 3 for the benefit of the hospital.

Personal.—Dr. George E. deSchweinitz announces that there is no basis for the rumor that he intends to resign the chair of ophthalmology in the Medical School of the University of Pennsylvania.——Dean Allen J. Smith, of the University of Pennsylvania, closed a series of popular health lectures, given under the auspices of the medical faculty, March 17. His talk was on "Flies and Other Insects as Carriers of Disease."——Dr. L. Webster Fox, who has been ill at his home in Haverford, is convalescent.——Dr. W. E. Kepler has been appointed an assistant medical inspector by Director Neff of the Department of Health and Charities.——Dr. Joseph S. Neff, Director of Public Health and Charities, who was injured by a fall in Atlantic City, March 13, has completely recovered.

VIRGINIA

New College Building.—It is reported that the University College of Medicine, Richmond, has placed the contract for the erection of a new college building to replace the one destroyed by fire in January last year. The new building will cost about $135,000, and will be completed within a year.

Epileptic Colony.—The recent decision of the state supreme court against the Western State Hospital board in its efforts to retain the Muckland property, Lynchburg, means that the property may be sold and the proceeds used for the development of the State Epileptic Colony, which already has been opened with 100 inmates.

Station at Sanatorium.—The Norfolk and Western Railroad has ordered a station to be erected at the Catawba Road crossing for the accommodation of patients and others en

route to the State Sanatorium. The company has also put on an extra train on Tuesdays and Fridays for Catawba, which will meet the main-line trains.

WISCONSIN

Cottages for Isolation Hospital.—The city council of Racine has reported favorably on the appropriation for the construction of two cottages on the Isolation Hospital property south of the city for the care of individuals suffering from communicable diseases.

Personal.—Dr. John B. Spaulding, health officer of Kenosha, sustained severe injuries to his eyes by the breaking of a bottle of formaldehyd which he was using while making a fumigation.——Dr. Henry T. Brogan, city physician of West Allis, who has been critically ill with heart disease, is reported to be out of immediate danger.——Dr. Henry Blank, Milwaukee, has been appointed a trustee of the Johnston Emergency Hospital, vice Dr. Louis Fuldner, resigned.——Dr. Rollo U. Cairns, River Falls, has returned from abroad.——Dr. Gilbert E. Seaman, Milwaukee, has been appointed regent at large for the Milwaukee University.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 11, 1911.

A New Reportable Disease

The London County Council has issued an order making ophthalmia neonatorum a reportable disease. Thus, as in cases of the specific fevers, immediately on diagnosis a case must be reported to the health officer. The object is that more effectual means may be taken for its prevention and treatment.

Plague in India

According to the latest reports, there seems every indication that India is again entering on another grave epidemic of plague. During the week ended February 11, 24,715 cases and 22,278 deaths were reported. Of these deaths 11,116 occurred in the United Provinces. In this district the deaths during the whole of 1908 amounted only to 22,878 and during 1909 to 38,298.

Economic Entomology

The recent discoveries of the important part played by insects in the propagation of tropical diseases has caused much attention to be devoted to entomology, particularly economic entomology, in Great Britain, which has such extensive tropical possessions. At the Imperial College of Science and Technology, South Kensington, a course of studies in practical entomology for the training of young students has been inaugurated. The objects are to stimulate interest in the study of noxious insects throughout the tropical colonies, and thus gradually to organize an army of collectors and observers who will accumulate the material necessary for coping with the numerous pests which cause disease and devastate crops. The work has been placed under the control of Mr. Maxwell-Lefroy, imperial entomologist to the government of India.

Mr. Andrew Carnegie has agreed to pay for three years the expenses of sending three or four young men to the United States to receive a thorough training in the methods of dealing with noxious insects. At present, two traveling entomologists, appointed by the government, are traversing the whole of the British colonies in tropical Africa, and have received instructions to supply any official or resident with apparatus for the collection of specimens of noxious insects, and to give practical instructions. A preliminary survey has already been made of Nigeria, Nyassaland and part of British East Africa. Considering the paucity of the white population the number of men who have volunteered to assist in the work is highly creditable.

The Outbreak of Small-Pox

Since the outbreak of small-pox in London was reported in THE JOURNAL, March 18, fresh cases have occurred almost daily. There are now 42 patients under treatment and nine deaths have taken place. The disease has spread from the district of Mile End over a large part of the East End and has invaded part of the West and South. The question of the condition of the patients as regards vaccination is interesting. Seven children under the age of 8 have been attacked, of whom only two are said to have been vaccinated. These two had the disease in a very mild form and hardly seemed deranged in health. On the other hand, of the other unvaccinated five, four died. Of fourteen patients between the ages of 8 and 30 years, three had never been vaccinated and eleven were vaccinated in infancy; none had been revaccinated. Of thirteen patients between ages of 30 and 60 all had been vaccinated in infancy, but none had been revaccinated; two died. Two of three patients over 60 died; they had all been vaccinated in infancy, but none had been revaccinated. Thus no case has so far occurred in a revaccinated person.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 3, 1911.

Antityphoid Vaccination

The Académie de médecine adopted the conclusions of Dr. Vincent's report (THE JOURNAL, Feb. 25, 1911, p. 601), put in the form of a motion, recommending the facultative employment of antityphoid vaccination. In the draft of the budget of the war department for 1911 is a provision of $3,000 (15,000 francs) for the organization of a service of antityphoid vaccination to be annexed to the laboratory of the hospital connected with the school of Val-de-Grâce. Once installed, this service will cost annually about $600 (3,000 francs).

The Study of the Gastric Secretion at High Altitudes

On ascending to high levels anorexia is commonly experienced, generally accompanied by nausea and vomiting, of which the relative deprivation of oxygen is the most apparent cause. Dr. Raoul Bayeux of Paris has just communicated to the Académie des sciences the results of a series of experiments which he undertook on Mont Blanc to elucidate the mechanism of this anorexia by studying in a dog which had a gastric fistula the variations caused by the high altitude (4,360 meters, or over 14,000 feet), in the quantity of gastric juice secreted and its total acidity. He has ascertained that the quantity of gastric juice secreted in a given time after identical meals diminishes notably during sojourn at high altitude; the total acidity of this juice is only slightly diminished under the same conditions. The rate of secretion of the gastric juice is much retarded. This decrease of the secretory activity of the stomach is in harmony with the diminution of combustion already noted by Dr. Bayeux at the same altitudes. The insufficiency of gastric juice explains the loss of appetite. It also seems to explain the desire which is felt at very high altitudes for all foods capable of exciting the flow of gastric juice or supplying its place, such as lemon juice, vinegar and spices.

Internships Reserved for Women

A notice recently placed in the walls of the hospitals and of the Faculté de médecine aroused considerable interest among the students. It is in regard to the *concours* for the internship of the national asylum for convalescent women in the suburbs of Paris. The administration states that since the hospital is for women it seems to be appropriate to reserve the internships for women students alone.

Glycerin and Potassium Permanganate Cause Fire

In some military maneuvers, recently, a bottle of glycerin was broken and the glycerin ran over some packets of permanganate of potassium. These packets were covered with absorbent cotton, which took fire. Experiments show that chemical reaction takes place, with explosion and fire. It is therefore important to avoid packing glycerin and permanganate of potassium near each other in sanitary stores.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 2, 1911.

Personal

Professor Bernstein, director of the physiologic institute at Halle, will resign his teaching position at the beginning of the winter semester on account of advanced age.

Progress in the Care of Youths by the Prussian Government

According to an order of the department of education, dated January 18, the Prussian government will undertake the care of youths, that is, the intellectual, moral and physical welfare of young men from the time of leaving school until their period of military service. The associations already existing for this purpose will receive aid and new ones will be formed under the auspices of the authorities, and an appropriation of $250,000 has been made by the government for the

purpose. The aims are to promote physical exercises (gymnastics, active sports, tours, etc.), encouragement of nature study, instruction in scientific and hygienic subjects, etc. The cooperation of physicians in the fulfilment of this task is very much desired by the minister.

Failure of the British Government to Take Part in the International Exposition of Hygiene at Dresden

While almost all of the civilized nations have already indicated their intention to send official representatives to the international exposition of hygiene at Dresden and to establish special national sections, the British government declined some time ago to participate. In the British House of Commons the minister of commerce was asked a short time ago the reasons for this decision. His answer was that the department of commerce had been required to furnish an official British section in the expositions at Brussels and Buenos Aires in 1910 and in the expositions at Rome and Turin in 1911. In consequence of these frequent demands on British industry for representation at expositions, the department of commerce was not able to take part in the organization of a section at Dresden. We are convinced that not only the British government but British trade will be little satisfied with this short-sighted position taken by the minister of commerce, for in the competition between the nations, which promises to be very lively at the Dresden exposition, Great Britain will play a quite unsatisfactory rôle.

Tuberculin Treatment of Railroad Employees

The pension office for the employees of the Prussian railroads is from now on to permit those patients with pulmonary tuberculosis, who have finished a treatment in one of their sanatoria, to be treated in an ambulant way with tuberculin by the physicians of the office if the sanatorium considers this desirable for a permanent cure. The tuberculin treatment, which is restricted to special cases, is carried out according to suitable regulations under careful directions of the sanatoria. Further, the pension office provides courses of instruction in two sanatoria for railroad surgeons on tuberculin treatment.

Railway Car Hygiene

A short time ago a representative in the Prussian parliament called attention to the imperfect hygiene of railway cars. He cited a case in which a member of parliament had evidently acquired a severe skin disease from the upholstered back of his seat during a railway journey. The member of parliament, therefore, wants the railway management to adopt for trial some apparatus for protection of the head and neck to be applied to the upholstered back of the seat. He recommended an apparatus in which protective strips of Japanese crêpe paper are so arranged that the passenger can draw out a strip to place under the head and neck. We scarcely believe that the railway management will adopt this recommendation, which would be quite expensive and which could not be guarded against abuse. Protective coverings for the head in railroad travel are already for sale and can be provided by anyone at slight expense.

Association News

TRAINS TO LOS ANGELES

Details of Special Trains and Special Parties Arranged for the Trip to the Next Annual Session

For many weeks past there have been printed in this department of Association News various details concerning the Los Angeles session and the trip thereto, viz., lists of meeting places, a schedule of hotels and rates, railroad rates, etc. (The eastern rates have not been announced; they will be given in these columns as soon as the information can be obtained.) Announcement has also been made that early in May there will be a special issue of THE JOURNAL reiterating all this information and giving also the program of each Section and much other information such as is usually gathered into this annual special number. It will contain a map of Los Angeles and many fine pictures of that city.

In attending this session a wonderful opportunity is offered for a vacation that will be not only a pleasurable one, but also a profitable one. The amount of pleasure and profit to be gained by the trip, however, will depend on whether the individual has studied for himself the opportunities presented.

Below are given in brief accounts of some of the special parties that are being arranged. But no one will depend alone on this description. Everyone who is thinking of going to Los Angeles should write for booklets and information to all whose addresses are given in the following itineraries. If these books are studied, one can obtain a general knowledge of the various attractions and then can decide which route is the most attractive. Some will want to see the Grand Canyon of the Arizona, a sight worth a trip across the country. Others will feel more favorable to the Pike's Peak country, Manitou, the Garden of the Gods and the various attractions of that part of the Rocky Mountains. Others will have a great desire to see the Yellowstone Park and its wonders. Still others will seek the northwestern part of the country—Oregon, Washington, etc., and the attractions of the Canadian Rockies on the Canadian Pacific. Not all of these can be seen on one trip, even on the round trip. Each individual should make up his mind what he is most anxious to see and then study the various itineraries and learn which one will best suit him.

The advantages of selecting one of the special trains, rather than to go by the regular trains, are the additional conveniences provided, the pleasure of traveling with friends and acquaintances, and the relief from the cares of looking after change of trains, hunting up conveyances for side trips, guides, etc., and the satisfaction of having everything provided in advance for comfort and for entertainment during the trip.

We mention below the special trains concerning which we have received information:

AMERICAN MEDICAL SPECIAL.—This luxurious Pullman train with full equipment will run from Chicago to Los Angeles via the Santa Fe and will leave Chicago at 8:00 p. m., Wednesday, June 21, reaching Kansas City at 9:00 a. m., Thursday, June 22, and running thence through New Mexico and Arizona to Los Angeles, which will be reached Monday, June 26, at 7:00 a. m. At Albuquerque the train will make a stop of an hour and a half to allow an inspection of the Fred Harvey collection of Indian handwork. Another stop will be made at Laguna, where an hour will be allowed to inspect the village of the Laguna Indians. The train will stop at the Grand Canyon for twenty-eight hours, giving opportunity to see the Grand Canyon of the Arizona. The desert of lower California will be crossed in the night. At San Bernardino the train will be divided—one section running through directly to Los Angeles, arriving at 7:00 a. m.—and the other going via Redlands and Riverside, stopping at each of these places to allow visits to points of interest. This section arrives at Los Angeles at 4:30 p. m., Monday. Special illustrated folders, reservations and full information may be obtained from G. T. Gunnip, General Agent, A. T. & S. F. Ry., 105 Adams Street, Chicago.

AMERICAN ACADEMY OF MEDICINE TOUR.—Another trip arranged from the east is that of the American Academy of Medicine, whose itineraries have been selected and arranged under the guidance of the passenger departments of the railroads to secure the most desirable trains and the best disposition of daylight sight seeing. Regular trains will be used. This party will leave New York over the Lehigh Valley railroad at 11:55 a. m., Monday, June 12, Philadelphia, at 12:30 p. m., and join the New York train at South Bethlehem at 2:12 p. m. and arrive at Buffalo over the Lehigh Valley at 10:27 p. m. The route will be thence over the Grand Trunk to Chicago, the Burlington to Denver and to Los Angeles over the Santa Fe. Interesting side trips and visits to the points of interest in Colorado and to the Grand Canyon will be provided for and Los Angeles will be reached Friday, June 23, in time for the sessions of the academy, which meets in advance of the American Medical Association. This party may be joined at various points along the route at a much later date, in case it is not desired to spend so much time on the going trip. Reservations for this party are to be made through the secretary, Dr. Charles McIntire, 52 North Fourth Street, Easton, Pa., from whom may be obtained the folder containing all details, both of the outgoing and of the return trip.

BURLINGTON-COLORADO SCENIC SPECIAL.—This special train from Chicago to Los Angeles, via the Burlington, Denver & Rio Grande and the Salt Lake Route, will have the finest equipment of the Burlington road. It leaves Chicago at 11:00 p. m., June 21, and reaches Denver at 7:00 a. m., June 23. The party will spend four hours in Denver and vicinity, leaving at 11:00 a. m., June 23, reaching Colorado Springs (Manitou) at 1:30 p. m. The train will be parked and will remain there all night. This will give an opportunity for the party to go up Pike's Peak, visit the Garden of the Gods, Cheyenne Canyon, the celebrated "High Drive," the famous Iron and Soda Springs, and other points. The train leaves Manitou at 4:30 a. m., June 24, and reaches the Royal Gorge at 7:30 a. m., giving a splendid opportunity to see this wonderful gorge. At Glenwood Springs, an hour and a half will be spent, and Salt Lake City will be reached at 8:30 a. m., June 25. Four hours will be spent in Salt Lake, leaving at 1:00 p. m., and Los Angeles will be reached at 12:00 o'clock noon on June 26. This train traverses the mining regions of Utah and Nevada, and Rainbow Canyon and the Canyon of the Mojave River before reaching the orange country of southern California. This train has been arranged at the request of many physicians (represented by Drs. Robert T. Gillmore, Sidney Kuh and Charles B. Reed), who want to go by the Manitou and Royal Gorge route. Full details and illustrated booklets may be obtained from A. J. Poole, General Agent, C. B. & Q. Ry., Chicago.

CHICAGO MEDICAL SOCIETY SPECIAL.—The special train of the Chicago Medical Society will leave Chicago at 9:15 p. m., June 22, via the C. & N. W. Ry.; arrive in Omaha 9:15 a. m., June 23, leave Omaha 9:30 a. m., arrive in Salt Lake 1:30 p. m., June 24, spending the afternoon at Salt Lake, leaving at 5:30 p. m., June 24, via Salt Lake Route, arriving at Los Angeles at 4:30 p. m., June 25. This train will be provided with full Pullman equipment of the most complete and modern character. Meals in dining car will be served à la carte. At Salt Lake arrangements will be made for a special organ recital at the Mormon tabernacle, balance of the afternoon to be spent in sight-seeing. Leaving Salt Lake, the journey lies over the Salt Lake Route through Utah and Nevada, reaching the rich mining districts, passing through Caliente, where Rainbow Canyon is entered, with its great walls of rock of every shade; and Las Vegas. Entering California, the line traverses the canyon of the Mojave river and at San Bernardino reaches the famous Orange Belt of California. The train then runs through Riverside, Ontario and Pomona, cities situated in the fruit-growing section adjacent to Los Angeles. Arrangements have been made so that any physician anticipating telegrams en route will have same sent in care of this special train and be received promptly. Standard sleeping car rate, $13.00 for double lower berth, $10.40 for upper berth, $36.50 for compartment, and $46.00 for drawing room. Elaborate itinerary will be furnished on application to Dr. George F. Suker, Secretary, 103 State Street, Chicago.

GATES SPECIAL TRAIN.—A special itinerary is being arranged by the Gates Tours of Toledo, O., with several optional return schedules. A special train will leave Chicago, June 20, stopping enroute at the Grand Canyon, and returning, trains will leave Los Angeles July 1. Full details of the trips, including the return schedules which include Alaska, may be obtained of the Gates Tours, Toledo, O.

MISSOURI VALLEY SPECIAL.—This special train, under the auspices of the Medical Society of the Missouri Valley and the Medical Association of the Southwest, will accommodate members from the central west and southwest. It will leave Kansas City Thursday, June 22, via the Santa Fe, and will also stop over one day for the trip to the beautiful Grand Canyon. It will arrive at Los Angeles on Sunday, after the trip through the orange country. The tour will be personally conducted and a special interesting itinerary is planned for the return trip. Full particulars may be obtained, and hotel and Pullman accommodations arranged for, through Dr. Charles Wood Fassett, St. Joseph, Mo.

NEW YORK AND NEW ENGLAND SPECIAL.—This is another train which has been planned in care of McCann's Tours by Dr. Wisner R. Townsend, Secretary of the New York State Medical Society. This train, fully equipped with modern conveniences and comforts, will leave New York, via the New York Central Lines, at 6:30 p. m., Monday, June 19, connecting with trains leaving Boston at 2:00 p. m., Worcester at 3:11 p. m., Springfield 4:40 p. m., and Pittsfield 6:30 p. m. It leaves Albany at 9:55 p. m., Utica 11:55 p. m., Syracuse 1:08 a. m., June 20, Rochester 2:45 a. m., Buffalo 4:30 a. m. The train will run thence via Cleveland, Indianapolis and St. Louis, and from Kansas City via the Santa Fe through New Mexico and Arizona, reaching the Grand Canyon, Friday, June 23, where twenty-eight hours will be devoted to sight seeing in this marvelous natural chasm, one of the wonders of the world. Los Angeles will be reached at 9:00 p. m., June 25. Time will be allowed to visit the famous orange groves and to view the other points of interest at Riverside and Redlands, as has been described above concerning the other trains. The return trip is one of some length and will include many other parts of the beautiful west which are to be enjoyed at leisure. Information concerning this tour and the daily schedule of the train, including the various possibilities on the return trip, may be obtained through Dr. Wisner R. Townsend, 125 W. 58th Street, New York City.

PENNSYLVANIA SPECIAL.—From the east a personally conducted tour has been arranged under the direction of Dr. C. L. Stevens, Secretary of the Pennsylvania State Medical Society, Athens, Pa., in conjunction with McCann's Tours. The train will be of the highest grade Pullman equipment, including a gentlemen's club car and a ladies' club and observation car, with all the accessories and accommodations of the modern train *de luxe*. The special train will leave Jersey City Saturday, June 17, at 4:14 p. m., via the Lehigh Valley railroad, and may be joined at various points between there and Buffalo by passengers from New Jersey, eastern Pennsylvania and Maryland. The train will leave Buffalo via the Lake Shore at 4:30 a. m., June 18, running thence through Cleveland, Indianapolis, St. Louis, Kansas City, Santa Fe, and Albuquerque to the Grand Canyon, where a side trip of twenty-eight hours will be made. Thence the route will include the heart of the orange country in California, Riverside and Redlands, at both of which places time stops will be made. Los Angeles will be reached Friday, June 23, at 9:00 p. m. Full information concerning this tour is contained in a little booklet, which may be obtained from Secretary Stevens.

RETURN TRIPS

As will be noted, several of these tours provide for the return trip by different routes, with interesting side trips. Full information about them can be obtained from the railroads or from the parties named above. In the advertising pages of THE JOURNAL, now and in later issues, will be found announcements of many of these railroads and trips. Members are urged to secure the booklets and folders issued by the railroads concerning these trips and post themselves in order to secure the greatest advantages from the visit to the west.

There are numerous ways of returning from the meeting, all of which offer advantages that will appeal to the members and their friends. The return trip from Los Angeles may be made by boat to San Francisco, Portland and Seattle, or by the southern routes over the Southern Pacific, the Rock Island, the Santa Fe, the Salt Lake route or through San Francisco by way of the Southern Pacific and Union Pacific, which offers opportunity for a side trip to the Yellowstone Park and a visit to Salt Lake and all the points of interest in Colorado. Or the return trip may be made by the northern routes—the Northern Pacific, the Chicago, Milwaukee and St. Paul, the Great Northern or the Canadian Pacific—visiting the cities of the northwest—Portland, Tacoma, Seattle and Vancouver—and the various points of interest in the Rockies, including the trip to Yellowstone Park, which may be reached from the Northern Pacific at Livingston, Montana.

Even Alaska and Hawaii will be visited by some. The beauties of the west are at the service of the physicians and their families and friends, and a delightful outing is ready.

Marriages

LEROY S. TOWNSEND, M.D., to Mrs. Grace R. Coates, both of Beaver Falls, Pa., February 28.

GEORGE A. NOLAND, M.D., Ashburn, Va., to Miss Mary Louise Lambert, at Baltimore, March 8.

WILLIAM DAVIS TEWKSBURY, M.D., Washington, D. C., to Miss Susan Tidball West, at Roanoke, Va., February 25.

Deaths

William Warren Potter, M.D. A surgeon of skill and judgment, and a student of acumen and originality in medical science, died at his home in Buffalo, March 14, aged 72. He was born in Strykersville, N. Y., and was graduated from the Medical Department of the University of Buffalo in 1859. He came of a long direct and collateral line of celebrated physicians. At the outbreak of the Civil War, he entered the service as assistant surgeon of the Forty-Ninth New York Volunteer Infantry, served in the Army of the Potomac, was captured, and confined in Libby Prison, but soon exchanged. He was afterward promoted to surgeon of the Fifty-Seventh New York Volunteer Infantry, and after the battle of Gettysburg, was assigned to the charge of the First Division Hospital, Second Army Corps. He was brevetted lieutenant colonel, U. S. V. for faithful and meritorious services. After the close of the war Dr. Potter practiced in Batavia but soon returned to Buffalo. Of late years he has limited his practice to gynecology. His society membership includes the American Medical Association, in which he was chairman of the Section on Diseases of Women in 1890; the Medical Society of the State of New York, of which he was president in 1891; the Medical Society of the County of Erie, of which he was president in 1893; and the Buffalo Medical and Surgical Association, of which he was president in 1886. He has been secretary of the American Association of Obstetricians and Gynecologists since 1888; and was president of the Section on Gynecology and Abdominal Surgery of the first Pan-American Medical Congress. Since 1891, he had been the president and examiner in obstetrics and gynecology of the New York State Board of Medical Examiners, and from 1895 to 1899, he was president of the National Confederation of Medical Examining and Licensing Boards. He was also consulting surgeon to the Buffalo General Hospital. Dr. Potter has been editor of the *Buffalo Medical Journal* since 1888. His death is a great loss to his colleagues in Buffalo and western New York and to the medical profession at large.

George Gorgas Craig, M.D. Jefferson Medical College, 1869; one of the most prominent practitioners of western Illinois, died at his home in Rock Island, March 12, from pneumonia, complicated by cirrhosis of the liver, aged 65. At the age of 17 he enlisted in the Fifty-First Pennsylvania Volunteer Infantry and served through the last two years of the Civil War. Immediately after his graduation he moved to Rock Island, where he afterward resided. In May, 1889, he was appointed acting assistant surgeon U. S. Army and surgeon to the Rock Island Arsenal by the Secretary of War and served continuously in this position until his death. When the Medical Reserve Corps was created he was commissioned as a first lieutenant in that body. Dr. Craig devoted much time to the study of sanitary science and was instrumental in the organization of the Health Department of Rock Island. In 1896, with Dr. Carl Bernhardi, and the late Dr. C. C. Carter, he founded the Rock Island Sanitarium, with which he was connected until it was dissolved in 1906. His society membership included the American Medical Association, American Public Health Association, and Association of Military Surgeons of the United States. He was past president of the Illinois and Iowa Central District Medical Association, and Rock Island County Medical Society.

Warren Bell Outten, M.D. Washington University, St. Louis, 1866; a member of the American Medical Association; and a prominent railway surgeon of the Southwest; died at his home in St. Louis, March 18, from pneumonia, aged 66. For thirty-six years Dr. Outten was chief surgeon of the Missouri Pacific Railway Hospital Department. He was consulting surgeon to the Missouri Pacific System, and president of the National Association of Railway Surgeons. During the cholera epidemic in 1866, he served as acting assistant surgeon U. S. Army. He was consulting surgeon to the St. Louis City Hospital, St. Luke's Hospital, the Baptist Sanitarium, and Mount St. Rosa Infirmary. He was also president of the *Interstate Medical Journal* Company. Dr. Outten was an authority on railway injuries, and was the author of a valuable work entitled "Railway Injuries; Their Clinical and Medicolegal Features."

Pierre Wilson, M.D. Missouri Medical College, St. Louis, 1884; formerly a member of the American Medical Association; professor of pathology, gynecology and abdominal surgery in Baylor University, Dallas, Tex.; died at his home in Harlingen, Tex., March 8. The Dallas Medical and Surgical Society, at its monthly meeting, March 10, adopted resolutions setting forth the service to humanity rendered by Dr. Wilson, and extending sympathy to his family. Similar resolutions were passed by the students of the departments of medicine and pharmacy of Baylor University.

Samuel Hall, M.D. New York University, New York City, 1843; a member of the Volunteer Corps of New York City during the Civil War; formerly a member of the New York Academy of Medicine, and vice-president of the Medical Alumni Association of New York University; consulting physician to the Northern Dispensary, commissioner of public works in New York City in 1873; and trustee of the New York and Brooklyn Bridge; president of the school board of Rye in 1894; died in his apartments in New York City, March 10, aged 91.

Thomas F. O'Malley, M.D. Rush Medical College, 1886; a member of the Illinois State Medical Society; who in his young manhood studied for the priesthood in Ireland but was never ordained; from 1892 to 1899 chief medical examiner of the Catholic Order of Foresters; died at his home in Chicago, March 19, from pneumonia, aged 50.

Horace A. Peabody, M.D. College of Physicians and Surgeons, Chicago, 1886; formerly a member of the South Dakota State Medical Association; a specialist on diseases of the eye, ear, nose and throat of Webster; formerly president of the State Board of Health; died in St. Augustine, Fla., March 6, from heart disease, aged 55.

John A. M. Lambert, M.D. Medical School of Maine, Brunswick, 1852; formerly president of the Bennington County (Vt.), and Berkshire County (N. Y.) Medical Societies; historian of Washington County (N. Y.) Medical Society; died at his home in Salem, N. Y., March 2, from cerebral hemorrhage, aged 82.

Hiram Noble, M.D. Victoria College, Coburg, Ont., 1857; formerly of Onawa, Iowa; and later councilman and twice mayor of Blair, Neb.; a member of the Washington County board and of the local pension board, and county physician; died at his home in Blair, March 8, from cerebral hemorrhage, aged 82.

Thomas Beattie, M.D. University of Edinburgh, Scotland, 1849; M.R.C.S., Edinburgh, 1849; surgeon of the ship *Restitution* on its cruise round Greenland in 1849; for more than fifty years a practitioner of Cass County, Mo.; died at his home in Harrisonville, February 3, from cerebral hemorrhage, aged 83.

Harry Cheetham Leech, M.D. University of Pennsylvania, Philadelphia, 1907; of Providence, R. I.; died in a drugstore in that city, March 6, aged 26, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of the death of his mother.

Thomas L. Foulds, M.D. Indiana Medical College, Indianapolis, 1876; a member of the American Medical Association; formerly president of the Alton (Ill.) Medical Society; a specialist in diseases of the eye, ear, nose and throat; died at his home, March 7, from kidney disease, aged 57.

James Dow Appley, M.D. Philadelphia College of Medicine and Surgery, 1871; a member of the American Medical Association; local surgeon for the Delaware and Hudson Railroad; died at his home in Binghamton, N. Y., February 18, from valvular heart disease, aged 65.

Clara A. Swain, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1869; for forty years a missionary in India, where she was a pioneer in the establishment of hospitals for women; died at her home in Brookside, Castile, N. Y., Dec. 25, 1910, aged 76.

Marion Augustus Baldwin, M.D. Tulane University, New Orleans, 1866; local surgeon at Cuthbert, Ga., for the Central Railroad of Georgia, and a member of the National Association of Railway Surgeons; died at his home, March 2, aged 78.

William B. Young, M.D. Medical College of the State of South Carolina, Charleston, 1904; of Rockhill; a member of the South Carolina Medical Association; died in the Florence (S. C.) Infirmary, Dec. 20, 1910, from typhoid fever, aged 33.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

PROPRIETARY VERSUS UNPROTECTED NAMES

The Question of Term to be Applied to the Active Principle of the Suprarenal Gland

Some years ago the Council on Pharmacy and Chemistry decided that it was necessary to adopt, in each instance, a generic term to designate those products that are on the market under two or more proprietary names. When it came to the consideration of the various preparations of the blood-pressure-raising principle of the suprarenal gland which were on the market, it was necessary to establish some name that should be common to all of them. The name adopted was "epinephrin." This was selected in part because it was the name under which the preparation was first called to the attention of the profession of this country by Professor Abel, as will be mentioned later. Further, the name is one which is as appropriate for the preparation as any adopted by the various manufacturers, and is, in addition, easily learned. We doubt if any one will deny that the Council on Pharmacy and Chemistry, representing as it does the American Medical Association and the medical profession of the United States, has as much right to adopt a name for the preparation as has any manufacturing firm.

For several years THE JOURNAL has endeavored to follow the unquestionably correct plan of using the scientific name of a drug or medicinal preparation in preference to the coined trade name—the proprietary name given by the manufacturer. After the adoption of the term "epinephrin," THE JOURNAL began occasionally to substitute that term for the proprietary names of suprarenal products in abstracting, but only in instances in which it was evident that the author was using the proprietary name in a general sense. In original articles, however, this was not done without the author's permission. In this way it was hoped that the medical profession would gradually be led to appreciate the fact that there is a common name for the substance. Only one protest has been received, and that from Parke, Davis & Co., a firm which sells the substance under the name "adrenalin." It was as follows:

PARKE, DAVIS & CO. PROTEST

To the Editor:—We wish to protest against the unfair manner in which one of your department editors (Current Medical Literature) is treating us.

When a reputable practitioner reports to the London *Lancet* that "the effects from the treatment of the paroxysms of asthma by the hypodermic injection of adrenalin are marvelous," your department editor is taking an unjustifiable liberty when he changes the word adrenalin to epinephrin. He knows, you know, that there is no such thing on the market as epinephrin, and that Dr. Melland used our product, adrenalin; that over 90 per cent. of all clinical work done with the active principle of the suprarenal gland is done with our preparation, adrenalin, and that it is equally unfair to your readers and unfair to the manufacturer to deliberately substitute any other name—just as wrong as it would be for a druggist to substitute any other product.

In the *Wiener klinische Wochenschrift*, May 12, Dr. Kreibich did not treat of the subject which you put in his mouth. His article was devoted to "Adrenalin Technic for Determination of Leukocytes in Tissues." Do you think it right to put in his mouth a name of which Dr. Kreibich probably never heard in his life?

It is no answer to say that you have given the same treatment to one of our competitors in abstracting an article from the *Deutsche Zeitschrift für Chirurgie*. Dr. Heidenhain undoubtedly never heard of epinephrin. He writes of the behavior of a preparation made by one of our competitors, suprarenin.

We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research work by commercial houses! Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocain (excepting always the antidiphtheritic serum); yet when a reputable physician reports his experience to the medical press, THE JOURNAL of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own.

Is this the way to teach ethics to others?

PARKE, DAVIS & CO.,
E. G. SWIFT, General Manager.

This letter was received last June. Immediately after its receipt we began an investigation as to the views of those who use the name "adrenalin" in their printed articles. To this investigation we shall refer again. It is mentioned here to explain why the letter has not been published before.

SCIENTIFIC NAMES A NECESSITY

Aside from the question of priority of discovery, this protest raises a problem much broader and deeper than any question of personal credit or commercial aggrandizement, one which concerns the ethical and scientific status of protected names. In all countries the use of trade names in scientific treatises is discountenanced, and for very evident reasons. Hence a medicinal substance should have a scientific name by which it may be known in literature in contra-distinction to any trade name by which it may be called. This is especially true when a substance is sold under two or more proprietary names.

There are already thirty or forty different trade names for this active principle.[1] There is nothing to prevent a hundred firms or individuals from marketing this substance, each under a different trade name. Can nothing then be done? Are our abstracters to quote each of these one hundred or more names? Is it necessary that a physician use some trade name every time he mentions the substance?

If there were but one product on the market, there might be comparatively little objection to the use of the proprietary name as a generic term. When there are several, however, the adoption of one proprietary name as a generic term for that whole class of products is an injustice to all the other products in that class. Moreover, in the inevitable confusion that results, science is sacrificed to commercialism.

WHAT A BRITISH EDITOR THINKS

Very recently this same point has been discussed in British medical and pharmaceutical circles. In the London *Lancet*, Jan. 7, 1911, p. 73, there was a short note taking the editor of the "Year Book of Pharmacy" to task for substituting a generic term[2] for the proprietary name "adrenalin" in giving an abstract of an article that had appeared in the *Lancet*. Mr. J. O. Braithwaite, the editor of the "Year Book of Pharmacy," in a letter in the *Lancet*, Jan. 28, 1911, p. 264, justifies his course in using a generic term[2] in such cases, on the reasonable ground that it tends "to lessen confusion and to increase accuracy."

After showing how the use of a multitude of names for the same substance tends to degrade scientific work, Mr. Braithwaite stated that to use, in abstracting, a generic word as a "common denominator," did injustice to no one. Rather, says he: "The injustice, if any, arises entirely from the loose manner in which trade names and proprietary euphemisms are applied to these newer remedies. This has caused them as a class to fall into disrepute, and has reflected hardly on the few more valuable therapeutic articles among them . . . Moreover, it is no function of the 'Year Book of Pharmacy,' in its abstracts to advertise either 'preparations' or persons. These abstracts are intended solely to record scientific facts or practical details of use to pharmacists in their calling, or to those who are interested in the subjects with which they deal."

GENERIC TERMS INJURE NO ONE

The introduction of a generic term does not prevent any physician from using the word "adrenalin," or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

1. Among the proprietary preparations of the suprarenal principle made in the United States are the following: Adnephrin (Frederick Stearns & Co.), Adrenalin (Parke, Davis & Co.), Adrin (H. K. Mulford & Co.), Supracapsulin (Cudahy Co.), and Suprarenalin (Armour & Co.). In Europe among others are: Atrabilin, Chelafrinum, Epirenan, Hemostasin, Hemisine, Ischemin, Paranephrin (Merck), Renoform, Supranephran, Suprarenaden, Suprarenin (Hoechst), Suprarenin synthetic, Tonogen and Vasoconstrictin.

2. The generic term used by the editor of the "Year Book of Pharmacy" is "adrenine."

As a matter of fact, the word "adrenalin" has come into use as a generic name because Parke, Davis & Co. were the first manufacturers to "push" this product. This was done in all countries. The name this firm adopted was a catchy one, and as a result it is a fact that to-day, not only in this country but in Europe, "adrenalin" is regarded as a common name by a host of physicians, and used as such. In our correspondence regarding this matter this statement has been made repeatedly: "I used the term 'adrenalin' because I thought it was the common term."

In this connection, we desire to say that Parke, Davis & Co. are mistaken in asserting that we know that Dr. Melland used their preparation. On the contrary, study of his article shows that he used the word in a generic sense. Whether he used the preparation made by Parke, Davis & Co. or some other preparation is not specified.

"Do you think it is right," ask Parke, Davis & Co., "to put into his mouth a name of which Dr. Kreibich never heard in his life?" We think it right to use the word which will convey the idea to the reader's mind without chance of misapprehension. We think it wrong to use a word which has a double sense, when that can be avoided. Unless an author's words are meant to apply solely to the preparation made by Parke, Davis & Co., it is not right that that product should derive benefit from them.

Say Parke, Davis & Co.: "You know that there is no such thing on any market as epinephrin." This is true, and for the simple reason that every manufacturer, for purely commercial reasons, without regard to science, adopts a trade name for his product and pushes that product under that trade name for all it is worth. But if medical men will make it a point to use the word epinephrin in their discussions, in their writings, and in their prescriptions, it will not be long before there will be plenty of epinephrin on the market. As a matter of fact, already one firm (Mulford & Co.) has used as a synonym for its preparation, adrin, the term "epinephrin" and two other firms have expressed willingness to adopt epinephrin as a synonym. We sincerely hope that in the interest of science other manufacturers will do likewise, although it may be too much to expect that all will take this enlightened attitude.

COMMERCIAL PREPARATIONS NOT IDENTICAL

It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used.[3] On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would of course indicate it either by appending the firm's name after the common term "epinephrin," or by using the firm's trade name.

In view of the fact that the name "adrenalin" has been trademarked by the manufacturers of this particular product and is, therefore, no longer the scientific name for the suprarenal principle, the question of priority in its discovery or preparation is one of minor importance in this connection. However, the history of this drug disproves the claim of the manufacturers of "adrenalin" of exclusive priority in the discovery. The progress of scientific discovery is rarely such that any firm or individual can truly claim all the credit.

But before going into the history let us again quote from the Parke-Davis letter:

> We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research work by commercial houses! Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocain (excepting always the antidiphtheritic serum); yet when a reputable physician reports his experience to the medical press, THE JOURNAL of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own. Is this the way to teach ethics to others?

How much Parke, Davis & Co. spent on the experimental work that resulted in Takamine isolating "adrenalin" is a matter best known to that firm. The following quotation from the article[4] by Takamine in which he announced the results of his work is interesting in this connection:

> "Having been interested in this subject for some time *I recently commenced* to make research along that line. I am now pleased to announce that *I have succeeded in isolating the blood-pressure-raising principle* of the gland in a stable and pure crystalline form." [Italics ours.—ED.]

If Takamine isolated "adrenalin" so soon after commencing his research work, one wonders why it was necessary for Parke, Davis & Co. to expend "tens of thousands of dollars" for such a rapid piece of work. But this point is immaterial. The implication here is that Parke, Davis & Co. deserve the sole credit for the discovery of the active principle of the suprarenal glands. Now for the facts regarding this matter.

THE HISTORY OF THE DISCOVERY

More than half a century ago it was discovered that the suprarenal glands contain substances which give peculiar color reactions.[5] These properties were believed to be due to the presence of pyrocatechin or to its derivatives. Since 1894[6] it has been known that extract of the suprarenal glands possessed remarkable blood-pressure-raising and local astringent properties.

The blood-pressure-raising principle of the suprarenal gland was first isolated by Abel and Crawford[7] in 1897 in the form of its benzoyl compound. Finding this substance and its derivatives to be physiologically active, Abel believed that he had isolated the true active principle of the suprarenal gland in a pure state and named it "epinephrin,"[8] meaning, of course, that the name should apply to the true blood-pressure-raising constituent. The soluble salts of epinephrin, as prepared by Abel would, no doubt, have met all the needs of practical medicine if his methods of preparation had not been too expensive.[9]

Contemporaneous with Abel's earlier researches, v. Fürth[10] succeeded in isolating from the glands in an impure state an active principle which he called "suprarenin." In 1901, four years after Abel's first report, Takamine,[11] separated an active principle from the glands which he called "adrenalin." In the same year, Aldrich,[12] a former associate of Abel, independently produced an active principle, said to be much purer than Takamine's, which he also called "adrenalin." That Aldrich's product was purer than Takamine's is shown by a comparison of the formulas given by the respective authors. Takamine originally stated that the formula for his adrenalin was $C_{10}H_{15}O_3N$, while Aldrich (from the analysis of his own product) assigned the formula $C_9H_{13}O_3N$. Aldrich's formula has since been confirmed by many independent investigators, while no one has ever been able to substantiate the formula originally claimed by Takamine. This fact alone demonstrates that Takamine can have no legitimate claim to be the first to isolate the active substance in a pure state.

It is evident that all these investigators were working with the same substance, in varying degrees of purity. In fact, with the exception of mentioning v. Fürth's name, this is the belief of Crawford.[13] Abel's early associate. This opinion, however, was written by Crawford, a decade after his work with

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3. There is on the market a synthetic product called L-suprarenin synthetic bitartrate. See THE JOURNAL A. M. A., Jan. 14, 1911, p. 120. Also N. N. R., 1911, p. 82.

4. Therap. Gaz., 1901, xxv, 222.
5. Vulpian: Compt. rend., 1856, xliii, 663.
6. Oliver and Schäfer: Jour. Phys., Proc. Phys. Soc. p. i., 1894, xvi; Proc. Phys. Soc. p. i., 1894, xvii; 1895, xviii, 230.
7. Abel and Crawford: Johns Hopkins Hosp. Bull., 1897, viii, 151.
8. Abel: Ztschr. f. phys. Chem., 1899, xxviii, 320-1.
9. Hunt: Proc. Am. Physiol. Soc. in Am. Jour. Physiol., 1901, v, 6.
10. v. Fürth: Ztschr. f. phys. Chem., 1898, xxiv, 142; 1898-9, xxvi, 15.
11. Takamine: Am. Jour. Pharm., 1901, lxxiii, 523.
12. Aldrich: Am. Jour. Physiol., 1901, v, 457. The work of Aldrich was published in the same year, but after that of Takamine. He used the name adrenalin also. The statement that Aldrich's product was purer comes from Crawford, now Professor of Pharmacology in Leland Stanford Junior University, California, formerly with Parke, Davis & Co. This statement was published by Crawford in the Bulletin of the Bureau of Plant Industry, No. 112, 1907, p. 16.
13. Crawford: U. S. Dept. of Agric., Bur. Plant, Ind., Bull., 1907, cxii, 10.

Abel. Jowett, in England, several years earlier had come to the same conclusion.[14] He says: "'Epinephrin,' 'suprarenin' and 'adrenalin' refer to the same substance." Concerning the proper name for the active substance of the suprarenals, this chemist says: "As this author (Abel) was the first to isolate the substance, although in an impure condition, it would seem that the name originally assigned by Abel, to the active principle, should be the one adopted."

A review of the facts as briefly stated above shows that Abel's reports as well of those of v. Fürth were published in 1897-99, long before Takamine's announcement of the isolation of "adrenalin." To Abel, then, more than to any other, belongs the credit of having paved the way for the perfection of epinephrin. As we stated before, therefore, the name which he selected for the substance is the scientific one, the only proper one, if for no other reason than on account of the priority of his systematic researches. We contend, therefore, that "epinephrin" is the most correct generic name for the suprarenal principle and that the Council on Pharmacy and Chemistry did well in selecting this term.

SOME OPINIONS

To ascertain whether authors in speaking of "adrenalin," always mean the Parke Davis preparation, or whether they generally intend a wide application, we entered into correspondence with those who mentioned the word "adrenalin" in their articles, and we quote from some of the replies (italics ours):

Dr. Edward B. Bigelow, Worcester, Mass., says:

Personally, I do not intend to use trade names or write prescriptions for proprietary preparations, although, occasionally, I must admit that I do the latter. *As a matter of fact, through ignorance, I used the word "adrenalin," considering it to be the general term for the preparation* and not knowing, until you called my attention to it, that epinephrin is that term. On looking the matter up, the preparation really used by me was "supracapsulin." I shall be pleased to substitute the word "epinephrin" where I used the word "adrenalin."

Dr. E. Fletcher Ingals, Chicago, in discussing a paper in the Section on Laryngology and Otology last June, spoke of using adrenalin. In reply to our letter he says:

I used the term in a general way, for I seldom use adrenalin as it is too irritating in consequence of chloretone, but use suprarenalin. . . . Your plan is absolutely right and I hope the profession will see it in this way. I shall probably continue to use Armour's preparation, suprarenalin, as I like it best, but we will call it epinephrin.

Dr. Rudolph Matas, New Orleans, says:

In using the term "adrenalin" I was familiar with the fact that there are several preparations of the same kind under different proprietary names; but, remembering the early work of P. D. & Co. in developing adrenalin among other cruder products of the suprarenal gland, I have clung to them faithfully up to the present time. However, in applying the term "adrenalin," as I have done, especially in our work on local anesthesia, *it was not my intention to specify any particular "makes" of suprarenal product* in preference to any other, but *I meant to use it in a generic sense* without meaning particularly P. D. & Co. in preference to Mulford, Armour & Co., Stearns, etc. I did not have in mind the trade name, but a generic name that applied to the product of the adrenal, which we all recognize as the same thing under various trade names. I see clearly the point you make and believe it is well taken. I am fully in accord with the purpose and the principle upheld by the Council on Pharmacy in doing away with trade names, if possible, but those of us who have been in the habit for years of designating certain things by certain names which are familiar to us find it difficult to break into a new practice.

Dr. John O. Roe, Rochester, N. Y., replied:

As stated in my article, *it was adrenalin I used in the cases I reported.* I have no objection to the use of the general or generic term covering all the different preparations of this agent, although I stated that I used adrenalin for the reason that I have found it the most active and the most reliable of all these preparations.

Dr. Leo Loeb, St. Louis, says:

I have no objection to the change you propose in my paper. *I am glad to use the term "epinephrin" instead of "adrenalin."* I am in hearty sympathy with the work done by the Council on Pharmacy and Chemistry.

Dr. A. L. Scharber, Nashville, Tenn., says:

I did not intend to use any trade name; *I only used it in a general way.* I thought at the time that I had applied the name as it should be. Now, if I had known in time, I should have substituted the word "epinephrin" for "adrenalin."

Dr. Theodore C. Janeway, New York, writes:

I am heartily in sympathy with your desire to eliminate trade names. *In this case it was P. D. & Co.s preparation.* . . . It seems to me unfortunate that adrenalin, which is used fairly generally in the German literature, should not have the same non-specific signification here, but suppose we cannot help that. Epinephrin always seemed to me a much clumsier name than adrenalin. However, I suppose P. D. & Co. have made it impossible to use the latter.

As stated by Dr. Janeway, "adrenalin" is used as a general term in a general sense in Germany, and in fact all over Europe, as it is in this country, and for the same reason. Thus, to quote only recent literature, Ascher and Flack (*Ztschr. f. Biol.*, 1910, Vol. 55) use the word "adrenalin" throughout their article, in the protocols and conclusions; but on page 115 they state that they actually employed the preparation "hæmostasin." Hirayama (*Ztschr. f. exper. Path. u. Ther.*, 1911, Vol. 8, p. 651) speaks of "adrenalin experiments," but actually used "suprarenin Hoechst" in all cases. This illustrates the generic use of the term. But while the substance is on the market in Europe under a greater variety of names than it is in this country, adrenalin has the same narrow, limited meaning as it does here. Parke, Davis & Co. emphasize this even in their advertisements. In a full page advertisement in the London *Lancet* recently the British profession is advised that "there is only one adrenalin. . . . Parke, Davis & Co. introduced adrenalin into medicine. This principle was isolated in 1900 by Dr. Takamine, a member of their scientific staff, and the sole right of manufacture by his process is vested in them." German physicians are laboring under the same difficulty as physicians in this country would be laboring under were it not for the Council on Pharmacy and Chemistry.

We believe that the patent on adrenalin will expire in five or six years. Then not only the method of manufacturing it but the product itself will be free. But Parke, Davis & Co. will still control the name "adrenalin," and every time the physician prescribes under this term the druggist must use Parke, Davis & Company's preparation.

In scientific literature, however, or whenever the observations or conclusions are not restricted to the Parke, Davis & Co. product, the name "epinephrin" is not only justified, but commendable. The very condition of scientific progress is freedom. The interest of the public and of science demands that this freedom should be maintained. We doubt greatly whether many scientists of established reputation will subscribe to the insinuation in the protest quoted above, that the cause of science is best advanced by restricting its liberty, in order to put a premium on the "originality, enterprise and research work of commercial houses."

Such an attitude would certainly be contrary to the best traditions of medical science. Modern conditions may have necessitated some changes in the traditional practice—but not to the extent that thinking men will agree with the accusation that those who prefer a free name to a "protected" name, are guilty of sophistication and of debauching the ethics of the profession.

PARKE, DAVIS & CO.'S "REPLY" TO THE ABOVE WITH OUR COMMENTS

With a desire to be absolutely fair and to avoid any possible misstatements of facts, a proof of the above was submitted to Parke, Davis & Co. This firm has made a rather lengthy "reply," which ignores the main point—the absolute necessity, in the interest of science, of a practical, generic name—but deals expansively with side issues, especially in extolling their own product. The reply absolutely ignores the point at issue. As will be noticed by those who read the "reply" through consecutively, it contains many reiterations. A slight rearrangement of the paragraphs has been made, therefore, in order that we may comment in one place on related matters. As the paragraphs are numbered, it will be

14. Jowett: Jour. Chem. Soc., 1904, lxxxv, 192.

easy for those who desire to do so to read Parke, Davis & Co's "reply" in the order in which it was sent in by them. Omitting the first paragraph, we have arranged the text of the reply under four heads. Their "reply" begins as follows:

To the Editor:—On the following points in the article which you send us, "Proprietary versus Unprotected Names," you take a position which is utterly untenable:

1. Not a single grain of the active principle of the suprarenal gland was on the market, in pure state or in solution, until Parke, Davis & Co. first offered the pure adrenalin and the solution adrenalin chlorid to the medical profession and the drug trade. That we were the first to offer these products for sale has never been disputed.

Comment:—Technically this is true. Nevertheless, under the name "epinephrin," an active principle of the suprarenal gland, as prepared by Abel, was in the hands of clinicians, in the form of a salt and in solution, and was being made the subject of experiment and report to medical societies nearly two years before Parke, Davis & Co. offered it for sale.

I. VARIATIONS IN COMMERCIAL BRAND

2. If you will turn to Bulletin 61 of the Bureau of Public Health and Marine-Hospital Service at Washington, you will find on page 25 a summary of an investigation of six preparations on the market purporting to contain the active principle of the suprarenal gland. In point of activity four of them range from 3.7 to 66.6 per cent. of the normal standard. Only two are pronounced satisfactory (100 per cent.). If you purpose to encourage the use of the generic name for the six preparations, and if a physician prescribe epinephrin, which of the six products would you have dispensed on his prescription—the active, the standardized or the virtually inert? Would you leave the decision wholly to the dispenser? Would you give the physician any voice in the selection of the product that he can trust? And if in your dislike of "trade names" you persist in closing your columns to them and in substituting epinephrin therefor, will you, in justice to the physician and in justice to the particular product which may have been used by your contributor, take the trouble to insert "epinephrin (Jones)," or "epinephrin (Smith)," or "epinephrin (Parke, Davis & Co.)?"

Comment:—This matter has been dealt with (page 911, col. 1, par. 5), in part, as follows: "It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used. On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would, of course, indicate it either by appending the firm's name after the common term 'epinephrin' or by using the firm's trade name."

The introduction of a generic term does not prevent any physician from using the word 'adrenalin' or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

We have no complaint against the use of a trade name when the prescriber, author or abstracter intentionally restricts his remarks to that one particular preparation, as in the comparative investigations quoted in the reply. But as we have pointed out, practically all authors intend to use a generic name, and think that they are doing this.

3. Allow us to remind you of your own words in THE JOURNAL of the American Medical Association, Feb. 26, 1910, page 710:

"Schultz has just published the results of a careful examination of samples of the suprarenal preparations on the American market, which illustrated once more the need of more care in the methods of preparing and keeping this important drug. Of the six different products only two were of the strength claimed; the others vary from 3.7 to 66.6 per cent. of this strength. . . . Hunt in 1906 showed that some of the preparations labeled 1:1,000 had only one-fifth of the activity of others bearing the same label. Sollmann and Brown of Cleveland, Ohio, showed the activity of eight commercial preparations to differ greatly. . . . The fact remains, however, that inferior preparations are on the market and are probably passing into the hands of physicians daily. . . . There are reasons for believing, however, that some of the firms preparing this and some other drugs requiring physiologic standardization are not properly equipped for the work."

If, now, the physician prescribes simply "epinephrin," what ground has he for complaint if a solution containing 3.7 per cent. of proper normal potency is dispensed?

5. Those manufacturers who are making substitutes for adrenalin will rejoice to know that an influential medical journal is supporting their attempts to destroy in the minds of physicians the distinction between their products and the original. No wonder that one or more of them have been willing to accept your suggestion and attach the word "epinephrin" to their labels! Why should they forego your help in rectifying their past failures to give standing to their imitations and substitutes?

Comment:—We are not aware that there is any "distinction," other than the variability which may exist between any two commercial brands of the same substance. This variation is unfortunate, and should be speedily abolished by the standardization of *all* the brands—a work which the Council on Pharmacy and Chemistry is trying to accomplish. Instead of this, Parke, Davis & Co. propose to meet the conditions by creating and perpetuating a monopoly.

To realize the absurdity of this, we need only consider a few analogous examples: Common table salt is not absolutely pure. Let us suppose that a commercial firm markets a pure sodium chlorid under a protected trade name. Must scientists henceforth drop the scientific name of "sodium chlorid" or the public the common name "salt," because uniformity would be promoted thereby? Again: Digitalis preparations vary notoriously. Let us suppose that Smith, Jones & Co. invent a more uniform preparation and incidentally also invent a new name. Should the name "digitalis" now be dropped from the literature, because it refers to variable products? Or again, let us now suppose that we now accomplish the impossible and accept "adrenalin" as the generic name; must we change this every time that some one finds a better way of making a somewhat purer product, or a more stable solution? Parke, Davis & Co. bring another argument along the same line:

7. Your own laboratory (THE JOURNAL A. M. A., Oct. 31, 1908, pp. 1524-25), has borne witness that of four samples (of preparations purporting to be solutions of the active principle of the suprarenal gland) only one did not contain sodium sulphite or a similar bleaching agent—an agent which is generally conceded to have no real preservative effect, and only serves to deceive the physician by masking the tell-tale evidence of decomposition. We do not ask you to publish the name of the manufacturer of the lone sample: we can guess for ourselves.

Comment:—We do not know at all that "it is generally conceded" that the sulphite has no real preservative action and is therefore a fraud; or that the infinitesimal dose used is at all harmful; or that it is in any way inferior to the preservative used in "adrenalin solution." In the absence of any evidence in this direction, the Council had to be content with a statement of the nature of the preservative; but if good evidence is adduced, the Council will doubtlessly apply it.

II. EXPENSE OF DISCOVERY

Parke, Davis & Co. lay great stress on the matter of the expense of discovery in the following paragraphs:

4. The relative merits of Takamine and Aldrich, on which you dwell, have no bearing on the case. Both were in our employ during and before their work on the suprarenal gland. Aldrich entered our service July 10, 1898, and devoted more than two years to this work. Takamine had the good fortune to reach the coveted goal first. With either or both, Parke, Davis & Co. share the credit, for obvious reasons.

6. Much is said of the selfish motives and the pecuniary rewards of the manufacturer, little or nothing about his outlay, his financial hazard, his losses. Few remedies of real value are brought forth in this era save by highly trained and well-paid men working in costly laboratories. The world hears of the success, applauds the discoverer (perhaps), and utilizes the remedy. No one thinks it worth while to ascertain the costly failures, for the failures cost as much as the successes, and the returns from one success must necessarily offset the losses of a half dozen failures.

Comment:—Just when, where and how long Drs. Takamine and Aldrich were in the employ of Parke, Davis & Co.; what were their salaries and other conditions of their employment; what proportion of their time was devoted to investigations of the suprarenal problem; what other use may have been made of them—or in fact, what were the expenses of Parke, Davis & Co. in discovering adrenalin, and the probably vastly larger expenses of advertising it, what is the present rate of profit, etc.—all these are questions which may have an interest of their own; but we fail to see what practical bearing they have on the question whether we need a generic name for the numerous commercial brands of an identical substance; or even on the choice of name, since the Parke, Davis & Co. name is protected, and therefore not available as a generic name.

In passing, however, it may be remarked that so far as the mere question of expense is concerned, Takamine and Aldrich, and through them Parke, Davis & Co., certainly profited somewhat by the work of the preceding and contemporaneous workers in the same field; but we have still to learn that they have made any efforts to reimburse these "outsiders" for their share of the expense. In the aggregate, this was doubtless much greater than that of Parke, Davis & Co. The independent workers were not looking to financial encouragement; they were looking to the benefit of mankind; they are entitled to *that* benefit, and presumably would not accept any other. Parke, Davis & Co., however, would take this benefit from them, capitalize it, and convert it into dividends. These independent investigators doubtless believed, as we have said, that they were working for the benefit of humanity; it appears, however, that they were, in fact, working for the exclusive benefit of Parke, Davis & Co. This is one of the unfair phases of commercialized research.

III. PRIORITY OF DISCOVERY

As we have repeatedly pointed out, the "priority of discovery" has no practical bearing on the need, or in this case even on the choice, of a generic name; for a generic name, by its very definition, cannot be monopolized, and "epinephrin" is the only current name for the substance which has not been monopolized. It was not even proposed for any specific product, for Abel said: "I therefore name the blood-pressure-raising substance (of the suprarenal gland) 'epinephrin,' in accordance with Hyrtl's nomenclature" (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, p. 321).

However, since Parke, Davis & Co., in their first letter, claimed to have "enriched the practice of medicine with the most remarkable agent," etc., we felt it our duty to point out that such a claim deprives Dr. Takamine's predecessors of the large part of the credit which is fairly theirs. The "enrichment" really dates from the discovery, by Oliver and Shäfer, of the vasoconstrictor action of the gland, which led to its therapeutic use. Had it not been for this demonstration of the therapeutic potentialities of the gland, Parke, Davis & Co. would probably not have dreamed of financing its investigation. For this then they deserve no credit. The next step was the demonstration that this action resides in a definite chemical substance; and this substance, in the form of a benzoyl derivative, was first isolated by Abel—also without the aid of Parke, Davis & Co. Had it not been for the demonstration of the basic character of this substance, Dr. Takamine might still be floundering in the dark for a process of isolation.

The next step was the isolation of the natural base, and the credit for this, we say without hesitation, belongs to Takamine, Aldrich and Parke, Davis & Co. This was followed by the determination of the structural formula; and finally by the synthesis of the substance. In the last, Parke, Davis & Co. again had no share. In such a chain of discoveries, is it right for anyone to claim exclusive credit; to imply that he alone has enriched the profession? Is it possible even to say who should have the major share? We do not believe so, and we shall not attempt it. We concede a fair share to Parke, Davis & Co., namely, the final isolation of the natural base. We do not blame them for speaking warmly on this point, nor even for some partiality to their own merits; and therefore we shall comment only on such of their statements as are distinctly unfair to other investigators, hence, subdivisions a to f, inclusive, of paragraph 8 are not commented on, while subdivisions i, j and k are discussed separately.

8. (a) You do us and our employees an injustice in the language which implies that Professor Abel was mainly responsible for the discovery and preparation of the pure, active principle of the suprarenal gland. Abel was not the first to learn that this gland contained some substance giving a peculiar chemical (color) reaction. This was demonstrated by Vulpian (*Compt. rend. Acad. d. Sc.*, Paris, 1856, xliii, 663-665) in 1856 and confirmed by Virchow (*Virchow's Arch. f. path. Anat.*, 1857, xii, 481) in 1857. He was not the first to believe that these glands contained some active principle, because Vulpian and Cloez (*Compt. rend. Acad. d. Sc.*, Paris, 1857, xlv, 340) in 1857, and Arnold (*Virchow's Arch. f. path. Anat.*, 1866, xxxv, 64) in 1866, and Holm (*Jour. Pract. Chem.*, 1867, c, 150) in 1867, had arrived at the same conclusion, as is shown by their attempts to isolate such an active principle.

(b) He was not the first to demonstrate that these glands contained a substance of undoubted chemical similarity to another well-known substance, for Krunkenberg (*Virchow's Arch. f. path. Anat.*, 1885, ci, 542) in 1885 called attention to the similarity between the color reactions of the extract of this gland and those of pyrocatechol. Also, Brunner (*Schweiz. Wchnschr. f. Pharmakol.*, 1892, xxx, 121) in 1892 confirmed Krukenberg's conclusions in reference to the similarity between the color reaction of some substances in the glands and those of pyrocatechol.

(c) Abel did not first demonstrate that these glands contained a substance of marked physiologic activity, for Oliver and Schäfer (*Jour. Physiol.*, 1894, xvi, 1; 1895, xviii, 230) in 1894 made the important discovery that the extract from the suprarenal glands produced a rising blood-pressure when injected intravenously. Moreover, Moore (*Proc. Physiol. Soc.*, London, xiv; *Jour. Physiol.*, 1895, xvii) in 1895 discovered that the reducing property in such an extract went hand in hand with the ability to increase the blood-pressure, and he also concluded that the physiologically active body must be identical with the reducing body which gives a green color reaction with the iron salts.

(d) In 1896 Fränkel (*Wien. med. Bl.*, 1896, xix, 207, 228, 246) purified the extract of the glands until he had obtained a syrup-like body, and he, like Abel, with equal reason, considered this to be a pure substance. He called it "sphygmogenin," but no evidence was offered to demonstrate its purity or identity. In the light of our present knowledge we, of course, know that it was not the active substance, though it undoubtedly contained some of the active substances.

(e) Mühlmann (*Deutsch. med. Wchnschr.*, 1896, xxii, 409) in 1896 made a chemical investigation and arrived at the conclusion that the active principle was pyrocatechol. This, of course, we now know to be untrue also.

(f) Moore (*Jour. Physiol.*, 1897, xxi, 383) in 1897 argued that Fränkel was wrong in assuming the active principle to be a derivative of pyrocatechol, and argued that it was a derivative of pyridine. The error of this conclusion has also been demonstrated; nevertheless, Moore's work was important, very interesting and creditable.

(g) Abel and Crawford (*Bull. Johns Hopkins Hosp.*, 1897, viii, 151) in 1897 published results which showed that they had been carrying on a very interesting series of chemical researches on the active principle, but a careful perusal of the papers published at this time, and also in 1898 and 1899, and, in fact, a perusal of all the papers which have emanated from Professor Abel, has demonstrated that he never did succeed in isolating the active substance in pure form, but that what he did obtain and what he did regard as the active principle and the substance to which he has given the name of epinephrin, was really a compound which was not the active principle itself, but which contained more or less of the active principle, and which consequently displayed some of the peculiar physiologic activity of this substance. Aside from the greater complication of the work, and perhaps the more highly scientific methods used, he really accomplished little more than did Fränkel in 1896, or perhaps Oliver, Schäfer and Moore, who made an extract from the glands and proved it was possessed of peculiar chemical and physiologic activity. More than this, the work which he did and the results which he published were not finally used by Drs. Takamine, Aldrich, von Fürth or Pauly as the basis of a method for the extraction and purification of the active principle. Without the independent labors and discoveries of these other men or others equally as able and fortunate, it is quite possible that the active principle of the suprarenal glands in a pure and concentrated condition would not be available to the medical profession to-day.

(h) If Abel has ever succeeded in extracting the pure active principle, even up to the present day, without taking advantage of the information developed by Takamine and others, we have seen no evidence of it in the scientific journals. There is no doubt that Abel was convinced that these glands contained some substance possessing high physiologic potency; in fact, he could not have avoided such a conclusion from the information furnished by others, and one might perhaps say with all justice that he assigned the name epinephrin to the substance which he imagined was present in the glands, but his conclusions as to the constitution of this substance, and the methods which he developed for its extraction and purification, have been overthrown by others and are not accepted to-day by his scientific colleagues.

Subdivisions i j and k are commented on below.

(*l*) No less than four formulas for the active principle of the suprarenal glands have been proposed by Abel from time to time. Even if we agree to adopt the last of these, one cannot avoid the fact that this has been proved beyond any doubt to be an incorrect formula for the active principle. It would certainly do violence to scientific usage, and be a distortion of the truth, therefore, to apply this name "epinephrin" to a substance now known as "adrenalin," which has a different chemical constitution.

Comment:—In justice to Abel, it should be said that he conceded that he had not isolated the natural base, but its benzoyl salts. These, however, he evidently had in a practically pure form—as pure as Takamine's original products. In evidence, we need only quote Aldrich, and therefore Parke, Davis & Co. themselves: "It is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin—$C_{17}H_{15}NO_4$—we obtain a formula—$C_{10}H_{10}NO_3$—which is not very far removed from that of adrenalin—$C_9H_{13}NO_3$—a difference that can be readily explained if we suppose either of these bodies to be contaminated with other bodies." (*Am. Jour. Physiol.*, v, p. 461). As to the matter

of formulas, it must be remembered that the time when Abel worked on the problem, the subject was scarcely ripe for final judgment. Every chemist understands that the earlier formulas are more or less provisional. A criticism on this score is scarcely fair, least so from the champions of Dr. Takamine; for *the formula of Takamine has shared the same fate as Abel's.* In fairness, it should also be stated that the four formulas which excite the derision of Parke, Davis & Co., were not all for one and the same thing.

Parke, Davis & Co. then quote the opinions of several investigators:

(i) Professor Pauly (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 2944), a man of world-wide reputation, writing from the laboratory of the University of Bonn. says:

"The credit of first precipitating and isolating from the suprarenal gland of the therein contained blood-pressure-raising principle as a chemical individual belongs to Takamine. It has the name 'adrenalin,' given to it by its discoverer, which name, among the many trivial names given to it, possesses the best scientific claim."

(j) Professor von Fürth (*A. d. Sitzungsb. d. k. Akad. d. Wissensch. in Wien. Mathem-Naturw. Klasse*, 1903, cxii, 3) says in this connection:

"Abel and his pupils employ the name of epinephrin to designate the active principle as contained originally in the gland, instead of adrenalin or suprarenin. As the substance described and analyzed by Abel under the name epinephrin is certainly different from the original body in the adrenal glands, I shall avoid using the same, since it necessarily leads to a misunderstanding."

(k) In a second paper Pauly (*Ber. d. deutsch. chem. Gesellsch.*, 1904, xxxvii, 1388) emphatically rejects Abel's empirical formula, $C_{10}H_{13}NO_3{\cdot}\frac{1}{2}H_2O$, and remarks:

"This formula, together with the name 'epinephrin hydrate,' which designates the same, should be blotted out of the literature. The name 'epinephrin,' however, should remain now as before for the basic substance obtained by treating adrenalin with concentrated H_2SO_4, or with dilute acids under pressure, and to this the formula $C_{10}H_{13}NO_3$ should be given. This body, whose chemical composition is different from adrenalin, and whose physical, chemical and pharmacologic properties are different from the real blood-pressure-raising substance, should be considered a transformation product of the active principle."

Pauly adds that Jowett is mistaken in giving Abel and Crawford credit for the priority in first isolating the active principle:

"Thus there can be no doubt that not Abel and Crawford, but Takamine first obtained the active substance. If Abel adheres to the statement referred to in the beginning, that his formula $C_{10}H_{13}NO_3{\cdot}\frac{1}{2}H_2O$ finds confirmation in the analyses of salts and derivatives, it must be answered that this is not the case; that he, outside of one impure benzoyl product, has not prepared, not to say analyzed, up to the present time, either a salt or derivative of adrenalin, in which the nucleus of the last is still intact."

Comment:—These are altogether matters of opinion or point of view, and to appraise them, it should be understood that Pauly, at the time when he wrote them, was engaged in a somewhat sharp controversy with Abel, as might be gathered from the expressions quoted. His views, therefore, would be apt to lack perspective, in fact, they would tend to be somewhat biased. Incidentally, Pauly is not a professor but a privat docent at the University of Würzburg and can hardly be said to be a "man of world-wide reputation as a chemist." As to von Fürth's statement, there can no longer be any fear of a "misunderstanding."

Parke, Davis & Co. proceed:

(m) Abel's epinephrin possessed little if any blood-pressure-raising action (von Fürth: *Ztschr. f. physiol. Chem.*, 1900, xxix, 122). Abel never succeeded in producing the crystallized base until he learned how from Takamine. The one point on which Abel (*Bull. Johns Hopkins Hosp.*, March, 1901, xii, 80) at first agreed with von Fürth (most erroneously, as it proved) was that "the active principle in its native state is not precipitated by ammonia." Not only was this single point of agreement exploded by Dr. Takamine's discovery, but singularly enough Abel's statement of the error was made in the same article of May, 1903, in which he acknowledged receipt of the Takamine crystalline base, of which he then did not know the process of making. In other words, Abel never succeeded in producing the crystalline preparation of the blood-pressure-raising principle until Takamine taught him how by a method which he and von Fürth had pronounced impossible! Abel remarks later (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 1839): "The important observation that the substance can be precipitated in crystalline form from concentrated gland extracts by the aid of ammonia and other alkalies we owe to Takamine." Nothing could be more explicit.

Comment:—As to the ammonia-precipitation, the fact that Takamine succeeded where Abel and von Fürth had failed, in the quotation. Abel fell into this error because his gland solutions were too weak; he had, however, discovered the ammonia-precipitation in the case of his isolated substance, and the basic nature of the latter long before a report of Takamine's work was published. (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, 324.)

The statement that "Abel's epinephrin never possessed any blood-pressure-raising action," is a wholly inexcusable misrepresentation, to put it mildly. Abel stated that his free base soon lost its activity, but the salts, especially the picrate and bisulphate, were highly active, and in the dry state retained their activity. These active salts, as epinephrin bisulphate, were always prepared by transposition from a picrate and not from the free epinephrin which became inactive presumably by oxidation during the precipitation. The curves in the paper of Abel and Crawford (*Johns Hopkins Hospital Bull.*, 1897, viii, 151) were absolutely convincing. In the paper in *Hoppe-Seyler's Zeitschrift*, xxv, Abel found that 0.02 mg. of the salt per kilo of animal gave a distinct rise; and that larger doses raised the pressure by 88 mm. On p. 349, he also describes the blanching effect on the conjunctiva. The writer of the "reply" is evidently familiar with these papers and his misstatement of the case must, therefore, be intentional, especially since he admits in a former paragraph (g), that Abel's epinephrin "displayed some of the peculiar physiologic activity of this substance" (the active principle). Nor does this writer anywhere intimate that Abel has replied in detail to von Fürth's contention that epinephrin and suprarenin (the name adopted by von Fürth for the active principles of the suprarenal gland, now a "trade" name) are fundamentally different substances. (See Abel, *Johns Hopkins Hospital Bulletin*, March, 1901, and *American Journal of Pharmacy*, July, 1903.)

IV. SUMMARY

Parke, Davis & Co., conclude their reply as follows:

(n) Far be it from us to pretend that our research workers were not greatly indebted to other pioneer students of the suprarenal gland, or to deny that the work of a number of earnest investigators had paved the way for Takamine's crowning achievement. Nearly every great invention or advance in every art is thus made possible. Pasteur made Lister possible. Is this any disparagement of Lister? Because there was a prior record of research, are we to be robbed of the credit which is justly due us for being the first, through our employees, to separate the active principle in its pure state, to determine its constitution, to evolve a practical method of production on a commercial scale, to confer a remarkable boon on suffering humanity? Is the inventor of a therapeutic agent to be discriminated against? Has society a greater stake in an improved broom-handle than in a valuable drug? Nay, of all inventions, should not the author of a new remedy be singled out for the richest rewards that society can confer? Will Professor Ehrlich be any the less a great benefactor of his race if he reserves for himself or for his institute in Frankfort a large royalty on his wonderful salvarsan? If we have done nothing for medicine and humanity in this matter of adrenalin, your argument is sound. If we have done much, your position is pitiful and wrong. And, worst of all, the very men whom you profess to serve—the medical practitioners of the country—will be the first to suffer. The more you encourage the use of the blanket name "epinephrin," the more you put the physician at the mercy of "thirty or forty" different manufacturers whose products range in value from the worthless to the best.

PARKE, DAVIS & CO., Detroit.
By E. G. SWIFT, General Manager.

Comment:—We commend the spirit of the first sentence. For the rest, we need only restate the principle at issue, which Parke, Davis & Co. have seen fit to ignore entirely in their reply: When the same substance is actually marketed and used under several distinctive trade-names, it becomes necessary to use a generic name when speaking of properties of the substance which are common to all "brands." This is the intent of most scientific and medical writers on the suprarenal base, and when the word "adrenalin" is used by medical writers, it is generally meant in the generic, and not in the distinctive sense. Since the name "adrenalin" is protected, it should not, and properly cannot, be used in this way. The name "epinephrin," since it is not monopolized, is not only the best, but also the sole name which can be rightly applied to the supra-

Correspondence

Rheumatism, Specialism and Independent Journalism

To the Editor:—I saw a very timely letter in THE JOURNAL, March 11, 1911, inquiring why reputable physicians and surgeons will contribute articles to medical journals which admit a very undesirable class of nostrums and proprietaries to their advertising. As I frequently contribute to several independent journals, some of whose advertisements I do not approve of at all, I will say that I do it in order to reach the large number of broad, progressive, and liberal and non-sectarian medical men who read these journals and keep watch for everything new or good that appears in their columns. I do not use nostrums or proprietaries, never have used any and always speak out against them whenever I have an opportunity, but I must have a fair field and a free parliament which no man could have in contributing for journals like THE JOURNAL A. M. A.

I am a specialist in the treatment of rheumatism and diseases of the stomach and liver and diseases of children, and have been grandly successful, more so than I ever dreamed possible when I started in the practice of medicine. I like to spread the light, and tell other doctors what I have done and what they can do by using the same means, but you would not think for a moment of admitting one of my articles to the columns of THE JOURNAL A. M. A., for I often carry a case of rheumatic fever to a very quick and successful termination with such remedies as bryonia, iris, rhus tox., pulsatilla, gelsemium, colchicin, veratrum, aconite, apocynum and guaiacum.

I demand that any journal that I write for shall be broad and liberal and non-sectarian enough to publish articles recommending any ethical remedy that I have proved to be of positive curative value. We need a much higher standard of medical ethics. They are absolutely disregarded by most medical men now. A poor sick doctor in South Carolina writes to me in asking advice for his desperate case of rheumatism, "I have paid out everything but my home to the M.D.'s for treatment and am not cured." What kind of ethics would allow a man to take the last dollar from a suffering brother physician?

W. M. GREGORY, Berea, Ohio.

The Niemeyer Pill

To the Editor:—The "Niemeyer Pill," concerning which there has recently been an interesting correspondence in THE JOURNAL [January 21, p. 211 and February 11, p. 443], is commonly known in England as Addison's pill. That it was used long before Niemeyer's time is proved by its inclusion in the first edition of the Pharmacopeia of Guy's Hospital, published in 1837, when Bright was one of the full physicians and Addison the only assistant at the hospital. The pill was then called pilula scillæ cum hydrargyro and its composition is as follows:

℞ Hydrargyri oxidi gr. xx.
Pilularum scillæ compositarum dr. iv.
Misce, et divide in pilulas lx.
Dosis, i, ii, vel iii, semel, bis, sæpiusve quotidie.

The following is the formula of the pilula scillæ composita:

E singulis drachmis scillæ formentur pilulæ xii.
Dosis, i, ii, vel iii, bis, ter, quaterve quotidie.
Singulis pilulis interdum adde.
Digitalis foliorum contritorum gr. ss.

ARTHUR F. HERTZ, London, Eng.

Anterior Poliomyelitis: The Proper Method of Diagnosis

To the Editor:—In a letter to the *New York Medical Journal*, published several years ago, I made the suggestion, from analogy, that the first tonsil (Luschka's) was probably the site of infection in poliomyelitis. Dr. Bryant's recent article has confirmed this probability.

In a recent number of THE JOURNAL, Dr. Flexner reports that he and his collaborators have suggested that the nasopharynx acts in human beings as the portal of entry of the virus into the central nervous system, as well as the source of its dissemination to other human beings. He also calls attention to the work of Osgood and Lucas showing that the virus can survive in the nasopharynx of the monkey for nearly six months. . . The importance of securing methods of early and certain diagnosis of anterior poliomyelitis, says Flexner, is self-evident. By taking advantage of the changes which regularly occur in the cerebrospinal fluid it is possible, early in the course of the infection, to arrive at a certain diagnosis.

As it would be comparatively easy both to diagnose and to treat this disease by going at once to the place which is now known to be the site of infection in this and in all air-borne infections, I would suggest the following method: In a patient suspected of harboring the germs, sterilized cotton carriers should be inserted through the nose to the nasopharynx. These infected carriers with their bits of cotton are returned to the tubes and later used to infect either monkeys or guinea-pigs. This procedure of passing the cotton into the nasopharynx suggests the proper method of sterilizing this space, namely by wetting the cotton in hydrogen peroxid.

EDMUND D. SPEAR, M.D., Boston.

The Secret Commission Evil

To the Editor:—I read in THE JOURNAL, March 11, Dr. Lord's article on "The Secret Commission Evil."

I have been making furrows in these muddy country roads for seven winters and have driven through the dust for seven summers. On my rounds I have seen and studied many cases. On one occasion I was sent to consult a big surgeon concerning a case which was causing a great deal of worry to the whole family. I saw the surgeon, and after our consultation. I was asked: "Where do you send your surgical cases?" I proudly answered, "I operate whenever I can get the consent of the patient, doctor." This surgeon did not take me along to dinner, although he had remarked previously that he was on his way, nor did he seem to enjoy my company thereafter.

On another occasion, an old classmate introduced me to some of his specialist friends. They also asked: "Where do you send your patients?" I answered: "My territory is pretty far away, doctor." Our visit was perceptibly less sociable afterward. What would the proposition have been if the answers had been more pleasing to the surgeon and the specialists?

I feel that I missed some good entertaining or perhaps "fee-splitting." Maybe these gentlemen needed finances more than patients. Where does "fee-splitting" start?

AUGUST BECHTOLD, M.D., New Athens, Ill.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

REMOVAL OF IMPACTED CERUMEN FROM EAR

To the Editor:—I have been interested in the query of Dr. Blackly, in THE JOURNAL, March 11, regarding removal of impacted cerumen from ear. Filling the ear at night with olive oil and following this by hot irrigation next morning with biborate of soda solution will remove the impaction very easily. The patient is advised to sleep with the affected ear uppermost. If the opposite ear is also in need of attention the same treatment may be used on the following night.

ERNEST BOSTON, M.D., Taylor, Texas.

ODOR FROM ASPARAGUS

To the Editor:—What is the peculiar odor noticed in urine after eating asparagus? Have any harmful effects been known as a result of eating this vegetable? I have a faint recollection of hearing a medical instructor caution against its use in kidney disease.

A. I. L.

ANSWER.—The odor in urine after eating asparagus is due to asparagin—a crystalline substance which exists in smaller quantities also in lettuce, potato, marshmallow and other vegetables and is said to have diuretic and sedative properties. The eating of asparagus is not generally thought to have harmful effects

BACTERIOLOGY OF COLDS

To the Editor:—Please give me the facts known with regard to the bacteriology of "colds." Is the influenza bacillus usually responsible for ordinary colds or are other germs sometimes the cause? Also, does the infection spread along the mucous membrane from the first site or is the blood concerned in its propagation?

B. S. PENN, Humboldt, Tenn.

ANSWER.—The actually known facts regarding the relations of bacteria to "colds" are somewhat meager. It is believed by many authorities that the essential factor in a "cold" is congestion due to vasomotor changes, not necessarily connected with bacterial action, the association of bacteria with such changes being merely secondary. Other "colds" follow the direct action of irritants, prominent among which may be bacteria-laden dust. In other cases there is proliferation of bacteria already domiciled on the mucous membrane. The ordinarily latent microorganisms spring into renewed activity when the resisting power of the individual is diminished. A number of organisms have been found in the nasal secretions in "colds." Among these may be mentioned *Micrococcus catarrhalis*, streptococci, staphylococci, the pneumococcus, an unnamed diplococcus and the influenza bacillus. Some "colds" are evidently contagious, but their microbic cause has not been discovered. The influenza bacillus does not seem to be usually responsible for ordinary "colds." Even in epidemics, characterized by the symptoms of influenza, the influenza bacillus has not been demonstrated in all cases. So far as clinical observation goes, it would appear that the infection spreads by contiguity along the mucous membrane in most cases. An infection by way of the blood is possible, not probable.

CHINESE DO NOT PAY PHYSICIANS TO KEEP THEM WELL

To the Editor:—Ever since I was a boy I have met with occasional references in books and newspapers to the "Chinese custom of paying their physician when they are well and stopping payment when they are sick." Is there any truth in this statement? Has this been the custom in China, or is it merely a traveler's yarn or a utopian fancy?

C. U. S.

ANSWER.—Contracting to keep a patient in health is at least extremely rare in China. All authorities acquainted with China agree that the method is so seldom met with as practically not to exist. Were there such a custom the physician (though that is hardly the term to apply to the native malpractitioner) would promptly go out of business, for his clientele would speedily develop real and imaginary cause for reducing his income to zero. The misstatement is often seen in the literature, but must be classified with the fabrication that the Chinese eat rats, or that they did not wear long hair till compelled to do so by the Manchu conquerors.

TREATMENT OF ACIDOSIS

To the Editor:—Please give the most satisfactory treatment, both dietetic and medicinal, for acidosis.

I. W. C.

ANSWER.—Acidosis is due primarily to insufficient oxidation, and secondarily to an insufficient supply of carbohydrates, the organism being obliged in that case to break up proteins or fats to sustain life. The dietetic remedy, therefore, is a supply of carbohydrates sufficient to spare the fats which are regarded as the chief source of the acid. In diabetes this supply of carbohydrates should be sufficient to avoid the dangers of acidosis but not enough to increase to a dangerous extent the amount of sugar in the blood and urine. Medicinally it is theoretically correct to administer remedies which will increase oxidation. Alkalies are believed to have this power and are the chief remedies employed in the treatment of acidosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 18, 1911.

Lowe, Thomas S., M.R.C., ordered to proceed from Whipple Barracks, Ariz., to Fort Apache, Ariz., for temporary duty.

Jones, George B., M.R.C., left Fort Benjamin Harrison, Ind., with the 10th Infantry, en route to Fort Sam Houston, Texas.

Vose, William E., major, left Jackson Barracks, La., with 164th Co. Coast Artillery en route to Galveston, Texas.

Holmes, R. W., lieut., left Plattsburg Barracks, N. Y., with troops en route to Texas.

Whitcomb, C. C., and Crabtree, George H., majors, promoted to major, Medical Corps, to rank from Jan. 1, 1911.

Kelly, John P., M.R.C., ordered to Fort Hamilton, N. Y., for duty.

Marietta, Shelley U., M.R.C., resignation accepted by the President.

Walker, Thomas C.; Koyle, Fred T., and Eliot, Henry W., M.R.C., ordered to proceed to Newport News, Va., for assignment to duty on transports.

Hoff, John Van R., colonel, ordered to proceed to Albany N. Y., to read a paper at the meeting of the Medical Society of the State of New York, on or about April 18 and 19, 1911, on the subject of "Experience of the Army with Vaccination as a Prophylactic Against Small-pox."

Hess, Louis T., major; Weed, Frank W., captain; Burket, John A., and Fisk, Owen C., lieuts., ordered to proceed to Galveston, Texas, and report for duty with the field hospital to be organized at that place.

Reynolds, F. P., major, in addition to his other duties will perform the duties of medical superintendent of the transport service at Newport News, Va.

O'Connor, C. H., major, ordered to proceed to San Antonio, Texas, and assume command of Ambulance Co. 38, to be assembled at that place.

Field, Peter C., major, granted leave of absence for two months, about June 1, 1911.

Johnson, Thomas H., lieut., left Fort Baker, Cal., en route to San Diego, Cal., for duty with 30th Infantry.

Gilchrist, H. L., major, reports for duty at Fort Sam Houston, Texas.

Etter, Harry B., lieut., left Fort Snelling, Minn., with 2d Squadron, 4th Cavalry, en route to El Paso, Texas.

Campbell, George F., M.R.C., left Fort Wingate, N. Mex., en route to Fort Sam Houston, Texas, with Co. A, 18th Infantry.

Hanson, Louis H., captain, left Fort Hamilton, N. Y., with troops en route to Texas.

Knox, Howard A., lieut., left Fort Hancock, N. J., with troops en route to Texas.

Gosman, George H. R., major, left Fort Barrancas, Fla., en route to Galveston, Texas, with 15th and 20th Cos. Coast Artillery.

Hutton, Paul C., major, left Fort Snelling, Minn., with the 28th Infantry, en route to Fort Sam Houston, Texas.

Bowen, A. S., lieut., and Maynard, E. B., M.R.C., left Fort Snelling, Minn., with the 28th Infantry, en route to Fort Sam Houston, Texas.

Patterson, Robert U., major, left Fort Banks, Mass., en route to San Antonio, Texas.

Long, Charles J., D.S., reports for temporary duty at Fort Constitution, N. H.

Phillips, Hiram A., lieut., left Fort Banks, Mass., en route to Fort Monroe, Va.; reported March 10 for duty on the *McClellan*.

Hopwood, L. L., captain, left Fort Monroe, Va., en route to Galveston, Texas.

Mount, James R., lieut., left Fort Sheridan, Ill., en route to St. Louis, Mo., for temporary duty at supply depot.

Rich, Edward W., captain, reported for duty with the 4th Reg. Prov. Coast Artillery, presidio of San Francisco, Cal., for duty in field.

Welles, E. M., Jr., lieut., left presidio of Monterey with troops for duty at San Diego, Cal.

Wales, Philip C., major, left presidio of Monterey with troops en route to San Diego, Cal.

Eckwurzel, George M., major, left Fort Mackenzie, Wyo., with headquarters and two battalions of 18th Infantry en route to Texas.

Van Poole, Gideon M., major, left Fort Sheridan, Ill., en route to Fort Brady, Mich., for temporary duty.

Ragan, Charles A., captain, relieved from treatment at the Walter Reed General Hospital, Takoma Park, D. C., and from further duty in the Philippines division and assigned to temporary duty at the Walter Reed General Hospital.

Cole, Blase, M.R.C., resignation accepted by the President.

Manly, C. J., major, now at San Antonio, Texas, will proceed without delay to Galveston, Texas, and report to the commanding general, 1st Separate Brigade, for assignment to duty.

Davis, William B., col., granted leave of absence for two months and nine days, to take effect on his arrival in San Francisco, Cal.

Purnell, Harry S., captain, ordered to the Army General Hospital, San Francisco, Cal., for duty.

Bartlett, William H., captain, ordered to proceed from San Antonio, Texas, to Fort Oglethorpe, Ga., for temporary duty.

Richardson, William H., captain, reported for duty to commanding officer, 4th Prov. Reg. Art., at presidio of San Francisco, Cal., for field duty.

Tuttle, George B., M.R.C., left San Francisco, Cal., for duty in the field.

Ashburn, James A., M.R.C., left Fort Assiniboin, Mont., accompanying troops to Fort D. A. Russell, Wyo.

Hartsock, F. M., major, reports arrival at San Antonio, Texas.

Baker, David, major, and Darby, Taylor E., lieut., report arrival at camp near Fort Sam Houston, Texas, with the 17th Infantry.

Frick, Euclid B., lieut.-colonel, and Tasker, Arthur N., lieut., left presidio of San Francisco en route with the 30th Infantry to San Diego, Cal., for field service.

Fletcher, John P., lieut., left Fort D. A. Russell, Wyo., with the 9th Cavalry to Fort Sam Houston, Texas.

Dutcher, Basil H., major, reports arrival at San Antonio, Texas, to assume command of the field hospital.

Fauntleroy, P. C., major; Beery, Harry R., lieut., and Jones, George B., M.R.C., report arrival at Camp San Antonio, Texas, with the 10th Infantry.

Mills, Fred H., M.R.C., left Fort Missoula, Mont., en route to Fort Assiniboin, Mont., detached duty.

Reynolds, F. P.; Fauntleroy, P. C.; Clayton, Jere B.; Bispham, William N.; Dean, Elmer A., majors; Bevans, James L., and Thomas, Henry D., captains. Orders directing the above officers to take a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan., is revoked.

Stone, Frank P., D.S., left presidio of Monterey, en route to Fort Rosecrans, Cal., for temporary duty.

Long, Charles J., D.S., reported for temporary duty at Fort Williams, Maine.

Medical Corps, U. S. Navy

Changes during the week ended March 18, 1911.

Morris, L., surgeon, detached from the naval supply depot, navy yard, New York, and ordered to the *Hancock*.

Benton, F. L., surgeon, detached from the *Franklin* and ordered to the *Idaho*.

Cook, F. C., surgeon, detached from the *North Carolina* and ordered home to await orders.

Dykes, J. R., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the navy yard, Portsmouth, N. H., and to additional duty in connection with the *Southery, Topeka*, and naval hospital at that place.

Old, E. H. H., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *North Carolina*.

Hoyt, R. E., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Buffalo*.

McDowell, R. W., asst.-surgeon, detached from the Naval Academy and ordered to the Bureau of Medicine and Surgery, Navy department.

Michels, R. H., A. A. surgeon, appointed acting assistant surgeon from March 10, 1911.

Richardson, R. R., surgeon, detached from the *Prairie* and ordered to the *Virginia*.

Ohnesorg, K., surgeon, detached from the *Virginia* and ordered to the *Prairie*.

Crandall, R. P., surgeon, detached from the *Hancock* and ordered to treatment at the Naval Hospital, New York.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 15, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to Trenton, N. J., on special temporary duty.

Collins, G. L., P. A. surgeon, directed to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters.

Salmon, T. W., P. A. surgeon, granted six months' leave of absence from April 18, 1911, without pay.

Frost W. H., P. A. surgeon, directed to proceed to Savannah, Ga., on special temporary duty.

Simpson, Friench, P. A. surgeon, granted fifteen days' leave of absence from March 20, 1911.

DeForest, C. M., A. A. surgeon, granted two weeks' leave of absence from April 25, 1911, without pay.

Duke, B. F., A. A. surgeon, granted fifteen days' leave of absence from Feb. 14, 1911, on account of sickness.

Horning, Henry, A. A. surgeon, granted seven days' leave of absence from March 8, 1911, under paragraph 191, Service Regulations.

Kuhn, C. F., A. A. surgeon, granted thirty days' leave of absence from April 15, 1911, with pay, and two months without pay, from May 15, 1911.

Weeks, A., A. A. surgeon, granted thirty days' leave of absence from March 6, 1911.

Wright, F. W., A. A. surgeon, granted eight days' leave of absence from March 18, 1911.

Board of medical officers convened to meet at the Marine Hospital, Portland, Maine, on call of the chairman, to conduct a medical survey of an officer of the Revenue Cutter Service. Detail for the board: Surgeon C. E. Banks, chairman; Surgeon J. M. Eager, recorder.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

(*Continued from page 844*)

The address of the president, Dr. John A. Witherspoon, will appear in full in THE JOURNAL.

Entrance Requirements for Admission to the Medical Course

DR. GEORGE EDWIN MACLEAN, President of the University of Iowa: The entrance requirements should be met absolutely without conditions. The work of the medical college is so heavy that the student should not be permitted to drag any entrance conditions after him. The success of the instruction in the first year is imperiled if the student must divide his attention between his current studies and back work. The abolition of conditions removes opportunities for college authorities, overzealous about attendance, or tempted to dishonesty in administration, to evade the published requirements. If the ideal requirement is adhered to, not less than two years of college work, there is little or no sense for one to seek admission to the medical school with a condition.

I would have the preliminary education consist of graduation from an accredited high school, normal school or academy, plus two years taken in an accredited college of liberal arts, with a course of at least one year each devoted to physics, chemistry and biology. The entrance requirements to the collegiate work should be made more flexible, the number of specifically required subjects in the secondary education being reduced in view of the fact that the two years in liberal arts round out the four years of the secondary school. In the period of six years there should be not less than two years of Latin or Greek, or four years of modern languages with the elements of Latin grammar, two years of mathematics, two years of English, one year of history and one year each of physics, chemistry and biology, preferably done in college. If, temporarily, some schools must be allowed the liberty of admitting on a four-year high school basis, and therefore think it necessary to specify rather particularly certain entrance requirements, might it not be possible to permit such colleges as require the two years of collegiate study for admission not to require specific subjects beyond Latin, physics, chemistry and biology? Practically every high school student will offer a reasonable amount in English, history and mathematics. The wider range of time given in which to complete the required subjects would largely do away with the evil of estimating equivalents and the frauds sometimes perpetrated in these estimates. This would also gain time for the extension of the professional courses, including hospital work.

The unit of measurement should be the "unit." Such terms as "count," "point" and "credit" should be discontinued. With reference to examinations, I would suggest that they total not less than fifteen units in required and elective subjects. I would select major topics in the four fields of language and literature, history, mathematics and science, instead of giving detailed examinations in all the subjects enumerated. The examiner should be an expert university or college examiner, meeting the few individuals who have prepared by tutoring or in unaccredited schools or through misfortune and age, come up without institutional training. He should size up these personalities in connection with all the records presented and use his discretion in giving a chance for these individuals in the college of medicine. We must preserve opportunities for individuals in this day of emphasis or institutionalism. The examiner can be depended on to conserve standards.

The entrance requirements, then, should be fifteen units of secondary school work in an accredited school, plus thirty hours of college work, the secondary and collegiate work embracing the required subjects of not less than two units of Latin or Greek, or four units of modern languages, provided an examination is passed in the elements of Latin grammar, two units of mathematics, one unit of history, two units of English, one unit or year hour each of physics, chemistry and biology. The candidate for admission should not be permitted to enter the college of medicine with conditions. The administration of these standards is to be by boards empowered by statute to administer them, and by accredited schools and colleges, and by authorized examiners not members of the medical colleges concerned.

DISCUSSION

DR. EGBERT LEFEVRE, University of Bellevue Hospital Medical College: One of the biggest stumbling blocks in the way of the medical colleges is the attitude of the universities not connected with the state toward this two-year college requirement. In the West the high school and university courses are correlated. In the East there is no such correlation. We have dissociated universities and colleges so that there is a great impediment to students passing from one to the other, and that makes it doubly hard for a high school pupil to get

two years of college work and then pass smoothly into college work. We demand an intensive course preparatory to a professional education which cannot be given in the professional or technical school, but in making this demand we place our students at a disadvantage because of this attitude on the part of the universities who do not wish to modify their curriculum to suit these two-year men. Until they accept it as a part of their duty to correlate their entrance requirements with the generally accepted and accredited high schools, there is going to be great difficulty in advancing men from the high school into the college to meet the requirements Dr. MacLean has mentioned.

DR. RANDOLPH WINSLOW, University of Maryland: I wish to endorse the suggestion that any man who has been unfortunate enough not to be able to secure the necessary collegiate training should have the right to get a medical education if he is capable.

DR. H. D. ARNOLD, Boston: I think we may admit that the strict regulations which we have tried to place about our examinations are due to the fact that we are not living up to our present standards. What we need more than anything else is a minimum that will be lived up to.

DR. J. S. FERGUSON, Cornell University: It seems to me anomalous that the same effort that tends to elevate the degree of M.D. should lower the degree of A.B. If we would endeavor to exercise our influence with the colleges not to do that, we would be able to secure preparatory medical courses in the non-state-supported institutions.

DR. ARTHUR DEAN BEVAN, Rush Medical College: Modern medicine demands a certain preliminary training. It demands that a man have a well-rounded secondary school education and a training in chemistry, physics and biology. The colleges which do not require that are doing poor, inefficient work in the light of the demands of modern medicine. Medical education also demands one year of practical training in a hospital where the student is part of the hospital machinery for the care of patients.

Administration of Entrance Requirements

DR. B. D. HARISON, Michigan State Board of Registration in Medicine: The proper method of administering requirements is by the board itself, covering credentials and credits, and in the event of an applicant not having the required qualification, he should be referred to a board of preliminary examiners, consisting of not less than four high school principals or superintendents for regular examination on the standard set by the board, covering a high school credential and its symmetrical features. This board reports its findings to the medical board. A properly constituted board of this kind will, in my experience, refuse the proper certificate to at least 75 per cent. of the applicants. This is not only an honest administration, but a practical one.

(To be continued)

AMERICAN CONFEDERATION OF RECIPROCATING EXAMINING AND LICENSING MEDICAL BOARDS

Ninth Annual Meeting, held in Chicago, March 3, 1911

The President, DR. WILLIAM A. SPURGEON, Muncie, Ind., in the Chair

Officers Elected

Dr. Spurgeon was reelected president and Dr. B. D. Harison, secretary; Dr. A. W. Alvord, Battle Creek, Mich., was elected vice-president.

Report of Secretary

Dr. Harison reported that the following states (fourteen) are now in membership in the confederation: Georgia, Indiana, Iowa, Kansas, Maryland, Michigan, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, Utah, West Virginia and Wisconsin.

The following states (nineteen) reciprocate on the basis of the qualifications adopted by the confederation, but are not in membership: Arkansas, Colorado, Delaware, District of Columbia, Illinois, Kentucky, Louisiana, Maine, Minnesota, Missouri, New Hampshire, New Jersey, New York, South Carolina, Tennessee, Texas, Vermont, Virginia and Wyoming.

From Jan. 1, 1910, to Jan. 1, 1911, 1,000 reciprocal registrations were made by twenty-five states, 894 on the basis of Qualification No. 1 and 106 on the basis of Qualification No. 2.

Report of Committee on College Inspection

Dr. Spurgeon, chairman, reported that the following constituted the committee on college inspection: W. A. Spurgeon, Indiana, chairman; A. W. Alvord, Michigan; H. A. Barbee, West Virginia; H. H. Baxter, Ohio; I. H. Goss, Georgia; E. A. Carr, Nebraska; J. V. Stevens, Wisconsin. It was recommended that any inspection made be in the company of some representative of the state board of the state wherein the inspection was made, since each state board was the court of last resort regarding these matters in its own state. It was resolved also that the examiner should cooperate with the Council on Medical Education of the American Medical Association and with the Association of American Medical Colleges. The standard of rating was to be the standard adopted by the confederation in 1908.

Dr. J. V. Stevens, secretary, reported that it was decided to ask the colleges to pay the expense of the inspection. The work cannot be completed before the next meeting of the confederation, and no information can be given out now.

Report of Committee on Amalgamation with the National Confederation

Dr. Harison, chairman, reported that a conference was held with a committee from the national confederation in June, 1910, but that no definite action was taken at that time. It was considered desirable that the two confederations unite, but the basis for such a merger could not be made mutually agreeable then. The following communication bearing on this subject was then presented:

CHICAGO, March 2, 1911.

At the call of Dr. W. P. Harlow, dean of the School of Medicine of the University of Colorado, and president of the Association of American Medical Colleges, the following persons met in an informal conference for the purpose of discussing how a union of the two confederations of state examining and licensing boards might be effected:

Dr. Arthur Dean Bevan and Dr. N. P. Colwell, chairman and secretary, respectively, of the Council on Medical Education of the American Medical Association; Dr. Charles A. Tuttle and Dr. George H. Matson, president and secretary, respectively, of the National Confederation of State Medical Examining and Licensing Boards; Dr. William A. Spurgeon and Dr. B. D. Harison, president and secretary, respectively, of the American Confederation of Reciprocating Examining and Licensing Medical Boards; Mr. Abraham Flexner of the Carnegie Foundation for the Advancement of Teaching; Dr. William P. Harlow and Dr. Fred C. Zapffe, president and secretary, respectively, of the Association of American Medical Colleges.

On motion of Dr. Bevan, Dr. Harlow was made chairman and Dr. Zapffe secretary of the conference.

On motion of Dr. Bevan, seconded by Dr. Harison, it was voted that it be the sense of the conference that it is desirable that there be in this country one strong organization of state examining and licensing boards.

On motion of Dr. Matson, seconded by Dr. Colwell, it was voted that the name of such an organization might well be the National Federation of State Medical Boards.

On motion of Dr. Harison, seconded by Dr. Matson, it was voted that the membership of such an organization should consist of members, fellows and associates; that state boards only to be entitled to membership, with power to vote; ex-state board members to be elected to fellowship, without vote, and physicians, not members of an examining or licensing board, who are interested in medical education and state licensure, to be elected to associate membership (without vote) by a two-thirds vote of the members present at any meeting. Only fellows are to be exempt from the payment of dues.

WILLIAM P. HARLOW, Chairman.
FRED C. ZAPFFE, Secretary.

By a resolution presented by Dr. A. W. Alvord, it was voted that the president and secretary of the confederation with three others selected by the president constitute a committee to meet with a similar committee representing the national confederation for the purpose of effecting an amalgamation of the two organizations. The committee appointed consists of Drs. A. W. Alvord, Michigan; E. A. Carr, Nebraska; H. H. Baxter, Ohio; William A. Spurgeon, Indiana, and B. D. Harison, Michigan.

By another resolution presented by Dr. Spurgeon, it was voted that specific education provisions in a medical practice act tend to weaken the law and to limit the educational standards in the state; that the confederation recommends the conferring of discretionary powers on the board of registration in the matter of educational control, and that the law should provide that the board make, establish and require such rules and regulations for the control of medical colleges as shall keep the educational standard of the state at least on a par with the average standard of surrounding states.

Entrance Requirements

DR. B. D. MYERS, University of Indiana, discussed the present requirements for admission to medical colleges demanded by fifteen medical colleges beyond the high school graduation, and presented some data compiled by the secretary of the Council on Medical Education of the American Medical Association, showing the lack of uniformity in these requirements. Six schools demand sixty hours of work, or two years of college work, in addition to the four years of high school work; eight demand from sixty-one to sixty-nine hours, and one school demands as high as eighty-two hours. Among the required subjects are physics (twelve colleges); botany and zoology or either (thirteen colleges); vertebrate anatomy (four); embryology (two); osteology (one); English (eleven); modern language (twelve); chemistry (fourteen); psychology (seven); Latin (one); economics, sociology, history and political science (eight); mathematics (five); hygiene (one); military drill (one); electives offered (seven). Four colleges offer electives to the extent of twenty-one, twenty-four, thirty-two and thirty-three hours, respectively, out of a total of sixty hours.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Fourth Weekly Meeting

PUERPERAL INJURIES

INJURIES OF THE PELVIC FLOOR: Varieties: 1. Superficial median tears. 2. Deep median tears, involving sphincter. 3. Lateral tears involving sulci. Pathology and diagnosis of each.

TREATMENT OF PERINEAL LACERATIONS: Indications and contra-indications for primary and for secondary operations.

Technic of repair (a) of deep (complete) laceration, (b) of laceration involving sulci.

After-treatment of operations for repair of perineal lacerations.

INJURIES OF CERVIX UTERI

VARIETIES: Bilateral, unilateral, stellate.

SYMPTOMS: Backache, bearing-down feeling, headache, leukorrhea, menstrual disorders, sterility, abortion.

Indications and contra-indications for repair of laceration of cervix.

Preliminary and preparatory treatment.

Technic of trachelorrhaphy, of amputation of cervix.

Monthly Meeting

The Differential Diagnosis of Ovarian Cysts.

The Non-Surgical Treatment of Retrodisplacements of the Uterus.

The Symptoms and Diagnosis of Fibromyomata of the Uterus.

The Prophylaxis and Treatment of Puerperal Injuries of Cervix and Perineum.

Book Notices

AN INTRODUCTION TO VERTEBRATE EMBRYOLOGY. Based on the Study of the Frog, Chick and Mammal. By Albert Moore Reese, Ph.D. (Johns Hopkins), Professor of Zoology in West Virginia University. Second Edition. Cloth. Price, $1.50 net. Pp. 340, with 118 illustrations. New York: G. P. Putnam's Sons, 1909.

Since the development of man and other mammals is, in most particulars, strikingly like that of the chick, a study of the latter is helpful. In this book the author presents an outline of the main facts of the embryology of the chick—also of the frog—keeping in mind particularly the needs of the medical student. The description considers periods of development: all the changes that take place during a certain period are described in one section, instead of describing at one time the complete development of any one organ. This method is not only pedagogically correct but enables the student to grasp facts better and more quickly. Theoretical discussions are carefully avoided. The author has added a chapter of forty pages on "The Development of the Mammal," in which are pointed out the main differences between the embryologic processes of the chick and those of man

WE YOUNG MEN. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans Wegener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. Pp. 204. Philadelphia: Vir Publishing Co., 1911.

It was a most commendable piece of work to translate this German book, thereby making it available for young men who read English. As the advertisements state, it is a square talk face to face. It is a delicate but vigorous presentation of clean living. Some will object to the frank way in which the author takes for granted that some young men seriously consider the breaking of various moral laws concerning sexual indulgence. For this very reason, however, the book will have greater weight with this class of men than the numerous books already on the market which preach to young men. We do not mean to suggest that this book is not on a high plane, for it is full of noble and lofty appeal to the best that is in a man; but it meets young men on their own level, and it has the valuable quality of convincing the reader that the author has been in pretty close touch with these problems. The book is a good one to succeed "The Boy's Venereal Peril," being intended for youths who are a little more mature.

RADIUM: ITS PHYSICS AND THERAPEUTICS. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 27 illustrations. New York: William Wood & Co., 1911.

This is a little octavo book of only 86 pages, hardly larger than some of the elaborate papers on radium therapy, but it satisfactorily covers the subject. The essential facts in the physics and the principles of the therapeutic application of radium are clearly and simply given, without any of the complexity usually found in articles on the subject, which indicates more than anything else a hazy knowledge on the part of the writer. It may be specially noted that Turner considers carefully the histologic changes produced by radium in both healthy and diseased tissues—a topic which would seem to be of obvious importance in any consideration of radium therapy, but one, so far as we know, which no other book on the subject has given in detail. The book is a fine example of how simply and briefly a rather muddled subject can be stated by one who understands it and who has the ability to think clearly and distinguish essentials from trivialities.

PRACTICAL PHYSIOLOGY. Edited by M. S. Pembrey. By Various Contributors. Third Edition. Coth. Price, $4 net. Pp. 480, with 255 illustrations. New York: Longmans, Green & Co., 1910.

In this book not only are the facts of the physiology of the human organism taught according to the latest deductions and conclusions, but each is demonstrated by an abundance of experiments, both elementary and more advanced, and the practical application made with reference both to normal and pathologic function in the practice of medicine. Physiologic chemistry, in both its elementary and its more advanced aspects, is clearly treated, Part IV being devoted to the latter. The impression conveyed in an examination is that this book constitutes, not a mere enumeration of the facts of physiology, but a helpful, practical work on physiology, from the standpoint of the student or the practitioner.

Medicolegal

Expert Evidence Without Statement of Facts and Right to Show Latter

The Court of Appeals of New York holds, in the homicide case of People vs. Faber (92 N. E. R. 674), that there was no error in allowing physicians to express their opinions in regard to the sanity of the defendant without previously stating in detail the observations on which the opinions were based.

The court says that in the early history of the courts of England mere opinion evidence was wholly rejected. The admission of opinions as evidence by persons specially qualified by skill and experience to speak as experts has been a matter of development both in England and in this country. The history of the admission of such evidence with illustrations from decisions of the courts is given by Wigmore in his exhaustive work on Evidence, and in connection therewith he refers to the practice of admitting opinion evidence by experts based on observation, and concludes that evidence by experts of conceded skill and experience may be received when based on the observation of the witness without in the first instance necessarily requiring that the facts observed be stated to the court and jury. There is a great difference in the decisions of the courts of the states on this subject, but this court is in accord with the conclusions reached by Mr. Wigmore.

In common practice in the courts a physician who has examined a patient is allowed to testify directly as to the disease from which the patient is suffering. There seems to be no good reason for requiring a physician to specify in detail his observations before expressing an opinion as to the sanity or insanity of a person examined by him any more than he should be required to recount such observations in advance of expressing an opinion as to whether a person had typhoid fever or was suffering from an epileptic fit. It is competent, however, for a person offering an expert as a witness, for the purpose of showing the strength of the opinion which he is about to express, to specify in detail the observations on which the opinion is based. It is also, of course, competent for the opposite party on cross-examination to call for the observations, and probe the underlying facts to the fullest extent for the purpose of thus affecting, so far as possible, the strength of the opinion expressed or to form a basis on which other experts may be asked to contradict or explain the opinion first expressed.

Weight to be Given Expert Testimony

The Supreme Court of Georgia holds, in Rouse vs. State (69 S. E. R. 180) that, there being no statute prescribing the weight which shall be given to the testimony of an expert, what consideration such evidence is entitled to is a question solely for the jury. Under this principle, it was error to charge the jury that, "When the experience, honesty, and impartiality of the expert is undoubted by the jury, his testimony is entitled to great weight. It is not, however, so authoritative that the jury is bound to be governed by it. It is advisory merely, and such testimony is intended to assist you in coming to a correct conclusion." Moreover, such charge was error despite the fact that witnesses both for the state and for the accused testified on the trial of the case.

Crime Not Affected by Lack of Skill in Treatment of Wounds

The Supreme Court of Georgia holds, on the appeal of Perdue vs. State (69 S. E. R. 184), a homicide case, that, where one inflicts on another a wound with a weapon likely to produce death, and the person wounded actually dies in consequence of the wound, the quality of the act of the slayer cannot be affected by a lack of skill and care on the part of those who treat or attempt to treat the wounds and administer remedies therefor.

Current Medical Literature

[In the abstract of the case report of "Heroin Poisoning," made from the *Kentucky Medical Journal*, February 15, in THE JOURNAL, March 11, 1911, p. 777, the dose should have been 1/12 of a grain of heroin, instead of ½.]

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 9

1 *Dependence of Intestinal Indigestion on Gastric Disturbances. A. E. Austin, New York.
2 *The Possible Effect of Salvarsan on the Auditory Labyrinth. G. Alexander, Vienna.
3 Treatment of Fistula in Ano. T. C. Hill, Boston.

1. Dependence of Intestinal Indigestion on Gastric Disturbances.—Austin concludes that diarrhea does not always accompany an achylia nor a hypochlorhydria, nor can one, from the presence of connective tissue in the stool, always deduce the state of the gastric juice. Furthermore, while hyperchlorhydria is usually accompanied by constipation, there may be diarrhea, or the bowels may be regular, while with gastric myasthenia constipation is the rule, as it is in hypersecretion. A functional chronic catarrh of the small intestine may exist associated with any of these gastric conditions, with excessive or no free hydrochloric acid, and with increased or impaired motility, so that one can only say that improperly prepared food is poured into the small intestine which, either on account of this extra burden or on account of some antecedent inflammatory disturbance, undergoes a functional impairment that usually manifests itself by the increased motility.

2. Effect of Salvarsan on the Auditory Labyrinth.—Personal observations lead Alexander to recommend caution in the use of salvarsan in cases of acute syphilis of the auditory nerve. Especially is caution in the use of the remedy recommended in the presence of acute or chronic disease of the auditory nerve in cases of recent syphilis, as here it is to be feared that the ear symptoms will be made worse. It appears to make no difference whether the disease of the auditory nerve is of itself of syphilitic origin or not. An unfavorable influence is also to be feared in cases of acute syphilitic affection of the auditory nerve in old cases of syphilis or latent chronic syphilis. In cases of hereditary syphilis, in the presence of acute manifestations of trouble with the auditory nerve, it is advisable to wait before giving the injection. On the other hand, there are a large number of cases of ear disease in which the dangers from the injection cannot be considered as dependent on it. Here belong the cases of chronic syphilitic affection of the auditory nerve with slight diminution of hearing power and considerable tinnitus, as well as the cases of chronic labyrinth dizziness. Alexander found that the injection has a good effect in cases of chronic labyrinth disease in chronic syphilis.

Medical Record, New York

March 11

4 *Pellagra as We See It in Italy; Old and New Theories; Report of Cases Seen in New York City. A. Caccini, New York.
5 *A New Variant for Ventral Hernioplasty. A. G. Gerster, New York.
6 *Hypodermic Injections of the Salicylates in Rheumatism. A. Seibert, New York.
7 Treatment of Acute Mania. C. P. Noble, Philadelphia.
8 Unilateral Chyluria Caused by the Filaria Sanguinis Hominis Treated by Salvarsan. P. M. Pilcher and J. T. Pilcher, Brooklyn, N. Y.
9 *Artificial Muscles in the Early Treatment of Infantile Paralysis; a New Method. R. O. Meisenbach, Buffalo, N. Y.
10 Climatic Indications of Egypt in Otology and Laryngology. Dr. Goldman, Cairo, Egypt.

4. Pellagra.—While holding that we should follow with attention the new theories and the result of the researches on the etiology of pellagra conducted through new lines far apart from the theory well established by Lombroso, based on the use of Indian corn, and to its late modifications, Caccini urges caution in casting aside the result of careful inves-

tigations (based on well-established data) to embrace in our enthusiasm mere suggestions of young observers. Sambon's and Alessandrini's theories, that would tend to make of pellagra a disease of protozoal or parasitic nature, respectively, he would consider as mere suggestions, rather than theories or even intuitions of a new theory. As to the development in the United States, pellagra has been present in the United States in sporadic cases for a long time, but it has lately been diffused everywhere in the different states, assuming an epidemic character. The disease assumes a more acute course in contrast to its characteristics in Europe, and particularly in Italy, where, although very common, it has always the character of chronicity and the erythema never assumes the severe character which it does in the United States.

5. **New Variant for Hernioplasty.**—The procedure employed by Gerster in a case of large ventral hernia, without adhesions, is described as follows: An oval portion of the central area was excised as far as it was found to be thin and anemic, then the hernial aperture in the parietes was dissected out until the aponeuroses of the rectus and the oblique came into view under the laterally detached skin-flaps. After this, seven sutures of quadruple stout chromic catgut were used to approximate and keep in contact the edge of the rectus and the musculo-aponeurotic line of the oblique muscles, the sutures passing through the sheath of the rectus. Above this, a second row of single catgut sutures was superimposed, widening the surfaces of contact. Thus there were formed two redundant, cockscomb-shaped flaps of aponeurosis and stout cicatricial material, that met with their peritoneal faces above the stout sutures. Of these the external one was twice scored, thus scalloped into three digits, the inner one receiving three corresponding stabs, which would form three slits comfortably admitting the three fingerlike processes. Each process having been passed through its corresponding fenestrum was sutured at its extreme end to the underlying fascia of the rectus; the inner square edge of the fenestrated flap being likwise sutured to the aponeurosis of the underlying external oblique muscle by six or seven stitches. Over all this the skin was brought together and sewed with interrupted fine silk sutures.

6. **Salicylates in Rheumatism.**—That a salicylate solution could be injected hypodermically without discomfort to the patient, and that a sufficiently large injection of salicylic acid or sodium salicylate would destroy the vitality and inhibit the pathogenic action of rheumatic organisms in the human body in a few hours without causing symptoms of salicylic poisoning, is the belief Seibert holds as the result of observation. In acute rheumatic infection of joints, heart, pericardium, pleura and central nervous system (chorea), he injected 10 c.c. of a 20 per cent. sterilized solution of fresh sodium salicylate to 100 pounds of body weight, fifteen minutes after an appropriate cocain solution had been injected under the same spot. If the injections are made earlier than this, he found that the solution caused pain. This dose is repeated every twelve hours. In severe cases, with many localizations of the rheumatic process, he says that the dose may be increased to 15 c.c. of the solution to 100 pounds of body weight. He considers it essential to the success of this treatment that the above doses be used. Smaller doses will be without effect. The effect may be noticed within three hours after the first injection. Joint stiffness, pain, fever and pulse-rate diminish and the general feeling of the patient improves. If the injections are continued regularly, every twelve hours, the improvement also continues; if they are omitted for twenty-four hours in severe cases, the symptoms will grow worse; but in milder cases the improvement may continue, proving that a sufficient amount of the salicylate had already been injected to destroy all rheumatic organisms in that case.

In chronic cases 10 c.c. to 100 pounds of body weight of the following oily solution are injected every twenty-four hours: Acid salicylici, 10 grams (2½ drams); olei sesami, 80 grams (20 drams); alcohol, pure, and gum camphor, 5 grams (1¼ drams) each. This mixture is sterilized before the alcohol is added, but must not be exposed to the air, as the alcohol will evaporate and the salicylic-acid crystals will precipitate. The effect of the injection in chronic cases is noticed sooner when multiple localizations of the rheumatic process are present than when but one joint is affected. In the former, pain and stiffness usually improve after the first, in the latter, after the third injection. The addition of camphor (from 5 to 20 per cent.) has been found beneficial in stimulating the heart, especially in pericarditic and endocarditic cases. The weaker the heart, the more camphor may be given in the oil. The entire absence of all the toxic symptoms which are sometimes seen when salicylates are given by mouth, is said to be one of tne pleasantest features of this method of treatment. The technic of injection is described fully.

9. **Artificial Muscles in Infantile Paralysis.**—Artificial rubber muscles are made to take the place of paralyzed or weak muscles by Meisenbach. For the construction of artificial muscles an ordinary rubber dam is used. The method is chiefly applicable to the ankle, the knee, the wrist and shoulder joints. By the use of artificial muscles the lost power may be supplied temporarily until the paralyzed muscles have recovered, and contractures of opposing groups may be prevented. The rubber over the affected muscles causes a local stimulation which is noted by active hyperemia and perspiration of the skin beneath the artificial muscle. Its use does not immobilize the joint, nor does it interfere with other prescribed treatment, namely, passive motion, massage, or electrical contractions. Its efficiency is continuous and its simplicity does not interfere with the clothing or the bathing. It is not intended to be used in advanced cases after the contractions have taken place.

Cleveland Medical Journal

February

11 Typhoid in Cleveland in Relation to Pollutions of Lake Erie. R. G. Perkins, Cleveland.
12 The Legal Duty of Physicians to Report Venereal Diseases. R. B. Newcomb, Cleveland.
13 The Reporting of Venereal Diseases. F. Oakley, Cleveland.
14 *Submucous Resection of the Nasal Septum, with a Description of the Author's Special Instruments. M. Metzenbaum, Cleveland.
15 Infantile Paralysis. H. O. Feiss, Cleveland.
16 Support of the Pelvic Viscera. E. O. Houck, Cleveland.
17 Management of Prostatic Hypertrophy. D. S. Gardner, Massillon, Ohio.

14. Also published in the *Laryngoscope*, February, 1911.

Bulletin of the Johns Hopkins Hospital, Baltimore

March

18 *Cirrhosis of the Liver. Five Different Types of Lesions from Which It May Arise. F. B. Mallory, Boston.
19 *Typhoid Spine; Report of Two Additional Cases with Bony Changes in the Vertebræ. T. McCrae, Baltimore.
20 *Erythema Multiforme Iris During the Course of Typhoid. H. P. Parker and H. H. Hazen, Washington, D. C.
21 *Acute Tuberculous Endaortitis. P. G. Woolley, Cincinnati.
22 *A Case of Extensive Thiersch Skin Graft. W. D. Gatch, Baltimore.
23 Two Cases of Congenital Hemolytic Jaundice with Splenomegaly. W. S. Thayer and R. S. Morris, Baltimore.

18. **Cirrhosis of the Liver.**—According to Mallory, at least five different types of lesions may terminate in cirrhosis (sclerosis) of the liver; one is acute, the other four more or less chronic in character. Toxic cirrhosis (following extensive central necrosis) demonstrates clearly the following three facts: 1. When all the liver cells of a lobule are destroyed the bile ducts grow out a certain distance toward the hepatic vein, but do not produce liver cells. 2. Liver cells regenerate only from liver cells, never from bile duct epithelium. 3. Fibroblasts (connective tissue cells) do not proliferate when liver cells alone are destroyed. The other four types of lesions terminating in cirrhosis show that fibroblasts multiply (regenerate) only when fibroblasts themselves have been injured or destroyed and thus lead to increase of the connective tissue. The so-called alcoholic type of cirrhosis is characterized by a peculiar hyaline degeneration of the cytoplasm of the liver cells preceding necrosis. In this same type of cirrhosis the contraction of the connective tissue frequently compresses groups of liver cells so that they may resemble bile ducts; in these compressed liver cells it is often possible to demonstrate large fat vacuoles or hyaline material due to degeneration in the cytoplasm, neither of which occurs in true bile duct epithelium. In toxic cirrhosis the connective tissue

thickens from contraction, but does not increase in amount because the fibroblasts have not been injured. In infectious cirrhosis the fibroblasts are destroyed along with the liver cells; hence there is active regeneration and much production of connective tissue. In syphilitic infection of the liver the primary injury is done to fibroblasts; in consequence they proliferate (regenerate), often in excess; the contraction later of the collagen fibrils produced by them results in compression and more or less atrophy of the included liver cells. In pigment and alcoholic cirrhosis the proliferation of the fibroblasts is apparently due to injury caused mechanically by cells of exudate origin stretching the connective tissue; the reaction is similar to that produced in the lungs and peribronchial lymph nodes by endothelial leukocytes filled with carbon packing themselves in the finer lymph spaces.

19. **Typhoid Spine.**—These two cases are reported fully by McCrae. In the first case symptoms of typhoid spine were present in March, 1909, four months after the recovery from typhoid, and again in April. One point of interest is the occurrence of a relapse or second attack between five and six months after the original attack. Whether this should be termed a relapse or a second attack, McCrae found it difficult to decide, for there is no period which can be set as a dividing line between a relapse and a second attack. The case here reported is much like one previously described by McCrae, in which the original attack began on June 2, the patient being convalescent in March when the symptoms of typhoid spine appeared. He was admitted to the hospital on July 4 of the same year for the spinal symptoms, and a week later the second attack (or relapse) of typhoid began. In both of these cases there was an interval of months between the attacks, in which the symptoms of spondylitis appeared. One explanation of the cause of typhoid spondylitis is that there are local lesions in the bone in which typhoid bacilli are present. McCrae was tempted to suggest that this focus may have been the source of the second infection in these cases. However, our knowledge of what determines relapses is not very satisfactory and it would be easier to regard the second febrile attack in these two cases as a second attack rather than as a relapse. Besides, the retention of typhoid bacilli in the body after recovery from an attack of typhoid is so common (e. g. in the gall-bladder) that we should not attach too much importance to such a source of reinfection.

The second case is unusual in several particulars. In the first place it shows that typhoid spondylitis may occur without any severe pain. The symptom of pain has been regarded as the most essential one in "typhoid spine" and it is very evident in this case that but for the radiogram the diagnosis of spondylitis could not have been made. In this event the condition in the popliteal nerve would have been regarded as a posttyphoid neuritis and the causal influence of the local process in the spine would not have been recognized. The involvement of the nerve root on the opposite side to that on which the deposit of bone occurred is seen not infrequently in cases of spondylitis. McCrae thinks it may be regarded as an established fact that "typhoid spine" is a spondylitis or a perispondylitis with definite local changes which may lead to the formation of new bone and so result in more or less fixation of the spine. Judging from spondylitis generally, this permanent change is less likely to occur if the proper treatment is instituted early. Many cases of spondylitis clear without permanent changes.

20. **Erythema Multiforme Iris.**—The authors regard it as certain that the patient had typhoid on two occasions, the second attack occurring within a week after recovery from the first. During the height of the first attack he had the following symptoms characteristic of the erythemas: annular and macular skin lesions, and swelling and redness of the carpophalangeal joints. During the height of his relapse he suffered from edema of the upper lip (giant urticaria), erythema at points of pressure and hemoptysis. The fact that these lesions occurred only when the infection was young and active, the authors think would seem to indicate that the typhoid toxemia was responsible for them.

21. **Acute Tuberculous Endaortitis.**—The case reported by Woolley is the eleventh of acute tuberculous endaortitis. The aortic tubercles were the result not of extension, but of mestastasis from chronic lesions in the kidney. The general miliary tuberculosis that co-existed with the chronic tuberculosis, was not the result of dissemination of organisms from the aortic lesions. The bacilli in the aortic lesions showed bizarre forms with a tendency to branching.

22. **Extensive Thiersch Skin Graft.**—The case reported by Gatch has two points of chief interest: the large size of the area grafted, and the demonstration, by repeated trials, that only homografts would take in this patient. He was admitted to hospital on Nov. 21, 1909, for flame burns of the back and of the left forearm and hand which he had received fourteen hours before admission. The burn of the back was of the second degree, the others of the first. The area of this burn was 430 square inches. As the total area of the patient's body is about 2,800 square inches, the burn occupied between a sixth and a seventh of his entire cutaneous area. The patient recovered from the immediate effects of the injury rapidly and with little general systemic disturbance. While the sloughs were separating, the wounds were dressed with a single layer of dry gauze, which was left in place for periods of a week or more, and then changed after giving the patient a prolonged warm bath. Absorbent dressings, changed as often as necessary, were placed over the gauze. This dressing proved very clean and comfortable. In less than two weeks the burned surface was covered with healthy granulations. Now followed a long series of attempts to cover the large raw area with skin. None of the isografts applied to this patient lived, though applied under the same conditions as the homografts—practically all of which did take.

Bulletin of the American Academy of Medicine, Easton, Pa.

February

24 Educational Principles Involved in the Combined Course in Arts and Medicine. A. R. Hill, Columbia, Mo.
25 *Is the Profession Losing Its Grip? C. McIntire, Easton, Pa.
26 *Should Universities Grant the Degree of Ph.D. for Graduate Work in the Surgical Sciences? A. E. Hertzler, Rosedale, Kan.
27 *The Cooperation of School Health Departments with Other Health Agencies. E. B. Hoag, San Francisco.
28 *The School System and the Child. A. L. Benedict, Buffalo.

25, 26, 27 and 28. Abstracted in THE JOURNAL, July 16, 1910, p. 243.

Journal of the Tennessee State Medical Association, Nashville

February

29 Manic-Depressive Insanity. J. W. Stevens, Nashville.
30 Surgical Aspect of Calculus in the Kidney. J. A. Crisler, Memphis.
31 Maternal Impressions. H. E. Christenbery, Knoxville.

Journal of Biologic Chemistry, Baltimore

March

32 Formation of d-Gluconic Acid by Bacterium Savastanoi Smith. C. L. Alsberg, Washington, D. C.
33 Cholesterol Bodies in Soils: Phytosterol. O. Schreiner and E. C. Shorey, Washington, D. C.
34 Influence of Urethane in Production of Glycosuria in Rabbits After the Intravenous Injection of Adrenalin. F. P. Underhill, New Haven, Conn.
35 *Sources of Error in the Folin Method for the Estimation of Creatinin. A. E. Taylor, Berkeley, Cal.
36 *The Cutaneous Elimination of Nitrogen, Sulphur and Phosphorus. A. E. Taylor, Berkeley, Cal.
37 Estimation of Urea. A. E. Taylor, Berkeley, Cal.
38 Composition of Invertase. A. P. Mathews and T. H. Glenn, Chicago.
39 Method for Estimation of Reducing Sugars. S. R. Benedict, New York.
40 Study of Autolysis by Physicochemical Methods. R. Chiari, Vienna.
41 Nucleases. P. A. Levene and F. Medigreceanu, New York.

35. **Estimation of Creatinin.**—The greatest defect of this method, in Taylor's opinion, lies in the absence of a standard light. If the Folin method is to attain to that general usefulness and reliability to which its intrinsic qualities entitle it, he says that a light must be found, standard in quality and intensity. Under ideal conditions, the method will enable one to estimate 10 milligrams of creatinin with an accuracy of plus or minus 0.1 milligram. Under desirable conditions of concentration, urinary pigmentation and light, the plus or minus error in the estimation may be at least a milligram. Accurate estimations that can close agreements in the deter-

minations of creatinin are greatly to be desired because in this case we deal with a fundamental metabolism, the full understanding of which we are just beginning to appreciate.

36. **Cutaneous Elimination.**—Taylor presents the results of two metabolic experiments, in which, for the purpose of securing normal data, the attempt was made to secure quantitative determinations of the magnitudes of the cutaneous eliminations of nitrogen, sulphur and phosphorus. He found that in all probability the cutaneous elimination of nitrogen and sulphur is, under constant conditions of work, clothing and temperature, a constant for each individual, and in no wise dependent on the total metabolism of nitrogen and sulphur in the individual. The cutaneous elimination of phosphorus may be said to be *nil*.

Wisconsin Medical Journal, Milwaukee

February

42 Enlargements of the Liver. L. M. Warfield, Milwaukee.
43 Symptoms and Diagnosis of Extrauterine Pregnancy. V. F. Marshall, Appleton.
44 Extrauterine Pregnancy. W. E. Fairfield, Green Bay.
45 Clinical Significance of High Blood-Pressure; Its Causes and Treatment. P. McKittrick, Eau Claire.
46 *The Nursing Mother from the Baby's Standpoint. A. W. Myers, Milwaukee.

46. Abstracted in THE JOURNAL, July 23, 1910, p. 344.

Archives of Pediatrics, New York

February

47 Effects of Vaccines. S. McC. Hamill, Philadelphia.
48 *Food Reactions in the Infant's Stomach Compared with Those in Vitro. D. M. Cowie and W. D. Lyon, Ann Arbor, Mich.
49 Methods of Examining Infants' Stools. Their Value. F. B. Talbot, Boston.
50. *A Method of Dealing with Ill-Nourished Infants. F. H. Glazebrook, Morristown, N. J.
51 Arthritis Deformans in Children. A Case of Still's Disease. E. C. Jones, Philadelphia.

48. Abstracted in THE JOURNAL, May 21, 1910, p. 1710.

50. An article by H. D. Chapin on the same subject appeared in the *Medical Record*, Feb. 18, 1911, and was abstracted in THE JOURNAL, March 4, 1911, p. 693.

Journal of the Minnesota State Medical Association, and the Northwestern Lancet, Minneapolis

March 1

52 Magnesium Sulphate in Tetanus. C. J. Holman, Mankato.
53 *Septic Thrombosis of the Sigmoid and Lateral Sinus, Complicating Case of Double Mastoiditis. F. C. Todd, Minneapolis.
54 Meckel's Diverticulum. D. Balfour, Rochester, Minn.
55 Medical Inspection in Schools. C. H. Keene, Minneapolis.

53. **Septic Thrombosis of the Sigmoid and Lateral Sinus.**—This is a case of double acute suppurative otitis media, complicated by mastoid abscess on one side, followed later by mastoid abscess and septic sinus thrombosis on the other side. Operations required: first on one mastoid, then on the other, with resection of the internal jugular and opening of the sinus. Complete recovery ensued.

Pennsylvania Medical Journal, Athens, Pa.

February

56 *Recent Progress in Medical Sociology. C. H. Miner, Wilkes-Barre.
57 *Relative Value of the Various Methods for the Determination of Functional Kidney Sufficiency. B. A. Thomas, Philadelphia.
58 Surgical Aspects of Infantile Spinal Paralysis. DeF. Willard, Philadelphia.
59 Temperature in Enlarged Tonsils and Adenoids. J. H. McCready, Pittsburg.
60 A Method of Removing the Faucial Tonsil, Using a Soft Silver-Wire Snare. A. A. MacLachlan, Pittsburg.
61 The Tonsil and the Singer. M. D. Ritchie, Pittsburg.
62 Indications for Removal of the Faucial Tonsils, and Dangers Connected with This Procedure. C. C. Sandels, Pittsburg.
63 *Treatment of Croupous Pneumonia. G. W. Norris, Philadelphia.
64 *Public and Private Aspects of the Pneumonia Question. W. C. White, Pittsburg.
65 A Case of Progressive Universal Pneumonia with Recovery, Presenting Some Very Unusual Features. W. H. Mercur, Pittsburg.
66 The Business Career of the Physician and Some Suggestions as to Safe Investments. L. Ott, Philadelphia.

56. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1580.

57. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

63 and 64. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1671

Monthly Cyclopedia and Medical Bulletin, Philadelphia

February

67 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris.
68 *Should the Pharmacopeia Contain Only Useful and Efficient Drugs? N. S. Davis, Chicago.
69 *What Constitutes a Useful Drug, and Shall the Preparations of a Useful Drug Be Limited to One or Two? J. M. Anders, Philadelphia.
70 *Revision of the United States Pharmacopeia. J. P. Remington, Philadelphia.
71 What Is the Attitude of the Medical Profession Toward Osteopathy? J. M. Taylor, Philadelphia.
72 Acne Rosacea and the Sebaceous Glands. J. C. Rommel, Philadelphia.
73 Anesthesia from the Anesthetist's Standpoint. H. W. Dingman, Grand Rapids, Mich.
74 *Galactagogue Action of the Thymus, Corpus Luteum, and the Pineal Body. L. Ott and J. C. Scott, Philadelphia.

68 and 70. Abstracted in THE JOURNAL. May 28, 1910, p. 1812.

69. **What Constitutes a Useful Drug?**—According to Anders, a valuable drug is: (1) One that has a definite physiologic action, which is applicable to the relief of a disordered physiologic process; (2) one that by repeated careful clinical observations has been found to be followed in the majority of instances by a definite clinical result, care being taken to exclude the influence of accessory circumstances; and (3) one that is used for the purpose of diluting a substance of too great concentration or making palatable an otherwise disagreeable remedy. In accordance with this definition, it has seemed to Anders that the following, among other agents, should be omitted from the official remedies to be found in the U. S. Pharmacopeia: Anthemis, berberis, calamus, calendula, cassia fistula, chimaphila, chirata, chondrus, cypripedium, eriodictyon, eugenol, eupatorium, fluidextractum berberidis, fluidextractum calami, fluidextractum chimaphilæ, fluidextractum chiratæ, fluidextractum cypripedii, fluidextractum eriodictyi, fluidextractum eupatorii, fluidextractum frangulæ, fluidextractum geranii, fluidextractum grindeliæ, fluidextractum lappæ, fluidextractum matico, fluidextractum mezerei, fluidextractum rubi, fluidextractum sabinæ, fluidextractum staphisagriæ, fluidextractum tritici, fluidextractum viburni opuli, frangula, geranium, gossypii cortex, gossypium purificatum, granatum, grindelia, hedeoma, lappa, manna, marrubium, mastiche, matico, matricaria, mezereum, myristica, oleum betulæ, oleum coriandri, oleum hedeomæ, oleum myristicæ, pilulæ aloes et mastiches, pimenta, prunum, rubus, sabina, safrolum, staphisafria, styrax, tinctura calendulæ, triticum, ulmus, viburnum opulus, xanthoxylum and zea. On the other hand, among unofficial substances that he thinks might be advantageously added to the U. S. Pharmacopeia are diacetylmorphin and silver vitellin.

74. **The Galactagogue Action of the Thymus.**—In experiments on the goat with the glands containing internal secretions, Ott and Scott found that the thymus and corpus luteum increased the quantity of milk fourfold in five minutes. The ovary minus corpus luteum had no effect. Infundibulin is still the most powerful galactagogue, increasing the secretion of the milk one hundredfold. The amount of butter fat was about the same in the augmented secretion by thymus, corpus luteum and infundibulin, though occasionally it was increased. Intravenous injection of this body increases the secretion of milk eightfold. The pineal gland, as in previous experiments, was rubbed with distilled water and filtered. Normal saline solution, according to Biedl, has been shown to increase the secretion of milk.

American Journal of Urology, New York

January

75 The Normal and Pathologic Posterior Urethra and Neck of the Bladder. L. Buerger, New York.
76 Technic of the Hyperemic Treatment of the Urethra by Hot Sounds. M. Porosz, Budapest, Hungary.
77 Roentgenologic Examinations of the Kidneys. A. Holding, Albany, N. Y.
78 Treatment of Acute Gonorrheal Epididymitis. J. C. Spencer, San Francisco.
79 Position Drainage in Suprapubic Prostatectomy. H. J. Scherck, St. Louis.

Journal of the Missouri State Medical Association, St. Louis

February

80 Sixteen Syphilitic Patients Treated with Salvarsan. M. F. Engman, W. H. Mook and J. W. Marchildon, St. Louis.
81 *Keeping Track of Sponges. T. F. Lockwood, Butler.
82 Tuberculin Therapy. G. C. Crandall, St. Louis.

83 A Plea for the Merit System in the Selection of Officers and Employees for the State Hospitals of Missouri. M. A. Bliss, St. Louis.
84 Surgical Treatment of Exophthalmic Goiter. W. Bartlett and W. P. Glennon, St. Louis.
85 Examination of Children. H. S. Marsh, Tipton.
86 Dedication of the Barnard Free Skin and Cancer Hospital, St. Louis. W. E. Fischel and C. H. Huttig, St. Louis.

81. **Keeping Track of Sponges.**—The plan outlined by Lockwood, briefly, is as follows: In making gauze sponges, have a numeral sewed in colored silk or stamped with indelible ink, of a harmless character, in one corner of each sponge. This renders the figures indestructible in sterilizing the sponge. Have three packages of sponges arranged as follows: first package must contain small sponges, fifteen in all, numerals running from 1 to 15. This completes the first series and the package is to be labeled A 15. The letter A designates the size of sponges contained in the package and the numeral the number it contains. The second series must be a size larger than the first, running from 1 to 10, labeled thus: B 10. Third series is still larger than B, running from 1 to 5, labeled C 5. This package should contain five large sponges or napkins used both for absorbing sponges and viscera towels in abdominal sections. Have sponges made uniformly, each package maintaining a regulation size. The letter on the package indicates the size of sponges contained therein.

When the operation is finished, whether minor or major, count out the sponges by actual notation and if any number be lacking to complete the restored series, never cease searching until the missing number is found. If one or more packages of sponges are used in an operation it is as easy to complete the count in several series as it is in a single series, except that it takes more time. If all the sponges are not used in any one package in a given operation, count out the unused sponges along with the rest to complete the full number in that particular series. While this may seem strenuous and an undue precaution imposed on the surgeon, yet Lockwood believes that such methods would completely avert the possibility of leaving sponges and other materials in the abdominal cavity. A similar numbering plan is suggested for instruments.

Journal of the Kansas Medical Society, Kansas City

February

87 Medical Inspection of School Children. H. N. Moses, Salina.
88 Cancer of the Uterus. O. D. Walker, Salina.
89 Diagnosis of Diseases of the Nervous System. O. S. Hubbard, Parsons.
90 The Diagnosis and Treatment of Submucous Fibroid. A. Smith, Parsons.
91 Medical Jurisprudence. W. H. Clark, Hoxie.
92 Drug Reform. L. E. Sayre, Lawrence.
93 A Case of Gangrenous Stomatitis Probably Caused by the Bacillus Necrophorus. F. Campbell and F. W. Shaw, Kansas City.

Archives of Internal Medicine, Chicago

February

94 *Diagnostic Value of the Orthodiagram in Heart Disease. J. G. Van Zwaluwenburg and L. F. Warren, Ann Arbor, Mich.
95 *Studies of Malaria in Panama. Treatment of Blackwater Fever. W. Brem, Cristobal, Canal Zone.
96 *Meralgia Paresthetica Due to Pressure of the Corset. J. L. Miller, Chicago.
97 *Energy Metabolism of Mother and Child Just Before and Just After Birth. T. M. Carpenter, Boston, and J. R. Murlin, New York.
98 *The Ameboid Activity of Megaloblasts. W. S. Thayer, Baltimore.
99 *Function of the Sino-Auricular Node. A. E. Cohn and L. Kessel, New York.
100 *Biology of and Immunity Against the Bacillus of Leprosy. C. W. Duval and F. B. Gurd, New Orleans.
101 A Blood Crisis Occurring with Primary Sarcoma of the Stomach. L. H. Briggs, Oakland, Cal.
102 *Technic of the Cammidge Reaction and of the Substance Giving Rise to the So-Called Typical Crystals. J. C. Roper and R. G. Stillman, New York.
103 Allergy. C. E. Von Pirquet, Baltimore.

94. **The Orthodiagram in Heart Disease.**—After having examined sixty patients, Van Zwaluwenberg and Warren believe that they are justified in the conclusion that an abnormal index is an early evidence of the increase in size of one or more chambers of the heart and may occur before such increase can be demonstrated by other means; that a decrease in the index results from left ventricular hypertrophy and dilatation, and an increase indicates a dilatation of the auricles with or without hypertrophy of the right ventricle. In combinations of these two antagonistic factors the index will depend on the predominance of the one or the other. The wide variation shown in valvular diseases should make the index valuable in the diagnosis of doubtful or combined lesions and they hope that the smaller fluctuations found associated with renal conditions may sometime be of diagnostic and prognostic value.

95. This paper was referred to in an editorial on blackwater fever in THE JOURNAL, Feb. 18, 1911, p. 514.

96. **Meralgia Paresthetica.**—In Miller's case, a circumscribed area of tenderness was located below and slightly outward from the anterior superior spine of the ilium; surrounding this was an ill-defined area of hyperesthesia; no analgesia, anesthesia or thermalgesia. In examining to determine if pressure of the clothing could be responsible for the trouble, it was noted that the lower edge of the corset hooked over the anterior superior spine, pressing into the thigh so that when standing erect it was with difficulty that the finger could be introduced between the corset and the thigh. Following instructions, the patient cut out a portion of the corset over this region. Within a few days relief was marked, and after the lapse of ten days the attacks of pain entirely disappeared, only slight numbness remaining. The woman returned to her work and reported three months later that, except for slight numbness, she considered herself cured. It was suggested that she purchase a new corset of the same style as that previously worn. After wearing this a few days, the pain again recurred, and the patient of her own accord cut out a piece of the corset as before, the pain promptly disappeared and now after the lapse of five months she complains only of slight numbness.

97. **Energy Metabolism of Mother and Child.**—In agreement with results previously obtained on the dog, Carpenter and Murlin find that the curve of total energy production of mother and child suffers no deflection at birth. The extra metabolism of the pregnant woman at the culmination of pregnancy, due in part to the accessory structure as well as to the fetus, is just equaled by the extra metabolism set up in the newborn child by exposure of its body to the outside world, and in the mother by activity of the mammary glands, etc. The energy metabolism, expressed per unit of weight, of the pregnant woman is about 7 per cent. less than that of the same woman newly delivered, and about 4 per cent. more than that of women in complete sexual rest. Expressed per unit of surface ($12.3^3\sqrt{W^2}$) the energy metabolism of the pregnant woman is specifically higher than that of women in complete sexual rest, probably because of a higher metabolism in the uterus and because of more rapid conduction of heat through the abdominal wall. In the newly delivered and nursing mother the metabolism is likewise higher per unit of surface than that of either the pregnant or normal woman. This is probably due in part to the activity of the mammary glands and in part to the dynamic action of protein liberated by the involution processes. The energy metabolism of the new-born child expressed per unit of weight and found by subtracting the metabolism of mother alone from that of mother and child together, is two and a half times that of the mother. Expressed per unit of surface (same formula) the energy metabolism of the new-born child is not greater than that of the nursing mother, but is higher than that of a woman in complete sexual rest.

98. **Ameboid Activity of Megaloblasts.**—In the study of the blood in a case of Addisonian anemia of a chronic course, Thayer observed characteristic ameboid movements in a megaloblast. This observation is apparently the first of this nature. This megaloblast showed typical ameboid movements. Small round pseudopodia were projected into which the colored protoplasm flowed in the same manner seen with the ordinary intestinal amebas. Slight changes in shape occurred at times in the nucleus. The movements of the cell were marked, strikingly like those in leukocytes, and entirely unlike the gradual changes of shape sometimes seen in red blood-corpuscles in the fresh specimen. The pseudopodia that projected were exactly like those seen in the movements of a polymorphonuclear leukocyte; that is, on the edge of the

cell there appeared sometimes very small round buds, several at a time, which coalesce and form larger processes. The absolute homogeneity of the protoplasm did not allow Thayer to observe the rolling motion so clearly as in the case of *Amœba coli* or a leukocyte containing granules. At times, however, the movement was really rather active. Thayer concludes that in the early stage of development represented by the megaloblast, the red blood-corpuscle is, probably, a cell with powers of active progression.

99. **Function of the Sino-Auricular Node.**—The experiments reported by Cohn and Kessel were done on the excised hearts of small dogs, which had been perfused with Locke's solution. The plan differed from the other series of experiments, in that, first, an attempt was made to excise only the known node-bearing area, and, second, to show that even multiple incisions did not influence the rate (except to accelerate it), while a final incision which cut away the window that had been made on three sides, in ten of sixteen experiments did successfully cause the stoppage of the entire heart. In two the stoppage is not noted in the protocol, though the rates fell from 114 to 81.9 in one, and from 121.5 to 63 in another. In three others the node is probably not excised, and in a fourth final incision was not made. The experiments gave a fairly uniform result. The authors conclude that normal impulse formation takes place and normal rate is produced in the sino-auricular node.

100. **Bacillus of Leprosy.**—Pure cultures of *B. leprœ* have been obtained by Duval and Gurd directly from the infested leprous tissue on a variety of special media including tryptophan and glycerinated blood-agar without first growing them in the presence of amebas and their symbiotics. From two cases of leprosy they have cultivated in pure growth the specific organism directly from the tissues on Novy-McNeal rabbit blood-agar to which 1 per cent. glycerin had been added. As a rule, multiplication of *B. leprœ* on artificial medium takes place slowly, but once the growth has started it can be readily accelerated by frequent transplantation. They have succeeded in cultivating *B. leprœ* from the cutaneous nodules in eight cases of leprosy, two cases of nasal discharge, and from the experimental lesion in a number of monkeys and white and Japanese dancing mice. That the cultures are leprosy bacilli, and not some other acid-fast species, has been definitely proved by cultural and animal tests. Their experimental study on the virulence and viability of leprosy bacilli shows the necessity of early diagnosis and the need of strict segregation of certain types of the disease. The length of time *B. leprœ* will live and retain its infectiousness outside the body indicates plainly the risk to a community in allowing leper patients at large, in particular those who have open lesions. Especially dangerous from the standpoint of source of infection are the patients discharging the bacilli in the secretions from the nasal mucous membrane. These patients are a constant menace to those with whom they associate because of the possibility of indirect transmission of the bacilli that are unconsciously deposited on articles about the household where the leper resides. The mere fact that the organism lives for so long a time outside of the animal body may, the authors believe, explain why the disease continually reappears in households that have harbored a leper. The bacilli escaping from the infected individual, who for months may not be aware of his malady, are a constant menace to others of the household or to subsequent tenants, even though it be years after the direct source of infection has been removed.

The animal experiments do not tend to support the view that leprosy may reside for years in the human body before manifesting any outward signs of the disease. Direct inoculation from man to man may occur, but it is the exception. On the other hand, in the light of present knowledge the indirect evidence of transmission is by far the more significant. Their investigations also confirm the belief that the mucous membrane of the nasal pharynx is the port through which the bacilli gain entrance to the body, as well as the chief source from which infection spreads. The results of animal experimentations demonstrate the fact that direct communication of the disease may take place from individual to individual without the presence of the bed-bug or other parasites as intermediate hosts. In the examination of blood from patients suffering from leprosy the serum has been shown to contain specific antibodies of different kinds against certain constituents of the *B. leprœ*. In addition to the presence of specific bodies, they have demonstrated that complement is present in normal quantities. Agglutinins are present, though not in very large amounts. The opsonic content is probably affected at different stages of the disease, but with reference to the activity of this body their researches have so far not proved conclusive.

102. **Technic of the Cammidge Reaction.**—That the "C" reaction proposed by Cammidge, for the demonstration of a characteristic substance in the urine of patients suffering from diseases of the pancreas, does not rest on a sound scientific basis, is the claim made by Roper and Stillman, as not all the glycuronic acid is removed in every instance by the technic of this reaction. The formation of the typical crystals is due to the presence of glycuronic acid. As this substance is present in the urine of persons in normal health, and is increased in amount in many conditions in no way associated with disease of the pancreas, the demonstration of these so-called typical crystals can have no diagnostic value.

American Journal Orthopedic Surgery, Philadelphia

February

104 *Osteochondritis Dissecans: Its Nature and Relation to Formation of Joint Mice. A. H. Freiberg and P. G. Woolley, Cincinnati.
105 *Relaxation of the Annular Ligament of the Ankle-Joint as a Cause of Weak and Flat Foot. J. T. Rugh, Philadelphia.
106 *Osteophytes of the Os Calcis. J. D. Griffith, Kansas City, Mo.
107 *Operation for the Relief of Anterior Metatarsalgia, Including Morton's Disease. A. M. Forbes, Montreal.
108 *Treatment of Flat-Foot. E. H. Bradford, Boston.
109 Vaccines in Operative Treatment of Tuberculous Joints. W. W. Plummer, Buffalo, N. Y.
110 *Uses and Limitations of Vaccine Therapy in the Management of Arthritis. C. F. Painter, Boston.
111 *Value of Tuberculin in Tuberculous Joint Diseases. J. Ridlon, Chicago.
112 Antogenous Vaccines in the Hospital for Ruptured and Crippled. V. P. Gibney and G. E. Bennett, Washington, D. C.
113 Operation for Treatment of Anterior Dislocation of the Head of the Radius. G. G. Davis, Philadelphia.
114 Trigger-Finger. F. J. Cotton, Boston.
115 The 1909 Epidemic of Aute Anterior Poliomyelitis in Nebraska. H. W. Orr, Lincoln, Neb.
116 Juxta-Epiphyseal Fracture of the Upper End of Femur. Importance of the Use of Position in Its Treatment. F. H. Albee, New York.

104 to 108, 110 and 111. Abstracted in The Journal, July 2, 1910, pp. 49, 50 and 51.

Old Dominion Journal of Medicine and Surgery, Richmond

February

117 The Need of More Practical Examinations by State Boards of Registration in Medicine. R. C. Cabot, Boston.
118 *Medical Treatment of Pneumonia. A. Newlin, Philadelphia.
119 Chronic Diarrhea: Diagnosis and Treatment. G. A. Ezekiel, Richmond.
120 *New Facts Concerning Poliomyelitis—Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.

118. Abstracted in The Journal, Feb. 4, 1911, p. 375.

120. Also published in the *Journal of the South Carolina Medical Association*, November, 1910; *Monthly Cyclopedia and Medical Bulletin*, November, 1910, and the *Medical Press and Circular*, Dec. 14, 1910.

Virginia Medical Semi-Monthly, Richmond

February 24

121 Surgical Treatment of Anasarca Due to Kidney Disease. G. P. LaRoque, Richmond.
122 Modification of Mothers' Milk. G. Baughmann, Richmond.
123 Care and Treatment of Crippled Children. R. T. Taylor, Baltimore.
124 Physiologic Action of Certain Electric Currents. C. M. Hazen, Richmond.
125 Ignorance. L. W. Ely, Denver.
126 A Plea for the Trained Nurse as Anesthetist. A. L. Bruton, Norfolk.

Long Island Medical Journal, Brooklyn, N. Y.

February

127 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
128 Diagnosis and Treatment of Hyperthyroidism. A. T. Bristow, Brooklyn.
129 American Surgery. L. S. Pilcher, Brooklyn.
130 The Use of Salvarsan. J. M. Winfield, Brooklyn.

127. Also published in the *New York State Journal of Medicine*, January, 1911, and the *St. Paul Medical Journal*, January, 1911.

Atlanta Journal-Record of Medicine

February

131 Transfusion of Blood. H. P. Cole, Mobile, Ala.
132 Chronic Appendicitis. W. C. Cook, Columbus, Ga.
133 A Case of Cardiospasm. C. A. Dexter, Columbus, Ga.
134 Diphtheritic Paralysis. Syphilis of Nasal Passages and Ear. Gunshot Wound of Eye. T. E. Mitchell, Columbus, Ga.
135 Pathogenesis of Tabes Dorsalis. T. A. Williams, Washington, D. C.

Albany Medical Annals

February

136 Rural Hygiene. A. W. Freeman, Richmond, Va.
137 Quarantine, Isolation and Disinfection. W. A. Howe, New York.
138 The Tuberculosis Campaign. C. W. Fetherolf, New York.
139 Public Health and the Dental Profession. W. G. Ebersole, Cleveland.

Detroit Medical Journal

February

140 Iodin Sterilization of Skin. G. H. Palmerlee, Detroit.
141 *The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.
142 Value and Significance of the Wassermann Test. R. G. Owen, Detroit.
143 Have We a New Mind Cure Based on Science? S. Bell, Detroit.
144 Influence of Glandular Pharyngeal Tissue in the Causation of Rheumatism and Endocarditis. B. R. Shurly, Detroit.
145 Therapeutics of the Circulatory System. W. J. Wilson, Jr., Detroit.

141. Published in THE JOURNAL, Jan. 14, 1911.

Western Canada Medical Journal, Winnipeg

February

146 Ureteral Calculus. A. Paling, Winnipeg, Man.
147 A Case of Lipoma of the Scrotum. F. Lachance, Winnipeg, Man.

American Medicine, New York

February

148 The West Coast of Norway for Health and Recreation. H. L. Shively, New York.
149 Legal Obligations of Physicians. J. I. Green, New York.
150 A Case of Hysterical Hemiplegia Due to Autosuggestion. C. W. Burr, Philadelphia.
151 Asthma Relieved by an Intranasal Operation. C. J. Imperatori, New York.
152 Studies in Gynecology. F. A. Rhodes, Pittsburg.
153 Feet. R. G. Moore, New York.
154 Unusual Effects from Gunshot Wounds of the Skull. H. Crutcher, Roswell, N. Mex.
155 Physiologic vs. Anatomic Results Following Gynecologic Operations. G. W. Jarman, New York.
156 Brief Summary of Arsenic Treatment of Syphilis Antedating Salvarsan. E. Ehlers, Copenhagen.

Medical Fortnightly, St. Louis

February

157 Clinical Aspects of Urogenital Tuberculosis. L. W. Bremerman, Chicago.
158 Gases in Their Relation to the Body. A. L. Benedict, Buffalo.
159 Nosology. C. F. Wahrer, Fort Madison, Iowa.

Vermont Medical Monthly, Burlington

February

160 An Epidemic of Diphtheria at Vermont Industrial School. G. F. B. Willard, Vergennes, and E. H. Buttles, Burlington.
161 Paranoia. H. D. Bone, Waterbury.
162 Purpura Hemorrhagica. C. W. Peck, Brandon.

Woman's Medical Journal, Cincinnati

February

163 First Aid to the Injured Eye. M. Buchanan, Philadelphia.
164 Medical Experiences in the Philippine Islands. M. S. Bailey, Manila.
165 Physiology and Chemistry of Digestion. G. Lusk, New York.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 25

1 Differential Diagnosis in Cases of Albuminuria. H. French.
2 *Digitalis in Heart Disease and Dropsy with Fibrillation of the Auricles. J. D. Windle.
3 *Two Cases of Death from Postanesthetic Acid Intoxication. G. Brown.
4 Radium in Cancer. C. J. Morton.
5 *Curative Influence of Roentgen Rays in Malaria. B. Skinner and H. W. Carson.
6 Thyroid Extract in Carcinoma. E. H. Jones.
7 "Sensory Tetany," "Vasomotor Tetany," Acroparesthesia, and Raynaud's Symptoms. F. P. Weber.
8 *Operations for Calculus in the Male Bladder. W. F. Haslam.

2. **Digitalis in Heart Disease.**—Dropsy in cases of heart disease, in which the auricles are in a state of "fibrillation" and functionally inactive, Windle says, is present in a large proportion of cases of severe heart failure, whatever the nature of the underlying lesion may be. He has found the benefit derived from the administration of digitalis in cases of severe heart failure variable, even when classical indications for its use are present. In some patients improvement is rapid and maintained—the heart decreases in size, the edema quickly disappears; its power for good is limited—improvement occurs to a certain extent, and then comes to a standstill; again, particularly in cases of mitral stenosis with regular pulse, and those resulting from arterial disease, digitalis is often impotent or even harmful—the heart continues to dilate, and dropsy increases under its use. The mode of action of digitalis in fibrillation is as yet imperfectly understood. There are good reasons for the supposition that the drug acts by depressing the conductivity of the *a-v* bundle; its full effect is to block the passage of stimuli from auricle to ventricle; cut off from the influence of the auricle, the ventricle beats an independent rhythm. However this may be, the fact remains that the character of the heart's action under the full influence of digitalis in this condition is comparable in every way to that occurring in complete heart-block. The rhythm of the heart at times becomes regular, with a rate of 40 or thereabouts; further, a frequent effect of continued full doses is the occurrence of "coupled heart beats." The weaker beat of this coupled rhythm, which occurs with notable regularity, arises in response to a ventricular stimulus, and it is supposed that a condition of complete heart-block is present.

While the majority of cases of fibrillation respond in a marked manner to digitalis, it is found, as a matter of experience, that reaction varies under different circumstance of etiology and rate of pulse. Cases which respond most certainly and rapidly are those resulting from old rheumatic lesions, in which the rate of pulse is not greatly above normal, and symptoms of failure arise gradually. There is another type of case, also of rheumatic origin, in which fibrillation occurs suddenly, and heart failure soon becomes extreme; in these cases the pulse is usually rapid and reaction is uncertain. Fibrillation not uncommonly ensues in the course of arteriocardiosclerosis; generally the reaction is slight or absent, occasionally the heart slows to some extent, but improvement in the general symptoms is not proportionate. Exceptionally typical reaction occurs. Generally speaking, Windle says, improvement in cases of this kind is proportionate to the degree of slowing of the heart; and digitalis must be given in sufficient doses to reduce the rate at least to the normal, and in most cases considerably lower, to get the best results. On commencing treatment, 15 minims of the tincture should be given four times a day until the pulse slows to from fifty to sixty a minute, which it will do, as a rule, within a week. In most patients the improvement with this rate of pulse is maintained, when the same dose should be given three times a day and its effect watched. In others the case hangs fire; the drug should then be pushed until its full physiologic effect on the pulse is produced. The evidence of this is either a regular slowing of the heart to about forty beats a minute, or the occurrence of coupled heart beats. A pulse of fifty or over is always characteristically irregular; when the rate falls below fifty, it exceptionally becomes regular, the number of heart beats being the same as the pulse. More frequently, the full effect is shown by the occurrence of coupled beats; these are readily recognized on auscultation—two heart beats follow quickly on each other, succeeded by a long pause, the first beat is strong, the second short and feeble.

From a large number of observations, Windle has found that the total amount of tincture of digitalis required to produce runs of coupled beats or regular slowing is, on the average, 450 minims—that is, in about ten days with doses of 15 minims. Digitalis should be stopped when long runs of coupled heart beats or regular slowing occur; no further good can follow its continued use; the full effect is transient; within two or three days the pulse quickens and is again

characteristically irregular. The drug should now be given again in increasing doses of from 10 to 15 minims, three times a day, until the pulse slows to a rate approximating that at which the double beats previously occurred; it is with this rate of pulse that the patient will generally be at his best. The guide for dosage during treatment is the effect on the heart, and this can be determined by auscultation, the rate and rhythm of the beats furnishing the necessary indications.

3. **Death from Postanesthetic Acid Intoxication.**—Since the occurrence of these cases reported by Brown, the urine of every child in the Liverpool Royal Infirmary is tested for acetone, on admission; if this be present the operation is delayed, if possible, till the acetone has been eliminated, and treatment is continued after the operation. Inasmuch as an individual deprived of carbohydrates excretes acetone and diacetic acid, but the exhibition of carbohydrates rapidly causes the disappearance of these substances, glucose is employed as a prophylactic. All patients admitted to surgical wards for operation (usually admitted 2:30 p. m.) receive (1) glucose 1 dram, at 4, 6 and 8 o'clock on the day of admission and at 4, 6 and 8 o'clock on the following morning. If the child is 8 years or older, 2 drams are given. (2) Sodium bicarbonate, in the strength of 1 dram to 4 ounces of water, is given instead of plain "wash-out" before operation. If acetone is present in the urine on admission: (1) glucose is continued at two-hourly intervals during the day-time; (2) the sodium bicarbonate is given every two hours during the day and every four hours at night. Liquid glucose is more satisfactory than solid, and children take it as well as a sweet. Sodium bicarbonate solution is frequently taken by children only after a struggle. Since the initiation of this measure no serious symptoms have developed in any patient; but the treatment has not been in force long enough to give a reliable comparison, though the post-anesthetic vomiting has been less.

5. **Roentgen Rays in Malaria.**—The effect of heat applied over the splenic area in relieving the pain attendant on an attack of malarial fever gave Skinner and Carson the idea that the Roentgen rays also might have a therapeutic action as the immediate effect of their similar application. That these conjectures were not without base is evidenced by the eleven cases reported. The application of Roentgen rays in cases of malarial fever relieves splenic pain and reduces recent engorgement; the temperature falls and does not usually rise again, and recovery is not attended by the anemia usually present in patients treated with quinin. The authors have not had to fall back on quinin in patients treated by the Roentgen rays, while they have had patients who resisted quinin and yielded promptly to the rays (quinin being discontinued).

8. Also published in the *Lancet*, Feb. 25, 1911.

Lancet, London

February 25

9 *Immunity Reaction in Diagnosis, Especially of Tuberculosis and Syphilis. W. d'E. Emery.
10 *Operations for Calculus in the Male Bladder. W. F. Haslam.
11 *Treatment of Pneumonia. D. B. Lees.
12 Education of the Deaf. M. Yearsley.
13 Examination, with Negative Results, of the Central Nervous System in a Case of Cured Human Trypanosomiasis. F. W. Mott.
14 Salvarsan in Syphilis. C. F. Marshall.
15 The Physiology and Pathology of the Assimilation of Albumin. S. A. Arany.
16 *A Case of So-Called Insusceptibility to Vaccination. J. D. Staple.

9. **Immunity Reaction in Diagnosis.**—Quantitative estimations of the strength of a serum in antibodies, as estimated by the Bordet-Gengou reaction, are not, in Emery's opinion, applicable in all cases, at least so far as tuberculosis is concerned. What it may be expected to give is a measure of the amount of tuberculous substances in the serum, which in association with the clinical facts, may have great value in diagnosis, and perhaps also in prognosis and treatment. He examined thirty-four individuals with diseases other than tuberculosis and healthy persons. The average complement absorption time was 18.1 minutes, the maximum 35 minutes, and the minimum 2½; this shortened time was present in but three persons who were not thought to be tuberculous. In tuberculous individuals the most usual thing is to find the absorption time greatly reduced. In Emery's cases the average time was 7.4 minutes, and times of less than 2½ minutes were found in 25 out of 56 serums examined, or 44.6 per cent. Thus, he says, if we regard an absorption period of 2½ minutes as affording the criterion for the presence or absence of the test, we find it in 44.6 per cent. of the tuberculous and 8.8 per cent. of non-tuberculous individuals. If we take 5 minutes, we find it in 66 and 11.7 per cent., respectively. Further, tuberculous persons do not always give a shortened absorption period. Very short absorption times are usually encountered in chronic cases in which the patients are doing well, and in quite general terms are, in definite tuberculosis, longer in cases in which the patients are progressing rapidly. The process, therefore, has some value in giving a clue to the prognosis. But it is very far from being absolute. Thus it appears that a prolonged absorption time may be due (1) to the presence of antibodies in minute amounts only (this occurs in health or in tuberculosis, and as a rough general rule indicates a progressive disease); and (2) to the presence of this inhibiting substance (this does not necessarily indicate a bad prognosis). Judging from the few cases in which Emery has been able to put the matter to the test, he concludes that a prolonged absorption time in a case of undoubted tuberculosis indicates a high degree of susceptibility to tuberculin, whether applied to the skin or injected; but a patient with a shortened time will also react.

10. Also published in the *British Medical Journal*, Feb. 25, 1911.

11. **Treatment of Pneumonia.**—Lees presents a review of well-known facts and does not offer anything new.

16. **So-Called Insusceptibility to Vaccination.**—The "one-mark vaccination" is strongly condemned by Staple. It is perfectly obvious, he says, that if a child is vaccinated in only one place there is less likelihood of the operation being successful than if it were performed in the orthodox number of places. Staple regrets that when a certificate of insusceptibility is filled up the practitioner is not required to certify that the child has been unsuccessfully vaccinated in three or four marks on three separate occasions.

Journal of Obstetrics and Gynecology of the British Empire, London

February

17 Indications for, and Technic of, Cesarean Section and Its Alternatives, in Women with Contracted Pelves, Who Have Been Long in Labor and Exposed to Septic Infection. A. Routh.
18 *An Experimental Study of the Anaphylactic Theory of the Toxemia of Pregnancy. R. W. Johnstone.
19 Acute Torsion of Normal Ovaries and Fallopian Tubes with Hematosalpinx. J. N. Stark.
20 Three Cases of Cesarean Section in Non-Contracted Pelvis. H. Simson.
21 Keratinizing Adeno-Carcinoma of the Uterus. Miss Ivens.
22 Adenomyoma in a Tuberculous Fallopian Tube. Miss Ivens.
23 Chorio-Epithelioma of the Uterus Preceded by Vesicular Mole and Accompanied by Unusual Nervous Symptoms. Miss Ivens.

18. **Placental Anaphylaxis.**—The idea underlying Johnstone's theory of placental anaphylaxis was that some alien protein might pass from the fetus or placenta into the maternal circulation, and supersensitize the mother; and that a subsequent transference of the same substance after a suitable interval might account for the onset of convulsions and other symptoms. His experiments were confined to the use of the placenta only. They fall into five groups. In the first group he used an extract of placenta from an eclamptic patient. In the second group he carried out similar experiments in twelve female rabbits with the juice of normal healthy placenta. In the third group, the conditions were made as realistic as possible, pregnant animals being injected with the juice of placenta from another of the same species. In the next two groups Johnstone used powdered placenta suspended in normal saline solution. Anaphylactic symptoms were obtained by the use of normal placenta juice in eight out of twelve rabbits. This indicates that human placenta juice contains

some complex protein body which is capable of acting as a toxin for other animals. No results followed the use of eclamptic placenta juice. So far as it goes, this may be taken to lend support to the view that the toxic element had passed out of the placenta into the patient's body. No result followed the use of extracts of animals of the same species. Finally, no results followed the use of powder of placenta, either human or of animals of the same species.

The question remains: Were such anaphylactic symptoms as were obtained, due to a placental toxin, or to the small quantity of blood-serum inevitably present? It is impossible to wash all the blood out of a placenta by any method yet devised—either the simple one employed in Johnstone's experiments, viz., washing the minced placenta in a muslin bag under running water, or the more elaborate, but not more effectual one, of injecting water into the umbilical vein immediately after birth. The results of these experiments, particularly the failure to confirm Anderson and Rosenau's results with homologous placental extract, in Johnstone's opinion appears to support the view that there is no evidence of anything of the nature of anaphylaxis, so far as we at present understand that subject, in the commoner manifestations of the toxemia of pregnancy.

Journal of Tropical Medicine and Hygiene, London

February 15

24 A Case of Sleeping Sickness Occurring in Northern Nigeria. D. Alexander.
25 Betanaphthol and Thymol as Anthelmintics. B. Nicol.

Clinical Journal, London

February 22

26 Common Gynecologic Affections. T. G. Stevens.
27 *Absence of Abdominal Respiratory Movement as an Indication of Pericarditis. W. E. Wynter.

27. **Absence of Abdominal Respiratory Movement an Indication of Pericarditis.**—The sign suggested by Wynter is inhibition of the action of the diaphragm, indicated by suppression of normal abdominal respiratory movement. In acute pericarditis, on the other hand, the cessation of phrenic action is bilateral and, consequently, absence of abdominal respiratory movement is as obvious as in abdominal disorders, though other abdominal manifestations, such as muscular rigidity and general tenderness, are lacking. The author says that when the front of the body is fully exposed, the stillness of the abdomen is very striking, suggesting peritonitis, unless, as sometimes happens, there is inspiratory recession, which might mislead unless the want of correspondence with the movement of the upper chest is noticed. The inertness of the diaphragm is not merely inferred, but by Roentgen-ray screen examination can be actually observed, the midriff mounting high into the thorax and exhibiting no contraction; in some instances there is an actual rising of a quarter of an inch with each inspiration. In one case the contents of the upper abdomen, such as the kidneys and opaque masses in the intestines, could be seen to participate in this upward respiratory movement. Concomitant and consequent phenomena are: a tendency to dilatation of the hollow abdominal organs, especially the stomach; collapse and loss of function in the lower lobes of the lung; slight upward displacement of the heart, and of the organs beneath and in contact with the diaphragm. Loss of abdominal movement, as a sign of pericarditis, is the more valuable in that it may precede and outlast the other indications and so afford grounds for anticipatory or retrospective diagnosis. The condition affords a reasonable explanation of the cyanosis and dyspnea so usual in the complaint, and of the upright position so commonly assumed by the patient, the former expressing the effect of respiration restricted to the function of the upper lobes of the lungs, and the latter pointing to an unconscious effort on the part of the patient to utilize the weight of the abdominal viscera to depress the passive diaphragm and enlarge the thoracic area. Restriction of abdominal movement is apparently more marked in fibrinous than in effusive pericarditis, movements being more productive of local irritation in the former than in the latter condition, as is the case in other serous sacs, such as the pleura and peritoneum.

Medical Press and Circular, London

February 22

28 Empyema. T. R. Whipham.
29 Salvarsan in Syphilis. W. D. O'Kelley.
30 *Surgical Aspect of Glycosuria and Diabetic Gangrene. C. A. Morton.
31 *Treatment of Heroinomania and Morphinomania. P. Duhem.
32 Two Cases of Abscess of the Liver Complicating Appendicitis. J. J. Clarke.

30. **Surgical Aspect of Glycosuria.**—Amputation for diabetic gangrene is favored by Morton, but he says that we ought to consider carefully in what cases of diabetic gangrene amputation is called for. If the area is small, and the gangrene is not spreading, he sees no reason why amputation should be done, unless the process of separation of the dead tissue is so tedious that the patient desires to have an operation which may hasten matters. If so, a thorough removal of sloughs may suffice; but if the gangrene is spreading, or is associated with great pain in the living margin of tissue, or there is pyrexia due to septic absorption from the gangrenous area, then the question of amputation must be considered seriously. If the most scrupulous care is taken as to antiseptic details, and spinal anesthesia is used, the risk of amputation should not be great. Morton reports three cases:

CASE 1.—Dry gangrene of the great toe, due to atheroma of the arteries associated with diabetes. S. C., aged 66, was admitted to the General Hospital in October, 1907, with dry gangrene of the great toe. The necrotic area in part separated, and was in part removed, but the gangrene spread to the next toes, and the neighboring part of the foot. No pulsation could be felt in either the posterior tibial or the dorsalis pedis artery in either foot, and the radials were thickened. The popliteal arteries could be felt pulsating on both sides. Glycosuria persisted during the six months the man was in the hospital, but considerably decreased on antidiabetic diet. Amputation was performed through the knee joint under spinal anesthesia which acted well. The popliteal artery was very rigid and thick, and the arteries of the amputated leg were found to be extensively affected by atheroma. The lumen of the posterior tibial was almost completely blocked, and that of the anterior was very small. Primary union occurred except at one minute point and the patient was in no way the worse for the operation.

CASE 2.—Moist gangrene of all the toes, of an inch of the foot close to them, and a large patch of gangrene extended down the sole almost to the heel. Amputation was performed successfully through the knee-joint under spinal anesthesia.

CASE 3.—Spreading moist gangrene of foot associated with perforating ulcers. Amputation through knee-joint was successful.

31. **Heroinomania and Morphinomania.**—Instead of attempting to wean the patient in five or six days, Duhem devotes two or three weeks or more to the suppression of injections. He encourages the elimination of toxic products, the disengorgement of the glandular canals, and the renovation of the epithelial tissues by all possible means. He makes use of any symptomatic treatment for which there may be an indication.

Annales de Gynécologie et d'Obstétrique, Paris

February, XXXVIII, pp. 65-128

33 Retroperitoneal Cysts in or Around the Ovary. Three Cases. J. Vanverts and H. Paucot.
34 *Fibromas Complicating Pregnancy. J. Mouchotte.
35 Experimental Research on Starch-Producing and Starch-Digesting Activity of the Placenta. (Sur l'activité amylogénétique et amylolytique du placenta.) S. Delle Chiaje.
36 Metabolism During Pregnancy. (Recherches sur les échanges organiques chez les femmes enceintes.) C. J. C. van Hoogenhuyze and A. Ten Doeschate. Commenced in No. 1.

34. **Fibromas Complicating Pregnancy.**—Recent discussions of this subject in French medical societies have shown that the pregnancy generally runs a normal course to term, notwithstanding the presence of the fibroma. Only when serious disturbances are threatening is it necessary to interfere. At the same time it is conceded that the disturbances must not be allowed to reach such a stage that operative measures are liable to come too late. Mouchotte's patient was pregnant for the first time at the age of 38. The uterus was found studded with fibromas. A large one was attached to the uterus only by a pedicle, seeming to belong to some other

organ, especially as a loop of intestine had become interposed between the uterus and the body of the big fibroma. The serious symptoms seemed to be characteristic of intermittent hydronephrosis, owing to the compression of the left ureter, sigmoid flexure and the iliac blood-vessels which complicated the picture. When the abdomen was opened, the general fibromyomatous degeneration of the uterus and the slight possibility of effectual hemostasis, induced Mouchotte to remove the entire uterus as the only safe procedure. He emphasizes in conclusion that the outcome with fibroma of the pregnant uterus depends less on the size of the tumor than on its location, the accidents being more or less serious according to the organs compressed by it.

Annales des Maladies des Org. Génito-Urinaires, Paris

February 1, XXIX, No. 3, pp. 193-288

37 *Operative Treatment of Calculus in the Ureter. Fabricannte.
38 Endoscopic Discovery of Deformity in the Urethra. J. Chadzynski.
39 Catheters Knotted in the Urethra or Bladder. (Bougies nouées dans l'urètre ou dans la vessie.) O. Pasteau.
40 *Supernumerary Kidney. (Rein surnuméraire constaté pendant la vie.) A. Isaya.

37. **Calculus in Ureter.**—Fabricannte advocates, as giving the best access, a transverse incision around the iliac crest, parallel to Poupart's ligament. In very favorable cases in women, the stone might be removed through the vagina.

40. **Supernumerary Kidney.**—Isaya's patient was a woman of 27 with recurring attacks of pain since childhood. A tumor was discovered which proved to be a third kidney. But all three kidneys were apparently normal, and the pains were remedied by fixation of the transverse colon which was found sagging. All symptoms ceased after the operation. Isaya reviews the few similar cases of supernumerary kidneys on record.

Archives Générales de Chirurgie, Paris

December, IV, No. 12, pp. 1211-1320

41 *Ambulatory Splint for Fractured Leg. (Traitement des fractures de jambe par la "marche directe.") G. Worms and P. Hamand.
42 Ulceration of Jejunum After Gastro-Enterostomy. P. D. Wilkie.
43 *Chloroform Accidents. E. Vidal. Commenced in No. 11.
44 Large Fibroma of Upper Jaw. P. Mauclaire.

January, V, No. 1, pp. 1-116

45 *Inversion of the Vagina Following Hysterectomy. P. Guibal.
46 Bone and Joint Complications of Malta Fever. D. Zezas.
47 *Drainage of Ascites into Subcutaneous Cellular Tissues. P. Mauclaire.

41. **Ambulatory Treatment of Fractured Leg.**—Worms and Hamand have applied Delbet's walking splints in a number of cases of oblique fracture of the leg or Dupuytren's fracture, and describe here the good results in eight typical cases. They illustrate the technic; the principle is to support the leg by plaster splints from a point above the fracture close to the condyle above, and below just above the bulge of the malleoli. These points sustain the two rigid splints which support the leg in the place of the fractured bones, the weight of the body thus being transmitted from the upper end to the lower end of the leg, leaving the focus of the fracture in repose. All that is necessary is a splint of plaster on each side of the leg, with a horizontal plaster bandage wound around just below the knee and another at the ankle including the heel. The simplicity of the technic and the excellent outcome are extolled. They apply the apparatus immediately after the accident, especially with simple fracture permitting easy and rapid reduction. If the limb is already much swollen, it is better to wait and use other means for immobilization until the effusion has been absorbed. Even compound fractures can be treated by the ambulatory dressing, they assert, if asepsis can be assured and the patient is not allowed to walk on the limb except with great caution until after the soft parts have healed.

43. **Treatment of Chloroform Accidents.**—Vidal concludes from study of the literature and his own experience that the main point in treating chloroform accidents is to supply the heart with a non-toxic fluid. He thinks that artificial respiration will generally answer the purpose when the trouble is merely arrest of breathing. Oxygen is required only exceptionally, but if the heart has stopped beating he advises (1) exposing at once a vein close to the heart and removing 300 gm. of blood by pressure on the chest; the vessel is then ligated; (2) keeping up artificial respiration constantly; (3) then injecting slowly, toward the heart, through a needle inserted in an artery on the right side, from 80 to 100 gm. of tepid Locke's solution; (4) then waiting two minutes before doing anything else; (5) then squeezing the heart through the diaphragm, superficially and slowly, not over thirty times a minute, keeping this up for one minute then (6) waiting for two minutes; (7) giving another injection of Locke's solution (only 60 gm.) and resuming massage after the fluid has been in the heart for two minutes. This outline of treatment is the only logical method, he thinks, and the success that has been obtained with other methods, he is convinced, was due to the fact that unconsciously some of these principles were followed. His formula for Locke's solution is sodium chlorid, 9 gm.; calcium chlorid, 0.2 gm.; potassium chlorid, 0.2 gm.; sodium carbonate, 0.2 gm.; glucose, 1 gm., and distilled water, 1,000 c.c. The benefit from this intracardiac lavage has been instructively shown in some recent communications, he states, that of Depage reporting the instantaneous revival of the heart, which forty-five minutes of massage had been unable to accomplish. He warns against too hasty massage, as that would force the non-toxic fluid out of the heart. The aim is to save for the heart the whole benefit of its first effort.

45. **Prolapse of the Vagina.**—Guibal discusses means to prevent and remedy inversion of the vagina, especially after hysterectomy, giving the details of six cases on record with one from his own experience. In his case he was obliged to excise part of the vagina and restore the perineum which had been lacerated at the last childbirth, twenty-five years before. Three months after vaginal hysterectomy, the vagina became completely inverted. He gives the details of the complicated operation which restored approximately normal conditions.

47. **Dangers of Drainage of Ascites into the Subcutaneous Cellular Tissue.**—Mauclaire has treated six patients by inserting a T drain, the vertical branch projecting into the pelvis while the horizontal branches extended in the subcutaneous tissue. This provided a means for the ascitic fluid to escape into the cellular tissue, but the outcome was not good. Four of the patients rapidly grew weaker and soon succumbed. Another seemed to bear the drainage without disturbances but succumbed to progressive cachexia. The sixth patient recovered; the ascites in this case was tuberculous and the laparotomy alone might have sufficed for the cure. He wore the drain for three months without inconvenience and the ascites did not recur. It is possible that in the four fatal cases the ascitic fluid accompanying the cirrhosis or cancer was so toxic that it injured the patient when reabsorbed. Possibly the outcome might have been better if a smaller drain had been used instead of the No. 15 or 16 Charrière that had been selected. Mauclaire thinks that the possible toxicity of the ascitic fluid and the danger of grafting tuberculosis or cancer should compel caution in these efforts for autodrainage of ascites.

Archives des Maladies du Cœur, Etc., Paris

February, IV, No. 2, pp. 65-144

48 *Precordial Dulness in Heart Disease in Children. (Matité précordiale dans les cardiopathies infantiles.) P. Nobécourt and R. Voisin.
49 Purpuric Diathesis Revealed by Casual Trauma. (Purpura localisé de l'avant-bras.) H. Gougerot and H. Salin.
50 Gonococcus Endocarditis. (Endocardite infectieuse des sigmoides aortiques avec anévrysme perforant d'un sinus de Valsalva au cours d'un rhumatisme blennorragique. Ictère terminal.) F. Mouisset and J. Chalier.

48. **Dulness Over the Heart in Cardiac Disease in Children.**—Nobécourt and Voisin compare the percussion findings in thirty-six children with various cardiac defects; in two the trouble was congenital, in two others of tuberculous origin. In the latter cases the heart area was little if any increased, and soon subsided to less than the normal area. Necropsy disclosed the heart much atrophied. In twelve cases the trouble was an acute cardiopathy, and in the others a chronic condition. If the apex is found at the same point on repeated examinations, while the general area has diminished, adherence to the chest wall may be assumed. In the course of an acute heart affection, an increase in the size of the precordial dulness may indicate restriction of fluids, venesection,

digitalis or epinephrin. Strict repose should be enforced during convalescence as long as the heart area is unduly large. Reduction in the area of the dulness is one of the last signs of improvement under heart tonics. It is not necessary, they add, to percuss the entire heart; determination of the apex and of the point of intersection of the upper margin of the liver with the right margin of the cardiac dulness is all that is generally necessary. These points can be readily percussed and the variations in the horizontal diameter instructively determined.

Journal de Chirurgie, Paris

January, VI, No. 1, pp. 1-136

51 *Cheiloplasty. H. Morestin.

51. **Cheiloplasty.**—Morestin gives an illustrated description of a number of typical cases in which all or part of the upper and lower lip was restored, with a number of technical points learned from his experience.

Presse Médicale, Paris

February 11, XIX, No. 12, pp. 105-112

52 An Auto-Observation of an Auto-Operation for Inguinal Hernia Under Jonnesco's Spinal Anesthesia. A. Fzaicou.
53 Subacute Ependymitis with Hydrocephalus and Lesions Suggesting Syringomyelia. H. Claude, C. Vincent and J. Lévy-Valensi.

February 15, No. 13, pp. 113-120

54 *Value of Tincture of Iodin for Antisepsis. P. Reclus.

54. **Tincture of Iodin and Antisepsis.**—Reclus congratulates the profession on the present vogue of tincture of iodin which he regards as the most easily managed of all antiseptics, the least dangerous and the most powerful. He cites a number of instances from his own experience to sustain this, calling attention in particular to the ideal functional outcome in injuries of the hands treated with the tincture of iodin. The skin heals supple, the joints are not at all stiff and the skin grows out to cover the bare bone when conditions permit it in the slightest. The outcome is almost equally good when the iodin is not applied until after signs of local inflammation and even of septicemia have developed. In one case the hand had been crushed by a keg holding 500 liters and two days had elapsed, the tissues putrefying, and signs of general infection were already installed before the tincture of iodin was applied, and yet functioning was restored, except for disarticulation of the forefinger, in a manner little short of miraculous. In another case, he says, he operated only by a sort of professional reflex action as the patient seemed moribund from fulminating gangrene from a scrotal tumor resulting from puncture of a hematocele by unskilled hands. Reclus made the incision with the actual cautery which lighted the gas in the focus; it burned with a blue light. He then cleared out the clots and gangrenous tissues and painted the walls of the enormous cavity with tincture of iodin. It was a surprise to find the man alive the next day; by the end of forty days the immense cavity had nearly healed and the man is now completely restored to health.

Revue de Chirurgie, Paris

February 10, XXXI, No. 2, pp. 145-280

55 *Operative Treatment of Typhoid Angiocholecystitis. E. Quénu.
56 Treatment of Skull Wounds on the Battle Field. (Du traitement des blessures du crâne dans les formations de l'avant.) Weitzel.
57 *Ultimate Outcome of Dislocation of the Shoulder. (Pronostic éloigné des luxations de l'épaule.) L. Imbert and G. Dugas.
58 Treatment of Arterial and Arteriovenous Hematomas. C. Monod and J. Vanverts. Commenced in No. 1.

55. **Operative Treatment of Typhoid Gall-Bladder Disease.** — Quénu published two years ago a work on this subject, reviewing forty-five operations that had been done on the gall-bladder during typhoid fever or convalescence therefrom. He here completes the list to date and tabulates the details of the sixty-seven operations. Only one of the patients recovered of the twelve treated by an incomplete operation, while thirty-three recovered of the forty treated by cholecystostomy and all but two of the ten with cholecystectomy. [The only cases cited from THE JOURNAL are those of Lavinder and Prince.] The general conclusion from this material is that cholecystostomy alone answers in nearly every case. Only when the gall-bladder tissue is too friable, or when there is perforation or ulceration, is its removal indicated.

57. **End-Results of Dislocation of the Shoulder.**—Imbert and Dugas have been investigating the present condition of fifteen patients, the only ones they have been able to trace to date out of eighty patients treated for dislocation of the shoulder in the last few years. Only four of the fifteen were found in a satisfactory condition—all the others complained of more or less disturbance in the use of the arm. The patients were between 30 and 70, but the four with a satisfactory outcome were between 34 and 58. Delay in reduction of the dislocation does not seem to be the decisive factor for the outcome; in six of the cases with the poorest ultimate outcome reduction had been done in one hour, the same day or the second day. The reduced dislocation had been given careful treatment in all cases, in one for five months, in others for four months, etc., by experts in electric and mechanical therapeutic measures. In all the severer cases there had been periarthritis and the persisting pain and atrophy of the muscles indicate participation of the nerve terminals in the trouble. From the standpoint of industrial insurance it is important to bear in mind that even under the best conditions functional disturbance and pain may persist for several months or may become permanent so that it is impossible to judge definitely of the case under several months. Persisting incapacity is generally due to the periarthritis, and only exceptionally to traumatic paralysis of the brachial plexus.

Revue de Gynécologie, Paris

February, XVI, No. 2, pp. 97-208

59 *Metrorrhagia in Young Girls. (Etude histologique de la muqueuse utérine dans une forme particulière de metrorragie observée chez des jeunes filles.) A. Siredey and H. Lemaire.
60 Cysts in the Kidney and Cystic Disease of the Kidney. (Notes sur les kystes rénaux et péri-rénaux.) E. Papin and P. J. Christian.

59. **Metrorrhagia in Young Girls.**—Siredey and Lemaire report four cases of rebellious metrorrhagia in girls from 14 to 20 in which no benefit followed the usual measures and a cure was obtained only by curetting the uterus. The scrapings showed similar lesions in each—a tendency to adenomatous production, of obscure origin. The hemorrhages had kept up for several months but there were no other symptoms beyond the anemia.

Revue de Médecine, Paris

February, XXXI, No. 2, pp. 81-176

61 *Pathogenesis and Treatment of Beriberi. G. Barbézieux.
62 Part Played by the Nitrogen of Ammonia in Production of Urea. (Recherches sur la contribution de l'azote ammoniacal à la formation de l'urée dans l'organisme.) H. Labbé.
63 *Test Diet in Estimating Digestion. (Sur l'épreuve de la digestion par le régime.) J. Cecikas.

61. **Beriberi.**—Barbézieux writes from Indo-China to present arguments in favor of the assumption that beriberi is not a distinct morbid entity but a syndrome for which disturbances in the general nutrition are responsible. It develops only in the predisposed, that is, in those in whom the nervous system has been modified by some inherited diathesis. Acute rheumatism, malaria and dysentery may prove the occasional cause, equally with poverty, neurasthenia, overwork, grief, insufficient food or puerperal or alimentary intoxication. The sodium salts and especially sodium salicylate have not only a symptomatic efficacy but seem to arrest the degeneracy of the central or peripheral nerve tissue and to favor the regeneration of the nerve cells. The sodium salts, he says, seem to facilitate the exchanges and the interaction of the intracellular metallic ions. His experience has confirmed the preponderant rôle of sodium salicylate in the treatment and cure of beriberi. In a typical case reported, the beriberi followed acute rheumatism and sodium salicylate was given by subcutaneous injection for the rheumatism and the beriberi subsided with it. Since then he has been applying the method systematically in the clinic. The neuro-arthritic diathesis seems to be the most frequent and important factor, and this he has found extremely common in tropical countries.

63. **The Test Diet in Estimating Digestion.**—Cecikas has studied on a number of volunteers and patients the findings with Schmidt's test diet. His experience shows the value of the method in organic affections of the digestive tract, but his conclusions differ from Schmidt's in regard to the interpretation of the findings with functional disturbances.

Semaine Médicale, Paris

February 22, XXXI, No. 8, pp. 85-96

64 *Auscultation Sign of Glandular Disease in the Chest. (Le signe de D'Espine dans le diagnostic de l'adénopathie trachéobronchique de l'adulte.) M. Roch.

64. **Vertebral Auscultation in Diagnosis of Bronchial Adenopathy.**—THE JOURNAL, March 9, 1907, page 909, described D'Espine's sign of disease of the glands in the chest in children, namely, the peculiar resonance found in auscultation along the spine as the child speaks, or, preferably, whispers. He makes the test by having the child say the French words for 333, *trois cent trente- trois.* Roch has been studying this sign in adults, and states that it is proving equally instructive at all ages. He found it pronounced in thirty patients, mostly those with pulmonary tuberculosis. The peculiar resonance is the result of the transmission of the sound waves from the bronchial tree to the chest wall by intermediation of the diseased glands. Bending the head forward brings the trachea closer to the spine and this magnifies the characteristic findings. In two cases the findings gradually became negative as enlarged glands in the neck subsided to normal size; he accepts this as evidence that the bronchial glands share in a process affecting the submaxillary glands. With differential vertebral auscultation it must be borne in mind that the bifurcation is higher proportionately in the child than in the adult. Roch discusses the possible sources of error, but concludes from his experience that the sign is destined to prove of great clinical value. It is possible, he adds, that it may not only reveal incipient tuberculous lesions, but may disclose cancerous involvement of the glands in question in certain cases. [Gray's article on vertebral auscultation, to which Roch refers in the course of his article, was reviewed in these columns Aug. 22, 1908, page 709.]

Archiv für Verdauungs-Krankheiten, Berlin

February, XVII, No. 1, pp. 1-118

65 Changes in Gastric Mucosa with Gastric Ulcer. (Veränderungen der Magenschleimhaut beim Ulcus ventriculi rotundum.) F. Crämer.
66 *Movable Cecum. N. D. Straschesko.
67 Indican in the Urine. (Harnindikan.) W. v. Moraczewski.
68 Gastric Motor Functioning with Pyloric Ulcer and Spastic Stenosis. (Störung der Magenmotilität bei Ulcus ad pylorum und die spastische Pylorusstenose.) S. Jonas.
69 Injections of Fibrolysin in Treatment of Umbilical and Epigastric Hernia. F. Ehrlich.
70 The Gastric Ferment Tests. (Klinischer Wert der Magenfermentproben.) E. Fuld.
71 *Volvulus of the Stomach. (Volvulus des Magens. Nebst einem Beitrag: Röntgenbeobachtung des Magens beim Brechakt.) S. Mühlfelder.
72 Torsion of Hour-Glass Stomach. (Achsendrehung der Pylorushälfte eines angeborenen Sanduhrmagens.) A. Schüle and P. Walther.

66. **Movable Cecum.**—Straschesko reports from Kiev the case of a man of 34 subject to sudden transient attacks of abdominal pain without rise in temperature, but accompanied by distention of the abdomen, nausea and obstinate constipation, the attacks of colic sometimes terminating in transient diarrhea. Palpation gave different findings at different times, and the operation revealed an abnormally movable cecum with defective development of the ascending colon and a single mesentery for both ileum and cecum. The colic is the result of torsion or kinking and the following local peritonitis; the latter may entail adhesions which further complicate the picture and there may be incarceration. The syndrome is often mistaken for chronic appendicitis, but appendicectomy does not cure it. In Straschesko's case the patient was permanently freed from all trouble from this source by cecopexy, the cecum being fastened in the right iliac fossa with six catgut sutures to the parietal peritoneum. Palpation of the intestines is the best means to detect the trouble, Roentgen-ray examination confirming the findings. The kinked bowel became incarcerated in a fatal case recently reported by Heiler. Movable cecum does not cause symptoms in the majority of cases; it is comparatively common, Hausmann having collected 143 cases in six years.

71. **Volvulus of the Stomach.**—Mühlfelder gives the details of twenty-three cases on record and of a case in his own experience. All ages are represented in the list; most of the patients had had gastric disturbances for some time before, some even relating that they had had transient subjective sensations previously, like those of the definite volvulus. It is inevitably fatal in a few hours or days unless it retrogresses or is surgically corrected. In some cases the abdomen was opened, but the true condition was not recognized even then, and the patients succumbed. There is no pathognomonic symptom; the main point is to bear in mind the possibility of volvulus and weigh carefully all the minor phenomena observed. In one case a man of 41 suddenly developed vomiting, with signs of obstruction of the bowel, distention of the abdomen, retching and regurgitation of food and drinks and a slowly increasing tumor in the left hypochondrium. The operation revealed that the large tumor, studded with patches of fresh fat necrosis and bound down by fresh adhesions, was the stomach; the transverse colon lay above it, and in replacing the colon in its normal position the stomach twisted around, showing that what had been supposed to be the front aspect was in reality the posterior. The patient recovered. In the personal case reported, a girl of 20 had had recurring appendicitis. The pains in the side and stomach, cough and vomiting after eating persisting after appendicectomy were ascribed to incipient tuberculosis, and tuberculin treatment was commenced. The epigastrium was tender, and on suspicion of complicating gastric ulcer, feeding was restricted to nutrient injections for a time, during which the pains in the stomach were arrested. On resuming fluid food, the vomiting returned with weak heart action and small pulse. The heart was entirely on the left side and the area of dulness differed on different examinations in a puzzling manner. There was no protrusion or pathologic resistance in the stomach region, and the patient could eat fluid food, and stool followed an enema. Suddenly an acute attack of tetany was observed. This referred the disturbances to the stomach, but the knowledge came too late, the patient dying in a second attack a few hours later; necropsy revealed the volvulus of the stomach. Mühlfelder seeks to explain the mechanism of volvulus and of the vomiting act, especially vomiting with gastroptosis as a factor in the volvulus.

Beiträge zur klinischen Chirurgie, Tübingen

January, LXXI, No. 3, pp. 575-846

73 *Fracture of the Malleoli. W. Bergemann.
74 *Diverticulum in the Esophagus. A. T. Jurasz.
75 *Operative Treatment of Pancreatic Disease. P. Bode.
76 Vertical Posterior Retrocolic Gastro-Enterostomy. (Gastroenterostomia v. Hacker-Kausch.) W. Katz.
77 *Slanting Gall-Bladder Incision. (Mein schräger Gallenblasenschnitt.) W. Kausch.
78 *Dovetail Method of Opening into the Knee. (Ein neues Operationsverfahren zur schonenden Eröffnung des Kniegelenkes.) M. Kirschner.
79 *Hour-Glass Stomach. (Zur Klinik und Therapie des Sanduhrmagens.) H. Finsterer.
80 *Goiter Operations. (Zwei Tausend Strumektomien.) A. Oberst.
81 Chondromas in Joints. (Gelenkchondrome.) E. Rehn.
82 Enlargement of the Cecum. (Typhlektasie.) F. Hofmeister.

73. **Treatment of Fractured Malleolus.**—Bergemann thinks that all the advantages are on the side of an adhesive plaster splint for a fractured malleolus. This permits proper functional treatment, obviates healing in a defective position, and the ultimate outcome is as good, he declares, as with Bardenheuer's extension treatment without its drawbacks, healing being complete much sooner and with less trouble for the patient. The correction by the adhesive plaster dressing is supplemented by traction from a broad piece of elastic webbing drawn around the sole and hooked to one of a row of hooks set in the anterior crossed broad strip of adhesive plaster. This permits graduation of the elastic traction, and the final results are good, as he shows by the tabulated details of twenty cases. Three illustrations show the exact technic advocated.

74. **Diverticulum in the Esophagus.**—Jurasz reports a typical case of a pharyngo-esophageal diverticulum resulting from pressure from within on a defect in the muscular coat. Analysis of the similar cases on record and the experiences with this case confirm the advantages of gastrostomy as a preliminary to the radical operation on the diverticulum which, especially with Lexer's technic for care of the stump, ensures a primary and permanent cure.

75. **Operative Treatment of Pancreatic Disease.**—Bode analyzes sixteen operative cases; the operation was done on account of cysts in the pancreas in two cases, for cancer in

one, for acute suppuration in the pancreas in three, for chronic pancreatitis in five, and for hemorrhage in the pancreas in five cases. This material is reviewed in detail, especially from the standpoints of etiology, diagnosis and technic. His observation has convinced him that necrosis of the pancreas is not a special affection, but merely one symptom that may be encountered with various affections of the pancreas, the result of inflammation or hemorrhage. Fat necrosis is found most constantly in connection with hemorrhage, probably on account of the fact that the accumulating blood destroys the epithelium and membrane, allowing the pancreatic secretion to get into the tissues between the acini. He warns against puncture for an assumed pancreatic cyst, with the abdomen unopened, as too dangerous to be attempted. Trauma was responsible for the hemorrhage in the pancreas in only one of the cases, but straining at stool may have been the causal factor in another case. Alcoholism was probably a cooperating factor in the others, and a tendency to obesity in some. Most writers describe the syndrome of hemorrhage in the pancreas and of acute suppurative pancreatitis as practically identical. In the cases reported by Bode the symptoms of hemorrhage came on suddenly after from two to six weeks of symptoms suggesting peritonitis or appendicitis. When the appendix was exposed, however, it was found intact in some of the cases, but signs of fat tissue necrosis pointed to the pancreas as the source of trouble. Only one patient recovered in this group of pancreas hemorrhage cases.

77. **Slanting Gall-Bladder Incision.**—Kausch makes the incision between and parallel to the course of the nerves in the abdominal wall, as he shows in two illustrations. If the umbilicus is in the way he excises it. All the soft parts are incised along the same line. The ultimate outcome seems to be good, as he has found on later examination of forty-eight patients.

78. **Dovetail Incision to Obtain Access to the Knee Joint.**—Kirschner describes his method of cutting into the extensor apparatus of the knee so as to open up the joint wide, while afterward restoring approximately normal strength to the extensor apparatus. Instead of a horizontal or median incision, he cuts out a trapezoidal indenture like the ordinary dovetailing method of fitting joists and boards together. A number of illustrations show the exact technic with which he is able to saw the extensor apparatus, the patella or upper part of the tibia to cut out the miter-shaped piece. The flap turned back permits ample access to the joint, while when the flap is replaced the broader trapezoidal top fits into its bed, conferring unusual strength and resistance on the severed parts. This dovetailing method may prove useful for other operations elsewhere, as for temporary resections, transplantation of muscles and tendons, etc., but he advises careful following of the directions he has formulated after extensive research on the cadaver. He adds that a little practice on the cadaver will much facilitate the cutting of the miter in bone. The method is scarcely adapted for children on account of possible injury to the epiphysis.

79. **Hour-Glass Stomach.**—Finsterer reports the details of five cases from the Graz clinic and summarizes sixty-six cases from the literature. The mortality has dropped from 100 to 13 per cent. since operative measures were introduced in its management, and this mortality is still declining as surgical treatment is instituted earlier. The indications for the operations are reviewed. He warns against general anesthesia on account of its injuring the stomach still further and possibly entailing acute dilatation.

80. **Two Thousand Goiter Operations.**—Oberst's communication issues from the Freiburg clinic; the patients were mostly from southern Germany and Switzerland, and the interval embraced in the statistics is from 1883 to date. Postoperative tetany developed in seven of the patients, and he emphasizes that every effort should be made to spare the parathyroids the slightest injury. This is easier said than done, he adds; perhaps the best plan is to refrain systematically from any interference with the region in which lies the recurrent nerve, as the parathyroids are generally in this part.

Berliner klinische Wochenschrift

February 13, XLVIII, No. 7, pp. 281-324

83 *Treatment of Morphin Addiction. (Zur Behandlung der Morphinisten.) P. Schroeder.
84 Serodiagnosis of Cystadenoma of the Liver. J. H. Schultz.
85 Inhalation of Epinephrin in Treatment of Acute Catarrh of Upper Respiratory Tract. G. Zuelzer.
86 *Albumin Reaction in Sputum. M. Gantz and R. Hertz.
87 Reciprocal Interaction of Internal Secretions. (Experimentelle Untersuchungen über gegenseitige Wechselwirkungen innerer Secretionsprodukte.) R. Balint and B. Molnar.
88 What Occurs with the Tuberculin Produced in the Body? (Was geschieht mit dem im Körper produzierten Tuberkulin?) J. Geszti.
89 Results with Salvarsan to Date. A. v. Torday.
90 *Left-Handed School Children. (Die Linkshänder in den Berliner Gemeindeschulen.) M. Schaefer.
91 *Urine Reaction in Infants. (Das Wesen der Engel-Turnau'schen Harnreaktion.) F. Boschan.

83. **Morphin Addiction.**—Schroeder has not found the results of sudden and complete deprivation of morphin any more serious than when the drug is tapered off. He gives the details of five typical cases to sustain his advocacy of sudden suppression under constant supervision.

86. Abstracted in THE JOURNAL, March 4, page 702.

90. **Left-Handed Children.**—Schaefer found that 692 of the 17,074 school children examined at Berlin were left-handed. This is a proportion of 4.06 per cent., but the boys nearly twice outnumbered the girls. Inheritance of the tendency was evident in 60.2 per cent. He discusses the anatomic causes for left-handedness, and denounces the present system in vogue which takes no account of the natural instinct to use the left hand as the main instrument, and compels all the children to use the right hand. Instead of training the left hand to expert skill, the training is wasted, he says, on the hand which Nature did not intend to have serve as the main instrument, and which will never attain the skill which the other might have attained.

91. **Reaction in Infant's Urine.**—Boschan's communication was summarized in Abstract 67 in THE JOURNAL, March 11, page 782.

Deutsche medizinische Wochenschrift, Berlin

February 16, XXXVII, No. 7, pp. 289-336

92 Puerperal Self-Infection. F. Ahlfeld.
93 *Herpes Zoster and Kidney Colic. (Beitrag zur Kenntnis der Headschen Zonen.) A. Bittorf.
94 Arsenophenylglyzin in Sleeping Sickness. Scherschmidt.
95 *The "Tuberculin Titer" Test. (Ueber kutane und intrakutane Tuberkulinimpfung unter Verwendung abgestufter Dosen und ihre Bedeutung für die Diagnose der Tuberkulose.) S. Möller.
96 Abdominovaginal Operation for Carcinoma Involving Rectum, Uterus and Bladder. (Zur abdominellen Radikaloperation des Gebärmutterkarzinoms.) L. Seeligmann.
97 *Physical Properties of Drugs in Treatment of Syphilis. J. Traube.
98 Serodiagnosis of Leprosy. (Fehlen freien Komplementes im Blute Lepröser.) J. Eliasberg. (Komplementbindung bei Lepra mit leprösem Antigen.) R. Biehler and J. Eliasberg.
99 Peculiar Pigmentation of Internal Organs of Cameroon Negroes. M. Löhlein.
100 Iodism and Thyroidism. Berg.

93. **Herpes Zoster and Renal Colic.**—Bittorf describes a case in which intermittent hydronephrosis in a wandering kidney induced occasional attacks of colic and during a recent severe attack herpes zoster developed, its location then corresponding exactly to the eleventh dorsal segment. The condition of irritation in the spinal ganglion evidently afforded a predisposition for the herpes zoster. In other cases on record, herpes zoster developed in Head's zone corresponding to the internal organ suffering from a painful affection. With an affection of the aorta, pain and hyperalgesia in the ulnar side of the left forearm may be the most important subjective symptom of the cardiovascular trouble. He has encountered this a number of times with pronounced sclerosis of the aorta.

95. **"Tuberculin Titer" Test.**—Möller has been applying the graduated technic introduced by Ellermann and Erlandsen [mentioned in THE JOURNAL, March 18, 1911, page 856]. His findings in 250 patients confirm those reported by others, but he does not think that any of the tuberculin superficial tests are able to determine positively whether the tuberculosis is active or latent. At the same time, when the tuberculosis is in the first or second stage a reaction to the cutaneous and intradermal tuberculin tests occurs with minute doses, too

small to induce any reaction in the non-tuberculous. Of nineteen patients in this group ten reacted positively to 0.0000002 gm. tuberculin, but 11.2 per cent. of 125 clinically free from tuberculosis gave likewise a positive reaction to this dose. There was a family history of tuberculosis in nearly all these positive cases. He thinks that the reaction in these cases indicates a tendency for the latent tuberculous focus to become active. Every patient giving a positive reaction should be given the benefit of special measures as if already clinically tuberculous, and should be frequently reexamined.

97. **Treatment of Syphilis.**—Traube states that the changes in the physical properties of drugs and in the blood under the influence of the drugs deserve greater attention. He has been studying them with his stalagmometer; this records the number of drops in a given volume of the fluid, comparing them with the standard number of drops of water. His research seems to show that the action of salvarsan is due essentially to its basic and precipitating properties, and he thinks that it may be possible to find other elements possessing the same physical properties and which thus may prove equally effectual in therapeutics while free from the drawbacks of the arsenic compounds. He is convinced that the physical properties of drugs rank in importance over their chemical properties, while chemotherapeutic research seems to have overlooked this fact mostly to date.

Medizinische Klinik, Berlin

February 12, VII, No. 7, pp. 249-288

101 *Treatment of Chronic Catarrh of the Large Intestine. R. Kolisch.
102 Otologic Findings in Reference to Trauma of the Head. (Verwertung otologischer Untersuchungsmethoden bei der Begutachtung Kopfverletzter.) Rhese.
103 Prophylaxis and Treatment of Contractures. P. Zander.
104 *Technic for the Fresh-Air Cure. (Fortschritt in der Liegekur der Lungenkranken.) R. Nöhring.
105 Tonsillotomy or Tonsillectomy? F. Kobrak.
106 Nematode Disease of Plants. M. Schwartz.

February 19, No. 8, pp. 289-326

107 *Senile Chorea. H. Eichhorst.
108 Head's Superficial Temperature Sense. (Ueber Henry Heads Lehre von Temperatursinn der Haut.) A. Goldscheider.
109 Determination of Acidity of Gastric Juice. (Bestimmung der Azidität des Magensafts.) M. Bönniger.
110 Appendicitis at Greifswald, 1901-1910. H. v. Tappeiner.
111 Scaphoid Scapula. (Ein häufig vorkommende Anomalie des Schulterblattes.) W. W. Graves (St. Louis).
112 *Venesection in Treatment of Polycythemia. (Ueber Polyzythämie mit besonderer Berücksichtigung grösserer Aderlässe.) A. Hörder.
113 The Sympathetic Nervous System. (Das vegetative Nervensystem.) A. Frölich.

101. **Chronic Catarrh of the Large Intestine.**—Kolisch concludes his summary of the progress in late years in treatment of catarrh of the large intestine with the assertion that the only progress has been in the dietetic treatment, and this only by the better differentiation of the individual conditions by the functional tests, permitting regulation of the diet to conform to existing conditions. The possibility that the stomach may be primarily responsible for the intestinal trouble should never be forgotten.

104. **Fresh-Air Reclining in Severe Climates.**—Nöhring has the windows of the halls used for fresh-air reclining closed at night and the heat turned on in the morning, so that the floor and walls never get thoroughly chilled through although the big windows are all open to the floor during the day while the patients are reclining there. If the day is dry, he has a temperature as low as 32 F. in the halls but if the weather is damp he does not let the halls get colder than 50 or 52 F. Five years' experience has convinced him that this modification of the rigorous northern climate gives far better ultimate results than attempts to enforce the actual climatic conditions.

107. **Senile Chorea.**—Eichhorst describes two cases of typical chorea in a man of 80, and a woman of 73. In both the chorea developed after emotional stress; in both the chorea was on one side only and the necropsy findings were negative. The man died the fourth week after the onset of the right-sided chorea, and the woman during the fifth year of chronic left-sided chorea. In fifty-three cases of senile chorea on record, emotional stress was cited as a causal factor in 17 per cent.; 25 per cent. of the total fifty-five patients died soon after the onset of the chorea, and it became chronic in 49 per cent. In Bourneville's case, the chorea developing in a woman of 64 continued for twenty-four years. There was more or less mental disturbance in 43.6 per cent. of the cases; in 23.6 per cent. the chorea was unilateral.

112. **Polycythemia.**—Hörder adds another to the seventy or eighty cases on record of primary polycythemia. His patient was a man of 51, healthy until five years ago when enlargement of the spleen began to cause discomfort and a year later the signs of polycythemia became pronounced. Hörder regards the disease as a morbid entity involving the composition and distribution of the blood. Venesection, large amounts of blood being withdrawn, gave constant although transient relief in this case, the number of red corpuscles dropping by three or four millions and the other disturbances becoming attenuated after each blood-letting. It was repeated six times in the course of two months, from 150 to 700 c.c. of blood being withdrawn. The first count showed 10,700,000, with hemoglobin 130 per cent.; the last count, nine days after the fifth venesection, showed 9,500,000 reds.

Münchener medizinische Wochenschrift

February 14, LVIII, No. 7, pp. 337-392

114 *Ovarian Origin of Uterine Hemorrhage in Some Cases. (Wechselbeziehung zwischen Uterus und Ovarien, ein Beitrag zur Behandlung gynäkologischer Blutungen.) M. Henkel.
115 *Albumin (Casein) Milk in Infant Feeding. (Zur Technik und Indikation der Ernährung mit Eiweissmilch.) H. Finkelstein and L. F. Meyer.
116 *Importance of Appetite in Estimation of Stomach Function. (Einfluss des Appetits auf die Magentätigkeit und seine Bedeutung für die funktionelle Magendiagnostik.) O. Fischer.
117 *Importance for Prognosis of Invasion of Blood by Germs. (Prognostische Bedeutung des Uebertritts von Keimen ins Blut.) E. Sachs.
118 *By-Effects of Salvarsan. (Nebenwirkung des Salvarsans.) W. Gilbert and J. Sellei.
119 *Direct Lavage of the Duodenum. (Dirkte Berieslung des Duodenums.) M. Gross.
120 Color Scale for Estimation of Pigmentation. (Entwurf einer Farbenskala zur Bestimmung physiologischer und pathologischer Pigmentierungen.) F. B. Solger.
121 Ovarian Therapy. (Beitrag zur Eierstock-Therapie.) R. Einhauser.
122 *Typhoid Meningitis. (Typhusbazillen in der Zerebrospinalflüssigkeit.) A. Stühmer.
123 *Nascent Mercury in Treatment of Syphilis. F. Hubbes.
124 Infant Consultations, Milk Stations, etc., in Munich. (Zwei Jahre offene Säuglingsfürsorge.) A. Uffenheimer. Commenced in No. 6.

114. **Reciprocal Relations Between Uterus and Ovaries.**—Henkel has had opportunity to examine these relations in 150 operative cases during the last few years. The findings can generally be classified in two groups: those in which there is an unusual number of follicles and those in which they are unusually scanty. In the first group the irritation from ripening of an unusually large number of follicles induces changes in the uterine mucosa which are liable to entail uterine hemorrhage. The hemorrhage in such cases must be regarded as a menstrual phenomenon, as it is the expression of the participation of the uterine mucosa in the abnormally frequent ovarian processes. In such cases partial resection of the ovaries has proved an effectual means of removing the cause for this atypical menstruation. He found that it generally cured also any existing tendency to dysmenorrhea. In the other group, in which the organ is abnormally small and defectively developed, ovarian treatment seems to promote the further development of the ovaries and to cure the tendency to uterine hemorrhage. Palpation usually enables the two forms of ovaries to be distinguished. He makes it a principle to remove the ovaries with the uterus in case of myoma requiring laparotomy; the after-effects were no worse than when the ovaries were left, while the operative results were much better. His idea is that the uterus forms an integral part with the ovaries of the genital apparatus, and that the loss of one or the other destroys the functioning of the one left.

115. **Albumin Milk.**—Finkelstein and Meyer relate their further experiences with the albumin milk and emphasize the fact that it is not a food for healthy infants, and should not be given in conjunction with other food or milk. [The method of its preparation was described in THE JOURNAL, July 2, 1910, page 93.] They summarize here the special indications for this casein food.

116. **Influence of Appetite on Test Gastric Functioning.**—Fischer declares that the ordinary test meal pays too little attention to the appetite; a meal that is more palatable gives a much better oversight of gastric functioning. He has found extremely useful a breakfast in which the patient is allowed to select his beverage from the list: milk, coffee, tea, bouillon and weak lemonade, each 300 c.c. With this is allowed a roll or slice of bread (75 gm. bread), butter 20 gm. and 70 gm. of scraped raw meat, ham or sausage or two eggs or a herring. Comparative tests with this and the ordinary test breakfast showed that the "appetite breakfast" supplied much better information in regard to the secretory and motor functioning than the ordinary test breakfast.

117. **Conditions in Which Germs Pass Into the Blood.**—Sachs points out that the prognosis is very different when the germs are forced into the blood by some mechanical influence or primary absorption. The organism is generally able to conquer the germs invading the circulation in these cases. Conditions are different when there is chronic absorption of the germs and they are found to be proliferating in the blood; this indicates extra virulence.

118. **By-Effects of Salvarsan.**—Gilbert injected 0.2 gm. of salvarsan into the left gluteal muscle of a 9-year-old girl with parenchymatous keratitis; there was slight spastic paresis in the right leg and the Wassermann reaction was positive, although the parents denied syphilis. At the age of 6 there had been an obscure nervous attack and the paresis was possibly the sequel of a syphilitic meningitis at that time. Eighty-one hours after the injection the child was found unconscious in collapse, and epileptiform seizures developed, increasing in number and severity, with pulse 160, extreme cyanosis and foam at the mouth, so that a fatal outcome seemed inevitable, but the child gradually recovered in four or five days. If the collapse had occurred in the night, it is scarcely probable that the child would have been saved. Gilbert adds that slight paresis suggesting a possibility of meningitis in the past should contra-indicate salvarsan unless the patient can be kept under constant clinical supervision.—Sellei reports three cases of recent syphilis in which injection of salvarsan was soon followed by disturbances in hearing; in another case a syphilitic injury of the auditory nerve subsided under an injection of salvarsan.

119. See THE JOURNAL, April 23, 1910, page 1365.

122. **Typhoid Meningitis.**—Stühmer reports a case in which typhoid infection seemed to have localized exclusively in the meninges, typhoid bacilli being found in the cerebrospinal fluid obtained by lumbar puncture. The latter, he asserts, had an unmistakably curative effect on the meningitic symptoms. He has found eight cases of typhoid meningitis in the literature, in all but three of which the patients recovered.

123. **Inhalation of Nascent Mercury in Syphilis.**—Hubbes heats cinnabar (red mercuric sulphid) and has the patient inhale the fumes of the nascent mercury. In order to get rid of the sulphur he adds pure iron to the cinnabar; this binds the sulphur in the form of ferrous sulphid. Without the iron the sulphur forms the dangerous sulphur dioxid, but this is obviated by adding a corresponding amount of chemically pure iron. This nascent mercury seems to have an intensely toxic action on the spirochetes and combining with the hemoglobin follows them to the remotest parts in the body. He has seen the severest syphilis subside without recurrence to date under eight or ten sittings in the course of four or five days. He has had two and one-half years' experience with this method and has never had a failure, and affirms that with this method of using mercury there is no need to go farther afield for any other remedy.

Virchows Archiv, Berlin

February, CCIII, No. 2, pp. 161-320

125 Lipoma Containing Bone in the Tuber Cinereum. H. Zuckermann. Commenced in No. 1.
126 Lipoma in Pia Mater. B. Hecht.
127 Intestinal Emphysema. S. Ciechanowski.
128 *Obstruction of Mesenteric Blood-Vessels. (Verschluss der Mesenterialgefässe.) G. Bolognesi.
129 Congenital Membranous Stricture of the Prostatic Urethra. R. Lederer.
130 Thyroid Deformity. (Missbildungen der Schilddrüse.) P. Schilder.

128. **Obstruction of the Mesenteric Blood-Vessels.**—Bolognesi summarizes the clinical and experimental experiences in this line on record, and reports extensive personal research on rabbits.

Wiener klinische Wochenschrift, Vienna

February 16, XXIV, No. 7, pp. 227-262

131 Extracellular Action of Leukocytes. (Aphagozidie.) E. Weil.
132 Bismuth Paste in Treatment of Chronic Suppuration. (Behandlung chronischer Eiterungen mit Wismutpaste nach Beck.) H. H. Schmid.
133 Salvarsan. (Zur therapeutischen Bedeutung des Arsenobenzols.) W. Reiss and F. Krzysztalowicz. (Zur Applikationsweise des Salvarsans.) J. Hahn.
134 Comparative Study of Registration of Auricle Pulsation within the Esophagus and the Electrocardiogram. (Vergleichende Berechnung des Oesophagogramms mit dem Elektrokardiogramm.) W. Janowski.

Zentralblatt für Chirurgie, Leipsic

February 18, XXXVIII, No. 7, pp. 225-264

135 *Dangers of Diverting Urine into Intestine. (Zur Operation der Blasenektopie bzw. zur Versorgung des Harnleiters nach Blasenexstirpation.) K. Spannaus.
136 *Treatment of Ankylosis of the Patella. A. Schanz.

135. **Dangers of Implantation of Ureter in Intestine.**—Spannaus reports two cases in which he successfully implanted the ureters in a stretch of bowel according to the technics recently advocated by Fink and by Goldenberg. Theoretically, the operation seems promising but in both of his cases the diversion of the urine into the intestine proved disastrous, the intestine evidently having absorbed noxious elements of the urine with resulting uremia, while the urine had a distinctly injurious action on the bowel mucosa. His first patient, a man of 43, had the bladder removed on account of hemorrhagic papilloma; a receptacle for the urine was formed out of an excluded stretch of ileum fastened outside the peritoneum. The wound healed smoothly but diarrhea developed two weeks later to which the man succumbed. The second patient was a woman of 40 with cancer developing on exstrophy of the bladder. The ureter was implanted in the excluded stretch of ileum and the wound was healing when symptoms of uremia became manifest and the woman died the seventh day.

136. **Ankylosis of the Patella.**—Schanz comments on the unsatisfactory results of the present methods of treating adhesion of the patella to the femur. When the adhesion is broken up, it has been only a question of time before the parts grew together again. This is avoided by the simple device of transferring the bursa between the patella and the skin to the space between the patella and the femur—thus merely changing the position of the bursa from the front to the back of the patella. He has done this in two cases and the procedure was so simple and easy and the result so ideal that he commends it for general adoption in treatment of ankylosis of the knee. The nutrition of the skin over the patella did not seem to suffer in the least in his two cases after removal of the bursa between.

Zentralblatt für Gynäkologie, Leipsic

February 18, XXXV, No. 7, pp. 257-296

137 Care of Wound After Abdominal Hysterectomy. (Zur Wundversorgung bei der abdominalen Radikaloperation.) W. Hannes.
138 Drainage of Abdominal Cavity. (Was beabsichtigen wir mit der Bauchhöhlendrainage zu erreichen?) A. Sippel.
139 *Progress or Going Backward? (Vermeintlicher Fortschritt und Rückzug.) E. Roth.

139. **Progress Forward or Backward?**—Roth thinks that the time has come to take stock of the boasted progress of the last fifteen years in medicine and see whether all of it can be regarded as an actual onward advance. Science has not escaped the blight of restlessness and haste characteristic of the age. New conceptions and methods are constantly being promulgated in the medical press and they are hailed as progress on account of the modern longing for change, but whether they really represent progress is another question. He strives to answer this in regard to allowing parturients to leave the bed early, Cesarean section for placenta prævia, extraperitoneal Cesarean section, vaginal methods for operations on the uterus, and the transverse incision (*Fascienquerschnitt*)—all popular in certain quarters in Germany. His conclusions are to the effect that the drawbacks of allowing women to get up before the seventh or eighth day outweigh

the benefits, and a retreat should be sounded. The advantages of a little early exercise can be obtained without leaving the bed. Cesarean section as a systematic method of managing placenta prævia is another evil which should be abandoned, he argues, as also the tendency to too exclusive use of the vaginal route. The by-injuries with vaginal operations are increasing in number, as, for example, the case of the woman whose sterility it was sought to cure by a salpingostomy; during this there was so much hemorrhage that the uterus had to be removed to arrest it. Dührssen's mortality in 441 vaginal operations was 13, while Krönig's was only 2 in 485 abdominal operations. The transverse incision is also proving unsatisfactory on account of the difficulty of restoring anatomic conditions afterward, as he shows by statistics from various clinics. Here, too, he declares, a retreat should be sounded. The enthusiasm for extraperitoneal Cesarean section has also subsided as it has been shown that it is not suited any better than the classic technic for suspicious cases. So of all this boasted progress nothing, he declares, has stood the test of time.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 7, XXXII, No. 17, pp. 179-186

140 Pathogenesis of Acromegaly. G. A. Pari.

February 12, No. 19, pp. 195-210

141 Importance of Stomach Content in Dubious Cancer Cases. (Importanza dell'esame del contenuto gastrico nelle forme gastro-intestinali delle persone avanzate in eta, progressivamente gravi.) L. Marchetti.

Policlinico, Rome

February 12, XVIII, No. 7, pp. 197-228

142 Autolysates of Tissues in Treatment of Tumors. G. Fichera.
143 Restoration of Duct of Steno. (Escisione di un tratto di condotto di Stenone e reintegrazione del canale.) G. Buccolini.

Riforma Medica, Naples

February 13, XXVII, No. 7, pp. 169-196

144 *Formation of Specific Antibodies and Fixation of Complement in Malaria. L. Ferrannini.
145 *Possible Cause of Error in Hydrostatic Test of Infant's Lung. A. Cevidalli.

144. **Fixation of Complement in Malaria.**—Ferrannini has been applying the complement-fixation test in malaria with extracts of malarial spleens for the antigen. The findings were constantly negative, and the negative findings of other investigators with different technics all apparently confirm the fact that malarial infection does not induce the production of antibodies. This confirms the clinical experience that an attack of malaria does not confer immunity; there is no production of agglutinins or precipitins. This explains the difficulty in radically curing the disease and the susceptibility to subsequent attacks although it is possible that a racial immunity may be gradually developing. He is inclined to suspect possibly latent syphilis in the positive findings with the Wassermann test reported by DeBlasi in 52 per cent. of his malarial patients examined and by Boehm in about 30 per cent.

145. **Hydrostatic Test of Infant's Lung.**—Cevidalli reports actual experiences which demonstrate that if the fetus gets any of the amniotic fluid in its lungs, the sebaceous smegma in the fluid is liable to make the lung float whether the child has breathed or not.

Ugeskrift for Læger, Copenhagen

February 16, LXXIII, No. 7, pp. 212-251

146 *Toothache in the Toothless. (Tandsmerter hos Tandlose.) M. Melchior.

146. **Toothache in the Toothless.**—Melchior warns against ascribing to the teeth what may be neuralgia from pressure on the nerve by some minute focus in the jaw. Or the trouble may be a reflex neuralgia from constipation, uterine disease, etc. In one patient, the "toothache" had persisted for a long time involving the upper jaw on both sides and persisting after all the upper teeth had been extracted. On suspicion of syphilis, potassium iodid was then given when the pain soon entirely subsided. Careful study of the case, especially noting the definite point where the pain begins, may point to the exact site of the hidden causal lesion.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

INTRODUCTION TO PRACTICAL ORGANIC CHEMISTRY. Including Qualitative and Quantitative Analysis and Preparations. With Special Appendix on the London University Syllabus, and Schemes of Analysis for Stages 1 and 2 of the Board of Education Syllabus. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg), Lecturer on Chemistry at the Middlesex Hospital, 1910. Cloth. Price, $1.35 net. Pp. 204, with 50 illustrations. New York: Oxford University Press, 1910.

A SYSTEM OF OPHTHALMIC OPERATIONS. Being a Complete Treatise on the Operative Conduct of Ocular Diseases and Some Extraocular Conditions Causing Eye Symptoms. Edited and Partly Written by Casey A. Wood, M.D., C.M., D.C.L., Late Professor of Ophthalmology and Head of the Department, Northwestern University Medical School. Complete in Two Volumes. Volumes I and II. Cloth. Price, $15. Pp. 1824, with 968 illustrations. Chicago: Cleveland Press, 1911.

LA BASE DE TOUTE RÉFORME. Santé, Richesse et Liberté Assurées à la Societé et à Chaque Individu par l'Alimentation Rationnelle. Exposé concis de la question alimentaire à la lumière des découvertes récentes de la physiologie et de l'anatomie humaines et comparées, de la chimie, de la géologie, de l'historie et de la philosophie. Par Otto Carque. Paper. Price, 2 francs. Pp. 85, with illustrations. Paris: A. Maloine, 25-27, rue de l'Ecole de Médecine.

A TEXT-BOOK OF GYNECOLOGIC SURGERY. By Comyns Berkeley, M.A., M.D., B.C.Cantab., Gynecologist and Obstetrician to the Middlesex Hospital, and Victor Bonney, M.S., M.D., B.Sc.Lond., Assistant Gynecologist and Assistant Obstetrician to the Middlesex Hospital. Cloth. Price, $5 net. Pp. 720, with 392 illustrations. New York: Funk & Wagnalls Co., 1911.

DER LUPUS: SEINE PATHOLOGIE, THERAPIE, PROPHYLAXE. Für den praktischen Gebrauch geschrieben. Von Prof. Dr. L. Philippson, Direktor der Dermatologischen Universitätsklinik zu Palermo. Aus dem italienischen Manuskript übersetzt von Dr. Fritz Juliusberg. Paper. Price, 2 marks. Pp. 42, with 14 illustrations. Berlin: Julius Springer, 1911.

HISTORY OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION. With Biographies of its Presidents, Complete Roster of its Officers, Programs of its Meetings, and the Past and Present Laws Relating to the Practice of Medicine in Mississippi. Cloth. Pp. 171. Dr. E. F. Howard, Secretary, 506 First National Bank Building, Vicksburg, Miss., 1910.

FOODS AND THEIR ADULTERATION. Origin, Manufacture and Composition of Food Products; Infants' and Invalids' Foods; Detection of Common Adulterations, and Food Standards. By Harvey W. Wiley, M.D., Ph.D. Cloth. Second Edition. Price, $4 net. Pp. 641, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NEW YORK STATE LIBRARY YEAR-BOOK OF LEGISLATION, 1908. Edited by Clarence B. Lester, Legislative Reference Librarian. Legislation Bulletins 37, 38 and 39, Digest of Governors' Messages 1908, Index of Legislation 1908, Review of Legislation 1907-1908. Cloth. Price, $1. Pp. 513. Albany: University of the State of New York, 1910.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Cloth. Price, $4 net. Pp. 775, with 815 illustrations. Philadelphia: W. B. Saunders Co., 1911.

PHOTOGRAPHIC ATLAS OF RADIOGRAPHY OF THE MASTOID REGION AND OF THE NASAL ACCESSORY SINUSES. By Joseph C. Beck, M.D., Clinical Professor of Oto-Laryngology, College of Physicians and Surgeons, University of Illinois. Half Morocco. Price, $8. St. Louis: The Laryngoscope Co., 1911.

ACUTE ANTERIOR POLIOMYELITIS (INFANTILE PARALYSIS). A Précis by Wade H. Frost, Passed Assistant Surgeon. Prepared by Direction of the Surgeon General. Pub. Health Bull. 44, February, 1911. U. S. P. H. and M.-H. S. Paper. Pp. 52. Washington: Government Printing Office, 1911.

DIE BEHANDLUNG DER FRAUENKRANKHEITEN. Für die Praxis Dargestellt. Von Dr. J. Veit, Professor und Direktor der Universitäts-Frauenklinik in Halle a.S., Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger, Karlstrasse 15, 1911.

PUBLIC HYGIENE. By Thomas S. Blair, M.D., Neurologist Harrisburgh, Pennsylvania, Hospital. Assisted by Numerous Contributors. In Two Volumes. Volume I and II. Cloth. Price, $10 net. Pp. 644, with 158 illustrations. Boston: Richard G. Badger, (1911).

REPORTS OF THE TRUSTEES, RESIDENT OFFICERS AND VISITING COMMITTEE OF THE MAINE INSANE HOSPITAL AND EASTERN MAINE INSANE HOSPITAL. For the Year Ending Nov. 30, 1910. Paper. Pp. 42, with illustrations. Henry W. Miller, M.D., Superintendent, 1911.

HAND-BOOK OF THE SURGERY OF THE KIDNEYS. By W. Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S., Senior Surgeon to St. Bartholomew's Hospital. Cloth. Price, $4 net. Pp. 199, with 50 illustrations. New York: Oxford University Press, 1911.

TWENTY-EIGHTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF INDIANA. For the Fiscal and Board Year Ending Sept. 30, 1909. Statistical Year Ending Dec. 31, 1909. To the Governor. Cloth. Pp. 638. J. N. Hurty, Secretary, Indianapolis, Ind.

DIGITALIS STANDARDIZATION AND THE VARIABILITY OF CRUDE AND OF MEDICINAL PREPARATIONS. By Worth Hale. Hyg. Lab. Bull. 74, January, 1911. U. S. P. H. and M.-H. S. Paper. Pp. 53. Washington: Government Printing Office, 1911.

REPORT OF THE SUPERINTENDENT MINNESOTA SCHOOL FOR FEEBLE-MINDED AND COLONY FOR EPILEPTICS. Biennial Period, Ending July 31, 1910. Paper. Pp. 235, with illustrations. A. C. Rogers, M.D., Superintendent. 1910.

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CHRONIC URETHRITIS AND CHRONIC URETERITIS CAUSED BY TONSILLITIS *

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BALTIMORE

The tonsils have been made the scapegoat for so many human ills that one hesitates to bring another charge against them. For eighteen months past, since having my attention directed to the possible relationship between tonsillitis and certain cases of chronic urethritis and chronic ureteritis, the evidence has been accumulating with such force that I feel justified in drawing up the indictment and ask that the problem be taken under advisement and judgment passed on it after experience may have justified or negatived my claims.

In a comparatively recent paper, Rosenheim[1] has reviewed the literature and found the following list of ailments ascribed in certain cases to tonsillar infection: aneurysm, appendicitis, erysipelas, and a number of other skin manifestations, meningitis, iritis, pleuritis, pericarditis, pneumonia, paraplegia and strabismus, parotitis, nephritis, osteomyelitis, phlegmon of the lower extremities, oophoritis and orchitis, septicemia, typhoid beginning with an angina, and tuberculosis.

It is only natural that we should look on such a list with some mental reservations, but no intelligent physician of to-day will deny that the infections and toxins of tonsillitis have an important causal relationship to many forms of rheumatism.

Those who have worked with the diseases of the urinary organs in women have for a number of years been familiar with the so-called rheumatic urethritis. In using this term I wish to exclude the old text-book application, for undoubtedly most cases of chronic granular urethritis are due to old gonorrheal infection, and our text-books have included these under the term "rheumatic." But we have seen many cases in which gonorrhea could be ruled out to a practical certainty and for which we have been at a loss for the etiologic factor. This is particularly true in the cases of respectable unmarried women who have a persistent urethritis and have intact hymen and very little probability of ever having contracted gonorrhea. Some of these chronic urethritides are associated with vulvitis and I have been inclined to class some of them as traumatic infections due to onanism. We see rare cases of cystitis and urethritis following immediately after marriage in which gonorrhea can be ruled out, and we find the infecting agent to be the colon bacillus or some other micro-organism. These are undoubtedly traumatic infections. Theoretically a few of our chronic urethritis cases might be classed as auto-infections, because of the very short urethra and the myriads of bacilli and cocci normally inhabiting the region of the external urethral orifice.

If we rule out these possible auto-infections, gonorrhea, and trauma and infection from childbirth, coitus and onanism, we still have left a not inconsiderable proportion of our chronic urethritis cases for which we have heretofore been at a loss to explain the origin, and we have generally classed them as rheumatic urethritis. As a matter of fact most of these patients have suffered from some form of rheumatism and the local urethral treatment is more effective if the patient is given simultaneous internal antirheumatic treatment.

My experience with these cases is that they generally respond to local treatment more quickly than the chronic gonorrheal cases (although there are numerous exceptions to this rule), and as a rule they relapse within a few weeks or possibly months after the patients think themselves well.

I am not certain that there is any speculum picture to differentiate the rheumatic from the gonorrheal cases, but I am under the impression that we will find, in many of the rheumatic cases, most inflammation about the inner third of the urethra, while we all know that in the gonorrheal cases the inflammation persists longest about the outer third of the urethra, where are located most of the urethral crypts and glands.

ILLUSTRATIVE CASES

CASE 1.—My attention was first called to the possible relationship between the tonsils and the urethra by a patient whom I had been treating for chronic urethritis from December, 1908, to May, 1909. During this five months I had been treating the urethra once or twice a week by dilating with Hegar dilators and mopping the urethra with either 3 or 10 per cent. silver solution. During this time I had on one occasion prescribed a gargle for a sore throat. May 20 the patient asked me why her throat should always be irritated immediately after I made the silver application. This sore throat lasted as long as the urethral reaction was active, about twenty-four hours if I used the 3 per cent. silver, and as long as three days after the 10 per cent. silver. She said that she had noticed this phenomenon for some time and she had also noticed that her throat and urethral irritation always seemed to be aggravated in damp weather. I examined her throat and found that the tonsils were large and presented numerous crypts over the surface. I referred her to Dr. T. Chew Worthington who reported as follows: "The tonsils, while very deep and buried between the pillars, are much larger than they appear, and show evidence of frequent inflammation, and I believe that they are largely responsible for the patient's rheumatic trouble; but I do not know to what extent they may cause the urethritis." They were so riddled by necrotic foci that it was impossible to remove them except by morcellement. I saw the patient three times within the next two

* Read before the meeting of the Southern Surgical and Gynecological Association at Nashville, Tenn., Dec. 13, 1910.

1. Rosenheim: The Tonsillar Ring and the Paranasal Sinuses as Portals of Entry of Infectious Diseases, Bull. Johns Hopkins Hosp., November, 1908, xix, 338.

months and her symptoms had rapidly disappeared, although she was having some discomfort at times and the urethra showed some granulations over its inner half.

One can scarcely appreciate the marvelous change in this patient without knowing the details of her history and having treated her as I did for five months without appreciable permanent relief. She was a single woman, a seamstress, 42 years of age and had entered the menopause two years previously. She remembers one attack of inflammatory rheumatism when 25. She had had bladder irritation at times for eight years, this occurring only once or twice a year up to within two years ago, since which time she had had no relief. She complained of great frequency and of sharp stinging pain in the neck of the bladder while voiding. She was often afraid to leave the house because of her inability to control the bladder. In addition to the local symptoms she had pain in the right groin and great discomfort and soreness across the entire lower abdomen. She often had a sinking feeling, nausea, and a desire to void if she made a misstep while walking, or if she rocked in a chair, or drove over a rough road, or rode in the street car. Bimanual examination of the pelvis and lower abdomen elicited considerable muscle spasm, and because of this and her very indefinite symptoms I was led on several occasions to think of the possibility of chronic appendicitis. Pelvic examination and high rectal examination were negative. Palpation over the urethra caused reflex pain in the bladder region. The most striking feature of her examination was the fact that on distention of the urethra when injecting the 10 per cent. cocain solution preparatory to the urethral treatment the patient always complained that I caused her typical abdominal pains reaching as high as the umbilicus, and a feeling of nausea. It was this one persistent and consistent complaint of the patient that soon led me to cease thinking of a chronic appendicitis. It well illustrates also a dictum that I have given my students for a number of years, viz., when dealing with any obscure abdominal complaint located below the level of the umbilicus, never to overlook an examination of the urethra.

Within two months after the tonsils were removed, the preliminary distention of the urethra with cocain did not cause abdominal discomfort. The spontaneous abdominal discomfort had disappeared and the only symptom was a slight local irritation in the urethra.

At my request the patient came to my office on Dec. 1, 1910. She had been practically well for the intervening fourteen months. On some days she is conscious of a slight uneasiness in the bladder, but she often holds the urine all day. She has never had the soreness across the hypogastrium nor the nausea and sinking attacks. Riding over a rough road or jarring from any cause does not affect her. While formerly she never dared sit in a draft, she now does not consider such matters. The anxious, harassed expression of the face has disappeared and she claims to be in perfect health. Cystoscopic examination shows the urethral mucous membrane to be normal.

CASE 2.—In February, 1909, Dr. A. I. Miller, of Brattleboro, Vt., sent me a Miss B., aged 35, who had been complaining of bladder trouble since an operation for uterine displacement in October, 1907. The patient was in an extremely nervous condition and examination showed the urethra to be contracted throughout its length and to have a very granular, red mucosa. She remained at the Johns Hopkins Hospital for six weeks, being treated for her nervousness and having the urethra treated about once a week. Within six weeks the urethra easily took a number 12 Hegar (12 mm.) dilator and its mucosa was normal-looking. Fearing a return of her trouble, the patient did not go home on dismissal from the hospital and her fears were well founded, for her urethral irritation returned in a few days. In May the patient was complaining of joint trouble for the first time and was placed on aspirin treatment which helped her joints and seemed to help the urethra. After my experience with the first case and in view of her rheumatic manifestations I examined the patient's throat and found that she had large tonsils. She refused to have these operated on until Dec. 23, 1909, when Dr. H. C. Davis removed her tonsils, finding them in much the same condition as those found in the first patient. The patient's urethra answered more readily to the treatment after the removal of the tonsils, but for about seven months there was a small area at the base of the right tonsil which became much irritated at times, and the patient was then very likely to complain of rheumatism in her knees and of the urethral irritation. After the spot in the right fauces was repeatedly touched with 10 per cent. silver solution and the urethra dilated and touched with solution of the same strength, the patient has finally made an apparent complete recovery. For four months past the irritation has been almost completely absent and the urethral mucosa, examined on a number of occasions, has remained normal.

CASE 3.—Miss W., aged 48, admitted to the Johns Hopkins Hospital Oct. 10, 1901, complained of bladder trouble, indigestion, and nervousness. The menopause occurred four months previously. As a child the patient had measles and diphtheria. She had pneumonia when 18 and suffered with neuralgia and headaches. Six years previously she had an infection of the middle ear from her throat and the ear drum ruptured and drained freely. Hearing had been impaired since and she had occasional attacks of earache. She had hay fever every summer for years.

Four years ago, or in July, 1897, she first had bladder trouble as a frequency of voiding with intense pain, and the urine contained blood and mucus for several days. The pain and frequency lasted three months.

In the following four years she had had about two attacks a year usually lasting about two weeks. In January, 1901, she was confined to her room for one week with an attack and since then had constantly felt that an attack was impending. Her present attack came on five weeks prior to admission. It began with intense pain which prevented sleep. The pain was more severe on voiding. She passed some blood.

Examination revealed a normal bladder and a severe urethritis located in the inner third of the urethra.

A few treatments resulted in an apparently perfect cure.

She was again admitted to the Johns Hopkins Hospital March 14, 1910. After leaving the hospital in 1901 the patient was free from urinary symptoms for two years. Her symptoms of frequency and pain then began and for two years she had occasional loss of control of the urine. In 1905 she had a severe attack of typhoid fever with a long, slow convalescence, and now for five years she has had almost constant bladder trouble. For the past year her symptoms have been worse and she generally wears a napkin because of complete incontinence.

I examined the patient March 16, 1910, and found a specimen of urine drawn by the catheter clear. After applying 10 per cent. cocain solution and placing the patient in the knee-breast posture the urethra was first sounded with a 5 mm. Hegar dilator. This broke down what felt like a soft scar tissue obstruction at or near the internal urethral orifice. No further obstruction was felt in dilating up to a 10 mm. Hegar dilator.

The bladder was normal, but the urine settled in the vertex was bloody. This blood was found to be flowing from the anterior aspect of the internal sphincter region, probably from the obstruction felt to give way under the No. 5 Hegar.

The patient improved rapidly under the treatment by dilatation and applications of 3 per cent. silver solution.

After three weeks she complained of an attack of sore throat and examination showed enlarged and inflamed tonsils. These were partially removed with the tonsillotome April 22, and the patient was soon discharged. In answer to a letter in November she wrote in part as follows: "I am stronger than when I went to the hospital last March, but the bladder trouble is no better; in fact, it is so bad I very seldom leave home. I cannot see that the removal of the tonsils has helped me at all. I have just as much rheumatism and sneeze very much each day; in fact, more than I ever did."

If my theory is tenable this is just the result one would expect from partial removal of the tonsils by the tonsillotome. The patient's reference to the persistent sneezing and her

"nasal" method of talking make me think that she has paranasal sinus infection as well and she has been advised to return for more complete attention to the tonsils and air passages.

CASE 4.—Miss H., aged 26, consulted me July 14, 1910. For about three years the patient had had bladder symptoms more or less constant, but exaggerated with overexertion, and particularly on damp days. When at its worst there was almost a constant desire to void. She did not consider the distress a pain nor a severe burning, but said it was more of a nagging. For the previous five or six months there had been a peculiar tired feeling in the right pelvis and the patient worried for fear that some serious condition was developing.

The patient had quinsy twice as a child and she was bothered a great deal with her throat. She had a severe attack of quinsy last winter and after four days the abscess ruptured. She has not had rheumatism. Examination of the heart revealed a soft systolic murmur over the mitral region and an accentuated second sound at the base. Both tonsils were enlarged. The bladder urine was normal. The urethra was very tender on introduction of the catheter and on examination it was found to be granular and reddened throughout its length.

The urethra was dilated and swabbed with 3 per cent. silver solution July 14 and July 21. The patient was sent to Dr. Sanger, who removed the tonsils early in August. He reported the right tonsil as badly diseased. Two weeks after the tonsillectomy I found the urethral mucosa less tender and less inflamed. I gave the third treatment and the patient left the city to take a position as school teacher. I have heard indirectly that she is greatly improved in health, and as the urethra seemed to be the only point of complaint I conclude that this must be improved.

SUMMARY OF CASES

To review the evidence briefly in these four cases:

In Case 1, the patient, as long as she could remember, had a tendency to "catch cold" easily and had to avoid drafts. She had an attack of acute inflammatory rheumatism involving the joints of the left side seventeen years previously. For eight years she had had attacks of bladder trouble and abdominal discomfort which for the previous two years had kept her in almost constant agony and had often kept her housed because of the inability to control the urine. Five months of regular treatment about once a week had made but little impression on her urethral and reflex abdominal symptoms. After the tonsils were removed three treatments in the next two months resulted in a cessation of practically all her symptoms and she often retained the urine an entire day. This cure has lasted for fourteen months.

In Case 2 the patient had had constant bladder symptoms for over two years, the disturbed nights and diurnal irritation making of her almost a nervous wreck. Bladder and urethral treatments had been without permanent effect. Treatment of the urethra for six weeks while she was in bed resulted in an apparent cure, but one week after leaving the hospital the symptoms returned and the urethra looked as inflamed as ever. Months of treatment, with the patient boarding in the city and having almost complete rest, gave occasional periods of one to two weeks of improvement in the symptoms. After the tonsils were removed there was one inflamed area in the base of the right tonsil region which for seven months gave occasional exacerbations of sore throat accompanied by pain and tenderness in the knee-joints and an exaggeration of the urethral symptoms. For the four months following treatment the patient's throat gave but few symptoms and the urethra was well as regards symptoms and appearance. After the tonsil operation the patient took a position as matron of a woman's dispensary, her duties ranging from bookkeeper to scrub woman, so that her improved health cannot be ascribed in any way to opportunities for rest.

In Case 3, when first admitted to the hospital in 1901 the patient had been suffering for four years with recurring attacks of bladder trouble. A few treatments of the urethra gave complete relief. For two years she had approximate health and then for seven years her bladder trouble had been growing worse until she had to depend permanently on a pad for catching the urine. Again a few urethral treatments seemed to relieve her condition perfectly. Her tonsils were then shaved off with a tonsillotome and within a few weeks her symptoms became as bad as ever.

In Case 4 the patient had complained of bladder trouble for three years and gave a clear history of tonsillar trouble since childhood, with three attacks of quinsy. In her case the tonsils were removed after two urethral treatments, so that we have not the striking demonstration, as in the other three cases, of the futility of urethral treatments while the tonsils remain.

I realize that these four cases of chronic urethritis are too few in number and of too recent occurrence to serve as a basis for reliable conclusions. The evidence here set forth, however, is sufficient to warrant a more careful study of our chronic urethritis cases, for if we can relieve permanently only a small proportion of these chronic sufferers by a comparatively simple operation, we will have made an important advance in therapeutics.

Since I have been on the lookout for these cases I have added seven others to my list which probably belong to this class. Some of the patients have been under my care intermittently for several years and it is only because they have chanced to return during the past few months that they are mentioned in this report. Two are worthy of an extended report.

CASE 5.—Mrs. M., of St. Paul, telephoned me from New York in September of this year asking for an office appointment, stating that she had been my patient three years ago. On looking up her history I made a mental prediction that diseased tonsils would be found on another examination.

The history taken on her first visit in May, 1907, was as follows: About June, 1906, the patient developed rheumatism in the right knee, for which she went to Mount Clemens, and while under treatment there the trouble involved the joints of the right hand and the third finger of the left hand. About this same time she began to have "bladder trouble." This developed gradually as a scalding or burning, which was more likely to come on ten or fifteen minutes after voiding, and which she thought was in the urethra rather than in the bladder. She had no trouble at night; the aggravation had been more persistent for the last four months, occurring every day or every other day and preventing her from walking or taking much exercise. On further inquiry regarding her rheumatism she said that in 1891 she had rheumatism in the right shoulder and arm and in 1903 she was at the French Lick Springs for rheumatism in the right knee. When she first consulted me she had just spent six weeks at the Arkansas Hot Springs for rheumatism in her hands.

The urine on examination at this first visit was normal; the bladder was somewhat reddened about the trigonum, and the urethra was narrowed and showed a granular red mucosa throughout its length. I made a diagnosis of chronic granular urethritis of rheumatic origin. After two treatments consisting in the dilatation of the urethra and the application of 3 per cent. silver solution on the first visit and of the 6 per cent. silver solution on the second visit, the patient was obliged to return home. I sent instructions to her physician in St. Paul concerning further treatment.

On her return in September, 1910, the patient stated that she had been fairly well and had taken no further treatment. She had recently had considerable anxiety, was in bad physical

condition and her urethral trouble had returned. I examined the urethra through the Kelly cystoscope without first disturbing it with the Hegar dilators, and found that the granular redness was confined to the urethral sphincter and to the mucosa of the inner third of the urethra. In view of my recent experience I quizzed her more closely and found that she had her first bladder symptoms when 16 years of age; that she often had a sore throat as a child, but did not remember having tonsillitis. This past winter she had considerable "rheumatic sore throat." I examined her throat and found much congestion about the fauces; the tonsils were considerably enlarged and had deep crypts over the surface, these being free from white deposits at the time of my examination.

I sent her to a laryngologist who considered that her tonsils were undoubtedly a causative factor in the rheumatism.

CASE 6.—Mrs. R., aged 32, mother of three children, the youngest 4 years old, was referred by Dr. Gaver of Mount Airy and admitted to the Church Home in June, 1909. She had had bladder trouble for the previous three years with only brief intervals of freedom from pain. At times she had been in bed a week because of agonizing pain. There had also been pain in the right flank region and the patient was then wearing a plaster because of the pain and weakness in this region. I first thought, on taking her history in my office, that she probably had tuberculosis of the right kidney. The urine catheterized from the bladder contained many epithelial cells, leukocytes and red blood-corpuscles. Examination for tubercle bacilli was negative, but the urine contained many cocci, some arranged in pairs, suggestive of gonococci; none could be found, however, in the pus-cells. After a day of rest in the hospital cystoscopy was done and the urethra was dilated with difficulty, there being a stricture about half way in and another at the internal orifice. The trigonum was of a deep red hue and apparently swollen; the bladder mucosa was everywhere traversed by congested vessels. Both ureteral orifices were red but neither showed particular evidence of disease. The right ureter was catheterized with a No. 5 wax-tipped bougie, which returned without scratch-marks. The urine from the right kidney was normal. After a few days' observation I made a diagnosis of appendicitis and a large congested appendix was removed. During four weeks in the hospital the patient received treatment for her cystitis and the urine became normal.

I have given this patient many urethral treatments in the eighteen months previous to this report. The stricture at the inner orifice still persists and she still had occasional attacks of urethral symptoms accompanied by granular reddening of the mucosa.

The patient had her tonsils removed about 1907 but she did not remember the chronologic sequence of her bladder and tonsillar trouble. She still has considerable throat trouble and examination shows a mass of tonsillar tissue on the right side.

The possible relationship between tonsillitis and ureteritis has been brought to my attention only recently, the two patients possibly belonging to this class still being under observation and only one of them having had her tonsils removed.

In September, 1910, Dr. Herman F. Derge of Eau Claire, Wis., sent me a patient 26 years old, who had the following history:

CASE 7.—Six or seven years previously the patient had an attack of pneumonia, which was followed by tonsillitis and rheumatism. At that time her tonsils were treated with the cautery. Soon after this she began to have attacks of pain in the left flank region. At first these attacks occurred every two or three months and the patient would lie down and flex the left leg for an hour or two until the attack disappeared. Her attacks gradually became worse, but she never had any nausea or vomiting with the attacks until the spring of 1910.

In February, 1910, she had an attack of tonsillitis and rheumatism, followed by similar attacks in March and April. After this the attacks of pain in her side became much more severe and were accompanied by nausea and vomiting. Dr. Derge wrote me in August that he had had the patient under observation in the hospital for four weeks, and said: "During this time her temperature has always been normal and the pulse has ranged between 72 and 96. For the first three weeks the urine contained constantly 1 gm. of albumin, pus cells, some red blood-corpuscles and a small rather thick bacillus. On two separate occasions I have examined the urine for tubercle bacilli but have found none. I have also cystoscoped her twice and on each occasion failed to get a catheter into the left ureter. The bladder itself looks perfectly normal and she has had no vesical symptoms. For the past week the urine has looked perfectly normal, there being neither albumin nor pus cells present and she excretes on an average 2 liters a day. Yesterday she had another attack of pain in the left side, was nauseated and vomited."

On her arrival in Baltimore the patient looked exceedingly ill. She had been having an attack the previous night, with much nausea and vomiting. I found a mass in the left kidney region projecting about 4 cm. below the costal margin. This was very tender and on palpation of the pelvic brim in the region of the ureter considerable pain was caused. Urine catheterized from the bladder was acid, showed a specific gravity of 1028 and contained a slight amount, about 0.1 per cent. of albumin. The microscope showed many epithelial cells and an occasional red blood-corpuscle. Three good radiographs of the kidney, ureter, and vesical regions, respectively, were negative.

After a few days' rest in bed, with frequent injections of morphin to control her pain, I made an unsuccessful attempt to catheterize her left ureter. Nine days after her arrival Dr. Sanger removed her tonsils and about ten days later I again failed to catheterize the ureter.

For two weeks after the removal of the tonsils the patient had about the same symptoms in the kidney region, the attacks being more severe if anything. After this the attacks seemed to be less frequent and decidedly less severe, the patient was allowed to take walks and drives and go to the theater, thus leading about a normal life, and her attacks of pain which occurred every two or three days were aborted with one injection of ⅛ grain of morphin, whereas her former attacks had required from one to three ¼-grain injections.

Of course one cannot expect a disappearance of the scar tissue involving the ureter after the removal of the tonsils and I should explain the improvement in her condition as due to the removal of the toxins which had caused the repeated inflammatory attacks in the ureteral mucosa.

After waiting two months and being unable to dilate the stricture from the bladder end I operated to dilate the stricture from above. Through a left rectus incision the peritoneum was pushed medianward until the ovarian vessels and ureter were found running parallel in the peritoneum. This exposed the iliac vessels on the pelvic brim and the round ligament covered with peritoneum near its entry to the internal ring. It also gave excellent exposure of the bladder. By blunt finger dissection the ureter was easily followed down to the point where it ran under the uterine vessels. A point was selected on the ureter low enough down so that in case the stricture could not be dilated the ureter could be cut across and implanted into the bladder. At this point, about 5 cm. above the crossing of the uterine vessels, the ureter was opened lengthwise and I had no trouble in passing gum-elastic filiforms, and finally a large follower 7 mm. in diameter into the bladder. A renal catheter was then passed into the bladder and its distal end was passed almost up to the kidney. The ureter was closed with fine catgut and a small finger drain was carried down into the ureter wound. After the closure of the abdominal wound the table was elevated and through a Kelly cystoscope the pointed end of the renal catheter which had been passed into the bladder was located, grasped with the alligator forceps and drawn out through the urethra. The pointed end was cut off and the catheter was fastened to the thigh by adhesive strap and through this catheter the kidney was irrigated three times a day for five days with 1-10,000 silver nitrate solution. The bladder was given a similar irrigation once a day.

Three weeks after the operation the patient was walking about the hospital. She had no sign or symptom of returning trouble in the left kidney. A suggestive feature in this case, as in case of urethritis, was that she had a sore throat and hoarseness after each attempt to catheterize the ureter, such treatment being followed by my routine swabbing of the urethra with 3 per cent. silver solution.

CASE 8.—The second case of stricture of the ureter was that of a colored woman, aged 48, who had been under my care in the cystoscopic dispensary for several weeks. She began to have bladder trouble in May, 1910. She complained of a frequency and burning and thought she had caught cold in the bladder. For two years she had had mild attacks of pain in the right kidney region. These occurred from one to three weeks apart and she had no discomfort in the side between the attacks. Since the bladder trouble began in May she thought that the attacks of pain in the side had been more frequent and more severe.

About the same time that the pain began in the side she had a bad attack of inflammatory rheumatism in the left knee. This lasted all winter. Off and on for three or four winters she had rheumatism under the left shoulder blade and in the cervical vertebræ, this at times keeping her from work. She noticed for two years previously that she caught cold very easily and had a sore throat even in the summer time.

Examination of the urine catheterized from the bladder showed a moderate number of pus-cells. The right ureteral orifice was slightly inflamed, presenting such a picture as one sometimes observes when a stone lies low in the ureter. On four different weekly visits I attempted to pass a wax-tipped catheter to the right kidney, being successful only on the second visit. The wax tip returned without scratch marks. On injection of the kidney pelvis her pain-phenomena in the right kidney region were imitated. The pelvis was but slightly dilated, holding but 12 c.c. of fluid. The point of obstruction to the renal catheter was located about 3 cm. from the bladder orifice of the ureter. *X*-ray examination of this region was negative.

The patient's tonsils were both considerably enlarged and she has promised to have them removed.

On meeting a stricture in the ureter and looking for the cause one thinks, in the order of their frequency, of stone, tuberculosis, gonorrheal infection, and then of pelvic inflammatory disease, appendicitis, and pelvic or abdominal tumors. We sometimes meet an obstruction to the catheter which is not met on another occasion and we conclude that the obstruction was probably peristaltic in character. Some obstructions are probably caused by unusual kinks in the ureter following inflammatory displacements. Most of the ureteral stricture or obstruction causes, such a stone, tuberculosis, and periureteral tumors, are easily differentiated. There are not a few strictures about the lower end of the ureter for which we have been unable to find an etiologic factor. I have been inclined to think that some of these may represent a healed focus of tuberculosis, some an infiltration of scar tissue about a stone which has later been dislodged and passed, and a more probable supposition to my mind has been that a gonorrheal infection of the bladder may have resulted in infectious material or toxins being carried in the periureteral lymphatics, causing a focus of inflammation in the ureter near the bladder. I have not been able to prove any of these suppositions in the case of ureteral strictures, but I am inclined to believe that this newer theory of tonsillar infections or toxins giving rise to ureteral stricture may be found to apply to some cases for the causation of which we would otherwise be in the dark. The futility of treatment by dilatation in such cases without removal of the tonsils is apparent.

I am not familiar with male genito-urinary work, but am told that many cases of chronic urethritis, trigonitis, inflammation of the verumontanum and other portions of the posterior tract cannot be traced to a gonorrheal infection. Dr. Geraghty of the Johns Hopkins Hospital tells me that he has seen cases of acute prostatitis with abscess formation which followed during or immediately after a tonsillitis. With such facts in hand it seems not improbable that some cases of chronic urethritis associated with chronic prostatitis may have their origin from tonsillar infections or toxins.

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TWO CASES OF HUNTINGTON'S CHOREA WITH SPINAL FLUID FINDINGS

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Chronic progressive chorea associated with mental enfeeblement occurring during adult life, first fully described by Huntington in 1872, seems far more prevalent in the Middle West than in the East. There were but two cases of this type among the 2,436 admissions to Manhattan State Hospital[1] during 1909 and 1910. If this can be taken as an indication of the prevalency of Huntington's chorea in the East, it will be seen that it is quite low when compared to the number admitted at Kankakee, Illinois, and the Wisconsin State Hospital during the same period. The combined admission rate of these two last-named hospitals approximately equals that of the Manhattan State Hospital. At Kankakee there were two patients admitted[2] and five at the Wisconsin State Hospital. It will also be recalled that Hamilton's[3] twenty-seven cases were all taken from the Middle West.

The following two cases seem especially worthy of report in that the hereditary transmission, mental involvement and well marked chorea offer a picture classical of this disorder.

CASE 1.—J. R., male, farmer, widower, was admitted to the Wisconsin State Hospital Oct. 15, 1910.

Family History.—The family history showed the maternal grandmother to have been choreic, although nothing definite as to mental symptoms could be obtained. Her death occurred at 56 and the cause given was "nervous trouble." The other grandparents died of old age. The patient's mother was admitted to this hospital in 1891, suffering from chorea and was described as being "demented." She was transferred to a county hospital where she died. The father died at 67 of "paralysis." There were eight children, of whom the patient was the oldest of five brothers. Two sisters died in infancy of unknown cause. The sister living is said to have chorea, which developed after childbirth, and is a patient at a state hospital in Washington. The youngest brother is said to be "nervous."

Personal History and Present Illness.—The patient was born June 12, 1869. Nothing of note occurred in his early life. He attended a country school and was thought to be unusually bright. After leaving school, he worked on a farm; married in 1900; wife died of typhoid fever in 1907; one child, a girl, at present 9 years old, is normal.

In 1904, twitchings were first noticed, although neither the brother nor the patient know what part first became involved. They described the twitchings as being general. These twitchings gradually became more pronounced, yet the patient continued at his work as a farmer, and was said to have been industrious and thoroughly capable. No mental symptoms

1. Communication from Dr. George H. Kirby, Director of Clinical Psychiatry, Manhattan State Hospital, New York.
2. Communication from Dr. Frank P. Norbury, Superintendent, Kankakee State Hospital, Illinois.
3. Hamilton, A. S.: Am. Jour. Insanity, liv, 3

were noticed until about one week previous to admission, when on returning from the field where he had been working, the patient complained bitterly that some one had strewn blood all about the field. He was very excitable and soon complained that he was covered with blood; that some one was dragging bloody ropes about the room. He became very much frightened, tried to lock himself in a room and began crying out at the top of his voice. He was sent to a jail where he remained two days, and then transferred to the state hospital at Mendota.

On admission the patient was in a very apprehensive state, shouting almost continually, "Take them away. They are trying to kill me," etc. He pressed himself against the wall of the room, and when approached would strike out blindly. This apprehensive excitement, with very evident hallucinosis, subsided after forty-eight hours and the patient gradually became accessible. The auditory hallucinations were now readily spoken of by the patient, and continued another four days, gradually becoming less and less marked. During this time he complained that the "voices" threatened to kill him and several times he asked the examiner when he was to be executed. Within ten days after admission, the hallucinosis had entirely disappeared and the patient became readily accessible for both mental and physical examination.

Mental Symptom-Complex.—A vivid auditory and visual hallucinosis, accompanied by marked apprehension lasted for five days, and auditory hallucinations persisted for another four days (threatening voices). On return to a quiet state there was a definite amnesia for the delirious episode, with a mild intellectual deterioration, poor memory for dates and poor retention, but good insight for the hallucinosis.

Physical Symptoms.—The most striking features were the gait, the choreic movements and the very peculiar facial expression. The patient was of swarthy type, height 5 feet 6 inches, weight 150 pounds, hair slightly tinged with gray, no physical stigmata of degeneration. The chorea was general; the movements were rather slow and deliberate, though quite extensive, as if the muscles involved had acted to their full extent. All the muscles of expression showed this condition—the occipito-frontalis especially; the lips were alternately drawn back and then puckered, drawn to one side and then the other. There was a constant clicking of the tongue; the mouth opened and closed; the eyes could not be held steadily in one position, but moved slowly from one side to the other. The subptosis lent a very peculiar expression to them, as if the individual were intoxicated. There was present a persistent, irregular, spasmodic cough, with almost constant moaning and groaning. The arms and shoulders swayed about, the hands opening, closing and twisting; the trunk swayed forward, backward and to the side. In station, one leg would suddenly shuffle forward, to the side or backward; the gait was a peculiar skipping, swaying, dance-like activity. The toes were seen to flex, extend and spread themselves. The patient could hold a pencil and would attempt to write, although the specimen was hardly legible. While making this effort, the movements of the other parts seemed exaggerated. The muscles were well developed, powerful and firm, with a very noticeable increase of tone. The superficial reflexes were all active; the deep, very decidedly exaggerated. The pupils were equal and active to both light and accommodation. The speech was at all times very harsh, thick and interrupted by spasmodic cough; at times completely aphonic. No sensory disturbances could be made out. The pulse was irregular; at times seemed to pause, followed by a number of slighter pulsations in rapid order, until again assuming its regular rhythm. This would occur four or five times in a minute. The patient sometimes experienced difficulty in starting the act of urination. Deglutition was interfered with. During sleep the movements ceased, although they recurred immediately on awakening.

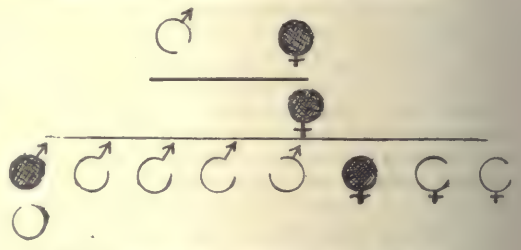
CASE 2.—W. P., male, single, farmer, admitted to the Wisconsin State Hospital Oct. 28, 1910.

Family History.—The paternal grandfather suffered from chorea, and was said to have been mentally afflicted, though never committed. Of four boys and two girls in the succeeding generation, the oldest (father of the patient) developed chorea at the age of 55, became very forgetful and simple, and died of a strangulated hernia at 60. The youngest of these brothers developed chorea at about 50, became insane and died in an asylum. The next succeeding generation, that of the patient, comprised four boys, of whom the patient was the oldest, and one girl. Of these the patient was the only one thus far who showed symptoms of chorea, although the youngest brother, aged 32, was said to be decidedly nervous.

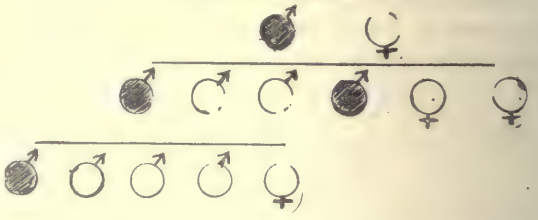
Personal History and Present Illness.—The patient was born in 1855. Nothing abnormal occurred during infancy or childhood and he was said to have been of average intelligence, getting along very well at school. He began farming at about 20 and continued at this until the onset of his mental symptoms. At the age of 7 he developed an abscess of the right leg, which discharged slightly though persistently for fifteen years. He was always very temperate in his habits and never had any venereal infection.

At the age of 38, mental failure was first noticed. This was in the nature of sudden outbursts of anger and a change in the patient's disposition. He was described as having become "preoccupied." This became more noticeable, and his memory was said to have become poor during the succeeding five or six years. The patient also began expressing peculiar ideas concerning his financial status; expressed himself as wishing to get rich quickly, laying great stress on a rather simple and not very serviceable combination garden tool, which he

Hereditary Transmission in Case 1.



Hereditary Transmission in Case 2.



invented. He maintained that, if this could be properly exploited, it would result in great wealth, and he became very angry with his relatives when they interfered with his attempt to sell his property in order to capitalize this venture. He also had very unpractical ideas concerning the development and sale of real estate; would collect and answer every advertisement he could get hold of; finally became so irritable that he could no longer be taken care of at home. About five years previous to admission, at the age of 50, the motor symptoms first became noticeable. These were described as a "jerkiness," at first involving the hands and arms, gradually becoming more marked and general. During the last two years before admission the mental dulness became very pronounced.

Mental Symptom-Complex.—A general mental deterioration; gross memory defects; very meager knowledge of the events of the last five or ten years; retention *nil;* mildly euphoric; a few absurdly expansive ideas concerning personal capabilities; no insight.

Physical Symptoms.—The face presented a very peculiar, sleepy appearance without sign of emotion. The chorea was very noticeable, involving the muscles of the neck, shoulders, arms and hands mostly. The head was extended backward, or bowed forward, or either of these combined with rotation or lateral movement. The mouth was drawn to one side or the other, the shoulders hunched frequently and equally, together or alone. The arms moved forward or backward, forearms flexed and the fingers moved about. All of these movements

were quite slow and of irregular frequency, although rarely was there any part unaffected. The legs showed relatively little, save when walking, when the gait was a peculiar, straddling, shuffling, swaying locomotion. The muscles were well developed, firm and of a good tone. The eyes were unaffected; pupils equal and active to both light and accommodation. A slight peripheral arteriosclerosis was present; pulse regular; soft systolic murmur at the apex. Superficial reflexes were all active and the deep were markedly increased. Speech was very thick and difficult to understand. Writing was impossible. Movements ceased during sleep.

Lumbar Puncture.—Spinal fluid examinations were made in both cases, and are interesting in that both were negative, cytologically and chemically. The method of examination employed was that used by Dr. Bybee and myself in a series of spinal fluid examinations recently reported.[4]

RESULTS OF THE EXAMINATION OF CEREBROSPINAL FLUID

	Case 1	Case 2
Cells per cu. mm.	4	1
Small leukocytes	78 per cent.	76 per cent.
Plasma cells	16 per cent.	14 per cent.
Large lymphocytes	3 per cent.	2 per cent.
Polymorphonuclear leukocytes	1 per cent.	8 per cent.
Endothelial cells	0 per cent.	0 per cent.
Degenerate cells	2 per cent.	0 per cent.
Nonne and Appelt's, first phase	Faint.	Faint.
Nonne and Appelt's, second phase	Negative.	Negative.
Noguchi's butyric acid test	Negative.	Negative.
Reaction to Fehling's solution	Reduction.	Reduction.

These negative findings are especially interesting in view of the difference of opinion held as to the pathologic condition present in these cases. Certain observers have viewed the condition as an inflammatory lesion of the cortex and meninges, some going so far as to associate it with general paralysis. On the other hand, more recent writers have contended that the condition is one of neuroglia proliferation. In the case with autopsy findings reported by Rusk[5] the author favors the latter contention. It would seem to me that the negative pleocytosis found in the above cases would also tend to rule out the presence of an inflammatory condition of the cortex or meninges. Dunlap's[6] report and that of Raecke[7] agree as to the absences of an inflammatory condition.

A glance at the genealogic charts will show that the hereditary transmission in Case 1 occurred through the female members of the family until the patient's generation, while in Case 2 it was through the male members and the males were alone affected.

It will be observed that these two cases vary considerably in the mental symptoms which were present. Case 1 showed, I believe, the "confusional hallucinatory delirium" spoken of by Brower and Bannister,[8] also agreeing in many respects with the delirium, occurring in these cases, described by Clouston[9] many years ago. Both cases show a marked memory defect, although in Case 2 the mental enfeeblement is more general and more marked. This latter case likewise shows the expansive delusional formation spoken of by Osler[10] and others.

Voluntary effort had no effect on the movements in Case 2, although here so much mental dilapidation is present that very likely this effort was not made, or at least not sustained. In Case 1, the movements were momentarily controlled in that part in which volition was exerted, although at the expense of the other parts. This was observed by Hamilton[3] to occur frequently, and was evident in Case 1, when he attempted to write. The patient exerted himself to the extent that a noticeable perspiration occurred on his forehead and called forth the remark from him: "Gosh, Doc, this makes me sweat."

The hypertonicity of the muscles noticed in Hamilton's[3] cases was present to a considerable degree in Case 1 and appreciably so in the upper extremities of Case 2.

No precipitating cause was obtainable. Alcohol and syphilis were denied in both cases. One rather interesting fact is that the grandparents in both cases were said to have been natives of New York State.

In order of occurrence of mental and motor symptoms, Patient 1 showed a chorea for approximately five years before noticeable mental symptoms occurred, while, on the other hand, Patient 2 showed mental symptoms twelve years before the motor became manifest. In both cases the informants were able to give reliable information.

In conclusion I wish to express my indebtedness to Dr. Charles Gorst, superintendent of the Wisconsin State Hospital, for permitting the report of these two cases.

4. Bybee and Lorenz: Arch. Int. Med., January, 1911.
5. Rusk, G. Y.: Am. Jour. Insanity, lvi, No. 1.
6. Dunlap, Charles B.: State Hosp. Bull., December, 1910, p. 417.
7. Raecke: Arch. f. Psych. u. Nervenh., 1909, xlvi, Part II.
8. Brower and Bannister: Practical Manual of Insanity, published 1902.
9. Clouston, T. S.: Clinical Lectures on Mental Diseases, published 1884.
10. Osler's Modern Medicine, published 1910.

TRAUMATIC PSYCHOSES AND POST-TRAUMATIC PSYCHOPATHIC STATES

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Various authors have attempted to establish a distinct clinical entity which could be termed traumatic psychosis, but a review of the cases reported in the literature shows that as yet we have not succeeded in attributing a distinct symptom-complex to this form of mental disorder. The only justification for grouping these cases under the heading of traumatic psychoses is their common etiologic factor, namely, trauma to the head. The degree and kind of injury are factors of some importance, and, as a general rule, only those injuries which produce an extensive, diffuse shaking up or shattering of the brain tissue, such as occurs in concussions or those which produce extensive pressure on the brain, will be followed by mental disturbances. A well-localized and circumscribed trauma to the brain is rarely followed by psychotic manifestations.

The general symptomatology of these cases varies greatly both in the time of occurrence and in the characteristic manifestations. The course of the disorder is also very variable, and it behooves one to be careful in rendering a prognosis in these cases. The cases which I am about to report in this paper have been selected because they illustrate the various forms and the variety of courses that this disease can take.

Kraepelin[1] in his work on psychiatry recognizes two forms of disturbance following trauma to the head, namely, a traumatic delirium and a traumatic feeblemindedness. His description of traumatic delirium does not vary very much from other delirious states, and simulates more the Korsakow's psychosis than any other mental disorder. This view is also shared by Calberlah,[2] who states that all these patients show the retrospective falsifications of memory and "confabulations"[3] so fre-

1. Kraepelin: Psychiatrie, eighth edition.
2. Calberlah: Arch. f. Psychiat., xxxviii.
3. This word is used by W. A. White in his Outlines of Psychiatry, by Paton in his Psychiatry, and by others, in the sense of the narration, without intent to deceive, of fictitious experiences, in the truth of which the narrator fully believes.

quently seen in Korsakow's psychosis. This view, however, is denied by other writers on the subject and, as will be seen later, some of my cases showed nothing of this symptomatology.

According to Kraepelin, the immediate results following concussion are a more or less complete clouding of consciousness. The patients are sleepy, drowsy, forgetful, dull and distracted. After these symptoms pass away, a marked impairment of memory might be noticed. In the more severe cases, complete unconsciousness may take place, which may persist only for a very short time, or for hours or even for days. On awakening, the patients remain thoughtless and clouded, show a marked disturbance of the perception sphere, especially in observing the finer points. Because of this, the patients are unable to obtain a clear conception of the impressions and events of their immediate surroundings; they may be aware of being in a hospital, but do not know its nature or have any idea of how they came there or why they should be there; they fail to recognize the people about them, and suffer from a confusion of identities. They do not notice the individual characteristics of the various people about them. Here and there a patient may develop disturbances of the sensorium, particularly visual hallucinations. Delusions of a depressive nature have also been seen in some cases. The patients have no insight into their condition and cannot understand why they are kept in the hospital, as there is nothing wrong with them. The perception disorders may simulate in many ways those of Korsakow's psychosis, in that the patients "confabulate" and suffer from marked retrospective falsifications of memory.

These patients have no recollection, or only a very faint one, of the accident, sometimes absolutely denying its occurrence, or they describe it differently at different times. The retrospective falsifications of memory which are observed mostly cover only a short period immediately preceding the accident. Here and there, however, these falsifications may cover a longer period, even years preceding the accident. These lapses of memory as a rule correct themselves almost completely, later on. This is perhaps due in part to the assistance of the information derived from friends. While the memory for remote events is, as a rule, retained, recent and immediate events are usually forgotten. The patient is unable to repeat short stories immediately after reading them, does not recall the names of those about him, does not know whether he ever saw them before, has no idea how he came to be in his present situation; in short, cannot recollect events of the most recent occurrence. At the same time, various falsifications of memory begin to make their appearance, either a mixture of truth and fiction, or wholly new fabrications.

These can be stirred up and influenced by persuasion. However, wholly fantastic and adventurous tales can be brought forth by these patients to which they hold very tenaciously. At times one can detect in these tales, which are usually described with the utmost minuteness, fragments of actual occurrences; others remind one of delirious or dream-state experiences.

Concerning time, these patients find themselves mostly in the dark. Above all, they are unable to give, themselves, clear account of the length of time which has elapsed since the occurrence of particular recent events; they do not know how long they have been in the hospital nor how long they have been under treatment, when they had visitors or when they saw the physician last. Heilbronner[4] showed that there exists a special tendency to set recent occurrences further back. Along with these, they are unable to orient themselves temporally, successively, for any length of time.

The mental activities of the patients are, as a rule, rendered considerably defective. They are distractible, can exercise their mental faculties only with the greatest difficulty, solve ordinary arithmetical problems very poorly, are unable to form a correct opinion of their condition or of occurrences in their environment. They apprehend badly, lose the trend of a conversation readily, and cannot apply themselves to any subject for any length of time. Later on, they develop a highly egotistic and very irritable disposition, are fault-finding, easily angered, and have outbursts of violent temper. Their affect tone fluctuates to a great extent; now they are elated, jolly and happy; now depressed and lacrimose. Disturbances of speech and writing also occur. They have difficulty in finding suitable words for expressing their ideas, have a tendency to form neologisms. Asymbolia and parapractic disturbances are also noticed.

The above kaleidoscopic description by Kraepelin is not, however, seen very frequently. Head injuries may be followed by no untoward, immediate symptoms. The patient may not even lose consciousness, but walk to his home and apparently not be the worse for the experience, until later—sometimes weeks and even months later—he begins to show a very noticeable change in his psychic total. His entire mental make-up changes, he becomes easily tired, is incapable of any prolonged mental effort, is forgetful, irritable and distractible. He complains of vertigo, pressure sensations in the head, migraine, noises in the ears; he experiences a sort of general benumbed feeling and shows a marked tendency to outbreaks of violent temper on the least provocation. He acquires great intolerance for alcoholic beverages; the slightest indulgence causes him to become intoxicated; he reacts in an extraordinarily severe manner to alcoholic stimuli. To this may be added epileptiform seizures, fainting attacks, and rarely, dream-states which may follow later.

Ziehen,[5] while in the main agreeing with Kraepelin, has gone a step further, in that he arbitrarily divides the traumatic psychoses into three forms: a primary and a secondary traumatic psychosis and a post-traumatic psychopathic constitution. The primary form follows immediately after the injury or after a short interim. This latent period may be as long as a week. If a prolonged coma follows the injury, the patient may emerge from same in a delirious state. The disease picture is characterized by numerous hallucinations, disorientation, incoherence, coordination disturbances, insane excitements and anxiety affects. At times it corresponds to the picture of a dream-state, then again, to that of an acute paranoia hallucinatoria. The gait simulates that of a drunken person and often feverish movements are present, even when no complication of meningitis or focal lesion exists. Intercurrent somnolence is not rare. Along with the marked association disturbances, severe memory defects are also found. These usually persist even after the acute symptoms pass over. The behavior of the patients is also changed and assumes a more or less characteristic coloring. They may develop catatonic states with severe impulsive outbreaks of violence and an aimless wandering back and forth. Recovery often follows and these acute disturbances may completely pass over. Other cases, however, may develop on top of these acute disturbances, a chronic

4. Heilbronner: München. med. Wchnschr., 1905, p. 50.
5. Ziehen: Psychiatrie, second edition.

psychic changed personality, thus merging into the secondary traumatic psychosis.

These belong in most instances to the defect psychoses and are characterized by gradual deterioration, the gradual development of a defective intelligence. We therefore speak also of a traumatic dementia, or feeblemindedness. Frequently this dementia may be mistaken for paresis, because of the physical disturbances which may accompany it. These patients may have various paralyses and incoordinations of movement and speech. Indeed, even on section, the brain may simulate closely that of paresis. In most instances this dementia remains stationary after reaching a certain point, and aside from a moderate weakness of judgment, a diminished capability for complex and especially for abstract conceptions, and a loss of the more intricate affect tones, the patients remain fairly normal.

In his last group Ziehen places cases of those who develop a so-called psychopathic constitution; that is, a well-defined distinct psychosis is wanting, but a careful comparison of the individual's mentality before and after the accident will reveal definite changes in his psyche. Those who knew the individual before the injury will invariably notice that he is more irritable, oppressed and very cyclothymic. He becomes easily tired mentally, evidences a loss of interest in things in general, lacks in quickness of judgment and foresight and shows a diminished capacity for mental productivity. He also acquires a marked loss of resistance to the effects of heat, emotions, tobacco and especially alcoholic beverages. Physically he is inclined to attacks of headache and dizziness, especially when bending over. There is also developed a suitable soil for the effects of other deleterious agents. An insignificant etiologic factor, which before the injury would have had no harmful effect on the patient, is of sufficient potentiality after the trauma to develop severe psychoses or psychoneuroses. The traumatic psychopathic constitutionality also carries in some instances the ear marks of neurasthenia and hysteria, very frequently also mixed hysteroneurasthenic states.

As will be seen from the preceding, the two authors differ chiefly in that Ziehen recognizes more forcibly the hallucinatory experiences, while Kraepelin lays much stress on the falsifications of memory. The general prognostic view held by these authors is quite an optimistic one, especially concerning the acute primary mental disturbances following head injury. As to the pathology of these cases, very little is known. In most instances there exist diffuse microscopic changes in the brain substance, characterized especially by minute hemorrhages and softenings. The location of the trauma plays no important part, and while as a general rule one would expect a quite severe impact in order to produce a general concussion and disturbance of the brain substance, mental disturbances have been known to follow quite trifling injuries to the head.

Audernach[6] reports a case of head injury in which the only external evidence of trauma was a small hematoma of the scalp over the occipital region. On examining the cerebrospinal fluid, blood was found, the patient later developing a psychosis. Here I think is an opportune moment to mention that in lumbar puncture we have one of the most certain guides in determining the extent of damage which the nervous system has sustained from a particular trauma.

6. Audernach: Aertzl. Sachverst Ztg., No. 17.

The above authors have been quoted rather fully because their writings embrace the representative views of the German psychiatrists on the subject. I may add here that Kreuser,[7] after an exhaustive study of the subject, comes to the conclusion that it is very difficult to attribute to trauma the endogenous psychoses such as paranoia, mania, melancholia and hebephrenia.

CASE REPORTS

CASE 1.—A. B., white, male, aged 33, was admitted Nov. 3, 1904. Family history was negative; birth and childhood normal; school and occupational careers uneventful. He never suffered from any illness; uses alcoholic drinks moderately. July 27, 1902, he enlisted in the U. S. Navy and throughout his stay there was considered a good sailor. Oct. 5, 1904, at 11:30 p. m., while in a fight with another sailor, he was struck by the latter, fell down, striking his head on the pavement, was picked up by the police, who thought he was intoxicated, and taken to the first precinct station. There he was kept in the cell until 8 a. m. the next morning, when he was transferred to the casualty hospital. The naval authorities were communicated with and the patient was removed to the Naval Hospital on the same afternoon. The records of that hospital show that he was in a semi-comatose condition; pulse was slow and full; there was an odor of alcohol on his breath; there was slight confusion present, and a slight deviation of the left eye outward and upward. There were no paralyses and no vomiting; sensation was normal; temperature 100 F.; urine negative; involuntary urination and defecation; patient was restless. Behind the right ear there was a redness which appeared to indicate a fracture at the base of the skull, posterior fossa. Otherwise, no outward signs of injury to the skull were apparent. October 7, the patient appeared brighter; was taking nourishment; his brain was clearer; he answered questions; both pupils were equal and responded to light. There were no eye symptoms and no paralyses. Urination and defecation were involuntary; temperature between 98 and 100.4 F.; pulse slow and full. October 9, the patient's mind was clearer; he passed urine and feces voluntarily, and asked for nourishment; no localizing symptoms. October 10, mental condition not so good in the evening; involuntary evacuation of bowels and bladder; no localizing symptoms. October 12, the patient seemed stronger physically; polyuria was present; specific gravity of urine 10.06; acid; no sugar; no albumin; the patient had polydipsia. October 16, he talked irrationally; continually asked for water. October 18, he answered questions; could not tell his age correctly; talked disconnectedly. October 20, the patient was stronger; was restless; tried to drink urine; October 23, still wanted water; imagined he had $10,000,000 on the books; talked rapidly and at times disconnectedly.

The patient was admitted to the Government Hospital for the Insane Nov. 3, 1904, with a diagnosis of delusional insanity. On admission the physical examination was negative except for diminished patellar reflexes and absence of the plantar and cremasteric reflexes. Mentally he was dull, suspicious and apprehensive. Auditory hallucinations were prominent and he showed numerous delusions of a persecutory and grandiose type; complained of people cursing and abusing him; they were accusing him of performing certain indecent acts; heard someone say that they were going to spend $35 for poison with which to poison him. This same voice tells him that he is God and that he cannot die. Emotionally he was rather indifferent, seclusive on the ward, had no insight into his condition. As a rule, he behaved well but had frequent impulsive, violent outbreaks of anger, when he attacked other patients. He had no recollection of the accident, denied all knowledge of ever having been hurt or of having been arrested and subsequently taken to a hospital. All he knew was that he had a fever. In 1908 he was noted to still have pronounced auditory hallucinations and delusions of a persecutory type. Orientation, attention and comprehension were good; judgment impaired; no insight; at times the patient

7. Kreuser: Württemb. Ztschr. f. Rechtspfl. u. Verw., ii, No. 1.

was depressed and worried; became easily excited and had a violent, uncontrollable temper, with frequent impulsive outbreaks of violence. At the time of writing this paper he is still confined to a ward for criminal insane on account of his violent, impulsive attacks on other patients. He is well oriented; has persecutory delusions, based on auditory hallucinations; no insight; is somewhat euphoric and egotistical; says that he is a highly educated man, and knows several languages. As a matter of fact, he speaks English very poorly and has great difficulty to find the proper word with which to express himself in his native tongue.

On closer questioning a retrospective amnesia, extending for a period of about two days before the accident occurred, was found to exist. He still denies all knowledge of the accident. There can be no doubt that this man's psychosis followed on the heels of the head injury, and his mental disturbance corresponds to a typical paranoid state. The patient shows now, over six years after the accident, no perceptible deterioration.

CASE 2.—F. L., aged 58 on admission June 16, 1910. Nothing is known of his family history; birth and childhood normal; school and occupational careers uneventful. May 25 or 26, 1904, while in Alaska, he was struck over the head with a club during an altercation with three other men, two of whom he shot and killed, for which he is now under sentence for twenty years. The prison authorities state, in the papers which accompanied him on his transfer here, that he was erratic since admission to the prison Oct. 19, 1906. December 14, 1909, he was placed in an isolation ward for observation on account of writing scandalous letters and throwing them on the gallery of the cell-house, in order that other prisoners might pick them up and cause trouble. He has delusions of persecution. Diagnosis, paranoia.

Physically, on admission here, he showed a slight, coarse tremor of extended fingers; pupils were irregular in outline; mentally he was nervous and irritable; was as a rule cheerful and self-satisfied; quite talkative, and his conversation showed a marked degree of circumstantiality. He had a very exaggerated ego and was at times quite witty and quick to catch a joke. He comprehended well and his replies were coherent and relevant as a rule, but at times he would bring in a lot of irrelevant matter. His attention was mobile; consciousness unclouded; no delusions or hallucinations could be elicited; memory apparently unimpaired; emotionally he was cheerful as a rule, but inclined to be very cyclothymic; at times very irritable and fault-finding; made numerous requests daily; was always busy doing something on the ward.

He had numerous suggestions for the improvement of the hospital; read a good deal, and whenever seen, he commenced to elucidate a new scientific subject which he had been studying. He was neat and tidy in his habits but somewhat careless; was friendly towards those about him. He stated that ever since the injury his head had been "on the bum." For a long time after the injury he had frequent attacks of swooning, and on stooping over or turning in bed he often felt as though he would slide or pitch over. He asked to be sent here from prison in order to have his brain examined with an *x*-ray machine, and if it showed up any rotten spots like a specked apple, his skull could be opened and these spots scooped out. At the time of writing this paper the patient is in a state of mild hypomania; he is constantly busy with something or somebody on the ward; has numerous ideas as to improvements which should be instituted in the hospital; continually jumps from one subject to another without any directing goal. He possesses a pathologic degree of euphoria, is very unstable emotionally, somewhat irritable and impatient in a conversation, always wanting to have the upper hand; writes voluminous letters, using very flowery descriptions, and underscoring them in numerous places. He shows no clouding of consciousness and no appreciable memory defect, except that he is not certain about the date of the accident; he thinks it is either the twenty-fifth or the twenty-sixth of May. Here is a part of a conversation held with him Nov. 1, 1910:

"How do you feel, Mr. L.?" "I feel—say, I had a fine walk to-day; say, you see those gutters out there? They are natural sluices; we of course make them out of boards; so they started to inquire about me up there at the post-office. Say, I wish you could read that letter I wrote to the Attorney General." "You haven't told me, yet, how you feel, Mr. L." "All right, but say I had a swoon and my head goes round. Tell me what is epilepsy? I would like to know; you know they beat me unconscious; that letter, though, explains the whole thing; even the others said so," etc., etc.

The symptom-complex in this case resembles very much a typical state of hypomania, and there is very little doubt that its inception dates back to the time of the injury. The prison officials noted him to be erratic on arrival at the prison. His transfer to this institution probably became necessary because of an aggravation of his condition; this may perhaps be due to some arteriosclerotic changes in the brain. The patient is in the arteriosclerotic period.

CASE 3.—N. M., a white man, aged 57 on admission June 18, 1910. One brother died of paresis, a sister at the time of his admission suffered from the fourth attack of recurrent mania; patient was always a man of limited mental endowment; he was the oldest boy in his class and was graded the lowest, reaching the third grade at the age of 12. He led an uneventful life, always using alcoholics. May 14, 1910, he was thrown to the ground from the rear platform of a car, sustaining a fracture at the base of the skull, on which a decompression operation was performed May 20. Following the accident the patient was in an almost completely unconscious state until the time of the operation six days later. He states that all he remembers was that he had a pain in his head. Following the operation he was confused, excited and at times violent; was very restless, wandered away from the house, losing his way, and was picked up on the street by the police and taken to the station house. On admission here, about a month after the injury, the patient was still slightly confused, but he cleared up in a very few days and was discharged recovered three weeks after admission. This case is a fair illustration of a simple confusion or delirious state following head trauma, with a complete recovery.

CASE 4.—B. McK., a white man, aged 28 on admission Feb. 19, 1908, from the Naval Hospital at Philadelphia. The patient was a primitive individual of very meager attainments; early childhood and youth uneventful; at the age of 14 he fell, striking his forehead, and sustained a scalp wound which bled very profusely. His occupational career following this was of the lowest type; he would do any common labor which he could get, and finally on May 9, 1906, he enlisted in the U. S. Navy. In March, 1907, while on the ship *Connecticut* he fell from his hammock striking his head on an ammunition pack. Following this, he developed severe headaches, loss of memory, was frequently absent from duty for a day or so without any apparent cause, and could give no explanation for such absences; he had violent outbursts of temper, was very suspicious, seclusive and melancholy. Physically he showed a fibrillary tremor of extended fingers, kneejerks slightly exaggerated, mild ankle-clonus, especially on the left side, speech somewhat thick and ataxic. After a short stay in the hospital he cleared up completely and was discharged July 2, 1908, as recovered. This is another illustration of mild mental disturbance, resembling somewhat a confused or delirious experience, following head injury, and which cleared up after a short time.

CASE 5.—R. P., white, male, aged 44, Scotchman; family history negative, birth and childhood normal. He attended school between the ages of 4 and 17, graduating from grammar-school at 15; states that he was one of the first in his class. He launched on his occupational career immediately after leaving school, entering a jute concern as an apprentice and remaining there for three years. There he learned bookkeeping and business methods, and the inspection of jute. He made good progress and left at the expiration of his apprenticeship. While there he attended night-school for six months. On arriving in this country at the age of 17, he soon obtained a position with a New York dry-goods firm, leaving that firm after a sojourn of one year because he had obtained a position as bookkeeper at a better salary. Here he remained four years, when he left and went on a three months' visit to Scotland. On returning to this country, he received a position as

cashier for a metal company. This position he held for two years, when he was appointed manager of a real estate concern at a better salary. He used alcoholics in moderation up to 1896, but was never intoxicated to his knowledge up to that time. In 1896 (the patient does not remember the exact date), at the age of 33, he was thrown from a horse, striking his head on the pavement. He denies having been intoxicated at the time of the accident. He was picked up in a dazed condition; does not think he was totally unconscious at the time; remembers trying to get up but was unable to do so. He was taken to his boarding-house but has no recollection of this, remembers faintly being put to bed and having a severe convulsion; thinks the convulsion started with the muscles of the left side of his face and neck; remembers that his tongue was being protected by a spoon placed in his mouth; also that his fingers were in a spasm; lower extremities were not involved and he was not unconscious during the attack. He was told afterward that in one day he had thirty-six seizures. These epileptiform attacks lasted for a period of two weeks. He believes that he struck on the vertex of the skull over the parietal region; also suffered from occasional headache at that time. Vision and audition are unimpaired; there was no bleeding from any of the cranial apertures. Immediately following the accident he lost the power of speech and it was fully two months before he could articulate. According to his description of the speech defect, it was in all probability a purely motor aphasia. He says the words would come to his mind but he could not express them. After a stay of two weeks at his boarding-house, he was removed to a hospital where he remained four months; he says that his memory was affected during this time; that he was unable to think normally, and is certain that he was confused for some time following the injury. He states that he had no clear recollection of the accident, and that it was his friends who supplied him with the details. A letter which he wrote home about two months after the accident was kept by his people as evidence of his abnormal mental state. He recollects that he was able to perform the mechanical part of the writing, but that his ideas were confused. He gradually improved and was finally discharged as recovered. After leaving the hospital he obtained a position with a bicycle firm where he remained for two years; when the Spanish-American War broke out, he volunteered, and after eleven months' service in Georgia, he obtained an excellent discharge. He then joined the regular army and after serving his enlistment in the tropics was sent home with an excellent discharge. During this term of service he was summarily court-martialed four or five times, mostly for absences without leave, caused by his alcoholic indulgences. On being discharged from the army, he obtained a position as night clerk in a hotel, where he remained until 1906, when he reenlisted and was assigned to recruiting duty at San Francisco. At this he remained for about two months, during which period he had a summary court-martial for absence without leave, caused by drinking.

Shortly afterward, complaining of sore throat, he was sent to the observation ward of the general hospital at the Presidio and later was transferred here. The medical certificate on his admission stated that the patient used alcohol to excess; that on admission to the Presidio Hospital, he was nervous, egotistical, pugnacious, prevaricated, had fixed delusions about religious matters, was obscene, abusive and irresponsible. Physical examination was negative except for dilated facial capillaries and tremor of the extended fingers.

On admission here he showed a hypomanic state, was excited, had flight of ideas and prevaricated much. Later on, a depression set in, from which the patient gradually recovered. "Confabulations" were marked throughout. He was discharged Nov. 23, 1910, to accept a position with the Salvation Army, after a sojourn in this institution of almost twenty-eight months.

The life-history of this patient has been gone into with more detail in order to show how his head injury marked the turning point in his career. A Scotchman of average education, he came to this country and launched on a career which showed a steady ascent, at the age of 33 having reached a well-paying position as manager of a real estate firm. He meets with this head trauma, and we next see him occupying a low-salaried position in a bicycle shop. Then he turns to the army. Here he apparently finds great difficulty in adjusting himself to the prescribed, well-regulated army life. He was court-martialed five times during his first enlistment. He makes another attempt at getting along on the outside, but fails and finally returns to the army. The second attempt here starts out with a court-martial, and he finally breaks down, developing a psychosis. After spending twenty-eight months under the well-regulated and tranquil life of an institution, he lands in the Salvation Army, one of the havens for human derelicts.

Here, indeed, the far-reaching effects of a head injury can well be seen. In his case, it robbed him of the forces which are so essential for the battles of life, the faculties which bring about an adjustment between individual and environment. The importance of this class of mental disturbance to the general practitioner, and especially for the practicing neurologist, can hardly be overestimated, especially when we remember that according to Friedman's statistics, 60 per cent. of all concussions of the brain are followed by psychic disturbances for a year or more after the injury, and that according to Ziehen, the traumatic psychoses form 3 per cent. of all admission to hospitals for the insane. The general practitioner is the first one called on to attend these cases, and while he is prepared to meet the immediate effects of the head injury, he must not forget that next to the question of whether the patient is going to live or not, he is confronted with the problem of giving a prognosis as to what effects the injury will have on the patient's future life.

It is conceded by many that injuries of the brain, if not severe enough to prove fatal, heal very benignly; and the question of paramount importance which then comes up is not one of immediate interest, not one of death and life, but one of a more far-reaching importance, namely, "How will the future life of the patient be modified by this injury?" It must also be borne in mind that liability litigations, and suits for damages often arise in these cases, and the physician is the one called on to give the most important evidence in the case, namely, to what extent the individual has been deprived, by this injury, of his physical and mental earning capacity.

I have refrained from discussing the various neuroses or psychoneuroses which may follow trauma of any kind, and head trauma in particular, because my cases deal exclusively with the psychic part of the question. I will, however, mention in passing, that a score of German neurologists, headed by Mendel, now recognize a definite liability-law-hysteria of neurosis; that is, the existing liability law forms the psychogenic factor in these cases. I mention this because the question of malingering, simulation and exaggeration of symptoms, may also occur in what appears to be the purest kind of traumatic psychosis. Kreuser, however, comes to the conclusion that the above traits are rarely concomitants of the symptom-complex following head injuries. The common picture is one of such a severe disturbance of the individual's affects as to lead the victim to the life of a tramp and criminal.

CONCLUSIONS

The above considerations lead me to the following conclusions:

1. There is no psychotic entity which can be diagnosed as a traumatic psychosis without a history of a

definite relation of the mental disturbances to a preceding trauma of the head.

2. Contrary to Kreuser's views, even what he terms endogenous psychoses can be brought on by head injuries, as our paranoid and hypomanic cases show.

3. The prognosis is favorable in the cases which show acute mental disturbances, such as acute delirious or confusional states, while in those cases which resemble what Kreuser terms the endogenous psychosis, the prognosis is extremely bad. The hypomanic patient is still insane six years after the injury, while the paranoid patient has shown no appreciable improvement since the occurrence of the accident in 1904.

4. The last one of my series of cases shows that head injuries may have a lasting deleterious effect on the individual; that while a cross-section at any particular point may not show any gross pathologic findings, yet a study of the entire individual's life will reveal a decay of his finer functions of intellect, which stamps him as a chronic psychic invalid.

THE PROGNOSIS AND END-RESULTS OF TREATMENT OF GASTRIC ULCER

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The prognosis of gastric and of duodenal ulcer, as regards the percentage both of the mortality and of the curative effect of treatment, is difficult to determine. A mass of statistics is available but in many respects these statistics are insufficient and misleading. This applies to the reports of both medical and surgical cases.

Many of the discrepancies that exist between the statistics of physicians and surgeons are due to the fact that they refer to entirely different types of ulcer. The physician meets varieties that are not apt to come at any time under surgical observation. The physician sees all kinds; the surgeon sees only a limited number and a limited variety.

Let us consider for a moment the varieties of ulcer that come under the care of the physician and compare these with the varieties of ulcer that come under the care of the surgeon.

I. The physician is called on to treat as ulcer, three distinctly different sets of cases:

First, there are acute ulcers, constituting 15 to 20 per cent. of the total number of ulcerations. These are almost regularly amenable to medical treatment and afford a large percentage of the cases of ulcer in which permanent cure is obtained. It may be said that permanent cure is obtained in at least 90 per cent. These acute ulcers, however, by reason of their tendency to hemorrhage and perforation, add materially to the mortality rate. They do not come as a rule under the observation of the surgeon, except in the event of perforation, or more rarely of hemorrhage.

Second, there are cases of chronic ulcer with or without complications, such as recurring hemorrhages, perigastric adhesions and pyloric stenosis. These are the purely border-line cases and are seen alike by the physician and surgeon. The prognosis in these cases depends, (1) on the actual number that are really cases of ulcer; (2) on the thoroughness of the medical treatment, and (3) on the care that the patient takes of himself during his convalescence. These are practically the only ulcers which the surgeon sees and he sees only a part of them.

Third, there are the cases which are diagnosed as ulcer but which are not ulcer. When a surgeon operates on a patient, he sees the ulcer and recognizes it as such. The physician, on the other hand, makes his diagnosis without the benefit of such palpable and visible evidence, and may or may not be correct in his conclusions. It is certain that very many patients are treated for ulcers who are really suffering from chronic appendicitis or gall-bladder disease.

A few years ago, wishing to trace the end-result of ulcers treated by me, I sent circular letters of inquiry, to former patients, limiting the inquiries to those alone in whom the diagnosis of ulcer seemed certain.

Twelve per cent. of the replies received were to the effect that after the ulcer treatment, the symptoms had improved but had not entirely ceased, until, after an acute attack of appendicitis, the removal of the appendix had been followed by entire and permanent cessation of the gastric symptoms. This experience has never been forgotten.

In a recent article Cabot gives the results of a series of autopsies at the Massachusetts General Hospital, and finds that peptic ulcer, gastric and duodenal, was correctly diagnosed in but 36 per cent. of cases; ulcer was present, but not diagnosed, in 56 per cent.; ulcer diagnosed, but not found, in 8 per cent.

In my experience, from 12 to 18 per cent. of cases treated as ulcer are treated on a wrong diagnosis. Here comes in the weakness of the medical statistics. Not only are we liable to commit diagnostic sins of omission and of commission, but the range of such errors varies according to the different observers. One physician will not make a diagnosis of ulcer unless confronted by a case that runs a classical course, or one attended by hemorrhage or perforation, while another with equal clinical experience will diagnose ulcer on far less positive evidence.

It is evident that if one waits for an ulcer to run an aggressive and unmistakable course before making a diagnosis, one's mortality rate will be higher than if one included the milder and more amenable cases. The personal equation has a most important influence on statistics.

If, on the other hand, ulcer is too readily diagnosed we shall include a large number of cases of chronic appendicitis and gall-bladder disease, and thus be led to incorrect conclusions.

The inclusion of these cases incorrectly diagnosed will not add to the percentage of mortality, but rather to the reduction of the death-rate. On the other hand, it is obvious that we materially increase the percentage of those who are merely improved, or uninmproved, and we reduce the number of those clinically or permanently cured.

II. The surgeon, on the other hand, sees very few of the acute cases except in the event of perforation or hemorrhage; nor does he include among his cases of ulcer, those in which the ailment has been incorrectly diagnosed. He sees only these chronic ulcers with or without complication, in which exploration proves the diagnosis to be correct. Nor does he see all of these cases. He merely sees such a proportion of them as have proved rebellious to medical treatment, either because the ulcer was not one that could be cured by medicine and diet, or because the treatment by the physician had been insufficient, or because the patient had not been intelligent or persevering enough to carry out the treatment for a sufficient length of time.

It is natural for him, therefore, to take a more gloomy view of the results of medical treatment than would seem warranted by facts. This brings us to the difference in prognosis according to whether the statistics are compiled from private or from hospital sources.

In hospital cases the mortality is naturally greater than in private practice, because of the greater severity of the cases admitted and because of the larger proportion of cases entering the wards with severe hemorrhage or perforation. In 100 consecutive Bellevue Hospital cases, 17 per cent. of patients were admitted because of alarming hemorrhage; 7 per cent. because of perforation.

The results of treatment are very different in the two classes. For medical treatment to produce results in chronic ulcer, it should be continued for a long period of time, even after the cessation of symptoms. Hospital patients remain in the wards just as long as they suffer pain, and leave as soon as they are fairly comfortable, returning to a promiscuous, unsuitable diet and to a disregard of all medical conventions. No wonder, therefore, that so many are unimproved and that so many relapses occur. It is only after alarming hemorrhage that many of the hospital patients will undergo any treatment at all. The comparatively small number of perforations which occur in patients who have had an ulcer treatment because of hemorrhage shows the beneficial effect of medical treatment, even though it be inadequate to effect a permanent cure.

The difference between hospital and private cases has been well shown by Musser in a recent article. According to this writer, the mortality from ulcer treated medically in private practice was 3.1 per cent. In patients treated medically for ulcer in hospitals, the mortality was 12.4 per cent. These are figures compiled from a large number of sources.

Musser concludes that about 8 per cent. of ulcer patients, combined private and hospital, die as the result of the disease.

My own experience coincides remarkably with the figures just given. The mortality of ulcer treated in private practice has amounted to 3.1 per cent., the precise figure given by Musser. If we exclude the patients who are practically moribund when first seen, however, the mortality after treatment was begun was almost negligible. In compiling these reports of hospital cases, however, I have excluded those in which death resulted from intercurrent disease, not associated in any way with the gastric ulceration, comprising three cases of acute lobar pneumonia, one of uremia, one of arteriosclerosis and cerebral hemorrhage, in which chronic ulcer in the stomach was found at the autopsy, which had given no symptoms during life and which had in no way contributed to the death of the patient.

The general mortality of private and hospital patients combined, amounted to a little less than 7 per cent. My figures include about 175 ulcers in private practice, eighty-four in hospital.

PROGNOSIS OF ULCER TREATED SURGICALLY

Operation for gastric ulcer yields far better results when done by experienced operators than when done by the profession at large. The results obtained by such men as the Mayos, Robson, Moynihan and Finney, afford striking proof of their clinical wisdom, their skill in operation and their infinite genius for painstaking work.

In the leading hospitals of this city, gastro-enterostomy is done with a mortality that probably does not exceed 2 per cent. The result has been that gastro-enterostomy is no longer regarded as a formidable operation. One prominent New York surgeon writing to me on this subject says: "The operation in a benign condition is but a little more dangerous than an interval appendix operation."

It would be very unfortunate indeed if the general impression prevailed that gastro-enterostomies could be done as safely as this. These men are specialized surgeons and skilfully trained. The mortality of the operation as done by the profession at large is quite different, and the reports of physicians whose patients are operated on by different surgeons of more or less experience are not so very satisfactory.

In 150 benign cases quoted recently by Bettman and White, the immediate mortality was 10 per cent. Musser's combined statistics show fatalities in 11.4 per cent. of cases in private practice, 20 per cent. in hospital. Hall reports six deaths of his patients operated on by different surgeons. Dunham within two weeks reports that of forty-eight patients with ulcer under his care, on whom operations were performed, twelve died within seventeen days and six of these within three days, making an immediate mortality of 12.5 per cent. He estimates the mortality of operation for gastric ulcer in the past four years to be a trifle over 10 per cent.

Before accepting this figure of 10 per cent. mortality by surgical treatment, two facts must be considered:

1. It is but fair to the surgeon to say that many physicians are often extremely remiss in dallying too long with medical treatment, and turning over to the surgeon as a last resort an exhausted, starved and often bloodless patient. It is but fair to the physician, on the other hand, to say that the recent improvement in surgical statistics is not alone due to improvement in the surgical technic, but in great part to the wisdom of the physician in calling in surgical help earlier and in better-selected cases.

2. The ordinary operation for gastric ulcer is gastro-enterostomy and the low mortality rate of gastro-enterostomy is fixed in a few medical, and in many surgical minds, as the general surgical treatment of ulcer. As a matter of fact many ulcers are excised, some in accessible regions, others in regions more difficult to approach and these more severe operations raise the death-rate materially over that of gastro-enterostomy pure and simple.

It is very likely that many of these complicated operations are included in statistics under the general heading of gastro-enterostomy. In this way we may be unfair to gastro-enterostomy as an operative procedure, but, on the other hand, the operative results thus obtained are the real surgical risks of operative treatment of ulcer.

My own figures are as follows:

Twenty-six private patients operated on for ulcer in the past six or seven years, with six deaths, two after exsection and gastro-enterostomy; four after gastro-enterostomy alone. I believe that all but one (on whom exsection was performed) were good surgical risks and were carefully selected cases. No patient on this list had hemorrhages or perforation. No death was due to faulty technic as far as I can see. There were two vicious circles requiring secondary operation, and one jejunal ulcer that required four ulcer treatments for its cure.

I would conclude, therefore, as to mortality percentages as follows: (1) mortality in uncomplicated gastro-enterostomy by a skilled surgeon, 2 to 3 per cent.; (2) by the average surgeon, 6 to 8 per cent.; (3) general

operative mortality including exsections, not far from 10 to 15 per cent., when performed by good men.

It is extremely important for the physician in charge of an ulcer case, that requires surgical interference, to choose as his confrère an operator of known skill and experience in gastric surgery whose death-rate is increasingly low.

END-RESULTS OF MEDICAL TREATMENT

It is difficult to arrive at satisfactory conclusions by a study of the statistics available, because, as a rule, the patients are not followed long enough to determine whether or not the ulcer has actually healed. The relief, or even the total cessation, of symptoms should not bring an erroneous belief that the ulcer is healed, for in many of the patients, even in those who conscientiously carry out the instructions of their physician, symptoms of ulcer sooner or later reappear, and the relapse may be as serious as was the original attack.

The length of time of freedom from symptoms which must elapse after treatment before the patient can be declared cured is an arbitrary one, but it may be said that two years at least must elapse without symptoms before any conclusions can be drawn.

It is obviously more difficult to trace hospital patients than those seen in private practice, but when they can be followed, it will be found that relapses are much more frequent than in those whose mode of life and intelligence guard them from the obvious faults of living which militate against those in the lower walks of life. The longer the patients are followed, the greater is the number of medical failures that become evident. No value can be attached to the reports of cases that are not followed for at least two years. It may be said from a study of statistics that conform to scientific requirements, that, under medical treatment, about 80 per cent. of patients are apparently cured, and that in hospital practice one-half of these, and in private practice one-quarter of these, relapse, making a permanent cure in 40 to 45 per cent. of hospital cases and 60 to 65 per cent. of private cases.

Greenough and Joslin found that in the Massachusetts General Hospital, while 82 per cent. of patients with ulcer were discharged as "cured" or "relieved," only 40 per cent. remained well. Sears estimates the number of medical failures after five years at 50 per cent. Mumford and Howe estimate 80 per cent. of apparent cures, of which one-half relapse. Hewes, in fifty-one cases, found forty-eight patients apparently cured; in two years 63 per cent. of these remained well. Paterson, in seventy-two hospital patients discharged as cured, found that but nineteen remained well, seven were doubtful, forty were still suffering, five had undergone surgical treatment, and one had died.

In the remaining 20 per cent., the immediate result is not brilliant, a certain amount of distress still remaining, although as a rule the patients are benefited to a greater or less extent by their treatment. The number of those who show no improvement whatever is relatively small, probably not over 5 or 6 per cent. It is quite certain that many of these improved or unimproved cases are not ulcers at all.

In 1897 Von Leube, in a communication before the Thirteenth Surgical Congress, announced that, whereas the former mortality of ulcer had been as high as 13 per cent., the enforcement of the rigid treatment inaugurated by him had been promptly followed by a marked reduction in the death-rate. In 556 cases reported by him, 74.1 per cent. of the patients could be considered cured, 21.9 per cent. improved, 1.6 per cent. unimproved, and 2.4 per cent. had died.

In 1909 Von Leube[1] gave the total of his later results to date and they show a surprising improvement over previous records.

Of 627 patients treated in the previous eleven years in his clinic and in his private practice for ulcer, with and without hemorrhage, 566, or 90 per cent. were clinically cured, (76 per cent. within four weeks, 14 per cent. in a period longer than this); fifty-three, or 8.5 per cent., were improved; six, or 1 per cent., remained unimproved, and two patients, or 0.3 per cent., died as the result of hemorrhage.

Tabulating the ulcers that were attended by hemorrhage, he found that seventy-two patients, or 90 per cent., were clinically cured (66 per cent. within five weeks, 24 per cent. in a longer period of time than this). Five, or 6.25 per cent., improved, one, or 1.25 per cent., remained unimproved, while two patients, or 2.5 per cent., died.

These are astounding results. I make use of the term "clinically cured," however, because Von Leube states in his communication that he regards as "cured" those patients in whom the symptoms disappear for a period of three weeks, and in which ordinary hospital diet, not especially prescribed for gastric cases, but given to those patients whose digestion is good, is eaten without discomfort. He notes that occasionally an ulcer is only apparently cured, and, that after a longer or shorter time, pain, dyspepsia and hemorrhage may reappear; but in his experience such a relapse occurs only in very rare exceptions.

It is unfortunate that Von Leube has not followed up his cases for two years or more, and given us the end-results thus obtained, because as they stand at the present time they give us only the temporary result of treatment; further than this they mean nothing. My experience leads me to believe that under a rigid ulcer cure fully 90 per cent. of patients may be considered "cured" in the sense in which that term is used by Von Leube, but I am not so optimistic as to the after-results of treatment.

Of the patients I treated for ulcer by a rigid and thorough ulcer cure, and followed for over three years, 66.6 per cent. were clinically cured, 16.6 per cent. relapsed, leaving 50 per cent. permanently cured; 22.2 per cent. were improved, 5.5 per cent. were unimproved; 5.7 per cent. of the patients died (not, however, as the result of ulcer).

END-RESULTS OF SURGICAL TREATMENT

Owing to the fact that the great advances made in gastric surgery have been so recent, notwithstanding the large number of patients operated on, only a few can give a postoperative history of sufficiently long duration to be authoritative as to ultimate results. It must be conceded, however, that in no other field of operative work have more brilliant results been effected, both as regards degree of improvement and permanency of cure. Since the reports were written, however, under the excitement of their successes, it is possible that too much has been claimed by operators for surgery.

Deaver writes: "Surgery allows 95 to 98 per cent. of patients to recover." At the same time he published the table reproduced here of surgical end-results, in which the average of cure is but 86 per cent.

1. Deutsch. med. Wchnschr., June 3, 1909, No. 22.

END-RESULTS OF OPERATIONS FOR BENIGN DISEASES OF THE STOMACH AS SHOWN BY DEAVER

Operator	Patients Traced	Cured	Percentage
Mayo (1908)	234	189	80.7
Moynihan (1908)	247	211	85.42
Czerny (1902)	53	44	83.0
Robson	96	89	92.7
Deaver (1900-1907)	64	49	76.5
Deaver (1905-1907)	31	26	83.87
Paterson (collective statistics)	116	109	93.9
Helferich (1905)	56	41	73.3

In Deaver's[2] own patients who were traced, only 58 per cent. had no gastric symptoms after operation, 14 per cent. were markedly improved, 6 per cent. were unimproved, while 14 per cent. had died, either from the original gastric lesion (two probably from cancer) or from some late complication such as intestinal obstruction, or vicious circle indirectly caused by the stomach condition. If we include in the surgical statistics the results of operative treatment administered by surgeons of less experience and skill, the showing is certainly not so much in favor of surgical intervention as we have been led to suppose.

Bettmann and White found that of 126 patients who survived the operation (10 per cent. having died as an immediate result of the operation), and who were under observation for a year or more, only 64.3 per cent. remained well, 6.3 per cent. were much better, while 24.7 per cent. reported as little or not better.

Paterson, by tracing the history of 116 patients who had been operated on by gastro-enterostomy at periods varying from two to nineteen years, concludes that but 85 per cent. are permanently cured. I believe that the latter figure, or even a little less, will be nearer correct than the high estimates given; that 2 to 10 per cent. will die directly or indirectly from the operation, depending on the individual surgeon who operates, and that probably 15 per cent. will derive but little benefit from their treatment.

The surgeon is too apt to regard the patient with ulcer as cured as soon as the operation is over. Properly speaking, the cure has only just begun. Every patient operated on should have an after-cure more or less strict. The proper healing of the ulcer, the cure of multiple ulcers, the danger of fresh ulcers and a lessened risk of jejunal peptic ulcers, are the reasons why such an after-cure is imperative.

I would be more inclined to employ surgery as a routine were I more fully convinced that malignant degeneration of ulcer occurs as often as it is said to do by certain operators and pathologists.

It has been known for sixty years that in a certain number of ulcers, malignant changes occur, the older writers placing this frequency at 6 to 8 per cent. basing their conclusions on the result of post-mortem examinations. In the advanced cases of malignancy that come to autopsy it is often impossible to decide whether signs of previous ulceration are present, and it is therefore to the surgeon, who has the opportunity of examining the early stages of malignancy, that we must look for accurate data on this subject.

The statements are now made that about 70 per cent. of cancers of the stomach originate from ulcer. If this be so, it must give us pause and compel us to turn to surgery as a preventive of this dread disease in our chronic ulcers.

This pathologic statement as to pathology, however, is at variance with clinical observation. Were 70 per cent. of cancers preceded by a stage of chronic ulceration, a previous history of ulcer would be found in the great majority of the cases. Here physicians and surgeons divide.

In 150 cases of cancer, Osler found an ulcer history in 2.6 per cent, and in not a single instance could it be positively diagnosed. Fenwick obtained an ulcer history in but 3 per cent. of his cancer cases, Haberlin in 2.3 per cent., Eichhorst in but 2 per cent.

In 174 cases of cancer in my care in which the history is complete, 147 patients gave absolutely no previous history of any indigestion whatever; fourteen gave a history either of alcoholic excesses and morning vomiting, or of indefinite dyspepsia that was practically negligible; while only thirteen gave a history that might point toward gastric ulcer; so that in but 7 per cent. could such a surmise be entertained. A positive history of ulcer was obtained in but 3 per cent. of cases.

This immunity from previous history of indigestion in cancer was evidently the older surgical idea.

Robson in 1901 writes in his book on cancer: "It is, however, rare to elicit a history of very old-standing stomach disorder; the first evidences of local disease appear suddenly in persons of perfectly sound health and robust digestion." In 1907, six years later he writes: "In no less than 59.3 per cent. of cancer of the stomach on which I have performed gastro-enterostomy for the relief of symptoms, the disease having advanced too far for gastrectomy, the long history of painful dyspepsia suggests the possibility of ulcer preceding the onset of malignant disease." This is a pretty rapid and radical change of ideas!

If ulcer preexists in 70 per cent. of our cancer cases, how is it that we can obtain a clinical history of ulcer in but 3 to 4 per cent. of these cases? Is it that we do not know an ulcer history when we see one, or recognize one ulcer history to the surgeon's fifteen, or is the surgical estimate based on wrong premises and unsupported by clinical experience?

Furthermore, we all have watched patients with ulcer, many of them for years. How many become cancerous after months or years? In my experience the late development of cancer on an old previous ulcer is exceedingly rare. I cannot say that the statement that 70 per cent. of cancers arise from ulcer is wrong, but regard it as important to consider and to verify. I do not regard it as proved at the present time.

INDICATIONS FOR SURGICAL TREATMENT

During the past few years, the relative indications for medical and surgical treatment of ulcer have been fully and freely discussed, with the result that at the present time physicians and surgeons have come to think and act in perfect harmony with each other. There is no such thing as an exclusive medical treatment, nor can it be affirmed that ulcer is purely a surgical disease; but while some ulcers are to be treated medically, and others call imperatively for surgical treatment, the majority are grouped near the borderline.

Acute, uncomplicated ulcers are best treated medically. This is conceded by all surgeons, who often designate this form as "medical ulcer." Relief by medical treatment is usually prompt and lasting.

Chronic, uncomplicated ulcer should not be regarded as surgical until, after a rigid and systematic course of treatment, the symptoms persist or recur. The main indication for surgery is in the failure of medical treatment to give beneficial or lasting results. It must be emphasized that the treatment should be thorough, and

2. Deaver and Ashhurst: Surgery of the Upper Abdomen, I, 108.

continued for a sufficient length of time, as medical failures are more often due to half-hearted and insufficient treatment than to actual limitations of the medical art. No treatment can be considered efficient that does not include rest in bed for at least three weeks. In general terms, it may be said that ulcers which do not yield to two months' active treatment will probably prove resistant to surgical procedures. Some consideration must, however, be paid to outside conditions, such as the amount of time that can be given to treatment, or the probability of the patient taking sufficient care of himself during the convalescent period, to prevent relapse or recrudescence. In the case of a laboring man whose family is dependent on his daily wage for the necessities of existence, and who is apt, on leaving the hospital, to disregard all dietetic rules and conventions, it may be better to recommend surgical intervention earlier than would be advisable in the case of those whose intelligence and environment allow of a conscientious observance of the details of treatment.

If, after a vigorous medical treatment, the symptoms persist, or, if in spite of every precaution, there should be relapses, indicating that the healing of the ulcer has not been complete, surgical treatment is indicated. The mortality rate and the percentage of cures are both on the side of surgery in these cases.

Exploration is demanded without loss of time in all cases in which there is a suspicion of malignancy.

Single large hemorrhages are best treated medically. If the bleeding is stopped by medical means, no harm is done, while the operation of opening the stomach and ligating the bleeding point, when the perforation occurs during a period of acute anemia, is extremely hazardous. Hemoglobin tests under 35 per cent. contra-indicate operation except in emergencies, in which great risks may be taken. On the other hand, hematemesis that ceases spontaneously is often accompanied by anemia even greater than this.

Recurring hemorrhages, if not relieved by a course of medical treatment, may properly be placed on the surgical list, especially if the continued loss of blood occasion a progressive anemia. In these cases operation should not be too long deferred, as there may be complicating malignancy present. Cases in which occult bleeding follows every attempt to place the patient on solid food, after a regular ulcer treatment, should invite surgical intervention.

Perforation, either acute, subacute or chronic, is a purely surgical complication. Acute perforations demand instant operation, as every hour which elapses until the aperture is closed diminishes the patient's chance of recovery. Immediate laparotomy is called for alike in those cases in which there is a slight amount of initial shock, such as are often encountered with duodenal perforations, and in those patients in whom initial shock is profound. It would be a fatal error in judgment to temporize in the one case until the indications for interference become more manifest, or to defer laparotomy on the other, in the hope of bringing the patient into a better physical condition to withstand an operation.

Pyloric obstruction, hour-glass contractions of the stomach or *persistent adhesions,* which interfere with the proper drainage of the stomach into the bowel, are to be treated surgically, although in the majority of instances, preliminary treatment by lavage and diet may so improve the general condition that the operation is performed with a minimum of risk.

Adhesions, whose presence is only to be surmised, and which do not interfere with the proper motility of the stomach, are best left untreated. An exception may be made in those perigastric adhesions, especially those between the lesser curvature of the stomach and the under surface of the liver, which are dragged on by physical exertions, or even during locomotion, and which give rise to such discomfort as to render it impossible for the patient to be up and about doing his work.

18 East Fifty-Second Street.

VERNAL CONJUNCTIVITIS AND EOSINOPHIL CELLS *

BROWN PUSEY, M.D.
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In 1903 Herbert[1] discovered the fact that the conjunctival secretion in vernal catarrh is rich in eosinophil polymorphonuclear leukocytes, and called attention to the bearing of this fact in diagnosis. Several observers have confirmed this discovery, in that they found tissue affected with this disease rich in these cells; and Peters[2] confirmed it by finding the cells in the secretion. Axenfeld, in his exhaustive study of the pathology of vernal catarrh, emphasized the importance of these cells in diagnosis and reported their presence in eight cases in one year. LaGrange,[3] Gabrielides,[4] Blaauw[5] and Lafon[6] have lately recorded cases of this disease with eosinophil cells in the secretion.

In the spring of 1910, two typical cases of vernal catarrh came under my care in which the secretion was rich in eosinophil cells. These two cases attracted my attention to the possibility of the importance of these cells in diagnosis, and I began examining smears stained with Giemsa taken from all the cases of conjunctivitis seen in my clinic and in private practice. I continued this during the spring and summer, and I venture to publish briefly the results of this work because from it I am convinced that Herbert's discovery has received too little attention, and that we therefore continue to overlook a disease which is much more frequent than is commonly suspected.

My series of cases included all the ordinary forms, etiologically speaking, of conjunctivitis—conjunctivitis from the common bacteria, as pneumococcus, staphylococcus, gonococcus, in adult and new-born, diplobacillus of Morax-Axenfeld; several cases from chemical irritants accidentally applied, as lime and alcohol; numerous cases of acute and chronic trachoma, in two of which trachoma bodies were found; numerous cases of phlyctenular conjunctivitis; six cases of conjunctivitis accompanying measles; and, as is usual in any series of cases of conjunctivitis, there was a number of cases of unknown etiology and no bacterial finding.

In the smears from the cases of conjunctivitis of known cause, including in these the cases of measles, eosinophil cells were very rare, only an occasional one being found. In the cases of unknown etiol-

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* From the Department of Ophthalmology, Northwestern University Medical School.

1. Herbert: Preliminary Note on the Pathology and Diagnosis of Spring Catarrh, Brit. Med. Jour., 1903, ii, 735.
2. Peters: Die Pathologie und Therapie der einfachen chronischen Konjunktivitisformen, Ztschr. f. Augenh., 1907, xviii, 415.
3. LaGrange: Contribution a l'étude du catarrhe printanier, Arch. d'Opht., 1908, xxviii, 337.
4. Gabrielides: Note sur la tarsoconjunctivite proliférant, Clin. Ophth., 1908, p. 158
5. Blaauw: Conjunctivitis vernalis, Ztschr. f. Augenh., 1909, xxii, 317.
6. Lafon: Examen cytologique et micro-chémique des sécrétions conjunctivales: Son utilisation en clinique, Ann. d'oculist., 1910, cxliii, 321.

ogy and no bacterial finding it developed early in the work that in a number of them the conjunctival secretion was rich in eosinophil cells. This finding led to a more careful clinical observation, when it was discovered that clinically those cases rich in eosinophil cells agreed in every point with descriptions of vernal catarrh found in the standard text-books.

Of the cases in which I was led to the diagnosis by the eosinophil cells in the secretion, there were ten; I also saw during the spring and summer three cases of vernal catarrh in which a proper diagnosis would have been made without attention to the presence of eosinophil cells, making a total of thirteen cases in a small clinic.

When it is realized that vernal catarrh is considered a rare disease, and that I recognized ten cases in a year directly as the result of Herbert's discovery, the importance of his observation in diagnosis of this disease is clear.

The experienced clinician will doubtless be surprised by the statement that thirteen cases of vernal catarrh were found in a small clinic in a year and when I found that I was seeing a case almost every week, and, indeed, one day saw two cases, I was troubled, fearing inaccuracy in my observations. However, in every case in which eosinophil cells were at all common, the objective and subjective symptoms agreed with those given in the standard text-books, and then the question came up as to the cause of the former failure in diagnosis.

I am strongly of the impression that the answer is simple and that we have not known the disease in spite of accurate, although ill-balanced descriptions of it. This is illustrated in that admirable text-book—that of Fuchs—under symptoms and course. The following passage occurs:

> The conjunctiva of the tarsus is covered with papillæ which are broad and flattened so as to make the conjunctiva appear like a pavement of cobblestones. Over the whole lies a delicate bluish-white film as if a thin layer of milk had been poured over the conjunctiva. The changes in the conjunctiva of the eyeball are still more striking. Growths arise from the limbus at the outer and inner side of the cornea under the form of brownish, uneven hard nodules of gelatinous appearance.

The above is found in his principal description of the disease. In a foot-note one finds in small print the following statement:

> The papillæ are often small or altogether absent, so that the bluish-white veil, which covers the conjunctiva of the tarsus, is the only evidence of the disease.

In the above description I believe I have relief from my fear of inaccuracy in observation, and the answer to the question regarding our former failure in diagnosis. We have heretofore made the diagnosis when papillæ existed and overlooked cases without papillæ. The cases with small papillæ or no papillæ at all are, I believe, the more frequent and it is in these cases that Herbert's observations will be of most service.

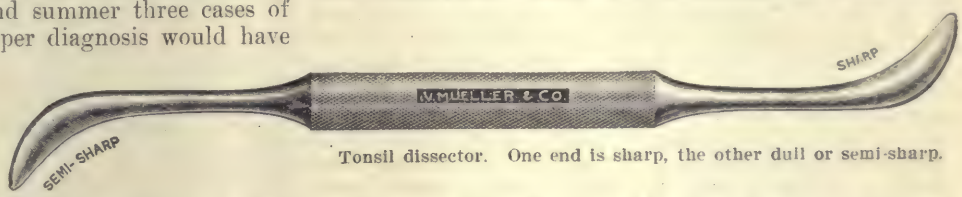
70 Madison Street.

Overfeeding in Breast-Fed Infants.—A nursing mother admits hunger as the only cause of an infant's tears. The amount of milk which she supplies depends on the demands of the infant. The child's capacity for food is limited, but the instinct to suck prevails each time the breast is offered. Hence among nurslings overfeeding is rife and alimentary disorders common.—W. J. Maloney, in the *Practitioner*.

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JOSEPH B. GREENE, M.A., M.D.
ASHEVILLE, N. C.

My excuse for adding a new instrument to an already large list of tonsil instruments is its simplicity, and adaptability to the removal of the submerged tonsils, and likewise the more or less pedunculated gland. As the illustration shows, the instrument has one semi-sharp or dull extremity, while the other end is sharp. The dull, or semi-sharp end is for blunt dissection in cases in which the adhesions to the pillars are not strong and fibrous, and in which the plica triangularis is not present. It is especially suited for the removal of tonsils in young children.



Tonsil dissector. One end is sharp, the other dull or semi-sharp.

It causes a minimum amount of bleeding, thus shortening the time of operation. The sharp end of the same instrument will be found useful in the buried and somewhat fibrous tonsils, or when the plica triangularis is prominent—a condition which requires cutting before the tonsil can be separated from the pillars.

I use this instrument to free the tonsil from its attachment as a preliminary to the use of the wire snare. For those who do not use the wire snare, however, the gland can be entirely removed by this instrument with the aid of a suitable retractor.

REPORT OF THIRTEEN CASES OF HEMIPLEGIA FOLLOWING HEAD INJURY *

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ST. LOUIS

Hemiplegia due to cranial injury is perhaps of more frequent occurrence than we have been led to believe, although this complication was present in only thirteen of the 614 cases of fracture of the skull admitted to the City Hospital during the past five years. In two other cases there was paralysis of one leg, and in one case the side of the patient's face, opposite to the scalp wound, was motionless. A brief report of the cases in point follows the history of my own case.

AUTHOR'S CASE

CASE 1.—*History.*—G. P., colored, a laborer, aged 29, was admitted to the surgical department of the City Hospital, Oct. 18, 1910. Dr. Chaddock, visiting neurologist to the City Hospital, saw the patient with me. The patient was conscious and stated that two hours before admission he was struck on the right side of his head with a heavy hoe handle. On regaining consciousness one hour after the injury, he found that the left side of his body—that is, his arm and leg—was paralyzed.

Clinical Findings.—At the time of admission examination revealed a very large hematoma covering the greater portion of the right side of the patient's head. The pupils were equal and reacted to light and accommodation. Facial paralysis was absent; pain and tactile sense were absent in the left arm and leg; knee-jerks were present at time of admission, but fifteen minutes later the knee-jerk in the left leg had disappeared.

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* From the St. Louis City Hospital.

The left leg and arm were paralyzed; the Babinski, Gordon and Oppenheimer signs were absent on both sides. There was absence of hemorrhage from the ears or nose. The pulse was 60, respirations 18, temperature 98 F. Dr. Kissel incised the hematoma and found an extensive depressed fracture of the right parietal bone, and involving the occipital bone.

Operation.—Under ether anesthesia, the usual incision was made and the depressed fragments elevated. Brain tissue escaped. The opening in the dura was enlarged and a subdural clot removed. The greater portion of the gray matter in the right Rolandic area seemed to have been crushed and destroyed by the injury. The removal of the fragments of bone was followed by a hernia cerebri. Examination of the right middle meningeal artery showed same intact. Dr. Chaddock concurred in the opinion that a basal hemorrhage was present. A piece of rubber dam was placed between the exposed white matter and the scalp and the operation wound closed with interrupted sutures. Two small drains of rubber tissue were placed in the lower angle of the wound.

Convalescence.—On the day following the operation, the patient stated that there was a slight return of sensation in the left side of his body, but he was unable to localize. There was a hypersensitiveness in the left supraclavicular and shoulder regions. The drains were removed on the third day. A grumous substance escaped from the wound for several days after the operation; examination of the substance showed it to be brain-cells and blood-cells. Ten days after operation the rubber dam was removed. Later the wound discharged a grayish liquid which showed destroyed brain-cells and staphylococci. The hernia cerebri became gradually smaller until at the time of the patient's discharge December 8 Dr. Hardaway noted that it was not prominent.

Return of Function.—As early as the first day after operation the patient appreciated a beginning return of function in the involved leg and arm. On the sixth day Dr. Kissel found that there was a slight return of tactile sense in the left leg; on the tenth day the patient could move his left leg, and on the following day he could move the affected arm but could not move the hand or fingers. From this date the improvement was very noticeable at each daily visit. Fifteen days after operation the patient was permitted to sit in a chair. November 15 Dr. Simon made a notation that the patient could walk and that the left leg and arm were functionating. The patient requested his discharge December 8. His condition was very good.

ADDITIONAL CASES

CASE 2.—Patient unconscious; pupils unequal; right dilated; both reacted; paralysis of left side of face; also left arm and leg; no marks of violence on body. Patient died within a few hours.

CASE 3.—Patient unconscious; pupils equal and reacted; tongue deviated to the left; hemiplegia on left; hematoma over right parietal bone. Operation showed hemorrhage from right and left middle meningeal arteries. Three weeks after operation there was a slight return of function on left side of body; patient had not fully regained function in limbs at time of discharge.

CASE 4.—Patient unconscious; laceration of left parietal region; pupils equal and reacted; spasmodic twitchings of chest and face; paralysis of right arm and leg; pulse 60, respiration 28, temperature 102 F. Operation revealed epidural hemorrhage. The patient died.

CASE 5.—Patient unconscious; had fallen ten feet; laceration found in left temporal region; paralysis of right side of body; pulse 84, respirations 28, temperature 98.6 F. Operation revealed a depressed fracture of the greater portion of the left parietal bone. There was an epidural clot present. Patient died.

CASE 6.—C. C., admitted May 12, 1908, unconscious; hematoma in the mid-occipital region; pupils unequal; right pupil dilated; hemorrhage from right ear; complete paralysis of both arms and legs. A linear fracture of occipital bone, going toward the base, was found. Operation revealed laceration of the cerebellum. The patient recovered.

CASE 7.—J. C., unconscious; pupils equal and reacted; pulse 68, respiration 18, temperature not stated. A hematoma was found situated in the region of the right parietal eminence. Incision showed a linear fracture. The Babinski sign was present on the right side. Operation revealed a linear fracture of the right temporal bone with presence of an epidural clot. The patient recovered.

CASE 8.—S. C.; unconscious; pulse 100, respiration 24, temperature 99 F.; pupils unequal; right pupil dilated; both pupils reacted; eyes deviated to the left. Hematoma of the vertex was found and incised, revealing a depressed fracture. Operation was performed. The fragments of bone had caused a laceration of the longitudinal sinus. The patient died.

CASE 9.—W. W., aged 64, unconscious; pupils were unequal; reacted. Incision of hematoma in left parietal region showed linear fracture in region of left parietal eminence. The patient recovered without operation. The condition of the paralyzed side of the body at time of discharge was not stated.

CASE 10.—N. U.; unconscious; hemorrhage from right ear; pupils were unequal; deep reflexes absent on both sides of body; paralysis of left side of body. A depressed fracture of frontal bone was found, associated with a linear fracture of the base. Patient was operated on and recovered. Condition of paralyzed side at time of discharge was not stated.

CASE 11.—The patient was conscious. A laceration was found in the right supra-orbital region; pupils were unequal and reacted sluggishly; Babinski's sign was present on the left side; paralysis of left arm and leg. Operation showed a depressed fracture of the frontal bone, with presence of an epidural clot in the parietal region. The patient recovered.

CASE 12.—Patient unconscious; pupils contracted and fixed. A hematoma situated in the left parietal region was incised and a depressed fracture found. There was a paralysis of the right side of the body. The patient died shortly after admittance.

CASE 13.—M. G., unconscious; pupils equal and reacted; pulse 122, respirations 22, temperature 101; paralysis of right side of body. Patient talked incoherently; died within a few hours after admission.

COMMENT

It is surprising to what extent the brain may be crushed and compressed without producing focal signs or permanent paralysis. Hemiplegia following cranial injury is a very serious complication. Six of the thirteen patients died, although the mortality of the patients operated on was only 33⅓ per cent. Ransohoff's[1] mention that the prognosis of fracture of the skull is more favorable in the conscious patients is corroborated by the findings in six hundred cases studied. Only two of the hemiplegic patients were conscious at time of admission, and both recovered. On the contrary, however, the patient with a fracture may be admitted in a conscious condition and thirty minutes thereafter may become dazed and lapse into unconsciousness and die within ten minutes. This is especially true of the patients who are partially intoxicated.

In two of the thirteen cases the fracture and the paralysis were on the same side of the body. Four of the patients presented equal pupils that reacted to light. In four cases the pupils were unequal but both pupils reacted. It is interesting to note that only two of the patients presented a hemorrhage from the ear and both recovered. The development of paralysis following cerebellar laceration is worthy of mention. The treatment of hemiplegia following fracture of the skull is too well known to require comment. Early surgical intervention saves the most lives.

4826 Delmar Avenue.

1. Ann. Surg., June, 1910.

HYPERPLASTIC TUBERCULOSIS OF THE CECUM AND COLON

REPORT OF CASE

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Cases of hyperplastic tuberculosis of the cecum are still rare enough to be of interest; hence the following case is recorded.

Patient.—F. H., colored woman, aged 30, was admitted to the State Sanitarium Aug. 15, 1905; weight 121 pounds; height 5 feet 10 inches; pupils rather small but react normally; patella reflexes increased; pulse temporarily increased; some suppression of breath sounds over left apex; abdomen soft and lax; external genitals congested; laceration of the cervix and perineum. Mental diagnosis, dementia præcox. The patient was inclined to be seclusive and did not enter into voluntary conversation as a rule. She took no interest in her surroundings and was untidy, but not filthy. The family and personal history as obtained from the patient was not reliable. The following notes were made on physical condition from time to time.

Course of Disease.—Feb. 12, 1906: Chain of enlarged glands on left side of neck extending down behind the clavicle; expansion lags on left; no râles; no known cough or night sweats. Temperature 98.6 to 100.4 F. in axilla. Tuberculous adenitis and suspected pulmonary involvement.

Feb. 17, 1906: Diminished expansion; slight elevation of percussion note and harsh breath sounds over left apex; no râles; some enlargement of glands on both sides of neck and under chin; feet somewhat swollen; liver dulness increased downwards; urine showed trace of albumin; occasional hyaline cast; few pus cells.

Feb. 29, 1906: Irregular elevation of temperature; the patient did not cough during the daytime; some blood-stained sputum found in her room in the morning; temperature 101 F.; positive diagnosis of pulmonary tuberculosis made and patient removed to the tuberculosis ward. Weight, 88 pounds.

March 3, 1906: For the past several days temperature was 96.4 F. (axilla); pulse 88 to 100; respiration 14 to 18.

March 28, 1906: Some non-localized pain in abdomen; bowel movements normal; considerable amount of fluid in abdomen which was apparently partially encysted. The patient was confined to bed, but there was no edema of face, feet, or hands; pleuro-pericardial rub; faint systolic murmur heard at the aortic interspace.

June 8, 1906: There was considerable improvement in general condition of patient; abdomen rather flabby but apparently contained a small amount of fluid; glands in neck were not quite so large; some physical signs over left apex; no fever or cough.

From above date the patient presented no symptoms of active pulmonary lesion and the abdomen became apparently normal. Owing to urgent need of room on the tuberculosis ward the patient was removed to the regular wards on March 4, 1907. The glands were still somewhat enlarged, but the pulmonary lesion had been in state of arrest for many months. The abdomen was apparently normal. From the first month of treatment on the tuberculosis ward until the patient was removed one year later there was a gradual and marked increase in weight each month. At time of removal she weighed 172 pounds, a net gain of 84 pounds.

Jan. 15, 1908: The patient was put to bed one week since on account of dysentery; stools numbered five or six per day and contained blood and mucus. Emaciation was marked; slight cough and night sweats. Physical examination of the chest was negative.

Aug. 5, 1908: The patient put to bed about one month since on account of condition of bowels. The stools at first contained some blood and mucus. This quickly disappeared, but the number of movements continued from two to four daily and were watery in character. The liver dulness extended almost to the level of the umbilicus. On the right a tumor mass was felt. It was about 2½ inches above and slightly to the inner side of the anterior superior spine, its upper margin being on a level with the lower margin of the umbilicus. The mass was hard, somewhat irregular in outline, and only slightly tender. It could be moved upward, downward, and inward to the extent of about two inches each way. It was apparently a growth connected with the cecum. There were marked emaciation, cough, night sweats, and fever chiefly at night; temperature reaching 101. A few fine and moist râles were heard over the left apex. Diagnosis, recurrence of pulmonary tuberculosis; abdominal tumor; probably tuberculosis of cecum. The patient was removed to tuberculosis ward; weight, 85 pounds.

From the above date until June 20, 1909, there was a slight but steady gain in weight at which time the patient weighed 114 pounds. From June until the day of operation, Feb. 12, 1910, there was some fluctuation in weight, with a net loss of three pounds.

During this interval the patient was kept in bed the greater portion of the time. There was no diarrhea, the bowel movements being normally formed. The patient vomited only a few times, usually at night. She was given light diet in addition to milk. On one occasion the patient vomited dinner about ten minutes after its ingestion. The tumor became more tender and the patient often complained of pain in the region of the mass.

Operation.—Feb. 12, 1910, an operation was performed by Drs. Garrard and Cline. The following note was made by Dr. Garrard: "Mass in right side found to be very strongly adherent to the parietal peritoneum. The mass delivered with difficulty in the median line, the friable intestine being opened in doing so. Cecum with portion of ascending colon resected. The ileum and ascending colon united with Murphy button. Drainage with rubber tube. Operation lasted two hours and ten minutes. Patient removed from table with pulse 140. The walls of the excised intestine were greatly thickened. The opening in the intestine was about the size of an ordinary pencil."

Macroscopic Examination of Specimen.—Pathologic report by Dr. J. H. Hewitt: "The specimen consists of a cecum and a portion of the ascending colon, the whole being about 15 cm. in length. The wall of the intestine is markedly thickened, especially as to its mucosa and submucosal tissue. In the upper portion there is an indurated fibrous mass the size of a robin's egg."

Microscopic Examination.—"The mucous surface shows the tubules moderately thinned out and great increase in intertubular connective tissue and round-cell infiltration. The wall is swollen and edematous and more or less infiltrated with small round cells. In several places along the border-line between the submucosa and the circular muscular layer there are collections of epithelioid cells surrounded by a ring of small round cells. Along the border-line between the epithelioid and round cells, and in among the round cells are several giant-cells. The muscle layers are swollen and edematous and more or less infiltrated with round cells. The peritoneal coat is thickened. It shows collections of small round-cells and giant-cells. Diagnosis: Chronic typhlitis; interstitial tuberculous typhlitis; chronic adhesive tuberculous peritonitis."

Postoperative History.—Convalescence was protracted and tedious; pulse often reaching 150; temperature 101.4 F. February 13, it gradually declined until normal was reached on the 14th. February 20 pus was found to be present in the wound; but temperature did not go above 99.4 F. The button was removed from the rectum on March 11. On March 17 it was believed that a small abscess had formed in abdominal wall and a counter-incision under cocain was made. A fecal fistula resulted. The temperature again rose and reached 101.4 F. on March 18. From this date there was a gradual decline until normal was reached on March 20. There was only a very slight rise in the pulse-rate.

On May 20 the patient was again returned to the tuberculosis ward; weight 106 pounds. There were two fistulas present. The one following the second operation healed in a short time.

Jan. 4, 1910: The patient's weight was 140 pounds; glands in neck barely palpable; limitation of expansion over left apex;

friction sound heard at the sternum in the third right interspace, also heard in the axilla; both fistulas open; very slight discharge. Liver dulness extended three fingers' breadths below costal cartilage; there was a hard nodular mass about the size of a walnut in left iliac region; the abdomen was full, rather prominent; some tenderness over the region of the uterus.

Jan. 24, 1911: General nutrition was good; no subjective complaints; abdomen prominent; non-sensitive; the nodular mass in left side still present; both fistulas healed; bowels normal.

I believe that the initial lesion began almost four years before operation. Diarrhea was not present for several months prior to operation. Alternation of constipation with diarrhea appears to be the rule in such cases. Vomiting was infrequent, which appears to be rather remarkable when the degree of stenosis is considered. The colon was markedly thickened at the point of resection, and the probability of further stenosis is to be considered. Pain was not such a prominent feature as is usually the case. The patient's mental condition may account for this in part, however.

OBSCURE CASE OF TRAUMATIC SUBDURAL HEMORRHAGE WITHOUT FRACTURE

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In his article on "Pathology of Intracranial Hemorrhage" Spiller[1] says: "Subdural hemorrhage has been more frequent in my experience than epidural, and I have repeatedly seen a hemorrhage beneath the cerebral dura as a result of injuries to the head in cases where the skull was not fractured. This occurrence is important to remember, and sometimes the discovery of the subdural hemorrhage comes as a surprise to the operator."

DaCosta[2] says that subdural hemorrhage is usually due to depressed fracture and rupture of the middle meningeal artery, or of a number of small vessels.

According to Church and Peterson,[3] Cruveilhier asserts that in one-third of the cases of asphyxiated new-born, subdural hemorrhage is the main difficulty. The clots are commonly found over the convexity, and are, in surviving cases, a pregnant source of idiocy and cerebral palsy.

According to DaCosta,[2] "most cases of cerebral palsy seen in children are the result of subdural and subarachnoid hemorrhage at birth, and damage of the cortical motor area. The hemorrhage, in cases of birth palsy, is, as Cushing points out, usually venous and due to 'rupture of some of the delicate and poorly supported venous radicles of the cerebral cortex.' It may result from traumatism due to bone overlapping or forceps pressure during parturition, or may arise during asphyxia after birth."

In examining still-born infants and infants that died shortly after birth, Cushing[4] found that many of them died with cortical hemorrhage. In some cases the extravasations found were very large—even completely overlying the cerebral hemisphere, while in others they were found to be much smaller. In one case the clot was found in the cerebellar fossa. It was found that the vessels were most usually torn on only one side and were the unsupported radicles which enter the longitudinal sinus; hence the cortical leg center of one side is most apt to be seriously damaged. When, however, the vessels of both sides are torn, a bilateral cortical lesion results.

Cushing himself,[5] speaking of traumatic subdural hemorrhage in adults, says:

> Bleeding in the free space between the dura and arachnoid is possibly a more common consequence of injuries than the extradural form. It is a frequent complication of basal fractures, for, owing to the close attachment of the basal dura, these injuries almost always tear the membrane so that the bleeding from the fissured bone has free access to the subdural space. Similarly, fractures of the vault, accompanied by laceration of the dura, lead to extravasations over the hemisphere. The extravasation, however, may occur from an injury of some cortical or leptomeningeal vessel in cases of fracture with laceration of the brain, or, indeed, in the absence of any demonstrable cranial lesion.

He also points out that the usual type of such extravasations is a diffuse one, this being particularly so in its basal form. The blood spreads through the open subdural space, and as the arachnoid membrane overlying the basal cisterns is frequently torn by the injury, the bleeding extends over the brain stem and down along the cord, where the subarachnoid space is open, and not a closely confined meshwork as it is over the hemisphere. For this reason free red blood-corpuscles in the cerebrospinal fluid will often be found on lumbar puncture. Cushing adds, however, that, "although this diffuse form of bleeding is perhaps the most common, as well as the most critical type of subdural hemorrhage, one not uncommonly sees, particularly over the hemispheres, extravasations in this space, which have remained circumscribed owing to the rapid clotting of the blood." These subdural extravasations are usually of venous rather than of arterial origin.

The symptoms of a subdural hemorrhage, according to Cushing, differ but little from those associated with an acute increase of intracranial tension from any cause. "Although in the rarer cases of intracranial and superficial clot formation, there may be localizing signs pointing to the seat of the process, the symptoms are usually those of a generalized compression." The lesion, he continues, results from a serious cranial injury, and the clinical picture is one of cerebral contusion with compression. We find the patient unconscious, medullary symptoms almost always present, the blood-pressure high during the early stages, the pulse slow, the respiration labored, and, as stupor passes into coma, Cheyne-Stokes breathing sets in, and finally the paralytic stage of compression comes on.

It is on account of the free extravasation into the subdural space that most of the cases of basal fracture prove fatal. In some instances, however, the amount of extravasation may be so slight, that, although bloody fluid may be obtained on lumbar puncture, no really serious pressure symptoms are produced. A choked disk is said to be almost always present.

It must be remembered, however, that although the symptoms of subdural hemorrhage are identical with those of extradural, they are usually very rapid in onset and are accompanied by a more distinct drop in temperature and graver depression. No focal symptoms are produced unless the hemorrhage arises from or presses on the motor area, when convulsions, or later, paralysis, may ensue.

1. Spiller: Intracranial Hemorrhage, in Keen's Surgery, 1907, ii, 654.
2. DaCosta: Modern Surgery, 1910, p. 805.
3. Church and Peterson: Nervous and Mental Diseases, 1909, p. 75.
4. Cushing: Intracranial Hemorrhage in the New-Born, Am. Jour. Med. Sc., October, 1905
5. Cushing: Surgery of the Head, Keen's Surgery, 1907, iii, 206-209.

In brief, the main points in favor of a diagnosis of subdural rather than extradural hemorrhage are:

1. Subdural hemorrhage is the most common form of intracranial hemorrhage in the new-born.

2. It is frequently associated with depressed, and more especially, with basal fractures of the skull.

3. It is characterized by an absence of the periods of concussion and "free interval," and by the rapid onset of symptoms.

4. The symptoms are usually those of a generalized compression, with marked depression and unconsciousness, practically from the very first, and the almost invariable presence of medullary symptoms.

5. The presence of blood in the cerebrospinal fluid on lumbar puncture.

A case somewhat similar to mine is reported by Cushing. A patient was injured in a football scrimmage. There was primary concussion, followed by an actual "free interval," and the appearance of focal symptoms which pointed toward a local compression over the left lower central convolution. A diagnosis of extradural hemorrhage was, of course, made. Cushing's favorite intermusculotemporal operation was performed. No fracture of the base could be demonstrated, nor was there any extradural hemorrhage found; but there was a subdural lens-shaped clot analogous to an extradural hematoma. Removal of the clot led to prompt recovery. Cushing says that cases of this sort, however, are rare, and the surgeon is usually confronted with extensive basal extravasation.

The case of traumatic subdural hemorrhage here reported is one of more than usual interest because of the following points:

1. The occurrence of a primary injury which caused a simple incised wound of the scalp and probably resulted in nothing more than a momentary stunning.

2. The presence of a "free interval" of unusually long duration (*ten days*) from the original injury to the onset of the first symptoms of compression. This initial injury and the subsequent "free interval," are, it is to be noted, considered characteristic of extradural bleeding, but have here occurred in subdural hemorrhage.

3. The absence of any fracture of the skull.

4. The absence, except for dilated, immobile pupil on the side of the hemorrhage, of any definite focal symptoms which might have given a clue to the location of the hemorrhage, although as found post mortem, the hemorrhage was practically localized to the convex surface of the frontal lobe, with extension backward to the region of the occipital lobe.

5. The localization just described.

6. The finding at autopsy of the presence of almost completely fluid blood—which may be accountable for the last-mentioned condition.

7. The absence of macroscopic blood in the excessive basal cerebrospinal fluid.

Unfortunately a lumbar puncture was not performed, but this, as proved by post-mortem findings, would have been free from any blood.

REPORT OF CASE

History.—M. G., a white man, aged 37, for past five years has been a patient in the Government Hospital for the Insane, suffering from the katatonic form of dementia præcox. He would wander mischievously and annoyingly about the ward, picking away stupidly and mutely at the other patients.

Oct. 29, 1910, at 8:15 a. m., in a scuffle with a fellow-patient, our patient was forcibly shoved, and in falling, struck his head against the sharp edge of a heavy wooden settee, receiving a simple incised wound of the scalp about one inch long, just above the right temple. It did not require stitching and was apparently not associated with fracture. The area about the wound was shaved, the wound thoroughly cleansed, and a collodion dressing was applied. The patient did not seem stunned at the time of the injury and continued to be up and about in the ward as usual.

When he went to bed on the evening of November 7, he seemed to be in his usual physical condition. When taken out of bed for dressing on the morning of November 8 (ten days after the scalp wound was received), the patient seemed to be very weak and so was put back to bed by the attendant in charge. A little later he had an attack of vomiting; temperature was 97 F. by axilla, pulse 60, regular and full, respiration 14. At 8 a. m. he seemed to be very dull; his legs and arms jerked slightly and his breathing was labored. At 11 a. m. he was semiconscious, resistant, and held his arms rigid; knee-jerks were active, pupils normal. The patient passed urine and feces involuntarily. Intracranial hemorrhage was suspected. Hot soapsuds enema was ordered. At 12 a. m. temperature was 96.6 F. by axilla, respiration 24, pulse 60.

Patient grew more and more stuporous and gradually lapsed into deepening unconsciousness. At 4 p. m. he was absolutely unconscious; both pupils were fixed and failed to react to direct light; right pupil markedly dilated, tendon reflexes active, extremities limp, skin sensation lowered. Babinski reaction obtained now and then on both sides, but irregular in response. Respiration very slow (12), regular, quiet, but deep. Pulse down to 50 per minute; regular in rate and force; full volume; temperature by rectum, 96.2 F.; bed was wet from involuntary evacuation of urine. Patient could not be aroused. The entire scalp was shaved, but examination failed to reveal any signs of fracture. The scalp wound received ten days previously almost healed. A positive diagnosis of intracranial hemorrhage was made, but the exact site of the hemorrhage was not determined. Operation was proposed to the patient's wife, but she refused consent.

At 6:45 p. m. temperature by rectum was 97.6 F., pulse 48, full, regular, and strong; respiration 15, deep, quiet and regular. Examination at this hour showed lacrimation from right eye, signs of hemorrhage from nose on right side (clotted blood being found in right anterior nares), but no signs of fracture of nose, so far as could be detected; pupils still absolutely fixed, the right being considerably dilated, the left somewhat contracted. Ophthalmoscopic examination of right eye showed outline of disk distinct and sharply defined, with no hemorrhages. Skin reflexes were almost absent; elbow and knee-jerks increased on both sides; no ankle- or patellar clonus. The Babinski phenomenon now showed an even more marked, peculiar variability and irregularity, being present first on both sides, then more on one side than the other, and then vice versa, only to change again. Sensation was very much delayed. Very deep pin-pricks were required to elicit a response, and then only after an unusually long period. Contralateral adductor reflex could be obtained by stroking the skin on the inner side of the thigh on either side. There was a tendency on the part of the patient, to stiffen the extremities and rotate them inward, bringing the knees and elbows together. There was an intermittent tremor of the right hand, and a tendency to contract the quadriceps extensor. Kernig's sign was absent. The patient lay absolutely calm and perfectly unconscious; breathing not stertorous.

At 1 a. m. the patient's condition was unchanged, but after 2 a. m. he began to weaken; his pulse became feeble, respiration was down to 6, and death occurred at 3:40 a. m.—only twenty-two hours after the first symptoms were observed.

Necropsy.—The bladder was somewhat distended; the colon very much distended throughout. The spleen and kidneys were somewhat congested. The cardiovascular and respiratory systems seemed normal. There was a scalp wound about one inch long, one inch to right of middle line, on a line with the zygoma. This did not extend through the scalp for more than one-fourth its thickness. There was no fracture of the skull in any part, although after removing the brain, the dura was stripped and the base of the skull carefully examined.

Brain: On the right side, over the convex surface of the brain, there was a flat subdural hemorrhage. Both the dura and the pia-arachnoid were intact, but the pia-arachnoid was very much engorged. The bleeding vessels could not be found, but the blood was almost wholly fluid, with some slight, fresh soft clot, and it seemed to be mainly of venous rather than arterial origin. The blood did not extend to the base nor on to the mesial surface, being confined mainly to the convex surface of the frontal lobe, though extending backward in a thin layer, nearly to the occipital lobe. The surface of the frontal lobe, especially about its middle, was considerably depressed. This depression was so marked, that, as a result, the right ventricle was very much flattened, and contained but little cerebrospinal fluid, while there was an excess of fluid at the base, about the origin of the pons. This fluid was perfectly clear and contained no blood. There was no laceration of the brain surface, and, on sectional examination, no intracerebral injury was found.

ELECTRIC TREATMENT OF INTESTINAL OBSTRUCTION AND POSTOPERATIVE PARALYSIS OF THE BOWEL

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Intestinal obstruction and postoperative paralysis of the bowel are of such grave moment that a clinical note on this subject offering a new technic in its treatment has warrant for its publication. The method consists essentially in the employment of half-normal saline enemas in conjunction with a hollow rectal electrode connected with the galvanic current, followed later, if necessary, by faradization.

The conditions in which this treatment is useful are as follows:

1. Chronic constipation with impaction of feces.
2. Atony of the bowel.
3. Traumatic, localized and general peritonitis with intestinal stasis.
4. Intestinal torpor after shock.
5. Slight volvulus or kinks in the bowel after prolonged manipulation, and chilling of the bowel following laparotomies.
6. Intestinal paralysis after prolonged meteorism.
7. Intestinal paralysis following various forms of hernia.

The conditions in which the treatment is of doubtful or negative value are the following:

1. Intussusception.
2. Stricture of the bowel.
3. Adhesive bands about the intestines.
4. Malignant growths involving the bowel.
5. Tumors impinging on the lumen of the intestines.

In these cases surgery must be invoked, and the electric treatment can be subsequently employed for its stimulation on peristalsis.

TECHNIC

1. The nurse prepares the bed with rubber sheets and padding to prevent leakage to the mattress, and a moderately flat and long bed-pan is placed under the buttocks.

2. While the preparation is going on it has been my custom to advocate lavage of the stomach with a quart of weak saline solution (half-normal strength) at 105 F. so as to clear the stomach of mucus, bile or other debris, and check vomiting, which is usually present in these cases. Lavage also has a tendency to start downward peristalsis, especially if a small amount of liquid is left in the stomach for absorption.

3. Three or four quarts of one-half strength normal saline solution at a temperature of 105 to 110 F. is prepared and kept hot on a radiator or stove.

4. The rectal electrode, well lubricated, has attached to its distal end the rheophore connected with the negative pole of the galvanic battery and the central orifice of the electrode connects with a Davidson syringe. The electrode is introduced into the rectum as far as it will go and one quart of the fluid is slowly injected.

5. A large sponge or felt electrode, at least 4 by 6 inches, well moistened in sterile or mild antiseptic solution, is connected with the positive pole and placed over the right hypogastrium so as to cover the ascending colon, and an assistant makes firm and even pressure on it, and if necessary remoistens the electrode. This pole may be shifted to the transverse colon and in some cases to the descending colon, but in the latter case its sphere of action will be over but a small portion of the bowel.

6. The galvanic rheostat is slowly moved until 10 to 15 M.A. are registered; after three minutes of electrolysis with liberation of chlorin ions which tend to relax tissues, the pole is reversed and the pole-changer kept going for from five to ten minutes more, reversing every thirty seconds. This interruption of the current produces marked contraction of the whole musculature of the abdomen and intestines and usually produces peristalsis and a desire for evacuation. If this desire is strongly expressed, the electrode can be temporarily removed and the patient given a chance to evacuate feces or expel gas. Unless the evacuation has been eminently satisfactory, some more of the saline is again injected, and following the interrupted galvanic treatment, the attachment of the rheophores is made to the high-tension faradic coil and the current manipulated through the secondary coil so as to produce a gradually increasing, then diminishing, contractile effect. The faradic treatment is given as strongly as the patient can stand without much distress, and is continued for five minutes. The withdrawal of the electrode is then usually followed by expulsion of fluid, feces and gas.

7. After the electric treatment, the bed-pan is removed and the head of the bed elevated so that the patient is placed in an inclined position of from 25 to 45 degrees, so as to favor normal peristalsis. This is an important point in technic and should not be omitted. This position has been maintained in several cases for three days before recurring meteorism was checked.

8. Following the treatment, normal saline retention enemas, one quart at 105 to 110 F., are given every two hours until normal conditions supervene.

9. Repetition of the treatment is necessary in many cases. In one case which refused to respond, the sixth treatment, given after repeated failures during forty-eight hours, at last caused profuse evacuation. It is usual, when the condition is grave, to rest the patient for three hours before repeating the treatment. In chronic constipation or impaction a longer period (six to twelve hours) may be permitted to elapse before repeating the course of treatment.

I have been called to a large number of these patients when they were practically *in extremis*, and when all varieties of enemas, stupes and drugs had been tried. Even in such desperate straits the electric enema has, in a fair percentage of cases, proved successful.

It cannot be emphasized too strongly that the earlier the electric enema is given in all cases, the better the

prospects for success. When meteorism develops and bowel movement is not produced by the usual enema and other remedies, every hour lost with the use of turpentine, alum, asafetida and other enemas merely weakens the reactive power of the bowel and renders regeneration by means of the electric current more difficult.

The battery used in these cases consists of a twenty-four dry-cell apparatus with galvanic and faradic (high tension) attachments, rheostat and milammeter, and is readily portable to the bedside.

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BACILLUS AEROGENES CAPSULATUS INFECTIONS, WITH REPORT OF TEN CASES

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This infection is interesting because of the high death-rate and the frequency with which the condition is overlooked until too late for surgical interference. It is looked on as a rare condition, though it is more frequent than one would suppose. There have been three cases at the City Hospital since June 1, 1910, with three recoveries.

To Maissonneuve and Pirogoff is due the credit for the first clinical descriptions of the disease. Maissonneuve, writing in 1853, called the disease *gangrène foudroyante,* but it was not until 1891 that Dr. Welch discovered and described the organism. There has been much confusion as regards this organism and its pathologic processes, even the latest text-books giving little space to a clear description of this definite infection and its danger to life.

The most frequent sources from which the organisms may be obtained are the intestinal tracts of mammals and the soil, although Welch (1896) recovered it from a bullet in the head of the tibia.

The organism (*Bacillus aerogenes capsulatus*) normally grows in the absence of oxygen, although Lahey[1] demonstrated that the *B. a. c.* may grow on culture media in the presence of oxygen.

SYMPTOMS

There seem to be three principal types of the infection; namely, simple, fulminating, and mixed.

The incubation period, as nearly as could be ascertained in ten cases, was forty-eight hours. In one case it was twenty-one hours (Case 10). In the simple cases, there is slight rise in temperature and pulse, the patient appears seriously ill, and there is a dark, almost black, bloody discharge, which resembles a thin syrup. This discharge usually brings out a few small bubbles, and leaves us wondering what infection is present. *Pus is not present.*

The fulminating or malignant type depends on the severity, virulence and site of the infection, and not only affords the best opportunities for study of pathologic processes, but soon convinces one that something radical must be done and done quickly. In this type the patient is usually found with high temperature (103-104 F.) and rapid pulse (130-150), with rapid respiration (30-40 per minute), and appears critically ill. *B. a. c.* infection occurs most ofen after injuries in which tissues are pulpified and very dirty. About forty-eight hours afterward, when the wound is dressed, a dark, thin, syrupy, foul-smelling discharge escapes with gas bubbles.

The fulminating type on the leg may take on the appearance of an erysipelatous condition, though without raised borders, there being a dark or brownish discoloration. This was the condition in Case 7, plus a lymphangitis, which was at first deceptive. Blebs of variable sizes are frequently present and soon take on a blue or greenish appearance. When opened, the characteristic, foul-smelling fluid with its sweetish odor, becomes apparent. If an extremity is involved, it rapidly becomes gangrenous and distended with gas of a composition of hydrogen 64.3, carbon dioxid 27.6 and nitrogen 8.1 (burning with a pale blue flame). This was the clue to the diagnosis in Case 9, although the diagnosis was suspected from the early rise in temperature (first twenty-one hours) and the history of injury. Cultures will show the presence of organism, but with a clear clinical picture operation should be undertaken at once.

Pain was absent in all except Case 10. Here the patient's pain became very great, and as he was not furnished relief by morphin, after three attempts to get consent to operation had failed, he finally consented to amputation, which was done, and he recovered. (Blake and Lahey explain the absence of pain on the ground of the necrosing action of *B. a. c.* interfering with nerve conductivity, although the presence of gas and distention, as I believe, with its mechanical effect, must not be forgotten. A sort of anesthesia is produced.)

Delirium occurs late, after the general infection, and persists till death. In Case 4, delirium was so great that diagnosis of delirium tremens and infection was made.

Within seventy-two hours, toxemia is pronounced, and I agree with Blake and Lahey that recovery is not the rule after the third day.

Nausea and vomiting occur late, and, like delirium, are indicative of generalized infection.

The process extends chiefly by direct extension, as the gas separates and dissects between muscle and fascial planes and follows the lines of least resistance.

The lymph-glands are seldom enlarged and tender, and only when other organisms are present, as the streptococcus (Case 10). The rapidity with which the process ascends a limb probably accounts also in part for the frequency of non-involvement of lymph-glands.

Emphysema or crepitus was elicited in Cases 2, 3, 4, 5, 7, 8 and 9, and in one case gas escaped with a noise. In Case 1, a tympanitic note was elicited on percussion.

Fascia, tendons and ligaments resist infection strongly. Muscle, especially pulpified muscle, affords a flourishing site for the infection. At the wound site, the tissues are soft, friable and pulplike; while beyond, the tissues are pale and edematous, contain small amounts of gas, and are rapidly being converted into a pulpified state.

Mixed infections, whether streptococcus or staphylococcus, in which infection remains at the site of inoculation, are usually mild.

TREATMENT

Treatment is always operative unless there is a generalized infection.

In the presence of general infection, the free opening of the wound, with hydrogen peroxid as a dressing should be tried. If a leg or thigh is involved, spinal anesthesia may be used.

There are, however, two recognized methods of treatment—amputation and multiple incisions. Amputation

1. Blake, J. B., and Lahey, F. H.: Infections Due to the Bacillus Aerogenes Capsulatus, THE JOURNAL A. M. A., May 21, 1910, p. 1671.

is the operation of choice in all malignant cases, as it offers good chance for recovery. What one of us would care to treat such cases with multiple incisions and hydrogen peroxid in view of the fact that oxygen does not always kill the organisms (Lahey) and in these cases the organisms are far from the original site of the wound and hydrogen peroxid cannot reach them. Of course, in a simple case, multiple incision and hydrogen peroxid might be tried, and even oxygen carried into the wound with catheter. Under careful observation if amputation is performed when advance takes place, recovery may be expected.

Of course, an occasional limb may be sacrificed with amputation, but what when we try multiple incisions and find later a dead patient?

In my series of cases, three patients recovered (all in cases of malignant type and developing within forty-eight hours) after amputation, one leg and two arms being sacrificed. In cases recovering under multiple incision and hydrogen peroxid treatment, might not there be some other gas-producing organism?

In this series of cases, Patient 3 was of necessity treated with multiple incisions, as the infection involved the trunk. The patient promptly died, as infection was general.

PROPHYLAXIS

Ordinary antiseptics, tincture of iodin, bichlorid, etc., have little or no effect on the organism, as I have seen cases develop after vigorous treatment with these antiseptics.

CASE REPORTS

CASE 1.—H. H., a carpenter, aged 56 (No. 5776), was admitted Nov. 16, 1906. This patient was accidentally shot November 18 in a tent while on a hunting trip. He was treated by Drs. Taylor and Pickel of Festus, Mo., who forwarded him to St. Louis for treatment. The patient's condition when seen by them was as follows:

"The soft tissues were nearly all shot away just above the ankle. Both bones were badly shattered. The foot was connected with the leg only by a narrow strip of skin and some fragments of muscle. It was not dressed in any way except in the blanket that the patient was lying on. There was no dirt in the wound, more than would naturally get into it from the bedding, which was not very clean. There had been no attempt made to control hemorrhage; consequently he had lost about all that he was able to stand. He was in a state of considerable shock, so that only a trimming of the remaining shreds of tissue was performed, and bleeding points ligated. No attempt made to disinfect the wound, other than to apply a 2.5 per cent. solution of phenol (carbolic acid) and get him to the hospital as soon as possible.

The doctors at Festus were of the opinion that the infection came from the blanket in which his leg was wrapped.

When he arrived at the St. Louis City Hospital, it was found that he had a ragged amputation of the left leg four inches above ankle-joint, with much laceration of soft tissue and comminution of bones. The patient arrived at the hospital at 8:30 in the evening, having been injured about eleven in the morning of the same day. Hemorrhage had ceased when he arrived at the hospital. The leg was shaved and cleansed, put in a large saline pack without much effort to trim away the ragged tissues. Patient complained of weakness and thirst; pulse was almost imperceptible; temperature subnormal. Salt solution, by hypodermoclysis was given; external heat; patient placed in bed; antitetanic serum given; condition bad; pulse 120, respirations 24, temperature 97.2 F. Urinalysis revealed the presence of albumin and a great many hyaline and finely and coarsely granular casts.

Within twenty-four hours after the accident, amputation was performed in the middle third of the leg, the circular flap method being used. After being in the ward sixteen hours, a peculiar, stinking, sweetish odor was noticed about the patient, and on dressing the wound it was found to be discolored. Blood-culture was positive.

On the night of November 18 the patient was beginning to show symptoms of general infection, pulse 150, respiration 50, very shallow and mostly abdominal. The patient complained of pain in the abdomen and over the epigastric region. The abdomen was distended and soft, and over the left lower quadrant was a soft, fluctuating crepitus. The same condition was present over the left thigh, but in a more marked degree. The surgical wound with its dressing was not disturbed.

The patient at 3 o'clock in the afternoon complained of great difficulty in breathing. At 3:25 p. m. the patient was sinking rapidly, the heart failing to respond, although he was delirious and trying to get out of bed. The patient lost consciousness about 4 p. m., showing evidences of air-hunger, gasping for air. The heart-beat was not palpable; small, thready pulse. Patient died at 4:22 p. m., November 19, three days after admission.

This was a very virulent infection, traveling up the leg very rapidly. In a few hours, it had extended up as far as the neck, death following. Post-mortem findings were as follows:

Gangrenous emphysematous stump, universal emphysema of the subcutaneous tissues, emphysema of the heart, lungs, liver, kidneys and spleen, acute enlargement of the spleen, congestion and edema of the lungs, and a foamy condition of organs.

This case is interesting as showing another source of infection: that of a gunshot wound; it also shows that great loss of blood and pulpification of tissue influence an early appearance of the infection on account of the patient having practically no resistance. The case was an early, malignant type with general infection.

CASE 2.—M. N., a laborer, aged 41 (No. 6642), entered Nov. 30, 1907, with a history of having been run over by a locomotive. As a result, both legs from a few inches below the knees to above the shoe-tops were pulpified. The wounds were dirty. An emergency trimming operation was performed. Pulse at this time was 106, respirations 24, temperature 99 F. Antiseptics used in first-aid treatment were bichlorid, tincture of iodin, and turpentine.

On the morning of December 3, patient developed a high temperature, rapid pulse and signs of severe shock. Bichlorid pack was applied at this time. On the morning of December 4, an offensive, characteristic sweetish odor was present. There was some emphysema of the left thigh. The left thigh at 3 p. m. was greatly distended and tympanitic on percussion. At 6 p. m., the left limb was tense with gas, the gas being found subcutaneously between the fascia and muscle and up in the left groin, and it extended in the midaxillary line nearly to the axilla. Numerous incisions were made, and the gas escaped with a noise. At this time, a bichlorid and turpentine dressing was applied, with a diagnosis of emphysematous gangrene. The patient died at 8:55 p. m., five days after admission, of a general *B. a. c.* infection (clinical).

The patient had become very delirious on the evening of December 3, and delirium persisted until death.

This case is interesting, as it shows the effect of a general infection and the rapidity with which the process advances when it has once started.

CASE 3.—R. S. (permit No. 6701), schoolboy, aged 12, entered Dec. 2, 1907, at 4:40 p. m. The patient gave a history of falling off of a wagon three days previous to entrance, suffering a fracture of the tibia in the upper third, and a long, lacerated wound on the posterior surface of the calf of the left leg. The leg presented a sharply defined, bluish color extending from the ankle to the knee anteriorly and about 2 to 3 inches above the knee on the inner surface. The entire area was studded with blebs, from which a foul-smelling, greenish discharge was escaping. The wound had been closed on the outside by a physician. In the right groin was an area of discoloration 2 by 8 inches, and over the right great trochanter was an abrasion dressed with gauze covered over with collodion. Palpation of the left thigh and groin elicited distinct

crepitation—emphysema. The patient died December 3, at 4:12 in the morning, four days after the injury. Delirium in this case appeared on the third day and lasted until the end.

This case shows the effect of sealing dirty wounds and of not observing such a case closely. The clinical diagnosis was made, but there was no report of a blood-culture.

CASE 4.—J. H., a packer, aged 51 (permit No. 5321), was admitted to the hospital Oct. 22, 1908, at 11:05 a. m. He entered the division suffering from an old, compound fracture of the radius and ulna, nervous and very delirious. The diagnosis at this time was delirium tremens and compound fracture of the radius and ulna.

The arm was dark-brown in color, emphysematous throughout, and a foul-smelling discharge was escaping, but no pus. The characteristic sweetish odor was present.

Later, *B. a. c.* infection was added to the diagnosis; blood-culture positive.

The patient died Oct. 22, 1908, at 12:50 p. m. Emergency treatment was given, but could not be extensive in view of the fact that he was suffering from generalized infection.

The comment which I would make on this case is that it brings out the point that the delirium and nervousness may be so great as to cause confusion as to whether or not the patient has delirium tremens.

CASE 5.—D. C., a carriage-worker, aged 56 (permit No. 2657), admitted July 3, 1909; entered the St. Louis City Hospital with a history of severe traumatism, and as a result had a laceration of the head and right shoulder; the right hand was also badly crushed, showing evidence of pulpification, the dirt of the street being ground into the extremity. Blood-culture was positive. The patient died July 7, 1909, at 1:20 p. m., with delirium, nausea, vomiting, nervousness and all the signs of a general infection.

Consent to amputation was not obtained until the second day. Amputation was performed at the lower third of the right forearm with circular incision; skin approximated with three sutures. Drainage. A reduction of the shoulder was performed at this time. The next day ecchymosis was present about the wound, stitches were removed and thorough drainage instituted. On the fourth day, the forearm was badly swollen, discolored, crepitation of the tissues, bacteriologic examination showing presence of the gas bacillus. Incisions were made in the gangrenous area and the arm placed in a saline bath, the patient thoroughly septic.

This was a case, evidently, in which the ecchymosis deceived the physician who was treating the case and in which a high amputation would probably have saved the life.

CASE 6.—J. C. (permit No. 3395), a trackman, aged 45, entered the hospital July 28, 1909, at 11 a. m., suffering from severe crushing injuries of both feet, produced by falling under a moving freight train. He also had a fracture at the middle of the left leg.

Twenty-four hours after entrance, the limb was amputated about seven inches below the knee-joint by the long posterior and short anterior flap method, with careful ligation of vessels and resection of nerves. The skin-flaps were approximated with interrupted silkworm-gut sutures, with provisions for free drainage. The patient was in bad condition at the time of operation, hypodermoclysis being necessary. Moist dressing was applied.

Within thirty-six hours after admission, the symptoms of sepsis (namely, delirium, nausea, and vomiting) appeared. The patient climbed out of bed, and it was necessary to restrain him. The following morning, signs of gas bacillus infection were very evident, the parts being dark, discolored, distended with gas, bubbles escaping, along with a black, bloody discharge. Blood-culture was positive. The antiseptics used in this case were mercury bichlorid, 1-2,000. The patient died July 30, 1909, at 9:40 p. m., nearly sixty hours after entrance.

CASE 7.—F. T. (permit No. 5626), a laborer, aged 20, entered the hospital, Oct. 4, 1909. He gave a history of being hurt in a street-car accident. He had a crushing injury of the left thigh, was in extreme shock, and his condition did not permit of immediate amputation.

Two days after admission, his general condition had improved somewhat, although sepsis was extreme. The leg was very dark, beginning to become gangrenous. It was distended and full of gas. The patient was unable to stand a general anesthetic and, accordingly, with a long, sharp, amputation knife, the calf muscles were severed at the point of fracture, about four inches below the knee-joint, vessels ligated and moist dressing applied. The patient died Oct. 8, 1909, four days after admission.

Like those in the previous cases, this patient died with all the evidences of a general infection, his case being one of those in which the patient could not have stood a high amputation.

CASE 8.—J. P. (permit No. 1868), aged 26, a driver, entered the hospital June 9, 1910, giving a history of being hurt in a runaway. The history of the accident as obtained later from the patient was that the street was an improved one and was very muddy. Examination revealed three lacerated wounds on the middle third of the right leg, with a compound, comminuted fracture of both bones of the left leg in the lower third, with numerous abrasions and contusions of the left foot. There were a few abrasions on the right leg.

Treatment at this time was directed to cleansing and shaving the limb, followed by an alcohol pack and iodin. The leg was placed on a Cabot splint and 1,500 units of tetanus antitoxin administered.

Some twenty-four hours after patient's admission, the temperature rose, pulse became very rapid and the patient complained of some pain. Examination at this time revealed a dark, spreading inflammation, not sharply circumscribed, and without elevated borders. There was bleb formation, and the leg presented signs of beginning gangrene. It was of a dusky color, or brownish hue, and in view of the fact that the patient's leg had been thoroughly rubbed in the dirty street, with the clinical signs as above, we believed that we were dealing with a gas bacillus infection. Cultures were taken, sent to the laboratory, and the following day were reported positive.

Without waiting for report from the laboratory, it was decided that, in order to give the patient a chance for his life, it would be necessary to do a high amputation at the junction of the lower and middle thirds of the thigh. Under a general ether anesthesia, the operation was performed by the circular cuff method. The wound was closed in layers overlapping the bone and two rubber tubes inserted for drainage. The patient left the table suffering from considerable shock. The wound was irrigated daily with hydrogen peroxid, and a hydrogen peroxid dressing applied. The process reached to the junction of the upper with the middle third of the leg, therefore it was necessary to go above the knee-joint.

The patient was discharged June 22, 1910, having made an uneventful recovery.

CASE 9.—W. B. (permit No. 5877), aged 60, a pipecutter, entered the hospital Oct. 20, 1910, giving a history of having been injured by an elevator. Examination showed the right hand almost entirely torn from the arm at the carpal joint. The skin was torn loose around the entire wrist. All the muscles, tendons and nerves were severed, along with most of the vessels on the anterior surface, only those tendons on the posterior surface being intact. The hand was cold and sensation was abolished. The wound was cleansed and skin flaps loosely approximated in the hope that there might be an establishment of circulation. Pulpification of the hand was great.

When first seen by me two days after admission to the hospital, when the hand was dressed, it was found that the tissues presented an appearance very much like that of a gas bacillus infection. The hand was becoming dark in color; there was a foul-smelling, sweetish odor, with a dark, bloody discharge, and a few gas bubbles. Two hours after this, amputation was performed, the hand beginning to crepitate. The anteroposterior flap method was carried out at the junction of the lower with the middle third of the arm. On the following morning, after the operation, the patient's temperature was normal and he

was doing well. Healing occurred by first intention, patient being discharged November 21, after having remained in the hospital for three weeks preparatory to finding a home.

CASE 10.—G. Y. (permit No. 7853), a laborer, aged 25, entered Dec. 31, 1910. The patient was suffering from a compound fracture of the forearm with laceration and crushing of forearm. There was considerable pulpification.

Temporary treatment was given, but in twenty-one hours gas with a gangrenous process appeared. The forearm was very dark in color and gave off a foul, sweetish odor. There were gas bubbles in the tissues, as shown by crepitation and also by the escape of bubbles. The patient had a high temperature, rapid pulse, was septic and complained of considerable pain.

The patient was informed of his condition on three occasions, it being necessary after thirty-six hours to bring the influence of his relatives to bear on him to obtain consent to operation. It was explained to him, at the time of operation, that the question of saving him was very doubtful on account of the delay.

Under general anesthesia, an anteroposterior flap at the junction of the upper and middle third was made in the usual way. Closure was with interrupted silkworm-gut sutures after irrigating the wound thoroughly with hydrogen peroxid. A rubber tube was inserted in each corner of the flap, and thereafter was daily irrigated with hydrogen peroxid and hydrogen peroxid dressing was applied.

Within twenty-four hours, the patient's temperature had dropped to normal, followed in thirty-eight hours by a rise due to an infection of the wound with a probable staphylococcus infection. All sutures were removed, and hydrogen peroxid and tincture of iodin were freely used. The wound, two weeks after amputation, was clean but required a repair amputation.

In this case, a gas-producing organism was found which in culture media produced gas, but an attempt to segregate it met with failure, although the clinical evidence was unmistakably that of a gas bacillus infection with some contamination with the staphylococcus.

CONCLUSIONS

Early interference, before seventy-two hours, preferably amputation in malignant cases involving extremities, in most cases will mean the saving of life.

Laborers and railroad men are prone to infection, as their wounds are often contaminated with soil.

Infection occurs most frequently from contamination with street dirt, followed by railroad dirt, then elevator dirt, and then intestinal tract discharges. The frequency of street soil infections, I believe, can be explained on ground of contamination with manure. There are two recorded cases in which infection occurred in ischiorectal abscesses, the rarity, it is thought, being due to the fact that these wounds usually are wide open and lined with a layer of granulation tissue, the granulation tissue preventing the free dissection of the gas and the oxygen probably preventing the *B. a. c.* infection.

All wounds contaminated with street or railway dirt should be observed for this infection and treated, if possible, in such a manner as to permit of easy inspection. Hence plaster casts and sealing of wounds should be avoided. Cultures should be made if there is a suspicion of *B. a. c.* infection, and the wound freely opened and treated with hydrogen peroxid or oxygen preparatory to amputation, if necessary. In Case 10, the amputation stump was irrigated through drainage tubes with hydrogen peroxid twice daily for the first two days, although at the time of operation the wound was flooded repeatedly with hydrogen peroxid.

Fall in temperature to normal would seem to indicate the eradication of *B. a. c.* infection, as in Cases 9 and 10.

The disease is only relatively common, as it has occurred at the city hospital on an average of once in about 1,250 surgical cases, and practically always in cases in which there was pulpification of tissues. Since *B. a. c.* infections do not develop in very many or most cases of soil and street contaminated wounds (though often found here), it would seem that pulpification of tissue and injured blood-supply favor *B. a. c.* infection, owing to weak or absent resistance. There is further evidence to this effect, as shown in reported cases with presence of gas bacillus on and in amputation stumps.

Brewer has found that diabetics are prone to infection, and experimentally the *B. a. c.* develop more easily and rapidly in the presence of sugar.

Early diagnosis by definite, clean-cut, clinical pictures, and prompt, radical treatment will materially reduce the death-rate.

Blood-cultures should be made in every case, but treatment should not wait.

I believe that the condition is often unrecognized, and trust that this report will stimulate an interest that will result in more frequent diagnoses of the infection.

AN IMPROVED APPARATUS FOR ESTIMATING THE PRESSURE IN THE CEREBROSPINAL SYSTEM

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Since the introduction by Quincke[1] of an apparatus for estimating the cerebrospinal pressure, there have been numerous criticisms of the mechanics of the instrument and several attempts have been made, either to modify his apparatus, or to introduce a new principle. As devised by Quincke, the apparatus consists of the ordinary puncture needle and trocar, to which is attached a long piece of rubber tubing leading to an S-shaped piece of bent glass. According to the height to which the latter has to be raised the pressure is estimated, the reading being taken from the level of the hilt of the needle to the level of the fluid in the glass tube; this is measured by an independent centimeter scale.

The imperfections in the use of this instrument are the following:

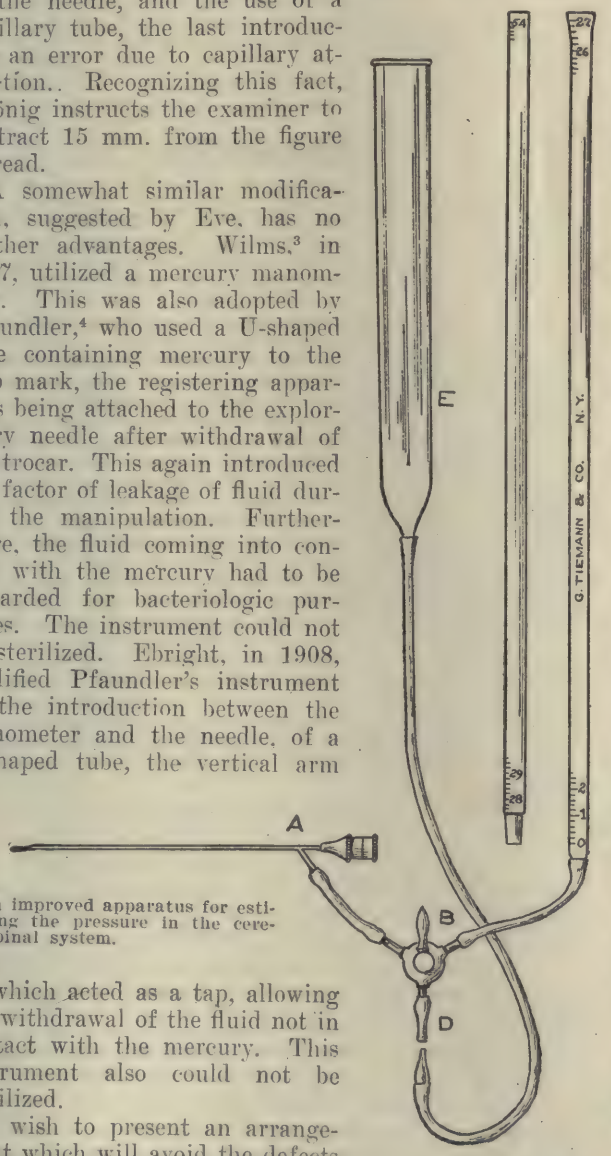
First, between the time when the trocar is withdrawn from the needle and the moment when the rubber tubing is attached to the hilt of the latter there must necessarily be an escape of fluid, even providing that the worker is rapid in his actions and the connections are all firm and watertight. This loss of fluid, which is inevitable, and which may vary from 1 to 5 c.c. when the pressure is high, affects the accuracy of the reading. Secondly, the length of the rubber tubing and its usual large caliber, causes it to act in part as a reservoir, a long loop of this tubing frequently hanging far below the level of the needle. The latter, therefore, often withdraws from the estimation as much as 5 c.c. of fluid. When the pressure is low this interferes materially with the attempt to read intraspinal pressure.

The advantage of the instrument is that it permits a reading to be made before and after withdrawing the fluid, and allows examination of the fluid without dilution with another second inert fluid such as might be used in a manometer.

1. Quincke: Technik der Lumbal Punction, 1902; Deutsch. Klin., 1906, vi, 351.

In 1897, Krönig[2] introduced a modification of the apparatus by inserting into the needle after withdrawing the mandrin, a short L-shaped glass tubing the upper arm of which acted as a scale on which to read the height to which the intraspinal pressure forced the fluid; the horizontal arm was employed to withdraw a specimen for examination or for therapeutic purposes. In addition, he incorporated in the needle a stop-cock, by means of which he could prevent the leakage of fluid while he was attaching his manometer. The disadvantages of this instrument are its rigidity, the complexity of the needle, and the use of a capillary tube, the last introducing an error due to capillary attraction.. Recognizing this fact, Krönig instructs the examiner to subtract 15 mm. from the figure as read.

A somewhat similar modification, suggested by Eve, has no further advantages. Wilms,[3] in 1897, utilized a mercury manometer. This was also adopted by Pfaundler,[4] who used a U-shaped tube containing mercury to the zero mark, the registering apparatus being attached to the exploratory needle after withdrawal of the trocar. This again introduced the factor of leakage of fluid during the manipulation. Furthermore, the fluid coming into contact with the mercury had to be discarded for bacteriologic purposes. The instrument could not be sterilized. Ebright, in 1908, modified Pfaundler's instrument by the introduction between the manometer and the needle, of a T-shaped tube, the vertical arm of which acted as a tap, allowing the withdrawal of the fluid not in contact with the mercury. This instrument also could not be sterilized.



An improved apparatus for estimating the pressure in the cerebrospinal system.

I wish to present an arrangement which will avoid the defects of the Quincke tubing and its several modifications, prevent any leakage of fluid during manipulation, permit a minimum amount of the fluid withdrawn to register the pressure, and facilitate the withdrawal of all the fluid uncontaminated and in an unaltered condition. The principle which Quincke introduced, i. e., that the pressure should be estimated by the height to which the fluid is raised in a vertical tube, is utilized.

The apparatus consists of the following parts: (a) a needle, the hilt of which bears a terminal cap firmly screwed on; at about 2 cm. distant from the posterior end is a small branching arm, the lumen of which is the same as the lumen of the needle proper; (b) a three-way stop-cock made of metal; (c) a graduated piece of heavy glass tubing 30 cm. long with a lumen of 2 mm.; a second tubing of the same length and capacity is used, which has a tapering ground-glass lower end by which it may be fitted into the upper end of the first tube when the pressure is unusually high. The three-way stop-cock is interposed between the graduated glass tubing and the branch arm of the needle, connection being made on each side by a piece of rubber tubing 2 cm. long. The third arm of the stop-cock is used for the withdrawal of the specimen. A blunt trocar accompanies the instrument; if the needle is inserted in the canal without a flow of fluid resulting there is suspicion that the lumen may be blocked by tissue, the cap of the needle may be unscrewed and the trocar inserted to reestablish the patency of the needle. The trocar should only be used for this contingency.

The technic required for the manipulation is as follows:

First, the entire instrument is sterilized by boiling in water.

Second, the needle is attached to the three-way stop-cock, the latter being closed so as to prevent premature escape of fluid and the registering glass tube being disconnected temporarily.

Third, the operator holding the stop-cock in the palm of his hands, grasps needle and performs puncture according to his own way or preference for this maneuver.

Fourth, the point of the needle being felt to lie freely in the spinal canal, the registering glass is now attached to the second arm of the stop-cock by means of its connecting rubber tube; the handle of the stop-cock is turned to the first position, allowing the free escape of the spinal fluid into the registering apparatus.

Fifth, the pressure having been read, the handle of the stop-cock is turned to its second position, allowing the escape of the fluid from the registering tube into the collecting vessel; then turned into its third position allowing the further direct escape of spinal fluid into the collecting vessel. After the proper amount of fluid has been obtained the handle of the stop-cock is turned into its first position and the pressure again estimated. After the final pressure has been read, the needle is withdrawn from the spinal canal. The retained fluid is washed out with running water and the apparatus is resterilized.

A glass funnel and small-bore connecting rubber tubing about 20 inches long is furnished for injection of therapeutic serum or solutions when so desired. The tubing is attached to the third arm of the stop-cock (that used for withdrawing fluid) and the funnel lowered until cerebrospinal fluid replaces the air in the tubing. The injection fluid is then poured into the funnel, the latter raised, and the fluid allowed to enter the canal.

The instrument presents the following advantages:

First, there is no opportunity for accidental escape of fluid.

Second, the apparatus is compact and small, the entire capacity of the registering apparatus being only 60 minims.

Third, the instrument can be thoroughly sterilized.

Fourth, no foreign substance is used to indicate pressure. The registering part is made of heavy glass not easily broken; the stop-cock is of metal, simple and

2. Krönig: Deutsch. med. Wchnschr., 1897.
3. Wilms: München. med. Wchnschr., 1897, p. 55.
4. Pfaundler: Beitr. z. klin. Med. und Chir., xi, 20.

durable; the short rubber connecting parts can be easily replaced when the elasticity is exhausted.

For comparison of the readings with that of a mercury manometer it is necessary only to recall that dividing the result in millimeters by the factor 13.6 will give the equivalent pressure as estimated by a column of mercury.

The reading with this instrument should be comparable to those obtained with the Quincke apparatus. The same principle of physics applying to each.

In a very short series of about twenty-five cases the following readings were taken: Normal seemed to lie between 2 and 6 cm.; incipient tabes dorsalis 10 cm.; multiple sclerosis 17 cm.; suppurative meningitis, from 10 to 30 cm.; tuberculous meningitis, from 30 to 60 cm.

The same regulations that appertain to all lumbar punctures must be observed; it must be remembered that the position of the patient, whether sitting or prone, struggling or crying, is very important in their effects on the cerebrospinal pressure. But as these variations refer in general to all methods of lumbar puncture, it is not necessary to discuss them here.

75 East Eighty-First Street.

ANEURYSM OF THE EXTERNAL PLANTAR ARTERY *

CHENEY M. STIMSON, M.D.
AND
J. TORRENCE RUGH, M.D.
PHILADELPHIA

This case is reported because it is somewhat of a surgical curiosity. In looking up the literature, aneurysm of the external plantar artery is found to have been reported five times.

Masson[1] in 1868, Cutliffe[2] in 1872, Gross[3] in 1874, Johnson[4] in 1874, and Gangitano[5] in 1904 report each a case. There have also been reported a few cases of aneurysm of the dorsalis pedis and of the internal plantar artery. Although the plantar surface of the foot is subjected, perhaps, to more pressure than is any other part of the body, the arteries, by reason of the dense fascia and the arch of the foot, are no more exposed to traumatism than are other arteries of the extremities.

Patient.—C. L. A., a man aged 34, married, was first seen Aug. 6, 1910. He complained of continuous dull pains, worse on walking, in the sole of the right foot. The pain was so severe that he walked with great difficulty with the foot in the equinus position. The trouble had commenced six months before as a slight, aching pain, intermittent, later becoming continuous and increasing. At the time the patient consulted us he was unable to perform his duties, which were those of a traveling salesman. The patient's father died of chronic nephritis at 67; mother, two brothers and two sisters are living and well. His wife and two children are living and apparently healthy. His wife has had two miscarriages. There is no history of cardiac or malignant disease or of tuberculosis. The patient had measles, chicken-pox and typhoid fever in childhood, pneumonia at 18. Concussion of the brain at 31 disabled him for six months. He denied venereal infection.

Physical Examination.—The patient was a well-nourished man apparently aged 35 and weighing about 140 pounds. Aside from moderate arteriosclerosis and a somewhat accentuated aortic second sound, his physical condition except for the present trouble, was good. The arch of the right foot was almost gone, the foot being flat, and on the plantar surface directly beneath the instep, nearer the external side was a round, pulsating tumor 5 cm. in diameter and protruding 2 cm. beyond the surrounding surface. The pulsations were synchronous with the radial pulse and there was a well-marked bruit.

Operation.—Operation was performed at the Methodist Hospital, Aug. 8, 1910. The sac was exposed and found to be spherical in shape and 3 cm. in diameter. The artery on each side of the sac was ligated and the sac removed. The patient made a good recovery and was able to return to his work in four weeks.

1801 Cayuga Street—1616 Spruce Street.

* Read before the Jefferson Clinical Society, Jan. 27, 1911.

1. Masson: Mém. Soc. d. Sc. méd. de Lyons, 1868, vii, 26.
2. Cutliffe: Indian Med. Journal, Calcutta, 1872, vii, 248.
3. Gross, S. D.: Philadelphia Med. Times, 1874, iv, 391.
4. Johnson: Boston Med. and Surg. Jour., 1874, xc, 115.
5. Gangitano: Riforma medica, 1904, xx, 421.

Therapeutics

CARDIAC TONICS OF MINOR IMPORTANCE

ADONIDIN, CONVALLARIA, CACTUS GRANDIFLORUS, SPARTEIN, APOCYNUM CANNABINUM, BARIUM CHLORID

None of the above-named drugs can compare in efficiency or activity with digitalis and strophanthus. While most of them have been shown to have the ability to stimulate the heart to greater contractions, it has not been shown experimentally or clinically that they have any advantages over digitalis in small doses, and as compared with large doses of digitalis they are much inferior. If digitalis or strophanthus does not agree with a patient, and produces undesirable symptoms, the dose is probably too large or too frequent, and the substitution of a weaker drug is not the substitution of a better drug, but is a demonstration of the misuse of the digitalis or strophanthus. There is no good reason why any of these drugs should be official in the next Pharmacopeia.

A description of these drugs and their activities, and the conditions for which they have been used are as follows:

ADONIDINUM. ADONIDIN

Description.—Adonidinum, genitive adonidini, is an active glucosid obtained from *Adonis vernalis* or *Adonis autumnalis* (false hellebore), a plant native of Northern Europe and Asia. This glucosid was isolated, in 1882, by Cervello, of Strasburg, and is an amorphous, inodorous and very bitter substance, soluble in alcohol, very slightly soluble in water.

Local Action.—This drug has no special local action.

Systemic Action.—The action of adonidin has not been very carefully worked out except on the circulatory system. In very large doses it seems to be somewhat irritant to the gastro-intestinal mucous membranes, producing vomiting and diarrhea. Its action on the heart muscle and on the cardiac nerves is similar, though less powerful, to that of digitalis. After a first slight increase of cardiac action it slows the beat, prolongs the diastolic rest, and raises the blood-pressure by causing contraction of the arterioles. Poisonous doses, after the primary slowing of the heart, cause it to beat very rapidly, probably because of paralysis of the vagi. Later the blood-pressure falls and the heart action becomes very slow. The drug acts somewhat as a diuretic, probably on account of the increased blood-pressure.

Action of a Therapeutic Dose or the Primary Physiologic Action.—It slows and strengthens the heart, raises the blood-pressure, and slightly increases the output of

urine; in other words, it has a similar action to that of a physiologic dose of digitalis. The toxic symptoms are practically the same as in digitalis poisoning, and the treatment is the same as for poisoning by that drug.

Therapy.—Adonidin may be used as a substitute for digitalis whenever a cardiac tonic is indicated, but it is not so effectual in its action and cannot restore compensation as does digitalis. Adonidin has been used with bromids in epilepsy. There seems no more reason for its use in epilepsy than for the use of strophanthus. Any cardiac drug may be of marked value when the system is debilitated by bromids.

The contra-indications are the same as those for digitalis.

Administration.—Adonidinum is an expensive, non-official drug. The dose is from 0.01 to 0.02 gram (from $^1/_6$ to $^1/_3$ grain), best given in capsules as the solution is intensely bitter, administered every four or five hours. This drug acts much more quickly than digitalis, and hence could be used as a cardiac tonic in emergencies, but strophanthin is better. This drug probably has no cumulative action.

CONVALLARIA, U. S. P.: LILY OF THE VALLEY

Description.—Convallaria, genitive *convallariæ* (*Convallaria majalis*) is a native plant of the United States, Europe and Asia, and is also cultivated for its sweet-smelling flowers. The parts official are the rhizome and the roots which should be collected in mid-summer and dried in the sun. It contains a bitter glucosid, convallamarin, in acrid purgative glucosid, convallarin, and a resin. These active principles were discovered by G. F. Walz and described in 1859. Convallamarin is the principle which acts on the heart, the convallarin acting only as a slight purgative.

Local Action.—This drug has no noticeable local action.

Systemic Action.—The principal action of convallaria, through its constituent convallamarin, is on the circulatory system, and the action on the heart is similar to that of digitalis, though this action is not so sure and not so decided. It raises the blood-pressure somewhat and often acts as a decided diuretic. Whether this diuretic action is due to the improved circulation or to stimulation of the kidneys has not been decided. In non-poisonous doses there is a slight laxative effect but no marked purgative action.

Action of a Therapeutic Dose or the Primary Physiologic Action.—This drug is of doubtful action on account of the varying strength of its official preparation, but the action of a therapeutic dose should be slightly to slow the heart and strengthen its muscular action, to raise the blood-pressure slightly, to act as a mild laxative but not to disturb the stomach or digestion, and to cause a marked increase in the amount of urine.

Toxic Symptoms.—These symptoms would be similar to the symptoms produced by poisonous doses of digitalis, and the treatment would be the same as in poisoning by the latter drug.

Therapy.—The therapeutic use of this drug first began, unprofessionally, in Russia, as a remedy in dropsy, and later investigations gave it a professional standing as an active drug in cardiac debility and as of special value in cardiac edema. Therapeutically, then, it may be tried as a substitute for digitalis or strophanthus when there is valvular disease, a dilated or irregular heart and a tendency to cardiac edema. Though some therapists find the drug of great value in these cases its action is often disappointing, probably from the varying strength of its preparations.

Contra-Indications.—The contra-indications are the same as those of digitalis, and much gastric or bowel irritation should preclude its use.

Official Preparation.—The only official preparation is: Extractum Convallariæ Fluidum, the beginning dose of which is 0.5 c.c. (8 minims).

Unofficial Preparations.—Convallamarin occurs as an amorphous powder, yellowish in color and of bitter taste, soluble in water and alcohol. The dose is 0.05 gram (¾ of a grain) four or five times in twenty-four hours. Hypodermatically the dose would be about 0.02 gram (⅓ of a grain). The drug in emergencies, however, is greatly inferior to strophanthin. Convallarin occurs as a yellowish, amorphous powder, of acrid taste, insoluble in water, soluble in alcohol. It has no action on the heart, but may act as a laxative. The dose is about 0.2 gram (3 grains).

Administration.—The dose of convallaria should be pushed to some slowing of the heart and noticeable increase in the urine unless purgation should occur. There seems to be no cumulative action from this drug.

This drug could well be deleted from the Pharmacopeia.

CACTUS: NIGHT-BLOOMING CEREUS

Description.—Cactus, genitive *cacti* (*Cactus grandiflorus*) is a native plant of tropical America, and is cultivated for its beautiful flowers. It is not official, and no active principle of the plant has been obtained. A fluidextract and a tincture have been used medicinally. These preparations have been made from the fresh stalks, which contain an acrid juice.

Local Action.—The expressed juice of this plant is irritant and can produce vesicles and pustules on the skin, and when taken in concentrated form it causes pain, vomiting, and diarrhea.

Systemic Action.—Rubini, in 1868, was perhaps the first to state that a tincture of this plant was of advantage in cardiac debility. This has been reiterated clinically at stated intervals ever since. It has been clinically stated that the drug would increase the strength of the cardiac contractions and regulate the rhythm. It has also been stated that it would raise the blood-pressure. It has been stated experimentally that it acts on the intracardiac ganglia, and also that it is a stimulant to the vasomotor center. On the other hand, repeated recent careful experimentations with the best preparations obtainable, and that could be made from the crude drug, and experiments with so-called active principles have shown absolutely no physiologic activity whatever, and no action on the heart or blood-vessels. Favorable reports of circulatory activity of this drug found experimentally have probably been based on preparations of other allied plants, or contaminations. The drug and its preparations are therefore pharmacologically inert, and should not receive official recognition.

Toxic Symptoms.—An over-dose of a concentrated preparation of cactus would undoubtedly cause vomiting and other symptoms of gastro-intestinal irritation, and the treatment would be that of a gastro-intestinal irritant.

Therapy.—There is no reason or excuse for expecting any action on the circulation or any other part of the body from preparations of this plant. Any results obtained from the administration of its preparations are due to the associated action of something else administered or done at the same time. If a strong alcoholic

preparation is used, the results obtained may be attributed to the action of the alcohol. The results obtained from the administration of preparations of this plant are purely psychical, or show that the digitalis, which was given to the patient before the cactus was administered, was not indicated.

This is a truth that cannot be too frequently repeated. A weak and useless preparation is substituted for a strong and active one; the patient or his symptoms improve; the results are recorded as activities of the useless, inert preparation, when the improvement is really the removal of the active drug which he did not need.

Also, there is the never absent psychical effect on the patient of a change of drug or the use of something decidedly different or unusual.

It should be accepted as an axiom that a drug that has no action on animals has no action on man.

SPARTEINÆ SULPHAS, U. S. P.: SPARTEIN SULPHATE

Description.—Spartein is an alkaloid obtained from *Scoparius* (broom). It is a colorless, oily, unstable liquid of intensely bitter taste, alkaline reaction, and anilin-like odor. Its neutral sulphate is the only preparation official, and is like all sulphates of the alkaloids, bitter and soluble.

Action on the Circulatory System.—The evidence of investigators and clinicians in regard to the action of spartein is so conflicting that it must be concluded that the actual action and utility of this drug is not established. It seems to be pretty thoroughly proved that spartein is a depressant to the nervous system and in full doses weakens the heart. There is, if any, only a short-lived rise in blood-pressure from spartein and in full doses the blood-pressure is diminished. It is depressant to the heart muscle, and in large doses paralyzes the peripheral endings of the pneumogastric nerves allowing the heart to become more rapid. Small doses, by stimulating the pneumogastric nerve, can prolong the diastole of the heart, and in certain cases may quiet and steady an irregular heart.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The ordinary action from therapeutic doses of this drug should slightly slow the heart, regulate its rhythm, prevent its nervous irritability, slightly diminish the pulse tension, and moderately increase the output of urine.

Toxic Symptoms.—This drug causes symptoms of depression and paralysis similar to that produced by conium, and the treatment of poisoning would be the same as for the latter drug.

Therapy.—This drug is not a substitute for digitalis and does not act as does digitalis. The indications for its use are irregularity and nervous irritability of the heart, especially when conjoined with general nervousness. Spartein has been used in asthma, and it has seemed of advantage in disturbed cardiac action when combined with arteriosclerosis and chronic interstitial nephritis. Nitroglycerin and iodids, however, are safer and act better. It is not a diuretic. It is the scopalin of the broom plant that is diuretic.

Contra-Indications. — These are muscular or fatty degeneration of the heart, low pulse tension, dilatation of the heart; or acute cardiac weakness should prohibit the use of this drug.

Administration. — The only official preparation is sparteinæ sulphas, and the beginning dose is 0.02 or 0.03 gram (⅓ or ½ grain) given every six or eight hours, in solution or in capsule. The action of the drug is rapid, occurring in from 20 to 40 minutes.

There seems no good therapeutic reason for recognizing this drug in the revised Pharmacopeia.

APOCYNUM, U. S. P.: CANADIAN HEMP

Description.—*Apocynum,* genitive *apocyni* (*Apocynum cannabinum*). The part official is the rhizome. This plant should not be confused with *Apocynum androsaemifolium,* as the latter drug has properties different from the official drug. Preparations are probably, however, often made from the wrong apocynum, consequently the results are different. A non-glucosidal, crystalline principle has been isolated named apocynin.

Local Action.—The drug has no external action, but is an irritant to mucous membranes and readily causes vomiting, purging, and severe gastro-intestinal irritation.

Systemic Action.—This drug has long been used in dropsical conditions, especially in cardiac edema. It has also been used in ascites, and in hepatic cirrhosis with consequent disturbance of the circulation and edema of the lower part of the body and lower extremities. Good preparations from true *Apocynum cannabinum* have been shown to raise the blood-pressure and stimulate the cardiac muscle to stronger contraction. The diuresis caused by apocynum is doubtless more or less due to the improved circulation, and the diuresis is similar to that caused by digitalis. The pulse is slowed by stimulation of the vagus nerves, such action being similar to that of digitalis. Whether it has a specific stimulating action on the kidneys, causing increased secretory and excretory activity besides that caused by improved circulation, has not been determined. While its action has been noted clinically to be satisfactory, it is so frequently irritant to the stomach that for this reason its utility is impaired.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action of this drug is uncertain and the dose is uncertain, depending on the activity of the preparation procured. The desired and expected action would be to slow the pulse, to strengthen the heart, to raise the blood-pressure, and to increase the output of urine. Undesirable action is to cause gastric irritation, nausea and vomiting.

Toxic Symptoms.—These would be the same as would be caused by a gastro-intestinal irritant. By administration by the mouth it has not been shown that this drug could seriously injure the heart. Large doses would doubtless too rapidly cause vomiting to allow systemic poisoning.

Therapy.—Apocynum has been repeatedly reported clinically to be of value in general anasarca and in ascites. If there is cardiac defect its action and efficiency certainly cannot be compared to that of digitalis. In cirrhosis of the liver it is an undetermined question whether it would be any more valuable than other diuretics. When the drug has been pushed it has been noted that some congestion of the kidneys has been caused. It would be a question, when such kidney congestion occurs, whether it is not due to other causes than the drug.

Contra-Indications.—The contra-indications are gastro-intestinal irritation, and especially a tendency to nausea and vomiting.

Official Preparation.—The only official preparation is Fluidextractum apocyni; dose 1 c.c. (15 minims). The powdered drug itself may be administered, if desired, in

dose of 1 gram (15 grains). Administration of the crude drug, however, would be senseless, if a reliable fluidextract were available.

Unofficial Preparations.—Apocynin may be obtained both as the crystals and in an amorphous form. The crystals are white. The amorphous form occurs as a white or yellowish-white powder, and contains a resin. Both are soluble in alcohol. A tincture of apocynum may be obtained, the dose of which would be about 1 or 2 c.c. (15 to 30 minims).

Apocynum androsaemifolium (dogbane), sometimes called the wild or mild ipecac, has been used in chronic constipation, but it is irritant. The dose of the fluidextract is about 1 c.c. (15 minims).

Administration.—The best preparation is undoubtedly the fluidextract, but the activity of this drug and preparations, as above stated, is uncertain. The only excuse for its use is as a diuretic in dropsy. The drug has been used as an emetic, but such use is inexcusable. Other emetics are better and more certain.

It would be well to omit this drug from the Pharmacopeia unless it can be assured that the *Apocynum cannabinum* is the only apocynum used and that there can be some standard of activity. It may become a useful drug, but it cannot be depended on at present, and doubtful drugs should not be certified to in the revised Pharmacopeia.

BARII CHLORIDUM: BARIUM CHLORID

Description. — Barium chlorid occurs in colorless, translucent crystals which are very soluble in water and have a salty, bitter, and decidedly astringent taste.

Local Action.—The soluble salts of barium do not irritate the skin, but are decidedly irritant to mucous membranes and therefore will cause vomiting and purging in concentrated solutions.

Systemic Action.—Barium is one of the most poisonous of the alkaline earths. The salts are absorbed rather slowly from the stomach and intestine and after prolonged administration may be deposited and stored up in the bones. After absorption the chlorid of barium has a decided action on the circulatory system. It stimulates the cardiac muscle to more energetic contraction which becomes with poisonous doses a tetanic contraction, the heart stopping in systole. The blood-pressure is raised rapidly not only from the increased cardiac action, but principally from the contraction of the muscular coats of the arterioles. This action is largely local as dilatation of these vessels does not occur after the spinal cord is cut. The heart is slowed in its action, but whether this slowing is entirely due to the increased resistance offered by the contracted blood-vessels, or due also to stimulation of the pneumogastric nerves has not been decided.

In mammals, absorption of poisonous doses of the barium salts will cause tonic and clonic spasms, showing that this metal is decidedly irritant to the spinal cord and medulla oblongata. In fatal poisoning there is paralysis of the central nervous system. The pupils are sometimes dilated by the action of large doses. Barium increases the contractile power of the muscles enormously, resembling the action in this respect of veratrin. There seems to be no special action on the glands of the body, except that it can produce salivation, like some other metals, and the bronchial secretion may be increased.

Barium chlorid is excreted both in the urine and into the intestines.

Action of a Therapeutic Dose or the Primary Physiologic Action.—An active dose of barium chlorid produces a slight slowing of the heart, an increase in the strength of the cardiac contractions, and a decided increase in the arterial tension. Other symptoms or signs of physiologic action would seem to tend toward the action of too large a dose.

Toxic Symptoms.—Unless the solution is very dilute there will be the symptoms of gastro-intestinal irritation and erosion, which means thirst, vomiting, purging, pain, cardiac stimulation, soon followed by more or less symptoms of shock, with convulsions and dilated pupils, the latter probably due to stimulation of the sympathetic nerve. Before death the bladder also becomes very irritable. The final demise might be by coma or by sudden stoppage of the heart in systole. As little as 0.15 gram (2½ grains) can cause death.

Treatment of Poisoning.—The chemical antidote is any soluble sulphate, as magnesium or sodium sulphate, in large dose, this forming barium sulphate which is practically insoluble. The other treatment would be that for any other gastro-intestinal irritant, and some drug to quiet nervous irritation, as bromids and chloral. Nitroglycerin or aconite might be good treatment to overcome contraction of the blood-vessels and the irritations of the cardiac muscle.

Therapy.—Clinicians differ largely in their opinion of the value of barium chlorid in cardiac debility, but a sufficient number of satisfactory cases have been reported to indicate that barium chlorid may be of value when there is weakness of the ventricles from valvular disease, and in acute dilatation. It has been used to aid the circulation and better the local condition in varicose veins. Its power to stimulate the smooth muscle fiber has caused it to be used in paresis of the intestines and in paralyzed conditions of the bladder. Barium chlorid sometimes slows the heart and improves the circulation in Graves' thyroid disease.

Contra-Indications.—In conditions of high blood-pressure, or atheroma, or nervous irritability, or where there was acute inflammation of the brain or spinal cord this drug would be contra-indicated.

Administration.—Barii chloridum is not official. The dose is about 0.02 gram (⅓ of a grain), best given in tablets or in capsules, after meals.

There is no sufficient reason for recognizing this salt in the revised Pharmacopeia.

REMARKS

It can almost be guaranteed that there will be no increase in the number of deaths from arterial, cardiac, renal, and hepatic disease if the above drugs (adonidin, convallaria, cactus grandiflorus, spartein, apocynum cannabinum, and barium chlorid) are not recognized in the revised Pharmacopeia.

1. They are all inferior to digitalis and strophanthus which they are said to, and in some instances do, mimic pharmacologically and therapeutically.

2. They are much more uncertain in their action than digitalis and strophanthus.

3. Of all drugs to be officialized, inferior cardiac drugs should be the last. It is a dangerous thing to give standard and standing to a heart tonic that is unworthy, or to give the prescriber a sense of false security as to the therapeutic usefulness of a drug by the backing of fifty picked men, and such backing is the physician's interpretation of the Pharmacopeia.

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[For other information see second page following reading matter]

SATURDAY, APRIL 1, 1911

COMPRESSED-AIR ILLNESS AND ITS PREVENTION

In the evolution of industry, which more than anything else characterizes our present age, preventive medicine is assuming greater and greater importance; and in no special province is this truer than in the fields of engineering, where not only the problems of tropical sanitation, but the details of more ordinary undertakings, are being subjected to medical supervision. Embodied in a report to the governor of Illinois by a Commission on Occupational Diseases,[1] is a discussion by Bassoe of caisson disease, which well illustrates this phase of modern medicine. Although the occurrence of compressed-air disease has long been known, the increasing frequency of work that requires continued use of high air pressure makes this an important industrial disease, and Bassoe's report on its occurrence in Illinois, which includes a summary of our present knowledge, is well calculated to serve as a basis for its better control.

For a theoretical study of the peculiarities of caisson disease, we are chiefly indebted to work conducted under the auspices of the British admiralty by Boycott, Damant and Haldane,[2] who were able to demonstrate these practical points: first, that it is the nitrogen of atmospheric air alone that plays an important part in the production of the disease; second, that increased exposure to high pressure gives added risk up to about five hours for man, at which time saturation of the body with nitrogen is practically complete; third, that it is rare, if ever, that symptoms of caisson disease occur under an excess of pressure of 1.25 atmospheres, however long the exposure; fourth, that death is due nearly always either to pulmonary gas embolism, or to blockage of vessels in the spinal cord by gas. Since the excess gas in the tissues does injury solely by its sudden increase in volume on removal of pressure, and since the body can tolerate a sudden decrease in pressure of from 2.25 times normal to normal, they point out that it is safe to decompress from any stage whatever by successive reduction of one-half at a time, thus, by Boyle's law, keeping the volume of liberated gas within the limits of safety. This type of decompression they designate as the "stage" method, as contrasted to the more usual practice of a slow uniform rate of reduction.

That the adoption of such a precautionary measure would almost completely obviate danger in physically sound individuals is shown by the experience of the workers in the East River tunnel at New York, as reported by Japp.[3] Here it was found that by the use of stage decompression, associated with muscular exercise (walking), danger was practically eliminated for seasoned workers.

Such a record, where 330 men were employed for thirty-six days, stands in striking contrast to statistics gathered before the use of preventive steps. Thus, to cite a few American experiences only, there were 119 cases, with fourteen deaths, among 600 men employed on the St. Louis bridge, and on the construction of the first Hudson tunnel there were, before the introduction of a "medical lock," twelve deaths among the forty-five or fifty men employed. Careful search appears to show that the disease is much more frequent than imagined, as is shown by Bassoe's ability to collect 161 previously unreported cases in Illinois, where, aside from the St. Louis bridge cases just noted, he was able to find previous references to only three cases.

In regard to the necessity for special legislation to maintain proper safeguards, it has been urged that the common law principle of holding contractors and corporations responsible for preventable injury to employees should suffice. But that this does not do so, at present at least, is decisively shown by the frequency with which the disease occurs.

1. An editorial on other diseases mentioned in this report appeared in THE JOURNAL, March 25.
2. Jour. of Hyg., 1908, viii, 342.
3. Tr. Am. Soc. Civil Engineers, 1909, lxv, 1.

SEX INSTRUCTION IN THE SCHOOLS

At the recent annual conference of the American School Hygiene Association a paper was read by Dr. Charles W. Eliot, ex-president of Harvard University, on school instruction in hygiene.[1] Dr. Eliot devotes considerable space to the problem of education in sexual matters, coming to the conclusion that under present conditions it is desirable that such instruction should be given in the schools. The objection that the subject is an unclean one and unsuitable for such public discussion he answers by pointing to the disastrous results that have obtained in the past from allowing this objection to govern our policy. Another objection is that the subject is such a sacred one that it can properly be discussed with children by their parents only. To this Dr. Eliot replies that, while the instruction of children in this subject by parents is most desirable when possible, a great majority of parents possess neither the necessary knowledge nor the power of expression to instruct their children properly on this subject.

The general outline for such a scheme of teaching consists of a prolonged course of natural history, begin-

1. Survey, Feb. 11, 1911, p. 803.

ning early with botany and progressing to an elementary consideration of zoology, using every possible means of illustration, both indoors and out. Children should be thoroughly acquainted through such means with the principles of the various modes of transmitting life "before any sex emotions begin to stir in them." Later the course should include physiology and should teach something of the causes of disease, by no means omitting, though not unduly emphasizing, the venereal affections. One of the dangers to be avoided in such instruction, as we have remarked before,[2] is the placing of disproportionate stress on the negative side of the subject.

The plan outlined is not a new one, but the fact that it emanates from so distinguished an authority in educational matters entitles it to fresh consideration. No one competent to judge the question will attempt to refute Dr. Eliot's two fundamental propositions: the evils which result from the "world-old conspiracy of silence," and the unfitness—at least, the unreadiness—of a large proportion of parents to instruct their children in sex hygiene. To admit these two facts, however, will scarcely be, for many perplexed educators, to see the way clear to the introduction of the subject in the public schools. From the published abstract of Dr. Eliot's paper, we are unable to judge of the consideration which he gave to the not inconsiderable amount of pioneer work which must first be done. It may be that the practical difficulties which loom large to those working at the bottom of the educational structure dwindle in perspective when viewed from the top.

Parents who are unfit to give instruction to their children cannot therefore be regarded as negligible factors in the educational scheme. It would be rash to attempt to instruct children in the fundamental facts of life without first soberly and tactfully educating their parents, carefully avoiding undue shock to prejudice and unnecessary affront to custom. No one engaged in this task can afford to forget that at present the unvarying decent concealment or avoidance of certain subjects almost usurps the place of morality in the esteem of many people, both the overdainty and ultrarefined on the one hand and the densely ignorant on the other. It will not do for the school to disturb in the minds of children ideals still respected in their homes. The conflict of authority that is sure to result will be detrimental to the influence of both school and home; but the school will suffer most, and deservedly.

Here the cooperation of the family physician will be of the greatest value. The physician may not often have the opportunity of instructing children and young people; indeed, many physicians have no special aptitude for the task. The opportunity of enlightening the older members of a family, however, must often come to every general practitioner, and he has only to use it judiciously to accomplish much good, since on these matters advice which would not be tolerated from a layman will generally be received with respect from a physician.

The need for more widely diffused knowledge of this nature is so great that the experiment of introducing the subject in the public schools seems to be urgently demanded, though there is no need to forget that it is an experiment. It would be foolish to regard the difficulties in the way as insuperable; it would be equally unwise to minimize them. While so much of method remains to be worked out, it would not be prudent to demand work along this line from any educators except those best qualified by wisdom, experience and the confidence of the communities in which they labor. We hope that some of these may before long produce results that will justify others in following their lead.

2. Sex and the Instruction of the Young, THE JOURNAL A. M. A., March 11, 1911, p. 746.

THE LOCKED DOOR

Once more the drowsy conscience of the country has been shocked broad awake—for a moment—by horror. One hundred and forty-one human beings, most of them women and young girls, have met a frightful death through the indifference or greed—or both—which controlled their fates. What gives added poignancy to the ghastly tale is the fact that we knew it all before. The "fireproof building," packed with tinder and human fuel—the inadequate fire-escapes—the locked doors, piled high with dead—every detail of the tragedy has been rehearsed over and over again; the stage is set even now in hundreds of places for its repetition. It is said that the Asch building, where this fire broke out, is only one out of many in Greater New York where such a catastrophe might have occurred; that New York is not unique in this respect, scores of cities in this country can bear shamed and sorrowing witness.

It is not worth while to anticipate the dreary and wellnigh futile task of the authorities in "fixing the blame." We cannot, however, evade the task of pointing out at least one of the lessons which by now ought to be writ large in the memory of every conscientious citizen—the lesson of the locked door. It will be remembered, by the way, that the Triangle Shirtwaist Company (the establishment affected by the recent fire) was the concern in which the New York shirtwaist-makers' strike began, something over a year ago. This holocaust writes a grim commentary on the demands of the workers for better living conditions; the locked door fitly symbolizes the attitude of employers of this class.

To the public's demands to know whether the health and welfare of employees are endangered by lack of light and air, exposure to infection, excessive hours of work, unprotected and dangerous machinery, wages insufficient for a proper standard of living, such employers have but one answer, however they may phrase it: "This is a private business." It is the slam of a door and the turn of a key; it means that, in the estimation of the proprietors, a man's business is his castle. Laws regulat-

ing the hygienic conditions of industry are, from this point of view, an unjustifiable interference with private enterprise.

Our modern industrial organization permits a "captain of industry" to hold the lives of hundreds and thousands in the hollow of a callous and unsteady hand. Even barring out such spectacular calamities as the recent fire in the Triangle Shirtwaist Company's premises, the moral and physical well-being—the very existence—of those who earn their bread by their day's labor is more affected by the rules and conditions established by their employers than it is by the whole machinery of civil government outside. Can we permit such an *imperium in imperio,* ruled for private profit, to be carried on behind locked doors, figurative or literal?

In the present instance, doubtless, some little good will be accomplished if the guilty individuals receive punishment a tithe as prompt and exemplary as that meted out to the irresponsible wastrel who stabs his fellow in a drunken brawl; but this is scarcely to be expected. What is most to be desired is that we shall all realize our share in the joint responsibility for such disasters and the conditions that lead up to them. He who looks on unprotesting is guilty in that degree.

THE FETISH OF PRECEDENT

Inasmuch as the question of employers' liability for injury to workmen is in certain of its aspects a problem of preventive medicine, it is of interest to note the recent decision of a New York court declaring unconstitutional a law of that state providing for the compensation of workmen injured in the line of their duty.

The main feature of the act was that it required employers of labor in certain dangerous occupations, such as bridge-building, operation of elevators, work on scaffolds, work on electric wires, working with explosives, on railroads, tunnels, and work carried on under compressed air, to compensate their employees for any injury occurring during the course of the work, whether or not such injury occurred through the negligence of the workmen. The considerations which justify disregard of the employee's negligence are, first, the difficulty—the practical impossibility—of holding the employer to any responsibility if the employee must first be cleared of all blame, and, second, the fact that, in the main, the negligence of the employee is within the control of the employer. To the working man dependent on his daily labor, the more or less remote chance of losing his life does not for a moment balance the immediate certainty of losing his job. The most cruel injustice of the doctrine of contributory negligence lies in the opportunity it gives to the employer, while tacitly requiring the worker to take a risk, to evade all responsibility for its consequences because it is impossible to prove that the employee did not take this risk on his own initiative. As soon as it is made unprofitable to employ working men who are negligent of their own safety, such negligence will cease to be an appreciable factor in industrial accidents.

The New York law was modeled on the British workmen's compensation act of 1897, which has since been extended to cover every kind of occupational injury. This law has been upheld by the courts of Great Britain and has been found to work to the satisfaction of both employers and employees, in that country.

The New York court admits the strength of the economic and sociologic arguments adduced in support of the statute, but holds that "under our form of government courts must regard all economic, philosophic and moral theories, however attractive and desirable they may be, as subordinate to the primary question whether they can be molded into statutes without infringing on the letter or spirit of our written constitutions." The court points out that the law abrogates the "fellow servant" doctrine, and also the rule in regard to "contributory negligence," two venerated precedents that were eagerly seized on by the courts of this country almost as soon as they were enunciated, and have been worshipped and invoked ever since. It is admitted, indeed, that the legislature has the right to abolish both of them. The New York court, however, sweeps aside British precedent, sound common sense, the admitted power and expressed will of the legislature, and falls back on that other hallowed fetish frequently invoked by corporations and trusts when their special privileges and profits are threatened, the deprivation of property without due process of law, etc. No matter, therefore, under what stress of necessity a man engages in a hazardous employment, wherein often even the most elementary provisions for safety are disregarded by the employer—no matter how much it may cost the general public to care for an injured employee and his dependents—the court decides that the sacred right of property must not be invaded. As for the public, if it ever had any rights, these, evidently, have long since vanished, swallowed up in the tortuous mazes of legal precedent.

On the very heels of this decision comes an instance in the same state of the need and justice of such a law. The terrible fire in a factory in New York City wherein over a hundred lives were lost, and many persons injured, illustrates how the public pays for the indifference of employers to the safety of their people. In defiance of state laws and city ordinances the proprietors of this factory and the owner of the building had neglected to provide adequate exits or means of escape from their building, although it is asserted that the stock and machinery were heavily insured against fire loss. This fire has already cost the city of New York thousands of dollars for the care of the dead and injured, and the ultimate expense to the public, taking into account not only the killed and maimed, but those dependent on them, no reckoning can compute.

It is only too plain that, until it is made unprofitable for employers to despoil their laborers of life and strength and to throw the human refuse on the scrap-heap, to be disposed of at public expense, the inhuman and senseless waste will go on. The blood of the worker is part of the cost of production; but private industry will not pay that cost if it can be shifted to the general public.

To those who look ahead, the decision of the New York court is matter for regret because, but not solely because, it perpetuates an ancient wrong. It shows a failure of the courts to understand the age in which they are living. "What we know as men," said the Illinois Supreme Court not long ago, "we cannot profess to be ignorant of as judges." We commend this fine saying to the consideration of courts elsewhere. Too often the courts have seemed entirely to ignore, either as men or as judges, facts which are patent to the man on the street; too often they have seemed to seek precedents to justify setting at naught the will of the people, expressed through the legislatures. It is not radicals, but conservatives, who have most reason to regret this, for it presages a day of reckoning in which precedents shall go for very little.

Current Comment

HYGIENE IN THE ARMY ON THE BORDER

We recently commented on the mobilization of a considerable military force in Texas for maneuver purposes, and suggested that this would give an opportunity to the Medical Department of the Army to show what progress had been made since 1898 in army sanitation and hygiene. Though the facts were not then at hand, it was suggested that undoubtedly vast improvement had been made in this respect. A correspondent in a New York daily paper has raised the same question and inquired what was being done in sanitary matters to prevent a repetition of the experiences of the army in 1898. Under the authority of the War Department, a reply was made to this inquiry, setting forth what had been done in preparing for the maneuvers in Texas. It was stated that at the time of issuing the order for the mobilization of the army the Army Medical School was ready to supply, for inoculating the troops in the field, an antityphoid serum which had been previously tested by 20,000 inoculations in the regular army, and had proved its efficiency. The inoculations are now being applied to the entire force in the field. It is asserted by the War Department that this is a feat of preventive medicine which for magnitude and promptness of execution is unique in military history. Among other measures, a carefully tested system of the disposal of wastes has been put into operation, which will prevent camp epidemics and defeat the dangerous activities of the common fly. Sanitary squads of hospital corps men, under competent medical supervision, have been provided to secure cleanliness of the camps. Trained sanitary inspectors and field laboratories are now provided and the sanitary personnel, while somewhat short in numbers, is expected to be filled up in case of necessity from the Medical Reserve Corps and by the enlistment of Hospital Corps volunteers. The plans for temporary hospitals are drawn and specifications are printed and ready for the builder. The reorganized Red Cross, with its enrolled trained nurses, also stands behind the reorganized medical service. As illustrating the preparedness of the department for service, it is said that the hospital equipment and medical supplies for the volunteered force left the field depots in Washington and St. Louis while the troops were being entrained and arrived in San Antonio at practically the same time as the troops. It is satisfactory to realize that ten times the force could have been supplied and equipped with equal promptness. Although the Army has been in the past, and even now is, more or less handicapped by the reluctance of Congress to provide for a sufficient medical personnel and equipment, yet present conditions indicate that the Medical Department has evolved an efficient organization and is prepared to cope with actual war conditions, according to modern ideas, in a highly efficient manner. The experience in Texas will no doubt prove that our medical forces and organization are equal to those of any other nation.

MAIL-ORDER MEDICAL SPECIALISTS

In one of his articles on quackery, Mr. Samuel Hopkins Adams likened the mail-order medical faker to a man who would offer to mend chimneys by mail. The comparison is a homely one, but apt. Diagnosing and prescribing by mail, as carried on by the typical medical mail-order house, is a fraud *per se*. As a corollary of this axiom, it follows that any person who offers, for monetary or other consideration, to prescribe or treat on the mail-order plan is a swindler and a cheat. Yet, there are in this country hundreds, possibly thousands, of concerns that are doing a flourishing business in this line of work. A few of these THE JOURNAL has exposed, and a few more it expects to expose. But, in the very nature of the case, those which we are able to investigate are but a drop in the bucket of quackery. In the "Propaganda for Reform" department of this issue there is an article dealing with a mail-order medical fake calling itself the Dr. Bertha C. Day Company. Physicians will find very little in this article with which they are not already familiar, but they will find a great deal with which their patients are unfamiliar. Few physicians realize the degree of ignorance that exists among the public generally, regarding mail-order medical quacks. Because the fraud that characterizes these concerns is so perfectly evident to the physician, he is unable to comprehend how it is possible for presumably intelligent laymen to be misled by the specious promises of the mail-order quack. The fortunes that have been, and are being, made by the unscrupulous individuals who conduct such concerns is in itself sufficient to prove that the public is still easily fooled. The purpose of articles, such as that which appears in this issue, is to enable physicians to place in the hands of their patients such information as will convince the most gullible of the fraud that is inherent to quackery. The Bertha C. Day article, together with a number of similar articles,

will be reprinted in pamphlet form and sold at a merely nominal price. We know of few things on which the public needs enlightenment more than the subjects of quackery and the nostrum evil; we know of no better way of bringing about this enlightenment than by the wide dissemination of articles such as these. It is to be hoped that physicians will realize their responsibilities and opportunities in this matter.

THE RISKS THAT PHYSICIANS RUN

During the past week three deaths have been reported of resident physicians in hospitals, from diseases contracted from patients whom they were attending. Two of these deaths were from cerebrospinal meningitis brought to New York City by passengers from Greece; the third—in Chicago—was from scarlet fever. The records of the dead in the medical profession are full of similar instances, not only in cases of young interns, but of busy family practitioners, who have faced death fearlessly in their professional work and have gone to death as fearlessly. In exceptional instances, as in those just mentioned, the work which brought such men to their death has been done in the public eye, and they have consequently received the martyr's meed of lament and eulogy. Seldom or never has the spectacular element been a motive for the deed. Although it is impossible for the world to pay fitting individual tribute to all such heroes, we may regard the honors paid to a few as given to representatives of a heroic class. All have done their duty and deserve the same honors that are paid to soldiers who die in line of duty.

A SAD SEQUEL TO CONSCIENTIOUS WORK

In contrast to the situation referred to above, the physician may find that his duty brings him into direct conflict with the wishes of the public. He may be called on to exert considerable strength of character in order not to fail in any respect in his duty. Especially is this so when not only his own pleasure and comfort are concerned, but the happiness and even the lives of his family. Such a case was recently described[1] in these columns. The report of a case of typhoid by Dr. Franz, an Austrian district physician, caused a change of plans by the authorities so that military maneuvers were not held, and thus the villagers were deprived of pleasure and profit. A boycott and persecution followed. The physician could not obtain a nurse for his wife during her confinement. No one in the village would sell him food; he had to get meat and vegetables by mail.[2] His windows were broken about once a week. The ordeal was so severe and the resultant anxieties so wearing as ultimately to bring on the physician's death. The government has taken the matter in hand most actively and will severely punish the guilty persons and enforce the payment of money damages to the family of the dead physician. As detailed by our Vienna correspondent, the case is an extreme one, but it merely illustrates the position in which a physician may be placed when the demands of public health run counter to the temporary desires of the community. The process of educating the public all over our own country on the subject of public health—what it means and what it requires—is gradually going on. It requires time; it requires patience; it requires far-sight, but no one can deny that advance is being made. The period on which we have entered has been called the "Public Health Era" and physicians of to-day are most fortunate in the opportunities they have in not only witnessing it, but in being active factors.

1. THE JOURNAL A. M. A., Feb. 4, 1911, p. 362.

2. Note the convenience of the parcels post. There is one bright side to this picture. The doctor could get meat and vegetables by mail! In the United States—thanks to the express companies and their control of our legislative bodies—the parcels post is too limited in its possibilities; but that is another story.

PRELIMINARY EDUCATION SHOULD ACTUALLY BE PRELIMINARY

At the recent meeting of the Association of American Medical Colleges an important step in advance was taken in regard to its requirement of preliminary education. An amendment to the constitution was adopted providing that after Jan. 1, 1912, all colleges holding membership in the association shall require of every student admitted at least a completed four-year high-school course or its equivalent, no "conditions" to be permitted. Heretofore, students might be admitted conditioned in as many as six points or three units of high-school work. Since the entire four-year high-school course consists of only thirty points, or fifteen units, therefore, the constitution permitted the colleges to accept students conditioned in 80 per cent. of a year's work in entrance subjects, which, according to another clause of the constitution, were to be removed before the student began work "in the second year of his medical course." Not only was a student thus conditioned allowed to begin the difficult study of medicine without the necessary preliminary education, but he was given the Herculean task of completing nearly two years of work in one. The instance is exceedingly rare in which a student can honestly and satisfactorily make up three units of entrance conditions and at the same time obtain satisfactory grades in the first-year studies of the modern medical course, and the better colleges, recognizing that fact, have refused to admit students so heavily conditioned. In only too many of the institutions, however, such conditions are never removed or else easy makeshift methods are provided, the whole arrangement being used by many colleges as a pretense of living up to a fixed standard. By such institutions, any fixed requirement will be stretched to the farthest limit permitted by the association. Any entrance condition, the removal of which is actually required by the college, is an added handicap to the student whose burdens in the modern medical course are already becoming too heavy. This is the chief reason why a better preliminary education is necessary. To be of any practical value, however, such education must be completed before the student is admitted to the medical college. In other words, preliminary education should *be* preliminary. The amendment adopted by the association is therefore an important step in advance.

PROPORTION OF PHYSICIANS TO POPULATION IN THE UNITED STATES

At a series of conferences on medical education and medical legislation, recently held in Chicago, someone made the statement that the number of physicians legally licensed to practice medicine in the United States was 120,000, making approximately one physician for every 800 people. This statement has been the basis of various newspaper comments all over the country, and so the error will be passed on till someone guesses some other number and makes the guess public. The number of physicians in the United States is variously given by various individuals—sometimes it is as low as 100,000, at others as high as 160,000. There are, at present, between 139,000 and 140,000 individuals, practically 140,000, who are licensed practicing physicians in the United States, or approximately one physician for every 650 people. But it should be remembered by those who make comments on this subject that the above figures do not include the "vitapaths," "naturopaths," "osteopaths," "panpaths," "chiropractics," "mechano-therapists," Eddyites, "magnetic healers," etc., who, whether they be said to "practice medicine" or not, are making diagnoses and are professing to treat human ailments. The number of these in practice we would not dare to estimate. Especially must the followers of these cults be considered when we are comparing the proportion of physicians to population in this country with that of some other countries where these cults do not exist.

PROGRESSIVE PREVENTION OF EPIDEMICS

The efficient handling of the cases of meningitis coming to New York from Greece within the past two or three weeks speaks well for the quarantine service at that port. All cases seem to have been promptly recognized and isolated, preventing the spread of the disease. The intensive study of this disease, which culminated in the Flexner serum, has given such an accurate knowledge of this infection that, except in communities poorly equipped with health and quarantine organizations, where the disease may gain a substantial foothold, danger of serious or prolonged epidemics is very nearly *nil*. Almost or quite as good results are assured in handling the still more deadly infections, cholera and plague; and poliomyelitis will no doubt soon be equally controllable through advance in scientific knowledge. It is a source of extreme gratification that meningitis and the other devastating infections have so far yielded to the direct attacks of science.

Medical News

CALIFORNIA

Personal.—Dr. Daniel B. Northrup, health officer of San Diego County, is reported to be ill with septicemia.——Dr. Edward R. Wagner, San Jose, has returned after six months in Europe.

Segregation Experiment.—The hospital which is to be operated in connection with the proposed plan for the segregation of prostitutes in San Francisco, opened March 21, at 684 Commercial Street, under the supervision of Dr. William F. McNutt, health officer of the city.

San Joaquin Physicians Meet.—The thirty-first semiannual meeting of the San Joaquin Valley Medical Society was held in Fresno, March 14. The following officers were elected: president, Dr. Walter E. Lilley, Merced; vice-presidents, Drs. George H. Aiken, Fresno, and Charles O. Mitchell, Laton.

Pasadena Entertainment Fund.—At a meeting of the executive committee of the Los Angeles Convention League it was announced that the physicians of Pasadena had raised a fund of $3,000 for the entertainment of delegates to the American Medical Association meeting, and that Adolphus Busch would give a barbecue on the grounds of his Pasadena home to the visitors at a cost of $10,000.

IDAHO

Personal.—Dr. Francis H. Poole, Pocatello, has been appointed superintendent of the Idaho State Insane Asylum, Blackfoot, vice Dr. Clayton A. Hoover, who will locate for practice in Pocatello.——Dr. Frank L. Barrows, Moscow, has started for Europe, via Philadelphia, where he will spend three months.——The Idaho supreme court is said to have decided that the State Board of Medical Examiners must issue a license to practice medicine to Dr. Emanuel Vadney, who has practiced for thirteen years in Morrow.

ILLINOIS

Personal.—Dr. Frank H. Jenks, assistant superintendent of the Elgin State Hospital since 1897, has resigned. Dr. Jenks has purchased the Ransom Sanitarium at Rockford and will assume charge May 1.——Dr. Lester C. Diddy, Oswego, who has been seriously ill at St. Charles Hospital, is improving. ——Dr. Clarence T. Roome has been appointed medical inspector of schools of Evanston.——Dr. Benjamin Gleeson and family, Danville, sailed for Europe, March 31.

Legislative Progress.—The osteopathic bill, House Bill No. 380, has been killed in judiciary committee of the house; the optometry bill, Senate Bill No. 140, is still in senate committee on sanitary-district affairs; and optometry bill, House Bill No. 121, is still in house committee on judiciary. These two bills, which are practically identical, should be defeated, as their enactment would be detrimental to the interest of the lives and health of the people of Illinois. For this reason they are opposed by the State Board of Health.

State Board Convictions in Chicago.—The following convictions for violation of the Medical Practice Act have been reported by the State Board of Health: V. Potenza, an old offender, fined $200 and costs.——Mrs. A. Kohler, a fortune teller who gave medicine, $100 and costs.——W. E. Krause, a "chiropractor" who claims to be a physical culturist, $100. ——Mrs. Herbert Gray, who exploits the "Novita Remedies," $100 and costs.——Rosina Bisesi, a midwife, $100 and costs, and C. J. Ostberg, a "chiropractor," convicted. McCormick, of the so-called McCormick Medical College, and a "Dr. Worth" testified. McCormick was asked whether his school was recognized by the State Board of Health. He said that it was not, nor did he ever want any recognition. Worth represented himself as an osteopathic physician who said he did not have a license from the State Board of Health nor did he care anything for the board. Ostberg appears to have been misled by McCormick.

Chicago

Personal.—Dr. Samuel J. Walker, who was operated on for appendicitis, March 23, is reported to be making satisfactory progress toward recovery.——Dr. H. Wernicke Gentles left Chicago, March 27, for a visit to Scotland.

Woman's Club to Manage Hospital.—The difficulties which have surrounded the management of Mary Thompson Hospital are to be shouldered by a committee of eight members of the Chicago Woman's Club, to be appointed by the president. These women are to act on the board of the hospital and will officially represent the active interest which the club is taking in the institution.

Additional Gift to Medical School.—At a meeting of the trustees of Northwestern University, March 23, it was announced that James H. Patten had added $50,000 to his gift of $200,000 for the establishment of a department of research on infectious diseases, at the medical department of the university. Everything will be ready in the fall for the opening of the laboratory and the start of research work.

To Celebrate Foundation Day.—Northwestern University will celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy, April 12 and 13. In conjunction with

the celebration, the faculty, alumni and students of the school have planned special exercises in honor of the dean, Oscar Oldberg, who will have completed twenty-five years of service at that time, and expects to retire from active duty because of ill health.

INDIANA

Medical Students in Accident.—Harry H. McCoy and Claude Niedhamer, students of the Indiana University College of Medicine, were struck by an interurban car near Indianapolis, March 24. McCoy was killed and Niedhamer was seriously injured.

Antituberculosis Society Organized.—The White Plague Warfare Recruits, with headquarters at Frankfort, has been incorporated. The organization has no capital stock, but its object is to fight tuberculosis, and it plans to buy property, build fresh-air camps and conduct warfare against white plague.

Personal.—Dr. George J. Studer, who has been seriously ill at the Lutheran Hospital, Fort Wayne, is reported to be considerably improved.——Dr. Eduard J. McOscar, Fort Wayne, has returned from a five weeks' trip to Central America and Panama.——Dr. and Mrs. George W. Combs, Indianapolis, left for Europe, March 23.

IOWA

Personal.—Dr. David T. Martin, Pomeroy, who was seriously injured in a runaway accident, is a patient in Mercy Hospital, Fort Dodge.——Dr. George P. Hanawalt, Des Moines, who has been seriously ill with asthma, is reported to be convalescent. ——Dr. John C. Lewis, Ridgeway, is said to have sold his practice and is about to retire.——Dr. Gershom H. Hill has been elected president of the Associated Charities of Des Moines.

Faculty Changes.—Rudolph Flebbe, Ph.D., a graduate of pharmacy of the University of Leipsic, and later assistant in the government agricultural research station, has been secured as head of the clinical laboratory, of the pathologic department of Drake University Medical College, with the title of instructor in pathology. His time will be devoted almost entirely to individual research and the supervision of research work of special workers in his laboratory.——Dr. Hubertus J. M. Hoeve, for several years instructor in anatomy in the Medical Department of Drake University, will, it is said, sever his connection with that institution at the end of the winter semester.

MARYLAND

Portrait Presented.—The friends of Dr. Charles M. Ellis, Elkton, have had painted a portrait of him, which will be presented to the Medical and Chirurgical Faculty of Maryland, of which he was once president.

New Hospital.—The trustees of Havre-de-Grace Hospital take possession of the Baker property, April 1. Articles of incorporation have been filed and the first instalment of the purchase price is ready. Work on the building will soon commence.

Baltimore

Must Give Up Private Practice.—It is announced that the members of the medical and surgical staff of Johns Hopkins Hospital will be required to give up private practice and devote themselves exclusively to the work of the hospital.

Personal.—Dr. Ernest H. Gaither sailed for Germany, March 25.——Dr. James M. H. Rowland is suffering from an infection of the right hand.——It is announced that Dr. Alexius W. McGlannan has resigned as chief surgeon of the Maryland National Guard.

Department of School Hygiene.—Baltimore is to have a department of school hygiene in connection with the Department of Health. The plan originated with Dr. John M. T. Finney. Most of the diseases and mental weaknesses found among school children are believed to be due to unsanitary conditions in the schools.

Pasteur Institute Report.—During the last year 123 persons were treated at the Pasteur Institute, 20 in wards, and 103 at their homes. There were 53 persons bitten by animals demonstrated to be rabid by cerebral inoculation of rabbits. Wounds were inflicted by dogs in 113 cases, cats in 7, horses in 2 and by a calf in 1. One death occurred.

MASSACHUSETTS

Awarded Medal for Bravery.—Dr. Francis E. Park, Stoneham, has been awarded a medal for bravery by the Massachusetts Humane Society for the rescue of a laborer in a sewer overcome by fumes from a tannery.

College Building Enlarged.—Tufts College Medical School, Boston, has enlarged and remodeled its college building at an expense of approximately $50,000. A fourth floor has been added to the entire building and several important changes have been made on the other floors.

Personal.—Dr. William M. Gay has been appointed port physician of Boston.——Dr. Francis X. Crawford succeeds Dr. Gay as assistant port physician.——Dr. Bertha F. C. Frommell, Fairhaven, has been elected a member of the board of health of New Bedford.——Dr. Charles A. Reese has been elected a member of the board of health of Wellesley Hills.—— Dr. Paul Carson, formerly port physician of Boston, has been transferred to the division of school hygiene.——Dr. Simeon B. Wolbach, assistant professor of bacteriology in Harvard Medical School, has started for West Africa, to study sleeping-sickness.——Dr. Samuel H. Durgin has been reappointed chairman of the Boston Board of Health.——Dr. Richard Collins has been appointed a member of the Waltham Board of Health. ——Dr. Frederick F. Andrews has been reelected a member of the Revere Board of Health.

MINNESOTA

State Health Department Bulletin.—The health department announces that it will issue in a few days, the first number of a monthly bulletin in pamphlet form, which will contain all statistics pertaining to the department.

A New Antituberculosis Association.—An antituberculosis association has been organized in Crookston, with Dr. Thomas Spence as a member of the board of directors, and Dr. Halvor Holte as chairman of the finance committee.

Physicians' Building.—Plans have been made for the erection on the Stewart Homestead, Hennepin Avenue and Fourth Street, Minneapolis, of a ten-story reenforced concrete building for physicians and dentists, to cost about $700,000.

Unlicensed Doctor Fined.—Henry Wuerzinger, Minneapolis, is said to have been found guilty, March 2, of practicing medicine without a license and fined $50. This action is said to be the result of internal strife in the Minnesota Association of Naturopaths, which made the complaint, and of which the defendant formerly was president.

Personal.—Dr. Paul B. Cook has been appointed first assistant to the commissioner of health of St. Paul, vice Dr. John M. Armstrong.——Dr. Gustav A. Rentz, formerly health commissioner of St. Paul, leaves this month for Europe.——Dr. Gustaf A. Magnusson, Aitkin, has been appointed instructor in bacteriology and pathology at the State University.

Physicians' Wives Meet.—The Woman's Auxiliary of Hennepin County Medical Association held its annual meeting in Minneapolis, March 13, and elected the following officers: president, Mrs. William J. Byrnes; vice-presidents, Mrs. Charles A. Donaldson and Mrs. Thomas F. Quinby; recording secretary, Mrs. J. Frank Corbett; corresponding secretary, Mrs. Ernest Z. Wanous, and treasurer, Mrs. Charles H. Hunter, all of Minneapolis.

Election.—At the annual meeting of Washington County Medical Society, held in Stillwater, March 14, the following officers were elected: president, Dr. Edgar O'B. Freligh, Stillwater; vice-presidents, Drs. James Haines, Stillwater, and Frederick A. Stevens, Lake Elmo; secretary-treasurer, Dr. Wade R. Humphrey, Stillwater; censor, Dr. Burton J. Merrill, Stillwater, and delegate to the state association, Dr. Ernest E. Wells, Stillwater.

NEW YORK

Eyeglasses for Pupils.—Assemblyman Levy has introduced a measure which would require the Board of Education of New York City to furnish eyeglasses or spectacles to pupils in the public schools. This it is estimated would require the Board of Estimate and Apportionment to appropriate $15,000 annually for this purpose.

The Insane.—There are now in this state 32,657 insane persons in hospitals, or about 1 to every 200 of the adult population. In 1890 the number of insane in hospitals and almshouses in this state was 16,006; this shows an increase of 104 per cent. The cost of caring for insane persons in the state hospitals last year was $5,659,942.76. The average cost for additional buildings for the insane would be about $1,000,000 if all were properly housed. During the past ten years the state has spent for the care of the insane $54,018,361. About one-sixth of the total expenditure of the state is for the insane. It equals an annual tax of 70 cents on every man, woman and child in the state.

New York City

Increased Capacity at Beth Israel Hospital.—By the opening of a new ward, at a cost of over $10,000, the capacity of this institution has been increased to 140.

Personal.—The board of trustees of Bellevue and Allied Hospitals has appointed Dr. George O'Hanlon general medical superintendent, vice Dr. Winford H. Smith.

Hospital May Sell Buildings.—The directors of St. Andrew's Convalescent Hospital have received permission to sell the buildings of that institution for $27,000. It is the intention of the officials to move to new buildings on East Seventeenth Street.

Give Fund for Training School.—Mr. and Mrs. William Church Osborn, New York City, have presented a building costing $250,000 to be used as a club home and registry for nurses, the building to be known as Osborn Hall in memory of the late Mrs. William H. Osborn, to the Bellevue Training School for Nurses.

New Dispensary in Brooklyn.—The New Utrecht Aid Society has been formed with the object of opening a dispensary for the poor in the Parkville, Kensington, Windsor Terrace, and Borough Park sections of Brooklyn. The dispensary will be non-sectarian. The staff includes Drs. H. M. Calvin, John J. Masterson, M. B. Gordon, O. C. Stackhouse, J. J. Rosenthal, Edmund G. Silverman and Morgan T. McSheehy.

Health Bulletins.—The latest bulletins of the Department of Health of New York City urge parents to have children promptly vaccinated; advise parents who intend obtaining employment certificates for their children to secure the requisite evidence of age in the shape of birth certificate as early as possible; and decry the danger of the spread of cerebrospinal meningitis in the city, and call attention to the methods pursued by the board of health in guarding against a possible invasion of this disease.

Reduction of Infant Mortality.—The Committee on the Reduction of Infant Mortality of the New York Milk Commission is endeavoring to raise $200,000 to establish sixty milk depots; nearly $40,000 has already been raised. These depots will be conducted along the lines of those of the department of health. The committee states that there are born annually 65,000 babies in Manhattan; of these 12,000 need the aid of milk depots, 4,000 already receive it, and the remaining 8,000 the committee proposes to save. There are probably 16,000 poor babies in Manhattan under 1 year old who succumb to disease every year; probably half of this number could be saved with proper care and nourishment, such as could be given with the aid of milk depots.

The Need of Medical Missionaries.—On March 11, a mass meeting of medical students, hospital interns, and other practitioners was held at the Academy of Medicine to lay before the medical profession the demand for modern practitioners in unchristianized and uncivilized countries. Dr. William M. Polk, president of the academy, was in the chair, and in his introductory remarks, spoke on "The Medical Pioneer." He then introduced Sir Wilfred T. Grenfell of Labrador, who made an earnest appeal for men to devote their lives to the practice of medicine in foreign lands. He then showed by lantern slides the development of his own work in Labrador and Newfoundland. There were about 400 medical students and physicians at the meeting, which was promoted and held under the auspices of the Student's Club, the Intercollegiate Branch of the Young Men's Christian Association of New York City. There are already fifteen students in the medical schools in New York City who plan to go as medical missionaries to foreign lands.

PENNSYLVANIA

Clinical Society Election.—The annual meeting of North Penn Clinical Society was held in Sellarsville, March 15. Dr. James I. Cawley, Springtown, was elected president; Dr. J. Warren Bauman, Lansdale, vice-president; Dr. Walter H. Brown, Richlandtown, secretary, and Dr. John J. Ott, Pleasant Valley, treasurer.

Woman's Medical College.—A modern well-equipped clinical amphitheater has been erected recently for the Woman's Medical College of Pennsylvania at a cost of about $22,500, and is now in use. The building includes a complete sterilizing plant, anesthetizing and recovery rooms, dressing rooms for surgeons and assistants, and waiting rooms for patients. ——Beginning with the ceased session of 1911 and 1912, entrance conditions at the in which they be reduced from six to four points. (2) bubonic plague will not be accepted as an entrance; (3) pneumonic plague required in every case. This subdivision of chemistry will no longer be part of the work of the first year.

Personal.—Dr. Samuel G. Dixon, Commissioner of the State Department of Health, has appointed Dr. T. Ben Johnson, of Towanda, to succeed the late Dr. Skiles M. Woodburn as county medical inspector of Bradford County and chief of the state department of health tuberculosis dispensary in Towanda.——Dr. John A. Bouse, special state medical inspector, is dangerously ill at his home in Harrisburg, with valvular heart disease. Dr. Bouse had charge of the state health's department tuberculosis exhibition and superintended its presentation in the various cities throughout the state.——Dr. Colley Johnson Miller, Brownville, is seriously ill in St. Francis' Hospital, Pittsburg, as the result of an attempt at suicide, made March 20, while he was mentally irresponsible.——Dr. John B. Carrell, Hatsboro, sailed for Europe, March 23.——Dr. Cyrus L. Stevens, Athens, has been elected secretary of the Bradford County Medical Society, vice Dr. Skiles M. Woodburn, Towanda, deceased.

Philadelphia

President Guest of Medical Club.—President Taft has accepted the invitation of the Medical Club of Philadelphia to be its guest on the evening of April 21.

Gifts to Hospitals.—The will of the late Ellis H. Yarnall contains a contingent bequest of $200,000 to the Episcopal Hospital.——Under the will of Catherine Boyle, St. Mary's Hospital receives $5,076.67.

Personal.—Dr. E. Avery Newton, formerly of Philadelphia but now of Bad Nauheim, Germany, is taking a trip round the world.——Dr. W. E. Keplar has been appointed assistant medical inspector of the bureau of health.

Hospital Staff Election.—The Samaritan Hospital Staff has chosen the following officers: president, Dr. Jesse O. Arnold; secretary, Dr. Charles S. Barnes, and Chairman of the executive committee, Dr. Daniel J. Donnelly.

Weir Mitchell Lecture.—The second of the Weir Mitchell lectures of the College of Physicians, was delivered March 30, by Dr. Edmund B. Wilson, professor of zoology in Columbia University, on the "Cellular Basis of Heredity."

University Publication Discontinued.—The *Medical Bulletin of the University of Pennsylvania* ceased publication March 20 after an existence of twenty-three years. The bulletin was a monthly magazine which circulated largely among the medical alumni of the university, especially those living in Philadelphia.

Case of Beriberi.—A Norwegian vessel, which arrived at Marcus Hook Quarantine Station, March 23, was found to have a case of beriberi aboard. The sailor had been suffering for several weeks and no special effort at isolation had been made. He was sent to Marcus Hook Hospital and the other members of the crew were given a thorough examination.

German Hospital Addition.—On March 18, the cornerstone of the new $100.000 addition to the German Hospital was laid by Herman Hessenbruch, president of the institution. When finished the building will be used as a maternity hospital and nurses' home, will be a five-story granite and brick construction, fire-proof throughout, equipped with elevators and other modern conveniences and will accommodate sixty nurses.

Elections.—At the last meeting of the Philadelphia Neurological Society the following officers were elected to serve for 1911: president, Dr. Alfred R. Allen; vice-presidents, Drs. John H. W. Rhein and Samuel D. Ingham; secretary, Dr. George E. Price; treasurer, Dr. S. DeWitt Ludlum; councilors, Drs. James H. Lloyd, H. H. Donaldson and Francis X. Dercum. ——The officers of the Medicolegal Society for 1911 are: president, Dr. Lambert Ott; first vice-president, Clarence Loeb, Esq.; second vice-president, Dr. William D. Robinson; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz; censors, Dr. Francis J. Kelly, James H. Wolfe, Esq., and Dr. Louis D. Bauer.

To Begin Work on Phipps Institute.—As soon as the contract can be made, the University will begin the erection of the Phipps Institute for the study and treatment of tuberculosis, which will be located at the northeast corner of Seventh and Lombard Streets. Plans for the building were filed with the Bureau of Building Inspection by the architect on March 16. The lot which the building will occupy extends from Lombard Street to Seventh Street, directly opposite Starr Garden Park. The building will be a five-story and basement fire-proof and brick structure with a frontage of 147 feet on Seventh Street

from Addison to Lombard and a depth of 132 feet on Lombard Street. The main entrance will be on Seventh Street. The Lombard Street front will be built with two wings with a sunken garden between, the whole surrounded by iron railings. In the basement of the building will be a library, lecture hall, lavatories, mechanical rooms, etc. The second floor will have a large laboratory for experimental work and the third, fourth and fifth floors will be mainly devoted to large open-air wards. The accommodations will be such that treatment can be given to several indoor and outdoor patients. The cost of the building will be about $300,000.

Plans for New City Institutions.—On March 18, the mayor approved an ordinance, appropriating to his department $150,000 for the purchase of land that might be needed for public improvements. The mayor proposes using $135,000 to buy the Alexander Brown tract of wooded land, comprising 135 acres, adjoining the Torresdale Filtration Plant, for the purpose of building thereon an institution for the care of the feeble-minded and a home for indigent women. Instead of erecting one great building for the feeble-minded, the plans call for the erection of separate cottages with a central heat, light and power plant. The city already owns 55 acres of ground adjoining the house of correction, at Holmesburg, where it is proposed to build a home for indigent men. The city also owns the Byberry tract of 800 acres of unimproved land. This is to be the site of the Philadelphia Hospital for the Insane. The state will cooperate with the city in its establishment, for which appropriation bills are now pending in the legislature. This divorce of the almshouse and feeble-minded department from the Philadelphia General Hospital will give wider scope and development to that institution. It is proposed to furnish heat, light and power for the Holmesdale and Torresdale institutions from the power plants operated in connection with the house of correction and the Torresdale low-lift pumping station. There is nearly $800,000 already available for the establishment of these homes for the indigent and with the balance of $150,000 for the acquirement of land, municipal improvements can begin at once.

SOUTH CAROLINA

Meeting of State Society.—The annual convention of the South Carolina Medical Association will be held in Charleston, April 19-21.

Personal.—Dr. G. DeFoix Wilson, Spartanburg, charged with violating the health ordinance of the city by failure to report cases of small-pox, was exonerated when the case was tried. ——Dr. Isadore Schayer, Laurens, has been designated to inspect the property and personnel of the national guard of the state.

Penitentiary Health Conditions.—The senate has adopted the report of the medical affairs committee, with the recommendation that the State Board of Health be requested at once to make a thorough investigation, and to make such recommendations for the removal of the cause of complaint, if any such cause be found, as in their judgment will best preserve the health of the convicts confined in the state penitentiary.

County Physicians Elect.—At the annual meeting of the Laurens County Medical Society, held in Laurens, the following officers were elected: president, Dr. Thomas L. W. Bailey, Clinton; secretary-treasurer, Dr. Jesse H. Teague, Laurens; delegates to the state medical association, Drs. W. Dorroh Ferguson and Rolfe E. Hughes, Laurens, and alternates, Drs. Thomas L. W. Bailey, Clinton, and Jesse H. Teague, Laurens. ——Sumter County Medical Society, at its meeting in Sumter, elected Dr. H. Ashley Mood, president; Dr. William E. Mills, vice-president; Dr. Edwin R. Wilson, secretary-treasurer; and Dr. Charles J. Lemmon, delegate to the state medical association, all of Sumter.

SOUTH DAKOTA

New Hospital.—Physicians of Yankton and vicinity met at Sacred Heart Hospital, February 28, to inspect designs for the new hospital to be erected on Mount Marty. The building will have a frontage of 220 feet with wings of 80 feet, will be five stories in height, and estimated to cost about $250,000.

Society Charter Revoked.—On the recommendation of the councilors, the house of delegates of the South Dakota State Medical Association, February 21, revoked the charter of the Hot Springs (Tenth District) Medical Society on account of unprofessional conduct on the part of some of the members. The society had failed to take action, after being requested to do so

WISCONSIN

Home for Feeble-Minded.—A bill introduced in the legislature by Senator Hoyt provides for an appropriation of $150,000 for the purpose of securing a site of not to exceed 1,000 acres, near Milwaukee, for a state home for the feeble-minded.

Unlicensed Practitioner Convicted.—Rev. J. P. A. Nordin, head of Nordin Institute for Dependent and Deformed Children, Milwaukee, is said to have been found guilty of practicing medicine without a license, and fined $50 and costs.

One Institution for Tuberculosis.—At a recent meeting of the Milwaukee County Medical Society, a resolution introduced by Dr. Gilbert E. Seaman, approving the idea of the city to incorporate all institutions dealing in any way with the tuberculosis problem under one general head, was adopted.

Fraternity Election.—The Kappa Chapter of the Alpha Kappa Kappa Fraternity held its annual election in Milwaukee, March 17. Dr. Daniel Hopkinson, Milwaukee, was reelected president; V. Brumbaugh, vice-president; P. Braman, recording secretary; W. Schnell, corresponding secretary, and P. R. Noe, treasurer.

Election.—At the annual meeting of the Outagamie County Medical Society, held in Appleton, March 7, Dr. Victor F. Marshall, Appleton, was elected president; Dr. John J. Laird, Black Creek, vice-president; Dr. Frank P. Dohearty, Appleton, secretary-treasurer, and alternate-delegate to the state society; Dr. Gerald C. Maes, Kimberly, censor; and Dr. Charles D. Boyd, Kaukauna, delegate to the state society.

Directors of Antituberculosis Association Meet.—At a meeting of the directors of the Wisconsin Antituberculosis Association, a new constitution and by-laws was adopted, and a new board of directors was elected, which in turn elected the following officers: president, Dr. Mazyck P. Ravenel, Madison; vice-presidents, Prof. Louis E. Reber, Madison; and Dr. Gustave Windesheim, Kenosha; secretary, Dr. Clarence A. Baer, Milwaukee; treasurer, John H. Kopmeier, Milwaukee; and executive committee, the president, first vice-president, secretary, treasurer, and Dr. John W. Coon, Wales. It was reported that $27,313.94 had been realized from the sale of Red Cross seals during the Christmas vacation.

GENERAL NEWS

The Study of Narcotics.—The American Society for the Study of Alcohol and Other Narcotics will hold its fortieth annual meeting in Baltimore, April 19 and 20. Historic addresses and scientific papers on laboratory and clinical research work on alcohol, inebriety and narcotics will be presented. Dr. Thomas D. Crothers, Hartford, Conn., is secretary.

Service Schools Close.—The commencement exercises of the United States Navy Medical School were held, March 23, in Washington, when a class of thirteen was graduated.——The Army Medical School, Washington, has been closed two months in advance of the usual period in order that the service of the graduates may be utilized in the maneuvers on the Mexican frontier.

Missouri Valley Meeting.—The twenty-third semiannual meeting of the Medical Society of the Missouri Valley was held in St. Joseph, March 16 and 17, under the presidency of Dr. Donald Macrae, Council Bluffs, Ia. On the first evening Dr. Henrich Stern, New York City, delivered the oration in medicine on "Decay of Nations." Dr. Oliver C. Gebhart, St. Joseph, was elected treasurer to succeed Dr. Thomas B. Lacey, Jr., Council Bluffs, resigned. A report of the scientific proceedings will appear in THE JOURNAL.

A Disclaimer.—The following members of the faculty of the University of Liverpool desire to disclaim any credit or responsibility attached to statements made or conclusions drawn in a book by Mr. H. C. Ross and Dr. J. W. Cropper, just published by Messrs. John Murray and Sons, entitled "Induced Cell Division and Cancer:" R. J. Gibson, professor of botany; W. A. Herdman, professor of zoology; B. Moore, professor of biochemistry; Dr. S. C. Sherrington, professor of physiology and J. Reynolds Green, lecturer on vegetable chemistry. These gentlemen state that they have had no opportunity of seeing the work either in manuscript or in proof.

Gastro-Enterologic Program.—The preliminary program for the fourteenth annual meeting of the American Gastro-Enterological Association, which is to be held in Philadelphia, April 18-20, contains a number of interesting titles, among which are the following: "The Relation [illegible] Mixture of [illegible] to Pathologic Findings in Cancer and Ulcer of [illegible] of 70 cents on [illegible]," by Dr. Joseph Colb Bloodgood, Baltimore; "[illegible] of Impermeable Cardiospasm," by Dr. W[illegible] City;

"The Gastric Weak Line in Wounds of the Abdominal Wall," by Dr. Robert T. Morris, New York City; "Study of Anthropometry of Enteroptosis," by Dr. John C. Hemmeter, Baltimore; "The Cammidge Reaction in Tuberculous Cases," by Dr. Charles D. Spivak, Denver; and "Duodenal Ulcer," by Drs. Lewis Brinton, Philadelphia; James T. Pilcher, Brooklyn; John A. Lichty, Pittsburg, and A. L. Benedict, Buffalo.

Control of Bovine Tuberculosis.—The meeting of the International Commission on the Control of Bovine Tuberculosis was held in Buffalo, February 27, at which it was decided that the first task of the commission should be the preparation of material for a small pamphlet on the subject of bovine tuberculosis for the general public, especially stock owners, and embodying full statements of available information on the subject so far as it concerns stock owners in a practical way, and so far as such information is acceptable to the commission. The committee entrusted with the preparation of the pamphlet consists of Dr. Veranus A. Moore, Cornell University; Dr. John R. Mohler, Federal Bureau of Animal Industry; J. J. Ferguson, representing the American packers; Dr. Myron H. Reynolds, St. Paul, Minn., representing the American veterinarians; and Dr. F. Torrance, Manitoba, representing the Canadian veterinarians. The next meeting of the commission will be held in Toronto in August.

CANADA

New Bacteriologic Laboratory.—Plans for the new bacteriologic laboratory in the city hall, Toronto, were passed by the board of control, March 22, and an appropriation of $9,000 was made to cover the cost of construction.

Bequests to Hospitals.—By the will of the late Charles Burd, Montreal, $10,000 is bequeathed to the Montreal General Hospital; $5,000 to the Protestant Hospital for the Insane; $2,500 to the Western Hospital, and $2,000 to the Alexandria Hospital.

Personal.—Dr. Helen MacMurchy, Toronto, for the last six years editor of the *Canadian Nurse*, has resigned from that position.——Dr. John Gaven, Toronto, has returned from Florida.——Dr. George R. McDonagh, Toronto, returns from Barbadoes this month.——Dr. Thomas G. Roddick has been elected president of Alexandria Hospital, Montreal.

Hospital Notes.—Western Hospital, Montreal, admitted 1,291 patients in 1910, and treated 1,358. In the outpatient department 12,878 patients were treated.——The Royal Victoria Hospital, Montreal, admitted 4,309 patients during the year and cared for 4,532 in the outpatient department; 297 deaths occurred during 1910.——Alexandria Hospital, Montreal, treated 820 patients during the year with a mortality of 47.

The War Against Tuberculosis.—At the meeting of the Winnipeg Antituberculosis Society, March 14, the superintendent of the Ninette Sanatorium, reported that Winnipeg has the best record for tuberculosis cases. The secretary reported that addresses had been given on 22 occasions before clinics, societies, etc., and before 65 classes in Winnipeg public schools, and that in the same time 2,500 visits had been paid to 202 patients suffering from tuberculosis, of whom 48 died.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 18, 1911.

Plague and Its Spread

Mr. James Cantlie, of the London School of Tropical Medicine, who has spent many years in the East where he helped to found a medical college for the Chinese, is well known as an authority on plague, and during recent years has been charged with the examination of every person in London suspected of plague, recently delivered a lecture on "Plague and Its Spread" before the Royal Society of Arts. The prevalence of plague in the world in epidemic form since 1894 was, he said, a matter of supreme interest to every nation. The question arose: has the virulence of the malady spent itself and may we look forward to abatement of the pandemic? The history of previous epidemics did not engender a hopeful answer; indeed the opposite obtained, for all previous outbreaks indicated the long continuance of plague in every community in which it had gained a hold. There were three stages of plague: (1) *pestis minor*, which was carried only by insects from diseased animals, always local, a household outbreak in fact, in which the pseudoplague bacillus is found in man; (2) bubonic plague, carried from man to man by insects; (3) pneumonic plague passing from man to man without the intervention of insects. Time was required for one plague type to change into another more virulent, until at last plague no longer required an animal host but became wholly a disease of man. An important point in the epidemiology of plague was that animals, chiefly rodents—the rat in many places, the marmot in north China and the squirrel in the United States—might suffer for years without infecting man, except in a sporadic way. In north China this had been proved to be the case and in any country where rodents were infected this might be expected.

Precautions in London Against Rat Plague

The following regulations "for the prevention of an outbreak of plague among rats at the docks" have been adopted: All ropes and mooring tackle shall be fitted with such effective guards as will prevent access of rats from the vessel to the shore. For breach of this regulation the penalty is one not exceeding $25. 2. All possible means shall be adopted for catching and destroying rats during the stay of any vessel in dock. All empty cases and barrels shall be examined before being landed to ensure that no rats are contained therein. Any rats caught on board the vessel shall be killed and then placed in bucket of strong disinfecting solution and burnt in the ship's furnace. The same penalty is enforced for breach of this regulation. 3. When the discharge of cargo or the landing or embarking of passengers is not proceeding only one gangway shall be permitted between the vessel and the shore. The end near the vessel shall be whitened for a length of 10 feet. The same penalty is enforced for breach of this.

The Small-Pox Epidemic in London

The number of cases of small-pox which have occurred in London in the present outbreak now numbers fifty-eight. The London County Council has resolved that for a period of three months chicken-pox shall be a reportable disease, experience having proved that slight cases of small-pox are sometimes mistaken for chicken-pox.

The New House of the Royal Society of Medicine

In the heart of medical London a handsome building is being erected which will provide ample accommodation for the Royal Society of Medicine for many years, even if the membership of the society continues to increase in the manner expected. The area of ground is nearly 10,000 square feet. The building will consist of basement, ground floor and three upper floors. On the ground floor will be a spacious vestibule and two halls—one capable of holding about 500 and the other 150 persons and patients' rooms for each sex. The whole of the first floor will be occupied by the library, and the offices of the secretary, editor and clerks. The library will be 110 feet long, 28 feet wide and 19 feet high. The periodical room will be an annex. There will be a gallery all round and a mezzanine room with additional tables for readers. On the third floor will be a museum, a room equipped for the examination of specimens and histologic work, a smoking room, and a tea and conversation room. The cost will be $150,000, of which $60,000 has been promised or collected.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 17, 1911.

Dedication of the Monument to Professor Cornil

March 5, at the Ecole pratique of the Faculté de médecine the monument in honor of Professor Victor Cornil was dedicated. The ceremony was presided over by M. Fallières, the president of the republic, and a great number of professors and political notables were present, Cornil having been a deputy and senator. Among the addresses given was one by Professor Landouzy, who mentioned that Cornil was the real founder of pathologic histology in France.

The monument is the work of Dr. Paul Richer, who is a member of the Académie de médecine and the Académie des beaux-arts. The design is an architectural one, with a laurel-decorated summit surmounted by the bust of Cornil. The center is occupied by a bas-relief representing Cornil's pathologic-anatomic laboratory, with flasks of reagents and microscopes on tables, and a body stretched on a slab ready for the autopsy. An allegorical figure of Truth, seated by one of the angles of the base in a grave and meditative pose, holding a palm-leaf, seems to glorify the fruitful labor of the master who has found in the analysis of diseased organs the true causes of death. The bust is in marble, the architecture in stone, and the bas-relief and the allegorical figure in bronze;

the base bears the inscription *A Victor Cornil, ses élèves, ses amis.* "To Victor Cornil from his pupils and friends;" on the posterior face of the monument is the inscription: *Victor Cornil, 1837-1908; professeur d'anatomie pathologique à la Faculté de médecine de Paris, 1882-1907.*

Salvarsan and Advertising

As was to have been expected, the discussions about Ehrlich's discovery, even (not to say especially) in non-medical circles, have given an opening to all kinds of charlatans to make use of the famous German scientist's name for their advertisements. For some time supposedly scientific articles on salvarsan have been appearing in the lay press. They state that "all syphilitics without exception are amenable to 606," that "606 is the veritable vaccine of syphilis," etc. Finally, comes the declaration that to obtain the maximum efficacy it is necessary to send to some "serotherapeutic institute" or "laboratory of biology." It is unnecessary to say that these are institutes and laboratories only in name.

Personal

On March 7 the Académie de médecine elected a member in the section of anatomy and physiology to replace Professor Farabeuf, who died last August. The new member is Dr. Prenant, who was, three years ago, chosen to be professor of histology of the Faculté de médecine de Paris and who was previously professor at the Faculté de médecine de Nancy.

In the session of March 14 the Académie de médecine elected two national correspondents in the section of medical pathology. These were Dr. Lannois, adjunct clinical professor of laryngology, otology and rhinology at the Faculté de médecine de Lyon, and Dr. Maurel, professor of experimental pathology at the Faculté de médecine de Toulouse.

On March 13 the Académie des sciences elected Professor Pawlow of St. Petersburg as correspondent in the section of medicine and surgery.

Professional Responsibility of Surgeons and Physicians

At a meeting of the Association de l'internat des hôpitaux de Paris on March 17 this timely question was treated from the legal point of view by M. Colin, professor at the Faculté de droit de Paris. In general, M. Colin mentioned that two conditions were necessary to make the surgeon responsible: the first was material or moral harm to the patient; the second was fault on the part of the surgeon, which might be either medical or non-medical. The latter would be within the competence of the ordinary judge. But how and by whom should serious medical fault be judged? M. Colin believes that an expert alone can appreciate a medical fault, and that his rôle is not always easy. One runs the risk of stifling all initiative and arresting progress by condemning a new treatment or an audacious procedure. M. Colin mentioned the reply of Velpeau in regard to the first accidents due to chloroform: "It is not the surgeons who have need of chloroform; it is the patients." After reviewing the jurisprudence on this subject, which is not well defined, M. Colin advised physicians and surgeons to form associations for mutual insurance as the only means of defending themselves, for they are now often the prey of blackmailers.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, March 10, 1911.

Death of van 't Hoff

A few days ago in a suburb of Berlin, there died at the age of 59, from a lung disease of some years' standing, the renowned chemist and honorary professor in the Berlin university, J. H. van 't Hoff. [See editorial, March 18, page 818.] He was born in Rotterdam in 1852 and studied in Leyden, Bonn, Paris and Utrecht, devoting himself to the natural sciences; he was appointed privat-docent at the latter university in 1876, and in 1888 became the founder and chief of the laboratory for physical chemistry. In 1896 he accepted a call to Berlin as regular honorary professor. His work was epoch making in the development of physical chemistry. The most important of his scientific works are his new thory of solution in which the identity of the gas pressure and the osmotic pressure was demonstrated and a new method of measuring the molecular weight was discovered, and his investigations of the spatial relations of the atoms, with which he laid the foundations of stereochemistry. Also for medicine his work on osmosis has been most fruitful in advancing our understanding of the processes of metabolism. Van 't Hoff was a member of the academy of sciences, and most of the academies of the world, knight of the order "pour le mérite" and recipient of one of the Nobel prizes.

Bill Against Quackery

The committee of the Reichstag appointed to consider the bill for restriction of unqualified practice of medicine, contrary to expectation is deciding on considerable concessions which weaken the original draft of the bill. In fact, the conservatives and the representatives of the center are inclined to support all kinds of quackery, and especially the form of mystical treatment (cure by prayer, by laying on of hands, rubbing, magnetism and the like), and express views that often unintentionally have a ludicrous effect and show that scientific ideas are not very widespread even among intelligent people. One member belonging to the center group stated that he had lately come to question whether magnetism might not actually prove a curative agent. As evidence, he brought a long letter from a young lawyer in which the author averred that by means of therapeutic magnetism he had been enabled to pass his examination for the bar, and that he had also been cured of a nervous affection, so that he was able to marry. Another assured the committee that a person in high position has recommended as a remedy against epilepsy the pulverized feces of a still virgin billy goat. Hence it is not strange that the original bill is weakened and that magnetism has been separated from the class of forbidden mystic curative measures. Meanwhile, one may cherish the hope that the essential part of the bill will be accepted, and that some good will be secured for the public health so far as it suffers from quackery.

A University at Frankfort

For many years those interested at Frankfort-on-Main have been endeavoring to expand the present medical and other institutions into a university. On the part of the government there is no great tendency to increase the number of universities, and it must be admitted that Frankfort does not possess favorable conditions for a new foundation. The university of Marburg and that of Giessen are situated in the near vicinity and would surely be injured by the new university. In large cities overcrowding of the lecture halls soon manifests itself, so that instruction suffers, and this condition would very probably soon be the rule at Frankfort. To be sure, the consent of the government may be facilitated by the circumstance that Frankfort would furnish the means for founding and supporting the university institutions. These would not need to be much increased, at any rate in the medical field, as the most necessary teaching places for this faculty are already provided in the municipal hospitals, in the "Georg-Speyer house," in the institute for experimental therapy, in the Edinger Institute, etc. The proposition submitted by the city government has only three university departments in view: law, philosophy and medicine.

New Bill on Cremation in Prussia

As I mentioned in a previous letter, the opposition in religious circles to the legal permission for cremation in Prussia is to be disregarded by the government, and a bill for its legalization has been very lately introduced into parliament. According to the bill, cremation will be permitted only in establishments licensed by the national police. The permission may be revoked if the arrangements do not correspond to technical requirements, or if a suitable room for the reception of corpses is not provided, or if there are objections on the part of the police. The cremation can take place only when the following conditions have been complied with: an official death certificate, an official medical certificate of the cause of death, proof that the deceased has ordered the cremation of his body, and a certificate of the local police authorities at the place of death that there are no objections to cremation, and especially that there is no suspicion that the death was due to crime. The order is effective only if the deceased was 16 years of age, and it cannot be made by a repesentative. A necropsy is to be held if one of the attending physicians considers it necessary in order to establish the cause of death. Penalties are provided for the transgression of this and other provisions. In the prologue of the bill it is pointed out that the objections to cremation from the standpoint of justice, and especially of criminal law, are no longer of great importance in the present state of medical or chemical science, while the interests of religion will not be materially affected by the sanction of cremation. The bill will undoubtedly be strongly opposed by the numerous orthodox representatives in the Prussian parliament, who are especially among the conservatives and the center, but it is to be hoped that the measure will finally be passed.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, March 13, 1911.

High Morbidity and Mortality in Vienna

The health report for the first part of the year 1911 contains unpleasant news for the inhabitants of this city. The percentage of diseases and deaths has not been so bad for more than twenty years. The present epidemic of influenza is responsible for these conditions. The last epidemic was in 1889, when the mortality was 16 per cent. Since then we have had only occasional outbreaks. This winter, however, there were more than 19,000 persons laid up at the same time—at least so many have been reported by the physicians. Apart from influenza, other epidemic diseases were also prevalent during January and February, although they were all of a mild type. The doctors practicing among that part of the population which is entitled to free medical aid, have reported 335 cases of scarlet fever, 202 of diphtheria, fourteen cases of typhoid fever, 113 of erysipelas, 519 of measles, 160 of pertussis, 335 of varicella, and 227 of parotitis. There were 851 cases of fresh infections of tuberculosis and scrofulosis reported, while 1,214 persons of this class suffered from fresh disease of the alimentary canal. There died in this month of January 3,493 persons, against 2,915 in December last, and 2,790 in January last. The increase of deaths was due to influenza, as manifested by the numerous deaths caused by diseases of respiratory organs; 437 more than last year at the corresponding time. The distribution of deaths among the two sexes was equal. The report for the first week of March, however, shows that a marked and definite improvement, consequent on the improved weather, has taken place already.

Protection of Sick Children in Hungary

The present condition of the sanitary and charitable institutions for diseased children is far from satisfactory. The comparison with other countries shows how backward Hungary is in this respect. There are only ten children's hospitals, with 850 beds, at the disposal of the physicians, for a population of 20,000,000! There is not a single sanatorium for tuberculous children, while there are forty such institutions in Germany. Only 100 cripples in Hungary against 3,000 in Germany are cared for in special houses, where they learn to work and earn part of their living. Even worse conditions prevail as regards deaf mutes and blind children; although there are more than 6,000 such individuals in the kingdom, only a few hundred are looked after in a regular way. Equally bad are the provisions for idiotic and mentally defective children. Merely four small homes and now and then a class on nursing of such patients represent the entire social care of the state for its defective offspring.

Foot-and-Mouth Disease in Austria

During this last autumn and winter foot-and-mouth disease was prevalent among the cattle in Austria, and a large percentage of the animals had to be killed. Naturally, the quality and quantity of the milk-supply for the capital was severely handicapped by these conditions, and the supply of meat, too, was restricted. The health authorities took in time the necessary precautions to prevent a spread of the infection to human beings. But in spite of all care, sporadic cases appeared, and even yet a case is reported now and then. As a rule, the patients are affected only in a mild degree, while the animals suffer severely. The mode of transmission to the persons could not be ascertained, but it is safe to assume that milk and butter are responsible for it. It may be mentioned, by the way, that the first authentic case of this disease this year was in the wife of a medical man. Adults chiefly were the victims this time, and no fatal case was reported.

Marriages

JAMES H. GOAD, M.D., Ellston, Ia., to Miss Rosa Watts of Ross, Ind., March 16.

GLENN WHEELER, M.D., and ANNA MARIE REGAN, M.D., both of Portland, Ore., March 15.

BENJAMIN SPAFFORD BARNES, M.D., Shenandoah, Ia., to Miss Pansy Mincer of Hamburg, Ia., March 9.

BOYD T. WILLIAMS, M.D., to Mrs. Virginia Bradley, both of Hudson, Wis., at St. Paul, Minn., March 11.

Deaths

William Palmer Peirce, M.D. New York University, New York City, 1852; formerly a member of the American Medical Association, and National Association of Railway Surgeons; vice-president of the Illinois State Medical Association in 1875; surgeon of the Eighty-Eighth Illinois Volunteer Infantry, and later chief surgeon of the First Brigade and Second Division, Fourth Army Corps during the Civil War; a member of the Illinois House of Representatives in 1869, and of the State Senate in 1872; mayor of Hoopeston in 1889 and 1890; local surgeon of the Lake Erie and Western Railway, and a member of the local board of pension examining surgeons; died at his home in Hoopeston, February 20, from diabetes, aged 79.

James Milton Peck, M.D. Vanderbilt University, Nashville, Tenn., 1882; of Arlington, Ky.; a member of the American Medical Association; and formerly president of the Carlisle County and Southwestern Kentucky medical societies; and vice-president of the Kentucky State Medical Association; health officer and referee for Carlisle County; died in Riverside Hospital, Paducah, March 14, from abscess of the liver and general sepsis, following an operation for appendicitis, three months before, aged 53.

Edward Fiske Ashley, M.D. Yale University, 1900; a member of the American Medical Association; bacteriologist of the Quarantine Hospital and assistant to the health officer of the port of New York; contracted cerebrospinal meningitis while making autopsies on the infected steerage passengers of the steamers *Patras* and *Martha Washington*, and died from the disease, at Swinburne Hospital, New York Harbor, March 21, aged 34.

Benjamin Anthony Plant, M.D. University of California, San Francisco, 1886; formerly an official of the health department of San Francisco; surgeon of the Pacific Mail Steamship Company for two years; and for a like period resident physician at the state penitentiary, Folsom; division surgeon of the Southern Pacific System; died at his home in Santa Cruz, February 16, from bronchopneumonia, aged 45.

Isaiah Baker Bolton, M.D. Hahnemann Medical College, Philadelphia, 1873; a veteran of the Civil War; formerly chairman of the board of health and city physician of Newburyport, Mass.; died at his home in Los Angeles, Cal., January 11, from septicemia, due to pyothorax, following a pleurisy with effusion nine years before, aged 66.

William Witry Jungels, M.D. Dearborn Medical College, Chicago, 1905; formerly a member of the American Medical Association; and an ambulance surgeon of Chicago; who moved to Dubuque, Ia., six months ago; died in an ambulance in that city, while being taken to Mercy Hospital, March 13, from nephritis, aged 33.

Charles Avery Hart, M.D. Western Pennsylvania Medical College, Pittsburg, 1899; a member of the Butler County (Pa.) Medical Society; died suddenly in Butler, March 14, from heart disease, aged 33. Butler County Medical Society, at its meeting, March 14, adopted resolutions of sympathy and regret.

Thomas Kerr McKee, M.D. Medico-Chirurgical College of Philadelphia, 1895; of Grove City, Pa.; a member of the Medical Society of the State of Pennsylvania; for two years a practitioner of Tulsa, I. T.; died in the West Penn Hospital, Pittsburg, Pa., February 5, from acute nephritis, aged 52.

Henry A. Rodebaugh, M.D. Starling Medical College, Columbus, O., 1875; of Columbus; a member of the American Medical Association; and formerly medical director of sanatoria at Marysville and Columbus; died in the Lawrence Hospital in that city, March 17, from disease of the kideny, aged 55.

Raymond W. Brown, M.D. University of Pennsylvania, Philadelphia, 1909; intern in the Hudson Street Hospital, New York City; died, March 24, from cerebrospinal meningitis, contracted, it is believed, while combating the disease recently brought to New York City on a Greek steamer, aged 25.

Robert David Craighead, M.D. Indiana Medical College, Indianapolis, 1871; for fourteen years house physician at Dr. Strong's Sanitarium, Saratoga Springs, N. Y.; and afterward one of the proprietors of Craig Hall, Atlantic City, N. J.; died in that city, March 11, from pneumonia, aged 63.

John B. Richmond, M.D. Jefferson Medical College, 1852; surgeon of the Twenty-Seventh New Jersey Volunteer Infantry during the Civil War; and afterward president of the Hibernian Fire Insurance Company; died at his home in Newark, N. J., March 12, from heart disease aged 81.

Charles Howard Bradley, M.D. Harvard Medical School, 1882; a member of the American Medical Association; formerly president of the Las Vegas (N. Mex.) Medical Society; for fifteen years a resident of Las Vegas; died at his home, March 3, from pneumonia, aged 52.

Nathan A. Foster (license, Missouri, 1883); for more than fifty years a practitioner of Ralls county; who was tendered a banquet by the Ralls County Medical Society, of which he was the oldest member, a few months ago; died at his home in Center, March 10, aged 84.

Charles Salter Wheeler, M.D. University of Vermont, Burlington, 1879; a member of the American Medical Association, and for several years a member of the state pension board; died at his home in Flushing, Mich., March 10, from cirrhosis of the liver, aged 54.

Raymund H. Phillimore, M.D. McGill University, Montreal, 1893; a district physician of Montreal; medical inspector of schools; and surgeon-lieutenant-colonel Seventh Hussars Canadian Militia; died recently in Montreal, from cancer of the throat, aged 53.

Peter J. Roebuck, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the American Medical Association; for two years state senator; president of the Farmers National Bank of Lititz, Pa., died at his home, March 9, from pneumonia, aged 73.

Charles Wheeler McConnell, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association, and pathologist to Altoona Hospital; died at his home in that city, March 12, from cirrhosis of the liver, aged 40.

James Milton Foster, M.D. Berkshire Medical College, Pittsfield, Mass, 1852; for nearly half a century a practitioner of Wilbraham, Mass.; a member of the school committee for several years; died at his home, March 17, from heart disease, aged 82.

J. W. Bennett, M.D. Hospital Medical College, Eclectic, Atlanta, 1910; of Augusta, Ga., was thrown from his buggy, March 13, in a runaway accident, at North Augusta, and died a few minutes later in the Margaret Wright Hospital, Augusta, aged 46.

Frederick Clinton Taylor, M.D. Cleveland College of Physicians and Surgeons, 1891; of Cleveland; a member of the American Medical Association, and a member of the staff of the Lutheran Hospital; died in Biloxi, Miss., March 9, aged 41.

Thomas Jefferson Kelley, M.D. Medical College of Georgia, Augusta, 1881; Bellevue Hospital Medical College, 1884; of Tennille, Ga., in a quarrel over the disciplining of his son, by a school teacher, March 10, was shot and instantly killed, aged 50.

Joshua Way, M.D. George Washington University, Washington, D. C., 1859; for many years a practitioner in Monroe and Bellevue Counties, O.; died at the home of this daughter in Woodsfield, March 9, from carcinoma of the liver, aged 73.

John Bryan Ward Nowlin, M.D. Jefferson Medical College, 1857; surgeon in the Confederate army during the Civil War; for forty years a practitioner of Nashville, Tenn.; died at his home in that city, March 3, from influenza, aged 74.

Alexander Fekete, M.D. Washington University, St. Louis, 1854; assistant surgeon and surgeon of the Fifth Missouri Cavalry during the Civil War; postmaster of East St. Louis, in 1889; died at his home, February 28, aged 83.

John Henry Hieber, M.D. Cincinnati College of Medicine and Surgery, 1871; a hospital steward of volunteers during the Civil War; died at his home in Pittsburg, Pa., March 11, from enlargement of the liver and spleen, aged 67.

Cortland Butler Rockwell, M.D. Chicago Homeopathic Medical College, 1883; of Chicago; who served in the Navy during the Civil War; died in a sanitarium in Kenosha, Wis., March 16, from valvular heart disease, aged 69.

John Henry Sackrider, University of Buffalo, N. Y., 1878; a member of the Medical Society of the State of New York, and health officer of East Randolph; died at his home in that place, March 12, from neuritis, aged 63.

Maurice Munker, M.D. College of Physicians and Surgeons, New York City, 1907; of New York City, died at the home of his parents in Steubenville, O., March 4, from septicemia due to an operation wound, aged 27.

Jones B. Hargrove, M.D. University of Alabama, Mobile, 1885; of Natchitoches; while en route to a sanitarium in Shreveport, died on a Louisville and Arkansas train, March 10, from malarial fever, aged 46.

Harry Burton Kuhns, M.D. Western Pennsylvania Medical College, Pittsburg, 1896; a member of the Medical Society of the State of Pennsylvania; died at his home in Neale, March 5, from tuberculosis, aged 45.

Hosias Schiemann, M.D. Universities of Kasan and Dorpat, Russia, 1889; of New York City; died in Mount Sinai Hospital, March 10, from myocarditis following a compound fracture of the femur, aged 45.

Stephen A. Ireland, M.D. Starling Medical College, Columbus, O., 1884; a member of the American Medical Association; died at his home in Washington Court House, O., January 25, from pneumonia, aged 62.

Robert Silvester Kelso, M.D. Rush Medical College, 1864; a member of the American Medical Association; a veteran of the Civil War; died at his home in Joplin, Mo., March 12, from influenza, aged 76.

Alexander R. Gray, M.D. Jefferson Medical College, 1855; a surgeon of volunteers during the Civil War; died in his room in the Jenkintown House, Jenkintown, Pa., March 12, from heart disease, aged 78.

Frank A. Van Sickle, M.D. Detroit (Mich.) College of Medicine, 1892; a member of the American Medical Association; died at his home in South Frankfort, Mich., March 10, from septicemia, aged 46.

Laura Cowgill Bates, M.D. Northwestern University Woman's Medical School, Chicago, 1885; formerly of Chicago; died at her home in Pasadena, Cal., March 15, from cerebral hemorrhage, aged 62.

John L. Witt, M.D. St. Louis College of Physicians and Surgeons, 1890; (license, Iowa, 1886); for many years a practitioner of Logan, Ia.; died in a hospital in St. Louis, March 3, aged 56.

Columbus V. Massey, M.D. American Medical College, Eclectic, St. Louis, 1878; a member of the American Medical Association; died at his home in Chicago, March 20, from heart disease, aged 62.

Harrison Andrew Lyding, M.D. Rush Medical College, 1910; of Chicago; an intern in Michael Reese Hospital; died in that institution, March 20, from scarlet fever contracted from a patient, aged 23.

Edwin Samuel Howe, M.D. University of Vermont, Burlington, 1880; formerly supervisor of Blackbrook, N. Y.; died at his home in Au Sable Forks, N. Y., March 4, from heart disease, aged 55.

Lee R. Ashley, M.D. University Medical College of Kansas City, Mo., 1897; a member of the Kansas Medical Society; died at his home in Pleasanton, February 8, from typhoid fever, aged 38.

Joel Allen (license, years of practice, Illinois, 1877); surgeon of the Seventy-Seventh Illinois Volunteer Infantry during the Civil War; died at his home in Pontiac, March 9, from influenza, aged 83.

Arthur John Perry Howe, M.D. Long Island College Hospital, Brooklyn, 1909; house physician of St. Mary's Hospital, Hoboken, died at his home in Brooklyn, March 18, from heart disease, aged 27.

John V. Baird, M.D. Eclectic Medical Institute, Cincinnati, 1892; for two terms a member of the Indiana legislature; died at his home in Albany, March 12, from cerebral hemorrhage, aged 60.

Ernest McCue Thrift, M.D. University College of Medicine, Richmond, 1898; a member of the Medical Society of Virginia; died at his home in Madison, March 6, from pneumonia, aged 37.

Joseph L. Brown (license, Washington); a pioneer practitioner of Tumwater where he located in 1879; died at the home of his daughter at Black Lake, Olympia, Oct. 5, 1910, aged 82.

S. Albert Fishblate, M.D. Eclectic Medical College of the City of New York, 1879; of Pittsburg; died at the home of his sister in that city, February 23, from locomotor ataxia, aged 55.

William Thomas Masterson, M.D. Louisville (Ky.) Medical College, 1890; of Birmingham, Ala.; died at the home of his sister in Oakman, Ala., March 17, from cerebral hemorrhage, aged 55.

John W. Nelms, M.D. Southern Medical College, Atlanta, 1889; for twelve years sheriff of Fulton County, Ga.; died suddenly at his home in Atlanta, February 28, from heart disease.

Edwin Franklin Burkert, M.D. Medical College of Ohio, Cincinnati, 1884; of Dayton, O.; died in the Dayton State Hospital, Sept. 21, 1910, from acute confusional insanity, aged 53.

Daniel C. Badgeley (license, years of practice, West Virginia); a practitioner of Simpson for more than a quarter of a century; died at his home, March 5, from cancer, aged 80.

Brewerton Munro Lebby, M.D. Medical College of the State of South Carolina, Charleston, 1860; died at his home in Sumter, S. C., Sept. 4, 1910, from laryngitis, aged 77.

Flinn Browning B. Ilderton, M.D. Medical College of the State of South Carolina, Charleston, 1881; died at his home in Sum merville, S. C., Dec. 13, 1910, from pneumonia, aged 56.

Samuel Hamilton Frazer, M.D. Eclectic Medical College of the City of New York, 1879; formerly of Newark, N. J.; died in Saratoga Springs, N. Y., February 24, aged 67.

Samuel Mauffette, M.D. Laval University, Montreal, 1903, of Montreal, died in the Hôtel Dieu, Montreal, in October, 1910, from the effects of gunshot injury, aged 32.

Charles Sedgewick Rounsevel, M.D. Hahnemann Medical College, Philadelphia, 1882; died at his home in Nashua, N. H., Nov. 7, 1910, after a surgical operation, aged 71.

Emily Pardee-Disbrow, M.D. New York Medical College and Hospital for Women, New York City, 1875; died at her home in South Norwalk, Conn., Nov. 30, 1910, aged 67.

David W. Jones, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1870; of Hagerstown, Md.; died at the Bellevue Home, in that city, March 4, aged 84.

Martin H. Cassell, M.D. Jefferson Medical College, 1868; a veteran of the Civil War; died in his apartments in Davenport, Ia., March 18, from heart disease, aged 65.

Millard F. Brown, M.D. Indiana Medical College, Indianapolis, 1873; an early resident of the town of Lenox, Ia.; died at his home in that city, March 2, aged 61.

John Wesley Filkins, M.D. Northwestern University Medical School, Chicago, 1866; of Seattle, Wash.; died in the Pasadena (Cal.) Hospital, March 7, aged 62.

Foster Fish Robinson, M.D. Kentucky School of Medicine, Louisville, 1877; died at his home in St. Louis, January 10, from valvular heart disease, aged 58.

B. Blastus Robison, M.D. Tulane University, New Orleans, 1892; died at his home in Godley, Tex., June 4, 1910, from cancer of the stomach, aged 45.

George Adelbert Walters, M.D. Rush Medical College, 1895; died at his home in Wesley, Ia., March 14, from diabetes complicated by pneumonia, aged 40.

Linn Henry Corey, M.D. University of Vermont, Burlington, 1905; died at his home in Woodstock, Vt., Nov. 27, 1910, from intestinal tuberculosis, aged 32.

Orpha Desiah Baldwin Bruce, M.D. Boston University School of Medicine, 1885; died at her home in Tampa, Fla., Dec. 10, 1910, from anemia, aged 59.

Reuben C. Hoover, M.D. Pennsylvania Medical College, Gettysburg, 1843; died at his home in Osborn, O., March 19, from cancer of the face, aged 89.

George W. Andrews, M.D. Western Reserve University, Cleveland, 1875; died at his home in Ramsey, Ill., March 10, from pneumonia, aged 59.

Maurice John Wiltse, M.D. University of Vermont, Burlington, 1898; died at his home in Burlington, March 2, from locomotor ataxia, aged 46.

John William Barry, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Springfield, O., Nov. 3, 1910, from nephritis, aged 64.

John O'Ferrall, M.D. Cincinnati College of Medicine and Surgery, 1863; died at his home in Danville, Ill., March 7, from nephritis, aged 74.

Francis Sterling Mudd, M.D. Tulane University, New Orleans, 1883; died at his home in Lafayette, La., Oct. 29, 1910, aged 81.

Frederick W. Dantzler, M.D. South Carolina; died at his home near Holly Hill, June 15, 1910, from cirrhosis of the liver, aged 64.

Joseph T. Miller, M.D. Jefferson Medical College, 1871; died at his home in Hartford, Ky., March 11, from pneumonia, aged 71.

Lonzo F. Brown, M.D. Medical College of Indiana, Indianapolis, 1879; of Alamo; died in Indianapolis in November, 1910, aged 58.

Association News

THE LOS ANGELES SESSION

Mountain and Seaside Hotel Accommodations Available

Dr. H. Bert Ellis, Chairman of the Committee on Arrangements, writes that, in addition to the hotel accommodations already announced for the Los Angeles session, those who may desire to stay either at the seashore or near the mountains will be given special rates at the Hotel Maryland at Pasadena, and the Hotel Virginia at Long Beach.

The Maryland is situated in Pasadena, 9 miles from Los Angeles. It is a first-class, homelike place and special rates have been made which include transportation, both ways, via the electric lines, between Pasadena and Los Angeles. Trains run every ten minutes.

The Hotel Virginia is a fire-proof, first-class, modern hotel, directly on the beach at Long Beach, and is reached from Los Angeles via the Pacific Electric Lines by trains every twenty minutes. The run takes forty minutes.

Members and their families and friends will find either of these cities very delightful places to stay during the meeting, and with the excellent train service no inconvenience will be experienced in reaching the meetings. Accommodations should be arranged for in advance.

THE SCIENTIFIC EXHIBIT

The Outlook for this Important Feature at the Los Angeles Meeting

The remoteness of the meeting place has been in no sense discouraging to the prospect for the Scientific Exhibit, at the coming session of the Association. In this as in other phases of the prospective meeting, the western men are alert to their obligations, having already assured liberal contributions. Dr. Stanley P. Black, Los Angeles, and Dr. William Ophuls, San Francisco, are looking after prospective exhibits from the coast region. The middle west has also promised commendable patronage. Dr. William A. Evans, Chairman of the Section on Preventive Medicine and Public Health, is seeking to do what we have striven at different times to persuade chairmen of sections to undertake, viz.: to coordinate the work of the sections with that of the exhibit. They should supplement each other.

A common fallacy in the minds of those who might exhibit, is the impression that only large collections are desired. The small research exhibit to which the gold medal was awarded last year, was offered at a late hour, with a modest apology and request that it be given a little corner somewhere. Institution and society collections must necessarily occupy the most prominent place in the Scientific Exhibit, but the small individual exhibit is also important. The committee is very anxious to encourage the latter.

Certificates of honor will be given to a few of the exhibits having superior merit. Medals and cash awards will be offered as detailed below.

1. Gold medal for best research exhibit dealing with any problem in the fundamental medical sciences.
2. Gold medal for the best exhibit on the basis of general excellence, from the standpoints of care in preparation, completeness and instructiveness.
3. Cash award of $100 for the best series of not less than six original cartoons dealing with any or all of the following health problems.
   (a) Insects in the causation of disease.
   (b) Beneficent effects of vivisection.
   (c) Pure food, and adulterated or contaminated foods.

The Committee on Scientific Exhibit reserves the right to purchase any of the cartoons offered in competition, at the rate of $10 each.

Those cartoons on which the award is made, become the property of the Scientific Exhibit. Other cartoons will be returned, if so desired, to the artists submitting them.

FRANK B. WYNN, M.D., Indianapolis,
Director of the Scientific Exhibit, American Medical Assn.

The Committee on a National Department of Health

President Welch has appointed the following as the Committee on a National Department of Health:

Dr. Herman M. Biggs, New York City.
Dr. S. G. Dixon, Harrisburg, Pa.
Dr. W. A. Evans, Chicago.
Dr. J. N. Hurty, Indianapolis.
Dr. J. N. McCormack, Bowling Green, Ky.
Dr. H. P. Walcott, Cambridge, Mass.
Dr. William C. Woodward, Washington, D. C.

Dr. Welch, by action of the House of Delegates, is also a member of the committee.

A preliminary meeting of the committee was held at New York on March 25, and an organization effected by electing Dr. Welch, chairman, and Dr. Woodward, secretary. After the discussion of some preliminary matters, the committee adjourned to meet in the building of the New York City Health Department, at 10:30 a. m., Saturday, April 1.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

DR. BERTHA C. DAY

A Mail-Order Medical Faker Specializing on the Diseases of Women

A study of the multitude of mail-order medical fakes makes plain one fact: Few of such concerns are owned by the renegade physicians whose names adorn the stationery of the companies. Most companies of this kind are organized and capitalized by shrewd—and often unscrupulous—business men. These companies are run solely and only for profit; the health or well-being of the victim who seeks their aid is a matter of indifference. It is not the state of the patient's health that concerns these harpies, but the condition of his pocketbook; it is not his sufferings they seek to relieve him of, but his money. The business is a commercial one; pills and tablets bought by the million from pharmaceutical houses; form letters skilfully designed to imitate either hand-writing or typewriting; testimonials; lists of names of "easy marks" purchased from letter brokers; unscrupulous physicians whose incompetency has made them failures in the honorable practice of medicine and who are willing to sell their birthright of professional honor for a miserable mess of pottage—these are the stock in trade of mail-order medical fakers.

In Fort Wayne, Ind., there are two mail-order medical concerns said to be doing a large and profitable business, and to be owned and operated by one William C. Griffin, a dealer in teas, coffees, etc. These are the J. W. Kidd Co., which "treats" anything from consumption to corns and the Dr. Bertha C. Day Co., which makes a "specialty" of "diseases of women." There is another "diseases of women" mail-order fake in the same town run by a Dr. Luella McKinley Derbyshire. It is said that the Derbyshire concern used to be owned by Griffin, but was purchased by Dr. Derbyshire about 1903. From a business standpoint, it seems rather unkind for Griffin to sell out a "female specialist" mail-order business and later start a competitive house. In 1906, Dr. Derbyshire was arraigned in the Federal courts on the charge of sending obscene matter, in the form of consultation blanks, through the mails. Her defense was, according to the papers, that the blanks were the same as those which had been used by Griffin for some years before she purchased the business from him, and that she "understood that a competent lawyer had gone over the blanks and found that there was nothing unmailable in them." Dr. Derbyshire's methods of doing business are practically identical with those of Dr. Day, and her diagnoses are just as fraudulent and worthless. In a later article, we may give some space to the Derbyshire concern and also to the Kidd branch of Griffin's quackery.

DR. BERTHA C. DAY COMPANY

Dr. Bertha C. Day is the stool-pigeon for Wm. M. Griffin in operating a mail-order medical treatment for the "diseases of women." The Bertha C. Day concern advertises in those cheap and nasty magazines that are the sheet-anchor of the advertising medical faker; it also has an occasional advertisement in the less particular newspapers (Fig. 1). Bertha C. Day advertises that she is "a woman—a wife—a mother—a successful physician—a specialist on diseases of women." She puts great stress on her "long and varied experience." In a booklet entitled, "Diseases of Women and The Home Medical Guide" (Fig. 2), which she sends to those who answer the advertisement and which she claims to have written, we read:

"Her *vast experience* as a physician is only one of the qualifications she possesses . . ."

"Her training and *vast experience* as a physician enables her to do more for suffering women than any woman can who is not a physician . . ."

"During *several years* of active life *as a general practitioner* she acquired a vast amount of valuable experience that very few ever possess . . ." [Italics ours.—ED.]

These quotations—from a book written in 1909—naturally give the reader the impression that Dr. Bertha C. Day has been in practice for several years. As a matter of fact, Dr. Day graduated from the Detroit Homeopathic College in 1907 and was licensed to practice in 1908! This would indicate that however "varied" her experience may have been, it could scarcely, with truth, be called long. As the "Bertha C. Day Company" was chartered in 1908—the year that Bertha C. Day received her license to practice medicine—her "vast experience" has evidently been confined to treating people she has never seen, by means of tablets bought in million lots and prescribed on diagnoses that are both worthless and fraudulent.

THE METHODS EMPLOYED

An individual, whom we may call Mrs. X, seeing one of Bertha C. Day's advertisements, wrote for particulars about the methods of "treatment." By return mail she received a form letter in which the date and her name were filled in by means of a typewriter. The letter stated among other things:

"Before preparing the treatment for you, however, it will be necessary for me to have a more thorough understanding of your case. I am, therefore, inclosing herewith a Symptom Blank, which I will be pleased to have you fill out and return to me."

The "Symptom Blank" consisted of a number of questions to be answered. There was also a list of diseases and symptoms, and the patient was instructed to "draw a line under any of the following diseases or symptoms you have." Accordingly, Mrs. X underscored the following:

"LEUCORRHEA"
"CONSTIPATION"
"PAINFUL PERIODS"
"FEMALE TROUBLE"

On sending this in to Dr. Day, form letter No. 2 came back, containing among many other things, the statement:

"A careful diagnosis of your case shows you have *Vaginitis, Constipation, Painful Menstruation* and *Female Weakness.*"

The words we have put in italics had been filled in by means of a typewriter, having the same style and size of type and the same color ink as that used in printing the rest of the letter. How much skill and "vast experience" was necessary to make such a diagnosis from the symptom blank? The facts are, the "careful diagnosis" showed that Mrs. X was suffering from the very complaints that she had told Dr. Day she was suffering from. In other words, Mrs. X diagnosed her own case. In the same form letter Mrs. X was told:

"I have mailed you a copy of my book, 'Diseases of Women and Home Medical Guide.' Be sure to read the description of your condition on Pages *86, 32, 58, 27 and 25-47.*"

THE FREE AND SPECIAL TREATMENTS

Here again, the figures we are italicizing were the only part of the paragraph that had been typewritten; the rest was printed. The same mail that brought this letter also brought a "free trial treatment," supposed to last three days and also a "special treatment" for which she had not asked. Mrs. X was told:

"Your case seems to be of long standing and you really should have the complete Course of Treatment at once, if you are to be completely cured. As I want to do everything possible for you, I have prepared a 'Special' course of treatment for you and am sending it, postage paid, in the same package with the free remedies."

The free treatment consisted of:

Six purple, triangular, coated tablets marked "C."
Three red, triangular, coated tablets marked "D."
Three pink, circular, coated tablets marked "45."
Two large, white, oval, uncoated tablets for vaginal use marked "31."
One large, soft, cylindrical, vaginal suppository marked "30."

The "special treatment" received by Mrs. X consisted of six different kinds of tablets each labeled with a letter or number, prefixed with the words "Dr. Day's Private Formula:"

"No. A :" fifteen red, triangular, coated tablets.
"No. B :" fifteen lavender-colored, triangular, coated tablets.
"No. 45 :" fifteen pink, circular, coated tablets.
"No. 58 :" fifteen brown, circular, uncoated tablets.
"No. 14 :" thirty-two, lavender-colored, circular, coated tablets.
"No. 31 :" fifteen large, white, oval, uncoated tablets for vaginal use.

The probable composition of these variegated and multi-shaped tablets was determined in the following manner: In addition to her usual advertisements, Dr. Bertha C. Day also advertises that she will send "free prescriptions" to those


THE GENTLEWOMAN

Ill Women

Send Me To day The Coupon Below And I will Help You FREE

DR. BERTHA C. DAY

I AM A WOMAN—a wife—a mother—a successful physician—a specialist in diseases of women. As a woman I have suffered and know how to sympathize with other women who suffer. As a physician I have studied the peculiar ailments of women and know how to cure them. As a sister I want to help you—and will help you Free.

A Sister's Sympathy — A Doctor's Ambition — A Woman's Generosity

SEND ME NO MONEY

Just Fill in the Coupon and Mail It to Me

Coupon for FREE Prescription and FREE Book

Fig. 1.—Photographic reproduction (much reduced) of a typical advertisement of Dr. Bertha C. Day. Note the coupon in the lower right-hand corner by means of which Dr. Day pretends to be able to diagnose a woman's ailments. The size of the original advertisement, which appeared in *The Gentlewoman*, was about 10 by 14 inches.

who will fill out and send her the blanks that accompany such advertisements. One such blank was filled out and sent in by another person giving the same symptoms as those Mrs. X was supposed to be suffering from. In reply, there were received a letter and five printed prescriptions (see also Fig. 3); each of these was numbered or lettered the same as the tablets sent to Mrs. X, except that there was no prescription for "No. 31"—the tablets for vaginal use. Incidentally, at the same time that the "free prescription" was received the express company brought a package of tablets from Dr. Day, C.O.D., $2.50. But of this more later. According to these prescriptions, the tablets "A," "B," "45," "58" and "14" have the following composition:

℞ "A"

Ext. Gentian	7½	grains.
Strychnin Sulphate	¼	grain.
Ext. Quassia	7½	grains.
Bicarb. Soda	45	grains.

℞ "B"

Strychnin Sulphate	¼	grain.
Ext. Rhubarb	15	grains.
Ext. Cascara Sagrada	15	grains.
Bicarb. Soda	30	grains.

℞ "45"

Cascarin	4	grains.
Aloin	4	grains.
Podophyllin	2½	grains.
Ext. Belladonna Leaves	2	grains.
Strychnin Sulphate	¼	grain.
Oleoresin of Ginger	2	grains.

℞ "58"

Strychnin Sulphate	1/6	grain.
Powdered Ipecac	1/2	grain.
Oleoresin of capsicum	1/12	grain.

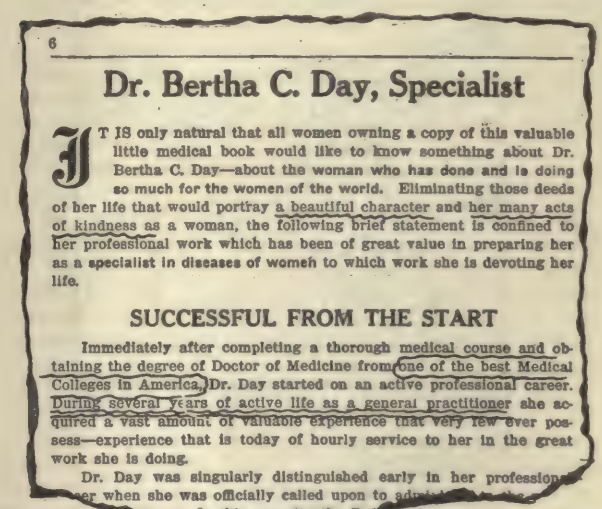
℞ "14"

Ext. Black Haw	30	grains.
Ext. Jamaica Dogwood	15	grains.
Powdered Ginger	½	grain.
Fluidextract of Pulsatilla	30	m.
Fluidextract Gelsemium	3½	m.

As has been said there was no prescription for "No. 31," but printed on the box that contained these vaginal tablets was the statement:

"Each contains 3 grains of acetanilid and ½ grain (¼ gr.?) powdered opium."

As this information was put on the box, apparently as an afterthought, by means of a rubber stamp, the lettering was


6

Dr. Bertha C. Day, Specialist

IT IS only natural that all women owning a copy of this valuable little medical book would like to know something about Dr. Bertha C. Day—about the woman who has done and is doing so much for the women of the world. Eliminating those deeds of her life that would portray a beautiful character and her many acts of kindness as a woman, the following brief statement is confined to her professional work which has been of great value in preparing her as a specialist in diseases of women to which work she is devoting her life.

SUCCESSFUL FROM THE START

Immediately after completing a thorough medical course and obtaining the degree of Doctor of Medicine from one of the best Medical Colleges in America, Dr. Day started on an active professional career. During several years of active life as a general practitioner she acquired a vast amount of valuable experience that very few ever possess—experience that is today of hourly service to her in the great work she is doing.

Dr. Day was singularly distinguished early in her professional career when she was officially called upon to advise [illegible]. In this capacity the [illegible]

Fig. 2.—Photographic reproduction (reduced) of part of a page from the booklet, "Diseases of Women," "written and published by Dr. Bertha C. Day." Note the modesty of Dr. Day's self-delineation: "beautiful character," "acts of kindness," etc. Note, also, reference to "one of the best medical colleges in America." In the Carnegie report on medical education the following statement is made regarding this college: "*Laboratory Facilities:* These are wretched . . . The teaching rooms are bare except for the chairs and tables; the building is poorly kept." The same college is also grouped by the Council on Medical Education of the American Medical Association in "Class C," that is, "Medical colleges which would require a complete reorganization to make them acceptable." Note, too, the reference to the "several years of active life as a general practitioner." These words were written in 1909; Dr. Day became legally entitled to practice medicine in October, 1908! Years of experience, indeed!

so illegible that it was impossible to say whether the tablets were stated to contain ¼ or ½ grain of opium.

With the letter, notifying Mrs. X that the "special" and "free treatment" were being sent, was a page of directions for taking the medicines. The directions were printed in imitation typewriting and the "private formula" letters "A," "B," "C," "D," etc., have been filled in by means of a typewriter. The designation "No. 45," was printed instead of typewritten so that it is probable that whatever ails the patient, "Dr. Day's Private Formula No. 45" is always sent.

THE SLIDING SCALE OF PRICES

The price Mrs. X was asked for the "special treatment," was $2.00 and, as she did not send the money, Dr. Day, con-

sistently following the methods of mail-order fakers, sent a series of follow-up letters. The general object of these letters is, apparently, gradually to lessen the amount asked for the "special treatment." It was evident, however, from some of the letters sent to Mrs. X that the mailing clerks who send out these heart-to-heart "personal" talks from Dr. Day, are careless in selecting the right form-letter. In Mrs. X's case the first price asked, as has been already stated, was $2.00. In Dr. Day's third letter she says:

"As I made you a reduced price of $3.00, I hope you can remit the amount soon."

Evidently the mailing force at Dr. Day's establishment got this $2.00 patient confused with a $3.00 patient. Form letter No. 4 is one of those frankly, confidential epistles that the mail-order fraternity get printed by the hundred-thousand and sign with a rubber stamp. The amount of the bill is not mentioned in this letter, it is merely an earnest request to send the money. The next form letter, No. 5, commences:

"I am busy with my patients this morning, but I feel I must take time to write you a note . . ."

Then follows the usual farrago of sentimental nonsense about being " a woman and a mother," and having a "sympathetic feeling" for the patient and Dr. Day once more urges Mrs. X to send the money.

"Something must be done at once—we must come to an understanding. Your health is being neglected . . ."

Thus commences form letter No. 6, and something *is* done: Dr. Bertha comes down to $1.00.

"Send me a $1.00 bill and the special fifteen-day treatment is yours."

This $1.00, the patient is told, "will pay in full for the $3.00 course . . ."—which was originally offered in the first letter for $2.00. As a slight reward for giving the "cut rate" for her tablets of many colors Dr. Day asks that the patient will send in a number of names and addresses of "others who need treatment." Presumably, this is a cheaper way of getting a mailing list, than by purchasing the names of a letter broker.

According to the opening sentence in form-letter No. 7:

"This is the MOST IMPORTANT letter I have ever written to you . . . NOW LISTEN: if you can't see your way clear to accept the Special Treatment on the low terms I quoted you, simply send $1.50 and start using the remedies."

From this series of follow-up letters, which is but one of several series of a similar nature that we have on file, it will be seen that the price for this special treatment starts at $2.00, rises to $3.00, falls to $1.00 and closes at $1.50. To those who are familiar with the "ways that are dark and tricks that are vain" of mail-order medical concerns, this fluctuation in the market price of the "special treatment" merely means that the form-letters have been carelessly mailed. To the unsuspecting females who think that these letters are confidential personal communications to them, and to them alone, the variations in price must be disconcerting.

PRIVATE OFFICE OF DR. BERTHA C. DAY
SPECIALIST IN DISEASES OF WOMEN
FORT WAYNE, INDIANA
PRESCRIPTION BLANK

℞ No. 8

Desic. Thyreoids	gr. 15
Ex. Phytolacca Berry	gr. 30
Base qs ad	dr. 2 1/2

Misce et fiat No. xxx suppositores.
Sig: Take according to special directions.

℞ No. 58

Strych. Sulph.	gr. 1/6
Pulv. Ipecacuanhae	gr. 1/2
Oleo. Capsici	gr. 1/12

Misce et fiat No. xv tab tri. aut. cachet.
Signe: Take according to the special directions.

℞ No. 45

Cascarini	gr. 4
Aloini	gr. 4
Podophylli	gr. 2 1-2
Ext. Bella. Lvs.	gr. 2
Sulph. Strych.	gr. 1/4
Olei Zingiberi	gr. 2

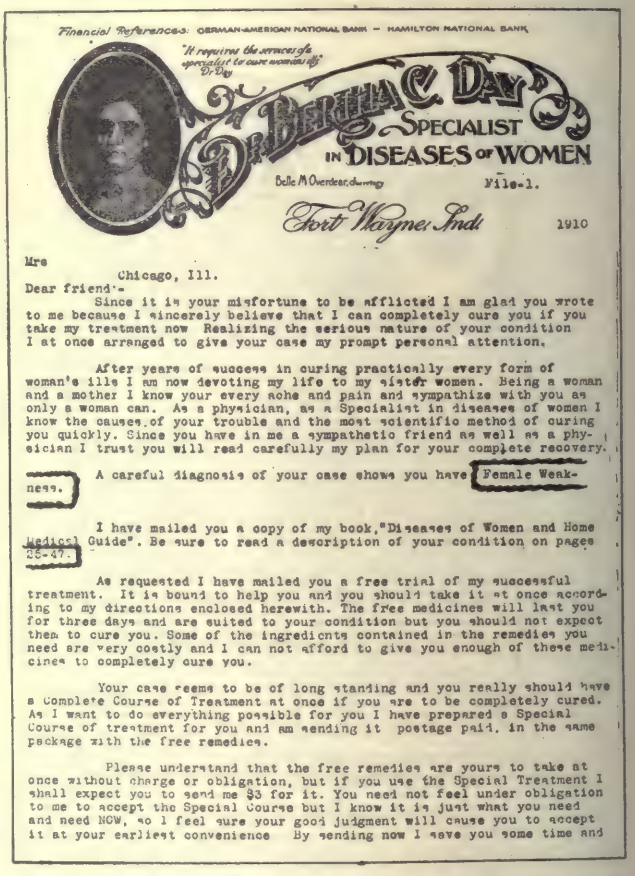
Misce et fiat No. xv pilulae aut tab trit.
Signe: Take according to special directions.

Fig. 3.—Photographic reproduction (reduced) of three prescriptions printed in imitation typewriting and sent by Dr. Bertha C. Day to a person supposed to be suffering from obesity. Notice that prescription No. 8 directs that the drugs be compounded *in the form of a suppository*, yet the directions sent by Dr. Day state that they must be "prepared *in tablet form*," one tablet to be taken before breakfast and one after dinner!

TWO OTHER DIAGNOSES

The following brief note was sent by another individual, whom we may call Mrs. Y, to Dr. Bertha C. Day:

"Dear Doctor:—Will you please write and tell me about your cure for female trouble?"



Financial References: GERMAN-AMERICAN NATIONAL BANK — HAMILTON NATIONAL BANK

"It requires the services of a specialist to cure women's ills" Dr. Day

DR. BERTHA C. DAY
SPECIALIST IN DISEASES OF WOMEN

Belle M Overdear, Secretary — File-1.

Fort Wayne, Ind. 1910

Mrs
Chicago, Ill.

Dear friend:-

Since it is your misfortune to be afflicted I am glad you wrote to me because I sincerely believe that I can completely cure you if you take my treatment now. Realizing the serious nature of your condition I at once arranged to give your case my prompt personal attention.

After years of success in curing practically every form of woman's ills I am now devoting my life to my sister women. Being a woman and a mother I know your every ache and pain and sympathize with you as only a woman can. As a physician, as a Specialist in diseases of women I know the causes of your trouble and the most scientific method of curing you quickly. Since you have in me a sympathetic friend as well as a physician I trust you will read carefully my plan for your complete recovery.

A careful diagnosis of your case shows you have Female Weakness.

I have mailed you a copy of my book, "Diseases of Women and Home Medical Guide". Be sure to read a description of your condition on pages 25-47.

As requested I have mailed you a free trial of my successful treatment. It is bound to help you and you should take it at once according to my directions enclosed herewith. The free medicines will last you for three days and are suited to your condition but you should not expect them to cure you. Some of the ingredients contained in the remedies you need are very costly and I can not afford to give you enough of these medicines to completely cure you.

Your case seems to be of long standing and you really should have a Complete Course of Treatment at once if you are to be completely cured. As I want to do everything possible for you I have prepared a Special Course of treatment for you and am sending it postage paid, in the same package with the free remedies.

Please understand that the free remedies are yours to take at once without charge or obligation, but if you use the Special Treatment I shall expect you to send me $3 for it. You need not feel under obligation to me to accept the Special Course but I know it is just what you need and need NOW, so I feel sure your good judgment will cause you to accept it at your earliest convenience. By sending now I save you some time and

Fig. 4.—Photographic reproduction (reduced) of one page of a two-page letter sent by Dr. Day in answer to a brief note, asking for particulars about her "cure for female trouble." Practically all of this letter was printed; the name and address and "diagnosis" only, being filled in by means of a typewriter. The words and figures in paragraphs three and four, around which heavy lines have been drawn, were the words that were filled in on the typewriter.

This is all that was written, yet the information was sufficient for the diagnostic powers of Dr. Day, who wrote back:

"A careful diagnosis of your case shows you have *Female Weakness*." (See Fig. 4.)

Here again the words we have italicized were filled in by means of a typewriter; the rest of the letter was printed in imitation typewriting. The regulation "free treatment" was also sent to Mrs. Y, together with a "special treatment." The price asked for the "special treatment" in this case was $3.00. It seems, then, that when Dr. Day puts up a "special treatment" for "female weakness, vaginitis, constipation and painful menstruation" she can do it for $2.00; when, however, she

makes a "special treatment" for "female weakness" alone, it costs $3.00. The principle on which this business is run, apparently, is that the less you have the matter with you, the more it costs to cure you.

The series of follow-up letters sent to Mrs. Y also shows as much lack of care in picking out the correct form-letter as did the series sent to Mrs. X. As Mrs. Y did not send the $3.00 asked for, form letter No. 2 came in due time, stating:

"As I made you a reduced price of $2.00, I hope you can remit the amount soon."

Here, apparently, is the form-letter that should have been sent to Mrs. X, who really was offered the treatment in the first letter for $2.00.

A DIAGNOSIS OF RHEUMATISM

Still another letter was written as follows:

"Dear Doctor:—Will you please write and tell me if you can do anything for rheumatism?"

By return mail came the stock diagnosis letter with the statement:

"A careful diagnosis of your case shows you have *rheumatism, and associated conditions.*"

A subsequent mail brought the inevitable "free treatment" and the accompanying "special treatment." Here again the carelessness of the detail work done in the Bertha C. Day office was apparent. In addition to the box of variegated pills that composed the "special treatment," there was sent a collapsible metal tube filled with an ointment smelling strongly of phenol (carbolic acid). This was marked "Dr. Day's Private Formula No. 26." The sheet of directions made no reference to Formula No. 26, but it did contain a statement regarding a "Formula No. 48." No preparation having the latter number was sent. The directions pasted on the tube of ointment read:

"Unscrew cap of tube, then screw nozzle in its place. Each evening wash the parts with soap and water. Insert nozzle into the rectum, forcing a small portion of the ointment out of the tube by pressing the lower end."

No nozzle accompanied the package and had it done so, it would be a little difficult to see how a person was going to be cured of rheumatism by injecting a carbolic acid ointment into the rectum. The facts were, of course, that the mailing force at Griffin's establishment had confused a "treatment" for "piles" with a "treatment" for "rheumatism." It is interesting to speculate what may have happened to the poor sufferer from piles who received the rheumatism treatment with directions to inject it into the rectum.

ANOTHER DIAGNOSIS AND A MODIFIED METHOD OF TREATMENT

As has already been shown, Mr. Griffin sometimes modifies his method of doing business. An advertisement appears in which Dr. Day offers to send "Priceless Prescriptions for the Cure of Female Diseases Free to Any Woman." Part of the advertisement is a coupon (Fig. 1) containing a list of diseases and symptoms and the patient is asked:

"Make a cross (X) in front of your trouble. Two crosses (XX) in front of the one from which you suffer most."

One of these coupons was sent in to the company with the word "obesity" marked. By return mail came one of Dr. Day's famous diagnosis letters, stating among other things:

"A careful diagnosis of your case shows that you have *Obesity and associated conditions.*"

"Obesity and associated conditions" were the four words in the whole letter that were filled in by means of a typewriter; the balance of the letter, with the exception of the name and address of the patient, was printed, in the usual imitation of typewriting. With this letter three prescriptions were sent. These prescriptions, printed in imitation typewriting on prescription blanks headed, "Private Office of Dr. Bertha C. Day," were an atrocious mixture of incorrect Latin and poor English, as may be seen by the photographic reproductions (Fig. 3).

After reading all that accompanied the prescriptions the cloven hoof became evident:

"There are so many reasons why I am afraid you will not be able to get these prescriptions filled properly and at the right price, that I have decided . . . to supply you with the medicines you need direct from my office . . .

"In order that you may begin treatment at once, to save you the trouble of ordering from me or of trying to have the various prescriptions filled, I have decided to send you the Special Treatment you need by Express, prepaid. I have paid the express charges so that all you have to pay the Express Co. is the reduced price of $2.50 which I am making to you."

Dr. Day then says that the patient is under no obligation to accept the package, but, as a physician, she feels it her duty to send the medicines at once. Furthermore, the $2.50 "also entitles you to my professional advice."

The victim, in this case, did not bite and received the usual series of follow-up letters urging her to take the package from the express company and to remit the money. Finally the patient wrote that she had not taken the packages from the express office because she could get the prescriptions filled at the drug store so much cheaper. Back came a letter, stating that this course was "perfectly satisfactory" to Dr. Day. How very unsatisfactory it was to Mr. Griffin's company is evident from the following paragraph:

"I wish to warn you against trusting this work to a careless and unprincipled druggist who might substitute drugs similar but inferior to those called for in the prescription."

Further:

"Be sure that all the medicines to be used internally *are prepared in tablet form.* This is very important." [Italics ours.—ED.]

Not content with vilifying the druggist and accusing him of substitution and lack of principle, those fakers are bound to make the patient dissatisfied with the druggist's work however honestly done. The main prescription of the three given above calls for desiccated thyroid and phytolacca berry compounded *in the form of a suppository.* Yet these humbugs have the effrontery to insist that the patient be sure that the medicine "be prepared *in tablet form.*"

CONCLUSION

So much for the methods of the Bertha C. Day mail-order medical fake. The dishonesty of the claims, the fraudulence of the methods and the general way in which the business is conducted, are all typical of those concerns which make a business of capitalizing suffering and defrauding the sick. Could that vast army of women whose gullibility permits these frauds to flourish but learn the hollow pretense on which such businesses are founded, the mail-order medical fake would cease to exist.

There are doubtless hundreds of thousands of men and women who really believe that the skilfully printed letters sent to them by mail-order quacks are special, personal and private communications. They doubtless believe too, that the "diagnoses" which these fakers furnish have actual value. They probably believe, also, that the pills of many shapes and colors that are sent out by these concerns have some peculiar potency and value not possessed by the drugs prescribed by the family physician. They must believe all these things or the mail-order medical business would not be profitable.

Did the victims of these sharks really know that the letters are printed by the hundreds of thousands and are "filled in" by girls who have no more medical knowledge than the average school-girl would have; did they know that the "diagnoses" are always worthless and sometimes dangerous; did they know that the medicines furnished are often the cheapest of cheap drugs bought in enormous quantities from the least reputable of drug houses; did they know, too, that after they had been bled to the point where they are unwilling to part with any more money, their letters would be sold to other vampires in the same business—did they know all these things, the firms that pretend to cure diseases about which they know nothing, with drugs about which they know less, in patients they have never seen, would soon be forced into some more respectable, if less profitable, line of business.

An Unscientific Prescription

To the Editor:—There have recently been published in the department of THE JOURNAL devoted to the "Propaganda for Reform," some excellent examples of shot-gun prescriptions, accompanied by terse and appropriate criticisms.

Below, I offer an exact copy of a prescription which a patient was given by a physician practicing at a mountain resort where she visited last summer. She affirmed that it did her much good, showed it to me for its educational value, would not part with it for anything, but permitted me to take a copy. I might add that her complaint was of a slight indigestion, and that besides these wonderful powders, she was ordered a daily enema consisting of 1 dram of turpentine in 2 quarts of water, and a diet consisting of milk and weak tea to be continued two weeks. She of course credited the powders with being the curative agent.

℞

P. Ex. Nucis Vom	gr. 1/10
P. Ex. Casc. Sag	gr. iii
Salol	gr. i
Pancreatin	gr. ii
Charcoal	gr. v
Pepsini Puri	gr. iv
Sod. Bicarb.	gr. x

D. T. D. Pulv. No. xvi.
Sig. One t.i.d. p.c.

I offer this in the hope that it may serve as a text for some further remarks on "prescription writing."

M. Schulman, New York.

Comment: The above prescription is not one to be recommended because it is an attempt to meet too many indications in the same formula. It is evident that the writer wished to give a tonic, a laxative, an intestinal antiseptic and a digestive agent. In order to meet all possible emergencies, he has introduced two digestives, one active in acid and the other in alkali. Of course, only one of these can be efficient, and as clinical experience shows that pepsin is secreted whenever acid is present, the pepsin in the prescription is superfluous. Furthermore, the prescription is an example of polypharmacy, and is to be criticized on this account, although it is not so bad in this regard. Such a combination would have a tendency to correct hyperchlorhydria, flatulence and constipation, and possibly it was given for such a purpose.

As we have frequently mentioned the desirability of making the language of a prescription correct and consistent, avoiding a hodgepodge of Latin and English, we need only add that the prescription given above has not been edited.

Correspondence

Physicians—The Supply and Demand

To the Editor:—We read now and then of the oversupply of medical practitioners in Great Britain, France, Germany and the United States. Is not this condition due to the congestion of favored localities and not to the demands of the world?

The relation of the medical profession to the movements for the spread of civilization and the development of backward regions of the earth has never been properly realized. There are as yet very few physicians appointed by civilized governments as functionaries, consuls and consular agents, but wherever they have been given official positions they have made good in an exemplary manner.

Countries imperfectly developed would benefit greatly by appointment of men with a medical training as officials in their remote districts. These men would enter fully into the life of the people, carry out sanitary regulations, keep accurate vital statistics, and would furnish reports on climates, soils, ethnology, geology and biology that would be of value to the government employing them and to the whole world.

Men of no other class are so well adapted for this work; their professional services and humane principles would insure the confidence of those placed under their supervision.

China affords an extensive field for physicians, and the great success of medical missionaries there and in India and Turkey shows that the harvest is plentiful even if the proper laborers be few. The United States furnishes a wide scope for medical men, not only in Alaska and the island possessions, but also as consular agents in South and Central America, in the Balkans, Asiatic Turkey, Persia and other unadvanced countries. The great success of Dr. Grenfell in Labrador shows what even one medical man can do, and what no one but a medical man could have accomplished.

William P. Whery, M.D., Fort Wayne, Ind.

What About the Medical Profession in This Country?

To the Editor:—Mr. Pritchett's article in The Journal, February 25, on criticisms of the Flexner report recalls some reflections I made at the time of reading the report. On pages 13 and 14 of the report the question of ratio of physicians to population in Europe and this country is discussed and the conclusions are based on the supposition that the same ratio of physicians to population would be sufficient for this country. Mr. Flexner's reasoning may be logical but I submit that his major premise, to wit, that this country can be served by the same ratio of physicians to population here as in Europe, is wide of the mark.

Medical attendance in European countries is a luxury, usually possible only to the better classes, at least until very recently when, for economic reasons, the state has brought it within reach of the workers in large industries to keep the latter going. The barbarous system of midwifery is still in existence among all but the highest strata of society—and the paupers at maternities. Just now, the Russian sanitarians are finding out that puerperal sepsis is as prevalent in midwife practice outside of institutions as before antiseptic days. It is beneath the dignity of a physician of continental Europe to attend an ordinary case of confinement, and it is beyond the ability of the ordinary industrial family to pay for such service.

In this country, conditions are entirely different. Our sense of humanity dictates that, in any case of confinement needing any attention beyond the good offices of the neighbor or relative female friend, the woman should have the assistance of a physician. Every American, or Americanized parturient demands it—it is a humane necessity to our women, a luxury to their European sisters. So far all industrial classes of our population outside of the slum districts and half civilized foreign quarters have been able to get this service and pay for it. And so with ordinary cases of sickness; here the masses send for the physician and are able to pay him, while among the masses in Europe the physician is not called except in extreme emergencies and the patient usually recovers or dies and no more is thought of it, except that it is an act of God.

I am not overstating it when I say that our higher standard of living demands at least twice as large a ratio of physicians to population as does Europe. The public is now demanding and paying for the services of twice as large a ratio of physicians. I am now speaking of conditions as I know them to exist in the northwest. There is no overcrowding of physicians in the northwest outside of the large cities; in fact, there are any number of good openings for men who are competent to do general practice and willing to drive out 10 or 15 miles in the country at night, any time of the year, for a reasonable fee. Now, understand, I say competent and willing to do general practice in small towns and rural districts.

I believe Mr. Flexner mentions one Johns Hopkins' graduate who settled in a rural district, and I know of a few others who could write B.A., M.A. and M.D. after their names who, have settled in rural districts, but these are exceptions that prove the rule that the man who has the time and the money to spend ten of the best years of his life to acquire a medical education does not settle in small towns to engage in general practice. The demand now existing for a competent general practitioner cannot be filled from the high-class medical graduate—for obvious reasons, psychologic, social and commercial.

Mr. Flexner has done a valuable service to the medical profession of this country by fearlessly spotting the commercial diploma mills. But his constructive medical education program will not meet the needs of this country. We have, for instance, one good medical school in Minnesota, but the records of admission to practice here show that it is wholly inadequate to the needs of the state. Happily, Chicago is near by and can help us out, and our legislature has opened the door to the osteopath to supply any possible shortage

of doctors. Mr. Flexner's Prussian idea of one doctor to every 2,000 population does not work in this country where a popular legislature and not the Kaiser's Kultus-Minister has the say in this matter.

Of late years the medical education theorist—Flexner is the type—has been raising the requirement for medical licensure to correspond with intramural conceptions. On the other hand, the public through the legislatures has been creating osteopaths and the like, to supply themselves with medical service outside of the regular profession; these two processes go on *pari passu*. The higher the professional requirement beyond a certain point—already passed in some states—the wider the doors for irregular "paths" and quackery are opened. It takes no prophet to see that if the medical theorist keeps forcing his hobby we shall soon have several legal medical professions in this country. How would it be if the general practitioner, the one who knows the needs of the people he is serving, were given a hearing on this question?

CHRISTIAN JOHNSON, M.D., Willmar, Minn.

[COMMENT:—Our correspondent apparently misunderstands the argument. Mr. Flexner did not intend to imply that the Prussian ratio was applicable to this country. In the report referred to, at the bottom of page 16 and the top of page 17, it is distinctly stated: "We are not now arguing that a ratio of 1 :1500 is correct . . . Our contention is simply that, starting with our present overcrowded condition, production henceforth at the ratio of one physician to every *increase* of 1,500 in population will prevent a shortage, for the next generation at least." And in order to avoid any possible misunderstanding, the word "increase" in the report is in italics. As to the reluctance of well-trained physicians to locate in small towns, the same is apparently true of graduates of low grade colleges. Regarding such localities, Mr. Flexner says, (p. 15) "A century of reckless overproduction of cheap doctors . . . has not forced doctors into these hopeless spots." Furthermore, Mr. Flexner makes the suggestion on page 16 that, as a last resort, possibly the best way to get good men to go to unpromising locations is for "the several states to salary district physicians in thinly settled or remote regions."—ED.]

The Plague in China

[Dr. Hiram Woods of Baltimore sends the following extract from a letter from a missionary in Paoting-Fu, China, who is supported by the First Presbyterian church of Baltimore.]

Feb. 5, 1911: We are in the midst of a siege of plague, This plague started in Harbin, Manchuria, late in November, or early in December, last year. The Chinese were very slow to take hold of it, and so it got a big start. Then other nations (Russia and Japan) said something must be done or they must interfere to stop its ravages. China, fearing lest these nations should get a greater foothold than they now have, asked for volunteers in our Union Medical College in Peking. Four men came forward to help. The Chinese also used the medical staff and the students in their two medical colleges in Tientsin. A professor from one of these colleges, Dr. Mesny, a Frenchman, went up, took plague and died, as did also one of his students.

The Chinese have been doing what they can to stop it in the original focus and in other places whence it has spread, but up to the present very little progress has been made in checking the epidemic. The medical missionary force has taken a leading part in the work everywhere, and one physician has died in Mukden, Dr. Johnson of the Scotch Presbyterian Mission. He seems to have taken every precaution, wore a respirator and covered himself well. He was a young man, very careful and conscientious, but his work of disinfection and segregation took him into crowded places.

This epidemic is not the bubonic form of plague but the pneumonic. It has been found that the greatest danger is air-borne infection; respirators are very necessary, therefore, when one comes in contact with infected individuals. Rats have been examined and no infection found in them. The government was very slow in stopping the trains, and the diesase was carried into China proper, and now it is present at many places in this province and in Shantung. Many workmen from these two provinces work in Manchuria, and when the plague broke out there they left for home. If the government had stopped the train service early, it could have prevented spread of the disease south of the government wall.

An individual only lives about two or three days, at most six, after taking the disease. There has not been a recovery in an authenticated case. A family came from Harbin to their home about 12 miles from here, and after arriving at home almost all the members were taken ill and died; other families were then taken ill. In all thirty-six persons have died in that small village. Two army physicians have gone down there to see what can be done in the way of isolating the families who have had plague and burning the houses and contents.

The officials have asked me to take charge of the sanitation of the city here and we have organized a plague prevention league. We meet every day and discuss measures by which we can prevent the plague from entering the city. Up to the present, we have had no authentic cases. Dr. Dilley of our mission in Peking, has kindly come to my assistance. He has taken charge of the hospital which we have prepared hurriedly for "suspects" and also takes the examinations of trains. We have been examining all passengers on the south-bound trains in order, if possible, not to allow the disease to spread further. We have heard of another place, 35 miles south of this city, where thirty persons have died in four villages. These villages will be examined and restrictive measures put on the migration of people. We are trying to instruct the entire police force here by daily lectures, lasting for an hour, so that if the disease should break out we will have some intelligent men to cope with it, who will know how to take a man to the hospital or a corpse to the cemetery without infecting themselves; and another batch to follow them in disinfecting houses. We are having all inns inspected twice every day so as to discover sick persons early and get them off to the "suspects" camp. We have three native doctors to help us; we ought to have fifty to do the work that should be done here to stop the ravages of plague if it gets into this city.

I have turned over my entire hospital force to the government service in this time of need, and I hope that this work with the officials may give us the opportunity to show them that we are not simply a cranky religious sect, but men who love our fellow men and serve our God, who is worthy of being their God and Savior.

I do not know when we will ever be able to do medical work, that is, to open our hospital here. Of course, if we got plague into it, we would be in a bad way, for it is said that burning is the only safe way to disinfect a building. I am afraid North China is in for a serious time for many years, and that our mission work will suffer much for this. It will be almost impossible to go to the country to work, as one would be constantly running into plague, and if this virulent form persists it means sure death to any one who takes the disease; as I have said, no one recovers. One can hardly dare to imagine the future of poor China for the next few months. The heat may stop the disease in a few months or so, or it may appear in bubonic form, when the flea season comes, and kill half the population; no one can tell. I wish America would show her friendship for this needy land now, and send out fifty sanitary engineers to cope with this awful pest, and thus save millions of lives that are worth saving. Can't you stir up President Taft or some big man to do this?"

CHARLES LEWIS, M.D., Paoting-Fu, China.
Physician in Charge, The Taylor Memorial Hospital.

The Secret Commission Evil

To the Editor:—I have read with great interest the article and editorial on "The Secret Commission Evil," in THE JOURNAL, March 11. I am glad to see the Association take such a position, as here in Kansas, commission-giving is practiced to an appalling extent. I have been offered a commission from the owner of a private hospital on the hospital fees of any patients I might send. A dentist friend of mine tells me he has been approached by a physician with a suggestion that he give a commission on patients that he might send to him, and

that this was not an uncommon practice. In Topeka, the ruling commission is 40 per cent, but one man has advanced it to 75 per cent.

In the last session of the legislature, the medical department of the university was interested in some bills which were introduced by a physician. A good friend of the institution told me that I had made a mistake in having a physician introduce any bills, as it always created a suspicion of graft and crookedness, and the members were very slow to accept it on that account.

I hardly know whether we can control this evil in Kansas or not. I have on file a letter, in reference to a statement that I made in regard to this thing, from a general practitioner which reads as follows: "I am surprised at the enclosed clipping. How many of the best surgeons in the state can you name who will not 'split the bill?' I do not know a surgeon in the state who would hog the whole thing."

I am afraid that this represents the feeling of a large percentage of physicians over the state. However, any help that you can give us in combating this evil will be greatly appreciated by at least some of us.

MERVIN T. SUDLER, M.D., Lawrence, Kans.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

JOURNALS ON SEXUAL PHENOMENA

To the Editor:—Please publish in your Department of Queries and Minor Notes the names of journals published in English or other language devoted to the study of sexual phenomena in any of their scientific aspects.

JOSEPH H. TOOMEY, M.D., Chelsea, Mass.

ANSWER.—So far as we know, the only journals devoted specifically to sexual phenomenon which are still being published are the following:

Die neue Generation, monthly official organ of the Bund für Mutterschutz, edited by Helene Stöcker, Berlin, Germany.

Sexual-Probleme, monthly, published by J. D. Sauerlanders, Frankfort on the Main, Germany.

Several others (chiefly German) have been discontinued. The transactions of several societies interested in the subject are published periodically. The transactions of the third congress of the Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten are published under the title of "Sexualpädagogik."

SANITATION AND CIVILIZATION

To the Editor:—What evidence have we that our sanitary and other measures (in the broadest sense) are of ultimate value as opposed to the fatalistic neglect of such measures among Oriental nations? For example, if we reduce the number of deaths from tuberculosis, or from all infectious diseases, may not other diseases —existing or to be developed—restore a balance in this phase of evolution?

I have in mind a comparison, in a broad way, of the span of life and the mortality (per 100,000) among savage and civilized races through a period of centuries rather than years, as well as the span of life and mortality of civilized races compared with those of former times.

I have in mind also the immunity gradually acquired to diseases such as syphilis and measles (as in South Sea Islands), where such devastation occurred. I am thinking also of the law "a rise in birth-rate entails a rise in death-rate, and *vice versa*," and in a larger way "of life on a basis subsistence," according to Malthus.

H. B. FORBES, Ogden, Utah.

ANSWER.—A full discussion of the subject proposed by our correspondent would consume more space than would be profitable for THE JOURNAL to devote to it. The data as to mortality in uncivilized or partly civilized countries are not sufficiently accurate to afford a safe basis for comparison. Of course, the early infant mortality in uncivilized countries tends to the survival of strong individuals as the weak die out. This is, however, a loss, for many such individuals who are weakly in childhood grow up under favorable circumstances to become vigorous adults of great value to the state. It is amply demonstrated that civilized communities tend to increase in population to a greater extent than savage tribes, and this is largely due to hygienic progress and sanitary laws. The fact that the Indians in this country are dying out shows the operation of insanitary conditions in spite of long habituation which ought to have brought immunity and prolonged life if the theory under discussion were true. See also abstract of Prinzing's paper on this subject in the Berlin Letter, March 4, 1911, p. 682.

ETIQUETTE OF CALLS BY NEWCOMER

To the Editor:—Please give the ethics of calling for doctors locating in new territory. Should the newcomer call first on resident practitioners? Is the old custom reversed?

E. R. BARNEY, Wattsburg, Pa.

ANSWER.—Several years ago THE JOURNAL answered this question, but because of the time that has elapsed, we repeat: "It is an accepted custom for young physicians and newcomers to call on the older physicians and those of longer residence in the locality. It is a mark of courtesy and respect due from one locating in a new place. He thus announces his arrival and his desire to be recognized in professional circles and friendships." Some correspondence followed this "answer," which made it evident that this custom is sometimes confused with that which governs social relations when a family moves into a new locality.

THYROID IN HEMOPHILIA

To the Editor:—In reply to the communication of Dr. N. C. Miller in THE JOURNAL of March 18, I would like to recommend thyroid extract for his cases of hemophilia. In the *Annals of Surgery*, May, 1907, I published an account of a case cured by this drug after I had exhausted all the ordinary methods of treatment. I always give thyroid extract in cases in which I suspect a tendency to bleed or in which any such tendency is shown. Also, in cases of disturbed metabolism when the tissues are indolent thyroid gives good results.

J. TORRANCE RUGH, Philadelphia.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—A little lard or hydrated wool fat (lanolin) rubbed into adhesive plaster will loosen it in a very few minutes and is much less unpleasant than gasoline or any other substance I have seen recommended in the recent discussion of this subject [Jan. 28, Feb. 25, and March 4, 1911]. Also, it can usually be found in every house.

H. R. COSTON, Birmingham, Ala.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 25, 1911.

Love, Joseph W., M.R.C., March 17, ordered to proceed from Fort Preble, Maine, to Fort Banks, Mass., for duty at that post.

Newton, Ralph W., March 17, ordered to proceed, about April 15, 1911, from Fort Revere, Mass., to Fort Andrews, Mass., for duty at that post.

Brooke, John D., and Hull, Alva R., cont. surgeons, March 11, entered into for duty as cont. surgeons, U. S. Army.

Eyster, George L., March 20, entered into for duty as cont. surgeon, U. S. Army.

The following named officers of the M. R. C. will proceed to San Diego, Cal., and report in person to the commanding general of the maneuver camp at that place for duty: First Lieutenants Alleyne von Schrader, William T. Cade, Jr., Herbert H. Sharpe, James F. Johnson, Bert R. Huntington, Harry G. Ford, Paul W. Gibson, Francis X. Strong and Robert C. McDonald.

The following named officers of the Medical Reserve Corps will proceed to San Antonio, Texas, and report to the commanding general, the maneuver division, for duty: First Lieutenants George E. Pariseau, Lauren S. Eckels, Lloyd A. Kefauver, John S. Coulter, Thomas J. Flynn, Frederick H. Foucar, Joseph L. Siner, John R. McKnight, Eugene G. Northington, Samuel S. Creighton, Robert H. Cantt, Edward C. Register, William Denton, George C. Divins, Howard Clarke, Clemens W. McMillan, Sanford W. French, Joseph O. Walkup, Horace M. Roberson, Leonard S. Hughes, Charles E. McBrayer, George B. Lake, Fred R. Burnside, Albert P. Clark, Daniel F. Maguire, Raymond W. Mills, Henry C. Maddux, Jay D. Whitham, Leo C. Mudd, Josiah H. Holland, John M. Willis, John J. Reddy, James L. Robinson, Henry C. Michie, Jr., Frank N. Chilton, Henry P. Carter, Harley J. Hallett.

Schreimer, E. R., major, March 16, reports arrival at Douglas, Ariz., with headquarters 3d Squadron and Troops I and K, 1st Cavalry.

Wolven, Homer F., D.S., March 12, returned to Vancouver Barracks, Wash., from temporary duty at Boise Barracks, Idaho.

Lynch, Charles, March 20, detailed to take charge first aid department of American National Red Cross.

Brown, Ira C., M.R.C., March 18, ordered from Fort Lawton, Wash., to Fort Douglas, Utah, for temporary duty.

Craft, Edgar D., M.R.C., March 21, relieved from duty at the Army Medical School in this city and ordered to Walter Reed General Hospital, Takoma Park, D. C., for duty.

Hemans, H. W., M.R.C., March 14, ordered to proceed from Fort Wayne to Fort Brady, Mich., for temporary duty.

Griffis, Frank C., M.R.C., March 20, ordered to proceed from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended March 25, 1911.

Farenholt, A., surgeon, detached from the naval hospital, Puget Sound, Wash., and ordered to the marine recruiting station, San Francisco.

Smith, W. B., P. A. surgeon, detached from the marine recruiting station, San Francisco, and ordered to the Naval Medical School, Washington, D. C., for instruction.

McCormick, A. M. D., medical inspector, commissioned medical inspector from Feb. 8, 1911.

Fiske, C. N., surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Georgia*.

Webb, U. R., surgeon, commissioned surgeon from Jan. 7, 1911.

Oman, C. M., surgeon, commissioned surgeon from Feb. 8, 1911.

Bachman, R. A., surgeon, commissioned surgeon from Feb. 27, 1911.

Sutton, D. G., P. A. surgeon, commissioned passed assistant surgeon from Nov. 29, 1910.

Sheehan, R. F., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Minnesota*.

Eaton, W. E., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *North Dakota*.

Ledbetter, R. E., surgeon, detached from the naval station, Cavite, P. I., and ordered home to await orders.

Peck, A. E., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval station, Cavite, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 22, 1911.

Cofer, L. E., asst. surgeon-general, detailed to deliver a lecture at Cornell University on "National Quarantine Measures," March 21, 1911.

Woodward, R. M., surgeon, directed to proceed to Cleveland, Ohio; Buffalo, N. Y., and Pittsburg, Pa., on special temporary duty, March 7, 1911.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles quarantine on special temporary duty, March 17, 1911.

King, W. W., P. A. surgeon, granted three weeks' leave of absence from April 7, 1911.

Chapin, C. W., asst. surgeon, granted twenty-one days' leave of absence from March 1, 1911, on account of sickness.

Hasseltine, H. W., asst. surgeon, directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Leake, J. P., asst. surgeon, directed to proceed to Arundel Cove, South Baltimore, Md., and report to the commanding officer of the Revenue Cutter *Algonquin* for duty.

Stevenson, J. W., A. A. surgeon, granted nine days' leave of absence from March 23, 1911.

Cumming, Hugh S., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Cofer, L. E., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Boards of medical officers were convened to meet on April 3, 1911, for the physical examination of candidates for appointment as cadet engineer in the Revenue-Cutter Service, as follows:

Baltimore.—Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon Dunlop Moore, recorder.

Detroit.—Surgeon R. M. Woodward, chairman; Passed Assistant Surgeon M. J. White, recorder.

Boston.—Surgeon L. L. Williams, chairman; Passed Assistant Surgeon G. L. Collins, recorder.

New York.—Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Philadelphia.—Surgeon W. C. Stimpson, chairman; Surgeon J. H. Oakley, recorder.

Seattle.—Passed Assistant Surgeon B. J. Lloyd, chairman; Acting Assistant Surgeon F. R. Underwood, recorder.

Milwaukee.—Surgeon J. O. Cobb, chairman; ....., recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

Newspaper Editorials on Medical Subjects

The growing interest of laymen in public health and medical questions is shown by the increasing amount of newspaper space devoted to the discussion of such subjects. We quote from a few recent editorial utterances:

Under the title of "Sectarian Legislation," the Milwaukee *Free Press* discusses, in a strong editorial, the relation of the state to the practice of medicine. Commenting on the protest made by "Christian Scientists" against the bill introduced in the Wisconsin legislature providing for the medical examination of school schildren, the *Free Press* says:

> "The protest . . . foreshadows a difference of opinion certain to become acute whenever sects become numerous enough to have an influential voice in the framing of our laws. Those who would be the last to interfere with another's religious belief will find themselves constrained to protest against regulating society in general in accordance with the Christian Scientists' construction of the laws of hygiene. For suggestions of disease are conveyed not alone by medical examinations, but by every placard marking a house where some contagious disease is quarantined, by every antispitting notice, every sanitary drinking fountain, in short by every one of the precautions through which modern science seeks to safeguard health and check the spread of disease.
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> "Experience shows that every parasite that infests the human body (and most skin diseases are parasitic) can be conveyed from one to another; that every juvenile disease, mumps, measles, chicken-pox, scarlatina, is highly contagious; that the most deadly infections that poison the human system may be contracted by contact of one with another: and that nothing could be better calculated to communicate any of them than children's games, with the playing and romping natural to all normal children. One of the reasons why a health examination is proposed for all schools is that the healthy may not be infected by the diseased, and that obscure diseases or ailments which have escaped the child's guardians, else he would not be in school, may at once be looked to and relieved.
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> "The other reason why school children are to be subject to examination has to do with eugenics, the new science that concerns itself with the welfare of society. Observation proves that schooling is thrown away on a sickly, a hungry, or a suffering child. Only normal pupils, well-nourished and in good health, are in condition to assimilate learning; on the others teaching is worse than thrown away. Neglected teeth, abnormal growths in nose and throat, imperfect vision and hearing have been found to have much to do with the backwardness of defective children, although most of these are easily remedied in the young, and when cured the mental deficiency frequently disappears.
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> "That is why the state is undertaking to make education effectual by attending to the physical condition of the children, and providing in case of poverty free medical, surgical or dental treatment with intent to make them first of all healthy little animals, to the end that bodily discomfort shall not incapacitate them for mental training. This is one of the most enlightened measures ever applied to the public school system, and it would be a thousand pities to let the theories of any sect interfere with it.
>
> "At present Christian Scientists are living in safety because they are a fraction of a law-abiding community. But, supposing them in the majority, the enforcement of their views would mean that there would no longer be such a science of sanitation; we should speedily revert to the era of epidemics; small-pox, cholera, typhoid, which are now avoided in crowded cities only by stringent regulation; tuberculosis, with nothing doing to abate its ravages, would soon regain lost ground, and puerperal infection would again number its thousands of victims. Modern therapy is becoming more and more a question of the prevention and combating of infection; Christian Science denies the existence of infection; on this vital issue the two are flatly opposed. Now is as good a time as any to determine whether medical experts and men eminent in research are to be our guides in matters of health."

The Louisville (Ky.) *Courier Journal*, after commending the Kentucky State Board of Health for enforcing the laws for the protection of public health says:

> "Those laws are none too strict as they are. Indeed, under them many a man is 'practicing medicine' who ought to be practicing blacksmithing and it is only flagrant cases of quackery that can be reached by the law. . . It is not an easy work at any time but when in addition to the opposition of the mountebanks themselves, it must meet the opposition of the ignorant and credulous who are the willing victims of the mountebanks, its task is one of increasing difficulty. It is a prevailing weakness of poor human nature which makes men and women—even intelligent men and women—fall so easily the prey of charlatans in and out of the medical profession. In order to help such people the law must do it in spite of themselves, and even in the profession whose protection, as well as that of its patients, is the object of the board, there are all too many who obstruct it with petty jealousies and unworthy suspicions."

Commenting on the work of the state medical society for the advancement of public health, the Columbia (S. C.) *State* says:

> "Until comparatively recent years the medical practitioners were content to give one patient at a time such relief as lay within their power and retire, but the broader and better point of view of the medical profession now is that the state, which is to say, all the people, is their care. Quietly, without advertising or ostentation, the profession has set itself to diligent endeavors to remove the cause of disease by educating the public to the truth that the conditions in which disease germinates and flourishes ought

not to exist. . . In the building of the Panama Canal, members of the medical profession have been the field leaders. They made progress possible. A great part of the state of South Carolina must be redeemed before it can be properly and profitably used by men and women, and one can think of nothing that would more quickly redound to the prosperity and happiness of the people than the acceptance of the leadership of the doctors in their efforts to bring about this redemption, a leadership which the doctors do not seek.

"The medical profession has never been selfish. It has always been self-sacrificing but its attitude has changed in that it has assumed a responsibility to the public which formerly was confined for the most part to the individual, and the invaluable opportunity of the public is to cooperate through its intelligent laymen, with a medical campaign that would assail the fortified breeding grounds of disease as well as to remove a disease or relieve pain from the particular victim that it has seized.

"This new and splendid demonstration by the medical practitioners as yet is scarcely understood by the laity but it is going on in South Carolina and if the people have regard for their interest, commercial and industrial, as well as physical, they will help the doctors and give them heed in their far-reaching activities to prevent and drive out the illness that flesh is heir to."

The Boston *Advertiser*, commenting editorially on bubonic plague and its ravages in Asia, says:

". . . The Massachusetts legislature has a duty to perform in making sure that the power of the State Board of Health shall be adequate and conditions favorable, for full protection of the public health. Possibly the legislature is so busy playing politics, that it cannot afford to waste much time on so trivial a subject. . . The powers of the State Board of Health are badly limited even now, as the result of agitation by commercial interests which . . . more anxious to make big profits than to keep their customers safe from contagion have pushed through former legislatures one bill after another with the idea of preventing the board's interference with the sale of products dangerous to the public health. . . It is about time for the public to take some interest in this matter. . . The public has a right to know and should know the names of the men who are trying to abolish the powers of the one board which stands between the people and the dangers of wide-spread contagion."

Discussing national health legislation, the Erie (Pa.) *Dispatch* says:

"This country certainly needs a department of health as a regular part of its national administration. This department ought to have as much power and influence as any of the departments of the cabinet. . . One of the first tasks such a department would undertake would be the prevention of the pollution of the waters of the great lakes. The great lakes are nothing but a great open sewer for all of the large cities bordering on them. . . The cities on this lower end of the lake would feel a great deal more satisfied if the matter were officially investigated and the actual truth of the situation determined by an official study of prevailing conditions by a department of the federal government. It is entirely too vital a question to leave to the surmises and hypotheses of local boards."

The Atlanta (Ga.) *Constitution* in a strong editorial on public health says:

"We are not at present adequately conserving the lives and health of the men, women and children whose sustained vigor is the final safeguard of American institutions. As was shown in the congressional debate last year . . . hundreds of thousands of people die prematurely and needlessly in America every year; millions are half-incapacitated the year round by semi-invalidism . . . Spending enormous sums on the pork-barrel, squandering millions on unjustified additions to the pension system, sinking money in battleships doomed to the junk heap . . . we neglect those factors on which perpetuity of government and prosperity in America depend—the men, women and children. Perhaps, in the course of time, some governmental department will find time to pay as much attention to eradicating disease among human beings as among cattle and hogs."

Discussing the relation of health legislation to industrial and labor problems the Omaha *Bee* says:

"The American Association of Labor Legislation . . . estimates that more than 13,000,000 cases of sickness occurring annually among industrial workers, represent a national loss of three-quarters of a billion dollars. . . It should not be necessary to reduce the loss to a money basis to obtain an attentive hearing. It should be enough simply to say that human life, without any regard to a money consideration, is being wasted by lax methods of sanitation. . . . One of the sanest and best enterprises ever undertaken in this country is the conservation of human resources. . . The people are willing to waive their claim to a protest against the seeming necessity of first resolving the question into terms of dollars and cents. . . This financial aspect may serve to arouse a lethargic public conscience to the overwhelming need of improving the conditions in which women and children work as a prime factor in their health."

Newspapers frequently criticize physicians as a class and it may have seemed to some that recently the profession was getting rather more than its share of such criticism. There has never been any question, however, as to the appreciation of the physician as an individual, as shown by the recent editorial in the Washington *Herald*:

"Of all the servants of mankind, the physician is apt to be the most abused. We criticize him and pigeonhole his bills, but at the first twinge we are jangling his bell in alarm. . . The physician is the man who must be ready always. Neither minute-hand nor hour-hand describes a time when he is not on duty. If he gets a whole night's rest, it is because the community happens to be free from aches and pains. He is the slave of telephone, night-bell, door-bell and office-bell.

"After a hard day's work, another man goes to bed with the sense of having earned his rest; but the probabilities are that the physician will be asked to respond to some one's beck and call. He is altogether a special kind of person. His illusions are few. His inside information is enormous. If now and then he wears a superior smile, forgive him. He has probably just heard some remark which he knows to be hypocritical. Again, his jokes are likely to be a bit technical, and his view of life materialistic. But if he has a brand of idealism, you can put your trust in it, for he has learned it in a hard school. He has faced the worst, and can still believe the best. If he has religion, it will be worth while, for he has wrested it out of the actual battles of good and evil in a life seen at close range.

"The lawyer we take into our confidence occasionally; the clergyman we admit to parlor and dining-room; but the doctor goes into bedrooms unannounced If what he sees there surprises him, he does not let it be known. In the healing of bodies he has opportunities for healing souls which could never come to a priest. He is the lay father confessor, regardless of creed. He always fits in. He is a safe man on committees; he can turn his hand to any public business, and, if left alone, discharges it creditably. He knows more psychology in five minutes than the philosopher in a week, yet he is the least emotional of men.

"When the lawyer is in tears before a jury, and the parson is pathetic from his pulpit, the doctor is keeping his nerve. The peculiar thing about him is that while fighting his grim and silent battle with death, without the applause of a crowd, often without pay, and sometimes without gratitude, he seems superior to all these considerations. He is responding to a higher sort of *noblesse oblige* which is almost unintelligible to the average man. Somewhere, either in this world or the next, he will reap his deserved reward."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—First Weekly Meeting

General Subject for the Month: Diseases of the Circulatory and Nervous Systems in Children

Diseases of the Circulatory System

Physiology: Changes in circulation at birth. Pulse in infancy and childhood. Weight, size and rate of growth of heart. Physical examination of heart in infancy and childhood.

CONGENITAL HEART DISEASE

PATHOLOGY: Defect in ventricular septum, in auricular septum, pulmonary stenosis, patent ductus arteriosus, abnormal origin of large vessels. Multiple defects. Secondary lesions.

SYMPTOMS: Cyanosis, murmur, enlarged right heart. "Clubbing" of fingers and toes. Blood changes.

PROGNOSIS.

ACUTE ENDOCARDITIS

Primary or secondary. Relation to rheumatism and chorea. Symptoms and diagnosis. Treatment.

CHRONIC VALVULAR DISEASE

PATHOLOGY: Changes occurring in valve segments, secondary changes, hypertrophy and dilatation.

CLINICAL VARIETIES

MITRAL INSUFFICIENCY: Frequency, causes. Symptoms. Diagnosis.

MITRAL STENOSIS: Frequency, associated lesions. Diagnosis.

AORTIC STENOSIS: Frequency, associated lesions.

TRICUSPID INSUFFICIENCY: Secondary to other valvular lesions or to pulmonary lesions. Diagnosis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

CALIFORNIA: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

COLORADO: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

IDAHO: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

MINNESOTA: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

MONTANA: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

NEW MEXICO: Santa Fe, April 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

RHODE ISLAND: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

UTAH: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

WEST VIRGINIA: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Higher Entrance Standards

An official announcement received from the School of Medicine of Georgetown University, Washington, D. C., states that after Jan. 1, 1912, in addition to a four-year high-school education, two years of collegiate work will be required for admission; this additional work to include courses in physics, chemistry, biology and a modern language, either French or German.

Besides the forty medical colleges which require one or more years of collegiate work, there are now six others, or a total of forty-six, which by 1912 will have advanced requirements. Not only are medical colleges taking this action, but also the licensing boards in eight states have adopted a like standard as their minimum of preliminary education, and several other states are now endeavoring to secure legislation which will enable them to do likewise. It is safe to say that within the next few years all the better medical colleges, as well as the states which have secured a better control of medical licensure, will have adopted these higher requirements.

This advance will not only bring some relief to the overcrowded medical curriculum, but it will also secure for the medical schools more intelligent students who will be more able to comprehend and to make use of the intricate facts which make up the modern medical course. Certainly no measure in the effort to improve the quality of physicians is of greater importance than this decided advance in the entrance standards to medical schools.

Presented Forged Credentials

A medical student by the name of Lutf Joseph Rashid was recently dismissed from St. Louis University School of Medicine on account of his having presented forged credentials. These credentials consisted of a printed document which made it appear that he had passed successfully in all the subjects of the freshman year at the Northwestern University Medical School, where he attended in 1909-'10. Correspondence between the deans of the two colleges revealed the fact that instead of passing in all subjects at Northwestern, he had failed in three out of four branches at the end of the first semester, in six out of seven branches at the end of the year, and that he had been dismissed by the last-named school on account of poor scholarship. This incident shows that no medical school should accept credentials at their face value without obtaining corroboratory evidence from the college or colleges which the student claims to have attended. Numerous forgeries have been discovered by this method, adopted as a routine by some colleges, which otherwise might not have been detected.

Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written and practical examination held at St. Paul, January 3-6, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 9, of whom 6 passed and 3 failed. Thirteen reciprocal licenses were granted. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Northwestern University Medical School	(1910)	79.5, 88.5
Boston University	(1908)	89.8
University of Michigan, Dept. of Med. and Surg.	(1895)	78.7
Jefferson Medical College	(1909)	76.6
Marquette University, Milwaukee	(1910)	80
FAILED		
Hamline University	(1908)	66.9, 73.9
Marquette University, Milwaukee	(1910)	68.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Keokuk Medical College, Coll. of Phys. and Surg.	(1906)	Iowa
State University of Iowa, College of Medicine	(1906)	Iowa
University of Maryland	(1878)	Maryland
Creighton Medical College	(1910)	Nebraska
University and Bellevue Hosp. Medical College	(1899)	Colorado
Columbus Medical College	(1887)	Ohio
University of Pennsylvania	(1910)	Maryland
Medical College of Virginia, Richmond	(1907)	Virginia
Marquette University, Milwaukee	(1910)	Wisconsin
Queen's University, Kingston, Ontario	(1906)	Iowa
University of Turin, Italy	(1895)	Michigan

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 5-6, 1911. The number of subjects examined in was 11; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 11, of whom 9 passed and 2 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Yale Medical School	(1910)	91.5
Baltimore Medical College	(1910)	86.9
Johns Hopkins University	(1908)	90.1
University of Maryland	(1910)	80
Harvard University Medical School	(1909)	87.9
Tufts College Medical School	(1909) 81.8, (1910)	89.4
Starling-Ohio Medical College	(1909)	80
McGill University, Montreal, Quebec	(1908)	89.3
FAILED		
Baltimore Medical College	(1909)	77.2
University of Vermont	(1910)	74.7

Book Notices

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume 1. Cloth. Price, $6 net. Pp. 909, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Renewed interest in therapeutics is indicated by the publication of several recent works dealing with diseases specially from the standpoint of treatment. This interest accounts for the present work, which is to consist of three volumes and to comprise both a discussion of general principles and a detailed application of methods to individual diseases. The first volume, a book of 909 pages, is before us. It presents the views of a large number of writers and exhibits the faults as well as the virtues of the composite book. Most of the articles, however, are excellent, as might be expected from the names of the authors.

The introductory article by Musser gives a brief but excellent discussion of the relation of therapeutics to biologic processes and the defensive actions of the organisms.

The article on serotherapy, by Hektoen, is an excellent one, and presents this important subject in a scientific manner, and at the same time in language easily understood by all. The chapter on "Drug Poisonings and Drug Habits," by Horatio C. Wood, Jr., is comprehensive and practical. "Exercise, Massage and Mechanotherapy," by F. Tait McKenzie, thoroughly covers the field. Special attention is given to apparatus, this part of the article being well illustrated. The method of reeducating the muscles in locomotor ataxia is extensively described. Among "Miscellaneous Therapeutic Measures," by George P. Müller, a description of the hyperemic method of Bier is given, and other technical methods are described.

In an otherwise excellent article on "The General Care and Management of the Sick," by M. Howard Fussell, we read: "Headache, especially of nervous character, may be relieved by acetanilid, administered in 5-grain doses repeated half-hourly for four doses." These doses are large; it would be dangerous to give 20 grains of this drug within two hours to a nervous patient. At least a word of warning should have been incorporated. Some other method of quieting nervous headaches might also have been mentioned. The author gives sage advice, however, in the same section as to the inadvisability of prescribing for cough without careful diagnosis, especially emphasizing the danger of overlooking tuberculosis; and at the same time he warns against hasty diagnosis of this disease on insufficient signs.

The article by Edsall on "The General Principles of Dietetics" is one of the most useful chapters in the book. The subject is thoroughly and scientifically discussed, and yet in such a practical way that its importance and value will be readily appreciated even by the medical student. It is a pity that such reliable and practicable information on this important subject is not more frequently found in text-books. Only praise can be given to the article by Maynard Ladd on "The Dietetics of Infancy."

The article on "Drug Therapy," by Sir Lauder Brunton, is disappointing. While it is an exhaustive discussion of the whole subject of drug therapy, one would imagine, on reading part of it, that one was reading a chapter from a text-book of a quarter of a century ago. The use of "hydrocarbons" as a term for fats, while intelligible to those familiar with the older literature, can only confuse and mislead readers accustomed to present-day chemical nomenclature. Again, the fascinating theory in vogue thirty years ago that acids inhibit acid secretions and vice versa, and that alkalies stimulate the secretions of acids, is reproduced and applied especially to the secretion of the gastric juice, in spite of the fact, long since proved by experiment, that alkalies exert no such influence on the secretory activity of the stomach.

The chapter is also sadly marred by a tendency to the indiscriminate admission of proprietaries. It is rather strange that the editors would allow such nostrums as "Phenalgin" and "Cactina" to be recommended in the book. While a discriminating discussion of the value of proprietaries that are really deserving of recognition should be welcome in a work like this, we can but regret the presentation, in so excellent a book, of such an indiscriminate list as is brought into this chapter by Sir Lauder Brunton. We feel that so far as this part is concerned, it represents English rather than American views at the present time.

"Organotherapy," by Warren Coleman, presents a comprehensive but conservative view of the present state of knowledge regarding these methods. The rest cure, the work cure and psychotherapy are discussed by Charles W. Burr. Psychotherapy is very briefly considered in view of the extensive notice that it has recently received. Hypnotism is rather discouraged as the author has seen distinct injury from its improper use. An interesting chapter is that on artificial aerotherapy by Henry Sewall. "Electrotherapy," by J. M. Mosher, gives an excellent account of methods and indications. An admirable feature of this chapter is the summing up of the present status of electricity in general medical practice in three short paragraphs. Radiotherapy is treated by H. K. Pancoast. The author includes a consideration of radium, which, however, he thinks is not likely ever to equal the *x*-ray in general efficiency. Space does not permit a review of the articles on sunstroke by Tyson, diseases of the blood by Cabot and diseases of the lymphatic system and ductless glands by Dock. The excellency of these articles may be assumed from the names of their authors. The other articles dealing with minor subjects which space does not permit us to consider in detail are also excellent.

The first volume indicates that in spite of minor defects the complete work will be one of real value and if the standard set by the majority of the writers who have contributed to this is maintained in the succeeding volumes, the work will take high rank; it certainly will meet the needs of all classes of physicians.

URINARY SURGERY. A Review. By Frank Kidd, F.R.C.S., Assistant Surgeon to the London Hospital. Cloth. Price, $2.60. Pp. 429, with illustrations. New York: Longmans, Green & Co., 1910.

The opening statement of this book describes it as "an attempt to review for the use of the practitioner the progress of urinary surgery during the last decade." The attempt has achieved notable success; the text is admirable in conception and execution—a terse, clear, complete presentation of etiology, diagnosis and the principles of treatment.

Among the few errors of sufficient moment for correction are the following: the usual recommendation of suprapubic aspiration instead of a single puncture for the insertion of a catheter, as the means for the relief of urinary retention; the advice to use cocain for anesthesia of urethra and bladder—a drug usually abandoned as dangerous in the urinary channel; and the usual failure to teach that tuberculosis of the urinary and genital tract results from a vice of nutrition which must be corrected by constitutional treatment (especially hygiene and tuberculin), to which treatment the knife is always subsidiary. In this book the local tuberculous focus and its removal by the knife obscures the major object of treatment—the correction of the constitutional defect.

The book is worthy of recommendation to both the general and the special practitioner.

THE PREVENTION OF SEXUAL DISEASES. By Victor G. Vecki, M.D., ex-President San Francisco German Medical Society. With Introduction by William J. Robinson, M.D. Cloth. Price, $1.50. Pp. 132. New York: The Critic and Guide Co., 1910.

This little book contains a frank exposition of the author's ideas of this complex and important subject. As causes of the prevalence of venereal diseases, he gives ignorance, prostitution and alcohol. To overcome ignorance, the author advises education all along the line. The question of alcohol, he does not attempt to solve. The question of prostitution, he discusses in a sane and logical manner. He is a firm believer in segregation, as in this way only, he thinks, is it possible to accomplish a humane supervision of the prostitute. He condemns the reporting of cases of venereal disease and endorses the Detroit plan. What the book lacks in literary style, it makes up in sincerity and enthusiasm

Medicolegal

Information Obtained by Physician Appointed to Make Examination Not Privileged

The Court of Appeals of New York holds in the homicide case of People vs. Austin (93 N. E. R. 57), that information acquired by a physician through examination without intention or expectation of treatment is not privileged. In this case counsel for the defendant applied to the court, just before the trial, on an affidavit setting forth that the defendant was without means with which to procure the services of a physician to examine the defendant as to his sanity, so that his testimony might be used at the trial of the action, and asked that a physician be appointed to examine into the condition of the defendant and attend on the trial and testify, if the defendant so elected, and that the charge for such services of the physician be made against the county. The order was made, and the physician so appointed examined the defendant, but he was not called on behalf of the defendant as a witness at the trial. He was, however, called by the district attorney, after testimony as to the defendant's sanity had been offered, though three or four preliminary questions only were allowed to be answered, anything further being deemed privileged. That the witness should give any testimony was claimed to be error, but the court does not think that the defendant was prejudiced.

The testimony of a physician, the court says, was not excluded at common law. It is not privileged by the present New York statute (section 834 of Code of Civil Procedure), except when his information is "acquired in attending a patient, in a professional capacity," and where such information "was necessary to enable to act in that capacity." This court has frequently held that the burden is on the party seeking to exclude the testimony of a physician under said. Section 834 to bring the case within its provisions.

It is clear from the statute itself and from the authorities that if the physician never attended the defendant in a professional capacity and never obtained information from him to enable him to prescribe in such professional capacity, he can testify the same as any other person. In such a case the seal of confidence existing by virtue of the statute between physician and patient and made necessary to obtain the fullest information in no way applies. It did not appear in this case from anything before the court that the physician, by what he said to the defendant, led him to believe that he was there to prescribe for him, or that the defendant by what was said by the physician was led to accept him as a physician and consequently to disclose to him information that perhaps would not otherwise have been given. Where a physician is sent to a jail by the district attorney to make an examination of the prisoner's mental and physical condition, the relation of patient and physician as contemplated by Section 834 does not exist, and the prisoner is not thereby compelled to furnish evidence against himself. There was nothing disclosed in the record in this case to show that the examination which the physician made of the defendant in the presence of his counsel was not competent, or that it was privileged by reason of Section 834.

Counterclaim Wrongly Allowed in Action for Services—No Implied Contract to Cure

The St. Louis Court of Appeals holds a new trial to be necessary in the case of Ruth vs. McPherson (131 S. W. R. 474), where the jury returned a verdict for the plaintiff for $225 for professional services, and for the defendant in the sum of $725 on a counterclaim for damages for malpractice, based on an alleged contract to heal and cure, or a net sum of $500. The court says that the jury by their verdict in favor of the plaintiff on his account must have found that the facts set out by the plaintiff in that account as to the rendition of the services and their value, and that they had been rendered at the instance of the defendant, were correct. To so find the jury must have concluded that the defense which the defendant interposed to that account, namely, unskilfulness in rendering them, was not sustained; that is, the jury by their verdict of $225 on the account in favor of the plaintiff necessarily found against the defendant on all of his averments as against that account. Having so found, then to turn round and find a verdict in favor of the defendant on his counterclaim, which counterclaim, to all intents and purposes, was founded on the identical defenses set up to the account, was utterly irreconcilable with the verdict in favor of the plaintiff on that account. Hence, as being inconsistent with itself on the issues, the verdict, as a whole, could not stand. Moreover, the counterclaim was specifically based on an alleged special contract whereby the plaintiff undertook as a physician and surgeon to attend and to cure and heal the defendant, but there was not an iota of testimony to prove any special contract. It is not within the implied contract of a surgeon employed to operate, or of a physician to attend on a patient, that he will heal and effect a cure. Any such contract must be an express one; it is not implied by the mere employment. To use skill, etc., is all that is implied in the mere employment of a physician or surgeon. Considering the averments of the counterclaim in this case, on which the defendant recovered damages, and in which counterclaim the averment of the contract to heal and cure was distinctly contained, the court holds it to be an averment which could be sustained only by proof of an express contract, a contract outside of the implied contract under which a surgeon is employed.

Latitude Allowed in Hypothetical Questions

The Supreme Court of Indiana says, in Taylor vs. Taylor (93 N. E. R. 9), that a party may put his hypothetical case as he claims it to be proven, or within reasonable inferences from the evidence, and the jury determines whether it is so supported by the evidence as to be of any value, or as to the weight and value they will give it. The opinion may be tested by cross-examination, by omissions and additions to the original question, or by an entirely new state of facts. If facts are assumed in a hypothetical question which are clearly so exaggerated as to impair the opinion, or are such manifest assumptions as to be misleading, confusing, and aside from evidence or fair inferences from the evidence, it should be excluded, and its admission might be prejudicial error in a given or specific case. But the weight and value of the opinion is a question for the jury, and depends for its value on there being evidence, admissions, or facts proved, on which it is based. And even if the question is faulty by the insertion of some facts not supported by the evidence, so that, uncorrected, an error might occur, it is corrected by an instruction to the jury that, if any of the material facts contained in the question are not shown by the evidence to be true, they are not to be taken as true, because embraced in the question, and, if of such character as to destroy the reliability of the opinion based on the hypothesis stated, the jury should attach no weight whatever to the opinion.

Medical Practice Act Not Invalidated by Provision as to Prayer

The Court of Appeal, First District, California, holds, in Ex parte Bohannon (111 Pac. R. 1039), that the medical practice act of that state of 1907 is not rendered unconstitutional by the proviso that nothing therein shall be held to apply or to regulate any kind of treatment by prayer. It was contended that this exemption made the whole act unconstitutional and void, and that it gives to a certain class of persons, to wit, those who treat physical ills by prayer, privileges and immunities, which "under like conditions are not granted to all citizens." But the court does not so construe the section. If prayer can be regarded as practicing medicine and as an immunity, the act, the court says, allows every person, man, woman or child, such immunity and the right to pray for the sick and afflicted, and that is the only way that disease can be treated by prayer. Whether such treatment avails anything or not is not for the court to say; but the privilege of practicing such treatment or such supplication is granted and allowed to all. The proviso or exception was evidently put into the act to prevent any interference with the right of any one to pray for the sick and afflicted.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Tennessee State Medical Association, Nashville, April 11-13.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS

Twenty-First Annual Meeting, held in Chicago, Feb. 28, 1911

The President, DR. JOSEPH C. GUERNSEY, Philadelphia, in the Chair

An address of welcome was delivered by Dr. George W. Webster, Chicago, which was responded to by Dr. Lee H. Smith, Buffalo.

Dr. Guernsey delivered an address on medical licensure.

Officers Elected

The following officers were elected: president, Dr. Charles A. Tuttle, New Haven, Conn.; vice-presidents, Drs. James A. Egan, Springfield, Ill., and A. B. Brown, New Orleans; secretary-treasurer, Dr. George H. Matson, Columbus, Ohio; executive council, Dr. N. R. Coleman, Columbus, Ohio, chairman; Dr. Charles H. Cook, Natick, Mass.; Dr. Joseph C. Guernsey, Philadelphia; Dr. W. Scott Nay, Underhill, Vt.; Dr. James A. Duncan, Toledo, Ohio.

Chicago was selected as the place for holding the next annual meeting.

Flexner Report

MR. ABRAHAM FLEXNER, New York City: In my report to the confederation last year I pointed out: (1) The education prerequisites should be defined, and the board authorized to insist on it as an educational preliminary. (2) The enforcement of even the four-year high school standard will so far clean up the medical field that the state boards will at once be relieved of the duty of dealing with actually disreputable schools. (3) The examination for licensure is the lever with which the entire field may be lifted; for the power to examine is the power to destroy. A model state board law must guard the following points: the membership of the board must be drawn from the best elements of the profession, including those engaged in teaching; the board must be armed with the authority and machinery to institute practical examinations, to refuse recognition to unfit schools, and to insist on such preliminary educational standards as the state's own educational system warrants; finally it must be provided, either by appropriation or by greatly increased fees, with funds adequate to perform efficiently the functions for which it was created.

REPORT OF REFERENCE COMMITTEE

The committee to whom was referred the Flexner report, composed of Drs. W. J. Means, N. P. Colwell and Henry Beates, made the following report, which was adopted:

The recommendations made in Mr. Flexner's paper concern subjects which have been frequently presented and discussed at meetings of this confederation, as well as of the Association of American Medical Colleges and of the Council on Medical Education. We recommend, therefore, that most careful consideration be given to all the suggestions made, and that the three special recommendations, regarding preliminary education, the refusal to recognize poorly equipped schools and practical examinations, be adopted.

SYMPOSIUM ON STATE CONTROL OF MEDICAL COLLEGES

Could the State Control and Conduct Medical Colleges More Efficiently than Corporations and Private Individuals?

DR. C. W. DABNEY, President of the University of Cincinnati: Let us state the proposition in the following terms: public control of medical colleges through state, municipal or other public corporations, including corporations which, though not state or municipal in name, still by reason of their breadth and importance, really represent the entire public, should be expected to conduct medical colleges more efficiently than private corporations or private individuals. We should plan for the best organization of the medical college as a part of our system of public education. The duty of the state is being better and better understood, with the result that in the last two years many of the state universities have established colleges of law, of medicine and of dentistry, as well as of engineering, colleges for teachers, etc. The chief argument for public-supported institutions in a democracy is the necessity of making them accessible to all classes of citizens on equal terms. To exclude the poor from the opportunities of the highest education, including professional education, or to educate them only at the bounty of the wealthy, is utterly repugnant to our democratic ideals. It is eminently desirable that the wealthy should give of their surplus to endow and support public institutions. The best location for a medical college is where it will enable it in the most efficient manner to perform three great duties to the public: (1) The education and training of properly qualified youths for the profession of medicine and the service of the people in families, dispensaries and hospitals; (2) the advancement of science through experiment and research; (3) the education of the people in health and principles of preventive medicine and sanitation.

The Duty of the State in the Control of Medical Colleges

MR. ABRAHAM FLEXNER, New York City: There should be state control of medical colleges. This control should be indirect in the sense, first, that the state shall determine the date of registration of each medical student by setting a standard of preliminary education and permitting the student to begin to count his time of medical study only after the state has declared his preliminary education completed; second, that the state shall require a minimal period of medical study in a properly equipped medical school; third, that the state shall register for practice only such individuals as give evidence of having obtained a certain minimal knowledge of medicine as determined by examination and practical tests, etc.

Discussion on State Control of Medical Colleges

HON. CHARLES ALLING, JR., Chicago: If the courts will sustain as a requirement for examination a diploma from an institution of the standards upheld by the Association of American Medical Colleges, they should for the same reason sustain a law providing that the degree of M.D. shall be given only by medical colleges in good standing with the State

Board of Medical Registration and Examination, an official body created by and acting for the state to secure good medical service for all the people.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The practice of medicine is under any and every condition a public service. No man can practice medicine without rendering a public service. Every physician present who attends a case of scarlet fever, diphtheria, or anything of that kind, may do the best he possibly can for his individual patient, yet he is rendering a hundredfold greater service to the state. He is preventing the spread of that disease. The practice of medicine is necessarily a public service, and it has been decided by the Supreme Court of the United States that the regulation of it lies within the hands of the state. The state has a perfect right to put any regulations that it pleases on the practice of medicine. We should impress on the people, and especially on those connected with state universities that are teaching medicine, that the most important function we have to perform is the enlargement of medical knowledge.

DR. GEORGE H. HOXIE, Kansas City, Mo.: The majority of the people do not accept the fundamental principle that they have a right to restrict the practice of medicine, because the higher we get our standards, the more likely are they to permit the followers of the isms and pathies to practice medicine under one guise or another; thus showing conclusively, in my opinion, that they have not accepted that fundamental principle, but have simply been yielding to the pressure brought to bear by physicians. It is only when the people of the state become convinced of these fundamental principles that there is any hope of controlling medical colleges from without or of adequately supporting them.

DR. JAMES R. GUTHRIE, Dubuque, Iowa: If it be true that the future of medical education is largely in the line of preventive medicine, public hygiene and sanitation, is it not the highest duty and prerogative of the state to accept that situation and make it obligatory and place the power of the state behind this, the leading and controlling idea in modern scientific education?

DR. GEORGE BLUMER, New Haven, Conn.: I think it may be said that even when the appointment of state medical examiners is in the hands of bodies like state medical societies, we cannot entirely rule out the possibilities of political appointment, since politics enters into state medical societies as well as into the executive positions of the state. Another point of interest is the matter of representation of teachers on the state board of medical examiners. I think every teacher of experience has felt very critical at times toward the kind of questions that are put to students by a great many state boards of examiners. Members of the state board of examiners are not always selected with the idea in mind that they are to examine students trained in modern medical schools. For instance, there should be a man on the board of examiners who has been trained by the modern methods in such subjects as pathology and bacteriology, and it seems ridiculous to expect a man who has not received that kind of training to ask intelligent questions on those subjects.

The Advantages to Medical Colleges of State Control

DR. ARTHUR DEAN BEVAN, Chicago: Proper state control would mean a great deal and be of great advantage to the medical colleges which are doing good work and developing along scientific lines. I believe that if every state board represented in the confederation will attempt to get the profession of its own state back of it and make proper state control effective, within five years American medicine could be placed in a position, with the exception of a very few states, where we could say that the American medical student is obtaining the proper medical education; that he has had a proper preliminary and medical education, and some practical hospital experience before he is allowed to practice medicine.

Some Evils in the Present System of Medical Education

DR. F. C. WAITE, Cleveland, Ohio: The evils of overproduction of medical graduates are self-evident. First, the field is overstocked, consequently the average income and adequate living are reduced. Second, from this the result must be that the more able members of following generations will shun the profession and its recruits must come from the mediocre. The general tone of the profession will thereby diminish. Third, the average lack of income from reputable and ethical practice of the profession will lead many into quackery and charlatanry, and thereby yet further reduce the dignity and respectability of the profession, which again will divert the tendencies of able young men from the profession. Medical teaching, even if privately supported, so closely affects the public that it must be considered a public utility, and therefore subject to the control of the commonwealth. The number of schools in a given state can be limited, either arbitrarily or by forcing public opinion to a level where the cost of maintenance of a school will exceed the private advantages accruing. This may be done by a close supervision of entrance requirements, by insistence on adequate laboratory equipment and clinical opportunities; by limiting the student body to the more capable. By examinations the average capability of the students can certainly be controlled. It is very important that practical means be found to eliminate men who do not measure up to the promises indicated by their preliminary training. The lack of this needed elimination of the unfit is one of the weakest points of our present system. The last two years, during which discussion has been free and meetings of representatives of various schools frequent, have shown a tremendous growth of interest on the part of each man and each school in the common cause. The further equalization of interests that would come from more centralized control would yield a further community of interests among the schools. A standardization of equipment and facilities, and the establishment of a minimum of opportunity for each student would secure a product in the graduate that would gain the confidence of both laity and profession. A control of the student's training at the time of admission, rather than an examination of his shortcomings after the evil is done, would be far more just to the student, who is too often innocently a victim of a system which seems to employ every means to mislead him and none to protect him. State control of medical education, like municipal ownership, has the potentiality of great blessings, if properly managed; but too often it is capable of many pitfalls if unwisely construed. To work out and put into operation all the details of such a plan is no light task. To gain the balance between ideals and expediency between the desirable and the possible requires rare judgment and altruistic devotion.

State Aid in Securing More Full-Time Salaried Teachers

DR. FRANK WINDERS, Columbus, Ohio: That full-time salaried men are indispensable to the proper teaching of the first and second years of the medical curriculum is no longer questioned. This plan is now in practice in every first-class medical school. The true purpose of a medical college is to be found only in teaching the science and art of medicine to the end that its students and graduates may be best equipped to prevent and relieve the ills and accidents of mankind. When other aims and purposes creep into the scheme of medical teaching, such as the personal interests of the teacher, the standard is lowered, the quality of instruction suffers, and the unfortunate student, not the teacher, pays the penalty. The teacher whose chief purpose consists in increasing his clientele by his teaching can certainly not develop the best that is in the student. Adequate compensation in proportion to the time required and to the excellence of the service rendered would do much to correct the evils resulting from the present practice. No modern medical college can be successful in its truest sense, unless it has at its disposal the wards of one or more large hospitals, and an adequate dispensary service. It is in such institutions that the material for successful clinical teaching must be obtained, and at least a part of the teaching staff in general medicine and surgery should be free to devote their entire time to such clinical work and to their duties as teachers. A college which does not have in its hospitals and dispensaries sufficient clinical material, properly utilized, to keep one or more teachers of general medicine and surgery

busily occupied for their entire time, should not be permitted to remain in existence. One clinical case properly and exhaustively analyzed and demonstrated will have more real value than many which are presented in an incomplete and hurried manner. If medical schools were aided and controlled by the state, the same excellent conditions would obtain in all schools as are found in our state universities.

State Control of Medical Education and Enforcement of the Medical Practice Act

DR. EDWARD CRANCH, Erie, Pa.: The function of medical examining and licensing boards is judicial: deciding between the claims of the candidate backed by his college on the one hand, and the rights of the people, who need protection from the ignorant and unqualified practitioner, on the other. Licensing boards should also have the power of revoking licenses for cause shown. In the exercise of their function, in Pennsylvania, the examining boards were at first greeted with a defiant attitude by certain colleges whose faculties assured their students that it was of little or no consequence whether they passed the boards or not, the colleges would see that they had the right to practice anyhow—whatever the boards might say or do. This attitude was signally crushed by the results of one year's examinations, in which over 30 per cent. of candidates were rejected. If now, as under state control would be the case, examiners and teachers knew better what was coming, the work of both would be easier, but at the same time, if written examinations alone were to be relied on, chances for cheating would increase in equal measure. When the student knows that his record of study and standing in class will count for or against him, and when he knows that he is to be orally and practically examined, if only in some few departments, such as anatomy, materia medica and diagnosis, it will improve his whole method of study and render it more practical. The method of full control would be suitable for one or two colleges in each state, and then if others wish to organize, as now, they can, under a modified control, be rendered equally efficient, and yet preserve that initiative which will develop new and better methods for the future. In this way examining and licensing boards will find their work supported by the colleges, instead of being antagonized and criticized, as at present. This alone furnishes a good argument for at least a modified state control.

Result of State Control of Medical Colleges on Professional Efficiency

DR. ROYAL S. COPELAND, New York City: When one considers the really ideal condition as regards medical college supervision, naturally he thinks of the superior advantages of federal control, with uniform standards of admission, graduation and licensure. This, however, is impossible at present, and perhaps would be unwise. Of necessity, low standards will prevail in pioneer and undesirable sections of the country, and a federal law, in striking an average for the country at large, would raise a much higher standard than could obtain in many of the individual states. State control, therefore, is the present logical solution of the problem. In the matter of medical colleges, private control undoubtely results in abuses and a lower standard than should be tolerated at the present time. Certainly private control must mean lack of uniformity. In a given state, for instance, with private control, there will be of necessity as many standards of admission and graduation as there are colleges. With state control, while the standards may be no higher than the average of the private institutions in another state, at least there is uniformity in the administration of the colleges. There is uniformity as to the minimum requirements, with perfect liberty of diverse views as to the maximum. State control has all the benefits of federal control, if there are reciprocal relations between the states. This reciprocal relationship, so desirable to our profession, would be much easier to realize were there uniformity in the college curricula, as regards the essentials of medical education. The great argument for state supervision is the protection of the people against charlatans, quacks and poorly educated practitioners. Legislation providing for state supervision should include the conditions under which medical college charters may be issued, and the minimum requirements of preliminary and professional education. State supervision should include the right to revoke, for due cause, the license to practice medicine. The natural corollary of state supervision is reciprocity between the states. To this end there should be uniform laws and requirements. State supervision makes for more uniform and thorough education.

Report of Committee on Materia Medica

DR. MURRAY GALT MOTTER, Washington, D. C., presented the list of medicaments reported last year in alphabetic order. Personally, he sees no advantage from the standpoint of the confederation in a list classified under any system whatsoever. The important thing to know is to what medicaments with their preparations it is desirous that chief attention shall be given, and he suggested that it would be both interesting and profitable to have a complete alphabetic list, including the list submitted by the joint committee last year, the list submitted by the Chicago Medical Society and adopted, and a list from the English examiners recently received by him from Dr. Cushny. A printed (complete) list is needed showing the drugs which are named in all three lists, and then the profession will have a competent list of drugs having wide use both in this country and in Great Britain. The future work of the committee on materia medica should be directed along the lines of securing endorsements of this general proposition. The list itself is not of such vital importance as the general proposition to adopt a restricted list. Then, if the teachers will devote their time and attention to this list, and if every medical examining board should say we will grant say 75 or perhaps 80 per cent. in the subject of materia medica pharmacology for examinations on this restricted list, it would leave the field open. It would not oblige any board to restrict itself absolutely to the list or prevent any teacher from teaching anything he might wish to teach. So it would leave the field open and mark a decided step in the progress for a more sane therapy.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held Feb. 27-28, 1911
(Continued from page 843)

The Medical College Library

DR. C. M. JACKSON, University of Missouri: The medical college library is an important but neglected factor in medical education. It supplements the laboratory and clinic by making available the accumulated knowledge and wisdom of the whole world, both past and present. The library should be carefully selected, quality being more important than quantity. Of the various forms of medical literature, the standard periodicals are by far the most important. Students should be instructed in the use of medical literature. A good library is indispensable in encouraging that research spirit which should be the ideal in medical education. Through his experience in daily practice the practitioner learns something, but through the medical literature he learns to interpret this experience and to profit by the experience of others.

The medical college library should include 4,000 or 5,000 well-selected volumes; especially it should include subscriptions to at least 100 of the leading medical periodicals. It is doubtful whether there are now more than twenty medical schools in the United States which meet this demand. More could easily do so, and doubtless will when the value of the college library in medical education is better understood. Periodicals are far more important than text-books, which are at best only compilations made from periodicals. Good periodicals contain original observations. There should be periodicals more or less general in scope and those devoted to the individual laboratory and clinical subjects. Some of the principal French and German journals should be included, as the better class of medical schools now require a reading knowl-

edge of these languages. Under periodicals should also be included the transactions of the more important medical societies and hospital reports, which contain much of permanent value. Next to periodicals in importance come the various guides to medical literature—the Index-Catalogue of the Surgeon General's Library, the *Index Medicus*, German *Jahresberichte*, and others might be mentioned. Next in importance stand the dictionaries, encyclopedias, systems of medicine and surgery, handbooks and monographs, and, last of all, the text-books.

A trained librarian should be in charge. A faculty library committee should select the books and periodicals to be placed in the library. The funds necessary should be provided for in the annual budget. To maintain a good working library will require an annual appropriation of at least $1,000. Some good can be done with less. The students can be called on for assistance, likewise the faculty, and some donations from outside sources can be secured. The library should be accessible, catalogued and kept in order. Originality and independence of thought should be encouraged by frequent references to various sources in the best medical literature. It is important to make students familiar with the best sources of medical literature, how to find and use them. Instruction on these points should be given in the first year of the course by the librarian or some one competent to do so.

Every student before graduation should be required to write an original thesis on some subject of his choice, which, of course, will include a review of the literature. It would stimulate teachers and students to better efforts along this line. Only two schools, Yale and Bowdoin, now have such a requirement.

The following resolution was introduced by the Committee on Pedagogics and was adopted:

Resolutions

Resolved, That the association request each school to ascertain and file in the dean's office the estimate of each instructor as to the time required, both in the class-room and at home, in each course offered in the catalogue.

Resolved, That the judicial council be instructed to report at the annual meeting in 1912 as to the proper standard to be established for medical colleges in various sections of the country, and that the judicial council be instructed to confer with the Council on Medical Education of the American Medical Association and with the Carnegie Foundation for the Advancement of Teaching in the hope that these three bodies may agree on a minimum standard that may be applied practically at the present time.

Resolved, That the judicial council be requested to report at the same time as to the best methods of carrying out the inspection of colleges in membership in the association as provided for in the by-laws, sections 6 and 7, and of schools applying for membership in the association. (These two resolutions were introduced by the Committee on Medical Education and adopted.)

Report of Committee on Equipment

The committee pointed out the great need for securing proper clinical facilities, and urged the colleges to formulate plans tending toward the acquisition of a teaching hospital, a hospital in which all the material is available for teaching purposes. The committee urged that this be made an equipment requirement, as much so as microscopes and other apparatus used for teaching.

Report of Committee on Pedagogics

The committee offered suggestions on four topics:

1. The Unit of Credit:—Students should be given time for independent analytical thought. The average student cannot work profitably, either in class or by himself, more than twelve hours a day for five days in the week, or for ten hours a day for six days in the week. Sixty hours a week should be the optimum number of hours under average conditions. This for thirty-two weeks of actual teaching means 1,920 hours, or for thirty-six weeks, 2,160 hours. The committee recommended the recognition of a ratio of two hours of preparation or reading to each hour of recitation or lecture, and one hour of preparation or reading for each two hours of laboratory or clinic teaching—a three-hour unit. Catalogues should state how these hours are subdivided in each course.

2. Discussion of Pedagogic Principles:—The committee suggested that the regular faculty meetings be given over to the discussion of these principles, best under the guidance of some professional teacher brought in for the occasion. The oftener such meetings are held, the better.

3. Syllabus:—A syllabus of the courses of study in the curriculum is a necessity because of the increasing specialization and subdivision. It will avoid misunderstanding and amendment.

4. Training of Teachers:—Can clinical teachers be efficient without private practice? The committee made no recommendations or suggestions, but presented the opinions of three men. One, a clinician with only hospital training, did not believe that any particular form of training could be mapped out as a prerequisite for clinical teaching. To be successful he must have the *Geist* and be trained thoroughly. The best man is he who devotes his time to work in the fundamental branches, to clinical work in the hospital and a moderate amount of consultation practice. Private practice is time-consuming, leaving little time for development. There should be two classes of clinical teachers: those who devote a large part of their time to medical school work and those who devote a small part. The second, a man who has enjoyed private practice, said that it is impossible that a man should carry on a medical practice and at the same time conduct a medical department in a hospital and teach students. A moderate amount of time may profitably be spent in consultation work. The third, also a man who has had private practice, regards some training in private practice as being as essential as a training in chemistry, bacteriology or pharmacology. But such training must be limited because otherwise other equally essential training will be neglected. He, too, favored some consultation practice because of its educational value and the necessary intercourse with practicing physicians which it furnishes.

(To be continued)

CLEVELAND ACADEMY OF MEDICINE

Meeting held Feb. 17, 1911

DR. W. B. LAFFLER in the Chair

Some Common Fractures and Results of Treatment

DR. FREDERICK J. COTTON, Boston: The Roentgen ray has wrought many changes in the point of view of treatment of fractures, and has enabled us to work with more precision. What we want is, first, the avoidance of obvious deformity, and second (much more important), the attainment of good functional usefulness. Most troublesome cases are the result of (1) not checking results by the Roentgen ray; (2) associated nerve lesions being overlooked at first, and when found, attributed by the sufferer to the treatment; (3) forgetting that functional usefulness is the main aim and caring only for position in all cases of Colles' fracture along with radial fracture there is a forward dislocation of the ulna, and in effect on functional result this is of more importance than radial fracture. After reduction splints should be applied: (1) to protect radial fragments from trauma or muscle contraction; (2) to hold the ulna back where it belongs (it can't be held too far back); (3) to be comfortable. Splints should not confine thumbs and fingers, and active motion should be started not later than the third day. The posterior splint should be removed in one week and all in from ten days to two weeks. In elbow fractures in adults, after reduction by traction and direct manipulation, the arm should be put in the position in which the fragments are most firmly held, and the best splint is the one which best accomplishes this. The Roentgen ray should be employed to see that reduction is good. Within a week, with fractures of one condyle, and within two weeks, with fractures of both condyles or in T fractures active motion is allowed once a day. The surgeon should hold the fragments firmly and support the forearm. In children, elbow fractures are usually more or less complicated epiphyseal separations. After the fracture is reduced what of treatment? (1) Passive massage and motion in children only stirs up joint reaction, pain and

stiffness. (2) Active motion, without danger of slipping of fragments, is hard to control in children, and is not to be employed for four weeks. (3) Children with elbow lesions do not show any permanent stiffening (except from malposition of bones), so that we need not worry about reestablishing motion. (4) Separation of the external condyle shows many instances of non-union; separation of internal condyle always results in fibrous union.

Shoulder fractures are commonly of the anatomic or surgical neck. The former are usually impacted and occur generally in the aged. They had best be left alone and mobilized early. Fractures of the surgical neck occur generally in youths or strong adults and if there is great difficulty in reducing, I have no hesitancy in cutting down and levering fragments into place, when a stitch of chromic gut will hold them. Though this is a serious operation, I believe that separation of the humeral epiphysis or fracture of the surgical neck in vigorous persons will come to be recognized as a condition calling for early operation in a large percentage of cases. In leg fractures, the question that comes up is whether after reduction the position is not good enough to let go, not whether it is perfect, for perfect reduction is impossible. The general line of the shaft should be good, and a position must be avoided in which the outer side of the periosteum of one fragment is brought into contact with a similar surface of the other fragment as it presages non-union from poor formation of callus.

The commonest of all ankle fractures is a fracture of the fibula alone, and it may occur from inversion or eversion. The former is more common. A not uncommon fracture, which is not described in text-books, is a splitting off of a large portion of the back edge of the tibia in a fragment that carries the internal malleolus as well. The fibula is also broken. The foot, astragalus, tibial fragment and lower fragment of the fibula move backward together.

As to the disability of the ankle joint following fractures, we have three important factors, mostly independent of precise lesion: (1) distortion of joint surfaces, causing unnecessary joint friction and limitation of motion; (2) deviation of weight-bearing axis; (3) loss of function (due to long immobilization). In reducing such lesions we should aim to alleviate these faults as much as possible and use early, active motions, preventing stiffening.

DISCUSSION

DR. FRANK E. BUNTS: In the last five or six years our ideas of the treatment of fractures have materially changed—due to the use of the Roentgen ray. Does Dr. Cotton think that ischemic paralysis is due to tight splints or to faulty position of the splints, and how long does it take to produce it? I find that Mr. Lane, of London, thinks the periosteum of no value in the formation of callus. What does Dr. Cotton think of the use of Bier's passive hyperemia in delayed union in fractures? In the last few years fractures of the carpal bones have attracted the attention of many; especially since the Roentgen ray has shown many of the so-called sprains to be fractures. Does Dr. Cotton believe in operating and removing the fragments when they are especially difficult to reduce?

DR. J. F. HOBSON: I agree with Dr. Cotton that a Colles' fracture once reduced does not usually become displaced again. In a Pott's fracture we have always been taught that the three lines of fracture were (1) lower end of fibula; (2) internal malleolus, and (3) a small chip that was generally broken off the outer edge of the tibia. I see that Dr. Cotton did not mention the latter, and I would like to ask him about its relative frequency. In a fracture functional result is what is first desired, second, as near a return to the normal as is possible.

DR. G. W. CRILE: Surgery is once more beginning to turn from the abdomen to the bones and joints. The latter have been neglected and it is high time that the specialist and general practitioner make a careful study of the bones and joints.

DR. GEORGE B. FOLLANSBEE: I have found in all fracture cases that early movement of the joints is of great value and tends to prevent adhesions and stiffness. I would like to ask the speaker whether it is always possible to reduce a dislocated ulna in a Colles' fracture. At times I have great trouble in doing so and also in keeping it in place. Does it make much difference whether the styloid process is much separated in a Colles' fracture?

DR. W. O. OSBORNE: I have at present two old cases of Colles' fracture. In both there has been left a preternatural mobility of the ulna; the joint is also a little painful and a trifle weak. Is there any way to remedy this?

DR. F. J. COTTON: Ischemic paralysis is often difficult to separate from a nerve paralysis. I have seen very few cases of it. In one case in which there was a cord-like matting together of the muscles, I found it necessary to rupture the bellies of the muscles, and the patient has now a pretty good use of his arm. Another patient was improved by dissecting out the muscles and freeing the nerves, and, I think many of these cases of Volkmann's ischemic paralysis are due to nothing but pressure on the nerves. In such cases I would recommend dissecting out the nerves and clearing away the muscles. In contrast to Mr. Lane, I still believe the periosteum to be of great value in the formation of callus. However, I do not think that stripping away the periosteum causes death of the bone as was formerly taught, and in case of necessity I have no hesitancy in stripping it away. I feel that very little is known as to the cause of delayed union from internal diseases—outside of malignancy and diabetes. Locally, delayed union may be due to a faulty parallel position of the periosteum from the fragments lying side by side. In regard to Bier's passive hyperemia treatment, it may be of interest to say that its author now thinks so little of it that he has given it up. In fracture of the carpal bones, it is usually the scaphoid that is affected and often displaced. When the bone is merely cracked, there is frequently a union without any limitation of motion or thickening of the bone; and I generally do not operate in these cases. However, if the bone is broken, displaced and not reducible, we must cut down and remove the displaced fragments. In answer to Dr. Hobson, I might say that I do not feel that a broken chip from the outer edge of the tibia is characteristic of a Pott's fracture. I agree that to hold the ulna in place is one of the difficulties in treating a Colles' fracture. Recurrent luxation of the ulna, after an old Colles' fracture is one of the sequelæ at times, and in a bad case I would cut down and shorten the radio-ulnar ligaments. I do not believe in operating and undergoing any extra risk. In a large percentage of shoulder cases it is necessary, and one should operate before too much callus has formed.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 8, 1911

The President, DR. C. B. LONGENECKER, in the Chair

Pellagra

DR. SAMUEL STERN: The sense of security of the profession at present against the invasion of the pestilence is unwarranted. Pellagra will be found whenever one finds the factors necessary to cause the disease. The conditions are more widespread than heretofore credited, and it is the duty of the profession and the local and state health authorities to engage in a study of the disease in order that measures may be instituted to aid in its prevention and in the possible discovery of the cause and that a successful method of treatment may be found.

A Case of Pellagra Which Had Its Origin in Pennsylvania

DR. M. B. HARTZELL: G. R., aged 9, has spent all her life in Pennsylvania, most of it in Philadelphia. In August, 1909, she began to lose flesh, became melancholic, and some time later developed diarrhea. In the spring of 1910, a peculiar red-brown dermatitis of the hands and face developed. During her stay in the hospital there was considerable improvement, but soon after her discharge she grew worse and she died in October, 1910. All her symptoms were characteristic of pellagra. The eating of spoiled corn could be excluded as a causative factor with reasonable certainty. During the

summer of last year I had the opportunity to study the disease as it occurs in northern Italy, and from the observation of a small series of cases I am convinced that in mild cases and poorly developed ones, the diagnosis may be surrounded with considerable difficulty; and that it is a mistake to lay too much stress on dermatitis and pigmentation unless accompanied by other symptoms, especially gastrointestinal.

DISCUSSION

DR. FRANK C. KNOWLES: I feel that the diagnosis of pellagra is almost impossible unless there are present the three Ds: diarrhea, dementia and dermatitis.

DR. LEONARD D. FRESCOLN: I have had two cases in Philadelphia which were suspicious of pellagra; but I have never seen any cases which were diagnosed to my own satisfaction by the authority of those who had seen the real disease in Italy. There has been shown no positive proof by blood-tests that from my study and reading I believe we should have. To the three Ds mentioned by Dr. Knowles, there should be added a fourth, that of "death." My impression is that practically all these patients die. They improve for a time, but finally die without any other manifest cause of death.

DR. GEORGE E. PRICE: One is impressed with the great variety of mental symptoms that have been reported in association with pellagra. This is in a large measure due to the fact that many cases are found in the asylums for the insane. If there be any insanity of pellagra, it seems to me that it must from necessity follow the line of insanity of any infectious process. If we have a destructive agent sufficient to cause the changes that have been noted in the spinal cord in pellagra, we surely have a destructive agent sufficient to bring about pathologic changes in the brain and membranes. The cord changes have been those of a combined or diffuse sclerosis, comparable to the changes found in anemia and toxic states.

DR. A. E. ROUSSEL: My experience has been confined to four cases seen in South Carolina two years ago. The erythematous eruption in three of the four was marked. The necropsy findings were interesting in showing the earlier involvement of the membranes than of the cord proper. I feel that a thorough bacteriologic examination should be made before we assume definitely that every case of eruption of this or that type is pellagra. Even those experienced practitioners from neighborhoods where the disease abounds realize the difficulty of diagnosis in the early stages. Every safeguard should be adopted against the error of hasty diagnosis.

DR. S. STERN: Regarding the relation of insanity to pellagra, abroad the figures vary from 10 to 30 per cent. Over 80 per cent. of the patients are not insane. Probably a very small percentage show any nervous manifestations. While it is true that dermatitis, dementia and diarrhea are important factors, and that their presence aids in diagnosis, I do not attach the same degree of importance to them as do some. The addition of "death" is out of order, since we desire to make the diagnosis in the early stage of the disease and not at the end.

The Destruction of Surface and Cavity Neoplasms by Desiccation

DR. W. L. CLARK: My work up to the present time would appear to justify the conclusions: 1. A current from a static machine of large output with properly attuned accessories, is capable of destroying tissue by desiccation. 2. Malignant growths may be destroyed without opening blood or lymph channels, thereby preventing further metastasis, or the inoculation of healthy tissue in adjacent parts. In cancer of the breast, in which there is involvement of the axillary or cervical glands, operation is indicated on account of inaccessibility of the involved structure; but, on the first appearance of recurrence, there would be a great possibility of arresting activity. In cancer of the cervix I believe it to be more desirable than the curette and cautery. It is a perfect sterilizing, destructive, styptic deodorant and is penetrating. It can be employed with a minimal degree of danger and discomfort and may offer a chance of cure if taken in time. 3. It simplifies the treatment of hemorrhoids and other neoplasms of the mucous membranes. Employing the endoscope as an aid, cavity lesions may be treated successfully. Its applicability in the bladder has been shown, and it is perfectly possible to apply it deeply into the rectum, the interior of the uterus, the throat, the esophagus and even the stomach. 4. In warts, moles, pigmentations and in certain other cutaneous lesions, the destruction is a simple matter and the cosmetic effect good. Old pus sacs may be entered, destroyed and sterilized, as in pustular acne, etc. Sluggish ulcers may be stimulated to repair. 5. Fulguration produces its effect by a coarse kind of mechanical superficial charring, while oscillatory current desiccation produces a refined, penetrating, devitalizing effect by drying, and possibly, some biologic effect in addition which I cannot at the present time define.

DISCUSSION

DR. B. A. THOMAS: It is true that good effects are obtained by this method in the treatment of papillomata of the genitourinary tract. In a case of papilloma of the bladder recently treated, the tumor has had but two applications of the current and shows improvement. In one case of papilloma of the rectum, ten days after a single treatment the papilloma could not be found.

DR. WILLIAM J. DUGAN: In my opinion, we have no proof of this "oscillatory" movement, and nothing is shown that has not been known for years. It seems to me that we have no scientific facts. The Roentgen ray, radium and fulguration, I believe, are palliative, but I do not believe that they cure cancer or sarcoma. If, after a diagnosis of such condition by a good pathologist, the patient is cured I shall accept the facts.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 16

1 *The Lumbosacral Articulation. An Explanation of Many Cases of "Lumbago," "Sciatica" and Paraplegia. J. E. Goldthwait, Boston.
2 Diverticulitis of the Sigmoid. W. P. Graves, Boston.
3 A Series of Cases of Syphilis Treated by Salvarsan at the Walter Reed General Hospital, District of Columbia. H. W. Jones, U. S. Army.
4 Liquid Air in Surgery. T. C. Beebe, Boston.

1. **The Lumbosacral Articulation.**—An experience in connection with the treatment of a patient with a spinal lesion was so disastrous to the patient and so distressing to Goldthwait, that a series of investigations were started by him in the hope of bringing some relief to the patient, and at the same time of preventing such happenings in the future. When very tired from a long stress of work, in lifting a heavy object, the patient strained his back, producing a distinct displacement of the sacro-iliac joint on the right side. The condition was recognized at once, and under nitrous oxid anesthesia the bones were replaced without difficulty. This was followed by a fairly normal recovery, so that in about three months the subjective symptoms had largely disappeared. At that time, after a fairly long car journey, the man carried a very heavy suit case in one hand, without change, for a distance of over half a mile, with the result that the back became painful. Two days later he consulted Goldthwait because of pain and sensitiveness in the lower back. At that time the sacro-iliac joints were shown to be strained, but the bones were not displaced. The next night, in turning over in bed, he felt a distinct slip exactly similar in all its sensations to that felt at the time of the first displacement. In the morning, after having a restless night, he was able to get up and take his usual tub bath. On trying to get out of the tub, in leaning forward and straining to get up, something slipped in his back, entirely different from anything he had before experienced. The body was drawn forward and to the left; there was intense pain, so that it was with great difficulty that he was able to get back to his room, and the suffering continued until he was seen by Goldthwait

four hours later. At that time the body was held bent forward and to the left. There was extreme tenderness in the sacral region, with pain extending into the legs, the right being much worse than the left. All efforts to give the patient relief failed. The more the case was studied, the more it seemed that some mechanical element must be the real difficulty, and that the point of pressure was probably somewhere below the giving off of the lumbosacral cord, although not much below this because all of the nerves making up the cauda equina below this point were involved. It was obviously spinal, since no lesion or involvement of the nerve roots or of the sacro-iliac joints could explain so complete a bilateral condition. The more the case was studied, the more definite the lumbosacral articulation seemed to represent the seat of the difficulty, and this was strengthened by the fact that when the patient was placed on his back to have the jacket applied a few days after a laminectomy there was something of the same sensation that was present when the first jacket was applied, and this was at once relieved by raising the buttocks. A similar sensation also developed when he was placed on the back to have a skiagraph taken.

This led Goldthwait to make a very careful and thorough study of the mechanics and anatomy of the lumbosacral articulation. He found that the lumbosacral articulation varies greatly in its stability, depending on peculiarities in the formation of the articular processes and of the transverse processes; that these peculiarities not only result in less than the normal strength of the joint, but may represent mechanical elements, which not only produce strain and cause pain, but may lead to such great instability that actual displacement of the bones may result, with at the same time the separation of the posterior portion of the intervertebral disk. In such displacement, if the fifth lumbar vertebra slides forward on the sacrum, spondylolisthesis, the condition is usually compensated for, and pressure on the cauda equina or the nerve roots does not occur. If the displacement be on one side, the spine must be rotated and the articular process of the fifth drawn into the spinal canal with such narrowing that paraplegia may result, or the crowding backward of the intervertebral disk alone may be so great as to cause similar paraplegia, but of more gradual development. Weakness of the joints or the partial displacements may cause irritation of the nerves inside or outside of the canal and produce the bilateral leg pains often called sciatica.

Medical Record, New York

March 18

5 Hygiene of Public Conveyances. S. A. Knopf, New York.
6 Importance of the Thread Impregnation Test for the Recognition of Ulcers of the Upper Digestive Tract. M. Einhorn, New York.
7 Two Cases of Ainhum. T. Abbe, Washington, D. C.
8 Criminal Abortion. A. D. Strasser, Arlington, N. J.
9 A Sociologic Experiment. G. F. Lydston, Chicago.
10 Multiple and Comminuted Fractures of the Metatarsal Bones in a Child. M. Leale, New York.
11 Sudden Death Following Spinal Puncture for Diagnosis. E. M. Colie, New York.
12 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

New York Medical Journal

March 11

13 Clinical Results from Use of Salvarsan. H. Fox and W. B. Trimble, New York.
14 Simple Apparatus for Intramuscular Administration of Salvarsan at the Bedside. A. L. Wolbarst, New York.
15 A Lanolin and Oil Emulsion of Salvarsan for Intramuscular Injection. J. G. Burke, Pittsburg.
16 Technic in Adenoid and Tonsil Operations. L. D. Alexander and J. T. Gwathmey, New York.
17 An Extracerebral Tumor in the Region of the Hypophysis Cerebri. F. J. Farnell, New York.
18 A Case of Colon Bacilluria in a Twelve-Year-Old Girl. J. Pedersen, New York.
19 The Effervescence Test for Gastric Acidity. A. L. Benedict, Buffalo.
20 The Eradication of Plague from Large Cities. C. W. Vogel, Washington, D. C.
21 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

March 18

22 Surgical Aspect of Gastric and Duodenal Ulcer. J. B. Deaver, Philadelphia.
23 Stomach Disorders Requiring Surgical Intervention from the Viewpoint of the Internist. C. D. Aaron, Detroit, Mich.
24 *Treatment of Tuberculosis by Deep Muscular Injections of Mercury. B. L. Wright, U. S. Navy.
25 Laboratory Notes on the Presence of Fats and Lipoids in the Lesion of Rhinoscleroma and on Variations in Its Bacteriology. J. Wright and L. W. Strong, New York.
26 *Relation of Gall-Stones to Cancer of the Bile Tract. J. A. McGlinn, Philadelphia.
27 *Irrigation Treatment in Septic Abortion. H. Weil, New York.
28 Individual Immunity. W. Lintz, Brooklyn, N. Y.
29 *Pneumothorax with Acute Abdominal Symptoms. E. J. G. Beardsley, Philadelphia.
30 Pinworms and Caraway Seed in Infant's Appendix. I. Kornblüh, New York.

24. **Mercury in Tuberculosis.**—During the past three years Wright has reported several hundred cases of chronic tuberculosis successfully treated by this method; among them were exhibited local lesions of practically all the organs and tissues, excepting the brain. He believes that the cases reported by himself and others demonstrate the fact that tubercle bacilli have a strong affinity for the succinimid and bichlorid of mercury. He has reported a number of cases in which three or four injections of one or the other of these salts caused the tubercle bacilli to disappear from the sputum and feces, and the cessation of the most profound toxemia. He now reports a case of acute miliary tuberculosis treated in this manner, which terminated in recovery and apparent cure, and which, in his opinion, emphatically and unquestionably demonstrates the parasitotropic and antitoxic properties of mercury in relation to tuberculosis. In less than eight weeks after the onset of the disease, at a time when 95 per cent. of these patients are either dead or dying, and six weeks after the administration of the first injection, the patient, a seaman, resumed his full duties on board ship, apparently cured. This result prompts Wright to say that in mercury we have the chemical affinity of the tubercle bacillus, and he expresses the hope that experimentation will sooner or later develop a command of mercury for which these organisms will have even a stronger affinity than they display for the succinimid.

26. **Gall-Stones and Cancer.**—This report is based on a study of over 9,000 post-mortem records in the Philadelphia General Hospital. In the report McGlinn has included cancer of the liver, pancreas and duodenum, on account of their close relationship to the biliary passages. In all, there are records of 456 cases of cancer. The liver was the site of primary cancer in twenty-six cases. Gall-stones were present in the gall-bladder in three cases and in the cystic duct in one case. The pancreas was the site of primary cancer in thirty-six cases. Gall-stones were present in the gall-bladder in four cases and in the gall-bladder and all the bile-ducts in one case. Gall-stones, then, were present in eight of the eleven cases of primary cancer of the gall-bladder. In primary cancer of the bile-ducts stones were present in three of the five cases. In the entire series of over 9,000 post-mortem examinations gall-stones were found in 507 cases. Studying these few cases, McGlinn says, it would seem that gall-stones play an important part in the etiology of cancer of the gall-bladder and bile-ducts, but in cancer of the liver and pancreas they are only incidental. They occurred no more frequently in cancer of these two organs than in cancer of more remote organs. There was a record of but one case of cancer of the doudenum; stones were not present.

27. **Irrigation in Septic Abortion.**—Weil urges continuous or frequent irrigations on the basis that absorption from the lochia is an important factor in the production of the toxemic element of puerperal sepsis.

29. **Pneumothorax.**—In the case cited by Beardsley, the onset of an acute pneumothorax caused violent abdominal symptoms which closely simulated those of perforative peritonitis.

Lancet-Clinic, Cincinnati

March 11

31 Operative Steps in Closure of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.
32 Glioma of the Retina. S. C. Ayres, Cincinnati.
33 Double Glioma of Retina. K. L. Stoll, Cincinnati.
34 Value of Test-Meal in Stomach Diagnosis. F. L. Rattermann, Cincinnati.
35 A Simple and Economic Outfit for Intravenous Administration of Salvarsan. A. W. Nelson, Cincinnati.

March 18

36 Finger Enucleation of the Tonsils. W. Mithoefer, Cincinnati.
37 Gradual Evolution of a Sane Therapy in Tuberculosis. F. M. Pottenger, Monrovia, Cal.
38 Recognition of Incipient Pulmonary Tuberculosis. A. Faller, Cincinnati.

California State Journal of Medicine, San Francisco

March

39 Acute Cholecystitis. W. W. Kerr, San Francisco.
40 Systemic Gonorrheal Infection. W. P. Willard, San Francisco.
41 *Relief of Glaucoma by Subconjunctival Sodium Citrate Injections. H. G. Thomas, Oakland.
42 *Operative Treatment of Fractures of the Neck of the Femur. S. J. Hunkin, San Francisco.
43 The Squirrel Plague Problem. G. W. McCoy, San Francisco.
44 Artificial Cultivation of the Lepra Bacillus in Hawaii. H. E. Alderson, San Francisco.
45 A Case of Hernia in a Child. T. G. Dodds, Oakland.
46 Acute Lymphatic Leukemia. J. M. King, Los Angeles.
47 Non-Union of Fracture. A. W. Morton, San Francisco.
48 Diseases and Injuries to Knee-Joint and the Treatment. E. H. Smith, San Francisco.
49 Present Status of Cancer Investigation. P. K. Brown, San Francisco.
50 Status of Vaccine Work in Cancer. P. K. Gilman, Manila, P. I.
51 Operative Treatment of Hyperthyroidism. W. I. Terry, San Francisco.
52 Fracture of the Femur. E. Smith, San Francisco.
53 Four Cases of Tumor of the Cerebellopontile Angle. M. B. Lennon, San Francisco.
54 Operation to Expose the Cerebellopontile Angle. H. M. Sherman, San Francisco.
55 Three Cases of Probable Cancer Transplantation from the Use of the Gilman Vaccine. W. B. Coffey, San Francisco.

41. **Relief of Glaucoma.**—During the past year and a half, Thomas has been using subconjunctival injections of sodium citrate to reduce the tension. Its use was suggested by the antagonism discovered to exist between the effect of acids and neutral salts on the imbibition of water by colloids. The method consists in the injection of from 5 to 15 drops of a 4.05 per cent. to a 5.41 per cent. solution of the chemically pure crystallized sodium citrate, preceded by the instillation of a cocain and an adrenalin solution into the conjunctival sac. During this time he has treated nine cases of primary and two of secondary glaucoma; all but one occurred in women. As a group, the primary cases were in individuals over the age of 45, and concerned thin, ill-nourished women of sedentary habits. The effect of these injections in reducing tension was unfailing and without evil consequences. After each injection there was a relief of the symptoms of glaucoma for from three days to several weeks. Thomas believes that the advantages of the subconjunctival sodium citrate injections over the other recognized surgical or medical procedures are evidently to be sought in their simplicity and in the promptness with which they produce results. Clearly these injections do not constitute a "cure" for glaucoma, but no more do iridectomies, sclerotomies or any other procedures which merely aim to reduce tension.

42. **Operative Treatment of Fractures of Neck of Femur.**—The technic of the operation followed by Hunkin is described as follows: The patient is placed on the back with each leg protected and wrapped separately. The assistant marks the line of the femoral artery just below Poupart's ligament. A crescent incision from 9 to 15 cm. in length, depending on the fatness of the patient, is swept from the anterior superior spine; this incision reaches the muscular layer. In fat subjects the incision divides a little of the rectus femoris and sartorius. In thinner subjects the muscle is not divided by reason of the incision being shorter. A few strokes of a dry dissector and the pulling inward of the sartorius brings one at once on the capsule of the hip joint. A little rotation of the leg, with a finger on the capsule, locates the anatomy and demonstrates the fracture. The capsule is then opened with a knife and the fragments are exposed. A pair of deep retractors are introduced when direct observation of the fragments can be made. The internal fragment can be rotated with the hand or with a dry dissector and the cartilage of the head observed. The external fragment moves, of course, with the leg. The leg is then manipulated until the fractured ends are in contact and placed in that position, whatever it may be in which they appear less likely to slip. In recent fractures this is usually in the extreme abducted position of Whitman. One assistant is now given the sole duty of maintaining this corrected position, and the parts are fully exposed so that the assistant can see the anatomic landmarks of the pelvis.

A tiny puncture with a bistoury is then made over the trochanter, from 4 to 5 cm. below the tip, into the bone, and a steel (sometimes silver-plated) nail, 8 cm. long, is driven through the trochanter and neck into the head. When the small head of the nail approaches the skin a steel "set," cupped to fit the head of the nail, is applied to the nail, which is driven firmly home. After the nail is located Hunkin often drives one of his staples across the line of fracture, the inner arm going into the head just at the cartilage rim, and the outer arm into the neck to the outer side of the fracture. The capsule is then closed as tight as possible with firm catgut and the wound closed in the usual manner. A plaster-of-Paris spica is then closely applied from toes to mammary line, during the setting of which firm pressure is made downward and forward from above and behind the trochanter.

Journal of the South Carolina Medical Association, Charleston

February

56 Life of Dr. J. Marion Sims. J. H. Allen, Spartanburg.
57 Lumbar Puncture in Children. T. W. Ely, Charleston.
58 The Tonsil Question. S. H. Griffith, Gaffney.
59 The Uncinariasis Problem a Real One. W. A. Plecker, Hampton, Va.

Bulletin of the Manila Medical Society

January

60 *Poisoning from Datura Alba Seeds. F. B. Bowman, Manila.
61 Hemorrhagic Disease of New-Born Infants. F. W. Vincent, Baguio, P. I.
62 *Philippine Contact-Poisonous Plants. C. B. Robinson, Manila.
63 *A Case of Tetanus from "Fuentes." R. Llamas, Manila.

60. **Poisoning from Datura Alba Seeds.**—In Manila and other parts of the Philippines the plant *Datura alba* (Nees) grows in great abundance, and from this plant hyoscin may be obtained in large quantities. The alkaloid is found in all parts of the plant, but in greater amount in the seeds than elsewhere. One of the chemists employed in the Bureau of Science of Manila, while conducting experiments with *Datura alba*, ate approximately a gram of the seeds. He probably took in all 5 milligrams of the alkaloid, and because of the severity of the symptoms produced his case is reported. After half an hour he noticed that his mouth seemed dry and in an hour felt somewhat flushed and noticed that his pulse was rapid. When Bowman saw him an hour later the pupils were widely dilated, he was nervous and restless and laughed most of the time. His face was flushed, pulse rapid—130 a minute. His speech was scanning in character and he was unable to make connected sentences. Later he became drowsy and had hallucinations, and as the symptoms seemed to be becoming more severe, he was sent to the hospital. After arriving there he became very drowsy and was soon asleep. The skin was very dry, though micturition seemed to be excessive. He was given a hot pack and remained asleep until the next morning. On awakening, except for some weakness, he seemed to be quite well again. He still had some trouble in completing his sentences, and he remembered nothing that had happened after the commencement of his symptoms. This case of poisoning was severe, but not serious. In cases of poisoning, Bowman says, the stomach should be evacuated as soon as possible. Pilocarpin in large doses has been used with alleged good results, but it is necessary to give so much to counteract even small doses of alkaloids of the atropin series that its use as an antidote is questionable. Hot packs should be used in severe cases, and any respiratory or cardiac symptoms watched carefully and treated.

62. **Philippine Contact-Poisoning Plants.**—With the purpose of ascertaining the facts concerning the possibility of poisoning by the hairs of the leaf-sheaths of bamboo, the following experiment was made by Robinson. The bamboo was that known as cauayan quilling, a name which seems to be used only for *Bambusa vulgaris* Schrad; it is widely distributed in the tropics, both eastern and western, and had been cut the day before. About 10 a. m., August 11, numerous hairs were rubbed on the upper arm. By noon the skin was reddened around the place, but no pustules could be detected. In the afternoon this reddening disappeared, and there were bare traces of pustules. The first itching sensation was noticed about 10:30 p. m., but the pustules were still few and small. By the next morning they were fairly plentiful, but small, with the surrounding skin reddened, without evident sensation. This condition continued throughout that day and the next, with occasional slight itching, hardly perceptible except

on rubbing. From August 14 to 17 there was a gradual decrease, the pustules being still evident, without itching, with slight yellowish discoloration of the skin; on the morning of August 18 they were at the limit of visability, and would not have been noticed if their history had not been known. The immediate incentive to the experiment was the finding of similar pustules on the hands, a day after gathering bamboo material. The pustules disappeared without treatment, after a comparatively short time. While the bamboo, then, may be considered poisonous, the effect is not severe, and should not lead to anxiety.

A definite test on the nettle-like plant, *Fleurya interrupta* (Linn.) Gaudich., showed that the stinging sensation was felt at once, becoming moderately severe. After about five minutes, pustules began to form, but the pain ceased about the same time. The pustules soon disappeared, without treatment.

A recent involuntary contact with *Laportea meyeniana* (Walp.) Warb., lipa or lipang calabao, while causing immediate pain, did not result in any development of pustules; this is in agreement with experiments of others, even in severe cases of stinging by this plant.

63. **Tetanus from "Fuentes."**—"*Fuente*" is a cure practiced by the arbolarios or unlicensed physicians in the Philippines on persons suffering from stubborn diseases, such as beriberi, tuberculosis, anemia, etc., which, they think, physicians have failed to cure. Llamas says that it is a common belief among the poor class of people (and of some of the middle class), especially in the provinces, that they are relieved from their long suffering by opening a "fuente," as they express it, either on the arm, thigh or leg. Undoubtedly, this custom also prevails in Manila, having probably been introduced from the provinces. To start the infection, a mixture of lime and Chinese soap, in the proportion of two to one, is made into a "bolita" (pill), the diameter of which varies from 0.5 to 1 cm. This pill is then placed on the fleshy, least vascular part, usually the arm or leg, and is held in place by a tight bandage for twenty-four hours, or until a blister is formed. Next day another "bolita" of the same size (made of garlic) is placed on the surface of the previously opened blister, the wound dressed as before and the dressing is not removed until pus is produced and a cavity formed. The same effect may be produced by burning the skin directly with a lighted cigarette. The cavity once formed, another "bolita," made of Chinese wax or betel nut, is put in and covered with a piece of Chinese blotting paper. A hole is made in the middle of the paper and a piece of banana leaf is put on next and loosely bandaged. By the pressure the cavity receives, it becomes so deep that the pill soon has a cavity large enough to hold it.

Each part of the dressing has its own purpose. The pill is to maintain constant pressure on the cavity and to prevent any healing. The Chinese blotting paper absorbs any secretion, the banana leaf protects the wound from becoming wet and the bandage keeps out the air. The wound is washed morning and afternoon with warm guava water or ordinary tepid water and the dressing is changed. It is supposed that the secretion removes the impurity of the blood which has caused the sickness. If the "fuente" fails to cause secretion, the sickness is said to be incurable; if the patient gets well, the "bolita" or "pelotilla" is removed and the wound treated as before until it heals. Last May, Llamas treated a case of tetanus which was contracted through a "fuente" in the right leg of a woman suffering from beriberi and anemia. He thinks that an investigation would show that many cases of tetanus originate from infection due to the application of "fuentes."

Journal of the Arkansas Medical Society, Little Rock

February

64 *Postanesthetic Acidosis. J. G. Eberle, Fort Smith.
65 A Plea for More Accurate Diagnosis in Gynecologic Conditions. W. A. Snodgrass, Little Rock.
66 Cesarean Section Under Unfavorable Conditions. A. G. Harrison, Little Rock.
67 Cesarean Section. G. S. Brown, Conway.
68 *Preventable Blindness. J. G. Watkins, Little Rock.
69 Gunshot Wounds of the Abdomen. R. C. Dorr, Batesville.
70 Medical Organization. M. L. Norwood, Locksburg.

64 and 68. Abstracted in THE JOURNAL, June 11, 1910, p. 1992.

Journal of the American Public Health Association, Columbus, Ohio

February

71 *Preventive Principles in the Field of Mental Medicine. W. A. White, Washington, D. C.
72 *Prevention of Feeble-Mindedness. E. R. Johnstone, Vineland, N. J.
73 Sanitation of Bakeries and Restaurant Kitchens. C. B. Ball, Chicago.
74 *Saving Children from Milk-Borne Diseases. N. Straus.
75 Training of Janitors in Sanitary Care of School Premises. H. C. Putnam, Providence, R. I.
76 Electrolytic Production of Sodium Hypochlorite. C. P. Hoover, Columbus, Ohio.
77 An Emergency Hypochlorite Plant. H. A. Whittaker and J. A. Childs, Minneapolis.
78 The Hyperchlorite Treatment of Water at Minneapolis. J. F. Corbett, Minneapolis.
79 *Resistance of Certain Bacteria to Calcium Hypochlorite: F. F. Wesbrook, H. A. Whittaker and B. M. Mohler, Minneapolis.

71 and 72. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1135.

74. Abstracted in THE JOURNAL, Sept. 17, 1910, p. 1044.

79. **Resistance of Certain Bacteria to Calcium Hypochlorite.**—On treating Mississippi River water even with large amounts of calcium hypochlorite, the authors found it impossible to effect complete sterilization. The predominant organism remaining after treatment was found to be a spore-bearing bacillus. Treatment of this organism in pure culture has demonstrated a great resistance of certain spore-forming bacteria to this chemical, which may be one of the factors, if not the most important one, in the failure to produce complete sterility, and is probably the cause of the later rise in bacterial count after treatment in certain experiments. Results on the comparative treatment of *B. coli* and *B. typhosus* in pure culture show, in a general way, that the sum total of amounts of calcium hypochlorite required to exterminate both organisms is about the same, yet in the selection of individual cultures some variation in the amounts actually required is indicated. The results further demonstrate in a general way that pending the formulation of better technical methods we may continue to regard the presence or absence of colon bacillus in treated waters as the index of possible infection with, or freedom from, the typhoid organism. The authors venture to express the hope that investigations may soon be undertaken in this country or abroad, which will seek to determine the effect of the variable factors responsible for variations in efficiency of sterilization procedures in which hypochlorites are employed.

New Mexico Medical Journal, Las Cruces

February

80 Preventive Medicine in the Southwest: Its Aims and Limitations. J. W. Flinn, Prescott, Ariz.
81 A Case of Traumatic Jacksonian Epilepsy. M. K. Wylder, Albuquerque.
82 Splanchnoptosis and Its Surgical Treatment. H. A. Ingalls, Roswell.

Archives of Internal Medicine, Chicago

March

83 *Two Cases of Adams-Stokes' Syndrome with Heart-Block. W. S. Thayer, Baltimore, and F. W. Peabody, Cambridge, Mass.
84 A Case of Poisoning Due to Eating Poison-Hemlock (Cicuta Maculata). A. Egdahl, Menomonie, Wis.
85 *The Opsonic Index in the Diagnosis of Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
86 Entamœba Tetragena as a Cause of Dysentery in the Philippine Islands. C. F. Craig, Washington, D. C.
87 *The Acidosis Index. T. S. Hart, New York.
88 Acute Yellow Atrophy of the Liver. E. Novak and E. L. Whitney, Baltimore.
89 Allergy. C. E. von Pirquet, Baltimore.

83. **Adams-Stokes' Syndrome.**—Two cases of heart-block which came under the observation of Thayer and Peabody during the past year presented features of unusual interest: Case 1.—A man of 53, with rather thickened arteries and a slightly enlarged heart, with evidences of sclerosis at the aortic ring (rough systolic murmur), showed: (1) Syncopal and convulsive seizures, associated with bradycardia and marked irregularity in the size and sequence of the beats. These occurred often in groups of three or more in rapid succession, followed by intermissions amounting sometimes to nearly or quite half a minute in length. The auricular, which could often be counted clearly in the neck, was usually 100 or above. Long intermissions in the ventricular pulse were usually associated with long periods of apnea. No wholly satisfactory tracings were taken during paroxysms of this sort. Those which were

made suggest a complete dissociation. (2) Similar attacks, usually without convulsions, in which the ventricular beats occurred in groups of from two to three to ten, always at the same rate, and apparently following the same impulses as the auricular beats. These groups of beats were separated sometimes by intermissions amounting to as much as fifteen seconds. The auricular pulsations could usually be counted in the neck, and were sometimes as slow as 59. Sphygmographic tracings showed that these groups of beats consisted of a primary ventricular contraction, apparently automatic, which was succeeded shortly by a series of beats which followed the preceding auricular contractions after an a-c conduction time of approximately normal duration. During these groups of beats the auricular rate became progressively slower without lengthening of the conduction time, until finally the ventricular impulses stopped. The retardation of the auricular impulses continued during the next several auricular contractions, after which it became more rapid. Such attacks yielded on three occasions to the administration subcutaneously of atropin, gr. 1/60 (0.001 gm.). The auricular rate after atropin was slower than it was before, but more rapid than the rate of several slow beats at the time of onset of the periods of ventricular intermission. (3) Periods during which there was a fairly regular ventricular rhythm of about thirty to the minute with a rather rapid auricular rate (100 to 120). The tracings show an apparently complete auriculoventricular dissociation. One of these attacks failed to yield to atropin, gr. 1/30 (0.0021) given subcutaneously. (4) Periods during which intermission in the ventricular pulse occurred at varying intervals and lasted for varying periods of time, followed usually by an apparently spontaneous ventricular contraction, which was succeeded by one or more beats after a normal a-c conduction time. (5) Periods between these attacks in which the heart's action was regular, and the sphygmographic tracings revealed no abnormalities, the a-c interval remaining always normal. Although there have been seven or eight grave attacks of Adams-Stokes' syndrome in a year and a half, the patient is to-day in good condition.

CASE 2.—A man, aged 83, for three or four years had had dyspnea on exertion and attacks of giddiness and faintness in which he had fallen to the street. Following treatment with infusion of digitalis, but persisting for more than a month after its discontinuance, there occurred periods of bradycardia, during which the pulse was sometimes nearly regular at about 40 and at other times irregular. The pulsations of the auricles observed in the neck were more frequent than those of the ventricles. The auricular pulsations further manifested themselves by a slight audible sound and sometimes by a palpable and even visible impulse at the apex. The cardiosphygmographic tracings showed a regular auriculoventricular rhythm, with much-prolonged a-c time, amounting sometimes to almost 0.6 of a second. At times there is characteristic dropping out of ventricular beats, associated with progressive prolongation of the a-c period and failure of conduction. At other periods there is an attempt to set up a spontaneous ventricular rhythm at the rate of about 40, a rhythm, however, which is not quite regular because of an occasional precocious ventricular contraction due, apparently, to the passage of a stimulus through the auriculoventricular bundle. The administration of atropin, gr. 1/30 (0.0021 gm.), resulted in the complete disappearance of irregularity and the development of a regular auriculoventricular rhythm with prolonged a-c conduction time. Pressure on the vagus resulted in the dropping out sometimes of alternate and, occasionally, of two successive ventricular beats. There was slight slowing of the auricular rate, with no apparent modification of the a-c conduction time. On one occasion, the administration of atropin, gr. 1/30 (0.0021 gm.), was followed by rapid action of the heart with alternating pulse. A year after the termination of these studies the patient was seen again, with an apparently complete auriculoventricular dissociation, the ventricular rate, however, being about 40. The authors regard this case as a typical instance of disease of the bundle of His in a hypertrophied and dilated heart.

85. **The Opsonic Index in Pulmonary Tuberculosis.**—Pettit does not regard the opsonic index as being an accurate method of diagnosis of mixed infection in pulmonary tuberculosis.

87. **The Acidosis Index.**—The method devised by Hart depends on the intensity of the color developed by adding ferric chlorid to urine containing the acetone bodies (Gerhardt's reaction).

St. Louis Medical Review

February

90 Tuberculosis: Its Nature, Causes and Prevention. J. B. Huber, New York.
91 Abdominal Pain. C. P. Thomas, Los Angeles.
92 The Most Vital Point in Anesthetizing. E. H. Williams, San Francisco.
93 Malignant Degeneration of Chronic Ulcers of the Leg. (So-Called Marjolin's Ulcer.) H. L. Kretschmer, Chicago.
94 Professional Confidences. E. S. McKee, Cincinnati.
95 Gastric Ulcer. J. G. Sherrill, Louisville, Ky.
96 Leprosy. J. Knott, Dublin, Ireland.
97 Medical Men of the Orient. A. H. Moodricker, Wabash, Ind.
98 Aims and Methods of Medical Education in America. G. Richter, St. Louis.

Colorado Medicine, Denver

March

99 Mild or Obscure Syphilis. A. J. Markley, Denver.
100 Nature of Prolapse of Genitalia in Woman. C. S. Elder, Denver.
101 Cancer of the Stomach. J. R. Arneill, Denver.
102 *Congenital Defect of the Clavicle. H. R. McGraw, Denver.
103 Colles' Fracture. L. W. Ely, Denver.

102. **Congenital Defect of Clavicle.**—Five or six days after the birth of McGraw's patient, the nurse noticed a slight swelling under the left ear. On examination this swelling seemed to be the sternocleido mastoid muscle in a state of constant contraction. Beneath this swelling and somewhat external to it there was a small knob, which proved to be a rudiment of the clavicle about 1 inch long. The outer end was attached to the acromion process of the scapula, and the small rounded prominence was freely movable. All the inner portion of the clavicle was missing. The shoulder could be drawn forward and inward to the median line, and the scapulæ projected behind. At this time it was thought that this bony knob or enlargement might be a beginning osteosarcoma. Dentition has been perfectly normal in every respect. At the age of 17 months a second radiogram was made and showed the clavicle absolutely perfect. This case is regarded as being of interest chiefly through its demonstration of the fact that there must be more than one center of ossification in the clavicle, and that the delay in development through some embryologic accident did not inhibit the subsequent growth of the center or centers forming the nucleus for the inner portion of the clavicle in the case cited. Careful inquiry has been made into the matter of heredity brought forward so prominently in the cases of Marie, Sherman and King, but with an absolutely negative result; neither was there association with rickets.

Yale Medical Journal, New Haven, Conn.

February

104 Results in Sanatorium Treatment of Tuberculosis. W. B. Bartlett, Hartford, Conn.
105 Wind Instruments and Longevity. J. F. Rogers, New Haven, Conn.
106 A Case of Long-Standing Nephritis in a Boy. G. Blumer, New Haven, Conn.
107 Periodic Attacks of Indigestion in Children, Accompanied by Presence of Diacetic Acid in the Urine. W. G. Murphy, E. Hartford, Conn.
108 Relative Value of Symptoms, Physical Signs, Tuberculin and the Roentgen Ray in Diagnosis of Tuberculosis. H. F. Stoll, Hartford, Conn.

Annals of Surgery, Philadelphia

March

109 *Parathyroid Implantation in Treatment of Tetania Parathyreopriva. W. H. Brown, Victoria, Australia.
110 Gastrostomy as a Curative Measure Per Se in Non-Malignant Strictures of the Esophagus. J. R. Eastman, Indianapolis.
111 Operative Treatment of Wounds of the Heart. G. W. W. Brewster and S. Robinson, Boston.
112 *Importance of Preserving the Gall-Bladder in Operations on the Gall-Passages. J. W. Long, Greensboro, N. C.
113 Retroperitoneal and Mesenteric Cysts of a Simple Nature. G. H. Makins, London.
114 *A New Abdominal Incision to Facilitate Intra-Abdominal Operations. H. A. Kelly, Baltimore.
115 Supernumerary Kidney Seat of Cystadenoma. F. Cobb and H. G. Giddings, Boston.
116 Damage Done to the Kidney by Operation. J. E. Moore and J. F. Corbett, Minneapolis.
117 *Empyema of the Ureter. H. A. Fowler, Washington, D. C.
118 Control of Urinary Drainage After Cystotomy. H. H. Sinclair, Walkerton, Ontario.
119 Technic of Median Perineal Prostatectomy. S. Alexander, New York.

120 *Operation for Stiffening the Knee-Joint. R. A. Hibbs, New York.
121 *Intussusception in the Adult. S. H. Watts, Charlottesville, Va.

109. **Tetania Parathyreopriva.**—In Brown's case, the implantation of monkey parathyroids was the only measure which with any permanence put the patient in better condition. Finally, however, it became necessary to transplant human parathyroids. After this procedure, the patient's progress toward recovery was continued and uneventful.

112. Abstracted in THE JOURNAL, Jan. 7, 1911, p. 67.

114. **Removal of Skin-Fat Wedge.**—The value of removing wedges of skin and fat in patients who are not troubled with obesity, but simply and solely for getting rid of a part of the thickness of the abdominal wall and making the field of operation more accessible, is emphasized by Kelly. An oval or an elliptical transverse excision is made, cutting right down to the strong fascia overlying the rectus and the oblique muscles. All bleeding vessels ought to be tied carefully. When this piece of skin and fat is removed the operator then finds it much easier to open the abdominal wall and operate than in a similar case in which he has to retract this embarrassing mass of tissue as well. Kelly closes such a wound with a fine catgut suture, catching a distinct layer of fascia about the middle of the fat, the silkworm-gut sutures uniting both skin and fat.

117. **Empyema of the Ureter.**—Fowler's patient, a man, gave a history of calculous diseases of fifteen years' duration. The onset was marked by symptoms referable to the kidney. He had passed a great many calculi. Perineal section was performed for an impacted calculus in the urethra. Another stone was removed from the urethra by milking it forward to the meatus. Two litholapaxies were performed. The left kidney was removed on account of calculous pyonephrosis. Empyema of the left ureter developed as a result of the presence of a calculus, which was demonstrated in the first Roentgen-ray examination. This calculus was forgotten and consequently overlooked at the time of the left nephrectomy. Infection of the right kidney took place, pyonephrosis developed, and complete anuria occurred suddenly three years later. Anuria was complete for three days, and was due to the plugging of the ureter with pus. Renal retention was partially relieved by massage of the kidney and along the ureter, thus dislodging the plug of pus filling the ureter. Anuria again developed and nephrotomy of the remaining kidney was done. This kidney was greatly distended with urine and pus. No stone was demonstrated by the Roentgen ray and none was found at operation. The parenchyma formed a mere shell of tissue less than 1 cm. thick. Recovery was prompt and complete. Since the operation the patient has passed one stone and another has been removed from the bladder by litholapaxy. The skiagraph now shows a stone in the left ureter of the same shape, size and location as shown in the plate taken three years ago. Normal peristalsis was observed in this ureter three years after the complete removal of the corresponding kidney.

120. **Operation for Stiffening Knee-Joint.**—Hibbs believes that the knee-joint has not been stiffened frequently enough, especially among the classes of people seen in the dispensaries, who are, in most instances, wage-earners, and the necessity of wearing some kind of brace permanently is troublesome and expensive to them. This is probably due to the fact that attempting to stiffen this joint by the old method of doing practically an excision has not been very successful. In the first place, the removal of a sufficient amount of cartilage from the femur and tibia to secure bony surfaces for approximation shortens the leg about 1½ inches, which, with the shortening already present in these cases, is a serious consideration. And in the second place, the removal of the ligaments makes difficult the prevention of deformity during the long period, a year or more, before there is solid bony union. This led Hibbs, on Jan. 15, 1909, to perform an operation which obviates these disadvantages. It was that of mortising the patella, after it was denuded of its periosteum and cartilage, into a space prepared for it by the removal of the cartilage, just anterior to the center of the tibia and femur. Such a space may be secured without injury to the crucial ligaments or to the epiphysis of either bone. With the patella in this position, a perfect bony bridge is thus formed between the tibia and the femur. The patella in the first three cases was put in transversely, and in the next four horizontally. In all these cases, in from five to six months there was solid bony ankylosis, which has been maintained a sufficient length of time since the removal of the support to consider it permanent.

It then occurred to Hibbs, that if the patella were placed horizontally in a space prepared for it, and then if the periosteum were carefully preserved in its removal from the patella and brought down over the freshened area and stitched to the periosteum around the edges of the tibia and femur, there would be reproduced from this periosteum new bone, so that the bony bridge would be larger and stronger. In the last three cases, this procedure has been adopted, and in each case there has been a reproduction of bone from this periosteum, as has been unmistakably shown by skiagraphs. The advantages of the latter procedure are obvious. In the first place, there is less likelihood of the patella slipping out of its bed, and in the second place, there is secured, through the reproduction of new bone, a larger and stronger bony ridge, and the weight may be safely borne on the leg earlier with advantage, and all support removed sooner.

121. Abstracted in THE JOURNAL, Jan. 14, 1911, p. 140.

Albany Medical Annals

March

122 Experiences with Salvarsan. W. S. Gottheil, New York.
123 When Should the General Practitioner Measure the Blood-Pressure? T. C. Janeway, New York.

West Virginia Medical Journal, Wheeling

March

124 *A Remarkable Case of Hysteria. T. Diller, Pittsburg.
125 Social Hygiene and the Physician's Relation Thereto. J. C. Irons, Elkin.
126 Ether Anesthesia. R. H. Bullard, Wheeling.
127 Adenoids. P. L. Gordon, Charleston.

124. **A Case of Hysteria.**—This case was characterized by insane conduct, somnambulism, disordered personality, dream-like states and amnesia.

Illinois Medical Journal, Springfield

March

128 Heredo-Syphilitics and Their Detection. A. Ravold, St. Louis.
129 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
130 Treatment of Delayed Resolution of Pneumonia. J. M. Patton, Chicago.
131 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrath, Chicago.
132 Bronchoscopy and Esophagoscopy. S. A. Friedberg, Chicago.
133 Non-Suppurative Ethmoiditis. G. P. Marquis, Chicago.
134 *An Unusual Case of Combined Extra-Uterine and Intra-Uterine Pregnancy. C. D. Center, Quincy.
135 Uterine Myomata and Parturition. C. E. Paddock, Chicago.
136 Surgery of the Pleura. O. L. Pelton, Elgin.
137 *Phthisiophobia. F. Tice, Chicago.
138 *Action of Iodin on the Tissues. A. Werelius, Chicago.
139 *Development of the Theory of Hearing. G. E. Shambaugh, Chicago.
140 Diagnosis of Cancer of the Rectum. C. J. Drueck, Chicago.

134. **Extra-Uterine and Intra-Uterine Pregnancy.**—Center's case was one of combined extra-uterine and intra-uterine pregnancy at the same time, with rupture and removal of the extra-uterine pregnancy, and both tubes and both ovaries, the intra-uterine gestation proceeding undisturbed to full term and normal labor.

137. **Phthisiophobia.**—The resident staff of the Cook County Hospital has been traced by Tice, and the frequency of tuberculous infection determined as accurately as circumstances will permit. During the period of thirty-three years, from 1866 to 1909, 376 physicians have served as interns, and each member, with the exception of the first three, has served a period of eighteen months. Until within the last year and a half, no attempt was made to segregate the tuberculous patients, but they were cared for in the general wards, not especially constructed for this class of patients, and where no special precautions were enforced. Of the 376 members of the resident staff, three had tuberculosis before their service, four during their service, and thirteen have developed it since that time, making a total of twenty, of whom six have died. Accepting the validity of the preceding statements, Tice thinks it is evident that the danger of infection in tuberculosis has been overestimated and exaggerated. As a result, tuberculous

individuals and the public at large have been subjected to great inconvenience and hardship. The medical profession, he declares, should realize the evils of these misconceptions and endeavor to correct them so far as possible; physicians should no longer continue to repeat many of the current stereotyped statements on tuberculosis, but more nearly to approach the truth as indicated by knowledge of recent developments. The nursing profession should be instructed properly and trained in the care of the tuberculous. Since much of the fear of tuberculosis has resulted from the educational efforts of the various antituberculosis organizations, it becomes incumbent on them to continue their efforts and assist in diminishing this evil.

138. **Action of Iodin on Tissues.**—The main object of Werelius' research was to ascertain the action of iodin on the healing process of wounds. For this purpose, two wounds were inflicted on the back of dogs on each side of the spine, treating one with, and the other without, application of iodin. The wound treated with iodin always healed much more slowly than the wound not so treated. In the experiments tincture of iodin was used.

139. **The Theory of Hearing.**—Shambaugh believes that the membrana basilaris is physically incapable of performing the rôle of a vibrating mechanism, and, furthermore, that the membrana tectoria must be this mechanism. Just how the membrana tectoria responds to the impulse of sound waves is largely speculative since this is beyond possibility of actual demonstration. His conclusions regarding the manner in which the structure responds is arrived at by assuming that manner of response which best explains the various phenomena associated with sound perception both in the normal physiology of hearing and in the phenomena associated with diseases of the labyrinth.

Journal of Cutaneous Diseases, New York

March

141 *Infectious Eczematoid Dermatitis. Possible Influence of Anaphylaxis in Skin Reactions. J. A. Fordyce, New York.
142 A Case of Frambesia. C. J. White and E. E. Tyzzer, Boston.
143 Mycosis Fungoides in the Negro. E. R. Strobel, Baltimore, and H. H. Hazen, Washington, D. C.
144 Exposure to the Sun as an Etiologic Factor in Alopecia. G. F. Harding, Boston.

141. **Infectious Eczematoid Dermatitis.**—In observing a large number of cases of dermatitis, Fordyce has been struck by the frequency with which forms of skin infection, usually diagnosed as eczema, have been secondary to some antecedent lesion or disease of the skin, such as scabies, wounds or traumatisms which have become infected, abscesses, furuncles, intertrigos, sinuses left after operation on bones, etc. In other words, the percentage of eczemas which were not preceded by some antecedent pathologic condition seemed to be in the minority. At times, when the eczematous and pyogenic processes have coexisted, it has been difficult to determine which condition was the primary one. On the other hand, when eczema and furunculosis were coincident, it was learned, on making inquiry of the patient, that the furuncles had in many cases antedated the outbreak of eczema. In addition to cases resulting from a purulent discharge or skin infection, Fordyce has noted others in which one or more scaling patches of dermatitis present for an indefinite time suddenly assumed an acute inflammatory reaction and spread by continuity or independent foci to other parts of the body. He believes that those cases belong to the group described under the name of infectious eczematoid dermatitis, and that irritation of the skin produced by discharges from abscesses, sinuses, ulcers and other pus-secreting surfaces is the true basis of these phenomena. In certain of these cases, the outbreaks occur at a distance from the primary focus and are not to be explained on the ground of autoinoculation or direct conveyance of the irritant substance. These cases, Fordyce would claim to be due to anaphylaxis.

Medical Fortnightly, St. Louis

March 10

145 Relation of the Eye to the Nervous System. E. E. Clark, Danville, Ill.
146 Ileus Paralyticus Relieved by Operation. C. W. McElhaney, Greenville, Pa.
147 Pneumonia. G. L. Servoss, Fairview, Nev.

American Journal of Physiology, Boston

March

148 The Physiology of Regeneration. Regeneration of Isolated Segments and of Small Pieces of Worms. S. Morgulis, Boston.
149 *Influence of Cold Baths on the Glycogen Content of Man. G. Lusk, New York.
150 Nuclein Metabolism in the Dog. P. A. Levene and F. Medigreceanu, New York.
151 *Effects of Various Forms of Exercise on Systolic, Diastolic and Pulse Pressure and Pulse Rate. O. S. Lowsley, Baltimore.
152 Does Dextrose Arise from Cellulose in Digestion? G. Lusk, New York.

149. **Influence of Cold Baths on Glycogen Content of Man.**—In order to determine whether cold baths will not completely remove the glycogen content of a man, two individuals who had accustomed themselves during the summer to a swim of fifteen minutes' duration in the early morning in cold water, and who took daily cold douches as a matter of routine at other times, submitted themselves in the morning (without breakfast) to the action of two baths, each of from six to ten minutes' duration. The water contained floating ice blocks and had a temperature of 10 C., the baths being given at intervals of about two hours. The treatment was effective in exhausting the glycogen supply. Lusk concludes that immersion of normal men in cold baths at a temperature of 10 C. when the intestine is free from carbohydrates, induces shivering which causes a rapid utilization of body glycogen as determined by a fall in the respiratory quotient to the fasting level. In one very muscular individual this result could not be obtained. In one individual in whom the shivering had been severe, a quotient of 0.67 and anotner of 0.62 were found during subsequent periods of rest, which correspond to those observed during rest after a period of exhaustive exercise (glycogen formation from protein). The greatest increase in heat production which was brought about by the cold baths was 181 per cent. above the normal. The urine remained free from albumin and from sugar.

151. **Effects of Various Forms of Exercise.**—The conclusions to be drawn from Lowsley's experiments are as follows: All types of prolonged exercise which cause an increase in pulse rate cause also a rise in systolic and diastolic pressures. The systolic pressure shows the greater rise; hence there is an increase in pulse pressure, which may be interpreted to mean that the heart beats are augmented as well as accelerated. After all types of exercise studied, the systolic, diastolic and pulse pressures invariably fall below normal and remain in this subnormal condition for a considerable time. The more exhaustive the nature of the exercise, the longer will be the subnormal period which follows. Systolic pressure invariably falls more rapidly than diastolic, and hence the pulse pressure becomes weaker. Pulse rate, which always increases during exercise, decreases rapidly after its completion. Rapid exercises (vigorous, fatiguing and exhausting) are followed by a fall of pressure below normal which lasts longer than after moderate exercise, even if the former is continued only for a very short period and the latter for quite a long period of time. If Lusk's interpretation of the subnormal phase is correct, it would follow that the so-called field events, consisting of jumping, shot putting, discus and hammer throwing and baseball, gymnasium apparatus work, and exercises of a similar nature, are preferable to rapid exercises such as basketball, football and running races. This is particularly true in the case of the rapidly growing youth, whose heart is under the additional demand of keeping pace with an increase in the tissue mass of the body. There is less strain put on the circulatory system by walking a number of miles at a moderate rate than by sprinting 100 yards at top speed. Long-distance races and similar forms of exhaustive exercise give rise to a serious strain on the heart, as is indicated by the long period of subnormal blood-pressure.

Woman's Medical Journal, Cincinnati

March

153 A Review of the Treatment of Sterility. M. D. Rushmore, New York.
154 Cholera and Typhoid. M. S. Macy, New York.
155 Relation of Women in Industry to Child Welfare. I. T. Smart, New York.
156 Economics of Development. J. M. Taylor, New York.

Journal of the Medical Society of New Jersey, Orange

March

157 Podalgia and Flat-Feet. H. J. Bogardus, Jersey City.
158 Appendicitis and Its Moving Pathology. G. K. Dickinson, Jersey City.
159 Prevention of Peritonitis. E. W. Hedges, Plainfield.
160 Care of Fractures. W. H. Lawrence, Summit.
161 Intussusception. T. W. Harvey, Orange.
162 *A New Technic in the Use of Forceps. M. A. Swiney, Bayonne.
163 An Appeal for Inquiry Beyond the Isms of the Times. H. Chevanne, Salem.
164 Fermentation and Putrefaction. L. F. Bishop, New York.
165 A Case of Splenomyelogenous Leukemia. G. Knauer, Elizabeth.

162. **New Technic in Use of Forceps.**—The indications for the technic described by Swiney are: Vertex presentations, or convertible vertex presentations with no engagement, when there is no great disparity between head and inlet. The principal points in the method are the Walcher position, forceps application at the beginning of a pain and withholding the anesthetic until the head is properly forced into the brim. This plan should not be tried until the os is fully dilated and sufficient time should always be given for Nature to do her best. In using the Walcher position, the toes should not touch a chair or the floor during a pain. An assistant must hold the patient by the shoulders to keep her on the table. During the interval an assistant should hold up her legs, as it is more comfortable for the patient.

Chicago Medical Recorder

March

166 New Problems in Treatment of Cancer. C. Wagner, Chicago.
167 Active Immunization in Tuberculosis. H. J. Achard, Chicago.
168 Elements which Make Success or Failure in Surgical Work. C. W. Barrett, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 4

1 *Mediastinal Affections. P. Kidd.
2 Immunity Reaction in Diagnosis, Especially of Tuberculosis and Syphilis. W. d'E. Emery.
3 *Mechanical Treatment of Spinal Caries. H. J. Gauvain.
4 Education of the Deaf. M. Yearsley.
5 *A Case of Suprarenal Apoplexy. R. Waterhouse.
6 Cranial Asymmetry Due to Postural Causes. H. Armstrong.
7 A Case of Rodent Ulcer of the Thigh. H. E. Friend.
8 A Case of Retention of Urine. G. W. Bury.
9 Infantile Diarrhea. W. Tibbles.
10 Bone-Setting and Its General Principles. F. Romer.
11 Twin Scissors for Twin Sclerotomy. N. B. Harman.

1. **Mediastinal Affections.**—Nine cases are reported by Kidd: Case 1. Substernal thyroid tumor simulating a mediastinal new growth; operation, recovery. Case 2. Mediastinal cyst (? dermoid); operation; recovery. Case 3. Mediastinal abscess perforating the trachea and esophagus and causing subcutaneous emphysema and cellulitis; temporary relief following bleeding; death. At the necropsy the left pleura was found to contain 1½ pints of brownish turbid fluid, the lung being collapsed and covered with recent greenish lymph. Both lungs contained numerous miliary abscesses. In the esophagus opposite the bifurcation of the trachea there was a flat oval fibroma measuring 1x⅔ inch, and just to the left of the tumor a small smooth-edged opening led into an abscess cavity at the bifurcation of the trachea. There was also acute recent pericarditis. The disease appeared to have originated in the subtracheal lymphatic glands, whether as the result of tuberculosis or some other cause could not be determined. Case 4. Mediastinal growth masked by pericardial effusion; death. At necropsy the mediastinal glands in front of the trachea and bronchi were found to be infiltrated with a firm whitish-yellow growth forming a mass of about the size of a duck's egg, not occluding or narrowing either bronchus, trachea or esophagus. There was a small nodule of growth in the upper lobe of the left lung. Case 5. Mediastinal growth masked by pleural effusion; death. At necropsy a large pleural effusion was found on the right side and turbid fluid with flakes of lymph. The trachea and the root of each lung were embedded in a large whitish growth extending widely into the lower lobe of the right lung. The esophagus and large veins were not involved. Case 6. Tuberculosis of mediastinal glands followed by pleurisy with effusion; recovery for some years; death from tuberculous meningitis. Case 7. Tuberculosis of mediastinal glands compressing the right bronchus; recovery. Case 8. Tuberculosis of mediastinal glands involving the lung by direct infection through the bronchi. The case progressed slowly downward, the chief features being remittent pyrexia, loss of flesh and slight cough. Signs of consolidation gradually spread up toward the apex of the right lung, râles and rhonchi appeared over both lungs, and the patient died from tuberculous meningitis. At necropsy large caseous glands were found in the anterior mediastinum and beneath the fork of the trachea. The right bronchus was perforated by the caseous glands in two of its divisions—the branch to the middle ear and the branch to the lower lobe. The middle lobe of the right lung was converted into a large caseous mass. In the upper lobe there were a limited fibrosis and a small cavity. Both lungs were studded with miliary tubercles. There was tuberculous meningitis. Case 9. Tuberculous abscess of bronchial glands; bronchopneumonia simulating acute tuberculosis; death from septicemia.

To determine whether bronchial breathing, like bronchophony, is heard about the seventh cervical, and three or four dorsal upper vertebræ in a great number of healthy persons, especially in those that are thin, in women and children, Kidd examined fifty-one patients consecutively. The only patients excluded were such as had consolidation of the lung of any kind, pleural effusion, or any evidence of tuberculous or other glandular disease in any district of the body. Of these fifty-one patients, thirty-three showed bronchial breathing or pectoriloquy over the seventh cervical and upper dorsal spines, usually the first and second. In twenty-two cases both bronchial breathing and pectoriloquy were present; in eleven cases either bronchial breathing or pectoriloquy alone. In eighteen cases the results were uncertain or negative. Most of the patients who gave positive results were spare or thin, but not all, a notable exception being a man weighing over 210 pounds, the subject of a cerebral tumor. Among the positive cases nineteen were male and fourteen female; age: under 10 years, seven cases; 10 years and over, twenty-six cases. Kidd feels persuaded that we may expect to find bronchial breathing and pectoriloquy over the upper dorsal spines in many healthy people.

3. **Mechanical Treatment of Spinal Caries.**—Gauvain discusses mechanical treatment during recumbency only.

5. **Suprarenal Apoplexy.**—The history of Waterhouse's patient, a boy aged 8 months, was as follows: throughout the morning the child had been very drowsy and had "looked strange," but had not seemed to be in pain; he had taken nourishment readily, and the bowels had acted as usual. About 3 o'clock in the afternoon he vomited. Previously the child had always seemed perfectly healthy. He had been breast-fed until three weeks before admission, when a mixture of cow's milk and water was substituted. The infant was obviously very ill: complexion gray, eyes dull, breathing rapid, shallow and noiseless; temperature 100.4 F., pulse 140, and respirations 72. Râles could be heard all over the chest, especially at the bases behind. The abdomen was soft and not tender. There were no signs of meningitis, and nothing abnormal was to be seen in the mouth or fauces. Two hours after admission an extensive eruption of purple spots and blotches appeared over the whole trunk, upper arms and thighs. The temperature had fallen to 99.4 F. The child rapidly grew worse, the face became cyanosed, and death occurred four hours after admission. There were no convulsions throughout.

The post-mortem examination was made twenty-two hours later. The suprarenal capsules were striking objects even before their removal from the body; of little more than normal size for a child of this age, they were both of a deep purple color and evidently the seat of hemorrhage. The extravasation of blood had taken place into both the cortical and medullary portions, but no bleeding had occurred into the adjacent tissues. Microscopically, the structure of the medulla was seen

to be completely destroyed and replaced by effused blood. The arrangement of the columns of cells in the cortex could be made out, but the cells themselves had largely disappeared, their nuclei alone remaining, while everywhere were to be seen large numbers of red corpuscles. All the other organs appeared natural. Cultures taken from the adrenals, from the spleen and from the cerebrospinal fluid all proved sterile. No microorganisms could be detected in films made from the cerebrospinal fluid and from the interior of the suprarenal capsules.

Medical Press and Circular, London

March 1

12 Medicinal Treatment of Uterine Hemorrhage. R. Asch.
13 History of Mummification. G. E. Smith.
14 Indications for and Technic of Cesarean Section and Its Alternatives in Women with Contracted Pelves Who Have Been Long in Labor and Exposed to Septic Infection. A. J. Routh.
15 Therapeutic Use of Radium. W. H. B. Aikens and F. C. Harrison.

Australasian Medical Gazette, Sydney

January

16 *The "Presystolic Murmur." J. M. Gill.
17 Diagnosis of Intra-Uterine Pregnancy in the Earlier Months. J. K. Couch.
18 *Identification of Bacillus Typhosus (Eberth Gaffky) and Bacillus Dysenteriæ (Flexner). B. Bradley.
19 A Case of Undeveloped Genitalia with Pregnancy, Resulting in the Birth of Unequal Monochorial Twins. T. G. Wilson.
20 *A Plea for the Early Diagnosis and Treatment of Incipient Phthisis by Tuberculin. E. Ure.
21 Kyoomba Sanatorium for Treatment of Tuberculosis. H. Shaw.
22 Aspects of Tuberculosis in Man and Animals. J. B. Cleland.
23 Congenital Dislocation of the Hip, Treated by Lorenz's Method and Its Etiology. T. and P. Fiaschi.

16. **Presystolic Murmur.**—The presystolic murmur consists of a series of sounds following each other in rapid sequence, the murmur being sometimes short and at other times prolonged. When short, it resembles a reduplicated second sound at the apex; on the other hand, it may occupy the whole of a prolonged diastolic period, being frequently a half a second or even a full second in duration. Cardiograms taken by Gill show, he says, that the vibrations, which when palpable form the thrill, are really continuous during the whole cardiac cycle, and are always present, whether the presystolic murmur be audible or not. These vibrations are often best obtained from an area well over the right ventricle—that is, internal to the nipple line, a little above the level of the nipple. They vary in rate as a rule from about seven or eight a second to ten or twelve, and can be recorded in a variety of pathologic conditions apart from mitral stenosis, and are therefore not peculiar to it. Although these rapid movements are frequently encountered in cardiograms, yet in venous pulse records they are only occasionally present. In jugular tracings from cases showing a continuously irregular pulse, they are often well marked during long diastolic pauses and are now generally recognized as being due to fibrillary contractions of the auricle. They can often be obtained in cardiograms from these cases.

The presystolic murmur is not, Gill says, necessarily dependent on contraction of the auricles. It is occasionally associated with an irregular pulse. The right auricle is the seat of regularly occurring vibrations, yet there is no proper contraction as shown by the venous pulse; the left auricle, as shown by the presystolic murmur and the apex tracings, shows similar movements; the ventricular contraction is continuously irregular. Research by means of the string galvanometer, has shown clearly that in all cases of persistent irregularity similar vibrations are always present; these vibrations have therefore undoubtedly a muscular origin, and further arise in the right auricle. The string galvanometer shows usually in cases with presystolic murmur, a double-peaked wave; sometimes the wave has three peaks, at other times four. The explanation is that these waves are due to independent contractions of the sinus venosus tissue in the right auricle, and to a much less degree in the left auricle. In the course of development the two auricles absorb the sinus venosus. It is still uncertain what part of the auricles is derived from the sinus venosus; in the right auricle, probably that portion lying between the mouth of the superior vena cava above and the inferior vena cava and coronary sinus below, together with the adjacent part of the inter-auricular septum; in the left auricle the opening of the pulmonary veins, which have been observed occasionally to be capable of independent muscular contraction. We thus have a perfectly simple explanation of the presystolic and other diastolic apex murmurs. Vibrations occurring in the left auricle are rendered audible at the apex, by the fact that the blood in the auricle is under tension; the movement of the blood transmits these audible vibrations to the apex.

Gill points out that any explanation of the presystolic murmur must explain its proper relation to contraction of the left auricle. There is no doubt of the almost absolute association of contraction of the left auricle and the presystolic murmur, but there are a few exceptions. Such exceptions show that contraction of the auricle properly so called is not essential to the production of the presystolic murmur. The explanation seems to be that the sinus venosus movements involve only a small part of the muscular wall of the left auricle particularly; hence, a certain degree of tension being necessary for the production of sonorous vibrations, these movements are lost in the flaccid membrane, till the contraction of the auricle proper commences. The necessary degree of tension in the auricular wall may be present when the muscular tissue of the auricle is good, the obstruction being yet considerable; in that case, the auricular wall would be in a constant state of tension. Gill has seen three such cases in three years.

18. **Identification of Bacillus Typhosus and Bacillus Dysenteriæ.**—For the differentiation of these bacteria, Bradley uses plates of simple agar. Next day a number of colonies, at least ten, if possible from twenty-five to fifty, are picked off from the plate directly into lactose litmus peptone water. Next day those tubes showing an acid reaction are thrown out, leaving only the non-lactose-fermenting organisms. Some (at least six) and preferably all of these are then inoculated into mannitol litmus peptone water, saccharose litmus peptone water, sorbitol litmus peptone water, litmus milk, peptone water and gelatin, and films are made and stained by Gram's method. If next day any cultures, which by films are shown to be Gram-negative bacilli, give acid on mannitol and sorbitol and *nil* on saccharose and slight acidity on litmus milk, the agglutination reaction of one or more may be tested. If this be positive, in a dilution approaching the titre of the serum for control standard culture, the provisional diagnosis of *B. typhosus* may be made, but a week at least should be given before the diagnosis can be certain, after which the milk should remain very slightly acid and not clotted; the peptone water should become turbid and give no indol reaction, and the gelatin remain unliquefied.

For most practical purposes, Bradley believes that the following is a sufficiently good definition of typical *B. typhosus:* a Gram-negative bacillus, non-gelatin liquefier in seven days, non-lactose fermenter, non-saccharose fermenter, giving acid (without gas) on mannitol and sorbitol, very slight permanent acid without clot on litmus milk, and no indol reaction on peptone water in seven days. If these characteristics are all presented, Bradley has no hesitation in pronouncing the organism *B. typhosus.*

20. **Treatment of Incipient Phthisis by Tuberculin.**—Ure reports most encouraging results from the use of Koch's old tuberculin, commencing with very small doses and gradually increasing until extraordinary toleration to the toxin is established, active immunization being at the same time produced, which induces steady improvement in the patient's condition.

Dublin Journal of Medical Sciences

March

24 *A Case of Myasthenia Gravis. T. G. Moorhead.
25 *Epidemic Pneumonia. A. J. Powell.
26 Congenital Fistulas. J. H. P. Boyd Barrett.
27 Influenza. J. F. Clarke.

24. **Myasthenia Gravis.**—The essential symptoms of myasthenia gravis consist of paralysis of the voluntary muscles, more especially those supplied by the cranial nerves, varying in intensity and persistence, but usually more marked after muscular effort, and accompanied by a peculiar myasthenic reaction when the muscles are stimulated by the faradic current. Among the most common paralyses are those of the

ocular muscles, including the orbicularis palpebrarum and the levator of the upper eyelid, the lip muscles, those of the tongue and those of the neck; but in severe cases almost all of the muscles of the body may be involved. The paralysis almost invariably tends to increase when the affected muscles are used, so that at the beginning of a conversation the lip and tongue muscles may be used fairly well, but after a few minutes they become weakened, and soon may become so completely paralyzed as to be hardly capable of being made to contract at all. The appearance presented by the patient is strongly suggestive of the existence of some lesion of the nervous system. Moorhead's patient, on the eleventh day, was attacked with sudden dyspnea and cardiac failure, became quite unable to speak or swallow, and died in a couple of hours. The case was typical; however, there was marked atrophy of the gluteal muscles, the deltoids, and of the tongue, inasmuch as absence of atrophy was at one time regarded as an important diagnostic sign.

The post-mortem findings in this case were as follows: the thymus was persistent, and possessed two well-defined lobes extending down over the pericardium; microscopically it was normal, but contained no eosinophil cells. The thyroid was somewhat enlarged, and microscopically was more cellular than normal. The kidney was slightly congested and showed parenchymatous changes; both ovaries were enlarged and cystic. The other viscera, including the red marrow and pituitary body, were normal microscopically and macroscopically. The spinal cord, the medulla, the pons, the central nuclei and the cortex in the Rolandic region of the brain were normal. Macroscopically, the brain and spinal cord were normal. As regards the muscles, sections were made from the levator palpebræ superioris, the masseter and the pectoralis major, and in all Moorhead examined over 400 sections. The masseter and pectoralis major appeared to be normal, with the exception of one doubtful lymphorrhage in the pectoralis. The collection of cells, however, in this particular instance was found not between the muscle fibers but in the interstitial connective tissue. In the levator palpebræ some atrophy of muscle fibers was noted, marked proliferation of sarcolemmal nuclei was present, and in many of the sections scattered uninuclear cells with rounded nuclei were found between the muscle fibers. Nothing at all approaching in appearance, however, to the lymphorrhage, as figured by Buzzard, was found, and after a most careful search in three of the muscles of a very typical case, Moorhead feels inclined to throw doubt on the universal presence of lymphorrhages in the muscles of myasthenic cases.

25. **Epidemic Pneumonia.**—This epidemic recorded by Powell occurred in April and May, 1909, in the village of Penn, near Wolverhampton, Staffordshire, England. The patients came from the smaller cottagers in the village with the exception of the first, who came from about one mile outside the village. The number of recorded cases was nine. The number of deaths was seven. The cases can be divided into two series, in each of which a clear history of direct infection from case to case was manifest. In the first group there were four cases and in the second three. The remaining two occurred sporadically, but were both attended by the district nurse who had attended some of the other cases. Beyond these significant facts no clearer history of infection could be obtained in the last two cases. The type of disease was characterized by great cardiac depression, cyanosis and dyspnea at the outset with but few local physical signs. The number of cases attended by other practitioners in the immediate neighborhood during this time was considerable, but accurate information cannot be obtained either as to their numbers or the type of the disease or the nature of the infection. Only two of Powell's patients recovered, both children, one aged 14, the other 6. All the adults died, making a mortality of 77.7 per cent.

Glasgow Medical Journal

March

28 What Are We Doing to Combat Infant Mortality? L. Findlay.
29 Recent Advances in Hematology. W. K. Hunter.
30 *An Unusual Complication of Measles. A. J. Couper.

30. **Unusual Complication of Measles.**—In Couper's case a fairly well-marked and typical measles eruption was present, and involved the whole skin area. Coryza and conjunctival suffusion were mild. The patient was a well nourished child, but flabby. The heart sounds were soft. Pulse was of low tension. Mucous râles were present, and were heard over both lungs, anteriorly and posteriorly. These were most numerous and were of finer quality at the right base behind. No dulness was detected, and the respiratory murmur was nowhere impaired. The case ran the usual course. The rash became brighter and the temperature rose on the fifth day of illness; the former began to fade on the ninth day of illness. With the fading of the rash, the temperature rose to 102 F., while pulse and respirations numbered 140 and 60 respectively. From this somewhat high register there was a drop of temperature, which occupied three days, the temperature being normal on the twelfth day. During this period there was no alteration in the chest condition. On the sixteenth day the temperature again rose to 102 F. This was accompanied by an increase in pulse-rate to 136, and in respiration-rate to 44. Next day temperature was 97.6 F. The dorsum of the right hand was found to be swollen and edematous. Circulation in the part was good, and there was no discoloration. No pain or tenderness was present in any part of the limb. On the following day the swelling was much increased, involving the palm and extending up the wrist. The terminal phalanx of each digit had become cyanosed, and the circulation in the fingers was very sluggish. By the nineteenth day the swelling had become pronounced. The whole of the right arm, together with the inner wall of the axilla, was affected, and these parts were distinctly edematous and very tense. The limb was cold to the touch and mottled (of a purplish color), while the extremities of the digits were black. With this increase in swelling, temperature rose to 103 F.; pulse, 138; respirations, 40. Crepitant râles were heard at both bases posteriorly, but no dulness was detected. On the twentieth day the swelling was still further increased, the limb and the inner wall of the axilla had assumed a much deeper and more uniform tint, and numerous ecchymoses and bullæ, containing a sero-sanguinolent fluid, were observed. The child died on the twenty-first day of his illness. Two days after death a post-mortem examination was made. In the subclavian vein, about half an inch from its proximal extremity, was a firm clot, which extended for an inch backward, and was adherent to the wall of the vein. Attempts to grow cultures from the clot failed.

Journal of Laryngology, Rhinology and Otology, London

March

31 Reports for 1909 from the Ear and Throat Department of the Royal Infirmary, Edinburgh. W. T. Gardiner.
32 The Wire Saw in the Radical Operation on the Middle Ear. V. S. Stein.
33 Injuries of the Head and Nasal Diseases. C. Ziem.

Clinical Journal, London

March 1

34 Nervous Exhaustion. W. H. B. Stoddart.
35 Historical Notes of Plague. F. M. Sandwith.
36 Significance of Sphygmomanometric Readings. F. H. Humphris.

Bulletin de l'Académie de Médecine, Paris

February 14, LXXV, No. 7, pp. 177-216

37 *Malta Fever. (A propos de la fièvre ondulante.) R. Blanchard.
38 Abortive Treatment of Syphilis. E. Gaucher.
39 *Institutes for Infant Welfare. (Des Instituts de puériculture après la naissance.) A. Pinard.

37. See Paris Letter in THE JOURNAL, March 11, p. 755.

39. **Infant Welfare.**—Pinard describes the workings of an institution at Paris for infant and child welfare and urges the organization of similar institutes of puericulture in other cities. The institute serves as an object lesson in the care of young children and the means to avoid epidemics.

Bulletins de la Société de Pédiatrie, Paris

January, XIII, No. 1, pp. 1-64

40 *Insufficiently Fed Infants. (L'hypoalimentation chez le nourrisson.) Nageotte-Wilbouchewitch.
41 Sclerosis and Leukoplasia of the Tongue from Inherited Syphilis in Two Brothers. P. Merklen.
42 *Methylene Blue and Fuchsin Test of Age of Milk. (Appréciation rapide du degré d'altération d'un lait.) H. Bertin-Sans and E. Gaujoux.
43 *Criteria of Normal Stools. (Physiologie digestive et coprologie.) H. Triboulet.

44 Varicella with Adenopathies, Torticollis and Initial Pruritus. (Trois particularités au cours de la varicelle.) P. Merklen.
45 Verrucous Tuberculosis of Leg After Lesion of Metatarsus. A. Trèves and G. Schriber.

40. **Insufficiently Fed Nursing Infants.**—Nageotte confirms Merklen's statements (mentioned in these columns March 4, page 702), that mothers often take too literally the directions of their medical attendants in respect to overfeeding their children and go to the other extreme. This is particularly the case, she has found, among the young mothers in the student quarter of Paris, progressive women, solicitous for the welfare of their infants, whom yet they are scientifically starving. These women are not so good nurses, to begin with, as the less nervous women of the uneducated classes. She remarks that this hypoalimentation is an artificial vice, of exclusively medical origin, and the babies are all against it, so that it can soon be suppressed if its presence is once recognized. The trouble is that when the infant vomits repeatedly, this being a characteristic symptom of the lack of sufficient nourishment, the tendency is to reduce the ration still lower. Another characteristic sign of insufficient nourishment is that the infants try to put both hands in the mouth and suck the fingers hungrily. All this, she remarks, teaches anew that medicine cannot be reduced to mathematical formulas; rules valuable for full-breasted, robust women cannot apply to frail nervous women more or less exhausted by privation and study.

[G. Variot reiterates that the signs of overfeeding and of insufficient feeding frequently have features in common, especially repeated vomiting and distended abdomen. It would be a great mistake, he emphasizes in a recent communication on the subject published in the *Bulletins de la Soc. Méd. des Hôp.*, to regard big-bellied infants as necessarily always overfed; frequently the abdominal ectasia, as he prefers to call it, is the result of swallowing of air as the child sucks in its vain effort to obtain enough nourishment. There is generally a marked disproportion between the size and the weight of such underfed children, and the Roentgen rays may show the distention of stomach and intestines with air. The little body floats lightly on the surface of water if the head is sustained with one finger. When the children are given sufficient nourishment the abdomen promptly subsides to the normal aspect.]

42. **Test for Age of Milk.**—A colored plate shows a color reaction obtained with milk too old to be sanitary for infants. The technic for the test is rapid and simple. Two stains are required: a 1 to 4,000 solution made by dissolving 0.25 gm. of methylene blue in 1 liter of distilled water; and a second solution made by dissolving 0.25 gm. of fuchsin rubein in 50 c.c. of alcohol and then diluting to 1 liter. To about 20 c.c. of the milk to be examined are added 3 drops of the fuchsin solution and 5 drops of the blue solution. The test-tube is plugged with cotton and placed in water in the water-bath and heated to about 38 or 40 C. The color gradually changes from the first ash-grey tint to a lavender and then to pink, from decoloration of the blue. The change of tint occurs the more rapidly the older the milk; if the change occurs in fifteen minutes the milk is too old to use; if the color reaction occurs in three quarters or an hour, the milk is too old for infants and the sick, and the milk should be regarded as suspicious when the change of tint is observed in less than an hour and a half. The test is based on the presence of reductase in the milk, the reductase being the consequence of the development of microorganisms. Negative findings may not be conclusive, the authors state, but positive findings may be relied on.

43. **Criteria of Normal Stools.**—Triboulet has long been insisting that simple inspection of infants' stools is inadequate for proper estimation of conditions, while comparison of the findings with the acetic-acid test gives an instructive oversight of the digestive functioning. With a normal stool, the contents of the test-tube form a homogeneous mixture, clearer at the top and becoming turbid toward the bottom, the whole being of a peach-flower pink. When digestion is defective, a coarser grained sediment settles to the bottom while fat and mucus float on top. The litmus reaction should indicate acid stools for breast-fed infants and alkaline stools for bottle babies. The presence of bile salts is indicated by an immediate red tint in the Pettenkofer test, while the bile pigments under four months show in the green meconium; after four months the stercobilin shows pink; the control test is the fluorescence with zinc acetate. Salts, lactose, casein and fats are not discoverable in normal stools on milk alone, and starch is all digested. Whatever the diet, there should be no red or pink reaction with phenolphthalein as these indicate the presence of blood or of products of fermentation. The acetic sublimate test is made by treating the well-diluted stool, for macroscopic examination, with 8 or 10 drops of the ordinary laboratory solution of 100 c.c. distilled water; 3.5 gm. of bichlorid of mercury, and 1 gm. of acetic acid. About 10 drops of this mixture are added to the diluted stool in a test-tube and the color findings are examined after one hour or up to twenty-four hours at most. Triboulet uses a printed chart to record the findings with the acetic test, in addition to the age, clinical diagnosis, diet, aspect and frequency of the stools, their consistence, odor, color, reaction and the findings with the Pettenkofer, biuret, Lugol and phenolphthalein tests—all the latter tests are negative with normal stools.

Obstétrique, Paris

February, N. S. IV, No. 2, pp. 121-248

46 Structure and Evolution of the Uterine Mucosa. E. Retterer and A. Lelièvre.
47 *Review of the Use of Scopolamin in Obstetrics. P. Lequeux.

47. **Review of Scopolamin in Obstetrics.**—The scopolamin-morphin method of anesthesia for painless labor was originated by Steinbüchel, Lequeux remarks, but Krönig was its apostle and Gauss has been its executive, while Hocheisen denounces it as dangerous for both mother and child, and several other prominent obstetricians share this view. All acknowledge that the method has varying effects, that cases of inexplicable idiosyncrasy are sometimes encountered, and that the same technic is very liable to give very different results in different patients. The work of thirty-one writers on the subject are reviewed. The total number of cases in which it has been applied is 4,619, and this material is tabulated for comparison, showing the percentage of good and bad results for mother and child. Lequeux' final conclusion is that we may feel encouraged to continue cautious clinical research on the subject.

Presse Médicale, Paris

February 18, XIX, No. 14, pp. 121-128

48 *Slight Dilatation of the Bronchi in Children. V. Hutinel.

February 22, No. 15, pp. 129-136

49 Pneumonic Plague. E. Rist.
50 Charts Representing Arterial Tension. A. Martinet.

February 25, No. 16, pp. 137-152

51 *Meningitis and Tabes Dorsalis. J. Tinel.
52 *Treatment of Dread of Emotional Blushing. (La base organique de l'éreuthophobie et son traitement.) P. Hartenberg.
53 Immobilization in Tuberculous Osteo-Arthritis. G. Monod.

48. **Slight Dilatation of the Bronchi in Children.**—In children, mild forms of bronchiectasia may exist which seldom cause symptoms; weeks and months may pass before any functional disturbances can be observed. The bronchiectasia thus escapes detection until some casual infection of the air passages above extends to the dilated bronchial tubes. General symptoms then rapidly develop, sometimes serious, with peribronchial and pulmonary disturbances and signs as of cavity formations. These local phenomena may prove misleading, but correctly interpreted they clear up the diagnosis. The fever is often high, with a wide range, the pulse rapid, and there may be a distressing cough, especially when the temperature runs up. The sputum is purulent but not fetid as in adults, and the dyspnea is generally moderate. The chest may be retracted on one side and the wall less movable, with impaired resonance or actual dulness over the lesion. In the intervals between the exacerbations of the catarrh the râles may subside, but the cough arouses them again. The younger the child the greater the chance of recovery; but every catarrhal affection retards this and increases the tendency to sclerosis of the lungs. Such children should be guarded carefully and particularly shielded from contact with tuberculosis. Differentiation from established tuberculosis is often difficult, but the overrapid development of signs of a

cavity, their location at the base of the lung and absence of tubercle bacilli in the sputum, together with the antecedents should suggest the bronchiectasia.

51. **Meningitis and Tabes.**—Tinel shows in thirteen illustrations the changes in the nerve fibers in the course of any meningitis. The radicular meningitis is seen to be practically the same process in the various infections, tuberculous, cerebrospinal, syphilitic, etc. Ordinary meningitis either speedily heals or progresses to a fatal termination; but in syphilitic meningitis the long chronic course leads to such an advanced stage of the resulting lesions that tabes is the inevitable result. The mechanism of its development is exactly the same, he declares, as in meningitis of any other origin, and it is possible that any toxic-infectious process in the meninges, especially if attenuated and chronic, is liable to reproduce, in whole or in part, the anatomic and clinical picture of tabes, if it has time enough.

52. **Morbid Dread of Blushing.**—Hartenberg has always found an organic basis for excessive blushing, some physiologic peculiarity creating a predisposition to the emotional reflex. In six cases described in detail the following signs were found: the heart was exceptionally active, the beat powerful, but its rhythm was not accelerated; the carotid arteries were engorged and the head sweated easily; drops of moisture appeared on the brow and cheeks as the individual was speaking. Only one of the patients was a woman, the others were men between the ages of 18 and 32. The cardiac erethism, dilatation and hypotension of the arteries suggest certain symptoms of exophthalmic goiter, and one of the patients had other symptoms of an incomplete form of this disease. Hartenberg conquered the habit and morbid dread of blushing by the galvanic current, which he has found useful in exophthalmic goiter. The positive electrode was applied to fit around the front of the neck, the negative on the back, abdomen or elsewhere; a current of 50 milliamperes was applied for thirty minutes every day at first, then every second day. This electric treatment was supplemented by 2 or 3 gm. of bromid daily, with some restriction of salt. Twenty or thirty electric sittings were generally necessary. Psychotherapy does not remove the cause.

Semaine Médicale, Paris

March 1, XXXI, No. 9, pp. 97-108

54 *Dorsal Percussion of the Heart and Its Application in Interpretation of Grocco's Paravertebral Triangle of Dulness. J. Teissier.

54. **Grocco's Paravertebral Triangle.**—Teissier gives a detailed analysis of the triangular area of dulness close to the spine to which Grocco has called attention as a sign of pleural effusion, and discusses the mechanism responsible for the phenomenon. His conclusions differ from those generally accepted as he ascribes it mostly to dilatation of the right auricle. The resonance of the region involved becomes less when the spine is in contact with a fluid as in pleurisy or with a solid object as in case of encroaching dilatation of the heart or displacement of the mediastinum. Dilatation of the right heart is the most frequent cause, he asserts, and is the main factor in the majority of cases. The sign shows that something is wrong in the cardiopulmonary circulation or that there is inflammation in the subjacent pleura or both. In a case reported in detail, the triangular area of dulness corresponded to the dilated right auricle. The top of the triangle was not quite so high as the surface of the effusion, and it persisted after its subsidence to some extent. Teissier thinks that not enough attention is paid to dorsal percussion of the heart and analysis of the findings.

Archiv für Gynaekologie, Berlin

XCII, No. 3, pp. 607-808. Last indexed March 18, p. 455

55 Behavior of Intestinal Epithelium of New-Born Infants. (Verhalten des Darmepithels bei verschiedenen functionellen Zuständen. Beitrag zur Physiologie des Neugeborenen.) M. Stickel.
56 Fatal Ecla apsia-Like Syndrome in Pregnant Woman at Term, with Primary Melanosarcomas in the Ovaries and Multiple Carcinomas in the Liver and Metastasis in the Placenta. N. Markus.
57 Cyclopean Monster. (Holocardius paracephalus cyclops.) I. Horwitz.
58 Research on the Blood During Pregnancy. (Gehalt des Blutplasmas an Gesammteiweiss, Fibrinogen und Reststickstoff bei Schwangeren.) E. Landsberg.
59 Ovarian Alveolar Sarcoma. A. Wolff.
60 Diagnosis and Prognosis of Puerperal Infection from Bacteriologic Findings in Blood and Lochia. H. Reibmayr.
61 Experimental Research on Ascending Genital Tuberculosis. P. Jung and E. Engelhorn.
62 Endometritis. O. Büttner.

Berliner klinische Wochenschrift

February 20, XLVIII, No. 8, pp. 325-368

63 *Gastric Ulcer and Pulmonary Tuberculosis. (Magengeschwür und Lungentuberkulose.) B. Stiller.
64 *Prostatectomy at Two Sittings. (Erfahrungen mit der zweizeitigen Prostatektomie in Lokalanästhesie.) P. Kayser.
65 Unfavorable Experiences with Sodium Nucleinate in Progressive Paralysis. O. L. Klieneberger.
66 Action of Radium Rays on Inoperable Cancer of the Uterus. E. Arendt.
67 Experimental Production of Gall-Stones. (Experimentelle Gallensteinbildung.) D. Klinkert.
68 Action of Serum of Cachectic Patients on Corrosive Sublimate Hemolysis. Kentzler.
69 Mydriatic Action of Organ Extracts. A. Bittorf.
70 Relations of Helminths to Tumor Formation. (Beziehungen der Acari zur Geschwulstätiologie.) E. Saul.
71 What Paris Does for Children with Bone and Joint Tuberculosis. (Die Fürsorge der Stadt Paris für Kinder mit Knochen- und Gelenktuberkulose.) G. Joachimsthal.

63. **Gastric Ulcer and Pulmonary Tuberculosis.**—Stiller reviews the various theories in vogue as to the origin of gastric ulcer and its frequent coincidence with pulmonary tuberculosis, and then states his conviction that both can be traced to the congenital condition to which he long ago called attention as asthenia universalis. This is responsible, he says, for the conditions which predispose to gastric ulcer on the one hand and to pulmonary infection on the other. The form of body peculiar to phthisical subjects, the flat chest, etc., is, he reiterates, merely the expression of the asthenia universalis, and the dyspepsia of the tuberculous is merely the nervous dyspepsia which forms part of the appanage of the universal asthenia. This throws light, Stiller thinks, on Weinberg's statement that neurasthenia in many cases is a sign of latent tuberculosis; he had noticed that many of his patients who had had neurasthenia later became victims of tuberculosis, while the children of tuberculous parents seemed peculiarly prone to neurasthenia. The identity of the phthisical and asthenic constitutions explains these facts at once. If he had looked about him, Stiller remarks, he would have seen that there are numerous other equivalents of neurasthenia besides tuberculosis: dyspepsia, ptosis of various or all the viscera, atony of the stomach, the splashing sound, hyperacidity, etc.—all symptoms of the asthenic habitus. Zielinsky found a surprisingly large number of congenital anomalies in the external or internal organs in nearly all of 900 tuberculous cadavers. The asthenia universalis does not necessarily entail tuberculosis; many healthy individuals are encountered with the narrow shoulders, the floating tenth rib, the drooping, exceptionally oblique ribs and the frail skeleton. This demonstrates that this form of body is not the result of existing tuberculosis as some have maintained. Stiller adds in conclusion that the hygienic-dietetic measures employed in treatment of tuberculosis are in reality directed mostly against the underlying asthenia.

64. **Prostatectomy in Two Sittings.**—Kayser does not advocate this as a general rule, but he is convinced that it is possible to save by two operations, under local anesthesia, a number of patients with prostatic enlargement whom otherwise we would be unable to relieve as it would be out of the question to inflict a single long operation on them, to say nothing of the general anesthesia which alone might so easily snuff out the spark of life. Most patients with prostatic enlargement are at an age when any operation is risky, especially under general or spinal anesthesia. If the bladder can be restored approximately to normal conditions by the preliminary operation, the patient will be much better able to stand the stress of the operation on the prostate, while the operation in two sittings materially reduces the danger of infection of the wound. Still another advantage of the two-sitting technic is that the long repose which it imposes on the bladder goes a long way toward ensuring better muscular functioning of that viscus later. He reports the details of four cases in which he operated on these principles, with unusually good outcome. None of these patients could have survived the ordinary prostatectomy.

Deutsche medizinische Wochenschrift, Berlin

February 23, XXXVII, No. 8, pp. 337-384

72 Rarity of Bovine Tubercle Bacilli in Human Sputum. (Typus der Tuberkelbazillen im Auswurf der Phthisiker.) B. Möllers.
73 *Tuberculosis Infection in Children. F. W. Rothe.
74 *Hyperemia in Pulmonary Tuberculosis. E. Jacoby.
75 Muscular Rigidity of Upper Chest Not Necessarily a Sign of Tuberculosis. (Vorkommen und Ursache der "Muskelrigidität" im Bereiche des oberen Brustkorbes.) F. Bredow.
76 Bronchial Asthma. Pescatore.
77 Precipitin Diagnosis of Anthrax. (Biologische Milzbranddiagnose mittels der Präzipitinmethode.) A. Ascoli.
78 Rapid Bacteriologic Diagnosis of Cholera. G. Pollaci.
79 Salvarsan in Syphilis. N. Z. Joannides.
80 *The Plague. Trautmann and W. Vierhuff.

73. **Tuberculosis in Children.**—The research reported supplements Gaffky's previously reported research on 300 child cadavers. The present article reports examination of an additional hundred. By inoculation of guinea-pigs with material from the bronchial and mesenteric glands tuberculosis was revealed in 19.5 per cent., that is, in 78 of the total 400 cadavers. In forty-two cases both bronchial and mesenteric glands were affected, in fourteen the mesenteric alone and in twenty-two the bronchial alone. In 98.68 per cent. of the tuberculous cases the tubercle bacilli were apparently exclusively of the human type; an unmistakable bovine type was found only in one cadaver. These findings confirm, Rothe remarks, the preponderant importance of inhalation of the germs for the development of tuberculosis in children.

74. **Local Hyperemia in Pulmonary Tuberculosis.**—THE JOURNAL mentioned Jacoby's announcement in 1897 of the advantages of inducing hyperemia in the lungs by lowering the upper part of the trunk. This "autotransfusion," as he called it, flushes the apices and does away with the mechanical conditions favoring the progress of the tuberculous lesion. He uses a special reclining chair in which the entire trunk lies horizontally, the head can be slightly raised, while the legs lie higher than the shoulders. By this arrangement, the pelvis is on a line with the chest, not lower than the chest according to the usual method of reclining. The pelvis can be raised a little higher than the chest by an interposed cushion which supplements the hyperemia induced by the autotransfusion with compression of the base of the lungs by the pressure of the intestines sliding down against the diaphragm. The respiration is more of the costal type, and the lungs are much better ventilated when the trunk is lying flat than when the patient is half sitting up, possibly with the shoulders stooping forward; this actually increases the tendency to anemia of the apices. He raises the feet higher by an inch each three days, until the feet are 18 inches above the level of the head. The patients find that they can breathe more deeply and more easily and that expectoration is promoted. Usually the occasional sharp pains in the chest disappeared during this position treatment. The horizontal attitude is not so agreeable for the patients as sitting up but they soon become accustomed to it and like it, as they come to appreciate the benefit therefrom. The method has been applied in various sanatoria in Germany and the general impression seems to be favorable. Muttray does not hesitate to apply it even when there is a history of hemoptysis in the past, but Jacoby does not go so far as this.

80. **The Plague in Manchuria and at Odessa.**—Trautmann comments on the fact that plague differs essentially from all other serious epidemic diseases in that it is primarily an animal disease, while it is much more infectious than any other animal infection. It is fortunate, he says, that healthy plague germ-carriers are unknown. It is possible, however, that persons who recover from the plague may sow the disease germs for a time afterward. Another advantage in favor of plague is that there is no record of its being water-borne. The germ is very sensitive and does not form spores but, with sufficient moisture and appropriate media, it may live a long time; plague infection has been traced to garments a year after their contact with the sick. He states that in Germany the black house rat is practically exterminated and with it the dangerous flea, Cheopis. The migrating rat (*Mus decumanus*) generally has another kind of flea, the *Ceratophyllus fasciatus*. Trautmann queries whether there may not be a primary intestinal form of the plague; in a case at Hamburg plague bacteria were found in the stool for two days. The man recovered. It is important, Trautmann adds, to have trained clinicians, bacteriologists and sanitary officials to handle the plague properly; it may be possible also that meteorologic and geologic factors are involved. He does not think that the statements of the English plague commission in regard to the intermediation of the flea are based on sufficient experience to establish a law; it must be remembered that the conditions were incomparably favorable for positive findings. There is still room for suspicion that some other factors may be involved in transmission of the plague. This is suggested by the experiences at Hamburg: None of the force engaged in exterminating the rats on the vessels from plague-infected ports has ever contracted the disease although many of the Cheopis fleas survived the gases that killed the rats. The men handling them never became infected. The flea theory also seems to be disproved by the "plague houses" in which the plague returns year after year although the inhabitants had fled and the buildings stood vacant for many months. He thinks that the rats surviving the plague would have left the empty house, taking their fleas with them. He has also been impressed by the anatomic differences between the plague rats in India and those arriving at Hamburg.

Vierhuff reviews the reports made by Zabolotny, who has just returned from Manchuria, and Skschiwan of Odessa at the recent public health congress at St. Petersburg. There were 141 cases of plague at Odessa last year; and the cases all occurred in the same blocks and some in the same houses where the last epidemic of plague had occurred in 1902. The bubonic form predominated; generally the glands in the groin were involved, only rarely the axillary glands; only two cases of the pneumonic form were encountered. A local connection with the plague in rats was beyond question, and about 50,000 rats were killed and 60 per cent. examined. The disease is still prevalent in rats there so that the epidemic cannot be regarded as over although no cases have been reported recently. The antiplague measures will have to be kept up for a year at least.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 4, pp. 511-674. Last indexed February 18, p. 547

81 Experimental Study of Electric Thermopenetration. (Experimentelle Untersuchungen über den spezifischen Leitungswiderstand und über die spezifische Wärme der Gewebe des menschlichen Körpers als Grundlage für die Beurteilung des Weges von wärmeerregenden Hochfrequenzströmen.) F. Wildermuth.
82 *Cooling of the Inhaled Air in Ether Anesthesia. ("Ueber Abkühlung der Inspirationsluft bei der Aethernarkose, ihre Bedeutung und Verhütung.") F. Joss.
83 Metabolism of Iron in Myeloid Leukemia Before and After Roentgen-Ray Exposures. R. Bayer.
84 *Clinical Significance of Leukocytosis and Neutrophile Blood Picture in Appendicitis. H. Kohl.
85 *Tardy Fatal Chloroform Intoxication. (Klinischer und experimenteller Beitrag zur Kenntnis des Chloroformspättodes.) A. L. M. Muskens.
86 Congenital and Familial Malformations of the Hands. E. Ebstein.
87 *Infection of Urinary Passages with Colon Bacillus. (Aetiologisches zur Coliinfektion der Harnwege.) C. Franke.
88 Origin of Kidney Calculi. (Kritischer und experimenteller Beitrag zur Frage der Entstehung der Nierensteine.) H. Rosenbach.
89 *Paralysis of Cerebral Nerves in Exophthalmic Goiter. (Ueber Gehirnnervenlähmungen bei der Basedowschen Krankheit.) M. Kappis.

82. **The Local Refrigerating Effect of Ether.**—Postoperative pneumonia has been much reduced in frequency since more care has been taken to prevent chilling the patient's body, but not enough attention has been paid hitherto to the chilling resulting from the local refrigerating effect of the ether inhaled. Joss found that the ether cools the air inhaled through the mask so that it averages 33 degrees F. below the temperature of the room, and the difference may even be 44 degrees during certain phases of the anesthesia. The cooler air chills the air passages, undoubtedly lowering their resisting powers and checking the movements of the cilia of the ciliated epithelium lining them. The ciliary movement is affected by variations in temperature and is entirely arrested at the freezing point. Infectious material is thus liable to find its way more readily into the finer air passages as salivation becomes increased under the influence of the anesthetic. The problem

now is to find some way to counteract the refrigerating action of the ether and warm the air as it is inhaled. Joss has tried to devise an appliance for the purpose but the one he has been experimenting with has not proved satisfactory and he is now attacking the problem from another standpoint.

84. **The Blood-Picture in Appendicitis.**—Kohl's report of his research is preceded by some remarks by Sonnenburg on the importance of examination of the blood as a routine measure in appendicitis. By this means it is possible to detect cases in which delay before operating is dangerous. Without it, this discriminating estimation of cases is a matter solely of the physician's temperament and experience. Any physician who can use a microscope, he says, can readily make a blood-count. It does not require any more time than to take the temperature, while determination of the neutrophile blood-picture requires barely half an hour. Years of experience with these measures at his clinic (in the Moabit hospital at Berlin) have revealed certain laws regulating the blood-picture, and the Arneth formula has been of great assistance. There are still many interesting questions awaiting solution, especially leukocytosis with incorporation of toxins or bacteria. Of all the protecting devices of the body against infection, the leukocytosis seems to be the most important manifestation for general practice, especially as it fits in with the temperature and pulse curves. He pleads for further cooperation in this line from surgeons. Kohl gives the details of a number of typical cases of various forms of appendicitis of varying severity as the blood-picture was studied at different periods of the disease and the findings compared with the anatomic conditions. His general conclusions are that there can be no doubt that the leukocyte count is equally important with the temperature and the pulse curve. If it seems to contradict the other clinical symptoms, the neutrophile mononuclears should be estimated by the Arneth classification. [This was described in THE JOURNAL, Feb. 13 and Aug. 20, 1904, pages 494 and 577.] The Arneth blood-picture seems to be an expression of the virulence of the infection while the leukocytosis is the expression of the peritoneal irritation on one side and of the reacting capacity of the individual on the other. The only cases of appendicitis in which an operation is not indicated are those with a mild clinical picture, especially slight local tenderness, and the Arneth blood-picture and the leukocytosis are normal or only slightly above normal. Even with a mild clinical picture if there is considerable leukocytosis the operation should not be deferred. A low leukocytosis and normal Arneth blood-picture should not deter from the operation if the clinical phenomena are pronounced, especially if there is much local tenderness. In such cases the inflammation is generally behind the cecum or it is extraperitoneal and restricted to the region of the appendix.

85. **Tardy Chloroform Intoxication.**—Muskens gives a historical review of this subject and tabulates the details of twenty-six cases from the literature and then reports his experimental research on the effect of chloroform on the liver, heart and kidneys. De Haan called attention in 1907 to the necessity for discriminating between the chloroform intoxication of these three organs, each having its own syndrome and its pathologic anatomy, although fatty degeneration is the essential pathologic change. Muskens also reports the necropsy findings in a youth of 15 who died sixty-four hours after removal of tuberculous glands in the neck under chloroform. The glands on the other side of the neck had been removed also under chloroform, two and a half months before. Except for the occasionally suppurating glands, the patient was in good health, free from fever and sweats, and nothing was found at necropsy to explain the fatality except the fatty degeneration of the liver, the pale and loose consistency of the heart muscle and the pronounced degeneration of the kidney parenchyma—these findings being a perfect reproduction of those published in the reports of the twenty-six cases on record of tardy chloroform fatalities. Muskens is convinced that the tardy effects of chloroform intoxication are more serious than has been hitherto recognized by the profession and the laity. Two fatalities from this cause have been observed during the last two years in the course of the 1,400 chloroform operations at the Rotterdam city hospital, and the chloroform intoxication was a probable accessory factor in the fatal outcome of others. Theoretically, it seems plausible to try to ward off trouble by restricting the intake of fat before attempting to operate, refraining from administering any oily purgatives beforehand and striving to promote elimination of fat by stimulating the liver functioning with medicines to increase the flow of bile.

87. **Colon Bacillus Infection of the Urinary Passages.**—Franke states as the result of experiments on rabbits that the ascending colon and the cecum are connected by a train of lymphatics with the right kidney. He was not able to find such connection with the left kidney. He says further that bacteria are able to pass directly from the intestine into the lymph vessels, if there is even a slight lesion of the intestinal wall. His research also demonstrates that the bladder can be infected in this way by the kidney route even when the kidney itself has been spared.

89. **Paralysis of Cerebral Nerves with Exophthalmic Goiter.**—Kappis summarizes the features of a case of exophthalmic goiter with paralysis of the ocular muscles. In the last two years he has encountered another patient with the same condition and two others in whom the paralysis involved the muscles of swallowing or the soft palate. He has also compiled from the literature forty cases of paralysis of the ocular muscles and nine cases of actual bulbar paralysis with or without ophthalmoplegia. These bulbar cases all terminated fatally in a short time; the bulbar symptoms developed in the course of a rapid and severe Basedow syndrome. In five other cases the bulbar paralysis was less pronounced. These and other cases reviewed suggest that there must be some disturbance in one or more nuclei or fibers in the medulla oblongata, and the lack of pathologic anatomic findings is because this region has seldom been examined properly in such cases. If series of sections fail to reveal anything pathologic, then the trouble must have been a myasthenic disturbance rather than true paralysis. The practical lesson taught by the material reviewed is that the paralysis does not develop until the exophthalmic goiter has existed for some time; if the syndrome had been cured, the paralysis would not have manifested itself. Consequently the exophthalmic goiter syndrome should not be allowed to progress indefinitely but should be cured before irreparable lesions have developed, and he regards operative removal of the goiter as the most certain measure at our disposal. All the symptoms retrogress more readily, he says, after an early operation, while it has no mortality to speak of. It is harmless, protects against irreparable damage and cures the Basedow syndrome, he says, so that an early operation should be urgently advocated.

Münchener medizinische Wochenschrift

February 21, LVIII, No. 8, pp. 393-440

90 Technic for Intravenous Injections. (Zur Methodik der Venenpunktion und der intravenösen Injektionen, insbes. auch solcher von undefibriniertem Menschenblute.) F. Moritz.
91 Technic for Intravenous Injections of Salvarsan. J. Iversen.
92 Idem. J. Benario.
93 Salvarsan in Frambesia. R. P. Strong.
94 Roentgen Rays in Diagnosis of Gastric Ulcer and Cancer. M. Haudek.
95 Nature and Treatment of Osteomalacia. H. Cramer.
96 *Epidural Injections in Sciatica. P. Glimm.
97 *Cancer in Bavaria. (Ergebnisse der Krebsstatistik des Königreiches Bayern in Jahre 1909.) F. A. Theilhaber.
98 Defect in Pectoralis Muscle and High Shoulder. (Zur Lehre vom Pektoralisdefekt und Schulterhochstand.) R. Furckhauer.
99 Successful Removal of Racemose Angioma of Brain. (Kavernöses Angiom des Gehirns; mit Erfolg operiert.) E. Baum.
100 History of the Telecardiogram. F. Pick.

96. **Epidural Injections in Sciatica.**—Glimm's experience confirms that reported by Blum and others recently in regard to the prompt and permanent cure of sciatica by epidural injection of about 20 c.c. of physiologic salt solution or a weak anesthetic. His best results were obtained with this amount of Schleich's No. II solution. This proved effectual in five of seven cases of inveterate sciatica as also in a case of tedious and rebellious coccygodynia resulting from a fall in a girl of 12. In this latter case the pain was banished permanently by a single injection of 10 c.c. of a 0.25 per cent. solution of cocain. The epidural injection also cured four or five youths with nocturnal enuresis; the one uncured patient proved to have

tuberculosis of the bladder. In the sciatica cases Glimm always stretched the nerve to supplement the injection, doing this ten minutes after the latter, and he regards the stretching as an important factor in the permanent cure.

97. See Berlin Letter in THE JOURNAL, March 18, p. 827.

Wiener klinische Wochenschrift, Vienna

February 23, XXIV, No. 8, pp. 263-298

101 Action of Epinephrin on Unicellular Organisms. (Wirkung des Adrenalins auf einzellige Organismen.) O. Schwarz.
102 *Calculi in Lower Ureter. (Klinik und Therapie der Steine im Beckenteile des Ureters.) F. Necker and K. Gagstatter.
103 Measurement of Permeability of the Nose. (Messung der Durchgängigkeit der Nase für den Luftstrom.) G. Gaertner.
104 Nature of Nevus Cells. Kreibich.
105 Technic of Puncture of Bone Marrow. (Knochenmarkspunktion.) G. Ghedini.

102. **Calculi in the Lower Ureter.**—Necker and Gagstatter give the details of sixteen operative cases and emphasize the evils of the dilatation of the ureter sure to follow obstruction by a concrement in the lower portion, not to mention the danger of retention and infection of the kidney above. If the concrement does not change its position notwithstanding attacks of colic showing that the ureter is trying to push it along, there is not much hope of its spontaneous expulsion. It may be possible to dislodge it by Jahr's method, injecting a lubricant under pressure to distend the passage. If this fails, operative measures are indicated. The experiences related indicate that only small, smooth-walled stones, the ureter still showing no signs of dilatation, are capable of being spontaneously expelled. If the Roentgen rays show that the stone can turn on its axis, this indicates a preceding dilatation of the ureter which in turn suggests that the peristalsis of the ureter walls must have been enfeebled by the distention and consequently operative measures are required without further delay. Even if the stone is expelled into the bladder, all trouble is not certainly past, as the stone may become impacted in the urethra; this happened in one of the cases reported, external urethrotomy becoming necessary at last. In the fifteen cases of extraperitoneal ureter lithotomy, the wounds healed smoothly without a fistula. Adding these to Jeanbrau's compilation of sixty similar operations, the mortality therewith is seen to be 1.35 per cent. in seventy-five operations, illustrating the progress realized in recent years in these difficult urologic operations.

Zentralblatt für Chirurgie, Leipsic

February 25, XXXVIII, No. 8, pp. 265-304

106 *Snow-Shoer's Fracture. (Typische Verletzungen der Schneeschuhläufer.) A. G. Oberst.

106. **Snow-Shoer's Fracture.**—Oberst gives illustrations of these peculiar twisting fractures as he has observed them in ten cases. When the toe of the snow-shoe catches and is held by some obstruction, the other foot goes on and this twists the leg in such a way that it is liable to fracture the bone in a typical manner when the foot is fastened immovably to the shoe. Prevention should aim to leave the foot looser.

Zentralblatt für Gynäkologie, Leipsic

February 25, XXXV, No. 8, pp. 297-336

107 Bacteriologic Study of Puerperal Fever. (Ueber saprisches und septisches Wochenbettfieber nebst kritischen Bemerkungen zu den Fromme'schen Verfahren zur Differenzierung der saprophytären und pathogenen Streptokokken.) O. Bondy.
108 *Cancer of Stump of the Cervix Uteri. (Karzinom des Cervixstumpfes nach supravaginaler Amputation des myomatösen Uterus.) R. Ekler.
109 *Plastic Operation for Prolapse of Uterus, and Cystocele. (Interpositio uteri vesicovaginalis — Wertheim-Schauta — nach Keilresektion oder vaginaler Amputation des Uterus.) A. Löwit.
110 Spontaneous Gangrene of Both Ischiorectal Fossæ. S. Leyzerowicz.

108. **Carcinoma in Stump of the Cervix Uteri.**—Ekler reports a case in which four years after supravaginal amputation of a myomatous uterus, cancer developed on the stump. There was no microscopic trace of cancer at the time of the operation, and he is convinced that the cancer developed independently of the preceding operation and that this is the fact in most cancer cases of this kind. He urges systematic reexamination of patients after operations for myoma to obtain better knowledge of conditions in respect to cancer later.

109. **Plastic Operation for Prolapse.**—Löwit states that the Wertheim-Schauta operation has been done in 119 cases at the Rothschild Hospital at Vienna; it was modified in thirteen cases by wedge resection of the uterus before bringing it down to serve as the support for the bladder. In eight other cases the uterus was amputated, leaving only the cervix to form the pad to sustain the cystocele. The results were very good at the time, and also a year later in the patients whose reexamination was possible.

Zentralblatt für innere Medizin, Leipsic

February 25, XXXII, No. 8, pp. 193-224

111 *Etiology of Amenorrhea. F. Rosenberger.

111. **Etiology of Amenorrhea.**—Rosenberger declares that amenorrhea should always arouse concern; it may be the first symptom of acromegaly to which it stands in about the same relation as ordinary goiter does to exophthalmic goiter, the hypophysis cerebri being so often involved. The amenorrheic should take special pains to avoid chilling, especially of the feet, and every catarrhal affection should be treated with great care. Three such patients in his practice had serious sinusitis, commencing in one case at the time the menses became irregular. Special care should also be paid to treatment of syphilis in this connection; it may be injuring the hypophysis even when there are no apparent manifestations elsewhere. His experiences further indicate that a pregnancy is liable to aggravate disease of the pituitary body. He discusses the points in which morbid amenorrhea resembles and differs from natural amenorrhea in pregnancy and after the menopause. Acromegaly is the form of amenorrhea in which there is sugar in the blood in almost half the cases, and there is hypertrophy of the bones of the face.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 19, XXXII, No. 22, pp. 227-242

112 The Chills in Malta Fever. (Il brivido freddo nell'infezione melitense.) F. Lastaria.

February 23, No. 24, pp. 251-258

113 Present Status of Leprosy in Sicily. Castorina.
114 Chronic Cystic Mastitis and Epithelial Tumors of the Breast. G. Marangoni.

Policlinico, Rome

February 19, XVIII, No. 8, pp. 229-260

115 *The Campaign Against Malaria in Sicily. Donzello.

February 26, No. 9, pp. 261-292

116 Pathogenesis of Cholera Intoxication. T. Pontano.
117 Iodo-Iodid Injections in Tuberculous Peritonitis. (Peritonite tubercolare curato con il metodo Durante.) C. Centra, N Scime and A. Ugolini.

February, Surgical Section No. 2, pp. 49-96

118 *Gonorrheal Septicemia. (La presenza del gonococco nel sangue circolante dei blenorragici.) F. Lofaro.
119 Tincture of Iodin in Sterilization of the Skin. (Ricerche istologische e batteriologische sul metodo di Grossich.) A. Duse.

February, Medical Section No. 2, pp. 49-96

120 Connection Between Lipoid Content of the Serum and the Wassermann Reaction. P. Alessandrini.
121 *Practical Importance of the Wassermann Reaction in Syphilis. G. Gavini.
122 Experimental Endocarditis. F. Fulci.

115. **The Antimalaria Campaign in Sicily.**—Donzello states that in this hotbed of malaria the campaign has been kept up during the winter, in the effort to effect a permanent cure. The people are debilitated from repeated infections and notwithstanding the energetic quinin medication and tonics, the malaria recurred in 5.70 per cent. This, however, is a tremendous gain over preceding years, and the general condition of all was much better than usual, the spleens being materially reduced in size. Last summer, preventive quinin treatment was given to 33,387 persons, 0.4 gm. (6 grains) being given every second day. Not a case of pernicious malaria developed in the district; only 2.6 per cent. among the agriculturists and 1.3 per cent. among the miners had febrile attacks and these yielded promptly to curative doses of quinin. There was no mortality. The benefits from the campaign are thrown into brighter light by the large numbers having malarial fever in the country outside of the protected zone. The work is under the auspices of the Red Cross.

118. **Gonococcus in the Blood.**—Lofaro found gonococci in the blood in 58.2 per cent. of sixty-seven cases of acute or chronic gonorrheal urethritis; in all the cases of chronic urethritis with stricture; in over 66 per cent. of cases with glandular involvement, in 50 per cent. of the cases of vulvitis and vaginitis, and in over 73 per cent. of the cases of urethritis with epididymitis.

121. **The Wassermann Reaction in Syphilis.**—Gavini has been studying the Wassermann test as applied to 367 syphilitics, seventy suspects and ninety-six healthy persons. The findings show that a negative reaction does not exclude syphilis but that an intense and even a moderate reaction is of extreme diagnostic importance. The subsidence of the reaction under treatment is a reliable index of the efficacy of treatment.

Riforma Medica, Naples

February 20, XXVII, No. 8, pp. 197-224

123 Case of Writer's Cramp with Jacksonian Epilepsy. (Mogigrafia ed epilessia jaksoniana.) E. Morselli.
124 Serodiagnosis of *B. Coli* Infection. S. Fichera.
125 *The Diaphragm Reflex. C. Quadrone.

125. **The Diaphragm Reflex.**—Quadrone has been studying the diaphragm reflex in over 2,000 persons and has become convinced that it is a very instructive sign of normal functioning; its absence indicates paresis or paralysis of the diaphragm or neuritis of the phrenic nerve, except in elderly persons and in the very obese, in whom the parts have lost their elasticity or the motor reaction is invisible. The absence of the reflex may throw light, he says, on obscure affections compromising diaphragm functioning, and also on the prognosis in acute infectious disease. The reflex is a physiologic cutaneous reflex, elicited by tickling the tip of the nipple or the areola. This induces a contraction of the diaphragm which is readily perceived as the patient lies on his back, against the light, the head nearly flat, the legs slightly flexed. As the diaphragm contracts the ensiform appendix is drawn inward and sometimes also the inner portion of the costal arch.

Norsk Magazin for Lægevidenskaben, Christiania

March, LXXII, No. 3, pp. 227-416

126 Histologic and Pathologic Study of General Paralysis and Other Psychoses and Organic Disease in Central Nervous System. N. B. Grøndahl.
127 *Three Cases of Fat Embolism with Punctate Hemorrhages in the Skin. G. Benestad.
128 Technic for Localization of Foreign Bodies in the Eye, and Their Extraction. (Om Röntgenlokalisation av okulære fremmedlegemer og deres extraktion fra glaslegemet.) S. Holth.
129 Heredity and Degeneracy. (Kritik av degenerationslæren.) H. Evensen.

127. **Fat Embolism.**—Benestad remarks that no cases of fat embolism are reported except the severe ones with fatal outcome. Most of these cases followed orthopedic operations and fractures. The view is gradually gaining ground, however, that fat embolism is a much more frequent occurrence than formerly was supposed possible. Leading authorities have long insisted on the difficulty of diagnosing it, but in three cases in his practice in the last six months there were punctate cutaneous hemorrhages, and he thinks that this sign may reveal the fat embolism in many cases which otherwise would escape detection. He has been unable to find similar cases on record. His patients were workingmen from 26 to 36 years old, with fracture of the tibia or femur. The patients were brought almost at once to the hospital, and Benestad was impressed with their restlessness which interfered with the care of the fracture while they seemed extremely apathetic and stupid. The apathy was pronounced two or four hours after the accident and kept increasing for a few days. In one case it amounted to actual stupor. It took them several seconds to understand what was said to them; the next moment they had apparently forgotten it. They all said that they had only a vague remembrance of what happened during the first two or three weeks after their accident—it seemed like a dream. There was no cyanosis but they all had weak pulse, requiring stimulants—rate 110 in one case. All complained that it was hard for them to breathe. This difficulty in breathing came on fifteen minutes after the fracture in one case and long persisted. One man had a slight cough and the others coughed violently, the cough being the predominant symptom. All complained of pain in their lungs more than at the point of the fracture. There was no dulness or blowing over the lungs but here and there small bubbles could be heard over both lungs at the close of inspiration, and there was some expectoration; the sputum exactly resembled that of pneumonia in one case. The temperature was high at first, and then kept at a subfebrile height. The diagnosis of pneumonia seemed inevitable when the discovery of the petechiæ cleared up the diagnosis. The punctate hemorrhages in the skin were numerous, and they did not subside under pressure of the finger. They were disseminated symmetrically over the sides of the neck, over the chest and part of the abdomen. The petechiæ disappeared after a week, the cough and expectoration gradually subsided, the temperature returned to normal, and by the end of the second week the patient was well and lively. All the patients recovered. Benestad says that nothing but the assumption of fat embolism will explain these cases. The fracture was a simple one in all, without dislocation.

Ugeskrift for Læger, Copenhagen

February 23, LXXIII, No. 8, pp. 253-288

130 Tuberculosis in the Holack District. Kierkgaard.
131 Sulphuric Acid Used in Manufacture of Cereals and Resulting Intestinal Disease. K. Isager.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. Bathe Rawling, M.B., B.C., F.R.C.S., Surgeon with Charge of Out-Patients, Demonstrator of Practical and Operative Surgery, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital. Fourth Edition. Cloth. Price, $2 net. Pp. 96, with 29 illustrations. New York: Paul B. Hoeber, 1911.

HUGHES' PRACTICE OF MEDICINE. Including a Section on Mental Diseases and One on Diseases of the Skin. Revised and enlarged by R. J. E. Scott, M.A., B.C.L., M.D., Attending Physician to the Demilt Dispensary. Tenth Edition. Leather. Price, $2.50 net. Pp. 878, with 63 illustrations. Philadelphia: P. Blakiston's Son & Co, 1911.

AN INTRODUCTION TO BACTERIOLOGICAL AND ENZYME CHEMISTRY. By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. Cloth. Price, $2.10 net. Pp. 328, with 28 illustrations. New York: Longmans, Green & Co.

ANNUAL REPORT OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS. From July 1, 1909, to June 30, 1910. Victor G. Heiser, M.D., Director of Health, Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service. Paper. Pp. 193, with illustrations. Manila, 1910.

HOOKWORM DISEASE. A Handbook of Information for All Who Are Interested. Prepared Under the Direction of the State Board of Health of Florida, by Dr. Hiram Byrd, Assistant State Health Officer. Publication 79. October, 1910. Paper. Pp. 70, with 13 illustrations.

A LABORATORY MANUAL FOR THE SOLUTION OF PROBLEMS IN BIOLOGY. By Richard W. Sharpe, Instructor in Biology in the De Witt Clinton High School, New York. Cloth. Price, 75 cents. Pp. 352, with 86 illustrations. Chicago: American Book Co., 1911.

ESSENTIALS OF BIOLOGY PRESENTED IN PROBLEMS. By George William Hunter, A.M., Head of the Department of Biology, De Witt Clinton High School, New York. Cloth. Price, $1.25. Pp. 448, with illustrations. Chicago: American Book Co., 1911.

ALCOHOLIC FERMENTATION. By Arthur Harden, Ph.D., D.Sc., F.R.A., Head of the Biochemical Department, Lister Institute, Chelsea. Cloth. Price, $1.25 net. Pp. 128, with illustrations. New York: Longmans, Green & Co., 1911.

A POCKET-BOOK OF TREATMENT. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Leather. Price, $1.70 net. Pp. 348. New York: Longmans, Green & Co.

REPORT OF THE SUPERINTENDENT OF PUBLIC INSTRUCTION (N. H.). Being the Fifty-Sixth Report on the Public Schools of New Hampshire. Cloth. Pp. 459. Henry C. Morrison, Superintendent, Concord. 1910.

THE SERPENT'S TRAIL, OR, MEMOIRS OF HAROLD BAGOTE, PHYSICIAN. A Tale of the South and of Cuba. By F. B. Cullens. Cloth. Price, $1.25. Pp. 168. New York: Broadway Publishing Co.

TUBERCULOSIS OF FARM ANIMALS. Bulletin 149, University of Illinois Agricultural Experiment Station. By Charles F. Briscoe and W. J. MacNeal. Urbana, Ill., February, 1911. Paper. Pp. 431.

ANNUAL REPORT OF THE NEWTON HOSPITAL CORPORATION. For the Year Ending Aug. 31, 1910. Newton Hospital, 2014 Washington Street, Newton Lower Falls, Mass. Paper. Pp. 31.

TENTH BIENNIAL REPORT OF COLORADO STATE BOARD OF HEALTH. Jan. 1, 1909, to Dec. 31, 1910. Cloth. Pp. 137. Hugh L. Taylor, Secretary, Denver, Colo. 1910.

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THE EVOLUTIONARY SPIRIT FOR BETTERMENT IN MEDICAL EDUCATION *

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President of the Chicago Medical Society

CHICAGO

The time is opportune to indulge in a few remarks relative to medical education. The evolutionary spirit for betterments pervading the land is significant. The teaching and practice of medicine are being influenced by this same spirit. An opportunity, full of possibilities, now presents itself to this body to manifest this spirit by inaugurating a resistless movement for betterments within our educational ranks. The perturbed condition of medical matters in America and abroad, cries for rectification. Medical education must be standardized, systematized and glorified. Innumerable details must be considered and generalized. The materials are present in abundance, the opportunities are ripe, and everything is in readiness for the master-strokes of our educationalists.

A grave responsibility, in fact, rests on this body. You have before you no easy task, but a mighty labor—a labor in which we proffer you our undivided support and prayers. It is your task to evolve out of chaos a practicable system that will be a credit to yourselves and a lasting monument to the genius and tact of American democracy.

I would specify among the many subjects that would profitably come under your deliberations, three in particular: First, *State Medical Education;* second, *Interstate Medical Relationship;* third, *A National Standard of Medicine.*

I notice by your program that "Standards of Admission to the Medical Schools," "Administration of Entrance Requirements," "The Fifth Year in Medicine," "The Medical Library," "What the Internist Wants the Anatomist and the Physiologist to Teach," and "What the Surgeon Wants the Anatomist and the Physiologist to Teach," etc., are to be presented and discussed by members of this body of specialists in medical education. These presentations and these discussions will be gladly received and thought over, again and again, by the medical profession of this city, state and country.

OVERCROWDING OF THE MEDICAL PROFESSION

One great and lamentable condition stands out very prominently in America, namely, that the medical profession is overcrowded—not by the survival of the fittest, but by the survival of the unfit. This is a serious evil which must be remedied. With a population of about 90,000,000 in the United States, we have at least 140,000 doctors (1 to about 642+) who are legally qualified to practice. In England the proportion of doctors to the population is about 1 to 1,250 and in France 1 to about 2,175. In other nations the proportion is still more favorable to the medical profession. To be concise, we do not need more doctors in America, but we do desire a better brand of doctors. It is my deliberate opinion that this evil, which is due to the large number of irresponsible medical colleges, would be remedied by free medical education.

FREE MEDICAL EDUCATION

The fulfilment in the future of long-cherished ideals in the teaching and practice of medicine is a potent reason for the advocacy of free medical education. Free medical education would ensure a proficient medical profession, which, in turn, would protect the public health and enlighten the masses on medical matters. Thus disease would be forestalled, suffering alleviated and deaths prevented. From a financial standpoint, alone, free medical education would prove a boon to the state, for, since every premature death is a loss to the state of from $1,000 to $2,000 by the lowest computation, every life saved through the agency of the medical profession is a corresponding gain. The number of preventable diseases is many, and the number of deaths due to ignorance is simply appalling.

Free medical education, moreover, would play an important rôle in abolishing certain undesirable private medical schools. The teaching of medicine is too sacred a thing to be trusted at all in the hands of these petty medical colleges. In this connection we would do well to follow the example of Germany, which has demonstrated to the world that it has the best systems of teaching and maintaining scientific medicine.

Allow me to conjure up before you the ideal educational tree as I would fain see it in this state in the near future. Behold, it is a stately tree, with its roots firmly implanted in the common schools, from which it receives its nourishment; its sturdy trunk embodying the high schools, from which it receives its stamina; and its branches outspreading into the various departments of the university, where it attains that maturity which enables it to put forth good fruit in arts, in agriculture, in engineering, in science, in law, and in medicine. Then, with the aid of free medical education, would this stately tree bring forth in medicine the rich and abundant fruits to which our commonwealth is logically entitled.

In our grand educational scheme we must not forget that the life motive of a child naturally begins to germinate at puberty. If all were taught that at this age they should begin to map out their futures and were aided in this by the mature judgment of efficient teach-

* Address of Welcome to the Association of American Medical Colleges, Chicago, Feb. 27, 1911.

ers, according to the symptoms and signs presented by he individual, they would be enabled to decide early on life career. Especially in medicine is it true that the student should begin on his training early in life.

MEDICAL TRAINING AND TEACHING

The teachers in the college of medicine should be well paid for their services. In this regard all the colleges of a university should be treated alike. The courses should be made largely elective. This elective system would create a spirit of emulation between the professors as well as among the students. The medical student should be given an examination every year, written and oral, and should moreover be scrutinized socially, politically, and religiously.

Didactic teaching and the reading of books is no longer the sole source of knowledge. Memorizing Gray's "Anatomy" and other text-books is unprofitable. I remember when the student who was most lauded at college was he who gave his answers verbatim as he had read the information in a text-book or received it from the lectures of his professor. The introduction of the laboratories into universities and colleges completely changed the method of teaching and learning. The spirit of experimentation is developed by this laboratory method of training, and an impulse for thought and study is inspired. The student of to-day sees for himself, handles for himself and thinks for himself. The young doctor in the hospital investigates what he hears. The laboratory man expresses doubt of what is presented by others and sees for himself.

There is nothing, it seems to me, of much more importance in the successful teaching of medicine than the actual personal contact of professor and student, when the professor may inspire and the pupil be inspired by that subtile quality called personal magnetism. While individual attention by the professor to the student is not always possible, yet much can be accomplished along this line by limiting the size of the class—say to twenty or twenty-five members. This comes back as near as possible to the old doctrine of Locke, Montaigne, Milton, Spenser and others, namely, that the student receives the greatest amount of educational benefit under a tutor.

No matter what method of teaching is employed, however, no student can hope to know it all. Time was not long since when we took an arts course and a medical course at the same time. Professor Eliot, the late president of Harvard University, said: "When I was an undergraduate at Harvard I took almost every course that the college offered. Now I think it would take a bright, active minded student at least one hundred years to go through all the courses the college offers."

THINKERS

"Thinkers rise upon us like new stars, a few in a century." Thinkers are not unlike runners inasmuch as some excel others—those in the lead think farther and faster. Incidentally I might mention here that while some of the medical profession think for themselves according to circumstances, environments and conditions, still many of them, as a result of their bad training, "follow the lead" of some one else. The true philanthropists are thinkers and altruistic specialists. To this class belong Rhodes, Carnegie, Rockefeller and others. What a far reaching influence the philanthropy and thinking of Rhodes will have for all time upon the education of the world. Just think of the furore that has been created by the Carnegie Fund for Medical Education. This donation has stirred us to the utmost and has set us to thinking afresh. Great praise must be given to John D. Rockefeller for all that he has done for general education and research in medical sciences through his unbounded spirit for the welfare of mankind. A new era has been created, a new future is before us, and it is the honorable duty of this distinguished and learned body to aid Carnegie and Rockefeller in their great work.

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A SAFE AND RAPID METHOD FOR THE ADMINISTRATION OF ANTITYPHOID VACCINE

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Since the introduction into the British army of the inoculation of bacterial vaccine as a prophylactic measure against typhoid fever, by Wright and Leishman, medical officers, both at home and abroad, have become thoroughly convinced of the value of the procedure in the military service; so that antityphoid inoculation (or vaccination) can no longer be said to be in the experimental stage. In fact recent orders from the War Department make possible compulsory vaccination of an entire garrison in the presence of an epidemic. So consistently favorable have recent statistics been, that it is safe to say that this method of protection against a dread disease will soon cease to be almost exclusive property of the military organization, but will be accepted and eventually enforced as a safeguard to municipal health.

It is not my purpose to attempt to advance argument in favor of the practice or to explain its rationale or results. A careful perusal of the several recent articles by Major Frederick F. Russell, Medical Corps, U. S. A., would, it is thought, convince the most skeptical of the value of antityphoid vaccination and of its effectiveness. The question which will be considered is, Granted a large number of persons from civil or military life to be vaccinated, how can they best be handled with the least possible loss of time and the greatest safety?

In brief, the method used in our army consists in making three subcutaneous injections, at ten-day intervals, of a killed culture of *B. typhosus*. The vaccine is prepared in the laboratory of the Army Medical School at Washington, D. C., and is sent out in 1 c.c., 5 c.c. and 10 c.c. sealed ampoules, the standard content being 1,000,000,000 dead bacilli per cubic centimeter. The first dose is 0.5 c.c. and the second and third doses 1 c.c. each.

The vaccination of an entire brigade would appear at first sight to be a rather stupendous task, and, as hypodermics are usually given, would indeed be such; but the method about to be described, which is the result of facing just such a proposition, has made possible the administration of over 4,000 doses without a single infected arm, and, with two officers working, at the rate of 5 doses per minute.

The principal factors to be considered, then, since the vaccine is standardized and sterile, are the preparation of the subject's arm (experience having shown that the middle of the posterolateral aspect of the arm offers the most advantageous point), and the manipulation of the syringe and needle. Several syringes were tried with varying results. In general it was clearly demonstrated that any syringe which depended on a rubber or leather washer for a tight connection between needle and barrel

was sure to give trouble and to be short-lived. The best syringe is one with a plain, ground nipple on the barrel, to fit which the bases of the needles are ground. The needles will then stand repeated boiling and still make a tight joint.

It has been suggested that simple plunging of the needle into boiling water or strong solution of phenol or formaldehyd solution is sufficient sterilization; but it is doubtful if the author of such a suggestion would relish being the next man inoculated with that needle after it had been used on a syphilitic. So, in view of the questionable cases bound to appear, each needle was disconnected from the syringe and boiled, a freshly sterilized needle being used on each case.

Records of each case are kept on cards furnished by the Surgeon-General's office, and for this purpose a sergeant is stationed at a desk just within the door by which the men enter the vaccination room. Coat-racks are provided in the hall. The men enter by organizations in as nearly alphabetical order as possible, each with his left arm bare, exposing the lower two thirds of the arm. The necessary data is given to the sergeant as each man enters the "scrub-up" line. Here at the first table the arm is scrubbed with green soap and warm water, rinsed, and the subject passes on to the second table where a second man washes the previously scrubbed area with a 1 to 1,000 solution of mercuric chlorid; he then advances to a third table where the field is rubbed with 95 per cent. alcohol, after which he comes to the officer who is to vaccinate him. This may seem like needless caution, but a glance at the water after a few arms have been washed would prove ample justification for the first step, while the fact that men coming from stables and police work of various kinds, without any preparation whatever, experience no bad results, would indicate its thoroughness.

When the subject reaches the medical officer, the arm is grasped between the thumb and forefinger of the left hand to steady it and pinch the skin taut, while the needle is plunged downward and slightly forward, nearly parallel with the surface of the arm, into the subcutaneous fat. The injection is given with moderate rapidity and the needle quickly withdrawn. The needle puncture is then touched with a glass rod moistened in pure trikresol and the man leaves by another door. The trikresol dries in a few seconds after which the clothing may be replaced.

The use of trikresol in this manner has been very valuable, not only in cauterizing the needle tract, but the slight burn it leaves marks the site of a previous inoculation and prevents the administration of two doses the same day; for in spite of all directions, some men, knowing they must take three doses, will get back in line for another dose. Thus no difficulty is experienced, even with the short-lived memory of colored troopers; for trikresol leaves a white spot for several weeks, and it is impossible to mistake the number of doses received.

The cleaning-up process is conducted in a line and may be as rapid as desirable; the greatest time being consumed in the filling of the syringe and the maintenance of surgical technic regarding the needles. As was stated before, each needle is boiled and for this purpose a small evaporating dish of water containing a little soda bicarbonate is kept boiling over a gasoline torch. An assistant picks up the needles from the table after they are used and drops them in the water to boil, after which they are removed with a sterile eight-inch Kelly clamp and placed point down in the needle-holder. To secure a fresh needle, with the type of syringe described above, it is necessary for the surgeon only to insert the nipple of the syringe into the base of one of the needles in the holder, give it a slight twist and pull it out. It is well, after thus obtaining the needle, to set it firmly on the syringe by grasping the base (which is winged for the purpose) between the fingers and giving an additional twist. In this manner the inside of the base of the needle, its point and shaft and the outside of the nipple of the syringe can in no way become infected. The syringes are of course boiled to start with.

The needle-holder is steam-sterilized in a towel or thoroughly flamed and placed on a sterile towel. Its capacity is such that two surgeons may have sterile needles available at all times and still allow at least one minute for boiling after use. It consists of a sheet of heavily tinned iron so bent that it forms the bottom and sides of a box 10 inches long, 1½ inches wide and 2 inches deep. In the bottom are punched twelve holes about 3/16 inch in diameter, the burr directed inward. It is placed bottom up on the towel and thus furnishes twelve receptacles for needles large enough so that the point may be easily inserted, but too small to pass the base. The burr being directly downward makes the holes sloping enough on the edges so that needles do not catch.

The needle-holder, as before stated, is sterilized and the needles as they are boiled are removed from the water with the boiled clamp and dropped point down in the holes; the bases, projecting above the surface, are readily accessible without the necessity of handling. Sixteen needles will run two surgeons constantly; eight can be in the holder while four are boiling and four waiting to be boiled.

The vaccine ampoules are kept in a 1 to 500 mercuric chlorid solution, removed and dried as needed, and, after shaking, scratched with a file and broken at the neck; the sterile needle is then inserted into the ampoule and the syringe filled. A little practice is necessary to hit the opening in the ampoule every time with a needle, and several needles will be soiled till this practice is acquired; but the use of the vaccine from the original container eliminates one source of infection, while the small opening minimizes dust contamination, which is a factor where so many persons are constantly moving.

By means of the above equipment, two medical officers, assisted by four men, and one non-commissioned officer in charge of records, have been able to maintain an average of between four and five doses to the minute for an hour or more, and while it may seem elaborate and require considerable help, it is in reality a time-saver for both the subjects and the medical staff. At all events it has made the vaccination of from 150 to 300 men (a not unusual daily occurrence) a mere incident instead of a rather formidable task.

In view of the marked interest taken in antityphoid vaccination by civilians in the neighborhood of Fort D. A. Russell, it is safe to prophesy that the time is not far off when civil practitioners will be confronted with the problem of wholesale vaccination against typhoid in schools, etc.

It is hoped that the procedure may not fall into disrepute on account of infections due to the sacrifice of good technic for speed, and that the preceding paragraphs, in which the methods described apparently combines both technic and speed, may contain some useful suggestions.

I wish to acknowledge my indebtedness to Major George A. Skinner, Medical Corps, U. S. A., and to Captain Percy L. Jones, Medical Corps, U. S. A., for invaluable assistance in the working out of this system and the preparation of this article.

E PREVENTION OF INDUSTRIAL PHOSPHORUS POISONING*

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PHILADELPHIA

This paper is based on supervision, extending over and a half years, of the hygiene of employees in a ge match factory, and observation before and during t time of several cases of necrosis of the jaws from ious sources.

The subject may at first sight appear to be of interest y to manufacturers and those interested in labor conions, but it has been recently so much before the gen- l public in newspapers and magazines, and concerns article of such universal use, that it is deserving of ne attention by medical men.

The pathology of phosphorus necrosis of the jaws is t fully understood, but that this is a very common eet of chronic phosphorus poisoning is well known. hether the result is an expression of the general toxia sometimes present in these cases, the poison being rived from the blood after absorption into the system, whether it gains direct entrance through local lesions the mouth, is still unsettled. The evidence tends to ow that both factors may be present in a few cases, ough my observation is that the disease (necrosis) as general rule may be purely local in origin, and that the ison gains entrance through local points of lowered sistance in the mouth, such as decay of the teeth volving the root canals, pyorrhea alveolaris, etc.

It is well established that the white or yellow phosorus alone is poisonous, and for that reason legislation s been passed in many European countries, including reat Britain, forbidding its use in the manufacture of atches. In these countries the non-poisonous, red, norphous phosphorus, and the sesquisulphid of phosorus are used. The red phosphorus is employed in the anufacture of safety matches, which will strike practically only on the box, while matches made from the sesquisulphid strike anywhere. Neither of these forms match is as satisfactory to the general American ublic as the common yellow phosphorus parlor match present on the market.

Federal and state legislation is now being proposed gainst the manufacture of yellow phosphorus matches this country, much stress being laid on the danger to nployees in factories making them; and it is undoubtlly true that conditions in some factories justify these easures. Mr. John B. Andrews, Secretary of the merican Association for Labor Legislation, recently nducted an investigation of match factories in the nited States, and reported his results to the Departent of Commerce and Labor. The conclusions he ached were on the whole unfavorable to the continuce of the use of white or yellow phosphorus in the anufacture of matches. Newspapers and medical jourals in editorials have taken up the cry and unanimously ndemn the yellow phosphorus match, without knowing ll the facts, and without fully realizing the economic nd other conditions involved. Safety and sesquisulphid atches, under the present tariff and labor conditions, annot be produced in this country in competition with oreign manufacturers, and if this legislation is passed ithout modification, the match companies of the United tates, representing a capitalization of $20,000,000, employing about 5,000 persons, and putting forth an annual product amounting to about $15,000,000, will be driven out of business. The match manufacturers also point out that other trades, such as those involving the use of lead, are more dangerous to employees than the manufacture of matches. These arguments, however, do not justify the use of poisonous phosphorus when there is a non-poisonous substitute, unless the risk to workers can be eliminated. Can this be done? I believe that, barring absolute carelessness on the part of employees, comparable to playing with dynamite on the part of a miner, yellow phosphorus can be used in the manufacture of matches practically without danger.

SAFETY MEASURES

The following is a brief account of the precautions that have been taken during the past two and a half years by one company. Afterward we shall see the results attained.

The company has on its pay-roll about 120 persons—men, women, boys and girls. There are at the present time forty-four women and girls, the rest being men and boys. There are three main departments: (1) the machine room, where the match sticks are cut and dipped by machinery, employing thirty-five men and boys; (2) the filling room, where the matches are packed into the boxes, chiefly by hand, employing forty-forty women and girls, and twenty-two boys; (3) the general department, which includes the chemical room, the saw and planing mill, the printing and box-making rooms, and the lumber-yard.

General Precautions.—The factory is roomy, and is provided with thorough ventilation, whereby there is a complete change of air every four minutes, and the phosphorus fumes are drawn out by air pumps placed directly over the working places. Lunch rooms, apart from the working rooms, are provided, and employees are obliged to wash their hands before eating. They are instructed about care and cleanliness of the mouth and teeth, and warned against eating or chewing tobacco while at work. An antiseptic mouth-wash is supplied free to all employees. Recently a new match has been introduced, which requires only about one-fifth the amount of phosphorus used in the ordinary match, and machinery will be installed shortly that will greatly reduce the personal handling of the matches.

Special Regulations.—No person is permitted to start work in the factory without a certificate from a local dentist, or until he has been passed on by the special examiner at his monthly visit. A visit is made to the factory by this examiner once a month, at which time the mouths and teeth of all workers are carefully examined, and in addition a survey is made of their general condition as to anemia, hypertrophied tonsils, throat and lung trouble, etc. The results of the examinations are carefully noted on cards. Employees with diseased teeth are required at once to visit a dentist, enforced absence from the factory until the work is completed being left to the judgment of the examiner according to the severity of the lesions found, ranging from simple dental caries to alveolar abscess. It is a general rule not to permit those under treatment for any lesion more serious than simple caries to remain at work. At the next visit the treatment that has been carried out is carefully recorded on the cards. All candidates for employment are obliged to have their mouths and teeth put in order before they are accepted. The aim is to select robust individuals as workers, with sound teeth if possible, and to avoid those with devitalized

*Read in the Philadelphia County Medical Society, Feb. 22, 1911.

teeth and those wearing fixed artificial appliances such as crowns and bridges. It is not practicable to make this an absolute rule, and if the individual wearing crowns or bridges be otherwise healthy he is admitted, provided his mouth is kept in good condition. All applicants with diseased tooth-roots beyond repair, are sent to have these extracted, and the wounds caused in their removal must have completely healed before permission is given to work. Persons suffering from simple dental caries are permitted to work during the time they are under the care of the dentist, but those who have devitalized teeth or cavities involving the pulp-chamber must wait until the dental work is completed.

Monthly inspection, with special attention to the teeth and jaws, keeps the health of the employees right up to the mark, and any development of disease is checked in time. From observation of patients who had worked in the factory for years before the regular examinations were introduced, it is found that the disease may lie dormant for months without any external evidence of its existence, and many of the cases of necrosis arise without pain. The slightest sign of development of an alveolar abscess is sufficient reason for prohibiting the employee from further work until the trouble has subsided. Cases of necrosis due to causes other than phosphorus may of course arise in match workers, and the trouble be attributed to phosphorus. In one case the Wassermann reaction testified to the syphilitic origin of the disease.

RESULTS AND STATISTICS

During the past two and a half years (July, 1908, to December, 1910), 177 persons have been observed for over six months each, divided into departments as follows:

Filling room	97
Machine room	52
General	28
Total	177

Eighty-one of these have worked in the factory for more than two and a half years, that is, before the routine inspections were instituted, as follows:

Filling room	39
Machine room	26
General	16
Total	81

Since the regular monthly examinations have been in force, eight cases of necrosis of the jaws have been found. In one of these the diagnosis of syphilis was confirmed by the Wassermann reaction. Of the other seven, two of the cases began as alveolar abscesses from roots of teeth bearing artificial crowns. Two began from devitalized teeth which had been undergoing treatment for a long period. In another case the man was employed in mixing the chemicals, undoubtedly the most hazardous work in the factory, because it necessitated handling the phosphorus in a concentrated form. Practically every tooth in his mouth had at some time required treatment. The disease rapidly extended and involved the entire lower jaw-bone, resulting finally in the death of the patient. The fatal outcome of this case is to be attributed chiefly to neglect on the part of the patient himself, and his refusal to remain under proper care and to comply with treatment. The man now working in this part of the factory is obliged to have his mouth examined weekly. Two other cases in men employed for nine years occurred after extraction of several badly decayed roots, which they had persistently neglected to have removed. Four of the cases occurred in women working in the filling room, where the matches are packed into boxes by hand. None of these cases can be quoted as an argument against the efficiency of the measures at present in force.

SUMMARY OF CASES

1. Chemical room, male.....Lower jaw, fatal
2. Filling room, female.....Upper jaw, slight
3. Filling room, female.....Upper jaw, moderate
4. Filling room, female.....Upper jaw, moderate
5. Filling room, female.....Lower jaw, severe
6. Machine room, male.....Upper jaw, slight
7. Superintendent, male.....Lower jaw, severe

Thus there have been seven cases of true phosphorus necrosis manifesting themselves since the routine examinations were begun, all occurring in persons who had worked at the trade several years before that time. Previously the company had been continually troubled with cases of the disease. (It is interesting to note that in these seven cases, the upper jaw was affected more frequently than the lower, which is contrary to the general teaching.) In Cases 6 and 7 the employees had been with the company nine years, and had worked at the trade longer still without any hygienic regulations. In all of the cases reported the individuals had bad teeth; that is, teeth through which the infection could directly reach the jaw-bone. The disease has developed in no one who has since admission to the factory been subjected to a monthly examination of the mouth and teeth. In no case has the disease developed without a previous dental lesion. At the present time the factory is absolutely free from the disease.

CONCLUSION

The foregoing facts all point to a local infection of the jaw-bone by the phosphorus through diseased teeth as the essential factor in necrosis. In view of these results of observations on 177 persons for periods ranging from six months to two and a half years, it is justifiable to conclude that the measures in operation at the present time are effectual in the prevention of necrosis in persons employed in the manufacture of matches from white phosphorus, and that the substitution of other less satisfactory materials is unnecessary.

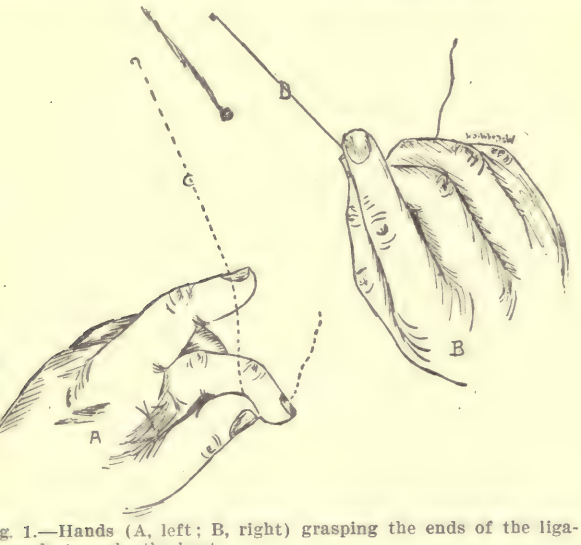
1623 Walnut Street.

Conditions Favorable for Cesarean Section.—The mother must be healthy and the child living and at full term. The mother should be under observation for a time beforehand in hospital or nursing home. It must be ascertained by careful examination that Cesarean section is the best available mode of delivery. Any previous handling or examination must be conducted under the strictest antiseptic precautions. The patient must be prepared as is usual for an abdominal section. The usual routine is disinfection of the external genitals and vagina, sterilization of the skin with iodin solution; rubber gloves for the surgeon and all assistants; high median abdominal incision; long swabs packed round the uterus; median incision of the uterus and delivery of the child before bringing the uterus out of the abdomen; thorough cleansing of uterine cavity and making sure of patency of cervix for subsequent drainage; interrupted catgut sutures through the uterine wall, covered in with continuous catgut suture of the peritoneal edges of uterine wound; stitching of the abdominal wound as far as possible in the usual layers, with supporting through and through silkworm-gut sutures.—A. W. Russell, in the *Practitioner*.

EFFICIENT AND TIME-SAVING METHOD OF TYING THE SQUARE KNOT

DWARD CASTLE, M.D., AND H. A. L. RYFKOGEL, M.D.
SAN FRANCISCO

he time consumed in tying sutures and ligatures ng many surgical operations is too great in proporto the time taken to do the rest of the work. The umstances under which ligatures must be tied often der the work most difficult and unsafe when done in y of the ordinary ways. The very fine ligature erial often used, gloved fingers covered with blood



g. 1.—Hands (A, left; B, right) grasping the ends of the liga- ready to make the knot.

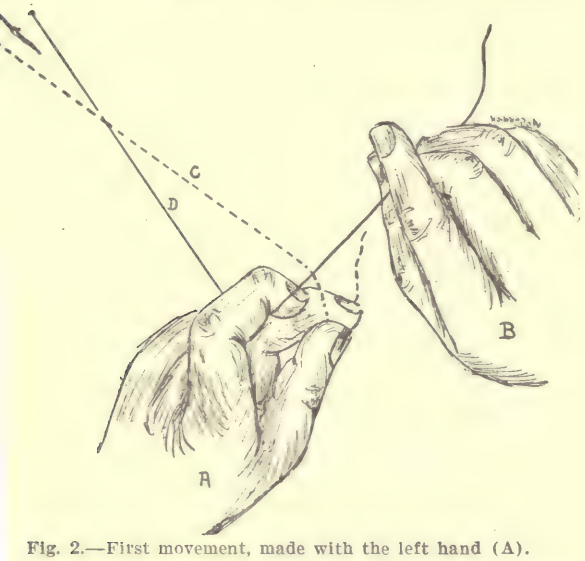


Fig. 2.—First movement, made with the left hand (A).

other fluids, deep and small cavities, the short time has at command, and the great importance of the rity of the knot change a very simple task into one reat moment.

knot to be of the greatest value must be one which not slip or cut the ligature while being tied; it st be simple, requiring few and uncomplicated movets to produce it. It must be made in such a manner t both ends of the ligature are held in the grasp of fingers while the knot is being tied. It should be l with one hand. With these important facts in mind devised the method here described for tying that t of knots, the square or reef knot.

The accompanying drawings were made while the author posed to show each step. To enable the reader to follow each detail, the hands are represented as his own hands, and not as those of some one else whom he is watching.

The left hand (Fig. 1 A) grasps the left end (C) of the ligature between the thumb and the middle finger. The ligature (C) passes over the index finger. The right hand (B) grasps the right end (D) of the ligature. This grip is constant throughout the process of tying the knot. In rapid work the right hand is moved slightly from right to left. The index finger of the left

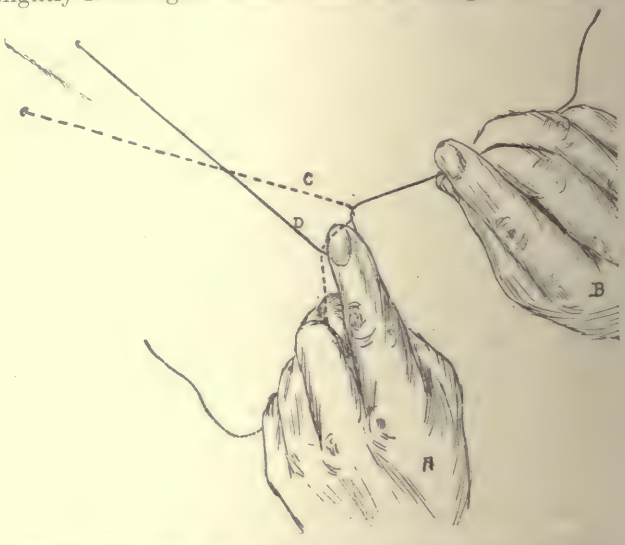


Fig. 3.—The index finger of the left hand (A) making the loop.

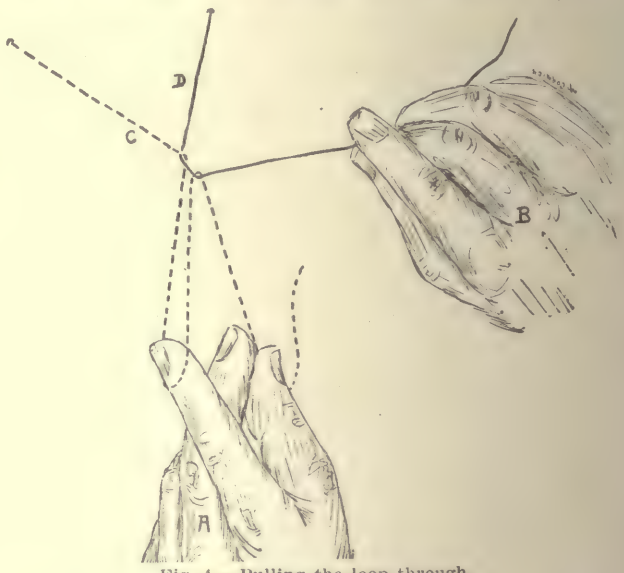


Fig. 4.—Pulling the loop through.

hand is then hooked (Fig. 2) over the end of the ligature (D). The left end of the ligature (C) rolls off of the left index finger. This finger is now further flexed, causing the left end of the ligature (C) to rest on the nail of the same finger. The left index finger is then extended (Fig. 3) and ready to pull C through the loop in D (Fig. 4). The first half of the knot is then tightened (Fig. 5). The middle finger of the left hand will be on the left side of C when the hands are lifted into position over the incision (E).

In the second step the thumb and index finger of the left hand hold the left end of the ligature (C), and the left middle finger is hooked under D. By first flexing

and then extending this finger C is again hooked through D, and the knot is finished (Figs. 6 and 7).

There is thus produced a square knot which has one turn in either half. This is the best knot for tying ordinary vessels as two turns in one half prevents the ligature from being drawn down to the vessel. The larger the ligature used, and the smaller the vessel to be tied, the greater will be the error by making two turns in the

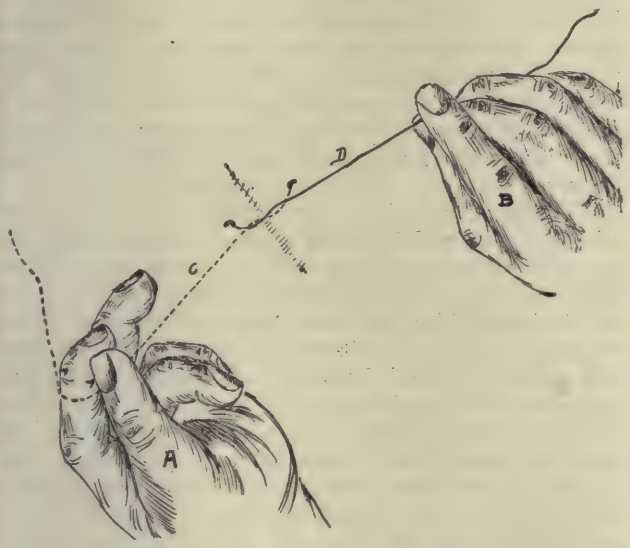


Fig. 5.—First half of knot completed.

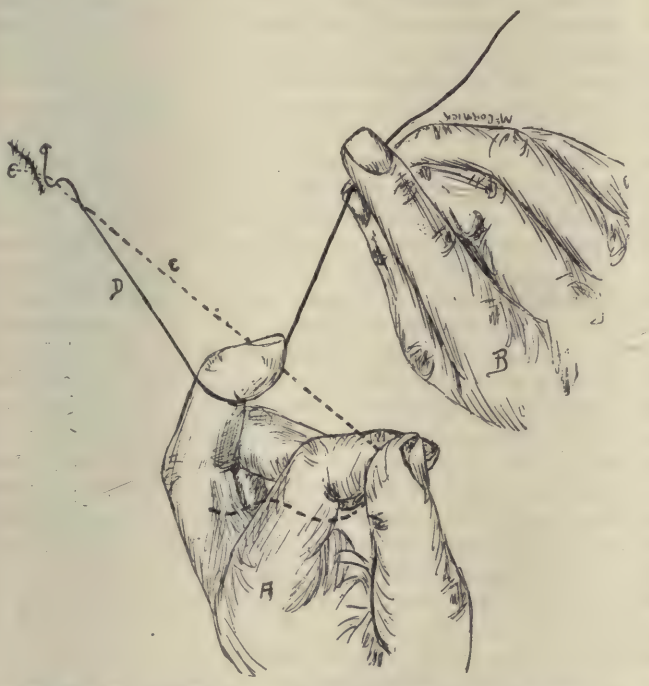


Fig. 6.—The middle finger of the left hand ready to make the loop for the second knot.

first half of the knot. This knot can be produced equally as well by either hand. If it is desired to have two turns of the ligature in either half of the knot, the same principles can be utilized. All that is necessary is to employ both the left and the right hands simultaneously. The left hand makes the first part of the knot using the index finger while the right hand makes the second part using the middle finger. This will produce the first half of a knot with two turns in it. Now, if the same steps are taken, only in this instance the index finger of the right hand and the middle finger of the left hand are used, the second half of the knot will be made. Each end of the ligature remains in the hand in which it was held in the beginning of the process. It can be produced almost as quickly as the one which has only the single turn in either half.



Fig. 7.—The loop made and the knot all but tied.

It should be borne in mind that where there are two turns in the first half of a knot there should also be two in the second, for if there be two in the first part and only one in the second there will be loosening of the first part when the second part is drawn tightly. This is especially true when tying stiff chromic or heavy plain catgut.

1820 Sutter Street.

"INNOCENT" GALL-STONES A MYTH

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Ten years ago we heard a great deal about "innocent gall-stones," which meant that gall-stones existed without symptoms and that their presence was not suspected until post-mortem examination brought them to light. We cannot now escape the conviction that the gall-stones did cause symptoms and that we as diagnosticians, and not the gall-stones, were "innocent."

In the early history of our knowledge concerning gall-stone disease, the diagnosis was not often made until secondary complications and infections had brought about marked local signs and symptoms, or until Nature hung out the yellow flag of jaundice. The mysteries of the disease have, however, been gradually dispelled by operative interference, which has given us pathologic information of the early stages.

It has been stated by good authorities, Naunyn,[1] and others, that gall-stones are present in 10 per cent. of the human race, and this conclusion has apparently been substantiated by the post-mortem material obtained from large hospitals, old ladies' homes, almshouses, etc., but it is quite certain that the illness or disability which placed these people in the hospitals, or disabled them to

1. Naunyn: Keen's Surgery, 1910, p. 1006.

ıe extent of becoming a charge on the community, were ı themselves of a nature to bring about gall-stones or ɔ be caused by such disease. It would be idle to ·timate, as has been done, that there are sixty million ermans and that six million, or 10 per cent. of them, ave gall-stone disease. Obviously the premises on which ıy such computation is based are incorrect.

Hale White[2] found that, in twenty-five years in Guy's ospital, there had been 11,333 post-mortem examina-ons of adult subjects, and that just 333, or 3 per cent. f them had had gall-stones. That this percentage is in xcess of the truth if applied to the population at large eems fairly probable, as again, these adults were not the verage "well," but the average "sick." It is more robable that one-half of 1 per cent. would be a fair timate of the frequency of gall-stones in individuals f all ages, although evidence at hand shows that 5 to per cent. of women and 2 to 4 per cent. of men have all-stones after the age of 50. From Jan. 1, 1901, to ec. 31, 1910, a period of ten years, 1,244 women were perated on in St. Mary's Hospital, Rochester, Minne-ota (C. H. and W. J. Mayo), for uterine myomata. f these, ninety-two or 7.1 per cent. had gall-stones.

As regards the presence of gall-stones without symp-oms: The symptoms may not be recognized as coming rom gall-stones, but if gall-stones are accidentally ound during the course of operation for other causes, nd the history is retaken in the light of these findings, will usually be found that symptoms were present ut were not differentiated from the symptoms of the isease for which the original operation was undertaken. have been impressed with this fact on finding undiag-osed gall-stones in operating on women for pelvic rouble. After the recovery of the patient I have nearly ways been able to elicit a satisfactory history.

The hypothesis of Lartigau[3] as to the bacterial causa-on of gall-stones is probably correct, namely, that the ttenuated infection which seems to be necessary to ieir formation comes from infected bile, due to bac-eria which have been carried to the liver through the ortal circulation, which were not completely destroyed. hat this passage of bacteria through the liver occurs ist as certain bacteria pass through the kidney, has een demonstrated. The necessary degree of attenuation f the bacteria has been difficult to reproduce experi-ientally, and experimental gall-stones therefore have een but rarely produced.

The more common bacterial agents are derived from ıe colon and allied groups, especially the bacillus of phoid. Admitting that, in healthy persons, the bile sterile, in the various intestinal diseases such as phoid, ileocolitis, etc., an excessive number of colon nd similar bacteria are carried to the liver through the ortal circulation, and experimental work shows that, nder such circumstances, these bacteria may be isolated rom the bile.

Adami[4] has pointed out that the pigmented areas in ıe liver are derived from the pigments of destroyed acteria, and in his contribution to the physiology and athology of the liver, gives many interesting facts in iis connection.

It is possible that in some instances an ascending nfection through the common duct from the duodenum ɔ the gall-bladder may cause gall-stones, but we should emember that there is a constant stream of bile and ancreatic juice toward the duodenum which interferes mechanically with bacterial invasion, and again, as Adami and Cushing[5] point out, the content of the duodenum is relatively free from bacteria. One must also admit the possibility of bacterial invasion of the gall-bladder by way of the hepatic artery or through the lymphatics; but this is equally difficult to prove or disprove.

Gall-stones are originally formed in the gall-bladder, although later in the disease, because of obstruction and infection in the common and hepatic ducts, secondary stones may form in the liver ducts; but I have never seen hepatic duct stones without evidence that the original disease had its source in an infection of the gall-bladder or common duct, and the common duct involvement was almost always secondary to the gall-bladder disease.

The symptoms of gall-stones depend on the location of the stones, and here the anatomy of the gall-bladder plays an important part. The cystic duct is not continuous with the neck of the gall-bladder, but is elevated on its inner side; the neck forms a little pouch which overlaps the duct on its outer surface. It is in this situation, the so-called "pelvis" of the gall-bladder, that stones are so often impacted.

It has been a matter of speculation why the gall-bladder, when filled with pus and acutely infective material, should not produce more serious constitutional disturbances. The explanation lies in the fact that the gall-bladder has no lymphatic glands and very few lymphatic channels; therefore it has not the possibility of ready absorption, and its elastic tissue permits such speedy distention that the septic material is not under sufficient tension to force the infection into the circulation. By the time the tension has become great the lymphatic channels are blocked with inflammatory products and a thick leukocyte sheet protects the gall-bladder, as is shown by the great thickening of its walls. When stones in the common duct cause cholangeitis, we promptly get extreme symptoms, often aguish in character, due to the relative abundance of lymphatics along the cystic and common ducts and in the fissure of the liver; the temperature often running up to 103 and 105 F. for short periods of time. This sudden elevation of temperature is usually accompanied by colic and more or less jaundice, although in the quiescent period about 30 per cent. of cases of stone in the common duct will have little or no jaundice. Movable stones in the cystic duct, with a contracted gall-bladder, will cause intermittent symptoms of the same type as those accompanying common duct stones, but without the jaundice.

Older observers developed the natural history of gall-stone disease from the post-mortem pathology, which was obtained after the ravages of terminal infections and secondary complications had grossly changed the conditions which existed during life. The newer or physiologic method of study is based on an investigation of the early departure from health, and brings up the question, What is the purpose of the gall-bladder? In times past we have been ready to assert that it was a storehouse for bile, but there is as much bile secreted in twenty-four hours as there is urine; and of what avail would be a storage capacity of one ounce, which is the capacity of the normal gall-bladder? If the conjecture that the gall-bladder is a storehouse for bile were true, it should have some mechanism to force the bile out at proper intervals, but no one has ever seen the gall-

2. Hale White: Guy's Hospital Report, xlix.
3. Lartigau: Tr. New York Acad. Med., 1902.
4. Adami: Cirrhosis, Sajous Annual, 1898

5. Cushing: In Robson and Moynihan's Diseases of the Stomach and Their Surgical Treatment, 1904.

bladder contract. The muscles in its walls are very scanty, not to be compared to the muscle in the wall of the stomach or the urinary bladder. On the contrary, the gall-bladder is composed largely of elastic tissue and it seems most reasonable to suppose that its function is to take the pressure off the common and hepatic ducts temporarily, and also from the ducts of the pancreas, whenever the necessity arises. Since neither the pancreatic nor the biliary ducts have valves, they cannot protect themselves from abnormal pressure if for any reason the bile and pancreatic juices should not escape readily through the papillæ of the common ducts.

The ampulla of Vater is a small chamber in which the biliary and pancreatic secretions mix, and it may be said to resemble the carbureter of a gasoline engine. If the secretions do not escape readily into the duodenum, the back pressure may force the secretion of one organ into the ducts of the other with disastrous consequences.

Opie[5] has shown experimentally, and Halsted[6] has shown clinically, that pure bile injected into the pancreatic ducts will produce acute and usually fatal pancreatitis. In some of our cases of secondary operation at St. Mary's Hospital, in which the gall-bladder had been previously removed, we have observed that dilatation of the stump of the gall-bladder and cystic duct had taken place and that the common duct was almost uniformly dilated; evidently compensatory to the removal of the pressure-reducing gall-bladder.

A second function of the gall-bladder is the production of mucus, shown by the fistulas which follow the destruction of the cystic duct. When the bile passes into the gall-bladder it mixes with the contained mucus. If for any reason the ready escape of the bile into the duodenum is prevented, the mixture of bile and mucus (being subjected to greater pressure in the elastic gall-bladder than the pure bile in the liver ducts) fills the common duct. Therefore, if the contents of the common duct were forced into the pancreatic ducts it would be a mixture of bile and mucus, and not pure bile. Flexner[8] showed that when bile was mixed with mucus, experimentally, it did not produce acute pancreatitis when injected into the pancreatic ducts, but rather the chronic type of pancreatitis, if any harm at all resulted.

In studying the manifestations and complications of gall-stones, I have been impressed with the fact that 86 per cent. of all of the cases of pancreatic disease which we have seen at operation have been complicated with gall-stones. Seven per cent. of all patients with gall-stones in the gall-bladder operated on have had pancreatitis in some form, and in 27 per cent. of cases of stone in the common duct, marked pancreatitis was present. Courvoisier's[9] law holds good, that in 84 per cent. of cases of stone in the common duct the gall-bladder is contracted and practically functionless. We find pancreatic complications four times more frequent in cases of common duct stones than in cases in which the stones are still in the gall-bladder. That the gall-bladder is important as a means of protection, especially to the pancreas, is evident, and is a strong argument against its unnecessary removal.

Gall-stone disease is found to be much more frequent in women than in men. In 4,000 operations which we have performed on the gall-bladder and biliary passages (Feb. 25, 1911, C. H. and W. J. Mayo), 3,075 were in women, and 925 were in men, with an average operative mortality of 2.75 per cent. Eleven per cent. of the total number of deaths occurred in the cancer cases. That there is some cause for the phenomenon which relates to sex, and which cannot be explained by habits, diet, mode of living, etc., seems assured. We (the staff of St. Mary's) have operated on but 3 male patients for gall-stones who were under 20 years of age, while we have operated on 38 females under 20 years of age.

Ninety per cent. of married women who have gall-stones have borne children, and 90 per cent. of these women identify the beginning of the symptoms with some particular pregnancy. The liver of the female should, potentially, be larger than that of a male, since it must functionate for both mother and child. Strange to say, the weight of the female liver is relatively less than that of the male liver, being one fortieth of the body weight, while that of the male is one thirty-sixth of the body weight (Cunningham[10]).

Quiescent gall-stones often become active during pregnancy, and in a number of instances we have been obliged to operate for the relief of rapidly recurring colics, obstruction with infection, or to remove stones which had been forced down into the common duct during the pregnant state. Recovery was always speedy, and in no cases did the operation cause the spontaneous termination of the pregnancy.

The colic of simple gall-stone disease is usually most intense in the epigastrium, passing through to the back, sometimes to the right and occasionally to the left, but seldom radiating below the umbilicus. Spontaneous relief is usually accompanied by a feeling of movement of gas or vomiting, and the vomitus more often contains pure bile than does the material vomited in cases which might be mistaken for gall-stone disease. When the pain and tenderness passes into the region of the gall-bladder it is an indication of changes in the wall of the organ, and from this time on the patient does not secure the complete relief between colics which occurred in the earlier stages of the disease, but very often becomes a victim to dyspepsia, indigestion and stomach distress. This is so true that every patient with chronic gastric distress should be questioned intelligently in order to obtain an early history of gall-stone colics, since this information, having apparently no connection with the present symptoms, might easily escape the patient's mind.

Gall-stone disease sometimes causes serious circulatory disturbances. Endocarditis is one of the results, and while it occurs but rarely, it appears to be of a specific type, the development of the heart lesion being coincident with a gall-stone attack; and each exacerbation of the gall-stone disease is accompanied by an increase of the cardiac symptoms. We have operated on some patients with the heart in such condition as to render an operation or even an anesthetic a serious procedure, but the removal of the gall-stones and drainage of the gall-bladder has usually relieved the patient and stopped further cardiac damage, although the heart remained in a crippled condition.

While stones are the most common cause of cholecystitis, in many instances inflammation of the gall-bladder is not accompanied by stones, but nevertheless the patient requires operation for relief. The various forms of cholecystitis have been considered pathologically by MacCarty.[11] One of the fairly common varieties of

6. Opie: Diseases of the Pancreas, 1903, p. 30.
7. Halsted: Bull. Johns Hopkins Hosp., 1901, xii.
8. Flexner: Contributions to Medicine Dedicated to William H. Welch, 1901.
9. Courvoisier: Pathologie und Chirurgie der Gallenwegen, 1890.
10. Cunningham: Anatomy, Edition 3, 1909.
11. MacCarty: Ann. Surg., May, 1910.

the non-calculous cholecystitis is the so-called "strawberry gall-bladder," in which the mucous membrane has the appearance of a ripe strawberry.

Cholecystitis without stones is usually accompanied by habitual tenderness in the region of the gall-bladder. As a rule, colic is not a prominent symptom, and if present is not so severe in character as that accompanying gall-stones. There is often a mild constitutional disturbance, and in some instances, for months at a time, there will be a slight elevation of evening temperature (99 to 100 F.), but without marked loss of flesh; the patient complaining of lassitude and other symptoms of a chronic mild toxemia.

Non-calculous cholecystitis occurs in several forms; the two most frequent are the following: 1. The distended thin-walled gall-bladder contains several ounces of colon-infected bile, often with a foul odor. 2. The wall of the gall-bladder is thickened and white, often adherent and contains a thick, tarry material. In both of these forms the lymph-glands along the common ducts are enlarged. In one of our cases of cholecystitis of long standing (twenty years or more) these enlarged glands had become calcareous, producing sufficient pressure on the common duct to cause chronic jaundice.

Complications were found in more than two-thirds of the patients on whom we operated for gall-stones. Stones were found in the common duct in 492 cases, while serious complications involving the liver, duodenum, transverse colon, etc., were the rule. Carcinoma was found associated with gall-stones in 85 cases (2.25 per cent.). We have removed a number of gall-bladders for carcinoma, and in several instances have excised a piece of the adjacent liver. In cases in which the carcinomatous condition of the gall-bladder was sufficiently advanced to diagnose at the time of operation, the patients did not survive one year, but in a number of cases an early carcinoma was removed accidentally, so to speak, in removing thick-walled functionless gall-bladders, and five of these patients are alive and well at periods of from two to six years after operation.

Gall-stones are foreign bodies. Why delay operating until complications occur? In our experience simple operation for uncomplicated gall-stones has had a mortality of less than 0.5 per cent., and this might be called accidental, since it was due to the condition of the patient, rather than to the operation.

Early operation is relatively safe and the gall-bladder may be saved in a condition for future function. Fatalities can be traced in almost every instance to delay. That temporary palliation can be procured with non-operative measures cannot be denied (Carlsbad, etc.), but the cure of the patient can only be brought about by surgical measures.

In this connection may be noted the wide difference of opinion between the British and American observers, on the one hand, who urge early operation, and those continental observers on the other hand, who advocate delay in operation. One of the most prominent of the continental surgeons draws conclusions which may be epitomized as follows: 1. Stones in the gall-bladder do not require operation until they have produced marked changes in the wall of the gall-bladder, i. e., formation of tumor, etc. 2. A long incision should always be made in operating for gall-stone disease. 3. The ideal operation is removal of the gall-bladder. 4. Drainage of the hepatic ducts will usually be necessary. In reply the advocates of early operation would say: 1. In operating before gross changes are manifest the danger is minimized and the mortality is small. 2. In operating early an incision longer than is necessary to introduce the hand for exploration is not often required, and prolonged convalescence and the danger of hernia is avoided. 3. In early operations it is not necessary to remove the gall-bladder, and this valuable organ is saved. 4. Early operation relieves the patient before deep-seated infections occur which necessitate drainage of the liver ducts.

HOOKWORM DISEASE

PREVALENCE, HARMFUL RESULTS AND TREATMENT *

C. F. STROSNIDER, M.D.

GOLDSBORO, N. C.

PREVALENCE OF HOOKWORM DISEASE

Hookworm disease prevails in tropical and semi-tropical regions. Its distribution is now being studied in many parts of the world, and especially in our South; in every southern state a number of physicians are spending their entire time collecting data on its prevalence, and endeavoring as best they may to effect its eradication. Already it is known that the disease exists in Virginia on the Potomac River, in Florida, in Texas and in the intervening states, including North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas and Tennessee.

The following results of investigations which have been made will give some idea of the degree of infection among our people. Chamberlin in 1909 examined a number of southern recruits and found 60 per cent. of them infected. Later Siler in examining 105 recruits found ninety-three infected, which is 88.5 per cent. In North Carolina during the past summer the following examinations have been made with results as indicated (Figures collected by Dr. J. A. Ferrell, director of the North Carolina campaign):

	Examined, No.	Infected, Per Cent.
First regiment North Carolina soldiers	372	36
Second regiment, North Carolina soldiers	366	58
Third regiment North Carolina soldiers	149	32
Coast artillery North Carolina soldiers	218	30
N. C. A. and M. College (colored)	93	16
Presbyterian Orphanage, Barium Springs, N. C.	165	40

Odd Fellows' Orphanage, Goldsboro, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.
Total	96	52	54
Girls	51	27	53
Boys	45	25	55
Counties represented	27	21	77

Methodist Orphanage, Raleigh, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.
Boys	48	36	75
Girls	83	44	53
Total	131	80	61

Masonic Orphanage (colored), Oxford, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.	Ascaris Present
Boys	50	6	12	35
Girls	58	7	12	38
Total	108	13	12	77

The children here, as in the other orphanages, range in age from 6 to 18 years.

Dr. B. W. Page, assistant to the Secretary for Hookworm Disease to North Carolina Board of Health, had 394 children at the Baptist Orphanage examined and found 38 per cent. of them infected. Dr. C. L. Pridgen, is also an assistant in the North Carolina Hookworm Campaign, working in the western section of the state. His examinations of school children showed the following: Fifty-four specimens from Mitchell and Yancey

* Read at the medical society meeting of the Fourth District of North Carolina.

counties showed twenty-eight infections with hookworm, and twenty-five with *Ascaris lumbricoides*. Twenty-eight examinations in McDowell County showed twenty-eight infections, or 73 per cent., and in the town of Marion in the same county, 54 per cent. of infection was found in thirty-five examinations.

Serving the North Carolina Hookworm Commission in same capacity as the two physicians last named and working in eastern North Carolina, I found the infection running somewhat higher than in the central and western sections of the state. In the Kinston High School fifty-one were examined; twenty-eight or 55 per cent. of them showed hookworm infection. At Magnolia in Duplin County, seven school children were examined and six were found infected. At Faison, in the same county, twenty-four people were examined whose ages ranged from nine to forty years, and thirteen were found infected. Other schools showed the following:

Wayne County, Eureka,	6 examined,	4 infected, or 66 2/3	per cent.
Wayne County,	21 examined,	19 infected, or 90.5	per cent.
Wayne County,	19 examined,	13 infected, or 68.4	per cent.

Moreover, Dr. K. A. Price, of Hickory, had fifty-six male college students examined and found nine infected. Examinations of school children are now being made in large numbers and the results of these will soon be obtainable. At this time only the figures above given are in my possession. The figures given tend to show that the disease exists in all sections of the state, but that it is more prevalent in the eastern counties. This may be due in part to the fact that the soil is largely sandy and level, factors favoring the propagation of the hookworms; in part to the fact that the negroes, who are regarded as extensive worm-carriers, though they suffer but little from the disease, are more densely settled in the east than in the west, and in part perhaps to the fact that the counties in the tide-water belt have longer and warmer summers than the mountain counties.

Further information on the prevalence of the disease in the state may, it would seem, soon be obtained from our general practitioners. During the first three months of 1910 they sent to the state laboratory only seventy specimens for examination. During the second quarter, which ended June 30, they sent in 486 specimens, and during the three months ending September 30, 1910, they sent in 2,421 specimens. If their interest in the work continues to grow with such rapidity the distribution of the disease may be known to a certainty.

HARMFUL RESULTS

The thorough discussion of the far-reaching harm resulting from hookworm infection would be too lengthy for the present paper. Dr. H. F. Harris, secretary to the Georgia State Board of Health, says: "In no other disease does the victim suffer so long; in no other condition is he for such a period a menace to those about him; in no other malady of such gravity is treatment so rapidly and surely successful." The more immediate results of the disease are of vital importance.

Perhaps the harm produced by the worms will be more easily explained if first a word is given to the characteristics of the worms. They are blood-sucking parasites, varying in length from one-fourth to one-half inch; in numbers they range from less than a hundred to more than four thousand in a single victim of the disease. They inhabit the small intestine and attach themselves by their mouths, which are supplied with powerful muscles, teeth and sucking surfaces, to the mucous membrane. They move from place to place in feeding on the blood they suck from the flesh, each time making a new wound. The loss of blood resulting from their action is of greatest importance. Much blood is drawn directly into the bodies of the worms, but a more important loss perhaps occurs through the minute hemorrhages from the wounds which they make. So great is this latter loss in some instances that the blood in the stool of the victim may be recognized by the naked eye; if it is less, it may be detected by the usual chemical tests. Ordinarily the loss of blood would be somewhat dependent on the number of invading parasites. There are cases, however, in which the number of worms present seems to account only in a remote degree for the symptoms produced. The patient's age, his constitution, his digestive system, and his power to manufacture new blood are points which determine, to some extent, the amount and effect of the loss of blood.

A second harmful result is the poisoned system. The worms are supposed to secrete and inject into the flesh a hemolytic poison, which, moreover, prevents the coagulation of blood in the wounds, from which, therefore, much blood is lost by oozing. Moreover, the excrementitious products from the worms are poisonous, and since the wounds offer points for easy entrance of pathogenic organisms, in many instances the wounds are followed by suppuration, and poisons from such places, when absorbed, increase the general poisoned condition of the patient's system.

In addition to the loss of blood and the poisoning of the system should be mentioned the damage done to the intestine. The numerous bites, together with the poison, give rise to a chronic catarrhal inflammation of the intestine. This impairs digestion and causes tenderness in the epigastric region. To this may be added what is really of sufficient importance for separate consideration. With much denuded and diseased mucosa exposed, disease organisms, particularly tubercle bacilli, and typhoid bacilli, which find entrance into the intestinal canal with food or water, easily pass into the lymphatic or blood-currents and ultimately overwhelm the defenseless victim with the disease they produce.

The secondary changes which result from the hookworms will be best understood by discussing them in connection with the symptoms of the disease. Anemia, with its important effects on all nutritive and metabolic processes, accounts for most of the striking features presented by a hookworm victim, such especially as physical and mental weakness. It also predisposes the person to other diseases and in many instances the ensuing complication is regarded as the primary cause of the death of the person.

For convenience of description I shall classify the disease, according to its harmful results, into four divisions; namely, mild, medium, severe, and very severe.

Mild Cases.—In the mild cases we have, at present, no recognizable symptoms, and they are only diagnosed by the microscope. Though I have found in adults mild digestive disturbances, such as slight reduction of digestive ability, tenderness, pain, and discomfort in the epigastrium, accompanied by nervousness. (This is by no means constant.) Sometimes only a small number of worms are present; again 200 to 300 worms may be present and not produce recognizable symptoms (Dock and Bass).

Medium.—Cases of medium severity have little pallor or have a slightly dirty, yellow tinge of the skin in whites, and a slight pastiness in mulattoes. There is a reduction in the normal amount of perspiration; the appetite is frequently excessive. There may be uneasi-

ness, pain or tenderness in the epigastrium, frequent attacks of meteorism, slight dyspnea on exertion, palpitation of the heart, dizziness, headache, lack of attention to details, and a little stupidity. The muscles are flabby, and weakness and indisposition to labor exists (laziness). The hemoglobin of such persons generally is between 60 per cent. and normal. Joint pains, especially in the sternum, constitute a frequent symptom. The temperature may range from 99 to 101 F.

Severe Cases. — Here all symptoms noted under medium cases are more prominent. The pallor is definite, the mucous membranes are paler than normal, and where the same form a juncture with the skin it often fades away so gradually as to be imperceptible, the skin is quite dry, and sweating is rare. The appetite may be exaggerated or diminished. Nausea is frequent. The tongue is coated and often flabby and enlarged. Tenderness of the epigastrium, with spontaneous pain on gentle pressure at times, is present. (In sixty inspections followed by microscopic examination, this sign has proved positive in every one, being the most constant, most suggestive and most marked of all signs or symptoms.) Breathlessness is easily brought about by the slightest exertion. There is often a hemic murmur of the heart. There may be much pain in the sternum and chest, with a feeling of weakness of the knees and legs. There is much dizziness, especially on sudden changes of position, noise in the ears and frequent headaches. The mental condition is decidedly depressed, and the patient is quite passive to his surroundings, and presents a stupid appearance. The patellar reflex may be either exaggerated or diminished. Patients complain of cold and tingling of the feet, which frequently go to sleep; the muscles are flabby and may be slightly painful; joint pains are so common that a diagnosis of rheumatism is often made. Work is performed with great effort and is deficient in both quality and quantity. In about ten days after ground-itch appears the patient usually develops a sore throat, a slight bronchitis, and a temperature ranging from 99 F. to 102 F. The skin is waxy, tallow or tan color. Edema of the face may be present. The hemoglobin is apt to be between 45 and 70 per cent.

Very Severe Cases.—A case in this stage of the disease may terminate fatally at any time. The skin is tan or tallow-colored. Edema of the feet and ankles alone, or sometimes extreme anasarca may be present. The appetite may be slight or enormous. Nausea and vomiting are frequent. Ascites may be alarming. Diarrhea often alternates with constipation. There is distressing dyspnea on slightest exertion, severe palpitation of the heart, pericordial pain, rapid, weak and compressible pulse, and often dilatation of the heart; marked pulsation of the vessels of the neck; dizziness and tinnitus aurium are extreme; patellar reflex is abolished. In men impotence is an almost invariable symptom, and amenorrhea in women. The intellect is dull and the patient seems confused and stupid. The facial expression is anxious and stupid. There is a tendency to dilatation of the pupil, and blurred vision exists. The urine has a low specific gravity, is abundant in quantity, and usually contains no albumin. The muscles are flabby, sore and painful. Extreme weakness is observed and the patient is incapacitated for labor. There is often irregular fever, with intervals of subnormal temperature.

Acute hookworm disease may occur without previous infection, or an acute attack may supervene on a chronic infection. These acute attacks occur in the spring and summer, and their symptoms vary with the severity of the infection. Should sufficient infection occur, there will be a sore throat, and bronchitis, nausea or vomiting, a chill and diarrhea, epigastric pains or colic, rapid anemia, and elevation of temperature as high as 101 or 102 F. One difference between acute and chronic cases is that the skin is waxy white with severe anemia, whereas in chronic cases, with the same amount of anemia there is a more yellow tinge ("tallow-faced"). Children with acute hookworm disease have not the "pot-belly" present in so many of the chronic, severe cases. In very severe infections, as in Claud A. Smith's experimental case, great swelling occurs on the second and third days. Loose has noticed red lines running up the leg—probably a lymphangitis.

Nervous System.—Insomnia and night terrors are quite common, because of motion of the worms. Somnolence often occurs, and the patient keeps awake with difficulty. Lack of ambition and lassitude are noticeable. After administration of thymol the temperature frequently rises to 102 or 104 F., usually subsiding in twelve hours. I offer the following explanation of this phenomenon: When the thymol comes in contact with the worms they become very active; the thymol causes them to vomit and purge most of their ingested blood (Bass); at the same time they eliminate a large amount of toxin; much blood escapes from their points of attachment. Therefore, if the hookworm toxin acts as a direct poison, and the blood absorption acts as an auto-intoxicant, I feel that a rise in temperature would be accounted for.

QUESTIONS BEARING ON POSSIBLE ADDITIONAL HARMFUL RESULTS

1. May not many cases of neurasthenia and hysteria be attributable to hookworm disease?

2. Could not such perversions, among hookworm patients, as disobedience, profanity, lying, stealing, drinking, forging, and sexual perversions be attributable to hookworm disease, provided recovery followed cure of the hookworms?

3. Is not chlorosis or "green-sickness," in many cases a result of uncinariasis?

4. Is it not probable that a number of cases of defective eyes and ears, and diseased tonsils and adenoids could be attributed to the same cause?

5. Is it not true that many abortions and miscarriages can be attributed to anemia resulting from hookworm disease?

6. Does not observation show that, as Dr. Nicholson of Onslow County says, whereas the average eclampsia with first child in the United States is 1 to 250, in women suffering with hookworm disease the average is 1 to 50.

7. Is it not probable that many women die from shock during labor as a result of hookworm disease?

8. Is it not a fact that, as a result of this disease, many women cannot furnish sufficient milk to nourish their babies?

9. Is it not a fact that hookworm disease is the cause of more amenorrhea, dysmenorrhea, and scanty and irregular menstruations, than any other disease in our South?

10. Is it not a fact that a hookworm patient, pregnant, quite often suffers with a severe dropsy, and often after delivery may run an irregular temperature for some time and fail to react to tonics or quinin?

TREATMENT

External.—Ground-itch in the papular or vesicular stage may be treated with a 5 per cent. salicylic acid suspended in collodion. This usually cuts the attack of ground-itch to one or two days. During the pustular state, the wound should be cleansed and cauterized with silver nitrate and then a dry dressing of 5 per cent. boric acid and zinc oxid ointment applied twice daily.

When great swellings occur hot applications should be used. To allay itching and prevent secondary infection a combination 5 per cent. zinc oxid and salicylic acid ointment applied locally, twice daily, is recommended. It is important to keep the foot bandaged or covered to prevent scratching or rubbing.

Internal.—Treatment should be begun on the fifteenth day from date of the ground-itch and repeated once. The same treatment should be instituted after an attack of ground-itch as if eggs were present in the stools, thus getting rid of the worms before they reach maturity and have done much harm. The stools should be examined at the end of six and twelve weeks from the attack of ground-itch for eggs of any worm that may have escaped previous treatment.

Preliminary.—The first step is to remove the protecting chyme and mucus by a large dose of salts—Rochelle, Epsom or Glauber's—four hours after the last meal. Sodium sulphate dissolves and removes the intestinal mucus best. The drugs used to kill or expel the worms are thymol, betanaphthol and male-fern.

Dose of Thymol.—The dose for children should be in proportion to the size, apparent age, and physical condition. Ashford and King give the following table of doses, to be regulated, in the case of children, rather by size than by actual age.

	Grains.
Under 5 years	7½
5 to 10 years	15
10 to 15 years	30
15 to 20 years	45
20 to 60 years	60
Over 60 years	30 to 45

I have been giving about 2 grains per year up to the age of 30, the same to be administered in two equal doses two hours apart. Unfavorable conditions, such as great weakness, extreme anemia, diarrhea, cardiac depression, pregnancy, and dropsy, require a smaller dose.

Mode of Administration of Thymol.—This should be given in two or three broken doses to prolong its presence in the upper bowel. Because of its tendency to pack together under pressure or in the mucus in the intestine, equal parts of sugar of milk or some other soluble substance should be mixed with it. To prevent its burning of the mouth and throat, it should be given in cachets, wafers, or capsules; it may also be given suspended in either mucilage or syrup of acacia or some simple syrup. The patient should lie on the right side and refrain from drinking much water, to prevent vomiting. After two or three hours another brisk purgative of salts (never castor oil) should be given to prevent its absorption. The patient should remain in bed until the thymol is moved off. Either the bed-pan or the commode should be used in the room to avoid possible fainting.

Diet During Thymol Treatment.—To keep the alimentary canal clean, no food or drink, except water, should be allowed from the time the preparatory purgative is given until the purgative following the thymol has acted well. If the patient is weak or faint, or if the burning in the stomach is excessive, a little warm coffee may be allowed. The diet need not be restricted after several free movements have occurred following the post-thymol purgative, unless there is some special indication. The treatment should be repeated once a week until examination of the stool, washed through a piece of cheese-cloth, shows no worms, or the microscopic examination shows no eggs.

Saturday evening and Sunday is the most convenient time to administer the treatment to working people and school children. The salts purge should be given Saturday evening and thymol begun early Sunday morning. For example, Saturday at 8-9 p. m. sodium sulphate may be given; Sunday at 6 a. m., thymol; Sunday at 8 a. m. thymol again; at 10 a. m., sodium sulphate. Until 4 p. m. the patient should not eat, or drink anything except water, and but little of that.

Caution.—Oils, fats (milk or butter), patent medicines, or beverages containing alcohol should not be allowed during thymol treatment. Thymol may affect the patient in one of three different ways: by intoxication, by irritation of the kidney, and by irritation of the stomach and intestine. The effects of absorbing a large amount of thymol are depression, headache, weakness, dizziness, tinnitus, nausea, unconsciousness, rapid, weak pulse, and sometimes profuse sweating and subnormal temperature (about ½ gr. of thymol is soluble to the ounce of water). The effect of thymol on the gastro-intestinal canal is occasional epigastric pain, nausea and vomiting, and more or less diarrhea. Therefore gastritis, and diarrhea or dysentery are contra-indications. About half a dose should be given to a very weak subject the first time.

Treatment of Toxic Symptoms.—Cardiac stimulants should be given, morphin and atropin, strychnin, digitalin or ergot, subcutaneously, and hot coffe per rectum. Alcoholic stimulation should be avoided. The patient should be kept recumbent. Hot blankets should be applied to the body and a warm water enema used.

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SANITARY CONSIDERATION OF HEALTH RESORTS

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The recommendation of health resorts is frequently expected of physicians who unconsciously assume the risk, little thinking what effects, both good and bad, the individual town or hotel may have on its guests. Convalescents, travellers and vacationists visit the health and summer resorts unsuspecting of any danger or with the confidence that the conditions are as the physician assumes or expects. The mere mention or naming of a resort by a physician is considered a recommendation and a therapeutic direction to be followed as any other therapeutic order. Opinions of resorts must be formed from personal observation, from description by others, or advertisement. There is an avoidance of the whole truth in many advertisements, yet these misstatements or evasions are accepted without question, and serving as the directing force, may ultimately end disastrously to the guests and finally to the resorts.

Had one physician, referring to a western town as a well-known health resort, known its true condition and the possibility of contracting typhoid fever there, he would have pronounced it anything but a health resort.

Up to the present there has been no proper sewerage in the town. The water-supply is obtained from driven wells located within the city limits. The subsoil is badly polluted with sewage which, unless a change is made, must inevitably dangerously pollute the water-supply, thereby causing an epidemic which may be extensive and serious to the victims, besides ruining the reputation of the resort.

There being such a multitude of resorts in each state, and it being impossible to learn of the conditions in the various localities and resorts, there is needed some method by which the desired information may become available. Physicians should know what constitutes safety in a particular resort, and should give recommendation to the safe ones rather than condemnation to the backward or careless places. In consequence of this recognition of the dangers of certain resorts these places, aided by private or official instruction, will learn the value of sanitary conditions, and appreciate that it is necessary in their competition for existence.

Many resorts are ideal, but it is the occasional hotel or town, conducted blindly, without any medical or sanitary supervision, which becomes a risk amounting to a menace. When a resort installs sanitary conditions and maintains an active regard for the health of its patrons it should be publicly recognized as safe. Sanitary conditions imply much more than plumbing fixtures. If the resort furnishes pure water, pure foods, and has eliminated noxious gases, plants and insects, and becomes in no way a distributing station for environmental or infectious diseases, it deserves the recognition and patronage of physicians. In publishing any list of safe and well-equipped establishments there should be no discrimination against the smaller resorts in favor of the larger, stronger and more wealthy places. The resorts should be judged not alone by their financial outlay or advertisements, but by their activity in maintaining true health-giving conditions.

The resorts which are not safe are in such condition more from ignorance than indifference, and from an inability to understand what constitutes lack of sanitation rather than from a disregard for the safety of others. The proprietors of such places need instruction in what constitutes sanitary requirements, what is purity in water and foods, how infection may be transmitted and how to guard against disease. The information is more welcome when presented in a manner to show the influences each objectionable condition can have on the proprietor's family and guests and on his income and prosperity. If an utter disregard for the safety of the patrons is evinced, it may be necessary to use other than suasive measures. Then official threatenings, legal force or publicity of conditions may be judged by some to be required. Such was the opinion of the New York State Department of Health, which considered itself obliged to publish the names of some sixteen resorts in that state, warning the public of the many dangerous conditions maintained.

The revolting conditions in a few resorts may be cited: One hotel discharges sewage into a lake only a short distance from its water-supply intake; another hotel takes its water from a small lake which receives the sewage of hundreds of people; ground directly beneath the hotel guests' windows is covered with the overflow from cesspools; in spite of window screens I found many anopheles in my hotel room every morning; a well supplying drinking-water to a hotel is within thirty feet of a privy, another within ten feet; toilet accommodations are notoriously insufficient and out of repair in some hotels; one hotel disposes of its garbage by emptying it along a roadside; a resort town has its water-supply pipe laid in the same trench with its sewer, the outlet of the sewer being within three feet of the intake of the water-pipe in the same stream. The main sewer of one well-known shore resort discharges on its most frequented bathing beach.

These resorts are the exceptions; but it is these exceptions which constitute the dangers and should be eliminated. Other resorts, on the other hand, are equipped with water-filters and sewage disposal plants of the highest efficiency, and take extreme care to preserve the purity of all surroundings and supplies. One actively prohibits the fertilization of fields within five hundred feet of the stream which is its water-supply, and no water from barnyards or even remote privies can enter the stream.

An attempt to collect sanitary data by mail failed, owing to many not replying, many not appreciating the value of details, and other health officers not being versed in the conditions of resorts in their jurisdiction or not being able to judge of safety. One officer declared there was no opportunity of their supply of river water being polluted, "except from towns above this." Another town obtaining water from the lake into which the sewage is discharged declares there is no danger of pollution.

Owing to the neglect of sanitary conditions and the refusal to listen to warnings there have occurred in isolated hotels outbreaks of typhoid which resulted in numerous deaths, public condemnation, loss of prestige and business failure for the hotels.

The sanitary inspection and control of resorts should be one of the duties of the state board of health. For four years the New York State Department of Health has been carrying on activities among its mountain and shore resorts with good effect. The resorts were mostly found in satisfactory condition, but there were occasional evasions of esthetic and sanitary requirements. Of twenty-six resorts in the Raquette and Saranac water-sheds, inspected in 1908, only seven obtained their water-supply at a distance from the resort grounds and away from any possible source of pollution. Two resorts used lake-water; twelve discharged into lakes. The pollution of lakes and bathing beaches constitutes a serious danger. Of twenty-four resorts on Long Island, reinspected in 1908, ten failed to comply with the orders to abate nuisances. As a rule the proprietors are willing to make corrections, but are ignorant of what constitutes dangerous conditions. The welfare of the guests at some localities is admirably protected as at Upper Saranac, Richfield Springs and Sylvan Beach. There are many resorts, from Bar Harbor to Pinehurst and Los Angeles, which have spent much money in obtaining pure water.

In maintaining state sanitary control there should be classed as health resorts all towns usually advertised or considered as resorts, hotels used by summer or winter visitors or vacationists, pleasure and recreation resorts, parks and camps, the so-called watering places, the so-called medicinal spring resorts, bathing or watering places patronized by excursionists, and localities or institutions advertised as sanitariums or sanatoriums. All of these places can strictly be classed as sanitariums or sanatoriums, for to them people go with the hope of acquiring or maintaining health. The Travellers' Protective Association recently recommended the enactment

of state laws placing all hotels under state inspection and fixing a standard of sanitary efficiency and safety as the principal requirement for license. The adoption of such legislation seems desirable.

Mineral spring resorts should be placed under licensure. A committee of competent and accepted authorities should be delegated to determine the status of these resorts and the medicinal value of their treatment and vended waters. License should be granted only after frequent sanitary inspections, and after the advertised analyses of waters and all advertisements and resort literature comply with the true virtues of the waters as expressed in the opinion of the medical authorities. Misbranding in the advertisements of these and other resorts and hotels is a menace to health, since people place dependence in the resorts without consulting physicians. The widely circulated assertions that certain mineral springs will cure long lists of diseases places these resorts on the same footing with nostrums and exerts a damaging influence on those baths which possess great value in the treatment of certain specific diseases. The misbranding of resorts becomes a crime. The enforcement of truthfulness in the literature and advertisements of all places and objects on which people place dependence for health and life becomes a state's duty. If a resort commits the double crime of wilfully or knowingly deceiving people by concealing its dangers, publicity of conditions and public condemnation of that resort would seem to be just.

In cities it is more practical to keep the infected transmitting agents away from the people; but in small resorts or isolated hotels it is more practical to keep the infected people away from the agents which they may infect; as, in cities to keep the infected mosquitoes away from the people; in resorts to keep the infected person screened from the mosquitoes. The controlling influence must be exerted against the infected carrier which is in lesser numbers and more easily isolated, whether it be man or insect, food or dirt, water-supply or sewage.

Too much reliance should not be placed on crude mortality rates when judging the healthfulness of a locality. Only when statistical tables are calculated to consider age groupings and individual susceptibilities can the figures be considered of much value. The general death-rate of a town may be high from a large infant mortality, yet the place be perfectly healthy for visitors. The mortality rates may be low, owing to native insusceptibility, but the danger to visitors great. In a healthy town the rate may be augmented by diseased persons going there for the benefit they may derive. The influence of hospitals within the city or in adjoining cities and the factor of imported or exported cases should be considered, and receive an allowance in the published rate. Some towns, like one large resort, unrightfully glory in a low rate by transporting their patients to hospitals in other cities, or because their transient visitors develop symptoms only after returning to their homes. Large cities are unjustly obliged to bear the burden of including in their rates many cases which have been contracted through the carelessness or ignorance of other localities. Statistical records which are used for comparison should include only those cases which originate within the town. The summer distribution of a town's population throughout the infected areas of the country is the factor, more than any other one, which is accountable for the great rise in the typhoid mortality in the fall. It has been estimated that 22 per cent. of the typhoid cases in the District of Columbia are imported. Ten per cent. of the cases in Philadelphia are imported, the ratio in the fall (1909) being over half. In 1909 of 2,336 cases of typhoid fever 231 were proved to have been imported, twenty-nine of these cases coming from one summer resort. Twenty-eight of the other cases originated in other resorts.

Eliminating the statistical factors of susceptibility and age grouping, some idea of the existing conditions may be gathered from the typhoid rates in the registration area. The general rate for the area for 1907 was 30.3; for 1908, 25.3 per 100,000 population. Colorado, a resort state, was highest with a rate of 47.7 in 1908 (63.7 in 1907). The fact that Pennsylvania's rate of 50.3 in 1907, was reduced to 23.9 in 1909, shows what can be accomplished through the energy and work of a state department of health. Of the registration cities in 1907, the typhoid list was headed by Escanaba, Mich., a lumber town and summer resort, with a record of 220.2 (126.5 in 1908). The notoriously high rate of Pittsburg (130.8 in 1907) was eclipsed by Jacksonville, Fla., with a rate of 155.1, yet the dangers to health of the latter place are rarely mentioned. The excessive rate of Niagara Falls (126.6 in 1907) may fortunately soon be lowered, for in place of furnishing Buffalo's sewage, purified water may soon be supplied from an effective filtration plant. Philadelphia was long called a typhoid-infected center, yet a comparison with cities which people unsuspectingly visit expecting to regain health, will indicate misplaced conviction.

TYPHOID MORTALITY RATES OF RESORT TOWNS

	1907.	1908.		
Escanaba	220.2	126.5	St. Petersburg	80.7
Jacksonville	155.1	104	Havana	39.3
Niagara Falls	126.6	....	Paris	21.7
Key West	109.8	44.4	Montevideo	18 8
Salt Lake City	93.2	47.4	Brussels	17.2
Savannah	77.3	22.5	Rio Janeiro	15.9
Sacramento	76.7	97.8	Vienna	5.1
Denver	67.1	54.8	Berlin	5
San Antonio	66.9	44	Stockholm (1907)	4
Long Branch	69.9	60.6	London (1907)	2
Saratoga Springs	52.9	....		

San Antonio's rate does not indicate the quality of her water, which comes from clean artesian wells far outside the city. The recent epidemic at Montreal disclosed the condition of her water, which is taken from the St. Lawrence below the sewer outfall.

The malarial mortality rate of the registration cities gives prominence to some conditions and may surprise some health seekers. In 1907 Savannah headed the list with a rate of 111.6 (122.3 in 1908), followed by Memphis and Jacksonville (78.8 in 1907, 58.3 in 1908). The 1908 rate of Charleston was 44.3, while that of New Orleans was but 19.5. It is unfair to judge the health activities of a locality by a mere comparison of rates or by the apparent rapidity of their decline. The conditions with which health officers must contend are variable and in some places almost insurmountable.

Physicians should not be reticent about giving unasked advice, but when opportunity offers should assist hotel proprietors to improve conditions. When the proprietors use such means as are at their command to improve and to maintain health-giving conditions there will be stamped on their resorts a recognition of safety, with the inevitable result of public appreciation, increased prestige, more publicity and more business. The confidence of the public is the chief asset of a resort. It is the forte of sanitarians not to antagonize or to bankrupt, but to instruct, to assist the resort-keepers to install and to maintain resorts in their highest efficiency, and to teach that healthfulness and sanitary safety mean increase of popularity and prosperity.

TRICHINIASIS IN ITALIANS

FOLLOWING THE EATING OF RAW HAM OR "PROSCIUTTO"

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The Italians give much thought to the preparation of their food, palatability being of prime importance, while care in the selection—especially of animal food—seems to be secondary.

I have seen two cases of trichiniasis among Italians in private practice within the past year; and have collected ten other cases from the records of the Boston City Hospital, admitted within the past five years, six of these ten cases being directly traceable to the ingestion of raw ham. These latter cases were among Italians, and the infection was traced to the same source; that is, smoked ham, or "prosciutto." There was one death among the twelve cases.

This raw ham, or prosciutto, was, up to two or three years ago, imported in fairly large amounts, but the recent advance in the cost of food products has made the importation almost prohibitive. The imported ham, however, may be obtained in about every second delicatessen store in the Italian quarter of Boston, and costs about fifty cents per pound. The home-cured or domestic prosciutto is also obtainable for about thirty-five cents per pound, and is cured by the local delicatessen dealers.

The ham which is offered for sale is cut in very thin slices and is eaten in the entirely raw state between slices of bread. The curing process evidently does not kill the trichinæ.

In the cases which came to my attention, the imported ham was probably eaten, according to the statements of the persons who bought it; but so little reliance can be placed in the testimony of the patient, either through fear of prosecution of their dealer, or through fear of having personally committed some breach of the law, that it has been impossible to determine whether they were due to the domestic or imported ham.

The disease, trichiniasis, is much more common than is supposed, and every writer in considering it calls attention to the fact that it is too frequently overlooked. It is moreover, almost always one of easy diagnosis.

H. U. Williams[1] of Buffalo states that in a series of 505 unselected autopsies in persons having died from causes other than trichiniasis, the organism was found in 5.3 per cent. McCollom[2] reported eight cases and one death in an epidemic which occurred in Boston in 1892. Grawitz[3] states that one-third of the cases of muscular rheumatism showed trichinæ at autopsy. F. H. Drew[3] in 1892 reported an epidemic of fifty cases and four deaths. The nature of this epidemic was not recognized until three deaths had occurred, and although witnessed by three physicians, it was not until the fourth week that the disease was even suspected.

In five cases which I have seen, the symptoms in each were practically identical. The first signs of disturbance were puffiness, and a very slight redness of both upper and lower eyelids, and, in most cases, there was in addition, a slight puffiness of the face surrounding the region of the eyes. Pain quickly appeared in the muscular structures, varying in proportion to the amount of motion made with the muscles. Those most complained of were the masseters, the muscles of the back of the neck, those of deglutition, the diaphragm, and the muscles of the extremities, especially of the calf of the leg and the biceps of the arm.

The digestive disturbance was slight, amounting to some nausea, a sense of distress in the stomach region, sometimes amounting to actual pain, the latter possibly due to involvement of the diaphragm, which is a favorite site for the lodgment of the organism. There was considerable diarrhea in almost every instance. Distinct chills, or chilly sensations, often accompanied the period of muscular invasion. The temperature was moderately elevated, reaching 104 degrees in one case. The pulse followed the temperature and varied from 90 to 100.

One of the greatest aids in the diagnosis is the increase in the number of eosinophils in the blood. This seems to be invariably present in the acute stages. Their numbers vary both during the course of the disease, and with the severity of the infection. At the onset they are usually few in number; in one of the above cases they numbered only 4 per cent. at the beginning, before the muscular pain became severe. As the disease progressed, they continued to increase and numbered 55 per cent. on the fifteenth day. One very mild case showed not more than 10 per cent. at any time.

These eosinophils differ from the normal in the following respects: The granules are fewer in number, less distinct, and do not have as punched-out and clean-cut edges. The acid stain is not taken as brilliantly. It is possible that these morphologic differences are due to the fact that they are young cells.

The course of the disease in the above-mentioned cases was perfectly typical, and lasted from three to six weeks.

It should be borne in mind that although the disease is more commonly found in the hog, trichiniasis in man has arisen from the ingestion of trichinous beef,[4] geese, rabbits, and dogs. In a commission[5] appointed by the German government for the study of trichiniasis, the workers reported that trichinæ were digested by the larvæ of flies, and one or two young rabbits were infected by feeding them the trichinous larvæ.

There is no known drug which will kill the parasite either within the intestines or after it has reached the muscles. The treatment now recommended is an initial purge, preferably of castor oil or calomel, followed by Epsom salts in doses of one-half or full teaspoon doses daily. Thymol in 5 grain doses three times daily is given as an intestinal antiseptic. If the muscular pain be severe, opiates may be used.

CASE REPORTS

CASE 1.—Tony P., aged 24, Italian, was seen August 28, 1909.

Family and past history were negative.

Present Illness.—The patient ate prosciutto at a friend's house Aug. 21, 1909. Six days later his eyelids began to swell and, on account of his appearance, he was accused by his family of having been drunk the previous night. On account of the pain in his muscles he consulted me the following day.

Examination and Course.—Physical examination showed both upper and lower eyelids distinctly swollen and slightly reddened; the whole face was slightly fuller than normal. He complained of pain in both masseter muscles, in those of the back of the neck, on swallowing, in the region of the diaphragm, in the arms, and especially in the calves of the legs. There was considerable prostration and a sense of muscular weakness which became marked during the following two or three days. The temperature was 98.6 F.; respiration 20; and the pulse

1. Osler, W.: Practice of Medicine, 1901, p. 356.
2. McCollom, J. H.: Boston Med. and Surg. Jour., cxxvii, 59.
3. Drew, F. H.: Boston Med. and Surg. Jour., cxxvii, 61.
4. Glazier, W. C. W.: Report on Trichinosis, Marine Hospital Service, 1881.
5. Bericht des zur Erforschung der Trichinen-Krankheit von der k.k. Gesellschaft der Aerzte Ernannten Comités, Wien, 1867.

80. The urine was negative. An examination of the blood showed hemoglobin 100 per cent.; white cells 12,000; red cells 6,500,000; and an eosinophilia of 6 per cent.

September 1, 1909. The patient complained of general muscular pain and muscular weakness. Temperature 103.5 F.; pulse 100; respiration 24; physical examination as before, save that in the bases of both lungs there were a few coarse râles.

Without my knowledge or consent the patient was seen by another physician the day before who had made the diagnosis of laryngitis and muscular rheumatism, and had painted his throat with some form of iodin, and had prescribed salicylates.

An examination of the blood showed hemoglobin 100 per cent.; red cells 6,496,000; white cells 22,000; eosinophils 29 per cent.

Under cocain a small piece of muscle was taken from the gastrocnemius, which showed, under the microscope, many trichinæ in active movement. The temperature and pulse remained elevated for about ten days; then, gradually falling, became normal on the sixteenth day. The symptoms subsided with the temperature. Further recovery was uneventful. Although careful and prolonged search for worms was made in the stools at different periods in the disease, none was found.

A friend of this patient, who had also eaten of the ham, was soon taken with symptoms similar to the above, and was confined to his bed for eight weeks. According to the statement of my patient, the nature of the sickness of this friend was not well understood.

CASE 2.—M. D. V., aged 23, Italian, was seen Dec. 6, 1909. Family and past history negative.

Present Illness.—The patient has been in the habit of eating raw ham. Six days ago he noticed a swelling of the eyelids and face, and complained of pain and swelling in the arms and legs, and an occasional chilly sensation.

Examination and Course.—Physical examination showed face and eyelids puffy, with tenderness especially of the muscles of the calves of the legs, thighs, and forearms. There was slight general edema. The white cells were 16,000; eosinophils 17.3 per cent.

December 10, 1909.—Condition of patient had remained about the same; temperature was still elevated; complained of much pain in moving the extremities. The white cells were 9,500; eosinophils 13 per cent.

December 16, 1909, the patient complained of great loss of strength. An urticaria had appeared on the trunk and extremities, accompanied by severe itching.

December 17, 1909. White cells 19,000; eosinophils 39 per cent; slight improvement in general condition.

December 23, 1909. White cells 12,400; eosinophils 33 per cent. The patient was well enough to be up and about.

January 3, 1910. White cells 11,000; eosinophils 23 per cent. The patient desired to go home, and although advised to remain at the hospital, he refused, and was discharged Jan. 5, 1910.

In the prevention of trichiniasis, little can be done under local boards of health, or by inspection under federal control, on account of the great cost and other difficulties, legal, financial and practical. The federal law now states that "meat food products imported into the United States shall be accompanied by a certificate of official inspection of a character to satisfy the Secretary of Agriculture that they are not dangerous to the health. The certificate shall set forth the official position of the inspector, and the character of the inspection, etc. . . . The official inspector who signs the certificate shall have his authority viséed before the United States consul" [at the point of exportation].

That the present laws in regard to inspection are of little value is shown by the foregoing cases.

CONCLUSIONS

1. Trichiniasis is more common than is generally supposed, being erroneously diagnosed as typhoid, muscular rheumatism, influenza, laryngitis, neuritis, nephritis, and many other diseases.

2. The diagnosis is not difficult, if in every case of generalized muscular pain a differential count of the leukocytes is made, and, if possible, a bit of muscle excised for examination.

3. More rigid examination should be made at the ports of entry, of foreign meat products, especially those of pork.

4. The eating of all raw animal foods—sausages, ham, smoked beef, and the like—should be condemned. Much can be accomplished by the physician who comes in contact with the Italians, in pointing out the dangers of eating underdone or raw pork foods.

405 Marlborough Street.

TREATMENT OF THE PARALYSIS FOLLOWING ACUTE POLIOMYELITIS

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The anatomic relation between the motor nerve-cells of the anterior horn and the muscles of the body is very complex. In this connection Lovett and Lucas[1] have pointed out that the motor cells are arranged in spindle-shaped bundles or groups, extending frequently through several segments of the spinal cord. Whether each motor nerve-cell group represents an anatomic set of muscles, or a functional grouping, has not been determined, but it is known that one group, or center, will sometimes send impulses to two or more muscles; and, on the other hand, one muscle may receive motor impulses from more than one nerve-cell group. The bearing of these facts on the lesions produced in the cord by poliomyelitis and on the treatment of the paralysis following acute poliomyelitis is most important.

Recent investigation has shown that the virus of acute poliomyelitis causes a profuse inflammation within the spinal cord, the most pronounced result of which is an injury or destruction of the motor cells of the anterior horn. This injury or destruction of the nerve-cells causes an interference with the motor function of the cord, and manifests itself in the paralysis of individual muscles or groups of muscles.

Within certain areas of the spinal cord the anterior horn cells which control individual muscles or groups of muscles may be totally destroyed, and the result would be a total paralysis of the individual muscles or groups of muscles so controlled. In other areas of the cord only certain of the motor cells controlling muscles may be destroyed, and in this case the result would be a partial paralysis of the muscles. In still other areas there may be no actual destruction of motor cells or other structures in the cord, but the presence of inflammation and inflammatory products may cause a temporary interference with the function of the cord, which would show itself as a temporary paralysis in the muscles controlled by such areas.

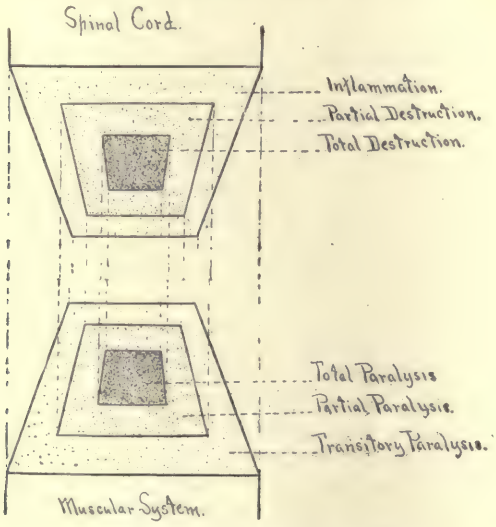
The pathologic changes induced by the profuse myelitis within the cord, and their effects when projected on the muscular system of the body, may be figured schematically as is shown in the drawing.

There are various methods in use in the treatment of the paralysis following acute poliomyelitis. The most important of these are the electrical treatment, the brace

1. Lovett, R. W., and Lucas, W. P.: Infantile Paralysis: a Study of 635 Cases from the Children's Hospital, Boston, with Especial Reference to Treatment, THE JOURNAL A. M. A., Nov. 14, 1908, p. 1677

treatment, operative treatment, and treatment by massage and muscle-training.

The electrical treatment is probably in more general use than any other form of treatment and the best authorities seem to believe that the galvanic current is of much more value than the faradic. The chief value of the electrical treatment lies in the preservation of the nutrition in the paralyzed muscles until such time as voluntary control returns. It is best employed, therefore, only in the earlier stages of the paralysis while improvement is taking place. After the paralysis becomes stationary, electrical treatment is of little, if any, use. The great mistake, frequently made in electrical treatment, is to expect too much from it. Too often it is the sole method of treatment resorted to, and many cases can be found in which the treatment has been left in the hands of parents or friends of the patient, who simply rub the poles of a cheap faradic battery over the paralyzed limbs a few minutes each day.



Schematic representation showing in the upper portion the different degrees of pathologic change in the spinal cord in poliomyelitis, and in the lower portion the corresponding impairment of muscle function.

Whitman says of brace treatment, "The object of a brace is to prevent the deformity due to weakness and to utilize the muscular power that remains, so that the disabled member may carry out its function." Another important object of a brace is to obviate the overstretching of muscles with consequent weakening and paralysis.

The use of a brace is not without its objections, however. Mild degrees of paralysis may do better without a brace, since its pressure may cause atrophy and thus defeat the ends for which it was designed; also, severe grades of paralysis do better without a brace, since its weight and pressure tend to retard improvement. On the other hand, brace treatment is absolutely necessary at times. A boy who had paralysis of both legs recovered partially, but was neglected and allowed to walk before his strength had sufficiently returned. He is now able to make practically all movements with his legs and feet; he can flex and extend the thighs and can also flex and extend the legs and feet; he can walk but suffers from a marked degree of genu recurvatum. Nothing would do this patient so much good as a pair of light braces fastened to the shoes, extending to the thigh, and provided with a lock-joint at the knee, preventing hyperextension.

Braces should always be strong, but as light and simple as possible. Thus, in cases of foot-drop, sometimes all that is necessary is a stiff-ankled shoe, or at most a brace going up one side of the leg as far as the knee. In paralysis of the leg, the brace should not be extended to go around the waist unless absolutely necessary. Motion should always be allowed at joints, if possible.

The operative treatment of the paralysis following acute poliomyelitis consists in the correction of deformities, arthrodesis, tendon-grafting, anastomosis or transfer and nerve anastomosis.

The correction of deformity, when present, is always advisable and sometimes absolutely necessary. Thus, a patient with poliomyelitis affecting the legs, and who has been neglected until contracture has taken place at the knees, must, first of all, have the contracture relieved as a preliminary to standing on his feet and walking.

The operations of tendon-grafting, anastomosis or transfer, are frequently beneficial, and sometimes offer the best method of improving the condition of the patient.

Ankylosing operations are sometimes of use, especially at the ankle.

As regards nerve anastomosis, the operation has not developed the brilliant results that its first use seemed to promise.

The consideration of massage and muscle-training has been left until the last because it has proved to be the most important method of treatment. Massage and muscle-training are two distinct procedures in treatment, but they go well together, the muscle-training supplementing the massage. In the earlier stages of the paralysis following poliomyelitis the only other therapeutic agent which can compare with massage is electricity, and massage possesses practically all the advantages of electrical treatment and none of its disadvantages. Massage seems to have an equal value with electricity in preserving the nutrition of muscles and in stimulating them to growth, and it is much more agreeable to the patient. This latter fact is especially true with young children who are very apt to be frightened by electrical treatment.

In giving massage to poliomyelitic patients, it should always be borne in mind that the affected muscles are weak and sensitive. Strong massage would have a tendency to weaken the muscles still more and to hasten their atrophy; the massage should therefore be very light in quality. In the treatment of the late stages of paralysis, massage is of great value as a preliminary to muscle-training.

Before discussing muscle-training it will be of advantage to recall to mind the pathologic changes in the cord in poliomyelitis. It will be remembered that there may be, first, areas of total destruction; second, areas of partial destruction; and, third, areas affected only by transitory inflammation. In relation to these pathologic changes, the paralysis resulting from total destruction is absolute, and it is obvious that no form of treatment can influence it in any way. On the other hand, the paralysis resulting from transitory inflammation is not permanent and will clear up as the primary inflammation clears up, under almost any or no form of treatment.

It is in the paralysis which results from areas of partial destruction within the cord, where the motor cells controlling individual muscles or groups of muscles are merely injured, or only in part destroyed, that the benefits of proper treatment are best observed, and without

doubt, muscle-training is the most valuable therapeutic procedure in these cases.

The aim of muscle-training is twofold. In the first place, through voluntary impulses from the brain the effort is made to improve the function of the injured motor cells, and in cases in which there has been a partial destruction of the cells supplying individual muscles, or groups of muscles, the effort is made to train the remaining cells to do the work of the many destroyed. In the second place, the aim of muscle-training is to build up and strengthen the muscles through voluntary contraction. It is a well-known fact that voluntary contractions are much more efficacious in building up and strengthening a muscle than are contractions caused by electricity or any other means.

Muscle-training should not be started so early as massage. It should not be started until all acute symptoms have subsided and the muscles have lost their irritability. In many cases it may be well to wait as long as a month or six weeks before beginning the muscle-training. Otherwise, the earlier muscle-training can be started, the better it will be for the ultimate outcome of the case.

The treatment of muscle-training is best given on an ordinary massage table or any other firm support. The patient should be freed from distracting influences and encouraged to devote all his energies to the work. All clothing should be removed from the limbs so as not to hamper their movements. Too much should not be attempted at first. The instructor should start with the movements that the patient can make and gradually try to instruct the patient in new movements. It is not a difficult matter to bring the muscles whose nervous mechanism has been but little damaged into activity again, but with other muscles this may be very difficult. There are cases in which the muscle-sense seems to be lost; the nervous mechanism is present, and the power of muscular contraction is present, but there seems to be a lack of coordination between the two. In such cases the patient, while undergoing passive movement produced by the instructor, tries to make the movement himself. In this way, the association-paths in the central nervous system are educated and developed. As soon as a movement has become established, resisted exercises are of the greatest value in developing strength.

Twenty minutes to half an hour a day, or, in some cases, every other day, is time enough to devote to a case. Great care should be taken not to overtire the weakened muscles; the instructor should not be in such haste to get results as to strain the muscles or joints, but he should aim to get some improvement each day. Progress will of course be slow at times and successful treatment requires care and perseverance on the part of both instructor and patient.

In young children, the exercises of muscle-training should be given in the form of play.[2] In older children, the stimulus of competition with other children in a class is advantageous. An appeal to pride and ambition is of value in older patients. Each case is a study in itself.

There is always a temptation to get patients into braces and walking too early. The use of heavy braces is apt to mean the end of improvement. Before the patient is allowed to walk, creeping exercises are of great value; following these, or along with them, the patient is allowed to kneel, and, last of all, to assume the complete upright positon. In the end, braces of some sort will usually be needed.

In cases in which muscle-training has not been started early, in addition to the regular training of the nervous mechanism and the developing of the muscles, contractions may have to be overcome; muscles that have become paralyzed by over-stretching brought into activity again, and muscles weakened and atrophied by disuse strengthened.

Muscle-training is useful in all cases of paralysis following poliomyelitis, and at any stage of the paralysis after the acute symptoms have subsided. In the cases in which brace treatment or operative treatment is necessary the brace or operative treatment should always be supplemented by muscle-training. Muscle-training should be given with a view to ultimately giving up the brace.

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2. Illustrations of this have been given in a previous article; Albany Med. Ann., April, 1910.

TWO CASES OF CESAREAN SECTION WITH UNUSUAL COMPLICATIONS *

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CASE 1.—*History.*—The patient, Mrs. G. B. K., white, was 29 years old. Her mother had had ten children and died in childbirth. Three of these children died, no cause known. Until the patient was 3 or 4 years of age she walked normally. For some reason she then lost the use of her lower limbs and has since used crutches. This condition was attributed to a fall and injury to knee-cap. Other than this she gives no history of disease. She was married in June, 1909. Last menstruation was Dec. 1, 1909.

Examination.—June 13, 1910: Patient is a dwarfed woman, presenting the flaccid useless legs of a child who had gone through an attack of infantile paralysis and regained but slight motion. The abdomen was enlarged to about the size of six months' gestation. The pelvic measurements were as follows: Between the spines, 21 cm.; between the crests, 23 cm.; between the trochanters, 26 cm.; left oblique, 19 cm.; right oblique, 19.5 cm.; external conjugate, 15.5 cm.; and internal conjugate, 7 cm. The type was that of an infantile or undeveloped pelvis, outlet being unusually small.

Progress of Case.—Section at term with removal of the uterus, was advised and accepted. The patient's own physician examined the urine until Aug. 1, 1910, and reported it normal. I saw one specimen in the first week of August and found it free from any pathologic elements. On Aug. 9, 1910, scarcely one week later the patient sent for me to relieve sleeplessness and general edema. The edema of face, hands and feet was very marked. The urine secured a few days later was solid albumin on boiling and contained all kinds of casts. The patient was rushed to the hospital and eliminative treatment started vigorously. The total quantity of urine had been diminished before entering hospital. In spite of treatment it rapidly grew less: August 10, 32 ounces; August 11, 13 ounces. She would be at term Sept. 7, 1910, and it was felt that any delay was especially dangerous and from the nature of the operation before us we wished to avoid eclampsia.

Operation.—Aug. 11, 1910. Cesarean section was done; the baby was a living male child, weighing 4 pounds 6 ounces The uterus was then removed by the plan suggested by Dr. E. P. Davis, which is as follows: A silk ligature is placed on each of the ovarian vessels, then heavy hysterectomy clamps are clamped across the lower uterine segment, the uterus being cut off above. The peritoneum is sewed together and then to the sides of this stump which is left free outside the peritoneal cavity to be dressed. The patient is placed on the operating table before ether is started and ether stopped early. In the present instance the entire operation was finished in twenty-five minutes.

Postoperative History.—After operation the urine remained scant. August 12, 4 ounces; August 13, 11 ounces. On August

* Read before Philadelphia Obstetrical Society, Jan. 5, 1911.

13, convulsions supervened, and while not frequent they were severe; the patient had six in all, in two days' time. On August 16, the urine secreted amounted to 56 ounces and from that time the woman improved rapidly. The clamps held firmly; the right broad ligament showed some slight trauma from slipping of the clamp in convulsions. The wound healed by sloughing and granulations; the clamps were removed at end of five days. Before this the temperature remained below 99 F., following there was a slight elevation—100 to 100.4 F. from absorption from stump.

The patient left the maternity hospital at the end of a month, having made a good recovery. Both mother and baby are doing well.

CASE 2.—*History.*—The patient, Mrs. R., white, twice married, was 41 years old. Her mother died of cancer of the uterus. The patient had had the usual diseases of childhood. She gives a vague history of an abscess in the pelvis which evacuated through the bowel, during first marriage. She was married ten years to first husband, no pregnancies. To her present husband she had been married about two years, and was pregnant four months. She came under my care for an acute attack of pain in the lower left abdomen; temperature was 100-101 F. The pain was unrelieved by the usual measures and a provisional diagnosis was made of pelvic abscess complicating pregnancy with possible rupture and beginning peritonitis.

Operation.—I opened the abdomen and found that the mass which had been discovered in the pelvis, was a soft fibroid, incarcerated in the pelvis, somewhat twisted and congested; it was intramural in origin with a broad base and was larger than the four-months' pregnant uterus from whose left side in the folds and above the broad ligament it arose. There was no evidence of necrosis of the fibroid. After freeing the tumor from the pelvis and finding that myomectomy was an impossibility I refused to do a hysterectomy and closed the abdomen.

Postoperative History.—The pain and temperature subsided immediately; the woman made a rapid recovery and left the hospital at end of ten days practically well except for a slight ether nephritis. She was allowed to go to term, though suffering some unusual discomfort and at times pain in the left side.

Cesarean Section.—On the advice of her physician and because her mother had died of cancer of the uterus, she requested that both baby and fibroid be removed at one sitting. She was taken to Jefferson Hospital (Maternity) and on Aug. 16, 1910, an abdominal hysterectomy was performed, and a well-formed male child delivered. The operation proved somewhat difficult because of the fibroid in the left broad ligament extending down to the vessels of the left side; apparently there was an old adhesion or cicatrix from a previous left-sided pus tube also.

Postoperative History.—The patient was somewhat shocked but reacted well and presented a normal postoperative chart for one week. Then the temperature rose to 101 F. with severe pain in the left side. This pain was relieved only by evacuating through the vault of the vagina a clot of blood in and posterior to the broad ligament where the fibroid and adhesion had existed.

The patient nursed her baby and made a good recovery. The child was small but not deformed—5 pounds 4 ounces.

This patient reported to me December 3. She is gaining in weight, nursing the baby and has no difficulty in the pelvis, but there are some symptoms of the menopause.

These two cases illustrate well the success attained in some complicated cases by the use of abdominal delivery.

There is no form of delivery so rapid as that represented by the first operation, and given a woman in whom future pregnancies are neither desired nor advised we can often save patients in cases which would otherwise be practically hopeless.

In the second case, the fact is illustrated that large single fibroids or even multiple fibroids are no bar to the development of a viable child.

400 Chestnut Street

Therapeutics

PRURITUS: ITCHING

To the clinician, pruritus, or itching, represents one of the most puzzling problems in medicine. There are few subjects in regard to which there are so few things definitely known as this one. The clinical manifestations are connected with the terminations of the sensory nerves in the epidermis. Concerning this point there is practical uniformity of sentiment among all observers. As to what affects these nerve endings, so as to give rise to itching, there is a great diversity of opinion. Many believe that it is associated with hyperemia and inflammation of the skin, this condition sometimes resulting in atrophy of the skin, with a continuance of the itching. There are many reasons for believing that these pathologic conditions are not the efficient cause of the itching in many cases.

For example, a common form of itching is pruritus ani, observed in children, caused by the presence of the *Oxyuris vermicularis*, or pin-worm. When these worms are present there may be at times intense itching without any local lesion, or any local disturbance of the nutrition of the skin, evident on ocular inspection. Presence of the worms on the skin in this region gives rise to the itching, but this must be due to something more than the simple presence of small foreign bodies, for no one has demonstrated that this unpleasant symptom may be caused by the presence in the same situation of small pieces of fine thread, or other similar bodies which do not possess active life at the time.

Another common cause of itching, especially in children, is the presence of pediculi, or lice. It seems to be at least open to question whether the itching produced by these parasites is due alone to their presence on the skin in a quiescent state, or even to their active movements on the skin.

Still another instance of intense itching associated with a parasite is that observed in scabies. The startling rapidity with which the symptom of itching subsides under the sulphur treatment of this condition would indicate that the itching is due to something besides the presence of the foreign body, for presumably the application of the sulphur destroys the itch mite, leaving its body in the skin, but as soon as its life is destroyed the itching ceases.

One of the most common forms of itching is that due to the bite of the mosquito. This is certainly out of all proportion to the local congestion and inflammation, and undoubtedly is due to the action of some poison injected by the animal beneath the skin.

Turning now from these obvious external causes of itching and considering the itching caused by jaundice, it will be generally accepted that the itching associated with the common form of jaundice dependent on obstruction to the flow of the bile into the intestine, is due to the irritation of the ends of the sensory nerves by some substance contained in the bile which is absorbed into the blood, or at least by the presence of some product resulting from decomposition of the ordinary constituents of the bile.

Urticaria is another form of skin disturbance associated with intense itching and is frequently due to the ingestion of some unusual article of food. It would seem probable that here the itching is due to some poison carried to the nerve endings in the blood, as is the case in jaundice.

It will be noted that many diseases accompanied by congestion and inflammation of the skin cause itching, but it is a curious fact that the disease, which is constantly accompanied by cutaneous lesions, has as a striking characteristic that its skin lesions are usually unaccompanied by itching. This disease, of course, is syphilis, which we might expect for a double reason would be generally accompanied by itching, but it might be supposed that the poison which unquestionably circulates in the blood and causes the lesions of the skin would give rise to itching, and it would also be supposed that the congestion and inflammatory conditions produced by it would be accompanied by itching, but such is not the fact.

With certain general diseases pruritus is a common symptom, especially diabetes and that common condition associated with abnormal metabolism, known as lithemia, and which is believed by many to be associated with gout. These diseases are all characterized by the presence in the blood of chemical bodies, which ordinarily do not belong there.

It is hardly worth while here to undertake an enumeration of the causes which are commonly assigned for pruritus. They will become apparent incidentally in connection with what will be said in regard to the general treatment of the condition. It has been already stated that the condition is associated with the terminations of the sensory nerves in the epidermis. It is commonly taught by writers that pruritus may be of central origin. It is asserted to be of not infrequent occurrence in hypochondriasis and hysteria. Still another form is described as being of psychic origin, and is seen in insane persons who have hallucinations of the presence of parasites, such as pediculi, on the skin; hallucinations which it is often difficult to remove, and which are sometimes removed only after repeated applications of antipruritic remedies.

In undertaking the treatment of a case of pruritus it is necessary to investigate every organ of the body so as to restore to its normal action, if possible, any organ which may be acting abnormally or which may be under abnormal conditions. First, the condition of the digestive organs must be carefully investigated, and the diet must be carefully regulated. There are two types of people in whom pruritus is seen: one is the stout, robust, plethoric person who is continually over-eating, and the other is the thin, hungry person who is continually starving himself. In the case of the former the diet should be cut down. The protein substances should be greatly reduced, and the starches and sugars should be considerably limited. If it is found that certain articles of food are not completely digested but give rise to fermentation, such articles should be reduced to an amount that can be taken care of by the digestive organs. In the latter class, the thin patients, fatty articles of food should be advised, and an adequate amount of protein should be given to afford adequate nourishment. In both classes, fruits, especially oranges and grapes, will be found exceedingly useful.

If the bowels are constipated, measures should be taken to make them act regularly and abundantly. Small doses of calomel, for a week or two, are sometimes useful for this purpose. For instance, the following prescription may be used:

℞	Gm.		
Hydrargyri chloridi mitis	20		gr.iii
Magnesiæ	5	or	gr.lxxv
Sodii bicarbonatis	10		3iiss

M. et fac chartulas 20.
Sig: A powder three times a day, after meals.

℞	Gm.		
Hydrargyri chloridi mitis	10	or	gr.iss
Sacchari	4		3i

M. et fac chartulas 20.
Sig.: Take one after each meal.

If this amount of calomel is not sufficient to cause free movements of the bowels, a saline may be given in addition to or in place of it. For instance, 1 or 2 drams of the sulphate of magnesium or of the phosphate of sodium may be given in half a glassful of water in the morning, before breakfast.

Pruritus is frequently associated with deficient elimination, and especially of the kidneys. If the condition of the urine is found to indicate such defective elimination, the internal use of alkalies will generally be found of advantage. In the case of the plethoric individual, with a strongly acid urine of high specific gravity, the following prescription may be used:

℞	Gm. or c.c.		
Potassii citratis	40		3ix
Aquæ menthæ piperitæ	200	or	fl.℥vi

M. et Sig.: Two teaspoonfuls, in water, three times a day, after meals.

There is no special particular reason for the "A B C" mixture which is used to alkalize the urine either in gonorrhea or any other condition. The acetate, bicarbonate, and citrate of potassium act similarly. It is only a question of taste and the amount used. The citrate of potassium is the most pleasant; the bicarbonate the most disagreeable. The acetate may alkalize the urine in a little smaller dose than does the citrate. The above prescription presents an alkali in a pleasant form and perfectly bland to the stomach. It should be taken with plenty of water. If the above dose, three times a day, does not alkalize the urine (if that is the object desired), it may be administered four times a day.

Although it is admitted that pruritus is associated with the sensory nerves, and it is claimed that in some instances it is due to a disturbance of the central nervous system, no drug acting on the brain, spinal cord or nerve trunks is very effective in pruritus, possibly with a single exception of bromids, which really act by dulling the peripheral endings of the nerves. The treatment of pruritus with bromids is generally inadvisable, as they act by causing nerve debility and later muscle debility and loss of nutrition. Temporarily such treatment is often good treatment.

Generally, in order to stop the itching, it is necessary to apply some drug to the skin which will lessen the sensibility of the ends of the nerves which are in trouble. Several drugs are used for this purpose. The most useful are phenol (carbolic acid), menthol, camphor, chloral, thymol, oil of cade, alcohol and alkalies. The following are a few prescriptions which are suggestive. Various modifications of any one of them may act as satisfactorily.

℞	c.c.		
Phenolis	5		
Liquoris potassæ	5	or	ää fl.3iss
Petrolati liquidi	ad 50		ad fl.℥ii

M. et Sig.: Use externally as directed.
Shake.
Or,

℞	c.c.		
Phenolis	3		fl.3i
Glycerini	10	or	fl.3iii
Liquor calcis	25		fl.℥i
Aquæ	ad 100		ad fl.℥iv

M. et Sig.: Sponge over irritated surfaces.
Shake.

Or,

℞ c.c.

Phenolis	25		fl.℥vi
Liquoris calcis	125	or	fl.℥iv
Olei amygdalæ dulcis	ad 250		ad fl.℥viii

M. et Sig.: Use externally as directed.

Or,

℞ Gm. or c.c.

Mentholis			gr.vii
Sodii bicarbonatis	15	or	℥ss
Glycerini	25		fl.℥vi
Aquæ	ad 250		ad fl.℥viii

M. et Sig.: Use externally as directed.

Or,

℞ Gm. or c.c.

Mentholis	50		gr.x
Camphoræ	1	or	gr.xviii
Olei amygdalæ dulcis	2		♏xxxv
Adipis lanæ hydrosi	25		℥i

M. et Sig.: Use externally.

Or,

℞ Gm. or c.c.

Mentholis	30		gr.v
Phenylis salicylatis	2	or	℥ss
Olei amygdalæ dulcis	2		fl.℥ss
Adipis lanæ hydrosi	20		℥v

M. et Sig.: Use externally.

Or,

℞ Gm.

Camphoræ	15	or	āā℥ss
Chlorali hydrati	15		

M. et Sig.: Paint over affected part.

Or,

℞ Gm. or c.c.

Mentholis	1		gr.xv
Thymolis	2	or	gr.xxv
Aquæ	100		fl.℥iii

M. et Sig.: Use externally.

Or,

℞ Gm. or c.c.

Camphoræ	5		gr.lxxv
Zinci oxidi	15	or	℥ss
Cretæ preparatæ	30		℥i

M. et fac chartulam 1.

Sig.: Use as a dusting powder.

Or,

℞ Gm.

Camphoræ	5		gr.lxxv
Zinci oxidi	15	or	℥ss
Amyli	30		℥i

M. et fac chartulam 1.

Sig.: Use as a dusting powder.

Or,

℞ Gm. or c.c.

Olei cadini	5		fl.℥iss
Petrolati	50	or	℥ii

M. et Sig.: Use externally.

Or,

℞ Gm. or c.c.

Olei cadini	5		fl.℥iss
Adipis	25	or	
Adipis lanæ hydrosi	25		āā℥i

M. et Sig.: Use externally.

Various other forms of tar may be used if desired.

℞ Gm. or c.c.

Tincturæ iodi	5		āāfl.℥iss
Tincturæ opii	5	or	
Glycerini	ad 25		ad fl.℥i

M. et Sig.: Paint on externally.

The above prescription may be used when only a small part itches, as a chilblain, or something of that description.

Various alcohol and menthol sprays and washes, or simple saline sprays are often satisfactory. The following is a menthol spray:

℞ Gm. or c.c.

Mentholis	1		gr.xv
Alcoholis	100	or	fl.℥iii
Aquæ	ad 200		fl.℥vi

M. et Sig.: Use externally with an atomizer.

The question of the use of alcohol and tobacco is usually raised in connection with the treatment of pruritus, and it is generally advised that both should be forbidden. Certainly, the vast proportion of people who use tobacco and alcohol are not affected with pruritus. This of course does not indicate that they may not be detrimental to sufferers from pruritus, and possibly in some instances their use aggravates the condition. In such cases their discontinuance should certainly be advised; but in most cases their use or disuse will probably prove to be a matter of indifference.

PRURITUS ANI

While it is universally insisted that the term "pruritus" should be strictly limited to such itching affections of the skin as are not accompanied by any recognizable lesion, the term "pruritus ani," on the other hand, is used much more broadly, so that under it are commonly included such affections about the anus as are accompanied by itching but do not show any manifest lesion, and also those conditions in which there are decided pathologic changes in the skin and in which intense itching is the most important symptom. Pruritus ani commands the attention and interest of the general practitioner, the proctologist, the dermatologist, and, at times, the neurologist.

It is a very simple matter to declare that every case of pruritus ani is dependent on some distinct cause, and that in order to treat the disease successfully, this cause must be accurately determined; but to find out and determine, in each individual case, just what the cause is, and whether or not there are several etiologic factors, is another matter, and often extremely difficult.

The physician does not do his full duty to his patient, if he prescribes for itching about the anus without making a careful examination of that region and interrogating the patient in regard to his habits and the manner in which the functions of the different organs are performed. It is, ordinarily, a simple matter to determine whether the itching is due to the presence of the *Oxyuris vermicularis* (pin-worm) or to the presence of pediculi. The occasional occurrence of these parasites in this region and their causative relation to the production of itching should not be overlooked. On local examination, it is frequently possible to detect the presence of a fissure of the anus, or an ulcer in that situation, or within the sphincter ani muscle. In other cases there may be found a fistula, hemorrhoids, or polypi; and further exploration of the rectum may show a catarrhal condition of the mucous membrane, or a disease of the crypts.

At the beginning of the condition it may be impossible to find any lesion, but, as the case progresses unrelieved, the energetic scratching in order to relieve the itching usually produces a thickening of the skin. Inflammation of the skin occurs, causing an increase of the connective tissue which presses on the nerve endings. This may be followed by an atrophic condition of the superficial layer of the skin. The thickened integument may have a whitish, sodden appearance, and may lie in folds, on or between which there may be fissures caused by the scratching.

Many cases are accompanied by a condition of moisture of the skin about the anus. Some believe that this moisture is the cause of the itching, but it is more probable that in most cases it is an accompaniment of the condition that gives rise to the itching, or may accompany that lesion of the skin which is produced or aggravated by scratching. This moisture is probably

due to a hypersecretion of the sebaceous glands, but it is possible that a part of it comes also from the sweat glands.

In some cases it will be found that a disturbance remote from the local manifestation gives rise to the itching. Congestion of the mucous membrane of the intestine accompanied by a catarrhal condition; congestion of the liver may be accompanied by a congestion about the anus which gives rise to intolerable itching. Pressure on the veins, as from the enlarged uterus during pregnancy, or from pelvic or abdominal tumors, may produce similar effects.

Some general diseases are occasionally accompanied by pruritus ani. The most important of these is diabetes, but the condition may be present in chronic nephritis, in gout, and in rheumatism. It is also a not infrequent accompaniment of the degenerative changes which accompany old age. Some cases show a decided neurotic element. Sometimes business or professional men who are actively engaged in following their vocation and who are subject to unusual nervous and mental strain are the subjects of this disorder. These various conditions, which do not cover all the causes which have been enumerated as etiologic factors of this itching, indicate that there is a wide scope for the use of judgment in selecting a line of treatment appropriate for each individual case. When this condition is an incident of senility, or of such general diseases as diabetes or nephritis, the treatment is generally palliative, by means of local applications. Of course, any improvement in the diabetes, or in the nephritis, will cause improvement in the local trouble.

The dietetic management of the case and the employment of such remedies as promote excretion of the products of metabolism are clearly indicated. In a large number of patients it will be found that a rearrangement of the diet is of great importance. Many of these patients eat too much, and their diet should be restricted so that they eat less and limit the amount of food to the needs of the system. In some patients who present symptoms which are commonly called lithemic, a limitation of the amount of protein ingested, and more especially a reduction of the meat to once a day, is advisable. In other patients, it will be found that there is a tendency to use an excessive amount of sugars and starches, and in such individuals these elements of the food should be restricted.

In many cases there is constipation, accompanied, sometimes, by intestinal fermentation. If this constipation cannot be corrected by a regulation of the diet, some laxative may be necessary. Aloes sometimes seems to do harm by increasing the irritability and congestion about the rectum. Usually cascara sagrada or a saline cathartic is preferable. Sometimes it is well to give a moderate dose of cascara sagrada at night and follow this by a saline laxative in the morning, regulating the dose so that the patient may have one soft movement after breakfast.

If the urine is highly colored, of high specific gravity, or is strongly acid, the administration of alkalies such as potassium citrate is useful.

Frequently an operation, it may be slight or it may be of considerable gravity, is indicated. If there are tags of hypertrophied skin, they should be snipped off. If there are hemorrhoids, they should be removed. If there is a fissure or ulcer, it must be treated by local applications of solutions of nitrate of silver daily, if the solutions are weak (from 1 to 3 per cent.); once in four or five days, if strong (10 per cent.). If there is a fistula, it should be incised or excised. If there is catarrh of the rectum, it may be treated by alkaline enemata.

In a few cases, which persistently resist milder forms of treatment, it has been proposed to excise the ring of affected skin surrounding the anus. Some favorable results have been reported from this treatment, but it is generally considered as more severe than is necessary. Other surgeons have proposed to incise strips of skin, leaving other strips *in situ*, but passing the knife under these so as entirely to separate the nerves through which the sensation of itching is transmitted.

A considerable number of these patients have been treated with very gratifying results with the Roentgen ray. These applications may be given at first with two exposures a week, until some dermatitis is produced, and then once a week. The *x*-ray causes a diminution of the excessive moisture which is sometimes present, and a decrease in the size of the sebaceous follicles, these seeming to be affected by the ray more than the sweat glands. Others have used the high-frequency current with asserted advantage.

Various local remedies are used with more or less success. A group of suggestive prescriptions will be found above. Many physicians advise the use of cocain, but this should never be given to the patient for personal use; it should only be used by the physician to relieve the pain of local applications, such as nitrate of silver, or for the performance of minor operations.

Before thinking of applying any remedy, a most scrupulous cleanliness should be exercised. After every movement of the bowels, the anal region should be bathed with hot water, which may be used without medication, or there may be dissolved in it simple salt, borax, or bicarbonate of sodium. The use of newspaper or other coarse paper should be strictly prohibited; indeed, some writers have expressed the opinion that the printers' ink on the newspapers is a frequent cause of this condition.

At such times as the itching comes on intensely, especially in the evening or after retiring, local applications of either ice-cold or very hot water often afford considerable relief. The hot water may be medicated by the addition of boric acid to the point of saturation, or with borax. Phenol (carbolic acid) may be applied in solution of from 2 to 3 per cent. strength, and it may be used in much stronger solution once or twice a week.

A very useful simple application, especially valuable in pruritus vulvæ, is yeast. It may be applied as brewers' yeast; or, as satisfactory, is a solution of an ordinary tin-foil-covered yeast cake in a half pint or a pint of water. Daily applications of this yeast solution, especially at night, will sometimes cure when all else has failed.

PRURITUS VULVÆ

All of the general remarks applicable to pruritus ani and perineal pruritus are equally applicable to pruritus vulvæ. Irritating vaginal discharges should be ameliorated: the possibility of the presence of insects should be considered, and if they are present they should be removed.

Diabetes is a frequent cause of the trouble. Irritating, abnormal urine is another frequent cause; when this is corrected, or the vulva protected by bland ointments, the pruritus ceases. In one-sided, unaccountable and unexplainable pruritus, the Roentgen ray has effected a cure.

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[For other information see second page following reading matter]

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RECENT STUDIES OF LEPROSY

From time immemorial leprosy has been held in almost superstitious horror by the laity—thanks probably to the Scriptural attitude toward it; and to physicians even now it presents problems such as are encountered in few, if any, other diseases. In light of recent contributions toward its study, however, many of these problems appear to be in a fair way toward solution. It is almost two years since Clegg[1] first announced the successful prolonged cultivation of the organism of leprosy on artificial media, and Duval[2] since then has devised methods that make this proceding one of comparative simplicity. Clegg's method consisted in first growing the organism along with amebas and symbiotic bacteria; after several transplantations under such conditions, the bacillus became altered sufficiently to permit growth in pure culture. Duval, however, has shown that the essential element necessary for its artificial growth is the presence in the medium of tryptophan and other free amido-acids—factors that were furnished in Clegg's experiments presumably by the action of the bacteria on dead amebas. Like Clegg, Duval found that the bacillus grew more readily after being cultivated artificially for some time. The organism was found by both investigators to be extremely hardy; it resisted a temperature of 70 C. for half an hour, and Duval and Gurd[3] were able to cultivate it from tissues kept in salt solution at room temperature for over eight months. Nor did overgrowth with saprophytic or pyogenic organisms appear to affect its vitality in the least.

Success in animal inoculation has advanced almost equally with the progress in artificial cultivation of the organism. Clegg was able to produce, from inoculation of pure cultures, localized lesions in the guinea-pig closely resembling those in man; and Sugai[4] showed that the Japanese dancing mouse was sufficiently susceptible to undergo systemic infection from local inoculation. Neither of these animals, however, showed a clinical picture like that in man. But Duval[5] has recently, by successive injections of a pure culture of the leprosy bacillus, succeeded in producing in the monkey (*Macacus rhesus*) a type of disease very similar to the human form, and in reobtaining the acid-fast organism from the remote lesions.

Of considerable interest as bearing on the methods of transmission, is the fact that Duval and Gurd were able to cultivate the organism from nasal secretions in two of five cases. They also succeeded in inoculating mice by rubbing cultures of the bacillus into their nares after gentle scarification. Taken in connection with the high resisting power of the organism, these facts would appear to speak strongly in favor of the usually adopted, though much disputed, measure of segregation.

The same investigators have taken up the serum reactions of leprosy. Amboceptor, specific apparently for the lipoid constituents of the organism, they found present in considerable amounts. Agglutinins occurred in small quantities; and the serum of leprous patients was found by them not to differ from that of normal individuals in content of complement. Their results as to specific amboceptor are confirmed by the work of Biehler and Eliasberg,[6] but unlike them, Eliasberg claims to have demonstrated the absence of free complement in the serum of lepers.

It will be seen that as a result of the foregoing work, Koch's postulates have now been fully carried out for leprosy. Considerable light has been thrown on the much argued question of methods of transmission. And with means at our disposal both for obtaining *Bacillus lepræ* in pure culture, and for successfully inoculating experimental animals, further progress should be rapid. Profiting, however, by our many disappointments with tuberculosis—a disease resembling leprosy in so many respects—it will be well to guard ourselves against expecting too much in the way of effective therapy of the disease as a result of recent experimental work.

1. Philippine Jour. Sci., 1909, iv, 403.
2. Jour. Exp. Med., 1910, xii, 649; 1911, xiii, 365.
3. Arch. Int. Med., 1911, vii, 230.
4. Lepra, 1909, viii, 203.
5. Jour. Exp. Med., 1911, xiii, 374.

WHITE PHOSPHORUS

From time to time THE JOURNAL has directed attention to the efforts which have been made to obtain Federal legislation prohibiting the use of white phosphorus in the match industry in this country. The stand taken by THE JOURNAL is that such legislation is a much-needed step in the direction of public control of the dangerous trades, and that for this reason the medical profession should endorse it. In an article in the present issue, Dr. Robert H. Ivy criticizes this view and presents an argument for the continued use of white phosphorus in the match industry on the ground that "barring absolute carelessness on the part of employees" white phosphorus can be used without danger. He proceeds to give his experience as examining surgeon for one of the match factories, and concludes that the sub-

6. Deutsch. med. Wchnschr., 1911, xxxvii, 302-304.

stitution of the safe sesquisulphid for the poisonous white phosphorus is unnecessary, provided proper precautions are observed.

Dr. Ivy says that he requires from the employees of a match factory no unusual precautions, only that they shall not be guilty of a carelessness comparable to a miner's playing with dynamite. This seems to be an exaggerated description of such careless acts as picking the teeth while at work, chewing gum or eating candy while at work, drinking water from a glass standing on the work table, yet all these are recognized as dangerous actions for a match worker.

Dr. Ivy describes conditions in the factory with which he is connected and in which regular monthly dental examinations have been made for a period of two and a half years. No employee who entered the factory during that time has developed necrosis of the jaw. Some of these employees have not been at work more than six months; ninety-six have been there less than two and a half years. Now it is interesting in this connection to consider the length of exposure to phosphorus fumes given in the histories of cases of phosphorus necrosis. The report of John B. Andrews,[1] quoted by Dr. Ivy, gives thirteen histories in which this detail is noted. Ten individuals had worked with phosphorus for periods ranging from three and a half to forty years before they developed necrosis, only three for periods of less than three years. Five more gave the length of time as "several years," which would surely be more than two years. It would, therefore, seem that Dr. Ivy's negative conclusions can hardly be regarded as founded on sufficient data.

It is always difficult for one country to benefit by the experience of another, yet it would really be a great economy of time and effort could we consent to be taught by the past mistakes of our European cousins. We are now in the same position that most of the great European nations occupied ten or fifteen years ago. They wasted many years and permitted much human suffering in their effort to regulate the use of white phosphorus instead of abolishing it, but one by one they were obliged to confess their efforts a failure and to become converts to the prohibition policy. In 1906, an international agreement to prohibit the manufacture, importation or sale of white phosphorus matches was signed by France, Germany, Italy, Switzerland, Holland and Denmark. Great Britain held off, and that country's experience is illuminating for us. In 1898 the British Parliament appointed a committee of three experts to inquire into the question, a chemist, a dentist and a physician. The physician (Thomas Oliver) stated that nothing short of the total prohibition of white phosphorus would make match factories safe, but the dentist gave it as his opinion that proper regulation would meet the danger. Parliament at first accepted the more optimistic view, strengthened the regulations, and provided for examining dentists and doctors; but cases of necrosis continued to be reported, and in 1908 a law was passed prohibiting the use of white phosphorus. In that same year Great Britain signed the international agreement. It would seem then, that regulation of the industry has had a fair trial, and that it is hardly worth while for us to repeat the experiment, for the regulations which proved a failure in Europe were far more stringent that any we should be likely to enact in the United States. It is scarcely probable that our state legislatures would require factories to be built according to government plans, with compulsory medical inspection, notices concerning the dangers of the work which the employer must read aloud to his employees at stated intervals, limitation of the percentage of phosphorus in the paste, etc.

Lest anyone should believe that the situation in the United States differs from that in foreign countries, and that the match industry here is not productive of phosphorus necrosis, we quote from the Bureau of Labor investigation referred to above. There are about 3,500 employees in fifteen of the seventeen match factories in the United States. Of 3,383 whose occupation was specified 65 per cent. are exposed to phosphorus fumes; 95 per cent. of the 1,395 women are so exposed. An intensive study of three factories was made, and eighty-two cases of necrosis were discovered. Andrews describes a factory which is a model in equipment and in care of employees: "Here, if anywhere, careful regulation over many years and favorable conditions should have resulted in the complete disappearance of phosphorus necrosis. Yet forty cases of phosphorus necrosis" (fifteen involving loss of the jaw by operation) "were easily secured."

Were there no way of making matches except through the use of this poison we might resign ourselves to such conditions, but in view of the fact that the industry may be made entirely safe, it seems that as medical men we have no choice but to favor the legislation which is framed to accomplish this result.

1. A close examination of the histories given by Andrews brings to light several significant facts. Three toothless individuals, with no apparent channel for infection present (the roots had also been removed), developed phosphorus necrosis. A man who had worked developed necrosis. Two individuals are mentioned as being unusually developed it. Two individuals are mentioned as being unusually intelligent and as having taken all possible precautions to protect themselves, yet falling victims to a severe form of the poisoning. One case of fragilitas ossium was discovered. Oliver speaks of having found this condition among the Belgian match workers at Grammont.

PUBLIC HEALTH BULLETINS

The fact is not so well known by physicians as it should be that the national government, through the Public Health and Marine-Hospital Service, is issuing for gratuitous distribution a valuable series of bulletins on matters relating to public health. The series now numbers forty-four, and from the list of those already published it can be seen that at least the more recent ones deal with live and important phases of medicine as it relates to public health. These bulletins have been written by men who have had especial facilities for

studying the various subjects of which they treat, and care has been taken that they should not be written from the viewpoint of the specialist or laboratory worker. They are intended for the use of the general practitioner, and give him recent and accurate information not easily obtainable elsewhere on many important subjects.

The latest of these bulletins deals with the subject of acute anterior poliomyelitis.[1] This bulletin furnishes the general practitioner the latest information in regard to this disease, of which, according to the author, there have been during the last few years over 5,000 cases in the United States alone. Such a publication is of peculiar timeliness. The average text-book account of this disease (some text-books still confine themselves to the ordinary spinal type) is inadequate for any proper comprehension of this serious malady, and the recent literature is not accessible to the average practitioner. An accurate and comprehensive discussion of the subject, such as is here offered in comparatively brief compass, should appeal to every physician.

Another bulletin, treating of disinfectants, their use and application in the prevention of communicable diseases,[2] has also recently appeared and will be of great value to health officers, particularly to those in the smaller communities. This bulletin first discusses the gaseous disinfectants and disinfectant solutions in detail and from a practical standpoint, as well as the various methods for the application of gaseous disinfectants, particular attention being paid to the formalin-permanganate method for the generation of formaldehyd gas. Then insecticides are taken up with the methods of their use. This publication should be in the hands of every health officer in the United States.

Other publications of the series are on the sanitary privy, leprosy, the rat and its relation to the public health, hookworm, tuberculosis, yellow fever, bubonic plague, rabies, pellagra and trachoma. All are obtainable from the Superintendent of Public Documents.

In this connection it may be added that the Public Health Reports, the weekly journal published by the Public Health and Marine-Hospital Service, and the value of which to quarantine and health officers has long been appreciated, is now very frequently publishing short articles of the greatest interest to all health officials. These articles, while primarily intended for health officials, could be read with profit by every practitioner. The most recent of these[3] is a report on the investigation of a typhoid epidemic in a western city, and clearly outlines the methods of procedure in the treatment of such a situation with the many difficulties and complexities involved.

1. Acute Anterior Poliomyelitis (Infantile Paralysis), by Wade H. Frost. Public Health Bulletin 44, U. S. Public Health and Marine-Hospital Service, Washington, February, 1911.

2. Disinfectants, Their Use and Application in the Prevention of Communicable Diseases, by Thomas B. McClintic. Public Health Bulletin 42, U. S. Public Health and Marine-Hospital Service, Washington, December, 1910.

3. Public Health Reports, Jan. 27, 1911, vol. xxvi.

STATE RESPONSIBILITY IN MEDICAL EDUCATION

Those who have made a critical study of the present conditions surrounding medical education and licensure recognize three principal facts. First, modern medicine requires a broader education than did the medicine of twenty years ago; second, the medical profession is already seriously overcrowded; and third, there are still a large number of medical schools which are incapable of furnishing a modern medical course and which are turning into the profession large numbers of poorly trained graduates. A diminution both in the number of physicians and in the number of medical schools, therefore, would scarcely be a matter for regret; indeed, it would be beneficial, especially if such diminution led to the securing of better-trained physicians.

To furnish a modern medical training it is necessary that the medical school should, first of all, exact a higher entrance requirement in order to secure students who can master the modern medical course. The medical school should also possess better buildings, better-equipped laboratories, better hospital facilities and more full-time, thoroughly trained and expert teachers, than were required twenty years ago. These additional demands of the medical school require the expenditure of more money than can possibly be obtained from students' fees. The medical school of to-day, therefore, must be supported either by the state or by private endowment.

Already twenty-two states, to a greater or less extent, are supporting medical schools. Of these twenty-two, seventeen have thus far adopted as their minimum of preliminary education, in addition to a four-year high-school course, one or two years of collegiate work, including thorough courses in physics, chemistry and biology. These colleges, therefore, have adopted a reasonable and moderate standard which places them on a par with medical schools abroad and have not gone so far as to adopt the extreme requirement of a college degree for admission.

The strengthening of state university medical schools and the adoption of higher requirements will doubtless have the effect of forcing a number of low-grade medical colleges to increase their equipment so as to provide a modern medical training and to adopt higher standards of admission, or to go out of existence.

Considering the needs outlined above, the legislation which is being sought in several states is of particular concern to the interests of medical education. Bills have been presented in some states to make increased appropriations for medical education, to be expended in buildings, equipment, etc. This legislation is clearly in the interests of public health. In several other states the legislation asked for relates to higher standards of medical education. In one state, however, an effort is being made to lower the standard, but such retrogressive legislation is not likely to pass, since the people of that

state fully realize the importance of the standards now held by both its university and its board of medical examiners.

Opposition to any advanced legislation is always a thing to be expected. The opposition to the above measures, however, seems to emanate chiefly from the less progressive medical schools which either fear the competition of the state institutions, or desire to continue their lower standards of admission. The cry is raised that this legislation tends to "restrict medical freedom," but that cry is a false alarm. "Medical freedom" to turn out ill-trained doctors—freedom to disregard scientific rules of sanitation—freedom to impose ignorant medical advisers on the helpless and the sick of any community—surely needs restriction. The time has certainly arrived when the state should assume its full responsibility, not only in providing for the training of well-qualified medical men, but also in safeguarding the public against bungling incompetence and fraud.

Current Comment

KEY TO THE AUTOMOBILE NAMES

This is the fifth annual Automobile Number. As usual, the names of the cars, tires and accessories, referred to by numbers, are given in a folder, a copy of which will be sent on receipt of a self-addressed stamped envelope. Some who have written on automobiles in previous issues report that many physicians wrote to them for further information—and forgot to send postage for reply. This is intended simply as a hint.

VACCINATION IN THE PHILIPPINES

The opposition ignorantly raised against vaccination has received another conclusive answer in a report[1] on small-pox and vaccination in the Philippine Islands by Passed Assistant Surgeon Victor G. Heiser, Director of Health in the Philippines, and Assistant Surgeon Robert Oleson of the U. S. P. H. and M.-H. Service. They say that at probably no time in the world's history has the efficiency of vaccination as a preventive for small-pox been so conclusively and effectively demonstrated as in the Philippine Islands since American occupation. The evidence of its value is incontestable. During Spanish times it was necessary each year, during the dry season, to erect in Manila a large temporary hospital to which the many hundred victims of small-pox could be taken. The great majority of them died. During the past five years not one person has died in Manila from small-pox who had been successfully vaccinated during the five previous years; nor has anyone died of small-pox in Manila since June, 1909. In 1907, systematic vaccination was completed in the six provinces near Manila. These provinces have a population of, approximately, one million, and from time immemorial until a few years ago the annual mortality from small-pox was at least six thousand. Since 1907, not one person has died of small-pox who had been successfully vaccinated, and only a few cases have occurred. In these few cases not a death occurred among vaccinated persons. This has been the experience in other provinces throughout the islands since the American occupation, and only in instances in which vaccination has been relaxed have cases of small-pox occurred, and then almost entirely among unvaccinated infants or among immigrants. This report contains many other convincing figures, but to the intolerant individuals who oppose vaccination, experience is a liar, and figures are intended only to conceal the truth.

1 Public Health Reports, March 10, 1911, p. 277.

GOVERNOR OSBORN FOR HONEST ADVERTISING

There is a public as well as a personal conscience; that there is an evolution of public conscience has been strikingly demonstrated recently in many ways. Probably in no direction is the public conscience developing more rapidly than in that of insisting on honesty in methods of publicity. The label clauses in our pure food laws, both state and national, are an illustration. The results secured by such legislation have raised the question in many minds: Why should not honesty be insisted on in all advertising, quite as much as in the advertising of food products? Evidently, one of our state executives believes that all advertising should be truthful and that the state should protect the purchaser and reader of newspapers and magazines, and he is not afraid to say so. In his inaugural message to the state legislature, Governor Charles S. Osborn of Michigan said:

> The action of the federal authorities in excluding offending newspapers from the mails protects only a part of the readers of fraudulent advertisements. There should be state legislation holding publishers accountable for printing palpably dishonest announcements of investment swindlers and of all other unscrupulous advertisers who seek to betray the reader's confidence in the integrity of the press.

Many far-sighted men in the newspaper business have recognized the growing sentiment in favor of honest advertising and have realized that the integrity of the press is its most valuable asset. Those publishers who have not yet grasped this fact must soon realize its importance or have their attention called to it by the enactment and enforcement of laws in accordance with growing public sentiment.

MINISTERS DEMAND MORE RIGID LAWS

Much has been said of late regarding the desirability of greater public interest in the state regulation of the practice of medicine. It has long been recognized that medical practice acts, being primarily for the protection of the public, should have a greater measure of public support. The recent action of the Iola (Kansas) Ministerial Association should be a source of gratification to all who are desirous of seeing the practice of medicine restricted by the state to those actually fitted by training to assume such responsibility. At a recent meeting of

the ministers of Iola, a resolution was adopted and ordered sent to all the ministerial associations of the state, enlisting their aid in securing the passage of a law to restrict the practice of healing to those who could demonstrate their fitness and qualifications to treat the sick. After asking the cooperation of the ministry "in bringing before the legislature . . . some measure looking toward the more equitable regulation of the practice of the healing art," the resolutions continue: "A large and growing class of 'healers' and 'practitioners' of various names, forms and cults offer their services to the sick and appeal to the public for patronage. They are unlicensed and, therefore, irresponsible so far as regulation by the state is concerned. At the same time they are for the most part ignorant of that scientific knowledge which would enable them to make intelligent diagnoses of disease, to discover contagious diseases and to understand the true limits of their ability, thus causing much needless suffering and numerous untimely deaths. We believe that in the interest of common justice and for the safeguarding of the public health, the laws of our state should be so amended as to require all who assume to treat the sick, by whatever method, to secure a license from the proper state board of examiners after suitable examination as to their qualifications." Probably no men are better able to appreciate the harm done by ignorant "healers" than are the ministers. Their cooperation and support would go far to secure the establishment of a higher standard for entrance into the practice of medicine as well as a stricter and more impartial enforcement of the law for the protection of the public health.

NEEDED CHANGES IN ILLINOIS LAW

Senate Bill 235, which, if adopted, will materially strengthen the Illinois medical practice act, has passed the Illinois Senate and is now in the House. The first section of the bill, as we noted two weeks ago, authorizes the State Board of Health to issue a temporary license good for eighteen months, to medical students who have completed a course of instruction and passed the examination of the board, but who have not received diplomas, the object being to permit the board to license hospital interns who are appointed before their diplomas are given them. The second section of the bill authorizes the board to revoke licenses issued under the acts of 1877 and 1887, as well as those issued under the act of 1899, the present act. This provision is made necessary by a decision of the supreme court (*State Board of Health vs. Ross* (1901), 191 Ill., 87; 60 N. E., 811) which held that owing to the phraseology used in the existing law the board did not have authority to revoke licenses issued under previous laws. At present the state board has no power to revoke a license issued between July 12, 1877, and June 30, 1899, no matter what crime or unprofessional or dishonorable act may be committed by the practitioner holding such license. These two provisions are clearly in the interest of better administration of the medical practice act and of better protection to the public; it is to be hoped that this bill will become a law.

MUNYON THE HOPEFUL

"If the Sign of the Cross were to be destroyed the next best sign would be 'The Index-Finger Pointing Heavenward.'" Thus, in a quarter-page advertisement in one of his home papers, speaks Munyon, the genial quack whose uplifted finger, aggressive pompadour and sugar pills have made Philadelphia famous. Genial, did we say? Well, until recently. Of late Fate seems to have been unkind to this erstwhile dispenser of gladness and saccharine innocuity. Unimaginative government chemists are recently reported to have shown that the principal ingredient in Munyon's blood and asthma "cures" was ordinary cane sugar and the "Professor" has been penalized by the government to the tune of six hundred dollars. But, with a supreme disregard for the petty troubles of business, Munyon announces in large advertisements that he is "organizing a Hope Cult, whose mission is to preach Health-ism, Hope-ism and Love-ism." Talk about optimism! And as a clincher, we find heading one of the "Professor's" appeals to the public, this gem:

> "Don't cringe—don't flinch,
> Should fortune pinch
> And all seem lost;
> With might and main,
> TRY, TRY *again*
> At any cost. —Munyon."

Whether or not the apostle of hope and "homeopathic home remedies," here refers to his business reverses, can only be guessed. That he will "try, try again" to sell his sugar pellets is evidenced by the fact that he has set aside half a million dollars for a new 1911 advertising campaign. "And now abideth faith, hope and charity and the greatest of these"—when backed up with a generous advertising appropriation—is hope!

GOAT'S MILK IN MALTA

Fresh cow's milk is scarce in Malta, and most of the natives use goat's milk. According to U. S. Consul James Oliver Laing, at Valetta, there are about 10,000 milch goats in the islands. These are driven from house to house and milked in the presence of the buyer. Goats are tied at the doors of cafés and when milk is wanted for coffee the goat is milked by the owner. With a little care this method should eliminate much of the contamination of milk under the ordinary methods of handling and distribution. Though a primitive method and applicable only within narrow limits, it would seem to have some advantages. As a large proportion of the goats, however, harbor the germs of Malta fever, the foreign residents refrain from using the milk, and its use is forbidden in the British garrison. Mediterranean fever is intermittent and is one of the most feared diseases in the islands, for, if not fatal, its long duration and the ensuing debility often lead to other maladies. Attempts have been made to better conditions on the goat farms, and some progress has been made. Though milk is an excellent food, it seems to have serious disadvantages, even when drawn from original containers.

FREE MEDICAL EDUCATION

Whether or not the remedy for the most serious evils of our present method of recruiting the profession would be relieved by making medical education free, as Dr. Ferguson suggests in this issue, is an open question, and his arguments do not seem convincing. It would be most unfortunate, as President Vincent said in his address,[1] if the expense of obtaining a medical education should prevent those qualified by natural endowments from entering the profession. We doubt, however, whether this would often occur; at all events Vincent's plan of endowed scholarships is more practicable and in other respects better than the attempt to offer opportunities for free medical education without first applying some test of ability. Free medical education would certainly open the way for a still larger number of incompetents. If we are to reach our ideal of every physician being in all respects a thorough scientist and an honorable gentleman, some other method of selection of the material would be more economical and efficient than that of weeding out the applicants in a free-to-all course of medical instruction. It is a question also whether the number of unworthy and undesirable medical colleges would be diminished to such an extent as Dr. Ferguson seems to expect. A sentence in Dr. Ferguson's paper seems to be somewhat open to misunderstanding, to say the least: The scrutiny of the religious, social and political qualifications of candidates, with the popular signification of those adjectives, has a rather unfortunate sound. Of course it was understood by his hearers as it was meant, merely as a statement of the necessity that the physician should be a gentleman of good moral character.

A GERMAN VIEW OF AMERICAN MEDICAL SCHOOLS

In a recent number of the *Wiener klinische Wochenschrift*, a German-American, writing from this country, discusses medical education, especially the low-grade medical schools, and other medical conditions in this country. The *Wochenschrift* says, in an editorial note on this article:

"All who know anything about conditions in America are full of admiration for the almost model achievements and progress in all lines in that country. It is almost universally conceded that the humanitarian and especially the scientific institutions of America—almost exclusively the creation of private initiative—in the scale in which they are conceived and the perfection of their equipment, cast all that Europe has to offer in this line so much in the shade that the scientists best acquainted with the facts have not hesitated to express their concern that Europe in time will be unable to compete with them, owing to the wise liberality with which scientific research is fostered over there. All this makes it the more interesting to learn that, side by side with conditions almost unsurpassed in their excellence, abuses flourish under the protection of individual liberty—abuses so dire that it seems actually impossible to conceive of their existence, especially in connection with medical education. In the very fact, however, that the Americans themselves have had the courage and the sincerity to lay bare these abuses lies the best evidence of their moral energy and this offers, at the same time, the most certain guarantee of a speedy and radical reform."

While this hearty recognition is encouraging, such a criticism of our educational conditions is and should be mortifying to our national pride. The reasons for the present wide-spread publicity and systematic exaggeration of such abuses as do exist in the profession in America are probably not entirely understood in Germany, yet the *Wochenschrift* is unquestionably right in stating that these abuses "flourish under the protection of individual liberty," and that some of the most flagrant of these abuses are "in connection with medical education." As a people, we have not yet learned that the rights of one man end where the rights of another man begin, and that no individual has a right, even in the sacred name of liberty, to do that which is harmful to the community. The diploma mill and the commercial medical school are unknown in Europe. The ignorant but mercenary physician is justly regarded there as a grave social danger. In these directions we have much to learn from Germany. Only by the establishment and maintenance of high standards of medical education can we hope to retain the respect of other nations and to effect those "speedy and radical reforms" which conditions demand.

1. Vincent, G. E.: Standards and Authority, THE JOURNAL A. M. A., March 25, 1911, p. 894.

Medical News

ILLINOIS

Hospital Bankrupt.—The Evangelical Lutheran Association, Granite City, which owned and managed the hospital in that place, is said to have filed a petition in bankruptcy, March 31.

Personal.—The office of Dr. Joseph Pugue, Edwardsville, was burned, March 27. The building and contents were a total loss.——Fire in Clinton, March 21, destroyed the office of Dr. Joseph C. Myers.

State Sanatorium Bill.—House Bill No. 57 for a state sanatorium for tuberculosis was considered by the judiciary committee of the house of representatives, March 29. Arguments in favor of the bill were made by Representative Shurtleff and by Dr. George W. Webster, president, and Dr. James A. Egan, secretary of the State Board of Health. It is believed that the committee will approve of the bill which carries an appropriation of $500,000.

Scarlet Fever in Chicago Suburbs.—Ravinia, Highland Park, and Evanston have reported recently a number of cases of scarlet fever. In Ravinia, the cause has been traced to a grocery store, in which the postoffice is located, and in which seven children of the proprietor have been ill with scarlet fever, but not quarantined. The contents of the grocery store were confiscated by the State Board of Health and taken to the Skokie Swamp and burned. The store was closed and thorough disinfection of all infected houses was made.

Kill the Optometry Bill.—The optometry bill, House Bill 121, will lie in judiciary committee until action is taken on a similar bill in the senate, No. 140. The State Board of Health requests that the president and secretary of every county society write their senator in Springfield in the name of the society, urging that he oppose Senate Bill 140, and suggests further that the president and secretary urge as many other members as possible to write their senator at Springfield on the same line. The action that the house of representatives will take on the house bill will be predicated entirely by the action that the senate takes on the senate bill. The senate bill is now on order of second reading.

Chicago

Personal.—Dr. and Mrs. Robert H. Babcock and family have returned after two months in California.——Dr. Arthur H. Geiger sailed for Europe, March 31.——Dr. John B. Murphy has returned from a trip to Florida and is ill at his home with typhoid fever.

Health Alliance.—The Citizens' Health Alliance, which was organized in Hull House in November last, has opened permanent headquarters at Room 1202, Ashland Block, and appeals for broader membership. The object of the alliance is to com-

bat preventable disease and deaths. Dr. Hyman Cohen is at the head of the movement and Health Commissioner Evans is a member of the advisory board.

Tuberculosis Dispensary Opened.—For the benefit of persons working or living near the loop, the Chicago Municipal Tuberculosis Sanatorium has opened a downtown dispensary at the Iroquois Memorial Hospital, 87 Market Street, for the free examination and treatment of persons suspected of having, or actually afflicted with, tuberculosis. The dispensary, at present, is open on Tuesday evening from 7 to 9 and on Saturday from 2 to 4.

INDIANA

Permanent Meeting Place for Society.—At the meeting of the Madison County Medical Society, March 28, it was voted to hold all future meetings of the society at Anderson and to rent permanent headquarters in that city.

Presentation.—At the annual meeting of the Hamilton County Medical Society in Noblesville, recently, Dr. William B. Graham, the oldest practitioner of the county, was presented by Dr. Carlton H. Tomlinson, Cicero, with a gold-headed cane on behalf of the society.

New Hospital Dedicated.—On March 23, the new Schneck Memorial Hospital was dedicated at Seymour. This hospital was erected at a cost of $25,000 by Mrs. Mary Schneck in memory of her husband, Lewis S. Schneck. The institution will accommodate seventeen patients.

Society Meetings.—At the meeting of Parke County Medical Society, held in Rockville, March 14, Dr. Robert F. Hester, Bloomingdale, was elected president; Dr. Chester S. White, Rosedale, vice-president; Dr. A. Birch Lockridge, Rockville, secretary-treasurer; Dr. Reeve C. Peare, Bellmore, delegate to the state association, and Dr. Charles C. Morris, Rockville, alternate.

Personal.—Dr. Claude G. Bartlett, Lewisville, who has been ill with facial paralysis, is reported to be improving.——William R. Davidson, M.C., N. G. Ind., assigned to the Third Infantry, Evansville, has been ordered to the Mexican frontier on duty at the maneuvers.——Dr. Charles H. Parsons, Rushville, is seriously ill with paralysis.——Dr. Stanley A. Clark, South Bend, sailed for Europe, March 27.

IOWA

New Hospital for Cresco.—The new building of the St. Joseph's Mercy Hospital, Cresco, is now completed and ready to receive patients. The hospital represents an investment of $45,000, of which $15,000 was donated by citizens, in addition to the gift by Dr. George Kessel of the hospital building, its equipment and grounds. The institution was formally opened March 12.

KENTUCKY

Personal.—Dr. and Mrs. Joseph M. Mathews have returned to Louisville after a trip around the world.——Dr. J. Thomas Wallingford has been reelected health officer of Covington and Dr. L. E. Brinker, secretary of the board of health.

Officers Elected.—At the annual meeting of the Paducah Medical and Surgical Society, March 6, Dr. Oliver R. Kidd was elected president; Dr. Henry G. Reynolds, vice-president, and Dr. James T. Reddick was elected secretary-treasurer.

MARYLAND

Personal.—Dr. W. G. Ash, superintendent of the Forney Sanatorium, Mount Alto, has resigned and will be succeeded by Dr. Eben G. Alexander, Jr., of Jefferson College Hospital, Philadelphia.——Dr. J. Royer Laughlin has been appointed physician of the Bellevue Asylum, Hagerstown.

Fifty Years in Practice.—A dinner was given at the Baltimore Club, March 14, to Dr. Charles M. Ellis, Elkton, "in recognition of his completion of fifty years in the practice of medicine and in the service of his fellow men." The portrait of Dr. Ellis, painted by Julian Story, will be presented to the Medical and Chirurgical Faculty of Maryland at the annual meeting in April.

Baltimore

Grenfell in Baltimore.—Sir Wilfred T. Grenfell, of the Labrador Mission, spent last week in Baltimore, and lectured on his work in the hall of the Medical and Chirurgical Faculty of Maryland, April 1.

Personal Property of College Sold.—The personal property of the Woman's Medical College, Baltimore, which suspended a year ago on account of lack of funds to carry on the work, was sold a few days ago. The museum was bought by Dr. Anna Abercrombie, president of the alumnæ association of the college. The association, it is said, intends to maintain a memorial room in the proposed South Baltimore hospital.

Methodists Buy Hospital.—The three branches of the Methdist church, the Methodist Episcopal, Methodist Episcopal South and the Methodist Protestant, have bought from the faculty of the Baltimore Medical College the Maryland General Hospital, and will assume charge May 1. For ten years the hospital has been under the charge of the Sisters of Charity. The faculty of the college will continue in professional control.

MASSACHUSETTS

Bequests by Bishop's Widow.—By the will of the late Mrs. Amelia Worthington $5,000 is bequeathed to the House of Mercy, Springfield; $5,000 to Clarkson Memorial Hospital, Omaha; and provisionally, dependent on the death of certain relatives, $25,000 to the Children's Hospital, Boston.

Interns Draw Color Line.—Five female interns in the New England Hospital for Women and Children, Roxbury, Boston, resigned, March 22. The cause of the resignation is said to be the appointment of a colored woman as intern in the maternity department of the institution.

Bowditch Gift to Harvard.—By the will of the late Dr. Henry P. Bowditch, $4,000 in cash and all his books and scientific apparatus are bequeathed to Harvard Medical School. The money is to be added to the fund left by his father, J. Ingersoll Bowditch, the income of which is to be "expended under the direction of the professor of physiology for the purpose of original investigation."

Eminent Scientist Dies.—Mrs. Helen Henrietta Richards, instructor in the department of sanitary chemistry at the Massachusetts Institute of Technology since 1884 a pioneer scientist in industrial and sanitary chemistry, who received the degree of doctor of science from Smith College, was a bachelor and master of arts of Vassar College and a bachelor of science of the Massachusetts Institute of Technology, died at her home in Jamaica Plain, Boston, March 30, from angina pectoris, aged 68.

MICHIGAN

Honor Veteran Member.—Dr. Daniel Todd, the oldest practitioner of Lenawee County, who has been in practice sixty years, was the guest of honor at a banquet given by the Lenawee County Medical Society in Adrian, March 22.

Antituberculosis Societies.—At the annual meeting of the Houghton County Antituberculosis Society, held in Hancock, March 14, Dr. Arthur F. Fischer, Hubbell, was elected a vice-president. The treasurer reported a balance of $2,100.——Schoolcraft County Association for the Prevention and Relief of Tuberculosis, at its annual meeting, in Marquette, March 21, reported a membership of ninety, and elected officers for the ensuing year.

Personal.—Dr. Collins H. Johnston, Grand Rapids, left for Europe, March 28.——Dr. Frederick C. Warnshuis, Grand Rapids, was operated on March 24 for the removal of a growth in the nose.——Dr. Austin W. Alvord, Battle Creek, who has been ill with pneumonia, is reported to be convalescent.——Dr. Henry George, Detroit, is reported to be seriously ill in Harper Hospital with cerebral hemorrhage.——Dr. David L. Treat, Adrian, who has been seriously ill, is reported to be improving.

Society's New Home Opened.—Three hundred members of the Wayne County Medical Society attended the formal opening, March 22, of the new home of the society in Detroit, formerly the Marvin mansion, which has been remodeled and equipped at a cost of $20,000. The new home provides a reception parlor for women members of the society, rooms for meeting and club purposes, dining hall, a library containing 10,000 volumes, a clinical laboratory and the Brady room for the use of the nurses of the county.

MISSOURI

Itinerant Healer Fined.—J. C. Elliott, an itinerant healer, is said to have been found guilty of practicing medicine without a license and to have been fined $50 and costs in Milan, March 8.

Health Department Estimate.—The Hospital and Health Board of Kansas City has estimated that $325,000 will be required for the operation of the health department during

the coming year. Of this $136,000 is required by the General Hospital, $28,000 for the new contagious disease hospital and $61,000 from the health department proper.

Court Decides Will Valid.—The Supreme Court of Missouri, on March 31, sustained the validity of the will of the late Robert A. Barnes, St. Louis, who bequeathed about $3,000,000 for the erection and endowment of a hospital to be conducted under the rules and regulations of the Methodist Episcopal Church South.

New Officers.—Howard County Medical Association, at its annual meeting in Fayette, elected the following officers: president, Dr. Uriel S. Wright, Fayette; vice-presidents, Drs. Doke J. Gentle, New Franklin, and Wesley R. Hawkins, Glasgow; secretary-treasurer, Dr. Charles W. Watts, Fayette; delegate to the state association, Dr. Joel Y. Hume, Armstrong, and censors, Drs. Charles O. Lewis, Vaughan Q. Bonham and Andrew W. Moore, all of Fayette.

Personal.—Dr. Isaac R. Lane, Mountain Grove, is seriously ill in Alexian Brothers' Hospital, St. Louis.——Dr. Gustav B. Schultz, Cape Girardeau, has been appointed a member of the State Board of Health.——Dr. John C. Edwards, O'Fallon, is reported to be ill at his home.——Dr. Mason C. Alderman, Sedalia, is seriously ill with heart disease.——The trial of Dr. Fred W. Brown, Billings, charged with performing a criminal operation, resulted in complete vindication of the defendant, March 9, when the circuit court judge gave peremptory orders to the jury to bring in a verdict of not guilty.

St. Louis

Red Cross Endowment Fund.—The St. Louis Committee on Endowment of the American Red Cross reports that $53,159.20 have been contributed of the $70,000 apportioned to the city.

Tuberculosis Commission Resigns.—The Municipal Commission on Tuberculosis resigned as a body, March 27, considering that its work had been completed with the establishment of the Robert Koch Hospital.

Fake Physician Fined.—Annibale Inverso is said to have been fined $50 and costs on each of three charges of practicing medicine without a license, March 23. In default of payment of fine he was committed to jail.

Intern Examination.—At the meeting of the City Hospital Board, March 29, Hospital Commissioner Morfit announced that 94 out of the 106 applicants had passed the examination recently conducted for internes in the City Hospital.

Personal.—Dr. Albrecht Collasowitz has returned from abroad.——Dr. Otto A. Wall, Jr., has succeeded Dr. Albert E. Taussig as editor of the *Weekly Bulletin of the St. Louis Medical Society*, and Dr. Grandison D. Royston has been made associate editor.——Dr. Hugo M. von Starkloff is reported to be seriously ill with appendicitis at St. Anthony's Hospital.——Dr. C. W. Gould, assistant bacteriologist of St. Louis, is reported to be ill with heart disease.

MISSISSIPPI

Personal.—Dr. Vincent Bonelli, Vicksburg, has succeeded Dr. Ewing F. Howard, Vicksburg, resigned as secretary of the Warren-Claiborne County Medical Association.——Dr. B. J. Marshall, Europa, has been elected head counsel of Mississippi Woodmen.——Dr. Sherwood R. Towns, Union Church, has been elected secretary of the Jefferson County Medical Society, vice Dr. John H. Carradine, Fayette, resigned.——A nurse who attempted to shoot Dr. Robert L. Turner, Meridian, two months ago, because of a disagreement is said to have been fined $500.

Society Meetings.—Clarksdale and Six Counties Medical Society held its semi-annual meeting in Clarksdale, March 22. The following officers were elected: president, Dr. Aaron G. Everett, Friar Point; vice-presidents, for Bolivar County, Dr. F. M. Duley; for Coahoma County, Dr. William W. Stuart, Clarkesdale; for Tunica County, Dr. Daniel W. Coker, Tunica; for Quitman County, Dr. Samuel C. Cowan, Sabino; for Tallahatchie, Dr. Sylvanus W. Robinson, Pisgah; and for Sunflower County, Dr. William B. Harrison, Crawford; secretary-treasurer, Dr. Thomas W. Dye, Longwood; censor, Dr. Robert L. Mercer, Shelby; and delegates to the state association, for Bolivar County, Dr. A. M. Wynne, Merigold; alternate, Dr. Thomas D. Allen, Shaw; for Coahoma County, Dr. T. G. Hughes, Clarkesdale; alternate, Dr. E. L. Hooper; for Quitman County, Dr. Frederick M. Brougher, Belen; alternate, Dr. Cyril J. Marshall, Lambert; for Sunflower County, Dr. Richard C. Smith, Potter; alternate, Dr. W. G. Boyd; for Tallahatchie County, Dr. T. F. Clay; alternate, Dr. John A. Harris, Webb; and for Tunica County, Dr. Morris J. Alexander, Tunica; and alternate, Dr. M. L. Minor.——At the annual meeting of the Lauderdale County Medical Society, held in Meridian, Dr. James M. Guthrie was elected president; Dr. George W. Stephens, vice-president; Dr. Samuel H. Hairston, secretary-treasurer; and Dr. William W. Reynolds, delegate to the state association, all of Meridian.

NEBRASKA

Home from Abroad.—Dr. Charles C. Morrison, Omaha, has returned after several months postgraduate work in London.——Dr. Adolph Sachs, Omaha, has returned after twenty months' study in Berlin and Vienna.

Journal Stockholders Meet.—The stockholders of the *Western Medical Review Company* met in Omaha, March 21, and elected the following directors: Drs. August F. Jonas, Frank E. Coulter, Henry F. Akin, Henry L. Burrell and Harold Gifford, all of Omaha.

State Association Meeting.—The Nebraska State Medical Association will hold its annual meeting in Omaha, May 2-4. Dr. John P. Lord has been made chairman of the committee on clinics; Dr. Louis B. Bushmann, chairman of the committee on management; and Dr. Alfred Schalek, chairman of the committee on entertainment.

NEVADA

Abortionist Sentenced.—Dr. Frederick Hugo Wichman, Reno, charged with causing the death of Mrs. Emma J. Ross by an illegal operation in October last, is said to have been found guilty, March 17, and sentenced to imprisonment for eight years in the Nevada Penitentiary. Motions for new trial and for appeal were argued and denied.

NEW YORK

Fire in State Institution.—Fire on April 2, practically destroyed the Northern New York Institution for Deaf Mutes, Malone, causing a loss of about $135,000. The 100 inmates of the institution marched out of the building without panic or injury just before an explosion occurred.

Medical Club Election.—The Utica Medical Club, at a meeting, March 16, elected Dr. Faust S. DeLong, president; Dr. Raymond L. Baker, vice-president; and Dr. Lewis B. Amsfry, secretary-treasurer. Dr. John Gromann, the president, entertained the club and delivered an address on "Chronic Urethritis."

State Board of Charities.—The board reports that the total number of persons supported by the state during 1910 in the state and reformatory institutions was 11,874. Of this number, 3,001 were discharged and 485 died, leaving on the state's hands 8,388 persons. The total value of property in these institutions is $10,303,899.

Medical Journal to be Offered for Sale.—By the will of the late Dr. William Warren Potter, Buffalo, his estate is left to Miss Margaret Bowden, his secretary and chief assistant for twenty-five years. The principal asset of the estate is the *Buffalo Medical Journal*. The will provides that the *Journal* shall first be offered for sale to the medical department of the University of Buffalo.

Celebrate Semicentenary.—On March 31, Schuyler County Medical Society gave a dinner at the Glen Springs, Watkins, in honor of the fiftieth anniversary of the graduation of two of its members, Drs. Charles D. Clawson, Montour Falls, and Gideon O. Smith, Odessa. After the dinner, Dr. Clawson gave "Reminiscences of a Student of Fifty Years Ago," Dr. Smith read a paper entitled "The Recollections of a Young Practitioner Fifty Years Ago," and the Hon. O. P. Hurd, Watkins, made an address on "The Experiences of a Patient Fifty Years Ago."

The Blackwell Memorial.—At the recent annual meeting of the Woman's Medical Society of New York State, resolutions were passed regarding the recent deaths of Drs. Elizabeth Blackwell, Hastings, England, and Emily Blackwell, New York City, who are recognized as pioneers in the study and practice of medicine, and who by their persevering efforts opened the way for other women to enter that field. The society expressed its deep respect for and appreciation of the character and work of the Drs. Blackwell, its indebtedness to them, and its earnest desire to carry forward the work so nobly begun by them.

New York City

Building for Public Health Service.—The United States Government has awarded the contract for a building to serve as quarters for assistant surgeons of the Public Health and Marine-Hospital Service, Staten Island.

Bequest to Cornell.—The late Dr. Samuel Alexander bequeathed all his surgical instruments and pathologic and anatomic preparations to Cornell University Medical Department.

Personal.—Dr. Reginald Pickett, ambulance physician of St. Vincent's Hospital, Staten Island, was thrown from the ambulance in a collision with an automobile, March 17, and was seriously injured.——Dr. Joseph P. Sheridan, diagnostician of the Queen's Borough branch of the board of health, has resigned, to take effect April 1.

Gifts to Hospitals.—Frederick W. Beinhauer who died recently, provided in his will that on the death of his wife, his real property, less specific bequests, be divided equally between the Presbyterian and German hospitals and St. John's Guild.——Alfred M. Heinsheimer has given $10,000 to the Hospital for Deformities and Joint Diseases as an endowment fund to aid in the equipment and maintenance of the institution.

Fund for Hungarian Hospital.—A new hospital for the benefit of the large Hungarian population of New York City is to be erected on the upper East Side. An option has been secured on several corners between Eightieth and Eighty-Fifth Streets and a large part of the $300,000 for the proposed structure has been subscribed. Plans have been prepared for a nine-story building of steel reinforced by concrete. It is expected that the hospital will be ready for occupancy by the fall of 1912.

Condemnation of Contaminated Food.—Acting under special orders from Health Commissioner Lederle, inspectors of the department of health began, on March 29, active enforcement of Section 46 of the sanitary code, which provides for the shielding of food from dust, dirt, flies and other contamination. The activity of the inspectors was directed especially against street vendors of candy, on whose stands were found large quantities of confectionery exposed for sale in uncovered, unprotected condition.

Gift to Hospital.—Among the many bequests to religious and charitable institutions made in the will of Mrs. Frances Swan Welles is one of $10,000 to the Presbyterian Hospital to provide a permanent fund, half the income from which is to be used to brighten the lives of the nurses in that institution and the other half to brighten the lives of the patients in the general wards. Other bequests were $5,000 to the Bryson Day Nursery and $5,000 to the Belknap Summer Home for Day Nursery Children, Far Rockaway.

Public Drinking Cups Must Go.—Believing the public drinking cup to be a carrier of infectious diseases, the Board of Health has adopted an additional section to the Sanitary Code which will make it unlawful after October 1, 1911, to have what is known as a "common drinking cup" in any public building, institution, factory, theater, school, railroad station or ferry house in the city. The health department is not recommending any special device to take the place of the drinking cup, but experiments by the department have shown that certain stock fixtures can be so arranged as to comply with the requirements of the new ordinance.

Sage Institute Out of City Charities.—The Russell Sage Institute of Pathology, which was founded in 1907 when Mrs. Sage gave $300,000 for pathological research work in connection with the hospitals and charitable institutions on Blackwell's Island, has resolved to terminate the agreement existing with the Public Charities Department and to withdraw its pathologists from the City Hospital and the City Home. Mr. Drummond, Commissioner of Charities, has asserted that the Institute of Pathology used city money without proper supervision on the part of the city; while on the other side the directors of the institute asserted that there was too much politics mixed with the administration of affairs on the island.

NORTH CAROLINA

Hospital News.—A new city hospital will soon be erected in Tarboro.——The new Rutherford Hospital was formally dedicated, March 10. Dr. Joseph Price, Philadelphia, delivered the principal address and held a clinic.——The new infirmary building of the State Normal College for Women, Greensboro, has been completed.

Personal.—The governor has reappointed Dr. Robert H. Stancell, Margarettsville, director of the State Hospital for the Insane, Raleigh, and Dr. William E. Headen, Morehead City, director of the State Hospital for Colored Insane, Goldsboro.——Dr. Isaac H. Faust, Salisbury, has given up the practice of medicine.——Dr. Francis J. Clemenger, Asheville, has been commissioned as captain of the Medical Corps of the National Guard.——Dr. Robert L. Caveness, Coleridge, has been elected president of the Siler City Loan and Trust Company.——Dr. Berte O. Edwards has been elected president of the Merchants and Farmers Bank, Landis.

Work of the Legislature.—In the last session of the legislature the following work of interest to physicians was accomplished: The bill approved by the state medical society and the State Board of Health, requiring a four years' high school course or its equivalent for candidates for medical license, passed the house but was defeated in the senate. This is the third time this measure has been defeated in the legislature. ——The appropriation for the work of the new State Board of Health has been increased from $8,000 to $22,000. The board is also to receive about $4,000 as a tax on water companies, and will also save about $4,000 by the agreement of the state to print its *Bulletin* and other publications.——The county sanitary committee has been abolished, and in place thereof there has been created the county board, consisting of the chairman of the board of county commissioners, mayor of the county town, county superintendent of schools, and two physicians elected by them. The board elects the county superintendent of health who may act as quarantine officer if so desired.——State quarantine of small-pox has been abolished, but local quarantine of counties is left optional.——An act was passed creating a board of nine trustees and providing funds for the building and equipment of a state institution for the feeble-minded. Drs. Lewis B. McBrayer, Asheville; Alfred A. Kent, Lenoir; Ira M. Hardy, Washington; and Robert N. Cartwright, Fairfield, have been appointed members of the board.

NORTH DAKOTA

New Hospitals.—The Ward County Hospital controversy has been settled by turning over the hospital to a hospital association organized by the physicians and business men of Minot.——Dr. Arnt G. Anderson has established an eight-room hospital at Hillsboro.

Meeting of State Antituberculosis Association.—At the annual meeting of the North Dakota Antituberculosis Association, held in Bismarck, Dr. James Grassick, Grand Forks, delivered the annual address, giving a brief review of the work of the association for the past year. The association decided to enlarge the state tuberculosis exhibit, and accepted April 30 as Tuberculosis Sunday. It was reported that nearly 80,000 Red Cross seals were sold during the holidays. The following officers were reelected: president, Dr. James Grassick, Grand Forks; vice-presidents, Mrs. H. L. Bolley, Fargo, and Drs. Victor J. LaRose, Bismarck; Victor H. Stickney, Dickinson, and Andrew Carr, Minot; secretary, Dr. Fannie Dunn Quain, Bismarck; and treasurer, Mrs. J. E. Stevens, Grand Forks.

OHIO

New Department of State Board.—Through the efforts of Dr. Frank Warner, Columbus, the department of epidemiology has been established in cooperation with the State Board of Health for the control and prevention of epidemic diseases.

Plans for Sanatorium Accepted.—The final plans for the joint tuberculosis sanatorium to be erected by Columbiana, Stark, Mahoning, Portage and Summit Counties, have been accepted by the trustees. The sanatorium will be located on the Bixler farm near Akron.

Old Physicians Honored.—About eighty physicians of Montgomery Medical Society were present at a banquet in Dayton, given in honor of Drs. James M. Weaver, Dayton, and Samuel Souders, Dean, in celebration of the fiftieth anniversary of their medical practice. Dr. Souders was unable to attend the banquet on account of ill health. Dr. Horace Bonner was toastmaster. Dr. John S. Beck spoke on "Our Guests," and Dr. John C. Reeve, dean of the profession in Dayton, gave "The Greet of a Veteran Comrade."

Personal.—Dr. Harry D. Belt, Kenton, has sailed for Europe. ——Dr. Michael A. Bartley has succeeded D. Rush Robinson, resigned, as district physician of the west side of Columbus. ——Dr. Myron S. Clark has been reelected president of the board of health of Youngstown.——Dr. Arlington C. Holland, Marion, chief statistician of the state registrar of vital statistics, will, it is said, succeed Dr. Fred L. Watkins, Columbus, in that position.——Dr. W. Dallas Hoyer, health officer of Sandusky, has resigned and has been succeeded by Dr. Hiram D. Peterson.

Health Official Exonerated.—At a meeting of the board of health of Lorain, March 15, a resolution was adopted exonerating Dr. William A. Pitzele of the charges made against him by Dr. William F. Dager of connivance with local midwives. The board concluded that Dr. Pitzele was innocent of any wrongdoing, or breach of professional courtesy, and that he had

done nothing deserving censure or in any way reflecting on his professional or personal integrity or honesty. The board also found that the action taken by Dr. Dager in the matter would have been fully justified had the information which he received been founded on facts.

Cincinnati

Personal.—Dr. Sigmund Wolf has been appointed physician to the Municipal Lodging House.——Dr. Clarence Bahlman has succeeded Dr. Franklin H. Lamb, resigned, as chemist and bacteriologist to the Cincinnati Board of Health.——Dr. Robert D. Maddox has been appointed a member of the orthopedic staff of the City Hospital.

Buildings of Contagious Group Opened.—On March 25 and 26, six new buildings of the contagious group of the Cincinnati Hospital were opened for public inspection. At a meeting of the board of hospital commissioners, last week, the specifications for the entire group of eighteen buildings were approved unanimously. These buildings are in addition to the six of the contagious group just completed, and will cost in the neighborhood of $1,850,000. In addition to wards for patients there will be administration building, receiving ward, nurses' dormitory, kitchen and dining room, room for women employees, operating building, power and laundry building, and stable and garage. The pathologic building will be five stories in height and will include a morgue, chapel and teaching department.

PENNSYLVANIA

Oppose Antivivisection Bills.—A hearing on the antivivisection bills took place before the house health and sanitation committee, representatives of the various medical schools appearing against the bills. Among these were Drs. Alfred Stengel, David Riesman and A. E. Taylor, University of Pennsylvania; Seneca Egbert and Joseph McFarland, Medico-Chirurgical; R. A. Remington, Philadelphia College of Pharmacy, and State Veterinarian, C. J. Marshall.

Governor Favors Change in Medical Bill.—Governor Tener favors reconstructing the present medical bill. The provisions of the new measure will be substantially those of the Gerberich-Wasson measure now in the committee of health and sanitation in the senate. An amendment will be proposed to the bill to definitely fix the compensation of the examining board. This board will be composed of the state commissioner of health, the state superintendent of public instruction and five others to be appointed by the governor. Of these latter, there will be one member of each branch, regular, eclectic and homeopathic. The remaining two will not be members of the same school.

Philadelphia

Gift to Hospital.—The Rush Hospital for the Treatment of Consumption has been given $5,000 by Mr. John Wanamaker for the endowment of a free bed.

Elections.—The following officers for 1911 were elected at the last meeting of the Jefferson Hospital Clinical Society: president, Dr. Hobart A. Hare; vice-president, Dr. Frederick J. Kalteyer; secretary, Dr. Elmer H. Funk; treasurer, Dr. Clarence D. Smith, and executive committee, Drs. Aller G. Ellis, P. Brooke Bland, Edward J. Klopp and Edward J. G. Beardsley.

Gifts to College of Physicians.—At the stated meeting of the College of Physicians, April 5, Dr. John B. Shober read a memoir of the late Dr. George Couvier Harlan, after which a portrait of Dr. Harlan was presented to the college on behalf of the daughter, Mrs. Harry Post Mitchell.——A portrait of Dr. James Tyson was also presented by Dr. George A. Piersol on behalf of the donors.——Another gift to the college was an acupuncture needle and a lancet, used by native Korean physicians.

Dr. Scott Memorial.—Ten thousand dollars has been contributed to the University of Pennsylvania to establish a memorial to the late Dr. J. Alison Scott, adjunct professor of medicine in that institution. This memorial will take the form of a fellowship for medical research. Of the interest money $200 will be spent each year to help some medical student to finish his course, while the remainder will be reinvested until the entire sum is large enough to support a physician, able to do research work.

Important Notice to Physicians.—The following postal card notice was sent to all physicians of the city from the Registration Office of the Bureau of Health:

> The Pennsylvania State Department of Health, conjointly with the Philadelphia Bureau of Health, is taking a block census of children under 2 years of age born in Philadelphia. This work will henceforth continue regularly. Where unregistered births are discovered an immediate prosecution will be instituted against the physician, midwife, institution or person found to be negligent. This notice is intended as a warning—that the law requiring the registration of all births within ten days of their occurrence will be absolutely enforced in every instance. Stillbirths must be registered both as births and deaths.

Efforts to Overturn Pure Food Laws.—An attempt to overthrow the pure food laws of the state by permitting the use of sulphur dioxid in the manufacture of candy, was disclosed in a bill presented to the legislature by Representative Edwin A. Abbott, March 30. This bill makes the second attempt within a short time to overturn the pure food laws. The first bill introduced by Senator James P. McNichol provided that saccharin might be used in "soft drinks," while the Abbott bill amends the present pure food law by allowing the use of sulphur dioxid in the manufacture of candy.

GENERAL NEWS

Association for the Study of Epilepsy.—The National Association for the Study of Epilepsy and the Care and Treatment of Epilepsy will hold its annual meeting in St. Louis, June 16, under the auspices of the St. Louis Medical Society. This date has been set so that members may attend the Denver meeting of the American Medico-Psychological Association, and still reach Los Angeles in ample time for the meeting of the American Medical Association.

Threatens Marine Hospital Surgeon.—The surgeon general of the Public Health and Marine-Hospital Service has received a report from Surgeon Henry D. Geddings, on duty at Naples, to the effect that his life has been threatened because of his activity in the cholera situation. Geddings has received anonymous letters threatening his life and has been pelted with vegetables and decayed fruit. The situation became so disagreeable that the authorities of Naples have furnished him with a guard.

Prevention of Infant Mortality.—The second annual meeting of the American Association for the Study and Prevention of Infant Mortality will be held in Chicago, November 16-18. The work of the association will be in six sections: Midwifery, Dr. Mary Sherwood, Baltimore, chairman; eugenics, Prof. H. O. Jordan, University of Virginia, chairman; public school education, Dr. Helen C. Putnam, Providence, R. I., chairman; housing, Mr. Lawrence Veiller, New York City, chairman; milk, Prof. E. O. Jordan, University of Chicago, chairman; and rural communities, Dr. Edward W. Saunders, St. Louis, chairman. Special reports will be made on the relative value of existing agencies in infant welfare work and on the work being carried on in this country, Great Britain and continental Europe in the prevention of infant mortality.

International Medical Congress.—The Seventeenth International Medical Congress will be held in London in the summer of 1913, the exact date being fixed by the permanent committee which will assemble in London, April 21 and 22, under the presidency of Dr. Frederick W. Pavy, London. At this meeting a list of the sections of the congress will be arranged. Any wishes or suggestions concerning the arrangement of this list may be sent, up to April 1, to the secretary of the permanent committee, Prof. H. Burger, Vondelstraat, I, Amsterdam, Holland, or to the bureau of the committee, Hugo de Grootstraat, 10, The Hague, Holland. The committee will also be glad to receive before that date, any information or suggestions regarding the organization of the congress. This is the first time any international medical congress has been organized with such broad preliminary work, and it is hoped to get out of ruts and the influence of traditions and to make the congress represent the advance of science in congresses as well as in the science for which the meeting stands. The appeal of the committee for suggestions should be heeded. Dr. John H. Musser, 1927 Chestnut Street, Philadelphia, the American member of the permanent commission, expects to attend the meeting of the commission in London and will be glad to present any suggestions made by the readers of THE JOURNAL.

FOREIGN NEWS

Sanitary Progress in Latin America.—The little island of Curaçoa, just north of the most northern point of South America, is a gateway to Porto Rico and the Panama Canal Zone; consequently it is satisfactory to learn that the colonial government has made strenuous efforts to exterminate rats. The war of extermination was instituted last year when plague appeared at the two principal ports of Venezuela to the south. Cable despatches also state that the city of Guayaquil, the main port of Ecuador on the Pacific Coast, has engaged engineers to install a new drainage and water-supply system and rebuild portions of the city to place it in first-class sanitary condition. Eight millions have been appropriated for this purpose. The way in which Buenos Aires is handling the rat question was described in these columns March 18, page 824.

Rio de Janeiro has been transformed in the last few years so that it now ranks among the healthiest cities in the world. Oswaldo Cruz, who had charge of the sanification of Rio, is now engaged in a similar task at Para, at the request of the city of Para, which is near the mouth of the Amazon River and is the headquarters of the Brazilian rubber trade. Cruz took with him ten leading sanitarians besides an office force and seventy aids. The entire force is under contract to the state of Para and the task of sanification is now well under way. In all the reports of the progress of sanitation in Latin America there is always some reference to the "Americans" having blazed the way—it is certainly curious how the countries to the north and south of the United States unanimously restrict the term "Americans" to the people of this country. The people of the United States have never arrogated to themselves the exclusive title of "Americans," but our neighbors north and south seem to have voluntarily thus crowned us.

Deaths in the Profession Abroad.—In addition to those already mentioned in our foreign correspondence, the following eminent physicians have died recently: J. dos Santos, Viscount de Ibituruna, the Nestor of the physicians at Rio de Janeiro and long a leader in preventive medicine, president of the Brazilian Liga contra a tuberculose, formerly president of the city council and of the board of public health, aged 83.——C. van Cauwenberge, professor of gynecology and obstetrics at the university of Ghent.——At Lima, Peru, F. A. Suter, professor of surgery, aged 37. He was called to this post from Switzerland in 1908.——W. F. Sprimon of Moscow, founder in 1881 and editor of the leading Russian medical monthly, *Medizinskoe Obozrenie.*——M. Nery, professor of nervous and mental diseases at the University of Rio de Janeiro and on the editorial staff of the *Brazil Medico.*——C. A. MacMunn of Wolverhampton, Eng., well known for his physiologic research, especially the application of the spectroscope to physiology, author of "The Spectroscope in Medicine" and of other works on physiologic and pathologic chemistry, aged 58.——Arthur Frame Jackson, M.B., 1909, Cambridge and Liverpool; D.T.M., 1910, Liverpool; a young medical missionary of great promise, a member of the staff of the Presbyterian Hospital, Mukden, Manchuria, and in charge of the section of that city in which 80 per cent. of the deaths from bubonic plague have occurred, contracted that disease January 23, and in spite of injections of Yersin's serum, and all that medical science could do, died January 25, aged 26. At the memorial services held in the British Consulate General, Mukden, February 1, Hsi Liang, viceroy of Manchuria, paid the following tribute to the work and memory of Dr. Jackson:

> We have shown ourselves unworthy of the trust laid on us by our emperor; we have allowed a dire pestilence to overwhelm the sacred capital. His majesty the king of Great Britain shows sympathy with every country when calamity overtakes them. His subject, Dr. Jackson, moved by his sovereign's spirit, and with the heart of the Savior, who gave his life to deliver the world, responded nobly when we asked him to help our country in its need. He went forth to help us in our fight; daily, where the pestilence lay thickest, midst the groans of the dying, he struggled to cure the stricken, to find medicine to stay the evil.
>
> Worn by his efforts, the pestilence seized on him, and took him from us, long ere his time. Our sorrow is beyond all measure, our grief too deep for words. Dr. Jackson was a young man of high education and great natural ability. He came to Manchuria with the intention of spreading medical knowledge and thus conveying untold blessing on the eastern peoples. In pursuit of his ideal he was cut down. The Presbyterian mission has lost a worker of great promise, the Chinese government a man who gave his life in his desire to help them.
>
> O, spirit of Dr. Jackson, we pray you intercede for the 20,000,000 people in Manchuria and ask the Lord of heaven to take away this pestilence, so that we may once more lay our heads in peace on our pillows. In life you were brave, in death you are an exalted spirit. Noble spirit, who sacrificed your life for us, help us still and look down in kindness on us all.

LONDON LETTER

(From Our Regular Correspondent)

London, March 25, 1911.

A Novel Doctrine of Ventilation

At the Institution of Heating and Ventilating Engineers, Mr. Leonard Hill, the eminent physiologist, described a remarkable series of experiments which he and his staff at the London Hospital have made, and which have led to a doctrine of ventilation that is a complete revolution. He began by referring to evidence which he gave before a royal commission on the conditions of weaving sheds. In these sheds there must be a high degree of humidity. The health authorities insist that the percentage of carbon dioxid must not rise above the usual amount allowed, say 10 parts in 10,000, but the work people want the sheds to be shut up and "stew in their own juice," so to speak. They wanted to get the requisite humidity from their own breaths rather than from admission of warm vapor. Now, curiously, the regulations, while forbidding more than a certain amount of carbon dioxid, did not prescribe any limitation of the wet-bulb temperature. But Mr. Hill found that carbon dioxid does not do any harm whatever, while a wet-bulb temperature of 75 degrees is very bad and ought not to be tolerated in any factory. All the current teaching of the hygiene of ventilation runs on the chemical purity of the air; but according to Mr. Hill the essential thing in ventilation is heat, not chemical purity. It does not matter if there is 1 per cent. more carbon dioxid and 1 per cent. less of oxygen. In the worst ventilated rooms there is not 1 per cent. less of oxygen. The only effect of an excess of carbon dioxid is to make one breathe a little more deeply. A much higher amount has to be attained to have any toxic effect. As to organic impurities derived from respiration, there is no physiologic evidence of their toxicity or that they are of any importance except as an indicator of the number of bacteria in air. Chemical purity of the air is desirable in order to diminish the chance of infection, but in halls and theaters there is very little chance of preventing infection from persons who sneeze or cough out thousands of bacteria. Even when a man is speaking, he is spraying out bacteria in front of him. The really important thing is immunity to such bacteria. In the case of water-borne disease we can prevent infection but not in the case of air-borne disease. The way to keep air best from the physiologic point of view is shown by the following experiment performed by Hill at the London Hospital: Into a small chamber which holds about 3 cubic meters he put eight students and sealed them up. They got into the chamber joking and lively. At the end of half an hour the wet-bulb temperature had risen to 85 F. They had ceased to laugh and joke and their faces were congested. The carbon dioxid had gone up 4 or 5 per cent. and the oxygen down to a corresponding extent. Hill then put on three electric fans and merely whirled the air about just as it was. The effect was like magic; the students at once felt perfectly comfortable, but immediately the fans stopped they felt as bad as ever. In another experiment, a man in the chamber breathed through a tin of soda lime so that he got no carbon dioxid. When the wet-bulb temperature rose to 85 degrees sweating and discomfort came on, just as in the first experiment, and when the fans were turned on he got the same relief. Then a bag containing carbon dioxid was connected with the chamber and enough of the gas was admitted to raise the percentage of carbon dioxid to 2 per cent. The man in the chamber felt no ill effects whatever and even did not know that the gas had been admitted, but he was observed to breathe more rapidly. These experiments, Hill asserts, show that all the discomfort from breathing air in a confined space is due to heat and moisture and not to carbon dioxid. Even after forty-five minutes in the chamber there were no after-effects such as headache. In a crowded room, the air is at the body temperature and there is no circulation; therefore it becomes saturated with moisture and we have no means left of keeping the body temperature down. We cannot radiate heat because we are of the same temperature. We cannot lose heat by evaporation because the air is entangled among our bodies and cannot get away. Then the heat-regulating mechanism is strained and in order to keep the body temperature down the heart has to beat very much faster and we feel miserable, but as soon as the air is made to move relief is given. Mr. Leonard Hill concludes, therefore, that when it is not possible to keep the air of a building up to the chemical standard of purity laid down in the text-books the proper course is to keep the air moving. In weaving sheds the wet-bulb temperature must be kept below 75 F. There are mines in Cornwall in which the wet-bulb temperature is often up to 90 F. and the men do not do an hour's work in the day; they drink enormously and pour the sweat out of their boots. The open air treatment that is so much talked about is not, he declares, a matter of fresh air, it is merely the constant cooling of the body by the circulation of air which makes us eat more and be more active. This leads to a general strengthening of the body because the blood is not only circulated by the heart but by every muscle in the body. There cannot be efficient circulation without constant movement and activity. If there is constant cooling by ventilation then a person is kept more active and the general health is improved.

Sir Francis Galton's Bequest for the Study of Eugenics

Sir Francis Galton, notice of whose death appeared in The Journal, February 4, p. 359, made a remarkable bequest of residuary estate, which is expected to amount to $325,000, for the advancement of eugenics, the science of race improvement, which he initiated in 1901. The money is to be used to endow

a "Galton Professorship of Eugenics" at the University of London, with a laboratory and a library attached thereto. According to the words of the testament: "It shall be the duty of the professor to pursue the study and further the knowledge of national eugenics, that is, of agencies under social control that may improve or impair the racial faculties of future generations physically and mentally." The professor will be expected to collect material bearing on eugenics, to provide, under appropriate restrictions, information to private individuals and public authorities concerning the laws of inheritance in man; to urge the conclusions as to social conduct which follow from such laws, and to extend the knowledge of eugenics by instruction, publications, lectures and experimental or observational work. Sir Francis Galton left property to the gross value of $575,000. Thus, he left more than half of his estate for the advancement of the subject he had so much at heart. He also expressed the desire that the first holder of the chair should be Prof. Karl Pearson, the well-known protagonist of biometric methods, who shall have liberty to continue his biometric laboratory at University College.

The Small-Pox Epidemic

The small-pox epidemic in London appears to be at an end. No fresh cases have been reported for a fortnight. An outbreak of small-pox occurred at Bury in Lancashire, and there are now twenty-five patients in hospital. The outbreak has been traced to a mill in which all the affected people were employed. The mill has been closed in consequence of the operatives declining to work. The warps and weft in several looms have been ordered to be destroyed and about 3,000 finished pieces of cloth have been disinfected.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, Feb. 13, 1911.

Effect of Tropical Climate on White Men

For all time, the discussion of any phase of the general topic, the effect of the tropics on the white man, doubtless will attract more or less attention. This effect, which is at once apparently so evident, and yet at the same time so difficult to prove absolutely, is bound to give rise to a great deal of scientific, semiscientific and popular discussion. That one does undergo a change in himself after coming to tropical Oriental countries is universally admitted. But whether this change is for good or bad in many cases might be open to doubt. A great deal depends on the personal element, one's former habits and environments and the habits, environments and associations which he falls into or acquires in the hot climate. For instance, for many Americans who are given to too much of the so-called American hustle, a temporary residence in the tropics is likely to prove directly beneficial. On first arriving in the tropics from a temperate climate a man finds himself burdened with a great desire for sleep—long hours of sleep at night and a nap after lunch. Any strenuous exercise quickly exhausts him, and tennis is very often the limit of his powers of exertion. This condition does not obtain usually more than three or four months, and he feels himself normal again, capable of much more exercise, and work ceases to be a burden, although in the meantime he has probably adjusted his activities to a slower pace.

The agents which are responsible for this effect, and for the more obscure and serious effects believed by many to be experienced by persons from temperate climates who remain in the tropics for a long time, are still unknown. The intense heat, the prolonged hot season, the glare of the tropical sun and the actinic rays of the tropical sun all have been indicted. Recent physical experiments made at the Bureau of Science, Manila, tend to rule out the actinic rays. In regard to the actinic rays, there have been made also in the U. S. Army in the Philippines, by the Tropical Diseases Board, a series of observations on soldiers wearing orange-red underwear. Cloth of this color had been supposed to be relatively impervious to the actinic rays of the sun. Hence, people wearing orange-red clothing would be almost immune to this supposedly injurious tropical agent. The following report has been made:

"During the quarter, the tests of the orange-red underclothing, which have been under way for over a year, were completed, and the work of compiling the great amount of data obtained from these observations was carried out by Captain James D. Phalen of the Medical Corps, who has submitted an extensive special report on the subject. A summary of the work is as follows:

"The test of the orange-red underwear and hat linings was undertaken as a result of recommendations by the Inspector-General of the Army. The garments were prepared at the Philadelphia depot of the Quartermaster Department, and were of a deep orange-red color. The shirts averaged one-fifth of an ounce heavier than the white ones worn by the controls. The orange-red drawers were of a different type from the white ones and averaged 1 1/5 ounces heavier. The garments faded materially on washing, especially if exposed to the sun while drying. However, the inner surface retained much of the dye, and it is not thought that the fading was so great as to destroy the value of the tests.

"It had been intended to equip 1,000 men with the special underwear and an equal number of controls with white, but owing to inability to fit sufficient men from the 5,000 suits furnished, it was found impossible to equip over 500 with the orange-red garments. The tests were carried out under the immediate supervision of the following medical officers at the posts shown after their names: Major C. C. Collins, Fort McKinley, Rizal, P. I.; First Lieutenant C. L. McKinney, Camp Stotsenburg, P. I.; First Lieutenant H. A. Philips, Camp Jossman, Guimaras, P. I.; First Lieutenant C. D. Cowles, Jr., Zamboanga, Mindanao, P. I.

"The men wearing the special clothing and the controls wearing the white were taken from the same companies, which were equally divided in such a way as to make the two groups as nearly as possible equal in physique. Those with long tropical service, or who were exceptionally weak, were excluded.

"The experiment was kept up during the calendar year of 1909, and a summary of the results are as follows:

"(1) Weight:—There was a loss of weight during the year in both groups of men, more marked in the mid-year (hot season) weighings, a certain amount of the mid-year loss being made up by the end of December. The loss of weight at the mid-year observations was greater by an average of 1 pound for the orange-red group men than for the control group. At the end of the period of observation there was no difference of weight in the two groups.

"(2) Blood Examinations:—The result in both groups agreed in character if not in degree with those of Captain Wickline of the Medical Corps, showing an increase above normal in the number of red cells and a decrease in the percentage of hemoglobin, the hemoglobin index being necessarily still more diminished. The increase of red cells and the decrease of hemoglobin were both more marked in the orange-red group than in the controls. Both this change and the greater loss in weight, referred to above as the lower blood-pressure mentioned below, may have been due to increased perspiration on the part of the orange group during the hot season.

"(3) Blood-Pressure:—The blood-pressure of both groups fell during the hot season, the fall being slightly more marked in the orange-red group. In December the pressure in both groups returned to practically the original point.

"(4) Pulse, Temperature and Respiration:—These were taken after drill or other exercises, 8,000 observations being made. Averages for 1,500 observations are shown in the following table:

Orange-red group	98.792	91.2	22.3
White group	98.780	90.9	21.3

"It will be seen that each is higher for the orange-red group than for the controls, but the differences are very slight.

"(5) Comparative:—Sick reports showed insignificant differences. The admissions per 1,000 and the days lost per 1,000 were, respectively, 508 and 3,526 for the special group, and 478 and 3,522 for the white group. The admissions per 1,000 for heat exhaustion were higher for the orange-red group, twenty-seven as compared with twenty-one for the controls.

"(6) Strength Tests:—Strength tests on men from the two groups showed nothing of value.

"(7) Symptoms Referable to Climate:—The two groups suffered about equally from these except as regards excessive perspiration, which was much more complained of by the men of the orange-red group.

"(8) Impressions of the Wearer:—Sixteen men preferred the orange-red garments, fifty-four had no choice between the colors, and the remainder, nearly 400, expressed an opinion adverse to the colored underwear. Fifty said it was hotter and 104 others stated that it caused more profuse perspiration. No organization commander saw any benefit from its use, and of sixteen officers who used it for a time, only one expressed approval.

"(9) Photographic Experiments:—Experiments showed that the campaign hat was as impervious to the rays affecting the photographic plate, without the orange lining as it was with it. The lining added materially to the opacity of the khaki cap. The differences in penetrability by actinic rays between a light skin and a dark Filipino were slight, and were entirely

neutralized by one layer of khaki uniform cloth. The pigment of the darkest skin was found nowhere nearly so protective as was the orange-red garment.

"(10) Temperature Experiments:—Extensive experiments, both on and off the body, showed that, when exposed to the sun, the temperature was greater beneath the orange-red material than it was beneath similar white material. The same was found to be true when both materials were overlaid by khaki cloth.

"(11) Moist Heat Experiments:—These were carried out at Los Banos in a room ranging from 90 to 98 F. and with the atmosphere saturated with moisture. Men remaining four hours in this room lost greatly in weight and had a marked rise in temperature, with acceleration of pulse and respiration and fall in blood-pressure.

"From the results of the whole test and the experiments the conclusion was reached that the physiologic effects of the climate in the Philippines can be and probably are produced by moist heat without the aid of the sun's actinic rays, and no evidence was found that the sun's rays alone could or did produce these effects. On the contrary, the test underclothing added materially to the burden of heat which the system was compelled to endure and which is probably the chief cause of tropical deterioration. Even if the actinic rays have any influence whatever on the system, it is believed that they are sufficiently excluded by the khaki uniform and the campaign hat."

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 24, 1911.

Statistics of Cancer

Dr. Jacques Bertillon, of the service of municipal statistics of Paris, on March 24 made an interesting communication on the statistics of cancer to the Académie de médecine. Drawing his material from the sanitary statistics of the communes published within the last three years by the interior department, he showed that it was easy to mark out on a map of France the region where cancer is frequent in the country and that where it is rare. If one draws a line from Caen to Angers, another from Angers to Dijon, and a third from Dijon to Mézières, in the quadrilateral formed by these three lines and the northern frontier are included all the departments which are most affected by cancer. Outside of this quadrilateral, on the other hand, except for La Vendée and l'Isère, are the departments where cancer is a third or a fourth as frequent. This fatal quadrilateral corresponds quite closely to the chalky basin of which Paris is the center. On the southwest, one may trace another quadrilateral as much exempt as the other is affected, by drawing a line from La Rochelle to the Rhône to the south of Lyons. The quadrilateral formed by this line, the Rhône, the Pyrénées and the two seas does not contain a single department where cancer is notably frequent. These statistics concern only the communes having less than 5,000 inhabitants, that is to say, the country; nevertheless, the distribution of cancer in French cities is identical with its distribution in the country.

In general, cancer is more frequent in the northern countries of Europe (England 91 deaths per year per 100,000 inhabitants, Norway 100, the Netherlands 104) than in the center of Europe (Prussia 71, Austria 78, France 76) and much more rare in the countries bordering on the Mediterranean (Spain 48, Italy 61, European population of Algeria 32). Its frequency, however, is increasing in all countries without exception. In England it has almost trebled within fifty years. The statistics of the other countries do not go back so far, but show at least as rapid an increase. The statistics of Paris show that cancer is not increasing in subjects under 55. Cancers of the stomach and the alimentary canal in general are increasing, but not cancers of the breast or of the genital organs. Is this state of things to be attributed to our diet? This is a point which cannot be answered. At all events, cancer is at present one of the most cruel scourges of humanity. In England it causes almost as many deaths (34,053 in 1909) as pulmonary tuberculosis (38,639). In France it caused 30,124 deaths in 1908.

The Statistics of the Public First-Aid Service

The public first-aid service of the prefecture of police has just compiled the statistics of the work done during 1910. The first-aid pavilion established on the borders of the Seine received 321 persons (247 men and 74 women) who were rescued from the river; of these three were not revived; 132 had thrown themselves into the water intentionally. In the first-aid stations of Paris 268 wounded and 12 sick persons were cared for. In the suburbs 78 wounded and 17 sick were cared for. The litters of the various stations of the arrondissements were used 661 times. The ambulances installed at the time of the ceremonies and public celebrations received 302 persons, 120 at the national festival, 62 during carnival.

Personal

Dr. Séverin Arloing, professor of experimental and comparative medicine at the Faculté de médecine de Lyon, and director of the veterinary school of that city, has just died suddenly. He was a correspondent of the Académie des sciences and a national associate of the Académie de médecine de Paris. His works on comparative pathology, some written by himself alone, some in collaboration with M. Chauveau, brought him a great reputation. In his latter years he devoted himself especially to research on tuberculosis.

Dr. Charles Debierre, professor of anatomy at the Faculté de médecine de Lille, has just been elected senator.

Measures Against Depopulation in Belgium

Serious inquietude is beginning to be felt in Belgium over the constant diminution of the birth-rate, which has been going on for some years. A bill has recently been proposed to punish by imprisonment of from one to three years, physicians, midwives and pharmacists who recommend means of abortion; also, to punish by imprisonment of from six months to three years and a fine of from $40 to $600 (200 to 3,000 francs) anyone who shall sell, put on sale or even privately offer drugs, instruments or objects intended to produce abortion, whether the attempt be effective or not.

Diminution of the Number of Abandoned Infants

According to the statistics communicated by M. Mesureur, director of the public charities (Assistance Publique) of Paris, the number of abandoned infants has diminished considerably, especially the number of abandoned infants from 8 to 15 days old. There were 1,500 such infants abandoned in 1900 and 1901; 1,300 in 1905, 1,100 in 1907 and 1908, and 1,000 in 1909, or a diminution of a third in ten years.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 17, 1911.

Personal

Dr. Seydel, extraordinary professor of legal medicine in Königsberg, celebrated the golden jubilee of his doctorate March 2.

Professor von Angerer, the body physician of the prince regent of Bavaria, was granted, on the occasion of the ninetieth birthday of the latter, a hereditary title of nobility.

Centennial of the University of Breslau

In August of this year the centennial of the University of Breslau occurs. In view of this circumstance, Dr. Paul Schottländer, a son of the well known publisher in Breslau, has contributed $62,500 (250,000 marks) for the aid of students and assistants of the Breslau university who are making tours for the purpose of investigation.

Prize Offered for Essay

A newspaper appearing in Frankfort called *Die Umschau* has offered a prize of $300 (1,200 marks) for the best work on the question "What do the inferior elements of the race cost the State and Society?"

Proposal to Establish a Department of Psychiatry in the Imperial Health Office

The well known psychiatrist, Professor Sommer of Giessen, has presented a petition to the Reichstag asking for the foundation of a department of psychiatry in the Imperial Health Office. The institution is to consist of a department for statistics and records of institutions, a department for clinical and forensic psychiatry, and a department for heredity and mental hygiene. Both the committee in charge of the petition and the government have characterized the plan as impracticable and so the proposition was merely referred to the imperial chancellor without comment.

Prize Articles on the Early Clinical Diagnosis of Cancer

The German central committee for cancer research has awarded prizes of $250, $125 and $75 (1,000, 500 and 300

marks) for the three best articles on the early diagnosis of cancer by clinical means which are suitable for distribution as circulars to practitioners. The prizes have been given in this order: Dr. Fischer-Defoy of Quedlinburg, Prof. Karewski, the well known surgeon of Berlin, and Dr. Hollmann of Solingen.

Discussions of the Reichstag Committee on the Antiquackery Bill

The further proceedings of the committee on the third section of this bill, namely, the forbidding of treatment by means of mystical processes, have increased the number of remarkable statements on the part of the conservatives and members of the center group on the value of the mystic methods of treatment. One conservative declared on the ground of thirty years' experience, that the so-called incantations (*Besprechen*) are of value for human beings as well as for animals. There occurred in connection with it a reflex action on the nervous system of the person who used the treatment. He had himself seen cases in which men who used incantations on animals, were themselves made to vomit. In his view there was a secret relation between the conjurer and the conjured, and there were secrets in nature which science so far is unable to explain. A member of the center group emphasized that the limits between faith and superstition were so difficult to draw that it is dangerous to attempt to define them. Naturally these grotesque views are held up to ridicule in the papers, and this has had the favorable effect that the representatives of the conservatives and of the central party are more reserved in their expressions. It is to be hoped that the passage of the law against quackery will be promoted thereby.

Proposed Settlement of the Insurance Physician Question

The committee of the Reichstag which has the new insurance legislation under consideration, has, after much debate, reached a determination of the relations between physicians and the Krankenkassen, the most favorable to physicians of any that have so far been made. Whether the committee's report will be accepted by the house, remains to be seen. The most important paragraphs are as follows:

The relations between the Krankenkassen and the physicians shall be determined by a written contract. The Kasse (sick benefit club) may, except in urgent cases, refuse to pay other physicians. So long as it does not distinctly increase the burden of the club, it shall give its members free choice of at least two physicians. If the insured will pay the extra cost he shall have the right to choose among the physicians appointed by the clubs. The club may, however, decide that the patient can change his physician during the business year, or during the treatment of the same insurance case, only with the permission of the management. If the care of the sick by any sick benefit club is seriously menaced by the fact that the club cannot make a contract with a sufficient number of physicians or because the physicians do not keep their contract, the chief insurance officer may empower the sick benefit club to pay cash instead of furnishing nursing or medical care, to the extent of two-thirds of the average amount of their legal fund for sickness. The chief insurance office may at the same time determine: 1. How the condition of the person who is to receive the service shall be evidenced otherwise than through a physician's certificate. 2. That the club may continue its services as long as satisfactory evidence is furnished or withhold them until such evidence is provided. 3. That the club's duty to furnish service shall lapse if no sufficient evidence is brought within one year after the occasion for service arises. 4. That the club may send those who need medical care to a hospital even if the conditions of Section 199 (Par. 2) are not fulfilled. The club may appeal from the decision of the insurance office to the superior government officers. Section 381 permits the management to provide hospital treatment only through certain hospitals. Certain hospitals, especially those devoted to charity, may be excluded only for important reasons. Section 382 provides: If the hospital or medical treatment provided by any Krankenkasse is insufficient, the chief insurance office may direct that these services shall be furnished by other physicians or hospitals. Section 383 directs that when the Krankenkasse does not obey this order the chief insurance office may provide what is necessary at the expense of the club.

Campaign Against Sensationalism in the Press

The energetic efforts of many people to repress obscenity in language and pictures has been happily extended to the suppression of exaggerated sensational news. The Verband der rheinisch-westfälischen Presse has published an announcement in which the tendency of many newspapers to provide the public sensational news is criticized and reform emphatically urged. The reports of sensational court trials should be condensed to the extreme, as experience shows that unstable minds are easily prompted to the commission of similar crimes by reading such news. The same is true with regard to accounts of crimes, especially those of a sexual nature. Further care should be taken to avoid the collection of items regarding crime in a single number, so that the reader may not lose the sense of the detestableness of such things, and especially that the idea may not be aroused in the mind of the young that deeds so common are inevitable.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, March 13, 1911.

Increase of Rhinoscleroma in Hungary

Acting on a suggestion thrown out at the last international medical congress in Budapest, a committee for the investigation of rhinoscleroma has been informally constituted in Hungary, and already it has found thirty-seven fresh cases, some of which have been reported on previously. At present it is not yet possible to state whether actual infection is present. Therefore steps have been taken to keep the known patients on a list. The only reliable treatment is surgical: excision of the scleromatous tissues, with subsequent packing of the resulting nasal cavities. The disease, at least in this part of Europe, affects chiefly young and otherwise healthy persons, and does not incapacitate them seriously except when the entire breathing through the nose is stopped.

A State Institution for Infants and Mothers

In compliance with a generous wish of the old emperor, who is extremely fond of children, a large amount of money which had been originally intended for public expenditure has been turned to charitable purposes, especially for the erection of a large institution for the care of infants and for the instruction of mothers. The emperor himself has consented to accept the protectorship of the institute. The plan is to combine the following institutions: a postgraduate school for pediatricians, a school for special infants' nurses, a mothers' school and a school for children with moral and psychic defects, besides a consulting department for diseased and healthy infants. Each district hospital will be invited to send two nurses to the nurses' school, where they will remain one-fourth to one-half year and will be instructed in all subjects pertaining to the care of infants, in health and disease.

Thus in a couple of years a large number of fully trained children's nurses will be available all over the country. Furthermore, trained midwives will be received as pupils in these classes. They will be the chief aid of the doctors in the country, where mothers so often rely on the counsel of the "wise women" in regard to the feeding of babies. It is hoped that they will also be a useful means of propagating breast-feeding. Also the matrons and nurses of orphans' institutes and foundlings' homes will be invited to attend these classes. Physicians desiring to become eligible to the directorship of similar institutions in the country will find opportunity to learn the duties of such a post. Mothers, as well as grown-up girls, will be invited to become pupils in the mothers' classes. They will learn the elementary principles of the practical care of children. They will come into contact with children and babies and mothers and thus will be prepared for duties which they might be called on to fulfil any day. Physicians and teachers will be in permanent attendance on this mother's counsel department. The school for defective children aims chiefly at making these individuals as capable as possible for earning part or whole of their living. At the same time, nurses who wish to take up this branch of their occupation will be able to spend a great part of the day with such persons.

It will be possible to train twenty nurses yearly as special nurses for defective children, forty hospital nurses for children, and as many midwives, while forty infants and twenty older children will be accommodated for periods of six weeks each. Thus about 500 children a year will pass through the hands of the pupils in the institution. A number of destitute mothers will be made able to earn their living as competent nurses, poor women will receive free advice for their babies, and a few hundred children will be under control, so that their lives will have better chances. And besides, the advantages offered to members of the medical profession are also very considerable.

Association News

EASTERN RATES

One Fare and a Half Granted on the Los Angeles Trip East of Chicago

In previous announcements about the Los Angeles Session, it was stated that the eastern railroad rates had not been decided. We are now able to announce that a rate of one fare and a half has been granted for the round trip from points in the Central, Eastern and New England Passenger associations' territory to Chicago and return. The rate from Chicago to Los Angeles and return is $62.50, with $15.00 additional if one returns by one of the northern routes. Full information about rates, hotels, routes, trains, parties, etc., has been given in THE JOURNAL during the past weeks and will be repeated May 13 in the special illustrated number about Los Angeles.

No Program of Section on Dermatology

To the Editor:—The executive committee and the officers of the Section on Dermatology authorize its secretary to notify you of the postponement of the Section program and meeting for one year and that proper announcement be officially made by publication in THE JOURNAL. The action was taken at a meeting of the committee and officers of the Section in New York City, December 28, this action being the outcome of an insufficient number of papers. From eighty invitations issued requesting papers which were sent out in October only five papers were pledged, two being from men on the Pacific Coast.

H. R. VARNEY, Detroit, Secretary.

Miscellany

The Queer Things That Men Eat.—The primitive races of mankind eat many things that seem strange and repulsive to us, though not more so than some of our favorite dainties appear to them. Quoting from the circular of the Dresden Hygiene Exhibition, the *Scientific American* (March 11, 1911) says: At the end of the rainy season the Bushmen of South Africa go foraging, taking with them their wives and children and most of their earthly possessions. The men hunt, using arrows tipped with a poison which appears to be harmless when taken into the stomach. (The South American Indians assert that the curare which they use for this purpose makes the flesh of the game more digestible.) While the men hunt, the women dig edible roots with sharpened sticks. Caterpillars are collected, killed by crushing their heads and carefully packed in grass for future use. The aborigines of Australia live largely on the seeds of many species of grasses, for each of which they have a distinctive name. They also eat the seeds of various palms, many roots and bulbs and the gum exuded by trees. A sort of bread is made of the injua root, and a gruel of karanga seeds. The animal food of the Australians includes ants, caterpillars, cicadas and many other insects. A favorite dish, called tuinamba, is composed of pupa cases. The tent-like coverings which the psylla larvæ infesting the eucalyptus make for themselves out of the sweet and glutinous exudations of the leaves, and their own secretions, are diligently collected and form a dainty which resembles manna and is called paralja. Another delicacy is the flesh of snakes which, with the exception of the liver, is too dry and tasteless to appeal to civilized palates.

The Physician and Public Health.—At all times, from the dawn of history, the highest function of the physician has been to guard those who entrust themselves to his care against the enemies of health, whether these come in the form of licentiousness, dissipation or disease, and for this service, mankind has always been willing to return a good compensation in both money and esteem. No man has ever been held in higher esteem in the world than he who could protect against impediments to health, who could ward off death when disease had broken through the lines of protection, and who could give relief from pain and disquietude. The world has bowed before him and even kings have honored him.—L. F. Flick, in *Interstate Medical Journal.*

"Stigma of Mentality."—A physician of Wisconsin, in sending an advertisement, part of which is reproduced below, writes: "I enclose a serio-comic but seriously intended advertisement that appeared in a local paper. It must be hard for some people to live under the 'stigma of mentality,' but it is indeed gratifying that there is an institution offering relief from this besetting sin."

> This institution was established to supply a public demand for a place where one could go without the stigma of mentality and receive treatment for those conditions requiring Physical correction. Open all the year.
> Physicians in Charge.

Rescuing the Baby.—In Chicago recently a woman adopted a clever expedient for saving her baby from burning when her dwelling caught fire. Awakened by the fire in her burning



Dropping the babe, well bundled in pillows and blankets, to the ground.—Courtesy of *Popular Mechanics.*

home, she quickly bundled her baby in pillows and blankets and dropped it from a second story window to the ground, a distance of nearly 20 feet. The child was uninjured.

Marriages

J. M. HODGES, M.D., to Miss Frances McNeff, both of Detroit, March 20.

WALTER C. BROWNING, M.D., to Miss Anna Garrett, both of Philadelphia, recently.

ARTHUR J. SOMERS, M.D., to Miss Elizabeth Gerding, both of Portal, N. D., March 13.

HENRY B. TRIGG, M.D., Fort Worth, Tex., to Miss Nellie Roscoe Day of Rhome, Tex., March 22.

ERNEST ALBRECHT VICTORS, M.D., to Mrs. Nellie Temple Collier, both of San Francisco, March 17.

ELIOT ROUND CLARK, M.D., Baltimore, to Miss Eleanor Acheson Linton of Washington, Pa., March 21.

HOWARD LEON JAMESON, M.D., Philadelphia, to Miss Eunice Ostrum of East Mauch Chunk, Pa., January 14.

JOHN VANDOREN YOUNG, M.D., to Miss Rose Essie Kirkwood, both of New York City, at Passaic, N. J., March 16.

LEROY EDSON DOOLITTLE, M.D., Newberg, Ore., to Miss Bessie Kent of Duluth, Minn., at Spokane, Wash., March 20.

FREDERICK WILLIAM MAYER, M.D., St. Paul, Minn., to Miss Elsa Gertrude Hofman, at Jersey City, N. J., March 15.

ERNEST GEORGE BUTT, M.D., to Miss Olive May Vandruff, both of Redondo Beach, Cal., at Los Angeles, March 15.

J. RUSSELL VERBRYCKE, JR., M.D., Washington, D. C., to Miss Sophie English Barnes, at Washington, February 28.

Deaths

Edward Fitch Cushing, M.D. *cum laude*, Harvard Medical School, 1888; a member of the Ohio State Medical Association; died in Lakeside Hospital, Cleveland, March 23, ten days after an operation for the relief of intestinal obstruction, aged 48. After his graduation, Dr. Cushing served for three years on the resident staff of the Massachusetts General Hospital, and later was an intern in the Boston Lying-In Hospital, and the New York Maternity. After a year's study abroad he entered practice in Cleveland and became professor of pediatrics in the Medical Department of Western Reserve University, in the reorganization of which he was actively interested. He was a member of the Cleveland Board of Health, and one of the founders of the new Babies Dispensary and Hospital. He also reorganized at his own expense the *Cleveland Medical Journal* Company, of which he was president.

George Abbott, M.D. University of Buffalo, N. Y., 1852; a member of the Medical Society of the State of New York; vice-president and president of the Erie County Medical Society from 1864 to 1866; surgeon of the Fifty-Seventh Infantry N. G. S. N. Y. in 1854; colonel of the Ninety-Eighth New York Volunteer Infantry during the Civil War; died at his home in Hamburg, March 27, aged 84.

Jacob R. Spangler, M.D. Jefferson Medical College, 1874; a member of the Medical Society of the State of Pennsylvania; city physician of York in 1881, later a member of the city board of health, and for two terms a member of the school board; died at his home, March 21, from pneumonia, aged 60. At a special meeting of the York County Medical Society, March 22, action was taken on the death of Dr. Spangler.

James William Dodd Hancock, M.D. Long Island College Hospital, Brooklyn, 1898; of Brooklyn; a member of the Medical Society of the State of New York; assistant surgeon to the ear, nose and throat department of the Williamsburg Hospital and the Brooklyn Eye and Ear Hospital; who was injured in an automobile accident near Jamaica, March 17, died in St. Mary's Hospital, March 22, aged 40.

Silas Springer Tam, M.D. University of Mobile, Alabama, 1894; formerly a member of the American Medical Association; a member of the Medical Association of the State of Alabama; local surgeon for the Mobile, Jackson and Kansas City railroad for several years; died at his home in Mobile, March 18, some weeks after an appendicitis operation, aged 39.

William Edward Hibbard, M.D. New York University, New York City, 1889; a member of the American Medical Association, and American Academy of Ophthalmology and Otolaryngology; formerly of Providence, R. I.; a specialist on diseases of the eye and ear; died in his home in Pasadena, Cal., March 16, from the effects of burns received accidentally, aged 45.

Charles More Stewart, M.D. Trinity Medical College, Toronto, 1897; M.R.C.S., England, 1902; an ear, nose and throat specialist of Toronto; for a time superintendent of the Ottawa General Hospital; while riding in Toronto, March 25, was thrown from his horse in front of a street car and instantly killed, aged 38.

William Clarkson Hastings, M.D. Pulte Medical College Cincinnati, 1888; a member of the American Medical Association; formerly a resident of Portland, Ind., and first superintendent of schools of that place; died at his home in Seattle, Wash., March 18, from heart disease, aged 58.

Isaac Smith Cramer, M.D. College of Physicians and Surgeons, New York City, 1854; a member of the Medical Society of New Jersey; and treasurer of the Hunterdon County Medical Society; and surrogate of the county in 1889; died at his home in Flemington, March 27, from heart disease, aged 77.

Henry Frederick Klenke, M.D. New York University, New York City, 1892; for several years surgeon of the New Haven (Conn.) fire department, and school physician; formerly captain in the Governor's Foot Guards; died in the New Haven Hospital, March 22, from acute nephritis, aged 43.

Frank Darwin Smith, M.D. Missouri Medical College, St. Louis, 1880; a member of the Ohio State Medical Association; a member of the staff of Engleside Hospital, Canton; died at his home in Hartville, O., March 13, from occlusion of the coronary artery due to atheroma, aged 57.

Fred W. Slocum, M.D. Syracuse (N. Y.) University, 1882; a member of the American Medical Association and Syracuse Academy of Medicine; for many years a member of the Syracuse pension examining board; died at his home in Camillus, N. Y., March 16, from nephritis, aged 52.

Sampson A. Ayo, M.D. Tulane University, New Orleans, 1899; a member and one of the councilors of the Louisiana State Medical Society; and a member of the State Board of Health; died at his home in Thibodaux, March 11, from pleuropneumonia, aged 38.

Benjamin Thompson, M.D. Pennsylvania Medical College Gettysburg, 1851; formerly a member of the American Medical Association; local surgeon of the Baltimore and Ohio Railroad at Landenberg, Pa.; died at his home in that place, recently, aged 83.

William Jennings Headrick, M.D. University of Louisville, Ky., 1876; a member of the Louisiana State Medical Society; and local surgeon of the Houston, East and West Texas Railway; died at his home in Logansport, Nov. 2, 1910, from paralysis, aged 63.

Benjamin Dudley Williams, M.D. University of Louisville, Ky., 1884; a member of the American Medical Association; president of the Calhoun County Medical Association; died at his home in Oxford, Ala., March 12, from pneumonia, aged 57.

Lorenia Kemble (license, years of practice, Ind., 1897); for thirty-five years a practitioner of South Bend; died in St. Joseph's Hospital in that city, February 17, eleven days after an operation for carcinoma of the uterus, aged 62.

Charles W. Kinnison, M.D. Starling Medical College, Columbus, O., 1891; of Oak Hill, W. Va.; died suddenly, March 27, from heart disease, on a Chesapeake and Ohio train, while en route to Johns Hopkins Hospital, Baltimore, aged 44.

William Clark Cooper, M.D. Albany (N. Y.) Medical College, 1881; College of Physicians and Surgeons, New York City, 1884; obstetrician to Samaritan Hospital, Troy, N. Y.; died at his home in that city, March 17, aged 52.

George Canning Howard, M.D. Dartmouth Medical School, Hanover, N. H., 1865; formerly of Lawrence, Mass.; a member of the Massachusetts Medical Society; surgeon of volunteers during the Civil War; died at the home of his son in North Attleboro, Mass., March 19, from diabetes.

Nathaniel Leo Niles, M.D. Harvard Medical School, 1905; a member of the Providence, R. I., Medical Society; radiologist to St. Joseph's Hospital, Providence; died at his home in that city, March 23, from carcinoma of the stomach, aged 34.

Fred C. Miller, M.D. Minneapolis College of Physicians and Surgeons, 1899; a member of the Minnesota State Medical Association; health officer of Olivia; died at his home in that city, March 19, from pneumonia, aged 42.

Arnett Phillip Boston, M.D. Tulane University, New Orleans, 1877; a specialist on diseases of the eye, ear, nose and throat; of Alice, Tex.; died at his old home in Beech Grove, Ky., March 16, from cerebral hemorrhage.

Ledyard Verdine Lewis, M.D. Rush Medical College, 1870; of Sun Prairie, Wis.; a member of the American Medical Association; died at his winter home in Redlands, Cal., March 19, from cerebral hemorrhage, aged 65.

Robert W. Cooper, M.D. Michigan College of Medicine and Surgery, Detroit, 1892; formerly of Milford, Mich.; died at his home in Kingston, Mich., March 11, from brain abscess following influenza, aged 47.

Edward R. Aiken, M.D. Albany (N. Y.) Medical College, 1868; for more than thirty years a practitioner of Perry, Ia.; died at the home of his son in Aiken, Neb., March 18, from arteriosclerosis, aged 65.

Arthur Henry Bigg, M.D. Detroit (Mich.) Medical College, 1881; a member of the American Medical Association; and Detroit Academy of Medicine; died at his home in Detroit, March 17, aged 69.

Elbert Goodman Van Orsdell, M.D. Albany (N. Y.) Medical College, 1902; a member of the Medical Society of the State of New York; died at his home in Brooklyn, March 25, from pneumonia, aged 40.

Gilbert H. Tollington, M.D. College of Physicians and Surgeons, Chicago, 1885; a specialist on diseases of the eye; died at his home in Clear Water, Minn., February 12, from chronic nephritis, aged 48.

John Holin, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1879; a member of the American Medical Association; died at his home in Cowden, Ill., March 18, from pneumonia, aged 65.

Mozark Jenkins, M.D. University of Vermont, Burlington, 1884; a member of the Medical Society of New Jersey; died at his home in Trenton, March 19, from laryngitis, aged 55.

Christopher William Flock, M.D. Victoria College, Coburg, Ont., 1856; for twenty years a practitioner of Nebraska; died at the home of his son in Emerson, March 11, aged 82.

Philander Tabor (license, Iowa, years of practice, 1887); for fifty-four years a resident of Independence, Ia.; died at the home of his son in that place, March 21, aged 93.

Willard Warren Ruggles, M.D. New York Homeopathic Medical College, New York City, 1908; died at his home in Brewster, N. Y., March 7, from typhoid fever, aged 31.

George Walker Bull, M.D. Bellevue Hospital Medical College, 1873; an ophthalmologist; formerly a resident of New York City; died in Paris, France, January 1.

Joseph Hartman Armitage, M.D. McGill University, Montreal, 1886; died at his home in Waterloo, Ont., January 18, from fracture of the spine, aged 50.

Lewis K. Esrey, M.D. Hahnemann Medical College, Philadelphia, 1888; died in his office in Philadelphia, March 24, from heart disease, agen 68.

William John Hare, M.D. Bellevue Hospital Medical College, 1885; died suddenly at his home in Detroit, March 23, from heart disease, aged 52.

Alexander C. Taylor, M.D. University of Pennsylvania, Philadelphia, 1850; died at his home in Vineland, N. J., March 22, aged 86.

William T. Risque, M.D. Kentucky School of Medicine, Louisville, 1856; died at his home in Paynes Depot, Ky., March 24, aged 83.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

Are Retail Pharmacists Waking Up?

While it is probably true that the physician's insufficient knowledge of drugs and of their use has been the chief cause for the growth of the proprietary specialty business, the pharmacist's inability to compound pnysicians' prescriptions properly has also been a potent cause for the prescribing of ready-made mixtures. Rancid or poorly made cod-liver oil emulsions have persuaded many a physician to prescribe Scott's Emulsion or some similar nostrum. Gritty ointments and turbid eye-drops have induced specialists to use ready-made preparations or to do their own dispensing. A program of a meeting of pharmacists—the Philadelphia Branch of the American Pharmaceutical Association—however, gives hopes that pharmacists are making serious efforts to improve professionally.

While the programs of meetings of retail pharmacists are often devoted to price protection, window trimming and the proper handling of cigars (live commercial topics, it is true), the meeting of the Philadelphia branch was devoted to a discussion of sterilization and its need as applied to pharmaceutical compounding. It also appears that the branch has a special committee whose function it is to arouse the interest of pharmacists throughout the country to the necessity of devising reliable methods for the preservation of galenicals, and also to the need of establishing a time limit for such pharmaceutical products as are known to deteriorate with age. Both of these subjects—the need in many cases of sterilizing pharmaceutical preparations and the necessity of giving proper attention to keeping qualities—are most important ones and their consideration cannot but be a benefit to professional pharmacists.

Therapeutically Suggestive Names for Medicines

While it is desirable that the name of a medicine should convey an idea of its composition, the full chemical names of many new remedies are so long that their adoption is out of the question. It would not be practicable, for instance, to use the chemical name for Ehrlich's new arsenic preparation, 3-diamino-4-dihydroxy-1-arseno-benzene hydrochlorid. In the past, however, there has been a tendency to adopt meaningless or cryptic names for medicines, such as Alypin, Orphol, Soamin, Veronal, or worse still, names which are therapeutically suggestive, such as Bronchiline, Genitone, Laxaphen, Migrainin, Nephritin, Neurosine, Ovaritone, Trigemin and Uriseptin. More recently, largely as a result of the influence of the Council on Pharmacy and Chemistry, manufacturers have adopted names which are more satisfactory, or, at least, that are a vast improvement over those used in the past. Thus, among the articles more recently passed by the Council are, Arsenoferratin, an organic compound of iron and arsenic; Carbosant, a carbonate of santalol; Digipuratum, a purified digitalis extract; Guaiacodein, a compound of codein and guaiacol; Tannismuth, a tannate of bismuth. These names are brief and to a certain extent descriptive of their composition. There is no basis for the excuse often given by exploiters of proprietary medicines for therapeutically suggestive names, namely, that it is impossible to coin names which are descriptive and yet sufficiently short and simple. Such disease-suggesting names as Antitussin, Pertussin, Migrainin, Somnos or Calmine should not be tolerated.

Similarity Between Nitrite and Acetanilid Poisoning

A physician recently wrote that a preparation of liquor sodii phosphatus compositus, when administered to a patient, produced symptoms that simulated acetanilid poisoning. The sample sent in by the physician was examined by the Association chemists who reported:

"Tests which would detect minute quantities of acetanilid failed to reveal the slightest trace of this substance. The odor of the solution was distinctly characteristic of oxids of nitrogen such as are produced in the decomposition of nitrates or nitrites. The presence of a small quantity of nitrate—a regular constituent of this preparation—was detected and also the presence of considerable quantities of a nitrite. Quantitative determinations showed the presence of an amount of nitrite equivalent to 2.9 per cent. sodium nitrite. It seems improbable that a nitrate used in the preparation of this mixture had decomposed to form a nitrite; it is more likely that a nitrite was used inadvertently. If this preparation was given in doses of 8 c.c. (2 fluidrams)—the U. S. P. dose for liquor sodii phosphatus compositus—the patient received 0.2331 gm. or three and one-half times the U. S. P. dose of sodium nitrite."

This note is published to point out the similarity between acetanilid and nitrite poisoning.

Correspondence

Postgraduate Surgical Clinics in America

To the Editor:—The increasing importance of surgery and the increase in the number of good surgeons in America is especially evident to one who has traveled extensively over this country and has had opportunity to observe closely and for long periods of time the work of America's surgeons. To a physician, nothing is more interesting than to visit the clinics of other physicians and this applies also to surgeons.

The custom is almost as old as medicine itself, and for many years numbers of American physicians have been going to Europe to visit the famous clinics for helpful suggestions and the pleasure of the trip. It is evident that the American surgical clinics are now finding a distinct place of their own. I recently returned from a two years' trip to some of the best-known clinics, where I gave time, energy and thought to the study of surgical diagnosis, technic, complications and after-treatment and others may be interested in a brief account of the opportunities for surgical study in America for graduate physicians, and description of places which seemed to be especially popular.

A constantly growing number of physicians and surgeons from all parts of the country are visiting the Mayo clinics at Rochester, Minn., the clinics of Johns Hopkins, the surgical clinic of the German Hospital in Philadelphia (Deaver) and the clinics of Murphy and Ochsner in Chicago. At these places I have seen from 25 to 100 men, many of whom have national reputations, enjoying the splendid clinics and the gracious hospitality extended by the surgeons to visitors. The chiefs of these clinics realize what a compliment it is for men to come from all over the continent to learn from

them something definite and practical in the treatment of the sick. At some of these clinics there is a large comfortable room for the visitors, with a book of registry and books of reference; at the Rochester clinic there is a surgical club which meets in the afternoon and discusses the operations which have been performed in the morning. At all of these places one can find comfortable living accommodations.

At none of these clinics did I find the surgeons looking for money from their visitors and intimating that the visitors take a postgraduate course; no matter how long one stays, be it a day or a year, he is always welcome without price. If these leaders have been able to show a physician anything that will make him a more valuable man in his community, they are glad indeed. In this selfish and grasping age, such splendid courtesy and generosity are most commendable and stimulating, and there is no question that these clinics stand among the great achievements of our present civilization.

For those especially interested in gynecology, I found the clinics of Kelly at Baltimore, Bovee at Washington, Clark, Beyea and Baldy in Philadelphia, and Coe in New York, especially helpful. The surgical and gynecologic clinics of Boston are good and deserve a larger attendance. For practical work and the opportunity to do something in genito-urinary work I know of no place like Young's clinic at Baltimore.

The following up of the treatment of surgical cases is one of the things that a great many men want, and if a physician speaks to the operating surgeon and tells him that he wants to follow up the cases, the surgeon usually is only too glad to help and will introduce the visitor to the house officer. Arrangements can then be made to make the rounds with the house surgeon at an early hour in the morning.

Such has been my experience and taking this trip after five years of practical work, I found it most helpful and at the same time enjoyable. There are of course many other clinics where excellent work is done, but the clinics named are those that I, as well as many others, found especially stimulating.

F. W. HORNBROOK, M.D., Boston, Mass.

Nasal Suction

To the Editor:—The value of negative pressure by suction in the treatment of diseases of the nasal sinuses has appealed to me for years and it has been my practice to insist that "secretions be aspirated and not blown" out of the nose following operations. When the vacuum pumps were first introduced I tried to use them, but without success until the past few weeks, as it was difficult to close the postnasal space. One day it occurred to me to have the patient take some water in the mouth and swallow it at command. This absolutely closed the space for a time and a little practice would keep it under control. This method so far has proved itself practical and is far ahead of all the other methods that I have seen or heard of. The effect is apt to be startling when it is first applied and it is well to advise caution regarding the water pressure as it is liable to produce dizziness. It is necessary, of course, for the patient to breathe through the mouth after the palate is raised in order to keep it in position. The technic otherwise is the same as is generally used.

OTIS ORENDORFF, M.D., Canon City, Colo.

Cacodylate of Sodium in Coronary Disease

To the Editor:—Allow me to suggest the use of sodium cacodylate in coronary disease with resulting myocardial degeneration and its usual train of symptoms, such as: general edema, hypertrophied liver, pulmonary engorgement and a low hemoglobin content.

Its use in a case in which there was no history of any specific lesion was prompt and gratifying. An ampoule of the drug, containing 3 grains, was administered on alternate days, each dose being preceded by a small dose of cocain, to overcome the smarting which follows the injection of the drug under the skin. Salines sufficient to obtain a few watery stools were given each morning.

H. F. GILLETTE, M.D., Cuba, N. Y.

Correction in Analgesic Formula

To the Editor:—My attention has just been called to the analgesic formula in my contribution to THE JOURNAL, March 25, 1911, p. 863, which is so manifestly an error that I trust no one has adopted the quantities as given. The error must have occurred in dictation and subsequent transcription. The formula as published is dangerously meaningless. I intended it to read as follows:

℞	gm. or c.c.
Morphin hydrochlorid	0.01
Novocain	0.04
or	
Scopolamin	0.0015
Normal salt solution	1

CHARLES A. L. REED, Cincinnati.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HUBBES' NASCENT MERCURY TREATMENT OF SYPHILIS

To the Editor:—In THE JOURNAL, March 25, 1911, p. 934, reference is made to an article by Hubbes. Who is Hubbes? Can you give anything further on his technic of treatment of syphilis with nascent mercury? F. G. CARLSON, Thornton, Iowa.

ANSWER.—Dr. Fritz Hubbes was formerly assistant at the dermatologic clinic at the University of Graz, Austria. We can add nothing to the description of the technic given in our abstract.

THE AUTOMOBILE SPEED QUESTION

To the Editor:—I wish you would advise me if there is a law permitting physicians, on accident or emergency calls, to exceed the speed limits of cities, and, if so, is there any official emblem designating such favor to them? D. Y.

ANSWER.—Some information on this subject will be found on automobile pages XXI and XXII of this issue.

It is a common practice for physicians to place insignia on their automobiles, front and rear. They are thus recognized by policemen and often favored in the matter of right of way. These signs usually consist of a device in which the red Geneva Cross is prominent; but, in deference to the wishes of the American Red Cross, there is not a little sentiment in favor of leaving the red Geneva Cross for the use of that organization. Congress has passed an act to limit its use.

As a substitute it has been proposed to use the green St. Andrew's Cross. Something on this subject will be found in the department of Queries and Minor Notes, in THE JOURNAL of Aug. 27, 1910, page 795, and one firm, which supplies such insignia for automobiles, is prepared to supply the St. Andrew's Cross in answer to this suggestion.

DENATURED ALCOHOL

To the Editor:—1. What is denatured alcohol? 2. Would it be safe for external use, as bathing, etc.?

G. D. CARNES, South Haven, Mich.

ANSWER.—1. Denatured alcohol is alcohol to which have been added certain materials which destroy its character as a beverage and render it unfit for medicinal purposes but which do not prevent its employment for industrial purposes. Denatured alcohol is exempt from the internal revenue tax laid on ordinary alcohol and is sometimes called tax-free alcohol. Under authority of an act of Congress, passed in 1907, the commissioner of internal revenue has prescribed that for general purposes alcohol known as completely denatured must be prepared by either of the following formulas: (A) To every 100 gallons ethyl-alcohol (of not less than 180 degrees proof) there shall be added ten gallons of approved methyl-alcohol and one-half gallon of approved benzin. (B) To every 100 gallons of ethyl-alcohol (of not less than 180 degrees proof) there shall be added two gallons of approved methyl-alcohol and one-half gallon of approved pyridin bases. The methyl-alcohol, benzin and pyridin intended for use as denaturants must be submitted for chemical test and must conform to certain specifications. In cases in which the above-named substances would render the alcohol unfit for certain industrial uses special denaturants have been authorized.

2. The safety of denatured alcohol for external use depends on the denaturing agent. If methyl-alcohol (wood spirits) is used for the denaturing, it may be absorbed to such an extent as to produce poisoning, such as blindness, etc.

ODOR FROM ASPARAGUS

To the Editor:—The statement made in reply to a correspondent, March 25, p. 916, that the odor of urine after asparagus is eaten is due to asparagin, needs revision. The odor is usually ascribed to methyl mercaptan because of Nencki's investigations on the subject (*Arch. exp. Path. u. Pharmakol.*, xxviii.) Asparagin is not odoriferous and its properties are well known.

LAFAYETTE B. MENDEL, New Haven, Conn.

To the Editor:—I noticed in THE JOURNAL, March 25, 1911, page 916, a query on the cause of odor from asparagus. May I be permitted to give a few details? The nauseous odor from urine after the ingestion of asparagus is due directly, as you say, to asparagin; this, however, is decomposed in the intestine during digestion into a volatile sulphur compound—methyl mercaptan, H_2S [HS—ED.] plus the methyl radical. The odor may last for from twelve to twenty hours. The action of asparagus is diuretic, but the use of asparagus is forbidden when a purin-free diet is indicated in gout and allied diseases, epilepsy, renal or vascular disorders. It contains 0.021 per cent. purins, or 1½ grains to the pound.

WILLIAM B. CONYNGHAM, New York.

ANALYSIS OF NOITOL—ORCIN REACTION—TEST FOR LEAD IN BLOOD

To the Editor:—Please give me answers to the following questions:

1. Has the Council on Pharmacy and Chemistry ever made an analysis of the solution named "Noitol," made by the Wheeler Chemical Works, Chicago?
2. What is the "orcin reaction for pentoses"?
3. Is there a test for lead in the blood of human being, either by microscopic or any blood reaction, or chemical test? C. M. B.

ANSWER.—1. "Noitol" was exposed in THE JOURNAL, May 21, 1910.

2. Orcin 1 gm. and 20 drops of a 10 per cent. solution of ferric chlorid are dissolved in 500 c.c. of a 30 per cent. solution of hydrochloric acid. Of this reagent 4 or 5 c.c. are heated to boiling, then removed from the flame and the suspicious urine added drop by drop, but not exceeding 1 c.c. If pentose be present a fine green color appears at once, or very soon. The green pigment can be extracted with amyl alcohol and, on spectroscopic examination, it gives rise to a well-defined band of absorption in the red portion of the spectrum near the yellow border.

3. In lead poisoning and in some other conditions, such as pernicious anemia, some of the red blood-cells when stained with a basic stain (gentian-violet or methylene-blue) exhibit minute granules. These "stippled" cells occur in great number in lead poisoning. In other conditions several fields must be searched in order to find one. In some cases of lead poisoning, however, they cannot be found in the time at the disposal of the ordinary clinical worker. They are especially numerous in patients with gastro-intestinal lesions, while in cases of peripheral neuritis due to lead their discovery may be very difficult.

POSTGRADUATE STUDY IN EUROPE

To the Editor:—I intend to take up postgraduate work next summer in some European center. Please give me information in regard to teachers, courses, cost, conditions of living, etc. D. B. G.

ANSWER.—As this inquiry is representative of many which are received in this office at this time of the year, we answer it in some detail. The space which we give to the subject does not mean that we consider foreign opportunities for postgraduate study to be preferred in every case, or even usually, to those in this country. In many subjects the advantages afforded by American clinics are more valuable and far less expensive. In gynecology and general surgery, for instance, the opportunities for postgraduate work in the United States are equal if not superior to those to be obtained abroad. If the physician goes abroad with only a hazy idea of what he wishes to obtain, and with only an imperfect knowledge of the language of the country, or none at all, he is likely to bring back little of practical value except the prestige of having studied abroad—which, indeed, may have been the chief object in many cases. The value of what a physician brings back from a foreign tour varies directly with what he takes abroad with him.

If the physician goes to the continent it is most important that he have a knowledge of French or German, according as he intends to study in Paris or Berlin or Vienna. This knowledge should be acquired as far as possible beforehand. The acquisition of a medical vocabulary in any foreign language can be considerably facilitated by the use of one of the medical manuals in that language, but the vocabulary learned by the eye alone is not sufficient; it is essential that the ear should be familiar with the pronunciation, since, while medical terms are often spelled the same way or similarly in several languages, the pronunciation differs in each from all the others, and hence is sure to be confusing to one who is accustomed to the language only on the printed page.

For the names of several excellent manuals which will be found useful to the physician seeking to familiarize himself with the medical vocabulary of a foreign tongue, we refer the reader to the answer to L. R. C., p. 1058, this issue

Some of the smaller university cities abroad offer excellent opportunities for laboratory work, but for clinical instruction, which is what the American physician going abroad for postgraduate work usually desires, the best opportunities are found in the larger medical centers, and Vienna, Munich, Berlin, Paris and London are the cities usually selected. Information in regard to postgraduate medical courses in all countries is, according to recent plans, to be accumulated by the Medical Information Bureau of the Kaiserin Friedrich-Haus, Berlin, the headquarters of the system of postgraduate instruction throughout the empire (mentioned below), for free distribution to medical men in all parts of the world. The foreign governments are anxious to facilitate postgraduate work by outsiders, and are doing everything in their power to make it easy for those from abroad to get all the necessary information in regard to courses, libraries, lodgings, expense, etc. For this purpose scientific information bureaus have been opened in Paris and Berlin, as mentioned below, where they have attendants speaking various languages. These bureaus are listed in the telephone directory and are proving of great assistance to the newcomers. Vienna in particular has long provided exceptionally well-arranged facilities for brief postgraduate courses, some in English, and many arranged with special reference to the needs of American visitors.

LONDON

The instruction abroad, best suited for the physician who does not understand French or German, is to be found in the British Isles. In Great Britain and Ireland facilities for graduate study are to be found in London, Cambridge, Edinburgh, Glasgow and Dublin. The London Postgraduate Association, Hanover Square, London, W., is an organization which has entered into arrangements with the principal medical schools and hospitals in London so that it is able to issue a ticket which admits the holder to all the clinical instruction provided in these institutions. The fee for three months' instruction is 10 guineas (about $52.50). Full particulars regarding this association can be obtained from the secretary at Examination Hall, Victoria Embankment, London, W. C.

In addition, postgraduate work to which foreigners are admitted is given by the following schools: The Medical Graduate College and Policlinic, 22 Chenies Street, London, W. C., offers lectures, with practical demonstrations on chemical medicine and surgery in general, skin diseases, and diseases of the eyes, throat, nose and ears, to which the yearly subscription for admittance is 1 guinea (about $5.25), and practical courses of instruction in a large number of special subjects, for which an additional fee is charged. Further particulars can be obtained from the secretary. The North East London Post-Graduate College, the Prince of Wales General Hospital, Tottenham, N., offers a hospital student's ticket which entitles the holder to attend courses on clinical medicine and surgery in general, costing 5 guineas (about $26.25), while the fee for each of the special courses, such as diseases of the nose, throat and ear, skin diseases, roentgenology, medical electrology, is 1 guinea (about $5.25). Further particulars may be obtained from the dean of the college. The West London Post-Graduate College, West London Hospital, Hammersmith, W., gives courses of instruction in general clinical medicine and surgery and special subjects. The dean of the college will furnish particulars as to terms, etc. The fee for each course offered by the London School of Tropical Medicine, Connaught Road, Albert Docks, is 16 guineas (about $84). Further particulars may be obtained from P. J. Michelli, Esq., C.M.G., Seamen's Hospital, Greenwich, S.-E. In the London School of Clinical Medicine, Seamen's Hospital, Greenwich, S.-E., courses of instruction are given in clinical medicine and surgery and special subjects. The dean will supply further particulars if desired.

Among the London hospitals where postgraduate instruction may be obtained are the following: For general medicine: St. Bartholomew's Hospital, West Smithfield, E. C.; St. Thomas' Hospital, Albert Embankment, Westminster Bridge, S. E.; University College Hospital, University and Gower Streets, W. C., and London Hospital, Mile End, E. For pediatrics: the Hospital for Sick Children, Great Ormond Street, Bloomsbury, W. C. For ear, nose and throat diseases: the Hospital for Throat Diseases, Golden Square, W. For ophthalmic work: the Royal London Ophthalmic Hospital (formerly Moorfield's Eye Hospital), City Road, E. C. For nervous diseases: the National Hospital for the Paralyzed and Epileptic, Queen Square, Bloomsbury, W. C.

PARIS

According to E. St. Jacques (*Med. Rec.*, Aug. 14, 1909), clinical facilities are greater in France than in Germany, and Paris excels in dermatologic, neurologic and genito-urinary work.

In Paris there is no special official organization for medical postgraduate instruction, but any physician, foreign as well as French, may, without the payment of any fee, follow any theoretical course given in the Faculté de médecine or any of the clinical courses held in the hospitals or clinics. The physician should first introduce himself at the offices of the Assistance Publique, 3 Avenue Victoria. He will receive gratuitously a *carte d'entrée des*

hôpitaux, which carries a formal request to the various directors of hospitals, etc., to assist the visitor with information and facilities; it also contains a list of all the hospitals under the jurisdiction of the Assistance Publique. In order to be admitted to the clinical lectures, ward visits and examination of patients, the physician has only to present his card to the concierge of the hospital and to ask by name for the physician or surgeon whom he wishes to see.

A physician who desires to take a practical course and to have the privilege of the library of the Faculté de médecine pays a matriculation fee of about $6 (30 francs), and in addition a fee for each practical course taken up, which is on the average about $10 (50 francs).

In various hospitals, clinics and laboratories there are *cours de perfectionnement* organized at various times of the year, especially during vacation. These are announced by placards posted in the buildings of the Faculté de médecine and the various hospitals and by notices in the medical journals. The newcomer is advised to consult the last few numbers of some such periodical as the *Bulletin médical* or the *Presse médicale* for notices of non-official courses (that is, those not given under the auspices of the Faculté de médecine).

The fees are variable, but rarely exceed $10 or $20. Moreover, there are several associations for complementary medical instruction which organize similar courses. Such courses are organized twice a year at No. 18 rue du Luxembourg, the winter series in November and December, the summer series in May and June. Vacation courses comprising the principal specialties are also organized in September and October. The price is about $4 (20 francs) a course.

The course in bacteriology at the Pasteur Institute is three or four months long, and therefore is not given more than twice a year. Names must be sent in to Dr. Roux or his assistants some time in advance.

A free information bureau for physicians and others, officially known as the Bureau de Renseignements Scientifiques, is maintained at the Sorbonne. It is open all the year around from 10 to 12 and from 2 to 5, with attendants able to speak German, English, Russian and Spanish, and catalogued information of all subjects of interest to persons intending to pursue scientific study.

"An English Handbook to the Paris Medical School," by A. A. Warden, published by P. Blakiston's Sons & Co., 1012 Walnut Street, Philadelphia, price 50 cents, contains a map of the Quartier Latin and much useful information in regard to the schools and courses.

The cost of living in Paris naturally varies according to the location and accommodations required. The physician who comes to Paris to study will find it to his advantage to live in the Latin Quarter, which is the seat of the Faculté de médecine and of the Collège de France and is in proximity to many important hospitals and clinics. Room and board in private families may be had for a price varying from $30 to $50 a month (150 to 250 francs). Room without board costs on the average from $10 to $12 a month.

BERLIN

Many American physicians go to Germany or Austria for postgraduate study. Especial advantages are found there for laboratory work and research, and instruction is said to be better organized, especially in Vienna. The two most important centers of medical instruction in German-speaking countries, of course, are Berlin and Vienna.

Medical courses at Berlin are divided into: (1) the regular university courses, which are intended for the undergraduate students; (2) vacation courses given by the university instructors during March and October, and (3) monthly courses by private instructors, which are given the year around. These are mostly policlinic or dispensary courses and correspond closely to the instruction given in graduate schools in the United States.

Regular student courses at the University of Berlin are often designed more for undergraduate than for postgraduate work. An occasional visit to these courses is welcomed without formality. To attend regularly one must sometimes matriculate. The university work is divided into a winter and a summer semester, the winter semester lasting from October 15 to March 15 and the summer semester from April 15 to August 15. The time for matriculation is comprised in the two weeks preceding the opening of the semester and the first two weeks of the semester. The matriculation fee is 18 marks; diploma and passport must be shown. Vacation courses are given twice a year (March and October) during the university holidays. These courses are for graduates in medicine and can be very highly recommended. They are, however, sometimes overcrowded. Most of these courses begin on the first day or during the first week of the month and last for four weeks. Assistantships or so-called "voluntary" assistantships are often obtainable in out-patient departments and inside the hospitals. The requirements of such positions may best be obtained from the older men in the Anglo-American Medical Association or members of its orientation committee.

As mentioned in the Berlin Letter (THE JOURNAL, March 4, 1911, p. 682), a double fee for the summer semester of 1911 has been imposed on foreigners attending lectures or taking laboratory work. The increase amounts to 10 marks ($2.50) for students in medicine and the natural sciences.

The Anglo-American Medical Association of Berlin was formed to promote the interests of British and American physicians studying in that city. The headquarters of the association are at Friedrichstrasse 105b, where an information clerk is in attendance from 9 to 10 a. m. The president is Dr. Bruggemann, Berlin W., Barbarossa Str. 33. The membership fee is 10 marks (about $2.50) a year. The year-book of the association will be sent by the secretary, W. J. Griffin, on receipt of 5 cents in foreign exchange stamp coupons. It contains courses most frequently attended by Americans, but does not pretend to be a complete list of all courses given in Berlin.

For courses not announced therein the newcomer should not fail to consult the following publications: (1) Verzeichnis der Vorlesungen (list of university courses), price 60 pfgs; (2) Ferien-Kurse für praktische Aerzte (vacation list); (3) Schacht, Ratgeber und Wegweiser für Teilnehmer an ärztlichen Fortbildungskursen, price 1 mark; (4) Verzeichnis der Monatskurse, gratis; (5) Kurse für praktische Aerzte, gratis; (6) Verein für Aerzte-Kurse, gratis. Nos. 1 and 2 are the most important and will be sent to the United States on receipt of 25 cents in foreign exchange stamp coupons. They would probably be supplied either by the Anglo-American Medical Association or by the information bureau, similar to that mentioned at the Sorbonne, which is maintained at the Kaiserin Friedrich-Haus, Luisenplatz 2-4.

Postgraduate courses on a large variety of subjects are given under the auspices of the Bureau des Zentralkomitees für das ärztliche Fortbildungswesen in Preussen, Berlin N.-W. 6, Luisenplatz 2-4, Kaiserin Friedrich-Haus für das ärztliche Fortbildungswesen. The subjects offered include the following: pathologic anatomy, internal medicine, surgery, ophthalmology, the clinical and practical application of bacteriology, diseases of women, obstetrics, industrial hygiene, diseases of the nose and throat, urinary diseases and gonorrhea, dermatology and syphilis, diseases of children, including the nutrition of normal and diseased infants, clinical chemistry, care of the sick, gastric and intestinal diseases, diseases of the ear, surgical and mechanical orthopedics, the latest applications of water, light, heat and electricity to therapeutics, roentgenology, etc.

The recently opened Amerika-Institut, under the directorship of Prof. Hugo Münsterberg, in the Royal Library Building, Universitätstrasse 6, Berlin VII, seeks to assist Americans who wish to come into contact with German institutions, scholars, libraries, archives, laboratories, museums, hospitals, academies, etc.

It is imperative that American citizens bring with them passports. They must register in the consulate when arriving in Berlin. If possible it is best to reach Berlin about the twentieth of the month. According to information furnished by the Anglo-American Medical Association, at least one week should be spent in personal examination of the opportunities for study and in getting settled before beginning work.

DÜSSELDORF

The Academy for Practical Medicine, Düsseldorf, offers courses, open to foreign physicians, in pathologic anatomy and experimental therapy, and clinical courses in surgery, gynecology, obstetrics and pediatrics. The only expense is a registration fee of about $1.25.

VIENNA

Vienna presents many advantages from the medical student's point of view, one of which is the great amount and variety of the clinical material, since patients come to Vienna from territory within a very large radius. Another advantage is the centralization of facilities for instruction, which makes it possible for the student to economize his time.

There are ten large public hospitals, the chief of which, the Allgemeines Krankenhaus, comprises three clinics each of surgery and medicine, two clinics each for gynecology, dermatology and syphilis, ophthalmology, mental and nervous diseases, and one each for otology, rhino-laryngology and pediatrics. Some clinical teachers not only speak English fluently but give lectures in English in special classes. Within the last few years a magnificent new hospital has been erected a few hundred feet away from the old Allgemeines Krankenhaus, which is to be pulled down. It will contain only clinical wards for clinical teaching by ordinary professors. It is lavishly equipped in the most modern and scientific manner and will, when finished, contain 2,600 beds.

Besides this general hospital there are the Wiedner Hospital, the Rudolph Hospital and the Poliklinik, connected with the medical department of the university, in which clinical lectures are

given also by professors during the semesters. The winter semester lasts from October till March 31, the summer semester from May 15 to July 15. The fees for clinical semester lectures are low, about $6 being the maximum, while special lectures are more expensive. A very good opportunity for anatomic and dissecting work is offered in the Anatomisches Institut, for pathologic anatomy and bacteriology in the Pathologisch-Anatomisches Institut. In these official institutes the fees for working and material come to something like $10 to $15 per term of eight weeks. There is also a well-equipped institute for the study of physiology, and one for histology of the nerves. A modern institute for experimental pathology and therapeutic research was opened two years ago. All the institutions mentioned above are in the same quarter or district of Vienna, called Alsergrund, and are conveniently near each other.

Those who wish to spend considerable time in the wards do not find it difficult to obtain the position of *Hospitant* in the wards, where they have the same rights as ordinary hospital officers, but not their duties; they, of course, receive no pay. The clinics for dermatology, practical medicine, syphilis, ophthalmology and otology especially are much frequented by American *Hospitants*.

The following are specimen charges in classes arranged by privat-docents and professors: Diagnostic classes for internal diseases, $10 for six weeks; hematology, $25, four to six weeks; surgery of the genito-urinary system; $20, four weeks; surgery of the ear, $15 to $20, six to eight weeks. In classes on rhinology the fees are between $20 and $40, including operations on patients. Surgical practice on the cadaver is obtainable as a special course. Urbantschitsch's classes on otology are much frequented by English-speaking physicians, and Finger's English classes on dermatology are an old-established institution. Furthermore, it is possible to get up a special class for nearly any branch of medicine if the lecturer is guaranteed a minimum fee varying between $100 and $150 for the whole class, so that there is a vast opportunity for both practical and theoretical teaching at a low cost to the individual members of the class.

The following is reported by an observer as a specimen day: From 8 to 10 a. m., class at von Noorden's clinic, a case of syringomyelia, two cases of multiple sclerosis; 10 a. m. to 12 m., Hochenegg's clinic, removal of a cancer of the breast, operation on a pancreatic cyst; 12 m. to 1 p. m., at Weichselbaum's pathologic theater, twenty-five fresh specimens, obtained during the morning at the necropsies, cancer of the penis, diphtheritic inflammation of the larynx, a volvulus, an anencephalus, a liver with fatty degeneration from phosphorus poisoning, typhoid intestines, leukemic bone-marrow, and several other interesting specimens; 1 to 2 p. m., a Cesarean section in Schauta's clinic; 4 to 5 p. m., a retinoscopy class in the second ophthalmic clinic, where cases of optic neuritis, iritis and keratitis specifica, glaucoma and a case of papilledema were shown; 5 to 6 p. m., work at a chemical laboratory; 6 to 7 p. m., an operative class on the ear of the cadaver.

There are two well-equipped public libraries. One is the large reading-room (Lesezimmer) of the Universitäts-Bibliothek, comprising about 400,000 books, and the other is the Aerztliches Lesezimmer in the hospital, with about 22,000 books and periodicals. English medical works are provided in abundance and access to these libraries is easily obtained.

The American Medical Association of Vienna, Schlösselgasse 28, Vienna VIII, secretary, Dr. M. W. Jacobs, also will be glad to assist any newcomer and to give information on study or other subjects.

A handbook in German, English and French of the postgraduate medical work under the patronage of the free organization for medical courses at the University of Vienna (Aerztliche Fortbildungskurse der freien Organisation für die medizinischen Kurse an der k.k. Universität Wien) is published by Urban & Schwarzenberg 1, Maximilianstrasse 4, Vienna, and supplied gratis on application.

A bureau of information for medical courses is maintained in the Allgemeines Krankenhaus, First Court, head offices (Direktion), first floor, room 14, where information can be obtained on personal or written application.

In the Alsergrund, the district which corresponds to the Latin Quarter in Paris, a conveniently situated room may be had for $8 or $12 a month. Board may be obtained for about $30 or $40 a month, or even less; $10 or $12 a week may be made to cover the expenses of decent living. There are low-priced private dining-halls for medical students and more expensive boarding-houses on the English plan. The following streets are suitable and convenient: Spitalgasse, Alserstrasse, Lazarethgasse, Pelikangasse, Kochgasse, Skodagasse, Schlösselgasse, Währingerstrasse and Garnisonsgasse.

TRAVEL NOTES OF INTEREST TO PROSPECTIVE STUDENTS ABROAD

The following letters and articles, published in THE JOURNAL and elsewhere, may be found of interest by the physician who is planning a trip abroad:

Hall, J. N.: Postgraduate Work in Vienna, THE JOURNAL, Dec. 7, 1907, p. 1932.

Osler, William: Vienna After Thirty-Four Years, THE JOURNAL, May 9, 1908, p. 1523; Impressions of Paris, *ibid*, Feb. 27, 1909, p. 701; March 6, 1909, p. 771.

Davis, A. Edward: Postgraduate Medical Instruction in Vienna, *Jour. Ophth. and Oto-Laryngol.*, April, 1909, p. 127.

Mannheimer, G.: Postgraduate Study in Europe, *Med. Rec.*, May 8, 1909.

Dewey, Richard: Psychiatry in Munich, THE JOURNAL, Jan. 1, 1910, p. 65.

Macy, Mary S.: Postgraduate Medical Work for Women in Europe, *Woman's Med. Jour.*, March, 1910, p. 59.

Kast, L.: The International Committee for Postgraduate Medical Education, *Post-Graduate*, June, 1910, p. 632.

Slocum, George: The American Medical Student in Vienna, *Phys. and Surg.*, July, 1910, p. 262.

Richardson, F. H.: Postgraduate Study of Pediatrics in Vienna, THE JOURNAL, Oct. 8, 1910, p. 1303.

While the Continental Anglo-American Medical Society is not organized for purposes of instruction, the American physician traveling on the Continent may find it useful to have the list of its members, as it will give him the names of English-speaking confrères in continental Europe, and northern Africa as well. The honorary secretary and treasurer is Dr. Charles G. Jarvis, 81 Boulevard Malesherbes, Paris.

CONVERSATIONAL AIDS IN FOREIGN LANGUAGES

To the Editor:—Please give me information in regard to books that will aid practitioners in obtaining a working knowledge of German and French. L. R. C.

ANSWER.—One of the most rapid means of acquiring a foreign language is by reading articles in that language, comparing them meanwhile, sentence by sentence, with a literal translation. "Medical German," by Deutsch, price $1.75, contains conversations with patients in German and English. A volume of German-English medical dialogues, with dictionary and grammar, by Robert Lewin, is published by Dr. Werner Klinkhardt, Leipsic.

Other aids to conversations in French and German are P. Blaschke's English-German "Medizinisches Konversationsbuch," published by the Verlag von Walther Rothschild, Berlin. This is sold in this country for $1.20. Another work of this kind, "Englisch für Mediziner," about the same price, is published by the Verlag von J. A. Barth, Leipsic. But the most valuable work of the kind, perhaps, is the "Medical Vademecum in English and German" by B. Lewis, 1910, which is sold by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, for $5. This was reviewed recently in THE JOURNAL (July 30, 1910, page 425) and commended as an ideal means of obtaining a working knowledge of German without the necessity for a dictionary; the postgraduate lectures and talks are given in English and in German on opposite pages. Especial attention is given to the conversations needed in conducting the examination of a patient in various pathologic conditions. The sixty lectures are on various subjects and are authentic clinical lectures. "Self-Taught French" by F. Thimm, and similar pamphlets for German, Spanish and Italian, are published by Dick & Fitzgerald, 18 Ann Street, New York, and are useful for general conversation. A reply to a query in regard to dictionaries in foreign languages was published in THE JOURNAL, March 20, 1909, page 980.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 1, 1911.

Harmon, Daniel W., lieut., granted two months' leave of absence, to take effect on arrival in the United States.

Skelton, Robert, M.R.C., ordered to proceed to Fort Jay, N. Y.

Davidson, Wilson T., captain, relieved from further duty at Columbus Barracks, Ohio, and ordered to Fort McIntosh, Texas.

Davis, William R., captain, ordered to proceed from Fort Porter, N. Y., to Cleveland, Ohio, on official business pertaining to the medical department of the Army.

Heterick, Robert H., M.R.C., relieved from duty at the Army Medical School and ordered to Fort Brady, Mich., for duty.

Bundesen, H. N., M.R.C., resignation accepted by the President, to take effect March 30, 1911.

Williamson, L. P., lieut., ordered with Co. I, Signal Corps, from Nogales, Ariz., to Hachita, N. Mex., for station.

Wing, Franklin F., D.S., ordered to proceed from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., for temporary duty.

Tuttle, George B., M.R.C., ordered to Fort Miley, Cal., for temporary duty.

Whitmore, E. R., major, on expiration of his present leave of absence ordered to Fort Barrancas, Fla., for duty.

Newton, R. W., M.R.C., ordered to proceed to San Antonio, Texas, and report to the commanding general, department of Texas, for temporary duty.

Blanchard, R. M., captain, left Fort Sheridan, Ill., to inspect the medical and hospital corps of the organized militia of the states of Ohio, Indiana, Illinois, Michigan and Wisconsin.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 29, 1911.

Stimpson, W. G., surgeon, granted seven days' leave of absence from March 25, 1911, under paragraph 189, Service Regulations.

McLaughlin, A. J., P. A. surgeon, directed to proceed to various places on the south shore of Lake Erie on special temporary duty.

Warren, B. S., P. A. surgeon, granted fifteen days' leave of absence from March 24, 1911, on account of sickness.

Stimson, A. M., P. A. surgeon, directed to proceed to Philadelphia on special temporary duty.

Pettyjohn, Joseph, P. A. surgeon, granted two months' leave of absence from March 23, 1911, on account of sickness.

Kearny, R. A., asst.-surgeon, directed to proceed to Astoria, Ore., and report to commanding officer of the Revenue Cutter *Manning* for duty.

Parcher, George, asst.-surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Stiles, C. W., professor of zoology, directed to proceed to Wilmington, N. C., on special temporary duty.

Drs. George Parcher and Louis Schwartz, commissioned (recess) assistant surgeons in the Public Health and Marine-Hospital Service.

Boards of medical officers convened to meet on April 3, 1911, for the physical examination of candidates for appointment as cadet-engineer in the Revenue-Cutter Service. Stapleton, N. Y., detail amended as follows: Passed Assistant Surgeon W. A. Korn, chairman; Passed Assistant Surgeon E. A. Sweet, recorder.

Order convening board at Milwaukee, Wis., revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

FINANCIAL PROBLEMS *

Charles Haase, M.D.,

ELMIRA, N. Y.

COLLECTING ACCOUNTS

Laying aside all sentiment concerning the practice of medicine that has been handed down from the past when physicians made no charge but accepted honorariums, the fact remains that the physician, like the business man, must keep his income equal to or above his expenditures in order to maintain his credit. The business man from whom he buys expects to be paid; so why should not physicians also expect to be paid for their services? If a physician collects a good share of his accounts each year, it not only enables him to keep his family comfortable, but it also enables him to buy journals, books, instruments and other accessories, that make it possible to render better services to his patients.

Physicians should endeavor to collect from all who are able to pay, even invoking the aid of the law when necessary; but always remembering to take care of those who are unable to pay. It is better to do less business at a proper remuneration than twice the work at half pay. The income will be the same and there will be more time for study and recreation.

The physician's worst enemies are those who have old, unsettled accounts; and these enemies can be changed into friends if they can be made to settle their indebtedness. A person who owes the physician money and does not intend to pay will be one of the first to knock him.

"Short accounts make long friends." By accustoming all classes of patients to an early rendering of accounts, while the amount is small and the service is fresh in memory and appreciation, the satisfaction of both patient and physician will be better assured, collection facilitated, and a better financial morale promoted. The regular collection of accounts has several good effects on a doctor's patients; it teaches them that he expects to be paid for his services, it prevents the bill becoming so large that they are unable to pay it, it weeds out bad payers early, and it avoids many losses due to removals and deaths. To avoid payment people go elsewhere. A good rule to follow is never to allow an account to get larger than a family can comfortably afford to pay. It is unquestionably easier for patients to pay and for a physician to collect $10 twelve times a year than $125 once a year—or even $30 four times a year.

Soon after services are rendered a statement should be rendered, and on the first or fifteenth of each month thereafter. In long-continued cases, the physician should try to collect something while attending the patient. Some men never present a bill but wait the patient's pleasure to pay. This is demoralizing, as it puts the physician in a wrong light. The patient gets the idea that the physician does not need the money and can wait, and he is then often forgotten. Others present bills only once a year, which plan is also open to objection, for the patient accidentally or intentionally forgets the circumstances surrounding a case or the items of the account, and disputes the bill. After sending two or three statements and receiving no response, nothing gives such good results as personal visits.

The accounts may be given to an attorney or a local collector. It is important that a physician keep his word with his debtor. If the physician states that he will sue after a certain date, if the individual fails to make a satisfactory arrangement about his account, then he must do it. The moral effect of a successful collection is of more value than the costs. Having people say: "Dr. Blank is a good doctor, but he expects his pay," is worth hundreds of dollars and the reputation can be acquired by a couple of years of close collecting.

FEES

The income from a medical practice rarely equals the income obtained by men of equal ability, whose education and capital are invested in commercial pursuits, notwithstanding the great responsibilities physicians carry which laymen escape. The principal reason for this is that physicians have a constant tendency to settle down to a level—and that the lowest level of professional fees—from which they find it difficult to rise. There is too much tendency to dull routine in charges. There should exist a wide range of charges for medical services, depending on several factors, such as the severity of the case, time given to it, the dangers to the physician and his practice, and the ability of the patient to pay. People should be impressed with the fact that the fee bill represents the minimum fee for ordinary services only, and that when special attention is required a fee in accordance with it should be expected. This is done in surgical cases; why not in medical cases?

The price of a visit does not necessarily pay for services rendered. When, therefore, physicians try to collect something for extra services they are invariably confronted with the settled price of a visit. Such a procedure by no means compensates the physician under all circumstances. A rich man will have his life saved for a thousandth part of what he will pay a lawyer to save his business, and then he will object to the physician's bill. The lawyer long ago learned to value and to charge for special services according to their value and according to the ability of the client to pay; he no longer charges so much a visit or consultation.

When a physician has saved a patient from death or from poisoning he should charge for a major operation, which is what has really been performed, and he should not send a bill for $2 for a night call. It is the medical profession's duty to educate the unthinking public to appreciation of the fact that it takes more skill and a finer quality of judgment to carry a patient through a long period of critical expectancy terminating in a successful accouchement, than to amputate an arm or a leg, and that physicians should be paid accordingly.

In attending contagious diseases, physicians incur danger to themselves, their family and their practice. They should be compensated for the risk and the loss sustained, by a reward at least double that received in ordinary cases.

There is no need of rendering an itemized account to patients. In making out a bill, medical men should take into consideration time, ability and service; nothing less than this will insure the justice that they deserve. Unless physicians come to some understanding of this kind with themselves, unless they ask for a professional fee in proportion to their service and without fixed rates, they will never be paid for what they do. For example, during certain stages of a case

* Read at the Elmira Clinical Society, November, 1910.

of pneumonia or diphtheria, it is important that they be able to watch the case very closely and adapt treatment to the varying conditions, instead of making a regular visit and going back to the office to await further summons. If a lump charge be made, they will feel at liberty to call as often as necessary.

The dead-level fee—the same price for everybody—for all kinds of cases—should have no place in medicine.

DISPENSING

It certainly pays to dispense: First, the patient has his treatment at once; second, he will return if he needs more medicine and the physician can see the effect of the medication and change, continue, or discontinue it as necessary; third, the patient cannot pass the prescription to his friends who are "just as he was." A physician who habitually writes prescriptions, or prescribes proprietary preparations, simply hands over to the public a part of his income. Hit or miss, the laity will essay to treat themselves and even their friends and neighbors by the name or number on the bottle or box. At times, when the physician has not the appropriate medicine, it will be necessary to write a prescription, but this will not happen often, if he learns thoroughly the action of the most important drugs and carries them in his case. Let physicians have printed on their prescription blanks, "Do not repeat" or "*Ne repetatur.*"

The New York Board of Health undertook to ascertain the extent to which substitution was being practiced in New York City, and sent out 373 prescriptions for phenacetin, with the result that only 58 were found to be pure phenacetin; in 315 there was substitution.

SUMMARY

To sum up: Let physicians collect while bills are small; educate the people that the fee schedule is only a minimum one; present bills in lump sums, and keep guard over prescriptions.

110 West Church Street.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Second Weekly Meeting

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM

WEIGHT and size of the brain and spinal cord in infancy and childhood. Rate of growth.

PHYSIOLOGY OF NERVOUS SYSTEM: Instability of nerve centers; excessive irritability of motor, sensory and vasomotor nerves; marked effect of reflex irritations; grave permanent effects following slight lesions.

DISEASES OF THE NERVOUS SYSTEM

CONVULSIONS: Etiology: Predisposing causes, instability of nerve centers, nutritive disturbances, constitutional diseases, heredity, etc. Exciting causes: (1) Direct irritation of cortex, meningitis, hemorrhage, abscess, etc.; (2) reflex irritation, digestive disturbances, injuries, phimosis, retention of urine, etc.; (3) toxic influences, uremia, asphyxia, acute infections, pertussis, convulsions associated with enlarged thymus. Idiopathic convulsions.

Diagnosis as to etiology.

Treatment in detail.

TETANY

ETIOLOGY: Age, sex, frequency. Rickets, gastro-intestinal disorders, bronchopneumonia, etc.

SYMPTOMS: Onset of spasm, extension, duration. Reflexes, effect of local irritation. Pain.

Diagnosis.

LARYNGISMUS STRIDULUS

Frequency, age, association with rickets. Symptoms and diagnosis.

REFERENCE BOOKS FOR THE NINTH MONTH

Holt: Diseases of Infancy and Childhood.
Koplik: Diseases of Infancy and Childhood.
Rotch: Pediatrics.
Starr: American Text-Book of Diseases of Children.
Taylor and Wells: Diseases of Children.
Pfaundler and Schlossman: Diseases of Children.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

NEW MEXICO: Santa Fe, April 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

WEST VIRGINIA: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Colorado January Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan. 3-7, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Nine candidates were examined, of whom 3 passed and 6 failed, including 1 osteopath. Twenty-nine candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine,	(1910)	80.1, 80.1, 82.8

FAILED

Keokuk Medical College	(1898)	58
Kentucky School of Medicine	(1898)	63.6
Barnes Medical College	(1907)	66.1
St. Louis College of Physicians and Surgeons	(1906)	[illegible]
Kansas City Hahnemann Medical College	(1910)	66

REGISTERED ON CREDENTIALS

College	Year Grad.	State Licenses
Georgetown University	(1899)	Kansas
Hahnemann Med. Coll. and Hosp., Chicago	(1900) (1907)	Illinois
College of Physicians and Surgeons, Chicago	(1889) (1905) (2, 1906)	Virginia; Illinois.
Northwestern University Medical School	(1897)	Illinois
Keokuk Medical College	(1898)	Missouri
College of Physicians and Surgeons, Keokuk	(1881)	Missouri
Drake University	(1897)	Wyoming
Sioux City College of Medicine	(1901)	Iowa
Kansas Medical College	(1898)	Kansas
University of Louisville	(1889)	Missouri
Tulane University of Louisiana	(1906)	Alabama
Baltimore Medical College	(1903)	Penna.
Marion Sims College of Medicine	(1898)	Oklahoma
Ensworth Medical College	(1895)	Kansas
St. Louis College of Physicians and Surgeons	(1893)	Kansas
American Medical College, St. Louis	(1908)	Missouri
University and Bellevue Hosp. Med. College	(1903)	Utah
Lincoln Medical College	(1901)	Nebraska
Long Island College Hospital	(1895)	New York
New York Homeopathic Med. Coll. and Hospital	(1903)	New York
Cleveland Homeopathic Medical College	(1909)	Ohio
Jefferson Medical College	(1887)	Penna.
University of Pittsburg	(1907)	Penna.
Medical College of South Carolina	(1902)	S. Carolina
University of Nashville	(1899)	Nebraska

The following questions were asked:

ANATOMY

1. Describe the radius, including muscular and ligamentous attachments. 2. Describe the sternum, including muscular and ligamentous attachments. 3. Describe the elbow joint. 4. Describe the ankle joint. 5. Give the origin, insertion and nerve supply of the following muscles: triceps, pyriformis, peroneus longus, levator ani, levator anguli scapulæ. 6. Name the supinators of the forearm and give the nerve-supply of each. 7. Name the branches of the internal iliac artery. 8. Give the collateral circulation that would follow ligation of the common carotid. 9. Describe the lumbar plexus. 10. Describe the right kidney, including its relations. Alternate question: Where are the cortical centers of the face, arm and forearm?

PATHOLOGY

1. Give the pathology of acute anterior poliomyelitis. 2. Describe the process of amyloid degeneration. 3. Describe the structure of sarcoma, giving the various types. 4. How would you make a Widal test? 5. How would you distinguish *B. coli communis* from *B. typhosus?* 6. Define (1) anaphylaxis, (2) tuberculin, (3) *Treponema pallida*, (4) Wassermann reaction, (5) leukopenia. 7. Discuss

uremia. 8. Describe the most common tumor found in bone. 9. Describe the changes undergone in the brain after cerebral embolism. 10. Give microscopic appearances of a gumma.

PHYSIOLOGY

1. Discuss metabolism. 2. Discuss digestion. 3. Discuss elimination. 4. Discuss respiration. 5. Discuss circulation (blood and lymph). 6. Give a physical description of the blood, with functions of its component parts. 7. Define reflex arc, give examples of reflex action. 8. Give in outline the sympathetic nervous system with functions. 9. Give distribution and function of cranial nerves. 10. Define hyperopia, myopia and astigmia, giving general principles involved in their detection and correction.

CHEMISTRY

1. What is indican, and what does it signify when found in the urine? 2. How would you determine the presence or absence of acetone in urine? 3. Define osmosis. 4. What are the chemical constituents of normal urine? 5. Give a concise description of a chemical examination of normal urine. 6. Name a chemical incompatibility, describing the reaction. 7. What chemical tests are used in the detection of occult blood? 8. Give a general definition of an ether. 9. Give the composition of water by volume and by weight. 10. What is a compound radical? Give examples, with the valence of each.

TOXICOLOGY

1. From a medical standpoint define toxicology. 2. In the event you were called to a case with the following symptoms—drowsiness, headache, giddiness, stupor, delirium, convulsions and paralysis, what would be your diagnosis? 3. What would be your treatment? 4. Give symptoms of poisoning by lead acetate. 5. Treatment and post-mortem appearance. 6. Give symptoms of poisoning by tartar emetic. 7. Treatment and post-mortem appearance. 8. Give symptoms of poisoning by corrosive sublimate. 9. Treatment and post-mortem appearance. 10. Give difference in symptoms of poisoning by corrosive sublimate and those of arsenic.

SURGERY

1. Give the causes of arteritis and describe the symptoms and complications. 2. What are the symptoms and causes of lymphadenitis. 3. Give the symptoms of a tubercular abscess. 4. Discuss sarcoma of the kidney. 5. Give the symptoms and causes of acute osteomyelitis. 6. Give some of the complications and consequences of fractures. 7. Give the symptoms of fracture of the surgical neck of the humerus. 8. Give the symptoms of tubercular arthritis of the elbow joint. 9. Give the symptoms of dislocation of the head of the femur on the dorsum of the ilium and what per cent. of hip dislocations does this form comprise? 10. Give the symptoms of strangulated hernia.

OBSTETRICS

1. Describe in detail your procedure after arrival at the lying-in chamber when the patient is (a) in the first stage of labor, (b) in the second stage, (c) and the third stage. 2. Describe the toxemias of pregnancy and tell what you would do to prevent or relieve same. 3. What is "morning sickness?" Give causes, duration and treatment. 4. What are the indications for the use of the obstetrical forceps? Describe their application. 5. Give directions for the care of a woman after delivery—(a) normal, (b) instrumental. 6. When should a lacerated perineum be repaired, and give technic? 7. What means would you employ to prevent laceration of the perineum when the head is well down on the perineum and labor pains are strong? 8. How would you treat a case of ophthalmia neonatorum? 9. Give symptoms of pregnancy and their relative importance. 10. Give method of procedure in case of retained secundines in four month abortion.

SYMPTOMATOLOGY

1. Describe, locate and give causes of the different heart murmurs. 2. In what order and at what time do the teeth erupt in childhood? 3. Give symptoms of tuberculous hip-joint disease. 4. Give cause and symptoms of multiple neuritis. 5. Give symptoms of scurvy in children. 6. Give cause, prognosis and symptoms of myocarditis. 7. Give symptoms of chronic appendicitis. 8. Describe your procedure in making a physical examination of the abdomen. 9. Differentiate between pyelitis and cystitis. 10. Give cause and symptoms of pulmonary edema.

Utah January Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 4-5, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern Univ. Medical School (1909) 80.8;	(1910)	76.5
Hahnemann Med. Coll. and Hosp., Chicago	(1910)	75
St. Louis College of Physicians and Surgeons	(1910)	77.1
Medical College of Ohio	(1902)	77.5
Jefferson Medical College	(1910)	84.4
Medico-Chirurgical College, Philadelphia	(1899)	79.3

FAILED

Gross Medical College	(1895)	45

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1909)	Illinois

Book Notices

DYKE'S AUTOMOBILE ENCYCLOPEDIA (1911). In 29 Parts, Including a Dictionary. Treating on Construction, Operation, Repairing of Automobiles and Gasoline Engines. By A. L. Dyke, E.E., Member Society Auto Engineers. Cloth. Pp. 407, with illustrations. St. Louis: A. L. Dyke.

It is not surprising that one edition of this book has been exhausted, for it is a most complete work. In twenty-nine instructions, or chapters, and with a profusion of illustrations, all well made and useful, the author endeavors to discuss the principles on which gasoline engines and automobiles are operated and built. He adheres strictly to the practical side of the subject, never indulging in theorization. The man who takes care of his own car will find this book full of useful hints and information. It propounds queries, such as are often put by a puzzled operator, and answers them. A separate chapter is devoted to "troubles."

OXYPATHIE. Von Dr. Wilhelm Stoeltzner, Direktor der Universitäts-Poliklinik für Kinderkrankheiten in Halle a. S. Paper. Price, 3 marks. Pp. 92. Berlin: S. Karger, Karlstrasse 15, 1911.

Stoeltzner proposes the term *Oxypathie* to cover all that is comprised in the French *arthritisme*, the English lithemia and the German *exudative Diathese*, and still further extends the ramifications of that very complex clinical picture. He finds these terms objectionable because they all unduly emphasize one aspect of the diathesis. The word *Oxypathie* conveys, furthermore, the idea that the essential condition in this diathesis is an acid intoxication of alimentary origin. Thus he maintains that the essential difficulty in feeding cow's milk to an infant lies in the absorption of phosphoric acid, a phosphoric acid intoxication, due to the liberation of a large amount of this acid from its normal combination with the large amount of calcium contained in cow's milk, because of the uniting of the large amount of fatty acids formed from the fat with this calcium. He believes a similar acid intoxication to be the basis of *Oxypathie* in general and finds the sovereign remedy in sodium citrate, which he considers almost a specific in infant-feeding with cow's milk, and even, under certain conditions, with breast-milk, in infantile atrophy, in infantile eczema (with almost unfailing results), in rickets, in scrofula, in asthmatic bronchitis, in lichen urticatus, cyclic vomiting, migraine, and also in the less definite manifestations, such as paleness, poor nutrition, nervousness, obesity, etc. Whether the reader will consider this new teaching as a stroke of synthetic genius, or as the elaboration of an idea dominated by an unconquerable bias, will make little difference in the enjoyment—and, we might say, profit—that he will obtain from a careful reading of the ninety-two pages of this rather startling little book.

THE PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Medicine, Medical College of Ohio. Second Edition. Cloth. Price, $5. Pp. 172. New York: D. Appleton & Co., 1910.

This is a revision in fact and not merely a reprinting of the first edition. The aim has been to bring therapy up to date, to weed out obsolete and useless plans of treatment and to include whatever of the new appeals to the author because based on scientific principles, or endorsed by reliable men, or tried by himself and found acceptable. Several new chapters—some of them very short, we must admit—have been added, on such subjects as dysentery, Rocky Mountain fever, splenomegaly, tuberculous meningitis, etc. Serum therapy receives notice. Some chapters have been entirely rewritten. The sincere attempt to make a practical, scientific work on treatment seems successful. We might occasionally ask for a little more detail, as, for instance, how to use the quinin injections in amebic dysentery. Harm may perhaps come, it is said, from using too large an amount of water, but we are not told how much it is wise to employ; or whether in any case surgery is of avail.

Dead gonococci, the so-called vaccines, are mentioned as of service in gonorrheal arthritis. This is true, but their use is really limited to the chronic forms. Other articles are much fuller. We noticed particularly the discussion of diet

in the treatment of obesity; also the treatment of chronic myocardial insufficiency.

The best feature of the book is that it contains the personal experience of the author; it is not a mere compilation from the literature. Every page bears the stamp of the practical physician who has tried nearly all of the plans of treatment recommended and knows whereof he speaks. The author's wide and varied experience, his sane judgment, and his ability to express his ideas clearly, forcibly and concisely, make the book a valuable addition to the library of the practitioner who is seeking aid in the treatment of internal diseases.

Medicolegal

Skill and Care Required in Making Tests to Ascertain Nature of and Treat Injuries—Error of Judgment

The Supreme Court of North Carolina considers test requirements in the malpractice case of Long vs. Austin (69 S. E. R. 500), where it affirms a judgment in favor of the plaintiff, who alleged that her shoulder joint had become dislocated by a fall, and that the defendant, on examination, failed to discover the dislocation and to apply such remedies as were necessary to restore the shoulder to its normal condition, which could have been done by the exercise of ordinary care and skill.

The court says that the mere use of approved tests, or those which have been found to be the best for the discovery of a dislocation or fracture or any other abnormal condition of the human body, is not all that is required of a surgeon or physician in the care and treatment of his patient. He must exercise that reasonable skill, care and proficiency in making the tests and in ascertaining from them the presence of any injury and generally in the treatment of his patient which a member of his profession of ordinary care and prudence should use under the circumstances. He is not bound or confined to any special treatment, but to an ordinarily careful and skilful one.

It was requested that the jury should be instructed that if they found that the defendant used the following tests: laying her right arm across her chest, placing her right hand on her left shoulder and pressing her right elbow against her chest, then placing her right hand on top or back of her head, and measuring both arms from the shoulder to the elbow and comparing the measurements, then the defendant would have used the proper tests, and if these tests failed to disclose the dislocation of the arm, then the jury should answer in the negative the question of whether the plaintiff was injured by the negligence or want of skill of the defendant, as alleged in the complaint. The court properly refused to adopt this language and to give the instruction as requested. The defendant's application of a test, even the ordinary and usual one, was not, by itself, a full compliance with the duty he owed to his patient. The requested instruction omitted any reference to the care and skill the law required him as a surgeon to bring to the use of the test and general treatment of the case. If he made the test and failed in other respects to exercise ordinary care, skill and diligence, he was just as liable for a consequent injury as if he had not applied the test at all.

The requested instruction was also deficient in not requiring the jury to find what was the proper test, especially as the evidence on this question was not all one way. A hypothetical question should contain all the facts essential to the expression of an intelligent opinion by the expert and of which there is evidence, and not a partial statement of the facts which could not present the entire matter to the witness, so as to enable him to give such an opinion as the law permits to be considered by the jury. The application of the ordinary test would be evidence on the question as to whether the defendant had exercised the care and skill required of him, but would not be plenary or conclusive proof or be fully determinative of the fact. He may not have applied the test properly, or, if he did, he may not have possessed the requisite knowledge and skill to understand the symptoms which it disclosed, or to apply the proper remedy. It was for the jury to decide, on the evidence and under the instructions of the court, whether the defendant possessed the requisite knowledge and skill and had carefully applied them in behalf of his patient.

Again, it was requested that the jury be instructed that if they found from the evidence that the defendant made a mistake or error of judgment only in his treatment of the plaintiff, they should answer "No" on the issue of whether the defendant was injured by the negligence or want of skill of the defendant, as alleged in the complaint. The instruction, as requested, was faulty in that it left out of consideration the material question as to the care and skill required of a physician when treating his patient. The jury were properly told that the defendant owed to the plaintiff that degree of care and skill which is ordinarily practiced and possessed by the average of his profession, and not the highest known to his profession. Where a physician exercises ordinary skill and diligence, he is not liable for a mere mistake of judgment. The law does not excuse an error of judgment if it occurs by reason of the surgeon's lack of that knowledge which he should possess in order to qualify him for the practice of his profession, or the failure to exercise the requisite skill and diligence.

Christian Science Healer a Practitioner of Medicine Amenable to Law

City Magistrate Freschi, of the City Magistrate's Court of the city of New York, First Division, Second District, holds, in People vs. Cole, on an application by the New York County Medical Society, that a warrant should be issued on an information charging the defendant, a Christian Science "healer," with practicing medicine without being duly qualified and licensed.

The magistrate says that he is of the opinion that the practice of the treatment of sickness and disease by inaudible prayer, as established by the evidence in this case, violates the law of New York State. The only theory on which the defendant could claim any right to practice as a "healer" of diseases and sickness was that the reservation, stated in the public health law of the state to the effect that it should not be construed to affect the practice of the religious tenets of any church, excluded him from the operation of the definition of the practice of medicine. It is, of course, true that the state constitution grants to every person freedom of conscience in matters of religion; but, on the other hand, it specifically provides that "the liberty of conscience hereby secured shall not be construed as to excuse acts of licentiousness or justify practices inconsistent with the peace or safety of this state." The public health and the treatment of diseases are matters of great concern to all states and the subject of proper public regulation in the exercise of their police powers.

From a study of a number of cases it must be ruled that religion is beyond judicial interference so long as one keeps it to himself and does not jeopardize others; but the moment there is an invasion of the rights of the state by some overt act or conduct that tends to affect the safety and future welfare of its people, then the civil government may intervene for its own protection and preservation. Religious belief is no excuse for an unlawful act. No person under the guise of the practice of the principles and tenets of any church may violate the law of the land. A thorough and prolonged search of all decisions in point rendered in the courts of our states fails to reveal that religion or its practice has even been construed to be a business.

The Christian Scientist has the right to believe that he can heal by prayers, but this court is of the opinion that if he carries and puts that belief into practice for hire and solicits patients by advertisement, then he exceeds his rights as an individual under the law and comes directly within the prohibition of the constitution. He must subordinate his beliefs to the rights of the community and of the state as an entity when the free exercise of such belief either impairs and endangers the health of the people or tends to place their health in jeopardy so that the safety of the state will be affected. Certainly the continuance of a practice or profession to heal as the defendant claimed could be done in this case ought to be the subject of judicial review of the higher and appellate courts.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Tennessee State Medical Association, Nashville, April 11-13.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

Thirteenth Annual Session, held at Raleigh, N. C., Feb. 22-23, 1911

Officers Elected

The following officers were elected for the ensuing year: President, Dr. J. Howell Way, Waynesville, N. C.; vice-presidents: for North Carolina, Dr. Thomas E. Anderson, Statesville; for South Carolina, Dr. F. H. McLeod, Florence; for Virginia, Dr. W. E. Anderson, Farmville; secretary-treasurer, Dr. Rolfe E. Hughes, Laurens, S. C.; councillors: Drs. E. C. Register, Charlotte, N. C., W. W. Fennell, Rock Hill, S. C., Samuel Lile, Lynchburg, Va.

The next meeting will be held in Columbia, S. C., the third Wednesday in February, 1912.

The Hon. W. W. Kitchin, Governor of North Carolina, delivered the address of welcome.

President's Address: Preventive Medicine

DR. JOSEPH WHITE, Richmond, Va., delivered his address at a special evening session, and it was unanimously voted by the association that the address should be published, not only in the medical journals of the three states, but in some lay monthly magazine of large circulation in the South. He said in part:

The work of Pasteur, Koch, Ross and others in the last century has made possible such triumphs of modern medicine as the construction of the Panama Canal, the suppression of yellow fever in Cuba, the reduction of the death-rate from tuberculosis, the control of bubonic plague, the elimination of typhus fever, the prevention of rabies and the cure of syphilis. Preventive medicine has almost eliminated puerperal infection; has furnished specific treatment for diphtheria and cerebrospinal meningitis, and is waging a strong battle against ophthalmia neonatorum. Why should Virginia and the Carolinas be so far behind in the matter of registration of midwives? In some of our sister states this matter has been properly regulated. The medical inspection of school children and school hygiene are now recognized as the best means a state can adopt to insure good citizens in the future. The removal of tonsils and adenoids, the correction of defective vision and hearing, and the removal to outdoor schools of the tuberculous children in our schools is economy of the best sort and should be a matter of public concern.

Report on Some Patients Treated With Salvarsan

DR. LAWRENCE PRICE, Richmond, Va.: The method of preparation of the drug for administration was an adaptation of two of Ehrlich's methods combined with that of Junkerman. In five cases I used methyl-alcohol to dissolve the salvarsan. In all of the patients the drug was injected hypodermatically into the gluteal muscles. With four no alcohol was used, the drug being dissolved with warm sterile water. The administration in one case was subcutaneous; in three, intravenous. From experience with four out of nine cases, I concluded that the Wassermann reaction does not become negative under fourteen days, when the intramuscular method is used. I have not been able to notice any difference in the rapidity of the disappearance of lesions by one method over the other, though mucous patches clear up more rapidly than skin lesions. In all of the first eight cases I am administering by mouth mercurial treatment, and intend to continue so, regardless of the finding by the Wassermann test, for a period of five or six months. The method of administration, I think, should be governed by the stage and extent of the lesions, though from the patient's standpoint, the intravenous method is more desirable because of the absence of pain afterward; but the technic of administration by this method is rather dangerous, unless extreme care is exercised to avoid getting air into the vein; and, also, care that everything used from the beginning of the preparation of the dose to the dressing of the wound should be absolutely sterile, together with close attention to the technic of intravenous injection. I believe that the desired results can be obtained by the intravenous method if salvarsan be administered during the primary and very early part of the secondary stage, before any pathologic changes have taken place in the various tissues of the body, because of the floating action of the drug when thrown directly into the circulation. In the late secondary and in the tertiary stages, a more gradual and continuous action on the spirochetes is desired, so I advise the intramuscular method. In one case reported there were untoward effects which I believe were due to overdosing with chloral; in two others, the pain down the thighs and legs did not clear up entirely for two weeks. The curative effects of salvarsan in the treatment of syphilis during any of its stages is, in my opinion, unquestionably proved, if the drug is properly prepared for administration. I believe that many of the reported untoward effects and recurrences have been due to improper dispensing.

DISCUSSION

DR. TOM A. WILLIAMS, Washington, D. C.: The fact that we should diagnose tabes without a reaction is clear, and is illustrated by a case which I saw last autumn. There was a persistent negative Wassermann reaction, but the character of the distribution of a pain in the line of the distribution of the fifth lumbar root was so characteristic that in spite of bladder symptoms having been cleared up by proper treatment, I injected mercury and the pain cleared up in a few weeks. However, the man relapsed again in five weeks and showed positive reaction. I gave salvarsan intravenously; but the pain disappeared for only one week, the reaction becoming negative completely for one week only; the man is now taking mercury. It is a question if we should administer this drug in preference to mercury, which, properly used, can arrest lues, and even parasyphilis, as the cases of Dana and myself indicate in this country, following those of Babinski and his followers in France.

Diagnosis and Treatment of Tumors of the Breast

DR. J. SHELTON HORSLEY, Richmond, Va.: Knowledge of practical pathology is a necessity to any surgeon who operates on tumors of the breast. In many instances the diagnosis must be made at the operating table, as no tumor should be cut into for diagnostic purposes unless operation follows immediately. The surgeon should carry the pathology in his head and fingers and not in those of some one else. I follow the classification of Warren, dividing tumors into cancer and fibro-epithelial tumors. The latter class is subdivided into those in which the fibrous tissue predominates and those in which the epithelial tissue is most prominent. The last-mentioned tumors are likely to degenerate into cancer and usually

occur late in life. I wish to emphasize two points in making the diagnosis of cancer: first, the detection of the slightest tendency to retraction; and, second, the absence of pain. The first symptom may be tested by moving the skin over the tumor, by moving the tumor within the breast substance and by moving the breast on the fascia of the pectoral muscles. The slightest limitation of motion is exceedingly suggestive of cancer. The patient should be stripped to the waist and sitting on a stool in a good light; if the shoulders are equal the nipple of the affected breast will be at a little higher level than the nipple of the healthy breast if the tumor is cancerous. If the tumor is a benign one, the nipple will be either lower or on a level with the nipple of the healthy breast. This is due to the fact that cancer cells form some product that is irritating to the tissue, and tends to cause contraction, just as contraction in cirrhosis of the liver is caused by irritation. In the majority of cases a correct diagnosis can be made in the early stage by the ordinary signs and symptoms without resort to incision; but the diagnosis should always be cleared up at once whenever a patient presents herself with a growth in the breast, as the chances for permanent cure in cancer of the breast mathematically decrease with each day of delay. I have never known of pain in any cancer of the breast in the early stage, though the laity and some physicians seem to think this a constant symptom. Pain is more likely to be present in a benign tumor than in a cancer, though it is not often encountered with in any tumor of the breast in the early stages. If incision is necessary for clearing up the diagnosis, the patient should be prepared for immediate operation, either radical or local, depending on the diagnosis that the incision will show. There is practically no danger in following an incision immediately by operation, but to incise a cancerous growth and operate a day or two later invariably results in recurrence. If the growth incised is a benign tumor, it will bulge into the wound and its capsule will retract. If it is cancerous, there will be no distinct capsule and the growth will lie flat as though the incision had been made into a piece of wax. If the growth is cystic and is cancerous, its contents will be either dark and grumous or bloody and the wall of the cyst will be thickened throughout or in patches. If the cyst is benign the wall is thin and its contents will be either clear or straw-colored. I advise local extirpation in benign tumors and radical operation in cancer, beginning at the axilla and excising all of the material with a wide margin of skin in one mass.

DISCUSSION

DR. J. T. BURRUS, High Point, N. C.: I am much interested in cancer, and spent the greater part of last year in a cancer hospital. I am convinced that to lower the mortality from cancer in this country we must make an early diagnosis and then do a sufficiently radical operation. There is nothing closer to criminality than to go into cancer substance. I remember a case of a melanotic sarcoma in which the surgeon had gone into the cancer substance, and in less than six weeks metastasis had developed in the supraclavicular glands and the glands of the neck, on both sides.

DR. J. W. LONG, Greensboro, N. C.: One phase of this subject which I think should not go unnoticed is the contagiousness of cancer. Just one illustration: It had been noticed that the fish in certain pools in the State of New York were subject to cancer of the thyroid gland, and this was observed so constantly that, in order to test the matter, young puppies were brought from another section of the state and allowed to drink water only from one of these pools that contained cancerous fish. In a short time every one of the puppies developed carcinoma of the thyroid.

DR. G. P. LAROQUE, Richmond, Va.: The best way to cure cancer is to prevent it, but if it has already developed we should remove it at the earliest possible moment. Therefore, every tumor of the breast, even when not obviously cancer, should be removed at once and subjected to microscopic examination by a competent pathologist. It seems to me a little illogical to make a diagnosis by the absence of anything, and especially by the absence of pain. A tumor which is actually of itself not painful may be complicated by traumatism or inflammation and become the seat of pain, even though cancer is not painful. As a matter of fact, a large number of cancers of the breast are secondary to mastitis and mastitis is necessarily painful.

The Cancer Committee

The association, through this committee, is waging active warfare against cancer in an effort to lessen materially the 80,000 deaths from this cause in the United States each year.

The present committee was unanimously continued for another year. This committee will be divided into sub-committees, with Dr. Horsley of Virginia, Dr. Rankin of North Carolina, and Dr. Williams of South Carolina, as chairmen, and the members will meet within these three states several times each year. They will prepare circulars and distribute them as widely as possible, the council being requested to furnish funds for this purpose. The boards of health have promised their cooperation, and each member of the association has been urged to do his part toward educating the public in the prevention of this disease. In addition, literature on the subject is to be sent to the members of the association, fully disclosing the plans and purposes of the committee, and the lines on which they will be asked to cooperate in educating the laity.

The Conservation of Sight

DR. J. W. JERVEY, Greenville, S. C.: The preservation of the public sight must be a great factor in the development of a people. Sins are daily being committed by a modern civilized people on a nation's eye-sight; but all the errors are preventable and many of them easily so.

The factors injuring vision are as follows: Ophthalmia neonatorum; pernicious activity of the so-called optometrists; the advertising eye doctor; the white incandescent mantle and electric bulb; badly printed newspapers and school books; badly lighted schools; unsuitable school desks; kindergartens; moving-picture shows; antipathy to the use of glasses.

DISCUSSION

DR. ROLFE E. HUGHES, Laurens, S. C.: I desire to emphasize especially one point: the prevention of ophthalmia neonatorum. I wonder why more obstetricians do not make it a rule to use a prophylactic remedy of from 1 to 2 per cent. silver nitrate. I have for years done that as often as I ligate the umbilical cord. And I might add, in the case of the male, a circumcision would be another good step at this time.

At the conclusion of Dr. Jervey's paper a motion was made, and unanimously seconded, that the Tri-State Medical Association request that Dr. Jervey's paper be published in one of the leading national weekly or monthly lay magazines, as a contribution from the association to the education of the people. The motion was adopted.

Rheumatism

DR. J. N. UPSHUR, Richmond, Va., discussed the causation of rheumatism, his deductions from reports of investigations to the present day being that the causation of rheumatism from a germ has not yet been satisfactorily established, and clinical observation shows that the best results come from treatment on the old theory of unbalanced metabolism. He emphasized the use of alkalies, notably, bicarbonate of potash, until the secretions become neutral; following this up by the administration of some one of the salicylates, the best results are obtained, with much diminished risk of heart involvement. He recommended ammonium carbonate, in doses of from 5 to 10 grains every two hours, as a most satisfactory remedy in the treatment of endocarditis, minimizing the risk of emboli, and subsequent damage to the heart valves.

DISCUSSION

DR. J. N. WALTON, Richmond, Va.: It was shown more than thirty years ago that the combined Fuller, or alkaline treatment, with the salicylates would reduce the heart complications to the minimum. Bicarbonate of potassium or sodium, well diluted in water, should be given frequently enough to keep the urine alkaline; the nurse should be supplied with litmus paper and the urine should be tested for acidity several times a day. The salicylates are liable to ruin the digestion and the least objectionable is the effervescing salicylate of strontium to be given well diluted in cold water. In chronic

rheumatism the treatment should be dietetic and eliminating, and experience has abundantly established the value of hydrotherapy and electricity over all other agents in the successful treatment of this type of rheumatism.

DR. DOUGLAS VANDERHOOF, Richmond, Va.: In this connection I would call attention to a paper published several years ago by Dr. T. W. Clarke, of the Lakeside Hospital, Cleveland, Ohio, in which he advocated the use of large doses of sodium salicylate at the onset of acute arthritis. He gives 30 grains of sodium salicylate every four hours for eight doses—half an ounce of the drug in thirty-two hours. In acute rheumatic fever this treatment promptly relieves pain, and also reduces the fever and the swelling of the joints, whereas in acute gonorrheal arthritis the symptoms are not so marvelously alleviated. In a rather large series of cases of acute rheumatic fever, these massive doses were found to be not injurious to the heart but rather served to protect that organ by cutting short the course of the disease. In my hospital experience I had good opportunity to prove the value of this procedure in the differential diagnosis of certain cases of acute arthritis.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

(Concluded from page 997)

Report of Judicial Council

The judicial council reported favorably on the applications for membership of the Medical Department of the University of Minnesota, Northwestern University Medical School, and the Medical Department of Syracuse University.

A number of recommendations made in this report were acted on in general meeting, and have appeared elsewhere.

Report of Committee on Medical Education

After considering the question of a five years' course, the committee did not deem it wise to present a schedule for consideration at this time. The present unsettled condition of medical legislation in the states of the Union, coupled with the uncertainties that exist among the colleges, has left the subject in a state of uncertainty which precludes the presentation of any schedule. The questions that confronted the committee were: 1. Shall the fifth year be a terminal one to the present four years' course and limited to clinical training, or shall a part of the time be given to the study of medical sciences in the beginning of the course? 2. In the states where legislative enactments have advanced the requirements beyond a high-school standard, no provision has been made as to whether the course shall be given absolutely in a literary college or as a preliminary course in a medical college. The trend of legislation, however, has been toward the literary training rather than increasing the medical curriculum. The difficulties in the way are that very few of the literary colleges are equipped to give a definite premedical course, and very few are willing to change their present curriculum to accommodate the medical colleges. The committee did not deem it wise for the association to adopt any prescribed schedule for a five years' course, but believes that the colleges in membership in the association should urge on their graduates the necessity for a hospital year before entering practice, and that proper inducements should be offered them to take the course.

With regard to the concentration method of teaching, no definite conclusions were given. Many colleges have already adopted the method in part, but none are ready to recommend or reject the system. At the suggestion of the committee, the matter was laid over for one year. The following resolutions were presented by the committee and adopted.

WHEREAS, The time devoted to the study of pharmacology, materia medica and therapeutics is necessarily limited, and

WHEREAS, The thorough knowledge of a small but representative group of medicaments is conducive to scientific progress in therapeutics; therefore, be it

Resolved, That the Association of American Medical Colleges commends to the attention of medical educators and examiners the limited materia medica lists published by the joint committee of the Council on Medical Education, and of the National Confederation of State Medical Examining and Licensing Boards, and the Chicago Medical Society.

Resolved, That the association urge on the colleges and the examining boards the necessity for the recognition of the principle underlying these lists, and for the early adoption by the boards of a materia medica list to which licensure examinations shall largely be confined.

The committee approved of and commended the suggestion made by the president in his address that wider cooperation of the members in the work of the association would be of benefit, and, further, that the president be authorized to appoint a representative from the association to attend all the conferences, public and private, of the Council on Medical Education.

The Fifth Year in Medicine: The Hospital Year

DR. F. F. WESBROOK, Minneapolis: In presenting the plan which has been adopted in Minnesota for a fifth or hospital year, it is apparent that the viewpoint is not simply that of the welfare of the medical college but that of the good of the people of the state. It is recognized that what may be advantageous for a state situated as is Minnesota may be quite unsuitable or impracticable for other states where conditions are radically different. In order to secure the opinion of those in Minnesota who are specially interested, written information as to the desirability of a fifth or hospital year was obtained from representatives of various hospitals, of the medical press, from influential members and officers of the Minnesota State Medical Society, members of the Minnesota State Board of Health, of the Minnesota State Board of Medical Examiners, medical officers of state institutions and other similar sources. The requirement was announced last year and goes into effect with the class entering college in September, 1911, which means that compulsory internships must be provided in 1915. This affords four years' time for the final perfection and announcement of methods. A committee of the faculty of the College of Medicine and Surgery has been appointed to perfect final arrangements. Since this committee has not yet reported, it is impossible at this time to give the details of the plan as it will be put into operation.

At present 90 per cent. of the students voluntarily take internships, so that the carrying into effect of the announced plan will mean simply the requirement of one more year of service for a few students. To make these requirements compulsory for all will, however, protect the state in a number of directions. The plan provides a further year of collegiate supervision for students before they are granted degrees. It protects the college and the state against the granting of degrees to those who may be satisfactory students but who may prove to be unfit, incompetent or unpractical in the care of patients. For the hospitals, advantage is secured in providing a stimulus to better work and sustained service on the part of interns, since the degree will be withheld unless the hospital service of the student is satisfactory to the proper authorities. For the successful carrying out of the work, the state university must establish a set of requirements as to the size and scope of hospitals, methods of organization, facilities for scientific work and case records, and such other details as may prove necessary to standardize the hospitals for the purposes of this fifth or clinical year of medical education. It is believed that hospitals so standardized will welcome affiliation with the university. The further opportunities it provides for medical and public health cooperation in the state and in furnishing an added stimulus for each hospital to become a scientific center for the physicians of the locality are apparent. The available internships in Minnesota will far outnumber the local candidates for the positions. The university hospitals, when completed, will provide a large share of the required positions. The Minnesota State Board of Medical Examiners, according to the law, does not require graduation but demands of its candidates for licensure four years of work in a recognized medical college and two years of premedical college or university work, which is equivalent to that provided by the University of Minnesota. These equivalents are determined for the Minnesota State Board of Medical Examiners, as in the case of students entering the College of Medicine and Surgery, by the Registrar of the University, or when necessary, by the Enrolment Committee of the College of Science, Literature and the Arts of the University of Minnesota. Whether the future graduates of the College of Medicine and

Surgery shall be required to take their examinations for license to practice medicine at the end of the fourth year or college course or at the end of the fifth year or hospital service has not been determined. Nor has it been decided whether it is desirable to substitute graduate research work for the hospital year in the case of those who wish to qualify, not for medical practice, but for teaching and research posts. It has seemed to the people of Minnesota that owing to the increase in present-day knowledge in chemistry, physics and biology, and in their increased applicability to the diagnosis, prevention and cure of disease, nothing less than seven years of university and clinical work should be demanded of candidates for a medical degree after graduation from an accredited high school.

DISCUSSION

DR. JOHN M. DODSON, Chicago: In schools which have the college requirement for admission, the time is ripe for the addition of the hospital year. Rush Medical College has had an optional fifth year for some time, but cannot make it compulsory because in Illinois a degree is necessary for licensure and the student must have a license in order to become an intern. The difficulty, however, is not in finding openings for the students, but to find students enough to fill the places. The chief difficulty would be on the side of the hospital, though this educational movement would be as good for the hospitals as for the students. Many hospitals are not adequately equipped and are not careful enough about having the work done properly. Interns are burdened with routine work and are obliged to look after too many patients. No intern should have more than twenty-five or thirty beds under his direction at one time, in order to make a proper study of his patients. In the University of Chicago, the intern is under the personal charge of some member of the faculty, who investigates the hospital and keeps in touch with the intern's work. The intern is also required to do some original work and present a thesis, which I regard as a most important thing, during his hospital year.

DR. F. C. WAITE, Western Reserve University: In Cleveland, we are able to place every man in a hospital, but we find that there are different grades of men as there are different grades of hospitals, and we propose to allow them to distinguish themselves in a way. The student will do a certain amount of work on which he is to report, and he must do something in the way of original work. When that is creditably done, he is to get an additional degree—Master of Medicine. His special work need not necessarily be medical, but may be laboratory or anything pertaining to his medical education. In this way we hope to induce men to go into hospitals.

DR. H. A. CHRISTIAN, Harvard University: It is desirable that every man who is to practice medicine should have practical experience in a hospital. Conditions in the east are not as they are in Minnesota. I would favor the plan outlined by Drs. Dodson and Waite. Unfortunately, the colleges of to-day are not in the position to assume the burden of a fifth year, and many schools would have difficulty in placing their students in hospitals because they do not control sufficient hospital positions. It would be well to await the outcome of the trial which is to be made by the University of Minnesota. The college may require five years, or it may furnish an incentive by offering an honorary degree for good work or make a practical degree necessary for licensure. That would give the student freedom in selecting his hospital. Many men go into laboratory work who would not be particularly benefited by hospital training, and yet the practical experience of hospital service is not to be undervalued. It seems desirable to require such a training of every man going into the practice of medicine, but not of the man preparing for work other than general practice. At the same time, I would favor the demand on the part of the licensing board of a practical hospital experience.

DR. EGBERT LEFEVRE, University and Bellevue Hospital Medical College: Everyone appreciates the need for the year of hospital work. In many localities it can only be postgraduate, as yet, and we can only recommend it as such. I am not in favor of having it made obligatory in the present state of control of hospitals. Hospitals are unwilling to consider themselves as adjuncts to the medical college, and until we have educated the hospital boards to the desirability of this close connection, we cannot require a fifth year.

What the Internist Wants the Anatomist and Physiologist to Teach

DR. BENSON A. COHOE, University of Pittsburg: The business of the medical school is to produce physicians who can heal the sick; the teachers of anatomy and physiology may direct their teaching toward practical ends or they may treat their subjects in a broadly scientific manner. An attempt has been made on the part of some medical schools to bridge over the more or less real gap that exists between the teaching of anatomy and physiology as pure science or in practical application to the clinical branches. Courses in topographic, applied, surgical and medical anatomy are offered by many schools, either as elective or as required subjects. Only two schools offer a special course in medical anatomy; one school offers a course in applied physiology; seven give courses in pathologic physiology; one school gives a course in medical technics. Clinicians desire that both anatomy and physiology be taught in a broadly scientific manner. The teaching of isolated facts of so-called practical value, at the sacrifice of fundamentals, would be a grave error. The most fitting place for the student to acquire a knowledge of anatomy for practice is in the dissecting room. The special course in medical anatomy, distinct from surgical anatomy, can be made of considerable aid, and should be taken up by the instructor in physical diagnosis. In such a course the living model should be employed.

To urge a greater practical application of physical facts is, under present conditions of physiologic knowledge and teaching, entirely unnecessary. A wise plan adopted in a few schools is to allow the student to choose some special field for exhaustive experimental work with the aim of teaching him thoroughness and initiative in his methods of work as a student and methods of precision in the study of his cases as a physician. The consensus of opinion is that that student is best prepared for the practice of internal medicine who has been trained in a school where these primary branches are taught as pure sciences, and where, not unmindful of their practical application, the imparting of the fundamental principles of these sciences is regarded as paramount, and in which no attempt is made at a short cut to the goal of medical learning by keeping practical facts ever in the foreground at the expense of pure science.

What the Surgeon Wants the Anatomist and Physiologist to Teach

DR. C. B. G. DE NANCREDE, University of Michigan: Those teaching in schools where the scientific side of the subjects under consideration are largely ignored in favor of the so-called practical aspects overlook or underestimate the fact that where the scientific side is not neglected better results are obtained. Yet it cannot be denied that there is room for improvement in securing the knowledge of anatomy and physiology which the surgeon needs. The advantages of the old system of acquiring anatomic and physiologic knowledge must not be overlooked. I would earnestly protest against curtailing the scope of instruction on these important subjects. It is not the fault of too much science, but too little, or at least the proper proportion at the proper time, and no amount of so-called teaching of practical anatomy will give the student such a spirit of catholic knowledge and interest in anatomy as a proper combination of the scientific with the miscalled practical. The surgeon wants anatomy taught with as broad a scientific foundation as feasible, supplemented by such a sharp presentation of the facts of general anatomy as will show what structures must be injured during any operation in a given region, what may be injured or destroyed, and what must not be injured, much less sacrificed. Would it not be possible to hold over the student's head the certainty that the internist and externist will hold an examination, the one on physiology, the other on anatomy, as part of the final examinations for a degree? In this way the advantages of the old and new methods would be combined. A proper knowledge of scientific as well as so-called surgical anatomy is of equal importance in the diagnosis of surgical conditions as in

their treatment. The same is true of physiology. The surgeon needs these aids, while the teacher cannot successfully instruct when students do not possess them.

DISCUSSION

DR. E. P. LYON, St. Louis University: Anatomy and physiology should be taught from the scientific standpoint and not merely to point out the features thought to be of practical value. I believe that there should be in the medical school a man who has not the M.D. degree, but who is really well versed in one of these sciences. We need the trained anatomist rather than the physician who can teach anatomy.

DR. H. A. CHRISTIAN, Harvard University: We have too many separate courses in our curriculum to-day. It seems to me that it is not desirable to have separate practical courses in anatomy or physiology. The anatomist and physiologist must give his time to teaching the fundamental principles. The internist and surgeon must teach these subjects as applied sciences.

DR. B. D. MYERS, University of Indiana: It seems to me that applied anatomy is a very necessary part of the medical course. The student should have it as a foundation for physiology, medicine and surgery, and therefore it should be taught in the beginning of the course.

DR. J. S. FERGUSON, Cornell University: The anatomy from the side of the internist demands not so much the knowledge of the dissecting room as it does an accurate knowledge of the conditions in which the tissue exists in the body as shown first by the gross appearance; second, by its macroscopic structure, and, third, the application of the whole structure to the function of the organ.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 23

1 Popular Fallacies About Insanity. H. R. Stedman, Brookline, Mass.
2 The New England Pediatric Society. J. L. Morse, Boston.
3 When Shall We Remove Tonsils and What Type of Operation Shall We Do? E. A. Crockett, Boston.
4 Secondary Efforts to Hasten Healing After Mastoidectomy. H. O. Reik, Baltimore.
5 The Alleged Increase of Nervous Diseases. P. C. Knapp, Boston.

Medical Record, New York

March 25

6 *Injection of Drugs, Especially Salvarsan, Into the Lumbar Muscles. S. J. Meltzer, New York.
7 An Investigation of Recent Outbreaks of Typhoid in an Adirondack Camp, and the Discovery of a Typhoid Bacillus-Carrier. C. E. North, New York.
8 Principles Underlying the Surgery of the Spinal Cord and the Nerve Roots. R. S. Fowler, Brooklyn, N. Y.
9 The Roentgen Rays as a Means of Diagnosis of Carcinoma of the Stomach and Bowel. G. E. Pfahler, Philadelphia.
10 Nauheim Methods in Management of Cardiac Disease. L. F. Bishop, New York.
11 *Bilateral Fibromyoma of the Broad Ligament. E. H. Eising, New York.
12 *Diagnostic Value of Tuberculin as Shown by Nineteen Autopsies. G. W. T. Mills, Central Islip, N. Y.
13 Prophylaxis Against Uncinariasis Infection by Means of Efficient Shoes. W. F. Arnold, U. S. Navy.

6. Injection of Salvarsan into Lumbar Muscles.—On the basis of experimental observations, Meltzer offers: first, the suggestion in a general way, that in medical practice injections of drugs should be made into the lumbar muscles, especially in cases in which a rapid effective action is urgently needed. Second, he states specifically that salvarsan should be injected into the sacrospinal muscle. This muscle presents anatomically an exceptionally well-isolated, large, compact mass, densely packed with fine muscle bundles. Any solution or suspension injected strictly into this mass will remain there and not affect locally the adjacent tissues. Experimentally, Meltzer found that the absorption from this muscle is superior to that from the gluteal muscles and vastly superior to that from the subcutaneous tissue. Clinically, it was established in a limited number of cases of syphilis that salvarsan injected into this muscle exerts a fairly rapid, unmistakably beneficial influence on secondary and tertiary manifestations of syphilis and on the Wassermann reaction without causing pain and other ill effects deserving any serious considerations.

11. Bilateral Fibromyoma of the Broad Ligament.—The case reported by Eising is unique inasmuch as it is bilateral, and the masses were not cystic. Owing to the intimacy between the tumors and the body of the uterus, a hysterectomy was done, removing simultaneously the intraligamentous tumors. The patient made an uneventful recovery. The microscopic examination of the tumor showed it to be a fibromyoma. The dimensions of the entire mass including the uterus were: Laterally, 7¼ inches; vertically, 4½ inches; anteroposteriorly, 3¾ inches.

12. Diagnostic Value of Tuberculin.—Of 135 cases in which the eye test was made by Mills, nineteen came to the post-mortem room. There were ten cases of advanced disease. Of these, four cases can be considered. One gave absolutely no reaction, two gave only slight reactions, and the fourth gave a negative reaction on the first trial, a positive on the second, but this was in the same eye and is without value. The patients all died within a comparatively short time (from three days to thirty-five days), and the results correspond with the results of others and with those of the injection method, that is, in advanced or very active cases, especially just before death, the reaction is absent or slight. The other six cases were positive; all but one patient lived a considerable time beyond the test, and the disease was not in so active or advanced a stage at the time of test as in the four above described. In the one exception, the primary cause was Addison's disease. The next group included cases with scars and evidences of former tuberculosis, nothing of an active nature being present at death. In this group there were seven cases. Three of these were negative; one gave only a questionable reaction at the end of sixty hours, and three gave positive reactions. This proves conclusively, Mills says, that old, healed lesions can give positive reactions, and strongly positive ones, but at the same time shows that a negative reaction does not exclude an old lesion. The third group includes two cases with negative autopsy findings, and both gave negative reactions. Mills has found that from 20 to 25 per cent. of insane patients will react to the ophthalmo-tuberculin test, in whom no demonstrable lesions can be found, but it is probable that in all of them an old focus will be found post mortem. Therefore, a positive reaction in the absence of clinical signs is of no significance, but a negative reaction, except in advanced or very active cases, positively excludes tuberculosis. Mills regards the test as being as reliable as any other tuberculin test, more reliable than most methods, and easy of application in any class among the insane. With strict aseptic precautions, he believes the danger to be infinitesimal and so far has seen no injurious effects.

New York Medical Journal

March 25

14 The Problem of Prostitution and Venereal Diseases in New York City. F. Bierhoff, New York.
15 Simplified Treatment of Anorectal Diseases. S. G. Gant, New York.
16 Presence of Intestinal Parasites in Inmates of the Philadelphia General Hospital. R. C. Rosenberger, Philadelphia.
17 Zinc Oxid in Face Powder. S. S. Cohen, Philadelphia.
18 Hints for Mastoid Dressings. E. Amberg, Detroit.
19 Non-Suppurative Osteomyelitis. J. C. Stewart, Minneapolis.
20 Bismuth in Gastric Therapy. A. Goldman, New York.
21 Picric Acid, a Retrospect. A. Ehrenfried, Boston.
22 Vaccine Therapy. C. T. Russell, Jr., Philadelphia.

Lancet-Clinic, Cincinnati

March 25

23 Interpretation of Jaundice. C. N. Smith, Toledo, Ohio.
24 Anterior Poliomyelitis: Pathology and Bacteriology. W. H. Peters, Cincinnati.
25 Etiology of Epidemic Poliomyelitis and Its Possible Relation to Beriberi. O. v. Huffman, Cincinnati.
26 Clinical Manifestations and Medical Treatment of Poliomyelitis. M. Dreyfoos, Cincinnati.
27 Orthopedic Management of Paralysis Due to Acute Anterior Poliomyelitis. R. D. Maddox, Cincinnati.

Journal of the Missouri State Medical Society, St. Louis

March

28 Emergency Cases in Eye, Ear, Nose and Throat Work, with Suggestions for Their Care by General Practitioners. J. S. Weaver, Kansas City.
29 Convergent Strabismus. J. W. Sherer, Kansas City.
30 Progress in Surgery. H. L. Reid, Charleston.
31 Resection of the Large Intestine for Malignant Disease. C. M. Nicholson, St. Louis.

32 The Evolution of the Trained Nurse. M. A. Goldstein, St. Louis.
33 Gastroptosis. J. W. Ousley, Kansas City.
34 Modern Life vs. Longevity. E. C. Robichaux, Excelsior Springs.

American Journal of Diseases of Children, Chicago

March

35 *Physiology and Pathology of the Digestion of Fat in Infancy. F. B. Talbot, Boston.
36 *Bacteriology of the Blood in Early Life. F. S. Churchill and C. P. Clark, Chicago.
37 *Metabolism of Nitrogen, Phosphorus and the Purin Substances in the New-Born Infant. O. M. Schloss, New York, and J. L. Crawford, Troy, Texas.
38 *The Non-Specificity of the Cell Findings in the Spinal Fluid in Various Meningeal Conditions, Especially in Children. W. P. Lucas, Boston.

35. Digestion of Fat in Infancy.—Talbot points out that there is no doubt that large amounts of fat can do a great deal of harm to most babies. Such babies come under two classes—those which have a normal digestion and are unable to digest excessive amounts of fat, and those which have diminished powers of digestion and are unable to digest normal amounts of fat. So much attention has been paid to the few babies that are unable to digest fat, that one is apt to forget that most babies can digest fat within reasonable limits. In Talbot's experience, it has been safe to increase the percentage of fat gradually up to 4 per cent. in most normal babies whose digestive powers have not previously been lowered by gross errors in feeding or by infection. These children develop normally without any of the signs or symptoms of fat indigestion so long as their hygiene is perfect and they have no intercurrent infection.

36. Bacteriology of the Blood.—Churchill and Clark made sixty-nine examinations on sixty-four infants and children during life, and studied sixteen cases post mortem. The blood was obtained by the usual method—from the median basilic vein just above the elbow. In two cases of suspected typhoid it was obtained from the lobe of the ear, as recommended by Peabody. Various kinds of syringes have been used, but the Luer glass syringe has been the most satisfactory. The blood thus obtained has been mixed immediately at the bedside with various media: in most of the cases two tubes of bouillon, two of agar and agar plates have been inoculated. In five of the typhoid cases, ox bile has been used in the medium, with positive results in all. A case of suspected typhoid in which bile medium was used was negative, but proved later to be a case of tuberculous meningitis. In the sixty-nine examinations made, the authors obtained nineteen positive results. Combining Rotch's series, their own and a few scattering reports in the literature, the authors found thirty-one cases of typhoid fever, in twenty, or 66 per cent. of which, bacilli were found in the circulating blood. Furthermore, the bacilli were found as early as four days before the onset of symptoms and as late as the twenty-second day. These results were obtained with all kinds of media and at all periods of the disease. Of fifteen cases of lobar pneumonia and three of lobular pneumonia, four of the former were positive and one of the latter, the organism found being the pneumococcus in every instance. Thus in the eighty-five cases comprising their own and Otten's series, thirteen, or 15 per cent., showed pneumococci in the circulating blood.

In the group of rheumatic affections, they included cases of endocarditis, arthritis, tonsillitis and chorea, these manifestations occurring either singly or in combination with each other. There were seven cases of endocarditis; all had chronic endocarditis; in five of the cases, the cultures were taken during a febrile stage, due either to tonsillitis, arthritis, or to an unknown cause, possibly an acute exacerbation of the chronic endocarditis. There were two cases of chorea, and in both of these the temperature was normal when the cultures were taken. Cultures were negative in all seven of the cases. They examined four cases of meningitis with two positive results. In the tuberculous case the patient was examined on the tenth day of the disease as a suspected typhoid patient. One case each of pyelitis, erysipelas and acute nephritis gave negative blood-cultures. Catheterized specimens of urine from the cases of pyelitis and nephritis showed a streptococcus in the former and nothing in the latter. One case of acute lymphocytic leukemia showed the streptococcus in the blood one week before death.

They have reports on the bacteriology of the heart's blood in seventeen cases, of which thirteen showed positive results. Three cases of special interest were one each of hemorrhagic disease of the newly born, erysipelas and status lymphaticus. The hemorrhagic disease showed in the heart's blood the *Staphylococcus aureus*, the *Bacillus coli*, the streptococcus and an unidentified diplococcus midway between the pneumococcus and the streptococcus. Of the four cases with a sterile heart's blood, three were as follows: a pyelonephritis due to the *B. pyocyaneus*, an otitis with a general septicemia, but with entirely negative post-mortem results, and a meningococcic meningitis. The fourth case was endocarditis in which the antemortem blood was also sterile. The organisms recovered post mortem were as follows: the staphylococcus six times (*S. aureus* five times, *S. albus* once), the streptococcus eight times, *Bacillus coli* three times, the *Diplococcus lanceolatus* one time, and an unidentified diplococcus.

37. Metabolism of Nitrogen.—Uric acid infarct elements were present in the urine of each of nine new-born infants examined by Schloss and Crawford. They state that the uric acid output in new-born infants is both absolutely and relatively high. It is greatest during the first three days and then decreases. In cases in which the umbilical cord was ligated late, the output of uric acid was greater during the second and third days than in cases in which the cord was ligated immediately after birth. The quantity of the purin substances in the colostrum ingested is too small to explain the observed high uric acid output. The total phosphorus excretion was high during the first three days and then showed a sharp diminution. There is marked retention of phosphorus by the new-born infant. There is a moderate nitrogen retention during the first three days of life; later, nitrogen is retained in large degree. There is an inverse ratio between the leukocyte count and the elimination of phosphorus and uric acid during the first few days of life. In the light of present knowledge, the parallelism between the excretion of uric acid and phosphorus during the first three days would seem to indicate a common origin from cell nuclei. The greatest excretion of uric acid in the late ligation case suggests that the formed elements in the blood in some way serve as its origin.

38. Non-Specificity of the Cell Findings.—From Lucas' study, it is evident, first, that there are many conditions that give the same cytologic findings in the spinal fluid: (a) encephalitis, (b) epidemic myelo-encephalitis, (c) meningismus, (d) tuberculous meningitis, (e) syphilis of the central nervous system; second, that the presence of mononuclear cells, of lymphocytes, in the spinal fluid cannot be the basis for a diagnosis of tuberculous meningitis; third, that the recovery from animal inoculation, or the finding of the tubercle bacillus microscopically are the only positive means of making the diagnosis of tuberculous meningitis; fourth, that the study of the spinal fluid, although very important, must go hand-in-hand with more careful clinical studies of such border-lying cases as the ones shown in the different tables.

Journal of the Tennessee State Medical Association, Nashville

March

39 Action of the Arylarsonates on the Eye. E. C. Ellett, Memphis.
40 Foreign Bodies in the Eye. R. Fagin, Memphis.
41 Placenta Prævia. A. T. Clopton, Milan.
42 Sprained Ankle. D. Eve, Jr., Nashville.
43 Treatment of Acute Inflammations of the Middle Ear. G. C. Savage, Nashville.

Surgery, Gynecology and Obstetrics, Chicago

March

44 *Clinical and Pathologic Significance of Obliteration, Carcinoma, and Diverticulum of the Appendix. W. C. MacCarty and B. F. McGrath, Rochester, Minn.
45 Distention Changes in the Duodenum in Chronic Intestinal Stasis. W. A. Lane, London.
46 *Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum. C. H. Mayo, Rochester, Minn.
47 *Teratoma Testis and Its Derivatives. J. Ewing, New York.
48 *Osmosis as an Important Factor in the Action of Antiseptics. M. G. Seelig and C. W. Gould, St. Louis.
49 Hernial Tuberculosis. V. L. Schrager, Chicago.
50 Suppuration in the Retroperitoneal Space. R. H. Huggins, Pittsburg, Pa.

51 *Surgical Treatment of Undescended Testicle. C. Davison, Chicago.
52 *Case of Complete Amenorrhea, with Heredity as a Probable Etiologic Factor. A. R. Hoover and J. K. Marden, Marsovan, Turkey.
53 Operative Treatment of Difficult Cases of Palate Defect After Infancy. V. P. Blair, St. Louis.
54 Vertebral Fracture; Insertion of a Wire "Back-Stay." F. J. Cotton, Boston.
55 *A New Bag for the Hydrostatic Dilatation of the Cervix Uteri in Pregnant and Parturient Women. A New Hook for Decapitation. B. C. Hirst, Philadelphia.

44. **The Appendix.**—This series of cases studied by MacCarty and McGrath confirms the percentage of obliteration found in the appendix by other observers. Obliteration seems to occur as the result of an inflammatory process as shown by its histology, the time of occurrence, its irregularity of occurrence, the duration of the process, and the higher frequency in appendicitis than at necropsy is general. Many appendices become acutely inflamed during the process of obliteration and therefore an obliterated appendix should be removed, if possible. Carcinoma may occur at practically any age. It was impossible to make the diagnosis of carcinoma from the external appearance in 77 per cent. of the cases of carcinoma. The high frequency of carcinoma in obliterated or partially obliterated appendices may demand removal of all partially or completely obliterated appendices. Carcinoma of the appendix occurs in association with changes in the appendix which are related to the process of obliteration. Carcinoma of the cecum probably arises from the appendix only in a very small percentage of the cases.

46. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298.

47. **Teratoma Testis and Its Derivatives.**—The conclusion drawn by Ewing from the study of teratoma testis would seem to have important bearing on the origin of tumors in general. It seems unlikely that the conditions surrounding the genesis of this group of tumors are wholly different from those prevailing with tumors in other organs, notwithstanding the fact that in the testis one has to deal with "totipotent" sex cells not occurring elsewhere. In the testis one enocunters a wide variety of neoplasms, from the most undifferentiated, diffusely growing, highly malignant, round cell tumors, up to fully adult and harmless tissues and organs, all of which appear to have one and the same origin, the slow or rapid unfolding of original potencies of sex cells. These facts seem to Ewing wholly irreconcilable with any relation to any external parasite, but reveal in a striking manner that most important of all facts known about the origin of neoplasms—that embryonal cells possess more than any others the essential factors in the inception of tumors.

48. Abstracted in THE JOURNAL, Jan. 21, 1911, p. 218.

51. **Surgical Treatment of Undescended Testicle.**—The principle of Davison's operation depends on the direction of the spermatic vessels immediately above the beginning of the spermatic cord at the internal inguinal ring and the possibility of lowering the whole cord by the transplantation of these vessels. The operation consists of the following technic: The inguinal canal is exposed by dissection as in the Bassini operation for inguinal hernia. The testicle and cord are freed from the inguinal canal and ring and temporarily laid above the wound out of the operation field. The treatment of the posterior wall of the inguinal canal is very similar to that in the Fowler operation for inguinal hernia. After a preliminary double ligature of the deep epigastric hernia, an incision is made through the posterior wall of the inguinal canal, from the internal inguinal ring to the pubic bone just beneath the site of the external ring. This destroys the internal inguinal ring and exposes the peritoneum with the vas deferens and spermatic vessels lying on it attached by loose cellular tissue. When congenital hernia is present or the processus vaginalis is patulous, the peritoneal layer is carefully separated from the cord and cut across. The distal part is allowed to cover the cord and testicle. The opening in the peritoneum is closed. The reduplicated vas deferens is easily separated by gauze dissection from the peritoneum until the desired length is attained. The external edge of the cut transversalis fascia is sharply retracted outward, exposing the spermatic vessels for some distance. The preservation of these structures with the natural blood-supply gives the best prospect of the physiologic and functional development of the testicle.

A bed for the testicle is made in the scrotum. A silkworm-gut suture is passed through the gubernaculum testis and both ends are passed through the most dependent part of the scrotum. The testicle is located in the scrotum. The cut in the transversalis fascia (the posterior wall of the inguinal canal) is repaired. The cord is made to come through at the lower angle of the incision. The internal inguinal ring is closed. The conjoined tendon is sutured to the under side of Poupart's ligament above the cord. The fascia of the external oblique muscle is sutured to the edge of Poupart's ligament above the cord. The skin wound is closed. A strip of adhesive plaster is placed around the thigh just above the knee, with a flap on the inner side of the thigh. To this flap is fastened a thin rubber letter band. The suture through the bottom of the scrotum is tied to the rubber band with only sufficient tension to make the band taut. The usual aseptic dressings are applied. A light plaster-of-Paris body cast or starch dressing is used to prevent flexion of the thigh and intermittent traction on the gubernaculum testis. The operation should be performed by election at puberty.

52. **Complete Amenorrhea.**—The patient was a Greek woman, about 40 years old, in good physical condition, of average size and development of body, with no evidence of defects of any kind, and with good average intelligence. She made some very minor complaints suggestive of that train of nervous troubles frequently accompanying the menopause. During the examination the fact was brought out that the woman never had menstruated in her life, that she had given birth to eleven children, five of whom were living at time of this examination; further, that the grandmother of the patient had never menstruated in her life, that the mother of the patient had menstruated only once in every one or two years. Of the patient's children, one, a girl of 14 years, had not yet menstruated. The patient herself was married at the age of 15 and gave birth to her last child four years ago. Patient further said she had never had symptoms of a menstrual molimen of any sort whatever, no knowledge of when her menstrual time might be due, no malaise, no pain, nothing, in fact, saying that she simply lived like a man and didn't know what it was to be sick.

55. **Hydrostatic Dilatation of the Cervix Uteri.**—Hirst has had made two new bags in three different sizes, one a flattened hour-glass, for the effaced cervix, the other a spool-shaped bag for the uneffaced cervix; the first, 2 inches; the second, 2½ inches deep, both having minimum transverse diameters of 1, 2 and 3 inches. These bags are attached to the blood-pressure apparatus so as to measure, decrease, increase or maintain at one level the pressure exerted by them.

Virginia Medical Semi-Monthly, Richmond

March 10

56 Advantages of Appendicostomy and Cecostomy in Ulcerations of the Intestines. S. T. Earle, Baltimore.
57 Principles of Infant Feeding. E. P. Copeland, Washington, D. C.
58 Immunity—Simplicity of the Theory. W. P. Carr, Washington, D. C.
59 Injuries to the Sacro-Iliac Joint. S. B. Moore, Alexandria.
60 The Duty of the Profession. M. J. Payne, Staunton.
61 The Use of Salvarsan. T. B. Leonard, Richmond.

Mississippi Medical Monthly, Vicksburg

March

62 The East Mississippi Four-County Medical Association. R. M Boyd, Aberdeen.
63 Infantile Diarrhea. S. D. Austin, Durant.
64 Anto-Intoxication. E. J. Hudspeth, Pheba.
65 Malarial Hemoglobinuria. M. L. Pollard, Thornton.
66 Neurasthenia. J. W. Primrose, Clarksdale.

New York State Journal of Medicine

March

67 *The Ideal Medical Education for the General Practitioner and the Specialist. A. Duane, New York.
68 Localized and General Peritonitis. Shall We Ask Nature to Do Her Own Surgery? W. D. Ward, Rochester.
69 The Colon. C. E. Coon, Syracuse.
70 Rabies and Its Methods of Control in New York State. J. F. DeVine, Goshen.
71 A Case of Hodgkin's Disease. J. A. Longmore, Brooklyn.
72 Chronic Gastro-Intestinal Disorders in Older Children. F. V. Bogert, Schenectady.
73 Neglected Points in Office Practice. G. E. P. Stevenson, Penn Yan.

74 Surgery of Neurasthenics. W. E. Ford, Utica.
75 Thoughts on Diagnosis. E. Munson, Medina.
76 Supervision of the Venereally Diseased. G. V. R. Merrill, Elmira.
77 *Varicose Ulcer and a Method of Treatment. F. W. Lester, Seneca Falls.

67. **The Ideal Medical Education.**—The propositions made by Duane are summarized in the following ideal sketch of what he hopes to see obtaining in the future:

1. The ideal medical course will be based on or rather will contain a large number of humanistic studies, comprising prominently Greek, Latin, English, history, economics, psychology and drawing.
2. These humanistic studies will be pursued side by side with the technical work and will be treated as of equal importance. This coördination of the two will be best effected by a combined liberal arts and technical course leading to the degrees of A.B. and M.D. This course will comprise sixty months of actual work which can well be compressed into six years.
3. For the ordinary medical student intending to become a general practitioner, some of the technical work now required (especially in the laboratory) will be eliminated—its place being taken by clinical work or by humanistic studies.
4. The medical course will begin and end earlier. This can be effected by making the work in the preparatory schools less diffuse and more thorough, and by lengthening the terms, both in the schools and in the university, from eight months to ten. In that case the student will begin his combined course at 16, get his A.B. at about 20 and his M.D. at 22.
5. Teaching, so far as possible, will be made individual. This will probably be best attained by the appointment of numerous preceptors. Each preceptor will have charge of four or five students, and it will be his business to see that they understand their work and that they do it properly. His relations with them will be intimate and informal.
6. The student will enter on elementary clinical work early in his course and even before he receives any didactic instruction on the theory and treatment of disease.
7. Clinical work will be graded. Step by step the student will learn to handle cases for himself. Under the guidance of his clinical preceptor cases will be put under his care, whose course he will follow day by day. As his experience increases he will be accorded more responsibility and a freer hand, until at the end of his course he will be competent to diagnosticate and treat any ordinary cases of disease. When he receives his degree he will not need a supplementary hospital course in order to qualify himself for practice.
8. The university will have its own hospital, which shall be completely under its control and which shall be officered by its own preceptors.
9. The university will provide all sorts of elective courses in all branches for undergraduate and postgraduate work. The selection of these by students will be strictly regulated, and only a very limited number can be taken by any one man before graduation. After graduation it will be possible for the student to get at his university the most detailed instruction and the fullest practical work in any medical subject.
10. The student will be systematically encouraged to do original work. Efficient aids to this end will be the plan of individual teaching and of individual clinical work here advocated, together with a wise application of the elective system.
11. The thesis will be restored as a requirement of graduation. In the combined course the student will present two theses—one on a non-technical subject for the degree of A.B., the other on a medical topic for the degree of M.D. In either case the thesis will count as the equivalent of an examination in a major subject.
12. The university will give ample postgraduate instruction in all departments of medicine: (a) For the benefit of graduates, especially those aiming to be country practitioners, who without desiring to be specialists, yet wish to be more or less conversant with several specialties; (b) for graduates who wish to pursue some special line of research or get special information in any field; (c) for those wishing to become specialists.
13. To the specialist the university will give an adequate, systematic and thorough training. It will require of him: (a) That he take certain specified electives either in the undergraduate course or in the postgraduate year; (b) that he spend at least two years after graduation in general medical and surgical work (preferably in a hospital); (c) that he afterward spend a full year in postgraduate work at the university in the theory and practice of his specialty; (d) that he present a thesis on some subject connected with his specialty; (e) that he pass a satisfactory examination in the theory and practice of his specialty.
14. On his fulfilling these requirements the university will confer on him the degree of Ph.D.

77. **Varicose Ulcer.**—The method to which Lester refers is as follows: Using adhesive plaster strips in lengths of from 12 to 18 inches, and from ¾ to 1 inch wide, envelop the leg in a net-work of the plaster strips, extending entirely around the leg, from the foot to just below the knee. These strips are applied tightly enough to ridge deeply into the edematous skin, and applied spirally, in both directions, so that when completed, the leg will present a checkered appearance and look as if small squares were attempting to burst through. The first strip encircles the foot itself, and extending in a spiral manner up the leg; the second, beginning on the opposite side of the foot and crossing the first strip, proceeding on up the leg, in a spiral opposite in direction to the first, so the strips are applied, about 1 inch apart, up the leg, crossing the ulcer as they happen to come, which, having been cleansed with pure olive oil or a solution of liquor cresolis compositus or phenol (carbolic acid), and dusted with calomel, is partially or entirely strapped under. Several thicknesses of sterile gauze may be then placed over the straps covering the ulcer, and a firm muslin bandage applied. The bandage should be removed and reapplied every morning, the gauze being renewed if soiled, but the straps left on for a longer period—from two to seven or eight days. The results of this treatment have been uniformly satisfactory to Lester, as a decided improvement may be noted almost from the first, and in a period of from two to four weeks, the ulcer is closed.

Medical Herald, St. Joseph

January

78 Simultaneous Rupture of the Quadriceps Extensor Tendon of One Knee, and of the Tendo Achillis of the Other Leg. J. E. Summers, Omaha, Neb.
79 A Table for Cystoscopic Examinations as Well as for General Purposes. T. M. Paul, St. Joseph, Mo.
80 The Tuberculous Factor in Phlyctenular Keratitis. J. M. Patton, Omaha, Neb.
81 Differential Diagnosis of Duodenal Ulcer and Gall-Stones—Einhorn Duodenal Pump. J. M. Bell, St. Joseph, Mo.
82 Prevention and Treatment of Septic Infections of Extremities. E. H. Ochsner, Chicago.
83 "Landry's Paralysis;" Acute Ascending Paralysis. C. B. Hardin, Kansas City, Mo.

February

84 *Convergence Insufficiency; Its Importance to the General Practioner, and Its Successful Modern Treatment. J. M. Banister, Omaha, Neb.
85 Artificial, Theoretical and Practical Infant Feeding. B. W. Christie, Omaha, Neb.
86 Prognosis in Heart Disease. J. H. Darey, Sioux City, Iowa.
87 Care of Mother and Child After Confinement. C. W. Pollard, Omaha, Neb.
88 The Indiana Plan. G. H. Bogart, Brookville, Ind.
89 Treatment of Syphilis with Salvarsan from Observation Made in Clinics in Berlin. G. A. Lau, St. Joseph, Mo.
90 Treatment of Some of the Principal Diseases of the Eye. B. Pitts, St. Joseph, Mo.
91 A Case of Carcinoma of the Breast Treated by the Roentgen Ray. J. N. Scott, Kansas City, Mo.

84. Abstracted in The Journal, March 26, 1910, p. 1075.

Canadian Medical Association Journal, Toronto

March

92 Malignant Disease in the Neck. A. Primrose, Toronto.
93 Experiences with Salvarsan. J. G. Adami, R. P. Campbell and F. S. Patch, Montreal.
94 Tuberculin in the Diagnosis of Tuberculosis. J. C. Meakins, Montreal.
95 Food Standards. A. McGill.
96 The Inflammatory "Pelvic Mass." W. W. Chipman, Montreal.

St. Paul Medical Journal

March

97 Municipal Sanitation with Special Reference to Present Conditions in St. Paul. B. Foster, St. Paul.
98 Mechanism and Significance of the Reflexes. L. M. Crafts, Minneapolis.
99 Advances and Improvements of the Medical Profession. E. Klaveness, Sioux Falls, S. Dak.

Journal of the Michigan State Medical Society, Battle Creek

March

100 *Tuberculosis in Children: Some Aspects of the Problem. H. M. Rich, Detroit.
101 Rupture of the Bladder. R. C. Stone, Battle Creek.
102 Lessons from Three Cataract Extractions. W. R. Parker, Detroit.
103 Non-Operative Treatment of Varicose Veins of the Legs. W. A. Hackett, Detroit.
104 Cerebrospinal Meningitis. C. H. Johnston, Grand Rapids.
105 *Immediate Versus Deferred Operation in Intra-Abdominal Hemorrhage Due to Tubal Pregnancy. H. W. Hewitt, Detroit.
106 *Interpretation of Gross Findings in the Urine. W. E. Keane, Detroit.

100. Abstracted in The Journal, Oct. 29, 1910, p. 1586.
105. Abstracted in The Journal, Nov. 5, 1910, p. 1676.
106. Abstracted in The Journal, Oct. 22, 1910, p. 1492.

Western Medical Review, Omaha

March

107 Management of Strangulated Hernia. B. B. Davis, Omaha, Neb.
108 Drugless Healing. L. A. Merriam, Omaha, Neb.
109 Present-Day Problems in Acute Intestinal Obstruction. J. S. Welch, Lincoln, Neb.
110 *A Case of Poisoning Following the Use of Coal-Tar Derivatives. A. P. Overgaard, Fremont, Neb.
111 *Normal Saline Solution Given Through a Biliary Fistula. M. J. Ford, Omaha, Neb.

110. **Poisoning Following Use of Coal-Tar Derivatives.**—For four years, Overgaard's patient had been a constant user of acetanilid, and would use as many as a dozen 5-grain tablets in twelve hours. She procured 1,000 at a time, and in the four years had used several thousand. She suffered from severe

headaches and vomiting attacks lasting for two or three days and as a rule she would have to be in bed. About two years ago, she began the use of morphin together with the acetanilid and is now using as much as 2 grains of morphin a day to get relief. When first seen by Overgaard, she had been in bed for six weeks, was emaciated, no appetite on account of persistent vomiting, headache always present, slightly jaundiced with marked tenderness and dulness over the gall-bladder region, very constipated and suffering from tympanitis. Dr. A. F. Jonas drained the gall-bladder of dark, thick, stringy bile. She made a good recovery from the effects of the operation, and in three weeks was up and around a little. She stopped the use of any drug and in a couple of months was doing her work and feeling fine. In about a year and a half Overgaard was again called to see her and found her in bed suffering from headache, vertigo, faintness, tinnitus, psychic irritability, dyspnea, palpitation and edema. There was also tenderness over the gall-bladder region and large quantities of bile and mucus were being vomited. She was using coal-tar products and morphin to relieve the pain. Her lips and finger nails were blue. She had lost about 20 pounds in weight during from four to six weeks. Overgaard says that the thing for the profession to do is to enlighten the public on the bad results arising from the use of these coal-tar products and to discourage the continued self-medication of the laity by the use of all kinds of headache tablets and powders.

111. **Normal Saline Solution Given Through a Biliary Fistula.**—Ford reports a case of cholecystitis in which 2 pints of normal saline solution were given daily for a week through a biliary fistula. A diagnosis of gall-bladder disease was made from the findings. Ford operated. The gall-bladder was distended to twice its usual size. One inch from the fundus was what appeared to be a sort of a diaphragm of very thick adhesions—the trocar would not go through without using considerable force. There were no gall-stones, but the gall-bladder was full of black, tarry, ropy bile. Ford curetted the gall-bladder—put in a rubber tube drain and ordered the patient put to bed in Fowler's position and given normal saline by rectum. There was practically no drainage, just a little bloody pus. The patient grew persistently weaker, and could not retain saline by bowels which were moving involuntarily. Four days after the operation, Ford started to give saline solution through the drainage tube in the gall-bladder. It took three hours for the pint of normal saline to run in. Some time later the patient had considerable distress in the stomach which was relieved by lavage with a solution of sodium bicarbonate. On the following day 2 pints of saline solution were administered through the tube into the gall-bladder, one in the morning and one in the afternoon. The patient continued to improve from the first time the saline was given by the biliary fistula. The improvement was continuous and as the patient gained in strength the bile began to flow through the fistulous opening and continued for about four weeks when the fistula closed of its own accord.

Kentucky Medical Journal, Bowling Green

March 1

112 Criminal Abortion. M. H. Sutherland, Harrodsburg.
113 Reduction of Infant Mortality, Especially in Rural Districts. E. L. Gowdy, Campbellsville.
114 Remittent Fever. E. L. Palmore, Hiseville.
115 Endocarditis. S. M. Hopkins, Demossville.
116 *Surgery of Musculospiral Paralysis. A. H. Barkley, Lexington.
117 Tuberculosis. R. N. Filiatrean, Knottsville.
118 Leukemia. M. A. Yelton, Falmouth.
119 Abortion. J. L. Wyatt, Buffalo.
120 Uncinariasis in the South and Its Neglect. W. F. Arnold, U. S. Navy.
121 Differential Diagnosis in Gastric Disease. J. H. Chrisman, Owenton.
122 Myocarditis. O. W. Brown, Lenoxburg.
123 Empyema Treated Without Rib Resection. A. M. Glass, Booneville.
124 A Case of Advanced Syphilis Treated with Salvarsan. J. A. Stuckey, Lexington.
125 Scorbutus. N. A. Jett, Brooksville.
126 A Peculiar Case of Dystocia. J. S. Tatum, Harreldsville.
127 Biographies of Members of the Central Kentucky Medical Society and Report of Its Last Meeting, Nov. 4, 1909. J. G. Carpenter, Stanford.
128 The Physician as an Educator and as a Sanitarian. G. J. Herman, Newport.
129 Typhoid and Its Proper Treatment. H. H. Stallard, Hellier.
130 Chronic Gastritis. T. O. Meredith, Burgin.

March 15

131 Pelvic Inflammation. L. Bloch, Louisville.
132 Atypical Pneumonia. W. F. Boggess, Louisville.
133 Chronic Prostatitis. H. Bronner, Louisville.
134 Rectal Cancer with Colostomy. G. S. Hanes, Louisville.
135 Fatty Tumor of the Gum. B. F. Zimmerman, Louisville.

116. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

Ohio State Medical Journal, Columbus

March

136 Indications for Nephrectomy. E. O. Smith, Cincinnati.
137 *Pulmonary Manifestations of Syphilis. R. P. Daniels and H. W. Dachtler, Toledo.
138 Treatment of Mucous Colitis. W. Teachnor, Columbus.
139 *Phases of the Surgical Treatment of Gastric Ulcer. W. D. Haines, Cincinnati.
140 The Borderland of Sprain, Fracture and Periosteal Inflammation After Trauma. W. G. Stern, Cleveland.
141 What Should Be the Attitude of the Profession Toward the Non-Medical Cults? C. W. Moots, Toledo.

137. Abstracted in THE JOURNAL, July 16, 1910, p. 246.

139. Abstracted in THE JOURNAL, May 28, 1910, p. 1809.

Military Surgeon, Washington, D. C.

March

142 Blank Forms for Internal Administration of Army General Hospitals. T. L. Rhoads, U. S. Army.
143 Camp Wikoff, Montauk Point, New York, in 1898. I. C. Brown, U. S. Army.
144 Prevention of Typhoid. F. R. Keefer, U. S. Army.
145 *Ethics, Scope and Prerogative of the Army Medical Officer. L. M. Maus, U. S. Army.
146 Report on an African Trip. W. W. Roberts, U. S. Army.
147 A Case of Rabies at Camp Overton, Mindanao, P. I. O. Weston, U. S. Army.

145. Abstracted in THE JOURNAL, Dec. 17, 1910, p. 2173.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 4

1 Dilated Stomach. A. F. Hertz.
2 Prevalent Rain-Bearing Winds and the Milk Supply of Manchester During the Years 1896-1909. W. Gordon.
3 Diagnosis of the Commoner Causes of Chronic Jaundice. P. J. Cammidge.
4 The Urines of Marathon Runners. G. Chambers.
5 Intussusception of the Appendix. J. W. Thomson.
6 *Chronic Traumatic Mastitis. G. L. Cheatle.
7 *An Unusual Form of Perineal Hernia. A. G. Atkinson.

March 11

8 Common Injuries of the Knee-Joint and Their Consequences. W. A. Lane.
9 Injuries of the Lower End of the Humerus. C. H. Fagge.
10 Rheumatoid Arthritis. J. C. Briscoe.
11 Two Cases of Pernicious Anemia Treated by Salvarsan. B. Bramwell.
12 Operations for Calculus in the Male Bladder. W. F. Haslam.

3. **Chronic Jaundice.**—By a timely and correct diagnosis, such as is possible from a careful consideration of the clinical history and symptoms, and the information to be obtained by thorough analysis of the urine and feces, Cammidge says the complications and sequelæ likely to arise in cases of chronic jaundice—serious disease of the pancreas, cholangitis, cirrhosis of the liver, etc. may be avoided. Delay is always dangerous, and it is useless to await developments until the case is of interest only to a pathologist. The cause of the jaundice must be determined at the earliest possible moment and the treatment be based on the conclusion arrived at. A diagnosis of gall-stones obstructing the bile duct, made on the clinical data and confirmed by an examination of the excreta, calls for immediate operation, as the only likely spontaneous cure is Nature's crude and dangerous remedy of making a fistula by which the stone may escape into the duodenum, or elsewhere. Catarrhal jaundice frequently clears up spontaneously, but if after six weeks of rest in bed, with dieting and medical treatment, the jaundice persists and the urinary "pancreatic" reaction is positive, it is advisable to invoke the aid of the surgeon to perform a short-circuiting operation to avoid further damage to the pancreas. In the last stages of malignant disease operation is only likely to shorten the brief span of life still left to the patient, but in the earlier stages much may be done to make existence more bearable by a cholecystotomy or cholecystenterostomy to relieve the intolerable itching of which complaint is chiefly made. At the same

time it is well to bear in mind that in many cases diagnosed clinically as inoperable carcinoma of the pancreas, it has been shown on chemical examination of the urine and feces, and by the after-history, that the patients were suffering from chronic inflammation of the gland capable of retrogression.

6. **Chronic Traumatic Mastitis.**—As the main causes of this type of mastitis, Cheatle condemns the corset which has not been made on hygienic principles. Some patients realize that the corsets are causing the trouble, and come to the physician with the bones and steels bent, broken or removed; or have already adopted a form of corset designed to remedy the condition, after having consulted a corset maker. Most of the women, however, have no idea of connecting the cause and effect.

7. **Perineal Hernia.**—The hernia in Atkinson's case seems to have arisen from an abnormally deep vesico-uterine pouch, passing down between the urethra and vagina. From this the sac passed forward through the posterior wall of the urethra, being then extruded through the urinary meatus.

Lancet, London

March 11

13 *Association of Disease of the Mouth with Rheumatoid Arthritis and Certain Other Forms of Rheumatism. K. W. Goadby.
14 Principles on Which the Treatment of Resting Conditions of the Skeleton Is Based. W. A. Lane.
15 Education of the Deaf. M. Yearsley.
16 *Duration of Infectivity of Typhoid. A. Harris.
17 Sporotrichosis. E. von Ofenheim.
18 Treatment of Rodent Ulcer by Calcio-Phosphate of Uranium. A. Churchward.
19 *An Unusual Case of Intestinal Obstruction. E. A. Wright.
20 Infantile Scurvy in a Child Fed on Sterilized Milk. F. Brachi.
21 A Forgotten Prophecy of the Microbic Theory of Infectious Disease. C. Singer.
22 The Question of Compulsory State Insurance of Employers' Liability Under the Workmen's Compensation Act, 1906. A. Benthall.

13. **Disease of the Mouth and Rheumatoid Arthritis.**—In the diseases of the jaw, especially rarefying alveolar osteitis, Goadby has found a streptobacillus, pure cultivations of which inoculated into or around the knee-joints of rabbits have produced symptoms similar to and indistinguishable from arthritis deformans. In such disease of the mouth and jaws the treatment of the disease locally and by means of autogenous vaccine prepared from the streptobacillus has been associated with amelioration and disappearance of the arthritic symptoms in a greater number of instances than can be ascribed to fortuitous coincidence. Of patients so treated, twenty-three were cured, fourteen relieved, four received no benefit and six are still under treatment.

16. **Duration of Infectivity of Typhoid Fever.**—The stools of twenty-seven patients were examined by Harris and cultures made during the convalescent stage after the temperature had reached normal. In cases showing a positive result weekly examinations were made until a negative result was obtained. The results obtained are exceedingly variable and permit of no generalization or conclusions; it is shown, however, that the persistence of infection bears no relation to clinical signs; a patient, who showed typhoid bacilli in the stools seventy-eight days after the temperature was normal, had a mild case with little diarrhea. A consideration of the table tends to show that carriers do not have such a marked influence on the spread of the disease as might be thought possible, because "return" cases of typhoid are very rare, and as most hospitals discharge their patients without a bacteriologic examination of the stools a fair proportion must be sent home with typhoid bacilli still present in the intestines.

19. **An Unusual Case of Intestinal Obstruction.**—Wright's patient was suffering severely from symptoms suggestive of a fecal impaction. Abdominal examination revealed the presence of a hard rounded lump in the right epigastric region of about the size of an orange. This was tender to deep pressure, and did not move with respiration. By rectum a hard, small, non-tender movable mass could be felt. The patient gave a history of a similar attack a year ago which was relieved by enemata. She had suffered from constipation with frequent attacks of vomiting for some years. The abdomen was opened. The lump previously felt was explored with the hand and found to be hard, smooth and rounded, and to extend a considerable distance upward and to the left. A firm lump about 3 inches long was found completely blocking the lumen of the small intestine; beyond this point the intestine, large and small, was quite empty. The obstructing mass was found to be hair, tightly matted together. The other lump was then examined and found to be in the stomach, which organ it completely filled. This also was found to consist of an enormous mass of tightly matted hair. The patient rallied well from the operation, and her condition on the following day was much improved. Six days after the operation the patient died. For many years she had been in the habit of pulling and biting at her hair when reading or when her attention was otherwise engrossed, showing that the habit had become almost an unconscious one.

Clinical Journal, London

March 8

23 When to Examine and What to Look For. A. E. Giles.
24 Modern Discoveries Regarding Plague. F. M. Sandwith.

Journal of Tropical Medicine and Hygiene, London

March 1

25 Experiments to Ascertain if Antelope May Act as a Reservoir of the Virus of Sleeping Sickness (Trypanosoma Gambiense). D. Bruce, A. E. Hamerton and H. R. Bateman.

Indian Medical Gazette, Calcutta

February

26 Sand-Fly Fever in Central. F. Wall.
27 *A Speculation on Diabetes Mellitus. T. H. Foulkes.
28 *Cirrhosis of the Liver. L. Rogers.
29 Pancreatic Cysts. O. G. Hassan Suhrawardy.
30 Treatment of Kala-Azar by Hypodermic Injection of a Solution of Quinin Sulphate. E. Muir.
31 Method of Performing Gastrojejunostomy and Intestinal Anastomosis by a Single Row of Sutures. J. R. Roberts.

27. **Diabetes Mellitus.**—The general idea of diabetes, according to Foulkes' theory, is as follows: There are two causes to consider. First, the cause of the disease, which is assumed to lie in the upper part of the intestine, mainly, no doubt, in the duodenum, preventing the absorption of sugar. Whether it is bacterial, hereditary, inherent weakness in the cells, or poisoning by dextrose, can only be guessed at. It is treated by dieting and, in suitable cases, may be cured in this way. Second, the cause of the symptoms, which is the result of the above, and is the one directly attacked by the treatment described. The sugar in the urine is entirely endogenous. The sugar formed from food is not utilized but acts as poison on the intestinal cells. It may be absorbed as alcohol, which would be a grim irony of fate in high caste men who are professedly among the most teetotal men on earth. It seems likely that a diabetic who developed a fistulous opening between the urinary tract and the intestine would become partially self-regulating, like a shunt-wound dynamo. Little mention is made of the pancreas by Foulkes. He assumes that the pancreas is not concerned in diabetes. It is true that if the pancreas is removed in animals, or if, in man, the pancreas is so grossly diseased as to amount to removal, a mimicry of diabetes occurs. Taking this fact together with the results shown of glucose injection in diabetes, it may well be assumed, he declares, that the normal action of the internal secretion of the pancreas is to react with dextrose in the liver acting there as a restrainer of the ferment action and allowing the liver to fix the dextrose as glycogen. The effect of removal or gross disease of the pancreas would be to interfere with glycogen storage in the liver, so that the circulation would be flooded with sugar after every meal with consequent glycosuria and starvation. It may be remembered that all the venous blood of the pancreas passes straight to the liver. The cases brought forward are few. The results, however, in every case are so constant and similar that it is believed by Foulkes that they are sufficient to exclude coincidence.

28. **Cirrhosis of the Liver.**—Rogers' conclusions are based on a careful study of necropsies: 1. Cirrhosis of the liver is several times as frequent in Calcutta among the natives of India as it is in a temperate climate; but is not especially common among European residents there. 2. Although the Mahomedans are forbidden the use of alcohol by their religion, cirrhosis of the liver is only slightly less frequent

among them than in Hindus in proportion to their relative numbers; not more so in fact than in the cases of abscess of the liver, in which alcohol is only a predisposing and not an exciting cause. For this and other reasons the increased frequency of hepatic cirrhosis in India cannot be explained on any theory which makes alcohol the most important exciting cause of cirrhosis. 3. One-fifth of the cases in Calcutta are secondary to kala-azar, being partly of the typical intralobular form described by Rogers, but also commonly of the ordinary portal or multilobular type or both combined. 4. There is no evidence that malaria ever produces a clinically evident cirrhosis of the liver in Calcutta. 5. Hanot's hypertrophic or biliary cirrhosis is rare in Calcutta, but a form of infantile biliary cirrhosis described by Gibbons of unknown origin is encountered. 6. In Calcutta, cirrhosis of the liver is so frequently associated with chronic dysentery, usually of the amebic type, as to suggest that the fibrosis of the liver is secondary to the bowel ulceration. 7. Chronic inflammatory changes due to bacterial infection or toxic absorption through ulcers of the gastro-intestinal tract is also a likely cause of cirrhosis of the liver. 8. Leukocytosis is common in the ordinary type of cirrhosis of the liver, a high degree being of very bad prognostic significance. On the other hand a leukopenia points to a cirrhosis being secondary to kala-azar.

Australian Medical Journal, Melbourne

January 20

32 A Review of Recent Clinical Methods in the Investigation of Cardiovascular Disorders. R. R. Stawell.
33 The Sino-Ventricular Connecting System of the Heart. J. H. Anderson and G. Lamble.
34 Anatomy of the Sino-Ventricular Connecting System of the Heart. W. D. Robertson.
35 Meningitis Associated with a Bacterium of the Influenza Group. O. A. Sayce.
36 Microscopic Diagnosis of Tumors at the Time of Operation. A. J. Trinca.
37 Skin Disinfection. W. H. Brown.

Practitioner, London

March

38 Cancer and the General Practitioner. A. P. Gould.
39 Obligation Imposed on the General Practitioner by Development of Experimental Investigation of Cancer. E. F. Bashford.
40 Diagnosis and Treatment of Cancer of the Breast. H. M. Rigby.
41 Absorption and Excretion of Drugs. W. E. Dixon.
42 *Clinical Uses of Sodium Salicylate. A. C. Stark.
43 Cases of Infective Endocarditis. C. O. Hawthorne.
44 Insidious Development of Aortic Valvular Disease in Cases of Atheroma. C. W. Chapman.
45 Vaccine Treatment of Seborrhea of the Scalp. A. F. Savill.
46 Vaccine Treatment of a Case of Malignant Endocarditis (or Pneumococcus Septicemia). S. A. Henry.
47 Nervous Phenomena Occurring in Chronic Mucous Colitis. J. Liddell.
48 Spengler's Differential Staining Methods for Tubercle Bacilli. R. C. Styles.
49 Athletics and the Medical Man. A. Abrahams.
50 Dr. Johnson and the Medical Profession. J. D. Wynne.

42. Clinical Uses of Sodium Salicylate.—Stark believes that there are some feverish conditions in which sodium salicylate appears to exert a specific effect. The first is nasal catarrh. The best prescription for it is, he believes, the following:

℞		gm. or c.c.
Sodii salicylatis	gr. x.	66
Spiritus ammoniæ aromatici	℥ss	2 | 33
Tincturæ belladonnæ	mv	
Aquæ chloroformi	ad ℥i	16

M. Sig. Every four hours.

In the most common type of influenza, with a very sudden onset, severe headache, acute pain in the limbs and a furred tongue, sodium salicylate is the best drug to use. Stark affirms, from frequent and severe personal experience of the disease, that to give quinin to a patient who presents the above clinical picture is to add to his discomfort. After a mercurial purge, administration of the following cuts short the disease in two days:

℞		gm. or c.c.
Sodii salicylatis	gr. x.	66
Potassii bicarbonatis	gr. x.	66
Tincturæ nucis vomicæ	mx.	66
Aquæ chloroformi	ad ℥i	16

M. Sig. Every two or four hours.

It is a common experience of many practitioners to meet with cases, especially in children, in which the only symptom is sudden high temperature. Careful examination reveals nothing abnormal, and past and future history shows no cause for the pyrexia. Some of these cases are possibly rheumatic, but Stark believes that a considerable number are due to the absorption of some pyrexia-producing body from the intestinal contents. At all events, the administration of a few grains of sodium salicylate quickly restores the patient to the normal state.

Stark has used salicylate of sodium in six cases of comparatively mild forms of puerperal fever with most successful results. It was combined with strychnin to avoid the depressing action on the circulation. For the diarrhea and sickness of young children salicylate of sodium is almost a specific. Two grains may be given, in water, to a child of nine months, and repeated at intervals of from two to four hours according to the severity of the disease. The drug may be made palatable by the addition of a little saccharin and chloroform water. Vomiting in most cases ceases after the first two doses, and the stools rapidly become less offensive and abundant. There is no after constipation, as is so often the case when astringents are used, and the characters of the motions are not masked, as they are by the use of bismuth salts. Sodium salicylate is probably the most powerful of all the hepatic stimulants, forcing the liver to secrete more bile, rendering this more fluid, and assisting its absorption. These actions may explain its great value in relieving so-called "bilious headache." The following, taken at the onset of the headache, generally gives rapid relief:

℞		gm. or c.c.
Sodii salicylatis	gr. x.	66
Potassii bromidi	gr. xx.	1 | 33
Aquæ chloroformi	ad ℥i	16

M. Sig. Every four hours.

In mumps attended by rise of temperature and severe pain, Stark considers sodium salicylate the most effective remedy; he has used it freely in two epidemics of mumps and has found it most valuable. Its excretion in the saliva, with its antiseptic action on the unknown bacteria of the disease, probably accounts for its action. It should be combined with an alkali as in:

℞		gm. or c.c.
Sodii salicylatis	gr. v.	33
Sodii bicarbonatis	gr. v.	33
Saccharini	q.s.	
Aquæ	ad ℥ss	8

M. Sig. Every two to four hours.

Annales de l'Institut Pasteur, Paris

February, XXV, No. 2, pp. 97-192

51 *Experimental Research on Exanthematous Typhus. C. Nicolle, A. Conor and E. Conseil.
52 Collodion Filters for Colloidal Substances. J. Duclaux and A. Hamelin.
53 Factors in the Toxicity of Bacteria. I. C. Nicolle and G. Loiseau.
54 *The Bran of Rice in Prevention and Treatment of Beriberi. (Le son de paddy dans la prophylaxie de béri-béri.) Bréaudat and Denier.
55 Inherited Immunity of the Goat to Ricin. C. Truche and E. Alilaire.

51. Exanthematous Typhus.—Nicolle declares that the bodies described by Ricketts and Wilder are too rare in the blood of patients to be considered as the pathologic agents of exanthematous typhus. The disease can be transmitted to monkeys, he asserts, by inoculation of a patient's blood directly or by the intermediation of the flea. The virus is transmitted by the flea-bite from the fifth to the seventh day after the flea has fed on the infected individual. This time limitation seems to indicate, he states, that the unknown microbe of exanthematous typhus undergoes some special phase of development in the body of the flea, and his research seems to indicate, he believes, that the flea is the exclusive intermediate host. The blood of the infected person is virulent two days before the onset of fever and for two days after defervescence; the flea is thus able to infect itself not only on a febrile patient but on those entering and leaving the febrile stage. An active agglutinin for the micrococcus of Malta fever is found in the serum of patients with exanthematous typhus. Other facts brought out by the research reported are the susceptibility of children to the disease, its mildness in them and the immunity apparently enjoyed by young infants. It is possible that children may play an important part in the preservation of the virus, and this should not be forgotten in

prophylaxis. The cases of afebrile typhus which have been occasionally reported he regards as merely the stage of convalescence from an attack, the febrile phase of which escaped recognition. Another point which increases the difficulty of differentiating exanthematous typhus is its liability to be confounded with the eruptive forms of malaria.

54. **Rice Bran in Prevention and Treatment of Beriberi.**—Bréaudat and Denier report from the Pasteur institute at Saigon in Indo-China that rice bran seems to remove the cause of beriberi and prevent its development. They gave the bran in the form of pills mixed with syrup and peppermint, about 40 gm. of the bran being thus added daily to the ordinary food. It never caused any digestive disturbance while it had a marked curative action, equal to that of any drug. There were 210 native soldiers who took the pills in prophylaxis including thirty-seven who had had beriberi, and there were forty-nine who had had it in 311 controls. Between September 15 and February 1 no cases of beriberi developed among those taking the bran, while 17.4 per cent. of the controls had it. The action of the bran was less pronounced in those who had already had the disease.

Annales de Médecine et Chirurgie Infantiles, Paris

March 1, XV, No. 5, pp. 145-176

56 *Unrecognized Diphtheria. (Les diphtéries méconnues de l'enfance.) E. Terrien.
57 Poliomyelitis with Meningeal Symptoms. L. Benard and Maury.
58 Streptococcus Origin of Scarlet Fever. M. Thomas.
59 Insufficiently Fed Infants. (Troubles causés par l'hypoalimentation des nourrissons.) G. Variot.

56. **Unrecognized Diphtheria.**—Terrien thinks that in many cases of so-called malignant diphtheria the infection had been installed for some time in a more inaccessible region and had thus escaped discovery; only when it reached the throat was it recognized, and then it was in such full swing that no means were able to arrest it. Glatard, in 1902, was able to collect 333 cases of primary nasal diphtheria, in most of which the infection had escaped recognition. Faseuille has recently called attention to its frequency in infants, and warns that any rather severe and persisting coryza in an infant should suggest diphtheria, even when no false membranes can be discovered. Kuhn, Gallo and Abrand have each encountered a case in which the diphtheria persisted almost latent in a babe; one had only slight fever and sore throat but it finally sneezed a tube of membrane out of its nose. Schaps found a serous, blood-stained discharge from the nose and excoriation of the upper lip as the only manifestation of diphtheria in nine infants. In four cases reported by Dupont the membrane formation was restricted to the nasal fossæ and did not invade the throat. Adenoid vegetations may also be the primary and the sole seat of the diphtheria process; Rocaz has encountered ten such cases. This primary and localized diphtheritic adenoiditis seems to be unusually virulent; the extent of absorbing surface is exceptionally large and the general symptoms are severe, in contrast to the mild general symptoms with the primary nasal form. The unusual gravity, the rapid course, the difficulty of recognizing the affection, all conspire to enhance the danger of diphtheritic adenoiditis. It should be suspected when the child shows signs of adenoiditis, earache and hoarseness, the nose being stopped up but without the discharge of coryza. Then follow the general symptoms, such as extreme lassitude and pallor, swelling and tenderness of the glands in the neck and the rapid pulse even when there is no rise in temperature. The laryngoscope or bronchoscope was the only means of detecting the process in some of the cases cited. For bacteriologic examination the material must be taken from behind the velum, through the nose, inoculating several tubes.

Bulletin de l'Académie de Médecine, Paris

February 21, LXXV, No. 8, pp. 217-318

60 *Classification of Female Pseudohermaphrodites. Magnan and S. Pozzi.
61 *The Plague in Astrachan and in Manchuria. A. Chantemesse and Borel.
62 Malformations of the Breast and Tumors. (Malfaçons embryonnaires de la glande mammaire. "Dysembryoplasies" et "dysembryoplasmomes" du sein.) M. Letulle.

February 28, No. 9, pp. 319-334

63 *Preventive Vaccination Against Typhoid. H. Vincent.
64 Prophylaxis of Small-Pox in French Colonies in Africa and Indo-China. Kermorgant.

60. **Female Pseudohermaphrodites.**—In the case reported, the patient had been brought up as a man and was apparently happily married, when an ovarian sarcoma had to be removed. In discussing the case, Magnan and Pozzi suggest a classification for pseudohermaphrodites based on the feminine or masculine aspect. They suggest the term gynoid for the former and android for the latter, prefixing "andro" or "gyn" to designate the histologic sex. The irregular hypospadic andro-gynoid type is the most frequent, and is readily confirmed by discovery of the testicles. The gyn-android type is rare; the case reported is of this type with inversion of the genital sense.

61. **The Plague.**—Chantemesse compares the conditions in Manchuria now with those in an epidemic of plague thirty-two years ago in southern Russia. In the latter epidemic some villages along the Volga were affected with a strange disease, and after the death of the physicians and local authorities the terror-stricken peasants took matters into their own hands, shutting off the infected houses and permitting no one to enter or leave them or to enter the villages from without. These rude, illiterate peasants, in 1878, took instinctively the proper measures in regard to isolation, and the epidemic soon died out from lack of fuel. The dead were hauled with long-handled hooks to the pits dug for them, and any one suspected of having been in contact with the sick was not allowed out of the house for twenty days. By the time the national authorities took a hand in quarantining the villages the epidemic had died out after having caused 500 deaths. Far different are the conditions in Manchuria to-day. The people hid their sick when the plague first appeared among them, and thus the epidemic got a firm foothold in many places before its existence became known to the authorities. Trappers in the region east of Lake Baikal had collected a number of skins of the land otter, or tarabagan, common along the rivers of Siberia. Schottelius of Stuttgart, Germany, called attention some time ago to the peculiar susceptibility of this animal to the plague. [*Public Health Reports*, March 10, states that it is a marmot, related to the American woodchuck and the prairie dog, and that 10,000 trappers were in the field last year to get the skins.] Chantemesse says that the existence of the plague among these animals was known and also the fact that it assumed the pneumonic form in them. The hunters in question had collected a number of pelts; in October these hunters developed plague and it spread among the Chinese inhabitants of the region. The latter fled eastward in their fright, seeking refuge in Manchuria but concealing the fact of the infection until the epidemic had assumed extensive proportions. The infection is extremely virulent; Haffkine has been in Manchuria since December and he states that he has not known of a single recovery. None of the 130 persons he has vaccinated there against plague has contracted the disease although constantly exposed—omitting those vaccinated after the infection was already installed.

One of the principal questions still to be decided is the length of the incubation period. Winter is the plague season. Another remarkable feature of the plague, Chantemesse adds, is that when the disease is once installed in a place it seems almost impossible to eradicate it. In Egypt, for instance, notwithstanding the strictest measures, the disease maintains its foothold, and the number of cases has increased constantly from 99 in 1899 to 640 in 1906, and since then from 500 to 1,500 cases yearly, with 118 cases already in 1911, but the type of plague is mild there. In regard to the destruction of rats on shipboard, Chantemesse remarks that the results are exactly proportional to the zeal and conscience of those doing the work and proportional to the strictness of the supervision over them by the authorities in charge.

63. **Preventive Vaccination Against Typhoid.**—The Académie formally adopted a resolution advocating preventive antityphoid vaccination under certain conditions. The text of the resolution was given in the Paris Letter in THE JOURNAL, February 25, page 601.

Lyon Chirurgical, Lyons

March, V, No. 3, pp. 209-300

65 *Treatment of Megacolon in Adults. G. Gayet and M. Patel.
66 *Autoplastic Method of Treating Hypospadias. Cantas.

65. **Hirschsprung's Disease in Adults.**—Gayet and Patel warn that medical measures should not be continued too long if the patient is not improving, otherwise he will be in bad condition for an operation if this becomes necessary. The medical measures should be those for obstinate constipation in general except that drastic purgatives should be avoided. The only drug that seems to have done any good is morphin; this acts by abolishing spasmodic contraction. Seven different operations may be applied and the authors review series of cases of each type, totaling forty-one, some of them not previously reported. Sometimes an exploratory laparotomy reveals torsion and other mechanical conditions which it is easy to remedy without the knife or merely with a colopexy. This partial operation is liable to fail, however; probably many failures in this category have not been published. The best plan is to make an artificial anus at once. This can be done easily and rapidly, they say, if the appendix is utilized to make the new anus; this proved successful in two very serious cases in their experience. When the disturbances from obstruction have subsided, the way is cleared for radical operation on the enlarged colon. When the patient is robust and the colon is very much enlarged, they advise inserting the ileum in the terminal portion of the sigmoid flexure, excluding the abnormal part of the bowel altogether. Sometimes an abdominal tumor is the only finding. When the supposed tumor proved to be feces impacted in the enlarged colon, they have found it possible in some cases to manipulate the fecal masses toward the natural anus after the abdomen has been opened. If the masses are stony hard, this measure is not advisable as the intestine is liable to become injured thereby. Enterotomy should be reserved exclusively for cases of this kind unless enterectomy at once is deemed preferable.

66. **Autoplastic Treatment of Hypospadias.**—Cantas cuts a skin flap in the thigh, including in it a stretch of the internal saphenous vein. This flap is twisted around and the vein utilized to make the urethra. He reports a case in which this technic was successfully applied.

Presse Médicale, Paris

March 1, XIX, No. 17, pp. 153-160

67 Mechanism of Spasmodic Contracture. M. Noica.
68 Headache with Abnormally Low Blood-Pressure. (Cephalalgie des hypotendus.) A. Martinet.

Semaine Médicale, Paris

March 8, XXXI, No. 10, pp. 109-120

69 *Hexamethylenamin in Treatment of Acute Biliary Infections and of Typhoid Fever. (L'urotropine dans le traitement des infections biliares aigues et de la fièvre typhoide.) A. Chauffard.
70 *Should Women in Eclampsia Nurse Their Infants? R. de Bovis.

69. **Acute Biliary Infections in Typhoid Fever.**—Chauffard is convinced that if careful search were made for signs of acute infection of the gall-bladder and bile ducts in typhoid fever, infectious processes in this region due to the typhoid bacilli would oftener be discovered. He has encountered a number of such cases, as he relates in detail, and discusses whether it might not be possible to give some drug which is eliminated in the bile and might thus act directly on the angiocholecystitis. The latter condition is a frequent source of typhoid relapses and may leave the patient a chronic carrier. Recent research has shown, he says, that hexamethylenamin is eliminated in the bile and thus it can sterilize the biliary passages while it cures the bacilluria at the same time. He has been much impressed with the promptly favorable modification in typhoid fever which followed exhibition of 0.5 gm (7.5 grains) of the hexamethylenamin three times a day. One patient was a youth of 15 with chills and high fever, tenderness and discomfort in the right hypochondrium, all developing the twenty-second day of a mild typhoid. The temperature chart shows the prompt benefit which followed this medication.

70. **Should Women with Eclampsia Nurse Their Infants.**—De Bovis concludes from some recent reports that it is best to draw and throw away the milk of women with eclampsia developing after delivery as it is liable to prove toxic for the infant for a few days. After the toxins have been more or less perfectly eliminated the child can be put to the breast. It is probable, he thinks, that every parturient is in a condition of auto-intoxication to a certain extent, and it is possible that the milk attracts the toxins of eclampsia as it seems to attract arsenic. When the eclampsia develops before delivery, the toxins are more liable to be eliminated by the time the infant is ready to nurse than when the eclampsia does not come on until after the child is born.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 3, pp. 481-709. Last indexed February 18, p. 545

71 Experimental Research on Pathogenesis of Round Gastric Ulcer. F. Rosenbach and Eschker.
72 Experimental Research on Tetany. N. Guleke.
73 Rectal Tumor from Non-Malignant Transformation of Epithelium. (Benigne Epithelheterotopie als Ursache eines Mastdarmtumors.) A. Cahn.
74 Technic for Extensive Resection of the Stomach. J. Schoemaker.
75 Appendicitis. (Zur Behandlung der acuten eitrigen Appendicitis mit circumscripter oder diffuser Peritonitis.) F. Sasse.
76 Mechanism of Dislocation of Joints with Single Axis. (Zur Mechanik der Luxation der einachsigen Gelenke.) H. Zuppinger.
77 Tincture of Iodin Superior to Alcohol for Sterilization. (Vergleichende Desinfectionsversuche mit Jodtinctur und Alkohol.) F. Drüning.
78 End-Results of Transplantation of Pedunculated Suprarenals. (Gestielte Nebennierentransplantation und ihre Endresultate.) H. v. Haberer.
79 Trigger Finger. (Der schnellende Finger.) K. Poulsen.
80 Prolapse of Fat Tissue Surrounding Kidney. (Prolaps des Fettlagers der Niere, eine Hernia lumbalis vortäuschend.) Duncker.
81 *Spontaneous Retrogression of Superficial Epithelioma. J. Bolognesi.

81. **Spontaneous Retrogression of Cutaneous Epitheliomas.**—Bolognesi gives illustrations of a case of multiple epitheliomas on the lips, cheeks and eyebrow of a woman of 72 which developed in the course of a year and a half and then gradually subsided, leaving for most of them merely a pinkish scar. Scraps excised at various times from the retrogressing tumors and excision of one in the brow showed the structure of Krompecher's baso-cellular epithelioma, Darier's epithelioma of the second class, nothing of the cancroid type.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 1, pp. 1-335. Last indexed March 18, p. 855

82 *Induced Pneumothorax in Pulmonary Tuberculosis. III. L. Brauer and L. Spengler.

82. **Induced Pneumothorax in Tuberculosis.**—This volume of 336 pages contains the detailed account of eighty-three cases, bringing the total to 102 in which Brauer and Spengler have compressed the lung by an artificially induced pneumothorax in treatment of unilateral pulmonary tuberculosis. The work was done at the medical clinic at Marburg or the Davos sanatorium, and this forms the third memoir on the subject. The volume is dedicated to Professor Erb on his seventieth birthday. The material is arranged and numbered so that a complete oversight of the cases is possible in these and in future later reports. Complete recovery was obtained in a number of cases in which, they are convinced, it would have been impossible to realize similar benefit by other measures. They are becoming more and more certain that with careful selection, in the moderately severe cases this collapse therapy, as they call it, when conditions permit will give excellent results. As pioneers in this field, however, they feel bound to extreme caution and reserve and consequently they think the measure must stand its highest test in the severer cases so that its dangers and shadows may be fully appreciated. Then it can be applied in the milder cases with courage and confidence. A number of Roentgen-ray pictures and curves are appended.

Beiträge zur klinischen Chirurgie, Tübingen

February, LXXII, No. 1, pp. 1-264

83 Biology of Malignant New Growths. (Zur Biologie der bösartigen Neubildungen.) E. E. Goldmann.
84 *Hemostasis by High-Frequency Electric Current. (Blutstillung durch Hochfrequenzströme.) M. Hoffmann.
85 *Joint Lesions in Scarlet Fever and Measles. (Gelenkerkrankungen bei Scharlach und Masern.) K. Fritsch.
86 Determination of the Viscosity of the Blood in Surgical Abdominal Disease. L. Simon.
87 Tuberculosis of the Penis. C. Rose.
88 Experimental Inoculation with Echinococcus Disease. (Experimentelle Erzeugung des Echinococcus durch Keimpfropfung.) G. Hosemann.

89 *Thymectomy in Exophthalmic Goiter. W. Capelle and R. Bayer.
90 Pathology of Coxa Vara in Adolescence. P. Frangenheim.
91 Injuries of the Optic Nerve with Fracture of the Skull. (Verletzung des Nervus opticus bei Schädelfrakturen.) H. v. Tappeiner.

84. **Hemostasis by the High-Frequency Current.**—Hoffmann extols the advantages of obliterating the lumen of the smaller vessels by the high-frequency current applied in the form of the cold cautery. He ligates the larger vessels as usual but obliterates the smaller vessels by this rapid means, thus saving time, leaving no foreign body and sterilizing the tissues.

85. **Joint Lesions in Scarlet Fever and Measles.**—Fritsch analyzes a number of cases and comes to the conclusion that the scarlet fever germ is liable to induce joint processes but that these processes are always mild, with a purely serous although possibly copious effusion; generally they heal with a good outcome. When streptococcus infection complicates the scarlet fever, however, the streptococci invade the joints already suffering from the true scarlatinal process, and a lesion results which is liable to have serious consequences unless surgical aid is called in at once. Preisich's conclusions from study of 6,985 cases of scarlet fever also sustain this assumption that a distinction should be made between pure scarlet fever and that complicated with streptococcus infection to which scarlet fever patients seem exceptionally susceptible and which seems to develop with unusual virulence in them. In the pure form, the throat is red and swollen but there is no coating; the disease runs its course without complications, at most sometimes pain in the joints and moderate fever with slight swelling of the joints. Neither during life nor at necropsy could he find streptococci in the cases of this class. In the mixed cases or "septic scarlet fever," the throat is swollen much more and the tonsils are the seat of an active inflammation ranging from follicular tonsillitis to the ulcerative, membranous form with necrosis. The type of fever in this class is also much higher, running up rapidly at first and gradually declining. These are the cases with a fulminating course or suppurating processes. Fritsch adds that this hypersusceptibility to streptococcus infection which distinguishes scarlet fever may manifest itself during the phase of incubation. This explains why the streptococcus infection may manifest itself in the form of the tonsillitis even before the actual symptoms of the scarlatinal infection develop. He emphasizes the practical conclusion from the data presented that a suppurating scarlatinal joint affection demands surgical treatment from its first inception, and at any time in its course or convalescence, to prevent serious damage of the joint. It is a mixed infection with streptococci locating at the point injured by the true scarlatinal process, and the only effectual treatment is by operative measures. On the other hand the true scarlet fever joint process never suppurates and as a rule it heals spontaneously or it may leave contracture or dislocation on account of defective treatment or neglect. This form is by far the most frequent; Brade, for instance, found serous joint processes in 65 and suppurative in 4 of 868 scarlet fever cases; others report unclassified joint disturbances in 1.04 per cent. (Föhr) and 37.5 per cent. (Gerhard) of their total scarlet fever cases.

In the pure cases reported by Fritsch a number of joints were affected; not even the vertebral and sternoclavicular articulations escaped. Usually several joints were affected at about the same time, and there was no recurrence. The general health did not seem to suffer much except for the local pains which were sometimes intense. Nephritis was observed in nearly all these cases and endocarditis in a few. The joint trouble keeps up for about three days or a week and then subsides completely. A chronic form of the pure scarlatinal type has been observed, however, in a few cases on record. In this form the joint lesions do not develop until the fourth week of the scarlet fever, and the general health suffers materially; the later the joint trouble begins the severer its course as a rule. At the same time the final outcome is a complete recovery in all but a few cases in which the disturbance entails a flail joint or spontaneous dislocation which may require surgical intervention.

89. **Thymectomy in Exophthalmic Goiter.**—Capelle and Bayer advise thymectomy in case of persisting thymus in exophthalmic goiter, and report a case in which this was done; they report also extensive experimental research with thymus extract to determine its action on the blood, heart, etc. In the case reported, the patient was a girl of 22 who had had Basedow symptoms for six months. The exophthalmos, goiter and bulbar symptoms still persisted after the thymus had been removed but in an incomparably milder form, while there was no further tachycardia and the blood-picture returned to normal. This improvement became marked in the course of the following three months and sustained the assumption drawn from the experimental research that a persisting thymus is liable to aggravate the Basedow syndrome by its internal secretion which acts mainly on the heart.

Berliner klinische Wochenschrift

February 27, XLVIII, No. 9, pp. 369-412

92 Active Toxic Substance from Tubercle Bacilli. (Anaphylatoxin.) E. Friedberger and A. Schutze.
93 Mutation Phenomena in Strains of Cholera Germs. Baerthlein.
94 The Tryptophan Test for Gastric Cancer. (Diagnostischer Wert der Glycyltryptophanprobe bei Magencarcinom.) H. Pechstein.
95 Differential Diagnosis and Treatment of Diabetes Insipidus. Rosendorff and Unna.
96 Influence of Intravenous Salvarsan Injections on the Wassermann Reaction. C. Gutmann.
97 *Iodin in Exophthalmic Goiter. (Zur Jodbehandlung bei der Basedow'schen Krankheit.) F. W. Ohlemann.
98 New Tasks for Communal Hygiene. A. Lewandowski.
99 Pathology and Treatment of Hydrocele. C. Posner.

97. **Iodin in Exophthalmic Goiter.**—Ohlemann protests against the assumption that iodin is necessarily harmful in the Basedow syndrome, and states that he succeeded in practically curing it in himself years ago by prolonged iodin treatment, restricting himself to minute doses, such as 10 or 20 drops of a 20 per cent. solution of potassium iodid, once or twice a day, changing later to tincture of iodin of which he took 150 c.c. in the course of three or four years. He had an inherited tendency to the affection which had been aggravated by a mountain climbing trip.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

February 16, XIV, No. 2, pp. 49-80

100 Circumscribed Typhoid Intracranial Suppuration. (Hirnabscesse und sonstige umschriebene intrakranielle Eiterungen im Verlauf und Gefolge des Typhus abdominalis.) E. Melchior. Commenced in No. 1.

Correspondenz-Blatt für Schweizer Aerzte, Basel

February 10, XLI, No. 5, pp. 145-176

101 Ergot. (Die wirksamen Bestandteile des Mutterkorns.) E. Bernoulli.

February 20, No. 6, pp. 177-224

102 Physiologic Action and Therapeutic Use of Mineral Springs. (Heilquellen-Aktivität.) E. Sommer.
103 Roentgen Rays in Dermatology. H. Merz.

Deutsche medizinische Wochenschrift, Berlin

March 2, XXXVII, No. 9, pp. 385-432

104 Mechanism of Tuberculin Reaction. R. Kraus, E. Löwenstein and R. Volk.
105 Importance of Tuberculosis in the Etiology of Intra-Ocular Hemorrhages, Proliferating Changes in Retina and Retinal Periphlebitis in the Tuberculous. T. Axenfeld and W. Stock.
106 Jonnesco's Method of Spinal Anesthesia. (Die allgemeine Rachianästhesie.) T. Jonnesco.
107 Ankylostomiasis. H. Bruns.
108 Action of the Ultraviolet Quartz Lamp Light on the Blood-Pressure and in General Disease. H. Bach.
109 *Alcohol-Tannin for Sterilization of the Hands and Field of Operation. A. Zabludowski.
110 Improved Method for Sterilization and Preservation of Catgut. E. McDonald.
111 *Prophylaxis of Cholera in Finland. R. Sievers.

109. **Alcohol-Tannin Surgical Sterilization.**—Zabludowski reports comparative tests of various methods of sterilization and reiterates that a 5 per cent. alcohol solution of tannin surpasses all the other technics with the exception of tincture of iodin; it ranks with this while it is free from its disadvantages. The tannin solution is applied to the hands for two minutes and to the field of operation for one minute; the previous use of water does not affect it.

111. **How Finland Keeps Out Cholera From Russia.**—Sievers states that during the two great cholera epidemics in Russia Finland has kept its skirts free from contamination, although there was no interference with the intercourse between the countries, no quarantine and no special search for persons

from cholera foci. The main point was a numerous force of physicians and small hospitals at the points most threatened, inspection of everyone arriving by rail or horse, and of all ships and vehicles coming from regions where cholera was prevalent, isolation in hospitals of the suspects, sterilization of his baggage and inspection of all with whom the sick had come in contact. Correct and immediate notices of every case were published in the papers and the public was kept informed with articles in the papers and lectures in regard to the nature of cholera and the means to escape it. By these means the physicians, the populace and the authorities, national and communal, all worked in harmony. All the trains between Finland and Russia carried a hospital car, with from two to six beds. During the great epidemic in Russia last year there were only seven cases of cholera in Finland, all imported, and no epidemic developed from them.

Deutsche Zeitschrift für Chirurgie, Leipsic

February, CVIII, Nos. 5-6, pp. 429-626

112 Six Hundred and Forty-Seven Appendicitis Cases. (Beiträge zur Appendicitisfrage auf Grund der Erfahrungen der Göttinger Klinik in den letzten vierzehn Jahren.) A. Fromme.
113 Intravenous Hedonal Anesthesia. A. P. Jeremitsch.
114 Proteus Rib Abscess. (Proteus vulgaris, Erreger eines subperichondralen Rippenabszesses.) E. R. Flinzer.
115 Prolapse of Bladder in Female Infant with Pertussis. W. Hirokawa.
116 *Double Suppurative Pleurisy. M. B. Fabrikant.

116. **Bilateral Suppurative Pleurisy.**—Fabrikant discusses whether both sides should be operated on, whether it should be done at one time or with an interval and with aspiration on one side and a radical operation on the other. He was confronted with these questions when called to treat an 18-year-old bookbinder with suppurating pleurisy on both sides in 1897. The patient was extremely debilitated and semiconscious and puncture of the right side brought pus with the Fränkel diplococcus. The first symptoms had been observed nearly three weeks before, after sudden exposure to cold when heated. The puncture brought great relief but the accumulation returned and the process was opened by resection of the seventh rib. The subjective relief was marked but as fever persisted, the left side was punctured and a quart of pus aspirated. The secretion in the right side gradually subsided and by the twentieth day the wound was healing well. During this time the left side had required aspiration twice, each time a quart of fluid being withdrawn; the third time only a third of this amount was removed. The fever kept high, reaching 39 C (102 F.) and respiration became more difficult. As soon as the wound in the right side had healed, the left seventh rib was resected in the same way, under local anesthesia, and large amounts of pus and sponge-like masses of fibrin were removed as at the first operation. The temperature dropped to normal on the same day. The second day after the operation on each side it proved necessary to rinse out the cavity with salt solution as clots of fibrin clogged the drains. By the third day after the left operation scarcely a teaspoonful of a seropurulent fluid drained away and by the end of the month the patient had entirely recovered and is in good health at date of writing, fourteen years since his sickness. In 118 similar cases of bilateral suppurating pleuritis which Fabrikant summarizes from the literature, only seventy-four of the patients survived, the mortality being 37.2 per cent. These data permit a more encouraging view of bilateral purulent pleurisy than is generally accepted he thinks; even the lack of adhesions between the sheets of the pleura is not essential to vital functioning, as some patients recovered even when the lung collapsed. Hellin deduced the same conclusions from his summary of fifty-four cases in 1907. He even asserted that the ideas prevailing in regard to the mechanism of respiration must be erroneous as the bilateral pneumothorax in these cases did not prove fatal. The reason why bilateral pneumothorax does so often prove disastrous must be sought elsewhere, he affirms, than in differences in pressure. The experiences related by Fabrikant show that bilateral pleural empyema is most frequent in children and is very rare after 30. Pneumonia on one or both sides was the most frequent cause, but primary empyema is not rare. The mortality is not high when operative relief is obtained in time. Both sides can be operated on at one time if the patient's condition permits, but an interval of a few days is better. Puncture and aspiration are not sufficient; both sides of the chest should be extensively opened up. If the interspaces are wide, thoracotomy may be ample, but if not a rib should be resected. The operation can be done easily and painlessly under local anesthesia; he used the Schleich technic. In his case there was paralysis of the vocal cords, the nerves and veins probably being compressed by the edematous pleura.

Medizinische Klinik, Berlin

February 25, VII, No. 9, pp. 327-362 and Supplement

117 *Tabetic Atrophy of the Optic Nerve. (Tabische Sehnervenatrophie.) A. Elschnig.
118 Forensic Determination of Date of Conception. (Zur gerichtsärztlichen Beurteilung des Konzeptionstermins nach dem Entwicklungsgrade des Kindes.) O. v. Franqué.
119 Need for Standardization of Heart Stimulants. (Praktische Durchführung der Kontrolle eines Digitalis- und Strophantuspräparates im Hinblick auf die Gleichmässigkeit seiner kardialen Wirkung.) A. Bickel.
120 Etiology, Diagnosis and Treatment of Low Rectal Strictures. (Mastdarmstrikturen.) P. Dorsemagen.
121 Opsonin Therapy of Skin Disease. E. Saalfeld.
122 Commercial Foods in Infant Feeding. (Anwendung von Nährpräparaten im frühen Kindesalter.) P. Croner.
123 Lack of Phosphorus in the Centers in the Cortex as Cause of Migraine. W. R. Schottin.
124 Absorption of Soluble and Insoluble Salicylic Preparations in the Gastro-Intestinal Tract. K. Burow.
125 *Venous Thrombosis. E. Schepelmann.

117. **Tabetic Atrophy of Optic Nerve.**—Elschnig has encountered sixty-six cases of tabetic atrophy of the optic nerve in the last few years, including nine women. Only one of the latter had an acknowledged history of syphilis but the numerous abortions in all the cases testified to its existence. In only three of the total sixty-six cases had the syphilis been systematically treated, and in only a single case had the course of treatment corresponded to modern requirements. During the same period he has encountered 120 cases of reflex rigidity of the pupils or paralysis of the ocular muscles as one of the manifestations of tabes; except for those whose occupation induced a predisposition, none of the patients had been properly treated for their syphilis. In this group and also in the optic atrophy cases the deleterious influence of alcohol is most instructively evident, as the only cases in which mercury and iodid failed to display their usual efficacy were those in which the counteracting influence of alcohol was apparent. Barkeepers, acrobats and musicians seem to be especially predisposed to tabes by the fact of their occupation, judging from his experience. Elschnig's conclusions in regard to the prevalence of tabes among untreated syphilitics conflict with those of Silex, Winternitz and others who have reported 80 per cent. of well-treated patients among tabetics in their practice, but analysis of the records shows that the treatment was far from meeting modern requirements. The Wassermann reaction was positive in sixteen out of a series of seventeen tabetics with optic atrophy tested. Hecht has also recently reported that among twelve patients being recently treated by Kreibich for soft chancre, with negative Wassermann reaction, four have since returned with secondary manifestations of syphilis. There can be no question, Elschnig remarks, that the soft chancre is often the portal of entry for the syphilis germ. He draws the practical conclusion from his experience and study of the literature that the general practitioner and the dermatologist should pay more attention to the behavior of the pupils in syphilitics, and when there are pupil disturbances they should be referred to their true cause and the patients treated accordingly instead of ascribing the eye manifestations to other causes and neglecting intermittent antisyphilitic medication. He warns further that the rapid benefit under salvarsan in the primary phase of syphilis may mislead physicians and patients to neglect adequate mercurial treatment and thus allow the foundation for the parasyphilitic affections later to be laid. It is imperatively necessary on this account, he declares, to pay special attention in following years to those who have been treated with salvarsan—the hopes linked with the assumption of a possible "therapia sterilisans magna" have already melted away.

125. **Venous Thrombosis.**—Schepelmann reviews a number of important works on this subject that have appeared between 1841 and 1910, stating his conclusion that some lesion

or other disturbance in the intima of the vessel and some disturbance in the circulation of the blood are indispensable factors in the development of thrombosis. It has been encountered not only in the course of heart and vascular disease, marasmus, cancer, phthisis, syphilis and acute infectious disease, but also in acute and chronic suppurations, especially appendicitis and otitis, pyemia and poisonings. The localization and course of the thrombosis are peculiar in anemia, leukemia and chlorosis, as he shows by a number of examples from the records. By far the largest proportion of cases of thrombosis, however, develop in connection with operations and deliveries, but a few cases are on record of thrombosis following trauma, sometimes quite slight, and he reports an instructive case of this kind in a robust young man who had been riding an unruly horse. The strain on his arms was the probable cause of the thrombosis which suddenly developed in the left subclavian, axillary and brachial veins. Schepelmann assumes that the traction on the veins in the arm must have injured the intima; a predisposing factor existed in bradycardia from a slight cardiac defect; in youth the patient had had diphtheria, articular rheumatism and a furuncle in the ear.

Münchener medizinische Wochenschrift

February 28, LVIII, No. 9, pp. 441-496

126 Red Corpuscles as Complete Cells. (Der Säugetiererythrozyt als vollständige Zelle und seine Beziehung zum Blutplättchen.) V. Schilling.
127 Nervous Respiratory and Cardiac Disturbances as Consequence of Gastro-Intestinal Irritation. M. Saenger.
128 *Salvarsan in Non-Syphilitic Ulceration of the Mouth and Throat. P. H. Gerber.
129 Salvarsan in Syphilis. A. Sack.
130 *Induced Pneumothorax in Severe Unilateral Pulmonary Tuberculosis. L. Spengler.
131 Protection of Eyes in Glass-Works. (Augenschutz in Glashütten.) F. Koelsch.
132 Biology of Menstruation. (Zur Lehre von der Entstehung der Menstruation.) A. Theilhaber.
133 *Gonorrheal General Infection. W. H. Leede.
134 Urine Reaction in Disease of Central Nervous System. (Spezifische Bedeutung der Harnreaktion mit Liquor Bellostii bei Paralyse.) F. Stern.
135 Harelip with Cleft Palate. (Behandlung der mit Wolfsrachen komplizierten einseitigen Hasenscharten.) R. Drenkhahn.

128. **Salvarsan in Non-Syphilitic Mouth Lesions.**—Gerber presents clinical evidence to show that not only Vincent's angina but numerous other inflammatory affections of the mouth and throat are the work of spirochetes. Not only gingivitis but simple and mercurial stomatitis, scorbutus and possibly noma are the result of invasion by the spirochetes when a path is opened for them by minute lesions. Drugs that act on spirochetes have a curative influence, as he shows by three cases reported in which salvarsan proved effectual.

130. **Permanent Cure of Tuberculosis with Induced Pneumothorax.**—Spengler has now fifteen patients who can be regarded as clinically cured by the artificially induced pneumothorax. From nine months to four years have elapsed since the close of the treatment and the patients have neither fever, cough nor sputum while all are in prime working condition. The ages ranged from 11, 16, 17 and 18 to 31, 34, 35 and 43. The pneumothorax was maintained for from two months to five months in two cases, in three from ten to fifteen, and in four from eighteen to twenty-four months. Compare with Abstract 82, above.

133. **Gonorrheal General Infection.**—Leede reports a case which resembles one of Jadassohn's in which the urethra seemed to be intact and the general infection occurred through an erosion in the skin. Leede's case is one of the rare instances of fatal gonorrheal arthritis. A purulent hemorrhagic lesion in the ankle was the main source of the intoxication; Leede ascribes the severe general symptoms to a peculiar iodiosyncrasy to the toxins generated by the gonococci. This was evidently responsible for the stupor, the cachexia, the extreme atrophy of the muscles, the desquamation and the fatty degeneration of the heart; the blood was constantly sterile. In another case the syndrome began about the same, the left elbow being the seat of the lesion. In this case he punctured the joint but without finding pus or effusion and then he opened the joint wide, allowing the escape of considerable edema fluid. This released the toxins in the focus and the patient soon recovered. No gonococci could be cultivated from the fluid in this last case. Leede's experience thus teaches the wisdom of ample opening up of the joint when gonorrheal arthritis is accompanied by great debility, emaciation, etc.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 26, XXXII, No. 25, pp. 259-274

136 Paroxysmal Course of Certain Nervous Diseases. (Sul decorso accessuale di alcune malattie nervose.) F. Rivalta.
137 Treatment of Anthrax. (Terapia dell'infezione carbonchiosa nell'uomo.) R. G. Zoda.

Riforma Medica, Naples

February 27, XXVII, No. 9, pp. 225-252

138 Intrapontine Tumor. A. Rovighi.
139 Rapid Bacteriologic Differentiation of Cholera. G. Pollaci.
140 Comparative Tests with Antiformin for Tubercle Bacilli in Sputum. (Il metodo dell'antiformina per la ricerca del bacillo tubercolare nello sputo.) G. Mangeri.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

1910 BLUE BOOK OF SURGERY. Technic of the Surgical Clinic, Anesthesia and Anesthetics, Preoperative and Postoperative Care of the Patient, and Diagnosis and Treatment of Some of the Most Important and Frequent Surgical Diseases. Compiled for the Interns, Students and Nurses of the College of Medicine and Surgery, University of the Philippines, and the Philippine General Hospital. Under the Direction of John R. McDill, M.D., Professor of Surgery, College of Medicine and Surgery, Univ. of the Philippines. By Hans E. Schiffbauer, M.D., Instructor in Surgery, College of Medicine and Surgery, Univ. of the Philippines. (Published in part in the Bulletin of the Manila Medical Society.) Cloth. Pp. 66.

THE TREATMENT OF SYPHILIS WITH SALVARSAN. By Dr. Wilhelm Wechselmann, of Berlin, Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an Introduction by Dr. Paul Ehrlich, of Frankfort-on-Main, Director of the Royal Institute for Experimental Therapeutics, Frankfort. Only Authorized Translation by Abr. L. Wolbarst, M.D., of New York, Consulting Genito-Urinary Surgeon, Central Islip State Hospital. Cloth. Price, $5. Pp. 175, with illustrations. New York: Rebman Co., (1911).

A HANDBOOK OF OBSTETRIC NURSING. For Nurses, Students and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., Formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia. Seventh Edition. Cloth. Price, $1 net. Pp. 272, with 61 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. In Three Volumes. Vol. II. Cloth. Price, $6 net. Pp. 865, with 103 illustrations. Philadelphia: W. B. Saunders Co., 1911.

FEEBLE-MINDEDNESS IN CHILDREN OF SCHOOL AGE. By C. Paget Lapage, M.D., M.R.C.P., Lecturer in School Hygiene to the Manchester University. With an Appendix on Treatment and Training, by Mary Dendy, M.A. Cloth. Price, $1.60 net. Pp. 359, with illustrations. New York: Longmans, Green & Co., (1911).

DYKE'S AUTOMOBILE ENCYCLOPEDIA (1911). In 29 Parts, Including a Dictionary. Treating on Construction, Operation, Repairing of Automobiles and Gasoline Engines. By A. L. Dyke, E. E., Member Society Auto Engineers. Cloth. Pp. 407, with illustrations. St. Louis: A. L. Dyke.

TECHNIK DER MIKROSKOPISCHEN UNTERSUCHUNG DES NERVENSYSTEMS. Von W. Spielmeyer, Privatdozent und Assistent an der psychiatrischen und Nervenklinik in Freiburg i. Br. Cloth. Price, 4.40 marks. Pp. 131. Berlin: Julius Springer, 1911.

CHOLERA AND ITS TREATMENT. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., Physician, Cholera Wards, Medical College Hospital, Calcutta. Oxford Medical Publications. Cloth. Price, $4 Pp. 236. New York: Oxford University Press, 1911.

DIE AKUTE POLIOMYELITIS BZW. HEINE-MEDINSCHE KRANKHEIT. Von Dr. Ivar Wickman, Privatdozent am Karolinischen Institut zu Stockholm. Paper. Price, 5 marks. Pp. 108, with illustrations. Berlin: Julius Springer, 1911.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition. Cloth. Price, $4 net. Pp. 715. Philadelphia: W. B. Saunders Co., 1911.

VICIOUS CIRCLES IN DISEASE. By Jamieson B. Hurry, M.A., M.D. (Cantab.). Cloth. Price, $2 net. Pp. 186, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

EIGHTEENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE TOWN OF WESTFIELD [MASS.]. For the Year Ending Jan. 20, 1911. Paper. Pp. 23.

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CHRONIC PANCREATITIS: ITS SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT

BASED ON A STUDY OF THIRTY-EIGHT CASES *

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PHILADELPHIA

In the domain of pancreatic disease there still remains much unbroken ground. Uncertainties in pathology, obscurities in symptomatology and difficulties in diagnosis beset us and render our clinical judgments difficult and our therapeutics far from satisfactory. Only by the accumulation of accurate observations can the subject be cleared up, and it is desirable that each should add his personal experience. With this in mind I have reviewed those cases of chronic pancreatitis which have come under my personal observation during the past few years and of which my records are sufficiently complete to warrant their inclusion. For the laborious task of collecting and analyzing the cases I am indebted to two of my house doctors, L. C. Kinney and LeFevre Stewart, and to my assistant, Dr. D. B. Pfeiffer.

Of the various affections of the pancreas, those composing the group due to inflammation and its sequels are the most frequent and important. By reason of its protected situation, direct injuries to the pancreas are uncommon. Likewise, while it is subject to the various neoplasms affecting parenchymatous organs, there is no such tendency toward tumor formation as occurs in certain other parts of the body. The observations of recent years, however, made chiefly at the operating-table, have made it apparent that inflammatory changes are much more frequent than anyone had hitherto surmised. It was but natural that the most extreme grades of inflammation were the first to claim attention, and since the pioneer work of Fitz, the acute and subacute forms of pancreatitis have been clothed with a fairly definite pathology and symptomatology, though it is but just to say that our knowledge even here lacks completeness; and in the individual case the difficulties are many.

It is, however, when we approach the consideration of the lesser degrees of inflammatory change of chronic nature with their less characteristic clinical declarations, that we feel our ground often slipping and insecure. Fitz wrote understandingly of chronic pancreatitis and the chief additions to our knowledge since then have been made by Körte, Oser, Lancereaux, Opie, Moynihan, Robson, Cammidge, Truhart and Lazarus. Still most clinicians are agreed that the diagnosis of chronic pancreatitis is exceedingly difficult. The extremes of opinion in this respect are those of Opie, who holds that "the lesion is seldom associated with such definite symptoms that it is recognizable during life," and of Robson and Cammidge, who state that, "from the information obtained by a careful examination of the patient, a knowledge of the history of the case, and the results of a chemical and microscopic examination of the excreta, a correct opinion may be formed in a large majority of instances." My own feeling in regard to this matter is located somewhere between these pessimistic and optimistic expressions. Certainly the diagnosis has been made a sufficient number of times to demonstrate that it is not too difficult to attempt; but it is equally true that our present criteria are too uncertain and inconstant to warrant a claim for great accuracy. We must aim to improve our methods and our understanding. There are no pathognomonic symptoms, no short cuts to the diagnosis of chronic pancreatitis. It is to be made only by the solution of an equation, the factors of which are obtained by three separate lines of inquiry, viz:

1. The anamnesis.
2. The physical examination.
3. The special tests designed to show disturbances of pancreatic function.

I have divided my cases into two groups, according to the presence or absence of gall-stones. Of the seventy-three cases, in thirty-five there were stones in some portion of the biliary passages, and in thirty-eight there were none at the time of operation.

In these remarks I shall restrict myself to the non-calculous group, believing that these cases will give a truer picture of pancreatic disease *per se*. The cases with stones will be considered at another time. The series is still not entirely pure, since twelve had demonstrable changes in the gall-bladder at the time of the operation. Hence a certain admixture of biliary symptoms may be present in this analysis.

A careful history is of the first importance. Habits of eating or drinking which set up chronic inflammatory changes in the stomach and duodenum will be found in certain cases; in others a history of the infectious conditions which are especially likely to be followed by disease of the biliary passages. Often a history of antecedent, disregarded and perhaps forgotten indigestion is obtained. If disease of the bile-ducts and gall-bladder have preceded the pancreatic inflammation, the early history will partake of the inaugural symptoms of that disorder, and perhaps frank attacks of hepatic colic have occurred.

The relation of sex to chronic pancreatitis as compared with cholelithiasis is reversed. There were twenty-two males and sixteen females. This corresponds with Opie's figures, who found seventeen males and thirteen females. Bohm's large statistics also show that 65 per cent. occurred in the male sex. In view of the preponderance of biliary infections in the female sex, this fact is significant as showing that there must be some

* Read before the College of Physicians of Philadelphia, March 1, 1911.

essential difference in the factors which produce infection in the ducts of these closely situated viscera. According to Desjardins, the same infection arising in the intestine and traveling up the bile and pancreatic ducts will, in the former situation, induce a stone-forming catarrh, but in the pancreas will cause a chronic interstitial inflammation. The lack of parallelism in the two kinds of infection, while not conclusive, creates a presumption against such complete similarity of origin in the majority of instances.

The incidence according to age is as follows:

Below 30	4
30 to 40	11
40 to 50	11
50 to 60	8

More than two-thirds of Opie's cases occurred between the ages of 40 and 60. In my series it is seen that the age is lower, two-thirds occurring between the ages of 30 and 50. This is accounted for by the fact that all but one of my cases were operative while Opie's statistics include post-mortem records.

The onset of symptoms is spoken of as sudden in twenty-five cases, gradual in thirteen; but these figures refer especially to exacerbations, premonitory symptoms being present in the majority of instances.

The leading and most constant symptom is pain, which was absent in only three cases. I am conscious of the fact that I am dealing with a series of cases that have been driven to surgical intervention. This magnifies the importance of pain as a symptom, for too frequently it requires suffering to bring a patient to the operating-table. The practitioner must see many cases of pancreatitis in which pain is absent or inconspicuous.

The pain of chronic pancreatitis, or its mild exacerbations, is not in itself characteristic. It varies from dull discomfort or ache to sharp lancinating or colicky pain quite like gall-stone colic. It may be merely a sense of fulness or oppression in the epigastrium. The pain was severe in twelve cases; moderate in twenty-one; in eleven it was colicky.

In the majority of cases when the pain was colicky in type the gall-bladder was diseased. In one instance several small stones had been passed *per vias naturales* a short time before, though none was found at the time of operation. It seems probable that by the dilatation of the ducts following passage of a stone, the gall-bladder had been enabled to empty itself of its calculous contents. From these observations I am inclined to interpret colicky pain, when present, as evidence of involvement of the bile passages. In seventeen cases the pain was located in the epigastrium; in fifteen beneath the right costal margin; in one beneath the left costal margin; in two it was lumbar, and in one severe exacerbation it was general. From the primary location radiation took place to the epigastrium in five; to the back in nine; to the right and left costal margin in eight and one cases, respectively, and to the right and left shoulders in nine and two cases, respectively.

No definite relation to eating or to any particular articles of food was brought out in this series. This seems to be of some value in differentiating pancreatic pain from that of ulcer of the stomach or duodenum and, to a less extent, from gall-bladder disease.

It has been observed that in some cases the carbohydrates are most likely to set up digestive disturbances and Sailer found that the administration of glucose for the purpose of testing the assimilation limit was particularly distressing to these patients.

But slightly less frequent than pain is the history of nausea or vomiting or both. Twenty-one of my patients had had attacks in which vomiting figured, while ten more had been nauseated without actually vomiting. Opie has called attention to the association of chronic interlobular pancreatitis and persistent vomiting, and cites four of his thirty cases, in which advanced chronic interstitial inflammation was found in individuals who during life had suffered with persistent vomiting. While I have not encountered vomiting lasting persistently over a considerable period of time, yet the prominence of nausea and vomiting occurring in attacks at variable intervals indicates its importance as a symptom of the more severe type of the disease.

In ten cases it occurred before the onset of actual pain. This may have been due to what Mayo has spoken of as "the association of surgical diseases in the upper abdomen," for we must always remember that pancreatitis is a disease which in the majority of instances is preceded by, or associated with, disease of the neighboring organs such as gastritis, duodenitis, or biliary catarrh. The vomiting of pancreatitis is non-characteristic, though often containing mucus and bile. Eructations of gas are common in this disease as in most other abdominal affections, and were specially mentioned as a distressing symptom in twelve cases.

The third important symptom is jaundice. This also, as a striking and intensely disagreeable thing for the patient, like pain, is apt to be magnified in importance in any operative series. It was present at the time of operation, or previously in twenty-four cases, absent in fourteen. Eleven patients were jaundiced when admitted. The mechanism of the production of jaundice is easily understood when it is considered that the common duct, in approximately two-thirds of all cases, courses through the head of the pancreas before reaching the duodenum. As this is the portion of pancreas which is most commonly affected by inflammation, it is to be expected that biliary drainage in a percentage of cases will be interrupted by tumefaction of the tissues embracing the duct. It is certain that many cases of so-called catarrhal jaundice are to be explained in this manner.

Owing to this inconstant relation of the choledochus to the pancreas, it is apparent also that a high degree of inflammation or sclerosis of the pancreas may be consistent with the absence of jaundice. All the cases of jaundice with pancreatitis are not to be explained on mechanical grounds, but a certain percentage are doubtless due to disease of the bile passages themselves or to extension of inflammation from a catarrhal duodenum. The jaundice may come on painlessly, as occurred in four cases. It may also be continuous, as in five cases. The surgical importance of these facts cannot be overestimated. When associated with rapid wasting and loss of strength, which may occur in this disease, the clinical simulation of malignant disease of the head of the pancreas is complete and patients have repeatedly been denied operation under the impression that it was useless; a fatal blunder. Here also I may say that the mistake is not always rectified by simple exploratory operation, for the hardened nodular pancreas of advanced inflammation may so resemble carcinoma as to defy differentiation by direct inspection and palpation. Even the glands of the neighborhood may be greatly swollen as though by extensive metastasis. Robson, Moynihan, Mayo, and other leaders in upper abdominal surgery, have more than once mistaken inflammation for carcinoma, and I own to the same error on a number of occasions. In one case not

only was jaundice and wasting present, but there was marked ascites due probably to the biliary cirrhosis or to pressure of the thickened head of the pancreas on the inferior vena cava. The patient made a good recovery after operation.

I have in mind now a physician of this community on whom I operated within the past year and closed with a hopeless prognosis of pancreatic carcinoma. The subsequent course has led me to believe that in this case I was deceived.

More often jaundice is preceded by pain as in gallstone colic, though, as previously stated, the pain is apt to be less severe and not colicky in character. In the more acute forms of pancreatitis it is, of course, a well-known fact that the pain is of such agonizing severity as hardly to be compared with that of any other disease. Such an exacerbation may occur at any time in the course of chronic pancreatitis.

The combination of intermittent jaundice, pain and febrile attacks may also be perfectly characteristic of Charcot's hepatic intermittent fever. I have diagnosed stone in the common duct in such cases and when considering them later have been unable to find any reason why I should not do so again. I am not sure that a stone may not have been present and escaped shortly before operation, and I have referred to one instance above in which such was known to have been the case.

The degree of jaundice may vary from the slightest tinge to the "black jaundice" of the older writers, which was supposed to be diagnostic of malignant disease. Sialorrhea, though often mentioned, I have not observed.

General symptoms are usually well marked. The existence of chronic pancreatitis, to a degree that pancreatic function is seriously disturbed, is always associated with a loss of weight. This is due to several causes: First, to a restriction of the diet voluntarily or by advice of physician in the effort to control the symptoms of indigestion. At times impairment of the appetite is responsible for decreased intake of food, though loss of appetite is by no means a constant accompaniment of pancreatitis. In this series it is mentioned seven times. There is also no disgust for meat. The persistence of the appetite is a valuable point of difference from carcinoma. Second, it is due to malassimilation of the imperfectly digested food. Third, in the cases in which jaundice is present, to the influence of the biliary intoxication; and finally, in a few cases, to the absorption of the products of bacterial activity.

Loss of weight was noted in twenty-one cases. The state of nutrition at the time of operation was, in six cases, obese, in ten good, and in thirteen poor. Loss of strength follows loss in weight, and was complained of in ten instances. I have already referred to the rapid loss of weight and strength which may take place in some instances, particularly when jaundice is a marked symptom. The cachexia may be as rapid and extreme as in malignant disease. In the usual case such marked wasting does not occur.

In most instances fever was known to have been present and in five a history of chills and sweating was obtained. In one the temperature was slightly subnormal. In eleven at the time of operation it was between 98 and 99 F., in thirteen between 99 and 100 F., and in four between 102 and 103 F. Fever is not such a prominent symptom in the prolonged course of chronic pancreatitis as most figures would seem to indicate. As a rule the temperature is normal. Fever is present only during exacerbations. Between the attacks there may be non-committal indigestion. In thirteen cases of this series there was indigestion between attacks. The longest duration of the disease as estimated by symptoms was seventeen years; the shortest eleven days. Ten had had frequent attacks of varying severity.

The bowels, as a rule, are constipated. Nineteen patients suffered with chronic constipation, and in thirteen cases constipation was a feature of the attacks. In only five was there a history of diarrhea.

From this it will be seen that caution must be used in employing as an aid to diagnosis the classical description of "frequent bulky motions, pale in color, offensive and obviously greasy." As stated by Robson and Cammidge, such stools are present only in advanced conditions.

The physical examination rarely affords much positive information. It is of more value in excluding other abdominal conditions. During exacerbations there may be epigastric tenderness and rigidity. When this is true it is almost impossible to detect anything in the nature of a mass. During the intervals, in patients with thin flaccid abdominal walls, it is sometimes possible to palpate the swollen head of the pancreas. In three cases of this series a rather indefinable mass could be felt. More often a considerable degree of pancreatic swelling and sclerosis will defy appreciation through the body wall and overlying viscera. In the majority of instances the pancreas is well covered by the adjacent organs. Körte, who examined thirty cadavers with reference to this point, found that in twenty the pancreas was completely covered, while in ten some part of the gland was covered only by omentum. In six instances there was ptosis of the colon, with exposure of a portion of the head of the pancreas between the colon and liver. In two bodies it was exposed in the median cleft of the liver, and in two, which were the seat of marked gastroptosis, the pancreas could be palpated directly beneath the gastrohepatic omentum. In palpating through the body wall, however, these slight exposures of pancreatic tissue are rarely sufficient to give a definite sense of mass even to the tactus eruditus.

As most of these patients were operated on during or just after some exacerbation of symptoms there was a degree of tenderness present in most of them. In eight no tenderness was elicited. In the remainder tenderness was found below the right costal margin in twenty; beneath the left in three; in the mid-epigastrium in eleven; over Mayo-Robson's point in three, and in one more severe case it was general. Rigidity was observed in the right hypochondrium in nine cases and over the epigastrium in three. There was moderate distention in six cases.

Enlargement of the gall-bladder has been observed in a number of cases, but it was not felt prior to operation in this series. The liver, however, was noted as enlarged nine times.

The general examination at times may reveal loss of weight and jaundice as above stated.

The blood frequently shows a secondary anemia which is seldom grave. In about one-half of my cases the hemoglobin was below eighty and the erythrocytes below 4,000,000 per c.c. A moderate leukocytosis was present in a few of the more acute exacerbations. Generally the numerical ratio of the leukocytes was unaltered.

Now as to the various tests used to determine the functional activity of the pancreas and upper digestive tract: A gastric analysis was made in twenty-four cases. In two-thirds of these there was subacidity both of free hydrochloric acid and total acids. In no case was there

a marked hyperacidity. In other respects the analysis was not abnormal. The great number of conditions associated with subacidity of the gastric contents deprives this observation of any diagnostic value.

Somewhat more information can be derived from examination of the stools. In ten instances they were clay-colored. It is well known that this characteristic does not depend so much on the absence of bile as on the presence of an excess of fatty acids or fat itself. The tests for stercobilin were positive in all of these instances, showing that bile was entering the intestinal tract. This is important and leads to the deduction that since the liver is functionating, the failure to digest the fats must be due to deficiency of the pancreas. An excess of neutral fat so marked as to be visible to the naked eye, i. e., steatorrhea, was present in only six cases, and an excess of soaps was found in five cases. In pancreatic disease the total amount of unabsorbed fat may reach 50 to 60 per cent. in cases of chronic pancreatitis, and even 75 to 90 per cent. in cases of malignant disease (Robson and Cammidge). Carnot says that after suppression of the bile alone, the feces contain 60 per cent. of fat; after suppression of the pancreatic secretion, 70 per cent. of fat; and after suppression of both bile and pancreatic juice, they contain 90 per cent. of fat. In health, according to Müller, "the unabsorbed fecal fats consist of approximately 20 to 30 per cent. of neutral fat and from 70 to 80 per cent. of split fat, which is partly fatty acids and partly soaps." R. Gaultier has shown that in cases of suppression of the bile there are found in the feces from 35 to 45 per cent. of the ingested fats; 63 per cent. of this exists as neutral fats, and 35 to 40 per cent. as split fats (21 per cent. as fatty acids, and 12 per cent. as soaps). He has found that, in cases of suppression of the pancreatic functions, 80 per cent. of the fecal fat is in the form of neutral fats, and only about 15 per cent. as split fats (10 per cent. as fatty acids, and 5 per cent. as soaps); and if both biliary and pancreatic secretions are absent, 90 per cent. of the ingested fat is recovered from the feces, of which 90 per cent, is in the form of neutral fats, and 11 per cent. as split fats (10 per cent. as fatty acids, and 1 per cent. as soaps). Müller found that in cases of pancreatic disease, even though the total percentage of fecal fat might not be increased above the normal, yet that the proportion of split fat is always decreased (averaging about 40 per cent. of the total fat), showing decrease in the digestive power for fatty food. It has been asserted by Katz that diminution of the split fat below 70 per cent. of the total fecal fat invariably signifies disease of the pancreas, except in nursing infants and patients with profuse diarrhea. It remains to be seen whether the quantitative relations of the fat and its derivatives in the feces will be of any great assistance. Since we have found practically normal stools in cases which presented very definite chronic pancreatitis, it is evident that a negative finding is not conclusive. Positive results, on the contrary, must be regarded as very suggestive, and the examination of the feces for its fat and bile contents constitutes a very important element in the diagnosis. Excess of muscle fibers could be found in those instances of palpably deficient pancreatic function, but was not a characteristic of this series. The digestion of protein material appears to be less helpful than fat digestion. Fitz has pointed out that the condition occurs "only when there is extreme diminution of the pancreatic juice, and is significant only when gastric digestion is normal, when the diet contains no excess of meat, and when there is no diarrhea" (Opie). In fact, the majority of stools showed nothing by which a presumptive diagnosis of lack of pancreatic secretion could be assumed. As Opie remarks, "in most instances a considerable part of the parenchyma is undestroyed, and is capable of performing, in part, at least, the functions of the gland." The characteristic stool of pancreatitis, when present, is of great value in the diagnosis, but when absent does not negative the existence of pancreatitis.

The examination of the urine has been given special prominence by the reaction of Cammidge, which has received the endorsement of such able surgeons as Robson and Moynihan. As is well known, this reaction consists in the demonstration in the urine, when treated by a rather complex chemical procedure, of certain crystals of a definite morphology and certain solubility characteristics, but of unknown composition, though it is thought to be a derivative of a pentose, probably an osazone.

A positive reaction is said to indicate the presence of simple pancreatitis. It has been found in a percentage of cases of carcinoma of the pancreas, which is explained by the originators as due to the presence of an inflammatory zone about the neoplasm. The improved or "C" reaction is now used to the exclusion of the old "A" and "B" methods.

The table published in Robson and Cammidge's recent book gives the reaction credit for accuracy rarely attained by any other laboratory method.

In sixty-seven cases of pancreatitis it was positive in every case. In sixteen cases of carcinoma of the pancreas it was found in four (25 per cent.). On the other hand, in fifty normal cases used as controls it was uniformly negative, while in 117 associated cases, in which there was no pancreatitis, it was positive only four times. This is a remarkable showing, and if obtained by others would almost obviate the necessity of obtaining a history, a physical examination or, indeed, seeing the patient at all. We have paid special attention to the Cammidge reaction in the German Hospital. Dr. Kinney has been especially interested in it, and his report of the first 154 "C" reactions appeared in the *American Journal of the Medical Sciences* (December, 1910). Following the cases included in his report we have had 197 additional cases, making, in all, 351, which constitutes a very fair experience by which to judge the merit of the test. While I am free to admit that the originator of the reaction can probably perform it best, yet his very detailed directions have been most carefully followed, and our results must certainly approximate the best obtainable under similar circumstances.

Of nineteen cases, in which the test was made in the present series, it was positive in four and negative in fifteen. This is a scarcely higher percentage of positives than we obtained in sixty cases in which the pancreas appeared to me to be normal to direct palpation at the time of operation. Ten of these sixty cases gave a positive Cammidge reaction. One-fifth positive in pancreatitis, as compared with one-sixth positive when no pancreatitis existed, does not inspire faith in the reaction. In fifty-five cases of chronic pancreatitis, confirmed at operation, some of which were complicated by other upper abdominal disease, there were eighteen positives (32 per cent.), a slightly better showing. Two acute cases were both positive. One case of pancreatic cyst was negative; one of pancreatic fistula was positive, and of eight cases of carcinoma of the pancreas, one-half gave the reaction. Roughly speaking, in all my cases in which the condition of the pancreas was determined

accurately at the time of operation, this supposedly specific pancreatic reaction was obtained only about two and a half times as frequently when the pancreas was affected as when it was not. While this speaks for a degree of dependence on pancreatic disease, it does not, to my mind, indicate that that relation is by any means so intimate and constant as we had been led to hope.

The urine in suspected pancreatitis should be carefully tested for bile and sugar. Two cases in this series showed glycosuria. Sugar may appear in the urine during an exacerbation and clear up on subsidence of the inflammation. This is a threat of oncoming diabetes and should not be overlooked.

I have not used the Loew pupillary reaction, which consists in a dilatation of the pupil on instillation of epinephrin into the conjunctival sac. This is supposed to be due to some interrelation between the produce of the suprarenal capsule and the hypothetical internal secretion of the pancreas. Clinical reports do not accord it much value.

Nor have I had experience with the various methods of obtaining duodenal juice, either through the stomach or in the feces, and testing it for the presence of pancreatic ferments. It seems to me that as these ferments act in incredibly small quantities, so long as there is any pancreatic tissue functionating we would expect to get the reaction due to their presence. When they are absent the condition would probably be far advanced and capable of detection by simpler means.

The chief tests of this sort are as follows: Schmidt's test depends on passing a small piece of beef, enclosed in a silk bag, through the intestinal tract, and observing whether the muscles of the fibers showed digestion. Sailer quotes the work of Steele, who came to the conclusion that this was valueless.

Müller's test aims to demonstrate the absence or presence of a proteolytic enzyme in the feces, by observing whether digestion of blood-serum will take place when drops of fecal material, appropriately prepared, are placed on its surface.

Sahli's desmoid test consists in administering capsules, hardened in formaldehyd resistant to the gastric juice, but soluble in pancreatic secretion. In the capsule is placed a substance capable of rapid absorption and excretion in the urine, thus determining whether solution has been effected.

Solomon attaches great importance to the amount of lecithin in the feces, which is said to be increased in pancreatitis.

Fedeli and Romanelli have devised a test to measure the activity of carbohydrate digestion.

While it is too early to say that these tests have no value it is not likely that they will put an end to our difficulties in the diagnosis of chronic pancreatitis.

The appetite is usually fair or quite good. If nausea or vomiting occurs without severe pain, and if remittent jaundice comes on with distress, but without characteristic gall-stone seizures, the presumption is strengthened.

If the pancreas may be felt enlarged and tender, or the feces present the characteristic stool, the diagnosis can be made with a fair degree of certainty. It is often necessary to observe these patients over a considerable period of time to come to a definite conclusion. As this early non-characteristic stage is very like the non-characteristic beginnings of some forms of malignant disease in the upper abdomen, it is necessary to be guarded in the prognosis and the decision to delay operative treatment.

The chief conditions likely to be mistaken for pancreatitis are cancer of the pancreas, of the common bile-duct or the liver, gall-stones in the common duct, chronic cholangitis without stones, and chronic appendicitis of the type manifesting itself chiefly or solely by upper abdominal symptoms.

The treatment of chronic pancreatitis begins with the amelioration of the predisposing cause or causes, if they can be determined. When gastroduodenal catarrh is present as a result of vicious habits of eating or drinking, a reform must be instituted in these respects. When it is associated with disease of the biliary passages, treatment should be directed toward that condition. Wohlgemuth has shown that the pancreas responds actively to a carbohydrate diet, and that if rest for the inflamed gland is desired it is necessary to be sparing in articles of that nature. Carnot is enthusiastic in advocacy of supplying the missing elements of digestion by administration of a preparation of the gland. Sailer also reports good results in two cases treated on this basis. While such measures may suffice for mild cases, or at times for more severe forms, there are others that go from bad to worse on careful medical treatment. Continued loss of weight, persistence of indigestion, recurring exacerbations, jaundice or a lowered tolerance for carbohydrates as shown by transient glycosuria should cause the physician to advise operation. Epecially binding is this obligation if there be associated disease of the biliary tract.

In the surgical treatment of chronic pancreatitis, Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and through this outlet, drainage also of the pancreatic ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment, and though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting, a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or four weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long this opening will remain patulous is a question, for I have reoperated in cases in which this operation had been performed, and have found the opening closed. It should not be forgotten, also, that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

The surgeon to-day makes the same plea for chronic pancreatitis as he made twenty years ago for appendicitis. Send patients early before complications create a mortality.

1634 Walnut Street.

A Funny Proposition.—The *Boston Transcript* makes the very pertinent remark that man is a funny proposition because, when he reads a medical book, he fancies he has every disease described; but when he reads the work of a moralist, all the faults that are pointed out he sees, not in himself, but in his neighbor.

INTESTINAL BACTERIOLOGY: A SUMMARY*

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It is the purpose of this paper to discuss certain factors of fundamental importance in determining the nature and extent of bacterial activity in the intestinal canal; to explain what these factors are and how they are arrived at; to indicate their significance and to point out how they may be applied practically in intestinal therapy. The results of which this paper is a summary were obtained chiefly by feeding animals (cats and monkeys) on diets consisting alternately of protein and carbohydrate. The alternations in diet were made biweekly. The object of these experiments was to determine the influence of diet on the character of the intestinal flora.

From the point of view of bacterial activity within it, the alimentary canal must be regarded as a wonderfully perfect incubator and culture medium combined—an incubator in which the range of reaction and diversity of foodstuffs is so great that practically all organisms capable of developing at the body temperature of the host can conceivably find some place suited for their development. It is necessary to keep this conception in mind, since the essential feature of the investigations about to be outlined consists of changing the food of the bacteria growing in this intestinal incubator in a perfectly definite manner and sequence, and observing the effects by studying the readjustments of the intestinal flora to meet the new conditions established as the food of the host changes.

The problem is one which must be approached from the dynamic rather than from the cultural standpoint, and the key to its solution must come from the biochemistry of the bacteria concerned in the process rather than from their cultural characteristics. As Dr. Theobald Smith has clearly and tersely expressed it: "It is what bacteria do, rather than what they are, that commands our attention, since our interest centers in the host rather than the parasite."

Before discussing the results in detail, it will be necessary to call attention to several features of the problem which are better mentioned here than later on:

1. In these experiments, the diet of the host was sharply limited to two classes of foodstuffs, and as a working hypothesis, it is fair to assume that the bacterial response to these dietary alternations would consist largely of alternations between proteolytic and fermentative types of organisms, respectively.

2. The intestinal flora can respond to these changes in diet in two ways: (a) the flora may become dominantly proteolytic, then fermentative, as the diet is changed, and (b) in addition to the alternations in bacterial types, certain organisms can actually change their metabolism to accommodate themselves now to a protein, now to a carbohydrate regimen.

3. The products of digestion of protein in the alimentary tract are far more numerous and varied in composition than are those of carbohydrate; consequently one would expect *a priori* that the protein flora would be more heterogeneous than that developed on a carbohydrate regimen. That such is the case is well illustrated by comparing the fecal floras of adults and nurslings. In the former, on a varied regimen, containing much protein, the flora is very heterogeneous, while that of the latter, on a monotonous diet in which protein is in the minority, and carbohydrate a prominent feature, the flora is relatively homogeneous.

The method employed in this work consisted essentially of inoculating the mixed fecal flora into suitable media and studying the resulting reactions in them. From time to time cultures of the prominent bacteria discernible in the fecal flora were isolated and compared with those growing in the cultures; by so doing it was possible to determine the suitability of these media for the purpose they were to fulfil, and to form a judgment of the character of the organisms which composed the fecal flora as well.

The media finally selected were gelatin (sugar-free), acetic acid-dextrose broth (N/5 acetic acid in 2 per cent. dextrose broth), dextrose, lactose and saccharose fermentation media and milk fermentation tubes (Smith). Each of these media presents certain specific advantages in addition to its general utility as a food for bacteria. Much valuable information was obtained from the study of Gram-stained preparations of the feces, fermentation tube sediments and from the growths in other media. It was possible to form a judgment of the suitability of the various media by comparing the prominent organisms in the feces and those in the media themselves.

These media could be divided, according to the kinds of bacteria growing in them into three groups:

Group 1: Gelatin: particularly adapted for the proteolytic forms.

Group 2: Acid dextrose broth: specific for certain fermentative organisms, chiefly of the *B. acidophilus* type.

Group 3: Fermentation media and milk: practically all the dominant bacteria represented in the feces grew well in these media, and consequently they were, in a sense, battle-fields in which the various types of organisms struggled for supremacy. The manner in which the mixed fecal flora acted in the media of Group 3 furnished a valuable clue to the dominant type of bacterial activity in the intestinal tract.

Turning now to the phenomena exhibited by the various bacteria of the alimentary tract as the diet was changed, it was found that as the protein flora became dominant, the Gram-stained fields prepared from the freshly passed feces contained many large and medium sized Gram-positive rods with rounded ends. Gram-negative forms similar to colon bacilli morphologically, and a few coccal forms also appeared. In addition, there were frequently moderate numbers of Gram-negative, thin rods.

Inoculated into gelatin, the mixed intestinal flora caused a decided liquefaction, which commenced as a rule within eighteen hours and continued until practically the whole medium was peptonized. In sugar broths there was a considerable volume of gas formed within eighteen hours, not infrequently 100 per cent. of the closed arm. The Gram-stained sediments from these fermentation tubes contained both the short, Gram-negative bacilli morphologically like *B. coli* and *B. proteus*, and also larger, longer and thicker Gram-positive rods which were morphologically similar to the so-called gas bacillus (*Bact. welchii*), but which were in reality organisms belonging to the *subtilis* group. It is noteworthy that the gas bacillus did not play any prominent part in the formation of gas in these media.

Acid dextrose broth remained unchanged, and there was very little growth in it.

Milk was vigorously attacked; the casein peptonized to a very considerable degree, and, usually from 50 to 80

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per cent. of gas was produced, all within eighteen hours' incubation at body temperature. This rapid peptonization and gas formation in milk is a striking phenomenon, and deserves comment. The same action can frequently be brought about, although much more slowly, by inoculating milk contained in fermentation tubes with a culture of an organism belonging to the *subtilis* group, then, after peptonization has commenced, reinfect the medium with a pure culture of *B. coli* or *B. proteus*. Under these conditions the peptonization continues, and in addition, there is a voluminous liberation of gas. It is absolutely essential for the success of the experiment that the order mentioned be observed. If the colon bacillus is inoculated first, and then, after a preliminary incubation, the subtiloid organism be introduced, the phenomena mentioned will, as a rule, not take place. This is a true instance of symbiotic activity which is not confined to bacteria derived from the intestinal tract. I have encountered it in bacteria from meat and other albuminous products which have commenced to decompose. It should be stated that the combined activity of these two organisms is greater than the sum of their separate activities. The explanation that seems most thoroughly to explain all the facts is that the subtiloid bacilli first act, and, in the case of the milk, peptonize the casein, but do not attack the lactose; since this sugar is unfermentable by most subtiloid organisms. The solution of the casein in some manner makes the lactose more accessible to the action of the colon bacillus, and the alkaline reaction produced by the subtiloid bacillus tends to neutralize to a certain extent the acid produced by the fermentation of the lactose by the colon bacillus, so that the process can go much further than would be the case with the colon bacillus alone. On the other hand, the production of acid by the colon bacillus neutralizes the alkali produced by the subtiloid organism, thus preventing a too alkaline reaction, which would inhibit the activity of the subtiloid bacillus. In dextrose and lactose fermentation media, again, one sees the same phenomenon of unusual gas production when the same organisms are growing symbiotically. The explanation appears to be the same in these instances as well as in the milk.

The organisms dominant on a protein diet, then, are of two principal types: liquefying and aerogenic bacilli, respectively. Of the former, the subtiloid bacilli appear to play the most prominent rôle, while *B. coli* and the various forms of *B. proteus* are the most commonly encountered aerogens. Anaerobes do not play an essential part in these processes.

A change in diet from protein to carbohydrate was associated with perfectly definite changes in the character of the fecal flora. The fecal Gram-stained fields became strongly Gram-positive in place of the more or less equal distribution of Gram-positive and Gram-negative organisms. The organisms were longer, more slender, and frequently were seen to be slightly curved. The flora was also much more homogeneous in appearance.

In gelatin there was very little growth when the carbohydrate flora became fully established, and the organisms which did develop were vestiges of the protein flora.

Acid dextrose broth on the contrary contained a good growth which consisted almost wholly of the rather long, slender curved organisms discernible in the Gram-stained fields of the carbohydrate fecal flora. These organisms were of the *B. acidophilus* type, and in consequence of the acidity of the medium (N/5 acetic acid) were in practically pure culture.

The sugar broths (dextrose, lactose and saccharose) and milk fermentation tubes were less visibly changed with the carbohydrate flora; the gas volume was very much diminished both in the sugar broths and milk, and the actual amounts of growth were also less than was the case when protein feces were inoculated. As a rule less than 10 per cent. of gas was produced in the sugar broths, the turbidity in the closed arms of the fermentation tubes was less marked, and the sediments showed both the long, thin Gram-positive organisms noted above (*B. acidophilus*) and similar, slender organisms, also Gram-positive with bifid ends. The latter organisms were found to be *B. bifidus*, organisms very common in the fecal flora of normal nurslings.

In milk there was no gas formation, and no peptonization. The milk, however, was firmly coagulated.

The significance of these changes appears to be explained by the fact that the fermentative organisms of the *acidophilus* and *bifidus* types produce acid rapidly from the time they are inoculated into the various media in which they thrive, and that this acid-production is so rapid and so intense that even the rapidly growing colon and subtiloid bacilli cannot develop in its presence. This is true, of course, only in those media containing fermentable sugar. In gelatin, which contains no sugar, or in plain, sugar-free broth, the fermentative organisms of the *acidophilus* and *bifidus* types will not grow, and one finds in such media the typical proteolytic flora—*B. coli* and *subtilis*.

To recapitulate: It will be seen that in experimental animals, alternations in diet between protein and carbohydrate are associated with rather definite changes in the character of the intestinal floras of these animals. These bacterial changes are demonstrable both by staining reactions and by the changes produced when the mixed floras are inoculated into media. These changes consist essentially of alternations between proteolytic and gas-forming bacteria on a protein diet, and acid-forming bacteria on a carbohydrate regimen. The absence of carbohydrate prevents the development of the acid-forming bacteria on a protein diet, and the excessive amounts of acid produced by the fermentation of sugar inhibits the growth of the proteolytic and aerogenic forms on the carbohydrate regimen.

THERAPEUTIC APPLICATION OF FINDINGS

Turning now to the practical application of these results to intestinal therapy, we may conveniently consider them in two groups:

1. Those cases in which there is an overgrowth of undesirable forms of the bacteria more or less commonly present in the intestinal tract. These organisms do not, as a rule, bring about appreciable lesions of the intestinal mucosa. The activity of these bacteria is limited to their more or less unrestrained growth in the intestinal contents, and their harmful effects are attributable to the absorption from the intestinal tract by the host of their products of metabolism. Some of these products have been shown experimentally to be actually harmful. These endogenous infections may cause diarrhea, as well as that rather indefinite chain of symptoms known as auto-intoxication of intestinal origin.

2. True exogenous infections, in which foreign bacteria such as the typhoid, dysentery and cholera bacilli gain and maintain a foothold in the alimentary tract. These organisms are able to penetrate the intestinal mucosa.

The treatment of these conditions, from the bacterial standpoint, involves the principles elucidated above. It was stated in the preceding paragraphs that not only do the *types* of bacteria change with a change of diet on the part of the host, but also that certain bacteria have the property within limits of accommodating their metabolism now to a protein, now to a carbohydrate regimen. These latter organisms, then, are facultative in their metabolism. This change in metabolism to meet dietary requirements is a very fundamental and important characteristic of many bacteria, and inasmuch as it plays a prominent rôle in the problems of intestinal therapy which are concerned with the activity of bacteria, it will be discussed in some detail.

A few examples will first be cited to indicate the effect which this accommodation of metabolism has on the host in which such bacteria may be living.

Dr. Theobald Smith has shown, in his classical researches on the production of diphtheria toxin in broth, that the presence or absence of fermentable sugar plays an important part. If utilizable carbohydrate is present in the medium in which the bacilli are growing, the organisms will attack the sugar in preference to the protein; if there is an excess of sugar, so that the bacilli form enough acid to prevent further growth before it is exhausted, very little toxin, comparatively is produced. If there is a lesser amount of sugar (0.2 per cent. or less), merely enough to cause the bacilli to grow well, this sugar is soon used up, and then the bacteria attack the protein vigorously and there is a simultaneous increase in the toxin production.

(In this discussion, no attempt is made to explain the origin or composition of the toxin other than to call attention to the fact that it is formed under the conditions stated in media containing protein, or protein decomposition products, and that the presence of more than minimal amounts of sugar in these media is sufficient to seriously inhibit its formation. The fact that toxin is apparently formed in appreciable amounts from such simple organic compounds as salts of aspartic acid has nothing to do with the problem under discussion, although it is very probable that even in these so-called synthetic media, the presence of sugar would act in precisely the same manner as it does in the more complex proteins.)

A certain minimal amount of sugar appears to be essential for the formation of a potent toxin, and Dr. Smith has suggested that one, or both, of two factors may explain this phenomenon. Either this small amount of sugar is an essential component of the food of the bacteria, or the slight amount of acid formed by the fermentation of this sugar prevents the accumulation of too much alkali until the toxin formation has progressed to a very considerable degree. It is not improbable that both factors are concerned in the process.

According to unpublished investigations made by Dr. Smith, the same phenomenon is exhibited by the gas bacillus (*Bact. welchii*). This organism, so Dr. Smith tells me, produces a toxic substance when it is grown in fermented (sugar-free) broth containing sterile tissue, but this toxic substance is not formed if the same organisms are grown in unfermented broth, with tissue.

Many other organisms act in precisely the same manner when they are placed in media containing sugar; the presence of the sugar appears to prevent the breakdown of protein, at least in any considerable quantities. Attention was called in a preceding paragraph to the fact that there was in the intestinal tracts of mammals and man a group of facultative bacteria which could accommodate their metabolism to either a protein or a carbohydrate regimen. These organisms act in the same general manner as the diphtheria, tetanus and gas bacillus under similar conditions.

Bacillus coli is a well-known example of this group, and inasmuch as it is an organism of great importance in the intestinal tract, it will serve admirably for an example. If this organism is grown in broth containing an excess of utilizable sugar on the one hand, and in broth of precisely the same composition and reaction, but without the sugar on the other, it will be found that the chemical products formed in the two media will be widely different in composition. In dextrose broth, for example, the odor after an incubation of a week will be agreeable, the reaction acid, and in addition to the gaseous products CO_2 and H_2, lactic, and smaller amounts of succinic and acetic acids will be found. It will be observed that products of protein decomposition are practically absent, on the other hand. This growth is therefore a fermentative process and not a proteolysis; merely enough protein has been metabolized to meet the nitrogen requirements of the bacilli.

In the broth containing no sugar, on the contrary, but of otherwise the same composition (plain nutrient broth), the odor will be found to be disagreeable, the reaction strongly alkaline and in addition, indol, skatol, aromatic oxyacids and other products of protein putrefaction will be present in considerable amounts. This is therefore a typical putrefaction.

The organisms mentioned above, then, diphtheria, tetanus, gas and colon bacilli, all react in a perfectly definite manner when grown in media with and without fermentable carbohydrate. If carbohydrate is present, these organisms form acid products which are non-toxic, while they attack protein vigorously in the absence of sugar, elaborating products which are frequently more or less harmful to their host. (It should be stated parenthetically that by "attacking protein," as used in this connection, protein of various degrees of degradation from native proteins is meant.)

Two important and general properties of bacterial activity are illustrated by these experiments:

1. Fermentation takes precedence over putrefaction; that is, carbohydrate shields or spares protein from bacterial attack. The same generality holds in the metabolism of the human body; carbohydrate spares protein.

2. Toxic substances are not formed to any extent in media containing more than minimal amounts of utilizable carbohydrate, so long as there is enough carbohydrate for the bacteria to act on.

When we remember that bacterial toxins are, so far as we know at present, associated with the breakdown of protein, the significance of this shielding action of carbohydrate for protein becomes apparent.

In those cases referred to above as endogenous infections, that is, in which there is an overgrowth of bacteria of intestinal origin, the most noticeable, or at least most common, pathologic result is the slow absorption of putrefactive products, which not infrequently are the results of a too liberal protein diet.

Metchnikoff has recognized this condition and his lactic acid therapy is designed to correct the trouble. His treatment consists essentially in cutting down the protein of the diet, pushing up the sugar, and administering lactic acid bacilli by mouth. He explained the beneficial results which frequently attended this treat-

ment by the antagonism of his lactic-acid bacteria to the putrefactive organisms in the intestinal tract. While his lactic acid bacilli do, as a matter of fact, act in a salutary manner, it must be remembered that there are also present in the intestinal tracts of most individuals normal lactic acid bacilli which also produce lactic acid. These latter organisms appear to thrive best in the large intestine, while the artificial cultures seem to find conditions most favorable for their growth in the small intestine. Hence, the normal lactic acid bacilli, fermenting the sugar which is intentionally added to the diet of the host, antagonize the putrefactive bacteria on their own grounds. Not only do the normal lactic acid bacilli proliferate under these conditions, but the organisms which are producing the bulk of the putrefactive products, at least indol and skatol, change their metabolism under the new conditions, and become fermentative instead of putrefactive in character. The indol and skatol are no longer formed under these conditions, and the condition of the patient appears to be improved. The colon and proteus bacilli, which are strong indol-formers, in other words, produce acids instead of proteolytic products so long as sugar is available for their use.

The same principle of changing the metabolism of bacteria may be made use of in the second group of intestinal infections, those of exogenous origin. The best-known examples of such infections are those of typhoid, cholera and dysentery. The latter only will be discussed, because the attempt has been made to utilize the principles outlined above in the treatment of this disease in infants. The Shiga type of *B. dysenteriæ* produces a powerful extracellular toxin, and the work of recent observers would indicate that it is formed only in broth having a strongly alkaline reaction. From what has gone before, it is obvious that this condition of a strongly alkaline reaction is realized only in the absence of fermentable sugar. It is equally true that the Shiga bacillus ferments dextrose, producing acid. It follows, therefore, that if this organism is fermenting dextrose it is not producing toxin, if our supposition is correct. The Flexner type of *B. dysenteriæ* agrees with the statements about the Shiga bacillus made above, except that this form does not produce an extracellular toxin. It does, however, elaborate an intracellular toxin apparently.

The intestinal flora of babies suffering from bacillary dysentery consists essentially of three organisms: *B. dysenteriæ* [Shiga, Flexner, or both], *B. coli*, and the streptococcus.

As a routine treatment, such babies are starved, and this starvation, together with the severe diarrhea, which is a feature of this disease, results in a very thorough cleaning out of the alimentary canal so far as food of any kind is concerned. This dysenteric flora, then, is living on the intestinal secretions in the absence of sugar (the sugar of the body is used up quickly, and the body then draws on its nitrogen to keep up the vital functions), and it is essentially putrefactive in nature. The dysentery bacilli are elaborating toxin, while the colon bacilli are forming putrefaction products, both of which must be harmful to the child. The colon bacillus aids the dysentery bacillus, and the host has to detoxicate such putrefactive products as are absorbed by the alimentary canal in the liver, and excrete them through the kidneys. This throws an additional strain on an already weakened organism.

The principle involved in the treatment of bacillary dysentery, from the point of view of the bacteria concerned in the morbid process, is to feed carbohydrate. This carbohydrate is intended primarily to change the metabolism of the organisms in the lumen of the intestinal canal from proteolytic to fermentative bacteria. These bacteria, therefore, so long as there is sugar present which they can utilize, no longer produce toxins and putrefactive products from the protein of the intestinal contents, but acids instead. The patient is at the same time obtaining a readily utilizable food with a minimal expenditure of digestive energy. Another advantage gained by this procedure is the readiness with which the baby takes the requisite amount of water. Experience has shown that it is very difficult to make infants take water, but the addition of the sugar makes it more palatable. This method of introducing fluid does away with the disagreeable necessity for saline infusions which are often a source of trouble.

It is not a matter of indifference which sugar is fed to these patients. Lactose appears to be the most advantageous for several reasons. In the first place, it is a sugar peculiar to mammals, and not many bacteria other than those normally present in the alimentary canal can utilize it. Consequently, if the digestion of the patient is weakened to such an extent that it can not even hydrolyze lactose, there is no great harm done because the exogenous bacteria cannot use the lactose as such. Again, lactose is physiologically the most easily assimilable carbohydrate.

If, then, lactose is fed to dysentery babies by mouth in small, often repeated doses, the bacterial changes following its administration are as follows: The colon bacilli and other lactose-fermenting organisms of the intestinal tract attack the sugar in preference to the nitrogenous substances, forming acids in place of putrefactive products. Lactic acid predominates among these acids, and this acid is apparently inimical to the development of the dysentery bacillus. The patient benefits in two ways from the change in metabolism of the colon bacillus—there is a diminished formation of putrefactive products, and in addition those dysentery bacilli in the lumen of the intestine are exposed to the lactic acid generated by the colon bacilli. Usually there are a few of the normal intestinal lactic acid bacilli left in the alimentary canal, and these too begin to proliferate and to form lactic acid; this increment in acid formation acts even more energetically in opposition to the dysentery bacilli.

Under these conditions the streptococcus tends to disappear, and this is a point of considerable importance, since the streptococcus frequently appears as the terminal infection in dysentery cases. The cause for this disappearance is at present unknown to me. It is a curious fact that one may recover cultures of these or similar cocci by growing the fecal mass in strongly alkaline broth (N/5 Na_2CO_3).

If the digestion of the patient is still active enough to break down the lactose, the dysentery bacilli themselves will become acid-formers instead of toxin-producers, because these bacilli can attack dextrose, which is one of the hydrolytic products of lactose. This applies principally to those bacilli which are found in the lumen of the alimentary canal; those in the mucosa would at first sight seem inaccessible, but the stream of sugar which is absorbed by the host passes through the mucosa, and in addition it is possible to restore the normal sugar content of the blood by transfusing dextrose. The sugar

is carried to all parts of the body, and it is not at all impossible that some of it may even reach the invasive organisms, and be utilized by them.

It is clearly not the purpose of this paper to discuss the factors other than the use of sugar in the treatment of these cases; all that is hoped for here is to present the development of the subject of intestinal bacteriology in so far as I have had a hand in it, and to show that these purely laboratory studies can be made use of in the therapeutics of the intestinal canal.

It is obvious that this general principle of fermentation taking precedence over putrefaction can be made use of in many instances, both medical and industrial, in which bacterial activity plays a rôle.

THE TREATMENT OF SUPPURATIVE OTITIS MEDIA (SCARLATINAL) BY BACTERIAL VACCINES (BACTERINS)*

BASED ON ONE HUNDRED CASES OF PATIENTS TREATED IN THE PHILADELPHIA HOSPITAL FOR CONTAGIOUS DISEASES, BUREAU OF HEALTH

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The treatment of various subacute and chronic infections by means of bacterial vaccines has been successful enough to offer encouragement as a practical therapeutic measure, and we undertook the treatment of suppurative otitis media by this means. Of the sequelæ of scarlet fever, otitis media is one of the most troublesome and dangerous, both to the patient and the public health in general. Of 2,537 patients received in the scarlet-fever hospital from June 1, 1907, to June 1, 1909, 308 patients, or 8.2 per cent., developed suppurative otitis media. The usual treatment is unsatisfactory in many respects; the duration of otitis media is frequently prolonged; the contagium of scarlet fever, whatever it may be, seems almost certainly present in ear discharges; the dismissal of a patient with such aural discharges is thus dangerous to public health; therefore any treatment which will cure these patients more quickly and more satisfactorily than the usual methods will be certainly most welcome. The treatment of these infections by bacterial vaccines is based on good reason, although mostly theoretical. The results have been fairly satisfactory when a good technic has been followed, so that we commenced this work with the realization that of all forms of treatment, this is one of scientific aspect, and that results must be given in an impartial and scientific manner; in other words, the report is a plain statement of facts, whether such be favorable or otherwise.

The theory of the action of bacterial vaccines as promulgated by Wright is well known to every one. He has demonstrated the presence of a substance in the blood which prepares organisms for phagocytosis. These substances, opsonins, are normally present in the blood in varying amounts. They can be increased by the administration of an emulsion of bacteria which have been killed by heat at the minimum degree of temperature (vaccine). If the offending organism itself can be secured and used in the preparation of the vaccine (autogenous), better results will follow. The opsonins are probably formed in part by connective tissue cells, both generally, and locally at the site of injection. This is the reason for selecting the area of administration as near the lesion as possible.

The present study is based on the treatment of one hundred cases, extending over a period of nine months. Otitis media is a condition offering good hope for success by vaccine treatment, because the condition is local; the offending organisms can usually be easily secured; the infection soon becomes subacute and chronic and the results of treatment can be readily observed. The onset of the disease is frequently most insidious; a large number of children do not complain at all, and the first indication of trouble is the presence of discharge. On the other hand, many adults and older children suffer considerable pain. In a series of 406 cases the discharge first appeared on the following days of the illness, reckoning from the day of onset of the scarlet fever:

Day of Illness	No. of Cases	Day of Illness	No. of Cases
1 to 5	27	20 to 35	81
5 to 10	97	35 to 49	35
10 to 20	155	49 to 84	11

Patients suffering with severe throat symptoms are most likely to develop suppurative otitis media by direct infection through the Eustachian tube. On the other hand, cases are apparently produced either by general blood infection or by the toxins of the disease.

The first question is that concerning the best time for commencing vaccine treatment of cases of otitis media. Certain it is that a proportion of patients will recover in a reasonable length of time if left alone or given simple local treatment. It is equally certain that a proportion continue discharging for a long period of time, it may be for the remainder of life, the soft parts and finally the osseous tissue being involved. Experience has demonstrated that it is not wise to commence too early, and it is equally bad practice to wait too long, because long-standing cases are likely to be more refractory to treatment and the mechanism of hearing may be considerably damaged. During the acme and early decline of scarlet fever the patient may be having considerable fever; he may be toxic enough without the addition of vaccine or be suffering with acute nephritis and its accompanying toxemia; finally the general condition may be so poor and the body defences so busy combating the toxic condition that the administration of vaccine will evoke no favorable response, but produce injury by a prolonged negative phase, during which the organisms work increasing havoc. We commenced vaccine treatment in our cases according to the following table, reckoning from the first day of the onset of the otitis media as indicated by the presence of discharge:

Time of Discharge	No. of Cases
Third to seventh day	6
Seventh to fourteenth day	33
Second to third week	21
Third to eighth week	28
Eighth to fourteenth week	10
Four years	1
Ten years	1

According to our experience the best results were secured, considering all things, when cases were reported on the third day of the discharge. This enables one to watch the patient for a day or so; take a culture; con-

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* For the sake of brevity references to the literature which appear in the author's reprints have been omitted in THE JOURNAL.

sume five or six days in isolating the organisms and preparing the vaccine. If at the end of this time the patient's general condition was fair and he was free of fever, nephritis and toxemia, a dose of vaccine was administered. If his condition was not favorable, the vaccine was put aside in a refrigerator. If at the end of ten days his condition warranted commencing the treatment, we did not use the first vaccine, for frequently a reculture will show a different organism or the presence of an additional offender. A reculture is made from the discharge and another vaccine prepared.

The following table is a list of the organisms isolated from cultures of the 100 cases. If the otitis media was bilateral a culture was taken from each ear. If two organisms were found, each was isolated and a separate vaccine prepared. When administering two vaccines to the same patient, the aggregate dose was that equalling the dose of one organism. The bacteriology was comparatively simple and isolation readily accomplished:

Staphylococcus aureus	was found alone in 14 cases
Staphylococcus albus	was found alone in 2 cases
Bacillus pseudodiphtheriæ	was found alone in 35 cases
Bacillus pyocyaneus	was found alone in 20 cases
Streptococcus pyogenes	was found alone in 4 cases
Staphylococcus aureus and *B. Pseudodiphtheriæ*	were found together in 9 cases
Streptococcus pyogenes and *B. Pseudodiphtheriæ*	were found together in 4 cases
Bacillus pyocyaneus and *B. Pseudodiphtheriæ*	were found together in 9 cases
Streptococcus pyogenes and *B. pyocyaneus*	were found together in 3 cases

If no improvement was noted after the third dose of vaccine, or if ten days elapsed before vaccine could be administered to a case after culture had been taken, a reculture was made and a new vaccine prepared. In many cases, an ear cultured three to four days after the onset of discharge will show the *Staphylococcus aureus*, while on reculture at a later date the *Bacillus pseudodiphtheriæ* will be found. Most of the long-standing cases yield *Bacillus pyocyaneus*, and repeated culturing can secure nothing else. The following table gives the list of organisms secured by recultures:

Bacillus pyocyaneus	was found alone in 20 cases
Bacillus pseudodiphtheriæ	was found alone in 6 cases
Staphylococcus aureus	was found alone in 2 cases
Bacillus pseudodiphtheriæ	was found in combination with *Streptococcus pyogenes*; once with *Bacillus pyocyaneus*, and twice with the *Staphylococcus aureus*.

Cases cultured on the third or fourth day of discharge show the *Staphylococcus aureus* in many instances. A vaccine prepared of this organism usually gives good results. A week or ten days later it is often replaced by the *Bacillus pseudodiphtheriæ*, or this organism is found in addition.

It may be well to add here a few words in explanation of the term "pseudodiphtheriæ." We are aware that many opinions exist on what should be thus named. We apply that term here to a solid type of diphtheria-like organism resembling some of the solid types of true diphtheria bacilli, but without virulence or toxicity when tested in a reliable manner by animal inoculation.

We have frequently encountered, isolated, and cultured a short, thick, solid bacillus having rounded ends, with slightly marked median band, characteristic of the *Bacillus hofmanni*. We could never foretell by microscopic examination alone whether solid types of diphtheria-like bacilli were or were not virulent, but relied on an animal test for such information. We believe that a true pseudodiphtheria bacillus exists which belongs to the family of diphtheria bacilli, but have never been able to recognize it with confidence by mere microscopic examination. Twenty-two of the cultures were tested by guinea-pig inoculation and found negative. Two additional cultures, isolated from discharging ears in the diphtheria wards, produced most virulent toxins. Therefore, we believe that the presence of diphtheria-like organisms in the ear can be determined by microscopic examination, but only an animal test can determine whether or not the organisms possess virulence and are a menace to public health. The presence of this organism in 57 per cent. of the cases shows its important position in the etiology of otitis media and its relation to diphtheria of the ear.

The *Bacillus pyocyaneus* was found in 20 per cent. of cases discharging for four weeks or longer. This organism is believed by many to be a practically harmless saprophyte, feeding on tissues killed by some other organism. In 10 per cent. of our cases this was found alone or in combination with some other organism as early as the third to fourteenth day of discharge. The results of its vaccine were satisfactory in these early cases, and while the administration of a vaccine prepared from this organism may have been merely coincident to a rapid cure, yet we cannot agree with those who claim its vaccine to be practically without effect, for we believe that it is at least worthy of trial. On the other hand, of the fifteen patients dismissed from the hospital with persistent discharging ears, thirteen gave this organism in pure culture and its vaccine did not produce favorable results.

All of the various groups of streptococci are here listed under one name. A vaccine prepared from this organism gave quick and favorable results each time. It was found alone or in combination in 11 per cent. of cases.

We prepared and used autogenous vaccines for every case except one. This case was one of ten years' standing, following measles. The patient was admitted with scarlet fever and recovered in a satisfactory manner. He was detained, however, on account of the discharging ears, for although the otitis did not develop during the course of scarlet fever, yet his ear discharge was most likely infected, and therefore it was considered dangerous to dismiss the patient. Repeated cultures yielded the *Bacillus pyocyaneus*. A vaccine produced some improvement. Then a stock culture of *Staphylococcus aureus* and *Bacillus pseudodiphtheriæ* was tried. Granulation was rapid and all discharge ceased after the fourth dose. His ears were dry for ten days before dismissal from the hospital.

The question of dosage has always been one of paramount importance in vaccine therapy. Wright's technic for determining the opsonic index was received as being an exact guide to amount and frequency of dosage. There is considerable evidence to show that its practical value has been overestimated, and while in skilful and exact hands its results are of aid, yet the procedure consumes so much time and its results are apt to be so misleading, unless performed in an exact, patient manner, that it can be well dispensed with in ordinary practical work. We learned to rely more and more on the clinical aspect of our patients. It is very important to avoid producing a prolonged negative phase, or giving a dose of vaccine during this period. Careful opsonic work has demonstrated what usually occurs after the administration of a vaccine and the importance of avoiding this phase of the reaction. We have frequently seen the harmful effects of too large a dose at too close an interval between doses. The tendency is to give smaller doses with longer intervals between each. As a rule the sicker and weaker the patient, the smaller the dose. In

this work no fixed rules of dosage were used. Each case is a law unto itself. Dosage must be controlled in each patient according to temperature reaction and the local and general condition of the patient. The initial dose for the average patient 10 years of age was about as follows:

Staphylococcus aureus and albus,	15 to 40 millions
Bacillus pseudodiphtheriæ,	30 to 50 millions
Streptococcus pyogenes,	5 to 10 millions
Bacillus pyocyaneus,	50 to 80 millions

It is well to give a small dose at first and note the extent of the reaction. This reaction will be a good guide for determining the size of the succeeding dose. Doses were repeated every five to eight days. In our earlier cases they were given at shorter intervals, but results did not warrant the continuance of the practice. Succeeding doses were increased by five to ten millions if necessary. Following the administration, the majority of patients develop a temperature varying from 100 to 102 F. in about eight hours, gradually reaching normal in twenty-four to thirty-six hours. We have seen the temperature fall a degree or so to subnormal after an injection, reaching normal at the end of twenty-four hours. A second dose should not produce so much fever, and when doses are properly selected, the temperature reactions are quite conspicuous, each being lower than the preceding, as the patient's system is charged with an increasing quantity of opsonins, until finally no fever follows the administration. The local reaction is usually quite typical. If one has succeeded in securing the organisms producing the infection its vaccine will produce an increased amount of discharge for twenty-four to thirty-six hours. This is of good prognostic value. The discharge may gradually diminish in amount or cease suddenly and entirely. The general improvement in health in many of the patients was indeed striking. It is difficult to decide what proportion of good may be ascribed to the vaccine, but certain it is that improvement in nutrition so frequently followed the administration of the vaccine that one was forced to notice the relation. It may be that the injection of the vaccine served as a stimulus to the increased production of receptors which were used in anchoring additional nutritive material. In addition to the temperature and local reaction the patient, if old enough to express himself, will sometimes complain of lassitude, sleepiness, slight headache, etc. We have been fortunate enough to escape abscess formation. Streptococcus vaccine in every case produced a local reaction of redness and pain at the site of infection, which passed away in twenty-four hours with rest and evaporating lotions.

As in all hypodermatic medication, it is necessary to use an accurate syringe. This is especially true in vaccine work because wasting even a few drops alters the size of the dose to an extent difficult to compute. We gave the injection in the loose areolar tissue over one of the scapulæ. Since children frequently sleep on the abdomen we made it a practice to administer the vaccine at night when the part could be cleansed and when the injection was given frequently without awakening the child. The temperature, pulse and respiration of the patients were taken every four hours for the first twenty-four hours, and longer, if necessary, until the normal was reached. Notes were made every other day on the progress of the case.

During the administration of vaccines every other form of treatment was suspended. Syringing the ears was especially interdicted, for unless it is performed in a skilful manner, and with a proper syringe, more harm than good may result by reinfection of healthy parts. Four of our cases were persistently refractory for over three weeks, when it was learned that the nurse in charge was syringing out the ears with great zeal through an oversight, not having been instructed to stop all treatment. These cases rapidly progressed in a favorable manner to ultimate cure when this local treatment was stopped. No treatment is given, except wiping away the secretions when discharged over the neck and cheek. The ordinary cotton plug in the canal frequently does no more than dam back the secretions. Once or twice a day the external auditory canal is gently cleansed with cotton and applicator to avoid inspissation and consequent plugging.

The following table shows the number of doses given to secure a favorable result, or convince one that vaccines were giving no aid:

16	patients received	1 dose	(13 cured; 3 died).
11	patients received	2 doses	(10 cured; 1 improved).
15	patients received	3 doses	(14 cured; 1 improved).
10	patients received	4 doses	(10 cured).
10	patients received	5 doses	(9 cured; 1 improved).
9	patients received	6 doses	(8 cured; 1 not improved).
4	patients received	7 doses	(4 cured).
4	patients received	8 doses	(2 cured; 1 improved; 1 not improved).
3	patients received	9 doses	(3 cured).
3	patients received	10 doses	(2 cured; 1 improved).
4	patients received	11 doses	(1 cured; 3 improved).
3	patients received	12 doses	(2 cured; 1 improved).
3	patients received	14 doses	(1 cured; 1 improved; 1 not improved).
1	patient received	15 doses	(1 not improved).
1	patient received	16 doses	(1 cured).
1	patient received	17 doses	(1 cured).
2	patients received	18 doses	(2 cured).

If the otitis has been present for a considerable length of time the bony parts are affected, and consequently the time required for cure will likely be longer. Even after the infection has subsided a discharge of necrotic material or secretions of granulation may be present for some time. On the other hand, there are cases in which suppuration will progress most actively despite all one may do. These cases have been repeatedly cultured, and as many as six vaccines prepared for each case but with no beneficial result. All such patients were in a poor physical condition.

It is a difficult matter to decide when an ear is cured. Often the discharge may cease entirely for a few days or a week, and then commence again. It is customary in the Philadelphia Hospital for Contagious Diseases to retain all such patients until the ears have been constantly "dry" for a week or ten days. If the time required for such a result reaches four months the patient is discharged, for while the ears may be suppurating, they are not likely to be contagious. Most of the cases under vaccine treatment progress gradually in a favorable manner, although many stop discharging quite abruptly with one or two doses of vaccine. It is necessary to guard against supposing an ear free of discharge when cerumen is plugging a perforation of the tympanum. The longer the time one can observe these patients after cessation of discharge the better will one be enabled to judge of what the ultimate outcome will be. Practically all patients with scarlet fever are detained in the hospital for at least five to six weeks. At the expiration of this time parents are very anxious to have their children returned, and if they are detained longer, as in cases of otitis media, this anxiety is often under high pressure.

We have always endeavored to watch a case for at least ten days after all discharge has ceased. Most of our cases were from the poorer crowded sections of the city where it is a very difficult matter to keep trace of them after dismissal from the hospital. The final test of value of any form of treatment can be judged only

by results after a long lapse of time. The following table gives the number of days in which cases were "dry" preceding discharge from the hospital:

4 to 10 days	37 cases
10 to 18 days	27 cases
18 to 28 days	11 cases
28 to 42 days	6 cases
3 months	1 case

Each case was thoroughly examined by Dr. Woody, chief resident physician of the hospital, three times before dismissal.

As already stated, the real value of the vaccine treatment in these cases of otitis media can be determined only at a much later data. However no "return" cases have been traced either directly or remotely to any of these patients. At the present we can estimate the value of the vaccine treatment by considering the time required to accomplish a cure under the usual form of treatment and that required under vaccines; also by the number of patients dismissed at the expiration of three to four months with ears still discharging. To determine this the records of the hospital have been studied and the results tabulated (Woody):

The table is very important because it compares the percentage of patients who were cured under the usual treatment with those cured under vaccine treatment during an equal number of days:

Number of cases admitted to Scarlet-Fever Hospital from June 1, 1907, to June 1, 1909, 2,537.

Number of cases of suppurative otitis media developing during this period, 308, or 8.2 per cent.

	Usual Treatment.	Vaccine Treatment.
1 to 10 days	3.24 % cured	22 % cured
10 to 20 days	7.47 % cured	22 % cured
20 to 30 days	11.69 % cured	21 % cured
30 to 40 days	17.86 % cured	8 % cured
40 to 60 days	19.15 % cured	4 % cured
60 to 90 days	9.41 % cured	4 % cured
90 to 120 days	2.28 % cured	1 % cured
Dismissed with ears still discharging	13.96 %	15 %
Died ears still discharging	14.94 %	3 %

This table demonstrates that under vaccine treatment 21.99 per cent. of cases are cured in from one to thirty days as compared to 7.46 per cent. under usual treatment in the same period of time.

Of the fifteen patients receiving vaccine treatment and dismissed with ears still discharging, one was "running" six weeks, and five from twelve to fourteen weeks before vaccine treatment began:

4 received vaccine treatment on fifth to twelfth day of discharge.
5 received vaccine treatment on fourteenth to twenty-eighth day of discharge.
1 received vaccine treatment during sixth week of discharge.
5 received vaccine treatment during twelfth to fourteenth week of discharge.

It is reasonable to suppose that if vaccine treatment had been given to the six patients before the expiration of six weeks and longer, more favorable results would have been obtained.

No deductions can be drawn from the number of patients succumbing with ears discharging. Most of these deaths occurred during the year 1907-1908 when scarlet fever was unusually severe; during 1908-1909, the disease was quite mild, while during 1909-1910, scarlet fever was of moderate severity. In our series of 100 cases the three deaths were caused by the following conditions: two by acute nephritis and one by general toxemia of scarlet fever.

During this work, the following were considered as contra-indications to the administration of vaccines:

1. Cases of continued fever. This condition is frequently a part of the scarlatinal infection. The typhoid type of scarlet fever comes under this category. Such cases are usually of poor vital resistance and vaccines are likely to do more harm than good. However, in selected cases, by means of small cautious doses, the local condition may be held in abeyance or even cured.

2. Acute nephritis. This condition means decreased elimination and retention of toxins. To administer vaccine means adding fuel to a fire. Such cases very frequently show increased activity of the local infection, indicating a general decrease in local and general resistance. It is a safe practice to wait for ten days or two weeks after the total disappearance of albumin from the urine before administering vaccine.

3. The occurrence of other infections means cessation of vaccine treatment. Thus, a patient may develop measles, chicken-pox, diphtheria, etc. Our work was once practically stopped on account of vaccination during a small-pox epidemic, during which time it was found unwise to whip up a well-worked horse.

TECHNIC

The technic employed was essentially that used by Wright and his co-workers. We never administer a mixed vaccine but isolate each organism and make up standardized vaccines from each. As short a time as possible was employed in securing isolation for fear that frequent subculturing would lower the virulence of the organism. It is also necessary to kill the culture at the minimum degree of temperature at the minimum length of time to secure the most potent vaccines. Briefly, it is as follows:

The ear is cleansed of the excess of secretion by means of probe and cotton and then a culture is made in sterile bouillon by means of a sterile swab. This culture is then plated out by inoculating the water of condensation in successive large tubes of plain or gelatin-agar. This water is run once over the surface of the media. In twenty-four hours the colonies are well developed and usually well isolated. They are examined microscopically and subcultures made on large tubes or bottles of slanted agar. If the streptococcus was being cultured, glucose-gelatin-agar was used. At the end of twenty-four hours, the culture is examined microscopically for purity and morphologic characteristics of the organisms; subcultures are made on various media, and in case a diphtheria-like bacillus is present, a toxin is prepared by growing for forty-eight hours in alkaline (0.5 per cent phenolphthalein) bouillon to which is added 1 per cent. glucose. This is administered unfiltered, subcutaneously into the abdominal wall of a 250-gm. guinea-pig, the dose being 0.5 per cent. of the body-weight expressed in cubic centimeters. The cultures are washed off the surface of the medium with sterile normal salt solution, diluted with the same solution and counted by comparing the number of bacteria with human blood as a standard. For staining these slides it is very essential that the stain employed produce no precipitate. We used, and can warmly endorse, the method consisting of fixation for five minutes in a saturated solution of bichlorid of mercury, followed by washing and immersion in a solution of carbol-thionin for a few minutes. After counting, the emulsion is sealed in a drawn out test tube and heated in a water bath, fully immersed, for one hour at 58 to 60 C., never over 60. The tubes are then opened and cultures made on slanted agar.

The tubes are then sealed again and put aside in the refrigerator for twenty-four hours to await the outcome of the cultures. Streptococcic vaccine is always allowed forty-eight to seventy-two hours in determining whether it be sterile, because this organism grows so slowly. If sterile, the tubes are opened and the proper dose prepared by diluting with sterile salt solution, with compound solution of cresol added as a preservative. The dose is put up in amounts of one cubic centimeter in sterile ampoules or in a sterile stock bottle. When not in use they are stored away in a cool place.

CONCLUSIONS

We have tentatively drawn the following conclusions:

1. The best time, all things considered, for commencing vaccine treatment in cases of otitis media, is from the eighth to the sixteenth day of the discharge.

2. Continued high fever, nephritis, toxemia and various intercurrent affections are contra-indications to the administration of vaccines.

3. Under vaccine treatment, three times as many patients are cured within thirty days and permitted to go home as under the usual treatment. This means that the average residence of a patient in the hospital has been considerably decreased.

4. In general, cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.

MULTIPLE MYELOMA WITH ALBUMOSURIA

REPORT OF A CASE

JOSEPH M. KING, M.D.

LOS ANGELES

The first recorded case of albumose in considerable amount in the urine with accompanying destructive lesion of bone was reported by Henry Bence-Jones[1] of London, before the Royal Society of London, in 1874.

The urine was from a male patient, a grocer, aged 45, who dated his illness from a violent strain in vaulting from a cavern, accompanied at the time by violent pain in the chest, and who, after sixteen months' illness, died. This case occurred in the practice of a Dr. MacIntire. At the autopsy Bence-Jones remarked, "I saw that the bony structure of the ribs was cut with the greatest ease and the bodies of the vertebræ were capable of being sliced off with a knife." Microscopically, their interior presented "granular matter, oil globules, nucleated cells, constituting the bulk of the mass—a few caudate cells and blood-disks extravasated largely among the other cells, and giving the red color to the gelatiniform mass."

The post-mortem diagnosis was "osteomalacia fragilis rubra."

But few cases were recognized and reported up to 1890. Since that time an increasing number of cases has been recognized, but the condition is still far from common.

A large number of names have been given to the condition, the one of multiple myeloma, now universally used, having been given to it by J. von Rustizky, in 1873,[2] who, however, regarded the condition as simply over-growth of the cell-elements of the bone-marrow.

It attacks the old rather than the young, occurring in males more often than females, and usually runs its course within two years. The condition is one of primary tumor formation taking place in the red marrow of the bones. It is, therefore, most apt to occur in the sternum, ribs, vertebræ, and skull, although the long bones are by no means exempt. It usually appears simultaneously in several foci, often in bones widely separated. The growth resembles a small round-celled or lymphosarcoma, but differs from it in very seldom forming metastases, only one or two cases being reported,[3] and in not containing spindle or giant-cells. It forms soft, reddish masses, with yellowish or grayish streaks, is homogeneous in appearance, not sharply defined from the surrounding tissue, and replaces the normal red bone-marrow. The cortex of the bone is also usually very much thinned and bulging or broken through, and the tumor forms nodular masses on the surface or may even invade the neighboring soft parts by continuity of growth. Spontaneous fractures not infrequently occur. If the vertebræ are involved, curvature of the spine or kyphosis frequently occurs, with its accompanying pressure symptoms. In pure cases the affection is confined to the bony system, no enlargement of the spleen or liver, or involvement of the lymph glands taking place. In a considerable number of the reported cases enlargement of the spleen or liver or both has been noted.

The blood is markedly affected, resembling grave forms of secondary anemia, or a pernicious anemia. Leukocytosis is not common.

The best descriptions of the histologic structure are those of Henry A. Christian,[4] W. G. MacCallum,[5] and James Homer Wright.[6]

The tumor masses are very cellular in type, with a scanty, loose, wide-meshed connective tissue stroma, usually composed of very fine fibrils, in which loosely lie round or oval cells, sometimes polygonal in shape and interspersed with numerous large and imperfectly defined blood-vessels. Often many red blood-cells are seen scattered among the cells. These tumor cells are from 8 to 12 microns in length by 4 to 10 microns in width. The cell outline may be sharp, but there is not often a definite cell-membrane, and the cells are made up of a very finely granular slightly basophilic protoplasm, in which lies a rather large round or oval vesicular nucleus, often eccentrically placed, having a definite nuclear membrane. Two or three nuclei, each of the vesicular type, are not uncommon. The nucleus contains a chromatin network with chromatin masses usually peripherally placed. It also contains a nucleolus. No specific granulations are found. Much discussion has arisen as to whether these cells more nearly resemble and spring from the premyelocytes, or from the bone-marrow plasma-cells. The best evidence at hand seems to indicate that they are of plasma-cell origin.

In 1901 Hamburger[7] developed the clinical manifestations of the condition.

The chief clinical features are attacks of pain referred to some portion of the osseous system, often with the formation later of visible or palpable tumors, cachexia, and the presence of Bence-Jones albumose in the urine. Frequently the patient's first complaint is of rheumatoid symptoms; and stiffness of the small joints, as of the hands, may develop. Dull pain over the hips, patella, or vertebral column is also noted among the early symptoms, or perhaps sharp pain over a rib or the chest is the initial symptom, or the first complaint is of a seeming lumbago or sciatica. These painful periods often alternate with periods of comparative comfort, but any unusual muscular exertion or contusion of affected parts is liable to call forth a return of the pain. While pain is a predominant feature in many cases, in others it is entirely absent. As the disease progresses, visible changes in the bones are apt to appear. Bending of the vertebral column is common. The sternum also sometimes bends, and tumors on the ribs, sternum, cranium or about the joints are often present. Fractures, spontaneous, or caused by very slight injury, sometimes occur. In a considerable proportion of cases, no bone changes are demonstrable clinically. The *x*-ray may be a very great aid, showing rarefaction and thinning of the cortex of the bones, particularly the ribs, where a wavy outline may be made out.

1. Bence-Jones, H.: Phil. Tr. Roy. Soc., London, 1848, Part I, 55.
2. Von Rustizky, J.: Deutsch. Ztschr. f. Chir., 1873, iii, 162.
3. Tschistowitsch, T., and Kolessnikoff, H.: Virchow's Arch. f. path. Anat., 1909, excvii, 112.
4. Christian, H. A.: Tr. Assn. Am. Phys., 1907, xxii, 145; Boston Med. and Surg. Jour., 1908, clviii, No. 19, p. 617.
5. MacCallum, W. G.: Jour. Exper. Med., 1901, vi, 53.
6. Wright, James Homer: Tr. Assn. Am. Phys., 1900, xv, 137.
7. Hamburger, L. P.: Bull. Johns Hopkins Hosp., 1901, xii, 38.

With the progression of the disease the patient loses flesh and strength; the general health suffers; the appetite is poor; nausea sometimes occurs; and an anemia of the secondary type develops, gradually passing to a most severe type. Leukocytosis is not common, although it has been reported in some instances. In typical cases the spleen, liver, and lymph-glands are not enlarged.

The most distinctive sign, however, is to be found in the urine, in the presence of the Bence-Jones body, which is virtually diagnostic. It is not invariably present, but the exceptions are rare. As a rule it occurs early and persists until the end, although there may be marked remissions, and the percentage usually varies considerably from time to time. The amount of urine is usually increased, averaging about 2,000 c.c. daily, often slightly cloudy, very pale in color, either neutral or very slightly acid, and with a specific gravity averaging from 1,004 to 1,012. On applying Heller's test a white ring forms, and as the contained albumose is also thrown down by the Esbach reagent, it is often mistaken for ordinary albumin. When heated, however, it is found to become cloudy at from 50 to 60 C. This turbidity can be made to disappear by the addition of acetic acid; or by further heating to the boiling point it disappears in great part, to precipitate again on cooling. The urine usually gives a strong biuret reaction. Casts are seldom seen. Owing to the increased amount of urine passed, thirst is a rather common symptom. Peptonuria of slight degree is an accompaniment of many disorders, but the presence of albumose in so large amount as to alter the usual reactions of the urine is practically found only in distinctive lesions of bone, and then only in that particular lesion termed multiple myeloma. The percentage present in the urine varies greatly, from 0.25 of 1 per cent to 6.90 per cent., which high amount was reached in Bence-Jones' famous case. Its origin is unknown, although Weber[8] and others regard the bone-marrow as the seat of its production. It is often accompanied in the urine by traces of albumin. No other changes are commonly present.

The heart sounds may be accompanied by hemic murmurs, and while the condition does not usually give rise to pathologic changes in its musculature, attacks of angina have been reported in several cases.

Chilly sensations, fever and sweats and slight jaundice occur in some cases, but they seem to be the accompaniments of the rapid destruction of blood and blood-forming tissue, and not to be in any sense distinctive of this condition. So also, and from the same causes, serous effusions may occur.

If no demonstrable lesion is found in the bones, the physical examination is usually negative.

The diagnosis may be difficult, particularly if the Bence-Jones body, which is almost diagnostic, is absent.

Weber[8] gives a careful differentiation. Osteomalacia differs by more often attacking women during the child-bearing period, affecting chiefly the bones of the pelvis and lower extremities, giving rise to great deformity and bending of the bones, but not so frequently to spontaneous fractures.

Caries of the spinal column gives a more distinctly angular kyphosis, the ribs are not likely to be simultaneously affected, and the anemia is seldom so marked.

The presence of obvious bone disease, a leukocytosis of any degree, or of albumose in the urine, serves to distinguish the condition from pernicious anemia. Furthermore, the superficial fat is not well preserved, nor is there a lemon-yellow cast to the skin. From nephritis it is distinguished by a sufficiently careful examination of the urine.

The prognosis is bad, the patients having died in all recorded cases, generally within two years, although one patient is reported as having lived seven years from the first symptoms.

Treatment seems unavailing. Arsenic and the *x*-rays have been used. Only symptomatic treatment seems to be of any value.

The following case, while not a pure case of myeloma, in that it had a considerable leukocytosis together with hyperplasia of the spleen and liver, is yet to be classed among those of this tumor.

History.—E. J. A., male, aged 60, married, born in Canada of English parentage, a liveryman by occupation, first consulted me July 12, 1910, complaining of great weakness with inability to stand on his feet, with numbness in his legs, shortness of breath on exertion, fulness of the stomach after eating, and somewhat frequent urination. He had a wife, son and daughter living and in good health. His father died at 69, after a nine weeks' sickness of "paralysis of the lower limbs." His mother died at 88. One brother died in babyhood, a sister died of typhoid at 28, and two sisters, aged, respectively, 63 and 58, were living and in good health.

The habits of the patient were excellent. He had never had any venereal diseases, used no tobacco and only very occasionally took a glass or two of beer. He had suffered from the diseases of childhood, and stated that he had had typhoid fever three times, the last twenty years previously. In 1898 he was laid up three months with lumbago and "nervous prostration," but had fully recovered, and had been in perfect health for years. He gave no history of malaria or injury in the splenic region or elsewhere. He had suffered from an indefinite stomach trouble for some time. In September, 1909, he contracted what he thought was a severe bronchitis, with much cough and expectoration, which lasted for about three months, and reduced the patient somewhat in weight and considerably in strength. He at length recovered, however, and about Christmas felt fairly well.

In January, 1910, a sharp pain came on at the costal margin on both sides, made worse by exertion, lifting, etc., but especially by raising the arms. This attack lasted about six weeks. From this the patient did not fully recover; he never regained his normal strength. He had no fever at any time. This weakness increased, and about May 1 a dull pain came in the back, with numbness in the legs and inability to stand. Shortness of breath on exertion appeared about the same time and gradually increased. He did not now have any sharp pain, his appetite became poorer and he had distress in the epigastrium after eating. He gradually lost weight and strength, but no other symptoms developed prior to my examination on July 12.

Examination.—This revealed a man about 5 feet 10 inches tall, weighing 140 pounds, of large frame and much emaciated. He looked anemic, and the mucous membranes were very pale. The superficial fat was not well retained; there was no yellowness of the sclera. No cervical pulsation was noted, but the femorals were throbbing. No enlarged glands were noted. The pulse was not rapid, was very regular, but collapsing in quality. No abnormality was noted in the lungs. The area of cardiac dulness was not increased; the apex-beat could not be seen or felt, and the sounds were very weak. No murmurs were heard. The patient was tender in the upper part of the abdomen, and on examination it was found that the liver was palpable for 1½ to 2 inches below the costal margin, and that the spleen extended to the level of the umbilicus and the left mammillary line. When the patient arose in bed he held the spine rigid, as he also did in bending. No error in alignment of the vertebræ or tenderness on percussion was present. The pupils reacted normally to light and accommodation. The knee-jerks were lost, and most of the other deep reflexes of the body were feeble. Romberg's symptom was not present. The

8. Webster, F. P.: Am. Jour. Med. Sc., 1903, cxxvi, 644.

patient reeled and complained of pain in the back when walking. He was very weak. Temperature was normal. The patient had at this time no cough or expectoration. Tuberculin tests were negative.

The blood showed hemoglobin, 20 per cent. (Dare); reds, 1,284,000; whites, 19,000. Stained specimens showed some poikilocytosis. No megalocytes were present, although there was some anisocytosis. Most of the cells looked small. Many normoblasts and some megaloblasts were seen, the latter showing all degrees of polychromatophilia. Some were absolutely basophilic.

A differential count showed polynuclears 23.5 per cent., small lymphocytes 50 per cent., large lymphocytes and transitionals and large mononuclears 21.5 per cent., eosinophils 3 per cent., basophils 2 per cent. For each 100 white cells there were sixteen nucleated reds, thus giving 3.040 nucleated red cells per cubic millimeter. Of these about 75 per cent. were normoblasts and 25 per cent. megaloblasts.

Several careful examinations of the patient's blood were made at intervals, but no marked change from this description occurred.

It was noted that the patient was passing large amounts of urine, a symptom of which he had complained, and on measuring, it was found to amount to about 2,000 c.c. daily. This was usually slightly cloudy, very pale, for the first week or ten days of observation slightly greenish in color, later becoming pale yellow. Its specific gravity was always about 1.008. It was very slightly acid in reaction. No serum albumin or sugar was present. When heated to about 56 C., however, it became opaque with the formation of a flocculent precipitate. This could be dissolved by the addition of acetic acid; if heated to the boiling point, it almost cleared, to again become very cloudy on cooling. When measured with an Esbach albuminometer this albumose was found to amount to 2 gm. to the liter. This Bence-Jones body varied considerably in amount, but was never absent from the urine during the remaining life of the patient, usually from 1 to 2 gm. to the liter. The urine was also found to contain enormous amounts of indican, and as the taking of methylene blue or other drugs, which might cause the urine to become green, could be absolutely eliminated, the color was supposed to be caused by the excessive excretion of this substance. It also blackened the precipitate of albumose on boiling. After passing the urine through the centrifuge a few hyaline casts could usually be found. After the discovery of the Bence-Jones body a very careful examination of the patient's bones was made, but nothing whatever could be detected, except a slight tenderness on percussion over the lower part of the sternum.

This condition continued without much change, except ever-increasing weakness, until the patient's death on July 28, due to his extreme anemia.

Necropsy.—This was performed nine hours after death. It revealed an emaciated man, about 60 years of age, 5 feet 10 inches tall, weighing about 125 pounds. There was no livor of the dependent parts. The superficial fat was not well retained. The cutaneous surfaces were very pale, but not jaundiced. The muscles of the abdomen and thorax were apparently normal. The cut surfaces of the costal cartilages appeared much whiter than usual. The sternum proved very fragile, and was broken twice in the attempt to remove it. There were slight recent adhesions in the right pleural cavity, but no fluid. The left pleural cavity was normal, as were also the lungs, with the exception of some hypostatic congestion at the bases. When the lungs were raised out of the chest the ribs were noted to have a wavy surface, caused by masses varying the size of from a pea to that of an almond. These masses were present on practically every rib, and looked as though the cortex had been bulged out in spots. The cortex was not broken anywhere. The ribs were very fragile and easily broken, and the sternum and ribs were easily cut through, showing a wavy outline, with the cortex very much thinned, and the medullary portion made up of a soft, moist, dark red tissue. This was continuous throughout the sternum, but alternating in the ribs with areas of grayish marrow, into which the reddish tissue insensibly merged. Examination of the right femur showed it to be normal. The bodies of the vertebræ were not sawn through, nor was the skull-cap removed. The pericardium was normal. The heart was normal in size, with normal endocardium and valves. The myocardium, however, showed fatty degeneration.

The liver was much enlarged, reaching almost to the level of the umbilicus. The gall-bladder was distended and fixed by firm adhesions to the liver. It could be emptied into the bowel by gentle pressure. No stones were present.

The mesentery of the transverse colon was firmly adherent to the under surface of the liver. On section, the liver was softer and paler than normal.

The spleen, which was very soft, measured 8 by 5½ by 2¼ inches, and weighed about 3¼ pounds, and had the appearance of a leukemic spleen.

The small intestines seemed very much contracted. No abnormalities were noted in their walls, and no ulcerations were present. With the exception of fatty degenerative changes, all the other abdominal organs were normal. None of the lymph-glands of the body were enlarged.

A section of rib, examined by Dr. Stanley P. Black, revealed the histologic structure to be practically that described by Christian.

AN EMERGENCY CULTURE MEDIUM FOR USE IN PRACTICE

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In general practice there are repeated demands for a culture medium which is, at the same time, cheap and easily prepared from the materials at hand. This is especially true when the physician desires to grow bacteria for the preparation of bacterial vaccines. The usual culture media are expensive and difficult to obtain, the apparatus necessary for their preparation is extensive, and the technic of preparation is long and tedious. Therefore, the demand for a special emergency medium is great.

Bacteria grow on ordinary artificial media under unnatural conditions and their character is often quickly changed by the new ingredients of the media. Some species cannot be grown without special care; this is true of the pneumococcus, the streptococcus and the gonococcus. These cocci do not grow readily; it is difficult to keep them alive, and their virulence is often lost after two days' culture, unless they are surrounded by the nourishment afforded by human secretions. The problem is to supply them with conditions as nearly as possible like those which they find in the human subject.

I experimented for several years with agar-agar, Loeffler's blood-serum, bouillon, milk and potato, and noted the effects of various salts and chemicals in solution on the growth of bacteria. I also followed the experimental work done in the physiologic laboratories: the use of normal salt solution to preserve skin grafts; the work of Dr. Loeb at the University of Chicago with amebas in salt solution; the power of salt solution to preserve the life of the cells in the blood-vessels and heart of the frog, and finally the suspension of the leukocytes in normal saline solution in performing the various experiments in determining the opsonic index. These studies led me to think that normal salt solution might keep bacteria alive. I found that if sufficient material from the site of the infection were added to 2 drams of normal salt solution, in a sterile bottle or test-tube, and incubated at body temperature, many of the ordinary bacteria could be grown and kept alive for weeks and even months, and that in some strains the virulence seemed to be maintained longer than when grown on the ordinary media.

This method can be used to transfer culture material from the office of the general practitioner to his laboratory or to that of the laboratory specialist, and will be found of distinct advantage in transporting infectious material over long distances. All that is needed is a sterile bottle containing sterile, normal salt solution, in which is suspended some of the discharge from the point of infection, the discharge having been obtained under aseptic precautions. It is important to obtain a liberal amount of the material from the site of infection, in order to furnish the infecting bacteria with sufficient provender.

There are some exceptions among bacteria; some will not grow in salt solution, and doubtless others will be found. Pneumococci can be kept alive in it only a very short time, and are completely dissolved (autolyzed) in four days, as noted by Rosenow. Streptococci do not grow well unless serum from the site of the infection be added, but this can easily be done. Staphylococci, *Bacillus typhosus, Bacillus coli communis* and *Bacillus pyocyaneus* can be readily grown. The gonococcus can be grown in salt solution by the addition of a liberal supply of human blood to a free supply of secretion from the infecting area. Diphtheria bacilli grow with difficulty, but can be grown in salt solution by the addition of a few drops of human blood-serum or sterile beef bouillon.

It will be noted that all these materials may be obtained at home and with but little trouble and expense. The tubes of cultures thus obtained may be incubated on the person of the doctor or of the patient, care being taken to see that they are well stoppered by stoppers rendered sterile by boiling or steam sterilization.

I offer this preliminary report to those who are interested in bacteriologic work and especially to workers in vaccine therapy, as a ready assistance in such work, with the desire that it may save both time and expense.

34 Washington Street.

SYSTEMIC BLASTOMYCOSIS

REPORT OF A CASE

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During the last decade, blastomycosis cutis has become a well-recognized, distinct, clinical and pathologic entity among dermatologists. Although it is not a common disease, it appears to occur more frequently in this vicinity than it does elsewhere. More cases have been reported from Chicago than from any other one locality, and it is largely to the thorough work of our Chicago confrères that we are indebted for our present knowledge of the disease. Prior to the work of Gilchrist and Stokes in 1896, the disease was mistaken for various other conditions that resemble it in certain respects. The three diseases which have given rise to most difficulty in diagnosis are tuberculosis, syphilis and carcinoma. Blastomycosis resembles very closely the verrucous form of tuberculosis and often a definite diagnosis can only be arrived at after microscopic examination of the tissues or the pus. The lesions of blastomycosis resemble somewhat those of the rarer vegetating forms of syphilis, and if the diagnosis is not established by microscopic examination, the clearing of the lesions under potassium iodid may still further confuse the physician. The resemblance of the lesions to carcinoma is only very superficial and should lead to no difficulty if the history of the case is carefully gone into.

The organism which gives rise to this disease is a fungus much resembling yeast. It is very readily demonstrated in the pus from the lesions by treating the material with liquor potassæ and examining under the microscope with a fairly high power. The organisms resist the action of the alkali and are thus easily distinguished from epithelial cells and pus cells. They are round, oval or slightly irregular in outline and have a well-defined double-contoured homogeneous capsule. The protoplasm is finely or coarsely granular and is separated from the capsule by a clear space of varying width. Budding forms are seen in all stages. No mycelium has as yet been demonstrated in the pus from skin lesions or deeper abscesses, but it is seen in cultures. The organisms grow very readily on artificial media.

The typical skin lesion is so characteristic that to one familiar with the disease, the diagnosis, as a rule, presents very little difficulty. The lesions are elevated from the surface; each has a well-defined border and is covered with irregular papillary elevations, separated by clefts or fissures, giving the whole a verrucous appearance. Portions of the surface are covered by crusts. The border is the most characteristic feature. It slopes abruptly to the normal skin and on close inspection it is seen to be set with a large number of minute abscesses. The pus from these abscesses contains the blastomycetes in large numbers.

The first case of blastomycosis to be recognized was one of systemic infection with the organism reported by Busse and Buschke in 1894. Credit belongs to Gilchrist and Stokes, however, for first describing the typical cutaneous lesions and properly classifying the parasite. Since these reports, a hundred cases or more have been recorded and no doubt many hundreds of cases have been recognized and treated which have not found their way into medical literature.

Recently a number of cases of systemic infection with the organism of blastomycosis have been reported. There are now on record twenty-nine in all; reports of twenty-seven of these were collected and published in a very exhaustive article two years ago by Montgomery and Ormsby. Since that time, one case, the first from the South, has been reported from Memphis, Tennessee, by Fontaine, Haase and Mitchell; and another case has been recorded by Hutchins. To this list I wish to add still another which has recently come under my observation at the Milwaukee County Hospital and which I was able to follow and study with the assistance of Dr. L. M. Warfield.

REPORT OF CASE

The patient was a German laborer, aged 70, who had resided in this country thirty-seven years and had been an inmate of the Milwaukee County Almshouse for four and one-half years. He was first admitted to the County Hospital March 1, 1909, on account of a sore on his right elbow. There was nothing of importance in his past history; he had had typhoid fever, but denied any knowledge of venereal infection.

The present illness dated from three weeks before his admission to the hospital. After a slight trauma, a lesion developed on his elbow. On admission, this lesion was about the size of a silver dollar and presented a purulent granulating surface, with a well-defined margin and somewhat raised above the surrounding skin. This lesion was on the right arm, just over the internal condyle of the humerus. The tissues surrounding this ulcer were edematous. The patient also presented at this time (March 19, 1909) over the vertex of the skull a soft, well-defined mass about the size of a hickory-nut. This was incised

and pus evacuated. This pus was not examined. The wound continued open till the time of the patient's death, and necrosis of the outer table of the skull extended until an area 2 inches in diameter was involved. These two lesions, from the subsequent history of the case, were probably blastomycotic, although no definite proof that such was the case could be obtained. The lesion on the elbow slowly healed under local treatment alone. A section, taken from its margin, showed only granulation tissue. The patient was sent back to the almshouse in August, 1909.

Three months later, he was again admitted to the hospital. At this time there were present three lesions, which, from their clinical appearance and the microscopic findings, were undoubtedly blastomycosis. The most typical of these was situated above and to the right of the upper lip and was about the size of a fifty-cent piece. It was raised above the surrounding skin and partly covered by crusts. Along the margins were many miliary abscesses. There was a larger lesion involving the left cheek, which was concealed by his beard. A third and much smaller lesion occupied the outer half of the right lower eyelid. His general condition at this time was fairly good, although his voice was hoarse and there was some cough and expectoration. Examination of the lungs revealed dulness and moist râles at the left apex. The lymphatic glands of the axilla and neck were enlarged.

The patient was put on increasing doses of potassium iodid, and for a time the local condition seemed to improve. In fact, the lesion on the right cheek disappeared, but promptly recurred.

After about a month in the hospital, the patient began to show evident signs of decline. He lost weight rapidly; his cough and hoarseness increased. In December, 1909, he developed an abscess at the right sternoclavicular articulation which was evacuated. The pus contained blastomycetes in large numbers. Another much larger abscess then appeared on the left elbow. The old lesion on the right elbow was, at this time, practically healed. In February, a retropharyngeal abscess developed and was evacuated. Repeated examinations of the sputum for tubercle bacilli and blastomycetes were negative.

During February and March, the patient continued to lose ground. He became bed-ridden, ran a septic temperature and finally died April 13.

Necropsy.—Unfortunately, a complete necropsy was not permitted but sufficient examination of the contents of the thorax and abdomen was allowed to establish the diagnosis of systemic blastomycosis.

At autopsy, which was performed by Dr. Warfield, the most striking lesions were found in the lungs. These organs were voluminous and dark purplish in color. The glands at the root were rather large, but not caseous. The lobes of the right lung were bound together by tags of adhesions but the pleura in general was not thickened. The cut surface of both lungs showed a grayish finely granular appearance and over it were scattered small nodules, one at the base of the right lung, being about 2 mm. in diameter. Similar nodules were found in the spleen and liver, giving the organs the appearance of being filled with miliary tubercles. This resemblance to tuberculosis is a very characteristic feature of the disease.

The microscopic appearance of the lesions in the lungs also closely resembled miliary tuberculosis. The sections showed miliary abscesses, surrounded by varying numbers of giant-cells. The necrotic centers of these abscesses, together with the giant-cells, contain many of the characteristic organisms of blastomycosis. Very similar lesions are also seen in the sections from the liver, and thus establish beyond a doubt the diagnosis of systemic blastomycosis.

One interesting feature of this case is the fact that although repeated and thorough search was made, the sputum never contained any of the organisms in spite of the very extensive involvement of the lungs and the presence of symptoms pointing to pulmonary involvement ante mortem.

In other respects, the case resembles very closely the majority of those thus far recorded. In all the cases in which an autopsy was done, thirteen in all, the lungs were found to be more or less extensively involved. In several cases the lung symptoms were the earliest noted.

This very general involvement of the lungs would suggest the possibility that the respiratory tract may have been the portal of entrance by which the organisms gained access to the body. The symptoms referable to the lungs, however, have been mild in nearly all the cases, especially during the early part of the disease. The physical findings have not pointed to extensive lung involvement except in a few of the cases toward the end. The symptoms have resembled closely those of tuberculosis, although usually less pronounced than in tuberculous changes of equal extent and severity. Blastomycetes have been demonstrated in the sputum in seven of the recorded cases.

Another common and very pronounced feature of all the cases has been the formation of multiple abscesses, resulting often in sinuses and chronic ulcers. Some have healed, leaving scars. These abscesses have varied in size from minute, almost microscopic lesions to cavities large enough to hold a liter of pus. The miliary abscesses have been found most commonly in the lungs and spleen. The larger ones may invade the joints and cause erosion and caries of the bones.

These larger abscesses may be divided for descriptive purposes into two groups, superficial and deep. The deeper abscesses are, as a rule, larger and have been recorded in the abdomen, thorax, in the psoas muscle, in the retropharyngeal tissue and about the kidney. There is one deep abscess on record from which a quart of pus was evacuated.

Accompanying the formation of multiple abscesses, there are the symptoms which are usual in chronic pyemia—irregular fever, malaise, loss of strength and emaciation.

One point of interest is that in spite of the fact that extensive suppuration has been present in all the cases, in only three has amyloid degeneration been recognized. Characteristic cutaneous lesions of blastomycosis have been present in nearly all of the cases. In a few, the superficial lesions have taken the form of abscesses and superficial ulcers.

The prognosis in cases of systemic blastomycosis is exceedingly unfavorable. Of the recorded cases, only four have recovered. The course of the disease is essentially chronic. Most of the cases have lasted from one to two and one-half years. Only six of the cases have terminated in less than six months. Death has resulted in most instances from gradual exhaustion, due to chronic suppuration or to general dissemination of the disease through the various organs and tissues of the body.

From this very unfavorable record of results, it may be assumed that the treatment of the disease is not very satisfactory. The only drug which appears to have any specific action on the disease is potassium iodid. The patients who have recovered have received it in large doses.

Locally, the lesions should be treated like those of the purely cutaneous form of the disease. One of the best local applications is 1 per cent. copper sulphate solution in conjunction with the use of the *x*-ray.

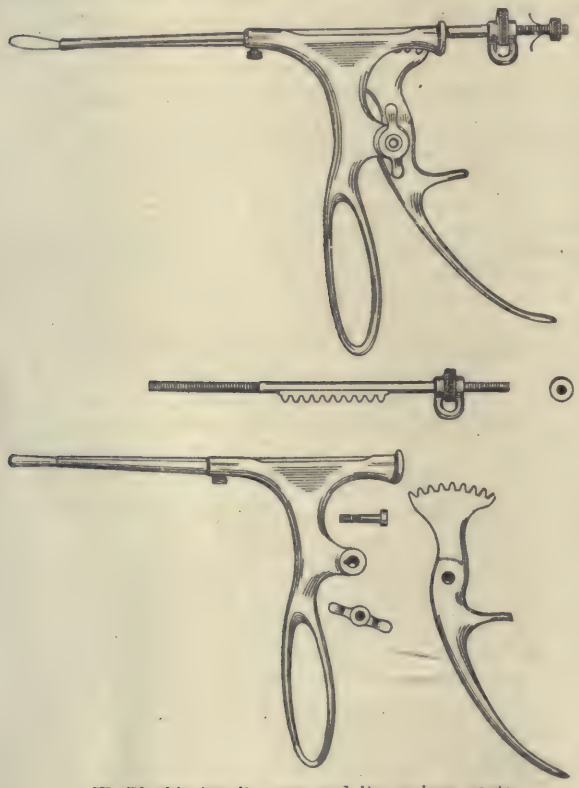
1242 Wells Building.

AN IMPROVED TONSIL SNARE

WILLIAM D. BLACK, M.D.
Ear, Nose and Throat Surgeon at Centenary, Osborne and City Hospitals
ST. LOUIS

The instrument and its various parts are so well shown in the illustrations that no further description is necessary. It is a more powerful instrument than the ordinary tonsil snare and does not get out of order like many others. It is simple in application, can be used a number of times without requiring a new wire, and, if properly adjusted, the wire cannot slip. It should be manipulated by a sort of forearm and wrist movement, instead of by the fingers, in closing it, so that the barrel will not be thrown out of line. It is made of solid brass with a heavy nickel coating. Number 7 or 8 piano wire should be used. I have used the instrument a number of times with excellent results. It is made by the O'Brien Worthen Co., Frisco Building, St. Louis.

220 Metropolitan Building.



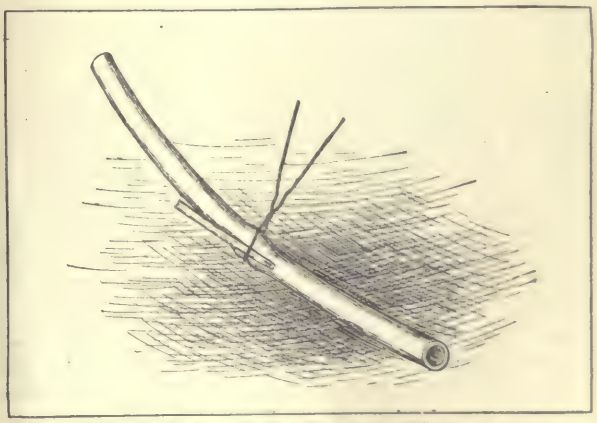
W. Black's tonsil snare and its various parts.

A SIMPLE DROP METHOD OF GIVING RECTAL ENEMAS OF NORMAL SALINE SOLUTION

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CHARLESTON, W. VA.

Nurses in hospitals often experience a good deal of trouble in giving patients normal salt solution by rectum. For various reasons it becomes intolerable to the bowel and is expelled. Sometimes the solution is too hot, sometimes too cold, but the most frequent trouble is that it is allowed to run into the rectum too rapidly. The reasons for this are as a rule, first, that the nurse has no efficient means of making it flow drop by drop, and secondly, that the douche bag or container is usually hung too high and the water pressure is too great. The container should be hung so that the solution is 8 or 10 inches above the level of the rectum. It should frequently be tested by a bath thermometer and the temperature kept about 100 F. A hot-water bottle on either side of the douche bag or the frequent addition of small quantities of hot saline solution will serve to keep the temperature up.

I have found that the most simple means of inducing the fluid to flow drop by drop is not a hemostat but a hairpin and a match. When the hemostat is clamped on the tube it invariably begins to cut into the rubber and probably five minutes after the solution has been flowing drop by drop it is running in a steady stream. A much better, simpler method, and one which will issue a steady drop by drop flow as long as is desired, is provided for as follows: An ordinary wire hairpin is passed about the rubber tubing so that one of its prongs extends on either side; the free ends are secured from spreading apart by a twist of the wire with the fingers. Three or four wooden toothpicks or a match trimmed down to a wedge-shaped point are induced between the wire hairpin and the rubber tube and gently pushed in until the flow is just as desired. As a rule it is not wise to attempt to give too much fluid at a time. I find that in the average case about 6 or 10 ounces every hour and a half or two hours will be sufficient and will be a little less than the patient will tolerate comfortably. In giving saline solution regularly over a space of more than twenty-four hours one will find that more is usually absorbed at first than later after the system has been saturated with fluid.



Method of regulating flow in rectal enema.

A soft rubber catheter in the rectum is better borne and causes much less irritation, as a rule, than a rigid nozzle. If this catheter is made after the type of the usual retention catheter or if it is secured in place by a strip of adhesive plaster passed across the buttocks the patient is saved from the annoyance of frequent introduction and removal.

Aside from the well-known value of saline solution by rectum in the treatment of shock, thirst and hemorrhage, it is perhaps of greater value still in the prevention of urinary irritation and suppression. Usually the operative patient is depleted of water by purgation and gets but little fluid for several hours prior to, during, and after operation. A considerable amount of toxic and highly irritant material is thrown undiluted on the kidneys and they may prove unequal to the strain. If these toxic bodies are highly diluted with water their elimination will be felt far less.

VENEREAL PROPHYLAXIS IN THE UNITED STATES NAVY

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Surgeon, U. S. Navy
CAVITE, P. I.

As the first requisites of a military or naval organization are health and efficiency, it is at once apparent that these two conditions must be maintained at the highest attainable point or disastrous results will ensue in time of war. The medical officers of the Navy are responsible for the physical condition of the personnel and it behooves them to safeguard this in every way possible.

One of the most recent steps toward this end is venereal prophylaxis, which is now in operation in the Navy, it having been officially adopted something over a year ago. Some of the naval medical officers, myself included, had recognized the value of the treatment, and were using it in some form or other, long before it was officially authorized. The method now used in the service is practically the same throughout, though there are, of course, slight variations, depending on the views of the several medical officers.

The treatment successfully employed at this station can be conveniently taken up and described under two heads, viz: (1) preliminary instruction, and (2) application of the treatment.

PRELIMINARY INSTRUCTION

On reporting for duty at a naval station, or on board a ship, as soon as possible I begin a series of lectures to the men, which cover the entire subject of venereal disease. These lectures are couched in simple language, and the men are urged to ask questions, if they do not understand any part of the lectures. Particular stress is laid on the danger of neglecting or concealing venereal disease. Venereal prophylaxis is thoroughly explained to them, the excellent results obtained are cited, and they are urgently requested to cooperate with the medical officer in this important work. Most of them do so willingly, as the American bluejacket is very intelligent, and once he realizes that the treatment is for his well-being he cheerfully does his part. Of course there are a few "sea-lawyers" who consider the treatment a joke, or of no value, and these men are the principal sufferers, as, in addition to their greater liability to contract venereal disease, they are punished for not reporting for prophylactic treatment, or for concealing disease, as men of this class frequently do.

To be absolutely certain that no man escapes, each is furnished with a typewritten slip covering the salient points of the lectures and of venereal prophylaxis. At this station slips are made out in English, Spanish and Tagalog (the native language), as there are several hundred Filipinos enlisted in the native auxiliary force, and the majority of these men do not understand English. These notices are also posted in their sleeping-quarters, and in the navy yard boat office where they are on duty.

These lectures are repeated from time to time, as the personnel of the ship or station is constantly changing and many of the new recruits have had no instruction in venereal prophylaxis.

APPLICATION OF THE TREATMENT

At all naval stations, and when a ship is in port, a certain number of men are allowed shore leave every day. This leave is generally from about two o'clock in the afternoon, until seven or eight the next morning. A list of their names is kept and they are checked off when they go, and when they return from shore leave. The medical officer is furnished with a copy of this list every day when the men go ashore. As soon as a man returns from shore he is ordered to report at once to the sick-bay for prophylactic treatment. On reporting there his penis is examined, and he is interrogated as to whether or not he indulged in sexual intercourse while on leave. If he replies in the negative, he is excused from treatment, but if subsequently a venereal infection develops, he is punished for lying. It would be well to state here that all examinations are, if possible, conducted in private so as to spare the feelings of the man examined. If the man states that he had sexual intercourse on shore, he is given the following treatment:

The entire penis is scrubbed with liquid soap and water for several minutes, and then washed well with a solution of mercuric bichlorid 1 to 2000 in strength. If there are any abrasions present they are sprayed with hydrogen peroxid from a hand atomizer. The man is then placed in a sitting position, well forward in a chair in front of a convenient receptacle, and given two injections of a 10 per cent. solution of argyrol. He is required to retain each injection in the urethra for five minutes. After taking the injections, the entire penis is thoroughly anointed with a 33 per cent. calomel ointment. He is told not to urinate for at least two hours and to allow the ointment to remain on the penis for some hours. A temporary dressing is now put on the penis to protect his clothes and he is excused.

RESULTS OF TREATMENT

The results attending prophylactic treatment at this station have been most gratifying, in spite of the fact that at Cavite, unlike all other naval stations, no regular checking list is kept of men on leave, and there is no means of insuring prompt reporting, after return from shore leave. Before venereal prophylaxis was instituted here, the percentage of venereal diseases of all classes among the men averaged from 25 per cent. to 30 per cent. annually, and at times was even higher, as Cavite and vicinity are notorious for venereal diseases, especially syphilis and gonorrhea. The percentage of gonorrhea has been reduced to 8 per cent. annually, and this percentage includes about thirty patients that did not report for treatment. Chancroid was reduced from 5 per cent. to 2 per cent., which includes two patients not reporting for treatment. Syphilis has been reduced from about twenty cases annually, to one case for the entire year 1910, and this patient did not report for prophylactic treatment. These results speak for themselves, and show the efficacy of the treatment, if properly and conscientiously given.

CONCLUSIONS

After an experience of several years, it has been found that if men report for treatment within twelve hours after contact, the danger of contracting venereal disease is practically *nil*. After twelve hours, the treatment fails in many cases. It appears to be of special value in syphilitic contacts. I believe it to be an absolute preventive if employed early. The treatment, to succeed, must be given early and thoroughly. My percentages of failure of treatment have never been over 2 per cent. of cases and sometimes there are no failures for months at a time. The best drug for injections is argyrol, as it is non-irritating, and in my experience a more efficient germicide than any other drug used in the prevention of gonorrhea. I have tried protargol, but to be effective, it must be used in a 2 per cent. solution, which in many

cases causes urethral pain and discomfort for some hours after taking the treatment, and this tends to keep many men from reporting, except under protest, as they would rather run the risk of infection than suffer the discomfort often caused by the injection of protargol. It is believed that if all contacts reported for treatment within twelve hours, venereal disease would soon be a negligible quantity in the service.

It would seem that venereal prophylaxis could be advantageously employed in civil practice, if physicians in civil life would impress its value on their patients. This would take time, but a few concrete examples in each locality would have a far-reaching effect, and the laity would, in my opinion, eventually see the value of this treatment and act accordingly.

SOME ETIOLOGIC FACTORS AND TREATMENT OF FURUNCULOSIS

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PHILADELPHIA

As the general practitioner is frequently called on to treat cases of furunculosis, he realizes that the march of progress in treatment has advanced along more scientific lines, and many are now using the serum therapy, which has been greatly modified, simplified and perfected since Wright wrote his first article advocating the use of staphylococcus vaccines in the treatment of this disease. They realize that it is not necessary either to allow it to run its course or to try every drug recommended by the dermatologist or therapeutist. In former years, it was common practice for the physician to prescribe "blood tonics," sulphur in large and nauseating doses, calx sulphurata or even to substitute baked egg shells for that preparation.

Ichthyol is often used externally in treatment of this condition, but its efficacy has never been proved and patients justly object to its use as it is extremely dirty and foul-smelling.

The average case of furunculosis, under proper antiseptic precautions against further crops, will cure itself in from one to four months, but many factors enter into the causation of the disease, and one should inquire carefully into the patient's habits, occupation and mode of living; of first importance must be considered an existing diabetes, nephritis or transitory albuminuria. Disorders of the gastro-intestinal tract play an important part in the etiology, as does excessive sweating, friction, lack of, or even excessive use of soap and water. Men who work in paraffin or bar metal workers and those who are thrown in close contact with potassium permanganate, potassium iodid and the bromids are frequently affected.

When single the lesions are usually due to some local injury as blows, friction or from pressure exerted, shown by those who have a sedentary occupation, as tailors, who often have a succession of single or multiple boils on the buttocks. Boils frequently follow various eruptive fevers, especially variola, septicemia, pyemia, sewer-gas poisoning and may occur as complications of certain skin diseases—scabies, eczema, etc. Severe strain and mental worry which lower the vitality must also be considered. Pressure of the collar button may cause a furuncle. In some men, if the back of the neck is shaved when the hair is cut, a crop of small boils will always ensue; this is undoubtedly due to the loss of the protection the hair normally affords, and as there are always present on the skin numbers of staphylococci, the collar rubs them directly into the mouths of the hair follicles, and sebaceous glands and pustules result.

A large number of so-called blood purifiers and blood tonics depend on potassium iodid for the effect, and as this drug frequently produces a pustular eruption, their use naturally is often disastrous.

The pain is out of proportion to the size of the lesion, is worse at night and is of a burning, throbbing character which can only be relieved by evacuation of the pus, leaving an indurated nodule, very tender and frequently accompanied by intense itching.

TREATMENT

First and always the urine should be carefully examined for albumin and sugar and the patient warned against any habits or occupations that might have an influence on the condition.

For furunculosis not caused by any constitutional condition, I have found the following line of treatment of great service in a long series of cases: The end of a wooden applicator is sharpened to a fine point, wrapped with a small piece of raw cotton and dipped into pure phenol. Many men prefer the use of the knife, but the "phenol stick" accomplishes the purpose; being slightly anesthetic, it is much less painful and the resulting scar is smaller, which is an important factor should the condition occur on the face. The phenol stick is inserted carefully where pointing occurs, held for a few seconds to allow the phenol to produce its anesthetic effects and then very gently pushed into the cavity. Extreme caution is used not to go beyond any resistance or the protecting barrier that has been formed to limit the process will be broken down or a blood-vessel punctured. After an opening has been made sufficiently large to permit of drainage the following ointment is applied:

℞

Acidi salicylici	gr. xl vel lxxx
Petrolati	℥i

Sig. Apply twice daily.

At the same time the first injection of staphylococcus vaccine should be given—100,000 to 1 c.c.; at the expiration of four days the second injection of 250,000, in one week more 1,000,000 and again in another week the same dose. In extreme cases, the succeeding doses may be one billion to 1 c.c., but this is rarely necessary. The injections are given into the loose cellular tissue between the scapulæ and better results can be obtained if a dry cup is applied for five minutes before each injection. It will be noticed that the swelling at the point of injection is much more quickly absorbed by this method through the increased amount of blood brought to the part. This also has the effect of preventing, to a great extent, the discomfort that usually occurs after the first injection, as there is some headache, a feeling of lassitude and a slight rise in temperature, rarely above 100 F. These symptoms do not occur after the second and subsequent injections, as a rule.

The question of autogenous versus stock vaccines is a mooted one. I have always used the latter, and my knowledge of the former is only derived from cases reported by other dermatologists. Very few men have either the time, facility or laboratory training to make their own vaccines. If they are obtaining better results than those who choose the easier, quicker and to my mind, the safer way, their reports do not show it. In the past year I have seen three cases in which unpleasant,

if not worse effects have resulted. In two, a marked cellulitis occurred, in one case the swelling was opened on a diagnosis of abscess, but no pus was found. In another case, after five injections of autogenous vaccine a carbuncle occurred and was treated surgically.

By referring to the histories of patients both in private practice and at the dermatologic department of the Jefferson College Hospital, I found a long series of cases that have been treated as outlined in the preceding—opened with the "phenol stick," dressed with salicylic acid ointment and staphylococcus polyvalent stock vaccine injected. A few histories follow.

CASE 1.—A. B., dentist, aged 32, was in good general health, except for furunculosis, and the urine showed nothing abnormal. One and a half years ago he infected his finger while working on a patient. In the course of fifteen months he had between twenty-five and thirty furuncles in different parts of the body, some almost carbuncular, all of which were opened by the knife and dressed, but no other treatment was given for the first six months. At the expiration of this time he was given autogenous vaccine, four injections during one month, with little improvement and in a few days after the fifth injection a carbuncle formed and was freely excised, leaving a large scar. He stopped this line of treatment and continued to have one boil after another until three months ago when I advised the above treatment. After the first injection he noticed a temperature of 99.6 F. and some discomfort. After the second injection of 250,000, marked improvement was noticed in the degree of induration and in the absorption. The dose was rapidly increased to one billion to 1 c.c., repeated twice, and then dropped to one million and the man is now apparently perfectly well. In all, he was given fourteen injections, the largest number I have ever given to one patient.

CASE 2.—T. P. B., male, aged 64, a merchant, was first treated for eczema of the face and neck. Urine showed no albumin at that time. When this condition had been cured under local and internal treatment, the latter being directed against constipation, the patient developed three boils on the back of the neck and the urine showed a trace of albumin but no casts then or later. The furuncles were opened with the "phenol stick" but no vaccine given until a felon appeared on the index finger of the right hand. This was opened with the knife and the first injection given the same day. Subsequent to the second injection, four days later, the improvement was very apparent, and after a total of six injections, the last four of one million to 1 c.c., the condition was cured and there has been no recurrence.

CASE 3.—E. M. K., aged 27, salesman, had had four or five furuncles on the back of the neck during the preceding three or four weeks and he noticed that they started just after his neck had been shaved. The treatment consisted in opening with phenol stick, application of salicylic acid ointment and six injections of staphylococcus vaccine. The man has had no further trouble.

CASE 4.—R. V., aged 30, female, for several months had been having a series of boils on both forearms. Urine examination was negative. This patient was treated as were all the others and required only four injections to effect a cure.

In addition to the four cases mentioned I have the records of forty-six others that differ only in the variation of the situation and the severity of the condition. The patients all received the same treatment, the number of injections varying from four to eight and in each case a cure was effected.

In none of these cases has the index been recorded at any time during the course of the disease, the treatment being guided entirely by the clinical manifestations. This may not be a strictly scientific means of procedure, but it is what the busy general practitioner must do and he is handling a remedy from which the risk is very remote.

CONCLUSIONS

Furunculosis showing no causative factor in any kidney complication can be successfully treated by being opened with a sharpened cotton applicator dipped in phenol, with injections of polyvalent staphylococcus vaccines and by applications of salicylic acid ointment from 5 to 15 per cent. strength.

The inability of the physician to prepare autogenous vaccines on account of lack of time, laboratory facilities and experience makes the stock vaccines prepared by reliable firms a much more desirable method of procedure in the average case.

The pain on opening a furuncle is much less than with the knife as phenol is slightly anesthetic.

The reaction is very slight after the first injection and is lessened by use of the dry cup.

It is not necessary to record the index, the dose may be regulated by the clinical manifestations.

2030 Chestnut Street.

AN EPIDEMIC OF TYPHOID FEVER WITH ISOLATION OF B. TYPHOSUS AND B. COLI FROM THE WATER-SUPPLY

J. P. SIMONDS, M.D.

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INDIANAPOLIS

During April and May, 1910, an extensive epidemic of typhoid fever occurred among the inmates and officers of the Indiana Reform School for Boys at Plainfield. There were slightly less than 700 boys in the school at the time the epidemic occurred and ninety-one of them had typhoid fever. Nine other cases occurred in the families of the officers of the school. At least two persons who visited the institution at about the time the first case was reported are known to have developed the disease within three weeks after their visit. Among the 102 cases there were only two deaths, both deaths of boys who were members of the school.

Dr. Ernest Cooper, attending physician to the school, very kindly furnished me with a list of all the patients, with the date of onset of the disease in each case. The first patient, the superintendent's stenographer, was taken ill April 9. The second case appeared April 15 and the third on the eighteenth. From April 20 to May 11, one or more cases were reported every day, with the exception of April 25. The maximum was reached on April 29, when twelve new cases were received into the hospital. The next highest number for one day was eight cases on May 3. After May 11 the number fluctuated, but averaged about one case a day until May 24, when the last one came to the hospital. The number of cases received each day is shown in Chart 1.

The boys in the school are divided into twelve companies. Each company occupies a separate building, which is used as school-room and dormitory. All the inmates of the institution eat in a common dining-room, except the members of Company 12. The food of these boys is prepared in the common kitchen and is carried to the dining-room in the company's building. The boys are given milk two or three times a week.

Each boy spends a certain number of hours every day in school; the remainder of the time he works at whatever task he is detailed to do. Cases of typhoid occurred in every company, Companies 1, 2 and 6 being most

affected, Company 10 least so. The number of cases in each company is shown in Table 1.

TABLE 1.—SHOWING NUMBER OF CASES OF TYPHOID FEVER AMONG MEMBERS OF EACH COMPANY

Company	Case No.	Company	Case No.
1	12	9	4
2	12	10	2
3	6	11	8
4	3	12	9
5	5	Officers and their families	9
6	12	Visitors	2
7	9		
8	8	Total	102

A sanitary survey of the institution was made May 2. The general situation was first examined and three important facts discovered, viz.: 1. Cases of typhoid

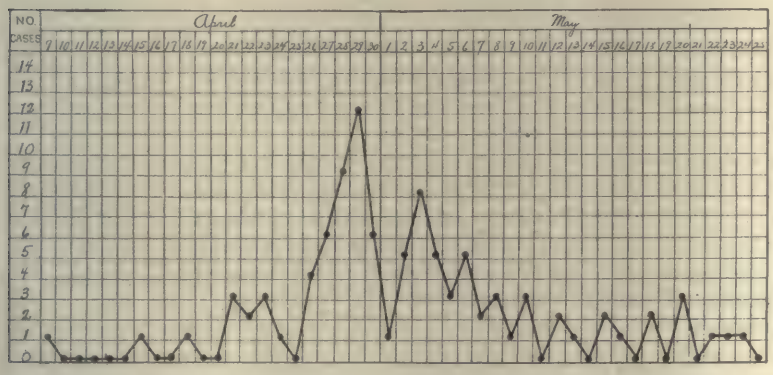


Chart 1.—Curve showing the occurrence of the cases during theepidemic.

fever occurred in the families of the officers of the school as well as among the boys. 2. The only things which the boys and the officers' families used in common were milk, and water from a spring, always designated as the "Big Spring," which was the main source of drinking-water for the entire institution. 3. It was also found that cases occurred in every company in the school, but that Company 10 had escaped with only two cases. On further inquiry it was learned that the boys of Company 10 used milk from the same source as the other companies, but obtained distilled water from the ice-plant for drinking-purposes. The two typhoid patients from this company, on being questioned, stated that they had been working away from their own company and had drunk water from various sources, including the Big Spring.

Sanitary conditions in the dairy barn, milk-house, kitchen, bakery and ice-plant were found to be excellent. In the basement of each company building there are a number of shower baths, the water coming from a large open concrete reservoir. The water of this reservoir comes from two sources: at least one-half flows through a narrow chute from a pond or small lake which is fed by numerous springs; the remainder is pumped from a creek nearly half a mile distant. The pumping station on the creek was located, at this time, about one hundred yards below the outlet from a septic tank into which the sewage from eleven buildings was conducted. Later, the outlet from the septic tank was changed so as to empty into the creek several hundred yards below the pumping station. Water from the reservoir was examined bacteriologically a number of times. On May 2, when the creek was high as the result of a recent rain, the water in the reservoir yielded 30 per cent. gas in dextrose broth. At no other time did it yield more than 15 per cent., and once it yielded none.

The water-supply of the institution had for years come from a number of natural springs. Less than two years before the epidemic occurred the largest of these springs, always designated as the Big Spring, had been followed for some distance toward its head to the end of a series of jointed tiles put in position years before. From the end of the line of tile an iron pipe was laid to the former outlet of the spring (Chart 2). This pipe passed immediately beneath the toilet and sewer connection of the building occupied by Company 11, but all joints



Chart 2.—Plan of the institution grounds, showing the location of buildings, dormitories, sources of water-supply, sewer system, etc.

were carefully leaded and there was probably no leakage.

In addition to this Big Spring, there was another in the basement of the bake-house which furnished water for cooling the milk and much of that used in the bakery, and in the dining-room and kitchen. A third spring, known as the Old Bake-house Spring was in the southern

half of the grounds and was not used except when some of the boys in near-by company buildings surreptitiously got water there to avoid carrying it the greater distance from the Big Spring.

The main sewer-line of the institution runs northward near the center of the grounds. The Bake-House Spring is west of the main sewer-line, the side from which the flow in the spring comes. A branch sewer, however, runs just south of it and in a position which favors contamination. The Old Bake-House Spring is south of the whole system of sewers. The tile which conducts the water of the Big Spring runs nearly parallel to the main sewer-line at approximately the same depth and within 15 or 20 feet of it. The upper end of the tile is probably somewhat nearer the sewer. After the Big Spring had been virtually proved to be the source of the infection, it was learned that when the sewer was laid nine years before, the engineers had great difficulty for a distance of 50 or 60 feet on account of the abundance of water in the sand in which the sewer was placed. This 50 or 60 feet was exactly opposite where the tile pipe of the Big Spring now is and the flow of water in the sand was noted to be toward this spring. The sewer was made of 12-inch salt-glazed tile, the joints of which were cemented. It is quite evident, then, that the water flowing from the Big Spring percolated around the main sewer of the institution, and that this condition of affairs had existed for nine years without any untoward results.

About March 15, the sewers were flushed out for the first time in several months, and considerable force was used. This was about three weeks before the first case of typhoid occurred.

A systematic bacteriologic examination of all the water used at the institution was undertaken. The results of the fermentation tests are shown in Table 2.

TABLE 2.—SHOWING RESULTS OF FERMENTATION TESTS *

Source of Sample	Percentage of Gas from Samples on Different Days 4/29	5/2	5/7	5/9	5/10	5/11	5/20	5/20	5/20	5/21
Big Spring	0	25	0	30	0	15	0	0	0	42
Pond	0	18	..	..	..	..	..	..	..	..
Reservoir	0	30	15	..	..	..	..	..	..	..
Bake-House Spring	0	0	10	..	..	..	..	..	..	..
Inlet to reservoir (creek water)	..	15	12	..	..	..	..	..	..	..
Old Bake-House Spring	..	..	30	..	..	..	..	..	..	..
Old tunnel	..	..	..	..	..	..	2	0	0	30

* Water from the "old tunnel" is from the same original source as that in the "Big Spring." The sewers were flushed out on the mornings of May 2, 10 and 20; the samples were taken in the late afternoon of May 2 and 10. Those examined on May 20 were taken at 6 a. m., 12 m. and 6 p. m., respectively, and on May 21 at 6 a. m. The spaces left blank indicate that no specimen was taken from that source on that date.

April 29, a sample of water from the Big Spring gave no gas when inoculated into sugar broth. On the morning of May 2, the sewers were flushed out. A sample of water taken late in the afternoon of that day gave a very suspicious gas test. Samples taken on May 20, yielded no gas. On that day the sewers were again flushed and a sample taken at 6 a. m., May 21, gave 42 per cent. gas.

No attempt was made to make accurate bacteriologic counts after the first examination. Each specimen was first plated on malachite-green agar. The forty-eight-hour growth on this media was washed off with sterile salt solution and suitable dilutions plated on Endo's medium. May 2 and 21, red colonies, which were proved by cultural tests to be *B. coli*, were isolated from the water of the Big Spring. May 2, an organism having all the cultural characteristics of *B. typhosus* and agglutinating with serum from one of the patients in a dilution of 1 to 50, was also isolated from the same source. This patient's serum gave a strongly positive agglutination test with a known culture of typhoid bacillus.

April 21, the boys were warned not to drink water from the Big Spring. How thoroughly this warning was obeyed is not known. About May 5, the Big Spring was sealed up so that no water could be obtained from it and the epidemic began at once to subside, the last patient entering the hospital May 24. The water-supply of the institution is now obtained from deep driven wells.

This investigation is interesting for the following reasons:

1. The close relation which had existed between the main sewer line and the chief water-supply of the institution for nine years without untoward results.

2. The evident relation between the flushing of the sewers and the amount of contamination in the water of the Big Spring.

3. The actual isolation of *B. coli* and *B. typhosus* from the water of this spring. The isolation of the latter organism from water is dependent largely either on luck or on an unusually heavy contamination. It was probably a combination of the two factors that brought success in this instance.

A RATIONAL INDICATION FOR BACTERIAL VACCINE IN TYPHOID FEVER

WITH A REPORT OF FOURTEEN CASES

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In the introduction to the study of infectious diseases, under the heading "Fever," Osler's "Modern Medicine" (Volume 2) says:

> The fever type is clearly associated, also, with the production of specific antimicrobic substances. In recurrent fever, the fall in temperature has been shown by Gabritschewski to be associated with the appearance of antibacterial substances that check the development of the spirilla; as these substances diminish, a new attack sets in. There is reason to believe that the fall of temperature with the crisis in pneumonia depends upon the somewhat sudden development of pneumococcidal and other reactions, because the pneumococci disappear, as a rule, from the circulating blood as crisis comes on.

This is quoted merely because it expresses broadly the general principle, which it is the purpose of this article to limit to typhoid fever, as the basis of a rational justification of vaccine therapy in this disease.

To go one step further, I may say that recovery from any infectious disease depends on two factors—the destruction of the causative organisms present in the body, and the elimination or neutralization of the toxins produced by them. With this as a working basis, a typical case of typhoid fever in a non-immune may be considered from its onset to a favorable termination with reference to these two factors alone, ignoring the well-known pathologic anatomy. Every non-immune or normal person must possess cell-receptors capable of combination with typhoid toxin, in order to present the typical symptoms of the disease. He must also possess either opsonin capable of actuating phagocytosis of the typhoid bacillus, or a bacteriolysin or agglutinin capable

of accomplishing its destruction. In other words, a man who presents toxic symptoms as a result of typhoid infection, has killed enough bacilli to liberate their endotoxin. Let us follow this process.

Our subject secures a good dose of virulent typhoid bacilli. The first thing that happens is the destruction of a few of these organisms by the natural bacteriolytic forces, possessed by all individuals, with the liberation of their endotoxin. To this endotoxin the body reacts, producing a rise in temperature—very slight at first, because the dose of toxin liberated is small, on account of the feeble bacteriolytic power of the body. This toxin, besides causing a febrile reaction, excites the formation of a specific antibody to it and an antitoxin is produced, which, as it "fixes" the toxin present, causes a subsidence of the fever. If all of the bacilli of the initial infection were killed in one lot, our case of typhoid would end here. Unfortunately this does not occur. The infecting dose of organisms being more than the feeble natural defenses of the body can handle, they multiply rapidly, and if, on the other hand, body defenses were exhausted with the killing of the first lot and not reproduced, their rapid increase would result in mechanically obstructing the circulation. Fortunately, however, this also does not occur; for, besides the liberation of the endotoxin from within the cell capsules of the destroyed bacilli, substances exciting the production of both agglutinin and bacteriolysin are also liberated and the body is thus enabled to reproduce its antibacterial forces and attack the descendants of the unkilled bacilli of the initial infecting dose. The gradually rising temperature in the first week, then, may be said to be due to increasing doses of typhoid endotoxin liberated as the result of the destruction of increasing numbers of bacilli, by an ever-increasing bacteriolytic agent.

During the second week the condition reaches nearly a balance; that is, the production of antitoxin occurs nearly as rapidly as the toxin is liberated, but just enough later, or in insufficient quantity, so that the temperature remains practically uniformly high, on account of the abundance of bacteria from which the toxin is derived. During the third week, however, the bacteriolytic forces, which have constantly been added to, begin to assert themselves, and, either on account of their increased power, or a diminution in the virulence of the organism, the available supply of bacteria for the liberation of toxin diminishes. The doses of toxin then, after each bactericidal onslaught, are not so large nor so rapidlly produced, in consequence of which, antitoxic action becomes more apparent. A dose of toxin produces a febrile reaction, which disappears as the toxin is neutralized; the temperature rises and then falls before another dose of toxin is produced to repeat the reaction; a remittent temperature results in which the reactionary rises have a tendency to become progressively less pronounced and the periods of remission progressively longer. The temperature therefore falls by lysis.

It will thus be seen that, during the third week, bacterial aggressiveness may be, figuratively, placed in one pan of a balance and the body defenses, consisting of bacteriolysin, agglutinin and antitoxin, in the other, the remittent temperature registering the tilting of the balance arm. The destruction of a group of bacilli and the liberation of their toxin are indicated by a rise in temperature, and the antitoxic action by a fall.

If the above paragraphs may be considered as detailing the toxin-antitoxin strife as it occurs, it is obvious that the introduction of any factor which would increase antitoxin formation would minimize the toxic symptoms of the disease; while the introduction of any factor which would increase bacteriolysis or agglutination would hasten its subsidence. Both of these conditions are fulfilled when dead typhoid bacilli are introduced into the body, in that the endotoxin is supplied without the necessary destruction of bacilli by the body, and the antitoxin, the formation of which it excites, produced in excess of that needed to neutralize it, becomes available to act on toxin produced from bacteria killed within the body; also the bacteriolysins and agglutinins, whose formation the dead bacilli have excited, are ready to act at once on living bacilli in the tissues.

That this does occur when antityphoid vaccine is used prophylactically is experimentally proved; and that the use of bacterial vaccine in clinical typhoid will start a prevailing tilt of the balance in favor of recovery, from the observation of several cases I cannot help but believe. In fact, as the cases herewith reported show, the duration of fever in the majority was below the average, while the average in all cases was materially reduced. In no case in which vaccine was administered did untoward symptoms follow, aside from the expected reactionary temperature rise; and even in cases not showing a decided result, the patients professed to feel stronger and better, and even asked that the dose be repeated.

A brief outline of fourteen cases of typhoid occurring in 1910, in which the vaccine was used therapeutically, after a positive diagnosis, is as follows:

CASE 1.—The patient was admitted August 9; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria; no reaction after inoculation. Temperature fell to normal within seventy-two hours; remained normal forty-eight hours; then the patient had a typical relapse lasting three days. The fever including relapse lasted eighteen days. Recovery ensued.

CASE 2.—The patient was admitted August 11; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria. The inoculation was followed by a sharp rise in temperature to 104.5 F. which responded to an ice bath. Thirty-six hours later it reached normal and remained there. This patient was severely prostrated; was in coma-vigil when inoculated. The symptoms abated as rapidly as the fever and in three days the patient was begging for beefsteak. The fever lasted nineteen days. The patient recovered.

CASE 3.—The patient was admitted August 14; Widal positive August 23; patient inoculated August 26 with 500,000,000 bacteria, and again on September 6 with 1,000,000,000 bacteria. The patient was all but abandoned as hopeless on two occasions following prodigious intestinal hemorrhages. There was no temperature reaction following either inoculation, but a decided clearing of the mental haze was apparent. The total duration of fever was thirty-two days. Recovery ensued.

CASE 4.—The patient was admitted August 15; Widal positive August 22. The patient was inoculated August 26 with 500,000,000 bacteria. The patient appeared moribund at time of inoculation; could not be roused and could not swallow nourishment. Urine and feces were evacuated involuntarily; very slight reaction followed injection. Within seventy-two hours the temperature was normal and a most startling improvement in every way was apparent. A second rise of temperature lasting forty-eight hours, after three days of normal temperature, was found to be due to an otitis media; paracentesis relieved it almost immediately. There were fourteen days of fever, exclusive of that due to otitis. The patient recovered.

CASE 5.—The patient was admitted August 15; Widal positive September 1; patient inoculated September 12 with 500,000,000 bacteria. This was a very mild case and several Widals were necessary to diagnose typhoid fever as complicating an acute bronchitis, which was present. Convalescence was well established when the patient was suddenly seized with a coughing fit and died in an hour of cerebral embolism.

CASE 6.—The patient was admitted August 17; Widal positive August 23; patient inoculated September 6 with 500,000,000 bacteria, and again September 16 with 1,000,000,000 bacteria. No marked reaction followed either dose, though marked symptomatic improvement was apparent after each. After thirty days of fever the temperature fell to normal, remained so for two days, then rose to 102 following a chill and returned to normal within eight hours. This was repeated twice on two succeeding days, after which there were three days of normal temperature, and again three days of chill and fever. There was no history of malaria for over three years previously, but during the second set of chills a quartan plasmodium was found; the hypothesis being a triple quartan infection latent or by parthenogenesis. The case responded readily to quinin. Recovery followed.

CASE 7.—The patient was admitted October 12 with tonsillitis. Temperature continued elevated after subsidence of throat symptoms. Widal positive November 6. The patient was inoculated Nov. 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. The duration of fever, including severe relapse, was thirty-two days. The patient recovered.

CASE 8.—The patient was admitted October 26; Widal positive November 6; patient inoculated November 9 with 500,000,000 bacteria; died November 19, after three days of continuous, profuse intestinal hemorrhage.

CASE 9.—The patient was admitted October 27; Widal positive November 7; patient inoculated November 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. At the time of the first inoculation the patient was comatose; some improvement in symptoms followed the first dose, though complete aphonia persisted several days after second dose. Duration of fever twenty-eight days. Recovery.

CASE 10.—Patient admitted November 2; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever seventeen days. Recovery.

CASE 11.—Patient admitted November 5; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever sixteen days. Recovery.

CASE 12.—Patient admitted November 6; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

CASE 13.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever ten days. Recovery.

CASE 14.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

In the foregoing cases the diagnosis was based on the Widal reaction, the macroscopic method being used and the end titer of each patient's serum being obtained. Besides the Widal reaction, total leukocyte counts and differential counts were made on the same day as the Widal.

In no case was actual or polymorphonuclear leukocytosis present. The feces of each was plated on Endo's medium; all suspicious colonies were fished and planted in lactose-litmus agar. From these tubes, showing a characteristic reaction, the organism was transferred to plain agar, and as a plain agar culture, was agglutinated by a known typhoid immune serum.

It was noticed distinctly that the cases which gave the lowest serum titer in the Widal reaction were those in which the symptoms were most aggravated. On the other hand, the cases which gave an agglutination in a dilution of from 1:360 to 1:720 on the tenth day, ran a mild, short course. With the exception of three of the cases cited above, and five ambulant cases, which have not been reported, the degree of prostration and toxemia manifested by these patients within ten days of their admission was the most pronounced that I have witnessed in several typhoid epidemics. The contrast following a single inoculation was consequently most remarkable. In Cases 3, 5, and 7 the result was most startling. The entire picture was changed in forty-eight hours from that of a man whom the nurses were expecting to carry out any minute, to that of a patient distinctly able to take notice.

In conclusion it may be said that the therapeutic administration of antityphoid vaccine is attended with no bad results and does in no way increase the patient's discomfort. On the other hand, its use did, in all of the cases observed, improve the general condition of the patient; while in the three cases above referred to, its action was nothing short of marvelous. In view of these facts, and granting the correctness of the hypothesis advanced above, it would seem that vaccine in typhoid fever is certainly rationally indicated.

RESECTION OF THE SPERMATIC PLEXUS FOR THE RELIEF OF CERTAIN FORMS OF DYSMENORRHEA*

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Dysmenorrhea, or painful menstruation, is the bane of many a woman's life. To be obliged to keep in bed swathed in hot cloths and stupefied with drugs for from a day or two to a week or two out of every month is sufficient to drive almost any woman to distraction, yet such is the unfortunate lot of many.

The cause of the pain in these cases has been the subject of much discussion and the most divergent views have been expressed concerning it. Some writers hold that the pain is due entirely to local conditions of the pelvic organs, while others assert that local conditions have little or nothing to do with producing the pain, but that it is always the result of some general disturbance.

Theilhaber[1] says that only in a minority of the cases is the pain due to anatomic causes, while in more than three-fourths of the cases it is the result of functional disturbances. He believes that the pain is caused by a spastic contraction of the smooth muscle fibers forming the sphincter of the internal os uteri and has devised a special knife for cutting out a section of this sphincter.

Menge[2] divides the dysmenorrheics into two classes: those with hypersensitive nervous systems and normal pelvic organs—idiopathic dysmenorrhea; and those with hypersensitive pelvic organs and normal nervous systems—secondary dysmenorrhea; but he says that these two forms present such similarities that in their nature they must be related. He recognizes this relationship by stating that all dysmenorrheas must be referred to a "menstrual painfulness of the uterus," which practically amounts to saying that the patient has dysmenorrhea because she has painful menstruation.

It seems to me that there can be no disputing the fact that abnormal local conditions may cause pain during menstruation; likewise, that in neurotic or hysterical women, or in women with unbalanced or temporarily deranged nervous systems, the performance of a function such as menstruation may give rise to pain, which under similar conditions in women, with healthy, stable nervous system, would scarcely be felt.

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* Read before the North Texas District Medical Society, Dec. 14, 1910.

1. Centralbl. f. Gynäk., xxv, 1339.
2. Centralbl. f. Gynäk., xxv, 1367.

Menstruation is not a simple function but a very complex one in the performance of which are concerned, not only the general conditions of the body as a whole, but also the local condition of three organs, namely, the ovaries, the tubes and the uterus.

If general states of the body are instrumental in producing menstruation, derangements of these general states may produce deranged menstruation. If the ovaries, the tubes and the uterus take part in the function of menstruation, abnormal conditions of these organs may cause abnormal menstruation.

Based on the location of the cause, then, we may subdivide the dysmenorrheas into three groups: (a) those due to deranged general states; (b) those due to abnormal conditions of the uterus; (c) those due to abnormal conditions of the ovaries and tubes.

As will be seen, the ovaries and tubes are grouped together. The reason for this is that the inner three-fourths of the tubes and the ovaries have the same nerve supply, and painful sensations arising from them cannot, therefore, be differentiated.

It is not my intention to take up in detail the various pathologic conditions found under these three groups, but it is to the third or tubo-ovarian group that attention will be directed. Furthermore, it is not so much my desire to define the particular disease or pathologic condition giving rise to the pain as it is to establish the fact that the condition, be it what it may, may be confined to the ovaries or to the inner portion of the tubes or to both.

The lesions found are of two kinds: gross pathologic lesions such as ovarian or tubal abscesses or large ovarian cysts, and rather inconspicuous lesions such as the angiodystrophies of the ovaries, chronic interstitial salpingitis, and adhesions of the ovaries or tubes to the intestine, omentum or neighboring peritoneal surfaces.

It is the latter class, or the inconspicuous lesions that are responsible for the pain in that variety of dysmenorrhea called ovarian. I am aware that many writers have denied the existence of the so-called ovarian dysmenorrhea, but I am convinced that they are mistaken.

I think that all physicians of experience in this line will recognize a class of women who suffer intensely at the menstrual period, yet in whom the most careful examination fails to discover any general state or any disease of the uterus sufficient to account for the pain. These patients are frequently unmarried and often have had the dysmenorrhea throughout their entire menstrual life. Others are married and have borne children without any material change in the dysmenorrhea.

A characteristic feature of the pain is that it is mostly premenstrual, that is, it precedes the flow by from one or two days to a week and gradually subsides as the flow becomes established. The pain is usually bilateral, referred to the ovarian region or the lower abdomen. It may extend down the inner side of the thighs or the outer side over the hips and is so severe that most of the patients are confined to bed for a variable time each month. The ovarian regions are very sensitive on pressure. The women are frequently neurotics or have hypersensitive nervous systems, either primarily or become so by reason of the repeated suffering, and are the ones who resort to all kinds of anodynes, narcotics, headache powders, hot whiskey and gin drinking, etc., to secure relief from the pain. About the only thing discovered on examination is tenderness in the region of the ovaries, sometimes excruciating, which becomes more marked the nearer the time is to the next menstrual period.

It was in hope of relieving these patients that I conceived and carried out the idea of resecting the nerves which supply the ovary. These nerves, according to Nagel in von Bardeleben's "Handbuch der Anatomie des Menschen," arise from two sources: (1) from the plexus renalis; and (2) from the lower portion of the plexus aorticus abdominalis or, as Frankenhauser calls it, the plexus spermaticus, and they are purely sympathetic in their nature.

As a rule, there are two spermatic ganglia situated on either side of the aorta just above the promontory of the sacrum.

The plexus renalis lies in the angle formed by the renal artery and the aorta. From this point is given off a thick trunk which accompanies the spermatic vessels and receives several small nerves from the spermatic ganglia. These nerves, called the spermatic plexus or the plexus arteriæ ovaricæ, pass along with the spermatic or ovarian vessels through the infundibulo-pelvic or suspensory ligament of the ovary into the pelvis and distribute branches to the broad ligament, the ovary and to the ampulla of the tube and form in conjunction with uterine nerves a small ganglion situated in the neighborhood of the uterine attachment of the ligamentum ovariæ proprium. The ovary and the tube as far as the isthmus are, therefore, supplied by the spermatic plexus, while the uterus and the isthmus of the tube receive their nerve supply from an entirely different source, namely, through the hypogastric plexus. It is very evident, then, that any pain-producing irritation, having its origin in the ovary, or in the tube, can be transmitted centrally only through the spermatic plexus just described and a resection of these nerves must effectually cut off all sensation in these parts. A resection of these nerves is a simple matter if they be approached at the upper part of the infundibulo-pelvic ligament where they lie rather closely together accompanying the ovarian vessels.

The abdomen is opened in the usual manner. The infundibulo-pelvic ligament picked up with a forceps and made taut. An incision 3 or 4 cm. in length is then made through the peritoneum along the free border of the ligament beginning well up toward its proximal end. With the handle of a scalpel or any blunt dissector the two layers of peritoneum are freed from all the other tissues forming the ligament; a catgut ligature is passed around the proximal end of this mass and tied; a similar ligature is passed around the distal end and the intervening portion, usually from 2 to 3 cm. in length, is resected. The incision along the free border of the ligament is then closed with catgut and the operation is completed.

It will be readily understood that in the small mass of tissues removed are included all the nerves passing to the ovary as well as the ovarian vessels from which it is impossible to separate them. As the ureter enters the pelvis through the base of the proximal portion of this ligament, great care must be exercised not to include it in the ligature. Of course the resection is made bilaterally if the trouble is bilateral.

As these nerves are the only ones supplying the ovaries and the inner end of the tubes the effect of resecting them is, of course, to render those parts anesthetic so that they can no longer give rise to painful sensations.

It will be readily understood that the operation here recommended affects only those cases in which the pain is of ovarian or tubal origin. It does not relieve the pain when it is due to pathologic conditions within the uterus and it is necessary, therefore, to diagnose the

cases correctly, and to make a careful selection of those to which the operation is suited.

That a multiplicity of causes of the pain may be present is self-evident from what has been said, and when this is the case the other conditions must be remedied if possible by proper general treatment and local operative measures if relief from pain is to be expected.

I shall not now enter into a detailed report of the cases in which I have operated, but will simply say that I have operated on over twenty women with gratifying results. I have seen women, who had spent from several days to a week or more in bed at every menstrual period, menstruate without pain and recognize its presence only by the appearance of the flow. Other patients have lost only the acute premenstrual pain, while in a few no benefit has followed, evidently owing to the fact that the pain had its origin elsewhere than in the ovaries or tubes.

No other effect than the relief of pain has been noted as the sexual and reproductive functions are not interfered with.

A CONVENIENT METHOD OF TESTING THE VISUAL FIELDS FOR COLOR WITHOUT THE USE OF A PERIMETER

FOR APPLICATION IN CASES OF SUSPECTED INCREASED INTRACRANIAL TENSION

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It was formerly supposed that inversion of the visual fields for blue and red was pathognomonic of hysteria, especially when, in addition, a contraction of the field for form was present. Not everyone is yet acquainted with the work of Babinski,[1] which has clearly shown that the perimetric examinations of hysterical patients, as ordinarily conducted, are redolent of suggestions, and that these very often influence the patient; so that the findings are not reliable except as indices of suggestibility. Thus, there is no characteristic visual field type in hysteria.

There are certain affections, however, in which the visual field is characteristically inverted or interlaced. This happens whenever the intracranial tension is increased to the point where there is an interference with the functions of the neurons which conduct visual impressions. This manifests itself most particularly, clinically speaking, toward the periphery of the retina, where the sensibility is feeblest; so that, as Bordley and Cushing[2] have shown, the red is perceived even sooner than the blue on approaching the center of the visual field in cases in which the intracranial tension is increased by edema of the brain, whether this is produced by a tumor within the cranium, by hemorrhage therein, or by some constitutional condition resulting from chronic nephritis, diabetes or other modification of the blood.

To measure this inversion or interlacement of the color fields accurately, a perimeter is of course required; but I have found that the inversion may be ascertained roughly by the following method:

The patient sits with his back to a good light, looking fixedly at a point in the distance. He is directed to signal as soon as he perceives any movement of the examiner's hand. The visual field is then approached by the observer's hand, which holds alongside and parallel two objects, colored respectively an intense, pure, bright red and a blue. After the patient signals, he is asked to signal again as soon as he perceives any color, while the center of the field is very slowly approached. The observer then stops the movement, and asks what color is seen. For corroboration, the movement is then continued until the other color is also seen.

In normal persons, blue is always seen before red. If this is not the case, increased tension may be suspected. In two recent cases, one of tumor and one of albuminuric retinitis, this method has been as positive as that with the perimeter.

If the test is performed with careful technic, it is reliable, and is a useful addition to clinical methods. Indeed, Cushing believes that when inversion of visual fields appears in the case of a tumor, operation should not be further delayed.

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1. Babinski: La conception de l'hystérie, Paris, 1906. Williams: Papers on Hysteria: International Clinics, 1908, iii; Boston Med. Jour., 1909, i; Am. Jour. Med. Sc., August, 1910, etc.
2. Bordley, J., and Cushing, H.: Observations on Choked Disc, THE JOURNAL A. M. A., Jan. 30, 1909, p. 353.

A SIMPLE METHOD OF CULTIVATING THE MORAX-AXENFELD DIPLOBACILLUS*

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This case report calls attention to the fact that the Morax-Axenfeld bacillus grows as readily and in as characteristic manner on Dorset's egg medium as on Loeffler's blood-serum. The comparative ease with which the former medium can be prepared should render this fact of value.

To cite an illustrative case:

Patient.—J. M. W., aged 34, a blacksmith, was admitted into the service of Dr. D. T. Vail on Oct. 24, 1910. He was suffering from double catarrhal conjunctivitis, which he thought had been acquired by using the towel of his roommate who had sore eyes.

Bacilli.—Smear preparations from the purulent secretion from each eye showed the presence of isolated diplobacilli lying between the polymorphonuclear leukocytes and apparently in pure culture. The diplobacilli measured 2.7 by 0.8 and the rods had rounded ends. They stained well with Loeffler's methylene-blue, but were decolorized by Gram's method. Slants of Dorset's egg medium and Loeffler's blood-serum were inoculated with pus from each eye. After twenty-four hours' incubation, numerous characteristically pitted colonies appeared resembling those described by Morax[1] and Pusey.[2]

The pits in Dorset's egg medium were not quite so deep and the diameter was less than those in Loeffler's blood-serum, and they did not become confluent on the former medium so rapidly as on the latter. Transplants failed to grow on the ordinary laboratory media.

Neurasthenia in Young Children.—A deficiency of nerve force may be present from earliest childhood, often as an accompaniment of the "neurotic" temperament, and occasionally with mental deficiency. Cases of this condition, which might be described as "neurasthenia minor," are generally the offspring of neurasthenic or neurotic parents, and may drift into more confirmed neurasthenia in later life.—C. Riviere, in the *Practitioner.*

* From the Pathologic Laboratory of the Cincinnati Hospital.
1. Ann. de l'Inst. Past., 1890, 10, p. 337.
2. Pusey, Brown: The Diplobacillus of Morax-Axenfeld, July 28, 1906, p. 255.

Therapeutics

ANKYLOSTOMIASIS, UNCINARIASIS, OR HOOKWORM DISEASE

These terms may be regarded as practically synonymous. They are applied to a condition characterized by symptoms which are caused by the presence in the intestinal canal of the worms *Ankylostoma duodenale* and *Uncinaria duodenalis*, or *Uncinaria americana*, which, if not identical, at least closely resemble each other. They belong to the class of nematodes in which are included *Ascaris lumbricoides*, *Oxyuris vermicularis*, and trichinæ, all of which have recently been described in this department.

It has been comparatively recent that the economic importance and the frequency of the *Uncinaria duodenalis* has been recognized, although the symptoms produced by them have been considered a clinical entity for over a century. Early in the nineteenth century, a special form of anemia was recognized as affecting miners in Hungary. In 1838, Dubini found ankylostoma in the intestine of a girl who had died of progressive anemia. In 1851, Griesinger declared that this parasite was the cause of Egyptian chlorosis. But the clinical importance of the parasite was not definitely settled until, in 1882, Perroncito showed that the epidemic of so-called miners' anemia which occurred during the building of the St. Gothard tunnel was due to ankylostoma.

Since the occupation of Porto Rico by the Americans about twelve years ago, the disease has been thoroughly studied by American physicians, especially by Drs. Ashford, King, and Stiles. These men have proved the great prevalence of the disease not only in Porto Rico, but in the southern part of the United States; have pointed out its great industrial importance; and have demonstrated a simple and effective method of cure.

The male worm is about 11 mm. in length and about 0.5 mm. in width; the female is about 15 mm. in length and about 1 mm. broad. It is found most abundantly in the jejunum, but it may be found also in the duodenum and upper part of the ileum. It may be firmly attached to the mucous membrane, or may be imbedded in the mucus on the membrane, or may be free in the intestinal canal. The eggs are passed in large numbers with the feces, and under favorable conditions may retain their vitality for a long time. These favorable conditions include warmth, moisture and darkness. Sunshine and the incidental drying are destructive to them. After passing from the body of the host, especially when the soil is dry, they rapidly become scattered about.

Their most common attack on the human subject is through the feet. Both adults and children who run about barefooted in places where the disease is endemic suffer from a dermatitis which is caused by the action of the ova or eggs on the skin. They first produce a dermatitis and next an eruption of vesicles which are liable to be infected by various bacteria, producing pustules and ulcers of varying depth, which may persist for a long time, and which, when healed, usually leave discolorations. The ova pass through the skin and into the blood by which they are carried to the lungs. Here they escape into the bronchioles, migrate to the bronchi, thence to the larynx, and into the throat, from which they are swallowed.

The eruption caused by the ova and larvæ of the hookworm is known as "ground itch." It is possible that the disease may be brought on by the swallowing of the larvæ incidental to unclean habits, the food being infected by dirty hands, or by the drinking of water containing the larvæ, but it is commonly believed that the number of worms ingested in this way is very small, and it has been found that nearly all of the subjects of the disease have also been the victims of ground itch, therefore it is considered that this round-about route is the most common method of infection.

To those who live in the northern states it might seem that this is a subject of no practical importance and of very little interest. To those who live in the southern states where the disease is endemic it might seem that the disease is so common and so well known that it is not worth while for the physician to spend any time in reading or writing about it. To those who live on the borders of regions where the disease is endemic where occasional cases are likely to be seen, it certainly is of great importance to be familiar with the disease and the modern methods of treatment. To all physicians it is a matter of interest to know the symptoms which the disease presents, and how it may be cured.

It is common to describe three classes of cases: The mild cases are characterized by pain and uneasiness in the abdomen. These symptoms are commonly attributed to indigestion, and rather apt to be more prominent on the right side of the abdomen; they may be accompanied by tenderness in that region. The pains are sometimes increased and at other times relieved by taking food. The appetite in some cases is diminished, and in others is increased. There may be headache and dizziness, and there is usually indisposition to any exertion, either mental or physical.

In cases of moderate severity the pain in the abdomen may be more pronounced, and the headache is usually commoner and more severe. There is dizziness and often tinnitus aurium. The mucous membranes and the conjunctivæ are pale; the skin dry; the appetite impaired; and there may be nausea and vomiting. Breathlessness on exertion is common, and there may be palpitation. The patient complains of fatigue and indisposition to exertion, and there may be fever.

In the more severe and advanced cases the anemia is more striking; the patient presents a pallid appearance and the conjunctivæ may show an icteric tinge. Edema of the feet and ankles is common, and sometimes there is general anasarca. There may be extensive ascites. The palpitation of the heart is severe, and dyspnea, even on the slightest exertion, is considerable. The pulse is weak and compressible, and there may be pain in the precordial region. The dizziness and tinnitus are generally very troublesome. Dimness of sight is common, and the pupils may be dilated. Often there is sleeplessness. The muscles, though apparently plump and well-nourished, are weak, and the patient is absolutely unable to do anything. Often there is considerable fever, which is, as usual, higher in the afternoon.

The examination of the feces is of great importance, both from a diagnostic and a therapeutic point of view. While in regions where the disease is endemic the general symptoms, especially the anemia and the indisposition to exertion, may lead to a presumptive diagnosis which is generally correct, the only accurate diagnosis is based on finding the eggs or the worms in the feces, and these should be carefully examined in every suspected case. After the treatment has been carried out, the only way of definitely determining whether or not the cure is complete is by examining the fecal matter and determining the absence from it of both worms and eggs.

PROPHYLACTIC TREATMENT

The treatment may be considered under three heads. The prophylactic treatment is of great importance both to the individual and to the community. As has been stated, the disease is spread by neglect in providing for suitable disposal of the discharges from the rectum. In warm climates where the disease prevails among the poorer classes of society the methods of sewerage employed in cities are unknown, and the majority of people deposit their feces in whatever situation, in field or forest, they may happen to be when the desire comes on them. When sanitary legislation reaches the point that the transmission of infectious disease by the feces is almost impossible, there will be no further danger of the transmission of this disease to uninfected persons. This of course is an immense problem, but one which it seems likely will necessarily have to be met, even in country districts, sooner or later.

The second point in the prophylaxis is the prompt curing of all sufferers from the disease. When this has been accomplished, of course the necessity of the first will be less urgent, but the carrying out of one proposal is almost as difficult as the other, and the first proposition is the most important, because the improper care of the feces results in transmission not only of this disease, but also of several others.

The individual prophylaxis, to be observed by persons living in regions where the disease is endemic consists, in the first place, of protecting the feet and legs by wearing shoes which will keep the dirt and sand away from the skin. Of less importance, but still also to be observed are cleanliness of the hands, care in the preparation of food, and the avoidance of water which may be infected. This may be accomplished by using filtered, distilled, or boiled water.

MEDICINAL TREATMENT

Several drugs have been recommended in the treatment of this disease; the most important are turpentine, oil of eucalyptus, betanaphthol, and thymol. Of these the evidence is very strong that thymol is the most useful and safest, and is fairly entitled to be termed a specific. When this drug is used the patient should be prepared for the treatment by being compelled to fast during the greater part or the whole of the previous day. The previous night he should receive a sufficient dose of magnesium sulphate to produce several watery movements. In the morning, before food of any sort has been taken, the thymol may be administered. The dose may be divided into two or three parts, which may be taken at intervals of one or two hours. The whole amount administered in any one day should be 3.0 grams (45 grains). Two hours after the last dose, another dose of the sulphate of magnesium should be given. It will be found that the thymol, having attacked the worms, has either destroyed them, or at least lessened their vitality to such an extent that they have loosened their hold on the mucous membranes, and the final dose of the Epsom salt will carry them out of the intestine.

It is important that the intestine should be so far as possible empty when the drug is taken, and the preliminary dose of magnesium sulphate not only washes out the food debris, but also the mucus in the intestinal canal in which many of the worms are often imbedded. The action of the drug is desired on the worms in the canal, and it is in no way desirable, in fact it is undesirable, that the thymol should be absorbed. Consequently, no fatty food, alcohol or oil should be taken lest absorption be caused. Castor oil should not be given as a cathartic, although senna may be substituted for the sulphate of magnesium, but it is no better.

The treatment with thymol should be repeated at intervals of three or four days or a week. Stiles, who has given very explicit directions for the treatment of this disease, recommends that the treatment should be commenced on Saturday and carried out on Sunday, and that it should be repeated on successive Sundays until examination of the feces shows entire absence both of the eggs and of the worms.

Finally it remains to speak of the treatment of the results of the infection. It is surprising with what rapidity patients commence to improve after the worms have been removed by the use of thymol; however, the administration of iron will hasten the recovery from the anemia. No form of iron is more useful than the fresh Blaud pill (pilulæ ferri carbonatis) in a dose of 0.20 gram (3 grains) three times a day, after meals; or the reduced iron (ferrum reductum), in dry capsules, in dose of 0.10 gram (2 grains), three times a day, after meals; or the tincture of iron (tinctura ferri chlorid) in a dose of from 3 to 5 drops, in fresh lemonade or other sour mixture, three times a day, after meals; or the patient, if a young child, may be given an *Eisenzucher* tablet (saccharated iron oxid), each 3 grains, to chew up like candy, thrice daily, after meals.

The tincture of iron may be well ordered as follows:

℞	c.c.		
Tincturæ ferri chloridi	5		fl.ʒiss
Syrupi acidi citrici	25	or	fl.ʒi
Aquæ	ad 100		ad fl.ʒiv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

℞	c.c.		
Tincturæ ferri chloridi	5		fl.ʒiss
Acidi phosphorici diluti	10		
Glycerini	10	or	āā fl.ʒiij
Aquæ	ad 100		ad fl.ʒiv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Or

℞	c.c.		
Tincturæ ferri chloridi	5	or	fl.ʒiss
Elixiris aromatici	ad 100		ad fl.ʒiv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

As has been repeatedly urged, there is absolutely no necessity for the administration of any other form of iron, than those above mentioned. No organic iron can possibly do the physiologic or therapeutic work of the above irons, or do it any more pleasantly. If one adds to the above list the syrup of the iodid of iron, no other iron preparation is needed in the Pharmacopeia, and it is probable that a small dose of sodium iodid, administered at the same time or during the same day as one of the above iron preparations, would do better iron and iodid work than the iron iodid, certainly as good.

THYMOL, U. S. P.: THYMIC ACID

Description.—Thymol, genitive *thymolis,* is a phenol obtained from the oil of thyme (*Thymus vulgaris*). It occurs as large, colorless crystals, insoluble in water, but soluble in alcohol and in oils. Thymol is incompatible with a large number of drugs, such as acetanilid, antipyrin, camphor, chloral, menthol, and quinin.

Action.—It is slightly irritant to the skin, and very irritant, in concentrated solutions, to mucous membranes. If taken in the form of crystals, it is very slowly absorbed, unless fat or oil is taken with it or soon after it. It acts externally and in the alimentary tract

as an antiseptic. It is much less soluble than phenol (carbolic acid) in the fluids of the stomach and intestine, and therefore much less readily absorbed; however, when much is absorbed, the symptoms are those of phenol poisoning. It is excreted by the urine in combination with glycuronic and sulphuric acids. Part of it is oxidized. During the excretion it may cause considerable kidney irritation, and if in large amount, even inflammation of the kidneys.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—There should be no evident action from thymol, except locally the action of an antiseptic and internally the lessening of bowel fermentation and putrefaction, and the killing or stupefying of intestinal parasites. Any systemic effects are undesired, and are those of depression or beginning poisoning.

A *toxic* dose or toxic absorption gives symptoms of circulatory and muscular weakness, tremblings, cerebral irritation, renal irritation, and collapse. The treatment would be washing out of the stomach; a brisk saline purgative, as magnesium sulphate; circulatory stimulation; and other treatments indicated in phenol poisoning.

Therapy.—Thymol is too expensive to use as a general external antiseptic, and too sweet in order for use on wounds, ulcers, etc., as its odor is very attractive to flies, which is, of course, very undesirable. It is antiseptic in 0.1 per cent. solution, and has been used in this strength and much weaker for mouth washes and gargles; also in oily solutions as sprays for the nose and throat. Unless the solution is a weak one, it is irritant to the mucous membrane. It may be used as an antiseptic gargle in follicular tonsillitis and diphtheria, but peroxid of hydrogen solutions are much better. Thymol ointments in strength of from 5 to 10 per cent. have been used in various skin diseases, especially when there is itching. Lotions in weak solution have been used with advantage in various forms of pruritus.

As an intestinal antiseptic in diarrheas and in typhoid fever thymol has been generally used. It has no advantage, however, over salol (phenyl salicylate), and may cause more general disturbance. The principal use for thymol is as a specific in uncinariasis. It has also been used as an anthelmintic against the tape-worm and the round-worm.

Official Preparations.—Thymol enters into the composition of *Liquor antisepticus* (U. S. P.), and *Liquor antisepticus alkalinus* (N. F.), both used as gargles and mouth washes. Both preparations should be diluted for use. The dose of thymol itself is 0.10 gram (2 grains), best administered in capsules and never taken on an empty stomach unless a large amount of water or other liquid is taken at the same time.

Administration.—As already stated, the principal use for thymol is against the ankylostoma or uncinaria. It is here given in large doses on the morning following brisk catharsis. The best method is to order it in capsules, and then have the patient uncap the capsule at the moment of taking, and take it with a cup of tea or coffee, without milk, or a cup of plain hot water. It is unwise to give the patient milk or any other food at the time the thymol is administered, as it is desired that the intestinal parasites shall partake of the thymol, and food might interfere with the object desired. For action on this parasite the drug may be ordered as follows:

℞	Gm.		
Thymolis	5	or	gr.lxxv

Fac capsulas 10.

Sig.: Take three capsules, with plenty of hot water or other hot liquid, at once, and repeat in one hour.

As stated, it is presumed that cathartic action has taken place either early in the morning or during the night, and the first dose of the anthelmintic should be at seven, and the next at eight o'clock. In from two to four hours magnesium sulphate should be administered, and one hour after this saline, the patient may receive food. This treatment should be repeated in a week.

SOLUTIONS FOR USE IN THE EARS

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0	20	gr.iv
Sodii boratis	0	50	gr.x
Solutionis epinephrin (1-1000)	5	or	
Glycerini	5		ääfl.℥iss
Aquæ camphoræ	ad 50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0	15	gr.iii
Acidi borici	0	25 or	gr.v
Glycerini	10		fl.℥iii
Aquæ	ad 25		ad fl.℥i

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Acidi borici	2		gr.xxxv
Tincturæ opii	10	or	fl.℥iii
Glycerini	20		fl.℥vi
Aquæ	ad 50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Epinephrini chloridi	0	03	gr.½
Glycerini	20	or	fl.℥vi
Aquæ	ad 50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

EYE DROPS

℞	Gm. or c.c.		
Acidi borici	0	25	gr.v
Aquæ camphoræ	15	or	fl.℥v
Aquæ	ad 25		ad fl.℥i

M. et Sig.: Eye drops.

℞	Gm. or c.c.		
Sodii boratis	5	or	℥iss
Aquæ	100		fl.℥iv

M. et Sig.: Eye wash. Warm before using.

℞	Gm. or c.c.		
Zinci sulphatis	0	10 or	gr.ii
Aquæ	50		fl.℥ii

M. et Sig.: Eye drops.

FOR TOOTHACHE

℞	Gm. or c.c.		
Tincturæ opii	10		
Olei caryophylli	10	or	ääfl.℥iiss

M. et Sig.: Rub on the gum, or apply with cotton to cavity.

Syphilis and Pauperism.—It is a matter of incalculable importance for society in general and for the community in particular to preserve the productive forces instead of losing them. Prevention, and prompt treatment of syphilis can save great sufferings and heavy expenses. It is much cheaper to treat syphilis promptly and thoroughly than to leave infected people uncared for, and thus wait until the affection becomes a permanent infirmity with the consequent disability. Preventive measures for diseases are indeed economical. These may be formulated in four paragraphs as follows: (1) Instruction and education increase the standard of morality and inculcate high respect for women. (2) Diminish the overcrowding in the tenement houses. In factories and establishments where girls and boys are employed, rules of strict respect for each other must be enforced. (3) Those who have been infected with syphilis must be treated. Hospitals should take care of venereal patients, and dispensaries should be within easy reach of everybody. (4) Prostitution should be under municipal surveillance, and infected prostitutes should not be allowed to remain at large, but should be confined in hospitals and kept under treatment until the manifestations of lues are no longer dangerous for transmission.—A. Ravogli, in *Interstate Medical Journal.*

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SATURDAY, APRIL 15, 1911

ANCIENT EGYPTIANS AND MODERN MEDICINE

When, in 1907, it was decided to increase the height of the great dam at Assuan, the Egyptian government sought to lessen, as far as possible, the destruction of the monuments and relics of ancient life on the Nile, by securing for scientific study as much as possible of the most valuable material which would be submerged by the rise of the waters. Numerous cemeteries on both banks of the river were explored, and no less than 6,000 bodies, representing burials during a period of 5,000 years, became available for study. Dr. Elliot Smith, professor of anatomy in the medical school at Cairo, who had already done much work with similar material, was in charge of the anthropological investigations, and largely because of his understanding of pathology the results as reported contain much of medical interest.[1]

It seems that even six thousand years ago, in predynastic times, the population of the Nile valley was comparatively highly civilized, so that the history of civilization must go back much farther than the sixty centuries it can now be followed. During all that time man has been afflicted by at least some of the same diseases from which he now suffers, although perhaps not to the same degree. Professor Smith found no positive evidence of syphilis in the Nubians; tuberculosis was apparently uncommon, and the characteristic skeletal changes of rachitis were not observed. Rheumatoid arthritis seems to have been prevalent, especially in predynastic times. Urinary calculi were occasionally found, and one predynastic calculus analyzed by Shattock was found to be composed of a central body of urates and a shell of phosphates, indicating that six thousand years ago, as now, urate calculi caused cystitis and ammoniacal decomposition of the urine. The *Micrococcus ureæ* is probably quite as old as civilization. Fibrous adhesions around the appendix give the lie to jests about the "new-fangled fad of appendicitis." Gout left its traces in the form of "chalk stones" then as now; but caries of the teeth did not make its appearance until the early dynasties, first being found in the wealthier classes, and not becoming common to the masses until Christian times. Surely there was at this time no change from whole wheat to white flour—the cause to which our British colleagues are now ascribing the modern prevalence of dental troubles.

The chemists have also examined mummy material to some extent. Embalming as practiced by the Egyptians consisted simply in removing most of the viscera, pickling with salt, and letting the dry climate do the rest. Such preserved tissues, even after centuries, retain some of their original characteristics. When softened by soaking in weak alkali the different organs can be identified; the tubules of the kidney and the different layers of the skin are still recognizable (Ruffer).[2] A desiccated heart contained in a vase in the Louvre, and supposed to have been the circulatory center of Rameses II about thirty-one centuries ago, was found to show still the structure characteristic of cardiac muscle.[3] The fatty elements seem to resist chemical change especially well, and infiltrate the tissues in replacement of the decomposing elements.[4] The proteins remain in small part apparently unaltered and coagulable by heat, although they are largely decomposed into proteoses and other cleavage products. In the mummified tissues the usual amino-acids of proteins can be found.[5] It would seem that the biologic characteristics of the proteins are lost before the chemical, for most of the attempts to secure the precipitin reaction with mummy proteins have been unsuccessful. Only with the extremely delicate anaphylaxis reaction can the human origin of mummy tissues be established.[6]

INDIVIDUAL LIBERTY AND THE PUBLIC WELFARE

Legislation limiting women's labor to fifty-four hours a week is opposed by a representative of a manufacturers' association on grounds of pure chivalry—because this official is for woman, and believes in placing no restriction whatever on her activities. We are reluctant to align ourselves with those cynics who profess to feel suspicion when they see a representative of a manufacturers' association suddenly aroused to tender concern for the abstract rights of womanhood, or when they see the same association generously and disinterestedly engaged in vindicating those rights. Doubtless the members of the association are perfectly sincere in their belief that they know best what working women really want, and that they know better what is good for women than do the sociologists and physicians who have studied the question. We are even ready to credit these manufacturers with faith in the amusing arguments of their representative. The human mind is organized with a marvelous and almost unlimited capacity for belief.

1. The Archeological Survey of Nubia, 1907-8, vol. ii, Drs. G. Elliot Smith and F. Wood Jones. A full review is given in Nature, 1910, lxxxv, 310.

2. Ruffer, M. A.: Histology of Egyptian Mummies, Brit. Med. Jour., April 24, 1909.

3. Brit. Med. Jour., April 28, 1906.

4. Schmidt: Ztschr. f. allg. Physiol., 1907, vii, 369.

5. Abderhalden and Brahm: Ztschr. f. physiol. Chem., 1909, lxi, 4.

6. Uhlenhuth: Ztschr. f. Immunitätsforsch., 1910, iv, 774.

The arguments in favor of "emancipating" woman by permitting her to work twelve, fourteen, sixteen or even eighteen hours a day if the fancy strikes her (and if she can find a kind-hearted employer willing to humor her little whim), seem good material for the cartoonists and paragraphers, but too flimsy to deserve refutation in a serious periodical; and, indeed, we should not mention them except that the underlying assumption is one which still has weight with many persons, and one on which the opponents of public health measures always rely. This assumption is that law is the only social agency which interferes with the freedom of the individual, and that a law prohibiting an individual from doing any act necessarily limits that individual's liberty. Compulsory vaccination, government supervision over foods and drugs, local option, the enforcement of quarantine, the compulsory reporting of contagious diseases—in fact, almost all measures for the public welfare—are bitterly decried in some quarters as infringements on the liberty of the individual. In the present instance, a few sorely misjudged philanthropists are determined that working women shall not be allowed to part with an unprofitable abstract right which the latter would like to exchange for more practical freedom.

It will be a gain for the world when the academic concept of absolute liberty departs at last to that limbo set apart for theoretical abstractions which have no relation to practical affairs. Absolute liberty is as impossible of achievement as a perfect vacuum, and as inconsistent with the conditions of life. We live in the midst of coercions, physical, social, economic and legal; and often a technical prohibition is actual release from oppressive compulsion. Effective freedom is built up as much of limitations as of opportunities. No one can draw breath and be entirely ignorant of this principle, yet so many disregard it that it is worth while for those who are working for reform in matters of public health and welfare to see to it that the public not only knows wherein its freedom consists, but realizes it.

THE EFFECT OF EXERCISE ON THE BLOOD-PRESSURE AND PULSE

A systematic investigation of the effects of various forms of exercise on the systolic, diastolic and pulse-pressures and on the pulse-rate has been carried out by Dr. O. S. Lowsley.[1] The observations were made on healthy men, mostly young athletes who were in training, and the results obtained were about what might have been expected. The blood-pressure and the pulse-rate were universally increased during exercise and were found to be above normal even at the end of periods of very exhausting work.

In this Lowsley's observations differ from those of certain other investigators, and he attributes this to the fact that he was able to take observations immediately after the cessation of exercise, before the subsequent subnormal phase had set in. After exercise there is a period of subnormal blood-pressure, and the more exhausting the exercise, the more marked and prolonged will this phase be. The rapidity with which the pulse-rate drops to normal is also determined by the degree of exhaustion. There is often observed, however, a secondary rise in rate during the period of subnormal blood-pressure. Very violent exercise of even a few seconds, as in the running of a hundred-yard dash, causes a much more pronounced and lasting negative phase than does more prolonged but moderate work. Gräupner has shown that mild rapid exercise causes a rise in blood-pressure in normal individuals which outlasts the period of acceleration of the pulse, while in individuals with weak hearts the blood-pressure falls before the pulse-rate has reached normal.

Lowsley suggests that the duration of the negative phase is a very fair index of the strain on the circulatory system and that the test might be used in determining the fitness of any individual for the performance of certain forms of exercise. He believes that if the negative phase lasts less than an hour it may be considered well within the "hygienic limit," but that if it lasts more than two hours it is a sign that the margin of safety has been exceeded. Physical directors have been obliged to depend largely on their general impression of the effects of races, games, etc., on their charges, except in the elimination of those who are obviously unfit, and such a measurable factor should be of considerable help to them in deciding the qualifications of those who are apparently sound.

1. Am. Jour. Phys., March 1, 1911.

SOCIOLOGY AND MEDICINE

The problems of sociology are, in most instances, problems of preventive medicine, and many of the problems of preventive medicine resolve themselves into sociologic questions. The cure of disease in its larger aspect lies in its prevention in the individual, the community, the state. Medicine in its practical application must inevitably become almost wholly a problem of prevention. This involves its operation on the mass rather than the individual, and, therefore, it becomes a sociologic problem, with the knowledge acquired through the study of pure science to aid in its solution. Waiting for disease to arise in the individual, and then attacking it, involves an enormous economic waste, a waste of time, energy, earnings, efficiency, of life itself, to say nothing of the suffering, which causes a waste of nerve force, or of the tax on those immediately surrounding the individual and charged with his care. Likewise, philanthropy, state or private, directed to the relief of individual suffering and disease due directly or indirectly to faulty sociologic or industrial conditions, even though at present commendable and necessary from the humanitarian standpoint, means a tremendous waste. The vast public appropriations for hospitals and sanatoriums for the care of individuals suffering from contagious and

infectious diseases — tuberculosis for instance — when weighed against prevention really constitute a waste. Prevention means the saving of most of this waste.

As great strides are being made in the acquisition of ultimate scientific knowledge, so also real progress is being made on the side of preventive medicine involving sociologic questions. A mere enumeration of some of the enacted and proposed legislative measures along the lines of public health and welfare will illustrate the point. The national Food and Drugs Act, supplemented by state and municipal enactments concerning milk and other foods; quarantine laws, the reporting and supervision of epidemic and other contagious and infectious diseases; compulsory vaccination; the investigation and regulating of public water-supplies, sewage disposal, etc., and, coming more truly within the realm of the sociologic, child labor laws, and laws concerning minimum wage and minimum hours of labor for both men and women; employers' liability laws; laws compelling the employment of safety devices in industrial pursuits; laws against the use of injurious chemicals in the arts; the establishment of public playgrounds; laws regulating the building of tenements, factories, etc., providing for proper light and air space; school inspection and open-air schools; laws to secure better housing conditions, better hygienic conditions in prisons, etc., and for the regulation or prevention of the social vices—all of these are problems of preventive medicine. Many of these measures have been enacted into laws and carried into effect either nationally or locally, and most of these topics are at the present time the subject of active agitation in the newspapers, in the magazines, in medical and sociologic associations, in congress or in the legislatures.

Seemingly, a good deal has been accomplished along these lines, but really only a beginning has been made. The problems of prevention may never attain complete solution, just as medicine may never become an exact science; but in both we are surely progressing. The sociologic problems of preventive medicine which have attained partial solution so far have been solved by the strenuous fighting of the physicians—the scientists—aided by the sociologists, advanced thinkers, the so-called theorists or reformers, who have had to contend every inch of the way against the reactionaries who have failed to see their own real interests. More recently, however, the practical mind has been made to see the material advantage in measures that were formerly thought to be merely visionary; and so we find a more liberal and tractable attitude on the part of councils, legislatures and congresses, corporations and individuals along lines that make for the public health and welfare, such as improvement in factory and other industrial conditions, the prevention of injuries, first aid, sick benefits, workmen's compensation laws, shorter hours of labor, minimum wage questions, and better housing conditions; and, in addition, we have the tremendous public activity in general hygienic and health matters.

In many of these measures of prevention we are behind foreign countries, as in the protection of workmen from injury and from occupational diseases in industrial pursuits, and in employers' liability and workmen's compensation laws. But the importance and justice of these things are becoming recognized by the employers of labor here, who realize that they have no moral right to exploit their employees under unhygienic or dangerous conditions to life and limb, and throw on the community the burden of caring for incapacitated wage-earners or their dependents. The injustice of this policy has reached the point of national recognition, and the President in 1910 approved a resolution adopted by Congress, calling for an official investigation of this matter. Opposition to such beneficent measures will, of course, always exist, and reactionary measures will be attempted, as in the instance of the efforts to abolish the tuberculin test of cattle in Illinois and Wisconsin, and the recent opposition of the secretary of the Illinois Manufacturers' Association to the limitation of the hours of labor of women in all occupations in Illinois to fifty-four hours a week. But the tide of progress in these sociologic measures of preventive medicine cannot be permanently stemmed, and along with legislation for a national department of public health—another measure whose object is prevention—they will be adopted sooner or later. Progress in knowledge is never along direct lines, but always in zigzags, which nevertheless end farther forward than where they started.

Current Comment

NEW AND NONOFFICIAL REMEDIES IN THIS ISSUE

A little over six years ago the Council on Pharmacy and Chemistry was created. No medical organization or society has caused such a revolution as has this Council in the six years it has been in existence. The nature of this revolution is known to all readers of THE JOURNAL, and it is not necessary to enlarge on it. The work of the Council has been both critical and constructive. The constructive part has resulted in the publication of an annual known as New and Nonofficial Remedies, or, in brief, N.N.R. This annual contains a list of the preparations which have been accepted by the Council; in other words, the preparations which have complied with the ten rules adopted. Practically all these articles are proprietary preparations, and N.N.R. is the only book, so far as we know, to which a physician can go for accurate information, impartially presented, regarding such medicines. The manufacturers may be depended on to furnish the medical profession with plenty of statements of the optimistic kind, but the better class of medical men to-day are not so easily satisfied with such information as they were five or six years ago. In order that every reader of THE JOURNAL may have it on hand for convenient reference, N.N.R. for 1911 is sent as Part II of this issue. It is recommended that this book be examined critically, and especially is it urged

that physicians read the rules, which are printed in the front of the book, bearing in mind that these rules represent the principles on which a preparation is accepted or rejected. Much thought was given to the preparation of these rules, and the Council believes that they represent just principles. If our readers agree with the Council, then they certainly ought to limit their prescribing to those proprietaries which have been accepted. The Council has decided favorably or unfavorably concerning practically all the proprietary medicines on the American market; hence it is safe to assume that those not included in N.N.R. have not been accepted because their manufacturers either could not or would not make them conform to the rules.

PENNSYLVANIA MILK INSPECTION

The state health officers of Pennsylvania are making the seventh inspection of the more than 40,000 premises producing milk for sale. This work in Pennsylvania is said to be done in a more comprehensive way than has been attempted in any other state. The inspection is not only extended to premises producing milk for wholesale or retail distribution, but is made on every farm producing milk for sale to creameries, butter-making establishments, cheese factories, condensories, etc., and even includes dairy farms where the product is worked up at home for sale in the markets. The health department's inspection is purely a sanitary one and deals with the cleanliness of the cow, of the stable, the cow-yard, the milk-house, with cleanliness on the part of the milker and the purity of the water used about the dairy farm and milk house. It is entirely different from that conducted by the state veterinarian, who concerns himself with the health of the herd, and that by the dairy and food commissioner, who limits himself to the use of preservatives and adulterants in the milk. These different forms of supervision of milk production and distribution should insure a vast improvement in the quality of the milk-supply and be reflected in the general health conditions in the state.

FACTORS IN RAILWAY ACCIDENTS

According to Accident Bulletin 37 of the Interstate Commerce Commission, the number of persons killed in train accidents during July, August and September, 1910, was 321, and the number of the injured was 3,892. "Accidents of other kinds" are said to have numbered 22,328—2,948 persons having been killed and 19,380 injured. This includes those accidents sustained by employees while at work, by passengers in getting on or off cars, by travelers at highway crossings, by persons doing business at stations, etc., by trespassers, and others; but excludes "industrial accidents" and accidents to employees resulting only in slight injury. These figures, which read like statistics from some seat of war, are, it should be remembered, for but one quarter of the year and for the single industry of transportation. Some accidents, as clearly appears from the bulletin, are due to the element of human fallibility, as, when an engineer fails to heed a signal, or an operator delivers an incorrect order. They indicate the need for installing, wherever possible, safety devices, in regard to which Europe is said to be far ahead of the United States. Another cause alleged by a practical railroad man[1] is a tendency among railroad employees to make haste by cutting red tape. A third cause is the deliberate, cynical disregard of human safety which foreign observers are prone to consider an American characteristic. This is a factor which is not evident in the accident bulletins; but that community is fortunate which has no witness to its presence. Chicago, for instance, has the notorious "death-strip," a section of double street-car tracks laid so close as barely to permit cars going in opposite directions to clear each other, thus senteneing to be crushed to death any unfortunate—young child, aged, infirm, uninformed or merely heedless person—who happens to be caught between two such cars. This particular strip was constructed with full knowledge of its possibilities, the street-railway companies offering the amazing extenuation that the public would "become educated" to the danger. This expectation, it may be added, has been justified; at least, those members of the public whose education has been finished on the "death-strip" would now fill a small cemetery. This is merely one example. There are others in other cities. When the people are awakened to the possibilities and the necessities of the whole situation there will be a change. The reputation of this country for carelessness with regard to human life is not an enviable one.

COMMERCIAL UNTRUTHFULNESS—A PASSING EVIL

Among Europeans it has long been held that exaggeration, hyperbole, even humbug, is a characteristic that finds its highest development in the United States. We have been told this so often that, as a nation, we have almost come to believe it ourselves. Particularly, it is alleged, has this trait been prominent in the commercial world. It is true that in the past the protection accorded the American consumer has been largely a matter of academic interest rather than of practical legislation. Even to-day the man in the street purchases as "all wool" clothes made of a mixture of shoddy and cotton. In matters more closely connected with his life and health, however, the American citizen receives a greater degree of protection than is accorded the citizen of any European state. The passage of the federal Food and Drugs Act and its enforcement by honest and efficient officials have done much to safeguard the American people from those who would jeopardize the health of the nation for their own financial advantage. In a field peculiarly its own, the American Medical Association through THE JOURNAL and the Council on Pharmacy and Chemistry, has undertaken a task such as has been attempted in no other country—that of giving reliable information regarding medicinal products of a proprietary nature used by the medical profession. Untruthfulness and even exaggeration regarding the virtues of products put out for the use of physicians in treating the sick, is a lesser evil in the United States than it is in any

1. Fagan, J. O.: Confessions of a Railroad Signalman, Houghton, Mifflin & Co., Boston, 1908.

European country. Yet less than a decade ago there was probably more fraud in the exploitation of proprietary medicines in the United States than existed anywhere else in the world. Thanks to a vigorous campaign carried on both by enlightened laymen and by the organized medical profession, the public consciousness has been awakened and the United States, instead of standing lowest in the scale of commercial probity regarding the sale of medicinal products, now stands at the head. That this fact is recognized by intelligent Europeans is evident from an editorial by Professor W. Heubner of Göttingen, a translation of which appears on another page.[1] We believe that, so far as pharmaceutical products are concerned, the American public is better protected, and the American medical profession more reliably informed, than is the public or the medical profession of any other country in the world.

ANIMAL EXPERIMENTATION BY CLERGYMAN SCIENTIST

According to a recent number of the Pittsburg *Christian Advocate*, the Rev. Maitland Alexander, pastor of the First Presbyterian Church of Pittsburg, is carrying on a series of experiments on monkeys in the hope of finding a serum for infantile paralysis. It seems that the Rev. Mr. Alexander has worldly possessions which enable him to interest himself in any avocation and that he has taken up scientific work, in addition to his professional duties, in the hope of helping to check the awful ravages of infantile diseases. The *Advocate* thinks it strange that some sentimentalists have not tried to create a public sentiment against Dr. Alexander and his associates for their use of monkeys. That this has not been done is truly surprising; doubtless the fact has not yet been brought to the attention of *Life*.

POSOLOGY

The determination of the proper dose of medicine is often a difficult problem; and the following from Manquat's "Principles of Therapeutics" is worth quoting:

> We should like to note that it is not good practice to seek to secure complete functional correction by means of drugs. If, through hygiene, the organism is placed under the conditions of optimum of function, a small dose often suffices to bring about restoration of the disturbed function. It is often better to be content with improvement and modestly live according to appropriate hygiene rather than to seek the medicamental triumph of complete functional restoration which will not last. A patient with mitral stenosis, for instance, who knows enough not to ask of his heart more than it can give, will have the greatest chances of continuing long without the aid of medicinal assistance; and when one is at last obliged to resort to digitalis, minute doses, as has been shown by Dr. Huchard, are to be prescribed. To content oneself with producing diuresis, through theobromin, in a patient suffering from renal insufficiency would be a reprehensible practice; it is better, first, to restrain all the endogenous and exogenous intoxications, and prescribe only small doses of the diuretic remedy, which can be repeated whenever necessary. The patient's mode of life and alimentation should first of all be adjusted to his functional forces, while medicinal intervention should be regarded as a therapeutic adjunct. There is a case, however, in which a large dose is demanded from the beginning; that is, in the presence of an accident menacing life, when an active medicament alone can restore the adequate function of the failing organ. Such is in particular the case in cardiac asthenia capable of endangering life, or in an alarming dyspnea, or in sudden anuria, in which large functional doses are necessary. There should then be no hesitation in seeking energetic action, unless some positive contra-indication exists. The patient's salvation may depend on such action.

The principles stated are correct. The drug is to be regarded only as a staff to assist lightly over the difficult places, and not as a strong crutch to bear the whole burden. First throw away the pack and the other impedimenta; give entire freedom of action to all the natural forces; assist by the staff only as actually needed and the steep will be surmounted. But when there is danger of falling over the precipice, then the most vigorous assistance must be supplied on the instant. The practical application of Manquat's plan, selecting in each instance the proper drug in the proper dose, and for the proper length of time, is a matter of knowledge, experience and the nicest discrimination.

UNIFORMITY IN DEATH CERTIFICATES

The increasing attention paid to vital statistics by the present Director of the Census cannot fail to be gratifying to physicians. For the accurate collection and tabulation of mortality statistics, not only is it necessary that uniform laws be adopted and enforced in the different states; it is also essential that local registrars, and especially physicians, follow a uniform system of nomenclature in filling out death certificates and reports. The American Medical Association for several years has had a Committee on Nomenclature and Classification of Diseases, which is cooperating with others, with a view to securing greater uniformity in terminology. Representatives of the various civilized governments (the United States included) have prepared an international list of causes of death which has been adopted by over twenty of the leading nations. In order to place this list in convenient form for ready reference by physicians, the bureau of the census is distributing to physicians, in large quantities, a pocket reference list in which are tabulated 189 causes of death, with notations showing the proper form in which the causes of death should be reported. The pamphlet also contains a list of undesirable terms and the history of the extension of the registration area in the United States. It is convenient in form and should be in the hands of every practicing physician. Any physician who has not already received a copy from the census bureau can secure one by addressing a postal card to the Director of the Census, Washington, D. C. General cooperation in the use of a uniform nomenclature will greatly increase the value of our vital statistic figures and reports.

1. Page 1155, this issue, abstract 106.

AN EARLY EXPONENT OF THE GERM THEORY

Long before Pasteur demonstrated the relation of germs to disease, and 163 years before the discovery of the tubercle bacillus by Koch, Benjamin Marten, M.D., of London, is said to have published a book in which he set forth in considerable detail a theory of disease that covers in a surprising way the present accepted germ theory. His book, dated 1720, is entitled "A New Theory of Consumptions, More Especially of a Phthisis or Consumption of the Lungs." A number of copies of this book are in existence, one in the British Museum, and the February issue of *Janus* contains a reproduction of the title-page, and an article by C. A. Singer, in which are quoted at length the exact words of Marten in which he elaborates his theory. Speaking of "consumptions" in general, he says: "The original and essential cause, then, . . . may possibly be some certain species of animalcula or wonderfully minute living creatures, that by their peculiar shape, or disagreeable parts, are inimicable to our nature," and they may gain access to our bodies by the air we breathe, the food we eat and the liquor we drink, or perhaps in other unknown ways, and "being there deposited in a proper nidus or nest and being produced into life, coming to perfection or increasing in bigness, may by their spontaneous motion and injurious parts . . . cause all the disorders that have been mentioned," viz., plague, venereal disease, measles, small-pox, the "common rheum" and leprosy. He then develops this theory so as to account for tuberculosis of the lungs, and states his belief that if he had had glasses strong enough he would have been able to see these minute organisms. He discusses the possibility of intra-uterine or hereditary transmission, remarks that it is reasonable to suppose that specific diseases are due to specific organisms, and considers epidemic diseases in the light of his theory. He calls attention to diseases that seem to be communicated by contact, and from the fact that scabies is transmitted in this manner and is due to a little animal that could be seen by the glass, thinks it reasonable to conclude that syphilis might be carried in much the same way, although the organism could not be seen. He did not believe that all diseases were due to such organisms, but that those named probably were. He advanced this idea only as a theory, and in it he foreshadows the theory of bacterial toxins, for in speaking of treatment he recognizes the difficulty of killing the germs in the body, saying that even that would not cure the disease, as "their pernicious effects could not be supposed to be thereby so immediately cured, any more than destroying a dog that had bit a man could be supposed to cure the wound he had made with his teeth." It is astonishing how well, under the state of scientific knowledge at that time, he had worked out even details of his theory and how closely he skirted the reality. He thinks it is reasonable and probable, and hopes it will "afford sufficient hints to some able hand to carry the theory much farther than I have done, and, it may be, bring it to absolute demonstration." It was over a hundred years before this was done by Pasteur and Koch.

THE REFORMED ALMANAC AS A HEALTH EVANGELIST

From time immemorial the almanac has been the special advertising prerogative of the "patent medicine" company. Who does not find among the earliest recollections of his childhood the almanac with its medley of calendar, astronomical events, weather predictions, old jokes, medical advertisements and patients' testimonials? At least one such almanac was to be found in every household and it was, perhaps, the most frequently consulted book in the family possessions. To it the children went to find on what day of the week Christmas, New Year's, the Fourth of July and the family birthdays occurred. Mother and the girls always went to it to find when Easter was to come that year. Father was careful to look for the phases of the moon before doing his spring planting and grandmother used it to verify her predictions as to whether next winter would be mild or severe. Its value as an advertising medium was recognized by innumerable nostrum firms, which for years issued almanacs by the million copies. One of our later-day state board of health secretaries[1] has realized that if an almanac is a good thing to advertise nostrums it is an equally good thing to advertise health. The January-February number of the *Virginia Health Bulletin* is issued in the form of an almanac. It has the calendar by months, the phases of the moon, the time when the sun and moon rise and set for each day, the important historical events and all the other time-honored earmarks of almanacs, but instead of the musty jokes and stereotyped testimonials of patients "pronounced incurable by the doctors," but cured by two bottles and a half of Indian Bitters, it has sanitary aphorisms such as "An open window is better than an open grave," "A dirty well is more dangerous than a dirty kitchen," "A good iron pump costs less than a case of typhoid," "Good water is one of the best insurance policies a family can carry," "Two dollars for a doctor is cheaper than a hundred dollars for a funeral," "If your milk man brings warm milk, make it hot for him," "Wire screens in the window keep crape from the door," "Typhoid germs are small in size, but they are more expensive to keep than blooded horses," "A light overcoat is better than a heavy cold," "Many a cough ends in a coffin," "It is better to sleep in the fresh air than in the fresh grave." A special subject is assigned to each month—small-pox to January, pneumonia to February, measles to March, infants' complaints to May, typhoid to July, colds and influenza to November, and consumption to December—with a page of common-sense advice, in plain, simple language, under each topic. The Virginia Department of Health deserves hearty congratulations for its success in reforming one of our oldest family institutions and converting it into an evangel of health.

Syphilis and Cardiovascular Disease.—Syphilis as a cause of cardiovascular disease does not receive the attention its importance merits. Endarteritis with its consequences even to the extent of complete obliteration of vessels, especially in the heart and brain, can be traced to this disease.—C. W. Chapman, in the *Practitioner*.

1. Dr. E. G. Williams, Richmond, Va.

Medical News

COLORADO

Personal.—Dr. Frank R. Spencer, Boulder, has gone to Europe.——Dr. Edward Delehanty has been elected president of the staff of St. Joseph's Hospital, Denver, vice Dr. Samuel D. Hopkins, deceased.

Medical Department of City Library.—El Paso County Medical Society is planning to put its library of text-books and periodicals into the public library of Colorado Springs so that the public may have access to this literature.

Charges Graft.—Dr. Elizabeth Cassidy, chairman of the finance committee of the board of commissioners of Denver County, claims that there has been great extravagance or graft in the management of the affairs of the county institutions and is said to have withheld monthly payments until thorough investigation has been made.

GEORGIA

State Society Meeting.—The Medical Association of Georgia will hold its annual meeting in Rome, April 19-21, under the presidency of Dr. Edward C. Davis, Atlanta. The headquarters of the association will be at the Cherokee Hotel, and the business sessions will be held in the superior court room.

State Tuberculosis Camp Opened.—The State Tuberculosis Sanatorium, Alto, was formally opened, March 21. Seven patients immediately availed themselves of the opportunity for treatment. The capacity of the institution is at present seventy, but the buildings have been so constructed that 300 patients can be accommodated at comparatively no additional expense.

District Society Meetings.—At the annual meeting of the Seventh District Medical Society, held in Cartersville, March 9, the following officers were elected: president, Dr. William J. Shaw, Rome; vice-president, Dr. Alfred B. Greene, Cartersville, and secretary-treasurer, Dr. Tanner Lowry, Eucharlee. Cartersville was selected as the next place of meeting.——The Fourth District Medical Society held its annual meeting in Carrollton. Drs. Joseph N. McCormack, Bowling Green, Ky., and Edward C. Davis, Atlanta, president of the state association, delivered addresses, and the following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr. H. J. Goodwin, Roopville, and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

Personal.—Dr. S. Wicks Merritt, formerly of Baltimore, has been appointed superintendent of the new tuberculosis sanatorium built by Atlanta and Fulton Counties.——Drs. John F. Harris, William E. Wood, Harlan L. Erwin and Jesse G. McAfee have been appointed members of the board of health of Dalton.——Dr. R. P. Sorrells, Athens, has purchased a large interest in Pine Ridge Sanatorium for Tuberculosis and has been elected secretary-treasurer and business manager of the institution.——Dr. R. J. Horne has been elected a member of the faculty of the Medical College of Georgia, Augusta, and Dr. Noel M. Moore has been reelected a member of the governing board.——The governor has reappointed Dr. Francis M. Ridley, LaGrange, a member of the State Board of Medical Examiners, and Dr. Jarrett W. Palmer, Ailey, a member to succeed Dr. Isham H. Goss, Athens.

ILLINOIS

Personal.—Dr. Harry S. W. Spencer, Kankakee, is reported to be seriously ill with pneumonia.——Dr. George C. Lewis, Fairbury, has retired after thirty years of practice.

Donates a Purse to Missionary.—The Waukegan Physicians' Club has made a liberal contribution which has been given to Dr. Margaret S. Grant who leaves in the early summer for China where she intends to make an exhaustive study of the pneumonic plague.

Legislation.—Senate Bill No. 235 has passed the senate and is now in the house of representatives. There is, apparently, organized opposition against the bill in the house and this is directed toward Section 6-A, which aims to give the State Board of Health jurisdiction in the matter of revocation, over all licenses issued since 1877. Under existing conditions, a physician licensed before July 1, 1899, may deceive and defraud the public, may commit any crime, may even be sent to the penitentiary, and yet remain a licensed physician, as under the decision of the Supreme Court, the State Board of Health has no jurisdiction over licenses issued prior to July 1, 1899. Under these conditions the board is unable to protect the people from the impositions of frauds, quacks, charlatans and impostors, and is rendered impotent in what was intended to be one of its most important functions, namely: "To detect quacks and to prevent them and all ignorant pretenders from imposing on the sick and helpless." The bill does not in any manner increase the requirements now demanded of medical colleges, but is a step in the direction of a higher, better, more practical and more thorough medical education. The bill has been amended so as to provide that a medical college, whose students shall be licensed to practice temporarily in a hospital under the direction of the college, shall require as a prerequisite to graduation, a course of study extending over at least five calendar years.

Chicago

Personal.—Dr. Rosa Engelmann has returned after a year in Europe.——Dr. and Mrs. Arthur R. Reynolds have returned from California.——Dr. and Mrs. Archibald Church and son have returned from Ocean Springs.——Dr. Ernest A. Loewinger was assaulted by unknown persons, April 9, but was not seriously injured.——Dr. Winfield S. Hall has been elected as head of the local branch of the National Health League.

INDIANA

State Conference of Charities.—The twentieth annual state conference of charities and corrections will be held in Indianapolis, October 28-31. Prof. W. G. Weatherly will preside, and the principal addresses will be delivered by Jacob Riis, New York City; Prof. W. H. Bailey, of Cornell University, and Miss Jane Addams, of Hull House, Chicago.

State Red Cross Report.—The Indiana branch of the American Red Cross reports that in the biennium, ended March 24, seventeen cases of tuberculosis among the deserving poor had been treated, at an average expense of $15 a week. These patients were housed in cottages near Danville. Not a single death occurred and cure is expected in all the cases. The association has erected six cottages at South Bend and expects to erect four more in that place, four cottages at Terre Haute, two at Vincennes and six at Indianapolis.

To Benefit Hospital Service.—The late Alfred Burdsall has left his entire estate, amounting to $700,000, to public and charitable institutions of Indianapolis, subject to a life interest for his wife. One-half of the amount is, eventually, to be given to the city board of health for the improvement and benefit of the hospital service of Indianapolis and to provide homes for incurables. His library and $5,000 in cash are bequeathed to the Indiana Tuberculosis Hospital, Rockville, for the erection of a library building, and the remainder of the estate is to be devoted to local charities and the department of public parks of that city.

Health Week at Fort Wayne.—Health week at Fort Wayne was inaugurated March 27, and, during the week, afternoon and evening lectures and demonstrations were held. Samples of tuberculous meats were sent daily from Chicago for demonstration. Among the speakers of the week were Dr. William A. Evans, Health Commissioner of Chicago; G. W. Porter, of the Bureau of Animal Industry of the Department of Agriculture; Dr. W. F. King, Assistant Secretary of the Indiana State Board of Health; Dr. Mazyck P. Ravenel, of the University of Wisconsin; Dr. Alice Hamilton, of Hull House, Chicago; Miss Lenna Cooper, a dietitian of Battle Creek, and Mrs. Caroline Crane, the sanitary expert of Kalamazoo.

Personal.—Dr. James M. Dinnen, Fort Wayne, has been recommissioned as a member of the State Board of Medical Examination and Registration.——Dr. Paul E. Bowers, Indianapolis, has been appointed physician to the northern penitentiary, Michigan City, vice Dr. J. W. Milliken, who has been made deputy warden.——Dr. John H. Alexander and wife, Greensburg, were assaulted and severely beaten by a drunken man, April 2.——Dr. Henry Gers, Washington, state senator, is in a serious condition as the result of a recent cerebral hemorrhage.——In the suit of Dr. Charles F. Cluthe, Evansville, against the Big Four System, in which $35.000 damages were claimed on account of the passing of the railroad through his property, the jury has awarded the plaintiff $1,500.

Violations of Pure Food Law.—During the past two weeks, the following violations of the State Food and Drug Laws have been decided: Three druggists in Indianapolis have been arrested and fined for failing to state the amount of alcohol in paregoric; one druggist in Indianapolis, for selling an impure drug; an individual in Bicknell was fined $25.00 for spitting on the floor in a food institution; in Nappanee a fine was imposed for selling spirits of camphor below the United

States standard; in Hammond, there was a conviction for selling oleomargarine for butter; in Gary, one for selling dirty milk in a dirty container; in Waveland, one for selling apple cider containing benzoate of soda; in La Fontaine, one for selling blackberry cider containing benzoate of soda; and, in Bicknell, the proprietors of an insanitary restaurant and slaughterhouse were fined.

IOWA

County Tuberculosis Hospital.—The Polk County Board of Supervisors has decided to erect a tuberculosis hospital at a site selected on the county farm. The plans provide for the erection of a large tent to accommodate twenty patients, and a permanent building to be used as a kitchen and dining hall for the inmates. During the summer the construction of a permanent hospital will begin. It is stated that residents of Polk County suffering from tuberculosis will be entitled to treatment without charge at the institution.

General Hospitals for Counties.—Two years ago the Iowa legislature passed a bill permitting counties to vote for the levying of a tax to build general hospitals and providing, also, for the erection of separate buildings for the care of tuberculous patients. At the November election eight counties voted on this question, but in only one—Washington County—was the vote successful. A tax of $25,000 was voted and the management was placed in the hands of a board of seven trustees, none of whom is a practitioner. A citizen of Washington donated a site containing 11 acres for the institution, and churches, lodges and private citizens have provided the furnishings.——At a special election, called March 22, Jefferson County voted to establish a general county hospital and voted $27,000 for this purpose. The Washington County hospital is expected to be ready before next winter. The credit for this good work should be given, largely, to the medical men in each county for their united action in the matter.

KANSAS

Personal.—Dr. Benjamin P. Smith, Miltonvale, has succeeded Dr. Chilton W. McLaughlin, Kansas City, as national medical director of the Sons and Daughters of Justice.——Dr. Josaphyne R. E. Davis, Ottawa, who has been under treatment in Kansas City, has returned and resumed her practice.

New Hospital for Kansas City.—The campaign to raise $200,000 for the new Bethany Hospital to be built on Mount Olivet, Kansas City, was started April 2. The territory included in this campaign consists of all of Kansas and all of Missouri south of the Missouri River, comprising the St. Louis conference district of the Methodist Episcopal Church.

Golden Belt Physicians Meet.—At the annual meeting of the Golden Belt Medical Society, held in Salina, April 6, Dr. Leonard S. Steadman, Junction City, was elected president, Dr. R. C. Brown, Kansas City, vice-president; Dr. L. O. Nordstrom, Salina, secretary, and Dr. John W. Neptune, Salina, treasurer. Dr. John G. Sheldon, Kansas City, Mo., conducted a surgical clinic for the society at St. Barnabas Hospital.

LOUISIANA

Personal.—Drs. Ralph O. Hollister, Augustus F. Gates and John L. Robinson have been appointed members of the Board of Health of Hammond.——Dr. Sidney D. Porter, Moreauville, medical inspector of the State Board of Health, has moved to New Orleans.——Dr. Sara Tew Mayo, New Orleans, has been awarded the *New Orleans Picayune* loving-cup which is donated every year to the citizen who shall be declared to have rendered the most signal and unselfish service to the people and best interests of the city.——Dr. Samuel A. Dickson, Shreveport, who has been critically ill is reported to be improved.——Dr. Charles A Schilling has been elected president, and Drs. Marion A. Young and Hartwell A. Eldredge have been made members of the Abbeville Board of Health.——Dr. William L. Grace has been elected president of the Plaquemine Board of Health.——Drs. Robert P. Jones and Tacitus W. Young have been appointed members of the Board of Health of Clinton.

MARYLAND

Baltimore

Operation on Dr. Barker.—Dr. Lewellys F. Barker was operated on for gall-stone disease by Dr. John M. T. Finney, April 10. The appendix was also removed. According to latest reports Dr. Barker is doing well.

Improvement in Marine Hospital.—Extensive improvements are being made in the United States Marine-Hospital. A new system of tuberculosis tents has been installed; a new electric lighting system has been put in operation; interior telephones have been placed and other minor improvements have been made.

Hospitals Benefit.—The Church Home and Infirmary is to receive, under the will of the late Miss Harwood, two-fifths of the estate which is appraised at more than $130,000.——The thirty day "Whirlwind Campaign" to raise $300,000 for additions to Mercy Hospital begins April 10. Cardinal Gibbons is at the head of the advisory board.

Portraits to be Presented.—At the coming meeting of the Medical and Chirurgical Faculty of Maryland, portraits will be presented of the late Dr. Francis Donaldson by Dr. William H. Welch and of Dr. Charles M. Ellis, Elkton, by Dr. Lewellys F. Barker. The annual oration is to be delivered by Dr. George W. Crile, Cleveland, O., and will be followed by a smoker. The scientific session of April 27 will be a joint meeting with the Maryland Pharmaceutical Association and will be addressed by Professor Charles Caspari, Jr., Pure Food Commissioner, and Mr. John B. Thomas of Baltimore.

MASSACHUSETTS

Prominent Dentist Dies.—Edward Walter Branigan, professor of clinical dentistry at the Tufts Medical School and for the past few months its acting dean, a trustee of the Forsyth Dental Infirmary, a member and former president of the National Association of Dental Faculties and a dental member of the American Medical Association, died in Charlesgate Hospital, Cambridge, March 23, from heart disease, aged 35.

New Talitha Cumi Home.—The New England Moral Reform Society, which maintains the Talitha Cumi Maternity Home, is marking its seventy-fifth anniversary by the erection of buildings for the home on Forest Hills Avenue, Boston. A tract of 3 acres of land has been secured and the first group of buildings, consisting of the waiting department, the maternity hospital and the foundations and basement of the industrial home, will be erected at a cost of about $62,000. In the waiting department about forty can be accommodated at one time and the hospital can provide for thirty patients.

Personal.—Dr. Louis E. Dionne has been elected chairman and Dr. Albert G. Blodgett secretary of the Board of Health of Ware, and Dr. Harry D. Gafney has been appointed town physician.——Dr. William H. Keleher, Woburn, has been appointed medical examiner of the district comprising Woburn, Winchester, Lexington and Burlington, vice Dr. Harrison G. Blake, Woburn.——Major Frank P. Williams, M.C., N. G., Mass., has been detailed to attend the maneuvers on the Mexican frontier.——Dr. Theobald Smith, professor of comparative pathology in Harvard University, has been appointed visiting professor at the University of Berlin for the second half of the academic year 1911-1912.

Success of the Worcester Movement.—The undertaking inaugurated in Worcester County twenty-eight months ago to attack tuberculosis in wage-earners by an agreement among merchants and manufacturers to provide curative treatment, has resulted in the restoration of the wage-earning ability of more than 200 working people, most of them factory girls. There are at present more than 400 other individuals similarly afflicted, who are undergoing treatment at the expense of their employers, with satisfactory prospect of cure. The movement has now extended throughout New England, has gone as far west as Ohio, and experiments are being made in Japan, Bulgaria, Great Britain, France and elsewhere.

MISSOURI

Sanitarium Burns.—The Moberly Sanitarium was entirely destroyed by fire, March 27, with a loss of $60,000.

Hospital Notes.—The Jane Chinn Hospital, Webb City, was formally opened April 2. This building has been given to Webb City by Mr. and Mrs. C. R. Chinn, at a cost of more than $40,000. The institution will accommodate twenty-three ward patients and ten private patients, and is thoroughly equipped.——The Christian Hospital Association, Kansas City, has completed the pledge of $150,000 made obligatory by the provisions of the gift of R. A. Long who agreed to donate $200,000 for the building and site, provided that $150,000 should be raised as an endowment for a non-sectarian hospital.——An appropriation of $50,000 has been made by Kansas City for the pavilion for tuberculosis patients at Leeds Farm, on which work will be started this spring.

St. Louis

Hospitals Consolidated.—The merger of the Christian Hospital and Centenary Hospital was completed April 1. The new

institution will be known as the Christian Centenary Hospital and will be located in the premises at present occupied by the Centenary Hospital. The new institution will be able to accommodate about one hundred patients.

Summer School of Medicine.—The St. Louis University School of Medicine announces that it will establish a summer course of medical instruction, beginning May 30 and continuing until July 8. The course of study will cover both clinical and fundamental branches and is intended to provide facilities for medical graduates who wish to take additional clinical instruction or to review fundamental subjects, and for undergraduates who desire to complete laboratory subjects in advance.

NEBRASKA

Medical Society Meetings.—The Gage County Medical Society, at its annual meeting in Beatrice, April 6, elected Dr. Harry M. Hepperlen, president; Dr. Aleck V. Robinson, vice-president, and Dr. Louis E. Penner, secretary-treasurer, all of Beatrice.——The annual meeting of Burt County Medical Association was held at Tekamah, April 5. The following officers were elected: president, Dr. Cook Craig; vice-president, Dr. S. A. Swenson, Oakland; secretary-treasurer and alternate delegate, Dr. Merrit Wood, Tekamah; censor, Dr. Edgar A. Sears, Decatur, and delegate to the state society, Dr. Andrew D. Nesbit, Tekamah.——Butler County Medical Society, at its annual meeting, held in David City, April 5, adopted resolutions condemning contract practice, and elected the following officers: president, Dr. Thomas J. Vanderhoof, Rising City; vice-president and delegate to the state society, Dr. Edgar D. Banghart, David City; secretary-treasurer and alternate delegate, Dr. Harry E. Marselus, Octavia; censor, Dr. Riley G. Rich, David City.

NEW JERSEY

Fire in Insane Hospital.—Fire set by a patient in the New Jersey State Hospital, Morris Plains, March 21, caused a great deal of excitement, but prompt action by physicians, nurses and attendants prevented any serious damage.

Milk Bill a Law.—Following the public hearing, March 17, on the Meyer milk standard bill, Governor Wilson has approved it, thus making it a law. The bill reduces the quantities of solids required in milk from 12 to 11½ per cent.

Typhoid in State Prison.—Three cases of typhoid fever have been reported in the New Jersey state prison. The health and water department of Trenton will install a chlorid of lime plant to aid in the purification of the city's drinking water until the proposed filtration plant can be completed.

Personal.—Dr. Charles H. Mayhew, Millville, is reported to be seriously ill with diabetes.——Dr. James K. Pollock, Trenton, has been appointed physician of the Southeastern Hospital for Insane, Madison, Ind.——Dr. Thomas E. Dolan has been reelected president, Dr. Joseph Funk elected vice-president and Dr. Theodore F. Livengood, secretary of the staff of Alexian Brothers' Hospital, Elizabeth.

County Society Meeting.—At the annual meeting and banquet of the Morris County Medical Society, held in Dover, the following officers were elected: president, Dr. Theodore W. Bebout, Stirling; vice-president, Dr. Gustav A. Becker, Morristown; secretary, Dr. Henry W. Kice, Wharton; treasurer, Dr. James Douglas, Morristown; permanent delegate, Dr. Abram E. Carpenter, Boonton, and annual delegates to the state medical society, Drs. Clifford Mills, Morristown, and E. Moore Fisher, Morris Plains.

The Widener Home.—P. A. B. Widener of Philadelphia will erect at Longport, near Atlantic City, a summer branch of the Home for Crippled Children, which he maintains in Philadelphia. Last summer he erected several cottages and the children were sent to the shore in groups. The new building will accommodate as many as are cared for in the Philadelphia institution. There are now ninety-two children in the home. With the exception of the school rooms the establishment will be duplicated in Longport, the building occupying an entire block and but one story high. It will contain sun parlors, gymnasium, swimming pool, light and airy dormitories and apartments for physicians and nurses. It is said that it will cost $500,000, and that Mr. Widener's instructions are to make it ideal for its purpose, regardless of expense.

NEW YORK

New York City

New Pavilion for Thoracic Surgery Opened.—The trustees of the German Hospital and Dr. Willy Meyer have announced the completion of a pavilion for thoracic surgery. This pavilion was opened for inspection April 8.

Babies' Hospital Ready.—The new babies' hospital of the Brooklyn Children's Aid Society is ready for use when the organization opens its Seaside Home at Coney Island for the season on June 20. There are accommodations for 100 patients and all kinds of cases will be taken.

Medical Society Can Try Physician.—The injunction obtained by Dr. Louis A. Ewald, to restrain the county society from trying him on charges of having changed the records of Sydenham Hospital so that it appeared that he had performed more operations than he really had done has been dismissed by the Appellate Division of the Supreme Court, which held that the society had the right to try the physician on the charges.

Control of Venereal Disease.—At a recent meeting of the Board of Health a resolution was adopted which expressed the sense of the Board of Health that the early adoption of a comprehensive plan for the sanitary control of venereal diseases is necessary for the protection of public health and called on the medical advisory board to submit recommendations. The resolution has committed the Board of Health to a definite request that the city erect a public hospital for such diseases.

Lectures for Physicians.—The following lectures will be given in the auditorium of the Educational Alliance on East Broadway: April 9, Dr. Albert A. Berg on "Lodge and Contract Practice"; April 17, Dr. William K. Polk on "Medical Ethics and Their Application to Practice"; April 23, Dr. Joseph Brettauer on "The Secret Division of Fees," and April 27, Dr. Sigismund S. Goldwater on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only and will begin at 8:30 p. m.

Memorial Meeting to Dr. Janeway.—The regular meeting of the Academy of Medicine on April 6 was devoted to addresses commemorative of the character and work of Dr. Edward G. Janeway. Dr. Francis Delafield spoke of him as the "Physician"; Dr. William H. Welch as the "Pathologist"; Dr. Abraham Jacobi as the "Consultant," and Dr. Joseph D. Bryant as the "Colleague and Friend." It was suggested by several of the speakers that a fitting memorial of Dr. Janeway be placed in the Academy of Medicine.

Buffalo

Increased Salaries in Health Department.—The salary of the health commissioner has been increased to $5,000, and a total of $12,000 a year in increases in salaries has been allowed in the department.

New Buildings for Hospital.—Concerted efforts are being made to raise a fund of $200,000 for the erection of new buildings for the German Deaconess Hospital, and of this amount $40,000 has been subscribed up to date.

City Hospital Site.—The question of a site for the new city hospital is still undecided. An 80-acre tract at West Farm has been offered the city for $225,000, and a tract of the same acreage at the driving park, for $325,000. These offers are still under advisement.

Personal.—Dr. Roswell Park has returned home.——Dr. George B. Stocker has been appointed deputy medical examiner for Erie County.——Dr. John D. Howland has been appointed medical superintendent of the Erie County Hospital.——Dr. Arthur C. Schaefer, assistant health officer, has been appointed a member of the medical staff of the Seventy-Fourth Infantry, N. G., N. Y.

NORTH CAROLINA

Medical Society Moves.—The Buncombe County Society has moved its library and office furniture to the rooms of the Asheville City Health Department and has made arrangements to have the library and reading room kept open constantly.

Personal.—Dr. Peter J. Gorman has been appointed superintendent of the State Hospital for Curable Consumptives, Aberdeen.——Major Eugene B. Glenn, M.C., N.C.N.G., Asheville, has been designated to attend the army maneuvers in Texas and has left for the frontier.——Dr. Hubert A. Royster, Raleigh, has closed a successful campaign for securing $75,000 for the erection of a new Y. M. C. A. building in that city.——Dr. Jacob H. Shuford has begun the erection of a hospital at Hickory.

PENNSYLVANIA

New Members of Board.—Governor Tener sent to the senate, April 3 the following nominations: Drs. Winters D. Hannaker, Meadville, and George A. Knowles of Philadelphia, to be members of the Board of Medical Examiners, representing the Medical Society of Pennsylvania.

County Bulletins.—The twentieth in the series of county papers issued in Pennsylvania is *The Bulletin of the Lancaster City and County Medical Society*. The *Bulletin of the Allegheny County Medical Society* is not only to change from a monthly to a weekly, but is to reach members of medical societies in adjoining counties as well as its own.

Philadelphia

Corinna Borden Keen Research Fellowship.—Graduates of the Jefferson Medical College who may wish to compete in this contest, for which a fund of $1,000 is available, should apply to the dean, Dr. James W. Holland, Walnut and Tenth Streets, Philadelphia.

Fire at Blockley.—The laundry at the Philadelphia General Hospital which was badly damaged by fire on April 6, is already being rebuilt. The damage to the structure is estimated at nearly $200,000. The short-circuiting of an electric mangle is believed to have started the fire.

Quarantined.—The Italian liner *Verona*, with 797 passengers was detained at Lewes, for examination for small-pox. Four men broke quarantine and the Philadelphia police were asked to assist in capturing them. Two were caught and examined by Dr. Andrew A. Cairns, of the board of health, and found to have been vaccinated.

Gift to Hospital.—C. Hartman Kuhn has conveyed the property, 1713 Summer Street, which he recently purchased for $14,250, to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases at Seventeenth and Summers Streets, as a memorial to his father, Hartman Kuhn. It is to be known as the Hartman Kuhn Memorial Building.

Former Foreign University Students' Meeting.—The Spring "Kommers" of the Philadelphia Branch of the Union of Former German University Students now residing in America will be held April 19 at the Hotel Walton. The guests of honor will be the members of the American Gastroenterological Association.

Personal.—Frederick W. Heyl, a druggist, has been appointed special examiner of drugs, medicines and chemicals.——Dr. Alfred Stengel, professor of clinical medicine in the University of Pennsylvania, was made professor of medicine of that institution April 4.——Dr. Henry K. Pancoast, formerly lecturer on skiagraphy at the University of Pennsylvania, has been appointed professor of roentgenology.——Dr. T. Turner Thomas, an associate in surgery, was appointed associate professor of applied anatomy.——Dr. Morris Longstreth will leave next month for a summer in Europe and on his return will make Boston his home.

Tuberculosis Conference.—The first Pennsylvania Conference of Tuberculosis Workers was held April 7 and 8. Dr. Charles J. Hatfield, Philadelphia, president of the Pennsylvania Society for the Prevention and Study of Tuberculosis, presided. The first session considered "A Program for an Antituberculosis Society which Employs no Paid Workers." The function of city, county and state in controlling tuberculosis was also a subject for general discussion and at the closing session, the "Opportunity and Need for Social Service in Antituberculosis Work" was discussed. The educational exhibit of the Pennsylvania society was presented for the visitors' inspection.

WASHINGTON

Protest Against Removal of State School.—At a meeting of the citizens of Medical Lake, a protest was made against the Bassett bill which provides for the removal of the State School for the Feeble-Minded to the west side.

Opposes Publicity.—The Spokane County Medical Society at its March meeting adopted a resolution requesting the lay papers not to publish notices of operations or personal items regarding physicians and their treatment of cases.

Nurses on Strike.—Refusal to grant an increase in wages to the nurses in the King County Hospital, Seattle, resulted in a strike of twelve nurses, which left the 250 patients in the hospital to be cared for by the superintendent and two nurses who declined to join in the strike.

Personal.—Dr. Alexander H. McLeish, Seattle, assistant superintendent at the Western Washington Hospital for the Insane, Fort Steilacoom, has been appointed superintendent of that institution and Dr. Albert C. Stewart, Tacoma, has been appointed the assistant.——Dr. Willis H. Corson, Seattle, has assumed charge of the King County Hospital.——Dr. William M. Newman has been appointed police surgeon of Spokane, vice Dr. John H. O'Shea

WISCONSIN

Counties Would Build Sanatoriums.—Winnebago, La Crosse, Marathon, Eau Claire and Kenosha counties are awaiting the action of the legislature relative to their right to erect sanatoriums for the care of patients with tuberculosis. La Crosse has already appropriated $5,000 for the erection of its sanatorium.

Personal.—Dr. Samuel G. Higgins, Milwaukee, assistant surgeon medical inspector, has resigned.——Dr. Albert J. Pullen has been elected president of North Fond du Lac.——Dr. Mazyck P. Ravenel, Madison, has been appointed by the United States Live Stock Sanitary Commission a member of the committee to investigate hog diseases, and especially hog cholera.——Dr. Frank A. Everhard has been appointed postmaster of Ripon.——Dr. and Mrs. Harry McElwee, Madison, have started for Europe.

GENERAL NEWS

Association on Medical Museums.—The fourth stated meeting of the International Association on Medical Museums was held in the Auditorium, Chicago, April 13, under the presidency of Dr. Alfred S. Warthin, Ann Arbor, Mich. The first part of the meeting was devoted to papers, and the second to a symposium discussion of the Experience Bulletin on the preservation of museum specimens in their natural colors, and this was succeeded by demonstrations of specimens and apparatus.

National Tuberculosis Meeting at Denver.—The annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Denver June 20 and 21. Members of the American Medical Association may find it convenient to attend the meeting in Denver on their way to the Los Angeles meeting. Denver may be reached by the way of the regular trains previous to the national tuberculosis meeting, and then the special trains provided for the Los Angeles meeting may be joined at Denver or at some other point in Colorado.

Proctologic Program.—The American Proctologic Society will hold its thirteenth annual meeting at Los Angeles, June 26 and 27, with headquarters at the Hotel Alexandria. The preliminary program includes eighteen titles. The subject of the presidential address by Dr. George J. Cook, Indianapolis, will be "Proctologic Recommendations." A symposium is to be held on "Constipation," taking up its etiology, physiology, bacteriology and urinary findings, pathology and diagnosis, sequelæ, including autointoxication, psychotherapy, mechanical, electric treatment and massage, non-surgical and surgical treatment.

Health Report of Philippine Islands.—The eleventh report of the Bureau of Health of the Philippine Islands, presented by Dr. Victor G. Heiser, U. S. P. H. and M.-H. Service, Director of Health, contains the following recommendations for the improvement of the health service of the Philippine Islands: that the legislature enact a law for direct insular control of the Municipal Health Service; that a law for the commitment of the insane be passed; that the Manila charter be so amended that the cost of the abatement of nuisances existing on the property of private individuals, companies or corporations may be assessed against such property and become a prior lien on the same until paid; and that an extensive laboratory and research study of cholera be made with special reference to the influence of bacilli-carriers on the propagation of the disease, and also as to other means by which its perpetuation might be secured.

Annual Meeting of Territorial Association.—The eighth annual meeting of the Philippine Islands Medical Association was held in the amphitheatre of the College of Physicians and Surgeons, Manila, February 22 to 24, under the presidency of Dr. Benito Valdez y Salvadore, Manila. The election of officers was as follows: president, Dr. Robert E. L. Newberne, Manila; vice-presidents, Drs. Henry A. Shaw and Fernando Calderon y Roca, Manila; secretary-treasurer, Dr. Vernon L. Andrews, Manila; and councilors, Drs. Richard P. Strong and Benito Valdez y Salvadore, both of Manila. The presidential address was on "Electricity as a Powerful Therapeutic Agent." Dr. Fernando Calderon y Roca gave an interesting paper on "Infantile Beriberi," illustrated with lantern slides. Each morning before the beginning of the scientific program, a surgical clinic was held in the Philippine General Hospital by Drs. John R. McDill and Hans E. Schiffbauer.

Australasian Medical Congress.—The ninth session of the Australasian Medical Congress is to convene at Sydney, Australia, September 18 to 23, 1911. The meeting is organized under the patronage of the governors of the various states of

Australia, New Zealand and other prominent officials and scientists, and is to have twelve sections, with committees to report on hospital abuse, on contract practice and on syphilis. The secretary is Mr. Arthur Palmer, 121 Bathurst Street, Sydney, Australia.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 1, 1911.

Death From Being Blown Into the Air

At Bradford, a girl, aged 16, met death in an extraordinary manner. While in the playground of her school she was caught by a veritable tornado which carried her into the air. When she fell she sustained injuries so severe that she quickly succumbed. At the inquest evidence was given by the assistant school caretaker that the playground is in a very elevated position and that on several occasions he had seen girls blown off their feet but never actually into the air. In his thirteen years' experience he had never seen wind so violent as on the morning of the fatal accident. Another witness who was waiting for a car in front of the school said that he saw the girl in the air, her skirts blown out like a balloon. She was from 25 to 30 feet in the air, just above the school balcony (the latter, the coroner remarked, was 20 feet high). The caretaker said that he had often seen girls blown down in the school-yard and pinned against the wall, and frequently had to assist them into the school. The physician who was called found the girl unconscious and pulseless, suffering from severe concussion of the brain and compound fractures of the lower jaw, right arm, wrist and thigh. It appeared that she was wearing a pair of bloomers with an ordinary skirt but without petticoats. The jury returned a verdict of "died as the result of a fall caused by a sudden gust of wind."

The Decline of Tuberculosis in Scotland

Prof. Matthew Hay, health officer of Aberdeen, states that tuberculosis has been declining in that city for fifty years, although a decline did not begin to be felt in Scotland as a whole until after 1870. It began earlier in towns than in the rural districts. The decline began long before the germ origin of the disease had been demonstrated by Koch, although the infectious character of the disease had never been without believers. A remarkable fact is that the rate of decline was almost as great before sanitary precautions were taken against infection as since they were taken. It was plain, therefore, that the ameliorating agencies had been of a general and not of a specific character. No disease is so amenable to general hygienic conditions as tuberculosis. Eminent authorities have attributed the fall entirely to the increasing segregation of consumptives in institutions. But this applies only to the second half of the period of the decline. It seems extraordinary that the professor in coming so near the explanation of which he was in search as to describe it as a "general ameliorating agency," should have missed it. The period of fifty years to which he refers corresponds with the "free trade" epoch of this country, during which, in consequence of the removal of all taxes from food and all other commodities, an enormous increase has taken place in the prosperity of the people. Cheap food and higher wages were the causes.

Typhoid Traced to Fish Contaminated by Sewage

That typhoid fever may be due to sewage-contaminated shellfish, such as oysters and cockles, is now well-known, but that vertebrate fish may be similarly contaminated is a new theory. Sir Shirely Murphy, the health officer of London, has presented a report confirming the suspicion that has been entertained for ten years that plaice, which is largely supplied in the fried-fish shops, is a cause of typhoid fever. The investigation has been performed by Dr. Hamer, medical officer of the county council for special purposes, and is a remarkable piece of careful work. In the autumn of last year an outbreak of typhoid occurred in the East End of London; about 300 cases were reported from the thirty-third to the forty-second week. Only about 100 could be attributed to the causes ordinarily operative at this time of the year and, therefore, it was inferred that the remaining 200 must have been due to some special cause. The 200 cases showed a tendency to develop in clusters or groups, of which there were thirty-three. Water, milk and mussels were excluded as causes. When more than one case occurred in the same household the dates of onset were within a few days of each other, suggesting that the infection had been introduced into the house at the same time. Among seventy-nine cases occurring in Bethnal Green (a poor East End borough) sixty-eight patients gave a history of having eaten fried fish. Within the month of the onset, and of fifty cases in an area of special prevalence all the persons had eaten fried fish. Within the special area there were twenty-seven fried-fish shops, and of these it was found that three had been specially frequented by the persons attacked. All these shops obtained their supply from the great fish-market of Billingsgate. The fish was plaice and what is known as "late steamer fish," i. e., the cheaper fish which remains after the higher-priced fish has been disposed of. This fish is usually bought by fish friers. In the fish trade of London there is no systematic control by the sanitary authorities, such as is regarded as necessary in the case of other foods, though action has been taken as regards shellfish when they were shown to be a source of typhoid. Plaice appears to be the only fish used by the vendors of fried fish which is not gutted as a matter of course at sea. This is largely due to the fact that as the food of the plaice is largely shellfish it is possible to retain the gut without injuring the fish. In recent years, the practice of gutting plaice is coming into vogue; but, as a rule, no attempt is made to gut small plaice. These are commonly caught in vast numbers in shallow parts near the coast and they sometimes enter tidal waters. The suggestion is made that they become infected by sewage in the estuaries of large rivers.

Severe Epidemic of Measles in London

A severe epidemic of measles has prevailed in London for some weeks and is the cause of nearly 200 deaths weekly. Indeed the records of deaths which extend back for seventy years show that measles has never before caused so many deaths. As measles is not among the diseases which are required to be reported, systematic attempts to deal with it are not possible on the same scale as other infectious diseases, such as scarlet fever and typhoid. The unusual course has been taken of admitting measles patients to the fever hospitals, where there are now 803 cases, but these form only a small fraction of the cases in the metropolis.

Hospitals and Tuberculosis

Measures for the state control of tuberculosis continue to increase. The notification of cases of the disease to the health authorities is not yet universally compulsory but local authorities have the power to make regulations rendering notification compulsory in their districts. In 1908, the government issued regulations providing for the notification of pulmonary tuberculosis occurring among the inmates of poor law institutions, or among persons under the care of district medical officers. An order has now been issued embodying further regulations to provide for the notification of pulmonary tuberculosis occurring among the in-patients or out-patients at hospitals or similar institutions for the treatment of the sick which are supported, wholly or partially, otherwise than by the contributions of the patients.

Bill to Insure Greater Safety in Coal Mining

Recent colliery disasters, particularly the one at Whitehaven, in which, as the result of an explosion, over 300 men perished (previously reported in THE JOURNAL), have directed the attention of the government to measures for ensuring greater safety. Mr. Churchill, the Home Secretary, moved in the House of Commons the second reading of a coal mines bill which has been agreed to without a division. He called attention to the fact that a modern colliery with its elaborate plans for getting coal and bringing it to the surface, and for transmitting power for a long distance underground, and for forcing great volumes of air through passages many miles in length is one of the most remarkable examples of human activity. There are employed in the coal mines of the United Kingdom over 1,049,000 persons, of whom 846,000 are employed underground. This accounts for a substantial portion of the whole of the inhabitants of the British Isles. His bill deals with the health and safety of that large number of persons and is the result of a government commission appointed in 1906, and composed of both miners and mine owners, which made a prolonged and exhaustive inquiry into the whole condition of coal mining. The bill also comprises a number of amendments suggested by the government mining officials. It is divided into eight parts: management, safety, health, accidents, regulations, employment, inspection and supplemental. The death-rate from accidents in coal mines, which has been going down for over half a century, ceased to fall five or six years ago and last year there was a grave rise, 1,620 persons being killed in coal mines. The bill deals with all the main causes of accidents. First there are the dangers that arise in the shaft from improper raising and lowering of the cage, or breaking of ropes

and chains. These the bill proposes to meet by providing that no winding rope shall be used for more than three and one-half years, and that no rope which has been spliced shall ever be used for raising or lowering persons. Overwinding, the cause of many accidents, is provided against by a greatly improved system of controllers and brakes. Another important provision forbids materials and tools being carried at the same time as men are wound up and down. Provisions are also made for ensuring that the shaft is kept in good repair. To prevent accidents from defective signaling there is a provision which secures a uniform system throughout the country. Coming to the ordinary risks to which the miner is exposed, 234 persons were killed last year by accidents connected with hauling or being nipped between the trucks and the walls, or by being run over. The bill requires that adequate space be provided between the walls and the trucks and sufficient refuges prepared. There are various complicated provisions making the hauling of coal less dangerous. The haulage road is too often the reserve alley which is the sewer of the mine by which obnoxious gases escape. The bill provides that there shall be another means of exit, and that in new mines there shall be two inlets, one for haulage and one for traveling. Proper apparatus for extinguishing fires and preventing accumulation of combustible material must be provided. To prevent the danger from falls of earth and coal, to which one-third of fatalties in mines are due, no man shall be allowed to work under an unsupported roof. To prevent the danger of gas explosion no man shall be allowed to work in any part of a mine where there is more than 2.5 per cent. of gas. There is also a provision for compulsory searching for matches. The use of electricity in mines is prohibited where it would be attended with risk.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, March 31, 1911.

The First Meeting of French Medical Journalists

This recent meeting was organized by the Association des journalistes médicaux français.

The first paper, by Dr. Ausset of Lille, was on the facilities which ought to be given to medical journalists in reporting congresses, etc. Resolutions were passed that summaries of the main addresses ought to be sent to all the journals eight days before the opening of each congress and that medical journalists should be given reduced rates on the railways.

Dr. Dieupart of Paris read a paper on the unauthorized assumption of the title of doctor by writers in the lay press, whose articles usually have an advertising purpose. A resolution was adopted warning editors against self-styled doctors. This resolution will certainly amuse the editors, who divide with such contributors the proceeds of their articles.

A paper was read by Dr. Vitoux of Paris on the unauthorized reproduction of medical articles. There are here medical journals which depend solely on reprinting articles without any authorization whatever, often even without credit. A resolution against the practice was passed.

It is too much to expect that this work will be of much use, since the Association des journalistes médicaux français is far from comprising the editors and publishers of all the most important publications.

Increase of Mortality from Diabetes

At one of the last sessions of the Académie des sciences, Dr. J. Le Goff of Paris called attention to the considerable increase of deaths from diabetes in Paris and in the department of the Seine. According to the *Annuaire statistique de la ville de Paris*, there were in 1880, 128 deaths caused by diabetes, or an average of 0.644 per 10,000 inhabitants; five years later, in 1885, the number of cases had doubled; in 1909 there were 525 or 1.93 per 10,000 inhabitants. Thus in thirteen years the number of deaths due to diabetes has quadrupled. The number of cases of diabetes in Paris has also increased considerably. It may be said, indeed, that formerly many cases of diabetes were not recognized. However, methods of analysis of sugar in urine have not varied for more than fifty years, and even before 1880 the pharmacists ascertained the presence and the amount of glucose by the Fehling method. This argument, therefore, has less value than has been attributed to it. If it be admitted that the number of cases has not varied for thirty years, it must be concluded that the mortality among the patients has quadrupled. Dr. Le Goff believes that the number of diabetics is increasing and the mortality among these patients is likewise increasing. To what should this considerable increase of a disease which was hardly known at the beginning of the last century be attributed? There are several causes. Persons who lead sedentary lives and take no physical exercise are most liable to become diabetics. Moreover, it is a question if the increasing consumption of sugar may not be regarded as one of the causes in the increase of diabetes. In fact, up to the seventeenth century, sugar was considered a medicament and was sold by pharmacists only. In the course of the eighteenth century, saccharose was obtained from the beet. The continental blockade gave a great impulse to the culture of this plant and during the whole of the nineteenth century, the consumption of sugar increased constantly. Thus in 1910, the amount consumed per person was 40.710 kg. in England; 31.4 kg. in America; 26.77 kg. in Switzerland; 19.11 kg. in Germany; 18.97 kg. in the Scandinavian countries; 17.68 kg. in Holland; 15.7 kg. in France, and 12.64 kg. in Belgium. It is in the countries in which the greatest amount of saccharose is consumed that the greatest number of diabetics is found.

Danger to Europe in the Defective Sanitary Condition of Russia

Dr. Lowenthal read a paper before the Académie de médecine on March 28, from which it appears that Russia is the only civilized country where cholera is endemic and epidemic. The epidemic of 1910 caused 130,000 deaths there. Preventable diseases affect one person out of four in Russia and a third of the patients die. In European Russia alone, there are more deaths from epidemic diseases than in the entire population of Europe, not including Turkey, which possesses no statistics. If the medical statistics on Russia and Japan are compared, the latter are seen to be much better, and this observation explains the difference of the sanitary condition of the two armies in the late war. The lamentable condition of Russia was due to the fundamental ignorance among the population, who did not understand the most elementary rules of cleanliness and hygiene. Moreover, while the rural population is entitled to free medical aid, the extent of the territory under the care of a single physician (on an average, 40,000 inhabitants scattered over 7,200 square kilometers or about 34,000 square miles), the distance of hospitals (sometimes by hundreds of kilometers), the absence of railroads, render this medical assistance precarious. Altogether, the sanitary condition of the Russian empire constitutes a permanent danger to Russia herself and a permanent menace for Europe and the entire world.

The Preparatory Schools of Medicine and Their Rôle in Medical Instruction

At the same session, Dr. Motais, professor at the Ecole preparatoire de médecine d'Angers, explained the advantage presented by the preparatory schools of medicine, of which there are twelve in France, at Amiens, Angers, Besançon, Caen, Clermont, Dijon, Grenoble, Limoges, Poitiers, Rheims, Rouen and Tours; there are altogether 641 pupils. Thus, there is no crowding in the ampitheaters of anatomy or the hospitals, consequently, these schools offer more favorable conditions for the first years of medical education than the more crowded scientific centers of the great cities. Professors Blanchard, Guyon, Gariel and Pouchet, of the Faculté de médecine de Paris, like Dr. Motais, believe in these provincial schools. Gariel and Pouchet declare that they have often given examinations in these schools and have observed the superiority of the candidates over the pupils of Paris. Dr. Bertrand, inspector general of the marine sanitary service, emphasized the services rendered by the schools of naval medicine, the suppression of which is demanded each year in parliament.

Reform in Medical Examinations

Up to the present the candidates at the various examinations of the Faculté de médecine were able, by consulting the announcements posted on the walls of the school, to learn at least fifteen days in advance the names of the members of the examining board. It will not be so hereafter, for the counsel of the school has decided that the names of examiners shall be hereafter kept secret. This reform has been undertaken to insure greater impartiality of examinations and to avoid abuse of the recommendations with which some candidates overwhelm the members of their jury, once known. Moreover, certain members of the examining boards, Professors Nicolas and Gariel, for example, who were known to be particularly severe, were avoided, many candidates failing to present themselves to undergo examination when they were to have these examiners. The students are much excited and have taken measures to obtain the reestablishment of the former state of things, but they will receive a categorical refusal.

Personal

At its session of March 28, the Académie de médecine elected a member in the section of pathologic anatomy to replace Professor Raymond, who died last September; Dr. Brault, physician of the Lariboisière Hospital, was chosen. Dr. Brault was one of the most active collaborators of the late Professor Cornil, and has published a number of works, especially on the pathologic anatomy of the kidneys, the liver and the arteries.

The Clinics of Industrial Accidents

In the last general assembly of the Syndicat médical de Paris, Dr. Pelisse read a report on certain so-called clinics of industrial accidents which do not confine themselves to receiving injured working men but employ very dubious expedients to invite such patronage. They are veritable shops with great show-windows decorated in extravagant colors to catch the eye of passersby, reinforced by striking radiographs, and sometimes harboring self-styled lawyers of more or less shady reputation who seek to extort from the insurance companies three or four times what they ought to pay. The most usual method of attracting patronage is to give each injured workman who comes to the clinic for the first time a certain sum of money. Another is to give a premium to everyone who brings there an injured workman.

After hearing Dr. Pelisse's report, the *syndicat* resolved that the attempt to attract victims of industrial accidents was reprehensible and unprofessional, and that every physician convicted of using such means should be excluded from professional societies.

Present Condition and Enlargement of the Beyrouth Medical School

In 1881 the French government and the superior of the Jesuit mission in Syria came to an understanding which resulted in the creation of the Faculté catholique et française de médecine et de pharmacie de Beyrouth. It was agreed that the Jesuits should have the direction and administration of the institution and that an annual allowance from the French government should guarantee the payment of the salaries of the professors and the maintenance of the laboratories and the library.

The diplomas are delivered and the control is assured by professors sent from France each year. The courses opened in 1883. The buildings, the teaching body and the equipment of the laboratories were planned for a maximum of sixty students, which no one anticipated would be exceeded in the future.

The school, however, has undergone considerable development. To-day, after twenty-seven years of existence, it has more than 250 students and, consequently, the buildings, equipment and faculty and, especially, the hospital facilities, are entirely inadequate. The administrators therefore have planned (1) to construct new buildings large enough to give 400 pupils the best and most modern medical instruction, and (2) to provide the hospital needed by the school with a sufficient number of beds for the general clinics of medicine and surgery and special services for children's diseases, cutaneous diseases, syphilis, diseases of the eye and an isolation pavilion for contagious diseases. The construction and installation of the new buildings will be undertaken by the school at its own expense; but it will be unable to do more. It therefore appeals for means to construct the hospital to the French government, which will probably respond favorably and will retain the control of the school.

Large Bequests to Scientific Institutions

In France, unlike the United States, scientific institutions are rarely aided by private gifts and bequests from rich men. A strong impression has, therefore, been created by the will of M. Loutreuil, a rich manufacturer who recently died leaving the greater part of his fortune to science. M. Loutreuil bequeathed $20.000 (100.000 francs) to the Institut Pasteur; $200.000 (1.000.000 francs) to the Caisse des recherches scientifiques; $500.000 (2.500.000 francs) to the Université de Paris. Moreover, desiring to contribute to the progress of the sciences taught or studied by scientists and independent investigators in other institutions of higher scientific culture, and being impressed by the meagerness of their resources in comparison with what they have in other countries, M. Loutreuil bequeathed $700.000 (3.500.000 francs) to the Académie des sciences, to be distributed to the best advantage.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, March 24, 1911.

Personal

Professor Lucae, formerly for many years director of the ear clinic in Berlin, died March 17, at the age of 76. In view of the present demand from many sources in Germany for a combination of otology and laryngology, it is of historic interest that Lucae in his thesis for the doctorate took as his theme the "Technic and Importance of the Laryngoscope Introduced into Medical Practice in the Year 1858." He entered his special field at the suggestion of Virchow. After he had worked in Vienna, chiefly with Politzer, and in London with Toynbee, he continued his studies in Berlin and became connected with the faculty here in 1866. He soon founded a policlinic for ear diseases, and in 1881 an otologic clinic. Lucae made important contributions to all departments of otology, of which his treatises on the origin and foundation of the subjective sense of hearing and the importance of sound conduction by the bones of the head are worthy of special notice. In his work he was materially aided by his unusual musical talent. Some years before his death he retired from his official position, but still took an active part in the transactions of the Berlin Otologic Society.

Berlin otology has suffered another loss in the removal from the city of the well-known Professor Hartmann, who has retired to his native place, Heidenheim in Würtemburg. As an evidence of the esteem and popularity which Hartmann has enjoyed in Berlin, a banquet was given in his honor.

Professor Busse of Posen has recently accepted a call as successor of Professor Schmidt in the chair of pathologic anatomy at Zurich.

The Berlin Medical Society on the Vaccination Law

As I mentioned in a previous letter, a motion has lately been introduced and discussed in the Reichstag to the effect that a conscience clause with regard to vaccination should be introduced, similar to that in force in England, namely, that anyone who shall declare to the judge that vaccination is contrary to his conscientious belief, shall not be compelled to have his child vaccinated. Correctly estimating the danger which this clause would bring to the vaccination law, the Berlin medical society at its last session adopted a resolution proposed by the well-known pediatrist, Professor Baginsky, which reads: "In view of the latest discussion in the Reichstag, the Berlin Medical Society declares its conviction that it is absolutely necessary to maintain the German vaccination law of April, 1874, intact, and that especially the introduction of the English conscience clause would be attended with the gravest danger to the German people." It is remarkable that none of the antivaccination physicians, who have formed themselves into a special society, were present at this meeting. The resolution was adopted unanimously without debate. To this antivaccination medical society, as a matter of course, belong only members who have always opposed the so-called "school medicine," and are partisans of the *Naturheilmethoden* or Nature cures. Presumably, they hope to do better business in this way.

Suicide in Prussia

Suicides increased in Prussia in 1909. There were 8.422 persons who took their own lives, as compared with 8,231 in 1908. Among these there were 6.466 men (in 1908, 6.371) and 1.956 (1.860) women. There were 21.6 suicides per 100.000, as compared with 21.4 in 1908, 20.2 in 1907 and 19.5 in 1906. The relative number of men was 33.6 (in the previous year 33.5), and of women 9.9 (9.6). The increase was much more marked among women than among men. There is a relative increase of suicide with advancing age. Among 100.000 persons from 10 to 15 years of age there were 1.7 (in 1908, 0.7) suicides; from 15 to 20, 16.9 (15.0); from 20 to 25, 27.3 (26.2); from 25 to 30, 20.7 (20.4); from 30 to 40, 24.2 (24.9); from 40 to 50, 37.4 (39.2); from 50 to 60, 59.9 (55.1); from 60 to 70, 56.3 (56.6); from 70 to 80, 55.8 (61.0); from 80 to 90, 54.1 (55.7). It may readily be seen from the figures that the number of youthful suicides has markedly increased since 1909. Indeed, while we find this increase in the period from 10 to 15 years in which with the small absolute number a few cases more or less may occasion a remarkable change in the relative figures, we find also that in the period of from 15 to 20 and from 20 to 25 years, where the numbers are larger, the relative figures are larger than they have been in any previous year. In accomplishing self-murder, hanging plays the principal rôle; 56.1 per cent. of men and 38.1 per cent. of women suicides hung themselves;

11.4 and 28.8 per cent., respectively, drowned themselves; 20.2 and 3.2 per cent. shot themselves, and 6.1 and 19.3 per cent. took poison. Poisoning and drowning, together with jumping from a height, are the modes of suicide more frequently selected by the female sex than by the male, while, on the other hand, six times as many men as women end their lives by shooting.

Thirty-Second Congress of Balneology at Berlin

RADIUM IN THERAPEUTICS

The importance of radium in therapeutics formed an especial subject of discussion at the thirty-second congress of balneology held in Berlin, March 2 to 6. The well-known physicist, Professor Marckwald, treated the subject from the physico-chemical standpoint. Of the three kinds of rays produced by radium, the alpha rays possess no power of penetration, the beta rays are cathode rays and have considerable penetrating power, while the gamma rays, which are similar to the Roentgen rays, have the greatest penetrating power. Radio-active elements are such as are in constant process of destruction. The most important forms of radium, especially with reference to balneology, are those which have the shortest life period. Dry radium salts give off no emanations, but they may become a source of emanations if one simply breathes on them. There are two radio-active families, those derived from uranium, and those from thorium. The former yield short-lived decomposition products or emanations, the latter long-lived; therefore, the uranium products are of greater therapeutic importance. Heretofore not enough attention has been given to the decomposition products in the measurements. The estimation of springs for their radio-active value should not be undertaken until after three or four hours. In conclusion, the speaker emphasized the necessity for a single and international standard of unit of measurement for radium. Kionka, professor of pharmacology in Jena, who has made a special study of radium, described its importance from a biologic and therapeutic standpoint. The tissues are markedly affected by radium, so that all forms of tissue irritation from simple reddening to necrosis can be produced on the skin.

RADIUM IN TREATMENT OF GOUT AND RHEUMATISM

The influence of radium on uric acid is therapeutically important, Kionka continued, as radium converts this substance from an almost insoluble into an easily soluble form. Further, under the influence of the emanations the purin metabolism is accelerated. These two properties of radium are of the greatest importance in the treatment of gout. The emanations seem to have no special affinity for blood, like that of oxygen for hemoglobin. The best form of introduction of radium is by inhalation, as the radium also leaves the body with the expired air. Drinking and bathing in radio-active water seem to be likewise effective, but far less than the inhalations. The strongest radio-active springs known to date are those at Landeck, Johannisthal and Gastein.

Dr. Fürstenberg, assistant at the university hydrotherapeutic institute, named as the chief indications for radium, gout and rheumatism. He has noted a hypnotic action of the emanation and a temporary slight increase in the body temperature. A Kreuznach physician, Dr. Eichholz, opposed the general view of the advantage of the inhalation method over the method of drinking. Dr. Ruhemann, a Berlin physician, has had radio-active biscuits made by incorporating a solution of 1,000 or 1,500 units of radio-active salts in zwieback, in which they could be demonstrated for three months. It was asserted by Dr. Plesch, an assistant of Professor Kraus, that the blood-pressure sinks in the emanatorium, during inhalation of the emanations, and that the emanation behaves in the blood as an indifferent gas. This gas is absorbed only to a very slight extent from the intestine, and does not reach the arterial blood, as it is immediately excreted by the lungs.

CARBONATED BATHS

Professor Goldscheider, the present director of the university policlinic for internal medicine, presented a communication on the action of carbonic-acid baths. He opposes the explanation of the action of carbonic-acid baths given by Senator and Frankenhäuser, as this theory does not take into consideration the action of carbonic acid on the nerve terminals, which has been discovered experimentally by him. Carbonic acid acts chemically as a gas on the endings of the thermal nerves and hinders the escape of heat from the skin. In the carbonic-acid bath the conditions are such that the water first affects the skin and withdraws heat from the body; then here and there bubbles of carbonic-acid gas take the place of the water, but do not remove so much heat from the skin. A certain contrast of temperature thus arises. But now the bubbles of carbonic-acid gas do not lie directly on the skin, but there remains between the skin and the carbon dioxid bubble a very thin layer of water, which is of very great importance for the whole question. If the Senator-Frankenhäuser theory was correct, an air bath would be similar in its action to a carbonic-acid bath. But this is not the case. The carbonic-acid baths have a peculiar action depending on the chemical properties of carbonic acid.

BRIEF HOT PLUNGE BATHS

Privat-Docent Dr. Determann, the well-known director of the sanatorium at St. Blasien, discussed hot plunge baths. Hot plunge baths at the temperature of 37 to 45 C. (98 to 113 F.) produce a marked stimulation of the functions of the organism, and most of all increase the capacity for muscular exertion. The physiologic action of hot baths of longer duration is thereby avoided. In the short hot plunge bath there occurs first a severe terrifying sense of pain, with a brief pallor of the skin, which is rapidly followed by hyperemia. The reaction in the hot bath follows without any active effort; patients have never taken cold after the hot plunge bath. These brief hot plunge baths are indicated in spinal neurasthenia, in certain forms of asthma in young people, and in conditions of peripheral irritation and pain, such as neuralgias, especially those on a hysterical basis.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 23, 1911.

Care of the Teeth of Schoolchildren

A movement has recently been initiated in this country, as in England and America, to have the teeth of schoolchildren cared for. A preliminary report by a committee authorized to make investigation showed that fully 80 per cent. of the large number of children examined had defective teeth. In our country we have compulsory elementary teaching; therefore all Austrian children between 6 and 14 years of age, except a very few, who are educated at home and have to pass their examinations in the public schools, may be found in the schools. These distressing data have suggested the formation in Vienna of a society for the care of the teeth of schoolchildren (Gesellschaft für Schulzahnpflege), whose aims are endorsed by the government and teachers as well as by the professors. Within a few weeks, many hundreds of members have been recruited, and the society has taken up its work. No treatment is given in the schools. The teeth of the children will be examined in each school periodically (every four or six months) and those found defective will be marked out. The parents will be informed of the result of the examination, and for those who are really poor, certain dentist surgeons have consented to perform the necessary dental operations free of charge. The teacher of each class will be authorized to see if the recommendations of the dental expert have been observed by the parents or the child. It is intended to have instructive lectures on the importance of healthy teeth, delivered twice a year in each class before the children, and also to award small prizes to those who, at the end of the term, have normal healthy conditions in the mouth.

Appointment of Professors to the Vacant Clinics

As has been mentioned in a previous letter, those two men who have been considered as being the most acceptable candidates, have been appointed ordinary professors in the Vienna medical faculty: Professor Ortner from Innsbruck who will succeed Strümpell as chief of the third medical clinic, and Professor Chvostek, who will be made head of a new, fourth, medical clinic. The latter clinic is a necessity, since the number of students and also patients has lately increased to such a degree that the old clinics have become absolutely inadequate. The fourth clinic will open at the beginning of the winter term in October. Another vacancy is to be filled, that after Escherich. The medical faculty of the Vienna University has nominated as its candidates, Professor von Pirquet (who is at present in Breslau and was for some time in the United States), Professor Pfaundler, and Docent Dr. Hamburger of Vienna, in the order mentioned. All these men are Escherich's pupils and there is no doubt that the first-named physician will be appointed, while probably the third will be called to take a prominent place in a German university town.

Combating the Smoke and Dust Nuisance

On account of the increased traffic in and growing industrialization of this city, the amount of dust and smoke has become an unwelcome feature in Vienna. Especially the dust is a bad nuisance here. We have a large proportion of windy

days, hardly more than 27 days out of 365 without wind. The material with which the streets are paved is a kind of granite, which is quickly ground into fine sharp dust under the stress of street traffic. These two circumstances have been for a long time held responsible for the frequency of tuberculosis in Vienna, but all the efforts of physicians to procure a more healthful or scientific pavement have hitherto been fruitless. At last, a large and very influential association has been formed consisting of high officials of the state, of physicians, bankers and industrial men. This society has already succeeded in inducing the local municipal corporation to pave all new streets with a special non-dust-producing asphalt, while the old streets will be gradually converted also into asphalt streets. Furthermore, throwing dust out of the windows into the streets has been prohibited now by order of the police. The collection of household refuse, hitherto a fruitful source of most dangerous dust-clouds, has been made the object of a very thorough investigation, and several methods of dust-free collection are at present on trial. The society also fights the smoke nuisance. It has in this line two very encouraging results, for an amendment to the new building act of the city requires the installation of smoke-destroying apparatus in all new houses built after July 1, 1911, and the gradual installation of such in all factories within the precincts of Vienna up till 1913.

Miscellany

Vaccination Effective in the Philippines.—Another timely contribution to the value of vaccination is found in the report on small-pox and vaccination in the Philippine Islands by Dr. Victor G. Heiser, Director of Health in the Philippines, which was referred to editorially April 8, 1911, p. 1041. Dr. Heiser's report follows: During December a person afflicted with small-pox was transferred from San José, Antique, to the Island of Caluya, which is a small isolated island south of Mindoro, the inhabitants of which have heretofore not been systematically vaccinated. An old woman took some of the contents of a pustule from the small-pox case shortly before death and vaccinated a number of the inhabitants. Small-pox in epidemic form soon resulted. The population of Caluya and nearby islands is about 2.000. Approximately, 1,000 cases of small-pox occurred before the facts became known to the outer world. Vaccinators properly equipped were immediately sent to Caluya. They vaccinated 800 of the remaining 1,000 persons. Of these, not one contracted small-pox who had a successful vaccination that was 2 weeks old. Dr. Victor G. Heiser, Chief Quarantine Officer, visited ten families, with from five to eight members. In six of these, every member was stricken with small-pox. Physical examination showed that they had no vaccination marks. In two other families six persons were stricken and two escaped. Physical examination showed that of the six stricken members not one had been vaccinated. The two remaining members had successful vaccination marks. On inquiry, it was learned that they had visited Calapan a year previously and were vaccinated while there. In two other families that lived in the midst of a small-pox-stricken village, there were no cases of small-pox. Examination showed that they had good vaccination scars. Further inquiry elicited the statement that they had but recently come from another island where they had been vaccinated. In one house, one person was found with varioloid. On inquiry, it was learned that he had been vaccinated during childhood. Net result: Community of 2,000 population; 1,000 unvaccinated persons contract small-pox; 400 die; 800 are protected by vaccination; no cases occur after the incubation period was passed; no deaths occur. The remaining 200 are semicivilized and fled from the vaccinators, and their condition is unknown.

Morphologic Changes in a Mouse Carcinoma.—A systematic microscopic study was made by R. Kilduffe of the different generations of a carcinoma transplanted into white mice. The original tumor had developed spontaneously in a mouse. The sections studied covered a period of experimentation with the tumor extending from March, 1907, to June, 1910, and comprised all generations produced in that time. The sections were divided into four groups according to the history of the tumor. (a) Sections of the original tumor transplanted without experimental interference or modification, "the unheated series." (b) Sections of the tumor which had been heated to 44 C. for varying periods of time before inoculation through successive generations, "the long-heated series." (c) Sections of the tumor which had been heated before inoculation for varying periods of time as in (b), but through a shorter number of generations, "the short-heated series." (d) Sections of tumors, of which some generations had been heated for varying lengths of time, and other generations had not been heated, "the mixed series." The object of this investigation was to determine what changes in the morphologic character, if any, took place as a result of the various manipulations to which the tumor had been subjected before inoculation. This tumor was but slightly, if at all, affected morphologically by the experimental manipulations to which it was subjected, for no permanent morphologic change was produced through the influence of the physically injurious conditions to which it was exposed before inoculation. Kilduffe emphasizes the fact that the experimentally produced decrease in the energy of growth of these tumors did not change the alveolar character to an acinous one. A return to an adenomatous structure, described as a result of weakening tumor growth through transplantation into resistant animals, was not observed after a direct weakening of the growth through the influence of physical agencies.—*Journal of Experimental Medicine.*

Liver Necrosis of Chloroform Poisoning.—G. H. Whipple and S. H. Hurwitz, in the *Journal of Experimental Medicine*, report experiments on dogs and summarize their results as follows: Chloroform anesthesia for two hours or more will cause more or less central liver necrosis in dogs, depending on the length of the anesthesia and the susceptibility of the animal. If the fibrinogen of the blood of such an animal be estimated at intervals, it is found that this proteid shows a drop corresponding to the amount of liver necrosis. By administering chloroform, the fibrinogen may be almost eliminated from the circulating blood, and the poisoned animal may bleed for hours from small skin pricks or cuts. The liver can recover from a grave injury due to chloroform and return practically to a normal condition in about ten days. The fibrinogen reappears in the blood as the liver effects its repair. It seems that the quantity of fibrinogen present is a good indicator of the liver efficiency and a fairly accurate index of the amount of liver injury. Shortly after the recovery of the liver from an injury due to chloroform, one may find an excess of fibrinogen in the blood. In severe cases of chloroform poisoning, the calcium of the blood was normal or slightly increased, and the thrombin was normal. These experiments give no evidence that the formation of thrombin or prothrombin is dependent on liver activity. The hemorrhages of chloroform poisoning are due not to lack of blood clotting but to inefficient coagulation. The clot has not the body and toughness supplied by the fibrinogen, and is, therefore, unable to check even capillary hemorrhage. Fibrinogen is either formed in the liver or is wholly dependent on liver activity for its production.

Effects of Mechanical Agitation on Complement.—Under certain conditions, according to H. Noguchi and J. Bronfenbrenner, mechanical agitation destroys the complementary activity of guinea-pig serum. It is most injurious when carried out constantly at a temperature of 37 C., but it is extremely insignificant at 10 C. After the first few hours at 37 C., the destruction of complement proceeded much more rapidly, and after six hours it was almost complete. On the other hand, within one hour, shaking had almost no destructive effect on complement, even at 37 C. From this we may conclude that the several shakings which are necessary for fixation experiments during incubation do not modify perceptibly the outcome of the reactions. The rate of destruction of the complement of guinea-pig serum at temperature above 45 C. is progressively greater as it approaches 55 C., at which temperature the activity is reduced in thirty minutes to from one-thirtieth to one-fortieth of the original strength of the unheated serum; but it is not completely destroyed, as is commonly assumed. The velocity of destruction of guinea-pig complement when exposed to 55 C. for various lengths of time

is found to be quite irregular, and not proportional to the length of time. This irregularity, however, presents a certain rhythm, a period of greater destruction alternating with one of less destruction.—*Journal of Experimental Medicine.*

Mercury Bichlorid and Serodiagnosis of Syphilis.—H. Noguchi and J. Bronfenbrenner have made experiments to ascertain what effects a soluble mercurial preparation will have on the syphilitic antibody *in vitro*. As a mercurial preparation, they chose mercury bichlorid; and for the fixation test, the system of Noguchi. The effect of bichlorid of mercury was determined on (1) red blood-corpuscles, (2) complement, (3) antihuman amboceptor (rabbit), (4) syphilitic antigen (acetone insoluble tissue lipoids of human liver), and (5) syphilitic antibody. The hemolytic power of bichlorid of mercury was considerably reduced by mixing it with 0.05 c.c. of guinea-pig complement or with two units of the amboceptor serum on paper, but was not noticeably diminished by the antigen, which was used in doses of 0.0003 gram. It has no anticomplementary effect. On the contrary, the hemolysis was more complete and proceeded more rapidly in its presence. This is due to the injurious effect of bichlorid of mercury on the corpuscles, thus reducing the corpuscular resistance to the hemolytic action brought about by the complement and amboceptor. In the highest non-hemolytic quantity (0.0000025 gram) bichlorid failed to remove, to a noticeable degree, the syphilitic antibody, and the reaction in two strongly positive sera remained unchanged.—*Journal of Experimental Medicine.*

Neurasthenia in Children.—The "nervous," or "neurotic" child is, like the poet, "born and not made." He is often the child of neurotic stock, or his origin may be traced to alcoholism, tuberculosis, ill-health or poverty in the parent. Neurotics generally abound in families in which great ability or genius predominate, but also in those in which insanity, epilepsy and other neuroses are found. According to Riviere, in the *Practitioner*, the hall-mark of the "neurotic" seems to be an over-development of the emotional faculties; at the other end of the scale stands the "unemotional type," and necessarily all grades exist between these two extremes, so that the term neurotic may be qualified by "more" or "less," and, save in its higher grades, its possession may confer a blessing rather than a curse. To the higher grades of neurotic inheritance, however, a curse and a stigma attaches, and the penalty in sorrow and suffering greatly outweighs the reward, especially in childish years before the judgment comes into play.

Prognosis of Cerebrospinal Syphilis.—The prognosis of cerebrospinal syphilis is in general a serious one, owing to the frequency with which it resists treatment, and to the pronounced tendency to late recurrences and grave complications. Various factors affect the outlook. For instance, this is worse in cases in which the onset of the disease is many years after the infection, or in which other diseases or cachexias are present, particularly tuberculosis and alcoholism; it seems to be worse also in cases in which the early manifestations of syphilis were slight. Unfortunately there is not much reason to believe that thorough treatment in the early stages is a satisfactory guarantee against the later occurrence of cerebrospinal syphilis, but on the other hand energetic treatment at the onset of this certainly has an important influence on the course it will run.—E. Jones, in *Interstate Medical Journal.*

Cancer Investigation.—Experiment is rapidly advancing toward a stage at which the nature of cancer will be made clear, the influence of heredity, and of external factors, e. g., of all chronic irritants, defined; but a means of cure is not yet in sight. The only hope for the cancer patient still lies at present in the general practitioner being so suspicious of all lumps which cannot be explained that he will urge their removal as early as possible, and have them carefully examined by skilled microscopists. Here I would enter a protest against the snipping out of a little piece for diagnostic purposes, for experiment has shown how great is the danger of dissemination of cancer cells in the individual where they are "at home;" however difficult it may be to effect the transference of a cancer from one mouse, rat, rabbit or dog to another, the attempt always succeeds if the same individual be inoculated with his own tumor.—E. F. Bashford in the *Practitioner.*

Injection of Air in Treatment of Sciatica.—F. Ramond and his associates recently reported at the meeting of the Paris Société des Hôpitaux the results of different methods of treatment of sciatica as applied in sixty-five cases. Hypodermic injections of sterilized air were applied in thirty-three cases at the points where the pain was most intense, sometimes at the emerging point of the nerve, in the middle of the thigh, in the calf and occasionally a fourth injection at the sacro-iliac articulation. He injects about two-thirds of a liter of air at each point into the subcutaneous tissue, thus making a continuous emphysema from buttocks to ankle. The air is injected slowly and the relief from pain is immediate and usually constant; the pain returns, however, after eight or ten hours in the unsuccessful cases. The cure was permanent in four of the ten cases rebellious to other measures, and in thirteen of the twenty-three cases in which this was the first measure applied; four other patients were materially improved. A glass tube containing a little cotton is interposed in the rubber tube and bulb connected with the Pravaz needle. The only danger from this treatment is the possibility of air embolism, but this has never occurred, and it is easily prevented by injecting a little salt solution beforehand. If a little edema forms, this shows that the fluid has not entered a vein. The absence of blood if the syringe is pumped also shows that no vein has been entered. Ramond's conclusions from his experience with sciatica are that one method may succeed when all others fail, and that each should be given a trial.

Hematoma of the Adrenal Body.—This unusual case is reported by Case (*Proc. Path. Soc., Philadelphia*, December, 1910, p. 258), in a negress, aged 63, who was admitted to the Philadelphia General Hospital Dec. 29, 1909, and died Jan. 8, 1910. She suffered, while in the hospital, with mitral regurgitation, aphasia, paralysis of the left arm and incontinence of urine and feces. The most interesting finding at autopsy was the left adrenal which was about the size of a goose egg. It was dark red in color, with here and there patches of yellow, much divided and separated cortex, showing beneath the capsule. This enlargement involved approximately two-thirds of the organ, and was due to a comparatively old hemorrhage into the medulla, with here and there areas of fresh blood-clot. In addition, the microscope revealed a moderate proliferation of connective tissue about the clot, with thickening of the capsule. The kidney was arteriosclerotic and the aorta atheromatous.

Humidity in the Problem of Ventilation.—Air is more essential to life than food; good air is as essential as good food, and plenty of air has the same merit as plenty of food, says D. D. Kimball (*Annals American Academy of Political and Social Science*, March, 1911). In the process of respiration, oxygen is reduced in amount while the carbonic acid and water vapor are largely increased. Neither water vapor nor the carbonic acid, due to respiration, is injurious; but as an increase of carbonic acid in the air of an apartment is usually accompanied by a decrease in the amount of oxygen and an increase of water vapor, the percentage of carbonic acid is an index of the quality of the air. Apparently it is not altogether the chemistry of the air but its temperature, humidity, motion and, possibly, other physical properties unknown, which are the attractive features of outdoor air. It is becoming generally believed that when air contains a normal proportion of oxygen its temperature and humidity are of greater importance than the absence of carbonic acid. The proper control of the temperature of a room is not only conducive to health and comfort, but means a substantial saving in fuel. Headaches, dizziness, sickness, etc. are often symptoms of bodily heat retention due, chiefly, to high room temperature and lack of humidity. The relative humidity of outdoor air at other times than during storms varies from 50 to 80 per cent. and in the most arid desert is rarely as low as 30 per

cent., while a relative humidity of 48 per cent., that of Denver, is considered very dry. Air at zero F. and 50 degrees of relative humidity contains less than ¼ of a grain of moisture per cubic foot. The same air warmed to 70 F. without the addition of moisture would have a relative humidity of but 3 per cent. Its absorptive capacity is, therefore, immensely increased. If air at zero F., with a relative humidity of 50 per cent. is raised to 70 F. the relative humidity of the air in a house will be from 10 to 20 per cent. drier than the air of the driest desert known. If a room at 68 F. is not warm enough for a healthy person, we may be sure it is because the relative humidity is too low. With a zero temperature and 50 per cent. relative humidity out of doors, the proper ventilation of a school room containing forty pupils would require, approximately, 38 pounds, or about 5 gallons, of water each hour to give them the proper humidity. The remarkable avidity of dry warm air for moisture causes it to extract moisture from everything with which it comes into contact, and when the tissues and delicate membranes of the respiratory tract are subjected to this drying process a large increase of work is placed on the mucous glands. This unnatural stimulation may result in an enlargement of the gland tissues, just as constant exercise increases the size of any part of the animal organism. The membrane itself may become thickened and harsh, and the surface prepared for the reception of disease germs, which tend to develop under exposure to the constantly changing percentages of humidity. Not alone are the throat and lungs affected; the tongue, lips and skin become feverish and parched, the eyes redden and smart, the ears are unnaturally dried; catarrh is induced, or is aggravated if already existing. In children predisposed to lung diseases, a serious hacking cough is apt to result. Over-dry air causes headaches, robs all of vitality, and in every way lowers the vital powers. Generally speaking, dry air is an excitant, sometimes causing sleeplessness and irritability, while moist air seems balmy and has a soothing effect which tends to produce restfulness and sleep.

Association News

THE LOS ANGELES NUMBER

The Annual Convention Issue of The Journal to Contain Full Details of the Meeting

Commencing in February, and continuing at various intervals since, THE JOURNAL has printed in this department various details concerning the next annual session of the American Medical Association to be held at Los Angeles, June 27-30. Railroad rates, list of hotels with rates, list of meeting places, details of special trains and attractions en route have been given. These details will be repeated in the Los Angeles Number of THE JOURNAL, which will be issued May 20. There will be a special illustrated article on Los Angeles, describing its attractions, and showing many pictures of its fine buildings and scenery and vicinity.

One feature of the annual session is the reunions of various colleges and classes. Announcements of some of these have already been received, and more will be welcomed. These announcements are always made at the session, but it will be advantageous to have them made public in advance, so that all interested may plan to attend, if possible, and may know just what to expect. Announcements of this kind should be sent to us early for inclusion in the issue of May 20.

Marriages

JAMES ROY DAVIS, M.D., Chardon, O., to Miss Emma Russell of Cleveland, Oct. 13, 1910.

FREDERICK J. COMBE, M.D., San Antonio, Tex., to Mrs. Carrie Moore Fordtran, at San Antonio, March 21.

ELMER H. HENDERSON, M.D., to Miss Laura B. Owen, both of Louisville, Ky., at Springfield, Ill., April 4.

CAPT. RALPH S. PORTER, M.C., U. S. Army, to Miss Jane H. G. Kilgour of Glen, near Rockville, Md., at Chicago, March 23.

Deaths

Frank Anthony, M.D. Rush Medical College, 1881; one of the most esteemed and best beloved practitioners of northern Illinois, died in Augustana Hospital, Chicago, April 8, from cirrhosis of the liver, aged 53. After his graduation, Dr. Anthony returned to his home city, Sterling, where he practiced with his father and later succeeded to his practice. He was a member of the American Medical Association, American Association of Railway Surgeons, Association of Military Surgeons of the United States, Western Surgical and Gynecological Association, and was at one time president of the Whiteside County Medical Society. He was local surgeon to the Chicago and Northwestern Railway for more than twenty years, and was also surgeon to the Sterling, Dixon and Eastern Electric Railway Company. Dr. Anthony was one of the pioneer members of the medical department of the National Guard, and was for many years a major and surgeon of the Sixth Infantry. He served throughout the Spanish-American War as major and surgeon Sixth Illinois Infantry, U. S. V., in Porto Rico. He had also served the city of Sterling as health officer and Whiteside County as county physician. While he claimed to be nothing more than a country practitioner, Dr. Anthony was a surgeon and gynecologist of no mean ability. In addition to being a physician and surgeon of high attainment, Dr. Anthony had a most lovable personality and his death means a distinct personal loss to his many friends.

Henry Gradle, a pioneer ophthalmologist and otologist of Chicago, a lifelong student and scientist, died at his winter home in Santa Barbara, Cal., April 4, from carcinoma of the bladder, aged 55. He was born in Frankfort-on-the-Main, Germany, came to Chicago when a young child, and received his education there. He graduated from Chicago Medical College in the class of 1874, and at once began practice of his specialty. From 1879 to 1883 he was professor of physiology in his alma mater, and since 1898, has been professor of diseases of the eye and ear. His society membership included the American Medical Association, Heidelberg Ophthalmologic Society, Chicago Ophthalmological Society, and Chicago Laryngological Society. He was attending eye and ear surgeon to Wesley Hospital, and consulting eye and ear surgeon to Mercy Hospital. He was a frequent contributor to the periodicals dealing with his specialty. He was also the author of "Bacteria and the Germ Theory of Disease," which appeared in 1883, and a "Text-Book on Diseases of the Nose, Pharynx and Ear," which was published eight years later.

James Evelyn Pilcher, M.D. Long Island College Hospital, Brooklyn, 1880; major, U. S. Army retired, for many years secretary of the Association of Military Surgeons of the United States, and editor of the *Military Surgeon*, died at his home in Carlisle, Pa., April 9, from diabetes, aged 54. He entered the medical corps of the army in 1883, and five years later was promoted to captain. During the Spanish-American War he served as major and brigade surgeon, U. S. V., and was retired on account of disability in line of duty, Oct. 31, 1900. Since that time he has lived at his old home in Carlisle, Pa., excepting for about two years in Richmond, Va. He suffered for many years from diabetes and was totally blind for the last few months of his life. In addition to his membership in the Association of Military Surgeons of the United States, Major Pilcher had been president and secretary of the Cumberland Valley Medical Association, and was a member of the American Medical Association.

Adolph Gustav Hoen, M.D. University of Maryland, Baltimore, 1873; a member of the Medical Society of Virginia; from 1894 to 1897, in charge of the photo-micrographic laboratory of the anatomical department of Johns Hopkins University; from 1898 to 1900 director of the clinical laboratory of the Suffern (N. Y.) Sanatorium; since 1900, director of the Pasteur Institute, Richmond; and since 1903, lecturer on biology, and director of the histological laboratories of the University Medical College; died at the family homestead in Waverly, Baltimore, March 29, from carcinoma of the stomach and liver, aged 62.

William E. Wilson, M.D. New York University, New York City, 1853; a member of the Colorado State Medical Society, and its president in 1892; a member of the Colorado State Board of Medical Examiners from 1886 to 1888, and its president in 1886 and 1887; assistant surgeon and surgeon of the Tenth Illinois Volunteer Cavalry during the Civil War; professor of materia medica and therapeutics in the University of Denver from 1883 to 1896, and emeritus professor thereafter; a trustee of the University of Denver; died at his home in that city, April 2, from cerebral hemorrhage, aged 78

Horace G. Cates, M.D. Minnesota Hospital Medical College, Minneapolis, 1887; of Los Angeles, Cal.; a member of the American Medical Association, and Pacific Association of Railway Surgeons; for four years coroner of Los Angeles County; district surgeon to the Southern Pacific System; for ten years chief surgeon of the Pacific Electric Company; superintendent of the Crocker Street Hospital, Los Angeles; died in that institution, March 27, from septicemia, due to a pin scratch received while making a surgical dressing, aged 47.

Charles Henry Lewis, M.D. Bellevue Hospital Medical College, 1884; of New York City; a member of the American Medical Association, New York Academy of Medicine, and National Association for the Study and Prevention of Tuberculosis; one of the founders of and visiting physician to the Columblus Hospital, and St. Vincent's Hospital, and president of the medical board; clinical lecturer on medicine in the University and Bellevue Hospital Medical College; died in St. Vincent's Hospital, March 31, from cerebral hemorrhage, aged 53.

Charles Talbot Poore, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the Medical Society of the state of New York; surgeon to St. Mary's Free Hospital; consulting surgeon to the Hospital for the Ruptured and Crippled; a member of the board of governors of St. Luke's Home and of the Woman's Hospital; author of a work on the correction of congenital deformities; a member of the orthopedic faculty of the College of Physicians and Surgeons; died at his home in New York City, April 4, aged 71.

Charles Louser Miller, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Medical Society of the State of Pennsylvania, and for four years connected with the skin and medical clinics of the Philadelphia Polyclinic; and later ambulance physician of the Good Samaritan Hospital, Lebanon, and a member, secretary and president of the local board of pension examining surgeons; died in the Lebanon Sanatorium, March 24, aged 45.

William D. Stewart, M.D. University of Wooster, Cleveland, 1874; a member of the American Medical Association, and chairman of the medical section of the Toledo Academy of Medicine; twice president of Toledo Medical Society; for twenty-one years a practitioner of Toledo; for more than eighteen years a member of the surgical staff of St. Vincent's Hospital; died at his home in Toledo, March 28, from septicemia, aged 63.

John B. Stewart, M.D. Cincinnati College of Physicians and Surgeons, 1877; a member of the Missouri State Medical Association; formerly a member of the pension examining board of California, Mo.; founder of Clarksburg College; a member of the legislature in 1905; died at his home in Clarksburg, March 17, from cholecystitis, aged 73.

John W. Van Deusen, M.D. New York University, New York City, 1884; a member of the Brooklyn (N. Y.) Medical Association; attending physician to Kingston Avenue Hospital for Contagious Diseases; for twenty-four years an inspector of the department of health; died at his home in Brooklyn, March 28, from nephritis, aged 48.

William C. Karsner, M.D. Jefferson Medical College, 1853; assistant surgeon United States Army during the Civil War; state weigher-of-grain-in-general for Maryland in 1891; for several terms president of the board of commissioners of Chesapeake City, Md.; died at his home in that place, March 26, from heart disease, aged 79.

William E. Norton, M.D. College of Physicians and Surgeons, Baltimore, 1893; of Savannah; a member of the Medical Association of Georgia; local surgeon for the Seaboard Air Line and the Savannah Electric Company; died at Cornwall-on-the-Hudson, N. Y., March 28, from pneumonia, aged 40.

George Benjamin Haines, M.D. Dartmouth Medical School, Hanover, N. H., 1871; of Valley Falls, R. I.; a surgeon-apprentice in the United States Navy from 1862 to 1869, and a fellow of the Rhode Island Medical Society; died at his summer home in East Providence, Oct. 10, 1910, aged 67.

Reynold James McCormack, M.D. New York University, New York City, 1886; a member of the American Medical Association; and a member of the medical staff of the Nursery for Blind Babies; died at his home in Roxbury, Boston, March 29, from chronic nephritis, aged 48.

Robert Percival McKenzie, M.D. McGill University, Montreal, 1904; a member of the British Columbia Medical Society; medical health officer of Rossland, and local surgeon of the Spokane Falls and Northern Railroad; died at his home, January 24, from pneumonia, aged 34.

John A. Bouse, M.D. University of Pennsylvania, Philadelphia, 1875; for many years a practitioner of Harrisburg, Pa.; special medical inspector of the State Department of Health; died at his home in Old Orchard, Harrisburg, March 29, from heart disease, aged 58.

Benjamin Shields Barnes, M.D. University of Pennsylvania, Philadelphia, 1859; a surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Suggsville, Ala., where he had practiced since the close of the war, March 9, aged 72.

John W. Alexander, M.D. Starling Medical College, Columbus, O., 1872; a veteran of the Civil War; for thirteen years a member and for most of that time secretary of the Licking County Board of Pension Examining Surgeons; died at his home in Newark, O., March 16, aged 65.

Thomas H. McCormick, M.D. Medical College of Fort Wayne, Ind., 1881; a veteran of the Civil War; and for several years a clergyman of the Church of Christ, Marion, which he founded in 1876; died at the home of his daughter in Fort Wayne, March 21, aged 70.

Fenton L. Fulgham, M.D. Kentucky School of Medicine, Louisville, 1880; a Confederate veteran; for fourteen years physician to Mississippi Baptist Orphanage, Jackson; died at his home in Jackson, March 29, from cerebral hemorrhage, aged 70.

William Truman Sexsmith, M.D. Baltimore, 185.; a surgeon in the Confederate service during the Civil War; formerly a member of the Kentucky State Medical Association; died at his home in Yuma, Ariz., February 19, from cancer, aged 73.

William Hannah Austin, M.D. Rush Medical College, 1869; for forty years a practitioner of Abilene, Kan.; a surgeon of volunteers during the Civil War; died at his home in Long Beach, Cal., Dec. 22, 1910, from cerebral hemorrhage, aged 73.

John Lemuel Thompson, M.D. Jefferson Medical College, 1894; for five years a member of the board of pension examiners of Clarion County, Pa.; and for five years county coroner; died at his home in Washington, March 20, aged 50.

Elizabeth Mabel Henderson, M.D. Queen's University, Kingston, Ont., 1892, and gold medalist of her year; a member of the Hamilton (Ont.) Medical Society; died at her home in that city, March 26, from heart disease, aged 45.

George W. Fels, M.D. Medical College of Ohio, Cincinnati, 1877; a member of the Ohio State Medical Association; died at his home in Cincinnati, March 30, from pneumonia, following an attack of influenza, aged 60.

Albert Richard Gumberts, M.D. Evansville (Ind.) Medical College, 1878; of Rochester, N. Y.; a specialist on diseases of the stomach and intestines; died at his home in that city, March 15, from angina pectoris, aged 53.

Hana Abé, M.D. Laura Memorial Woman's Medical College, Cincinnati, 1896; in charge of a charity hospital in Japan until 1907; died at her home near Westdale, N. Y., February 15, from tuberculosis, aged 39.

J. A. Forgus (license, Arkansas, years of practice, 1907); a Confederate veteran, and mayor of Marked Tree, Ark.; died in St. Joseph's Hospital, Memphis, Tenn., March 25, from septicemia, aged 69.

Doctor Solomon Pearce, M.D. Vanderbilt University, Nashville, Tenn., 1894; a member of the State Medical Association of Texas; died at his home in Westhoff, Nov. 3, 1910, from cholelithiasis, aged 40.

Charles H. Bernstoff, M.D. Marion-Sims College of Medicine, St. Louis, 1897; of St. Louis; died at the American Hospital in that city, April 2, from appendicitis, aged 45.

William Inglis Bradley, M.D. McGill University, Montreal, 1888; gold medalist in chemistry of his year; of Ottawa, Ont.; died in the Royal Victoria Hospital, Montreal, March 23, from tuberculosis.

Anna Sophia Kenney Patch-Lindquist, M.D. Tufts Medical College, Boston, 1896; a member of the Massachusetts Medical Society; died at her home in Boston, March 18, aged 47.

Norman O. Greer, M.D. St. Louis College of Physicians and Surgeons, 1904; of Dupo, Ill.; died in a hospital in St. Louis, March 30, after an operation for appendicitis, aged 38.

Jonathan A. C. Hower, M.D. University of Maryland, Baltimore, 1854; a deputy sheriff for many years; died at his home in Martinsburg, W. Va., March 28, aged 84.

Leon A. LaPalme, M.D. Victoria College, Coburg, Ont., 1878; one of the early residents of Lewistown, Mont.; died at his home in Montreal, Dec. 28, 1910, aged 58.

Richard W. Padgham, M.D. Eclectic Medical College of the City of New York, 1889; formerly a clergyman; died at his home in Geneva, N. Y., March 1, aged 61.

Martin Phifer Crawford, M.D. New York University, New York City, 1881; of Lancaster, S. C.; died in Dr. Prior's Hospital, Chester, S. C., January 11, aged 53.

Herbert Franklin Brethour, M.D. University of Toronto, 1899; of Hamilton, Mont.; died in a hospital in Butte, Mont., March 28, from septicemia, aged 34.

Arthur L. Kendall, M.D. McGill University, Montreal, 1901; of Vancouver, B. C.; died in the Vancouver General Hospital, Oct. 8, 1910, from typhoid fever.

Cain C. Godshaw, M.D. University of Louisville, Ky., 1874; fell from the window of his office in Louisville, April 3, and was instantly killed, aged 55.

Joseph B. Allen (license, Iowa, years of practice, 1886); a practitioner for sixty-five years; died at his home in Hillsboro, Ia., April 7, aged 88.

Lucius D. Huffman, M.D. Jefferson Medical College, 1885; died at his home in Covington, Ky., March 24, from chronic myocarditis, aged 56.

Samuel P. Goudy, M.D. Columbus (O.), Medical College, 1881; died at his home in Jamestown, Pa., March 17, aged 63.

Ingraham Bill Freeman, M.D. Jefferson Medical College, 1856; died at his home in Bridgetown, N. S., February 27.

Alexander C. Scott, M.D. Savannah (Ga.) Medical College, 1867; died at his home in Jacksonville, Fla., March 11.

Gideon Barnaby, M.D., Harvard Medical School, 1872; died at his home in Granville Ferry, N. S., January 10.

J. S. Wilson, M.D. Kentucky School of Medicine, Louisville, 1879; of Macy, Ind.; died at Peru, Ind., March 10.

Franklin Winger, M.D. Jefferson Medical College, 1886; died at his home in Ephrata, Pa., March 15, aged 47.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

BENETOL

During the last few months sensational and ridiculously misleading articles have appeared in the daily press regarding a proprietary preparation called Benetol. The nostrum seems to be advertised by the direct method only to physicians; to the public it goes via the special newspaper article route, as a "marvelous medical discovery." It is but fair to say in this connection, that the newspapers which have published these articles seem to have done so in good faith and in total ignorance of the fact that they were giving the Benetol Company a large amount of free advertising. It is evident that the press agent's work was well done.

Here are a few claims that are made, either to the medical profession or to the public, for Benetol:

"A new germicidal antiseptic marvel."
"The only safe germicidal antiseptic."
"It will cure any germ trouble it can reach."
"Is beneficial rather than dangerous in overdoses."
"The only germicide that can follow and kill germs."
"A laboratory product of the University of Minnesota."
"A chemical which destroys the germs of tuberculosis, typhoid and cancer."
"Ten drops allowed to remain a short time in a gallon of infected water will make the water not only safe to drink, but will make it beneficial as a medicated water."

In the newspaper write-ups on Benetol, its discoverer is given about the same degree of publicity as the drug. Benetol is said to have been "dicovered" by "Prof. H. C. Carel, Head of the Department of Medical Chemistry and Toxicology, University of Minnesota (Retired)."

In many of the newspaper articles it is implied that Carel is still a member of the faculty of the University of Minnesota. The facts are, Carel has not been connected with this institution for some years. His connection with the university ceased at the time he exploited a hair restorer—"Hygenol." In selling his cure for baldness, he attempted then, as he is attempting now, to make capital out of the good name of the university—and the board of regents saw to it that Carel's connection with the university was severed. The attempt, therefore, to exploit Benetol as "a laboratory product of the University of Minnesota," is both an outrage on an institution of learning and a fraud on the purchaser.

In one of the press-agent notices on Benetol, the claim is made that the War Department has investigated Carel's "New Discovery" and that the heads of the department have urged the government to secure the "sole information and ownership" of Benetol. As a clincher it goes on to say:

"An emissary is being sent to Prof. Carel to enter into negotiations, and for the first time in its history the United States government may go into the germicide business."

An inquiry at the War Department, regarding the veracity of the statements given in the exploitation of Benetol, brought the following statement from the office of the surgeon-general:

"As you have surmised, there is no foundation of truth in the statement which you inclose with reference to the use of 'Benetol' by the medical department of the Army. This office has not authorized the purchase of any 'Benetol' nor has it investigated its merits."


DEATH TO GERMS, LIFE TO HUMAN BEINGS

The Priceless Destroyer of Bacteria With Which Professor Carel Hopes to Save Thousands of Lives

Greatly reduced photographic reproduction of a full-page newspaper write-up of Benetol. Under the portrait of the "inventor" of Benetol appears the statement "Prof. Herbert Charles Von Fuerstenburg Carel, of the University of Minnesota, the inventor of Benetol." This write-up appeared in the Philadelphia *North American*, a paper that treats "patent medicine" fakers with scant courtesy. It was the appearance of such an article in a paper of this type that caused us to investigate the method by which the exploiters of Benetol got their product into the newspapers in this form.

Nor was the army alone the only department of the government that was credited with waxing enthusiastic over Carel's nostrum. It was claimed that the stuff had been tested in the navy. An inquiry addressed to the Bureau of Medicine and Surgery of the Department of the Navy brought the following statement:

"This Bureau has never issued 'Benetol' for use in the Navy and does not contemplate doing so, having no knowledge of, nor interest in, this preparation."

In view of the claims that have been made for Benetol its composition is a matter of interest. What is this marvelous germicide; this "chemical," which destroys the germ of cancer; this wonderful discovery which "for six years Prof. Carel toiled night and day" to produce; this potent typhoid destroyer, 10 drops of which in a gallon of infected water will make the water not only safe but beneficial; what is this new medical wonder? This inquiry was referred to the director of the Association's Chemical Laboratory and secretary of the Council on Pharmacy and Chemistry, who replied:

"Chemical examination of benetol shows that it is a solution of alpha-naphthol containing about 18 gm. of the substance in 100 c.c. The solvent appears to consist of water, glycerin and soap. Alpha-naphthol is a well-known substance, closely related to, but not identical with, beta-naphthol which is

cial in the United States Pharmacopeia. The claim made in the advertising matter for Benetol, that it is a newly discovered compound is absurd. It is not a chemical compound but a simple solution of the well-known substance alpha-naphthol in the still better-known substances, glycerin, soap and water."

Treatment by New Remedies

In his new "Pocket-Book of Treatment," Ralph Winnington Leftwich, M.D., has the following to say about "the very latest" in therapeutics:

"The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients. Leaving on one side remedies which are introduced to the profession for purely commercial reasons, a new remedy, or a new application of an old one, is to its discoverer what a new baby is to its mother—wonderful and unparalleled! In both cases, and without any dereliction from good faith, the judgment is biased. The remedy is introduced with a fanfare of trumpets loud in proportion to the status of the originator. Chemists [druggists] stock it, and other manufacturers not only imitate it, but puzzle their brains in coining fresh trade-marks which they hope will induce the public to think that theirs is the real original product, *et puis bon soir!* For, twelve months afterward, it is forgotten by all but the exasperated chemists [druggists] who have stocks of it left on hand. Sometimes, as in the case of a well-known preparation of arsenic, it is found to be downright dangerous.

"No, except for incurable cases, it is time enough to prescribe a preparation when it has stood the test of ample independent trials. Let others do the experimenting. New preparations are sometimes made in this way: A manufacturer, running his eye down a book on therapeutics, finds, perhaps, seven different drugs recommended for a certain disease. He makes a kind of canister-shot by combining the whole of them under a trade-mark name, introduces it to the profession, and gets it more or less widely recommended. He then feels strong enough to spend thousands on advertising it to the general public, and the latter complacently dose themselves with it. Such preparations must be left severely alone; for every physician should be equal to making any necessary combinations in a prescription. A proprietary medicine is like a ready-made suit: a prescription is 'made to measure.'

"In a different and often very useful category, are some of those synthetic products which, based on sound chemical reasoning, are tested first on animals and later only on patients."

Correspondence

Uncinariasis in Students in Texas

To the Editor:—THE JOURNAL, March 18, 1911, contains the following erroneous statement under the heading of "Medical News":

"Recent investigations among the students of the medical branch of the University of Texas, at Galveston, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis."

In 1901, while Dr. Allen J. Smith was professor of pathology in the University of Texas, he examined the stools of eighty-six students in this institution and found eight of them, or 9.3 per cent, of the number examined, infested with hookworm. He described these results in full in his paper on "Uncinariasis in Texas" published in the *American Journal of the Medical Sciences* for 1903, Vol. cxxvi, pp. 768-798.

Last year, Dr. James Greenwood, Jr., demonstrator of medicine, in the routine laboratory course in clinical medicine, requested those members of the junior class who found an excess of eosinophils in their blood to have their stools examined. He found six cases of uncinariasis in a class of fifty-six

During the present session, he made a similar request but found only one case among forty-four students. He did not examine the stools of all of these students, but only of those who had eosinophilia. He has never found uncinaria without eosinophilia, although the latter may exist in other conditions than uncinariasis. This gives an average of seven cases of uncinariasis among 100 students examined by Dr. Greenwood, which is about the same ratio as that found by Dr. Smith.

It is of special interest that in no one of these seven cases found by Dr. Greenwood had the individual any symptoms which would cause him to suspect that he had intestinal parasites or any condition affecting the general health. The parasites were found by accident in a routine examination. In one case, there were some anemia and emaciation, which conditions improved after successful treatment. In the others, the general health and nutrition had not suffered.

On the same page of THE JOURNAL is the following statement:

"The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point."

This statement is in danger of creating the misapprehension that a request has been made to use the quarantine fees for the current fiscal year, or for fees that may be collected in the future.

A bill was introduced in the last legislature providing for the transfer of a balance in a special quarantine fee fund at Galveston, amounting to about $13,000, to build pavilions for isolating and handling cases of contagious diseases. This fund was created in 1907 for building a residence for the state quarantine officer and repairing the quarantine station at Galveston. The balance remained after the completion of the improvements contemplated in the special appropriation of 1907 and could not be diverted for any other purpose except by act of the legislature.

WILLIAM S. CARTER, Galveston,
Dean of the University of Texas.

Nail in Chicken Gizzard

To the Editor:—The following account may prove of interest:

I have before me, on my desk, a dried chicken gizzard which has been opened and cleaned in the usual manner. Through the thick part of one half is a round aperture, ⅛ of an inch in diameter—in the dried specimen—at the internal opening and ¼ of an inch in diameter on the external surface. Through this aperture extends a six-penny box nail, its head being on the internal surface of the gizzard. The head of the nail and the portion of it within the wall of the viscus are much corroded.

The history of the curiosity, given me with the specimen, is as follows:

The fowl from which the organ was taken was one of a flock of three dozen slaughtered at the age of about five months. Under ordinary observation with the rest of the flock no signs of indisposition had been noted, this fowl coming with the rest to each feeding and behaving in a normal manner. When slaughtered it was found, however, to be "light and poor" instead of fat as were the others. When opened for cleaning the bowels were found to be "black" and covered with a dark, thick fluid. The liver was hard and "black," there were adhesions about the "gizzard," and the nail was visible, protruding through the wall of the viscus about "¾ of an inch."

To me the points of interest are the facts that the fowl could have swallowed the nail in the first place; and that it could have survived resulting injury so long without greater disability, for that the nail had been present for some time is evidenced by the degree of emaciation of the fowl and the extent of corrosion of the nail—granting that the nail was not previously corroded, which from the appearance of the specimen is a possibility only.

H. LA MONT YOUTZ, Willow City, N. Dak.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FETAL HICCUP

To the Editor:—Please give me the etiology, and significance, with relation to viability, of fetal hiccup. Also give me the references to articles bearing on fetal hiccup and other fetal movements.

I have a patient in the thirty-sixth week of a second pregnancy who directed my attention to a regular throb, beat or tap produced by the fetus; it is strongest in the region of the mother's navel, occurring with remarkable regularity about eighteen times a minute, and occurring about half the time, both day and night. Along with this throb are the other fetal movements—squirming, leaping, etc. The first pregnancy in this patient was normal in every way, and the baby normal for the first forty-eight hours, after which convulsions began, ending in death after six hours. The cause of these convulsions has never been clear to me nor to the men associated with me on that case, unless they came from some cerebral trauma during birth. The mother is very anxious for a child and more than usually apprehensive over abnormal conditions, and therefore called my attention to the throbbing described above.

It was new to me, and I found no enlightenment either from questioning my multiparous patients, or in the authorities, except in Edgar. In his second edition, discussing "quickening," p. 130, he says: "Among fetal movements should be included fetal hiccup." I did not find elsewhere in his book any explanation of fetal hiccup—hence my inquiry. "Fetal hiccup," if it were a true name, would seem to me to be a dangerous phenomenon—for hiccup means contraction of diaphragm muscles followed by inspiration. If a fetus really hiccuped wouldn't it draw in amniotic fluid, and by constant repetition completely fill the lungs with fluid, and therefore be drowned before having had a chance to breathe?

R. H. BROOKS, Claremont, N. H.

ANSWER.—During the last twenty years several writers have reported cases of fetal hiccup. The movements that have been ascribed to hiccup-like contractions of the fetal diaphragm have been noticed in the latter part of pregnancy and generally can be felt by the mother. They are felt as sharp, quick impulses, about fifteen to twenty a minute, and lasting usually for a minute or two, when a quiet interval occurs. Sometimes they continue uninterruptedly for ten minutes The impulse can be felt by the hand placed on the abdomen and heard by the ear or phonendoscope. They are generally best heard in one of the lower uterine quadrants over the chest of the child. Ahlfeld, who has studied these movements with a kymographion and made numerous investigations, believes that they are more frequent in the early part of pregnancy and can be heard even before the heart-tones.

The cause and significance of this phenomenon are related to the question of fetal respiratory movements, which has been studied by Ahlfeld. The best discussion of this subject, as well as that of singultus, is in a paper by him in the *Monatsschrift für Geburtshülfe und Gynäkologie*, 1905, page 143, in which references to the cases reported up to the date of the article are given. Ahlfeld finds regular movements of the child which register on the kymographion from sixty to eighty a minute, which he holds must be due to fetal respiratory movements. The object of these movements is the preparation of the respiratory muscles for their function, which is exercised as soon as the child is born. The respiratory movements also help in the development of the ribs and the joint surfaces connecting them with the spinal column. Preyer in his "Physiology of the Embryo" says: "The new-born moves itself immediately after birth as it was accustomed to move before birth, with the exception of breathing and trembling." Ahlfeld completes this law as follows: "The new-born child makes only such movements as it has already made in the uterus. These movements are, of course, modified by the changed condition of the new-born." Ahlfeld regards the usual physiologic fetal inspiration as only superficial, as that is all that is necessary to the development of the respiratory organs. Probably the inspired fluid does not reach beyond the bifurcation of the trachea. How fetal hiccup is related to fetal respiration, and also how it is related to the common post-natal hiccup, Ahlfeld does not attempt to explain. He believes, however, that it occurs as a physiologic function of the diaphragm in practically all persons. Ahlfeld's theory of intra-uterine respiration and singultus has not been generally accepted, nor has it been satisfactorily refuted.

FORMULAS FOR ASTHMA REMEDIES

To the Editor:—Please give me a formula for an asthma remedy to be ignited under a paper cone or other convenient apparatus, and inhaled by the patient. There are a number of so-called asthma cures on the market, all of which have a similar composition (lobelia, stramonium, digitalis, hyoscyamus, tobacco, potassium nitrate, etc.), and one afflicted with asthma sooner or later finds one that affords him temporary relief. Kindly refer me to some work where I can find the formulas that have given the greatest satisfaction.

M. H. FARMER, M.D., Virden, Ill.

ANSWER.—A French asthma cigarette contains the following ingredients (Yeo):

Belladonna leaves	5½ parts
Hyoscyamus leaves	2¾ parts
Stramonium leaves	2¾ parts
Phellandrium aquaticum	1 part
Extract of opium	⅛ part
Cherry laurel water	a sufficiency

The dried leaves are cut small, mixed well and moistened with the opium which has been dissolved in the cherry laurel water. A small amount of potassium nitrate is added in order that the cigarettes may burn readily.

Some patented preparations contain lobelia, and something similar to Himrod's "cure" is as follows:

Powdered lobelia.
Powdered black tea.
Powdered stramonium leaves, each 1 ounce.

On this is poured 2 ounces of a saturated solution of potassium nitrate, which is thoroughly mixed and allowed to dry (Yeo). Portions of this are then burned and the patient inhales the fumes.

℞.

	gm.			
Potassii nitratis	15			
Pulveris anisi	15	or	āā,	ʒss
Pulveris stramonii	30			ʒi

M. et fac pulverem.

Sig.: Ignite a thimbleful of the powder and inhale as directed. (THE JOURNAL, Jan. 2, 1909, p. 51.)

℞.

Pulveris belladonnæ foliorum	
Pulveris hyoscyami foliorum	
Pulveris stramonii foliorum	
Potassii nitratis	āāʒi

M. et sig.: Half a teaspoonful to be burned at one time.

℞.

Stramonium leaves	3iv
Green tea	3iv
Lobelia	3jss

Mix and pour on the mixture enough saturated solution of potassium nitrate to wet it. Dry it and keep in closely stoppered bottle.

℞.

Daturæ tatulæ	3ij
Stramonii foliorum	3ij
Cannabis indicæ	3ij
Potassii nitratis	3ij
Olei eucalypti	3ss

Mix thoroughly.—(An Index of Treatment: Hutchinson and Collier, p. 80.)

Cigarettes made of paper soaked in a solution of nitrate of potassium and belladonna may be smoked or they may be made in the following manner:

℞.

Belladonnæ foliorum	40	gr. vj
Hyoscyami foliorum	2	gr. ij
Stramonii foliorum	2	gr. ij
Extracti opii	015	gr. ¼
Aquæ laurocerasi		q.s.

M. These various leaves are broken up like commercial tobacco and moistened by adding the cherry-laurel water, which should contain the opium. Finally, a whole leaf soaked in the same fluid is used as a cover, or a piece of cigarette paper may be employed in the same manner. (Hare's Practical Therapeutics, p. 619.)

LITERATURE ON MUNICIPAL SANITATION

To the Editor:—Can you give me information or cite literature on the subject of municipal sanitation? I am particularly desirous of suggestions as to some method of dealing with stables and stable manure in order to diminish the propagation of flies.

C. A. WOODARD, Durham, N. C.

ANSWER.—As is well known, stable manure is one of the most frequent breeding-places for flies, and probably the most practical method of preventing them from propagating would be stringent regulations requiring the daily cleaning of stables and the storing of the manure in closed or carefully screened bins, with frequent removal of the manure.

The prevention of flies in cities, of course, involves the prevention of the accumulation of other sorts of waste, including garbage, in which flies may breed. Numerous editorials and articles have appeared in THE JOURNAL concerning flies as carriers of disease, and their prevention, and on other phases of municipal sanitation. A list of these, together with some books on municipal sanitation and hygiene, will be found below:

Editorial: Abating the Fly Nuisance, THE JOURNAL, Aug. 20, 1910, p. 700; this issue of THE JOURNAL also contains an editorial on the hypochlorite method of purification of water and refers to an article on this subject (Paper 229; U. S. Geological Survey, 1909).

Editorial: The Fly and Typhoid Fever, THE JOURNAL, Nov. 19, 1910, p. 1812.

Flies as Carriers of Infection, London Letter, THE JOURNAL, Oct. 15, 1910, p. 1390.

Orton and Dodd: Transmission of Bacteria by Flies, etc.; *Boston Med. and Surg. Jour.*, Dec. 8, 1910; abstracted in THE JOURNAL, Dec. 24, 1910, p. 2267.

Felt, E. P.: Methods of Controlling the House Fly, etc., *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Beyer, H. G.: Dissemination of Disease by the Fly, *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Editorial: Sanitary Side of the Garbage Question, THE JOURNAL, April 30, 1910, p. 1447.

Dutton, W. F.: Bluebottle Flies as Carriers of Infection, THE JOURNAL, Nov. 6, 1909, p. 1561.

Utilization of Garbage, Department of Queries and Minor Notes, THE JOURNAL, April 2, 1910, p. 1157; in this article are references to works on sanitation.

Disposal of Garbage and Filtration of Water-Supply, Department of Queries and Minor Notes, THE JOURNAL, July 3, 1909, p. 43.

Articles on Disposal of Excreta, U. S. Public Health Reports, Aug. 19, Nov. 11, Nov. 18, and Dec. 16, 1910.

Chapin: Municipal Sanitation in the United States, Providence, R. I., 1910, the Providence Press.

Goodrich: Disposal of Refuse, Wiley, New York, 1901.

Baker. Municipal Engineering and Sanitation, New York, 1902, Macmillan Co.

Godfrey, H.: The Health of the City, Houghton, Mifflin & Co., Boston, 1910.

Primer of Sanitation, World Book Co., Yonkers, N. Y., reviewed in THE JOURNAL, Feb. 19, 1910, p. 642.

Prudden, T. M.: Dust and Its Dangers, G. P. Putnam's Sons, New York, 1910.

FETAL CIRCULATION

To the Editor:—1. What causes the pulse-wave in the umbilical cord? 2. Is this wave toward or from the child? 3. Is the circulation of the fetal blood caused by the fetal heart or is it maternal? 4. Does any maternal blood enter the fetus? 5. Can the placental souffle be heard after the death of the fetus?

ANTONIO D. YOUNG, Oklahoma City, Okla.

ANSWER.—1. The pulse-wave in the umbilical cord is caused by the beating of the fetal heart.

2. The pulse-waves are essentially arterial impulses and pass from the heart to the periphery along the arteries. Therefore the pulse of the umbilical cord is in the artery and the wave passes from fetus to placenta, "from the child."

3. The circulation of the fetal blood is caused solely by the contractions of the fetal heart.

4. No maternal blood enters the fetus. The maternal blood circulates through sinuses of the placenta, bathing the villi within which the fetal blood circulates. Through the thin-walled membrane of the villi the oxygen of the maternal arterial blood diffuses and combines with the hemoglobin of the fetal blood, after which it returns to the fetus through the umbilical veins. It may be said in passing that the umbilical artery carries impure blood from the fetus to the placenta, where it is purified first through the loss of carbon dioxid, and, second, through the diffusion of waste products into the maternal blood, where it is oxygenated as described above and replenished by the diffusion of food materials from the maternal blood into the fetal blood.

5. The placental souffle or murmur is sometimes called the uterine souffle and is heard over the site of the placenta. It might be mentioned that the uterine souffle may also be heard over uterine fibroids, which fact necessitates some care in discriminating between a fibroid tumor and pregnancy. The placental souffle may be heard after the death of the fetus. The term "souffle" is also applied to a murmur that is heard in the umbilical cord. This is called the fetal souffle. If the cord should become looped around the neck or leg of the fetus, and thus become constricted, a souffle may be heard. This fetal souffle, due to the pulsation of fetal blood through a constricted segment of umbilical cord, will of course cease the moment the fetal heart ceases to beat.

ACUTE TONSILLITIS

To the Editor:—1. What are the causes of acute tonsillitis?
2. What is the proportion of cases due to non-microbic factors?
3. Is the ordinary iron mixture or any astringent beneficial in the acute stage, or should the use of such preparations be confined to the later stage in which the tonsils have been freed of all exudate?
4. What is the pathology of the white cheesy exudate?
By answering these questions you will help me to understand an illness which is common but not entirely clear to me.

SAMUEL LEVINE, M.D., Brooklyn.

ANSWER.—1. The principal causes of acute tonsillitis are exposure to cold and sudden thermic changes, especially in persons of rheumatic diathesis. Tonsillitis is frequently associated with menstruation. Among other causes, we may mention traumatism such as irritating fumes and vapors. Predisposing causes are nasal or postnasal irregularities, general lowered systemic tone, and various gastro-intestinal disturbances.

2. A definite answer cannot be given. There are a great number of microbes in the fauces continually, either in well or ill people. What the influence of these microbes may be in the development of the inflammation has never been definitely determined.

3. The iron mixture and other stimulating or astringent applications are often beneficial in the early stages of the disease, more so than in the later stages. In the late stage, tonics are useful. In the early stage, the inflammation may sometimes be aborted by stimulating applications. The most satisfactory consists of equal parts of guaiacol and almond oil to be used as a spray once a day. This causes intense burning for about a minute, but afterward gives great relief from pain for hours and in a considerable percentage of cases, will materially cut short the attack.

4. These cheesy masses consist of fibrinous exudate, necrotic epithelial cells, bacteria and the earthy matter from the ordinary secretions of the tonsils.

REMOVAL OF FOREIGN BODIES FROM THE CONJUNCTIVA

To the Editor:—I recently ran across an extraordinary statement in Berry's "Manual of Practical Ophthalmology," Lippincott, 1905. It is part of the subject matter "Foreign Bodies in the Conjunctiva" page 132. Speaking of removing them the author says: "Attempts at removing them, without eversion, with a camel's hair brush or the tip of the tongue passed below the upper lid, should not be made."

Such surgical technic is beyond my comprehension or imagination. Why a modern text-book should have such stuff incorporated in its text goes beyond me.

W. L. MOORE, Honolulu, H. T.

ANSWER.—The removal of foreign bodies from the external ocular apparatus by the laity as well as by some members of the medical profession is, to say the least of it, often an extraordinary procedure. In certain countries the attempt by the former to dislodge foreign substances from the conjunctival sac with the tip of the tongue is a common experiment, while the camel's-hair brush is not infrequently employed (beneath the uneverted lid) by inexperienced physicians for the same purpose. Consequently Berry's reference is to some extent apropos, although he might have elucidated the rather obscure allusion to these attempts.

A layman realizes, of course, that the important thing is to remove the foreign body. In the process, however, considerable damage is often done to the conjunctiva. It might be well for the laity to know the value of a saturated solution of boracic acid, which is very soothing after a foreign body has been taken from the eye. It has most of the merits of the many eye nostrums on the market, as boric acid is the chief constituent of many of them. Such a solution is kept on hand in many households, and it ought to be a more common adjunct of the family medicine chest. It would help to alleviate the trauma often caused by well-meaning but unskilful attempts at removing the offensive foreign body.

SODIUM GLYCOCHOLATE AND CHOLESTERIN TESTS FOR SYPHILIS

To the Editor:—Please give me information about sodium glycocholate and cholesterin tests for syphilis or tell me where I can procure the desired information, including the technic.

J. D. REENG, M.D., San Francisco.

ANSWER.—The tests referred to have not proved specific and, we believe, are now generally abandoned. Descriptions of them may be found in the articles by W. J. Butler, "Serum Diagnosis of Syphilis," THE JOURNAL, Sept. 5, 1908, p. 824, and "The Serum and Precipitate Reactions for Syphilis and Their Clinical Value," THE JOURNAL, April 2, 1910, p. 1115. Other references to the subject are the following:

Wassermann: Berlin. klin. Wchnschr., 1907, lxiv, 1599.
Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, xx, 1564.
Levaditi and Yamanouchi: Compt. rend. Soc. de biol., 1907, lxii, 741.
Fleischmann: Berlin. klin. Wchnschr., 1908, lxv, 490.
Sachs and Altmann: Berl. klin. Wchnschr., 1908, lxv, 494, 699.
Porges: Wien. klin. Wchnschr., 1908, xxi, 206.
Nobl and Arzt: Wien. klin. Wchnschr., 1908, xxi, 287.
Fritz and Kren: Wien. klin. Wchnschr., 1908, xxi, 386.
Eisler: Wien. klin. Wchnschr., 1908, xxi, 422.
Kraus: Wien. klin. Wchnschr., 1908, xxi, 206.
Porges and Meier: Berlin. klin. Wchnschr., 1908, lxv, 731.
Klausner: Wien. klin. Wchnschr., 1908, xxi, 213.
Klausner: Wien. klin. Wchnschr., 1908, xxi, 363.
Mefford: New York Med. Jour., Oct. 31, 1908.

POEHL'S SPERMIN IN ARTERIOSCLEROSIS

To the Editor:—In a recent number of the *Gazette méd. belge*, xxi, No. 43, p. 424, I read a detailed report of five cases of arteriosclerosis in which the patients were all markedly improved and some of them apparently cured by a course of "Sperminum Poehl," an advertised remedy which I have always distrusted and never prescribed. I am now suffering myself from a somewhat advanced case of arteriosclerosis and would like to try this remedy if the Council has learned anything in favor of it and if there is no reason to fear bad effects from it. X. Y. Z.

ANSWER.—Apparently the exploitation of Poehl's spermin passed several years ago from the domain of experimental medicine to that of nostrums advertised to the laity. So far as we know, it has received no recent discussion from reliable clinicians or experimenters. In some medical journals, as also in lay journals, it is true, one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin. So far as we know, there is no reason to fear injurious results from the use of the remedy; neither might any good be expected from its use in arteriosclerosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 8, 1911.

Thomason, Henry D., captain, ordered to proceed to Jefferson City, Mo., on official business relative to the reorganization of the sanitary troops of that state.

Chase, Chauncey L., M.R.C., ordered to active duty and assigned to station at Fort Oglethorpe, Ga.

Davis, Arthur O., lieut., ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with maneuver division at that place.

Wales, Philip G., M.R.C., reported for temporary duty at Fort Miley, Cal.

Bourke, James, captain, in addition to his duties at Fort Crockett, Texas, will report to the commanding general, first separate brigade, for duty as medical supply officer of that brigade.

Wing, F. F., D.S., reported for temporary duty at Fort Robinson, Neb.

Bourke, James, captain, will, in addition to his other duties, perform the duties of medical superintendent, transport service, at Galveston, Texas.

Moncrief, William H., captain; Pyles, Will L., captain; Casper, Joseph, lieut., and Sherwood, Joseph W., M.R.C., will proceed to Galveston, Texas, and report to the commanding general, first separate brigade, for duty.

Nichols, Henry J., captain, detailed to represent the medical department of the Army at the eighth annual meeting of the American Society of Tropical Medicine, New Orleans, May 18 and 19, 1911.

Craig, Charles F., captain, will proceed to Montgomery, Ala., for the purpose of delivering a lecture, April 18, before the medical officers of the Alabama National Guard on the subject of malarial disease.

Le Hardy, Julius C., M.R.C., on completion of such duty assigned him by commanding general, department of California, will proceed to Fort Ward, Wash., for duty.

Medical Corps, U. S. Navy

Changes for the two weeks ended April 8, 1911.

Haynes, J. P., P. A. surgeon, ordered to the naval station, Olongapo, P. I.

Huff, E. P., asst.-surgeon, detached from the naval hospital, Canacao, P. I., and ordered home.

Michaels, R. H., A. A. surgeon, ordered to the marine recruiting station, Chicago.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 5, 1911.

Wasdin, Eugene, surgeon, placed on "waiting orders," effective Sept. 22, 1911.

Cumming, H. S., surgeon, directed to proceed to Fisherman's Island, Va., on special temporary duty.

Foster, M. H., P. A. surgeon, directed to proceed to Bureau for consultation. Relieved from duty at Ellis Island, N. Y., and directed to report to the commissioner of education, department of the interior, for duty in Alaska. Granted seven days' leave of absence from April 3, 1911.

Billings, W. C., P. A. surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Earle, B. H., P. A. surgeon, leave of absence for thirteen days from March 1, 1911, amended to read "ten days from March 2, 1911."

Chapin, C. W., asst.-surgeon, granted seven days' leave of absence from March 22, 1911, under paragraph 191, Service Regulations.

Draper, W. F., asst.-surgeon, directed to report to the commanding officer of the Revenue Cutter *Bear* for duty.

Schwartz, Louis, asst.-surgeon, directed to proceed to Seattle, Wash., and report to the commanding officer of the Revenue Cutter *Tahoma* for duty

Moorer, M. P., A. A. surgeon, granted ten days' leave of absence from March 28, 1911.

Story, H. C., A. A. surgeon, granted thirty days' leave of absence from May 1, 1911.

Board of medical officers convened to meet at the Marine Hospital office, customs house, New Orleans, on April 3, 1911, for the physical examination of candidates for appointment as cadet-engineer in the Revenue-Cutter Service. Detail for the board: Passed Assistant Surgeon A. D. Foster, chairman; Acting Asistant Surgeon J. T. Scott, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

INDUSTRIAL DISEASES AND PHYSICIANS

JOHN B. ANDREWS

Secretary, American Association for Labor Legislation

NEW YORK CITY

The average American feels the magnitude of the national growth; he sees something of the result of the combined labor of millions of workers; he realizes, to some extent, that his country has leaped into the van of civilization, and he believes implicitly in his country and in himself. But the average man is an empirical observer. So far as mere physical achievement goes, he sees aright. His perception of the magnitude of individual and national effort, his knowledge of the volume of production, is right. But he fails utterly to understand that the tremendous social forces that have been evolved, and that have made these things possible, have necessarily wrought profound changes in social relations, in social needs, and in the relations of the individual to society.

Of all professional men, perhaps the most definitely social in his service is the physician. His duties bring him into the most important and intimate human relations. His knowledge is purchased only by many years of highly specialized training, and the medical profession, as a natural result, becomes the guardian of the public health. The average modern man does not stop to reflect that he is impossible without the physician, who attends his entry into the world, keeps him in it as long as is humanly possible, and in the end sees him out of it.

But the contrary is equally true, for the physician is possible only because of the modern man, to understand whom the physician needs a clear knowledge of his patient's normal environment, and this the physician does not require as part of his necessary training. An examination of the overcrowded medical curriculum gives no indication of the fact that we live in an industrial society. The result is that a large percentage of physicians fail to realize the occupational source of many diseases, as has been shown by investigations.

An enormous range of diseases is directly attributable to the patient's work. The disease is contracted by him as an immediate result of his occupation, or his occupation produces conditions that foster the contracting of diseases, such as tuberculosis, neurasthenia and anemia. The bald statement of this fact is but a truism, known more or less definitely to every physician. It assumes vast proportions, however, when it is clearly recognized that the population of our country is a working population, and that there are few if any occupations that a man or woman may follow that do not, without careful regulation, produce sickness in one form or another, or contribute conditions that make the worker liable readily to contract disease from which he would ordinarily be immune.

The conditions under which the people of this country work produce in their aggregate the problem covered by the term "industrial hygiene," a problem of comparatively recent recognition among us. We have been so busy making profits that we have had no time to inquire how they are made or what their making entails. We are therefore obliged to go abroad to countries that have studied the subject in order to acquire scientific foundations on which to base our plans for improvement.

Germany and Great Britain have, perhaps, done more than other countries in this direction; and, characteristically, the German investigations are the more complete and systematic.

For want of American data we may base our estimates of the extent of sickness due to occupational conditions on the careful results of German experience. That experience shows that the number of cases of actual sickness is equivalent to 40 per cent. of the number of persons exposed to risk. If, therefore, we take the number of persons engaged in gainful occupations in the United States in 1910 as 33,500,000, we may present the following table, taken from the Memorial on Occupational Diseases presented to President Taft on September 29 last:

ESTIMATE OF SICKNESS AND ITS COST AMONG OCCUPIED MALES AND FEMALES IN U. S., 1910 (33,500,000)

(a) Estimated number of cases of sickness on the German basis of 40 per cent. of the number of persons exposed to risk, 13,400,000.

(b) Estimated number of days of sickness on the German basis of 8.5 days per person *per annum*, 284,750,000.

(c) Estimated loss in wages at an average of $1.50 a day for 6/7 of the 284,750,000 days, $366,107,145.

(d) Estimated medical cost of sickness at $1 a day for 284,750,000 days, $284,750,000.

(e) Estimated economic loss at 50 cents a day for 6/7 of the 284,750,000 days, $122,035,715.

(f) Total social and economic cost of sickness *per annum*, $772,892,860.

(g) Estimated possible economic saving in the health of individual workers on a basis of 25 per cent. reduction *per annum*, $193,223,215.

Objection to these figures may be urged on account of the differences that exist between industrial conditions in Germany and in America. The differences are admitted; but the figures here given would beyond doubt have to be increased on every count.

This country's industry is, to a large extent, innocent of the devices long in general use abroad, and particularly in Germany, for safeguarding the health of the workers. The occasional voluntary efforts of employers are far too spasmodic and unscientific to be regarded as important factors in this connection. The body of factory legislation in America is also pitifully slight, and noteworthy in the main for its lack of scientific knowledge and method. And, when even poorly conceived laws are enacted, the machinery provided for their enforcement is ludicrously insufficient. Industrial regulations in America, as they affect the health of the workers, are as unscientific and chaotic as in any country in the world that claims to possess the elements of western civilization. We have each year about 500,000 industrial accidents, one-half of which might be prevented. We have in our midst every year at least 13,500,000 cases of industrial sickness, involving a loss to society of $772,892,860, and of all this loss we can save at least 25 per cent.

We have, then, to devise means for securing accurate and complete information on the incidence of industrial disease. On this immediate and preliminary necessity, Professor Charles R. Henderson said recently, speaking at the fourth annual meeting of the American Association for Labor Legislation at St. Louis:

> In the social conflict with communicable diseases (scarlet fever, diphtheria, etc.), reports to health authorities are found essential to success. Hidden disease works all the greater damage because it is in the dark. What is brought to light can be fought in the open.
>
> The same is true of occupational diseases. So long as their nature, ravages, causes are concealed, the medical profession is deprived of information it needs, workmen die in ignorance of what kills them, public sentiment on the subject does not exist, legal regulation is not enacted or not enforced.
>
> It is now generally recognized that the members of the medical profession have a special duty to the community in the matter of reporting diseases and facts for vital statistics. They alone have the information; they have received much of their education at public expense in public or endowed schools, laboratories or hospitals; and they are supported by the public; they are excused from various duties which fall to other citizens.
>
> If they neglect this professional duty, misery and death will result.
>
> If they make their reports as perfect as possible, science will be advanced, legislation will be wiser and more effective, and public wealth and happiness will be increased. How many physicians recognize the occupational origin of certain diseases? The investigations of the Illinois Commission on Occupational Diseases have disclosed the unfortunate fact that many physicians do not know the shop origins of certain maladies.
>
> The records of death in the offices of health authorities, coroners, the records of public hospitals, of insurance associations, even when made by medical men, yielded but little information as to the working place and its conditions, the essential matter.
>
> Various diseases of the central nervous system, muscular and respiratory systems give very little direct clue to the causes of such disorders.

The statistical and other precise information that would be made available by the systematic reporting of cases of disease due to occupation would be of the utmost value, and, indeed, would be essential to intelligent action. But the mere classification of diseases does not provide a means for their elimination or diminution. It is necessary that the influence of the physician be felt in the actual place of work.

Adequate factory and workshop inspection is essential, and while it is true that in many branches of this work non-medical men are quite competent, in some of the most vital branches medical men are essential. "Medical men alone," said Dr. William C. Hanson, of the Massachusetts Board of Health,[1] "are in a position to make the best use of facts obtained concerning the sanitary condition of premises where men and women work; to study the possible injurious effects of certain injurious processes on the health of the person engaged therein; to inspect devices designed to protect the employees against injurious and dangerous substances, and to judge of the effects on the health of operatives of such substances, as well as to detect pathologic signs or symptoms of certain poisons, dusts and fumes incident to some occupations; to inquire as to the health of employees, both for the purpose of aiding those found in ill-health or physically unfit for work, and for protecting others from infectious diseases; to make physical examination of minors, and, whenever possible, of adults engaged in trades or occupations deemed to be injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene."

It is frequently urged in opposition to the demand for such efficient factory inspection and the necessary legislation, that conditions in America are not nearly so bad as in Europe, and that, in any event, European conditions cannot be regarded as giving a clue to conditions in America. That, however, is mere childishness. No reasonable human being could take seriously the argument that although lead poisons English workers or German workers it does not necessarily poison "American" workers. Such beginnings of scientific investigation as have been conducted in America give us a picture of conditions that constitute a widespread and persistent menace to the national health.

Thus the investigation into phosphorus poisoning in the match industry, carried out in cooperation with the United States Bureau of Labor, produced facts that call for immediate Federal legislation. An intensive investigation in the homes of the workpeople of but three of the sixteen American match factories yielded a total of eighty-two cases of phosphorus poisoning. Detailed investigation in fifteen factories showed that of the 3,591 persons employed, 65 per cent. were working under conditions exposing them to the fumes of phosphorus and the dangers of phosphorus poisoning. Here, as in many other industries, the ignorance or self-interest of many employers prevented them from properly instructing their workpeople concerning even the elementary and at best inadequate precautions against contracting this peculiarly loathsome disease.

The claim made by Dr. Ivy, dental examiner for the Pennsylvania Match Company, that under the present tariff and labor conditions, matches cannot be produced from sesquisulphid of phosphorus by manufacturers in this country

1. Proc. Fourth Annual Meeting, American Association for Labor Legislation.

in competition with foreign manufacturers[2] is absurd. Match manufacturers representing more than nine-tenths of the total output in America, in their desire to abolish "phossy jaw," have voluntarily gone on record in writing as follows:

> In the event of the prohibition of the manufacture of white phosphorus matches, we have no doubt of our ability to supply a strike-anywhere match which will be satisfactory.

It is interesting to recall that the treasurer of the match company which employs Mr. Ivy said in a letter to the U. S. Bureau of Labor (Bulletin 86, p. 131):

> So far as we are concerned, one thing is sure, if there is any substitute for white phosphorus that would eliminate the danger, even if it would cost more money, and considerably more money, I know that our people will be only too glad to adopt it.

Attempted regulation has been abandoned in one country after another after a fair test, and absolute prohibition of the use of poisonous phosphorus in match-making is now recognized as the only sure remedy for this horrible and wholly unnecessary disease.

The report of the Illinois Commission on Occupational Diseases, already referred to, shows the existence of similar dangerous conditions. Twenty-eight trades were investigated, in all of which lead-poisoning may occur, and 578 individual cases of lead poisoning were secured from the records of physicians during the past three years. Physicians will understand that this number is a minimum, because records are not consistently kept by private practitioners, and only recorded cases are included.

A striking illustration of what stringent workshop regulation can do toward decreasing the amount of sickness in occupations is given by Dr. Alice Hamilton. The figures given in her report are further emphasized by the fact that in one place investigated by Dr. Hamilton, where only thirteen men are employed, fifty men are engaged in the course of the year to maintain the minimum staff force. Another place engages 300 men to maintain a force of fifty. Still another, with a payroll of from 450 to 600, loses from 20 to 40 per cent. of its workers every pay day. In all these cases, the men drop out as they become "leaded."

A preliminary investigation into mercurial poisoning in New York and New Jersey produced in three months a record of sixty cases in the hatting industry. In Great Britain, on the other hand, where every case is immediately reported, only ninety-four cases for all industries have occurred in twelve years.

With the exception of phosphorus, lead and mercury poisoning, little, if any, investigations of value have been made in this country into the vast question of industrial poisoning. That extensive investigation carried out by competent authorities is urgently needed can be seen from the following list of poisons that are in every-day use in our industries:

Alcohol, Amyl	Formaldehyd
Alcohol, Methyl	Hydrochloric acid
Ammonia	Hydrofluoric acid
Aniline	Lead
Antimony	Manganese
Arsenic	Mercury
Arseniuretted hydrogen gas.	Nitrobenzene
Benzol	Nitrous gases
Carbon dioxid	Phosphorus
Carbon disulphid	Picric acid
Carbon monoxid	Prussic acid
Chlorid of lime	Pyridin
Chlorin	Sulphur chlorid
Chromium	Sulphuretted hydrogen
Dinitrobenzol	Sulphurous acid

This list does not, of course, exhaust the conditions to be found in industry that are detrimental to health. Dr. Thomas Oliver treats the subject of occupational disease under five general heads: (1) diseases due to gases, vapors and high temperatures; (2) diseases due to conditions of atmospheric pressure; (3) diseases due to metallic poisons, dusts and fumes; (4) diseases due to organic or inorganic dust and heated atmospheres; (5) diseases due to fatigue.

When the wide range of factors affecting detrimentally the health of the workers of America is realized, together with the fact that practically no scientific measures are in operation for their relief, it becomes evident that the problem of industrial disease is one that calls for immediate investigation. The success of such an investigation, and the measures to be taken following it, depend very largely on the cooperation of the medical profession. Physicians can furnish the knowledge that enables the subject to be intelligently and scientifically handled, and on them must devolve the responsibility of reporting to appointed authorities all cases of sickness due to the patient's occupation.

To secure this necessary preliminary step, the American Association for Labor Legislation has introduced into the legislatures of the principal industrial states a uniform bill providing for the reporting of occupational diseases by physicians. The essential parts of this uniform measure are as follows:

> Every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of the nature of the patient's employment, shall send to the Commissioner of Labor a notice stating the name and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering.

It is, of course, recognized that a national investigation of occupational diseases is needed. A most valuable aid in this work would be a clinic for the study of industrial diseases, such as has been established recently at Milan, Italy. Such an institution would be valuable in affording ideal conditions for the study and prevention of occupational diseases, and in connection with a scientific system of recording, it would immeasurably increase the social service of physicians.

Metropolitan Tower.

2. Ivy, Robert H.: The Prevention of Industrial Phosphorus Poisoning, THE JOURNAL A. M. A., April 8, 1911, p. 1018.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Third Weekly Meeting

DISEASES OF THE NERVOUS SYSTEM (CONTINUED)

CHOREA

ETIOLOGY: Age, sex, season. Relation to rheumatism. Overwork in school, anemia, ocular defects. Heredity. Exciting causes.

SYMPTOMS: Onset of spasms, character, intensity. Course of spasm. Endocarditis. Mental condition. General condition. Duration.

TREATMENT: Hygiene, diet, control of patient. Medicinal treatment, arsenic, sodium salicylate, antipyrin, strychnin, etc.

ACUTE MENINGITIS

I. CEREBROSPINAL MENINGITIS

SYMPTOMS: Clinically may be (a) hyperacute, (b) usual, (c) mild, (d) chronic in form. Onset, vomiting, convulsions, chill, pain, muscular rigidity. Eruptions on skin. Fever. Headache, pain in neck, hyperesthesia. Delirium, apathy, coma, muscular rigidity, opisthotonos. Kernig's sign. Eye and ear symptoms. Respiration, pulse. Blood-count. Course, duration and terminations.

TREATMENT: Medicinal treatment. Serum treatment, technic, results.

II. SIMPLE ACUTE MENINGITIS

ETIOLOGY: Pneumococcus, streptococcus and staphylococcus, colon bacillus, etc. Secondary to acute infections.

DIAGNOSIS: History of previous disease, onset of brain symptoms.

Medical Education and State Boards of Registration

COMING EXAMINATION

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

South Dakota January Report

Dr. F. W. Freyburg, Secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Aberdeen, Jan. 11-12, 1911. The number of subjects examined in was 15; total number of questions asked, 125; percentage required to pass, 75. The total number of candidates examined was 32, of whom 29 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Northwestern University Medical School,	(1899)	90.3; (1909) 84.7; (1910) 85.6.
American Coll. of Medicine and Surgery, Chicago..	(1907)	81
College of Physicians and Surgeons, Chicago,	(1908)	76.2; (1910) 83.6, 88.5.
Rush Medical College.....	(1895)	75.1; (1908) 87.7
Hahnemann Medical College and Hospital, Chicago.	(1901)	75
Drake University	(1902)	76; (1910) 81.8
State Univ. of Iowa, Coll. of Med...	(1902)	80.9; (1910) 82.1
Keokuk Medical College, Coll. of Phys. and Surg..	(1900)	80.6
University of Michigan, Dept. of Med. and Surg..	(1909)	87.7
University of Minnesota, College of Medicine,	(1908)	75.9; (1909) 80, 80.4; (1910) 82.9.
Ensworth Medical College.....	(1909)	79.4
St. Louis College of Phys. and Surg..	(1909)	79; (1910) 77.6
Cornell University Medical College.....	(1899)	83.6
Jefferson Medical College.....	(1910)	87.2
Milwaukee Medical College.....	(1905)	85.7; (1910) 83.3
University of Toronto, Ontario.....	(1907)	81.2; (1908) 83.5
FAILED		
Bennett Medical College.....	(1909)	66.1
Drake University	(1902)	73
Creighton Medical College.....	(1907)	71.9

The following questions were asked:

BACTERIOLOGY

1. What kind of bacteria are most commonly found in suppurative processes. (*b*) Describe them. 2. What are the three sub-divisions of the colon typhoid bacillus group. 3. What do you understand by (*a*) Phagocytes. (*b*) Blastomycetes. (*c*) Thermal Death Point. (*d*) Antiseptics. (*e*) Disinfectants. 4. Describe a diphtheric throat. How would you obtain a culture? 5. How would you dispose of the excreta of (*a*) typhoid patient. (*b*) tubercular patient.

REGULAR THERAPEUTIC AND PRACTICE

1. Describe three of most common intestinal worms and give treatment for one kind. 2. Describe and treat rickets. What is marasmus and scorbutus? 3. What are the contra-indications of veratrum viride? What is its therapeutic value? 4. How would you distinguish between autotoxemia and acute ptomaine poisoning? 5. Describe symptomatic difference between tetanus and strychnin poisoning. 6. Differentiate acute alcoholism, apoplexy and epilepsy. 7. What is arthritis deformans? Give diagnosis and prognosis. 8. Describe and treat hemicrania. 9. What are the differences in the physical signs of initial incompetency and functional systolic murmurs? 10. Define briefly: Aphasia, apoplexy, thermic fever, myalgia fever, parotitis, septicemia, pyemia, pachymeningitis.

MEDICAL JURISPRUDENCE

1. Give signs of death by drowning. 2. What are the duties of a coroner upon receiving notice that a dead person has been found in his jurisdiction? 3. State the method of procedure, in this state, to procure the commitment of a person to the hospital for the insane. 4. In making a microscopic examination of blood-stains, what characteristics would lead you to believe they were produced by human blood? 5. What conditions, from a legal standpoint, would justify the induction of premature delivery?

PHYSIOLOGY

1. What action has the gastric juice on the carbohydrates and fats? 2. Give the composition, reaction, and uses of blood. 3. Describe the red blood-corpuscles and give their best known and most important function. 4. Describe the fetal circulation. 5. Name the erectile tissues of the body, and explain their function. 6. What digestive changes take place in the (*a*) small intestines? (*b*) in the large intestines? 7. Describe the sphygmograph and state its use. 8. How do arteries, veins, and capillaries differ as to function and structure? 9. Define emulsification, and saponification, and give examples of each. 10. What is an (*a*) efferent nerve? (*b*) afferent nerve? Give illustrations of each.

ECLECTIC MATERIA MEDICA, THERAPEUTICS AND PRACTICE

1. Define the terms diaphoretic, narcotic, and poison, and give examples of each. 2. Name several of the best stimulants, and give dose of each. 3. Name some of the best intestinal antiseptics, and doses of same. 4. Give the specific indications for hydrochloric acid, sodium bicarbonate, belladonna, aconite, and dose of each. 5. Diagnose and treat a case of pneumonia. 6. Give differential diagnosis between appendicitis, and gall-stones. 7. What do you know about infantile paralysis—its cause, symptoms and treatment? 8. What are the earliest symptoms of poisoning from the external use of carbolic acid. 9. Give symptoms and treatment of perforation of bowels resulting from typhoid fever. 10. Write a prescription for a good general tonic.

CHEMISTRY

1. Give a test for sugar in urine. 2. Give a common name for the following formula: H_2O_2, C H C_{12}, CH_4O, C_2H_5OH. 3. In what different compounds is sulphur found in nature? 4. What decompositions occur in the preparation of chlorin from rock salt? 5. Give chemical name and formula for lunar caustic.

EYE, EAR, NOSE AND THROAT

1. Diagnose and treat case of iritis. (*b*) Diagnose and treat case of keratitis. 2. Name and describe four errors of refraction and treat each. If lens is prescribed be definite. 3. Give treatment and prognosis of severe burn of eye involving lid and ocular conjuctiva. 4. Give treatment in well marked case of hypopyon. 5. Differentiate between diphtheria and follicular tonsillitis and treat case of follicular tonsillitis. 6. Diagnose and treat a case of hypertrophy of pharyngeal tonsil. 7. Describe the Eustachian tube, giving anatomy and function. 8. Draw diagram illustrating cross section of nose showing turbinated bodies, and treat a case of hypertrophy of inferior turbinate. 9. Give etiology, symptoms and treatment of empyema of frontal sinus. 10. Give three common causes of deafness and treat a given case.

OBSTETRICS

1. How would you treat vomiting of pregnancy? Give etiology. 2. Tell what you know about toxemia of pregnancy. 3. Diagnose and treat a case of placenta prævia, being called after mother is in labor. 4. Make an accurate diagnosis of a vertex presentation. 5. Give three main rules for the treatment of uterine inertia in labor. 6. Give immediate diagnosis and treatment of lacerations of perineum after labor. 7. How and when would you be justified to induce labor? 8. Describe the application of forceps. 9. What is a cystic mole? Give cause for its formation. 10. When would you use chloroform in labor?

ANATOMY, HISTOLOGY AND EMBRYOLOGY

1. Give a histological description of a hepatic lobule. 2. What is the embryonic origin of (*a*) the kidney, (*b*) the lungs, (*c*) the eyeball. 3. Describe the pancreas. 4. Give histological description of pulmonic alveoli. 5. What displacement occurs in a fracture of the femur at the junction of the middle and lower thirds? Why? 6. Describe the ankle joint. 7. Describe the diaphragm. 8. Describe the small intestine. 9. Name the muscles of respiration. Give origin and insertion of any two. 10. Name the abdominal viscera that are (*a*) completely, (*b*) partly, (*c*) without peritoneal investment.

SKIN AND GENITO-URINARY

1. Give symptoms, diagnosis and treatment of a beginning erysipelas of the scalp in an infant one year old. 2. Diagnosis and treatment of erythema multiforme. 3. Diagnosis and treatment of lupus vulgaris. 4. Diagnosis and treatment of perniones. 5. Etiology, diagnosis and treatment of acne vulgaris.

PATHOLOGY

1. What are lymphocytes, poikilocytes, blood-plates? 2. Give the blood changes in myelogenous leukemia. 3. What conditions are induced by (*a*) atrophy and (*b*) hypertrophy of the thyroid? 4. Give the pathology of cancrum oris. 5. Differentiate septic intoxication and bacteremia. 6. What are local infections? 7. Describe the intestinal lesion of typhoid. 8. What is an antitoxin? 9. The pathology of psoas abscess. 10. Define immunity.

DISEASES OF WOMEN

1. Give causes and treatment of pruritus vulvae. 2. Differentiate appendicitis and ovaritis. 3. Etiology, diagnosis and treatment of pyosalpinx. 4. What are the indications for hysterectomy? Describe one operation. 5. Give in detail your treatment for complete rupture of the perineal body with accompanying rectocele and procidentia uteri, in a woman past the menopause.

HOMEOPATHIC THERAPEUTICS AND PRACTICE

1. Outline your treatment of typhoid. 2. Name two of the most frequent complications of scarlet fever, with treatment of either one. 3. Give the indications for two remedies useful in the treatment of chorea. 4. Etiology, diagnosis and treatment of Bell's paralysis. 5. What symptoms would lead you to prescribe arsenicum, rhus toxicodendron, and sulphur in skin diseases. 6. Give symptoms, diagnosis and treatment of broncho-pneumonia. 7. Differentiate digitalis and aconite in heart disease. 8. Indications for two remedies in acute gastritis. 9. How would you treat hypostatic congestion of the lungs. 10. Outline your treatment of infantile convulsions.

HYGIENE AND SANITARY SCIENCE

1. Give in detail the method you would use as health officer in controlling diphtheria epidemic. 2. Is infantile paralysis infectious? If so, give rules for protecting the community. 3. Give incubation period of (*a*) scarlet fever, (*b*) diphtheria, (*c*) variola, (*d*) measles. 4. Give hygiene and general care of the patient to prevent infection of attendants and others in close contact with patient suffering from pulmonary tuberculosis. 5. Give general directions for the care of public schools, and care and inspection of school children.

SURGERY

1. Give diagnosis and treatment of strangulated inguinal hernia. 2. Diagnose and give treatment for cholelithiasis. 3. Diagnose and treat simple fracture of clavicle. 4. Diagnose and treat fracture of femur at the junction of upper and middle thirds. 5. How would you manage case of fecal fistula following appendiceal abscess? 6. Give diagnosis and treatment of hemorrhoids. 7. Given severe crushing injury of leg with shock—give treatment in detail. 8. Give diagnosis of and treatment for postoperative ileus. 9. Give diagnosis and treatment of carbuncle. 10. Give diagnosis and treatment of acute suppurative appendicitis; in case you operate, what incision would you make, and why?

Book Notices

THE PROCEEDINGS OF THE CHARAKA CLUB. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.

In this volume of the "Proceedings of the Charaka Club," of twenty-one papers whose titles are given as having been read since the publication of the second volume, twelve are printed with many rare and interesting illustrations.

Dr. Dana contributes a study of the canticles of old anatomists called "When Apollo Strikes the Lyre," which recalls the days when the scientific world united in the familiar medium of the Latin tongue to celebrate the glories of their contemporaries in verse. When a distinguished professor died or had a festal day his admiring friends and pupils sent him verses from all parts of Europe. Even the works of the great anatomists were celebrated with song. A certain John Antoninus wrote a *carmen* addressed to the ghosts of the gentlemen whose remains had been dissected by Fabricius of Aquapendente, congratulating them on their good fortune in having been dissected by such a master of the art, and assuring them that the repose of their souls had been attended to. Spigelius had a whole *funiculus* of songs contributed to encourage him in his work. Antonio Scarpa, professor in Padua, received the tribute of twenty-five Latin verses written by his pupils and friends. Through three centuries these curious songs were the fashion; even Harvey, Sydenham and Radcliffe in England were celebrated in memorial verses. While the poems do not take high rank as works of art, still they have a great deal higher literary value than the conventional "resolutions" passed by moderns to signify respect for a distinguished departed brother. The custom has passed away, because, as Dr. Dana says, "the learned world has dropped its Latin without having picked up Esperanto;" and, while not maintaining that the formal praise adds anything to the real achievements of the profession, he hints, nevertheless, that physicians might have a better scientific imagination if they were to indulge their sensibilities a little, and not be so technical that they cannot enjoy the esthetic side of life.

Dr. Pearce Bailey makes a delightfully logical diagnosis of what has been known as Flaubert's epilepsy. From the manner in which Flaubert, as well as his friends, describes himself, and from what the novelist records of his peculiar psychology in the romance of "Madame Bovary," Dr. Bailey concludes that the famous fits were not epileptic, but convulsive attacks following emotional crises. Flaubert's physicians left no records of his case. They evidently did not understand it. Some bled him, one threw up his hands and prescribed quinin, another told him to stop smoking, and still another—Hardy, the dermatologist, we understand—called him a hysterical old woman to his face. This is the literary post mortem which Dr. Bailey, more sympathetically, sets forth.

In a paper by Dr. Smith Ely Jelliffe there appears a copy of the first illustration of the fissure of Sylvius, as presented by Franciscus Sylvius in the seventeenth century. So vague were ideas about the work of this remarkable anatomist that the honor of the name of the fissure had often been attributed to Jacobus Sylvius, who lived two centuries earlier. Study of the references makes it possible to trace the picture of a well-descended and highly endowed youth, who studied in Parisian, German and Dutch universities, till at the mature age of 23 he was crowned with laurels, received his cap, ring and book, and was sent forth with a kiss of peace to be one of the most distinguished lecturers and popular physicians of his day. It was said of him that when at 27 he went to Amsterdam the inhabitants acted as though Apollo had descended from Olympus to cure them.

No one reading Dr. Arpad G. Gerster's charming sketch of "Surgical Manners and Customs in the Time of Henry de Mondeville," can fail to appreciate the stages through which surgery has struggled from the middle ages, when it was considered a degrading manual trade, to the present day of luxurious nicety. It is interesting to find this clever old French fourteenth-century bachelor with a big practice grumbling thus: "Sometimes in a whole day I cannot manage to write a single line, being obliged to attend to my lectures, and having in addition to run hither and thither the whole day long to earn my bread, because I must earn everything I need, for myself and my household, by my own work."

De Mondeville's quaint, piquant Latin abounds with caustic humor, and shows deep insight into the devious ways and the cunning of charlatans and tricksters, who "though ignorant, thrive and are magnificently exalted by their practice, while the well-instructed, truth-telling and expert are oppressed, and frequently have to live the life of paupers and mendicants." So little change has there been in human nature, Dr. Gerster says, that "in one of his treatises we find the tricks of the present-day Christian Science beautifully delineated;" and truly, to read the arguments of the monks, concerning the divine nature of health, which de Mondeville satirizes, gives us a feeling that the benighted superstition of the middle ages is flourishing to-day.

To possess this little volume is to loiter at will with the medical great of forgotten ages, or to share the keenly humorous view of the writers of the papers concerning modern situations in medicine.

TEXT-BOOK OF NERVOUS DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

To commend the work of Oppenheim seems like approving a Rembrandt or complimenting a Newton. For years this text-book has been by far the best one in any language. To review it is to recite a catalogue of excellencies. English readers unfamiliar with German are therefore deeply indebted to Dr. Bruce and his Scotch publisher.

The first volume, 602 pages, embraces two parts: a general part (92 pages) and a special part (510 pages). The first, on mode of examination and general symptomatology, contains a wonderful fund of information remarkably well condensed. The second covers diseases of the spinal cord and peripheral nerves, including 147 pages on anatomy and physiology of the cord, localization in the spinal cord (eleven most valuable pages), vessels, etc.

The second volume (819 pages) is devoted to diseases of the brain, the neuroses, diseases of the sympathetic, angioneuroses and conditions of intoxication in which the nervous system is affected. This includes sixty-six pages on the anatomy and physiology of the brain and seventy-two pages on the general symptomatology of brain diseases.

The entire work is a storehouse of thoroughly digested information. The author long has been a contributor to almost every department of the science of neurology and the art of the neurologist. His erudition, keen discernment and practical balance are apparent in the work before us. Every chapter—yes, every page—bears the stamp of the author's keen scrutiny. The field of nervous diseases is covered more completely than by any other treatise on the subject. Affections in which surgical therapy is of importance seem to be particularly well handled. We might instance tumors of the brain and of the cord, dislocation and fracture of the spinal column and the late stages of poliomyelitis.

In many of the better works on diseases of the nervous system the neuroses receive rather scant or, at least, inadequate attention. One might expect this in a German product, but the expectation is not fulfilled in this work. Functional nervous diseases receive consideration satisfactorily full and particularly sane. We especially commend the sections on conditions of anxiety and imperative ideas.

Perhaps it is unnecessary to note that, while the large subjects in neurology receive the most comprehensive treatment, the lesser ones are not neglected. Indeed, often it is these lesser maladies or symptoms which loom large to the patient

and to the practitioner who is unfamiliar with them and who fails to find them on a hurried hunt through his library. For instance, erythromelalgia, cephalic, hydrophobic, paralytic and bulbar tetanus, facial hemiatrophy, pachyacria, astasia-abasia, akinesia algera, glossodynia and the cerebral softening of gas poisoning might easily elude the practitioner who has no work like this on his shelves. We approve, too, the introduction of a chapter on general paresis.

The author's extensive and catholic knowledge of the literature is also worthy of note. Americans often have just cause of complaint against their European colleagues, because the latter incline to neglect or underestimate the value of American work; but such complaint cannot be lodged against Oppenheim. A few minutes' glance sufficed to find twenty American names. Indeed, scarcely a neurologist of note in this country has failed of mention in this work. Writers of other countries have received like attention, credit and courtesy.

While the book is satisfying in almost every respect, possibly a more extensive and minutely classified index would have made it more easily useful to some readers. The index, however, is unusually good for a German publication.

In conclusion, we have to record our sincere pleasure in a translation which is a real interpretation: neither a labored effort to transplant foreign idioms bodily, nor a fluent composition lacking in precision. We miss alike the routine phraseology of the hack and the absurd inaccuracies of the technically ignorant. When we say that the translation is fully worthy of the original, we consider that we have rendered full measure of commendation. The numerous illustrations are extremely well done; in some instances better than in the original.

A TEXT-BOOK ON DISEASE-PRODUCING MICROORGANISMS. Especially Intended for the Use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp. 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

This book, according to the title, treats of disease-producing microorganisms, and is especially intended for the use of veterinary students and practitioners. According to the material discussed, it seems to be intended for veterinarians, physicians, bacteriologists, pathologists, dairy students, etc. This multiplicity of subjects is a serious drawback, in our opinion, and the book would be more useful if the author had confined himself to the subject of veterinary bacteriology. This part is comprehensive and instructive.

Unfortunately, many errors and misstatements have found their way into the text. Some typographical errors and misspelled proper names have been overlooked. The composition is often not quite clear, and occasional contradictions exist. A few of the erroneous statements are these: The author says that invertase splits saccharose into dextrose. The fact is, however, that dextrose and levulose are the splitting products. Two quarts should read "nearly equal to 2,000 c.c." rather than "1,000 c.c."; and *B. diphtheriæ* is stated to produce gas in the presence of glucose—a serious error.

The chapter on the preparation of culture media is not quite up to date. Agar-agar can be filtered readily within a few hours by using folded filters made of good filter-paper; the author, however, says that it takes several days. It is stated that gelatin must be sterilized in the Arnold; but in modern laboratories the autoclave is used with good success. The clarifying process by the use of egg-albumin is entirely omitted. The author uses litmus as indicator for titrating media; phenolphthalein is more accurate and more modern.

The subject of immunity is not clearly elucidated, especially the part dealing with Ehrlich's side-chain theory, and the description of preparing and testing diphtheria antitoxin is not correct. In the chapter on milk the lactic acid bacteria are hopelessly confused and the term is not used in the usually accepted sense. In discussing the thermal deathpoint of tubercle bacilli in milk, the author does not seem to consider the exact work of Theobald Smith, Rosenau, and Russell and Hastings worthy of mention. The objections enumerated against the pasteurization of milk are erroneous without exception, and the author utterly ignores the most up-to-date work on this subject. The statement that Rochester, N. Y., has experienced a deterioration of its milk-supply through pasteurization seems contradictory to an utterance of the health officer of Rochester, Dr. Goler, that there never was an appreciable amount of pasteurized milk in that city.

Animal diseases and the parasites causing them are treated well. In the preface it is stated that there is no text on veterinary bacteriology in the English language. If this book had been devoted to this subject *exclusively*, therefore, it would undoubtedly have been an unqualified success.

THE RACIAL ANATOMY OF THE PHILIPPINE ISLANDERS. Introducing New Methods of Anthropology and Showing Their Application to the Filipinos with a Classification of Human Ears and a Scheme for the Heredity of Anatomical Characters in Man. By Robert Bennett Bean, M.D., Associate Professor of Anatomy, Tulane University of Louisiana, New Orleans. Cloth. Price, $2 net. Pp. 236, with 26 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This book is a compilation, with modifications, of a series of articles published in the *Philippine Journal of Science* on the racial anatomy of the different peoples of the Philippine Islands. The author has studied the living form rather than the skeleton as a method of segregating the different types, of which he defines seven, into which all the peoples of the island may be classified anthropologically. The three principal types are the Primitive, which represents most nearly the original or the oriental type; the Iberian, which conforms to a type representing the admixture with Spanish blood, and the Australoid, representing the primary negroid element. The others are not so important, and represent various blends and mixtures of the three principal types. The studies of Filipinos from all parts of the Archipelago show that probably a third of the population is Iberian, owing to Spanish interbreeding over a period of several hundred years. These are more susceptible to tuberculosis, which is quite prevalent among them, whereas the original Filipinos, or the Primitive type, are comparatively free from this disease. The author believes that the Iberian will ultimately disappear, leaving new combinations and blends unlike the original types. The Chinese and Japanese have left their impress on the types, as have also the Indians, whom the author says, no doubt swarmed over the Philippines for many more centuries than did the Spanish. In pursuing his studies and establishing the types the author has made hundreds of observations and measurements of Filipinos, both those in the schools and the natives in the country. He has laid especial emphasis on shape of head, character of nose, teeth and ear, comparative length of limb, character of skin, hair, etc., and position of the umbilicus, which latter the author presents as a point of significance in anthropologic study. The book contains many photographs of Filipino types and the author draws many interesting conclusions as to the place of origin and distribution of the different races of mankind. The work is an interesting contribution to anthropology.

THE AMERICAN YEAR-BOOK. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

This volume is the first of a projected series of annual publications intended to fill a place distinct from others already in the field. Statistical matter is not given so abundantly, but the attempt is made to give something like a survey of general progress in the lines of "Comparative Statistics," "History and Law," "Government and Administration," "Functions of Government," "Economic and Social Questions," "Industries and Occupations," "Science and Engineering," "The Humanities," and "Current Record." Arrangement is topical, with cross-references and an analytical index. The work seems to be well done in the main, much of the information being presented in a more interesting and available form than is usual in such works of reference.

So far as preliminary examination shows, the only decidedly disappointing feature is the subdivision of "Literature and Language" under "The Humanities." Considering the fact that almost no attempt is made to give the most notable original works of the year in any language, or in any depart-

ment of pure literature, the general reader will probably grudge the space given to language text-books, and wonder that it has been thought necessary to mention translations into English of foreign works possessing neither timely interest nor transcendent importance.

In the section on medicine and hygiene, covering twenty pages, Alexander Lambert briefly reviews the progress in medicine, surgery, public health, medical education, nursing, vital statistics, etc., and gives a list of the important medical books published during the year. Most attention is given to tuberculosis, poliomyelitis and others of the infectious diseases, the important discoveries and developments in research and the provisions made by endowment for the promotion of these. Among the many things worthy of mention the author, with judgment and discrimination, has selected those most important and of largest bearing, and has editorially commented on them in an interesting way. The article fairly reflects the status of those subjects at the end of the year.

THE DISEASES OF CHINA, INCLUDING FORMOSA AND KOREA. By W. Hamilton Jefferys, M.D., Univ. of Pennsylvania, Medical Missionary in China, and James L. Maxwell, M.D., London, Medical Missionary in Formosa. Cloth. Price, $6 net. Pp. 716, with 360 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This book will be of value to medical missionaries or practitioners wishing to take up the practice of medicine in China. It does not purport to be a complete text-book on the diseases of the East, but reviews and compares interestingly the prevalence of many of the world-wide epidemic diseases, as plague, cholera, malaria, tuberculosis, syphilis and gonorrhea. The differences in the requirements of practice in China as compared with Western countries are pointed out, and the authors draw from their long experience in their presentation of the subjects. The greater prevalence of tuberculosis is noted, the opium habit is interestingly discussed, hospitals throughout China and Formosa, their equipment, and their work, are pictured and described, and the needs of the country in a medical way are set forth. The affections peculiar to the country, and unusual forms of more or less familiar diseases or lesions, as of elephantiasis, various tumors, syphilis and skin affections, and also of gynecologic and other surgical affections, due largely to neglect of proper treatment, are described. Metazoan and protozoan diseases are given considerable space.

Perhaps the most valuable suggestion in the book is as to the immense field offered for research and comparison of diseases occurring in new environment and among peoples with different habits, diet, etc. The experience of the authors as described in this book will undoubtedly be drawn on in future studies of many diseases.

AN ANATOMICAL AND SURGICAL STUDY OF FRACTURES OF THE LOWER END OF THE HUMERUS. By Astley Paston Cooper Ashhurst, M.D., Prosector of Applied Anatomy in the University of Pennsylvania. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery, 1910. Cloth. Price, $2.75 net. Pp. 163, with 150 illustrations. Philadelphia: Lea & Febiger, 1910.

The subject-matter of this little volume is divided into two parts; the first deals with the anatomy, mechanism, complication and treatment of these fractures, and the second contains the clinical histories in detail of the fifty-six cases which form the basis of this study. The first part shows that the author has done a great deal of original work and has devoted much time and study to the elucidation of the pathogenesis of these fractures.

The method of making a proper examination of the elbow for diagnostic purposes and the method of interpreting skiagraphs of this region are very lucidly explained. The author earnestly advocates the hyperflexed position in the treatment of most of the varieties of fracture involving the lower end of the humerus, and his arguments in favor of this position are quite convincing, provided one remembers the most important rule in this connection, which is not to maintain the arm in any position without change sufficiently long to permit of fixation of the point in that position.

Fractures of the elbow are so common in children and the results following are so frequently not what they should be, that a careful study of this little volume is earnestly recommended to all who treat these conditions.

LESSONS ON THE EYE. For the Use of Undergraduate Students. By Frank L. Henderson, M.D., ex-President of the St. Louis Medical Society (1905). Fourth Edition. Cloth. Price, $1.50 net. Pp. 238, with 138 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This little book, after briefly taking up the anatomy of the eye and the surrounding structures explains in an elementary way the physics of light, of prisms, lenses, etc.; it explains refraction and the various errors of refraction, describes disorders of the ocular movements, and discusses the diseases of the different structures of the eye, and their treatment. The author states that the book is intended as a substitute for the students' class-room notes, and it serves that purpose very well. The book is well illustrated, and should prove an aid to the medical student.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL, MAYO CLINIC, ROCHESTER, MINN., 1905-1909. Cloth. Price, $5.50 net. Pp. 668, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This collection of the papers of Drs. William J. and Charles H. Mayo and the other members of the staff of St. Mary's Hospital, previously published elsewhere, brings into compact form in one volume a mass of material on surgical subjects, and investigations of the pathology of surgical diseases treated in that hospital from 1905 to 1909. It is indexed as to authors and subjects, and affords a convenient source of reference to those wishing to look up what has been done at St. Mary's.

Medicolegal

When Expert Witnesses are Entitled to Special Compensation

The Supreme Judicial Court of Maine holds, in the consolidated cases of Gordon, O'Neil and Twitchel vs. Conley (78 Atl. R. 365), that, under certain circumstances, expert witnesses are entitled to reasonably special compensation. Here the plaintiffs were employed by the defendant or her attorneys to make an examination of her physical condition for the purpose of enabling them to qualify as medical expert witnesses for her in a personal injury case she had against a railway company. They were not summoned, but appeared voluntarily at the request of counsel, without any agreement as to their compensation, and by special request remained in court three days to listen to the experts on the other side, and testify in rebuttal, if necessary. The defendant contended that they were entitled to only the statutory compensation of ordinary witnesses.

It will be observed, the court says, that the question raised was not whether an expert witness can be summoned into court in the regular way, and be required to give in evidence all the knowledge he may have acquired as an expert on a particular subject under investigation, for the regular witness fee, but whether, having been employed by a party to give special attention to the investigation of a matter out of court, and then to appear in court, not only to testify as an expert witness, but to remain in court for a specific length of time with loss of regular occupation, not by order of the court, but by request of the party employing, a witness is entitled to receive reasonable compensation beyond the regular witness fee for such services. If a party saw fit to summon an expert witness to testify in court without any knowledge as to what he might say, whether the witness would be required for the usual fee to give all the expert knowledge he might have on the subject under investigation did not arise here. That was not the case before the court.

A witness under subpena after testifying for an hour or half an hour might be excused by the court and enabled to pursue his ordinary occupation, instead of losing three days. He is under no contractual obligation whatever to the party calling him. He cannot even be unwillingly interviewed before testifying. He takes the stand, testifies, and leaves it. That is all he is required by law to do. The court, of course, could require him to remain in attendance, but it is an unusual case in which an expert witness, capable of earning perhaps $100 a day, would be required to remain at $1.50 per day for the

benefit of private interests. Hence it appears that a witness summoned into court, and for non-appearance subject to contempt, stands in an entirely different relation to the court and the parties from the witness who appears in court without summons, but on a special agreement not only to prepare and testify, but to remain in court for the special benefit of the party calling him. Such a witness performs services outside the statutory requirement, and is entitled to whatever his services are reasonably worth above the legal fee due ordinary witnesses. The plaintiffs rendered bills for $50 per day, but the jury allowed them $37.50 per day, which, in view of their reputation and skill, is deemed entirely reasonable.

Requisites for Holding Brothers and Others for Bills—Inadmissible Evidence

The Supreme Court of Rhode Island holds, in Churchill vs. Hebden (78 Atl. R. 337), that, the evidence failing to prove either an express or implied promise of the defendant to pay for an operation for appendicitis performed on his brother, a verdict was properly directed in the defendant's favor. It appeared that the patient was a man 29 or 30 years of age, who lived with wife and children in one city, while his brother, the defendant, was a resident of another city. The family physician testified that he telephoned to the surgeon who performed the operation, and made arrangements for it, but did not remember that any thing was said about the fees or who should pay them. The patient testified to having objected to having the operation performed and having asked the family physician about the cost, stating that he was the one who would have the bill to pay, and being told not to mind about the bill, it being a little matter that could be fixed up afterwards. The surgeon who performed the operation died before the trial of the case, which was revived in the name of his executrix, so that his testimony was lacking. There was, however, no denial that the operation was performed, or that the charge for it was $500, but only as to this defendant's ability—a denial that he had agreed to be responsible for the payment for the operation.

With the sole question thus being whether the defendant had employed the surgeon, or had agreed to pay for his services rendered to his brother, a question for the jury to pass on, the court holds that there was no error in refusing to admit in evidence the surgeon's books of account. The burden of proof was on the plaintiff to satisfy the jury by a fair preponderance of the evidence of the employment of the surgeon by the defendant. To show the entry on the books would merely show the deduction reached by the surgeon through his sources of information as to the circumstances surrounding the transaction. Those circumstances were to be submitted to the jury, who were entitled to consider them without knowledge of the inferences drawn therefrom by either party to the transaction. The parties necessarily took an interested view of the situation. The jury should consider the same without prejudice.

Nor was there error in excluding evidence as to other contracts or payments made by the defendant, as, for example, who paid the nurse for her services, or whether the defendant engaged or paid the hospital wherein the operation was performed.

There being no testimony of an express promise to pay, the jury were correctly instructed that, if the plaintiff was entitled to recover in this case, it must be by virtue of certain circumstances by which the law would imply a promise on his part to pay for the services. For instance, if a husband calls a physician to attend his wife, being under obligation to take care of his wife, the law would imply a promise to pay for those services, even though he made no promise. If a father calls a physician to attend his minor son, he being under obligation to take care of that minor son, the law would imply a promise to pay for those services. But where a mere stranger —and brothers are strangers in that respect—where a mere stranger calls on a physician to attend a third person, whom the one calling the physician is under no obligation to take care of, then the law will not imply any promise to pay for the services rendered to the third person

Powers of Courts on Appeals from Board Decisions Refusing Licenses

The Supreme Court of Washington, In re Littlefield (112 Pac. R. 234), determines the powers, under the 1909 statutes of that state, of the courts on appeals from decisions of the State Board of Medical Examiners refusing licenses to practice medicine and surgery, and affirms a judgment directing the board to issue the license applied for in that case.

The record, the court says, showed that the license was refused by the board principally for the reason that the applicant did not obtain a rating equal to 60 per cent. on the subjects of histology, pathology and general diagnosis, which he was required to obtain under the statute before a license could issue to him. The first contention on the part of the board was that the court had no jurisdiction to hear this case; that it could not administer the provisions of the medical act as applied to appeals from orders of the board denying a license after examination, because, it was asserted, it is familiar law that, if the court cannot administer the law on a subject brought before it by virtue of the appellate statute, the court has no jurisdiction, to sustain which announcement of the law many cases were cited. But this was assuming the very question at issue. It seems to the Supreme Court that under the statute the court has the right to administer the provisions of the medical act, for the statute specially provides for an appeal from the decisions of the board. Section 13 of the act provides that, "In any case of the refusal or revocation of a license by the said board under the provisions of this act, the applicant whose application shall be so refused, and the licentiate whose license shall be so revoked by said board, shall have the right to appeal from the decision so refusing or revoking such license within thirty days after the filing of such decision * * * to the superior court," etc. And provision is made for an appeal from the decision of the Superior Court to the Supreme Court.

It was contended that, if this statute was to be given force at all, it must be construed to the effect that the appeal is not from the facts in the case or the merits of the case, so far as the examination is concerned, but only for the purpose of having determined any questions of law arising on the examination or in connection with the same. But the statute is a general one, and confers the general right without any limitation of this kind. So far as the statute itself is concerned, it does not remove from the operation of the appeal questions of fact, any more than it does questions of law.

But it was insisted that it must be construed with reference to the asserted fact that it would be a travesty for the superior court to undertake to pass on the qualifications of applicants to practice medicine; that it would resolve itself simply into the hearing of expert testimony on questions brought before the court. Difficulties of this kind are presented in the trials of many cases. A common instance is where a defense is based on the alleged insanity of a defendant in a criminal action. The testimony of alienists and other scientists is the controlling testimony in the case. The legislature evidently was not willing to leave the exclusive and final determination of this question to the discretion of the examining board, but evidently thought that justice and public policy demanded that there should be a review of the action of this tribunal.

It is true, there are some inconsistencies in the act; one of which is the fact mentioned by the board, that there may be an oral examination which it would not be possible to transmit in the record. But that it was intended by the legislature that the evidence generally should be transmitted to the Superior Court is evident from the provisions of the statute, for the law requires that the secretary shall within ten days after the service of such notice of appeal, transmit to the clerk of the Superior Court to which such appeal is taken, a certified copy, under the seal of said board, of the decision of said board, and the grounds thereof in the case of the refusal of the license; that the clerk of the court shall docket such appeal cases, and that they shall stand for trial in all respects as ordinary civil actions, and like proceedings be

had thereon. It also provides that on said appeals said causes shall be tried *de novo* (anew), which excludes the idea advanced that only questions of law shall be passed on by the Superior Court. It provides that the examination papers shall form a part of the records of the board, and shall be kept on file by the secretary for a period of one year after each examination. All these and other provisions of the statute tend to show that the preservation of such records is in the interest of appeal.

Again, it was contended that, if the statute is to be literally construed, the proper procedure was not followed in this case, for the court only passed on the question in the main as to whether the applicant had been properly rated in his examination on the subjects of histology, pathology and general diagnosis, while the other subjects on which he was examined were not examined by the Superior Court; that a trial *de novo* is a trial anew, and that a trial anew means a trial of all questions that were involved in the case below. But it seems to the Supreme Court that this is not a broad view of this statute. Undoubtedly a trial *de novo* does mean, and is generally understood to mean, a trial anew; but it means anew, of course, only as to the questions in issue. In this case, so far as the applicant was concerned, he was satisfied with the rating he received on the other subjects of examination, and there was no objection made to them by the board, so that they were really not in issue in the case, and the case was tried *de novo* (anew) so far as the issues were concerned.

Finding no reversible error, the judgment directing the issuance of a license is affirmed.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Texas, State Medical Association of, Amarillo May 9-11.
Washington State Medical Association, Spokane, May 9-11.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-Third Semi-Annual Meeting, held at St. Joseph Mo., March 16-17, 1911

The President, DR. DONALD MACRAE, Council Bluffs, Ia., in the Chair

The Present Status of Salvarsan

DR. ALFRED SCHALEK, Omaha: It is premature and risky to let a patient with syphilis go with one or only a few treatments with salvarsan. Syphilis is still a serious disease which requires prolonged and thorough attention. Salvarsan has not yet been proved to be greatly superior to mercury, and, while it acts more rapidly on small lesions and may be of benefit in cases in which mercury is powerless, only time can tell whether or not the results will be more permanent.

DISCUSSION

DR. C. A. GOOD, St. Joseph, Mo.: Salvarsan quickly causes disappearance of the primary chancre and mucous patches, but it is doubtful whether or not it will drive the spirochetes completely from the body. Two or three interesting observations have been made of children with congenital syphilis who were given salvarsan and later died, and it was found that the organisms had practically disappeared from all the internal organs where usually they are found in abundance, with the exception of one instance, in which they were found in the lungs.

DR. T. M. HALL, St. Joseph, Mo.: There has been a tendency to promise a syphilitic that one injection of salvarsan will practically cure him. This is unfortunate, because, if later the disease is not annihilated by one injection, the man is imbued with a false idea as to his true condition.

DR. F. S. MASON, New York City: While salvarsan may not be so good as mercury, when it is used the acute symptoms are relieved quickly. A woman who had the acute lesions of syphilis and was attending to her business received injections of salvarsan and within a week practically all the lesions disappeared, so that she could not infect anyone else.

Difficulties Encountered in Late Operations for Intestinal Obstruction

DR. HERMAN E. PEARSE, Kansas City, Mo.: By the following procedures patients with late cases of intestinal obstruction can be saved: 1. Empty the bowel at first operation and allow time to recover from toxemia before resection is practiced unless gangrene should forbid (ten-minute operation). 2. Do this by employing the long intestinal tube and emptying the distended bowel as the first step after finding the obstruction; close the wound after providing escape. 3. By the use of the glass tube of Paul or the rubber tubes with depressed external grooves, as advised by Marro, the toxic fecal matter may be conveyed beyond the wound, thus securing primary union and safety from abscess. 4. The bowel edges may be brought out of the incision beyond the skin and the open treatment by a nurse and water washing may be substituted for the closed method of filthy gauze and pads of cotton. 5. A second and even third operation may be done to complete the work when the patient has recovered from the effects of the obstruction and vomiting.

DISCUSSION

DR. JOHN E. SUMMERS, Omaha: Sometimes in cases of strangulated hernia, when gangrene is present, one can establish an artificial anus by cutting into the gut and allowing this opening to remain until the circulation is reestablished; then an operation may be done later. If drainage is carried out, it is wise to wash out the gut through a tube.

DR. C. LESTER HALL, Kansas City, Mo.: I differ with Dr. Pearse in regard to making the incision. We can open the abdomen more widely and freely and reach parts of the abdominal cavity better through a median incision, and we have less trouble through that incision in the after-treatment, and we get better union there than in any other part of the abdominal wall.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo.: I agree with Dr. Pearse that a good place to make the incision is about the border of the right rectus, because there is more trouble in the right side in intestinal obstruction than anywhere else, and the fact that one wants to drain in the median line; therefore, I would favor incision at this place in most cases.

DR. S. H. SMITH, Omaha: In a case of intestinal obstruction in a woman, the obstruction was caused by three constricting bands around the sigmoid flexure. These bands were cut. There were adhesions around the cecum which were broken up. Three days after the operation, the patient had natural

bowel movements without the use of purgatives, and she has not had to take any purgatives since.

DR. F. H. CLARK, El Reno, Okla.: Shock in abdominal operations comes more from rough handling of the intestines than from any other one thing that enters into surgical work in the class of cases under discussion. A prominent surgeon told me not long ago that he attributed his remarkable success to two things: first, he had acquired a technic which enabled him to get in and out of the abdomen in a very short time; and second, he had learned to handle the intestines just as gently as it was possible to do it.

DR. JOHN P. LORD, Omaha: When we have a gangrenous gut to deal with, I believe that it should be excised, then we have an open bowel and can drain. We should not pack it with gauze and cover it with rubber tissue. The Murphy button tempts one to make an immediate anastomosis, which would be the means of causing the patient to suffer from the toxemia that kills so many of these patients who have so-called secondary shock. I do not believe in secondary shock unless there is secondary hemorrhage. The tube is a good thing, but it tempts us to do too much in the very cases that require drainage without too much manipulation.

DR. S. G. ZINK, Leavenworth, Kan.: I have had three cases of fecal impaction, and I have found that by using a 25 per cent. solution of peroxid of hydrogen, and putting the patient in the knee-chest or in the exaggerated Sims position, with the head low down, one or two injections of 8 ounces, followed by irrigation, would break up these fecal masses.

DR. C. H. WALLACE, St. Joseph, Mo.: For the average surgeon, who sees these cases only occasionally, I am satisfied that the simpler method of drainage by the introduction of a large tube will result in a greater saving of life than more extensive work.

DR. JACOB GEIGER, St. Joseph, Mo.: Early and correct diagnosis is most important. It is easy for us to say what to do, but every case is a law unto itself, and when we have a case of acute intestinal obstruction and open the abdomen and feel the pathology, then we have to use our brains to determine what is best to do.

DR. V. L. TREYNOR, Council Bluffs, Iowa: I believe that if efforts were directed toward a more certain and early diagnosis it would simplify the treatment of these cases very materially. I do not like to hear the internists criticized for so-called neglect when the surgeon himself is sometimes incapable of making a diagnosis when he is called early.

DR. C. C. CONOVER, Kansas City, Mo.: Modern methods of diagnosis have improved so wonderfully in the last four or five years that most internists can make a diagnosis of intestinal obstruction, and need not wait and call in a surgeon to tell them what is the matter with the patient.

DR. H. M. CLARK, Platte City, Neb.: We as country practitioners call in surgeons and they operate on patients with intestinal obstruction and lose 40 or 50 per cent. of them; we can do nearly as well ourselves.

The Roentgen Ray in Postoperative Cases

DR. R. D. MASON, Omaha, showed the value of the *x*-ray in cases in which operation has been done, and advised its use in all postoperative cases in which malignancy is suspected. He pointed out the fallacy of waiting until a return of the disease before beginning the use of the rays.

DISCUSSION

DR. ALFRED SCHALEK, Omaha: Every cancer operated on should have postoperative *x*-ray treatment.

DR. JOHN P. LORD, Omaha: I have an abiding faith in the therapeutic value of the *x*-ray in the treatment of cancer in selected cases in which it can be reasonably expected to do some good, and practically every case should receive the benefit of this postoperative treatment.

The Rôle of Tuberculin in the Diagnosis of Pulmonary Tuberculosis

DR. LOGAN CLENDENING, Kansas City, Mo., reviewed the methods of early diagnosis of pulmonary tuberculosis and said: 1. In infants and children the v. Pirquet test is of great value and positive, the younger the child the higher its value; it is somewhat less valuable if negative. 2. In adults there is no method of using tuberculin for diagnostic purposes that has uniform value in all cases; the subcutaneous method is probably the best.

Colica Mucosa

DR. J. M. BELL, St. Joseph, Mo.: My experience with this disease leads me to believe the enteroptotic habit, plus autointoxication and constipation, is the foundation on which the disease is based; the neurosis being secondary. When the digestive tract is restored, a normal state of equilibrium is obtained.

Local Anesthesia with Quinin and Urea Hydrochlorid

DR. C. M. NICHOLSON, St. Louis: I am convinced by experience with thirty-two cases that quinin and urea hydrochlorid is destined to occupy a prominent position as a local anesthetic. The greater length of time required after the injection of the quinin and urea hydrochlorid before the anesthetic effect is fully manifest is its principal disadvantage.

DISCUSSION

DR. JOHN P. LORD, Omaha: I have given this anesthetic in as many cases as Dr. Nicholson has mentioned and can unqualifiedly endorse it. This winter I used it in resecting the ribs in cases of empyema, and it worked admirably.

DR. J. P. STANDLEY, Bedford, Iowa: I have repeatedly operated on hemorrhoids with this anesthetic with satisfactory results.

DR. J. H. DILLON, Auburn, Neb.: I wish to speak highly of this anesthetic, although I have only used it in two or three cases. I have also seen satisfactory results with it in the hands of others.

DR. E. H. THRAILKILL, Kansas City, Mo.: I have used quinin and urea hydrochlorid with good results, but I prefer stronger solutions than are used by some practitioners. After operations on the rectum I have used this anesthetic to prevent postoperative pain.

DR. R. C. DORR, Batesville, Ark.: I do not believe that there is any major surgical work done with a local anesthetic without pain.

DR. A. J. MCKINNON, Lincoln, Neb.: I operated on a man for hemorrhoids, using this anesthetic, and after the operation the patient rode home in a buggy.

Suggestions for the Application of Lactic Ferments in Genito-Urinary Work

DR. F. S. MASON, New York City: These ferments are useful in treatment of diseases or infections of the gastro-intestinal tract, since they inhibit the growth of the pathogenic organisms. Drs. Holbrook Curtis and Otto Glogau of New York have used suspensions of lactic ferments in bouillon successfully in treatment of suppurating discharges from sinuses and nasal passages, as well as from the ear.

Peritonization in Abdominal and, More Particularly, Pelvic Surgery

DR. JOHN E. SUMMERS, Omaha: By peritonization or peritoneoplasty is meant the covering over by peritoneum of all tears, lacerations and losses of substance of the peritoneum due to surgical procedure. In some cases the peritoneum may be separated from the abdominal wall, commencing at the lower angle of the incision toward the space of Retzius, or at the sides, a great part of the bladder being likewise freed. These flaps are made large enough to cover over the posterior wall of the pelvis. In other cases, the technic consists in transporting the sigmoid flexure across the pelvis and suturing it in such a way that all raw surfaces are covered over. The sigmoid is only fixed below and is nearly always sufficiently mobile to be carried across the pelvis to the right side as far as the cecum. When the uterus is preserved, the sigmoid is sutured to the lateral walls of the excavation and across the fundus of the uterus. When the uterus is sacrificed, the sigmoid is sutured to the lateral walls of the excavation and to the bladder. Drainage should be made through the vagina. Amann emphasizes the fact that this technic is particularly

advantageous when septic pus or genital abscesses communicate with the intestine—for example, a pyosalpinx, or a suppurating tumor of the ovary, opening into the large bowel; and also when genital abscess coexists with perforative appendicitis. The intestinal sutures are situated under the protection of the cavity drained and are extraperitoneal. Two vital principles are involved in peritoneal autoplastic surgery: first, the more vital principle, the prevention of infection; second, the prevention of postoperative intestinal obstruction.

Care of the Hypertrophied Prostate

DR. F. H. CLARK, El Reno, Okla.: The responsibility for early diagnosis and advice must, of necessity, rest with the family physician. While this condition usually comes on with advanced age, it may occur even in childhood. Operative procedure is the only treatment that offers hope for permanent cure and a comfortable life after operation. The operation which presents the lowest mortality is through the lower perineal route. We should never forget that 10 per cent. of these hypertrophied prostates become malignant if allowed to go on, and that our only hope of avoiding that is an early operation. We must not forget that we should continue to use sounds on these patients following operation until we are certain that there will be no contraction of the scar formed that may serve as an impediment to the free flow of urine.

Other Papers Read

The following papers were also read: "The Decay of Nations," by Dr. H. Stern, New York; "Should Venereal Infections be Classed and Reported as Contagious Diseases?" by Dr. T. M. Paul, St. Joseph, Mo.; "Extreme Edema of the Cecum and Ascending Colon Following Gangrenous Appendicitis," by Dr. L. J. Dandurant, St. Joseph, Mo.; "An Unusual Case of Dilated Capillaries," by Dr. W. Frick, Kansas City, Mo.; "Treatment of Tuberculosis," by Dr. G. N. Ryan, Des Moines, Iowa; "Acute Anterior Poliomyelitis," by Dr. L. A. Skoog, Kansas City, Mo.

CLEVELAND ACADEMY OF MEDICINE

Regular Meeting, held March 17, 1911

DR. WALTER B. LAFFER in the Chair

Gynecologic Problems of Interest to the General Physician

DR. BARTON COOKE HIRST, Philadelphia: Too many lives are lost in this aseptic era from puerperal infection. A well-equipped obstetric bag with sterile contents including gloves, the shaving of patients, cleansing of the vulva before examination and scrupulous cleanliness in the after-management would unquestionably reduce the morbidity and mortality of childbearing. Moreover, physicians should insist on more stringent regulation and instruction of midwives. I wish to emphasize two points in the treatment of puerperal infection—the value of antistreptococcus serum and the possibilities of the operative treatment of pelvic infections. As to lacerations of the birth canal, I believe that only by immediate repair, or at least repair within five days after delivery, can all the injuries be successfully repaired and their consequences avoided.

About one-fifth of all women who consult physicians because of diseases peculiar to their sex, are suffering from retrodisplacements. Every woman after confinement should be subjected to two examinations—one at the end of three weeks when she begins to walk, and the other at the end of the puerperium, six weeks after delivery. If displacement is discovered after the first examination it can be cured, in a certain percentage of the cases, by use of the knee-chest position twice a day. If it persists, at the end of six weeks, a pessary with Swedish exercises and massage will effect a cure in an additional number of the cases. If in spite of this treatment the malposition still persists, early operation should be advised. I must still harp on the sinister significance of genital hemorrhage, especially in the middle-aged, in relation to carcinoma. It cannot be too strongly emphasized.

In the United States 2,500 women die every year from eclampsia—about six times as many as should legitimately do so, if the condition were properly treated. We should watch more carefully for pre-eclamptic symptoms by urinary and blood-pressure examinations—especially the latter as the blood-pressure is invariably raised. It is easier to prevent eclampsia than to cure it. The patient should be placed in a hospital, if possible, and energetic diaphoresis employed from the start. It is a fallacy that the first step in treatment is evacuation of the uterus.

As to moderate-sized fibromyomata, if they are not causing pressure symptoms or excessive hemorrhage, there is always ample time, years in fact, to observe the rate of growth, to watch for untoward symptoms, and to decide whether the neoplasm is a serious detriment to the patient or not. This is, I believe, the right course to follow when practicable. In ectopic gestation, I believe in immediate operation, as I have too vivid a recollection of patients who have bled to death before I could reach them. It is the height of folly to wait for a reaction that may never come. In placentia prævia there are certain rules which might be remembered with advantage. A vaginal tampon, if big enough, will temporarily check the hemorrhage until other measures can be decided on. Version followed by a slow extraction of the fetus is applicable in a majority of the cases. In some cases of sterility, resulting from an infantile uterus, I have obtained excellent results by local electrical stimulation. This is a therapeutic measure that is not so generally appreciated as it might be.

DISCUSSION

DR. HUNTER ROBB: Only by the best aseptic technic can infections, following labor and abortion, be prevented. Every physician should have good surgical training. In my experience, about one-half of these infections are gonorrheal in origin. In perineal tears, if the patient's condition is good, I advise immediate repair. I have never seen a patient bleed to death in ectopic pregnancy; though I have seen many "operated to death." I do not believe in immediate operation. Some patients will stand it, but the majority are in deep shock and are too weak to stand an immediate operation. In the past year, I have had eight more of these cases and the patients all recovered, being operated on in from two or three days to a week or so. If the patients are properly stimulated following rupture of the pregnancy they will not bleed to death. In my experience, a majority of cases of sterility are due to gonorrheal inflammation of the tubes.

DR. W. H. HUMISTON: Retroflexion of the uterus is the most common complication following labor. The majority of lacerations of the cervix heal of themselves, but if there is a mild degree of sepsis present healing is not so rapid and there is a resultant subinvolution of the uterus, with subsequent retrodisplacement. I treat such patients by curettage and repair of the cervix, getting the uterus into position in the knee-chest position, and applying a properly fitting pessary. The patient is kept in bed and is not allowed to sleep on the back. After getting up, the pessary is removed in from eight to ten weeks. In cases of rupture in ectopic pregnancy I wait no longer than it takes me to get the patient into the operating room, and for me to get into the abdomen. By such treatment I have had no fatalities. About 90 per cent. of my operative cases are gonorrheal in origin. In acute cases I believe in radical measures. I put the patient to bed, shave the vulva, wash and cleanse out the vagina with soap and bichlorid of mercury solution. Then I carefully cleanse the cervix with alcohol and swab the cervix and canal with compound tincture of iodin. The vagina is then dried and powdered with boric acid, seven parts to one part of iodoform. After this the uterus is packed with gauze. After four such treatments, in eight days I begin the use of douches of permanganate of zinc. Internally the patient gets a mild diet and hexamethylenamin.

DR. W. H. WEIR: How does Dr. Hirst use antistreptococcus serum? Does he ever use it prophylactically?

DR. J. E. TUCKERMAN: Some cases of retrodisplacement are due to undue anxiety on the part of the physician to keep the patient on her back, following labor.

DR. LILLIAN TOWNSLEE: I used the electric current in one case of infantile uterus. After its use for six months the organ had increased greatly in size and the patient became

pregnant, later giving birth to a normal child. I do not favor immediate operation for ruptured extrauterine pregnancy.

DR. B. C. HIRST: I have seen at least four or five patients who have bled to death following delay in operation for ruptured ectopic pregnancy. At any rate, the patient should be in a hospital where she can be carefully watched. In using serum in the treatment of septicemia I use 80 c.c. at a dose; this is four times the dose recommended by the makers. This dose should be repeated four times a day and may be used for two or three days. Possibly better results are achieved with the use of fresh antistreptococcus serum than with older samples. I agree partly with Dr. Tuckerman that patients may be kept too long in bed; however, I do this with a note of warning, for there is danger of later prolapse if the patient gets up too soon.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

April 1

1 *Vagaries of the Pneumococcus. W. H. Thomson, New York.
2 The High Death-Rate from Diphtheria in the United States. E. C. Hill, U. S. Army.
3 *What Is Rheumatism? H. C. de V. Cornwell, New York.
4 Arthritis Deformans and Its Relation to Intestinal Putrefaction. E. E. Cornwall, Brooklyn, N. Y.
5 The Hospital and the Young Physician. W. E. Darnall, Atlantic City, N. J.
6 *Source of Error in the Diazo Reaction. S. Levinson, Brooklyn, N. Y.
7 A Case of Blood Extravasation Into the Sclera from Indirect Violence. F. Griffith, New York.
8 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

1. Vagaries of the Pneumococcus.—Thompson has become convinced that creosote carbonate, in 15-grain doses, given every two or three hours, in a specially prepared emulsion which is so well borne by the stomach that he has known it to stay down when everything else was rejected, changes the course of the fever so that in 70 per cent. of the cases it ends by lysis instead of by crisis. The extreme susceptibility of the pneumococcus to the faintest trace of phenol may allow of this preparation being regarded as a true blood germicide. Thomson has seen no injurious effect produced by it even when its absorption causes the urine to become dark. The formula for this emulsion is:

℞	gm.	or	c.c.
Acaciæ	18		3iv
Aquæ	18	or	3ivss
f. mucilaginem tunc adde			
Creosoti carbonatis	21	33	3v, mxx
Misce et adde:			
Glycerini	30		ʒi
Aquæ menthæ piperitæ ad	240		ʒviii

Sig. One tablespoonful (15 grains of creosote carbonate) every 2 or 3 hours.

This is also his favorite prescription for pulmonary phthisis, not that he expects it to be operative against the tubercle bacilli, but against the pyogenic microorganisms whose alliance with the tubercle bacilli in the lungs is so disastrous.

3. Rheumatism.—In speaking of rheumatism, Cornwell says we should never employ the term in the description of a symptom, but should limit its application to the conception of an acute, constitutional, self-limited infectious process, with a practically incontestable bacterial etiology, a proneness to find focal expression in the joints (arthritic type), or the endocardium (endocardial type), and to a less extent in other tissues, and a tendency to react specifically and characteristically to medication by the salicylates.

6. Error in the Diazo Reaction.—When a urine shows the diazo reaction, Levison says it becomes necessary, in order to avoid mistakes, to ascertain whether the reaction is not due to phenolphthalein. As the presence of this drug can be easily demonstrated by addition of alkalies it is only necessary to test the urine with a few drops of some alkali; a pink or reddish color shows the presence of phenolphthalein. If this reaction is negative we have a true diazo reaction. But in case this reaction is positive (the urine becomes red after the addition of alkalies), we may have the phenolphthalein reaction alone, or a true diazo reaction, together with the reaction produced by phenolphthalein. In order to test the urine in such a case of a suspected "mixed" reaction, add a few drops of some acid to the test tube in which there is a positive diazo reaction. If the color disappears altogether and appears again only after the addition of enough alkali to render the mixture alkaline, the reaction is due to phenolphthalein alone. If after the addition of acid the color becomes lighter, but does not disappear completely and becomes more intense by addition of enough alkali to render the mixture alkaline, the reaction is due to the substance or substances producing the true diazo reaction and also to the presence of phenolphthalein.

New York Medical Journal

April 1

9 Trachoma. S. H. Brown, Philadelphia.
10 A Hurried Bird's-Eye View of the Problem of the Modern Care of the Insane. M. Solomon, Washington, D. C.
11 Improvements in the Optical Construction of Cystoscopes. L. Buerger, New York.
12 The Problem of Prostitution and Venereal Diseases in New York City. F. Bierhoff, New York.
13 *A New Method of Direct Transfusion of Blood. A. L. Soresi, New York.
14 *An Unusual Case of Infantile Paralysis. H. G. Harris, New York.
15 A Case of Diabetic Glaucoma and Operation. S. Moskowitz, New York.
16 Treatment of Whooping-Cough. C. L. Henriques, New York.
17 Infundibulin in Hemorrhage Due to Uterine Carcinoma. J. C. Scott, Philadelphia.

13. Direct Transfusion of Blood.—The instrument devised by Soresi is said to do away with the necessity of opening the blood-vessels until they are ready to be brought together, so that the blood may flow immediately from one to the other. The surgeon is thus enabled to work on the blood-vessels while the blood is circulating in them, that is while the lumen is naturally open because it is full of circulating blood; therefore the blood-vessels not being contracted and retracted are easily grasped and secured by the instrument. Then the intima can without any difficulty be so inverted that the intima of the two blood-vessels can easily be brought in direct contact. Besides the one to be described, no other special instrument, hooks, serrefines or needles are necessary. The instrument is composed of two small metal cylinders which are put and held together by means of a small bar and a screw. Each cylinder is opened on its longitudinal axis by a simple pivot, and at one end, a little below the edge, is encircled by a crown of small hooks, the points of which are turned toward the other end. The blood-vessel is cuffed over the hooks of the cylinder; the vessels are opened and the anastomosis is made. Two cases are reported in which the method was used successfully.

14. Infantile Paralysis.—The interesting points in Harris' case are the length and the severity of the acute manifestations; the presence in the urine of the colon bacillus; the effect of hexamethylenamin; the symptoms indicative of meningitis and tetany; the relief of the symptoms following lumbar puncture; the appearance of the paralysis on the tenth day and its disappearance a week later. It is Harris' belief that the symptom-complex tetany is a term not infrequently applied to atypical cases of anterior poliomyelitis. Also, that the question of whether colon bacillus infection may not cause symptoms characteristic of so-called tetany, poliomyelitis or meningitis is worthy of future study.

Boston Medical and Surgical Journal

March 30

18 The Nurse and the Public Health. A. W. Goodrich, New York.
19 Fibrous Stricture of the Rectum. J. P. Tuttle, New York.
20 *Hemorrhagic Disease of the New-Born Infant. R. M. Green and J. B. Swift, Boston.
21 Medical Inspection of Schools in Boston. S. H. Ayer, Boston.
22 A Simple, Quickly Removable Head Bandage. E. C. Hill, U. S. Army.

20. Hemorrhagic Disease of New-Born Infants.—This paper is based on a study of fifty-one cases occurring in hospital practice during a period of not quite six years. The percentage incidence was 1.14. It was noted that the parity and civil status of the mother, the fetal presentation, the duration of labor and of complications of labor and the puerperium are factors

of no significance as predisposing or determining causes of hemorrhagic disease in the new-born. The seasonal incidence and the occurrence of hospital cases in groups tended strongly to confirm the theory of the infectious etiology of the disease. The earlier the onset of the disease, the worse was its prognosis; after one week, the prognosis became relatively, and after ten days, absolutely, good. Clinically the disease occurred in three fairly distinct types, the umbilical, the seromucus and the purpuric, which have an approximate respective mortality of 60 per cent., 50 per cent. and 22 per cent. The gross total mortality was about 50 per cent. The treatment was directed toward local hemostasis and increase of coagulability of the blood. Gelatin and rabbit serum gave the best results. Of thirteen patients receiving the gelatin treatment, nine recovered and four died. Of twenty-two patients treated with rabbit serum, twelve recovered and ten died. General supportive treatment: two recovered, four died; local hemostasis: two recovered, four died; no treatment; one recovered, two died.

Buffalo Medical Journal

March

23 Heart Nutrition. E. H. Long, Buffalo.
24 Serums and Vaccines. C. Hasse, Elmira, N. Y.

Maryland Medical Journal, Baltimore

March

25 An Extensive Ulcer of the Bladder Complicating Early Pregnancy. J. M. Hundley, Baltimore.
26 Importance of Direct Endoscopy in General Medical Practice. J. R. Winslow, Baltimore.
27 Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations. J. C. Bloodgood, Baltimore.

Southern California Practitioner, Los Angeles

March

28 *Effects of Cholecystitis on the Heart. R. H. Babcock, Chicago.
29 *Acute Diffuse Edema of the Lungs (Cardiac). C. E. Yount, Prescott, Ariz.
30 Phthisiophobia. I. W. Brewer, Manila, P. I.
31 A Psychologic Study. H. Forline, Redlands, Cal.
32 Cardiospasm. C. Moore, Los Angeles.

28. **Chronic Cholecystitis.**—Whenever Babcock sees a case of cardiac insufficiency, from whatever cause, he always pays close attention to the liver. Whenever he finds the right lobe showing enlargement he pays particular attention to its outline. He says that in most of these cases when there is tenderness, there is tension of the right rectus and if one palpates with firmness the tension becomes more marked. In nearly all these cases, by supporting the right hypochondrium with the left hand and producing just a slight pressure with the right hand, allowing the patient to take a breath of moderate depth, one can nearly always feel the border of the liver rise over the side of the hand. Then palpating at the outer border of the rectus, and at the side of the rectus one can feel the convex border of the liver. The left lobe is not so plainly palpable as the right. In some cases quick ballottement of Riedel's lobe will give the under hand the sensation of a soft body coming against it. With these symptoms and with tenderness Babcock feels certain of his diagnosis. A corroborative sign is Ewald's area of cutaneous hyperesthesia. If one runs a finger or key lightly down the patient's right back and there is left a sticking or pricking sensation opposite the ninth or tenth dorsal spine, the sign is present. It may extend out 2 or 3 inches. Many patients have this cutaneous hyperesthesia and that is a very strongly corroborative sign of chronic cholecystitis. Babcock emphasizes the fact that gall-bladder disease is more frequent than is generally recognized, and that its effects on the heart or circulatory system may be much more pronounced than is suspected, and hence may be a cause of myocardial breakdown.

29. **Acute Diffuse Edema of the Lungs.**—The three cases cited by Yount occurred in women in a fair state of health, suddenly and at night. They were 48, 50 and 67 years of age respectively. All three patients believed themselves dying; two were rescued from "drowning" in their own secretions. Yount believes that one case might be considered as of cardiotoxic origin, but the other two he considers to be of the cardioneurotic type. Frequent, previous examinations of the urine in these cases failed to show evidence of nephritis in any case. There was loss of radial pulse in all three women for a time, i. e., greatly lessened blood-pressure. Two of the patients died.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

March 15

33 A Demonstration of the Serodiagnosis of Syphilis. R. H. Mullin, Minneapolis.
34 Progressive Therapeutic Standards. C. A. Donaldson, Minneapolis.
35 *Sexual Excitability in Men of Advanced Years. F. R. Wright, Minneapolis.
36 Vesical Calculi. C. J. Holman, Mankato.

35. This article was also published in the *American Journal of Dermatology*, November, 1910.

Journal of the Indiana State Medical Association, Fort Wayne

March

37 Ocular Headache and Its Relief. F. C. Heath, Indianapolis.
38 The Laboratory Versus Clinical Methods in Practice of Medicine. D. M. Green, Muncie.
39 Autointoxication from the Alimentary Canal. P. B. Carter, Macy.
40 Suggestions in Cardiac Therapy. A. C. Kimberlin, Indianapolis.
41 Present Trend of Operative Obstetrics. G. B. Jackson, Indianapolis.

Southern Medical Journal, Nashville, Tenn.

March

42 Southern Surgeons and Surgery—Before, During and After the Civil War. W. O. Roberts, Louisville, Ky.
43 Factors that Influence the Prognosis in Operations for Cancer. G. W. Crile, Cleveland, Ohio.
44 *A Case of Aneurysm, with a New Method of Ligature of the Left Subclavian Artery. J. G. Sherrill, Louisville, Ky.
45 *Complete Absence of the Vagina; an Operation for the Formation of a Plastic Vagina. A. H. Ferguson, Chicago.
46 *Acute Multiple Urogenous Abscess of the Kidney Resembling Acute Unilateral Hematogenous Nephritis. G. T. Vaughan, Washington, D. C.
47 Suppurating Echinococcus Cyst of the Liver; Enucleation of Sac; Recovery. J. C. Oliver, Cincinnati.
48 Diagnosis of Extrauterine Pregnancy—When and When Not to Operate. E. G. Zinke, Cincinnati.
49 Omentopexy. M. H. Richardson, Boston.

44. **A Case of Aneurysm.**—The patient whose case is cited by Sherrill had a pulsating tumor about the size of a small melon situated at the upper part of the thorax, extending from near the median line and just above the level of the clavicle downward and outward almost to the margin of the pectoralis major muscle. This tumor pulsated synchronously with the heart and was distinctly expansile in character. No distinct bruit could be heard over the tumor, but an accentuated second sound of the heart was easily detected. The patient had an almost imperceptible pulse in the left radial and it was delayed somewhat compared to that of the right radial. The pulse of the left carotid was synchronous with that of the right radial; no tracheal tug; no marked dyspnea; no cough and no interference with deglutition or respiration. A diagnosis of subclavian aneurysm was made, and the various methods of treatment were discussed. It was finally decided to ligate the subclavian in the first portion of its course by attacking it from the posterior surface of the thorax. An incision was made along the posterior margin of the scapula about 4 inches long, dividing the skin and the muscles attached to the posterior portion of this bone. It was joined by an incision running from its inferior extremity to the spinous process. A similar incision was carried from its upper end in toward the spine. The soft tissues were dissected from the ribs with the skin and all hemorrhage controlled. The second, third and fourth ribs were removed for a distance of about 3 inches. The intercostal muscles were lifted off the pleura; the latter was gently pushed downward and outward with the finger and the subclavian artery readily came into view as it left the aorta at the level of the fourth dorsal vertebra. A small opening was made in its sheath and the needle was readily carried around it and a No. 3 catgut ligature placed in position. At this point of the operation, it was discovered by the assistants that the pulsation in the aneurysm did not cease. Further search revealed below the origin of the subclavian a rounded mass, seemingly not larger than a small orange, which was pulsating. The ligature on the subclavian being useless was removed. This having been accomplished the wound was closed and the patient left the table in good condition, and within an hour he was conversing freely

with the attendants in the ward. He died ten days later on rising up suddenly in bed to eat his meal. The necropsy demonstrated an aneurysm of the arch of the aorta in its lower portion, which had ruptured into the esophagus. While he failed to accomplish the object desired in this case, the cure of the subclavian aneurysm, Sherrill feels that the procedure employed is feasible and an easy method of access to the first portion of the left subclavian.

45. Abstracted in THE JOURNAL, Jan. 14, 1911, p. 140.

46. **Abscess of the Kidney.**—The symptoms of the condition noted by Vaughan are the same as those seen in acute hematogenous nephritis, and the treatment is the same.

Journal of the Kansas Medical Society, Kansas City

March

50 Gall-Stones and Their Diagnosis. C. J. McGee, Leavenworth.
51 Placenta Prævia. F. A. Carmichael, Goodland.
52 Salvarsan. N. C. Morrow, Altamont.
53 Suppurative Otitis Media. C. L. Zugg, Kansas City.
54 Expert Testimony. F. M. Brady.

Archives of Pediatrics, New York

March

55* Value of Lumbar Puncture and of the Leukocyte Count in the Diagnosis of Acute Poliomyelo-Encephalitis. J. L. Morse, Boston.
56 A Clinical Study of Eighty-Six Cases of Empyema in Children. F. Huber, New York.
57 *A Case of Mediastinal Cyst Producing Compression of the Trachea, Ending Fatally, in an Infant of Nine Months. A. D. Blackader and D. J. Evans, Montreal.
58 *A Collected Study of Sixty Cases of Meningitis and Conditions Simulating Meningitis. A. Sophian, New York.
59 Disturbed Function of the Thyroid. S. V. Haas, New York.
60 *Typhoid Infection Involving Only the Gall-Bladder. W. G. Elmer, Philadelphia.

55. **Value of Lumbar Puncture.**—Morse believes that it seems safe to conclude from the present data that during the acute stage of acute poliomyeloencephalitis the cerebrospinal fluid is clear and not infrequently under somewhat increased pressure; that it often shows a fibrin clot, which may persist for two or three weeks and perhaps longer; that it always contains an excess of cells; that these cells are chiefly of the mononuclear type, most of them being lymphocytes; and that these changes are present before the appearance of the paralysis. These changes are, however, identical with those found in tuberculous meningitis, the disease with which it is most likely to be confounded. It is true, of course, that the cerebrospinal fluid in the tuberculous meningitis contains tubercle bacilli. They are missed in about 90 per cent. of the cases, however, if the examination is the usual routine one. If tubercle bacilli are found in the cerebrospinal fluid, the diagnosis of tuberculous meningitis is, of course, positive; if they are not found, the examination of the fluid is of no assistance in the diagnosis between tuberculous meningitis and acute poliomyeloencephalitis.

The characteristics of the cerebrospinal fluid in the early stage of acute poliomyeloencephalitis are so different from those in the early stage of cerebrospinal meningitis, in which the fluid is turbid or purulent, contains a large number of polynuclear cells and, as a rule, numerous meningococci—that in Morse's opinion there is no possibility of confusing them. Lumbar puncture is, therefore, of the greatest assistance in differentiating between these two conditions. It is of equal value in distinguishing acute poliomyeloencephalitis from influenzal and pneumococcus meningitis and from meningitis due to the pus organisms. The changes in the cerebrospinal fluid in the early stage of acute poliomyelocencephalitis are so definite that when they are found it is possible to exclude all diseases outside of the meningitides. Lumbar puncture, therefore, provides a most valuable means of diagnosis in this disease. Unfortunately, there is nothing whatever characteristic about the early symptoms of acute poliomyeloencephalitis, and in order to recognize the disease early, before the onset of the paralysis, at a time when treatment might possibly be of some value, it would be necessary to do a lumbar puncture on every sick child. This hardly seems a rational procedure. Treatment can do no good after the appearance of the paralysis, because the harm is then already done. Lumbar puncture at this time simply makes possible the verification of the clinical diagnosis. The value of lumbar puncture in the early diagnosis of acute poliomyeloencephalitis is, therefore, very limited, in spite of the marked changes in the cerebrospinal fluid in this disease. Morse regards the leukocyte count as of little or no assistance in the early diagnosis of acute poliomyeloencephalitis. There is at present not sufficient evidence to show whether or not there is a relative or absolute lymphocytosis in the early stages.

57. Abstracted in THE JOURNAL, June 11, 1910, p. 1996.

58. **A Study of Meningitis.**—In only nine of the sixty cases investigated by Sophian was a correct clinical diagnosis made by the attending physician. In only one case was a diagnosis of meningitis not made. This case was named a myelitis. From this study it is evident that of the true inflammations of the meninges, tuberculous meningitis is the form most frequently encountered (sixteen cases), and most often confused with the other forms, especially with epidemic cerebrospinal meningitis. Of the conditions simulating meningitis, Sophian found bronchopneumonia in children, especially those forms with apical lesions, most often mistaken for meningitis. Other conditions were gastro-enteritis, other acute infections, such as typhoid, and other conditions of the central nervous system, such as cerebrospinal lues, and anterior poliomyelitis. Sophian believes that in the majority of cases tuberculous meningitis can be diagnosed clinically; the clinical picture is, as a rule, very definite and distinct. Epidemic cerebrospinal meningitis has also, as a rule, a definite and distinct symptom-complex. Still, the two conditions, while frequently easily differentiated, may sometimes so closely resemble each other clinically, especially in the late stages of cerebrospinal meningitis or the early stages of tuberculous meningitis, that it may be impossible to make a clinical differential diagnosis. The other acute forms of meningitis, those caused by *Streptococcus pyogenes*, *Streptococcus mucosus capsulatus*, the pneumococcus, and *B. influenzæ*, present almost the same symptom-complex as epidemic meningitis. The history of previous disease, such as otitis media, may be of some help, but the diagnosis can only be established definitely by lumbar puncture and examination of the cerebrospinal fluid. Meningism complicating other acute infections, while sometimes difficult to differentiate from epidemic meningitis, can, as a rule, be diagnosed. Polioencephalitis often resembles tuberculous meningitis clinically; however, here the local palsies, such as hemiplegia are extensive and permanent.

Blood count is of aid in diagnosis. The principal features are, in the cerebrospinal form, the high leukocytoses of 20,000 or more, with the high relative polynucleosis up to 99 per cent. In the tuberculous meningitis is seen a moderate leukocytosis, up to 18,000 or occasionally more, with a moderate relative polynucleosis up to 80 per cent. or more. Poliomyelitis and polioencephalitis in the febrile stage show a slight leukocytosis; meningism secondary to another disease of course gives a blood-count depending on the disease causing it. Sophian urges that once a clinical diagnosis of meningitis is made, whatever the form, a lumbar puncture should always be performed. A clinical diagnosis is never certain and even with a complete picture of a type of meningitis errors may be made. A study of the cerebrospinal fluid will, in the case of acute suppurative meningitis, enable one at the first examination, as a rule, to find the infecting organism. The very unusual exceptions are rarely in the very onset of epidemic cerebrospinal meningitis, before the organism is free in the cerebrospinal fluid, or, as already mentioned, a localized meningitis, as the localized pneumococcus meningitis mentioned in Holt's cases. It is important, especially in meningococcus infection, when a positive culture is desired, to subinoculate the sediment on suitable culture media as soon as possible after withdrawal from the canal. In tuberculous meningitis in a very large percentage of cases the bacilli can be found in the cerebrospinal fluid at some time during the course of the disease, usually the first examination being sufficient to demonstrate the organism. When one can put the cerebrospinal fluid aside immediately to obtain the unbroken fibrin network, as was done in Hemenway's cases, the chances of finding the bacilli are much larger. Animal inoculation in positive cases, where bacilli have not been found, produces tuberculosis in four to six weeks.

Cytologic examination is extremely important. The increase in the number of cells in inflammatory meningitis is con-

stant; in the suppurative forms of meningitis the preponderance of polynuclear leukocytes is striking; in the late stages of cerebrospinal meningitis, however, as in chronic basic meningitis, a relative lymphocytosis is present; in tuberculous meningitis the excess of lymphocytes up to 100 per cent. is marked; occasionally, however, one will see a tuberculous fluid, in which bacilli have been found, which is cloudy and shows an excess of polynuclear leukocytes, up to 90 per cent. The gross fibrin content of the fluid after standing is a fairly constant guide, there being an increase in meningitis, and very little fibrin in normal fluid. The reduction test of Fehling's solution has been found of no value by Sophian. Noguchi's globulin test, in a small number of fluids examined, was substantiated in inflammatory condition, a positive reaction being present, indicating an increase of the globulin content in the cerebrospinal fluid.

60. **Typhoid Infection.**—The case reported by Elmer was that of a young girl who was infected with typhoid, but who resisted the infection, except for one organ, namely, the gall-bladder, and her illness in his opinion was due solely to the cholecystitis. That she was infected with the poison of typhoid, he says, there can be no doubt, because eleven other patients who had been drinking milk from the same dealer developed typhoid in its characteristic form. About eighteen days after she had ceased to drink the milk, she developed a little fever. She had no nose-bleed, no vomiting, no pain in back or limbs, but had not felt well for some weeks. She had pain in the right side of the abdomen. The edge of the spleen, when a full inspiration was taken, could just be felt but was very indefinite. The gall-bladder could easily be palpated; it was distended and very tender. The temperature ran an irregular course, with marked daily remissions, reaching 103 F. or a little more in the late afternoons. Pulse varied from 80 to 100. Leukocyte count was 7,000. The patient did not seem ill, was usually hungry, was in good spirits most of the time, and had none of the apathy which usually results from the toxemia of typhoid. The urine was normal. On the seventh day, Elmer found three typical rose spots on the abdomen, the first that had appeared; and on the following day he obtained a characteristic clump reaction with a dilution of 1 to 50. The complete relief from all symptoms when the gall-bladder began draining, and the absolutely normal temperature which began about thirty-six hours later and continued without variation all through the convalescence, and the fact that the patient seemed and felt perfectly well from the time the gall-bladder was relieved, led Elmer to the conclusion that there could be no sloughing intestinal ulcers or extensive lymphatic involvement.

University of Pennsylvania Medical Bulletin, Philadelphia

February

61 Cerebral Decompression. C. H. Frazier, Philadelphia.
62 Malaria. W. Pepper, Philadelphia.
63 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, Philadelphia.

63. This article was also published in the *Journal of Experimental Medicine*, March, 1911.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

March

64 A Neuro-Epithelioma Developing from a Central Gliosis, After an Operation on the Spinal Cord. M. G. Schlapp, New York.
65 Facial Hemiatrophy in a Boy Ten Years Old. G. A. Moleen, Denver, Colo.
66 Colloid Bodies in the Central Nervous System: Their Presence After Severe Traumatism in a Case of Dementia Paretica. N. S. Yawger, Philadelphia.

Journal of Experimental Medicine, Lancaster, Pa.

March

67 Chemical Studies of the Brain in Cases of Dementia Præcox. W. Koch, New York.
68 The Blood-Supply of the Kidney. The Influence of the Vagus on the Vascularity of the Left Organ. R. Burton-Opitz and D. R. Lucas, New York.
69 Calcium Metabolism in a Case of Infantile Tetany. H. D. Haskins and H. J. Gerstenberger, Cleveland.
70 *The Succus Entericus. H. O. Mosenthal, New York.
71 *Absorption from Intramuscular Tissue. J. Auer and S. J. Meltzer, New York.
72 *Relations of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testicle. F. M. Hanes, New York.
73 A Histologic and Chemical Study of the Fatty Matter of Normal and Cryptorchid Testicles. F. M. Hanes and J. Rosenbloom, New York.
74 *Cultivation of the Leprosy Bacillus from the Human Tissues, with Special Reference to the Amino-Acids as Culture Media. C. W. Duval, New Orleans.
75 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, New Orleans.
76 Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
77 Cultivation of Tissues in Vitro and Its Technic. A. Carrel and M. T. Burrows, New York.

70. **The Succus Entericus.**—In experiments on dogs, Mosenthal noted that a nitrogen equivalent to about 35 per cent. of the nitrogen intake, though not necessarily derived directly from it, is daily secreted in the succus entericus in dogs on a mixed diet; about 10 per cent. is excreted in the feces, and about 25 per cent. is reabsorbed. The amount of reabsorbed nitrogen-containing material is considerably larger, if the bile and pancreatic secretion are included. Mosenthal says that the metabolic significance of this reabsorption can only be surmised. That it is probably of great importance is indicated by the fact that in the experiments recorded by him, the amount of nitrogen reabsorbed equaled approximately 25 per cent. of the nitrogen intake.

71. **Absorption from Intramuscular Tissue.**—Because the correctness of their previous work on absorption from intramuscular tissue was questioned, Auer and Meltzer repeated their experiments, proving again that the absorption after intramuscular injections is far superior to that after injections into subcutaneous tissue, approaching in its effectiveness that of an intravenous injection. The experiments were made on rabbits, and the results obtained were constant.

72. **The Interstitial Cells of Leydig.**—It is claimed by Hanes that the mammalian testicle elaborates an internal secretion necessary to the normal development of secondary sexual characters. The spermatogenic cells play no part in the formation of this secretion. One function of the Sertoli cells is to supply fat to the developing sperm cells. In the absence of the sperm cells from the mammalian testicle, fat accumulates in large amount in the Sertoli cells. The Sertoli cells seem to take no part in the production of an internal secretion. The interstitial cells of Leydig are, in all probability, responsible for the production of an internal secretion of the mammalian testicle.

74. A paper on the same subject is published in the *Archives of Internal Medicine*, February, 1911, and is abstracted in THE JOURNAL, March 25, 1911, p. 925.

75. This paper is also published in the *University of Pennsylvania Medical Bulletin*, February, 1911.

Texas State Journal of Medicine, Fort Worth

March

78 Puerperal Sepsis and Hints on Its Management. J. B. McMillan, Paris.
79 An Overlooked Source of Puerperal Infection. E. F. Wright, Royse.
80 The Care of the Puerpera. C. R. Hannah, Dallas.
81 The Care of Pregnant Women During Pregnancy and at Confinement. C. A. Schultz, Alvarado.
82 Obstetric Work in Country Practice. W. B. Huey, Elcampo.
83 Chloroform During the Second Stage of Labor. J. M. Meason, Bono.
84 Delayed Union and Ununited Fractures. W. A. Duringer, Fort Worth.

Virginia Medical Semi-Monthly, Richmond

March 24

85 Value of Lavage in Therapeutics, and Its Frequent Neglect. G. P. Hamner, Lynchburg.
86 Poisonous Serpents and Treatment of Their Bites. W. F. Driver, New Market.
87 Corneal Ulceration and Its Treatment. H. H. McGuire, Winchester.
88 Relation of Alcoholism and Drug Addictions to Preventive Medicine. T. D. Crothers, Hartford, Conn.
89 *Opium Poisoning—An Unusual Antidote. P. M. Strother, Scottsville.

89. **Opium Poisoning.**—The patient in this case took a 2-ounce mixture of tincture of opium and tincture of arnica, equal parts. At 4 p. m., four and a half hours later, her husband found her in a deep sleep, and seeing the empty bottle, immediately aroused her and administered warm mustard water until vomiting was induced. Strother reached her at 4:30 p. m. He found her awake and rational, though very

drowsy. Pulse was 136 and small; respiration was 26; the pupils were pin-head in size. She complained only of nausea and vomiting. Strychnin, 1/30 grain, and atropin, 1/150 grain, were given hypodermically, and a cup of hot black coffee by mouth, the latter being soon vomited, but the dose was repeated. During the ensuing three hours, the pulse-rate gradually fell to 120, with better volume, and respiration to 20, when Strother repeated the strychnin, 1/30 grain, omitting the atropin. After another three hours the pulse was 96 and of fair volume, and respiration was 17. At the end of six hours more, the pulse was 68, and respiration was normal. Strother asks: Was the tannin content of the arnica sufficient to antidote the morphin in the laudanum chemically, or did the depressant effect of the arnica on the vagi antidote the opium physiologically?

Alabama Medical Journal, Birmingham

February

90 Indications for the Removal of Adenoids and Tonsils. J. R. Snyder, Birmingham.
91 Electric Treatment of Poliomyelitis. T. A. Williams, Washington, D. C.
92 Among Ourselves. H. Johnston, Birmingham.
93 Lumbar Puncture as a Diagnostic and Therapeutic Measure. A. A. Walker, Birmingham.
94 Importance of Biology to Rational Medicine. E. P. Riggs, Birmingham.

Therapeutic Gazette, Detroit

March

95 *The Scientific Evidence of the Possibility of Intestinal Antisepsis. H. C. Wood, Philadelphia.
96 Symptomatic Relief in Aortic Aneurysm by Wiring and Galvanism (Moore-Conradi Method). E. J. G. Beardsley, Philadelphia.
97 *Action of Gossypii Cortex on Uterine Contractions. J. C. Scott, Philadelphia.
98 Magueys and Maguey Sap or Aguamiel, a Therapeutic Agent of High Value. C. S. Dolley, Mexico City, Mexico.

95. Abstracted in THE JOURNAL, Dec. 17, 1910, p. 2172.

97. **Action of Gossypii Cortex.**—The effect of this agent on the uterine contractions was studied by Scott. He found that the drug acts as well on the excised uterus as on the uterus with blood and nerve supply intact. In view of the extremely uncertain properties and keeping qualities of ergot and its preparations, and the fact that gossypii cortex is stable and very active, as shown on the cat's uterus, Scott thinks this drug is deserving of a more extended clinical use in the class of cases in which ergot is indicated.

Northwest Medicine, Seattle

March

99 Value and Handicap of the Medical Profession. J. T. Ronald, Seattle.
100 Treatment of Joint Infections by Aspiration and Injection of 2 Per Cent. Formalin in Glycerin. C. L. Poley, Portland, Ore.
101 Diagnostic Significance of Mucus in the Test Meal. H. P. Marshall, Spokane, Wash.
102 Helpful Points in Anesthesia. C. G. Parsons, Denver, Colo.
103 Malaria in Utah. C. M. Clark, Provo, Utah.
104 Imbalance of Ocular Muscles. A. H. Sawins, Spokane, Wash.
105 Tuberculous Meningitis. J. H. Bristow, Portland, Ore.
106 Insect Bites. R. A. Pearse, Brigham City, Utah.

Pennsylvania Medical Journal, Athens

March

107 *Arterial Hypertension and Its Relation to Morbid Changes in the Eye. L. C. Peter, Philadelphia.
108 A Case of Varix or Angioma Venosum of the Orbit. J. F. Klinedinst, York.
109 *The Pelvic Fascia with Relation to the Operation for Cystocele. R. E. Brenneman, Pittsburg.
110 *Cecostomy Versus Appendicostomy for Colon Lavage. W. M. Beach, Pittsburg.
111 *An Operation for Ankylosis of the Hip in Which Baer's Membrane Was Used. G. G. Davis, Philadelphia.
112 *Treatment of Acne Vulgaris. J. G. Burke, Pittsburg.
113 Progress in Empirical Therapeutics. J. W. Boyce, Pittsburg.
114 The Law Governing Suits for Malpractice in Pennsylvania. S. Scoville, Philadelphia.

107. **Arterial Hypertension.**—The systolic blood-pressure was carefully taken by Peter in 104 cases, mostly chronic interstitial nephritis, in which there was a neuroretinitis or a retinitis. For purposes of comparison nine cases of syphilitic neuroretinitis are included in the report, showing an average blood-pressure of 132 mm. of mercury and three cases of chronic parenchymatous nephritis with an average pressure of 132 mm. The average pressure in twenty cases of retinitis was 165 mm.; in fifty-nine cases of neuroretinitis it was 185 mm.; in three cases of albuminuric retinitis, 190 mm.; in six cases of hemorrhagic retinitis, 205 mm., and in three cases of papillitis, 225 mm. Thirty-three of the ninety-four kidney cases occurred in men and sixty-one in women. The higher pressures were observed relatively much more frequently in men than in women. Peter concludes that arterial hypertension is the chief cause of the eye-ground phenomena observed in chronic interstitial nephritis and arteriosclerosis. Similar vascular changes, associated with high blood-pressure, may, he says, be observed at times, before these diseases are diagnosed by other clinical symptoms. It frequently acts as a cause for subconjunctival hemorrhage and is so closely associated with glaucoma that it should be regarded as an active factor in the development of the disease. The author urges that in order to prevent and to treat rationally the more serious eye conditions, routine blood-pressure studies should be made in all cases of intra-ocular disease not traumatic in origin.

109 and 110. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

111. Abstracted in THE JOURNAL, Nov. 12, 1910, p. 1757.

112. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

Journal of Infectious Diseases, Chicago

March

115 Transmission of Trypanosoma Lewisi by Rat Fleas (Ceratophyleus Sp. and Pulex Sp.), with Short Descriptions of Three New Herpetomonads. L. D. Swingle, Lincoln, Neb.
116 *Influence of Ether and Ether Anesthesia on Bacteriolysis, Agglutination and Phagocystosis. E. A. Graham, Chicago.
117 Influence of Fresh and Autolyzed Organ Extracts on Experimental Tuberculosis. W. C. White and E. Zeublin, Pittsburg, Pa.
118 Immunologic Reactions of Oidiomycosis (Blastomycosis) in the Guinea-Pig. B. F. Davis, Chicago.
119 Classification of the *B. Coli* Group. D. D. Jackson.
120 Method for Determining the Germicidal Value and Penetrating Power of Liquid Disinfectants. A. I. Kendall and M. R. Edwards, Boston.

116. An abstract of this work was published in THE JOURNAL, March 26, 1910, p. 1043.

Long Island Medical Journal, Brooklyn, N. Y.

March

121 Value of Surgical Diagnosis in Upper Abdominal Diseases. J. B. Deaver, Philadelphia.
122 *Anomalies of the Colon as Demonstrated by the Roentgen Ray. C. Eastmond, Brooklyn.
123 Surgical Indications in Lesions of the Large Intestine. R. S. Fowler, Brooklyn.
124 Provisions for the Health of the Seamen in the Present-Day Warship. W. J. Baxter, U. S. Navy.
125 The Navy and the Important Relations to the Naval Establishment Borne by the Medical Corps. C. F. Stokes, U. S. Navy.
126 The Medical Profession. J. C. MacEvitt, Brooklyn.

122. **Anomalies of the Colon.**—It is believed by Eastmond that abnormal conditions of the colon are frequently the cause, not only of persistent constipation, but also of the vague, indefinite abdominal symptoms and the nervous conditions so often seen and so hard to attribute to any definite diseased entity. The anomalous conditions of the colon are summarized by him as follows: (1) general prolapse of the transverse colon producing the "U" or "V" type; (2) prolapse of the hepatic or splenic flexure with or without angulation; (3) angulation of any part, especially of the sigmoid; (4) prolapse of one-half of the entire colon; (5) general prolapse of the entire colon into the pelvis; (6) spasm of one part or of the entire colon; (7) anomalous development of any part, such as a loop formation from the presence of an unduly long mesentery; (8) adhesions, either alone or associated with any of the above conditions. In all these conditions, there is some factor which is sufficient to produce partial obstruction and damming back of fecal stream. In the cases of adhesions and angulations, there is almost uniformly found a dilatation behind the obstruction. This, with the ensuing stasis, affords ample opportunity for undue absorption of intestinal material, auto-intoxication, with its headache, drowsiness, listlessness, etc. With prolapse, the displaced portion of the viscus, by dragging on its natural supports, is productive of backache, and with the interference in circulation and ennervation, there follows congestion, inflammation, spasm, local pain and tenderness, and that train of nervous phenomena which is termed neurasthenia. The value of

Roentgen-ray examination in these cases lies, first, in the detection of the true state of affairs, and second, in the determination thereby whether it is a purely medical one that may be relieved and possibly cured by general and local treatment, or whether operative procedures will be necessary to secure the desired results.

Medical Herald, St. Joseph

March

127 Hints on the Etiology of Disease. L. A. Merriam, Omaha, Neb.
128 Uterine Fibroids Complicating Pregnancy, Labor and the Puerperium. M. Strong, Omaha, Neb.
129 Medical Treatment of Inoperable Cancer of the Parturient Tract. R. Willman, St. Joseph, Mo.
130 The Crime of Love. G. H. Bogart, Brookville, Ind.
131 Treatment of Cerebral Affections. W. C. Abbott, Chicago.
132 Two Case Reports with Stomach Manifestations. H. C. Crowell, Kansas City, Mo.
133 Dystrophies, Syphilitic in Origin. H. Lee, St. Joseph, Mo.
134 Prognosis in Chronic Valvular Disease of the Heart. C. A. Good, St. Joseph, Mo.

American Journal of Surgery, New York

March

135 Indications for Gastro-Enterostomy. J. B. Bissell, New York.
136 Cystoscopy and Urethral Catheterization in Young Children. E. Beer, New York.
137 Injuries to the Kidneys, with End-Results. P. M. Pilcher, Brooklyn, N. Y.
138 A Case of Cylindroma: Removal of Orbital Tumors. J. H. Claiborne and E. L. Oatman, New York.
139 Surgery of Moles, Warts, Nevi and Cysts of the Skin. D. W. Harrington, Milwaukee, Wis.
140 Traumatic Epilepsy and Traumatic Insanity. G. M. Hammond, New York.
141 Traumatic and Accidental Hernias, as They Affect Employee and Employer. R. W. Corwin, Pueblo, Colo.
142 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
143 An Improved Method of Intermittent Wound Irrigation. A. J. Bendick, New York.
144 A Means of Tying Knots When One End of the Suture Is Very Short. A. L. Soresi, New York.

American Journal of the Medical Sciences, Philadelphia

April

145 *The Therapeutics of Digitalis and Its Allies. A. R. Cushny, London.
146 Personal Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kaliski, New York.
147 *Physiology of the Pituitary Gland and the Actions of Its Extracts. C. J. Wiggers, Ann Arbor, Mich.
148 *Stiff and Painful Shoulders, with Loss of Power in the Upper Extremity. T. T. Thomas, Philadelphia.
149 Interrelation of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
150 *Sudden Onset of Pott's Disease Without Deformity of the Vertebræ. W. B. Cadwalader, Philadelphia.
151 Pathologic Findings in the Parathyroids in a Case of Infantile Tetany. B. S. Oppenheimer, New York.
152 *Sarcoma of the Vagina. J. McFarland, Philadelphia.
153 *Prognosis of Pulmonary Tuberculous Lesions Involving the Whole of or More Than One Lobe. J. Walsh, Philadelphia.

145. **Digitalis and Its Allies.**—There is no question in Cushny's mind that digitalis and its allies are too much feared by the medical profession. The "cumulative" action, he says, has been held over us as a bogey for so many years that many prescriptions contain this valuable drug in harmless and useless doses. As regards their relative usefulness, he says that there is little difference between digitalis, squills or strophanthus. We get the same beneficial results and the same undesirable ones as regards the heart, and a patient who shows symptoms of heart block under digitalis suffers from the same irregularity under squills or strophanthus, while when extra-systole is induced by one it follows from all. Strophanthus is often said to have less tendency to raise the blood-pressure than digitalis, but in patients neither induces any rise of pressure, and in some individuals, both cause an equal fall. There is, on the whole, rather less tendency to headaches, nausea and vomiting under strophanthus and squills than under digitalis, but the difference is not very marked and headache is caused in some cases by all three. Slight diarrhea has followed the use of squills more than the others, and strophanthus also tends to cause this more than digitalis. This tendency to diarrhea is still more marked from the use of helleborin and apocynum.

In animal experiments, one of the characteristic effects of digitalis medication is the rise of blood-pressure, which arises in part from the heart action, and in part from a constriction of the arterioles. In patients the blood-pressure is rarely augmented by digitalis and may in fact fall as the general improvement sets in. This, Cushny thinks, is due to the much greater efficiency of the vasomotor mechanism in man, which has been developed to permit of his assuming the erect attitude. As the heart fails in disease, the organ which first suffers is the brain; but anemia of the brain is promptly remedied by constriction of the abdominal vessels, by which the blood is again directed to the head areas. If digitalis is then given and the heart action improves, the first effect would be to increase the blood-supply of the brain, and this leads the sentinel in the medulla to relax its vigilance, the mesenteric vessels are allowed to relax and the improvement in the heart may thus be coincident with lowered blood-pressure. In his experience there is no significant increase in the amount of urine, except when dropsy is present.

147. **Physiology of the Pituitary Gland.**—The chief idea brought out by Wiggers is that the anterior lobe of the pituitary gland evidently elaborates a secretion that is necessary to life and to normal metabolism and development. This substance has so far resisted extraction by various solvents, hence its chemical nature and physiologic properties remain unknown. The posterior lobe, which is not of vital importance, contains or secretes a substance that may be extracted by water, glycerin or salt solution, and resists boiling, but it has not been demonstrated that it is identical with the secretion of the anterior lobe or that it represents its vital principle. The extracts constrict the peripheral vessels (probably by a direct muscular action), thus producing a marked rise of arterial blood-pressure. This constriction is not equally pronounced in all organs, for the renal vessels are, at least passively, dilated during its action. These extracts are generally stated to slow and strengthen the heart, but myographic tracings of the intact and perfused heart made by Wiggers, indicate a depressing influence to be the most constant and characteristic one, an increase in the amplitude being only exceptionally the case. The slowing, as well as depression, are, he thinks, largely attributed to a direct cardiac action, but the former may be augmented by a vagus effect. Pituitary extract resembles adrenalin in its action only in that it causes a rise in blood-pressure. The manner in which they affect the heart and blood-vessels, as well as the effects induced, are entirely different. In addition to its cardiovascular actions, pituitary augments the secretion of urine and inhibits the flow of pancreatic juice, but it has not been definitely determined whether these varied reactions are due to separate substances, to a specific affinity of a single substance for different cells, or whether they are secondary to changes in the circulation.

148. **Stiff and Painful Shoulders.**—A periarthritis from tears of the axillary portion of the shoulder capsule, due to forced abduction, in Thomas' opinion offers the best explanation of the stiff and painful shoulders, with loss of power in the arm, variously diagnosticated as fibrous ankylosis, neuritis, paralysis of the deltoid, traumatic arthritis, etc. The most characteristic feature is a scapulohumeral limitation of movement, sometimes slight, often marked, but never complete. The associated loss of power and atrophy are due in part to disuse, but probably in most part to the perineuritis, neuritis and resulting adhesions and compression of some or all of the brachial nerves in the axilla, adjacent to the wounded joint. The audible and palpable tearing which accompanies the breaking up of the limited abduction and external rotation, in chronic cases, by the leverage of the arm, under an anesthetic, is produced not by the tearing of fibrous adhesions in the bursa, but of the axillary portion of the capsule shortened by cicatricial contraction in its relaxed condition. This bursa is circumscribed to the upper surface of the greater tuberosity of the humerus and the adjacent small portions of the rotators inserting into it. When the bursa is inflamed, Thomas says, the diagnosis should easily be made by the acute tenderness localized to the upper surface of the humerus, directly in front of the acromion, when the arm is in the position of rest, that is, adduction and internal rotation, which it practically always occupies. The capsule lesion is typified by that which occurs in an anterior dislocation of the shoulder, the frequency of which is nearly as great as that of the other dislocations of the shoulder combined.

Those cases of stiff and painful shoulder in which there is no history of dislocation are explained, in the first place,

by the spontaneous reduction of many dislocations as the arm falls from its abducted position to the side of the body, so that they are not recognized as such; and in the second place, by the much greater frequency of milder but similar tears (sprains) from forced abduction, which are not sufficiently extensive to permit the occurrence of a dislocation. Sprains are rarely recognized in this joint, because they are peculiarly obscure as to their etiology and symptomatology. At the moment of the forced abduction the patient is excited and does not appreciate the relation between this movement and the pain it produces, the capsule being poorly supplied with nerves and the pain at the moment probably being slight. The arm immediately drops to the side into the position of most complete relaxation of the torn portion of capsule, and is kept there afterward because of the pain produced by abduction and external rotation which drag on the seat of injury. The lesion is deeply seated and localized with difficulty, and the disturbances which follow are misinterpreted. The most rational method of treatment is that which aims at increasing the length of the contracted tissues to the normal, favors the absorption of inflammatory material, and increases the power of the weakened and atrophied muscles.

150. **Paralysis in Pott's Disease.**—Four cases are reported by Cadwalader. Three terminated fatally and a careful postmortem examination was made. They presented swelling and destruction of axis cylinders, proliferation of the glia, round-cell infiltration, sclerosis of the blood-vessels, perivascular infiltration, necrotic softening of the central gray matter, and compound granular cells at the level of greatest compression of the spinal cord. In one case there was an internal hydrocephalus affecting only the lateral ventricles; the foramina, however, were not occluded, but the cells of the chorioid plexus were decidedly diseased; it is conceivable, therefore, that as a result of perverted function of diseased cells there may have been an increase of secretion sufficient to cause this distention. But it is also possible that hydrocephalus may have been the result of compression of the cord, and that if an ophthalmologic examination had been made, choked disk would have been found. At other levels of the spinal cord where compression seemed to play no part, there were definite though very moderate signs of vascular disease, consequently it might seem as if there was some other element responsible as well as compression. After searching the literature on this subject Cadwalader was able to find only two cases described in which paralysis developed instantaneously without deformity of the vertebræ.

152. **Sarcoma of the Vagina.**—McFarland presents a very comprehensive statistical study of 102 cases and reports a new case of grape-like sarcoma of the vagina in an infant.

153. **Tuberculosis of the Lungs.**—Despite the pathologic findings, Walsh believes that clinical tuberculosis, that is, tuberculosis in individuals with some susceptibility, begins more commonly at the top of the right lung. A study of the progression of tuberculosis of the lung on autopsies at the Phipps Institute showed that in the cases in which it was possible to judge the progression, the progression commonly corresponded to what Walsh has pointed out as the most fatal, clinically; in other words, the majority of cases showed progression practically throughout one side before the other was involved. Lesions involving the whole of one lobe of the left lung usually give better results than lesions of the same size in the right lung. One reason for this appears to be that the large lesion on the left more frequently represents the secondary development in a somewhat resistant case. Lesions involving an amount of lung tissue the size of the left upper lobe give a better prognosis when the opposite side shows a chronic healed lesion.

Louisville Monthly Journal of Medicine and Surgery

March

154 Headache or Migraine. Hemicrania. C. Skinner, Louisville.
155 A Case of Sarcoma of the Lung. C. Skinner, Louisville.
156 Pyloric Stenosis in an Infant. S. J. Meyers, Louisville.
157 A Case of Multiple Adenocarcinoma. W. O. Roberts, Louisville.
158 A Case of Cancer of the Cecum. W. F. Boggess, Louisville.
159 Steel Removed from the Eye with a Magnet. S. G. Dabney, Louisville.
160 Syphilis of the Stomach. J. J. Moren, Louisville.

Providence Medical Journal

March

161 Dementia Præcox. A. H. Harrington, Howard, R. I.
162 Cesarean Section. D. F. Gray, Providence.
163 A Case of Multiple Warts. W. E. Wilson, Pawtucket, R. I.
164 Ehrlich's New Remedy for Syphilis. F. T. Fulton, Providence.
165 Feeble-Mindedness. J. H. Ladd, Slocums, R. I.
166 Puerperal Insanity. H. G. Partridge, Providence.
167 The Medicolegal Examination of Blood-Stains. W. G. Dwinell, Providence.

Iowa Medical Journal, Des Moines

March

168 Chronic Low-Grade Inflammation of the Ocular Tunics and Its Influence on Errors of Refraction. H. B. Gratiot, Dubuque.
169 Operative Procedure for Brain Abscess of Otitic Origin. L. W. Dean, Iowa City.
170 Progress in Matters of Public Health. T. U. McManus, Waterloo.
171 Tuberculosis in Iowa. W. G. Carhart, Marion.
172 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrath, Chicago.
173 Review of Surgical Progress. J. C. Rockafellow, Des Moines.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 18

1 *Aphasia. R. Saundby.
2 *Two Cases of Hereditary Congenital Word Blindness. J. Hinshelwood.
3 An Epidemic of Infantile Paralysis in Bristol. G. Parker.
4 Etiology of Poliomyelitis. A. E. Vipond, Montreal.
5 *The Gastric Origin of Angina Pectoris. H. W. Verdon.
6 *Beneficial Effect of the Ingestion of Cane Sugar in Certain Forms of Heart Disease. A. Goulston.
7 Mechanotherapeutics in Treatment of Chronic Constipation. E. F. Cryiax.
8 Salvarsan in Syphilis. A. Evans.
9 Curative Effect of Salvarsan in Frambesia. H. Alston.
10 Occurrence of Fluid in the Abdominal Cavity in Pregnant Rabbits. C. Bolton and A. M. H. Gray.
11 Histology of Rheumatic Carditis and Other Rheumatic Phenomena. C. Coombs.
12 The Rat Flea as the Intermediate Host of a Rat Tapeworm. W. Nicoll.

1. **Aphasia.**—Saundby believes that it is difficult to escape from the amount of evidence brought forward to show that destruction of the third frontal convolution, even on both sides, does not cause aphasia; but almost equally cogent, and even more abundant, he says, is the evidence that aphasia occurs in cases in which this convolution is intact. The usual answer in this evidence is that while it may appear intact, it is not so really. Marie has lately reported three cases of this kind in which the convolution was examined microscopically by serial sections without any lesion being discovered. The only rejoinder that the supporter of Broca can make is that the lesion is functional in character, and reveals itself by no change which can be detected by present means of research. But, continues Saundby, those who make this assertion must bear the onus of proof, and it is not easy to produce evidence in its favor. If the convolution of Broca is the seat of the faculty of language, its destruction should be invariably followed by the loss or impairment of that faculty; further, when there is loss or impairment of the faculty of language, this convolution should show always some demonstrable change; if neither of these relations exist, then the only possible verdict must be that the existence of the supposed relation is not proved.

2. **Hereditary Congenital Word Blindness.**—The first case cited by Hinshelwood, that of a girl, is a typical case of abnormal difficulty in registering in the brain the visual symbols of letters and words. She has now, after seven years of teaching in the ordinary way, acquired the visual memories of the most common monosyllabic words. Hinshelwood has seen cases in which after seven years of ordinary training, the child had practically acquired nothing so far as the visual memory of words and letters is concerned. He regards the case of this girl as a mild case of congenital word blindness and, if taught in the proper way, he is certain that she will soon be able to read fairly well. The second case, that of a boy of 10, is of a much more severe type, and the difficulty has been much greater than in the case of the girl, as, after four years' sim-

ilar training, the boy has acquired scarcely any visual memories of words or letters, not even recognizing by sight all the letters of the alphabet. An important point in this case is that the child has experienced the same difficulty in dealing with figures. Hinshelwood says that pure congenital word blindness, which is a local affection of a limited cerebral area, can always be overcome by perseverance and proper methods of education, and herein lies the great importance of the recognition at an early period of the true character of such cases.

5. **Angina Pectoris.**—In one case cited by Verdon, the patient, a man of 63, when seen had been suffering from an anginal seizure for half an hour. He had been making ineffectual efforts to expel wind from his chest, and allowed the introduction of an esophageal tube, a procedure which resulted in an exhaustive liberation of gastric flatus. The effects of the operation became instantly apparent in the altered aspect of the patient. His color returned, and he seemed no longer in pain. The seizure was manifestly at an end. On two occasions he again resorted to the operation of gastric deflation, and on each he brought the seizure to a sudden and abrupt close. The patient had suffered from anginal seizures from time to time for several years; the first severe attack occurred in 1908. When a seizure has been brought to an abrupt and complete termination by the introduction of the esophageal tube, and when later seizures have shown themselves amenable to a similar operation, Verdon thinks the fact that the seizures are the result of tension of the gastric atmosphere is demonstrated beyond question.

6. **Cane Sugar in Heart Disease.**—That glycogen is essential to healthy, well-nourished muscle is shown by the fact that it furnishes a source of energy for the needs of the tissue cells, and particularly for muscle work. The glycogen of a muscle disappears in proportion to the work done by the muscle, and prolonged muscular work, especially in starvation, may wipe out quickly the entire store of glycogen in the body. All modern physiologists agree that glycogen stored up in a muscle is converted into dextrose by an amylolytic ferment before being actually used for producing muscular energy. Such a ferment has been discovered by Nasse. In cane sugar, therefore, Goulston believes that we have a simple means for supplying the muscles with dextrose for the purposes of their activity. Dextrose, he declares, is capable of nourishing the heart muscle in a wonderful and peculiar manner. In his hands the good effect of taking cane sugar to improve the nutrition of the musculature of the heart has been quite in accordance with what was to be expected from the known physiology of the subject. He cites seven cases illustrating the clinical value of this mode of treatment. His cases include two of dilated heart in patients of advanced age; two of valvular heart disease; one each of postinfluenzal dilatation of the heart, heart strain and heart failure in pulmonary tuberculosis. Goulston uses granulated cane sugar, the patient taking as much as desire may dictate. Only occasionally was there a trace of sugar in the urine.

17. **Polypeptids and Gastric Contents.**—In connection with an investigation on the peptid-splitting action of pathologic fluids, the test proposed by Neubauer and Fischer has, in the authors' hands, yielded results suggesting an advocacy for that extended use which alone can determine its permanent utility. They say that it has yet to be demonstrated that the endo-enzymes of cancer cells possess abnormal characters and activities.

Lancet, London

March 18

13 Ankylostoma Infection. A. E. Boycott.
14 The Anthropology of Ancient British Races. A. Keith.
15 Salvarsan in Syphilis. J. McIntosh and P. Fildes.
16 Salvarsan in Syphilis. T. W. Gibbard and L. W. Harrison.
17 *Diagnosis of Gastric Carcinoma by the Cleavage of Polypeptids. I. W. Hall and G. S. Williamson.
18 *The Iodin Method of Sterilizing the Skin. P. Turner and H. C. Catto.
19 An Egyptian Holy Man. C. G. Seligmann.

18. **Iodin Sterilization of the Skin.**—The observations made by Turner and Catto confirm the value of the iodin method of sterilizing the skin. They made careful bacteriologic investigations in thirty-two cases in which varied operative procedures were resorted to. In certain cases the B.P. tincture (2.5 per cent.) was employed, and in others the following solution: iodin, 30 gms.; potassium iodid, 40 gms.; distilled water, 500 c.c. Before using, this was diluted with an equal volume of methylated spirits, so that the strength of the solution was 3 per cent. For the satisfactory action of the iodin it is essential that the skin be dry. Shaving should be done with a sharp razor without lathering the skin or, if soap and water are used, the skin must be subsequently dried with a pad or towel and then washed over with ether and again dried before the iodin solution is applied. In acute cases the whole process is carried out on the operating table after the patient has been anesthetized. In ordinary cases the preparation is carried out in the ward. The iodized area is then covered with a pad or towel. Before commencing the operation a second application of the iodin solution is made, the skin being now in a thoroughly dry condition. In the thirty-two cases quoted in which the patients were prepared in this manner, a thin strip of the whole thickness of the skin was removed immediately after the first incision and conveyed to the laboratory in a sterilized test-tube plugged with cotton-wool. The investigation consisted in cultivating the piece of skin in nutrient broth for a period of seventy-two hours. At the end of twenty-four and forty-eight hours respectively, the culture was looked at, and at the slightest suspicion of turbidity, "hanging drop" preparations were made and examined. If the fluid remained clear the cultivation was allowed to proceed until 72 hours had elapsed, when it was always examined, both macroscopically and microscopically. In the cases in which microorganisms were present nutrient agar tubes were inoculated from the broth and the particular bacterium further studied and identified. In no case did the culture show the presence of contaminating organisms from the air. Healing was by primary union except in three acute cases in which drainage was necessary. In none did the iodin produce any dermatitis. Though the incisions were made in very varied situations, it is interesting to note that in the three cases in which the skin was infected the wound was in the groin.

Journal of Tropical Medicine and Hygiene, London

March 15

20 Further Researches on the Hyphomycetes of the Tinea Imbricata. A. Castellani.
21 Etiology of Elephantiasis. G. C. Low.

British Journal of Children's Diseases, London

March

22 *Splenomegaly with Recurrent Jaundice Ending in Hepatic Cirrhosis and Ascites, with Remarks on the Splenomegaly of Inherited Syphilis in Children. F. P. Weber.
23 Treatment of Congenital Syphilis with Salvarsan. C. F. Marshall.
24 *Venous Murmurs Heard at the Root of the Neck in Children. C. Coombs.
25 Difference Between Manifestations of Rheumatism in Childhood and Adult Life. J. B. Barrett.

22. **Splenomegaly With Recurrent Jaundice.**—An investigative study has convinced Weber that moderate splenomegaly in children of from 5 to 16 years of age may be almost the only evidence of an inherited syphilitic taint, but in such cases Wassermann's seroreaction for syphilis (if available) would doubtless generally give a positive result. Other evidences of inherited syphilis are occasionally forthcoming; the teeth may be more or less of the Hutchinsonian type, there may be interstitial keratitis, persistent cracks at the corners of the mouth, a history of syphilis in the parents, or of inherited syphilis in brothers and sisters. The splenomegaly of inherited syphilis is often accompanied by occasional (usually only slight) attacks of obstructive jaundice and by excess of urobilin (and urobilinogen) in the urine. Hepatic cirrhosis, with or without ascites, may be associated with the splenomegaly, and at the time of death the hepatic cirrhosis in such cases is probably usually of the ordinary multilobular "hobnail" type. Though it seems doubtful that the cirrhosis of the liver in these cases is of specific syphilitic origin, it is quite possible that the presence of an inherited syphilitic taint may diminish the resistance of the liver toward the action of toxins (including alcohol) and render it specially liable to cirrhosis. The inherited syphilis in these cases may be—

but often is not—associated with some degree of "infantilism," i. e., more or less retardation in general physical development and especially in the sexual functions. In these cases great caution must be employed in regard to antisyphilitic, especially mercurial, treatment, probably on account of the general delicacy of the patients and their liability to renal and catarrhal complications. Iodid of iron seems to be useful. In these cases there is generally very little real anemia, even when the general appearance of the patient is cachectic; and anemia, if present, is often only temporary. In some cases, on the contrary, there may be a certain amount of polycythemia, probably of reactive nature, sometimes sufficient to constitute a symptom-complex, which might be termed "splenomegalic polycythemia of inherited syphilis in children." Other unknown (toxemic?) conditions may cause splenomegaly and recurrent jaundice in children, similar to that met with in cases of inherited syphilis. Abdominal crises (pain, etc.), of uncertain explanation, may occur occasionally both in the inherited syphilitic and in the other cases. Cases of "familial" splenomegaly occurring in two or more brothers or sisters may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly in children is better recognized in connection with congenital chronic acholuric (so-called hemolytic) jaundice, and with primary splenomegaly of the "Gaucher type." Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter. Some cases of splenomegaly in children with inherited syphilis probably ultimately present the characteristic, clinical features of splenic anemia or Banti's disease.

24. **Venous Murmurs.**—In a majority of children varying in age from 3 to 15 years, Coombs heard a murmur immediately below the sternoclavicular joint or joints. It was slightly commoner in boys. It was commoner and louder on the right side. This murmur was continuous, but accentuated at the beginning of systole and of diastole, especially the latter. It was at its loudest during the inspiration. Though often heard with the head in the erect position, it was in such cases heard more clearly, and in some other cases heard only, when the head was fully retracted. Lateral rotation of the head also made it more clearly audible. It is usually abolished when the patient lies down. It is produced in the internal jugular veins; by what mechanism is not clear to Coombs, though its accentuation by retraction of the head is no doubt due to the flattening of the veins against the transverse processes of the cervical spine. Though associated with anemia and febrile states, it is heard also in perfectly healthy children. It is not especially associated with tuberculosis or any enlargement of the intrathoracic lymph glands, and has no diagnostic value.

Medical Press and Circular, London

March 8

26 Talipes Equinovarus and Its Treatment. E. Gillespie.
27 The Retraction Ring as a Cause of Obstruction in Labor. R. Jardine.
28 A Case of Darier's Disease. G. G. Stopford Taylor.
29 The Marriage of Cardiac Subjects. D. Renon.

March 15

30 Congenital Torticollis or Wry Neck. G. L. Chiene.
31 Vision. W. R. MacDermott.
32 Lactation After Removal of Both Fallopian Tubes. J. C. McWalter.

Annales des Maladies des Org. Génito-Urinaires, Paris

February 15, XXIX, No. 4, pp. 289-383

33 *Study of the Functional Activity of the Kidneys by Means of Phenolsulphonephthalein. L. G. Rowntree and J. T. Geraghty (Baltimore), Concluded in No. 5.
34 Technic for Suprapubic Incision. (Instrumentation moderne de la taille hypogastrique.) F. Cathelin.

33. Practically the same article appeared in the *Journal of Pharmacology and Experimental Therapeutics*, July, 1910, and was abstracted in THE JOURNAL, Aug. 20, 1910, page 720.

Archives des Maladies de l'App. Digestif, Paris

February, V, No. 2, pp. 49-108

35 Clinical Research on the Evacuating Function of the Stomach in Health and Disease. S. Kemp.
36 Dosage of Amylase in the Feces in Diagnosis of Pancreatic Functioning. C. Durand.

Archives de Médecine des Enfants, Paris

March, XIV, No. 3, pp. 161-240

37 *Septicemia and Glandular Lesions in Scarlet Fever. V. Hutinel.
38 *Excessive Enlargement of Breasts at Puberty. (Hypertrophie mammaire de la puberté.) H. Caubet.
39 *Clinical Signs of Hypertrophy of the Thymus. D'Oelsnitz.
40 *Recalcification Treatment of Tuberculosis in Children. J. Comby.

37. **Septicemia in Scarlet Fever.**—In the case reported by Hutinel the scarlet fever accompanied varicella. The principal scarlatinal lesions were in the throat and mouth and the mucosa sloughed off at several points with general symptoms of septicemia, rapidly proving fatal. The viscera were found practically sound but the thyroid, suprarenal capsules and pituitary body showed marked lesions entailing defective functioning. The symptoms of the varicella and of the ordinary scarlatinal syndrome were comparatively mild; he had encountered this combination in twenty other cases previously, none showing any signs of extra virulence on the part of either infection. The extreme virulence in the case reported was evidently due to the influence of the scarlet fever on the ductless glands. He reported last year a case of acute inflammation of the suprarenals during scarlet fever in a little girl who recovered. Tixier found both suprarenals destroyed by hemorrhages and the pancreas gravely affected, at necropsy of a child succumbing to malignant scarlet fever, and Comby has since encountered a similar case except that the pancreas was intact. Hutinel believes that the scarlatinal lesions in these ductless glands modify the composition of the blood and that this in turn permits the streptococci to enter the blood. In other cases the liver may be the organ to feel the influence of the scarlatinal infection most severely. Treatment should be guided by the signs indicating which of the internal organs are bearing the brunt of the infection—the liver if there seems to be hepatic derangement; the suprarenals if they seem to be at fault. In the latter case epinephrin may be indicated. In either case, baths to reduce excessive temperature and means to cleanse the throat without irritating it and to sustain the heart may all prove useful.

38. **Hypertrophy of the Breasts at Puberty.**—In the case described by Caubet, the mother had had similar hypertrophy of the breasts at puberty. No treatment is effectual except removal of the breasts and this was done in twenty-five cases on record, which he summarizes. The results were good in every instance. The breasts weighed each from nearly 2 to 8 kilos, that is, from 5 to over 17 pounds. In Caubet's case the breasts were shaped like watermelons, and reached below the umbilicus. His compilation includes only the cases developing at puberty; the lesions were simple hypertrophy of the elements of the gland with passive edema.

39. **Clinical Signs of Hypertrophy of the Thymus.**—D'Oelsnitz analyzes ten cases in which the thymus was excessively large for the patient's age and seven other cases in which its hypertrophy was suspected. Three of the patients died from sudden suffocation from this cause; some difficulty in breathing had been noticed before but had not been traced to its true source. These cases teach the importance of examining the thymus whenever no other cause can be discovered for labored breathing, occasional or constant. The results of thymectomy in time are good. Hypertrophy of the thymus should be suspected with stridulous laryngitis when the croup stridor is of unusual intensity and duration. Epistaxis was noted in one case—probably a result of the local mechanical congestion. An intercurrent infection is liable to increase this congestion and render evident a hitherto latent hypertrophy of the thymus. During the suffocation there is cyanosis of the face, also slight edema of the lids; exophthalmos was pronounced in one case and the fontanelles bulged in the younger children. The cyanotic tint may persist constantly and the children may be dull and apathetic. The veins in the neck may be constantly or occasionally congested. The dyspnea is greater lying down. Symmetrical palpation, especially of the suprasternal fossa, during expiration, is instructive, as also percussion. Primary tracheotomy was done on a mistaken diagnosis in two cases, and secondary to partial thymectomy in another. The results in all were disastrous. Intubation may

be necessary in connection with thymectomy when there is concomitant spasm of the glottis.

40. **Recalcification in Treatment of Tuberculosis in Children.**—Comby reviews what has been published to date on the subject of the deficiency in lime as predisposing to tuberculosis and treatment aiming to restore the lacking lime. Ferrier was the pioneer in this line, and he insists on individual prophylactic measures to prevent waste of lime by decalcifying dyspepsia and gastro-intestinal fermentations, refraining from fats, acids and cheese. Comby gives children twice a day before meals a powder containing calcium phosphate, 0.25 gm.; calcium carbonate, 0.2 gm.; calcium chlorid, 0.15 gm., and magnesia usta, 0.1 gm. After ten days he gives for ten days a teaspoonful of 0.03 per cent. aqueous solution of sodium arsenate, then resuming the powders for ten days, and so on. [Ferrier's method of antiacid and alkaline treatment of tuberculosis was described in THE JOURNAL, May 1, 1909, page 1465.] Davel and Ginepro have reported good results with the Ferrier method at Buenos Aires, and Comby endorses the recommendations of Sergent and Letulle. The method does not conflict with but supplements the ordinary dietetic hygienic measures.

Lyon Médical, Lyons

February 19, CXVI, No. 8, pp. 309-352

41 *The White Line Sign of Suprarenal Disease. (La ligne blanche de Sergent.) Maurice.

February 26, No. 9, pp. 353-408

42 Induced Pneumothorax. J. P. Morat.

41. **The White Line.**—Maurice has been studying Sergent's dermographic sign of suprarenal insufficiency, the white line that follows if the finger nail is drawn along the skin of the trunk. Sergent regards it as a manifestation of abnormally low artificial tension and this, in turn, as the result of insufficiency on the part of the suprarenals. Maurice's experience confirms the interpretation of the white line as a sign of suprarenal insufficiency, but it is also a sign of toxic vasoconstrictor excitability. It indicates not only suprarenal treatment but also restrictive dietetic measures and disinfection of the intestinal tract. Nervous persons presenting this sign should be relieved of nervous strain, especially those with a history of severe diphtheria or scarlet fever or with symptoms of tuberculosis.

Presse Médicale, Paris

March 4, XIX, No. 19, pp. 161-176

43 Malta Fever Simulating Pernicious Anemia. G. Rauzier.
44 Two Cases of Symmetrical Lipomatosis. R. Burnier.
45 Influence of Inherited Taint in Primary Localization and Geographical Distribution of Lesions in Pulmonary Tuberculosis. J. Molle.

March 8, No. 20, pp. 177-184

46 Localization of Bullets in the Tissues. (Localisation des projectiles dans les tissus.) H. Chaput and Vaillant.
47 *Flat-Foot and Tuberculosis. P. Gorse and Dautheville.
48 *Fleas in Transmission of Plague for Long Distances. A. Raybaud.

47. **Flat-Foot and Tuberculosis.**—Gorse and Dautheville state that thirty-six men out of 498 with flat-foot developed tuberculosis during their military service in their regiment, while there were only 157 cases among the 12,390 men with normal feet. The proportion was thus 7 per cent. among the flat-foot squad and only 1.2 per cent. among the rest.

48. **Dangers of Transmission of Plague to Long Distances by Intermediation of Fleas.**—Raybaud calls attention to recent announcements that the rat flea, *Ceratophyllus fasciatus*, is able to hibernate for a month or forty-five days without nourishment, and that virulent plague germs can persist unharmed in its stomach during this length of time and even longer. He thinks that this fact is of great importance for the transmission of the plague to a distance. The marmot or land otter of northern China and the rats of Manchuria are undoubtedly infested with these and other fleas. When the fleas leave the bodies of the animals that have succumbed to the plague, they may seek refuge in bales of goods or cracks of boxes and live there at a temperature which renders them torpid, practically hibernating, while the germs in their interior maintain their vitality and virulence. In this condition, the fleas may be carried with the freight across Siberia or shipped by water to long distances. As the authorities do not consider it necessary, he says, to disinfect freight, there is nothing to prevent the fleas arriving in good condition in other countries, ready to infect rats or human beings, whichever they happen to encounter.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XVI, No. 2, pp. 199-372. Last indexed Jan. 28, p. 310

49 Isthmus of the Uterus and Placenta Prævia. H. Bayer.
50 Justification of Pubiotomy. (Soll die Hebosteotomie ihren Platz in der operativen Geburtshilfe bewahren?) H. Fehling.
51 Efforts to Improve the Technic for Cesarean Section. (Weiteres über die modernen Bestrebungen zur Veränderung der Kaiserschnittstechnik.) H. Sellheim.
52 *Postoperative Peritonitis, Especially the Diarrheic Form. E. Holzbach.
53 Determination of Capacity for Lactation. (Bestimmung der Stillfähigkeit nebst Statistik zur Beschaffenheit der weiblichen Brust und zum Stillgeschäft.) C. Stieda.
54 Histology of Ovarian Suppuration. (Pyovarium.) J. Wätjen.
55 Abnormal Nucleated Cells in Smooth Muscle. (Ueber abnorme Kernbildungen in den glatten Muskelfasern sowie über Mast- und Plasmazellen in Leiomyomen des Uterus.) B. Huguenin.
56 Hematoma of Masseter Muscle. (Eine typische Geburtsverletzung.) R. Hofstätter.
57 Finer Structure of Ganglion Cells in Ovarian Dermoids. A. Wolff.

52. **Diarrheic Postoperative Peritonitis.**—Holzbach warns that postoperative peritonitis may develop with an insidious course and slight general symptoms, profuse diarrhea being the chief sign of trouble. The peritonitis in these cases is a local infection of the pelvic cavity and can be conquered by prompt measures, walling off the small pelvis from the abdominal cavity above while the secretions are given free outlet. This is ensured by the low transverse incision which he prefers for operations on the ovaries, etc. During the operation he also makes a point of walling off the pelvis with sponges as a prophylactic measure. He cites a number of examples from his practice showing the prompt arrest of the diarrhea and subsidence of the peritonitis as soon as an outlet was provided for the pus or other secretions causing the trouble. Since he has made a practice of the above technic, the low transverse incision and the preventive gauze walling off of the pelvis, he has had no further cases of the kind.

Berliner klinische Wochenschrift

March 6, XLVIII, No. 10, pp. 413-460

58 Advantages of Lumbar Muscles as Site for Injection of Salvarsan. (Beschleunigte Resorption aus den Lendenmuskeln und die Verwendbarkeit dieser Muskeln für die Injektion von Salvarsan.) S. J. Meltzer (New York).
59 *Physical Factors in Action of Poisons and Drugs. (Wirkung von Giften und Arzneimitteln.) J. Traube.
60 Negative Influence of Santonin on Glycosuria in Diabetes Mellitus. G. Walterhöfer.
61 *Iodin-Exophthalmic Goiter. (Zur Frage des Jodbasedows.) S. Goldflam.
62 Diagnostic Importance of Cutaneous Tuberculin Reaction. (Diagnostischer Wert der v. Pirquetschen Reaktion.) P. S. Wallerstein.
63 Treatment of Tuberculosis with Tuberculin Cutaneous Inoculations. (Behandlung der Tuberkulose mit Tuberkulin-Cutanimpfungen.) P. S. Wallerstein.
64 Repeated Extrauterine Pregnancy. (Wiederholte Extrauteringravidität bei derselben Frau.) A. Frank.
65 Localization of Sexual Instinct in the Brain. (Ueber die cerebrale Lokalisation des Geschlechtstriebs.) A. Münzer.
66 Serology of Gout. (Serologische Beobachtungen in betreff der Gicht.) F. A. J. Falkenstein. Commenced in No. 9.
67 Necessity for Private Sanatoria for Patients with Infectious Diseases. (Notwendigkeit privater Heilanstalten für Infektionskranke.) F. Meyer.

59. **Importance of Physical Properties of Poisons and Drugs.**—Traube's research on the drop-forming properties of the organic fluids and chemicals has convinced him that the physical properties are of far greater importance than has been previously recognized. He accepts as a biologic law of far-reaching import the phenomenon he has repeatedly verified in his research, namely, that a poison becomes less toxic for the medium as the latter becomes turbid under the influence of the poison—that is, when precipitation is under way. This precipitation may occur in ultramicroscopic form long before it is possible to detect it with the naked eye which has hitherto been the criterion. The greater the toxicity of the poison, the greater the physical changes which it induces in the medium; if follows, hence, that the less the physical changes induced, the less toxic the chemical in question. He believes that this opens new lines of research in pharmacology and therapeutics.

The organism, he is convinced, is a physical machine to an extent never hitherto realized. The phenomena reported throw light, he declares, on the problems of immunity and anaphylaxis. For instance, 1 drop of a one-half normal solution of potassium iodid added to 10 c.c. of a 0.2 per cent. solution of *Nachtblau*, a colloidal basic dye, causes no change in the aspect of the fluid. It still appears extremely limpid, but this one drop of the iodid has transformed it into a condition of actual anaphylaxis. The mixture is now specifically hypersensitive to potassium iodid so that addition of a single drop more of the same potassium iodid solution is followed by heavy flaking—a specific precipitation.

61. **Iodin and Exophthalmic Goiter.**—Goldflam reports two instructive cases showing the danger of eliciting Basedow symptoms by therapeutic administration of iodin. The resulting disturbances are not the comparatively harmless and transient symptoms of iodism; on the contrary, the iodin seems to exert in these cases a specifically injurious action on the thyroid which persists after suspension and elimination of the drug. He warns that this is liable to occur whether the thyroid is perceptibly pathologic or not, especially with serous meningitis and incipient tabes, as well as with goiter and atherosclerosis. These iodin disturbances are by no means restricted to regions where goiter is prevalent. In his first case, symptoms of serous meningitis had existed for some months when a course of iodipin was instituted and was soon followed by tachycardia, enlargement of the thyroid and tremor of the fingers. In the second case a man of 34, who had been systematically treated for syphilis for years after infection at 20, developed incipient tabes. Considerable improvement was realized under subcutaneous injections of iodipin, when Basedow symptoms suddenly became manifest and were very distressing, particularly the severe diarrhea, emaciation and weakness. After suspension of the drug the symptoms finally completely subsided, proving their connection with the medication.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 1, XLI, No. 7, pp. 225-256

68 *Acute Hemorrhagic Pancreatitis. E. Monnier.
69 *Knee-Elbow Position with Ptosis of Viscera. (Knieellenbogenlage bei Ptosis gewisser Bauchorgane.) R. v. Fellenberg.

March 10, No. 8, pp. 257-288

70 Modified Technic for Wassermann Reaction. (Modifikation der Wassermann'schen Reaktion nach von Dungern.) O. Roth.
71 *Predisposition of Apices to Tuberculosis. (Prädisposition der Lungenspitzen und Inhalations-Tuberkulose.) G. Huguenin. Commenced in No. 6.

68. **Acute Hemorrhagic Pancreatitis.**—Monnier reports the details of four fatal cases with necropsy from his practice during the last eighteen months. Two of the patients were previously healthy druggists, 42 and 45 years old; the third was a drinking sailor, and the fourth an obese woman of 54 with cholelithiasis. The influence of trauma was evident in one case and of an acute intestinal affection in another. The necropsy findings indicate that acute pancreatitis is always accompanied with extravasation of blood into the glandular tissue, injuring it to such a degree that it falls a prey to autodigestion. This in turn leads to production of extremely toxic substances, and the only relief is by early operative intervention. If this is delayed until the pancreas is injured beyond repair, little can be anticipated from it, although Hahn reports recovery when the patient was already in severe collapse; he made a high incision, rinsed the abdominal cavity with salt solution and drained. The main point is to think of the possibility of acute pancreatitis when called to a patient with symptoms suggesting ileus, cholelithiasis, perforation peritonitis or appendicitis. The lack of rigidity of the abdominal wall, the temperature higher than with ileus, the peculiar sallowness and the obstinate pain in the epigastrium speak for pancreatitis, as also the fact that several quarts of water can be poured into the bowel; this generally brings stool and gas. The pain with appendicitis is seldom so intense and persistent as with acute pancreatitis. The persistence of the pain, the rapid aggravation of the condition and the symptoms suggesting ileus are evidence against cholelithiasis alone, although this is usually the primal factor for the acute pancreatitis.

69. **Knee-Elbow Position for Visceral Ptosis.**—Fellenberg remarks that the advantages of the knee-elbow position for correction of ptosis of various viscera is only recently attracting the attention it deserves. He reports a case of recurring attacks of pain and nausea and other disturbances explained only by the discovery of a right wandering kidney. As soon as the patient, a young woman, assumed the knee-elbow position she experienced relief, and she learned to use this as a prophylactic measure, before going out for a walk, for instance. She refuses operative relief and is delighted that she can keep herself free from disturbances by this simple measure. Until this nad been suggested she was growing more and more emaciated from the pains and digestive disturbances consequent on the physical anomaly. The pains come on, Fellenberg assumes, at the moment when the stomach content is being passed on into the intestine, the latter being compressed by the movable kidney; the more copious the meal the severer the pain. The kidney drops forward as the patient assumes the knee-elbow position, leaving the passage free for normal evacuation of the stomach. He thinks the same measure might prove effectual in some cases for displacement of the uterus, for mechanical ileus, hydronephrosis, or gall-stone colics and especially for arteriomesenteric occlusion of the bowel.

71. **Predisposition of Apices to Tuberculosis.**—Huguenin analyzes the mechanism of the cough, showing how even under normal conditions it is difficult for the apices to expel secretions and foreign particles. Even at the best they are expelled mostly by the apex being forced up against the roof of the thorax; when there is an unusually small space in the cupola of the thorax the effect is much less and it is least when the apex is already shriveled or indurated. The muscles controlling the cough in this part of the chest are weaker than elsewhere. The bronchial ramifications curve even in a normal lung when the upper part of the thorax has lost its elasticity. With a rigid aperture, the apex may be shut off so that it is quite impossible for it to participate in the act of coughing. When these conditions prevail, the cough may actually force substances up into the apex from the lower part of the lungs, the effect being thus the exact opposite of normal conditions. He discusses further how the child may inherit the phthisical chest from one parent while inheriting unusual resistance to tuberculosis from the other. Wherever tuberculosis may gain a foothold, it gets to the apices almost inevitably sooner or later. The most frequent form of pulmonary tuberculosis is that which originates in infection of the lymph vessels in the neck or chest. In fully 60 to 70 per cent. of his cases the apices had evidently become infected in this way. In only 15 or 20 per cent. was there evidence to indicate direct inhalation as responsible for the apical process. He estimates at less than 20 per cent. the number of cases of pulmonary tuberculosis in children in which infection occurred by way of the intestines. In adults the proportion is much less, under 4.7 per cent. Huguenin does not mention droplet infection in the course of his monograph, as he has never encountered a case, he states, in which there was the least glimmer of probability of this method of origin. But he ascribes quite an important rôle in pulmonary tuberculosis to primary infection by way of the skin and urogenital organs. In his experience, further, fully 79 per cent. of tuberculous bone and joint processes were secondary to preexisting tuberculosis. In this connection, he mentions a family in his charge in which the mother had tuberculosis, and of the six children one had pulmonary tuberculosis, one kidney tuberculosis, one tuberculous glands in the neck, one spina ventosa and phthisis later, and one a tuberculous ulceration on the hand with spina ventosa of two fingers later but no apparent glandular trouble; only one daughter was apparently free from tuberculosis.

Deutsche medizinische Wochenschrift, Berlin

March 9, XXXVII, No. 10, pp. 433-480

72 *Diagnosis and Treatment of Multiple Sclerosis in Its Early Stages. E. Schultze. Commenced in No. 8.
73 *Digestion of Vegetables. (Ueber Gemüseverdauung bei Gesunden und Kranken und über die zerkleinernde Funktion des Magens.) A. Schmidt.

74 Early Cutaneous Recurrence of Syphilis After Salvarsan Treatment. S. Bettmann.
75 Reaction of Tuberculous Processes After Salvarsan Injections. K. Herxheimer and K. Altmann.
76 Technic for Salvarsan Injections. P. Schober.
77 *Psychopathology of Suicide. (Selbstmord.) M. Sichel.
78 *Chronic Mediastinitis. (Das Krankheitsbild der chronischen fibrösen Mediastinitis nebst Beiträgen zur Klinik der Mediastino-Pericarditis und Concretio pericardii cum corde.) K. Radonicic.
79 *Experimental Research on Pathogenesis and Treatment of Gout. S. Cohn.
80 Reflex Anuria from Sudden Chilling. A. Hörder.
81 The Plague in China. (Die Lungenpest auf ihrem gegenwärtigen Zuge durch China.) Martini.

72. **Multiple Sclerosis.**—Schultze calls attention to the rise of temperature which generally accompanies the apoplectic seizures of multiple sclerosis and differentiates them from ordinary cerebral apoplexy. He warns against the damage that may be done by a mistaken assumption of hysteria as the cause of the disturbances resulting from multiple sclerosis. In a case of the kind no attention was paid to the patient's complaint that she became dizzy and felt like falling; she was ordered to conquer this and to exercise as the best means of curing the assumed hysteria. This was the very opposite of what should have been done. Patients with multiple sclerosis should spare themselves any unnecessary efforts, stopping at the slightest fatigue, with frequent pauses for rest. With severe disturbances the patients should stay in bed. Gentle measures are the only ones to apply. A mild course of mineral baths may help by increasing the patient's confidence in himself although the spa physician ascribes it to the waters. The number of drugs that have been used in treatment shows that none is really effectual.

73. **Digestion of Vegetables.**—Schmidt has been unable to discover any evidence to sustain the assumption that the digestion of vegetables occurs mostly in the intestines and that it is mainly the work of microbes. Outside of the body these are the factors involved, but they act very slowly in comparison to the rapidity of the digestion in the body; an ox, for instance, digests 7 pounds of cellulose and hemicellulose in a day, while nothing to approximate this can be realized *in vitro*. The extent of the digestion of cellulose in man, besides, is by no means proportional to the intensity of the putrefaction processes in the intestines. He reiterates that man stands midway between the herbivora and carnivora; some individuals are to-day more herbivorous while others are more of the carnivorous type. The former can digest even raw turnips, radishes, cucumbers and green salads; while others are unable to digest perfectly even cooked potatoes and beans. These and other facts cited demonstrate, he thinks, that the digestion of vegetables in general depends on the length of time they remain in the gastro-intestinal tract, but, chief of all, on the acidity of the gastric juice. The acid in the gastric juice dissolves the interstitial substance, thus liberating the cells of the vegetable fibers and enabling the alkaline intestinal juices to act on the single cells. When the gastric juice is exceptionally acid, the vegetable cells are separated and the digestion proceeds so completely that the elements of the vegetable cells are all taken up, leaving no waste to induce peristalsis—This is Schmidt's explanation of the cause of constipation in certain cases: digestion is too perfect. The gastric juice is only able to dissolve protein, and is unable to do even this perfectly if the amount is too large. At the same time this dissolving faculty is not the exclusive function of the gastric juice; it is done also and much more thoroughly, he asserts, by the pancreatic juice. It is most injurious therefore for intestinal digestion to have the cells still massed together when the mass is passed on into the intestines. Whether the proteins are dissolved or not is comparatively immaterial. No process below can take the place of the lacking disintegrating action of the acid gastric juice. Undissolved connective tissue in the stools thus testifies to the lack of proper gastric functioning in this respect. When the masses of either meat or vegetable are not broken up, the pancreatic juice cannot reach them and they linger undigested and afford lurking places for bacteria which in turn set up catarrh. The practical conclusion of the research reported emphasizes anew the importance of minute subdivision of the food when the gastric juice lacks the normal proportion of acid. The articles of food must be well cooked to loosen the connective tissue between the cells, and they must be ground in a mortar or put through a hair sieve. This mechanical subdivision of the articles of food is far more important than any other feature of the diet, he insists, and neglect of it soon avenges itself, especially in diarrhea of gastric origin.

77. **Psychopathology of Suicide.**—Sichel found evidence of mental derangement in a large proportion of persons who had attempted to commit suicide. In Munich it is the rule that every person who makes the attempt is sent to an asylum for study of his case. Sichel here reviews the different forms of nervous and mental disturbances in these would-be suicides.

78. **Chronic Fibrous Mediastinitis.**—Radonicic reports the details of eleven cases, classifying them according as the pathologic process was confined to the mediastinum proper or involved the pericardium or had entailed fusion of the pericardium. The ages ranged from 14 to 70. Fibrous mediastinitis is common, he states, but it is generally overlooked. One sign—the Oliver-Cardarelli—points unerringly to it; this is the downward pulsation palpable in the larynx. He explains the mechanism for this phenomenon which is observed not only with isolated fibrous bands in the mediastinum but also with involvement of the pericardium in the mediastinitis and adherent pericardium. There may also be a difference in the blood-pressure in the radial arteries in the recumbent position, this difference subsiding as the patient stands. This indicates also connective tissue cicatricial changes in the mediastinum. In a very few cases a systolic retraction of the chest wall in the entire left scapular region also may be observed with fusion of the pericardium with the pleura and the heart. This indicates retrocardial adhesion and the sign was marked in one of the cases reported. Radonicic has been unable to find any mention of this sign in the accessible literature. The fibrous mediastinitis was of tuberculous origin in the majority; in the other cases there was a history of pneumonia, cancer of the esophagus, rheumatism or syphilis. Anthracosis was encountered but once. Except for the constant difficulty in swallowing, the subjective symptoms were rare and vague; only a few patients complained of a burning pain in the chest or vague sensations back of the sternum. In conclusion, he discusses the interpretation of the radiographic findings.

79. **Gout.**—Cohn explains gout as the result of an overabundance of sodium; this promotes the development and persistence in the body of sodium urate which as it is deposited in the tissues forms the gouty tophi. On the other hand, he says, potassium may be regarded as an antidote for the sodium; the sodium-urate deposits can occur only in tissues deficient in potassium, such as connective tissue and cartilage. These assumptions explain the prevalence of gout among persons whose food contains a preponderance of sodium, such as meat, especially rare meat, as blood is one of the substances richest in sodium, averaging 19 parts sodium in 1,000 parts blood. Potatoes, on the other hand, contain the largest proportions of potassium, and those whose food consists mainly of potatoes are thus supplied in abundance with the potassium antidote to the sodium urate deposits.

Medizinische Klinik, Berlin

March 5, VII, No. 10, pp. 363-400

82 Determination of Destruction of Leprosy Bacilli in the Human Body. P. G. Unna.
83 Carbohydrate Courses in Diabetes. (Kohlehydratkuren bei Diabetes.) R. Kolisch.
84 Strabismus. (Das Schielen.) C. Cohen.
85 *Serotherapy in Toxemias of Pregnancy. R. Freund.
86 *Case of Fatal Arsenic Poisoning After Administration of Salvarsan in Treatment of Cerebral Syphilis. A. Jorgensen.
87 Clinical Pathology of Vestibular Apparatus. C. Stein.
88 Dissemination of Leprosy Bacilli in Disease of Respiratory Tract. L. Merian and C. Solano.

85. **Serotherapy of Pregnancy Auto-Intoxication.**—Freund has been applying serotherapy for eighteen months in treatment of toxemias of pregnancy and he thinks that his success justifies further trials of the method. He injected from 20 to 80 c.c. of freshly drawn horse serum in six patients with puerperal eclampsia and in each case there were only from one to four convulsions thereafter. He has recently injected the serum from healthy pregnant women near term into four

women with serious pregnancy disturbances—a psychosis and dermatosis with uncontrollable vomiting, neuralgia and jaundice in the first case. Marked improvement followed the third day after injection of 24 c.c. of the serum and complete recovery after the second injection a week after the first. This patient was a woman of 24, three months pregnant. In three other cases the eclampsia persisted after delivery; in the first case a total of 58 c.c. of serum was injected during the day, after the twelfth convulsion; seven other convulsions followed, after which the patient, a girl of 15, rapidly recovered. Five convulsions followed the injection of 40 c.c. of serum, preceded by withdrawal of 400 c.c. of blood, in the second case and recovery was uneventful. In the third case the eclampsia did not develop until after delivery and there were no convulsions after injection of 36 c.c. of serum preceded by venesection, after the patient had had eleven convulsions. Freund's experience thus supplements that recently reported by Mayer and Linser with serotherapy of pregnancy toxicoses, but he urges examination of the blood by the optic method in all such cases to obtain a scientific basis for estimation of indications, in addition to the data learned by empiric observation. [Compare Abstract 129 below.]

86. This seems to be the same case previously reported by Ehlers, mentioned in THE JOURNAL, Nov. 26, 1910, page 1941.

Münchener medizinische Wochenschrift

March 7, LVIII, No. 10, pp. 497-552

89 *Local Anesthesia for Major Operations on Breast and Thorax. G. Hirschel.
90 Desquamating Erythrodermia. (Stellung der Erythrodermia desquamativa im Krankheitssystem.) E. Moro.
91 Influenza? J. Trumpp.
92 *Psychic Disturbances with Chronic Cocain Intoxication. H. Higier.
93 Recurrences in Nervous System After Administration of Salvarsan in Syphilis. (Ueber die Neurorezidive nach Salvarsan, über Abortivheilung und weitere Erfahrungen.) J. F. Werther.
94 Salvarsan in Syphilis and Optic Neuritis. (Salvarsanbehandlung und Neuritis optica.) F. Schanz.
95 Salvarsan in Leprosy. (Einfluss des Salvarsan auf die Leprabazillen.) D. E. Montesanto.
96 Trichloracetic Acid as Efficient Substitute for Carbon Dioxid Snow in Treatment of Skin Diseases. G. Knauer.
97 Technic for Carbon Dioxid Snow Treatment. (Tubus zur Behandlung mit Kohlensäureschnee.) M. Kuznitzky.
98 Technic for Relief in Peritonitic Ileus. M. Kaehler.
99 Gastric Fever. A. Schneller.
100 Medicolegal Diagnosis of Epilepsy. K. Heilbronner. Commenced in No. 9.

89. **Local Anesthesia for Major Operations on the Chest.**—Hirschel states that at Wilm's service at Heidelberg 487 major operations were done under local anesthesia in 1905 and the number has doubled and more each year since. He gives an illustrated description of the technic for amputation of the breast. He outlines the field of operation with a series of ten injections of the anesthetic, pointing the needle in four directions to spread the fluid. The first puncture in the axilla is the only one that is painful, the others being all at previously anesthetized points.

92. **The Mental Disturbances with Chronic Cocain Poisoning.**—Higier comments on the fact that the action and symptoms of a single acute poisoning with cocain are very different from those of chronic intoxication. It is not an accumulation of single intoxications, but an entirely different action on the nervous system. In a case described a dentist was taking 5 gm. of cocain daily. Heimann had a case in which 8 gm. was the daily dose and Sollier had a patient who occasionally took up to 12 gm. The needle punctures leave traces of brown almost black pigmentation; this is a sign peculiar to cocain. The paresthesias are not located at the periphery but on the trunk, and they produce the subjective impressions of foreign bodies under the skin. Most characteristic of all is the delirium with hallucinations; it resembles more the alcoholic delirium; but there are no objective signs of liquor drinking. The patient during the delirium can reason logically and behave normally in regard to surrounding objects until unconsciousness supervenes, the condition thus differing from that of ordinary drunkenness. With the cocain there is at first an exalted self-consciousness, followed by dyspnea and distress. Further testimony to the cocain as the cause of the mental disturbances is the favorable influence of morphin; morphin is almost an antidote for cocain poisoning. Higier adds that the hallucinations may drive the patient to commit suicide, which is an extremely rare occurrence in alcoholic delirium, even the most aggressive. Cocain can be suppressed abruptly, he continues; there is little reaction, while recurrence, he says, is rare. He denounces as false the statement in some of the works on toxicology in regard to habitual cocainomania, declaring that cocain addiction is readily curable.

Therapeutische Monatshefte, Berlin

March, XXV, No. 3, pp. 145-208

101 *Study of the Resistance and Ultra-Sensitiveness of the Animal Body to Chemical Agents. H. Hildebrandt.
102 Non-Operative Treatment of Inflammatory Gynecologic Lesions. (Nichtoperative Behandlung entzündlicher Frauenkrankheiten.) H. Freund.
103 Drugs Besides Quinin in Malaria. (Moderne Malariatherapie.) H. Werner.
104 *Dangers of Hydrotherapeutic Procedures for Infants. Haussen.
105 Technic of Intravenous Injection of Large Amounts of Fluids. G. Schwartz.
106 *Tribute to Efforts of the A. M. A. ("Nach amerikanischem Muster"). W. Heubner.

101. **Resistance and Hypersusceptibility to Chemical Agents.**—Hildebrandt discusses some of the recent additions to our knowledge in regard to anaphylaxis and resistance of the animal body to certain chemicals, concluding with a description of experimental work which seems to demonstrate that the hemolytic action of certain chemicals is annulled by the cholesterin element in the serum. This explains the benefit which Grimm observed in malaria under ingestion of cholesterin; the latter had an inhibiting effect on the hemolytic action of the malarial parasite. Hildebrandt suggests that similar benefit might be obtained in eclampsia from systematic administration of cholesterin. Hemolytic factors are certainly involved in the eclampsia syndrome, he thinks, and possibly the lack of substances with an affinity for fat may be responsible for this; administration of cholesterin might supply this lacking lipophilous substance.

104. **Dangers of Hydrotherapeutic Procedures for Infants.**—Hanssen reports three out of a larger number of cases in which an ordinary brief warm bath or a mustard pack was followed by threatening collapse on the part of infants 6 or 8 months old, with severe catarrhal enteritis, capillary bronchitis with eczema of the face or in infants convalescing from anemia following long overfeeding with cow's milk. Children entering the hospital should not be given a bath by the nurses before the child has been inspected by the physician or without his orders. If collapse occurs under any hydrotherapeutic measure Hanssen advises repeated injections of camphorated oil, with warm bottles and inhalation of oxygen. It is possible that such accidents from hydrotherapeutic measures are more common in children with the exudative diathesis or, rather, with the neuropathic tendency which generally accompanies it. Czerny has reported sudden fatalities under the first cold pack in neuropathic children. It is wiser, consequently, to refrain from hydrotherapeutic measures altogether with children of this exudative diathesis plus a neuropathic tendency, and especially from mustard packs which in other cases may prove so useful.

106. **The Americans Set the Pace.**—Heubner comments on the way in which his compatriots frequently wind up a very exaggerated statement by saying: "in true American style." He remarks that he read this expression recently in an article on the fraudulent advertising of certain proprietaries, which, it was stated, was "in true American style." Heubner then goes on to say that he wishes to inform his compatriots that in their attitude toward the abuses in the proprietary medicine business, "they are far behind the stand taken by the medical profession in America, whose American Medical Association has, on its own initiative and with its own forces, successfully organized means to supply every physician with reliable bases for his appreciation of new remedies." He adds: "In connection with the publication of a report of the Council on Pharmacy and Chemistry of the A. M. A., on the fraudulent statements made in advertisements of the preparation Formurol, put out by the Falkenberg firm (Berlin-Grünau), an editorial note states as follows (THE JOURNAL, Jan. 21, 1911, page 210)":

This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

Heubner passionately exclaims after quoting this editorial note in full: "*'Laissez faire'!* How long, how long is this going to apply to us still in Germany! *(Wie lange wird es bei uns noch so heissen?)*"

Therapie der Gegenwart, Berlin

March, LII, No. 3, pp. 97-144

107 Treatment of Gout. (Behandlung der Gicht mit Phenylchinolcarbonsäure—Atophan—nebst Bemerkungen über die diätetische Therapie der Krankheit. W. Weintraud.
108 Roentgen-Ray Treatment of Cancer. (Aussichten für die Behandlung maligner Tumoren mit Röntgenstrahlen.) C. Müller and G. Klemperer.
109 Serotherapy of Tetanus. (Zwei mit hohen Antitoxingaben behandelte Fälle von Tetanus.) Everling.
110 Climatic Treatment of Hay Fever and Nervous Asthma. C. Widmer.
111 Inadequacy of Substitutes Offered for the Lung Suction Mask. (Ersatzmittel der Lungen-Saugmaske.) E. Kuhn.
112 *Recent Achievements and Problems of Chemistry. E. Fischer.

112. **New Achievements of Chemistry.**—In this address delivered recently by Professor Emil Fischer he comments on the way in which the discovery of radium has upset the preconceived notions in regard to the unchangeability of the chemical elements, and then remarks that in all this new work on radium the Germans have been merely passive lookers-on. This was owing to the fact that Germany has no radium-bearing ore and that few German scientists have means to purchase the expensive element. But he congratulates his country now on the discovery, by O. Hahn of Berlin, that several radioactive elements are present in the by-products of thorium used in the manufacture of mantle lights. He has isolated the bromid of mesothorium, one of these elements; it has radioactive power similar to radium. The small lump of the mesothorium which Fischer exhibited is equivalent, he stated, to 100 mg. of pure radium bromid, and it cost nearly $3,000. The Berlin Academy of Sciences is soon to have 250 mg. of this mesothorium at its disposal to loan to German scientists. The waste of the thorium manufactures in Germany will produce enough mesothorium annually to be the equivalent of 10 gm. of radium bromid—more than there is of the latter in the world to-day. Then, he intimates, Germany will have something to say for herself on the subject of radium. She was the pioneer in organic synthesis, commencing with Wöhler's artificial production of urea, and he stated that in his laboratory the most complicated substance thus produced by synthesis has recently been perfected. The raw materials for the production of the minute amount yet made cost about $250, but what to-day is merely a scientific toy and curiosity may to-morrow prove of wide practical importance; chemistry has many such fairy-tales to relate. He commented further on the close chemical relationship between the coloring matter of the plants and the blood-pigment. This seems to show a close blood relationship between the animal and vegetable kingdoms. Among the synthetic substances he described as recent achievements in science are synthetic caffein, which is now made extensively from guano, and synthetic epinephrin, made from coal tar.

Wiener klinische Wochenschrift, Vienna

March 2, XXIV, No. 9, pp. 299-334

113 Psychology and Pathology of the Emotions. (Zur Psychologie und Pathologie der Affektion.) J. Berze.
114 *Comparative Tests for Tubercle Bacilli in Tissues. (Wert der Antiforminmethode für den Tuberkelbazillennachweis im Gewebe.) C. Hart and O. Lessing.
115 Heart Murmur and Size of Heart. (Herzgeräusch und Herzgrösse.) P. Blach and D. Chilaiditi.
116 Microsporon Epidemic Scalp Disease at Vienna. R. O. Stein.
117 *Glandular Fever. (Adenoiditis acuta; ein Beitrag zur Lehre vom Drüsenfieber.) F. Schleissner.
118 Mechanism of Functioning of Leg with Paralyzed Quadriceps. O. Semeleder.

March 9, No. 10, pp. 335-370

119 *Permeability of the Meninges, Especially in Progressive Paralysis. E. Weil and V. Kafka.
120 Urine Content in Albumin and Tube-Casts While Taking a Course of Sulphate Waters. E. Pfianz.
121 Banti's Disease. K. Ungar.
122 The Cancer Problem. (Das Problem der Krebskrankheit.) A. Fraenkel.

114. **Determination of Tubercle Bacilli in Tissues.**—Hart and Lessing state that tubercle bacilli do not lose their vitality even when the tissues are cut into frozen sections and treated with formol for half an hour. Animals inoculated with the tissues contract tuberculosis. Even when the frozen sections are stained with hematoxylin and differentiated with hydrochloric acid and alcohol, and after glycerin embedding are dissolved with 15 per cent. antiformin, still the tubercle bacilli are capable of infecting animals. Systematic examination in this way of the entire lymphatic apparatus is liable to throw light on a number of disputed problems. It is their impression that tuberculous infection of children is preeminently a dirt infection, occurring by way of the mouth, throat and intestine, while adults become infected by aspiration of the tubercle bacilli.

117. **Glandular Fever.**—Schleissner is convinced that what has been called acute glandular fever is very often merely inflammation of adenoid vegetations. Differentiation is difficult at first; the fever suggests an acute eruptive disease or gastro-intestinal or respiratory affection. In infants, the clinical picture may be that of a retropharyngeal abscess; the fever may keep up for several days and frequently recurring attacks may suggest tuberculosis. The peculiar shape and elastic consistency of the indolent tough glands is important for differentiation. Usually the attack runs its course in a few days. In one case otitis media developed. There was no tendency to nephritis in any of his cases. He does not advise active measures in treatment during the attack; the swelling of the glands usually subsides spontaneously. The children are generally of the exudative diathesis type, and it is wise to change the diet and limit the amount of food, hoping thus to influence the constitutional anomaly. It was his impression that considerable benefit followed in his cases, and he urges others to give this dietetic treatment a trial, limiting the children to a pint of milk a day at most and ordering a vegetable diet when this is possible.

119. **Permeability of the Meninges.**—Weil and Kafka have been testing the permeability of the meninges by determining the presence of antibodies in the cerebrospinal fluid. They tabulate the findings in forty-four cases. Fully 97 per cent. of the twenty-four patients with progressive paralysis gave a positive response while the findings were constantly negative in twenty controls with other nervous affections.

Zentralblatt für Chirurgie, Leipsic

March 4, XXXVIII, No. 9, pp. 305-344

123 *Successful Direct Transfusion of Blood by Suture of Blood-Vessels. (Zur Frage der direkten Bluttransfusion durch Gefässnaht.) H. Flörcken.
124 The Coxa Vara Question. W. Hagen and G. Drehmann.

123. **Direct Transfusion of Blood by Suture of Blood-Vessels.**—Flörcken applied this measure as a last resort in a case of staphylococcus bacteriemia. The patient was a woman of 24 with no history of hemophilia; during convalescence there was sudden hemorrhage from the nose, gums, rectum and stomach, the catheter brought only pure blood and there were petechiæ at the slightest external irritation. The blood seemed to be of normal constitution but the hemoglobin had dropped to 30 per cent. by the sixth day and the usual measures gave no permanent results. An older step-sister gave the blood for the transfusion; her left radial artery was sutured to the left median vein of the patient, the left hand of the sister lying in the bend of the patient's elbow. The lumina of the two vessels were protected by paraffin from drying and they were sutured together according to Carrel's technic. The difference in the size of the two vessels made the suture difficult but the procedure proved successful. The connection was kept up for half an hour, during which time the patient visibly revived; there were no further hemorrhages and she was soon restored to health.

Zentralblatt für Gynäkologie, Leipsic

March 4, XXXV, No. 9, pp. 337-384

125 *Advantages of Trendelenburg Position for Obstetric Procedures. (Beckenhochlagerung in der Geburtshilfe.) E. Bumm.
126 Etiology of Placenta Prævia. O. Hoehne.
127 Eclampsia in Sixth Month of Pregnancy with Hydatidiform Mole without a Fetus. A. Sitzenfrey.
128 *Paroxysmal Tachycardia in Connection with Spontaneous Delivery. E. Langes.
129 *Serotherapy of Pregnancy Dermatoses. (Normales Schwangerenserum als Heilmittel gegen Schwangerschaftsdermatosen im besonderen und Schwangerschaftstoxikosen überhaupt.) A. Mayer.
130 *Treatment of Uterine Cancer. A. Theilhaber.
131 Reposition of Retroflexed Uterus. ("Eine neue leichte Methode der Reposition des retroflektierten Uterus.") M. Hirsch.

March 11, No. 10, pp. 385-432

132 Cultivation of Anaerobes in Obstetrical Cases. (Zur Anaerobenzüchtung in der Geburtshilfe.) O. Bondy.
133 Differentiation of Hemolytic Streptococci by Lecithin Bouillon. H. Müchtle.
134 *Pseudomenstruation. M. Neu.
135 *Roentgen Rays in Gynecology. (Neue radiotherapeutische Erfahrungen in der Gynäkologie auf Grund von 100 gutartigen Blutungen und Tumoren des Uterus.) C. J. Gauss.
136 Pathology of Universal Hydrops of the Fetus. R. Teuffel.

125. **The Trendelenburg Position in Obstetrics.**—Bumm calls attention to the advantages of raising the pelvis in doing obstetric operations, especially during extraperitoneal Cesarean section, and for internal version, bringing down the foot with breech presentation, prolapse of the umbilical cord, management of brow and face presentation, etc. By raising the pelvis the heavy uterus slides down out of the way and gives ample space for the obstetrician's hand. The more the presenting part is pressed down into the pelvis, the greater the favorable influence of the Trendelenburg position. In a recent case of transverse presentation, he was able to bring down a foot with ease when the pelvis was raised, the sliding down of the uterus causing a relaxation of the walls which, he is convinced, materially reduced the danger of rupture during the version.

128. **Paroxysmal Tachycardia with Spontaneous Delivery.**—Langes reports a case and cites two others from Zangemeister's experience in which paroxysmal tachycardia was observed in women with previously sound cardiovascular systems. In two cases the anomaly passed without leaving appreciable disturbances but in the other case acute dilatation developed, which must have impaired more or less the integrity of the mitral valve. A sudden increase in the pulse-rate may therefore be observed with normal delivery even with a sound heart, and this possibility should not be forgotten in cases suggesting internal hemorrhage.

129. **Serotherapy of Toxemias of Pregnancy.**—THE JOURNAL, February 4, page 388, mentioned a case of recurring pregnancy herpes which subsided after injection of 10 and 20 c.c. of serum from a healthy pregnant woman near term. Mayer here reports an additional case in which serotherapy was used for urticaria with severe pruritus in a healthy woman at term, and the affection promptly subsided. The pruritus returned a week later as labor commenced but ceased abruptly as delivery was complete. In two other cases of pregnancy toxicosis the serotherapy had a similar promptly beneficial effect, the pruritus ceasing at once after injection of the serum. He suggests that all kinds of pregnancy toxic disturbances, including eclampsia, albuminuria, hyperemesis, tetany and possibly osteomalacia might be benefited by this serotherapy. The aim is to supply substances present in the normal pregnant human organism, the lack of which is causing the trouble; horse serum consequently would not answer the purpose. He used serum exclusively from women giving a negative Wassermann reaction and apparently entirely healthy. [Compare with Abstract 85 above.]

130. **Treatment of Uterine Cancer.**—Theilhaber is convinced that defective nourishment of the mesodermal tissue is an important factor in development and recurrence of cancer. Consequently, retention of the ovaries may aid in preventing recurrence after removal of the uterine cervix by the flux of blood to the region at the menstrual periods. He cites statistics to show that the end-results are more satisfactory with partial operations than is generally conceded. Schröder has 40 per cent. still in good health of ninety-six patients treated by intravaginal or supravaginal amputation of the cancerous uterus from four to eleven years ago. Theilhaber emphasizes the necessity for distinguishing between the origin and the growth of a cancer; when the cancer is once installed, then particularly favorable conditions for nourishment, as in the young, promote the growth of the cancer. But he presents evidence to show that cancer does not start in well-nourished tissues. Another argument in favor of the partial operations is that there is less cicatricial tissue left and thus less predisposition to malignant disease. For these and other reasons cited, he now makes a practice of amputating the cancerous cervix in the vicinity of the internal os uteri. He also makes a point of promoting the circulation in the region afterward by inducing regional hyperemia with superheated air, sitz baths, etc. The patients are all tested for the Wassermann reaction and mercury and iodid given with positive findings.

134. **So-Called Postoperative Pseudomenstruation.**—Neu says that an apparently regular menstrual hemorrhage occurred two or three days after an operation on the uterine adnexa in each of his fifty-four cases of the kind since he has been studying the subject. His conclusion is that it is a true menstrual phenomenon for which the irritation from the operation gave the impulse.

135. **Roentgen Rays in Non-Malignant Gynecologic Disease.**—Gauss thinks that the time has come to cease to regard this method of treatment as still untried and unreliable. The first tentative efforts to utilize the Roentgen rays in gynecology are now long past and the method has reached a stable footing. He has been applying it for over four years and in 200 cases; he here analyzes the remarkably favorable end-results as observed in 100 cases during the last two years during which time the technic has been practically uniform. The report issues from Krönig's clinic at Freiburg, and Krönig's endorsement of the method was mentioned in these columns, Aug. 27, 1910, page 812, and Schindler's endorsement, December 17, page 2187. Gauss here discusses the various groups of cases, going into minute details in order to present the subject in its true light. The younger the patient the longer the course of treatment required. Myomas require about two months in women over 50 and three additional weeks in women under 45, while other hemorrhagic uterine affections require from nine to fifteen weeks before amenorrhea is definitely installed. Recent improvements in technic permit the necessary total dose of radiant units for a myoma to be incorporated in less than a month, the tumor rapidly shriveling under the influence of the rays. He summarizes in two charts the time and dosage required in the two classes of cases.

Zentralblatt für innere Medizin, Leipsic

March 11, XXXII, No. 10, pp. 249-272

137 *Percussion with Patient Leaning Against a Masonry Wall. (Wandperkussion.) G. Wenzel.

137. **Wall Percussion.**—Wenzel has found that percussion findings are much more characteristic and instructive when the patient stands with the back against a stone or brick wall. The findings in the supraclavicular and subclavicular fossæ are much more pronounced and characteristic when the patient, the trunk disrobed, rests his back against a masonry wall.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 5, XXXII, No. 28, pp. 291-306

138 Pathogenesis of Pellagra. (Patogenesi della pellagra e la nuova dottrina fotodinamica.) G. Ghedini.
139 Serotherapy of Glycosuria. (Sul meccanismo di azione dei sieri antiglycosurici.) L. Castriota.

Policlinico, Rome

March 5, XVIII, No. 10, pp. 293-324

140 Diagnosis and Treatment of Cholera. T. Pontano.

Riforma Medica, Naples

March 6, XXVII, No. 10, pp. 253-274

141 Salt-Poor Diet in Treatment of Ascites from Cirrhosis of the Liver. C. Achard.
142 Persistence of Cholera Germs in Dejecta of Convalescents. A. Montefusco.
143 Polymorphous Erythema in the Tuberculous. P. Ciuffini.
144 Kala-Azar in Sicily. (Qualche considerazione a proposito di un nuovo caso di anemia da leishmania—xxiii—osservato a Palermo.) S. Caunata.

Ugeskrift for Læger, Copenhagen

March 9, LXXIII, No. 10, pp. 324-356

145 *Connection Between Syphilis and Heart Disease. (Syfilitiske Hjertesygdomme.) V. Bie.

145. **Heart Disease and Syphilis.**—Bie is convinced that the frequency of syphilis as the causal factor of heart disease is underestimated. In his experience he found among eleven tabetic patients that one had well-defined insufficiency of the aortic valves and another the same in a milder form. Among seventeen patients with aneurysm of the aorta he found unmistakable evidences of syphilis in fourteen, that is, in 82 per cent. The Argyll-Robertson sign was positive in five of the sixteen examined and the knee-jerk was absent in three in this group as also in two others. In short, seven of the sixteen patients with aneurysm of the aorta presented unmistakable signs of incipient tabes. Analysis of the hospital records shows, he continues, that the knee-jerk was absent in 27 of 511 patients under treatment in the last two years. In this group of twenty-seven, eight had tabes and three dystrophy of the muscles, alcoholic neuritis or paraplegia. The remaining sixteen patients had either pneumonia or malignant disease of the stomach, with the exception of a child with mitral stenosis and a woman with chlorosis. Examination of the total pneumonia records showed that the knee-jerk was absent or feeble in 49 per cent. of the patients; this demonstrates that pneumonia alone is liable to abolish the knee-jerk. In the twenty-three cases of aortic valvular defect there was a history of acute articular rheumatism in nine, and of tabes in three, while there was a history of syphilis in four others. Only one of the seven patients with aortic insufficiency for which no explanation was evident was of an age to suggest the possibility of syphilis; the others were near or under 20. Similar analysis of the group of eighty-five patients with myocarditic or coronary disturbances showed that eleven were certainly and four probably syphilitic. Among the 187 cases of mitral defects at the hospital in the last ten years, acute rheumatism or chorea was known in the history of 120 or the 160 examined, and scarlet fever, pneumonia or puerperal fever in some of the other cases, but nothing of syphilis except in one case. The average age of the patients with mitral defect was 30, while with syphilitic aortic disease it was 42, for aneurysm of the aorta, 50, and for syphilitic myocardium trouble, 52. There is thus an interval of nearly fifteen years between the clinical development of these affections on a rheumatic and a syphilitic basis. It seems evident that syphilis attacks preferably the aorta and myocardium, while it spares the mitral valve. The connection between tabes dorsalis and heart disease in syphilitics is evident from the aortic disturbances so frequently noted in patients with tabes but still more by the frequency of symptoms of tabes observed in the course of heart or valvular affections, the absence of the pupil reflex in particular. The facts observed suggest, Bie thinks, that the heart affections in question are more closely allied to the parasyphilitic than to other kinds of late syphilitic affections.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

GENERAL MEDICINE. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume I. The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 405. Chicago: The Year Book Publishers.

A MANUAL OF PRACTICAL INORGANIC CHEMISTRY. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Price, $1.35. Pp. 347, with 51 illustrations. New York: Oxford University Press, 1910.

REPORT OF THE PRESIDENT OF STATE CHILDREN RELIEF BOARD, THE HON. C. K. MACKELLAR, M.B., C.M., M.L.C. For the Year Ended April 5, 1910. Legislative Assembly, New South Wales. Presented to Parliament pursuant to Act No. 61, 1901, Sec. 10. (Second Session.) 1910. Paper. Pp. 83.

THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. Second Edition. Cloth. Price, $6. Pp. 1079, with 356 illustrations. New York: D. Appleton & Co., 1911.

A BRIEF TEXT OF PHYSIOLOGY. For Dental, Pre-Medical, and College Students. By Carl J. Wiggers, M.D., Department of Physiology, University of Michigan. Cloth. Price, $1.50. Pp. 207, with 47 illustrations. Ann Arbor: George Wahr.

REPORT OF THE MASSACHUSETTS COMMISSION TO INVESTIGATE THE QUESTION OF THE INCREASE OF CRIMINALS, MENTAL DEFECTIVES, EPILEPTICS AND DEGENERATES. January, 1911. Paper. Pp. 50.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-Book of Treatment and Practitioner's Index. 1911. Twenty-Ninth Year. Cloth. Price, $3.50. Pp. 748. New York: E. B. Treat & Co.

PREVENTION OF INFECTIOUS DISEASES. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth. Price, $2.50. Pp. 281. New York: D. Appleton & Co., 1911.

New Patents

Recent Patents of Interest to Physicians

968232. Respiratory helmet. Harry Bentz, Larchmont, N. Y.
968481. Cottage or tent house. Philip A. Kessler, Chicago.
967943. Making hydrocyanic acid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
968378. System for cooling and dispensing beverages. Mark W. Marsden, Philadelphia.
967949. Portable combination hammock and tent. Elliott B. Meredith, Forest Depot, Va.
968491. Liquid measuring and dispensing apparatus. Edward E. Murphy, Winchester, Mass.
967990. Producing clear stannic-chlorid solutions. Elmer A. Sperry, Brooklyn.
968209. Massage machine. Walter G. Trautman, Cleveland, Ohio.
968017. Bed-tent. Stephen G. Wilson, Philadelphia.
968306. Apparatus for administering anesthetics. Mario J. Wunderlich, Guatemala, Guatemala.
968728. Truss. Harry G. Ballou, Seattle, Wash.
968528. Generating oxygen. Andre Beltzer, Bridgeport, Conn.
968532. Charging capsule for siphons. Domingo Brescia, Quito, Ecuador.
969147. Foot-warming attachment for electrothermal garments. Burton R. Charles, Portland, Ore.
969134. Surgical instrument. Charles S. Cowie, Culpeper, Va.
968757. Inhaler. George O. Ferguson, Denver.
969099. Invalid rest. Henry Fuchs, Allegheny, Pa.
968932. Bed and douche pan. Joseph E. Gavin, New York.
969106. Thermometer. William Jandus, Cleveland, Ohio.
969073. Oxygen bath. Otto B. May, New York.
968704. Device for the treatment of rectal troubles. Charles M. Siebert, Jr., Columbus, Ohio.
969687. Awning or window tent. Irving Farlin, Battle Creek, Mich.
969464. Apparatus for forming water bags and other hollow articles. Akron, Ohio.
969474. Making basic sulphate of lead. Albert Hileman, Hollidaysburg, Pa.
969480. Electric switching apparatus. Samuel T. Hutton, Chicago.
969351. Invalid's bedrest. Olin La Dow, Arcola, Ill.
969640. Tampon. Lewis G. Langstaff, New York.
969291. Stopper and dropper. Richard L. Larson, Minneapolis.
969485. Vapor-generating apparatus for medical treatment. Joseph Lesperance, Montreal, Quebec, Canada.
969547. Ozonizer. Oscar Linder, Chicago.
969381. Making artificial cryolite. Gerhard Loesekann, Hanover, Germany.
969174. Invalid bedstead. Angus MacDonald, Melrose, Mass.
969657. Spray nozzle. James Reade, Huntington, N. Y.
969196. Ankle-joint for artificial limbs. James F. Rowley, Chicago.
969661. Generating formaldehyd. Hans Schneider, Hamburg, Germany.
969420. Oleic-acid derivative bodies of the terpene group. Nathan Sulzeberger, New York.
969736. Apparatus for sterilizing and oxidizing liquids with ozone. Alexander H. Twombly, Summit, N. J.
969579. Surgical instrument. Constantin Waldvogel, Pittsburg.
969933. Production of ferric salts. Anson G. Betts, Troy, N. Y.
969942. Thumb-sucking preventer. Albert B. Crandall, Red Wing, Minn.
969853. Making liquid sodium amalgam. Herbert P. Ewell, Detroit.
970215. Preparation impermeable for Roentgen rays. Oscar Gros, Leipsic, Germany.
969885. Making sodium cyanid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
970077. Metal capsule. C. W. V. Messerschmidt, Copenhagen, Denmark.
970112. Making compounds of the active substance of suprarenal glands.
970357. Hospital or invalid's bed. John G. Segesman and G. Binggeli, Salem, Ohio.
970145. Making formic acid. William H. Walker, Boston.

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OBSTETRICS AND ANIMAL EXPERIMENTATION *

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Unfortunately, the relation between animal experimentation and obstetrics appears at first sight to be less direct and striking than in many other branches of medicine. Nevertheless, I consider that it can be demonstrated beyond peradventure that the greater part of the advances made during the past thirty-five years have resulted either directly or indirectly from research of this character.

The chief advances in obstetrics, in which animal experimentation has played a part, may be summarized as follows:

1. The recognition of the bacterial origin of puerperal infection, which has enabled us to prevent and overcome its former terrible mortality.
2. The application of aseptic technic to various obstetrical operations, thereby rendering comparatively harmless many procedures which were formerly murderous.
3. The recognition of the bacterial nature of certain infectious diseases of the newly born child, such as lockjaw and umbilical infections, which enables us to save each year the lives of thousands of infants, which under former conditions would have been lost.
4. The biologic study and standardization of certain drugs, such as ergot, whereby efficient preparations are available for the prevention and control of hemorrhage.
5. The demonstration of the internal secretion of the ovary, which has led to the therapeutic employment of ovarian tissue extracts, and to greatly increased conservatism in operations on the ovaries.
6. Experimental studies concerning the nature of the toxemias of pregnancy.
7. The experimental production of fetal deformities, which has led to a clearer conception of teratology, and the abandonment of the superstitious belief in maternal impressions.

1. THE RECOGNITION OF THE BACTERIAL ORIGIN OF PUERPERAL FEVER

Those not familiar with the older obstetrical literature scarcely realize the extent of the ravages of puerperal infection before the introduction of rigid antiseptic precautions in the conduct of labor, as well as the almost miraculous revolution which has followed their employment.

In this connection, I shall attempt to give some idea of the mortality attending puerperal infection in the past, and of the confusion regarding its nature. Then I shall refer to the part played by animal experimentation in the development of the bacteriology of wound infection and the establishment of aseptic technic, as well as the demonstration of the bacterial nature of puerperal infection, and finally I shall refer briefly to the revolutionary results which have followed the practical application of these principles.

In preantiseptic times puerperal fever ravaged the lying-in hospitals throughout the world, and each year caused the unnecessary death of thousands of women in the best years of life. How great the mortality was can best be appreciated by referring to the results obtained in the various civilized countries of the world, prior to the recognition of the etiologic rôle of the streptococcus.

PUERPERAL FEVER IN FRANCE

LeFort, in his railing accusation against the lying-in hospitals of France, which appeared in 1866, calculated that 30,394 deaths from puerperal fever had occurred in the 888,312 women delivered in the hospitals of Paris up to the year 1864—an incidence of 3.5 per cent., or one death to every 27.2 labors. Moreover, he stated that from 1860 to 1864, inclusive, the mortality in the Maternité of Paris was 12.4 per cent., which in December, 1864, rose to the colossal height of 57 per cent.; while in the Clinique it averaged 14.7 per cent. between the years 1833 and 1864, and on several occasions rose above 20 per cent. On the other hand, the mortality outside of the hospitals was much less, as only one woman perished out of every 212, which indicated that seven-eighths of the hospital deaths were due to conditions prevailing in them.

Such results were not limited to the past century, as Tenon in 1788 reported that the mortality at the Hôtel-Dieu for the fifteen years prior to 1786 was 6.4 per cent., and described almost inconceivable conditions of overcrowding and filth. Other observers described similar conditions. Thus, Charrier recorded a mortality of 7.5 per cent. at the Maternité in 1854, and Depaul one of 5.3 per cent. at the Clinique in 1856. Tarnier in his graduation thesis pointed out that 114 deaths from puerperal fever had occurred at the Maternité during the year 1856, an incidence of 5.1 per cent., as compared with 0.31 per cent. in the portion of the city immediately adjoining it.

Malgaine likewise studied the results in 14,197 and 99,911 women delivered respectively, in the hospitals and in the city of Paris during the years 1861 and 1862, and found a mortality of 8.2 and 0.56 per cent.; while

* This paper is one of the series prepared for and reprinted by the Bureau on Defense of Medical Research of the Council on Health and Public Instruction of the American Medical Association for circulation among the public. Twenty of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, syphilis, obstetrics, etc. A price-list will be sent on application. This article is abbreviated in THE JOURNAL. The pamphlet contains the complete article, including a long bibliography.

Quinquaud stated that 65 per cent. of all women delivered in the St. Antoine Hospital during the year 1869 were infected. Moreover, Delaunay in his recent history of the Maternité de Paris reports that the average mortality for the ten years ending with 1869 was 10.12 per cent., which rose as high as 18.43 per cent. in 1864.

Naturally, such results could not pass unnoticed, and the subject was frequently brought up for discussion. Thus, following a paper on puerperal fever by Guérard before the Académie de Médecine in 1858, a discussion arose which lasted for five months, which led to no definite conclusions, although participated in by the leading authorities in France. Similar discussions also occurred before the Académie in 1861 and 1862, the Société de Chirurgie in 1866, and the Société médicale des hôpitaux in 1869 and 1870. In all of them the most divergent views were expressed, some speakers holding that puerperal fever was contagious, and others that it was an unavoidable visitation of Providence. All sorts of theories were advanced in explanation of its origin, and it was attributed in turn to the peculiar characteristics of the parturient and puerperal woman, to hospital miasms and to the filthiness, faulty construction and ventilation of the hospitals; but not a word was said concerning the dirty hands of the obstetrician. Every suggestion was tested as soon as made, but still the mortality continued unchecked. Finally, in desperation it was suggested that the old lying-in hospitals be abandoned and be replaced by smaller ones, accommodating only a limited number of women, and that most women be cared for in their own homes or in small institutions conducted by specially appointed midwives. At the end of this period, the results had become so intolerable that it became the prevailing opinion that epidemics could be combated only by closing the lying-in hospitals, and such a drastic remedy was forcefully recommended at the International Congress held at Brussels in 1875.

The prevalence of puerperal fever had become a scandal, and, passing beyond purely medical circles, engaged the earnest attention of the Bureau of Public Assistance, whose able director, Husson, after thoroughly investigating the subject, was forced to admit that he saw no way of coping with it, and said:

> For the past sixty years the combined efforts of the administration and of the chiefs of service of health, have not been able to control the curse of puerperal fever, and up to this time the only palliative means of any effect in opposing the evil has been the momentary evacuation of the infected wards. The figures received from the various services of obstetrics still show a mortality high enough to call forth investigation, and to engage the friends of science and humanity to search in every possible way by what means it may be possible to arrest the progress of so terrible a malady, which up to the present time has disappointed all calculations.

It is interesting to note that the monumental work of LeFort, whose statistics are quoted above, was undertaken at the instigation of Husson; but, when the report was ready and showed so clearly the glaring conditions in France, the Bureau of Public Assistance would not allow it to be published under its auspices. The following quotation from Hervieux's immense work on puerperal infection, which appeared in 1870, will also serve to indicate the gravity of the situation:

> The puerperal epidemics are to woman what war is to man. Like war they destroy the most healthy, the bravest and the most useful portion of the population; like war they take subjects in the flower of their age and spread terror and desolation throughout the territory which they devastate. It belongs to politics to preserve us from the calamities of war, but to medicine is reserved the task of preventing and doing away with such epidemics.

PUERPERAL FEVER IN GERMANY

Conditions similar to those in France likewise obtained in Germany, but owing to the smaller size of its lying-in hospitals, the epidemics were usually not so extensive.

On behalf of the Berlin Obstetrical Society, Boehr in 1877 undertook to study the mortality from puerperal fever in Prussia, and found that in the sixty years ending with 1875 the appalling number of 363,624 women had died from it in that state alone. Moreover, he calculated that the disease was the cause of 12 per cent. of the total number of deaths occurring in both sexes between the ages 15 and 50 years which increased to 18.58 per cent. between the ages 25 and 30 years. Furthermore, assuming that each marriage would result in 4.2 children, he estimated that every thirtieth married woman in Prussia would eventually fall a victim to it.

Based on Boehr's work, and its own investigations, a committee of the society presented a *Denkschrift* to the minister of education, in which it was stated that many more persons died from puerperal fever than from cholera and small-pox combined, although sixteen epidemics of the former disease had occurred during the period covered by the statistics. For the protection of the public health, it was urged that the disease be made a "notifiable" one, so that steps could be taken to regulate the practice of midwives. Hegar made a similar study of the conditions in Baden and found that 0.732 per cent. of all labors ended fatally, one-half of the total number of deaths being due to puerperal fever.

The work of Boehr was continued by Ehlers in 1900, who found as the result of aseptic precautions that the mortality in the large cities had been reduced by one-half, but had remained practically unchanged in the country districts.

PUERPERAL FEVER IN GREAT BRITAIN

Epidemics of puerperal fever were reported in the eighteenth century by Hunter, Denman, Hulme, Leake, Kirkland, Clarke, White, Gordon and others, the most extensive being that recorded by White in the Lying-In Hospital of Manchester, where the mortality was 4.1 per cent. between the years 1755 and 1771. Owing to the comparatively small size of the lying-in hospitals of Great Britain, and particularly to the early recognition by English physicians of the contagious nature of puerperal fever and its relation to erysipelas, the epidemics were not so extensive and were less fatal than those on the continent; nevertheless, prior to the antiseptic period the results obtained were very discouraging. Until recently, the Rotunda Hospital in Dublin was the only large lying-in institution in the British Empire, and its results have been recorded by Churchill, Kennedy and Steele. The latter stated that in 198,481 labors, occurring up to the year 1870 the average mortality was 1.39 per cent., which rose to 3.27 per cent. between 1861 and 1870. He also reported that for the twenty-two years preceding and including 1876, the several London lying-in hospitals presented the following mortalities:

	Per cent.
Queen Charlotte Hospital	2.82
British Lying-In Hospital	1.57
General Lying-In Hospital	1.41
City of London Lying-In Hospital	1.35

Some idea of the seriousness with which the condition was regarded was shown by the appearance of an editorial in the *Lancet*, only a few weeks after the appearance of Lister's first article on antiseptic surgery, recommending the closing of all lying-in hospitals. Moreover, Kennedy in 1869 advocated evacuating the Rotunda Hospital in Dublin and delivering the women in tents or shacks scattered throughout its grounds; while Florence Nightingale considered that large lying-in hospitals could never be conducted safely and that their employment for the training of students was incompatible with a low death-rate.

Following a paper by Spencer Wells, the entire question of puerperal infection was thoroughly discussed before the London Obstetrical Society in 1875. All of the prominent obstetricians of the time took part in the discussion, and, while the most divergent views were expressed concerning its nature, the general consensus of opinion, well illustrated by the following quotation, was that lying-in hospitals had an inherent mortality which could probably never be overcome:

> There is only one secret of safety, and that is to have the woman confined at her own house where she can have her own nurse, who has not been anywhere in the way of infection, and her own medical man who is free from infection. Then the chances are that she will come on favorably and happy. Without that there is no security. The lying-in hospital is not now by any means so serious a matter as it used to be; still it is always like sitting on a volcano; it may explode at any moment (Barnes).

Furthermore, the general feeling of hoplessness was well expressed by Duncan, in his monograph on "The Mortality of Childbed," when he said:

> The disease may have its ravages restricted, but it is yet to be shown that it can be altogether prevented. It is in truth as little preventable as any disease in the nosology, or any crime in the statute-book. It is possibly preventable, but it has certainly never been prevented.

Even after the introduction of antiseptic methods, the views as to the undesirability of lying-in hospitals continued to persist in England; and as late as 1885 one of the sections in Playfair's text-book on midwifery was entitled "Should Lying-In Hospitals Be Abolished?" Indeed, the improvement in that country has been less marked than elsewhere; Cullingworth, after studying the statistics of the Registrar General's office for 1897, stated that the general mortality had shown no decrease, except as compared with the year 1843; Boxall reported a similar condition of affairs as late as 1905.

PUERPERAL FEVER IN THE UNITED STATES

That the United States was not spared in this regard is shown by the fact that Hodge reported a mortality of 5.6 per cent. in the Pennsylvania Hospital for the thirty years preceeding 1833. Lusk observed an epidemic in the Bellevue Hospital in 1872 with a mortality of 18 per cent., which led to the removal of the department to Blackwell's Island. But even there the infection continued until after the introduction of antiseptic methods. Similar results were observed in the New York Maternity Hospital, where Garrigues noted a mortality of 4.17 per cent. for the years 1875–1883, which in the latter year, just prior to the introduction of antiseptic methods, rose to 7.17 per cent.

VIEWS CONCERNING THE NATURE OF PUERPERAL FEVER

Sedillot stated in 1817 that puerperal fever was not a distinct disease, but rather an ordinary infection, which was modified by the puerperal state. It required, however, nearly seventy years before this doctrine became generally accepted.

The infectious nature of puerperal fever was first clearly emphasized by Gordon of Aberdeen, who based his conviction on seventy-seven cases observed during an epidemic in Aberdeen between the years 1789 and 1792. Among other things, in his forceful monograph, he wrote:

"It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women"; and, in another place, "Fresh air and cleanliness are not sufficient for the destruction of the contagion, which can only be effected by fire and smoke."

Notwithstanding these clear-cut teachings, and the conclusive evidence which Gordon adduced in their support, the medical world was but little affected, and it was not until after the introduction of Listerian methods that such ideas became generally accepted. Similar views were forcibly and eloquently expressed in 1843 by Oliver Wendell Holmes in his monograph on "The Contagiousness of Puerperal Fever," which was reprinted with additions in 1855 under the title "Puerperal Fever as a Private Pestilence." His teachings, however, were opposed by Hodge and Meigs, the leading obstetricians of the day, and, while impressing many practitioners with the necessity of temporarily abstaining from obstetric work when several fever cases had occurred in their practice, they had no effect on the results obtained in lying-in hospitals. Kneeland expressed similar views in 1847, which met with the same fate.

The most important contribution to this aspect of the subject was made by Semmelweis in 1847, who, after carefully studying the causes underlying the horrible mortality in the lying-in hospital of Vienna, came to the conclusion that the disease was identical with wound infection, and was due to the contamination of patients by hands soiled by contact with autopsy material or wound secretions. Furthermore, he thought that its propagation could be checked by washing the hands in a solution of chlorinated lime, by which means he was able to reduce the mortality from 11.4 to 1.27 per cent.

Semmelweis' views concerning the nature and causation of puerperal fever were perfectly clear; and if, in the following quotation, one substitutes the words "pyogenic bacteria" for "decomposed animal organic material" his conception holds perfectly good at the present time. After stating that he regarded child-bed fever as a resorption fever, he continued:

> The decomposed animal organic material, which when absorbed causes child-bed fever, is in the vast majority of cases brought to the individual from without. These are the cases which represent child-bed fever epidemics, and these are the cases which can be prevented. The carrier of the decomposed animal organic material is the examining finger, the operating hand, bed-clothes, the atmospheric air, sponges, the hands of midwives and nurses which have been in contact with the excreta of seriously sick puerperal women or other ill persons and then handle parturient or recently delivered women. In a word, the carrier of the decomposed animal organic material is anything which has been contaminated by decomposed animal organic material and then comes in contact with the genitals of the individual. The area from which the decomposed animal organic material is absorbed is the internal surface of the uterus, extending upward from the internal os. As the result of pregnancy this has been robbed of its mucous membrane, and accordingly presents a surface which is unusually adapted for absorption.

In spite of these clear-cut views, his teachings were opposed by the leading authorities of Germany and France, and he died a disappointed man. He nevertheless prophesied that his views would eventually be universally accepted, and, in a postscript to his great work, wrote:

But should it not be vouchsafed me, which I hope God may prevent, to see this happy time with my own eyes, nevertheless the conviction that such a time must inevitably come sooner or later will cheer me in my dying hour.

Almost simultaneously with Semmelweis, Simpson insisted on the contagious nature of the disease and its identity with ordinary wound infection. More or less similar views were also expressed by Tarnier in 1856 and by Trousseau in 1858; but it was necessary for many years to elapse before they were accepted by the general mass of the profession.

A similar divergence of opinion continued until after 1875, when the discoveries of Lister and the bacterial origin of puerperal fever first began to be accepted. Prior to that time, the condition was generally considered as unavoidable, and was attributed to cosmic, atmospheric or telluric influences, to the genius epidemicus, imperfect ventilation and all sorts of other conditions; but, with the exception of a few far-seeing men, no one believed that it could be communicated from one patient to another by means of a dirty finger.

The teachings of Lister were introduced into France in 1875 by Championnière and Budin, and were popularized in Germany by a personal tour. Ahlfeld has given an interesting reminiscence of Lister's visit to Leipsic at that time, and has preserved a verse sung in his honor.

Just sind es jetzt fünf Jahre her,
Da drang die Kunde übers Meer;
Es lebt ein Mann in Edinburg,
Das sei ein eigener Chirurg,
In Karbolnebel eingehüllt,
Der rings die Luft mit Dünsten füllt,
Betriebe er mit aller Macht,
Die niedere Bakterienjagd . . .

Prior to that time only a few voices were raised in support of the bacterial nature of puerperal fever, and Lee and Sir Spencer Wells were practically alone in England in advocating it. Indeed, such views did not begin to receive general acceptance until after Pasteur had cultivated the streptococcus and demonstrated it before the Académie de Médecine de Paris, in March, 1879.

It is interesting to recall the fact that this demonstration was preceded by a paper by Hervieux, in which he said:

"I lay down the principle that the inferior organisms as yet known, vibrions, bacteria, batonnets and moving bodies, cannot possibly explain the production of puerperal septicemia," and concluded, "but I must confess that I have a terrible fear, a fear from which I am not able to rid myself, and which the academy will understand; and that is that I shall die before any one will have discovered that vibrion."

Immediately afterwards Pasteur arose and drew on the blackboard several chains of little dots, which he stated he had every reason to believe were its actual cause. This was the beginning, but many years of persistent investigation were required before the bacterial nature of puerperal infection was universally recognized.

THE DEVELOPMENT OF BACTERIOLOGY; AND RECOGNITION OF BACTERIAL ORIGIN OF PUERPERAL INFECTION

This is not the place to trace the history of the development of bacteriology in general, or even its application to wound infection. As far as I can learn, the relation of bacteria to infectious diseases, and the necessity of recourse to animal experimentation for its demonstration, was first clearly expressed by Henle in 1840. He prophesied that the "contagium" in infectious diseases must be a living organism, and laid down the following criteria, which must be fulfilled in order to prove such a relationship:

1. The constant presence of one and the same microorganism.
2. Its isolation.
3. The experimental study of the same by animal experimentation.

Following this, the development of bacteriology as applied to medicine was comparatively slow, and it was not until after the work of Pasteur on putrefaction, and the application of his ideas to surgery by Lister, that very considerable advances were made. Indeed, it may be said that extensive development along these lines was not possible until after Koch, by the discovery of solid culture media, had put into our hands a convenient method of isolating and cultivating bacteria. Almost immediately following this invention, the various bacteria concerned in ordinary wound infection were isolated and their pathogenic action demonstrated experimentally on animals. Aside from Pasteur and Koch, the greater part of this work was done by Ogston, Rosenbach, Passet, Garre and Fehleisen, and so convincing was their demonstration, that the information concerning the pyogenic cocci given in Baumgarten's "Handbuch der pathologischen Mycologie" in 1887 is almost as satisfactory as that available at the present time. Moreover, between the years 1884 and 1889, the work of Carle and Rattone, Nicolaier and Kitasato resulted in the isolation of the tetanus bacillus, and the conclusive experimental demonstration of its pathogenic action.

All of these discoveries were based on animal experimentation, and indeed it may be said that none of the important advances in bacteriology would have been possible without its aid. Occasionally, enthusiastic investigators, such as Bumm, Garre, Bockhart and Fehleisen, made experiments on their own persons, and thereby still further convinced themselves of the pathogenic properties of certain pyogenic bacteria.

Following the recognition of the bacteria concerned in the production of wound infection, it became possible to test the efficiency of the various antiseptics recommended for their destruction. It is particularly to Koch that we are indebted for the fundamental contribution to the doctrine of disinfection, and for the demonstration of the great value of bichlorid of mercury. Further investigation, however, gradually materially impaired our faith in the efficacy of antiseptics, and led to the development of aseptic surgery.

As far as I have been able to learn, Semmelweis in 1846 was the first to resort to animal experimentation in the hope of solving the problem of puerperal infection. He introduced into the freshly delivered uterus of animals, uterine discharges and peritoneal exudate from infected women, and in the majority of instances was able to produce a fatal infection. Animal experiments were also made by Tarnier, Mayrhofer, Coze and Feltz, Quinquad, Orth, Heiberg, Eberth, D'Espine, Kehrer, Karewsky, Miller, Pasteur and Doléris and many other later investigators.

Of these Mayrhofer, Coze and Feltz, Pasteur and Doléris deserve especial mention. The former in 1864 observed in the interior of the infected uterus, bacteria,

which he described as vibrions, and by the injection into animals of lochia containing them was able to reproduce the disease. Coze and Feltz in 1869 apparently demonstrated the presence of streptococci in the blood of women dying from puerperal fever, and cultivated them in rudimentary fluid culture media. They also produced death in animals by their innoculation. As has already been mentioned, Pasteur was the first to describe clearly, and to cultivate the streptococcus from cases of puerperal infection, and together with his collaborator Doléris effectively demonstrated its etiologic significance.

Following Pasteur, it has gradually been demonstrated that, while the streptococcus is the organism most usually concerned in the production of fatal puerperal infections, all of the pyogenic bacteria, which play a part in ordinary wound infection, may likewise give rise to them. Scarcely any one who has busied himself with their study has failed to resort to animal experimentation, and none of the recent advances along this line would have been possible without its aid.

Listerian methods were not adopted in gynecology and obstetrics until after 1875, and for the succeeding few years the chief reliance was placed on the free use of phenol for disinfecting the hands and dressings and for use as a spray. Such precautions were soon carried to ridiculous extremes, and at the acme of the antiseptic period it was thought necessary to remove all furniture from the room in which a woman was to be confined, to scrub the walls and floors with a phenol solution and to have a nebulizer spray it on the external genitalia during the second stage of labor. At the same time, disinfection of the hands was slighted, as it was believed that their immersion in a phenol solution for a few moments was sufficient to render them absolutely sterile. As these precautions did not lead to the complete disappearance of puerperal infection, the attempt was made to destroy all bacteria in the birth canal by means of vaginal and intra-uterine douches of phenol solution, or of bichlorid of mercury, after its introduction in 1881.

With the gradual development of clearer ideas concerning the process of infection and the limitations of disinfection in general, the employment of antiseptic methods was gradually abandoned and its place taken by the aseptic technic which we now employ, in which less and less importance is attached to chemical disinfection and increasingly more weight laid on absolute subjective and objective cleanliness.

RESULTS FOLLOWING THE EMPLOYMENT OF ANTISEPTIC AND ASEPTIC TECHNIC

Following the introduction of antiseptic methods into obstetrics, there occurred a marked diminution in the death-rate from puerperal infection, which however, was nothing like so great as in the later or aseptic period. Thus, Dohrn analyzed the results obtained in 104,278 women delivered in forty-seven German lying-in institutions between the years 1874 and 1883 inclusive, and found an average mortality of 1.37 per cent. At the beginning of the period it was 1.73 per cent., and became reduced to 0.96 per cent. at its end. Moreover, it is interesting to note that the worst results were obtained in the institutions used for the instruction of students, while the best were in those not employed for teaching purposes, the mortality averaging 1.9 and 0.56 per cent., respectively.

When compared with the mortality of 3 or 4 per cent., which characterized the previous decade, the results were most encouraging; and Dohrn felt that they probably could not be improved on, as he stated that "the mortality in lying-in hospitals will never be lowered for any great length of time to the percentage prevailing in private practice; and, if we estimate the latter at 0.6 to 0.7 per cent., the institutional mortality would still be nearly double as high. The lying-in institutions have to contend with such unfavorable conditions that such results as in private practice would never be permanently possible."

Bar stated that, following the introduction of antiseptic methods in the Maternité of Paris, the mortality fell to 1 per cent. in 1873 and to 0.8 per cent. in 1882; while Tarnier has given a very graphic picture of the conditions in the same hospital. For this purpose he distinguished three periods; namely, from 1858 to 1869, from 1870 to 1880, and from 1881 to 1889, and designating the first as the period of inaction, the second as that of fight against contagion and the third as the antiseptic period, recorded a mortality of 9.31, 2.32 and 1.05 per cent., respectively. On the other hand, as many patients died as previously at the Clinique, where Depaul and Pajot, who did not believe in the bacterial nature of the disease, continued to use the old methods.

With the gradual development of aseptic technic and more rigid precautions for the prevention of infection, better and better results were obtained, so that Mermann in 1907 was able to report a septic mortality of only 0.08 per cent. in 8,700 patients delivered under his supervision in Mannheim. Pinard in 1909 recorded a net mortality of 0.15 per cent. in 45,633 deliveries in the Baudelocque Clinic during the eighteen years ending with 1908; while in the same year Markoe recorded a percentage of 0.34 in 60,000 women delivered by the Society of the New York Lying-in Hospital.

At the present time it is safe to say that in well-regulated hospitals the mortality from puerperal infection is less than 0.25 per cent. This is in great contrast with the average mortality of 3 to 4 per cent. observed throughout the world prior to the introduction of antiseptic methods, and means that only one woman now dies as compared with fifteen or twenty formerly. Moreover, the criterion of excellence in lying-in hospitals is now not so much the actual mortality as the morbidity of patients; namely, the percentage in whom the temperature rises to 38 C. or 100.4 F. during the first ten days of the puerperium.

This improvement is astounding, and at the present time it is safe to say that fewer deaths from infection occur in well-regulated lying-in institutions than in private practice, notwithstanding the fact that in the former the patients are freely used for clinical instruction. In this regard Dohrn and Florence Nightingale were poor prophets, as the former stated that such results would never be attained; while the latter held that hospitals could not be rid of puerperal infection as long as they were used for the instruction of students.

This revolution must be attributed to animal experimentation, which made possible the demonstration that definite bacteria are the cause of wound infection, and that one of its varieties—puerperal infection—is due to the introduction of pyogenic bacteria into the birth canal of parturient women, and can be prevented by appropriate means. Of course, it may be urged that far-seeing men, such as Gordon, Holmes, Semmelweis and Tarnier realized the contagious nature of puerperal fever long before bacteriology became a science. They were not, however, able to impress their belief on the profession, and consequently no improvement was

observed until the bacterial nature of the disease was clearly demonstrated. Formerly, the obstetrician groped in the dark in his attempt to identify the unknown contagion, if he even believed in its existence; while now we know exactly with what microorganisms we have to deal, and the means to adopt in order to overcome them.

At the present time, puerperal infection is no longer regarded as a visitation of Providence, but is attributed directly to the introduction of bacteria following a "break" in aseptic technic; and, whenever a case occurs in a well-regulated hospital, the director immediately begins to inquire how it happened, and, having found the source, is at once able to put a stop to further spread of the disease.

2. *THE APPLICATION OF ASEPTIC TECHNIC TO OBSTETRIC OPERATIONS*

The same factors which led to the disappearance of puerperal fever from lying-in hospitals and made possible the wonderful advances in general surgery, played an identical part in revolutionizing the results following the various operative procedures in obstetrics.

This is most strikingly illustrated by contrasting the results following Cesarean section and symphyseotomy or pubiotomy during the preantiseptic period and at the present time. Even as late as 1886, Dr. Robert Barnes wrote:

> The Cesarean section occupies a doubtful place between conservative and sacrificial midwifery. It is conservative in its design, in its ambition; it is too often sacrificial in fact. It is resorted to with a feeling akin to despair for the fate of the mother, which is scarcely tempered by the hope of rescuing the child. It is looked upon by the great majority of obstetricians as a last desperate resource, as the most forcible example of that kind of surgery which John Hunter regarded as the reproach of surgeons, being a confession that their art was baffled.

From 1787 until 1879, when Tarnier reported his first operation under antiseptic precautions, not a single successful Cesarean section had been performed in Paris; while Lusk, in the early eighties, was the first successful operator in New York. Indeed, as late as 1887, Harris stated that Cesarean section could be performed more safely by the horn of an infuriated bull than by the most accomplished surgeon in the best-equipped hospital in America. In support of this statement, he collected from the literature nine instances in which the abdomen of pregnant women had been ripped open by the horn of an infuriated bull, with five recoveries; whereas, only two mothers had survived the eleven Cesarean sections which had been performed in New York up to that time.

This horrible mortality was revolutionized by two factors: namely, the development of antiseptic surgery, and the description by Sänger in 1882 of a proper technic for suturing the uterine incision. The results following their adoption were so striking that Caruso was able to report that in 135 operations performed between the years 1882 and 1888, the mortality had been reduced to 25.56 per cent. Following the employment of more rigid technic and the proper selection of cases, this was gradually lowered, so that at the present time Cesarean section is undertaken by competent operators without hesitation.

When performed either in the last weeks of pregnancy or at the very beginning of labor, its mortality should not exceed that of ordinary gynecologic laparotomies, which is between 1 and 2 per cent. This striking revolution is due entirely to the development of aseptic surgical technic and to the restriction of the operation to uninfected women, who have not been subjected to the exhaustion incident to prolonged labor.

Exactly the same story can be told concerning symphyseotomy and pubiotomy. The former was first performed in 1777 by Sigault, and immediately afterward enjoyed a short-lived popularity, but soon gave such discouraging results that it was abandoned. Harris was able to collect reports of 70 cases up to 1858, with a maternal and a fetal mortality of 37 and 67 per cent., respectively.

The operation was resuscitated in Naples shortly afterward, and between 1866 and 1880, fifty operations were done, with a maternal mortality of 20 per cent. Following the introduction of antiseptic technic, it came into more general use, and Neugebauer in 1893 calculated that the mortality had fallen to 11.1 per cent.; while Mayer in 1908 stated that it had become still further reduced, but was still as high as 6 per cent. In view of the relatively high death-rate, and the more satisfactory results following Cesarean section, the operation gradually fell into desuetude, but was resuscitated again in 1897 under the form of pubiotomy.

Owing to the further development of aseptic technic, and the exact recognition of the character of cases susceptible to it, the mortality of pubiotomy has been kept within low limits, so that in May, 1910, I was able to collect from the literature reports of 518 operations performed by less than twenty operators, with a gross mortality of 1.9 per cent. In my clinic thirty odd pubiotomies have been done with no maternal deaths, while Roth has just reported eighty-five operations from Leopold's clinic with two deaths.

Similar improvement has occurred in the results following all other obstetric operations—forceps, version, induction of labor, *accouchement forcé*, etc. Unfortunately, it must be admitted that owing to the comparative immunity from danger there has developed a tendency on the part of many to resort unnecessarily to operative procedures, when Nature alone would have brought about a happy termination. Notwithstanding such tendencies, however, the general result is most creditable, and stands out in wonderful contrast to that of the past, and has each year been the means of saving the lives and diminishing the sufferings of thousands of women.

In this connection, one cannot reiterate too strongly that all of these advances must be traced back to the same cause, namely, the development of bacteriology and of aseptic surgical technic, both of which in turn are entirely dependent on the employment of animal experimentation.

3. *THE RECOGNITION OF THE BACTERIAL NATURE OF CERTAIN INFECTIOUS DISEASES IN THE NEW-BORN CHILD*

In times past, probably the most important disease of this group, occurring in lying-in hospitals, was the so-called puerperal fever of the new-born child. This condition, which was studied particularly by Schindler, Trousseau, Lorain, Hecker and Bühl, Müller and others, occurred particularly when the hospitals were ravaged by puerperal fever, and was due to the infection of the child during labor, or shortly afterward. In the first case, the amniotic fluid became infected during the course of a prolonged labor with concomitant infection of the air passages of the child with subsequent development of bronchopneumonia; while in the latter case, infection occurred through the stump of the umbilical cord. In either event, the disease was extremely fatal

and only a small proportion of the infected children escaped, while autopsy showed one or more of the protean manifestations of wound infection.

Some idea of its incidence may be gained from the fact that a mortality of 7.62 per cent. was observed in the 18,329 children delivered in the Vienna Hospital prior to the work of Semmelweis. Following the employment of the precautions against puerperal fever which he recommended, the fetal death-rate was so markedly reduced that Bednar, who had charge of the Foundling Asylum, stated "that the disease of the children [blood sepsis] had almost entirely disappeared in consequence." Lorain noted a similar connection in the Maternité of Paris and reported that in 2,567 labors occurring during the year 1854, 5.7 per cent of the mothers and 7.5 per cent. of the children were lost, and the high mortality continued until antiseptic precautions were introduced by Tarnier. Hugenberger, likewise, estimated that the average fetal mortality in the St. Petersburg Hospital was 2.6 per cent., which rose as high as 14 per cent. during puerperal fever epidemics; while Hecker and Bühl observed an even higher death rate.

At the present time this condition is observed but rarely, and then only in the case of women who are admitted to the hospital already infected, when the bacteria contained in the amniotic fluid gain access to the child and give rise to infection.

As long as epidemics of so-called fetal puerperal fever occurred, comparatively little attention was paid to the actual mode of infection, but with the subsidence of the disease, the question was more carefully studied. It was then found that the portal of entry was usually through the stump of the umbilical cord, and this type of infection persisted for several years after puerperal fever had practically disappeared from lying-in hospitals.

Occasionally it caused a terrible mortality, and Paquy refers to the experience of Meynet, who lost 17 per cent. of the children cared for in a crêche in Lyons. Moreover, Runge stated that he had observed a mortality of 4 per cent. in Strassburg, as well as nineteen deaths in the Charité in Berlin during the first six months of 1880. His investigations showed that the umbilical arteries were usually involved, while infection occurred only exceptionally through the vein.

Following the introduction of antiseptic methods in caring for the stump of the umbilical cord, this variety of infection rapidly disappeared, so that at present in well-regulated hospitals it occurs only once in many hundred cases. We now hold that the condition always results from bacterial invasion, which is usually streptococcic in character; and we are forced to attribute the great diminution in its occurrence to the recognition of its true nature, which was made possible only by the development of bacteriology, which is based on animal experimentation.

Formerly, large numbers of new-born children died each year from tetanus, and Collins stated that during his mastership at the Rotunda in Dublin, one-fifth of all children, dying within the first fortnight after delivery, perished from it. He also referred to the epidemics observed during the mastership of Dr. Clarke, who said "At the conclusion of the year 1782, of 17.650 infants born alive in the hospital, 2,944 died within the first fortnight, and nineteen out of twenty of these died of nine-day fits." This indicates a total fetal mortality of 16.6 per cent., of which 95 per cent. was due to tetanus. This epidemic was held in check by the greatest attention to ventilation and cleanliness, but that the disease was not entirely eradicated is shown by the experience of Collins forty or fifty years later.

Similar epidemics have also been noted in other parts of the world, one of the most remarkable having occurred in the Island of St. Kilda, and was described by Mitchell in 1865. In this epidemic, 67.2 per cent. of all new-born children died, and the horrible death-rate continued until antiseptic methods of caring for the cord were introduced, when Turner reported that dusting the stump with iodoform had led to its complete disappearance. Until comparatively recently, the negro race in the South was often decimated by tetanus neonatorum, and the extent of its ravages may be gained from the following quotation from Grier:

> We have known more than one instance in which, of the births for one year, one-half became the victims of this disease, and that, too, in spite of the utmost watchfulness and care on the part of both planter and physician. Other places are more fortunate, but all suffer more or less, and the planter who escapes a year without having to record a case of trismus nascentium may congratulate himself as being more favored than his neighbors, and prepare himself for his own allottment, which is surely and speedily to arrive.

Similar conditions likewise obtained in Jamaica, and as early as 1835 Maxwell reported:

> From observations I have made for a series of years, I found that the depopulating influence of trismus neonatorum was not less than 25 per cent. It scarcely has a parallel on the bills of mortality.

Prior to the isolation of the tetanus bacillus, the condition was attributed to filth and impure air, but with the recognition of its specific cause and the employment of aseptic methods in the treatment of the umbilical cord, it has practically disappeared, and in more than 10,000 newly born children under my supervision I have never encountered a case. This advance, just as all the others to which I have referred, must be attributed solely to the employment of animal experimentation, for without its aid the tetanus bacillus could not have been isolated, nor its characteristic pathogenic properties demonstrated.

4. *THE BIOLOGIC TESTING OF ERGOT*

This drug, which is now so freely employed throughout the civilized world for the control of postpartum hemorrhage by the stimulation of uterine contractions, was first described medically by Dr. John Stearns of Waterford, N. Y., in 1808; while we owe the first dissertation on its physiologic action to Prescott of Boston in 1822. Following this, its complicated constitution has given rise to almost countless investigations, and pharmacologists are not yet in agreement concerning its active principles.

Some of the most important contributions to the action of the drug we owe to Kobert, Jacoby, Grünfeld, Barger and Dale. Ever since its employment for medicinal purposes very conflicting statements have been made concerning its active principles and physiologic action, and it was not until after the careful studies of Grünfeld that the cause for the discrepancy was recognized. He found that the powdered drug rapidly lost its medicinal properties; and while a certain preparation might be very potent when first prepared, it so rapidly deteriorated as to be practically without physiologic effect after being kept for four or five months. The recognition of this fact led to the necessity of devising some method for testing the physiologic activity of the

various preparations of ergot before putting them on the market.

Unfortunately, no method of chemical analysis or assay has as yet been devised to enable manufacturing chemists or physiologists to determine the value of a given preparation, so resort was necessarily had to biologic or physiologic tests for the purpose. From the earliest times it had been noted that an efficient preparation would lead to marked bluing, and eventually to gangrene of the comb and wattles of the rooster; although later investigations tended to show that such a result was not necessarily an index of its action on the uterus, as it had been demonstrated that the gangrene-producing properties were quite independent of those causing uterine contraction. Consequently, other modes of investigation became necessary. Kurdinowski determined its physiologic activity by testing its effect on the isolated uterus, Kehrer, instead, used thin slices from the uterus of freshly killed pregnant animals, while Cronin and Henderson studied in animals its effect on the blood-pressure.

According to Crawford, most manufacturing chemists at the present time test its efficiency on the cock's comb and wattles; although he states that it would be preferable to employ the living uterus, as recommended by Kurdinowski and Kehrer. In any event the manufacturing chemist must resort to some such form of animal experimentation in testing every specimen of ergot which he uses for the manufacture of the preparations sold to the public; and that means that no woman can take ergot for the control of hemorrhage without being the recipient of at least one of the advantages which has been gained from animal experimentation.

5. THE DEMONSTRATION OF THE INTERNAL SECRETION OF THE OVARIES

Although the atrophic changes occurring in the internal genitalia following the menopause, or the operative removal of the ovaries, were long ago recognized, the possibility that they were a manifestation of the disappearance of an internal secretion, formerly elaborated in those organs, was not suspected until after the appearance of Brown-Séquard's suggestive article on the subject.

As long as such a supposition was not supported by facts capable of demonstration, it was not possible to be sure of its correctness, or to deny that the changes in question were neurotic in origin. The experimental work of Knauer, Gregoriff, Mandl and Bürger, Marshall and others, however, conclusively demonstrated that the ovaries elaborate a definite secretion, which serves to regulate the nutrition of the internal genitalia, as well as to exert a definite effect on the entire organism. Moreover, it was clearly shown that the organs could be removed from their usual site and transplanted to other distant portions of the body, and still prevent the degenerative changes which usually follow their removal. As all nervous connections had been severed at the time of operation, it was evident that the only manner in which such an influence could be exerted was by means of an internal secretion, which gained access to the blood-current.

Other experiments showed that the transplanted ovaries functioned perfectly, and if implanted in a suitable location, produced ova which could be fertilized. Such findings were not merely of scientific interest, but possessed a distinctly practical bearing in that they suggested the possibility of transplanting the ovaries in human beings, as well as the employment of ovarian tissue extract in the treatment of various conditions resulting from imperfect ovarian secretion, more particularly the distressing symptoms which frequently accompany the menopause or follow the removal of the ovaries. Not a few operators, when obliged to remove both tubes and ovaries on account of disease, have implanted healthy portions of the latter on the uterus or broad ligaments, in order to prevent the occurrence of an artificial menopause in young women. Less frequently, the ovaries of one woman have been implanted into another, in the hope of reestablishing the menstrual function, or even making possible the occurrence of pregnancy. The former result has been attained in numerous instances, while the latter has resulted successfully in at least two cases. Those who are interested in the subject are referred for details to Martin's article which contains full references to the literature up to 1908.

Fraenkel, in 1903 and 1910, published two important contributions on the function of the ovaries, which were based entirely on animal experimentation. He apparently showed that the corpus luteum should be regarded as a temporary gland which produces an internal secretion, whose function, at least in part, is to bring about the changes in the internal genitalia necessary to permit the implantation of the fertilized ovum. Furthermore, his experiments rendered it probable that the continuance of the secretion was essential for the preservation of pregnancy during its early periods, but was not necessary later; and thus afforded an explanation for the clinical observation that removal of the ovaries early in pregnancy is usually followed by abortion, whereas their removal later has no effect.

6. EXPERIMENTAL STUDIES CONCERNING THE NATURE OF THE TOXEMIAS OF PREGNANCY

Up to twenty years ago our ideas concerning the nature and etiology of eclampsia were but little clearer than in 1843, when Lever first described the presence of albumin in the urine of eclamptic women, and held on that account that it was merely a variety of nephritis.

Following the experiments of Rivière in 1888, and those of Tarnier and Chamberlent a few years later, in which it was apparently shown that the toxicity of the urine of eclamptic women was greatly decreased for experimental animals, while that of the blood-serum was markedly augmented, the belief gained ground that the condition was toxemic in character, and was due to the retention within the organism of certain substances which were ordinarily excreted through the kidneys. Following these observations, the experimental study of eclampsia has occupied the attention of large numbers of investigators, and although the subject has not yet been thoroughly elucidated, the conviction is growing stronger and stronger each year that the disease is a toxemia, which is in some way dependent on the pregnancy, and in all probability connected with abnormal processes either within the body of the fetus or placenta.

It would carry us too far afield to attempt even to enumerate those who have taken part in such investigations, but the contributions of Volhard, Veit, Hofbauer, Lichtenstein, Freund, and Thies deserve especial mention. Moreover, we might refer, in this connection, to the fact that it is only by means of animal experimentation that we have learned the part which the secretion of the thyroid gland plays in regulating the metabolism of pregnancy.

Although none of these experimental investigations have entirely cleared up the etiology of the affection,

they have nevertheless served to impress on us its toxemic nature, and have taught us that the treatment *par excellence* consists in the prompt evacuation of the uterus. Moreover, I consider that if the matter is ever to be settled, it can only be accomplished by the aid of animal and biochemical experimentation.

7. THE EXPERIMENTAL PRODUCTION OF FETAL DEFORMITIES

If it is permissible to designate as animal experimentation the various procedures to which the fertilized eggs and the developing embryos of various animals are subjected for the purpose of producing anomalies of development, we can point to a field which has not only markedly advanced our knowledge concerning the normal mechanism of growth and the mode of production of monstrosities, but one which is destined to add greatly to the comfort of the human race.

In times past, the birth of monsters or of children afflicted with congenital deformities was attributed to the anger of the gods, to witchcraft or to some malign influence to which the pregnant woman had been subjected. With the advance of knowledge and the passing of superstition, such views gradually disappeared; but, on the other hand there is scarcely a woman in America at the present time, who does not firmly believe in the doctrine of maternal impressions, and who, in case of the birth of a monstrous or deformed child, will not attempt to trace its origin to some unpleasant sight or experience to which she had been exposed during pregnancy.

Persistence in the belief in maternal impressions is each year a source of great unhappiness to thousands of women, who, after some trivial occurrence, such as seeing a mouse or a rabbit, are convinced that their child will be "mouse-marked" or hare-lipped in consequence, and who do not dismiss their fears until a perfectly normal and well-formed child has been born. Indeed, I feel that I am safe in stating that no one who has not considerable experience with pregnant women can appreciate the extent of the suffering and dread resulting from this superstition.

The new science of experimental embryology and teratology has shown clearly that such an occurrence is impossible, as in the vast majority of cases, the changes which were attributed to it developed in the earliest periods of pregnancy, whereas the "maternal impression" to which a given deformity was attributed did not occur until a much later date.

Geoffroy Saint-Hilaire, Allen Thompson and Féré were the first investigators to attempt the production of deformities by subjecting the developing egg to various influences, but it is only within the last twenty-five years that the matter has seriously engaged the attention of scientific men. During this period, however, the work of Pflüger, Dareste, Roux and Born has put the subject on a scientific basis, as they have shown beyond question that pricking certain portions of the segmenting ovum with a needle, encircling it with a ligature, or subjecting it to certain chemical influences, will inevitably be followed by definite deformities, and they were enabled in this way to produce at will, not only single, but double monsters of the most varied type.

Further research along these lines has been particularly prolific in this country, and the investigations of Loeb, Morgan, Wilson, Bardeen, Harrison, Stockard and many others, has led to most astounding results, which have revolutionized our ideas of teratology. These investigators have shown beyond peradventure that practically all of the deformities with which we meet at th time of labor can be produced at will by subjecting th early ovum or embryo to various procedures. Thus, is possible to produce spina bifida, cyclops, headless c double monsters, as well as those lacking extremitie or having accessory ones, merely by changing the exper mental conditions.

As the result of these investigations, it has been def nitely proved that, with the exception of certain wel marked hereditary deformities, the great majority c monsters are the result of some interference with th normal growth of the ovum in the days immediatel following conception, and not to later influences.

Indeed, at the present time the evidence availabl seems to indicate that the entire doctrine of materna impressions is a superstition which will sooner or late entirely disappear, and this result will be hastened a the work of the experimental teratologist becomes ger erally known.

CONCLUSION

In conclusion, it may be said that while the benefit which obstetrics have derived from animal experimenta tion are not immediately apparent, they are neverthe less very real, and have led to revolutions in obstetri practice and to results which are but little realized b the general public. I think that I am safe in assertin that had animal experimentation led to nothing mor than the discovery of the bacterial nature of puerper fever, whereby a means was provided for doing awa with its former hideous mortality, it would abundantl justify the sacrifice of all the animals which have thu far been used for experimental purposes. Think of th millions of lives which have been saved, if we accep Boehr's calculation, that formerly every thirtieth mar ried woman was inevitably doomed to perish from puer peral infection. Fortunately, this is not the only benef even in obstetrics, which can be ascribed to anima experimentation, as the increased security followin operations and the marked decrease in the mortality c new-born children are equally attributable to it. Indeed it may be truthfully said that every time a physicia cleanses his hands preparatory to attending a woman i labor, he is rendering a tribute to animal experimenta tion; although unfortunately, the world at large, whic benefits from it, does not recognize its significance. feel that there is every reason to expect that anima experimentation will play as large a part in developin our ideas in the future as in the past, and I confidentl believe that the problem of eclampsia and the othe toxemias of pregnancy, as well as the cause of labor an all that that implies, will eventually be solved by it means.

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Prognosis in Neurasthenia with Gastralgia.—The prognosi is largely one of neurasthenia itself. Remove the cause an the associated gastric pain and disturbance will gradually dis appear. No patient with neurasthenia is rapidly cured. Eve the all-potent mental effect on the patient of the inspirin personality of doctor or nurse, or the firework impression of electrical treatment, such as high-frequency, however muc they may conduce to the patient regaining hopefulness c cure, cannot result in a rapid recovery. The disease is a slo undermining and weakening of neurons and the cure is gradual reconstruction and strengthening, which are greatl aided, it is true, if the sufferer can be persuaded that he is o the way toward health once again.—R. A. Fleming, in th *Practitioner*.

TREATMENT OF STUTTERING

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As "stutterers" we designate individuals showing certain peculiarities of speech. One stutterer, for example, will make spasmodic contraction of the lips, tongue, etc., whereby a word like "berry" will be pronounced "b-b-b-berry." Another will open his mouth wide and produce an "a-a-a-a-" before he can say a word. Another will find himself suddenly unable to speak at all at the beginning or in the middle of something he wants to say. Still others are quite unable to speak certain words; one young man could never speak the name of his town and was obliged always to buy his railway ticket to the next town beyond; one lady would find herself at a ticket office suddenly speechless and unable to tell what ticket she wanted, while an impatient crowd of commuters gathered behind her.

"Stuttering" is sometimes called "stammering"; the words in English mean exactly the same thing. The word "stammer" is superfluous; it should be avoided because it leads to confusion with the German word *Stammeln,* which means lisping, and not stuttering.

Laryngeal cramps are a never-failing symptom of stuttering. The muscles in and around the larynx become tense and fixed. The tone from the larynx is always monotonous and hard, and it is often husky. It is not unusual to find a patient who never has any other symptom in the presence of the physician except the monotonous laryngeal tone. This most fundamental of all the symptoms of stuttering seems to have escaped all writers on the subject.

Cramps and spasms of the muscles of enunciation (lips and tongue) are the ones most apparent to the observer. The lips may be pressed tightly together for a short or a long time when the patient tries to say "p" or "b." In other cases they will open and shut, producing a series of "p"s or "b"s instead of one. The tongue may be pressed so tightly against the palate that the "t" or the "d" is two, three or ten times too long. All the sounds may be similarly affected.

Less frequent, but more striking, are the contractions of muscles not usually used in speech. One patient will twist his head whenever he stutters badly; another will screw up one eye; another will contort his whole body, etc.

An almost constant symptom is excessive rapidity of speech. In some cases this is to be attributed to the desire of the stutterer to get his words out before he is caught, or before any one can interrupt him. In most cases it is the expression of nervous anxiety.

A never-failing symptom is the patient's lack of confidence in his ability to speak correctly. In some cases the mere thought "Shall I be able to say that word?" is sufficient to make it absolutely impossible for the person to say it. The stutterer always lives with the fear that his speech may "go back on him." Many a one is always thinking a few words ahead of what he is saying, being on the lookout for some word he thinks he cannot say. When such a word is coming, he avoids it by selecting another that will serve just as well. One patient passed his life, practically, in always avoiding words; this mental work added to that of a normal man kept him in a condition of nervous prostration.

The simplest form of stuttering is that of "pure habit." Such a case occurs rather frequently in instances in which a younger child unintentionally copies the stuttering of an older one. If the stuttering does not go beyond the stage of pure habit, the younger child drops his stuttering involuntarily when the older one is removed or cured.

The stutterer nearly always goes beyond the habit stage. People laugh at him, mock him, scold him, threaten him with punishments, or whip him. Usually he is obliged to repeat words he stumbles on. He is made to go through reading and speaking exercises. Extra hard words are given him to practice on. Speaking becomes a torture for him. A new element, the "fear of displeasing and of appearing ridiculous," produces the "fright stage." The stuttering is now a distinct psychoneurosis that may have the most far-reaching consequences.

The curative treatment of stuttering is based on the following principles:

The "principle of a new method of speaking" is founded on two facts; first, that the stutterer always speaks in an abnormal voice, which we may call the "stutter voice"; and, second, that he does not stutter when he expresses his ideas in any other voice, such as the singing voice.

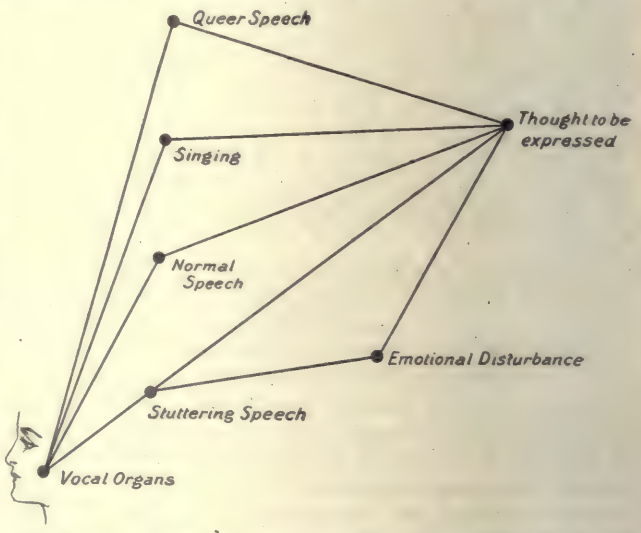


Diagram showing how emotional disturbances interfere with attempts at normal speech, and how singing or the employment of an unnatural voice—queer speech—overcomes the difficulty and the person does not stutter, because the attention is distracted by the attempt to sing or employ queer speech.

The scheme shown in the illustration expresses these two facts. When the stutterer tries to express a thought in his usual way, the action of his speech is interfered with by the emotional condition—embarrassment or fear—that is aroused at the same time. He, therefore, speaks in his stutter voice. If he tries to express the thought in any other way than the usual one, the emotional disturbance does not arise. This explains the familiar fact that a stutterer never has any trouble when he sings what he wants to say.

Since the patient does not stutter if he speaks in his usual way, he can be taught to speak in some kind of an odd voice. The stutterer can at any time speak without stuttering, if he will use an abnormally low voice, or an abnormally high one, or if he will drawl the vowels or slur the consonants, or again if he will speak in a choppy staccato voice, and so on. These are the methods of the "stammer-schools" and "stutter-curers." They are objectionable because they leave the patient with a queer voice; people often tell him that the cure is worse than

the disease. The patient usually gives up the queer voice after a while and becomes a stutterer again because the queer voice itself produces embarrassment and he naturally feels like discarding it.

The essential point is that the stutterer should feel his acquired speaking voice to be different from his stuttering voice. One patient could never dictate to his stenographer. I found that he could not distinguish one note from another in music; so I told him to sing what he wanted to dictate. He did so without the slightest hesitation or difficulty, in what he supposed to be a singing voice; it did not differ, however, from his usual voice, except in being slightly easier and more natural. As long as he thought he was singing he did not stutter, although he did not really sing. The cure was a failure because he refused "to make a fool of himself by singing to his stenographer." To inform him of the fact that he did not sing would have destroyed the belief that he was singing and would have made him a stutterer again. There was no way out of the dilemma.

There is another way of speaking which is unusual to the stutterer, namely, the way in which normal persons speak. When he speaks in this way, he does not and cannot stutter. The therapeutic procedure on this principle will, therefore, be to teach him to speak normally. The various abnormalities will disappear when the patient has thoroughly learned the exercises below.

The "principle of habit-formation" implies that the new way of speaking is to be drilled into the patient till it becomes a habit.

The "principle of spontaneity" is requisite because, when the patient has learned to repeat perfectly, he will still be unable to do so when he speaks of his own accord. A gradually increasing amount of spontaneous speech is introduced into the treatment.

The "principle of increasing embarrassment" arises from the fact that, even when the patient has learned to speak perfectly in the presence of the physician or the instructor, he is unable to do so under other circumstances. The patient is taught to speak properly before a few persons or before a class. Still more difficulty is introduced by making introductions, speaking over the telephone, buying in stores, reciting in school, etc. For the introduction exercise the stutterer practices at first privately, and then with a gradually increasing number of strangers.

The "principle of correct thinking" indicates that the abnormal habits of thought, which a stutterer always acquires to a greater or less degree, are to be corrected by appropriate exercises. A frequent abnormality is that of getting into a daze at each effort to think. The patient finds that he cannot decide promptly. It was typical of one patient that on being asked "Which kind of dog do you like best?" he hesitated and grunted, and finally said, "I really cannot say which I like best." He was cured by being obliged to give some kind of decision quickly, regardless of whether it was correct or not. The trouble was due to the mental flurry or daze that had become a habit. Another patient, when leaving a house, found himself unable to say "Good-bye" because some friends were waiting for him. The trouble arose from a conflict between the motive to hurry after the friends and the motive of not offending the host; this produced a mental daze that left the patient speechless.

The following exercises present an outline of treatment that may be abbreviated as desired. Each step of each exercise is to be repeated a number of times. The exercises are to be repeated as often as may be needed.

EXERCISE I. BREATHING IN PREPARATION FOR SPEECH

A. The patient raises the arms fore upward inhaling and lowers them side downward exhaling. He repeats this and each of the following at least four times.

B. He raises the arms side upward inhaling, and lowers them side downward singing "ah."

C. Likewise with the other vowels.

D. The patient raises the arms upward inhaling; lowers them side downward singing "ah" on middle C and upper C (over the octave).

E. Likewise singing words of one syllable.

The object of this exercise is to develop consciousness of breathing and to form a habit. It also teaches the "octave twist."

EXERCISE II. FLEXIBILITY

A. The patient sings the vowel "ah" on each note of the octave.

B. He strikes the lowest note of the octave and then the highest; sings the vowel "ah" half on the lowest note, half on the highest.

C. He sings the vowel continuously (*portamento*) up the octave. He should note the "fog-horn" effect, the "octave twist."

D. He practices singing the different vowels up the octave in this way.

E. He sings a series of words with long vowels, running the vowels up in the same way.

F. The instructor speaks a word with the octave twist. The patient repeats it.

G. Same with a sentence, putting the octave twist on the first important vowel.

H. Same with a poem, putting the octave twist on the first important vowel in each line.

I. Same with prose, putting the octave twist on the first important vowel in each phrase.

J. The instructor speaks sentences and questions with the octave twist. The patient repeats the sentences and answers the questions.

The object of this exercise is to break up the hard monotonous laryngeal tone. It alone makes the voice normal when it is skilfully done, because it is impossible to stutter and to use the octave twist at the same time.

EXERCISE III. READJUSTING THE VOWELS

A. The patient speaks each of the vowels in a long drawn out tone, going over the octave, e. g. "a-h, o-h, etc."

B. He speaks a short sentence, omitting all the consonants but lengthening the vowels; for example, the sentence "A snow storm is here" will be spoken "A- o- or- i- ere-."

C. He repeats the same sentence, lengthening the vowels and putting in the consonants only faintly.

D. He learns to read and converse in this way.

The object is to teach the patient to weaken the consonants and to speak slowly.

EXERCISE IV. SMOOTHNESS

A. Repeat sentences making every important vowel at least three times as long as usual. These vowels should be spoken with the octave twist. The words are to be linked together, that is, there are to be no pauses or interruptions. The method may be indicated in this way: "Thesu---nisshi---ningbri---ghtly."

B. Questions and answers and short sentences are to be spoken and read likewise.

The object of this exercise is to teach the patient to shorten the consonants, as these are the sounds that cause him difficulty. At the same time it teaches him to speak smoothly and easily. These are factors in forming a voice that is both normal and new.

EXERCISE V. SLOWNESS

With a metronome beating fifty-four times a minute, the instructor and patient read, repeat sentences, ask and answer questions, etc., putting one syllable on each beat. A breath is to be taken before each sentence; all the vowels are to be lengthened and the consonants to be weakened, as described in the preceding exercise. The first important vowel in each phrase is to have the octave twist as described in Exercise II. The whole sentence must be spoken smoothly and softly without the slightest jerkiness. The object is to force the patient to speak slowly.

EXERCISE VI. REGULATION OF BREATH IN SPEAKING

The instructor and the patient are to hold sticks. Each time before speaking, the stick is to be raised sharply while breath is taken vigorously. After waiting one second with bated breath, the person speaks.

A. The instructor speaks a short sentence; the patient repeats it.

B. The instructor asks a question; the patient answers it.

C. The instructor assigns a topic on which the patient is to say something. The patient must raise the baton and draw breath before each statement.

D. The patient is required to give a description of some object in the room in a similar way.

This exercise is needed only when the patient has difficulty in breathing before each sentence.

EXERCISE VII. STARTING A SENTENCE

A. The patient sings short sentences, striking a note on the piano as the first syllable is sung. Instead of using the piano, he may strike a bell or a table or hit his knee or make a gesture as in beating time.

B. He repeats the same sentences, with the same accompaniment in the same way, but singing only the first word.

C. He speaks them with the same accompaniment on the first syllable.

D. Question and answer are sung with the accompaniment on the first syllable.

E. As before, but only the first syllable is sung, the rest being spoken.

F. As before, but all spoken.

G. The patient tells a story, singing the first word of each sentence with the accompaniment.

H. He tells a story without singing but accompanying each first syllable.

This exercise is needed only when the patient has special difficulty in starting. The accompaniment is to be gradually eliminated.

EXERCISE VIII. DEVELOPING EXPRESSION

A. The instructor repeats some poem with expression; the patient repeats it line by line, exactly imitating the expression.

B. The instructor states a certain fact in a very melodious and expressive way; the patient repeats it exactly.

C. The instructor gives a question as in B; the patient repeats it exactly.

D. The instructor gives a question in a very melodious and expressive voice; the patient answers it by taking a few words from the question.

E. The instructor gives a question as before; the patient answers freely, but with the same melody and expression as in the question.

F. Poems and prose pieces are recited with proper expression.

G. Dialogues are read with the proper change of expression for each character.

H. Jokes are read and spoken with an effort to give the most effective expression.

During these exercises no correction of faults is to be made. The entire attention is to be concentrated on the correct expression

EXERCISE IX. CONFIDENCE IN READING

A. The instructor and the patient are to read poems together. Then they are to read alternate lines together and alone.

B. Same with sentences.

C. They are to read a prose speech together, but the instructor is to remain silent occasionally.

D. The patient is to read a prose piece, but the instructor is to join in at the first intimation of difficulty.

E. The patient and the instructor are to read sentences and questions from a traveler's manual, sometimes together, sometimes alone.

F. The instructor and the patient are to read parts in a drama, the instructor joining in whenever the patient has difficulty.

G. The patient is to read a paragraph and then tell its contents in his own language.

EXERCISE X. CONFIDENCE IN SPEAKING

A. The patient calls out railroad stations with a megaphone; the voice must be clear and decided.

B. Same without the megaphone.

C. The patient makes geographical statements with and without the megaphone; for example, "The Atlantic Ocean is east of the United States."

D. He makes historical statements likewise (that is, with and without the megaphone); for example, "George Washington was the first president of the United States."

E. Question and answer likewise.

F. The patient relates a story or an incident likewise.

G. He makes a speech likewise.

H. He takes part in a debate likewise.

I. He takes part in a continuous story which is arranged as follows: One person tells a story which he makes up as he goes along; he suddenly stops and the next person is immediately to continue the story according to his own ideas; he, in turn, suddenly stops and the following person continues. This is kept up until the story reaches the first person.

J. A topic is assigned; the patient prepares a short speech to make on it and delivers it in the presence of the instructor.

K. Same in the presence of several people.

L. A speech is made impromptu on a given topic in the presence of the instructor.

M. Same in the presence of other people.

The number of the people is to be gradually increased until the patient feels ready to get up at any moment and make a short speech on any topic.

EXERCISE XI. CONFIDENCE IN BUYING

A. The patient with a number of objects before him is supposed to be a store-keeper; other people (or patients) go to the store, inquire about articles, discuss the prices and buy. This must all be done with proper attention to slowness and melody of speech.

B. The patient takes the part of the buyer.

C. The store is turned into a railroad ticket office with the patient alternately as ticket agent and as traveler. Various questions concerning trains, accommodations, etc., are to be asked.

D. The ticket office becomes the box office at the theatre; the questions are to include location and seats, exchange of tickets, etc.

E. When the patient can do this perfectly, the instructor accompanies him on actual purchasing expeditions to the stores.

EXERCISE XII. SCENES FROM LIFE

A. A group of people is supposed to be in some familiar situation; for example, eating at a restaurant, riding in an automobile, forming a box party at the theatre, etc. The instructor works out the situation by description, while all persons present, including the patient, make the appropriate remarks. For example, if the scene is at the restaurant, the instructor takes the part of the waiter while the other persons order what they wish to eat, discuss the bill of fare, etc. If the scene is at the theater, the instructor tells a story of the

play while the persons discuss the incident, the house, their neighbors, etc. In the automobile party, the instructor takes the part of the chauffeur while the party travels to various places and discusses what has been seen.

B. Similar scenes are worked out, the patient taking the leading parts.

C. The group of persons is supposed to represent a club, the instructor occupying the chair. Various members are to make motions and discuss them, officers are to be elected, etc.

D. The patient is made chairman of the club.

EXERCISE XIII. SPONTANEOUS SPEECH

A. The patient says some word referring to an object placed before him pointed out; the word must have some application to or connection with the object. For example, concerning a book, he may say "large" referring to its size, or "black" referring to its color, or "read" referring to its use, or "table" referring to its position, or "yesterday" referring to something it reminded him of, etc.

B. He makes a statement slowly and melodiously concerning some object placed before him or pointed out to him.

C. He names the objects he sees on one side of the room, proceeding systematically from left to right and speaking slowly and melodiously.

D. He describes an object placed in front of him, using single words and proceeding systematically; for example, if a telephone is placed before him he will first use words referring to its appearance, then to its use, then to its faults, then to its history, etc. He should always adopt some such system in selecting words.

E. Same as D, but complete sentences are to be used instead of single words.

F. Short sentences are to be spoken concerning objects not seen but more or less familiar; for example, breakfast, a distant city, George Washington, Atlantic Ocean, etc.

G. A more extended account is required concerning similar objects as in F.

H. Some or all of the preceding exercises are to be carried out in the presence of additional people.

I. When this can be done perfectly, the patient is to be called on to make short speeches on any topics that may be given him.

J. He is to make speeches on topics of his own choosing.

The object of this exercise is to remove the daze—mental cramp—which many stutterers have when they begin to speak.

EXERCISE XIV. THINKING

A. The name of an object is called out. The patient calls out the name of some other object that suggests itself to his mind. If he is in doubt what to say, he chooses some object that is often seen together with the one mentioned. For example, on hearing the word "horse" he replies "cart." This process is called "association of ideas." For the present the patient is to associate deliberately, taking as much time as he wishes. He practices for several times with words like the following:

hand,	foot,	hair
shoe,	glove,	eye
coat,	sock,	motor

B. On hearing each of the words just used, the patient makes a sentence about it. It does not matter what the sentence states.

C. On hearing each of the words he makes a sentence defining it.

D. On hearing each of the words, he states some fact about the object implying something regarding its location or its use, or something that preceded it, or caused it, or followed it, or resulted from it, or had some relation to it.

E. Starting with any given word he lets the mind bring up a long series of thoughts. These thoughts should not revolve around the original word, but should pass away to other subjects. If necessary the rule may be adopted of obliging the mind to leave the original word within three associations.

The object is the same as in the preceding exercise.

EXERCISE XV. TELEPHONING

A. The patient calls some one on a private telephone, using the system of his town as nearly as possible. He first calls Central and then speaks with the person desired. He is to speak slowly and melodiously.

B. He takes the part of Central and then of the person called up.

C. He repeats A and B in the presence of other people.

D. He does some of the most difficult exercises over the private telephone with the instructor or some other person at the other end.

E. Using the public telephone, the patient puts his finger on the switch so that when he takes the receiver off the hook, the telephone is not connected with Central. Some one sitting beside him takes the parts of Central and the person to whom the patient wishes to speak. He carries out exercises as on the private line.

F. With the instructor close beside him, the patient calls up Central and then some friends; if he has the slightest hesitation the instructor will speak for him.

G. When he succeeds perfectly in the preceding, he tries the telephone independently. The instructor is to criticize his successes.

The fear of the telephone is very marked in most stutterers.

87 Madison Avenue.

THE DIAGNOSTIC VALUE OF THE BUTYRIC ACID TEST (NOGUCHI) IN THE CEREBROSPINAL FLUID *

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Of the large number of reports on the cerebrospinal fluid which have appeared in recent times, the great majority have been devoted to a study of changes which occur in the parasyphilitic diseases, and perhaps not sufficient attention has been paid to the value of routine diagnostic examinations in general hospital practice. Realizing the importance of establishing certain fundamental facts in relation to the newer tests, at the Michael Reese Hospital we attempted to study in a routine manner all the spinal fluids which came to our laboratory for diagnosis, and in this study especial attention has been paid to determining the status of the butyric acid globulin test devised by Noguchi.[1] Noguchi originally advocated his test for use in the diagnosis of cerebrospinal syphilis, general paresis, and of tabes dorsalis, but suggested that inasmuch as it is present in all inflammations of the meninges, it might prove of value in the diagnosis of tuberculous meningitis. The material on which this report is based has come from varied sources, and includes diseases of varied character. Over 150 cases have been studied; but, since many of our cases were from sources which prevented us from following them, this report is based on the ninety cases in which a diagnosis is fairly certain. I regret, however, that the inability to obtain autopsies is a source of error in the interpretation of disagreements between the clinical diagnosis and the findings of the laboratory examination. Furthermore, the series is rather small for very definite conclusions, but the general agreement in our

* From the laboratories of the Michael Reese Hospital, Chicago.

1. Noguchi and Moore: The Butyric Acid Test for Syphilis in the Diagnosis of Metasyphilitic and Other Nervous Disorders, Jour. Exper. Med., 1909, xi, 604.

results is sufficiently striking and suggestive to warrant their publication with the hope that more workers in this field will be able to study larger numbers of cases and thus contribute more definite knowledge.

Although the technical methods employed in all our cases have been constant, the different character of the fluids made it advisable for practical purposes to adopt certain standards of procedure varying with the source of the fluid. For instance, better results are obtained when the spinal fluid from a patient suspected to have tuberculous meningitis is handled in a manner to facilitate the finding of tubercle bacilli, whereas, in those cases in which the examination may aid in the differential diagnosis between functional and organic nervous disorders, special stress is laid on chemical and cytologic aspects. In all cases, the first step employed is a bacteriologic culture on media containing hemoglobin. In cases of suspected tuberculous meningitis one tube of fluid is put untouched in the ice-box, and allowed to remain for at least twelve hours in order to permit the formation of the film which enmeshes the bacilli. As has been emphasized recently by Bybee and Lorenz,[2] practically all workers find the study of the cells most difficult, and no completely satisfactory method, either for the total or the differential count, has yet been devised. My experience with the total cell-count has been that the use of the ordinary red cell counting pipette with methylene-blue, gentian-violet or acetic acid gives results, which, while only partially satisfactory, are at least much better than those from the French method. The differential count is made from the sediment after centrifugalization for a half hour at about 1,800 revolutions, and stained with Wright's stain. In many instances, however, this procedure is eminently unreliable, as it is often impossible to differentiate the various cell types by this method. Far more valuable, in my experience, and much less difficult of interpretation, has been the use of some one of the methods for determining increased globulin content. In a recent careful review of the literature,[3] I found a fairly general agreement in the opinions expressed as to the relative diagnostic value of increased cell-count and increased globulin fraction. In normal fluids the number of cells present is from 0 to 5, 6, or even 8 per cu. mm., whereas the amount of protein is so small as to be unrecognizable by ordinary clinical methods. In all inflammations of the meninges, and in general paresis and tabes, there is an increase of the cells and of the protein. As a rule the increases in these two elements run parallel courses, and likewise the diagnostic significance of the tests is of about equal value. In my series the agreement was almost constant, but the two reactions were not always of equal value.

Numerous methods have been employed for the determination of increased protein, all based on the fact that the increase is due to serum globulin. In all tests the fluid must be free from blood. Nonne's[4] well-known Phase I has not been found to have the delicacy of some of the modifications, owing to frequent difficulties in differentiating a positive from a negative reaction. Ross and Jones[5] have modified the technic of procedure by making a ring test similar to Heller's nitric acid test in the urine. On two parts of a heat-saturated solution of ammonium sulphate in a test-tube they float one part of the fluid and look at the line of junction for the reaction. In positive cases an easily perceptible white line of precipitated globulin appears. Wherever it has been used, this reaction has met favor, and seems to possess about the same delicacy as the Noguchi test, with the possible exception that the line of junction is somewhat more difficult to read than is the Noguchi. This latter test, which is probably the most satisfactory at present, is employed as follows:

One part (0.1 or 0.2 c.c.) of cerebrospinal fluid is placed in a test-tube, and to this is added five parts of a 10 per cent. solution of pure butyric acid in physiologic salt solution; the mixture is heated to boiling, and immediately one part of normal sodium hydrate added and the mixture again boiled. In the presence of increased globulin a definite flocculent precipitate occurs, either immediately, or within two hours. This definite precipitate must be differentiated from a faint cloudiness which normal fluids may give, but it requires only slight experience to recognize the difference between positive and negative reactions.

Properly to appreciate the diagnostic value of the study of spinal fluids it is necessary to remember that the spinal fluid is, in a diagnostic sense, analogous to the blood, and, as in the blood only a few tests of absolute value are known, so in the interpretation of the examination of spinal fluid most of the knowledge obtained is relative. An increased leukocyte count or an eosinophilia is a pointer of importance only when considered in relation to the clinical findings, and practically the only absolute diagnostic signs are those obtained by finding the specific etiologic agent or one of the few specific bacterial or chemical reactions like the Widal or the Wassermann. In the spinal fluid not too much can be expected, and it is well before discussing our cases to emphasize that only in exactly similar instances can absolute determinations be reached. The finding of the tubercle bacillus or the pneumococcus, or a positive Wassermann are the occasional high lights in routine study of cerebrospinal fluids; a positive Noguchi reaction does not mean any one disease any more than does a leukocytosis mean pneumonia. If, however, it can be shown that the Noguchi reaction is not present in any of the functional neuroses or psychoses, while it is present in certain organic diseases whose symptomatology resembles that of the neuroses, then its value as a diagnostic sign must be recognized; or if it occurs in tuberculous meningitis and not in the numerous clinical entities which may simulate this disease in children, it must be admitted into the group of signs which help to make the diagnosis of tuberculous meningitis. It is from the standpoint of relative usefulness that we wish to present the subject, and in doing so it seems better to consider our cases under groups showing similar clinical manifestations.

The first group to be presented is that of cerebrospinal syphilis, general paresis, and tabes dorsalis. It would be a waste of time and space to review here the extensive literature on the changes in the spinal fluid in these diseases. Suffice it to say that the salient features are an increase in the globulin and in total cell-count in about 90 to 95 per cent. and peculiarities in the differential count involving mainly the mononuclears, about the classification of which there is considerable discussion. The figures for positive Wassermann reactions vary from 50 to 95 per cent. The Noguchi and the Ross-Jones

2. Bybee and Lorenz: A Report of Fifty Examinations of Cerebrospinal Fluids with Special Reference to the Cell-Count, Arch. Int. Med., 1911, vii, 38.

3. Strouse: The Cerebrospinal Fluid in Syphilis and in Parasyphilitic Diseases, Interstate Med. Jour., 1911, xviii, 138.

4. Nonne and Apelt: Ueber fractionirte Eiweiss-Ausfallung in der Spinalflüssigkeit von Gesunden, Luetikern, Funktionell- und Organischnervenkranken und über ihre Verwerthung zur Differentialdiagnose der Dementia Paralytica, Tabes Dorsalis, tertiaren und abgelaufenen Syphilis, Arch. f. Psychiat., 1907-08, xliii, 433.

5. Ross and Jones: The Use of Certain New Chemical Tests in the Diagnosis of General Paresis and Tabes, Brit. Med. Jour., 1909, I, 1111.

tests have proved of greater value than the original Nonne (Amsden,[6] McCampbell and Rowland[7]).

TABLE 1.—CELL FINDINGS AND REACTIONS IN CASES OF CEREBROSPINAL SYPHILIS, GENERAL PARESIS AND TABES DORSALIS

Case No.	Diagnosis	Noguchi	Cells	Wassermann C. S. F.	Wassermann Blood	Ross-Jones
1- 3	Cerebral syphilis	+	..	..	..	..
4-10	General paralysis	+	..	..	..	..
11	Cerebral syphilis	+	+	—	+	+
12	Cerebral syphilis	+	+	..	..	..
13	Tabes dorsalis	+	+	+	+	..
14	Tabes dorsalis	+	+	—	+	..
15, 16, 17	Same patient, tabes dorsalis	—	..	..	+	..
18-20	Tabes dorsalis	—	—	—	—	—
88	General paralysis (?). Cerebral arteriosclerosis (?)	—	—	—	—	—
21-23	Brain tumor	—	—	—	—	..
24-25	Dementia præcox	—	—	—	—	..
26-27	Cerebral arteriosclerosis	—	—	—	—	..
28	Pernicious anemia with spinal cord involvement	—	—	—	—	..

Table 1 shows our results in this group of cases. It will be seen that in five cases of cerebrospinal lues, and in seven of general paresis, the Noguchi was positive in all. Systematic study of the other reactions was not possible in this series. In two cases of tabes the Noguchi and the cell-count were positive in both, the Wassermann on the blood in both, and on the spinal fluid in one. In one other advanced case (15, 16, 17) of tabes, the Noguchi was negative on three successive occasions, whereas the Ross-Jones test was positive the only time it was tried, and the Wassermann on the blood was twice positive. Cases 18 to 20 were cases of undoubted tabes dorsalis, with typical histories, and at least some of the pathognomonic signs. One was an advanced case and the other two were incipient. In all three cases it is interesting to note the absence of changes in the spinal fluid as well as the negative Wassermann. In Case 88 the history was obscure and the physical findings not definite; the further course of the disease must settle the diagnosis.

In contrast to this series must be placed those cases in which exists the possibility of confusion with the conditions just discussed. In three cases of brain tumor, two of dementia præcox, two of cerebral arteriosclerosis the Noguchi was negative in all, the cell count normal in the four cases in which it was made, and the Wassermann negative on the blood in five. Of especial interest was the patient who presented cord symptoms of pernicious anemia which simulated very strongly those of tabes dorsalis, but whose spinal fluid and Wassermann were entirely negative. Our results in this series are distinctly in accord with those of other workers on the incidence of the butyric acid test in general paresis, cerebral lues, brain tumor and psychoses, but at marked variance in tabes dorsalis. Many more cases are necessary, however, before these few instances can be cited as evidence against Noguchi and Moore's original claim of 100 per cent. positive results.

As far as we are aware, no large series of cases has yet been reported in which advantage is taken of the ease and rapidity of the Noguchi reaction as an aid in the differential diagnosis between acute meningitis and other conditions whose clinical manifestations resemble those due to actual inflammation of the meninges. Apelt[8] has used the Nonne globulin test in differentiating meningitis from meningismus. In children, especially, the state of meningismus is often so pronounced as to puzzle the most able clinician, and not infrequently in the infectious diseases lumbar puncture is the only diagnostic means at our disposal for the solution of the problem. Later we wish to discuss in some detail the special value of the reaction in tuberculous meningitis.

TABLE 2.—ACUTE MENINGITIS AND MENINGISMUS

Case No.	Diagnosis	Noguchi	Cells	Bacteria
	ACUTE MENINGITIS			
29–31	Pneumococcus	+	P. M. N.	Pneumococcus
32–44	Meningococcus	+	"	Meningococcus
45	Streptococcus	+	"	Streptococcus
46	Influenza	+	"	Influenza
	MENINGISMUS			
47	Typhoid	—	—	—
48–52	Pneumonia	—	—	—
90	Pneumonia	—	—	—

In Table 2 can be seen the findings in three cases of pneumococcus meningitis, one of streptococcus and one of influenza meningitis, and in thirteen cases of cerebrospinal fever due to the meningococcus. In all of these, as might be expected from the great exudate of polymorphonuclear leukocytes, the Noguchi test is positive. In the six cases of meningismus occurring in pneumonia, and one in typhoid, the test is negative in all. Of course the clear fluid and the negative bacteriologic findings lead one to expect an absence of globulin, but as the same sort of fluid may be found in tuberculous meningitis, which in all our cases showed a positive Noguchi, it seems to us to have considerable value in these conditions.

Until quite recently, when more refined methods for finding the tubercle bacillus were introduced into the examination of spinal fluids, a definite diagnosis of tuberculous meningitis was always beset with more or less difficulty, especially in the early stages. No extended observations have been made on the globulin fraction in these cases. Our results have been constantly positive. Hemenway[9] has tried the test in a few cases with positive results.

TABLE 3.—TUBERCULOUS MENINGITIS

No.	Noguchi	T. B.	Cells
53	+	0	Lymphocytosis
54	+	0	Few lymphocytes
55	+	0	Few lymphocytes
56	+	0	Many lymphocytes
57	+	0	Many lymphocytes
58	+	0	Many lymphocytes
59	+	0	Many lymphocytes
60	+	+	Many lymphocytes
61	+	+	Many lymphocytes
62	+	+	—
63	+	+	Lymphocytosis
64	+	+	—
65	+	+	—
66	+	+	Lymphocytosis
67	+	+	Lymphocytosis
68	+	+	Lymphocytosis
69	+	+	—
81	+	+	Lymphocytosis

Table 3 shows positive Noguchi reactions in eighteen cases, in the first seven of which the diagnosis was verified by the further clinical course, or by autopsy, and in the last eleven by finding tubercle bacilli in the fluid. It is important to note that our first seven negative bacterial findings occurred when we were using the centrifuge method, while the last eleven positive cases were due to the change to the so-called film method. The technic of this method is so simple and the results so much more satisfactory than any other procedure, that it is advisable to review it in some detail. A tube of the clear or slightly turbid fluid, handled as little as possible, is immediately placed in the ice-chest and

6. Amsden: Report of Certain Lumbar Punctures at Bloomingdale Hospital, New York, Med. Jour., 1910, xci, 438.

7. McCampbell and Rowland: Studies on the Clinical Diagnosis of General Paralysis of the Insane, Jour. Med. Research, 1910, xxii, 169.

8. Apelt: Beiträge zur Frage der Berechtigung der spinalen und cerebralen Punktion, Berl. klin. Wchnschr., 1910, xlvii, 1540.

9. Hemenway: The Constant Presence of Tubercle Bacilli in the Cerebrospinal Fluid of Tuberculous Meningitis, Am. Jour. Dis. Child., 1911, i, 37.

allowed to remain there for twelve hours. Most workers put the tube in the incubator, but we have found no difference in results by using the ice-chest, and by its use we are safeguarded from bacterial growth due to accidental contamination—a point which must be considered when fluids come from various sources and are often subject to slightly careless manipulation. At the end of this time a pedicle or a film of varying density generally forms throughout the fluid, and this is floated on to a slide in the same manner as is a piece of tissue. It is important not to mesh up the film; the thinner it spreads and the less tangled it is, the better will be the results. Aftr drying in the air the film is fixed by heat and stained with the usual carbol-fuchsin stain.

These eighteen positive globulin tests, added to the few already reported in the literature (Stillman,[10] Apelt,[8] Ross and Jones[5]), render it fairly certain that the reaction is present as a general rule in tuberculous meningitis. In our series it has been more constant than the lymphocytosis, and it certainly is much easier to perform than is a total cell-count and a differential count.

Many fluids have come to us from patients in whom a tentative diagnosis of tuberculous meningitis has been made, but in whom the later course of the disease proved the diagnosis to be incorrect.

TABLE 4.—CASES IN WHICH A TENTATIVE DIAGNOSIS OF TUBERCULOUS MENINGITIS HAD BEEN MADE

No.	Diagnosis	Noguchi	Cells	Remarks
70	Encephalitis	—	..	.....
71	Acute purulent adenitis	—	—	.....
72	Tetanus	—	—	.....
73	Gastro-enteritis	—	—	[illegible]th
74	Uremic coma	—	—	.....
75	Poliomyelitis	—	—	.....
76	?	—	—	Complete recovery
77	?	—	—	Complete recovery
78	?	—	—	Complete recovery

Nine cases of this nature are shown in Table 4; they include various diseases whose manifestations at the stage in which lumbar puncture was performed resembled those of tuberculous meningitis. In all it will be seen that both the cell-count and the globulin test were negative—a sufficiently strong contrast to the findings in tuberculous meningitis to warrant the statement that a negative butyric acid test is presumptive evidence against the presence of tuberculous meningitis. This cannot at present be stated as dogma, as many more examinations will have to be made before the exact truth can be learned. Again it must be emphasized that the reaction cannot, from its very nature, be specific for tuberculous meningitis, any more than it is for general paresis, and to be of any value at all it must be considered only after the most careful correlation with the history and physical findings.

TABLE 5.—MISCELLANEOUS

No.	Diagnosis	Noguchi	Cells	Wassermann
79	Hydrocephalus	—	—	—
80	Hydrocephalus	—	—	.....
82	Anterior poliomyelitis	—	..	.....
83	Encephalitis	+	—	.....
84	Uremia	—	—	.....
70	Encephalitis	—	—	.....
85	Uremia	--	--	—
86	Myelitis	+	+	—
87	Myelitis	—	—	—
89	Amaurotic family idiocy	+	+	+

As a further elucidation of this point Table 5, presenting the findings in a series of miscellaneous diseases, is of considerable value. In both cases of hydrocephalus the reaction was negative, although increased globulin has been reported present in this condition by Nonne.[11] In both cases of anterior poliomyelitis it was negative; in one case of encephalitis positive, in one negative; in one case of transverse myelitis positive, and in one negative. In three cases of uremic coma it was negative. In the case of amaurotic family idiocy the positive Noguchi and the positive Wassermann are hard to reconcile with the completely negative examination for syphilis at the autopsy. In considering the nature of the diseases in which the reaction seems to vary so much, it may be explained that all the conditions are such as may produce meningeal involvement and consequently a positive butyric acid reaction. On the whole, the main value of this small series lies in emphasizing that even in clinical conditions which may resemble tuberculous meningitis, a positive reaction does not by any means indicate the presence of a tuberculous inflammation, but a negative one presupposes the absence of such a condition.

CONCLUSIONS

This series warrants the following conclusions:

1. Tests for increased globulin in the spinal fluid are easier to perform than is the total cell-count, and have practically the same diagnostic importance.
2. The butyric acid test of Noguchi is convenient and accurate.
3. The use of this reaction gives information of considerable value in diagnosis.
4. The reaction is positive in general paralysis and cerebrospinal syphilis; negative in brain tumor, cerebral arteriosclerosis and psychoses. A positive reaction in a doubtful nervous case is presumptive evidence in favor of the diagnosis being a syphilitic or parasyphilitic disease of the nervous system.
5. In tabes dorsalis, our results are not in agreement with previous reports, the reaction being present in only 33⅓ per cent.
6. The reaction is positive in all cases of acute meningitis and absent in meningeal irritation without actual inflammation.
7. It is always present in tuberculous meningitis, and its presence is an aid in the diagnosis. The absence of the reaction in cases of suspected tuberculous meningitis is of great value in excluding meningitis.

10. Stillman: A Report on the Value of Noguchi's Reaction on Spinal Fluids, Proc. New York Path. Soc., 1909, new series, ix, 1.

11. Nonne: Clinical Diagnosis of the Syphilogenous Diseases of the Central Nervous System, THE JOURNAL A. M. A., 1909, liii, 289.

TREATMENT OF INOPERABLE CANCER OF THE CERVIX

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Believing as we do that permanent relief from cancer of the cervix comes through the timely application of the knife, we find little enthusiasm in the management of inoperable cases in which the patients at best can be given but temporary relief. When the disease has gone beyond the reach of the knife we say that it is incurable, but our responsibilities do not end here. Months, and perchance years, of comparative comfort may be added to the life of the unfortunate victim.

One cannot review the literature on the treatment of inoperable cancer of the cervix without being strengthened in one's conviction that much can be done in these pitiable cases. We cannot cure these patients, but we can relieve their suffering, inspire them with hope and give them added days of comfort and usefulness.

Blau reported 408 cases of inoperable cancer of the uterus in the Chrobak clinic. These patients were treated by scraping and the application of the Paquelin cautery; the procedure was repeated at intervals of three to four months. Subsequent reports were obtained from 342 of the 408 patients. One lived eleven years after the above treatment. One was alive and apparently in good health after nine years and another after six years. There was an average of 252 days of life after the initial curettement and cauterization.

In the cases of Conrad, there was an average of 525 days of life from repeated applications of chlorid of zinc and pyoktanin.

Baker reported fifteen patients living from two to twelve years; Byrne ninety patients living from two to seventeen years; Pawlik twenty-nine patients living from two to twenty-one years after repeated local applications. Tomer reports 213 patients treated with the Paquelin cautery free from recurrence after two years, and of this number 149 were apparently healed after five years.

Mose Madden amputated the cervix with the galvanocautery in twenty-two patients; ten were free of recurrence two and one-half years at the time of publication.

The above statistics could be added to indefinitely, but enough have been quoted to convince the most skeptical that cauterization is worth while. While it is true that these statistics antedate the extended operations, and that in many the diagnosis was not verified by microscopic examination, yet the proof of the value of local applications and of cauterization in particular is not wanting.

No signal advance has been made of late years in the treatment of inoperable cases, and the explanation lies, in part, in the difficulties experienced in their management. Few hospitals will harbor these sufferers for the time necessary to pursue extended observations. The patients are usually admitted for a single application of one remedy or another and in a few days are dismissed. The rich will not remain in the hospital, the poor cannot afford to remain, and the hospital management has no desire to retain either. Tomer and Chrobak pass caustic criticism on the attitude of the hospital management toward these patients and recommend isolated wards for their care. In this connection I am pleased to bear witness to the splendid facilities provided in the Skin and Cancer Hospital of St. Louis and to the recent valued contributions to the subject in hand by a member of the surgical staff.

The great number of inoperable patients who present themselves reflect discredit on the diagnostic acumen of the profession, and call for an organized effort looking toward the enlightenment of the laity to the end that women will seek medical advice when the danger-signals become manifest.

The large percentage of recurrences are not chargeable to faulty technic, for it would seem that in the radical abdominal operation for cancer of the cervix we have all but reached our limitations. The explanation lies rather in the failure to recognize the cases while there is yet time to eradicate the disease completely with the knife. Far too frequently are these patients operated on when eradication of the entire cancerous growth is manifestly impossible. "Operated and operable cases may be, and in reality often are, quite different things" says Koblanck. In this connection, I would express the conviction that were we to follow the suggestion of Rosthorn and Franz in the making of an exploratory abdominal incision in recurrent cases, we would find more encouragement in pursuing such cases with repeated attempts to eradicate the disease. When doubt exists as to the extent of recurrence, an exploratory abdominal incision should be made, and in so doing a certain, though not large, percentage of these patients will be found amenable to surgical intervention who might otherwise be treated along palliative lines.

It requires but a hasty survey of the literature to convince one of the futility of all efforts to stay the progress of the disease when once it has passed the confines of the uterus. Were I to recite the long list of remedies proposed in the last two decades, there would be nothing gained and the space allotted me would be consumed. I shall pass them by without consideration, for they have been weighed in the balance and found wanting. The Roentgen ray had proved of positive value in many of the superficial cancerous growths of the body, and the profession was slow to reject its claims as a curative measure for cancer of the cervix, but it has gone the way of its predecessors and to-day we find ourselves almost as helpless as we were generations ago.

The curette and cautery are still in active service, and I for one am not disposed to discard them, for they have proved of positive value in my hands in providing temporary relief from hemorrhage and foul discharges. Though the disease steadily advances to a fatal issue, we are bound to give credit to these measures for added days of comparative comfort. The results of Blau and others clearly demonstrate the value of repeated applications of the curette and cautery at intervals of from three to four months. Unfortunately, we are seldom privileged to follow up our patients so persistently. A single application will afford relief from bloody and fetid discharges for but a brief time, but the recurrence of these discharges will be longer delayed with each application.

Dr. James Spencer Brown of Mont Clair, N. J., is an enthusiastic advocate of the vigorous application of the cautery. He protects the vaginal walls with thin asbestos, holding the sheets in place by retractors. With the soldering iron he deeply cauterizes not only the cervix but the cavity of the uterus as well.

For the past six years I have followed the practice of Dr. Clarence Webster in packing the excochleated and cauterized area with gauze wrung out in a 1 to 4,000 aqueous solution of 40 per cent. liquor formaldehydi. Following such a procedure bloody and odorous discharges may disappear for from two to four months.

The latest remedy proposed for the relief from hemorrhages and fetid discharges is acetone. We are indebted to Dr. George Gellhorn[1] of St. Louis for its introduction and for extended observations in its application. Results obtained by him speak for the efficacy of the remedy, and it is to be hoped that the profession will join with Dr. Gellhorn[1] in giving it an extended trial. I here quote his description of the technic of its application:

> The treatment should, if feasible, be preceded by a thorough excochleation of the ulcerating area. The curetted cavity or crater is then carefully dried with cotton sponges and from ½ to 1 ounce of acetone is poured into the wound through a Ferguson or other tubular speculum. For this purpose, the pelvis of the patient must be raised as in Trendelenburg's position. The narcosis may now be interrupted and the patient be left in this position for from fifteen to thirty minutes. Next, the acetone is permitted to run out through the speculum by lowering the pelvis of the patient and the cavity is packed with a

1. THE JOURNAL A. M. A., April 27, 1907, p. 1400.

narrow gauze strip soaked in acetone. The healthy mucosa of the vulva and the vagina are cleansed with sterile water and dried.

After this preliminary curetting and cauterization, the regular treatment, which requires no further hospital care, is administered two or three times a week, beginning the fourth or fifth day after the operation. This is done without narcosis and may be given with the patient in bed or on the ordinary examining chair or table in the office. The pelvis of the patient is raised and the tubular speculum is inserted into the cancerous cavity. With the progressive diminution of the crater, smaller specula are gradually employed. The speculum is filled with acetone and held in place by the patient's hand for half an hour, and is then emptied in the manner described above. Care should be taken to prevent the acetone from running over the vulva or perineum.

In a subsequent article[2] Gellhorn states that he prevents the acetone from running over the vulva and perineum by applying a thick layer of ordinary petrolatum to the vulva and lower third of the vagina; then, after the acetone has run out of the speculum, he swabs the cavity dry and introduces a large cotton tampon coated with petrolatum into the vagina before the speculum is withdrawn. This tampon may be removed by the patient after a few hours.

Gellhorn says that slight oozing of blood is checked almost instantly; that offensive discharges become at first watery, then gradually disappear; that the hemorrhages fail to recur if the treatment is faithfully pursued and that in the course of two or three weeks the walls of the crater become smooth and firm, making a second curettement unnecessary. A diminution in the size of the crater was noted in some cases. With the disappearance of the weakening hemorrhages and discharges, the general strength and nutrition improved. There was no control over the pain due to the cancerous invasion of the nerve trunks.

From the experience of Gellhorn and the few others who have contributed to his observations, I am persuaded that we have in acetone a valuable remedy in the treatment of inoperable cancer of the cervix. It has advantages over the curette, cautery and formaldehyd packs when the patient can be kept under the control of the physician. When the case will not permit of constant supervision, I would give preference to the cautery and formaldehyd solution on the ground that a single application of the latter will have a more lasting effect.

At the recent meeting of the American Gynecological Society in Washington, I took occasion to interview many of the fellows of the society on the subject. There was no manifest enthusiasm in their management of these cases. The great majority were in favor of the curette and cautery and advised the vigorous application of the Paquelin cautery after scraping away all necrotic tissue. Kelly holds the cautery at white heat in the excochleated area for several minutes. In this manner the tissues are deeply affected. Far from criticizing the use of the cautery in these cases, the majority spoke for its more vigorous application.

A variety of remedies were recommended after the application of the curette and cautery, e.g., zinc chlorid (Peterson), equal parts of formaldehyd solution and epinephrin together with the chlorid of zinc (Clark), tincture of iodin locally and Lugol's solution internally (Montgomery).

Only three of the men interviewed had tried the acetone treatment and one of these had abandoned it because of technical difficulties involved in its application (Chipman).

2. Am. Jour. Obst., May, 1909.

It was my impression that the majority of the men interviewed were of the opinion that the curette and cautery would accomplish all that could be done for these patients. Few had given the acetone treatment the consideration it deserves.

Recently Richter[3] gave an account of the work done in Leopold's clinic with the method of fulguration as proposed by Keating-Hart in 1908. The report is not favorable to the method. I note with interest, however, that the acetone treatment of Gellhorn is endorsed most enthusiastically. One patient has received eighty applications of acetone in the past twenty-one months. The vagina was contracted by bands of scar tissue and would admit the index-finger but 2.5 cm. There was a fistula at the vault of the vagina which discharged a slight bloody purulent secretion. The pelvic connective tissue was widely infiltrated. The patient complained of pelvic pain but her general appearance was good. Richter speaks of the acetone treatment as the most satisfactory method ever employed in Leopold's clinic.

As yet, no remedy has approached the desired object—that of destroying the invading cancer cells. We look to the chemist and biologist for the solution of the problem, believing that a vaccine will be forthcoming that will do more than palliate this dread disease—a vaccine that will prevent the development of cancer, that will forestall recurrence and that will stay the progress in inoperable cases.

NOTE.—Since writing the above I have had the privilege of visiting the new Skin and Cancer Hospital of St. Louis. In this visit I examined several of Dr. Gellhorn's cases of inoperable cancer of the cervix, and saw him treat two of his patients. His results are unquestionably superior to any that have been obtained by methods previously in vogue. In none of his cases did I observe either odor or hemorrhage.

One case was particularly noteworthy. A growth, which filled the vault of the vagina, was curetted about one year ago. Since then the patient has had twenty applications of acetone. When I saw her there was no odorous discharge, no hemorrhage; the vault of the vagina appeared as a puckered scar with a small fistulous opening leading to the uterus. The patient had gained 20 pounds in weight and suffered little or no pain. Unquestionably, her life has been prolonged and made comfortable to a degree that speaks for the inestimable advantage of the acetone treatment.

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TREATMENT OF EXOPHTHALMIC GOITER WITH THYROIDECTIN

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Working on the hypothesis that the symptoms of exophthalmic goiter are due to excessive secretion of the thyroid gland, attempts have been made by some to limit the amount of this secretion by extirpating a portion of the gland, by ligating its arteries, and by interstitial injections intended to cause partial atrophy. Approaching the problem from another standpoint, others have endeavored to neutralize the products of glandular hyperactivity by administering milk, blood, or serum of animals whose thyroid glands have been removed, and in which the hypothetical antibodies which normally neutralize the thyroid secretion may be supposed to have accumulated. Still others have employed serums made by injecting into animals normal human thyroid or that of patients suffering from exophthalmic goiter.

3. Münch. med. Wchnschr., April 26, 1910.

Although the wave of enthusiasm which accompanies the introduction of any new remedy seems to have passed, judgment of the value of most of these serums appears to be based on individual reports of one or more cases in which there was improvement during their administration, alone or combined with other treatment, and often with the most important addition of rest in bed. Unfavorable results are always less likely to be recorded than successful cases.

Many writers group the results obtained with various preparations and, giving few data concerning individual cases, draw their conclusions as to "serum-therapy" collectively. Thus, F. S. Bulkeley[1] in a review of the literature of serum treatment of exophthalmic goiter, omitting that relating to the serums of Rogers and Beebe, has collected reports of eighty-six cases. Excluding from these the cases of three patients treated with the blood of a myxedema patient, he records eighty-three cases, with improvement in all but six, and sixteen possible cures judging from data given. This writer groups collectively cases in which Moebius' antithyroidin, serum of rabbits fed with thyroid extract, thyroidectin, serum of a thyroidectomized dog, milk of thyroidectomized goats and a proprietary substance said to be prepared from the milk of thyroidectomized goats were administered; and from these he generalizes as to the effect of "serum-therapy."

Confining our attention to thyroidectin, which is prepared from the blood of thyroidectomized animals, and of which few reports have been published, we find in this list of cases collected by Bulkeley thirty, all of which were pronounced improved, none cured. Since that time A. G. Gullan[2] has recorded five cases, all greatly improved; and H. H. Miller[3] one case in which for eight weeks thyroidectin and iodalbin were administered synchronously, with disappearance of symptoms. The same medication was continued irregularly for three months, and about one year later the symptoms had not returned. These reports include thirty-six cases with improvement in 100 per cent. In contrast, we note the general verdict of A. Kocher,[4] who states that thyroidectin is of inconstant and not of lasting benefit; of E. M. Fisher,[5] who says, "Thyroidectin has proved useless in my hands"; of D'Orsay Hecht,[6] who writes, "Thyroidectin cannot be said to have ever stood approved." Aside from these general condemnations, F. Billings[7] reports the use of from 15 to 40 grains of thyroidectin a day in divided doses in twelve cases with varying results. In none did he secure the favorable results recorded by others. In two cases the symptoms were aggravated by the remedy. This report of Billings is excluded by Bulkeley in his collation of cases up to 1907, which includes thirty cases all improved by the use of thyroidectin, on the ground of scantiness of data and lack of distinct statement of failure or improvement. M. T. Sudler,[8] giving very few data, reports a single case of unilateral goiter with nervousness and rapid pulse treated "medically with the addition of thyroidectin," which seemed to improve very slightly and has since remained about the same. S. Gillies[9] has seen improvement in patients taking thyroidectin, but is not sure that suggestion has not much to do with the results.

1. Bulkeley, F. S.: Boston Med. and Surg. Jour., 1907, clvii, 626.
2. Gullan, A. G.: Lancet, London, 1908, ii, 708.
3. Miller, H. H.: Kansas City Med. Ind.-Lancet, 1908, xxxi, 444.
4. Kocher, A.: München. med. Wchnschr., 1910, lvii, 677.
5. Fisher, E. M.: Jour. Med. Soc. New Jersey, 1909-10, vi, 173.
6. Hecht, D'Orsay: Illinois Med. Jour., 1909, xvi, 248.
7. Billings, F.: THE JOURNAL A. M. A., 1907, xlviii, 349.
8. Sudler, M. T.: Jour. Kansas Med. Soc., 1909, ix, 75.
9. Gillies, S.: Australasian Med. Gaz., 1910, xix, 471.

In the following five cases thyroidectin has been used:

CASE 1.—*History.*—A. T. B., a woman aged 26, single, bookbinder, native of United States, entered New York Hospital (Medical No. 12,120) Feb. 25, 1905. The family history was negative. The patient had had measles, pertussis, scarlatina in childhood; frequent bronchitis; menstruation regular. About 1896 the patient noticed a swelling in central part of neck anteriorly. This slowly increased until 1904; since then there has been no further enlargement. In 1897 the patient noticed that the eyes were becoming prominent, and they continued to do so until 1904. The patient became very nervous; had hysterical manifestations at intervals; has had palpitation of the heart, which was made worse by exertion, as long as she can remember.

Physical Examination.—The patient was fairly well nourished, muscular, with neurotic facies and marked exophthalmos. Von Graefe's sign was present; the patient was unable to approximate the lids completely; there was marked pigmentation of upper lids. There was bilateral enlargement of thyroid; fine systolic thrill over it; loud systolic bruit, loudest over right lobe of thyroid. Cardiac apex-beat in fourth intercostal space, 7.5 cm. to left of median line; sounds clear; systolic murmur at aortic and pulmonic areas, and very faint at apex. The pulse was regular, force fair, tension low. There was slight tremor of hands, especially the right; slight edema of ankles. The lymph-nodes in the groin were enlarged. Temperature, 99 F.; respiration, 20; pulse, 108; red blood-cells, 4,928,000; hemoglobin, 94 per cent. The specific gravity of the urine was 1.014-1.019; acid; no albumin; no sugar; occasional leukocyte. Temperature, February 25 to March 22, 97.6-99.2 F. Pulse, February 25 to March 3, 88-108; March 3 to 17, 88-120; March 17 to 22, 76-118. February 28, weight, 120 pounds.

Treatment and Result.—February 25 to March 1 the patient was given neutral quinin bromid gr. v, three times a day, with no apparent results. March 3 to 17, thyroidectin gr. v, t. i. d. The patient was not confined to bed during her stay in the hospital. March 3 the circumference of neck was 33 cm.; pulse, 80; marked exophthalmos; slight tremor; no marked nervousness. March 4 her weight was 121.5 pounds. March 15 the circumference of the neck was the same; patient felt less nervous; had less palpitation when recumbent; had had headache after 9:30 a. m. every day since beginning thyroidectin; the objective signs were unchanged. March 17 thyroidectin was discontinued; the patient had only one headache subsequently. The only improvement was a gain in weight to 127 pounds. March 28 the patient was transferred to the First Surgical Division and the right lobe and isthmus were removed.

CASE 2.—*History.*—M. B., a married woman aged 38, housewife, native of United States, entered New York Hospital, O. P. D., June 20, 1905. One child died of tuberculosis. The patient was accustomed to take one to two cups of tea, one of coffee, daily. For three years the patient had had a cough, with mucopurulent sputum in the morning, and during that time had lost 60 pounds. For two years the patient had had dyspnea on exertion. Patient was seen in 1904 on account of swelling of front of neck which she had just discovered, though her family had noticed it two or three years previously. At that time she had enlargement of the thyroid, exophthalmos, tremor, and, at left apex, prolonged expiration and subcrepitant râles; temperature, 99.2-99.6 F.; pulse 88-156. For two or three months the patient had had general pruritus, excepting of face; for five or six months pain in the lumbar region; had diarrhea with tenesmus for the previous three weeks; complained also of loss of weight and strength, palpitation and nervousness.

Physical Examination.—The patient was fairly well nourished; had decided exophthalmos. The conjunctivæ were congested and the tongue was slightly coated. There was marked tremor of tongue and fingers. Cardiac apex-beat in fifth intercostal space, 11.5 cm. to left of median line; dulness to third rib, and nearly to median line; faint systolic murmur at second left space; pulse regular, small, moderate tension. There was moderate general enlargement of thyroid, especially right lobe; the circumference of neck over thyroid was 34 cm.;

there were systolic and diastolic murmurs over the thyroid. The temperature was 98.4 F.; pulse, 196. The specific gravity of the urine was 1.015; acid; no albumin; no sugar; one granular cast. The patient's weight was 142¼ pounds.

Treatment and Result.—June 20 the patient was given castor oil and salol, and commenced thyroidectin, gr. v, after food. Six days later, the bowels were normal, palpitation much less; temperature 99.2 F.; pulse 132. Palpitation was less until July 2, when it suddenly recurred. Nervousness was less until same date; exophthalmos diminished; tremor about the same; weight had increased about 2.5 pounds; pulse 168. An ice-bag over the precordia relieved the palpitation. Nervousness diminished until the supply of thyroidectin gave out on July 21; it then increased, as did tremor and exophthalmos, perhaps on account of excitement due to the death of the patient's mother. The pruritus was worse for the previous month; lumbar pains for two or three weeks. July 26, thyroidectin was resumed. August 9, the exophthalmos was less but the nervousness and tremor increased; palpitation occurred frequently; there were thirst, profuse sweating on exertion and headache. The thyroid had enlarged; circumference of neck, 36 cm.; distinct systolic thrill and pulsation and loud double murmur over thyroid. August 21, palpitation was constant and severe; there had been pain in the epigastrium for the previous week, with diarrhea. The pruritus was less; headaches continued; thyroid the same; tremor increased; temperature 98.8 F.; pulse 176. The thyroidectin, which had caused no permanent improvement, was discontinued.

Case 3.—*History.*—L. W., female, aged 47, widow, laundress, native of United States, entered New York Hospital (Medical No. 12,406), April 27, 1905. One sister had enlarged neck but not prominent eyes. The patient had had measles twice; menstruated regularly. She had seven children, and had had no abortions. She was accustomed to drink about six cups of tea and three of coffee daily. About May, 1902, the patient's physician noticed that her neck was swollen; she complained of occasional cardiac palpitation. In May, 1903, she felt very nervous and had some puffiness of the ankles; was in New York Hospital, May 20 to June 27, 1903, with exophthalmic goiter and cardiac dilatation. While in bed both conditions improved markedly, and showed tendency to aggravation when she was allowed up. For one year after this the patient felt well, except for some palpitation and occasional diarrhea; had been growing weaker constantly for previous year; had been unable to work for previous three weeks. She had increasing dyspnea on exertion; she had had a cough during the winter; at time of examination it was less and with no expectoration. She had some frontal and vertical headache; no visual symptoms or edema; no increase of exophthalmos or size of neck; chief complaint, weakness.

Physical Examination.—The patient was fairly nourished, with flabby muscles. There was slight prominence of the eyes; Stellwag's sign was slight; von Graefe's sign absent. The tongue was very slightly tremulous. The thyroid was somewhat enlarged asymmetrically; there was no palpable pulsation, but fine systolic thrill and loud bruit over gland, much more marked on left side. The cardiac apex-beat was in fifth intercostal space, 10 cm. to left of median line; forcible; there was a systolic murmur at aortic area and at apex transmitted toward axilla; pulse full; considerable tension. The lungs were normal, except cog-wheel inspiration at apices posteriorly and slightly exaggerated breathing at left apex. There was marked tremor of the hands. The temperature was 99.6 F.; respiration, 28; pulse, 120; subsequently 80-100. The specific gravity of the urine was 1.016-1.023; acid; faint trace of albumin; no sugar; no casts. April 28, the patient's weight was 118 pounds; she was not confined to bed.

Treatment and Result.—Thyroidectin was given, gr. v, three times a day; emulsion of cod liver oil half an ounce after food. May 19, thyroidectin was discontinued. The pulse was 96-112; rate quite as high as before treatment. The patient's weight had increased to 123 pounds. Improvement was less than with rest in bed during previous stay in hospital.

Case 4.—*History.*—E. P., a married woman aged 45, housewife, native of United States; entered New York Hospital, O. P. D., March 30, 1907. The patient's father had rheumatism. The patient had had no diseases of childhood; she had had frequent "bilious attacks," and for five years, papular eczema every winter; and cough in the morning for years. She was accustomed to drink one cup of tea and one cup of coffee daily. About Dec. 22, 1906, after an unusually hard day's work, the patient became tired and thirsty and could not sleep; she then noticed inability to speak quickly and was easily fatigued. Early in January, 1907, the patient began to have dyspnea on exertion, palpitation after meals, bad taste, swelling of ankles. Toward the end of that month the patient noticed slight swelling of front of neck, varying slightly in size. Her weight was 135 pounds six months prior to admission; she became thin in January; was always puffy under the eyes, worse for the previous month. She vomited three times three days prior to admission.

Physical Examination.—The patient was rather poorly nourished. The eyes were slightly prominent, with puffiness of lower lids. There was slight general enlargement of thyroid, especially right lobe and isthmus; circumference of neck, 31.5 cm. The cardiac apex-beat was in sixth intercostal space, 12.5 cm. to left of median line; forcible; there was dulness to the second rib and to the left border of the sternum; systolic murmurs at second right and left intercostal spaces; the pulse was of fair size, moderate tension. Above the right clavicle and in first intercostal space were dulness, bronchial breathing, whispered pectoriloquy; above spine of right scapula, same. There was liver dulness from the fourth intercostal space to 4 cm. below costal margin in right parasternal line. There was very slight tremor of the fingers. The temperature was 99.2 F.; pulse 104. The patient's weight was 109.5 pounds.

Treatment and Result.—Rhubarb and soda with nux vomica were given before meals; thyroidectin gr. v, after food. April 6, there were no gastric symptoms; no dyspnea on exertion. The specific gravity of the urine was 1.026; acid; no albumin; microscopically negative. April 11, there was slight increase of exophthalmos and tremor, both of which had diminished one week later, while the weight had reached 115. By May 7, the patient had been taking thyroidectin irregularly for the previous week. She then had a choking feeling when hurrying; venous hum over jugular veins; aortic second sound accentuated; systolic murmur over precordia, maximum intensity in second right intercostal space; pulse occasionally irregular in frequency; hemoglobin, 64 per cent. (von Fleischl). She was now given iron, arsenic and strychnin in addition to thyroidectin. May 15, there had been palpitation for two days, which at times seemed slightly diminished by thyroidectin. The weight was 110.5 pounds. Along the left border of the sternum there was a scraping systolic murmur, maximum intensity in the third and fourth intercostal spaces, close to the ear, sometimes increased by bending forward; at other times when straight, after bending forward; there was a systolic murmur at the second right intercostal space. Thyroidectin was given, gr. x, after food for three days, then gr. v, after food. May 27, palpitation was worse while taking thyroidectin gr. x, after food; it was relieved by sodium bromid gr. x, taken as needed; recurred after taking thyroidectin gr. v, after food, again. June 4, there was increased tremor; the heart was overacting; the pericardial friction sound was still audible. The patient was given tincture of belladonna, Blaud's pills. June 17, the patient's weight was 108.5 pounds; hemoglobin 80 per cent.; circumference of neck same as on admission; little palpitation or dyspnea. July 17, the patient's weight was 105; temperature 98.7 F.; pulse, 84; there was increased exophthalmos; perhaps increased tremor; little palpitation. The patient was given thyroid extract gr. v, twice a day after July 24. Severe palpitation began on July 28, with edema of face and feet; the patient felt weak on rising. July 31, the patient's weight was 112.5; temperature 98.8 F.; pulse, 108, and very irregular in frequency; there was increased tremor. The patient was given thyroidectin gr. v, after food. After four doses she was much worse; palpitation, weakness and nervousness were present, and edema of legs more marked. The patient's weight was 116.5; temperature, 99.4 F.; pulse, 108, of slightly increased tension. There was increased exophthalmos. Thyroidectin was discontinued. The patient was

treated subsequently with sodium bromid, belladonna, strophanthus, tonics and ice-cap over the heart. The patient's weight rose to 123 pounds. Symptoms of exophthalmic goiter varied as before. The heart showed signs of dilatation and hypertrophy, with marked irregularity in force and frequency of pulse; the urine was of low specific gravity; edema of whole of lower extremities was present, also gastric disturbance. July 1, 1909, the thyroid was smaller; there were no symptoms of exophthalmic goiter except slight exophthalmos; the symptoms were chiefly edema and diminished urine, of specific gravity not above 1.016; no albumin.

CASE 5.—*History.*—The patient, M. W., a widow aged 36, domestic, native of Ireland, was seen May 15, 1908. Her father died of tuberculosis. The patient had had measles, variola, scarlatina and pertussis. She married in 1900; one year later had still-birth at term; then three abortions at two to three months; finally labor at eight months, three and a half years before the time of examination; the child was living. Menstruation had been irregular before the patient's marriage; after labor no menstruation for two years. Hemorrhage preceded all abortions and labor, and dyspnea and edema of legs were present in all pregnancies. The patient had had cough since marriage; sputum white; at times blood-streaked; for the previous four years cough only in winter. She was accustomed to take five cups of tea daily. At 12 years of age the patient had several frights; began to have choking feeling, then marked tremor; palpitation when excited; did not notice goiter until she was 15, though friends had observed thickness of neck for one or two years. At that time the patient had dyspnea, increasing weakness, and prominence of eyes. The symptoms were worst at the age of 17; six months later she was obliged to stop work, and was in hospital twice for three months. The patient was treated ten or twelve years with belladonna, digitalis, ergotin, quinin, iron, arsenic and bromids; improved at 24; was able to work later, but nervousness and tremor continued; she had been losing weight for years. From 12 to 26 years the patient had frequent stools soon after meals; no other symptoms. Beginning work in new place May 12, the patient became very nervous and had had repeated attacks of tachycardia, so severe as temporarily to prevent working.

Physical Examination.—The patient was poorly nourished and very nervous, with flushed face and slight bilateral exophthalmos. She had a marked tremor, especially of hands, so severe that she could not handle fluids without spilling them. There was general, soft, uniform enlargement of the thyroid, with overlying veins distended; the circumference of neck was 38 cm. The cardiac apex-beat was heaving, in the fifth intercostal space 9 cm. to the left of the median line; there was dulness to the third rib and to the median line; systolic murmur at apex transmitted slightly to left; from the second rib upward to and over the thyroid, there was blowing systolic murmur; loud venous hum over vessels of neck, especially during systole.

Treatment and Result.—Thyroidectin, gr. v, was given after food. May 17, the patient was less nervous; pulse, 96 to 100, regular; hemoglobin, 68 per cent. The patient was given ovoferrin after food. May 22, she had had epistaxis for one week at intervals; there was less tremor and nervousness; pulse, 96; circumference of neck, 37 cm. Thyroidectin was given, gr. x, after food, for four days, and patient thought improvement continued, but she was more nervous; pulse was 96 to 108; weight 91¾ pounds. Thyroidectin was discontinued; sodium bromid was given, gr. x, before food, and soon afterward, iron. July 12, the patient's weight was 99¾; hemoglobin 103 per cent.; there were no severe nervous attacks with tachycardia; otherwise the patient's condition was the same. After resting for two months patient returned to work, weighing 107 pounds, and attacks recurred. The left lobe of the thyroid, partially intrathoracic, was removed; four months later, the patient's weight was 115. The exophthalmos, nervousness and tremor gradually subsided. Jan. 17, 1910, there was still some nervousness, tremor and slight tachycardia when the patient was excited, but much less than before operation.

On account of the uniformly unfavorable results, thyroidectin was used in no further cases.

Before the introduction of thyroidectin, I had employed desiccated milk of the thyroidectomized cow and goat, each in one case. The histories are as follows:

CASE 6.—*History.*—A. A., a married woman aged 38, housewife, native of United States; entered Vanderbilt clinic Feb. 4, 1905. The family and previous history were negative in their bearing on present illness. Menstruation was normal. The patient was accustomed to take two cups of coffee and four of tea daily. In February, 1903, the patient noticed a swelling in the right side of the neck anteriorly; two or three months later she began to have constant palpitation, loss of weight, nervousness and enlargement of the remainder of thyroid; swelling increased gradually but steadily. The patient did not menstruate in July, August and September, 1903, but was regular following that time. The patient improved at intervals under treatment, but was not kept in bed at any time. After any excitement the patient had diurnal headaches, chiefly frontal and vertical. The patient had not noticed prominence of the eye-balls until told of it by her physician in May, 1903. Protrusion diminished slightly after that time. Dyspnea had occurred on exertion for the past year. There were slight dry cough and hoarseness since December, 1904. Chief complaints: nervousness, palpitation, headaches.

Physical Examination.—The patient's face was flushed. There was slight exophthalmos; von Graefe's sign was present; quivering eyelids. The whole thyroid, especially the right lobe, was enlarged; the circumference of the neck was 38 cm. There was a double murmur over the thyroid, especially at the sides; a constant bruit and thrill over jugular veins; loud systolic murmur over carotid and subclavian arteries. The cardiac apex-beat was in the fifth intercostal space 10 cm. to left of median line, heaving; there was an area of dulness to the third rib and to the left border of the sternum; and a systolic murmur over whole precordia; first sound reduplicated at the apex. There was marked tremor of the hands; varicose veins and slight edema of legs. The temperature was 98.4 F.; respiration, 28; pulse, 132. The patient's weight was 142.5 pounds. The specific gravity of the urine was 1.011; acid; no albumin.

Treatment and Result.—February 4 the patient was given tincture of digitalis and a mixture containing bromids with nux vomica. During the ensuing week the patient felt much better in every way; pulse fell to 108; weight increased two pounds. Four days later the patient reported severe palpitation and no decrease of nervousness; temperature 98.8 F.; pulse 108. She was given desiccated milk of thyroidectomized cow, gr. v, three times a day. March 2, temperature 99.2 F.; pulse 132. March 6, the patient reported constant palpitation and weakness; she said that the goiter seemed swollen every night; temperature 98 F.; pulse, 184. There was no change in nervousness, tremor or exophthalmos; circumference of the neck was 39 cm. A letter from her husband, dated March 23, forcibly reported apparent results of treatment. "My wife since she commence to take those capsules her heart was about to jump out of her body and I put a stop to her taking them. She will not call again upon you."

CASE 7.—*History.*—H. E., a married woman aged 42, housewife, Hungarian, entered Vanderbilt Clinic, March 11, 1905. The family and previous history were negative. The patient had one healthy child born twelve years previous to admission. A few weeks later the patient noticed a slight swelling in front of neck, which increased rapidly for one year; not subsequently. The patient was married a second time three years previous to admission; and after that had much domestic trouble and became very nervous. One and a half years prior to admission the patient began to have swelling of the right lobe of the thyroid, which increased gradually and was occasionally painful, especially at night. For the previous six or eight weeks, there had been rapid and exaggerated heart action; no exophthalmos or tremor. The patient would eat only at supper time on account of excitement, and drank six to eight cups of coffee daily.

Physical Examination.—There was no exophthalmos; cyst about 1¼ inches in diameter in isthmus of thyroid; right lobe similarly enlarged; no bruit over gland; circumference of the neck over the large cyst 38.5 cm. The cardiac apex-beat was in the fifth intercostal space, 11 cm. to left of median line; there was dulness to the third rib and to 0.5 cm. to left of left border of sternum; a faint systolic murmur at second right intercostal space. The pulse was regular. There was slight tremor of the hands. The temperature was 100 F.; respiration, 28; pulse, 96. Urine: specific gravity 1.018; acid; no albumin; microscopically negative.

Treatment and Results.—The patient was given extract of belladonna gr. ¼, every four hours, and a mixture containing bromids and nux vomica. The temperature was 98.8-99.6 F.; pulse, 92-120. April 1, there was no pain in the neck; otherwise the symptoms were the same; the circumference of the neck was 36.5 cm. April 4 there was increased palpitation and nervousness; the patient was given desiccated milk of thyroidectomized goats, gr. v, three times a day until May 18. Temperature was still 99-99.6 F.; pulse 96-112. April 20, there were less nervousness and palpitation. May 2, the patient felt much better; the cyst was less tense, but the circumference of the neck was unchanged. One week later the patient was still having palpitation but no nervousness, and had complained of pain in left side of the thyroid for two weeks. May 18, pulse 84. Desiccated milk was discontinued. May 23, there was no nervousness; less palpitation.

Summarizing the apparent results of treatment with thyroidectin without absolute rest in bed—apparent, because of the well-known variability of symptoms in exophthalmic goiter and the powerful effect on the nervous symptoms of suggestion of the potency of a new remedy—we find:

In Case 1, with treatment for two weeks with thyroidectin gr. v, three times a day, the nervousness diminished and tachycardia was less when the patient was recumbent; but there was no actual improvement save gain in weight. Headaches were present daily while the patient was taking thyroidectin; they ceased immediately when it was discontinued, except one day.

In Case 2, with the same dosage for nine weeks, with the exception of five days, the patient showed diminution of palpitation and nervousness at first. Subsequently all symptoms increased.

In Case 3, with the same dose for three weeks, there was slight general improvement, less than with rest in bed during the previous stay in the hospital; and no greater than change of habits and partial rest would account for.

In Case 4, the patient, treated fifty-seven days with gr. v, after food, and three days with gr. x, after food, showed very slight initial improvement, apparently a coincidence, or due to suggestion. The symptoms later became more marked under treatment; at times apparently exaggerated by thyroidectin, especially by dose of gr. x, after food.

In Case 5, treated seven days with gr. v, after food, and four days with gr. x, after food, the patient showed less nervousness and tremor during treatment. The symptoms were always greatly aggravated by any excitement. The patient was under great nervous strain when first seen. There was no real permanent improvement.

The patients had had symptoms for nine years, three years, three years, three months, and twenty-four years respectively, before thyroidectin was given. All the cases were of moderate or marked severity, except Case 3. Two showed severe cardiac lesions. Thyroidectin was given for from eleven to sixty-one days; dosage, gr. v to x, after food. Temporary improvement of symptoms was chiefly in tachycardia and tremor.

While none of these patients showed any real improvement excepting what would be amply accounted for by rest and regularity of habits, Patients 3, 4, and 5, if seen only during the early part of the treatment, might have been reported as improved. Their subsequent course suggests great caution in interpreting the reported 100 per cent. of improved cases.

The two patients treated with desiccated milk of thyroidectomized animals showed, in one instance, very marked aggravation of symptoms, especially tachycardia and weakness; in the other, nervousness disappeared, palpitation diminished, and the pulse-rate, previously 92-120, fell to 84-90. This case might have been considered improved, but regulation of excessive coffee drinking might largely account for this change.

My impression is that whatever improvement was noticed in any of these cases was due to rest, regulation of habits, and suggestion, or was a coincidence. The aggravation of symptoms may also have been a coincidence, but when it occurred it followed very closely the periods of administration of the drug.

SUMMARY

The few recorded results with thyroidectin in exophthalmic goiter are, on the one hand, improvement in 100 per cent. of thirty-six cases reported by three writers; on the other, one unfavorable report on twelve cases, one of negative results in a single case, and general condemnation, without details, by three observers. To these I add five cases, none of which gave results which were greater than the ordinary variation in symptoms in exophthalmic goiter under the influence of rest, suggestion, and regulation of habits, while in one case the remedy appeared to aggravate the symptoms. My two patients treated with desiccated milk of thyroidectomized animals showed extreme aggravation of symptoms in one case, apparently a direct result of the treatment, and in the other improvement, probably due to restriction of coffee. The results of treatment with thyroidectin seem far inferior to those secured by rest, symptomatic medical treatment, or partial thyroidectomy.

201 West Fifty-Fifth Street.

SUCCESSFUL REMOVAL OF BRAIN TUMORS

A CEREBELLAR TUMOR AND AN ENDOTHELIOMA OF THE PREFRONTAL DURA MATER

LEO NEWMARK, M.D.

WITH

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SAN FRANCISCO

The fortunate outcome in these cases of cerebellar tumor and endothelioma of the dura is offset by an unhappy termination of our endeavors in a considerable number of instances of intracranial growths. There have been records enough of others' failures, however, to console us, and enough of successes to encourage us to persevere. The following account may render at least the latter service to those who need it.

CASE 1 (By L. Newmark and H. B. A. Kugeler).—*Abstract.* Headache and vomiting began in November, 1908. In March, 1909, impairment of vision. In September, 1909, exploratory punctures and aspiration of (normal) substance from both cerebellar hemispheres. Escape of cerebrospinal fluid from puncture on the *right*. Subsidence of papillitis, and apparent good health for ten months. Then return of suffering; anesthesia in *right* trigeminal area. In November, 1910, removal of tumor from *left* cerebellar hemisphere.

Symptoms.—The patient was a girl 20 years old at the time of this report. In June, 1906, she is said to have vomited on three occasions, each time after supper, but without apparent cause. For six months thereafter the menses were suppressed. Otherwise she was quite well until November, 1908, when she began to have headaches and occasional vomiting on rising in the morning. At first the vomiting would occur about once a month, without relation to menstruation; after three or four months the intervals became shorter, until in the spring of 1909 they were reduced to two or three days. In March, 1909, her sight began to fail; she would be unable to read what she had produced on the typewriter. She held her head stiffly and inclined to the right, raising the right shoulder at the same time. We saw her together first on August 3, 1909, a few days after she had vomited so violently as to cause a severe gastric hemorrhage. The patient was cheerful and chatted volubly, and ordinarily did not give the impression of suffering. She said, however, that she always had more or less headache, "all over," but chiefly in the back of the head. We found papillitis in both eyes. Vision was considerably reduced in the right eye, but was quite good in the left. The eyeballs were both rather prominent. There was no nystagmus; nor was there any strabismus, although the patient mentioned frequently that she saw double, and once the diplopia continued all day. Dr. Adolph Rosenthal of the German Hospital, who examined her with us at the hospital, considered the diplopia to be due to incoordination of the ocular muscles. Inquiry elicited the statement that there was sometimes a numbness of the right half of the upper lip, but at this period we could not convince ourselves of any alteration of sensibility there (or anywhere else). The function of all the other cranial nerves was intact. When walking the patient now and then lurched very slightly to the left. During August, she would raise the right shoulder and incline the head slightly toward it on one day, and on another she might approximate the head and left shoulder. There was no incoordination of any kind in the upper or lower extremities. The tendon reflexes were all feeble at best; often the heel reflexes could not be elicited at all by any method; the knee-jerks were variable and required reinforcement, which would sometimes evoke both, and at other times only the left. The plantar reflexes were normal, the abdominal reflexes were absent on both sides. The pulse and the temperature were normal. The skull was not especially tender to pressure at any point, but the bone was perceived to be very thin and soft in the temporal regions, much more in the right than the left. *X*-ray plates seemed to confirm this impression; moreover, the sella turcica showed very faintly on them.

Deductions.—The papillitis, headache and vomiting were sufficient to prove the increase of intracranial pressure. The cause of this might be a tumor with or without hydrocephalus, or chronic hydrocephalus without a tumor. Lues was eliminated as far as possible. If a tumor was present the cerebellum seemed not unlikely to harbor it, for the manner of holding the head and the lurching, slight though it was, suggested that location, if they did not prove it. The fact that the headache was chiefly occipital seemed in some measure corroborative of this view. The absence of a disturbance of hearing excluded the cerebello-pontile angle from consideration; and the absence of nystagmus lessened the strength of our conviction that the tumor might be in the occipital fossa. On the one hand, there was a similarity to the symptoms of cerebellar disease; on the other, the absence of such frequent concomitants of cerebellar tumors as nystagmus and strabismus seemed to constitute a difference. This similarity with a difference induced us to regard a chronic hydrocephalus without tumor as not altogether improbable. The numbness of the right half of the upper lip, which the patient had mentioned only in response to an inquiry, could not weigh much in our balancing of the symptoms, because it was not present at this time.

Diagnosis.—As it was thought inadvisable to disregard the region where the atrophy of the bone was so conspicuous, a small incision was made, August 19, 1909, in front of the right ear. The bone was found to be as thin as paper. A slight slit was inadvertently made in the dura. Some of the subjacent brain substance was aspirated and examined under the microscope, and proved to be normal. A few days later 25 c.c. of cerebrospinal fluid were obtained from the right lateral ventricle through the same opening. It was reported to contain 0.2 per cent. of albumin and an excess of mononuclear leukocytes. We could not establish on this occasion that the ventricle was greatly dilated. On September 1 an incision was made on either side, midway between the external occipital protuberance and the apex of the mastoid process, and the bone opened with a small trephine. On the left side the same thinning of the occipital bone was found as in the right temporal region. On the right side the bone appeared normal. Substance was aspirated through each opening and submitted to Professor Ophüls, of Stanford University, who reported that "sections from both sides show cerebellum, no tumor." On the right side a hemorrhage occurred, so that the wound had to be packed with gauze. When two days later the gauze was loosened, there occurred a profuse flow of cerebrospinal fluid. The fluid continued to escape for ten days. The headaches, the vomiting and the pain in the eyeballs ceased and the patient was allowed to return to her home. When examined there a few weeks later the papillitis had disappeared, leaving the disks pale; the vision was 6/8 in the left eye and 6/10 in the right eye, as determined by Dr. Rosenthal. The patient took part in the work of the household and, although reported to be a trifle unsteady, with a little tendency to stagger now and then to the right, she was considered well until the end of July, 1910.

This subsidence of the symptoms after the discharge of cerebrospinal fluid had made us incline rather to the diagnosis of a chronic hydrocephalus without tumor. But the vomiting reappearing, occasionally at first with headaches, the patient was forced in August, 1910, to take to her bed again. She had to lie perfectly flat, as a pillow under her head would cause pain in the neck, occiput and eyes. At times there was tense bulging at the site of exploration in the right temporal and left occipital regions and well-marked fluctuation between the two on percussing the occipital area. September 23, 50 c.c. of cerebrospinal fluid were withdrawn from the right lateral ventricle through the temporal opening; vomiting and pain in the eyes immediately ensued and for three days there was a rise in temperature, the highest being 101 F. Occasionally some alleviation punctuated the patient's sufferings from vomiting and pain, so that she could be up and perform household duties. October 6 she was unconscious for fifteen minutes. November 23 we resumed our cooperation, one of us not having been able to see the patient for several months. The appearance of the disks, and the vision, had not changed during the year. Knee-jerks, ankle-jerks, and plantar reflexes were now all found to be perfectly normal. There was still neither nystagmus nor strabismus. The various tests for eliciting signs of disturbance of cerebellar coordination gave negative results. There was now a distinct diminution of tactile sensibility in the right half of the upper lip. This was said to vary: the patient said it was so marked at times that when she touched the right side of the upper lip with her finger and could not feel the lip she seemed to have lost her finger. This hypesthesia in the lip was most pronounced when the pain in the back of the head was most severe. The motor trigeminus was not affected. Deglutition was becoming difficult; the patient sometimes choked over her food. The pulse-rate was 120. There was no bulging through the opening in the skull at this examination. From November 25 to November 27 the patient could not swallow at all; a few drops of water were allowed to fall into her mouth from time to time. She was removed to the hospital, November 27 in the evening. The rate of the pulse was now between 130 and 140 and its beat was barely perceptible.

Further delay was evidently dangerous. It was therefore determined to examine the sites of the cerebellar punctures, one of which, by permitting the discharge of cerebrospinal fluid, had been so beneficial. It was hoped that this benefit might again be obtained by a repetition of the procedure and that the pressure on the medulla oblongata might be thereby relieved, thus permitting the patient to recover sufficiently to give an opportunity for a more extensive exploration of the cerebellum under less desperate conditions. The anesthesia in the distribution of the right trigeminus, as well as the

consequence of the former intervention on that side, invited to operation on that side first.

Operation.—Accordingly, a few hours after the patient entered the hospital an incision was made through the scar. The dura was very tense. Puncture of the cerebellum produced, after two fruitless attempts, rather more than an ounce of a clear, amber-colored fluid, the first portion of which, spurting under considerable pressure, was lost. The intradural pressure was plainly lessened by the evacuation of this fluid. Further punctures yielding no more, an incision was made following the scar over the left cerebellar hemisphere, and there was disclosed a purplish mass protruding through a small opening in the dura. It was very soft and vascular, but after some effort a firm hold was secured and it was extracted entire through the enlarged opening in the dura and the bone. After its removal normal cerebellum was in sight; it soon pulsated freely. The patient was pulseless when returned to bed, but before long she recovered and in a few hours was able to swallow with ease. Nothing occurred to interfere with her restoration to health. The anesthesia in the right trigeminal area has disappeared. The patient is now (February, 1911) attending to her domestic duties, besides being active in her father's business.

The tumor measured approximately 5.5 by 2.5 by 2 cm. Professor Ophüls reported that it was a glioma of the cerebellum. The fluid which was obtained from the right cerebellar hemisphere contained but little sediment, which consisted or red blood-corpuscles, some granular and a little crystalline blood-pigment.

The salient points in this case are as follows:

1. The therapeutic effect of puncture of the cerebellar hemisphere opposite to that which contained the tumor.

2. The failure of puncture and aspiration at the site of the tumor to reveal its presence.

3. The non-recurrence of papillitis when the other symptoms returned.

4. The atrophy of the skull, probably the effect of pressure.

5. The anesthesia in the face, which might well delude one as to the side of the tumor. Ziehen mentioned in a discussion[1] as very remarkable "a crossed trigeminus paralysis" in a case in which he had diagnosed a cerebellopontile tumor, which, however, was not found at the operation, and Oppenheim stated in the same discussion that he also had once seen a contralateral trigeminal paralysis.

CASE 2 (By L. Newmark; operation by Harry M. Sherman). —*Abstract.*—Intermittent headaches since 1906. Choked disks observed in November, 1907. Bilateral anosmia, pain in occiput and back of neck in March, 1908. In April, 1908, osteosarcoma on inner surface of trephine button removed from left prefrontal region. Permanent disappearance of headache and choked disks. December, 1910, removal of endothelioma of dura mater from same region.

It would seem in a sense to be an extreme mischance in localizing an intracranial tumor to discover it at last in the prefrontal region when it had been sought in the cerebellum. Yet such an error is not very uncommon, and in the course of the following notes it will appear how insistently at least subjective symptoms may direct one's attention to the back of the skull when the growth is situated in front. The tumor in our case was an endothelioma of the dura mater. Such a tumor is often a favorable object for surgery when it can be localized; but the diagnosis may be very difficult. Four cases observed by Nonne,[2] of Hamburg, illustrate this relation; in none of them was the tumor diagnosed, and in all it might have been removed with ease.

Symptoms.—The patient, a ruddy, robust Danish woman, aged 38, came under my observation at St. Mary's Hospital at the invitation of Dr. C. C. Mohun, March 23, 1908. Since "four weeks after the fire," that is, about May, 1906, she had been subject to paroxysms of headache, in the intervals between which she appeared to be well. The pain was formerly chiefly on the top, but of late commonly in the back of the head. Until the last attack of headache (which brought her to the hospital) the head would be drawn backward in the paroxysms and sometimes held retracted until the skin at the throat became sore from the stretching. The patient had had as many as three distinct attacks of headache in a single night, in which she would get on her knees and hold on to the upper part of the folding-bed, with her head drawn back. The head had remained thus retracted for a whole day at a time. In the attack, during which she entered St. Mary's, however, the head was inclined forward, so that the chin approached the chest, and in that position I found her, evidently in great pain, which, she said, she felt in the back of the head and neck, the back of the head being particularly painful on the left. The headaches often began with a "beating" in or behind the left ear. The patient had lost consciousness four or five times, not always, according to her husband, in a headache. There had been no convulsions. Ordinarily she did not vomit in the headaches, but during the last one she did, and, according to a witness, after the vomiting, a clear fluid "like water" came out of the nose drop by drop. Pain was felt often in the left eye, but not in the right. At times she would become blind for a moment. A few months before admission she could not see well after dark, so that after nightfall her husband had to lead her, but of late there had been an improvement in this respect. In November, 1907, Dr. James Franklin Smith had first observed choked disks.

Examination.—This disclosed bilateral anosmia. It was then elicited that the patient had observed the loss of the sense of smell several months before. Dr. Smith found no sign of a discharge of cerebrospinal fluid through the nose, such as the statement in the history suggested. The disks were both choked, the left a little more than the right. All the other cranial nerves were intact; all the reflexes and motor and sensory functions in the trunk and the extremities were normal. A tremor in the upper and lower extremities was noticeable. There was no exophthalmos, no strabismus, no real nystagmus, no cerebellar incoordination or staggering, no form of aphasia, nothing abnormal in the pulse or the temperature. Briefly, of the cranial nerves, only the first and second pairs supplied a clew; the functionally differentiated parts of the brain supplied none. The last assertion should perhaps be qualified; for the patient's husband declared that her character was changing. There was a sort of affected hilarity about her. I was furthermore struck by her indifference when I explained to her that an operation might be required to preserve her sight. The alleged change in her disposition and her inability to appreciate the gravity of her condition were taken into consideration later on weighing the arguments in favor of localizing the disease in the frontal lobe. Meanwhile, however, it was to the occiput that the patient's complaints drew our attention. By degrees, the severity of the paroxysm abating, the patient recovered from the prostrating headache with which she had entered the hospital, but still was cautious in moving her head until March 26. Then, although suffering no great discomfort in the daytime, she continued to have pain at night in the back of the head and neck, chiefly in the left half of the occiput. The pain was felt sometimes as far down as the upper dorsal region. The patient said that she could not lie on the left side on account of the tenderness in the back of the head on that side. The "beating" deep in the ear or behind it added to her distress; it was "like a clock." Tenderness to pressure was constant in the occiput on both sides, although it varied in degree on different days, and it was always greater on the left side than the right. Nowhere else in the skull was this tenderness found. The left frontal region was examined in this respect frequently and with special care. April 5, 1908, with the assistance of Dr. John Van Denburgh, the whole skull was percussed and auscultated, but no additional information was obtained. On the day before, the patient mentioned that she had had "little jerking movements of the head backward," and that she had felt them in the back of the head on the left side. April 5 I witnessed these movements, which were evidently due to short sharp clonic contractions of the muscles that retract the head. April 11 she vomited frequently, and it was

1. Neurol. Centralbl., 1907, p. 537.
2. Deutsch. Ztschr. f. Nervenheilk., xxxiii.

on April 13 that she felt the pain as far down as the upper dorsal region. She requested an operation, and April 15, when a hemorrhage appeared in the left disk, a sufficiently urgent reason was supplied to grant the request.

Diagnosis.—But where was the skull to be opened? The fundamental problem was the interpretation of the anosmia. This does not appear from the history to have been an early symptom, and it might have been caused by hydrocephalus, which in its turn might have been caused by a growth in the occipital fossa. Thus the combination of anosmia with tenderness and pain in the back of head and neck, and with spasms of the muscles that retract the head, would have been explained. The alternative was a direct pressure on the olfactory bulbs or nerves by a prefrontal tumor; but a single prefrontal tumor, unless it crossed the median line, would be expected to cause unilateral rather than total anosmia. There are abundant cases on record to show how fallacious tenderness of the occiput may be as a guide to diagnosis; yet the pain there, and the "beating" in the ear and the backward jerking of the head, were hard to disregard as indicative of the occipital position of the tumor. At length, however, the reflection that there was no impairment of the function of any organ lying within the occipital fossa determined the question in favor of the prefrontal region, in which judgment I was further confirmed by the reputed change in the woman's character. The subjective symptoms were allowed an influence on the decision as to which side of the skull concealed the tumor. The patient had finally called the left "the sick side:" the left disk was slightly more swollen than the right; so the left prefrontal region was chosen for the first exploration, despite the absence of aphasia in this right-handed person.

First Operation.—Accordingly, on April 16, 1908, Dr. T. E. Bailey trephined at a point about 4 cm. above the middle of the left supra-orbital ridge. The purpose was to probe the brain through the dura, and, if necessary, to aspirate particles of brain tissue for microscopic examination. From this point, furthermore, it would be feasible to tap the anterior horn of the lateral ventricle and to determine whether or not it was dilated. A puncture toward the base and median line was unproductive; a second, directed toward the occiput, encountered resistance at a distance of about 1⅛ inches; the instrument had entered something which seemed to be of the consistency of wood and a little force was required to disengage it. A week later a trephine was applied over the resistant substance, and when the disk was removed it was found that what the exploring instrument had encountered was a prominence on the inner surface of the bone, apparently an osteophyte, which had forced the subjacent dura rather deeply inward. The dura thus exposed was thickened. The opening in the skull was enlarged until normal dura was seen in all directions. The dura itself was not opened, as the removal of the projecting bone seemed sufficient to relieve the pressure on the brain. Dr. E. A. Victors was kind enough to prepare microscopic sections of the skull disk, and Professor Ophüls favored me later with the following report on the specimen:

Pathologic Report.—"Trephine button 22 mm. in diameter. Outer surface smooth, normal. On inner surface rough bony prominence forming a flat cone of 19 mm. base, projecting in the middle about 6 mm. On the rough surface there are small remnants of adhesions to the dura. The tumor evidently arises from the internal table and extends into the diploe for 3 to 4 mm. in an irregular fashion. The dividing line between tumor and diploe is rather indefinite. Section shows thick masses of lamellated, dense bone tissue with normal bone-cells. In the bony tissue there are large open spaces which, above toward the diploe, are filled with cellular bone-marrow, below in the tumor proper with a cellular tissue made up of large spindle-shaped cells with large vesicular nuclei and little intercellular tissue between them. Osteosarcoma of the skull."

Postoperative History.—A few days after the operation, having doubts as to the sufficiency of what had been done, I intimated to the patient that a second operation might be necessary, to which she replied that she felt very well and would assent to no such proposal. Indeed, she has never again suffered from the headaches and has no complaint about her eyesight. When she left the hospital just one month after the operation the swelling of the disks had become less by 3 diopters, and the beating in the left ear and the tenderness of the occiput had disappeared. Only the anosmia remained. In a few weeks more the swelling of the disks had completely disappeared; they were pale, but the patient was conscious of no defect in her vision. Through the opening in the skull, covered by the skin, a mass now protruded. The woman was very distrustful of her medical attendants, asserting that they wanted to experiment on her, and would not permit an examination of the protuberance on her forehead. No one could prevail on her to present herself again for inspection. The insensibility to the benefit she had received, and her perverseness toward those who offered to continue their efforts in her behalf, were declared by her husband to be foreign to her character. From the summer of 1908 until one day in June, 1910, when I journeyed to her home in the country to see her, she was lost to sight. On the day mentioned she was found to be in the enjoyment of good general health, but she complained that of late the swelling on the forehead had become tender. It seemed to be larger than it was two years before, occupied virtually the whole forehead, jutting over the eyebrow, and it pulsated like normal brain. At the edges of the opening in the skull the bone was tender when touched. The disks were still pale and clear. The sense of smell had not been regained. The patient's memory was stated by her husband, as well as herself, to have become very untrustworthy. The disfigurement by the swelling on the forehead was keenly felt; she was ashamed to go about and children ran from her in fright.

Cosmetic considerations, therefore, had their influence on the patient, and at length she entered the University of California Hospital, where, on Dec. 5, 1910, Dr. Harry M. Sherman removed a tumor which weighed 140 grams. This again was kindly examined by Dr. Ophüls, who reported as follows:

Pathologic Report.—Large nodular tumor about 8 cm. in diameter. The nodules on the surface are closely set, rather regular, from 3 to 5 mm. in diameter, large veins ramifying in the spaces between them. Sections show a thin superficial layer of ordinary fibrous tissue (probably the dura). The tumor consists of a thin framework of vascular fibrous tissue in which there are badly defined rounded spaces tightly packed with partly flat, partly fusiform cells, arranged more or less concentrically. No intercellular substance. These cells resemble those which were found in the medullary spaces of the piece of bone [i. e., the trephine button removed in 1908]. Alveolar sarcoma (endothelioma) of the dura mater.

As Nonne, in the article referred to above, calls the endothelioma of the dura mater benign, I questioned Professor Ophüls on the subject, and he replied: "These tumors are a sort of border-line affair of a very low degree of malignancy, if any. There are other types of sarcoma of the same class, such as the giant-celled sarcomata of the bones and others."

The defect in the patient's skull beginning 1 inch above the eyebrow, extends 3¼ inches backward from the eyebrow; laterally it extends from within half an inch of the median line to the level of the external canthus of the eye. The olfactory sense is not abolished; she can detect strong odors like that of lysol, but more delicate scents escape her. Her visual fields are about normal, according to Dr. Scott Franklin's tests, and her vision is a trifle less than 20/20 in each eye. Her memory is still considered by herself to be defective. Her conduct is certainly more amiable; but this may be due to the consciousness of an improvement in her appearance. Such was her condition on Feb. 7, 1911.

Dr. Sherman describes the surgical aspects of the foregoing case as follows:

Mrs. L. presented herself with a large tumor in the left frontal region. At its lower limit it lifted the eyebrow from the bone, at its upper it extended beneath the hair, and transversely it reached from the midline of the forehead outward as far as the external angular process of the frontal bone. Its general level was 2.5 to 3 cm. above the normal, and the skin covering it showed a broad stellate scar. The tumor pulsated, and it was not known whether it consisted of tumor tissue or was a cerebral hernia of the decompressive order. To determine this question, if it could be determined

before operation, a lumbar puncture was done. Only 6 c.c. of fluid were taken, under about normal pressure, but its loss gave the patient a severe headache and nausea and vomiting. The tumor seemed to be softer, but it was difficult to be certain about the change. All unpleasant symptoms lasted only a day or so. The operation planned was to be primarily exploratory, and secondarily curative, if possible, and an effort was to be made to get an improved cosmetic condition. In the hospital, where I kept the patient for a few days for observation, the nurses reported her as being cross, peevish and sometimes sullen.

Second Operation.—I circumscribed the tumor by a curved incision above it and turned down the skin flap, and this was not easy, for the deeper layers of the skin and the tumor were adherent closely, and the skin turned back was so thin, being only skin, that I feared for its vitality in the healing. This exposed the tumor, seen and recognized to be tumor tissue, and found to be growing from the margins of the opening in the skull made by Dr. Bailey at the first operation. Therefore, I circumscribed the tumor by a cut through the bone, really a slot started in a burr opening, and cut by a de Vilbiss forceps. This did not, however, cross below the tumor above the orbital margin, for there was no space, so here the tumor was separated from the bone and the latter trimmed down to sound tissue by rongeurs, making a skull opening 4 by 6 cm. The fingers then slipped in along the line of separation between the tumor and the dura mater, extradurally, to a depth surprising because it was unexpected. The tumor was easily drawn out; practically no hemorrhage followed; the cavity left would have readily contained a small fist. This cavity was lined below by the dura mater, which was pressed down into a huge hollow in the frontal lobe. Because of the size of the cavity I abandoned my plan of putting in a silver plate to represent the bone removed, and, because I could not believe it right to leave a vacant space in the cranium, nor yet to fill it with salt solution, I put in some gauze sponges, leading the strands of them out on the surface, and tacked the flap back in place with a few silkworm-gut sutures. The patient did well and the skin flap did not die. At a later time (eight or ten days) I reanesthetized the patient and removed the gauze tamponade and formally sutured the flap in place, draining the space underneath it by a single cigarette wick. Again I did not put in the silver plate, for I was not at all sure that it would not be necessary to remove more bone, and that is my feeling yet.

Following the last intervention there was normal healing and the patient left the hospital well, but with a depressed area, which pulsated, in the place of the tumor.

It was noted by the nurses in the ward that the preoperative surliness became a postoperative sunniness, and scowls and complaints changed to smiles and compliments—a complete dispositional reversal.

THE TREATMENT OF ACUTE GENERAL PERITONITIS

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In a discussion on the great advances in the science of medicine, a friend, a professor of pathology, said: "Yes, great advances are being made in pathology and bacteriology and by laboratory research, but the clinicians are making little headway; they are in much the same position they were a generation ago. What have the clinicians done, which will compare with the discovery of antitoxin and the prevention and cure of diphtheria by its use?" I challenged the statement at once.

I said: "I congratulate the research workers on the splendid work they have done and are doing, but when you assume that the laboratory research men are the only ones who are adding to the science of medicine, you simply show that your knowledge of medical progress is limited to your own field and that you do not realize the splendid scientific work being done by your clinical colleagues. What have the clinicians done which will compare in value with the discovery of the antitoxin for diphtheria? I will tell you. They have learned how to recognize general peritonitis, and they have learned how to treat it, so that the mortality, which a generation ago approached 90 per cent. or more, is reversed and we are now able, under favorable conditions in patients operated on early, to save almost 90 per cent., a showing which is quite comparable to the splendid achievements of the antitoxin of diphtheria."

I have been an interested spectator, and, to a limited extent, participant in this wonderful change. I can recall almost from memory most of the important milestones in the progress of events.

Mikulicz in 1880, in operating for the first time on a perforating stomach ulcer, in a way led to the modern surgical treatment of general perforative peritonitis. The value of this work was not at once recognized; in the next decade little was done in the way of operative treatment in cases of general peritonitis. As late as 1894 von Bergmann's assistant, Schlange, in Berlin, in discussing the subject said: "I want especially to emphasize the statement that laparotomy as a treatment of general suppurative peritonitis should be rejected." Beginning with about 1894 a good deal of active work was done in the operative treatment of peritonitis. Stühler of Strasburg (Strasburg Klinik) in 1890 collected reports of seventy-eight cases of drainage of the peritoneum in cases of peritonitis with fifty recoveries and twenty-eight deaths. Körte[1] in 1892 reported nineteen patients operated on for suppurative peritonitis with six recoveries and thirteen deaths. Between 1892 and 1897 a considerable advance was made, so that in 1897 Körte in a second article, which really lays down the foundation of our modern operative treatment, was able to present reports of 133 cases with fifty-one recoveries and eighty-two deaths, collected from Lennander, Rotter, Jalaguier, McBurney, Abbe and Richardson.

I was fortunate enough to be present at the Congress of American Physicians and Surgeons in Washington in 1897 when Senn, Abbe, McCosh, Fowler and Welch in a symposium on peritonitis brought the subject down to that date. In 1900 A. Tietze[2] reported the work from the Mikulicz clinic. He presented some interesting facts.

Mikulicz collected from the literature from 1885 to 1893 reports of thirty-five cases of general peritonitis with thirty-four deaths and one recovery, a mortality of 97 per cent.; from 1894 to 1896, sixty-eight cases with thirty-two recoveries and thirty-six deaths, a mortality of 52.94 per cent. He collected altogether reports of 231 cases with eighty-six recoveries and 145 deaths, a 37 per cent. mortality.

In 1903 Joseph A. Blake[3] reported the treatment of diffuse peritonitis by early incision, with removal of the focus of suppuration and stopping any further leak, lavage of the peritoneum and closure of the peritoneal cavity without drainage.

In 1904 George and Russell Fowler[4] reported 100 operations for general peritonitis in the previous three years with sixty-seven recoveries and thirty-three deaths. They emphasized the importance of the now well-known

1. Körte: Arch. f. klin. Chir. (Langenbeck's), 1892, xliv, 612.
2. Tietze, A.: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1900, v, 15.
3. Blake, Joseph A.: Ann. Surg., 1903, xxxviii, 265.
4. Fowler, G., and Fowler, R. W.: Medical News, May 28, 1904.

and widely adopted Fowler position in the after-treatment of these patients.

In 1905 Noetzel,[5] an assistant in Professor Rehn's clinic at Strasburg, published an article which brings the subject very close to its present stage of development. He advocates:

1. Careful and rapid operating.
2. Removal of the existing pus with irrigation.
3. The removal of the cause of the suppuration or closure of any existing leak.
4. Drainage.
5. Washing out of the stomach.
6. Rectal injections of normal salt solution.
7. Withholding of morphin when possible.

The treatment outlined by Noetzel, plus the Fowler position, gives us the modern treatment of peritonitis most generally adopted. About this same time Murphy formulated the method of treatment which is widely known by his name. To quote from LeConte,[6] the essentials of Murphy's technic may perhaps best be stated under six headings, viz:

1. The rapid elimination of the cause of the peritonitis.
2. Drainage by rubber tube of the lowest part of the pelvis.
3. Elimination of all time-consuming procedures at time of operation.
4. The Fowler position.
5. The absorption of large quantities of water by the rectum.
6. The prevention of peristaltic movements of the intestines by withholding of all food and liquids by mouth.

LeConte says: "While the procedures of Murphy do not present anything particularly new, he has assembled in his technic all of the good things to do, and has eliminated the unnecessary or harmful ones." There can be no doubt but that the enthusiastic advocacy of the scheme of treatment which Murphy has formulated, has accomplished a great deal of good.

To-day the discussion of the treatment of peritonitis might well be considered under four heads:

1. The saline cathartic treatment advocated by Tait, and especially by the gynecologists, which is really a treatment of value, not for peritonitis, but for one of the common results of peritonitis, i. e., paralytic ileus.
2. The rest and starvation treatment emphasized by Ochsner, which is of value, not in general peritonitis, but in local peritonitis to prevent its becoming general.
3. The operative treatment of Blake: rapid elimination of the cause of the suppuration, washing out of the peritoneal cavity with normal salt solution and closure without drainage, unless in the presence of gross lesions demanding it.
4. The operative treatment emphasized by Murphy: rapid removal of cause, drainage without washing out of the peritoneal cavity, and continuous irrigation by rectum with normal salt solution.

I hope to show that all of these methods have their value and that there is a fifth method, or combination of methods, the result of a better and simpler assembling of the various means at our command.

I. THE SALINE CATHARTIC TREATMENT FOR PERITONITIS

In what class of cases and under what circumstances is the saline cathartic treatment indicated? Patients die from peritonitis from three causes: 1. General sepsis with bacteremia. 2. From a sepsis due to absorption of toxins from the products of infection in the peritoneal cavity. 3. From absorption of toxins by the mucosa of the intestines from the decomposition which goes on in a paralyzed alimentary tract—intestinal toxemia.

In gynecologic work, in operations on the tubes and ovaries, Tait and other gynecologists found many cases in which, after the operation, the patient would become tympanitic, because of paralytic ileus, usually from a local pelvic peritonitis, often of not severe degree, and if let alone many of these patients died of paralytic ileus from absorption of the toxins developed within the paralyzed bowel. These men soon learned that if they could get the bowels to move, they would usually save their patients. This condition of paralytic ileus is a very common one, varying greatly in degree as to the severity of the symptoms from simple so-called gas pains to complete obstruction, and may complicate many lesions and operations involving the peritoneum. In the cases of paralytic ileus due to a local peritonitis, or a peritonitis of mild degree, like that associated often with a gonorrheal infection of the uterine appendages, the paralytic ileus with its accompanying danger of absorption of toxins from the bowel can often be controlled by saline cathartics, enemas and the use of agents such as strychnin to stimulate peristalsis. In these cases the saline cathartic treatment is often the most valuable treatment that can be employed. Not infrequently, too, in the post-operative care of general perforative peritonitis, as I shall attempt later to show, this cathartic treatment, to overcome paralytic ileus, may be indispensable. Of course, no one who understands the principles on which the treatment of peritonitis is based would for a moment consider the employment of the saline cathartic treatment in a case of perforative peritonitis before operation.

II. THE SO-CALLED REST AND STARVATION TREATMENT

This is the Ochsner method. This method has a rational scientific basis and is of great value in certain cases. It is, however, not properly understood, and is often improperly employed. What is the scientific basis for this method?

As Stokes and Sahli years ago pointed out, the inhibiting of peristalsis by the use of opium, the withholding of food and cathartics and the washing out of the stomach favor the localization and walling off of a suppurative focus in the abdomen, and there can be no doubt that a local peritonitis can often be kept a local process, and a general infection prevented, by this rest and starvation treatment.

The rest and starvation treatment is indicated: (1) in cases of acute abdominal lesions of uncertain diagnosis in which it is thought best to watch for a time their development; (2) in cases of local peritonitis in which for some reason operative interference is not indicated; (3) as I shall show, in the after-management of a case of peritonitis, in which operation has been done. It is, on the other hand, never indicated as the treatment of a patient with general perforative peritonitis.

III. THE OPERATIVE TREATMENT OF BLAKE

Blake has shown that in a large proportion of cases, if the perforation causing the peritonitis is properly closed, or the focus of infection causing the peritonitis is completely removed, and the noxious pus and toxins washed out of the peritoneal cavity with normal salt solution and the peritoneal cavity closed without drainage, the patient goes on to a recovery. This treatment

5. Noetzel: Beitr. z. klin. Chir. (Bruns'), 1905, xlvii, 241.
6. Le Conte: Ann. Surg., 1906, xliii, 231.

shows the great power possessed by the peritoneum of protecting itself against pus infections.

Dr. Blake has kindly given me the following outline of his management of cases of general peritonitis:

It is well to divide these cases into two classes for treatment: first, those in which the peritonitis is due to a dissemination of the infection from an infected organ, such as an appendicitis; and in the second group, those cases in which the peritonitis is due to a perforation or rupture of the alimentary canal.

The first class can be further subdivided into two classes: one in which there has been no localization of the infection and the process is evenly disseminated throughout the abdomen. In this class, when the cause of the peritonitis, as the appendix, for instance, has been removed, there is little or no difference in the appearance of the various portions of the peritoneum. In these cases I consider it unwise to attempt to drain the entire abdominal cavity, and simply put a drain through the wound in order to avoid mural abscess formation. Also, unless the exudate is very thick, I do not wash.

In the second group there has usually been pocketing and the formation of local abscesses lined more or less with necrotic fibrin. In these cases I wash out and drain the pockets. Inasmuch as the process has usually pocketed in the pelvis, the drains usually go to the bottom of the pelvis.

In the second class, namely, cases of peritonitis due to perforations, I uniformly wash the abdomen out in order to remove the material extravasated from the alimentary canal. In these cases I employ the same rule for drainage as in the cases proceeding from infected organs, that is, drain when there is necrotic material remaining in the abdomen; otherwise, no drains.

To resume: My treatment is practically the same as that I advocated in Chicago in 1908, with the exception that I do not wash quite as much. For instance, patients with only a seropurulent exudate are not washed at all; neither are they drained:

My rules for employment of drains are as follows:

1. Never use drains unless there is dead material which will remain as a nucleus for continued infection.
2. When it is necessary to drain, use a large and competent drain. For this purpose I use a double rubber drainage tube, one limb of which is fenestrated, and through this limb a wick of gauze is passed for capillary drainage.
3. Drains, when used, should be left in until all necrotic material has escaped, when they can be rapidly removed.

I have given up the use of cigarette drains, considering them inefficient and therefore useless. A short rule I sometimes use is, drain when you have to drain; otherwise don't drain at all.

IV. MURPHY METHOD

The Murphy scheme of management is the one most widely employed in this country at present. Murphy emphasizes the importance of tubular drainage; strongly condemns irrigation of the peritoneal cavity; insists on continuous irrigation with normal salt solution by rectum, and employs the extreme Fowler position, having the patient sit up in bed. The remarkable results which Murphy has obtained by his method certainly furnish a very strong argument and constitute certainly one of the reasons for its extensive adoption. I do not think that it is well to be guided entirely by statistics in a matter of this kind, however, and the results of his early work—twenty-nine cases of general peritonitis with but one death—is probably the accidental grouping of a large number of favorable cases which will probably not soon be repeated.

My own conclusion after studying this matter with a good deal of care is that these four methods—the saline cathartic method of Tait, the rest and starvation method of Ochsner, the Blake scheme and the Murphy scheme—all have definite elements of value and fields of usefulness. On the other hand, the value and importance of these methods have often been much exaggerated by their partisan advocates, and the real value of other schemes belittled to the disadvantage of their patients.

In the light of the evidence now before us, what should be our scheme of management of cases of general peritonitis?

DIAGNOSIS

Diagnosis must be made early, within the first few hours, certainly within the first twelve, if we are to hope for much from surgical interference. This diagnosis must be made early from a few data: pain, tenderness, muscular rigidity. We cannot afford to wait for a high leukocyte count, for a marked increase in temperature, for a tympanitic abdomen and the thready pulse and dusky face of dying peritonitis. This is true especially of perforative peritonitis from the alimentary canal. Take a case of typhoid fever with perforation. If the patient is to be saved, operation must be performed because he has pain, tenderness and a rigid belly. One must not wait for the tympany and thready pulse, which are really not signs of disease, but signs of death. This sort of procrastination reminds me of the medical men who bring me cases of carcinoma of the breast, which they have watched for months patiently to see the case develop glands in the axilla, a retracted nipple and evidence of cachexia, before making up their minds as to the diagnosis of malignancy.

SURGICAL MANAGEMENT

In discussing the modern surgical treatment of peritonitis and attempting to estimate its value, we must assume that we have made a moderately early diagnosis and that the surgical interference is undertaken within a reasonable period after the onset of the peritonitis. I have frequently been called to operate in neglected cases, in which the patient was blown up like a barrel, with pinched face, cold extremities and without a radial pulse. I believe in giving a patient with peritonitis the benefits of an operation, if there is the least possible chance; on the other hand, it is a mistake to operate on patients who are evidently *in extremis*. The most important function for us to perform, in the propaganda for better medical management of peritonitis, is to teach the importance of early diagnosis.

What shall be the scheme of surgical management? I should like to discuss this under several heads, viz: (1) anesthesia; (2) incision; (3) proper surgical disposal of the perforation or focus of infection; (4) testing the peritoneal cavity to determine whether the peritonitis is local or general; (5) when there is free pus or noxious material in the general cavity, its removal by irrigation with normal salt solution; (6) drainage; (7) surgical dressing; (8) after-treatment—the modified Fowler position; (9) intermittent salt solution per rectum; (10) washing out the stomach; (11) question of medication, morphin and strychnin; (12) water and food by stomach; (13) paralytic ileus and the saline cathartic treatment.

1. *Anesthesia.*—The normal anesthetic in these cases is drop-ether, properly given. In cases in which the patient is in very bad condition, nitrous oxid gas should be employed, unless there is a heart lesion, and then ether is safer.

2. *Incision.*—The first incision should be made over the suspected focus. As a muscle-splitting incision for an appendix case, or a median line incision above the umbilicus for a stomach or duodenal case.

3. *Perforation.*—The perforation or leak must be so handled as absolutely to prevent any further leakage. I would be very insistent on this point. I have too often seen cases in which the peritoneal cavity was simply opened and drained without closing the leak permanently, and in which the patient was almost certainly lost because the leak continued. The teaching that if it is difficult and time-consuming, the leak should not be sought for and closed, is bad teaching. I should say that it is so important for the safety of our patient to close every leak or perforation of the alimentary canal causing peritonitis—that a most thorough closure should be obtained even at the cost of some risk and time. It is only in extremely difficult cases, with patients in such bad condition that they will evidently stand nothing in the way of operative interference, except an incision and the introduction of a drain, that we should make an exception to the rule. In cases of peritonitis from suppurative foci, other than the alimentary canal, as the uterine appendages, it is desirable to remove the focus entire, if the condition of the patient permits; if the patient's condition is bad, we can trust to drainage alone with somewhat better chances than in the cases with alimentary canal perforations.

4. *Testing the Peritoneal Cavity to Determine Whether the Peritonitis is Local or General.*—This, to my mind, is one of the most important and interesting developments in the modern technic. As an illustration let me cite two cases of appendicitis.

CASE 1.—A young man of 20 was brought into the hospital with the diagnosis of appendicitis. He had been ill several days; from the history, a perforation had occurred a few hours before. I operated at once and found a perforated appendix with free pus about it. This was removed and the stump invaginated into the cecum. I then took a female glass catheter and tested the abdominal cavity. I placed my thumb over the open end, introduced the point into the cul-de-sac, removed my thumb for an instant and then replaced it and withdrew the catheter, employing it in much the same way that one does a glass pipette in picking up urine from a bottle. As I withdrew the catheter I found the lower 5 or 6 inches full of creamy pus. I then knew that I had a free general peritonitis to deal with and handled it accordingly.

CASE 2.—A boy of 10 gave much the same history. I operated on him in the same way, and when I tested his cul-de-sac found nothing in the catheter except a small amount of clear peritoneal fluid, and I therefore handled this case as one which was still limited to the region about the cecum although the pus was free in that part of the peritoneal cavity.

5. *Pus in the General Peritoneal Cavity.*—When there is free pus or other noxious material widely disseminated in the peritoneal cavity, I believe that it should be removed by irrigation. No one would doubt the advisability of washing beer and sauer-kraut and wiener-wurst out of the peritoneal cavity, in a case of perforating ulcer of the stomach; why should we not do the same for fecal pus or any pus?

When I have tested the peritoneal cavity with a glass catheter in the way I have described and found free pus, I then make a small buttonhole counter-opening in the median line just above the symphysis; through this a large glass tube is carried to the bottom of the cul-de-sac; then through the main incision, whether for appendix or stomach, another similar tube is carried to the seat of the perforation or focus, and this is attached by a rubber tube to an irrigator filled with normal salt solution at 112 F. and the peritoneal cavity is flushed out with several quarts of this irrigating fluid, until the fluid comes out perfectly clear. Practically no time is lost in this part of the operation as we are closing the main incision while the water is running.

6. *Drainage.*—Rubber tubes should never be used in these cases for drainage, at least unprotected rubber tubes. Cigarette drains are much to be preferred. A long cigarette drain made of a small rubber tube about as large as a No. 10 or 12 catheter, about which gauze and gutta-percha tissue is wrapped, until it is the diameter of a lead pencil or little finger, is carried through the small buttonhole in the median line to the bottom of the cul-de-sac. Similar drains are carried to the point of closure of the perforation or removal of the inflammatory focus and the rest of the main wound is closed.

6. *Dressing.*—The surgical dressing should be a copious, moist, not wet, dressing of hot boric solution. A moist dressing picks up the discharge better than a dry dressing. These dressings should be changed every six to twelve hours, as demanded by the amount of discharge—usually twelve hours is often enough—sometimes twenty-four.

8. *Position.*—The Fowler position is of much value for these patients, but unfortunately an exaggerated position has often been insisted on to the great discomfort and disadvantage of the patient. I am sure that we have obtained all the possible benefits of the position by allowing the patient to lie flat in bed and elevating the head of the bed from 18 to 20 inches on two chairs. In order to prevent the patient from sliding down in bed a bolster is placed below the buttocks and held fixed to the head of the bed by strips of roller bandage. I should like to emphasize the importance of this method of using the Fowler position. I have seen patients positively tortured by being compelled to sit up in bed because the attending surgeon has been led to believe that this position was indispensable to the modern method of treating peritonitis.

9. *Saline.*—I think that we are all agreed that furnishing these patients with a large amount of fluid by the bowel is one of the important factors in securing for us our improved results. This matter has, however, been greatly overdone. Continuous irrigation by complicated apparatus is often insisted on, much to the unnecessary discomfort of the patient. The presence of a tube constantly in the rectum is annoying. What we desire to accomplish is to furnish the patient a large amount of water so that the kidneys can act well and excrete the toxins, and so that the system will have enough fluids for the comfort of the patient. This can be done by interrupted rectal irrigation with much greater comfort to the patient and with all the benefits that can be obtained from the continuous irrigation. The continuous irrigation, if pushed, may be a positive danger, sometimes producing edema of the lungs and of the extremities. The rule is to give from 6 to 16 ounces of normal salt solution every two to four hours, to be retained, and a cleansing enema once or twice a day.

10. *Stomach Washing.*—If the patient vomits repeatedly, the stomach should be washed out. I do not believe, however, in making gastric lavage the rule. If the vomiting persists, the lavage should be repeated. Great care should be taken to prevent, if possible, the development of acute dilatation of the stomach, a condition very similar to paralytic ileus. If the patient does not vomit, or if the vomiting is slight and soon ceases, the patient should be given water by the mouth, at first in small amounts, and as the conditions improve this can be increased with a corresponding decrease in

the amount given per rectum. If at the end of twenty-four hours after the operation the general condition is good, milk and vichy in small amounts—an ounce each—every hour, can be begun.

11. *The Question of Medication.*—Morphin should as a rule be withheld; and still, in a large minority of cases, when the pain and restlessness are great, it is often of great benefit, giving the patient sleep, better respiratory action and increasing his chances of recovery.

12. *Ileus.*—Paralytic ileus is sometimes a serious or even fatal complication. It is here that proper early use of saline cathartics has been of value. Most patients have more or less gas pains. These should be handled by stimulating injections given low in the rectum; I usually use magnesium sulphate and glycerin and water in equal parts. Where the distention is considerable and persistent, saline cathartics in small repeated doses, with stimulating enemas and strychnin in moderate doses, should be employed. In a few cases secondary operations for localized abscesses will be necessary, and in a few cases in which the ileus persists enterotomy will be required.

I have found that one of the most valuable means of combating paralytic ileus is castor oil in small and repeated doses. I usually give a teaspoonful every hour until peristalsis, with expulsion of gas and feces, is secured.

I believe that following out this general scheme, we can, in cases early diagnosed and early operated on, succeed in saving a very large percentage of our cases of general peritonitis. And when our laboratory colleagues ask us what clinical surgery has done, we can tell them that for one thing it has solved the problem of peritonitis; that under favorable conditions it can save 90 per cent. of these patients who but a few years ago were almost certainly doomed to die.

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RECONSTRUCTIVE ENDO-ANEURYSMORRHAPHY: A CASE REPORT

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History.—O. K., a prisoner in the Zone penitentiary at Culebra, Canal Zone, a Jamaican negro, aged 27, presented a history of syphilis from 1903, the only evidences of which to be noted at the time of examination were a moderate general lymphadenitis and slight arteriosclerosis. This man received a gunshot wound of the right leg on the night of Dec. 31, 1909, while attempting burglary. The missile, a 38-caliber revolver ball, entering 2½ inches above, and on a plane ½ inch posterior to, the upper extremity of the fibula, in the erect position, direction inward, and slightly forward and downward, becoming imbedded in the internal condyle of the femur. The patient was admitted Jan. 1, 1910, to Culebra Hospital. The wound healed without suppuration and the patient was discharged from hospital Jan. 25, 1910. He worked in the chain-gang building roads until Aug. 13, 1910, when he was readmitted to the hospital. He stated that during April he noticed a slight swelling in the popliteal space, which very gradually increased in size, and that later he began to have some pain back of his knee, which came on at intervals; that these attacks of pain later increased in frequency and severity until on admission the pain was constant. There was also, at this time, considerable swelling of the leg, due to pressure of the tumor on the popliteal veins. Examination showed an expansile tumor, a bruit and all the classical signs of aneurysm. The patient was put to bed with the knee slightly flexed and elevated, and was kept there until September 15. The rest and posture relieved the pain and swelling of the leg somewhat, but the aneurysm increased perceptibly in size during the month he was at rest.

Operation.—Sept. 15, 1910: A tourniquet on the thigh made the operation practically bloodless. When the aneurysm was opened much lamellated fibrin was found; this was removed and the sac washed out and found to be about 4 by 2¾ by 2 inches in size. The arterial openings, i. e., the point of entrance of the popliteal artery into the sac and its point of exit from the sac, were about an inch and a quarter apart. As regards classification, the aneurysm should probably be considered as of the spherical type, from its evident mode of origin and from its shape. At the same time it partook of the character of a fusiform aneurysm, in that the arterial openings were an inch and a quarter apart, and that there was no groove or furrow between these openings to mark definitely the anterior wall of the artery. The character of the sac walls differed very much in different areas. The anterior wall of the sac, between the arterial openings and for some distance on all sides of this point, seemed firm, elastic and resistant, while from this area it gradually thinned out until the posterior wall of the sac was as thin as tissue-paper. A point of particular interest in this case was the presence of a second sac or diverticulum opening off the main sac cavity on its anterior surface at a point ¼ inch below the proximal arterial opening and on a line between the two arterial openings. Or, it might be said that this second sac opened off the anterior wall of the artery, except for the fact that the artery was so flattened out and obliterated that it seems simpler to call it the anterior wall of the sac. This diverticulum was an aneurysm of true spherical type, about ¾ inch in diameter, its opening into the large sac being about ⅓ inch across. It contained no clot or fibrin and its walls seemed firm and elastic, and lined with arterial intima over its whole extent. It was wiped out firmly with a pledget of gauze with the idea of encouraging the deposition of fibrin within the sac, and in the subsequent proceedings its presence was disregarded. The two arterial openings were on the same level, were easily accessible at the bottom of the field of operation, and, in the belief that there was enough firm sac wall available, the artery was reconstructed. For this purpose interrupted sutures of fine chromic gut were used, placed about $^{3}/_{16}$ inch apart, using very fine, full-curved round intestinal needles. After reconstruction of the artery the sac was obliterated by layer on layer of continuous plain catgut sutures, following Matas' second method of closure, leaving the sac buried in the wound without inversion of the skin-flaps, and without drainage. After the second row of continuous sutures was in place the tourniquet was removed. Slight oozing of bright red blood showed immediately in the suture line, but it soon stopped and the operation was completed and the leg dressed on a straight posterior splint. There was immediate restoration of circulation to the leg. pulsation being felt in the posterior tibial and dorsalis pedis arteries.

Postoperative History.—From the time of the operation on there was never any difference in temperature or sensation between the foot and leg of the operated side and that of the sound side. The skin sutures of silkworm gut were removed on the twelfth day. The patient was kept in bed with leg on a posterior splint for three weeks, when he was allowed up, with a posterior molded felt splint in place for another week to prevent his flexing the leg. He was discharged from hospital October 16 and returned to work in the road-building gang at once. The man was seen repeatedly after he left the hospital by me, the last time on Feb. 19, 1911, and he stated that the leg had given him no trouble, and he had worked every day since he left the hospital.

October 14, two days before the man went out of hospital, and twenty-nine days after the operation, his leg was examined carefully in regard to its circulation, and it was found that the pulsation could be felt as readily in both the posterior tibial and the dorsalis pedis in the right (operated) leg, as in the left; at least, if there was any difference in the strength of impulse in

the two sides it could not be made out by palpation. (We did not test the blood-pressure otherwise.) No impulse could be felt in the reconstructed portion of the popliteal, owing to scar tissue.

Professor Matas[1] brings up the question as to the continued competence of the reconstructed portion of the artery, and in order to decide the point, if possible, the man was reexamined again Feb. 19, 1911. He was very muscular and quite fleshy. Impulse in the popliteal at the seat of operation could not be made out. The posterior tibial and dorsalis pedis could be made out only with considerable difficulty on the right side, while they were distinctly palpable on the left, the impulse even being visible in the left dorsalis pedis.

Now to determine whether the stream causing the faint impulse really came through the reconstructed artery, an assistant made digital pressure over it while the branches were palpated and it was found that as long as the pressure over the popliteal continued there was no impulse in the branches, but that pulsation immediately returned when the pressure was discontinued, proving that the lumen of the reconstructed artery, while it has become considerably narrowed, still carries part of the blood-supply to the foot and leg.

This observation would seem to bear out the contention that in these cases of reconstruction in which there is permanent recovery, the reconstructed portion of the artery becomes obliterated ultimately, remaining patulous long enough, however, to carry on the circulation until the collaterals develop.

Regarding the second aneurysmal sac, which was left as a spherical aneurysm on the anterior wall of the reconstructed portion of the popliteal, I had serious misgivings at the time as to the wisdom of the treatment of it, and that was the reason for keeping the parts at rest for so long after the operation. However, its walls seemed to be about as firm as the material from which the artery was reconstructed and it impinged on the solid structures at the back of the knee, giving it support, and there were hopes that it might be obliterated, which, in the light of the last examination, seems to have been its fate.

The above is offered for what it is worth as an argument in favor of the reconstructive operation. The conditions presenting in this case certainly cannot be considered to have been ideal for this operation, yet the results have been all one could wish.

1. Private communication in reference to the case reported.

A SIMPLIFIED METHOD OF STAINING BACTERIA, CAPSULATED BACTERIA IN BODY FLUIDS, AND PREPARATIONS FOR OPSONIC COUNTS

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For over four years I have used with great satisfaction the following method for the staining of bacteria and body fluids in place of Löffler's methylen-blue, in the staining of preparations for the opsonic count instead of Leishman's or Wright's blood-stain, and in the staining of capsulated bacteria. I describe it here in the belief that it may be of help to clinicians as well as to laboratory workers.

PREPARATION OF STAINING SOLUTIONS

The preparation of this stain requires no saturated alcoholic solutions, nor the troublesome "1 to 10,000" aqueous solution of caustic potash necessary in the preparation of Löffler's methylen-blue solution. It is easily prepared in a few minutes by any physician or druggist and keeps indefinitely. The addition of a few crystals of sodium carbonate may be necessary from time to time to counteract the acidity of the corrosive sublimate which is used as a fixative.

1. Saturated aqueous solution of corrosive sublimate (to be used as a fixative).

2. Aqueous methylen-blue solution prepared as follows:

℞.	gm. or c.c.
Methylen-blue ("medicinally pure")	1
Sodium carbonate, U. S. P., cryst.	1
Water	100

The dye and the sodium carbonate are thoroughly dissolved in the 100 c.c. of water by shaking. If not thoroughly dissolved there may be a precipitate on staining.

These solutions are best kept in bottles wide-mouthed enough to allow the passage of slides or cover-glasses and stoppered with corks or glass stoppers.

METHOD OF STAINING

Staining of Single Preparations.—The smear is made on a slide or cover-glass and allowed to dry in the air:

1. Fix (by immersing the preparation in the saturated corrosive sublimate solution for from ten to twenty seconds).

2. Wash in running water.

3. Stain with the methylen-blue solution described above, by immersing the smear in the staining solution for from five to thirty seconds.

4. Wash thoroughly in running water and dry between layers of filter-paper; mount and examine in the ordinary way.

Staining of Several Preparations at One Time.—In the laboratory where it is necessary to stain many preparations the following method is recommended:

The smears are made on slides, are labeled with a blue glass pencil (A. W. Faber) and dropped in a glass slide box.

1. Fix by pouring the saturated corrosive sublimate over the slides, filling the glass slide box with it, and allowing it to act for from ten to twenty seconds.

2. Pour off the corrosive sublimate (back into the bottle).

3. Wash thoroughly in running water, holding the slides in the box by placing the fingers over the top of the box.

4. Stain with the methylen-blue solution[1] (described above) for from five to thirty seconds, by pouring the solution over the slides, filling the slide box with it.

5. Pour off the methylen-blue solution (back into the bottle).

6. Wash thoroughly in running water.

7. Dry between layers of filter-paper, and examine in the ordinary way.

Staining of Preparation for the Opsonic Count of Bacteria Other Than Tubercle Bacilli.—The method just described for staining several preparations at one time I have used since August, 1906, in staining prepa-

1. In the staining of capsulated bacteria constant good results are obtained when the preparations are overstained, that is, allowed to remain in the stain for from five to ten minutes instead of from five to thirty seconds, and are not so thoroughly washed in water.

rations for the opsonic count of bacteria, other than tubercle bacilli, in place of Leishman's or Wright's blood-stain. It has given great satisfaction from the standpoint of results, economy, and saving of time. The great number of slides I had to stain daily for the opsonic count formerly meant the spending of hours in staining alone, while with this method it is now a question of minutes. A large amount of staining fluid is consumed when the "blood-stain" is used, because when once applied it cannot be used over again, while this methylen-blue solution can be used over and over again indefinitely; the economy is obvious. As to results, the staining of leukocytic granules (basophilic) with any of the standard blood-stains interferes with the rapid counting of the bacteria, while with this stain the protoplasm is pale blue, granules are not stained at all, and the bacteria and nuclei are stained deep blue. Hence the counting is rapid and without errors. This method, then, gives brilliant results, is economical, and saves a great deal of time.

Method of Staining Capsulated Bacteria.—Thin preparations are made from body fluids (saliva, pus, exudates, etc.), are fixed, and stained by either of the two methods described, for single preparations or for staining several preparations.[1] The capsules show up invariably very distinctly. They are stained pale blue, while the bacteria are stained deep blue. Good results have been obtained, not only in smears from body fluids, but also in smears made from cultures (especially from the water of condensation) of the *Bacillus mucosus capsulatus*, the *Streptococcus mucosus capsulatus* and the pneumococcus. The advantages of this method of staining capsulated bacteria as compared with any other method I know of are obvious and need no further comment.

GENERAL APPLICATION AND RESULTS

This stain can be used in every case in which Löffler's methylen-blue would be used. It has all the advantages of the latter minus the disadvantage due to heat fixation. Thus, in smears of pus or body fluids, the protoplasm of the individual pus cell is stained light blue and its outline is definitely made out. Intracellular organisms (gonococci, meningococci, etc.) are seen within the protoplasm and not in a blank space around the nuclei of the pus cell, as is the case with Löffler's stain.

Its use in the staining of blood-smears for the opsonic or phagocytic count has given me more satisfactory results, is more economical, and takes considerably less time than any other stain (or blood-stain) recommended for this purpose.

Its use as a stain for capsulated bacteria, the ease with which it can be applied generally, and the more constant results obtained with it, will make this stain, it is hoped, a useful addendum to the present standard laboratory stains.

Finally, because of the ease with which this staining solution is prepared, the cleanliness with which it can be handled, and its advantage of requiring no Bunsen burner or flame of any sort, it is hoped that this method of staining will be of help to the clinical man in keeping up bacteriologic examinations in his office in the routine of his daily practice, without having to resort to a fully equipped laboratory for that purpose.

483 Beacon Street.

REPORT OF A CASE OF STERILITY IN THE AGED CURED BY THE USE OF THE WYLIE DRAIN*

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PHILADELPHIA

History.—Mrs. J. S., aged 50, white, negative family history, had the usual diseases of childhood. With the exception of typhoid fever, eighteen years ago, she has never had a serious illness. The onset of menstruation occurred at 13. For the first six or nine months the flow was somewhat irregular and scant. After the first year it has been regular, about every twenty-eight days, although variations of three or even five days are not unusual. Bleeding usually lasted for four days, the last twenty-four hours being rather scant; the amount is about normal, the patient requiring seven or eight napkins daily for the first three days. Menstruation is of the same character now as it was ten years ago; there are no symptoms of the menopause. The patient usually has a slight feeling of weight and discomfort in the lower abdomen for the first day of the period; she has never had severe dysmenorrhea. Leukorrhea has never been profuse or pathologic. The patient usually has a slight, whitish discharge for a few days following the cessation of menstruation. The patient was first married when she was 22. When she was 31, her husband died of pneumonia; until a few months prior to his death, he was a strong healthy man. Five years later, or when the patient was 36, she married a second time. She has never been pregnant although she has always desired children, and has never adopted any means to prevent conception. Her chief complaint is of sterility. The patient has no subjective symptoms, and, in fact, first visited me to inquire concerning her sister on whom an operation for laceration of the cervix and perineum had been performed; at this time she lamented the fact that she was sterile. On inquiry it was learned that during the life of her first husband, a dilatation and curettage had been performed with the hope that this might result in widening the cervical canal so that pregnancy could take place. Dilatation without curettage was performed four years after her second marriage.

Examination.—The patient is a rather large, plethoric woman weighing 150 pounds. She is distinctly well preserved and gives the impression of being at least five years younger than she is. The bowels are regular; the heart and lungs are normal; the urine is negative. She occasionally has slight occipital headaches, not infrequently just before the menstrual periods; these, however, are never severe. Abdominal examination was negative. Pelvic examination showed that the outlet was nulliparous; the vagina was rather deep, and the anterior and posterior walls were in apposition. The cervix was normal in its transverse diameter, but was longer than usual and extended for at least one and one-half inches into the vagina. The external os was small although far from being of the pinpoint variety so frequently seen in young women. No evidence of infection was present in any part of the genital tract. The cervix pointed at right angles to the axis of the vagina. The uterus was normal in size, shape and consistency; it was in anteposition and movable. The ovary on the left side could be felt as an almond-shaped body, if anything rather larger than normal. It was movable and slipped easily between the fingers. The ovary on the right side was not palpated. No induration or other evidence of intraperitoneal inflammation was present.

Prognosis.—Taking into consideration, the fact that the patient had already had two dilatations performed for sterility, both at a period of life when conception was more likely to result than at her present age, a very guarded prognosis was given regarding the probability of pregnancy ever taking place. There was no history pointing toward sterility in the husband. After the couple had consulted for a few days they decided to have an operation performed.

Operation.—This was performed ten days before an expected menstrual period under ether anesthesia. The examination at

*Read before the Philadelphia Obstetrical Society, Feb. 2, 1911.

this time confirmed the previous negative pathologic findings of the former examination. The right ovary could now be easily felt and was normal. After the ordinary antiseptic precaution, the cervix was widely dilated and kept on stretch for ten minutes. The uterine cavity was then explored; no curettage was performed. A rather thick Wylie drain[1] was inserted and the vagina lightly packed with gauze to keep the drain in position.

Postoperative History.—The vaginal gauze was removed in twelve hours. The menstrual period which was due ten days after the operation was delayed for five days; the patient was kept in bed until this had passed. The Wylie drain was allowed to remain in place for four weeks, during which time the patient was kept under observation. The next menstrual period, which was expected a little less than a week after the removal of the Wylie drain, never appeared, and a month or six weeks later, a positive diagnosis of pregnancy was possible. Pregnancy and labor were normal, the child's position being L. O. A. Labor lasted about sixteen hours, pains being severe during the last five hours. The perineum was torn in the median line for a depth of about 0.5 to 0.75 inch; this was repaired. The child weighed eight pounds. The puerperium was normal. Mother and child have done well.

The interesting points of this case seem to be the advanced age of the patient. It should, however, be borne in mind that she was a strong, healthy, well-preserved woman and that no symptoms of the menopause had appeared. Regular menstruation is not unusual until forty-eight or fifty as I have shown in a previous paper[2] in an analysis of 200 normal cases. In this study it was found that the average age at which the menopause appeared in this country was between 48 and 49, and that 21 per cent. of women menstruate until 50. Since the joint report of Dr. Barnard and myself[3] before the Philadelphia Obstetrical Society early in 1910, of a series of fourteen previously sterile women, in which five, or 35.71 per cent., became pregnant within one year following operation, I have had two additional cases, both occurring in women who had been married for two years and both of whom were desirous of children. In one, the patient became pregnant two months after the insertion of the Wylie drain. The second case was unsuccessful. A number of additional successful cases have occurred in the gynecologic department of the University Hospital. I would like again to emphasize the fact that the Wylie drain should never be inserted except under strict aseptic precautions, the same antiseptic and aseptic preparations being adopted for its use as for a vaginal hysterectomy or other major operations. Neither should the drain be used unless inflammatory lesions of the genital tract can be absolutely excluded. Patients in whom this form of treatment is adopted should remain in bed for ten days following the operation, and should be kept under close observation during the entire period that the drain is in place. No bad results have ever followed the use of the Wylie drain in my hands. In cases of sterility it is best to operate about ten days or two weeks before an expected menstrual period. In at least two cases which have come under my observation, conception has taken place while the drain has been *in situ*.

Just why pregnancy, after the age of 44 or 45 should be so rare as it is, is a little difficult to explain on purely anatomic grounds. Conception in the normal individual is always possible so long as ovulation persists. We have no means at our command of ascertaining exactly when ovulation ceases in any given case; however, we know that in the majority of cases ovulation and menstruation are synchronous.[4] And on this basis it would seem fair to assume that pregnancy would not be unusual so long as the latter function was in evidence. Despite this, it is a clinical fact that pregnancy, after 45 is rare and after 50 is exceedingly uncommon. Numerous cases, however, have been reported; indeed, instances have been recorded in which pregnancy has occurred some time after the entire cessation of menstruation. Buckle[5] reports a case occurring in a multipara of 50 years of age after cessation of menstruation for eleven years. Before subjecting a woman to any form of operative treatment for sterility, the husband should invariably be examined for aspermatism.

1503 Locust Street.

1. The Wylie drain is a form of stem pessary, made from hard rubber, and is about 5.5 cm. in length. Along the edge of the stem is a groove. The base of the pessary is about 1.5 cm. in diameter. The diameters of the stems vary from 4 to 8 mm.
2. The Menopause, Am. Jour. Obst., 1910, lvi, No. 2.
3. Dysmenorrhea in Nulliparous Women Without Gross Local Lesion, Am. Jour. Obst., 1910, lxi, No. 5.
4. Leopold and Mironoff: Arch. f. Gynäk., 1894, xiv, 506.
5. Childbirth After Apparent Menopause, THE JOURNAL A. M. A., Aug. 13, 1910, p. 568.

SYPHILITIC HYPERTROPHY OF THE INFERIOR TURBINATES WITH REPORT OF A CASE*

J. W. JERVEY, M.D.
GREENVILLE, S. C.

"It is difficult to mistake secondary syphilis of the nose for any other disease when a careful history is taken and a thorough examination is made." That is a "bromid" from one of our recent American text-books. It is unscientific, unpractical and, withal, untrue, for the anamnesis of the syphilitic is notoriously a history of guile, and the thorough clinical (which is evidently to be understood in the above passage) examination is often the ideal rather than the reality, for reasons with which the practical man is quite conversant.

Moreover, if it were difficult to mistake secondary syphilis of the nose for any other disease, it obviously follows that it would likewise be difficult to mistake any other disease of the nose for secondary syphilis, and the fallacy of such an attitude must at once be apparent. Even a negative bacteriologic examination would not be conclusively diagnostic, as everyone is aware, and while a positive finding of the spirochete would be more or less binding, yet, even here, the diagnosis is not infallible.

As a matter of fact, syphilitic lesions of the nasal mucosa are comparatively rare, which may or may not account for the scant attention the subject receives in most of the text-books. Yet, it is a matter of very great importance to the victim. In a practice of thirteen years I do not think I have seen (perhaps I should say recognized) more than half a dozen cases of undoubted secondary luetic rhinitis.

I believe we may safely say that there is no really typical appearance of intranasal secondary syphilis. Hence, a diagnosis, *ab inspectione*, we might aptly characterize as a diagnosis *sine circumspectione*. Even syphilitic ulceration of the septum, with perforation, does not carry with it any certainty of clinical diagnosis, for ulceration and perforation of the septum depending on some utterly different etiology may yet present an appearance which, on mere inspection, is wholly impossible of differentiation. In other words, while the sec-

* Read in the Southern Section of the American Laryngological, Rhinological and Otological Society at Lynchburg, Va., Jan. 22, 1911.

ondary ulcer on the mucous membrane of the pharynx and fauces is usually quite characteristic (the familiar mucous patch), my limited experience teaches me that the ulcer occurring most often on the nasal mucosa is far less typical, being of the superficial variety. The fact may be, and probably is, due to the physically and physiologically more resistant tissues in the nares, together with possibly a thinner mucosa proper.

It is my belief, then—and at least I shall confess it to be true so far as my own present powers of diagnosis are concerned—that, excepting the primary chancre, the only cases of nasal syphilis that are usually promptly recognized on clinical examination are those that are first seen in the tertiary stages, when gummatous and necrotic processes are in extensive evidence.

Hypertrophy of the turbinates is a secondary manifestation of lues. The condition locally presents neither more nor less of the symptomatology of hypertrophy due to other causes, such as acute coryza, hypertrophic rhinitis, vasomotor rhinitis, hay fever, etc. It is said that the middle turbinates are most often involved in syphilitic hypertrophy. In the few cases I have seen this has not been my experience. My limited observation shows the more frequent involvement of the inferior turbinates. I have no doubt that ulceration, however, seems to be oftenest of the superficial variety and not to be easily differentiated from superficial ulceration of a non-specific type.

Ulceration, we must all agree, is commonly seen along with intranasal hypertrophic changes, and may readily occur as the result of pressure, or of nutritional errors, or from the atmospheric erosion due to narrowing of the passages. Indeed, while I freely admit I may be mistaken, I am not at all sure that the so-called superficial ulcer of intranasal secondary syphilis ever occurs in the absence of marked hypertrophy; hence, it would seem to be a question whether there really exists such a specific lesion, or whether the ulcer is not really due in all cases to mechanical or nutritional disturbances.

These, then, constitute my reasons for believing that the diagnosis of secondary intranasal syphilis is far from being a simple matter of inspection and subjective history. After all is said and done, the good old-fashioned therapeutic test may fairly be considered our safest guide in these cases. These lesions will not respond to any kind of topical treatment whatever, and they surely will respond to the administration of mercury. The prognosis appears to be uniformly good under appropriate treatment.

REPORT OF CASE

G. B., a man, aged 34, employed in an office, presented himself with symptoms indicating a severe chronic coryza, or vasomotor rhinitis. He had no pain, in fact, no other symptoms but the intolerable stuffiness of the completely blocked nasal passages and the annoyance of the copious mucous discharges. Inspection revealed only enormously hypertrophied inferior turbinates, yielding but slightly to cocain and epinephrin, and substantial adhesions between inferior turbinate and septum on the left side, while on the right side appeared four or five shallow ulcerated spots the size of a buckshot and covered with glairy mucus on the anterior aspect of the turbinate and on the septum. This condition had been present, he stated, for about three months. Previous to consulting me he had been treated by another rhinologist, who, besides using the usual astringents, had applied the galvanocautery to the ulcers, and had prescribed some systemic tonic mixture. No benefit had resulted after several weeks of this treatment. (This fact should have put me especially on my guard against syphilis.)

In a more or less casual way I considered the possibility of syphilis, looked the patient over for other evidences in the cursory manner of routine, and asked directly concerning a history of syphilis. The results were negative. The patient appeared above suspicion, and I proceeded on other theories. After a few days of unavailing treatment with local measures, I performed an inferior turbinectomy on the left side. The other structures, then becoming visible, appeared normal. Within a week or so a well-marked proliferating process commenced about the middle of the turbinate stump. On its continued growth I snared this off a few days later.

The patient then complained of his mouth and teeth feeling uncomfortable, though not painful. Examining the roof of the mouth, I found the arch of the hard palate about one-fourth filled with a smooth, hard, rounded oval mass, not at all sensitive, and presenting three or four superficial ulcers of apparently precisely the same character as those which appeared in the nose, and which had never shown the slightest improvement under local treatment up to this time. Still, I remained "asleep at the switch," and for a few days tried to reason out the pros and cons of a probable neoplasm, and was about to make a section for microscopic examination, when I awoke with a sudden and sickening thud. The rest of the story is briefly told. Mercury protoiodid and potassium iodid solved the problem that had baffled me for several weeks. The ulcers healed as if by magic; the thickened tissues resumed their normal condition; the distress of mind and body which had afflicted the patient disappeared, and he grew stout, well and happy. I had been dealing all the time with late secondary manifestations of syphilis, but I feel that I had at least some slight shadow of excuse for my tardy diagnosis.

Alas, that we cannot all comply with the gentle and epigrammatic admonition of the eminent Dr. Osler:

"Know syphilis in all its manifestations, and what remains to be learned will not stretch the pia mater of a megalocephalic senior student."

INOCULATIONS OF NASAL SECRETION FROM PATIENTS WITH ACUTE POLIOMYELITIS *

I. STRAUSS, A.M., M.D.
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The assumption that acute poliomyelitis is a contagious disease is founded partly on experimental research. Flexner and Lewis were the first to call attention to the presence of the virus in the nasopharyngeal mucosa of monkeys ill with the disease, and that monkeys could be infected when the virus was applied to the scarified nasal mucosa. Leiner and von Wiesner found that successful inoculation resulted when the virus was smeared on the intact nasal mucous membrane. Recently Osgood and Lucas have reported the important fact that the virus can be present in the nasal mucosa of monkeys as late as five and one-half months after the acute stage of the illness. Landsteiner and Levaditi, in their last report, criticized the hypothesis of nasal contagion advanced by Flexner and Lewis, in that they had overlooked the determination of the presence of the virus in the nasopharyngeal mucus. They inoculated a macacus with the nasal secretion obtained from a monkey ill with poliomyelitis, but with negative result. They were also unsuccessful in inoculating a monkey with secretion which they had obtained from two men, one of whom had been ill some weeks, the other some months previously.

It occurred to me also that the virus ought to be present in the nasal mucus and, therefore, in August of last

* From the Department of Pathology, Cornell Medical College.

year I made inoculations which, though unsuccessful, have a certain value in solving this question of contagion. The material consisted of ten cases; seven occurred during the epidemic at Springfield, Mass.,[1] one in the small epidemic at Lake Placid in the Adirondacks, one in Manhattan, and the tenth in Brooklyn. The mucus was obtained by passing dry cotton swabs into the nasopharynx through the mouth. When removed they always had considerable mucus attached to them and in two instances they were a little blood-streaked, thus showing that they had come into intimate contact with the mucosa. After inoculation the swabs were placed into 10 c.c. of either normal saline solution or bouillon and kept either at room temperature in the dark or on ice. The solution was expressed from the swabs in order to remove as much of the virus as possible, and filtered through either Berkefeld or Chamberland filters. The virus is known to pass either of these filters. The filtrate was then centrifuged and either 2 or 4 c.c. were injected intracerebrally into rhesus monkeys.

TABLE OF INTRACEREBRAL INOCULATIONS OF RHESUS MONKEYS WITH NASOPHARYNGEAL SECRETIONS FROM PATIENTS WITH POLIOMYELITIS

Case.	Age, Years.	Onset of Disease.	Swab Taken.	Temp. When Swab Taken.	Clinical History.	Intracerebral Inoculation in Monkeys.
1	25.....	8/6	8/13	.....	Onset with T. 101 F. Severe headache, rigidity of neck. Aug. 7, facial palsy (nuclear) and palsy of right ext. rectus.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
2	1½....	8/7	8/11	During febrile stage.	Began with fever, vomiting and diarrhea. Aug. 10, T. 102 F.; unable to move arms or legs; stuporous; Aug. 11 had fever, but was brighter. Paralysis continued.	Swab kept 19 hours in bouillon. Berkefeld filter; 2 c.c. inoculated.
3	1¾....	8/8	8/13	3 days after fever.	T. 100.8 F. at onset. Aug. 9, T. 102 F. Aug. 10, facial paralysis. Aug. 11, normal temperature.	Swab kept 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
4	5.....	8/8	8/13	2 days after fever.	Began with T. 102 F., rigidity of neck, paralysis of both arms. Aug. 10, T. 101.6 F. Aug. 13, T. normal; left leg paralyzed.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
5	18.....	8/8	8/13	102 F.	At first headache, retraction of head, rigidity of neck, painful joints, delirium, T. 102 F. Left leg paretic. Angina.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
6	5.....	8/11	8/13	No fever on day of paralysis.	Malaise for one week; fever Aug. 11. Paralysis of right leg Aug. 13.	Swab kept 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
7	62.....	8/31	9/4	After death.	Began Aug. 31. T. 101 F. Paralysis of both arms and legs developed Sept. 1. Died Sept. 4, of respiratory paralysis.	Swab kept in bouillon in ice-box for 5 days. Berkefeld filter; 5 c.c. inoculated.
8	1.....	8/16	8/17	24 hours after fever.	Paralysis of deltoid.	Swab kept in bouillon 5 hours. Berkefeld filter; 2 c.c. inoculated.
9	15.....	9/12	9/19	102.6 F.	Began with headache, pains in legs, fever. Sept. 13, legs paralyzed. Sept. 14, arms paralyzed; rigidity of neck; high fever. Sept. 19, T. 102.6 F.	Swab kept in bouillon 2 hours. Berkefeld filter; 4 c.c. inoculated.
10	2.....	9/18	9/28	24 hours after fever.	Onset with fever, vomiting; arm and leg paralyzed three days later. Then swallowing was difficult. Sept. 27, T. 102.4 F.	Swab kept in salt solution 4 hours. Berkefeld filter; 4 c.c. inoculated.

The virus did not have to be present in large quantities, since Leiner and van Wiesner had shown that a cord emulsion of 1 to 1,000 or 1 to 500 strength is more potent than stronger emulsions.

The accompanying table gives the data of the inoculations. No monkey became ill as a result of these inoculations. The experiments, therefore, seem to indicate the absence of the virus in the nasal mucus. This, of course, does not mean that it may not sometime be found in the human nasal mucosa as an excretion, just as is the case in the monkey, but if we are to regard the nasopharynx as the source of the contagion we ought to be able to demonstrate the presence of the virus in the nasal mucus.

One experiment was made to isolate the virus from the feces of a patient with an acute case. The feces of Patient 9 were mixed with salt solution on the same day that the nasal swab was taken. The mixture was filtered through a Berkefeld filter and the filtrate centrifuged. Four c.c. of the sedimented portion were injected intracerebrally into a monkey. The animal died of marasmus after four weeks. The autopsy revealed no cause of death. An emulsion of his brain and cord was inoculated into a second monkey with negative result. This experiment, so far as we are aware, is the only one in which an attempt has been made to demonstrate the virus in the human feces.

1. I wish to express my thanks to State Inspector Boyd and Drs. Emerson, Tracy, Hirsch and Rearden of Springfield for their kind assistance.

THE ETIOLOGY OF VERRUCA

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SAN FRANCISCO

It may be assumed as true that a simple traumatism can give rise to a wart, but in order to do so the injured tissues must themselves be in a favorable condition to react in this peculiar way to the traumatism. The injury, therefore, would be the provocative cause of the verruca, and the condition of the tissues the predisposing cause. Verruca or papilloma is primarily an epithelial growth, and only secondarily is the subjacent connective tissue affected. Moist heat, inducing maceration of the epithelial cells, is one of the most important of predisposing causes of the neoplasm, and acts probably by exciting epithelial cells to grow more luxuriantly, and particularly so when a traumatism draws an increased supply of blood to the part. The frequency of papilloma of the sole in the flat-footed is an example of this.

My attention was first drawn to this by Dr. W. A. Hardaway of St. Louis. These patients almost always suffer from hyperidrosis of the feet, and the consequent maceration of the epithelium of the sole constitutes the predisposing tendency to the formation of papilloma in this region. Nature seldom afflicts us with one thing at

a time; she diversifies our torments. The arch of the foot breaks down, we get hyperidrosis, and then that most painful affliction, papilloma of the sole, appears. In this way we finally become intimately acquainted with grief.

But maceration of the epithelial cells, predisposing them to this peculiar form of neoplasm may, I am convinced, be caused by hot water alone, of which the following is an instance:

About July 4, 1905, a man came to me with a painful swelling under the ball of the right foot, which was quickly seen to be a verruca. There was the usual circumscribed callus with the bunch of dots in the center representing the upgrowing connective tissue filaments. A strong salicylic acid ointment was ordered to be applied to the sole each morning, so that in walking he would tramp it well in during the day. When the wart was laid bare of its surrounding mass of epithelial cells, it was burnt with silver nitrate, but others came, and in great numbers.

In casting about for the reason of this persistence of the affection, I told the patient of Dr. Hardaway's observation in regard to the association of flat-foot and papilloma of the sole, and explained that probably flat-foot was only an incident in the etiology, and that the essential feature in all likelihood was the hyperidrosis. He shortly afterward related to me a most interesting story. In the hotel where he boarded there was an abundance of hot water, and every night he used to soak his feet in this for no other reason than that the heat gave him pleasure. One evening on returning to his rooms he found he had mislaid his key, and the servant with the pass-key was not in sight. The patient, being athletic, entered through the transom and jumped to the floor. He lit on the ball of his right foot, and remembered that it stung quite severely. Shortly afterward his trouble appeared and on the site of this very traumatism.

A few days after this explanation, the great fire occurred, and threw the patient and his physician both out on the street. He had some fire insurance in one of the companies that tried to evade or shave all its policies; the city had no street-car service or other means of public conveyance, and all the work of getting proof of loss properly presented had to be done on foot. In addition to this he had to hunt for me. In this interesting interval the papilloma of the sole did not neglect to torment him. After he had found me I had my troubles, for I wished to curette the wart, and as all the surgical instrument stocks had been destroyed in the catastrophe, it was difficult to find a suitable tool. Finally by thorough curetting under cocain and cauterization with nitrate of silver, the papillomas were eradicated with no subsequent return.

The hot-water bathing, I have no doubt, had much to do with the occurrence of warts in this case.

An active proliferation of the epithelial cells favors the occurrence of verrucæ, and this is probably why they so frequently occur in youth, when all the cells of the body are in very active growth. In seborrhea also the epithelial cells, both of the skin and of the mucous membranes, proliferate with unusual activity, and both verrucæ and paillomas are apt to appear. Verrucæ of the scalp, for example, are frequently associated with seborrhea of the scalp.

In seborrhea, moreover, there is not alone a more active proliferation of cells from the very fact of the existence of seborrhea, but those having seborrhea sweat more easily and profusely, so that they have a double predisposition toward papilloma or verruca.

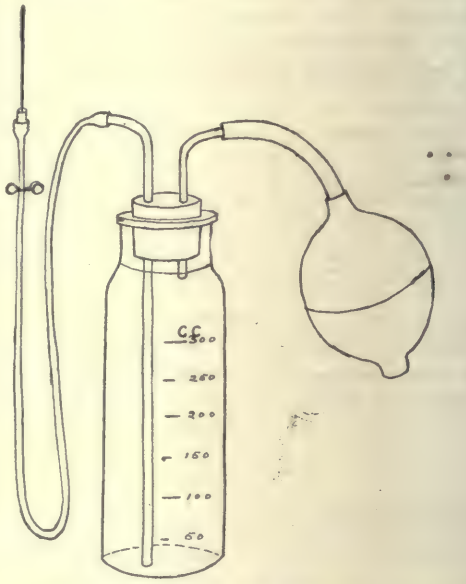
A traumatism alone, however, I am convinced may give rise to these troublesome growths, and it is not strange that it should be so, for if injury causes a continuously increased supply of nourishment to a part it may cause increased cell proliferation through over-nourishment, and hence may predispose to papilloma.

323 Geary Street.

A SIMPLE APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN OR OTHER DRUGS

WILLIAM F. BERNART, M.D.
CHICAGO

The nearly universal recommendation of the intravenous use of salvarsan has brought up the question of which is the most convenient and best contrivance for the administration of this drug. A large glass syringe is probably the simplest appliance for giving the injection; however, it is not always possible to get a syringe which will hold 300 c.c. If it is administered by gravity, it is essential for the operator to have an assistant. The apparatus which I am going to describe can be constructed at a small cost, answers the purpose in every



Apparatus for intravenous injections by means of a pressure-bottle.

respect and can easily be operated by the physician alone. The materials required are:

Wide-mouth bottle, capacity 360 c.c. (12 oz.).
Rubber stopper to fit the bottle, two perforations in stopper.
Two glass tubes to fit perforations, one sufficiently long to reach to the bottom of the bottle, the other to reach through the stopper.
A double-valved atomizer bulb.
Twelve to eighteen inches of India rubber tubing to fit glass tubing.
Hypodermic needle, platinum.
Clamp for tubing.
Glass funnel and filter-paper.
Glass-stoppered bottle (360 c.c.) and 50 to 100 glass beads.

The salvarsan is dissolved and mixed in the glass-stoppered bottle according to directions accompanying each package of the drug. After the solution is properly prepared it is filtered into the reservoir of the apparatus. While waiting for the solution to filter, the reservoir is placed in a bowl of hot water so that by the time the filtration is completed the solution is of a proper temperature for immediate use. If desired, the salvarsan can be prepared in the reservoir of the apparatus and if a fine piece of muslin is tied over the lower end of the long tube, the solution can be filtered simultaneously with the injection. After the reservoir is filled, the rubber stopper, with the glass tubes inserted, is tied tightly into place. The needle and hose are elevated, the

bulb is pressed and all air is expelled. As soon as the liquid spurts through the needle in a solid stream the hose is clamped and the needle is inserted into the vein of the patient. When it is certain that the needle is in the proper position the clamp is loosened and by pressure on the bulb the fluid is readily forced into the circulation.

According to the air-pressure used, the 300 c.c. of solution can be injected in from four minutes to as long a time as may be deemed advisable. When the solution is all utilized the air slowly follows the fluid up the long glass tube, giving the operator plenty of time to close the clamp before any air can enter the veins. The needle is then withdrawn and the puncture wound sterilized and closed with the tincture of iodin.

The compactness of this apparatus permits of but little loss of heat by radiation and the giving of an injection is under the full control of one individual.

42 Madison Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

PRE-DIGESTED LIQUID FOOD, Mulford.—Pre-digested Liquid Food, Mulford, contains 10 per cent. of protein and 10.5 per cent. of carbohydrates (dextrose, lactose and sucrose) in a vehicle containing glycerin about 1½ per cent., saccharin about .01 per cent. (1/20 grain in a fluidounce) and about 30 per cent. of native wines, fortified with alcohol sufficient to bring the alcohol content up to 16 per cent. absolute alcohol per volume.

Pre-Digested Liquid Food, Mulford, is prepared by digesting fresh lean beef with hydrochloric acid and pepsin and digesting milk casein first with hydrochloric acid and pepsin and after neutralization with pancreatin. The solutions after digestion are concentrated in vacuo and mixed with the other ingredients.

It is a light yellowish-red liquid, having an aromatic odor and not unpleasant taste. Its specific gravity is about 1.07. When evaporated to constant weight it leaves about 25 per cent. of residue.

Actions and Uses.—See Medicinal Foods.

The nutritive value of 500 Gm. corresponds to 416.3 calories, of which 201 are due to protein and 215.3 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein, 98.4 to carbohydrates and the rest to fats.

Manufactured by H. K. Mulford Co., Philadelphia. (Not patented or trademarked.)

ANTIRABIC VACCINE

The American Biologic Company, Kansas City, Mo.

Pasteur Antirabic Vaccine.—The virus is prepared according to the method of the Hygienic Laboratory, Washington, D. C. An amount of the dried cord, sufficient for one dose, is suspended in a mixture of 66⅔ per cent. glycerin and 33⅓ per cent. of physiologic salt solution, and sent daily by mail, accompanied by a syringe containing sterile physiologic salt solution for further dilution at the time of administration. The treatment requires 18 to 21 days.

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Borcherdt Malt Extract Co., Chicago.

Borcherdt's Malt Extract Plain.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 10 per cent. of glycerin. U. S. Trademark Nos. 64,467, 64,481.

Borcherdt's Malt Olive with Hypophosphites.—Each 100 c.c. is said to contain Borcherdt's Malt Extract 70 c.c., California olive oil 20 c.c., C. P. glycerin 10 c.c., calcium hypophosphite 0.64 gm. (3 grains in a fluidounce), sodium hypophosphite 0.64 gm. (3 grains in a fluidounce). U. S. Trademark Nos. 60,422, 64,467.

Borcherdt's Malt Soup Extract.—Borcherdt's Malt Soup Extract is a mixture obtained by adding potassium carbonate 1.1 gm. to each 100 gm. of Borcherdt's Malt Extract, diluted with one-half its volume of distilled water, and evaporating in vacuo to a specific gravity of 141. U. S. Trademark No. 64,467.

Therapeutics

PREVENTION OF PULMONARY TUBERCULOSIS

POINTS WHICH MUST NOT BE FORGOTTEN

The announcement by Dr. Robert Koch, in 1882, of his discovery of the tubercle bacillus and its relation to tuberculosis opened a new era in the study and management of that disease. He proved conclusively that the tubercle bacillus is the cause of tuberculosis, and opened the way to the modern treatment of the disease. Tuberculosis does not occur in the absence of the tubercle bacillus, and the recognition of this fact has greatly simplified the problem with which the medical profession had been struggling almost hopelessly for centuries.

It is now generally recognized that the most common method of transmission of this terrible disease from one individual to another is by the transference of the tubercle bacillus from the sick person to his neighbor by means of the secretions or exudations from the lungs, and from the upper respiratory organs where the tubercle bacillus may be lodged on the mucous membranes and in the mucus and other secretions of those membranes. This makes manifest the great importance of a suitable disposal of the matter expelled from the nose and mouth. It has been found that not only do the masses of sputum of considerable size which are expelled from the lungs contain tubercle bacilli, but also that the smaller particles of moisture and mucus which are expelled in such small quantities as to be almost unrecognizable, in many instances also contain the dreaded bacillus. These small particles, or droplets as they are commonly called, are expelled usually with the so-called "dry cough" which is not accompanied by the expulsion of the larger masses of sputum. The problem, then, is to receive and take care of the matter expelled from the mouth and nose of the tuberculous patient, whether this comes from the lungs, throat, nose or mouth.

Various devices have been provided for collecting and destroying the larger masses of sputum. In the room where the sick person spends most of his time, a metallic cuspidor with an easily opened cover is very useful. This cuspidor should contain water, preferably rendered antiseptic by the additon of a 5 per cent. solution of phenol (carbolic acid). This cuspidor should be large enough for the patient to deposit the sputum in it easily. Other forms of receptacle include a tin cup in which is placed a pasteboard box into which the patient expectorates. For patients who are walking about, a small cup with a removable cover is convenient. This should be made so that even when it is tipped over the sputum will not escape. When it is impracticable to use any of these special receptacles, the sputum may be received on pieces of cloth or on paper napkins. It is necessary that the patient should be provided with a receptacle for these things which is impervious to moisture and which will

not allow the sputum to penetrate to the exterior of it, and which may be thoroughly cleansed and disinfected when the pieces of cloth or paper are removed from it. The use of gauze is recommended by many writers, but is less desirable than paper or pieces of cloth, because of the danger that the sputum will penetrate the meshes and extend the infection. Whatever the substance used, it may be deposited in a convenient stiff paper bag, and the bag, later, with its contents, burned. The water and sputum in the cuspidors, after disinfection, should be thrown into the water closet.

All papers and cloths on which sputum has been deposited should be burned. In many homes, under the modern conditions of heating and cooking with gas stoves, difficulty may sometimes be found in accomplishing this, but the importance of destroying paper or cloth contaminated with tubercle bacilli is so great that the difficulty should not be regarded as an adequate excuse for failure to effect perfect destruction by incineration.

Even outside of the house or on the street, the same care should be exercised in collecting and destroying the sputum. Boards of health and municipalities have exercised themselves to prevent the spread of the disease in this way to the extent of passing ordinances forbidding spitting on the sidewalk. Such ordinances are not enforced so thoroughly as they should be, but for the tuberculous patient spitting in the gutter is objectionable, and should not be encouraged. In fact, if all spitting, except into some suitable receptacle or some substance which could be destroyed, were forbidden, the condition of the world, and especially of the larger cities, would be greatly improved. Certainly, everyone should be taught, even from childhood, that spitting is inelegant, and that no one should cough, either in public or private, without holding before his mouth some paper or cloth so as to receive on it any matter which may be expelled, even involuntarily, from the mouth or nose.

In the same way, the discharges from the nose of the tuberculous patient should be received on paper or cloth which can be destroyed. If occasionally the ordinary handkerchief is used to receive the discharges from the mouth or nose, this should be placed in water before the discharge is allowed to dry, and should be boiled before being placed with the other soiled clothing for the usual family laundry.

It is impossible to emphasize too strongly the necessity of the most minute care to prevent the dissemination of the discharges from the lungs, nose, throat and mouth of the tuberculous patient. When, either from accident or carelessness, these discharges are not properly cared for, but are allowed to fall on the floor or street, as they become dry, the tubercle bacilli are, so to speak, set free in the dust, and are liable to become a source of danger to healthy people. This suggests the importance of using every possible measure to prevent the dissemination of dust in apartments or on streets where many people are accustomed to go. The feather duster, so dear to the average housewife for removing dust from furniture and bricabrac, should never be allowed inside the residence of a civilized citizen. Ordinary sweeping with a broom should not be allowed unless special precaution has been taken to prevent the raising of dust. It has been recommended for this purpose that a newspaper be dampened, torn into pieces, and thrown upon the carpet before the broom is used. Where there is no carpet on the floor, moist sawdust is useful to prevent the raising of dust. Far better than the broom for the removal of dust and dirt from rooms is the vacuum cleaner. It is greatly to be hoped that it will not be long before the broom will be a forgotten implement of cleansing and superseded entirely by the vacuum cleaner.

In the streets of cities the dust which is raised by the wind or by vehicles is frequently germ laden, not only with the bacilli of tuberculosis, but with other disease germs, especially those of influenza and pneumonia. Hence the importance of street cleaning and of street watering, the former diminishing the amount of dust liable to be raised by the wind or vehicles, and the latter preventing whatever there may be from being blown about.

These are the most important considerations to be borne in mind in preventing the transmission of the disease from the patient to those who come into the neighborhood or the region where he is or has been. There is another point of view to be taken into consideration, and that is increasing the resistance of feeble people against the attack of the tubercle bacillus. It would be impossible, perhaps, to prove that no child has ever been born infected with tuberculosis from its parents before birth. In fact, it is generally conceded by authorities on the subject that such antenatal infection is possible, but practically it certainly is very rare. That tuberculosis is hereditary in the sense in which that statement would have been understood previous to thirty years ago is recognized now as being impossible. On the other hand, that many children born of parents, one or the other of whom has suffered from or has died of tuberculosis, are more likely than the children of healthy parents to suffer from tuberculosis is recognized by everyone. But the interpretation of this observation which now prevails is that the child does not inherit the disease, tuberculosis, but that he inherits a predisposition to that disease, that he inherits a weakness of physique which renders him more liable to be attacked by the disease than others who do not inherit such weakness. One of the most important problems to-day in regard to the prevention of pulmonary tuberculosis is to raise the vitality and resisting power of these individuals so that they will not easily become affected by the tubercle bacillus. For at present it is recognized that this bacillus is so generally disseminated throughout the places occupied by the human family, that many people become the hosts of the bacillus without knowing it, and if their resistance is sufficiently strong, do not suffer any ill effects from it, but cast it off.

It is now well understood that the diet of patients with a tuberculous tendency must be nutritious, but it is frequently necessary to express a caution against the use of alcoholic drinks. Many people believe that these beverages are a valuable tonic, increasing the appetite and improving the digestion and general nutrition, and therefore believe that they are useful for people who seem to have a predisposition to tuberculosis. As a general rule, it may be stated that this belief is a mistaken one, and that in the absence of any special indication for their use most individuals, even if they are not robust, are better off without the habitual use of alcoholic stimulants.

In order to raise the resisting power of children with tuberculous parents, so that they may not readily contract the disease, many things must be taken into account. Perhaps the most important of all is the question of pure, fresh air. This at once brings up the question of residence. Families, any member of which is recognized as being weak or having under-average resisting power, should consider carefully the selection

of a place of residence. They should not select a tenement house in a crowded city, but should, if possible, secure a residence in the country suitable for a single family and surrounded by air on all sides, and in which every room has a direct supply of fresh air and sunshine. The house should be built preferably on elevated ground, and on gravel or sandy soil. Low ground or clay ground should be avoided. Of course the residence should be selected not only with reference to fresh, pure air, but with reference to the facility of reaching the work in which the members of the family are occupied. This entails transportation facilities, which are of great importance. But not all people can live in the country where they can occupy separate houses. If a family embracing feeble members is obliged to live in the city, a residence should be found in the less thickly populated part of the town. These people should avoid tenements which have dark rooms, rooms in which there are no windows toward the outside of the house through which fresh air and sunshine may be admitted. In recognition of this fact, when cities are laid out the streets should be made broad, and the height of the houses should be limited in order that through narrowness of the streets and height of the adjacent buildings the air and sunshine may not be practically prohibited from the dwellers.

The manner of living within the house is also important. Rooms which have not windows opening directly out-of-doors should not be used for bedrooms. It is preferable that no bedroom should be occupied by more than two persons, and it is very desirable that each individual should have a separate bed. The windows should be kept open at night so that the occupants may constantly have fresh air to breathe. Infants require fresh air quite as much as adults, but they are less able to stand inclement weather or cold air than older children, and they should be gradually accustomed to the breathing of, and exposure to, cold air. It is of course necessary, in the matter of fresh air and cold air, to use common sense, as in all other matters pertaining to the health of individuals. The window through which fresh air is admitted should not necessarily be opened equally widely at all times; or if it is, varying degrees of protection against the incoming air may need to be employed at different times. For instance, if a strong, cold wind is blowing in the window at the hour of retiring, the window should either be partly closed, or a screen or curtain or blind should be placed in front of it to break the draught; otherwise, the sleeper will be very apt to awaken in the morning with a coryza.

Delicate children should not be sent to school too young, or confined in the schoolroom for many consecutive hours. They should be encouraged to remain out-of-doors, and to engage in active, but not too violent play. They should have longer hours of sleep than strong, robust children. For children from five to ten years of age, ten hours of sleep are none too many.

Breathing exercises should early be taught to all children, and especially to weak children, so as to increase the breathing power and promote the development and expansion of the chest.

Another consideration of great importance is the matter of food. Weak children should be fed regularly. Their food should be varied, nutritious, and easily digestible. Milk should be an important article of diet for every feeble child. Eggs are also useful, but should not be offered so frequently that the child will acquire a distaste for them. While sugar is a necessary ingredient of the diet of every growing person, yet it should not be provided for children in excess, especially in the form of pie, cake and candy. Children should be taught to eat fruit and vegetables, and a limited amount of meat. It is exceedingly important that they should be brought up and taught to eat fatty substances, such as butter, cream, and the fat of meat. This will do much to promote their nutrition and to increase their resisting power against disease.

With reference to providing abundance of fresh air for growing children as an aid in the prophylaxis of pulmonary tuberculosis, it is always necessary to examine the upper respiratory passages of the child in order to determine whether there is ready access of air to the lungs. Often it will be found that a deviated nasal septum, hypertrophied turbinates, nasal polypi, or adenoids in the vault of the pharynx interfere seriously with nasal respiration. Also, hypertrophied tonsils interfere with the taking in of an adequate supply of air. These conditions should all be looked for, and, when found, should be remedied by appropriate medicinal or operative treatment.

With reference further to the obtaining of an adequate supply of fresh air, the dress of the patient, especially if a girl or woman, should be carefully considered. High collars, or very tight collars about the neck interfere decidedly with respiration, and should be forbidden. The wearing of corsets too tightly laced about the waist interferes with abdominal respiration, and frequently produces displacement of the abdominal viscera and deformity of the bones of the thorax.

While the clothing should be sufficiently warm to protect the skin from changes in temperature and from draughts, it should at the same time be loose enough to form no obstacle to free respiration.

INTESTINAL WORMS—A CORRECTION

In THE JOURNAL, March 18, 1911, page 813, under the discussion of *Ascaris lumbricoides*, the statement was made that this worm lives in the intestines of cattle and pigs, and may reach man by their excrement contaminating water and vegetables. The statement was incorrect. The ascaris of the pig is different from that infecting man, and cattle do not seem to have this disease; hence the contamination of water and vegetables with the eggs of the *Ascaris lumbricoides* that infects man comes from infected human excrement used as a fertilizer, or by the direct contamination of water.

Massage of the Prostate.—Before one undertakes to massage the prostate, he must bear in mind the object sought, *viz.*, to improve the circulation and thereby aid absorption of the infiltrate, and secondly, to express any macroscopic pus (abscess). It is more important to bear the first indication in mind and execute the massage gently, than to do it too vigorously. The procedure should cause little or no pain to the patient, should be kept up for about five minutes, and should not be repeated oftener than twice a week, but the main reliance should not be put on massage alone. The periprostatic tissues should be gently massaged as well. The prostate can be made more accessible by making counterpressure over the symphysis pubis with the disengaged hand. The prostatic circulation can be more powerfully influenced by the prostatic vibrator, which is even less painful than the finger massage. When there exists a great deal of interstitial prostatitis, as evidenced by a nodular prostate, the massages do not influence the prostate, as we cannot hope for any absorption of organized connective tissue.—G. Greenberg, in *American Journal of Urology*.

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[*For other information see second page following reading matter*]

SATURDAY, APRIL 22, 1911

STANDARDIZATION OF DIGITALIS

One of the greatest handicaps to exact drug therapeutics is the fact that "impressions" either of the physician or of the patient play such an important part. Many other branches of medicine have been put on a truly scientific basis as a result of careful quantitative work, in either the laboratory or the clinic, or in both, but in drug therapeutics, such expressions as "the drug seemed to do good," are constantly used without the slightest attempt to measure any tangible effect, or to compare the case under treatment with one running a natural course. It is this habit of reliance on impressions which led physicians, fully as wise as any now living, to use for centuries drugs now entirely discarded; and it is this habit which keeps the modern pharmacopeias overburdened with equally useless drugs. It is rather surprising, however, to see what an important part "impressions" play even in the choice of a drug and the method of its preparation, for these would seem to be amenable to exact laboratory control. That such is the case however, is strikingly illustrated in a recent publication of Hale[1] on digitalis.

Hale has endeavored to trace the origin of a number of commonly accepted views concerning this invaluable drug and to test them experimentally in the laboratory. Some of his conclusions may be summarized as follows: The view that the leaves of the second year's growth are more potent than those of the first year—a view adopted by most pharmacopeias and by the Brussels conference—seems to be founded on tradition only. The only experimental work done had shown that the first-year leaves were fully as active as those of the second year; Hale, experimenting with four lots of first-year leaves, found them to be from 28 to 40 per cent. more active than the best second-year leaves obtainable. The view, or rather impression, that the leaves of wild-growing plants are more potent than those of cultivated plants—a view which finds expression in the French, German and some other pharmacopeias—is also shown not to rest on a scientific basis. Hale admits that some wild-growing leaves are more potent than some garden-grown leaves, but believes that cultivation *per se* has nothing to do with it, and points out that Allen's English leaves, which give high assay values, are garden-grown. He also discusses the influence of moisture and of heat on the keeping quality of leaves; he found that an amount of moisture sufficient to permit molding might cause a loss of potency of 90 per cent. in a few months, but found no justification for the statements sometimes made in the interests of special preparations that leaves dried in a vacuum, or preparations made by macerating leaves with cold water, have special advantages. Although these experiments should extend over a number of years before a final decision is reached, as far as they go they indicate plainly that physicians and pharmacists for decades have been groping in the dark after the causes of the well-known variation in the potency of digitalis leaves, and have often attributed it to irrelevant circumstances. The real cause is unknown, but seems to be connected with the nature of the soil, the character of the season, etc.; it is only by the use of physiologic standardization that uniformly active leaves can be obtained at present.

Of the galenical preparations of digitalis, Hale never found the fluidextracts to assay, relatively, as strong as the tinctures; this indicated incomplete extraction. The practice (one much encouraged by certain drug houses) of preparing pseudotinctures by diluting the fluidextracts is condemned; such "tinctures" have as a rule but from one-half to two-thirds the strength of genuine tinctures. It was found that whereas weak alcohol (35 per cent.) was as efficient as stronger alcohol in extracting the leaves, preparations made with the stronger alcohol had the advantages of containing less inert matter and of retaining their potency much better. A number of official extracts showed little deterioration (from 4 to 8 per cent.) in twenty-two months, whereas a number of proprietary preparations containing a smaller percentage of alcohol had deteriorated to a much greater degree (even to 33.3 per cent.) in the same period. Hale suggests that the makers of special preparations should submit them to much more rigorous tests than is done at present, and that physicians should use them as seldom as possible unless assured, by a system of dating, of their very recent preparation. The importance of this precaution was shown by the fact that one sample of a widely used proprietary preparation, secured from a reliable pharmacy, had lost practically all digitalis action and had become a cardiac depressant. Hale believes that the manufacture of special digitalis preparations should not be encouraged.

The second part of the bulletin deals with special digitalis preparations, such as tablet triturates, hypodermic tablets, fluid glycerates, etc. Tablet triturates obtained from different manufacturers were found to vary in strength by as much as 360 per cent., about the degree of variation found in official tinctures and fluidextracts. Hypodermic tablets of digitalin were also found to vary by as much as 230 per cent. The fluid glycerate was

1. Bull. 74, Hyg. Lab., P. H. and M.-H. S., Washington, D. C.

found to have but about 40 per cent. of the strength of the official fluidextract.

The bulletin closes with a discussion of two widely advertised proprietary preparations, digalen and digipuratum, embodying conclusions previously published.[2]

A perusal of this bulletin will place the practitioner in a much better position to form a judgment of the character of the digitalis preparation he uses. The work which it embodies should be of value in improving the pharmacopeial requirements of this important drug.

TWO SURGICAL PATRIARCHS

Detailed sketches of the lives of two men who were prominent in the surgery of the latter half of the nineteenth century in America have recently appeared; and teachers of medicine, as well as those who are interested in medical history, will find them storehouses of valuable material.

The recently published memoirs of Dr. Thomas Addis Emmet[3] are full of striking features illustrative of the medical professional life of the latter half of the nineteenth century in America, and reflecting the varied interests in life of a man who, though nearly 84 years of age, still retains the full vigor of his intellectual faculties. Dr. Emmet's is one of the comparatively few American names—and one of the earliest—that was well known in European medical circles practically half a century ago. Some of his work was that of a pioneer in the best sense of the word; it influenced the American medical profession widely, and yet was so thoroughly practical that it is still influencing us. It may be readily understood, therefore, how much such a volume from his pen means. Dr. Emmet's recollections are linked with many of the most important incidents in our medical history. For instance, he went through two awful epidemics of typhus fever with the Irish immigrants on Ward's Island in the early fifties. During the cholera epidemic of 1854, on two occasions, on making his visit to the immigrant hospital he found that all the patients and nurses in his ward had died of the disease since his previous visit. The relations of Emmet and Sims are also interesting; likewise the story of the origin of the Woman's Hospital and of the Cancer Hospital, now called the Memorial Hospital in New York.

One of Dr. Emmet's hobbies was the collection of documents relating to American history. He was one of the first in the field to gather autograph material, and he succeeded in making a collection unequaled of its kind. This is now in the Lenox Library, New York, bearing the name of the Kennedy-Emmet collection. Among autograph collectors, Dr. Emmet's name is known all over the world, while among American historians his work is considered most important for the saving of valuable material which would certainly have been lost but for his interest in it. It is probable that Dr. Emmet spent nearly a quarter of a million dollars in the making of this collection, which is now invaluable.

A sketch of the life of Sir William Hingston, a prominent surgeon and notable citizen of Montreal, who died four years ago, in his seventy-eighth year, appeared in the January number of the *American Catholic Quarterly*. Like Dr. Emmet, Sir William Hingston was a self-made man. He was the son of a widow in straitened circumstances, and carried on his medical studies while acting as assistant in a drugstore. Yet he succeeded in doing fine work in his subsequent career and attracted the attention of the conservative English-speaking profession, so that more than twenty-five years before his death he was asked to deliver the annual address on surgery before the British Medical Association. At its meeting in Canada, he was one of the honorary presidents and one of those selected for a knighthood on the occasion of Queen Victoria's jubilee. He served two successful terms as mayor of Montreal, became a life senator of Canada, and when he died a session of the Canadian senate was taken up with tributes to this member, who had begun life under such discouraging circumstances.

In Sir William's career there is abundant encouragement for the man who has to contend against difficulties in obtaining a professional training. The story of his two years in Europe just after graduation, when on less than $500 he succeeded in spending prolonged periods in Edinburgh, London, Paris and some of the German cities, getting in touch with the best surgeons in Europe and coming home thoroughly prepared to do good work, is of itself a typical example of his power to overcome what would seem to a less indomitable character impossible obstacles. But his efforts at self-education did not stop there. He became one of the busiest of Montreal's practitioners, occupied mainly with the poor; yet he succeeded in piecing out the fragments of a classical education that he had obtained in a single year at college into a fine classical scholarship. He knew French and German well, and had a thorough command of English, being both an effective orator and a ready writer.

Above all, he showed clearly that it is possible to combine the career of a successful, busy surgeon with that of a citizen who sees and performs his duty to the community. The lives of such men as Emmet and Hingston must prove a stimulus to high professional work and a deep sense of patriotic duty.

ANAPHYLAXIS

In a recent article, Friedberger[1] has reviewed our present knowledge of the subject of anaphylaxis. As a result of the great amount of work devoted to this phase of immunization, both in this country and abroad, it is now better understood, and is even being invoked

2. Hale, Worth: A Comparative Study of Digalen, THE JOURNAL A. M. A., Jan. 1, 1910, p. 35; The Comparative Strength of Digipuratum, Jan. 8, 1910, p. 129.

3. Emmet, Thomas Addis: Incidents of My Life, Professional, Literary, Social, with Services in the Cause of Ireland, G. P. Putnam's Sons, New York, 1910.

1. Friedberger: Deutsch. med. Wchnschr., 1911, xxxvii, 481.

to explain other more obscure phenomena of disease. According to our present conception, the process of anaphylaxis is in brief as follows: On the introduction of the first dose of a foreign proteid into an animal, there occurs a gradual increase of the antibodies for this substance—antibodies already present in small amounts normally. If, now, after a suitable interval, say from eight to ten days, a second dose be given, these antibodies, now present in increased quantities, produce a rapid disintegration of the proteid, with liberation of toxic products. If the animal survives this sudden liberation of poisonous material, farther cleavage of these products rapidly renders them innocuous.

Such a hypersensitization to foreign proteids is peculiar in that for the most part it is necessary to introduce them by some route other than the alimentary canal. When, however, we consider the great breaking up undergone in the process of digestion, it will be readily seen that any characteristic peculiar to a given proteid would ordinarily be so modified before absorption as completely to alter any toxic effect that it might possess. Indeed, the anaphylactic reaction is believed to be due to a splitting up of proteid into exactly the products it would yield in intestinal digestion; the poisonous intermediate products, however, which in the latter case would undergo still farther cleavage before entering the system, are in the former liberated directly into the blood-stream, and so are free to exert their toxic action. In support of this view is the fact that in those cases in which there is excessive antibody formation, the acute anaphylactic reaction is diminished or absent; the probable explanation being that the breaking up of the proteid into its ultimate constituents is so rapid as to prevent the accumulation of toxic intermediate products in quantities sufficient to do harm. Idiosyncrasy to articles of food is to be explained, on this basis, by the absorption of sufficient unmodified proteid to react with antibodies already present, either congenitally or formed under similar previous conditions.

In addition to the "active" anaphylaxis, produced by the direct administration of sensitizing doses of proteid to the animal organism, it is possible to produce "passive anaphylaxis" by transferring hypersensibility to other animals with the serum of treated animals. This so-called passive anaphylaxis belongs in the same class as passive immunization. Further analogy is shown by the necessity of free complement to produce the reaction. If an animal be given its second dose of proteid, in nonlethal amount, at an interval greater than the ten days at which hypersensitization reaches its height, the excess of antibodies present becomes bound, and the animal becomes relatively free from farther reaction. This is the so-called anti-anaphylaxis.

According to the views of Ehrlich, all antibodies are merely the result of the increase of substances already present in the normal animal; and in accordance with this view is the fact that the introduction of a sufficient quantity of foreign proteid into a perfectly normal animal will produce toxic effects. If, however, care be taken to give it in a quantity insufficient to cause death, the antibodies normally present will cause a relatively slow production of the toxic intermediate products, and at the same time formation of both the cleavage products and the antibodies evoked by the injection will take place. If now this serum be transferred to a second normal animal, acute poisoning will intervene — the so-called antiserum-anaphylaxis. The explanation probably lies in the fact that in the second animal there is already present a certain amount of antibody, which, in conjunction with the amount present in the injected serum, is sufficient to produce acute anaphylaxis.

By far the most interesting of the recent developments of this subject are the relations that are being established between anaphylaxis and many infections, both acute and chronic. It is becoming generally accepted that many of the processes which formerly we were wont to ascribe purely to specific toxins are more properly to be considered as due to the interaction of bacterial proteid and antibodies already present, or formed during the infection, in the host. This phase of the subject, however, has been recently taken up in these columns,[2] and need not be discussed further at this time.

Current Comment

SOME PROBLEMS OF SCHOOL INSPECTION

While school inspection has been the subject of much commendatory mention in the public press, some objections have been raised to proposed legislation making it compulsory. The question has been raised as to the propriety of complete examinations requiring exposures of the chest, etc., especially in the older girls, it being urged that parents should be allowed to select the physician to make the examination. As perhaps might have been expected, the sectarian schools of medicine have been more or less to the fore in the objections. This trouble has been encountered in Newark, N. J., where, for instance, examination of the heart and lungs has been insisted on as a feature of school inspection. It is natural that the inspecting authorities should want to forestall criticisms as to the thoroughness of their work, which would be very liable to be made by those not in full sympathy with the movement. It would seem, however, that since the school has no interest in heart disease further than as it affects the functional capacity of the heart, such tests as are necessary might be made without requiring any exposure which would be offensive to the pupils and resented by their parents. It would doubtless be well for those engaged in the work to remember that medical school inspection is at present on trial so far as the general public is concerned, and that lack of tact may prejudice the cause as much as lack of skill, if not more. It is not desirable that medical school inspectors shall be time-servers; but for a school physician to

2. Infection and Anaphylaxis, THE JOURNAL A. M. A., March 11, 1911, p. 746.

strain his brief authority by too arbitrary insistence on methods of inspection which parents have not learned to regard as a matter of course in private practice, would seem to be premature, to say the least. Doubtless, with greater experience, by the exercise of tact, by educating the public and winning its confidence, inspectors will be able in most instances to secure all needed information and at the same time to avoid any occasion for conflict between the authority of the home and that of the school. This is always disastrous, and would be especially regrettable just now in the case of medical school inspection.

MONEY FOR MEDICAL EDUCATION

After a long season of neglect it seems that medical education is coming into its own in regard to financial support. Such benefactions as the recent gift of $200,000 from Dr. and Mrs. Robert W. Long of Indianapolis, toward the establishment of a teaching hospital for the Indiana University School of Medicine, indicate an increase of interest in the cause; and not only are private donors making generous contributions, but legislatures also are making more liberal appropriations for the support of their state university medical schools. Word has just been received that in Alabama $100,000 has been appropriated for the support of the medical school of the state university for the next four years; and from Nebraska comes the news that a like sum has been appropriated to establish all four years of the University of Nebraska College of Medicine on the new campus in Omaha. A smaller but no less important appropriation was that of $30,000 by the Oregon legislature which has made possible a closer relationship between the University of Oregon and its medical department—a relationship which heretofore has been largely nominal. Thus from all sections of the country come tidings of substantial gifts or appropriations for medical teaching institutions that represent the higher standards of medical education. These appropriations give much encouragement to those who have been working for the development of higher standards and lead one to believe that even more liberal appropriations will be made in the future. Surely no state could make a better investment than that which will secure better-trained physicians who are to be responsible for the preservation of the health and, therefore, of the happiness, of that commonwealth.

PROF. THEOBALD SMITH AS EXCHANGE PROFESSOR

Prof. Theobald Smith, Fabyan professor of comparative pathology at Harvard, has been appointed exchange professor for 1911-12 at Berlin University, following a plan inaugurated several years ago for the exchange of educators between the universities of Germany and the United States. This is not the first instance in which Harvard has been drawn on for the exchange professorships, but previously they have been from the faculty of arts and sciences. The drafting of Professor Smith is not only a recognition of the medical department of Harvard, but a high and well-deserved compliment to Professor Smith, who has attained eminence not only as an instructor and for his research work, but also on account of his public scientific services. He was at one time director of the pathologic laboratory of the national Department of Agriculture, and was for ten years professor of bacteriology at Columbian University, Washington, D. C. He was also director of the pathologic laboratory of the Massachusetts State Board of Health, and three years ago was awarded the gold medal of the Liverpool Society for the Study of Tropical Diseases for his studies of Texas fever. He is also known for his studies on metabolism. Professor Smith holds the degree of Ph.B., Cornell, 1881; M.D., Albany Medical College, 1883; honorary degree of A.M., Harvard, 1901; and the degree of S.D. from Harvard in 1910. In 1907 Chicago University gave him the degree of LL.D. The growing recognition abroad of the authority of the New World in medicine will be further advanced by the selection of Professor Smith, who is a worthy representative of the profession of scientific medicine.

A NEW OWEN BILL

Senator Owen has introduced a new department of health bill[1] which appears on the calendar of the sixty-second congress as Senate Bill 1. This bill is an elaboration of S. 6049 introduced by Senator Owen in the sixty-first congress, and has been modified to meet the objections raised against that measure. The principal criticisms, in fact the only ones brought out in the hearings on public health before the house and senate committees, were that there was a possibility of the functions of the state boards of health being infringed on; that the individual liberties of the people might possibly be impaired and that in organizing and administering the federal department of health there might be discrimination against some schools or sects of medicine. All of these objections were based on conjecture rather than fact, were of remote possibility and abundantly guarded against by existing laws and decisions. But in order to remove any possible grounds of objection to the bill, Senator Owen has specifically provided in the present bill that "this act shall not be construed as attempting to authorize the department of health to exercise or to attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof . . . and provided further that the department of health shall recognize no so-called school or system of medicine." These provisos should amply reassure the sincere opponents of Senator Owen's first bill who may have feared honestly, even though mistakenly, that an intelligent effort on the part of the federal government to investigate the causes of disease and to conserve the lives and health of the people might infringe on his personal rights. Such objectors have, of course, entirely failed to discriminate between the investigation of disease in the abstract and the treatment by individual physicians of individual patients. The former is a perfectly proper function of the federal government which can be exercised without affecting the rights of the individual in the slightest: the latter is and must always remain a personal prerogative, except under a form of government so socialistic in character

1. Miscellany Department, this issue, page 1208.

as to be practically out of the question under existing conditions. Although the new bill explicitly removes all the honest objections which were raised to the old bill, it is not to be expected that these changes will allay the opposition to the measure, on the part of mercenary interests arrayed against further health legislation. Those familiar with the situation know that the sincere, but mistaken, objectors to the first Owen bill were only puppets in the hands of the mercenary interests which feared, and still fear, federal investigation of their business or interference with their ill-gotten profits. It is to be expected that these chronic objectors (for revenue only) will find new and equally far-fetched reasons for objecting to Senator Owen's latest bill. The public, however, will not be slow to detect the reasons for further opposition to a measure distinctively altruistic in character and for the benefit of the public. The bill provides for a department of health with a director at the head; for a subordinate commissioner of health and for the transfer of the Public Health and Marine-Hospital Service from the Treasury Department, the Bureau of Chemistry from the Department of Agriculture and the Division of Vital Statistics from the Department of Commerce and Labor. It also provides for bureaus of sanitary research, child hygiene, vital statistics and publication, food and drugs, quarantine, sanitary engineering, government hospitals and personnel and accounts. Cooperation with the health authorities of any state, as well as conferences of state health officers are also provided for. No provision is made for increased pay for the Marine-Hospital surgeons, as it is generally understood that a separate personnel bill will be introduced. Senator Owen's new bill marks a distinct advance in the development of a law to establish an effective federal department of health.

"APPLIED ETHICS IN JOURNALISM"

Under the above title, Theodore Roosevelt in the *Outlook* for April 15, makes some interesting comments regarding the "patent medicine" evil in its relation to the newspapers. After touching briefly on the fraud and cruelty connected with fake financial advertising, Mr. Roosevelt says:

> The patent medicine advertising represents as great an evil . . . We hear much of the influence exercised by great corporations on the press, and unquestionably this influence has been and is, very serious. Yet it cannot be greater than the evil influence exercised by the backers of objectionable medical and financial advertisements when they spend between thirty and forty millions a year in the daily newspaper press.

After thus speaking of the matter in the abstract, Mr. Roosevelt, as is his wont, comes down to the concrete by calling attention to some of the reasons why this form of fraud on the part of the newspapers is not more often fought. The New York *Herald* until 1907 carried without let or hindrance, in what was called the "Personal Columns," but which should have been designated "Abortionist Columns," advertisements that were both criminal and obscene. In that year, however, the Medical Society of the County of New York found a United States district attorney with sufficient courage to attack this cesspool of filth with the result that a verdict was secured against the proprietor of the *Herald* and he was forced to pay a fine of $25,000. Of the attitude taken by other newspapers regarding this case, Mr. Roosevelt says:

> In this case, by the way, many of the newspapers which are ordinarily of reasonable virtue so hid the facts as to prevent any effective understanding by the public of the real reason for the animosity very naturally shown by Mr. Bennett [proprietor of the *Herald*] through his papers ever since toward all the public officials who were in any way connected with bringing him to justice for his crime.

It is also worth while to call attention, at this time, to the fact that the *Herald,* ever since the "Personal Column" episode, has done its best to vilify and blackguard the medical profession, this, presumably, because its proprietor resents not only the loss of actual cash for payment of the fine, but also the still greater loss of revenue from the abortion advertisers whose "copy" became unacceptable in the eyes of the United States post-office authorities. The *Herald* was one of the first, if indeed it was not the first, of the New York papers to espouse the cause of the "patent medicine" interests' latest organization for fighting the American Medical Association—the National League for Medical Freedom.

Our ex-president also calls attention to the appalling number of "patent medicine" and quack advertisements that appear in the New York *World* and in the "World Almanac" for 1911 and then says:

> A peculiarly objectionable feature of these medical advertisements, exactly as with the financial advertisements, is that it is the poorest class, the most helpless class, of people that are most hurt by them. I believe that legislation could be framed to forbid such advertisements. In default of such legislation there is at least need that we should discriminate in the sharpest way between newspapers which war against this evil and newspapers which encourage it.

On the other hand, Mr. Roosevelt has expressed the greatest admiration for publications, such as *Collier's Weekly,* which have rendered the public a great service by exposing the viciousness and fraudulence of quackery and the "patent medicine" business. His excellent editorial closes as follows:

> We owe hearty respect to the public servant who, like ex-District Attorney Stimson, fearlessly does his duty in bringing to justice a great newspaper that goes wrong, although he knows that his action will be of harm to himself personally; and we are bound to pay a tribute of deserved respect to a paper like *Collier's* when, in a matter so vital to the public well-being, it wages so fearless, aggressive and efficient a fight for honesty and decency.

FOUNDED ON FALSEHOOD

There is at present before the United States Supreme Court a case, the decision in which will either wonderfully strengthen or irrevocably weaken the federal Food and Drugs Act. O. A. Johnson, a mail-order cancer-cure quack of Kansas City, Mo., shipped some of his nostrums in interstate commerce. The labels on these preparations bore the statement that they would cure cancer. As every physician knows, and as a large proportion of intelligent laymen know, this statement is an untruth. The government brought suit, under the Food and Drugs Act, declaring Johnson's nostrums misbranded in that the statements on the labels were false. Johnson fought the case, and it has finally reached the Supreme Court of the United States. He insists that

the Food and Drugs Act was intended by Congress only to deal with the composition of medicines and not with their therapeutic value. When the case was being argued two or three days ago before the justices of the Supreme Court, Solicitor-General Lehmann maintained that, in drawing up the Food and Drugs Act, Congress recognized that it was just as important to deal with the curative effects of medicines as with their ingredients. Justice Lurton interrupted the Solicitor-General by asking whether such an interpretation of the law as the government desires "would not break up the patent-medicine business." Mr. Lehmann replied: "It probably would, and I know of nothing within the scope of Congress that would be more beneficial." The question by the justice and the answer by the solicitor-general are worth pondering over. Men who have reached the positions held by Solicitor-General Lehmann and Justice Lurton cannot, truthfully, be accused of being fanatics or prone to making radical statements: On the contrary they are likely to be, if anything, ultraconservative. Nevertheless, one of these men plainly intimates and the other frankly says that the "patent medicine" business is based on fraud and deceit. No other interpretation of the question and answer seems possible. Justice Lurton asks whether, if the "patent medicine" makers have to tell the truth about their products, it would not destroy their business; Solicitor-General Lehmann says that it would!

Medical News

CALIFORNIA

Personal.—Dr. Emil O. Jellinek, San Francisco, has gone abroad.——Dr. Norman D. Morrison, San Mateo, has been elected trustee of the San Mateo Union High School District.

Society Meeting.—Long Beach Medical Society, at its annual meeting, April 7, elected Dr. William H. Newman, president; Dr. Francis L. Rogers, secretary-treasurer; Dr. Albert C. Sellery, councilor. A committee composed of Drs. Albert C. Sellery, William H. Jones and Theophilus C. Donnell was appointed to arrange for the entertainment of the delegates of the American Medical Association.

Arequipa Sanatorium.—A sanatorium for the treatment of incipient cases of tuberculosis is assured to San Francisco by the gift of a tract of 40 acres of land near Fairfax, Marin County, by Henry Bothin. Plans for the structure have been made, and $5,000 has thus far been subscribed for the erection of the building. The entire cost of the institution will be about $20,000. Dr. Philip King Brown, San Francisco, is to be director of the sanatorium and the medical board will include Drs. Louis P. Howe, Richard G. Broderick and Lewis S. Mace, all of San Francisco. The institution is to be known as Arequipa, an Indian term meaning a place of rest.

CONNECTICUT

County Physicians Hold Meeting.—The one hundred and nineteenth annual meeting of the Hartford County Medical Association was held in Hartford, April 4. The following officers were elected: president, Dr. Harmon G. Howe, Hartford; vice-president, Dr. Henry A. Deane, South Windsor; secretary-treasurer, Dr. Paul P. Swett, Hartford; councilor, Dr. Oliver C. Smith, Hartford; censor, Dr. Frederick B. Willard, Hartford; delegates to the state society, Drs. Charles M. Wooster, Tariffville; Myron P. Robinson, Windsor Locks; Thomas G. Sloan, South Manchester; Paul P. Swett, Hartford; William R. Miller, Southington; John F. Dowling, Hartford, and Frank L. Waite, Hartford.

ILLINOIS

State Takes Over County Institutions.—By the terms of an agreement ratified April 12 by the house committee on appropriations, it is agreed to place on the omnibus appropriation bill an item of $450,000 to care for the ordinary and extraordinary expenses of Cook County Institutions, Dunning, until July 1, 1913.

Personal.—Dr. Emery W. Goembel, Rockford, who was operated on for appendicitis, April 10, is reported to be well on the road to recovery.——Dr. James A. Rutledge, Elgin, has been appointed medical director of the Modern Woodmen sanatorium, Colorado Springs.——Dr. Willis G. Hatch, Rockford, fractured his arm above the wrist while cranking his automobile, April 2.——Dr. Jacob S. Kauffman, Blue Island, has been appointed a member of the consulting staff of Oak Forest Infirmary.

State Alienists Organize.—The members of the medical staffs of the various state hospitals held a meeting in Elgin, April 12 and 13, and organized the Illinois State Hospitals Medical Society, and elected the following officers: Dr. H. Douglas Singer, Kankakee State Hospital, president; Dr. Charles F. Read, Watertown State Hospital, vice-president; and Dr. Ralph T. Hinton, Jacksonville State Hospital, secretary-treasurer. The object of the society is to study diseases of the insane, epileptics and other classes of unfortunates who are inmates of state institutions.

Recent State Board Cases.—In the case of the people versus Madame Florencia A. T. Powella, M.C.S., a "bloodless medical surgeon chiropodist," the defendant was tried before a jury in the municipal court for practicing medicine without a license, was fined $100 and costs. After a motion for a new trial had been overruled she appealed her case.——The State Board also prosecuted "Prof." J. C. Fisher, who was found guilty and fined $100 and costs for practicing medicine without a license. This individual is said to have had an altar in his front room before which patients were brought. The "Professor" murmured in front of the altar and finally turned and stated the nature of the ailment. He then rubbed the neck and temple of the patient, gave him medicine and charged him $2.

Antituberculosis Laboratory.—The latest donation of James A. Patton, Evanston, is that of half a million dollars to be devoted to the cause of medical reseach regarding tuberculosis. This donation is to be used to establish a laboratory in connection with Northwestern University Medical School which will band all its energies in the search for a cure for tuberculosis. Mr. Patton's original gift of $200,000 will be devoted to the establishment of a new chair in the medical school to be known as the chair of experimental or research medicine. The entire time of the professor in charge of this department will be given to investigation along lines indicated, and the work of the department will be in reciprocity with the other laboratories of the school. Four recent graduates will be paid a living salary, and will be induced to remain a year or longer in the laboratory before engaging in practice. In this way a school of investigation will be established, and the abler men will be induced to remain to engage in research work. Dr. Arthur R. Edwards, dean of the school, has been selected as head of this movement.

Chicago

Small-Pox.—During the week ended April 15, fourteen cases of small-pox were sent to the Isolation Hospital. Of these three were imported, thirteen had never been vaccinated, and the other one had an imperfect doubtful scar made in childhood. Five cases were taken to the hospital from one family. The physician in this case pronounced the disease chicken-pox and failed to report the case to the department of health.

Personal.—Dr. John B. Murphy, who has been ill with typhoid fever, is convalescent.——Dr. E. Fletcher Ingals is ill with typhoid fever but is reported to be doing well.——Dr. Eugene S. Talbot has been ill for several days with pneumonia, but is reported to be in good condition.——Dr. Clara Ferguson has been appointed a member of the medical staff of Cook County Hospital.——Drs. Hugh N. MacKechnie, John A. Graham, George N. Pratt, Frank J. Fara and Douglas A. Payne have been appointed members of the consulting medical staff of Oak Forest Infirmary.——Dr. Willis O. Nance was elected alderman at the recent election.

Dr. Evans' Valedictory.—On retiring from the office of health commissioner of Chicago, Dr. William A. Evans makes the following statement to the public in the *Weekly Bulletin:*

When, in 1907, I assumed responsibility for the health department, I wrote that the work had been evolving; my predecessors had brought it up to a certain point and that I would try to build still further. I think that the reputation of the department throughout the world, the growth of the older activities of the department and development of new activities, the greater security of the people and a better food and air supply, and a greater public interest in health, are further steps in that evolution. Perhaps most significant of all, the department is incorporated as, and in truth is, a school of sanitary instruction. Here, too, there is evolution, since the nucleus of it was this bulletin, begun by Drs. Reynolds and Reilly. I am steadfast in the hope and I assure the public of my belief that my successor will continue this evolution, fighting off the few in the interest of the great, needful mass.

And now I wish to say in sincerity that the results accomplished have been due to the brains, energy and faith of the men in charge of bureaus, and the men and women under them; to the vision and the courage of the mayor; to the cooperation of other departments of the city government; to the city council, which has passed every important ordinance asked of it, save one—that requiring that milk should be kept cold.

KANSAS

Opposes Contract Practice.—Shawnee County Medical Society, at its April meeting, adopted an amendment providing for the expulsion of any member of the society proved to have engaged in lodge or club practice.

LOUISIANA

Lumber Company will Operate Hospital.—Beginning with April 1, the Bogalusa Hospital is being operated directly by the Great Southern Lumber Company. Dr. Herbert C. Cole has been made chief surgeon of the institution.

Parish Election.—Calcasieu Parish Medical Society, at its annual meeting, at Lake Charles, April 4, elected Dr. Allen J. Perkins, Lake Charles, president; Dr. Hugh L. Sanders, West Lake, vice-president; Dr. Samuel George Kreeger, Lake Charles, secretary-treasurer (reelected), Dr. Edward R. Gandy, West Lake, delegate to the state society, and Dr. Norman S. Craig, Jennings, alternate.

New Home of Parish Society.—The new home of the Orleans Parish Medical Society, New Orleans, was dedicated with fitting ceremonies, March 13. The principal address of the evening was delivered by Dr. Stanford E. Chaillé on "The Organization of the Louisiana State and Orleans Parish Medical Societies." On March 27, the newly elected officers were installed, including Dr. Benjamin A. Ledbetter, president; Drs. Eugene H. Walet and Charles N. Chavigny, vice-president; Dr. Lawrence R. DeBuys, secretary; Dr. William H. Block, treasurer; Dr. Homer Dupuy, librarian, and Drs. Joseph T. De Grange, Arthur Nolte and William H. Seemann, directors.

MARYLAND

The State Sanatorium.—Plans for the new hospital buildings in connection with the Maryland State Tuberculosis Sanatorium, Sabillasville, have been finished. A new administration building is to be erected and also additional wings will be built, which will increase the capacity of the institution to 200.

Annual Meeting of Ladies' Auxiliary.—The Ladies' Auxiliary of the Widows' and Orphans' Fund, Medical and Chirurgical Faculty of Maryland, held its annual meeting in Baltimore, April 11. The following officers were elected: president, Mrs. William G. Gombel; vice-presidents, Mrs. Albert H. A. Mayer and Mrs. John G. Jeffers; recording secretary, Mrs. L. K. Michael; corresponding secretary, Mrs. Charles H. Bubert; treasurer, Mrs. Marshall L. Price, and executive committee, the officers and Mrs. James F. H. Gorsuch, Mrs. T. Casper Gilchrist, Mrs. William E. Wiegand and Mrs. George L. Duane.

Personal.—Dr. Warren P. Morrill, M. C. N. G., Md., Baltimore, has been detailed to take part in the maneuvers at San Antonio, Tex.——Dr. Thomas J. Coonan, Westminster, has been elected chairman of the Democratic State Central Committee for Carroll County.——Dr. R. A. Shankwiler, formerly resident physician at Eudowood Hospital for Tuberculosis, has been made superintendent of the Detroit Tuberculosis Sanatorium.——The emperor of Germany has conferred the order of the crown, second class, on Dr. William H. Welch, Baltimore, in appreciation of his services in propagating German medical science in the United States and in spreading the use of the German language in the medical schools of America.

MASSACHUSETTS

Boston Reappointments.—Dr. Samuel H. Durgin has been reappointed chairman of the board of health; Dr. Nathaniel W. Emerson, a trustee of the infirmary department, and Dr. Miles Martin, overseer of the poor.

The State Society Meeting.—The annual meeting of the Massachusetts Medical Society will be held in Boston, June 13 and 14. Two meetings of each section will be held the first day, and the section on tuberculosis will be held on the afternoon of that day. One of the sessions of the medical section will be devoted to a symposium on syphilis. The councilors' meeting will be held at noon on Tuesday and the Cotting lunch will be served as usual. The section meetings and the meeting of the council will be held at the Harvard Medical School. School buildings and laboratories will be open to the society and special scientific exhibits or exhibits illustrating papers of interest to members will be given in the laboratories. The Shattuck lecture and reception will be held as usual on Tuesday evening in the medical library. The annual meeting and discourse will be held on Wednesday at the medical school, after which the annual dinner will be served at Symphony Hall. Immediately after the dinner the society will adjourn to the Country Club to witness the annual inter-district baseball game.

MISSOURI

Additional Accommodation in Tuberculosis Pavilion.—Through the efforts of the local antituberculosis society, six beds have been added to the pavilion for tuberculosis patients at the Kansas City General Hospital, making the total capacity twenty-two beds.

Colored Physicians to Work Among Their Race.—At the request of Dr. Walter S. Wheeler, health commissioner of Kansas City, the hospital and health board have approved the assignment of two colored physicians, Drs. Charles F. Clark and Lloyd E. Bailer, who will be assigned to look after colored charges in the city.

St. Louis

Intern Examination Held.—As the result of the competitive examinations for interns for the City Hospital, St. Louis University medical students obtained twenty-seven places and Washington University seventeen.

Personal.—Dr. Henry S. Atkins, superintendent of the Municipal Tuberculosis Sanatorium, has resigned.——Dr. Arthur H. Sewing, first resident physician at the City Hospital, has been appointed resident physician, vice Dr. Walter R. Hewitt, resigned.——Dr. H. Wheeler Bond, health commissioner, has sent to the comptroller a check for $1,799.18, representing the difference between the amount received as fees for registering vital statistics under the state law and the expense of conducting the office.

NEW HAMPSHIRE

Medical School Commencement.—The one hundred and thirteenth graduation exercises of Dartmouth Medical School, Hanover, were held, March 28, in College Hall. Dr. John M. Gile delivered the address to the graduating class, and President Ernest F. Nichols conferred degrees on a class of nine.

County Medical Society Election.—At the sixth annual meeting of the Hillsboro County Medical Society, held in Nashua, April 4, the following officers were elected: president, Dr. Herbert L. Smith, Nashua; vice-president, Dr. James B. Pettingill, Amherst; secretary-treasurer, Dr. Ella B. Atherton, Nashua (reelected); auditor, Dr. Bradford Allen, Nashua, and delegate to the state society, Dr. Walter H. Abbott, Hillsboro.

National Guard Appointments.—At the recent meeting of the governor's council, the following nominations were made to fill vacancies in the medical department of the New Hampshire National Guard: Captain Russell Wilkins, Concord, promoted to major; Lieutenant Bertell L. Talbot, Peterboro, made captain, vice Dr. Wilkins, promoted; Dr. Robert J. Graves, Concord, commissioned first lieutenant, vice Dr. Talbot promoted, and Dr. Charles S. Walker, Keene, first lieutenant, vice Dr. Jesse B. Hyland, Keene, resigned.

NEW YORK

Sanitarium for Dunkirk.—Plans have been completed for a sanitarium to be built at Cobb Mineral Springs, Dunkirk, to cost $15,000, to accommodate thirty patients and be completed July 1.

Matteawan Investigation.—Dr. Austin Flint, Dr. Carlos F. MacDonald and Goodwin Brown, who were named by Governor Dix to investigate conditions at the Matteawan State Hospital, have begun their work. They will question each one of the 897 patients as to food, treatment and other conditions. It is expected that the investigation will require several weeks.

Rabies in Yonkers.—Information has come from the New York City Health Department that during the last two months thirteen persons have received treatment for mad dog bites. A representative of the health department has advised instant cooperation with the state authorities. All dogs have been barred from the streets for sixty days unless muzzled or on a leash.

County Society Meeting.—At the quarterly meeting of the Oneida County Medical Society, held in Utica, April 10, communications were read from three physicians who were expelled from the society a year ago for violating the principles of ethics by advertising certain cures, giving notice that they intended to appeal to the state medical society from the decision of the county society. A general discussion was held on contract practice and a committee was appointed to confer and report on the matter.

New York City

Addition to Sloane Maternity Hospital.—Plans have been filed for the building of four additional stories on the Sloane Maternity Hospital for private patients. The cost of this addition will be about $60,000.

Cancer Home Asks Aid.—St. Rosa's Home devoted to the care of victims of incurable cancer is making an earnest effort to complete a fund of $50,000 to be used in the erection of a new building. The building fund at present amounts to $8,142.

New Step in the Antituberculosis Movement.—Babies may be seen in Central Park wearing the admonition "Please do not kiss me, I do not like it. It is harmful." It is hoped that this will assist in limiting other diseases besides tuberculosis.

Vacancy in Clinic.—Washington Heights Hospital announces vacancies in the medical and surgical clinic of the institution, Tuesday, Thursday and Saturday from 2 to 4 p. m. Application should be made to Dr. Louis Neuwelt, 2424 Seventh Avenue, New York City.

Medical Staff Resigns.—The entire medical staff of St. John's Hospital, Long Island City, is said to have resigned. The reason is said to be the objection of the members of the staff to the rules governing the institution. The 750 patients in the institution are being cared for by the visiting staff.

Against Bronx Hospital.—The State Board of Charities has disapproved of the incorporation of the Bronx Hospital which Manhattan physicians have been anxious to establish in the Bronx, but which was opposed by physicians in that locality. The Bronx physicians stated that they had a plan of their own on foot to start a hospital and they regarded the efforts of the Manhattan physicians as an encroachment on their territory.

Ships Bring Disease.—The death of two passengers on the Greek steamship *Themistocles* and of two on the Fabre liner *Germania*, from cerebrospinal meningitis, have caused the detention of the passengers in quarantine as precautionary measures.——Two cases of spinal meningitis were discovered among passengers on the Fabre liner *Venezia*, on its arrival in New York, March 29.——The steamer *Verona*, which arrived from Italy, March 31, was detained in quarantine on account of a case of small-pox among cabin passengers.

The Milk-Supply of New York City.—Commissioner Lederle, in an address before the International Pure Milk League, outlined the work of the department in its effort to secure pure milk. He stated that arrangements had been completed for the opening of fifteen milk stations. The health department will furnish physicians, nurses, milk inspectors and ice-boxes but will not handle the milk. They asked dealers to bid for the privilege of furnishing the milk. They have decided that for the present they will not pasteurize the milk but will instruct the mothers in the modification in their homes. The greatest problem that confronts the health department is the 14,000 little stores where milk is sold in small quantities.

Health Department Bulletins.—Recent bulletins of the department of health of New York City refer to the public control of venereal diseases in the city, recommending the early adoption of the plan of the sanitary control of such diseases; announces the passage of a resolution requesting the board of aldermen to approve of the issue of special revenue bonds to the amount of $10,000 for the purchase of food supplies for patients at the two day-camps maintained by the department on the ferry boats *Middletown* and *Susquehanna*, as these camps are among the most effective agencies in the extension of relief to the tuberculous poor, and in the campaign for the prevention of tuberculosis. The bulletin of April 7 gives a report of the work of the division of food inspection, showing the arrest of four candy dealers for violation of the sanitary code, and of one fruit dealer who sold decayed fruit, and the condemnation of 4,617 pounds of foodstuff on April 5. The succeeding bulletin announces that twenty-five arrests had been made on the upper East Side for the exposure of foodstuff and for offering decayed food for sale in violation of the provisions of the sanitary code. Twenty-two of the accused were found guilty and fined. The resolution of the board of health on the sanitary control of venereal disease for the protection of public health has been endorsed and approved by the New York Urological Society. The bulletin of April 10 is devoted to diarrheal diseases of infants under one year of age. During the first three months of 1911, there were 508 deaths of children from this cause in Greater New York as compared with 348 during the corresponding period of 1910. This increase has taken place almost entirely in institutions and hospitals where children are cared for. This is accounted for by the fact that the bulk of these deaths occurred in the New York Foundling Hospital where abandoned children, who are generally of low vitality, are received and cared for. The bulletin of April 11 deals with the spitting nuisance, and shows that during the first quarter of 1911, 434 arrests were made, 279 fines were imposed amounting to $414; forty-four defendants were discharged, and sentence was suspended in 111 cases. An interesting feature of the report is the low percentage of the accused who were fined from the Boroughs of Brooklyn, Queens and Richmond, as compared with those of Manhattan and Bronx.

NORTH CAROLINA

Personal.—Dr. William W. Faison, Goldsboro, has been elected for a second six-year term as superintendent of the State Hospital for Colored Insane. The institution now contains 730 patients.——Drs. Daniel G. Caldwell, Concord, and Gurley D. Moose, Mount Pleasant, have been elected members of Cabarrus County Board of Health.——The new Edgecombe County Board of Health has elected Drs. James C. Braswell, Whitakers, and Henry H. Whitaker, Hilliardston, as additional members of the board.——Drs. Andrew L. Pendleton and William J. Lumsden, Elizabeth City, have been appointed members of the board of health of Pasquotank County.

Hookworm Activity.—Dr. John A. Ferrell, assistant secretary of the State Board of Health, in his report of the hookworm investigation for the three months ended March 3, shows that 1,153 of the 1,500 practitioners in the state have made reports on hookworm disease, and 519 of these report that they have treated cases. All together 17,933 cases of hookworm were reported as having been treated by physicians of the state. Dr. Ferrell estimates that 25,000 cases have probably been under treatment. There were 16,994 specimens sent to the laboratory for examination and hookworm infection was found in 5,178 of these. The laboratory of hygiene has been made use of by 483 physicians up to date. In the inspection of schools, it is reported that 266 white and 69 colored schools have been inspected and that nearly 6,000 people have been informed about hookworm disease by public lectures. The number of school children reached by talks and visits of district directors of sanitation is estimated at 20,000. The state legislature made an appropriation of $5,000 for the work against hookworm.

OHIO

Laboratory Ready.—The bacteriologic laboratory of the Toledo health office, for which $1,000 was appropriated by the council, is now ready for operation.

Personal.—Dr. and Mrs. William B. Van Note have returned to their home in Lima after spending the winter in Miami, Fla.——Dr. John P. Beneke, Cincinnati, was painfully injured in a runaway accident, March 29.——Dr. Andrew J. Timberman, Columbus, who has been ill with septicemia in Lakeside Hospital, Cleveland, is reported to be improving.

TENNESSEE

Annual Clinic at Meharry.—The annual surgical clinic at Meharry Medical College, Nashville, was held March 13-18, with Dr. Daniel H. Williams, Chicago, as chief of clinic.

Does Not Want Prescriptions Refilled.—Washington County Medical Association, at a recent meeting in Johnson City, adopted a resolution demanding that prescriptions shall not be refilled by druggists.

Folder on Tuberculosis—The board of health of Nashville has prepared an instructive folder on "Tuberculosis, Its Care and Prevention," which is being distributed very generally by the Antituberculosis League of Nashville.

State Association Meeting.—The seventy-eighth annual meeting of the Tennessee State Medical Association was held in Nashville, April 11-13, under the presidency of Dr. John A. Witherspoon, Nashville. Chattanooga was selected as the place of meeting for 1912. The following officers were elected: president, Dr. Charles J. Broyles, Johnson City; vice-presidents, East Tennessee, Dr. James H. Atlee, Chattanooga; West Tennessee, Dr. John D. Brewer, Newbern, and Middle Tennessee, Dr. Wesley J. Breeding, Ravenscroft; secretary-editor, Dr. Perry Bromberg, Nashville; delegate to the American Medical Association, Dr. Jere L. Crook, Jackson; alternates, Drs. Octavius Dulaney, Dyersburg, and A. Bennett Cooke, Nashville, to fill the unexpired term of Dr. Sidney S. Crockett, Nashville.

TEXAS

Gift to College.—Dr. and Mrs. James H. Wayland, Plainview, announce a gift of $100,000, on April 13, to the Wayland Baptist College, which bears their name.

Approves of Lay Press.—The question of whether the reports of meetings of Harris County Medical Society should be excluded from lay newspapers in the future was put to a vote at the meeting of March 31 and overwhelmingly voted down.

Man Arrested Was Not Member.—At the meeting of the Bexar County Medical Society in San Antonio, March 9, a resolution is said to have been adopted stating that "Dr. Herman T. Wolff, recently arrested by order of the justice of the peace, is not a member of this society and is in no way related to, and should not be confused with Dr. William M. Wolf, who is a worthy member in good standing of said county society."

Personal.—Dr. Joseph H. Reuss, Dallas, has purchased Salome Hospital, Cuero, from the Ladies' Hospital Association and will take charge of the institution about June 1.——Dr. John S. Turner, Dallas, has been reelected medical adviser of the Southland Life Insurance Company.——Dr. J. W. Sandlin has been appointed health officer of Humble.——Dr. Francis G. Floeckinger, Taylor, has let the contract for a private sanitarium to cost $15,000.

Medical Department Organized.—By orders from the adjutant general's office, March 27, the Medical Department of the Texas National Guard is defined. It consists of a medical corps with one chief medical officer with the rank of major, four majors, ten captains and seven first lieutenants. Dr. Alois B. Kennedy, Bonham, remains as chief medical officer. The hospital corps will remain as at present with headquarters in Dallas, and with Captain Fred B. Johnston, Dallas, in active charge.

UTAH

Ask for Military Sanitarium Near Salt Lake.—A memorial to congress asking that a naval and military sanitarium be established at the hot springs north of Salt Lake, and tendering a site free of cost to the government, has been adopted by both branches of the legislature.

District Society Election.—At the annual meeting of the First District Medical Society, held in Logan, the following officers were elected: president, Dr. David C. Budge, Logan; vice-president, Dr. Charles A. Canfield, Preston, Ida.; and secretary-treasurer, Dr. Eugene H. Smith, Ogden. The society passed a resolution that the State Board of Health be given power to require listing of social disease by number, the name of the individual affected not being given.

Elections.—At the annual meeting of the State Board of Health, Dr. Francis S. Bascom, Salt Lake City, was unanimously reelected president, and Dr. Theodore B. Beatty, Salt Lake City, secretary.——The Utah State Board of Medical Examiners met for reorganization, April 5, and elected Dr. David C. Budge, Logan, president; Dr. Frederick W. Taylor, Provo, vice-president; Dr. George F. Harding, Salt Lake City, secretary, and Dr. Frederick E. Straup, Bingham Canyon, treasurer.

Personal.—Dr. Albert N. Hanson, Salt Lake City, has been elected physician of Salt Lake County, vice Dr. Thomas G. Odell, Salt Lake City.——Drs. Philemon M. Kelly, American Fork, Horace C. Holbrook, Lehi, and Frank E. Winter, Payson, have been appointed deputy physicians of Utah County.——Drs. E. L. Emrich, Alexander G. Robertson, Sandy, Frederick E. Straup, Bingham, and Milford B. Bransford have been appointed health officers of the several districts of Salt Lake County.——Dr. T. William Stevenson has been appointed assistant physician of Salt Lake County.

GENERAL NEWS

Interurban Clinicians Meet.—The thirteenth meeting of the Interurban Clinical Association was held at Johns Hopkins Hospital, Baltimore, April 7 and 8. The meeting was opened by the president, Dr. Alfred Stengel, Philadelphia, and the address of welcome was made by Dr. Thomas McCrae of the medical staff of Johns Hopkins University.

Pathologists Elect New Officers.—The American Association of Pathologists and Bacteriologists held its annual meeting in Chicago, April 14, and elected the following officers: president, Dr. Richard M. Pearce, Philadelphia; vice-president, Dr. John J. McKenzie, Toronto, Ont.; secretary, Dr. Harold C. Ernst, Boston; and treasurer, Dr. Frank B. Mallory, Boston.

Congress on Hygiene.—The Fifteenth International Congress on Hygiene and Demography will be held at Washington, D. C., Sept. 23-28, 1912, authorized by Congress. Acceptances have already been received from twenty-two foreign governments. English, French and German are to be the official languages for papers and discussions. Dr. Henry P. Walcott, Boston, will be active president. Invitations have been sent to the governors of each state to appoint a committee of not more than five members to cooperate with the committee on organization in planning and preparing the exhibition of the congress. The secretary-general of the organization is Dr. John S. Fulton, Washington, D. C. Dr. William H. Welch, Baltimore, is chairman of the executive committee. The work of the congress will be divided in nine sections: that of hygienic microbiology and parasitology will be presided over by Dr. Theobald Smith, Boston; that on dietetic hygiene and hygienic physiology, by Prof. Russell H. Chittenden, New Haven, Conn.; that on hygiene of infancy and childhood and school hygiene, by Dr. Abraham Jacobi, New York City; that of industrial and occupational hygiene, by Dr. George M. Kober, Washington, D. C.; that of control of infectious diseases, by Dr. Hermann M. Biggs, New York City; that of state and municipal hygiene, by Dr. Frank F. Wesbrook, Minneapolis; that of the hygiene of traffic and transportation, by Dr. Walter Wyman, surgeon general, U. S. P. H. and M.-H. Service, Washington, D. C.; that of tropical, military and naval hygiene, by Dr. Henry G. Beyer, medical director, U. S. Navy, Washington, D. C.; and that of demography by Prof. Walter F. Willcox, Cornell University, Ithaca, N. Y. The exhibition is intended to illustrate the present status and recent progress of public hygiene and vital statistics, especially in the United States, and will be kept open for a week or more after the close of the congress. The director is Dr. Joseph W. Schereschewsky, U. S. P. H. and M.-H. Service.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 8, 1911.

The Bleaching of Flour

As shown by the agitation in favor of "standard bread," described in a previous letter to THE JOURNAL, much attention is now being directed to the composition of bread, and the whiteness of bread, previously regarded as a sign of quality, is now denounced as obtained by sacrificing some of the most important constituents (protein and salts). The whiteness is sometimes obtained by chemical bleaching of flour and this is pointed out as another disadvantage, and Dr. E. W. Hamill, government food inspector, has issued an important report on this subject. The practice of flour bleaching originated in Great Britain about ten years ago. Various substances have been used as bleaching agents, but nitrogen peroxid is the only one which has given satisfactory results, and all commercial bleaching of flour at present depends on the use of this substance. Dr. Hamill thinks that when bleaching is properly carried out it produces no appreciable effect on the qualities of flour. It may be of assistance in maintaining uniformity in the appearance of flour milled from different wheats, but at the same time it enables the miller to use cheaper wheats and to transform what would otherwise be a cheap dark-colored flour into a whiter higher-priced article. Owing to bleaching, color is no longer a criterion of the quality of flour. Among "improvers" added to flour is acid calcium phosphate. As this sometimes contains arsenic as an impurity this practice is serious. A sample improver recently examined was found to contain 0.07 grain of arsenic per pound. Dr. Hamill concludes that these sophistications are attended with risk to the consumer.

Prof. Karl Pearson's Work

In a previous letter to THE JOURNAL, the munificent endowment of a chair of eugenics at the University of London by the late Sir Francis Galton, and his wish that its first occupant should be Prof. Karl Pearson, were reported. The position of Professor Pearson in biologic science is rendered unique by his mathematical methods. As professor of applied mathematics in the University of London, he has brought to bear on biologic problems an unprecedented knowledge of mathematics. It was the work of Sir Francis Galton, who largely used mathematical methods, which induced Pearson to enter this field, in which he may now be regarded in some sense as Sir Francis Galton's successor. His first labors were directed to the discovery of methods for the description of the various types of variation in living creatures. These methods, which he elaborated more than fifteen years ago, have stood a prolonged trial. They have been used for the elucidation of an enormous mass of phenomena, ranging from the stature of school children to the powers of the leukocytes to ingest microbes. Sir Francis Galton first realized the importance of what is called correlation and showed how to measure it. Thus two characters are often found associated with a frequency which is greater than can be attributed to chance but not sufficient for the relation to be regarded as cause and effect.

there is a general impression that tall parents tend to have tall children; but it is also known that a tall father will not inevitably have a tall son. The relation between the stature of the parent and the stature of the son is neither one of obvious cause and effect on the one hand, nor one of pure chance on the other. To determine the exact value of the relation between these two extremes is the study of correlation. In this field, Prof. Pearson has worked indefatigably. He has devised methods for determining the correlation in a great variety of cases, and also for judging as to the weight to be attached to determinations based on a limited number of trials. In a long series of papers, many of which have appeared in the the journal *Biometrika* edited by him, Professor Pearson and his pupils have applied these methods to problems taken from all departments of biology, medicine and sociology. The intensity of inheritance of physical and mental characteristics in man, variation in different types of plants and animals, the value of vaccination and antityphoid inoculation, the relation between social status and fertility, and the respective importance of hereditary tendencies on the one hand and of increased opportunities for infection on the other in the spread of consumption, are examples of the subjects discussed. The work has been done at the University of London Eugenics Laboratory established by Sir Francis Galton. Probably half of the rising generation of mathematical statisticians are pupils of Professor Pearson or have been profoundly influenced by his teaching.

Infectious Diseases in London

The epidemic of measles described in a previous letter to THE JOURNAL is on the decline. The deaths from the disease which in the preceding three weeks have been 175, 197 and 182 have fallen to 153 in the last week, but this figure is ninety-two above the average. The outbreak of small-pox is not yet quite over. Three patients have been admitted into hospital in the past week against ten, one and one in the previous three weeks. There are now twenty-eight small-pox patients in the hospitals.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 7, 1911.

Mild and Curable Forms of Myocarditis

On April 4, Dr. Charles Fiessinger of Paris read a paper before the Académie de médecine, the purpose of which was to show that toward the end of attacks of certain infectious diseases (acute articular rheumatism, influenza) asystolic conditions are observed which are really akin to mild forms of myocarditis. In spite of their gravity, these conditions of cardiac insufficiency may be completely cured under treatment by digitaline in small doses, continued over a long period, such as 0.0001 decimilligram of digitaline crystalisée for ten consecutive days. At the end of this period of time the medication is suspended for five days, then resumed during ten days, and so on for several months.

Salvarsan and Venous Thrombosis

On March 31, Dr. Darier, physician of the hospitals of Paris, read, before the Société médicale des hôpitaux, a paper by himself and M. Cottenot, on a series of observations which showed that thrombosis, which is sometimes observed after venous injection of salvarsan, is due to the hyperalkalinity of the solution, and that alkaline solutions of this drug are injurious to the red blood-corpuscles. One should, therefore, inject into the veins only a faintly alkaline solution prepared at the moment of using and containing an excess of sodium hydroxid only sufficient to prevent the solution from becoming turbid during its injection.

Dr. de Massary reported that he had made three intravenous injections of salvarsan in a woman. Two were made with a faintly alkaline solution; there was no alteration in the veins. The third was made wit ha hyperalkaline solution, and immediately during the injection the veins became indurated and remained so for fifteen days.

According to Dr. Milian, the formation of venous thrombosis is due, not only to the alkalinity of the solution, but also to the degree of dilution. Since he has used very diluted solutions followed by lavage of the wall of the vein with injected physiologic serum, he has not observed a single case of thrombosis.

The Name of Malta Fever

The discussion previously mentioned in THE JOURNAL (THE JOURNAL, March 11, 1911, p. 755), and the objections raised to a geographic name have caused the commission of the Académie de médecine to decide that it would be desirable to adopt a name founded on the pathogenesis of the disease. It has consequently adopted the term *mélitococcie*, which implies the idea of infection by a specific microbe common to man and to the lower animals, and which is, at all events, not offensive to any nationality.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 31, 1911.

Personal

On the ninetieth birthday of the prince regent of Bavaria, Prof. v. Müller of Munich received the title of privy court counselor.

Privat-docent Dr. Scheibe of Munich has been called to the chair of otology at Erlangen as the successor of Professor Denker.

Professor Winterstein has been appointed successor to Professor Nagel as director of the physiologic institute at Rostock.

Substitution of Roman Characters for German Script

The committee on petitions of the Reichstag has referred to the imperial chancellor a communication asking for official permission to substitute the Roman characters for the German script and gothic letters. The petition sets forth that it would be desirable for Germany to take this step which other nations took long ago. The angular so-called German script is not to be entirely suppressed, but the gothic characters are to be limited to ornamental printing, and it shall be taught in the third or fourth school year, so that pupils may be able to read it, but not be taught to write it. Against this proposition a great storm is rising, in which patriotism expresses itself in the preference for the German script. The argument is raised that for national reasons, the script used in Germany for hundreds of years should not be rejected. If, however, it is asserted that the angular letters are especially adapted to the words of the German language and that for this reason the public should not be deprived of them, it is sufficient to reply that in medical literature for decades the Roman characters have been employed almost exclusively for printing without a single physician making any objection to them.

The Third International Congress of Laryngology and Rhinology

While many congresses will meet this year in Dresden on account of the international exposition of hygiene, the third international congress of laryngology and rhinology will hold its meeting in the latter part of August in Berlin. At its head is the senior of the laryngologists, Prof. B. Fraenkel. I suppose that Professor Fraenkel retains his position only for the reason that he wishes to preside over the congress as an active professor; otherwise he would already have determined on account of his health to resign his office. Already 600 specialists from all civilized countries have announced their intention to be present at the congress. Representatives of the imperial and state authorities belong to the honorary committee. The municipal authorities of Berlin have appropriated $2,000 (8,000 marks) for the social features of the meeting.

A Motherhood Fund

In the small manufacturing city of Sebnitz in the so-called Switzerland of Saxony there has lately been created a local association to assist mothers. The occasion of this was the fact that in spite of the introduction of nursing premiums, only 55 per cent. of the women nursed their children and the infant mortality amounted to 20 per cent. All women living in the city may apply to the association if their own income or that of their family does not exceed $475 (1,900 marks) yearly. Membership once obtained does not expire until the income amounts to more than $600 (2,500 marks). The members pay a monthly fee of 12 cents (50 pfennigs) and receive in return the following assistance after childbirth: If the membership has continued for a year the fund pays back the monthly fees, $1.50 (6 marks), and adds $3.50 (14 marks) as lying-in money; two years' membership entitles one to $3.00 return fees and $4.50 lying-in money; three years' membership affords $4.50 and $5.50; that is, a lying-in woman who has belonged to the club three years receives from it $10 (40 marks). On the birth of twins an addition of $2.50 (10 marks) is paid. If the child dies during the first week or is born dead, only the fees are returned. If the mother dies, the child or the father of a legitimate child may claim the complete amount. Needy nursing mothers who belong to the club are entitled, in addition to the lying-in money, to a liter of milk daily for the improvement of their own nutrition.

Miscellany

A Bill to Establish a Department of Health, and for Other Purposes

Senator Owen, on April 6, introduced Senate Bill 1, to take the place of S. B. 6049, introduced by him at the last session of Congress. The bill follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SEC. 1. That there be at the seat of government an executive department known as the Department of Health, and a Director of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Director of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of $——— *per annum* and with tenure of office like that of the heads of the other executive departments. And said director shall cause a seal to be made for the Department of Health, of such device as the President approves, and judicial notice shall be taken of said seal.

SEC. 2. That there be in the Department of Health an assistant to the Director of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of $——— *per annum*. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Director of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The auditor for the state and other departments shall receive and examine all accounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Director of Health.

SEC. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto: *Provided*, That this act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof; but the Director of Health, on request of the chief executive or other proper authority of any state, territory, the District of Columbia or any insular possession, may detail for limited periods an officer or officers, employee or employees, from the Department of Health to assist the health authorities of such state, territory, district or insular possession in protecting and promoting the health of the people of such jurisdiction: *And provided further*, That the Department of Health shall recognize no so-called school or system of medicine.

SEC. 4. That to the Department of Health are hereby transferred the following bureaus, divisions and other branches of the government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Director of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health and Marine-Hospital Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs and liquors, and with the execution and enforcement of the act of Congress entitled "An act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time, either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which such bureau, division or other branch of the government is transferred, shall, to the extent to which such function, authority, power, duty or jurisdiction pertains to such bureau, division or other branch of the government, immediately on such transfer become vested and thereafter remain vested in the Director of Health.

All land, buildings, furniture, apparatus, equipment and property of whatsoever description, and all official records and papers, in the custody of any executive department from which any bureau, division or other branch of the government is transferred as aforesaid and pertaining to the business of such transferred bureau, division or other branch of the government, shall at the time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken without hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division or other branch of the government, or which may become available thereafter, shall be and remain available, in similar manner and to the same extent as if no transfer had been made.

SEC. 5. That within the Department of Health there shall be the following bureaus: (a) Bureau of Sanitary Research; (b) Bureau of Child Hygiene; (c) Bureau of Vital Statistics and Publications; (d) Bureau of Foods and Drugs; (e) Bureau of Quarantine; (f) Bureau of Sanitary Engineering; (g) Bureau of Government Hospitals; (h) Bureau of Personnel and Accounts. And the Director of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said director seems proper; but in arranging and rearranging the personnel, the rank, pay and allowances of the officers of the Public Health and Marine-Hospital Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this act contained, be diminished. And the Director of Health may call on the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

SEC. 6. That the President is hereby authorized to detail officers and employees from any of the several executive departments of the government for duty under the Director of Health when so requested by said director, and to detail officers and employees in the service of the Department of Health to any of the other executive departments on request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

SEC. 7. That the Director of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him on his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this act the advisory board for the Hygienic Laboratory created by section five of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same hereby is, abolished.

SEC. 8. That the Director of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities of all or of any of the states, territories, the District of Columbia and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Director of Health, on the written application of the duly constituted health authorities of not less than five states, territories, the District of Columbia or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the states, territories, the District of Columbia and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference; but every state, territory, the District of Columbia and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this act annual and other conferences of state and territorial boards of health, quarantine authorities and state health officers, provided for by section seven of an act entitled "An act to increase the efficiency and change the name of the United States Public Health and Marine-Hospital Service," approved July 1, 1902, be, and the same are hereby, abolished.

SEC. 9. That, except as expressly provided in this act, nothing herein contained shall be construed as limiting or abrogating any function, right or duty imposed by law on any existing bureau, division or other branch of the government; but such bureaus, divisions and other branches of the government as are by this act or by authority thereof transferred to the Department of Health shall continue, under direction of the Director of Health, to have such functions, duties and rights as they have at the time of such transfer; and in the case of such bureaus, divisions and other agencies of the government as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

SEC. 10. That the Director of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either House of Congress, and such as are in his judgment necessary or expedient.

SEC. 11. That $——— be, and the same are hereby, appropriated to carry into effect the provisions of this act, out of any money in the Treasury not otherwise appropriated.

SEC. 12. That all acts and parts of acts contrary to the provisions of this act or inconsistent therewith be, and the same are hereby, repealed.

SEC. 13. That this act shall take effect on and after July 1, 1912.

Cystic Disease of the Breast with Carcinoma.—It is difficult to estimate the exact etiologic relation that the presence of a cyst bears to the formation of a carcinoma, but the association of the one with the other is sufficiently common to justify the routine removal of such cysts.—H. M. Rigby, in the *Practitioner*.

Deaths

Leartus Connor, M.D., one of the distinguished ophthalmologists of the middle west, a leader in medical education, and in the uplift of the medical profession, died at his home in Detroit, April 16, from cerebral hemorrhage, aged 68.

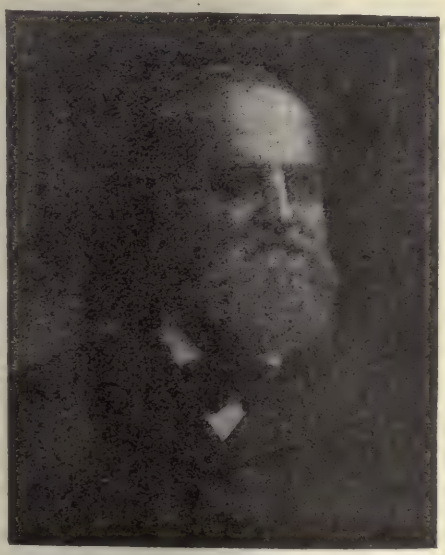
Dr. Connor was a native of Coldenham, N.Y., took his academic course at Williams College, and his medical course at the College of Physicians and Surgeons, New York City, from which he graduated in 1870. In 1871, he located in Detroit and at once began his work as a medical teacher as lecturer on chemistry in Detroit Medical College. From 1872 to 1879, he was professor of physiology and clinical medicine; from 1878 to 1881, professor of didactic and clinical ophthalmology and otology, and from 1875 to 1881, secretary of the college. In 1871, Dr. Connor became editor of the *Detroit Review of Medicine and Pharmacy* and continued as its editor through its various changes of name to the *Detroit Medical Journal*, *Detroit Lancet*, and *American Lancet*, his editorial work continuing until 1895.

He was an active and prominent member of the American Medical Association for many years, was second vice-president in 1882, a member of the original board of trustees appointed in the same year, a trustee in 1887-8, and again in 1892-3, and chairman of the Section on Ophthalmology in 1891. He was president of the Michigan State Medical Society in 1901-2, and chairman of its council from 1902 to 1905; president of the Detroit Academy of Medicine, 1877-8 and 1888-9, and its secretary 1871-2; secretary of the American Medical College Association; and president of the American Academy of Medicine and of the American Medical Editors' Association, 1883-4.

He was attending physician for several years to St. Mary's Hospital, ophthalmic and aural surgeon to Harper Hospital since 1881, and to the Detroit Children's Free Hospital since 1887, and was consulting ophthalmologist to the Woman's Hospital, from 1881 to 1890.

A testimonial dinner was given to Dr. Connor by his colleagues in Detroit, February 25, in honor of the completion of his fortieth year in practice.

Wayne County Medical Society at its regular meeting April 17, adopted resolutions of eulogy and sympathy, and adjourned without taking up the program for the evening. Funeral services were held April 18.



LEARTUS CONNOR, 1843-1911

In addition to his editorial work, Dr. Connor made many valuable contributions to the literature of ophthalmology. He was largely responsible for the activity displayed by various associations in the regulation of the teaching of ophthalmology in the colleges so that every practitioner would have the ability to refract correctly and render the service to his patients which the optometrist is trying to render. Dr. Connor was a loyal friend, and an enemy who always fought fairly; no one ever questioned his good faith. His precept and example were an inspiration to his younger confrères, and his death will be lamented, not only by them, but by his many friends throughout the United States.

Charles Augustus Oliver, an ophthalmologist of international repute, died at his home in Philadelphia, April 8, from uremia, aged 57. He was a native of Cincinnati, but went to Philadelphia when a child, pursued his medical studies at the University of Pennsylvania and was graduated from the medical department of that institution in 1876. He was a member of the American Medical Association, American Association for the Advancement of Science, American Philosophical Society, and American Ophthalmological Society, and was an active, honorary or corresponding member of many other medical and scientific societies in this country and abroad. He was attending surgeon to the Wills Eye Hospital, ophthalmologist to the Presbyterian Hospital, and consulting ophthalmologist to the Friends' Hospital for the Insane and the State Hospital for the Chronic Insane. He was a prolific writer on his specialty, co-author with Dr. Norris of the "Textbook of Ophthalmology," and author of several books and monographs on ophthalmology. He was a fellow of the Philadelphia College of Physicians and founder of the Wills Eye Hospital Ophthalmic Society. He was made associate clinical professor of ophthalmology in the Woman's Medical College of Pennsylvania, Philadelphia, in 1897, and later on was made clinical professor in that institution. Dr. Oliver had suffered from nephritis about three years.

Albert Rufus Baker, M.D. Western Reserve University, Cleveland, 1879; a member of the American Medical Association, and chairman of the Section on Ophthalmology in 1893-4; professor of ophthalmology, otology and laryngology since 1888 in the Cleveland College of Physicians and Surgeons, and chairman of the faculty from 1898 to 1902; oculist and aurist to St. Alexis and Cleveland General Hospitals; expert on the local board of U. S. Pension Examining Surgeons; president of the Association of American Medical Colleges in 1900-01 and of the Cuyahoga County Medical Society; a fellow of the American Academy of Medicine; editor of the *Cleveland Medical Gazette* from 1885 to 1896; died at his home in Cleveland, April 5, aged 53.

John H. Janeway, M.D. University of Pennsylvania, Philadelphia, 1852; Colonel Medical Corps, U. S. Army, retired, died in the Kenilworth, (Ill.) Sanitarium, April 14, from paralysis, aged 82. Dr. Janeway entered the Medical Corps of the Army in 1861, and served throughout the Civil War, being brevetted major and lieutenant colonel for gallantry. He was retired with the rank of lieutenant colonel on account of age, August 12, 1893, and afterward made his home with his son in Chicago and Kenilworth. He had been disabled for several years on account of cerebral hemorrhage.

Thomas B. Hart, M.D. College of Physicians and Surgeons, Chicago, 1894; a member of the American Medical Association; formerly a practitioner of Mount Etna, Ind.; medical superintendent of the New Mexico Miners' Hospital; president of the New Mexico Medical Association; vice-president of the New Mexico Board of Health; health officer of Colfax County; city physician of Raton, assistant local surgeon of the Santa Fe System; and president of the local board of pension examiners; died at his home in Raton, April 5, aged 46.

Chester West Stranahan, M.D. University of Buffalo, N. Y., 1863; Jefferson Medical College, 1867; formerly a member of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; surgeon in charge of St. Vincent's Hospital, Warren, from 1892 to 1902; local surgeon of the Lake Shore and Michigan Southern Railway Company; died at his home in Erie, April 6, from paralysis, following a cerebral hemorrhage four years before; aged 65.

Byron Frank Porter, M.D. Medical School of Maine, Brunswick, 1850; a member of the Maine Medical Association; in 1885 and 1886, a member of the Maine legislature; for fifteen years supervisor of schools, and for many years United States pension examiner; said to have been the oldest practitioner in the state; died at his home in Newport, April 6, from senile debility, aged 82.

Noah M. Glatfelter, M.D. University of Pennsylvania, Philadelphia, 1864; for three years a surgeon of volunteers during the Civil War; well known as a horticulturist and botanist and a recognized authority on willow culture and the culture of mushrooms; died at his home in St. Louis, April 2, from the results of injuries received in a fall two days before, aged 73.

Charles Hadley Spinning (license, Washington, 1881); a graduate of the Eclectic Medical Institute, Cincinnati, in the late forties; twice a member of the Washington state legislature, and once state senator; for nine years physician to the Puyallup Indian Agency; for many years a practitioner of Tacoma; died at his old home in Prosser, April 1, aged 90.

Theodore A. Wagner, M.D. Indiana Medical College, Indianapolis, 1876; a member of the Indiana State Medical Association; a member of the consulting staff of the Indianapolis City

Hospital; once coroner of Marion County, and chairman of the mayor's advisory committee; died in St. Vincent's Hospital, Indianapolis, April 9, from cerebral hemorrhage, aged 62.

Alexander Arthur McLarty, M.D. Detroit College of Medicine, 1893; of Manistee; a member of the Michigan State Medical Society; supreme examiner of the Modern Romans; acting assistant surgeon U. S. P. H. and M.-H. Service; died at St. Mary's Hospital, Rochester, Minn., March 27, after an operation for carcinoma of the stomach, aged 43.

Frank D. Putnam, M.D. Bellevue Hospital Medical College, 1875; a member of the American Medical Association; formerly president of the Cayuga County Medical Society; city physician of Auburn, N. Y.; died in the Auburn City Hospital, April 5, two days after an operation for the removal of gallstones, aged 59.

Richard W. Ivers, M.D. Baltimore (Md.) Medical College, 1895; a member of the Connecticut State Medical Society; for several years a member of the staff of the Emergency Hospital, Bridgeport, Conn.; for three years chief surgeon of the Barnum and Bailey circus; died at his home in Middletown, Conn., April 2, aged 40.

John Ligon, M.D. University of Virginia, Charlottesville, 1868; surgeon of the Nineteenth Virginia Cavalry, C. S. A., during the Civil War; for many years a member and president of the Pocahontas County (W. Va.) Court; died at his home in Clover Lick, April 3, from cerebral hemorrhage, aged 77.

Ethan P. Allen, M.D. Rush Medical College, 1866; a veteran of the Civil War; for more than twenty years a practitioner of Stillman Valley, Ill., but later of Rockford; physician of Winnebago County; died at the Ransom Sanitarium in that city, April 6, from cerebral hemorrhage, aged 70.

George A. Doss, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1901; president of the state eclectic association in 1908; professor of specific medication and diagnosis in the Hospital Medical College (Eclectic) Atlanta; died in a sanitarium in that city, April 2, aged 34.

Henry Clay Perry, M.D. Rush Medical College, 1857; acting assistant surgeon in the Army during the Civil War; and thereafter a resident of Ord, Neb.; several times mayor, and for many years supervisor of the city; died in San Diego, Cal., February 2, from heart disease, aged 77.

Caroline M. Stengel, M.D. Woman's Medical College of the New York Infirmary for Women and Children, New York City, 1893; of Santa Clara, N. Y.; a member of the Woman's Medical Association of New York City; died in Hoboken, N. J., Oct. 23, 1910, from tuberculosis.

Henry E. Cassel, M.D. University of Minnesota, Minneapolis, 1884; a member of the American Medical Association; director and chief surgeon of the Litchfield (Minn.) Hospital; died in Luther Hospital, St. Paul, April 4, from septicemia, due to an operation wound, aged 51.

Alexander Werth, M.D. University of Berlin, Germany, 1860; a veteran of the Civil War; and afterward United States pension examiner in St. Louis; died at his home in that city, April 7, from septicemia, following an amputation of the leg above the knee, aged 70.

Albertus Adair Moore, M.D. New York University, New York City, 1859; a member of the South Carolina Medical Association; and formerly a member of the State Board of Health; died at his home in Camden, Nov. 26, 1910, from arteriosclerosis, aged 76.

William C. Mason, M.D. Howard University, Washington, D. C., 1884; formerly of Indianapolis; for thirty years a medical examiner of the Pension Office, Washington, D. C.; a veteran of the Civil War; died at his home in Washington, March 28, aged 65.

William Henry DeCourcy, M.D. New York, 183—; of Chestonon-the-Wye, Queen Anne's County, Md.; who gave up practice after a short time to look after his estate in Maryland; died at Johns Hopkins Hospital, Baltimore, April 5, from senile debility, aged 87.

John David Carnahan, M.D. University of Virginia, Charlottesville, 1872; a member of the Medical Society of Virginia; a pioneer practitioner of Ogden, Utah; and a Confederate veteran; died at his home in Ogden, April 2, from septicemia, aged 63.

Robert A. Walker, M.D. College of Physicians and Surgeons, Baltimore, 1882; a member of the Medical Society of the State of Pennsylvania; of Rockville; died at the home of his sister in Wilkinsburg, March 29, from cancer of the intestines, aged 54.

Charles Foster Gardner, M.D. Syracuse (N. Y.) University, 1898; of Westhampton Beach; a member of the Medical Society of the State of New York; died in Roosevelt Hospital, Manhattan, March 31, after an operation, from septicemia, aged 38.

John F. Hutchins, M.D. Texas Medical College, Galveston, 1868; Tulane University, New Orleans, 1868; a member of the American Medical Association, and a Confederate veteran; died at his home in Oakland, Tex., Dec. 5, 1910, aged 69.

Richard Kuehne, Jr., M.D. Long Island College Hospital, Brooklyn, N. Y., 1904; of West Hoboken; a member of the Medical Society of New Jersey; died in Nassau, Bahama Islands, June 16, 1910, from chronic nephritis, aged 27.

George S. Luck, M.D. Washington University, Baltimore, 1873; a Confederate veteran, and a member of the Roanoke (Va.) Academy of Medicine; died at his home in that city, March 19, from cerebral hemorrhage, aged 64.

Herman T. Wolff, M.D. University of Halle, Germany, 1878; of San Antonio, Tex.; died in Baylor Hospital in that city, April 1, from the effect of morphin, self-administered, it is believed with suicidal intent, aged 59.

Russell J. Dimon, M.D. Albany (N. Y.) Medical College, 1883; formerly a member of the Medical Society of the State of New York; of Hastings; died at the Hospital of the Good Shepard, Syracuse, March 28, aged 58.

Isaac Franklin Noel, M.D. American Medical College, Eclectic, St. Louis, 1881; a member of the Missouri State Medical Association; died suddenly in his office in Unionville, April 4, from cerebral hemorrhage, aged 53.

Mahlon Kohler Mathus, M.D. Missouri Medical College, St. Louis, 1855; a resident of Sangamon County Ill., for sixty-five years; died at his home in Williamsville, March 22, from cerebral hemorrhage, aged 86.

Agnes Christy Patterson, M.D. Boston University School of Medicine, 1900; of Malden, Mass.; died in the Massachusetts Homeopathic Hospital, Boston, March 20, after an operation for gastric ulcer, aged 48.

Ranny Phelps Malay, M.D. University of Alabama, Mobile, 1884; a member of the South Dakota State Medical Association; died at his home in Aberdeen, April 4, from pneumonia, aged 51.

Emile Laurent Marie Tilley, M.D. University of Tennessee, Nashville, 1886; of Kaplan, La.; died in St. Mary's Hospital, Patterson, La., Dec. 21, 1910, from carcinoma of the stomach, aged 49.

Jacob Rohrer Johns, M.D. Jefferson Medical College, 1889; for many years a practitioner of Chadd's Ford, Pa.; died at his home in Philadelphia, April 6, from locomotor ataxia, aged 49.

Jared E. Brooke, M.D. Indiana Central Medical College, Greencastle, 1851; a surgeon of volunteers during the Civil War; died at his home in Plymouth, Ind., March 31, aged 91.

James M. Brittain, M.D. Missouri Medical College, St. Louis, 1873; a Confederate veteran; and a pioneer citizen of Jacksonville, Tex.; died at his home in that place, April 2, aged 80.

Louis A. McCord, M.D. St. Louis College of Physicians and Surgeons, 1892; of Cristoval, Tex.; was shot and killed in San Angelo, Tex., in a feud fight, March 31, aged 45.

Simon M. Brainin, M.D. University of Dorpat, Russia, 1881; a member of the Medical Society of the State of New York; died at his home in New York City, March 31, from chronic nephritis, aged 56.

John Washington Steel, M.D. Eclectic Medical Institute, Cincinnati, 1857; died at his home in Shelbyville, Tenn., February 7, from cirrhosis of the liver, aged 80.

Albert Badger, M.D. New Orleans, 184—; for nearly seventy years a practitioner of Missouri; died at his home in Schell City, March 14, from senile debility, aged 89.

Lafayette Washington Herrington, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Rawson, O., Dec. 29, 1910, from pneumonia, aged 75.

Warren W. Bowles (license, Kansas, 1901); for thirty-five years a practitioner of Bunker Hill; was killed in a runaway accident near Luray, April 5, aged 71.

James Cress, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1862; died at his home in North Georgetown, O., April 2, from pneumonia, aged 80.

Joseph Smillie, M.D. University of Toronto, Ont., 1901; died at his home in Binbrooke, Ont., July 30, 1910, from cystic tumor of the cerebellum, aged 37.

Aubry Linton Mahon, M.D. College of Physicians and Surgeons, Memphis, Tenn., 1909; died at his home in Gould, Ark., March 30, from nephritis, aged 26.

Charles Oliver Sumner, M.D. Kansas City (Mo.) Medical College, 1885; died at his home in Alma, Colo., January 19, from pleuropneumonia, aged 53.

Hiram W. Harding, M.D. University of Maryland, Baltimore, 1860; a Confederate veteran; died at his home at Wicomico Church, Va., March 24, aged 73.

Claude Fowler Hickman, M.D. Chattanooga (Tenn.) Medical College, 1908; died at his home in Bristol, Va., April 7, from tuberculosis, aged 26.

Marriages

BEN PARMENTER, M.D., to Miss Ethel Brumfield, both of Bellmont, Ill., April 1.

WILLIAM K. CHATTLE, M.D., to Miss Eva Mae Haus, both of St. Louis, March 4.

CARL WILLIAM WAHRER, M.D., to Miss Julia McConn, both of Fort Madison, Ia., April 8.

FRANK R. SPENCER, M.D., Boulder, Colo., to Miss Edith Clayton of Kankakee, Ill., April 5.

STANLEY E. KERRICK, M.D., to Miss Winifred Thompson, both of Minneapolis, April 18.

SCOTT DUDLEY BRECKINRIDGE, M.D., to Miss Gertrude Ashby Bayne of Washington, D. C., April 19.

PHILIP F. HEROD, M.D., Alva, Okla., to Miss Ruby Kelley of Kansas City, Mo., at El Reno, Okla., March 31.

WILLIAM G. PRUYN, M.D., Mexico City, Mex., to Miss Bessie Rea of San Francisco, at Mexico City, March 30.

Conservative Surgery of Trees.—Trees, like human beings, may have their lives and usefulness extended by intelligent medical treatment or by conservative surgery; indeed, the analogy, when one comes to think about it, is striking. In addition to conditions which must be treated surgically, they are subject to various diseases, due mostly to insect parasites. When these parasites attack leaves or bark, the trees may be said to be treated medically, as in the use of sprays for the eradication of scale or other insects. Trees are also affected by under-nourishment and are subject to traumatisms and decay. In their capacity of furnishing wholesome foods, in their chemical activity in utilizing carbonic acid gas and giving off oxygen, in affording protection from the heat of the sun, as well as by appealing to our esthetic sense, trees have a distinct influence on the health and happiness of the people. They are therefore worthy of care. In treating pathologic conditions in trees many principles apply that are applicable to treatment of human beings. In the case of infesting parasites, parasiticides and disinfectants are used. In the conditions requiring surgery, which constitute perhaps the larger proportion of tree ills, almost the same surgical principles apply. A broken limb may be put in splints, a limb torn or broken off may be bandaged with protective material to exclude decay. Transplantation of twigs or branches may be done, as in grafting or budding, and more formidable injuries or large areas of decay may be healed by still more radical surgery. The tree surgeon must understand thoroughly tree anatomy and tree nature, and must take into consideration the mechanical effect of winds, etc. When large areas of decay are present in limb or trunk, this decay must be thoroughly eradicated, just as the dentist or the surgeon cleans out carious teeth or bone; a species of asepsis or antisepsis must be observed to kill off the factors causing decay, and then the cavities must be filled with some material impervious to moisture and which will support a possibly greatly weakened trunk or limb. As a filling material, cement, along with its other numerous uses, has been found to be one of the best. A tree thus carefully treated, either medically or surgically, responds marvelously, and its life may be saved and its existence greatly extended. Considerable cavities thus filled with cement often heal and are even covered over with bark, leaving only a scar, just as surface wounds in animal life are covered with protecting epithelium.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

EIGHTEENTH CENTURY MATERIA MEDICA

The changes that have taken place in medical thought and practice within the last two hundred years are nowhere more evident than in that branch of medicine dealing with therapeutic agents—materia medica. It is both interesting and instructive to compare the present status of certain drugs which we now recognize as some of the most useful in the physician's armamentarium, with the standing of the same medicaments two hundred years ago.

Herman Boerhaave, a Dutch physician, born in 1668, stood, in his day, in the vanguard of the medical profession. In 1709, he became professor of medicine and botany at the University of Leyden, having previously held the position of lecturer on the theory of medicine in the same institution. It is said that Boerhaave's reputation was so high that, at one time, he received a letter from a Chinese mandarin addressed: "To Boerhaave, Physician in Europe."

It may be fairly admitted that Boerhaave's statements on the drugs in use in his day are representative of his time. For this reason the following quotations take on an added interest. In 1775 a small book was published by one Richard Goade, a London druggist, entitled "Boerhaave's Materia Medica, or the Druggist's Guide, and the Physician and Apothecary's Table-Book." Goade says, in his preface, that his book is but "a Translation of a Latin Manuscript which was given to me by Dr. James Carroll, taken from the Mouth of the great Professor Boerhaave, in a Course of Lectures."

The few quotations which are here given have been selected chiefly because of the comparative importance of the drugs and partly because of the change that has taken place in the medical profession's estimate of their medicinal value. Except that the modern form of the letter "s" has been substituted for that which appears in Goade's work, the composition and spelling have been closely followed:

ARGENTUM. *Silver.* A Metal well known in common Use, but little in Medicine. It is found pure and native in the Earth in some Places; in others mixed with the Ores of Lead, and other mineral Substances; beaten into Leaves, it is used to cover Boluses. The Preparations from it are the Chrystals made by setting a strong Solution of it to chrystalize; and the Lunar Caustic made from an evaporated Solution of the same Metal, or from the melted Chrystals. Both are Caustics but they are little used.

A Solution of Silver in Aqua Fortis, stains Agate: The Figures made by Art in those Stones are done by covering the Surface with Wax, cutting the intended Figure through the Wax, and pouring on the Solution, which penetrates into the Stone.

ARGENTUM VIVUM. *Quicksilver.* A fluid Semi-Metal, found sometimes native and pure, oftener in Form of Cinnabar or other Ores. Factitious Cinnabar is an artificial Mixture of Sulphur and Quicksilver; Native Cinnabar is a natural Mixture of the same Ingredients. We have it from Spain, Hungary, and the East, and also the Quicksilver Native or obtained from it.

Taken in its crude or native State is excellent against Obstructions, an Ounce or two for a Dose: Large Quantities are sometimes given in obstinate Obstructions of the Bowels, but it is a desperate Practice. Externally mixed into Ointments it cures the Itch, and other cutaneous Foulnesses; and will raise Salivation.

The Preparations of it kept in the Shops, are numerous and of great Virtue. Factitious Cinnabar, made by subliming Quicksilver and Sulphur. Æthiops Mineral, by grinding Quicksilver and Sulphur together. Corrosive Sublimate, made by subliming Quicksilver Nitre, Vitriol, and Sea-salt. Mercurius Dulcis or Calomel, made by subliming several Times Crude Mercury and Corrosive Sublimate. Calcined Mercury, made by keeping

Quicksilver over a small Fire till it becomes a reddish Powder. White Precipitate, made by dissolving Corrosive Sublimate and Sal Ammoniac in Water, and precipitating with Oil of Tartar. What is called Red Precipitate, made by evaporating a Solution of Quicksilver in Aqua Fortis: And Turpeth Minerale, made by evaporating a Solution of Quicksilver in Oil of Vitriol, and pouring on Water. All these are powerful Medicines, but they must be given with Caution.

Crude Quicksilver for internal Use should be reduced from Cinnabar; and Sophistications are so common, every one ought to do it for himself.

ARSENICUM. *Arsenick.* A Chemical Preparation made in Germany, and kept by our Druggists. It is properly the Flowers of Cobalt, a poisonous Mineral found in many Parts of Europe, and affording also the fine blue Substance called Smalt. The Cobalt is burnt in a reverberatory Furnace, and the Flowers or Soot collected from its long Chimney, make Arsenic. From the Remainder of the Cobalt, Smalt is made, by adding Sand and Pot-ash, and running all into a Kind of Glass of a deep Blue.

The Soot of the Cobalt sublimed alone, makes the common White Arsenick; Yellow Arsenick is made by adding Sulphur to the Soot before Sublimation, and the Red by adding Sulphur and the Scoriae of Copper.

They are all Poisons, and of no Use whatsoever in Medicine: The Deaths that have been occasioned by them, should incur a severe Penalty on whosoever sold or kept them.

DIGITALIS. *Fox-Glove.* A wild Herb brought entire to the Markets. It is a Yard high, and has large red Flowers.

The fresh Leaves given in Infusion, are a rough Vomit, but it is not used except by the Country People.

An Ointment made of the Flowers boiled in Lard, has been supposed to have great Virtues against Piles: but it is not in much Esteem at present, except amongst the good Women.

GENTIANÆ RADIX. *Gentian Root.* A Long, thick Root of a yellowish brown Colour, with little Smell, but very bitter to the Taste. We have it from Germany, where they dry some in the open Air and some in Ovens. The latter Kind is worst, 'tis too dry, brittle, and often burnt. The Plant which produces it is common in our Gardens, and has large broad Leaves and little blue Flowers.

It is an excellent Stomachick, with Orange Peel and a little Galangal it makes an excellent bitter Infusion in Wine or Water.

IPECACUANHA. *Indian Root.* Two Kinds of Ipecacuanha are imported, a brown and a grey; but as the grey is the Kind that ought to be used, 'tis Pity the other is brought over. Both are from the Spanish West-Indies. The grey or right Ipecacuanha is long slender, twisted and annulated; greyish on the Surface, and paler within; the Brown is smaller; it is of a deep brown on the Surface, and white within. The grey has not much Smell, this has less; the Taste of both is disagreeable. The Plant to which we owe the one, affords also the other: the only Difference is, that the brown is starved, the grey grows in a rich Soil. The Plant is ten Inches high, and has a few Leaves at the Top only, the Flowers are white, and are succeeded by Berries.

The Root is the best Emetick we know, and is almost the only Medicine used at this Time for that purpose. It has also a great Astringency, and taken for a Length of Time in small Doses, cures Dysenteries.

NUX VOMICA. *The Vomic Nut.* A rounded flat Fruit of the Breadth of a Shilling, striated, tough and of a whitish Colour, and of an horribly acrid bitterish Taste. We have it from the East-Indies. The Tree which produces it is large and beautiful. Its Fruit is of the Bigness, Shape and Colour of an Orange, and in each there are about fifteen Kernels, which are these Nuces Vomicæ.

They are used as a Poison for Animals. They have been recommended however, in small Doses internally as a Medicine, but we have seen ill Consequences attend them, and we have so many safe Medicines for the same Purposes, that it is rash to use them.

SABINA. *Savin.* The young Branches with the Leaves of the Garden Shrub of this Name, brought fresh to Market. The Leaves are little, of a bright Green, and terminates in Prickles.

It is famous for a Promoter of the Menses and it will cause Abortion; but great Danger as well as Guilt attends the Use of it to such Purposes: Many have perished by it.

SARSAPARILLÆ RADIX. *Sarsaparilla Root.* A Root brought over in long slender Pieces, which are usually split, and have the inner Part taken out, before they are sold for Use. When entire, the Root consists of a Head of the Bigness of a Walnut, from whence these Strings or Fibres grow in great Numbers, and to a great Length, but the Fibres only are used. They are of a greyish Colour on the Outside, and white within, of no Smell, and but little Taste. We have it from South America. The Plant is one of the prickly Bindweeds.

It is esteemed a great Sweetener of the Blood, a Sudorifick and Attenuant. It was once pretended to be a remedy for the Pox.

SENA. *Sena.* The Leaves of a small Shrub, but so carelessly collected, that we find Fragments of the Stalks and the Seed-Vessels among them. They are oblong, sharp-pointed, of a pale Green, fleshy, of little Smell, but of a Mawkish, unpleasant Taste. This is the Alexandrian Sena, the only Kind that should be kept. There are two other Kinds, one from Tripoly, with greener and blunter Leaves; another from Mocha, the Leaves of which are long and narrow. They have all the same Virtues, but the Alexandrian is greatly to be preferred. The Leaves are alated, and the Flowers are like Pea-Blossoms, but yellow streaked with purple.

Sena is an excellent gentle Purge: There have been many Ways invented to disguise its Taste, but none is so well as the old Womens Method of stewing it with Prunes, which also assist it in its Operation.

TOLUTANUM BALSAMUM. *Balsam of Tolu.* A Resin of the Consistence of thick Honey, of a brownish Colour, of a very fragrant Smell, and of an acrid Aromatick Taste. We have it from New Spain, in Shells of Gourds. It is thin when first put up, but thickens in keeping. The Tree which affords it, is a small Pine, frequent in South America.

It is an excellent Balsam in Consumption; for it is less acrid than any of the others; It has also their Virtues of a Detergent and Diuretick.

State Laws Against Drug Adulteration

The federal authorities, since the passage of the National Food and Drugs Act, have done much to improve the quality of drugs on the market. This law, however, being a federal one, applies only to goods shipped from one state to another, and spurious or adulterated drugs may be manufactured in a state and shipped to, and exposed for sale in, all parts of that state and yet be entirely without the province of the federal authorities. Such adulteration is entirely a matter for the state authorities to correct. Unfortunately, the individual states, as a rule, have not had efficient laws or the laws have been a dead letter. Conditions are changing, however, and such states as North Dakota, Massachusetts, Pennsylvania, New York and a few others are giving evidence that efforts are being made to check the traffic in adulterated drugs. We have before us a circular which indicates that Kentucky is one of the states that not only has a law for the regulation of the sale of medicines but is seriously concerned with its enforcement. The circular shows that Kentucky is concerned not only with the prosecution of offenders against the law but also takes the broader view and proposes also to combat the evil by educational methods. Thus it says:

> Two years' work under the Kentucky Food and Drugs Act has convinced those engaged in the enforcement of the drug sections of that act that there are two classes of adulterations: first, adulterations due to willful intent or gross carelessness; second, adulterations due to various trade and professional problems, which this office believes can be better overcome through mutual assistance rather than prosecution.

For the seminar the following comprehensive program is proposed:

> (*a*) The general application of the state and federal pure-food laws for the drug business. (*b*) The drug regulations and notices of judgment under the federal law. (*c*) The regulations under the state law. (*d*) The proper labeling of patent and proprietary medicines under the law. (*e*) The proper labeling of U. S. P. and National Formulary products under the law. (*f*) Necessary equipment for a druggist's laboratory. (*g*) Drug store management and equipment. (*h*) Problems connected with the preparation, storage and handling of various pharmaceutical preparations. (*i*) Standard weights and measures. (*j*) The soda fountain. (*k*) Other similar subjects.

It is to be hoped that the pharmacists of Kentucky will avail themselves of the opportunity thus offered.

Correspondence

A Case of Near Blackmail

To the Editor:—It is seldom that the publisher of one of the popular magazines comes as near placing himself in the position of being accused of blackmail, as did the publisher of *Good Housekeeping* in its February number. Beneath the heading of the article, "Why Our Glasses Don't Fit," appears a statement which at once leads the reader to suspect that the editor had some misgivings as to the advisability of publishing the article. He must have succeeded in getting the "endorsement of two distinguished oculists" for he says so; and obtaining the distinguished endorsements, he proceeds to publish the article which consists of an assumed case of eye-strain, and the trials and tribulations of a patient—the author—and of an oculist, who with the patience of a Job, as the history relates, makes twenty odd separate and distinct examinations and prescribings of faulty lenses, at which juncture the oculist discovers his trial lenses, and incidentally nearly all other trial lenses in this country and Canada, to be faulty; and all because neither he, nor his brother oculists, as well as various opticians, manufacturing and otherwise, are testing out their trial cases and prescribed lenses by a certain apparatus which "costs sixty dollars"—"possessed by not over fifty opticians and oculists out of 28,000 in the country!" And hereby hangs a tale.

The manufacturer must needs make some sales. The apparatus is not selling well, at least the author makes that inference very strong in the article. Probably he needs the money, and hence this advice to the public: "You can make your oculist a better one by asking him some questions which will worry him. 'Have you yourself tested your trial lenses?' 'Have you a modern axis finder to enable you to test them? And to test also the centering of these lenses I have bought from the optician? Are you sure the man you are sending me to has a machine? If he hasn't why don't you make him get one?'" And now, the manufacturer having had the benefit of this most excellent advertisement, published in the body of a popular magazine, in the form of a most readable and interesting article—and it is interesting—follows up the advertisement by sending out broadcast over the country reprints of the same. "From *Good Housekeeping* Magazine by Permission" accompanied by a picture of the apparatus, and a letter stating among other things, that this is "The Instrument to which Prof. Tassin"—the author of the article—"alludes."

W. H. DUDLEY, Los Angeles, Cal.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

STING OF THE PORTUGUESE MAN-OF-WAR

To the Editor:—Please give me any information you can in regard to the treatment of stings by the Portuguese man-of-war fish. I have had a number of cases on this coast, but have not been able to give much relief. R. S. LOWRY, Fort Lauderdale, Fla.

ANSWER.—Apparently a confusion has arisen between the Portuguese man-of-war fish (*Vomeus gronovii*) and the Portuguese man-of-war (*Physalia pelagica, Physalis pellagica, Holothuria physalis*).

The Portuguese man-of-war fish is closely related to the sergeant fishes. It is of small size and inhabits tropical parts of the Atlantic and Indian oceans. Our species lives commonly under the protection of the Portuguese man-of-war, swimming freely among its poisonous tentacles.

The Portuguese man-of-war is one of the so-called jelly-fish belonging to the *Siphonophora*. It floats on the surface of the water and has long retractile tentacles, sometimes several feet in length, and containing batteries of stinging capsules, powerful enough to sting the hand as severely as a nettle. The greater the number of the cells which sting an individual, the more severe is the pain. A poison has been isolated from *Physalia* by Portier and Richet (1902) under the name of "hypnotoxin." Solutions of this substance killed experimental animals; they became somnolent and death followed through paralysis of the respiration. The intensity of the effects are supposed to depend also on the size of the animal. After removal from water, the stinging property diminishes, but it is reported that the irritative property, unattended, however, by any of the constitutional effects, remains in the tentacles for a long time. Bennett (1831) even reports that in touching a handkerchief some weeks after it had been used in wiping off some of the portions of the tentacles the stinging property was found to have remained, although it had lost its virulent quality, which produced on fresh application violent constitutional symptoms.

Portuguese man-of-war stings are so rarely observed by the average American physician that the following personal experimental experience published by Bennett will doubtless be of interest: "On taking hold of the animal, it raised its tentaculæ and stung me on the second and ring fingers. The sensation was similar at first to that produced by the nettle; but before a few minutes had elapsed, a violent aching pain succeeded, affecting more severely the joints of the fingers, the stinging sensation at the same time continuing at the part first touched. On cold water being applied, with the intention of removing or lessening the pain, it was found rather to increase than to diminish the painful effects. The irritation resulting from the poisonous fluid emitted by the animal extended upward, increasing in extent and severity (apparently acting along the course of the nerves), and in the space of a quarter of an hour the pain in the forearm (which was more particularly referable to the inner part) was very violent, and at the elbow-joint it was still more so. It may be worthy of remark that when the joints became affected the pain always increased. The pain became at last almost unbearable, and was much increased on the affected arm being moved; the pulse of that arm was also much accelerated, and an unnatural heat was felt over its whole surface. The pain extended to the shoulder-joint; and on the pectoral muscle becoming attacked by the same painful sensation, an oppression of breathing was occasioned, which we find produced in a similar manner by rheumatism, when it attacks that muscle; and it proved very distressing during the time it remained. The continuance of the pain was very severe for nearly half an hour, after which it gradually abated, but the after-effects were felt during the remainder of the day in a slight degree of numbness and increased temperature of the arm. . . . About two hours after I had been stung, I perceived that a vesicle had arisen on the spot; and when children have been stung, I have observed that numerous small vesicles arose, similar to those produced by the nettle."

Dr. Clarke Abel describes his own symptoms, mentioning especially "the aching pain in the armpit, accompanied by a sense of restriction within my chest; within fifteen minutes all uneasiness ceased."

It has been very difficult to trace much recent literature of more than very general statements on this subject, and in the articles consulted there is considerable contradiction.

According to popular belief, the sting of *Physalia* may be very dangerous, even resulting in death of a person or of animals, and if certain animals eat *Physalia* their flesh is alleged to become poisonous. These views find both acceptance and denial in medical and scientific writings, and it is difficult to escape the thought that the entire subject of *Siphonophora* stings might well be restudied with profit. Some points of confusion existing in the literature may possibly be traceable to the fact that doubts exist as to the correct zoologic determination of the animal which has produced serious results in certain cases. That the stings of some jelly-fish are insignificant and wear off promptly, so that no medical treatment is necessary, may be readily admitted, but that "no remedy except patience" is called for we are scarcely prepared to admit for those instances in which very severe pain and various other symptoms develop.

Just what treatment would be best we are unprepared to say, for the subject has not been sufficiently studied, and with the exception of Old's (1908) paper, little of a satisfactory nature exists in literature bearing particularly on this phase of the subject. That morphin can be used to relieve the pain is evident, and on general grounds one would be inclined to suggest local alkaline applications as used by Old, provided the case was seen immediately.

One of the most important papers on jelly-fish stings was recently published by Assistant Surgeon E. H. H. Old, U. S. Navy. It is based on nine cases (one fatal) recently observed in the Philippines. The symptoms appeared in from ten minutes to an hour. In four cases there were marked hysterical symptoms, with incessant cough, restlessness, pain and nausea, while in four cases the marked hysterical condition was not present. In treatment, Old used alkaline solution locally and morphin sulphate hypodermatic-

ally. The following may be quoted as an example of the cases Old observed:

"V., a hospital attendant at Canacao, on June 21, 1907, while in bathing off the hospital wharf, was stung by a jelly-fish. He said that he was some distance from the landing and as soon as he felt the sting he turned back to the wharf. On his way he felt some pain across his back, but thought it was due to swimming. On his way up from the wharf to the hospital he began to feel badly and sat down for a little while. When he reached the hospital, about thirty minutes after he had been stung, he became prostrated and had to be carried to a bed.

"On arrival I found a slightly raised, vesiculated, red area over the left biceps muscle. This 'wept' like an eczema. The patient was throwing himself around the bed and coughing almost incessantly, expectorating a thin mucus. He complained of nausea but did not vomit. His face was congested and anxious. He wept at intervals, a stream of tears flowing down his face. The nose was occluded as in a bad case of coryza and from it a thin mucus was discharging. He complained of pain in his head and of marked pain in the lumbar region. He expressed much anxiety as to his condition and exclaimed now and then: 'I don't know why, but I've lost all my nerve.' His temperature was 38 C. (100.2 F.); pulse 100, strong and full. The examination of urine and blood showed nothing abnormal.

"Morphin sulphate 1/6 grain was given by hypodermic injection, an alkaline solution was applied to the arm. The symptoms subsided shortly after and in a few hours the temperature was normal and the pulse 60. The next morning the patient felt weak and complained of a slight sore throat; the pharynx was slightly inflamed."

In the foregoing we have used many words in failing to give a direct answer to our correspondent's question, but if this lengthy confession of relative ignorance will lead to a careful study of the subject our time (about three entire days of one man) used in looking into the literature (both medical and zoologic) in the hope of finding something satisfactory, will have been well spent. Possibly some of our readers are more fortunate than we have been and can give more definite information than we have been able to trace.

In conclusion it may be mentioned that divers, suhc as sponge-fishers, are subject to an affection due to contact with celenterates. Smearing the body with fat is said to be a satisfactory preventive measure against this trouble.

WHAT KIND OF INFECTION?—PROBABLY ANTHRAX

To the Editor:—W. H., aged 17, male, coal miner and farmer, squeezed a blackhead and it developed into a small pimple surmounted by a crust. The patient scratched this crust off with his finger-nail. In less than twenty-four hours the lip and cheek began to swell, and in thirty-six hours the swelling was unusually large. At this stage I found him with a temperature of 102 F., pulse 98, very little pain, in fact, more discomfort than pain; he was unable to be up. There was no redness, no pustule.

I thought of erysipelas, actinomycosis, poison ivy. There were no horses nor cattle he could think of having been near, nor was there any poison ivy. I applied a lotion of saturated solution of boracic acid and alcohol, and gave a cathartic and a few powders. In twelve hours more the swelling became much worse; in fact, terrific; there was no heat or pronounced redness; nor was there sharp outlined margin. A small black spot developed at the corner of the mouth; the lips were swollen and parched. Both eyes were closed and a secretion was on the eyelashes like that seen in small children. All the swelling had a blue-black discoloration. Temperature was 103 F., pulse 110. There was neither crepitation nor fluctuation.

A few incisions were made, but they afforded no relief. They were painless. A small quantity of dark and thin fluid escaped, no gas, no odor, no pus. Some incisions were deep, some rather superficial. I also gave 10 c.c. antistreptococcus serum, and covered the swollen area with the solution already mentioned.

All the symptoms and swelling increased; the small black spot spread over the mucous membrane of the cheek and developed into necrosis. The patient died four and a half days after onset of symptoms. In the last twenty-four hours the disease resembled puerperal fever, the temperature being up to 107 F.; there was feeble, almost imperceptible, pulse. During his illness the man received 30 c.c. of antistreptococcus serum.

What kind of an infection was this? Septicemia appears on the death certificate. AUGUST BECHTOLD, M.D., New Athens, Ill.

ANSWER.—The pimple surmounted by crust which was removed with the finger, the great swelling, the watery fluid which exuded from the incisions, the absence of pain, the bluish discoloration, the development of gangrene, the high temperature and the very rapid progress ending in death point clinically to infection with the anthrax bacillus. This could easily have been verified by a microscopic examination of the fluid from the open pimple.

TINCTURE OF WHITE SOAP

To the Editor:—Some time ago you published a formula for making a neutral liquid soap. I have lost this recipe. Please publish it again. E. J. BERNSTEIN, M.D., Kalamazoo, Mich.

ANSWER.—Our correspondent probably refers to tincture of white soap, the formula of which was given by F. P. Dunnington, Charlottesville, Va., in the *Old Dominion Journal of Medicine and Surgery*, August, 1909, and which was quoted in the Department of Current Medical Literature of THE JOURNAL, Sept. 25, 1909, p. 1058, as follows (with apothecaries' amounts added):

℞		gm. or c.c. for 1 gallon.
White castile soap (Conti's)	ʒxl	1,200
Ammonia water, stronger	fl.ʒiii	100
Alcohol	Oii	1,400
Water, distilled	q. s. ad. Oviii	4,000

The specific gravity of this mixture is 0.97, which is identical with that of green soap. Soft water (rain-water) might well be substituted for the distilled water in the formula.

To make one gallon: Mix the liquids for it in a one-gallon jar and then add the soap, previously cut into coarse shavings. Crowd all the soap into the jar and cover it with a glass plate. After twelve hours stir, and again stir after some hours. Allow to settle twelve hours, and then filter, decant or syphon off the clear liquid into a can, which may be kept closed. There will remain a few ounces retaining the impurities of the soap, which may be used for less particular washing. If this liquid is exposed to evaporation for a few hours, ammonia and alcohol escape, and a mass of the consistency of green soap will be obtained. While this preparation is said to be free from the objections to tincture of green soap, it presents the additional advantage of costing but $1.50 a gallon, and, if the alcohol is obtained tax-free, the cost will be about 60 cents a gallon, while tincture of green soap will cost $1 or more.

DIFFERENCE BETWEEN A VEGETABLE AND AN ANIMAL CELL

To the Editor:—What is the difference between a vegetable cell and an animal cell? I can find nothing on this subject in any of the books I possess; from what I know of the subject I can see no difference. A. D. BUNDY, Osage, Iowa.

ANSWER.—The fundamental difference appears to be physiologic and connected with the separate manner of nutrition prevailing in the two kingdoms. The typical vegetable builds up its structure from carbon dioxid, water, ammonia and other substances existing in the air and soil. The animal has not this power and must use the material already formed by the vegetable or by other animals. As a result of this mode of nutrition it is found that cellulose, a modification of starch, is found only in vegetables and is employed by most vegetables in forming the cell wall. Cellulose is never found in the cell walls of animals. Some vegetables do not form cell walls composed of cellulose and such vegetable cells have no essential distinguishing features to differentiate them from animal cells.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 15, 1911.

Crampton, Louis W., colonel, relieved from duty in the Philippines division and will proceed on transport to sail from Manila, P. I., to San Francisco, about Sept. 15, 1911, and on arrival at the latter city to report by telegraph to the adjutant general of the Army for further orders.

McEnery, Douglas W.; Turnbull, Samuel J., and Upshur, Alfred P., M.R.C., ordered to active duty and will proceed to San Antonio, Texas, for duty with the maneuver division at that place.

Boehs, Charles J., M.R.C., ordered to active duty and will proceed to Plattsburg Barracks, N. J., for duty at that place.

Ragan, Charles A., captain, assigned to permanent duty at Walter Reed General Hospital, Takoma Park, D. C.

Kendall, William P., lieut.-colonel, left Fort Riley, Kan., on thirty days' leave of absence.

Wallace, George S., M.R.C., left Fort Sam Houston, Texas, for duty in the field at presidio of Texas.

McMillan, C. W., lieut., relieved from duty with the maneuver division, San Antonio, Texas, about July 1, 1911, and ordered to Fort St. Michael, Alaska, for duty.

Whaley, Arthur M., captain, on being relieved from duty at Fort St. Michael, Alaska, by First Lieutenant McMillan will proceed to Seattle, Wash., for further orders.

Roberson, Horace M., lieut., relieved from duty with the maneuver division, San Antonio, Texas, about July 1, 1911, and ordered to Fort Davis, Alaska, for duty.

Harmon, Daniel W., lieut., on being relieved from duty at Fort Davis, Alaska, by First-Lieutenant Roberson will proceed to Seattle, Wash., for further orders.

Gosman, George H. R., major, left Fort Barrancas, Fla., for Tokyo, Japan, for duty as attache at the American embassy.

DeLaney, M. A., major, ordered to proceed to Philadelphia on official business pertaining to the medical corps of the Army.

Medical Corps, U. S. Navy

Changes during the week ended April 15, 1911.

Ames, M. H., P. A. surgeon, detached from the naval hospital, Olongapo, P. I., and ordered to temporary duty on board the *Albany*.

Turner, H. W. B., asst. surgeon, detached from the *Barry* and the Asiatic torpedo fleet and ordered to the naval station, Olongapo, P. I.

Thomas, G. E., asst. surgeon, detached from the naval station, Olongapo, P. I., and ordered to temporary duty on board the *Saratoga*.

Hart, S. D., asst. surgeon, detached from the *Mohican* and ordered to the *Barry*.

Cook, F. C., surgeon, ordered to command the naval hospital, navy yard, Puget Sound, Wash.

Hale, G. D., P. A. surgeon, detached from the *Idaho* and ordered home to await orders.

Manchester, J. D., P. A. surgeon, detached from the naval recruiting station, Chicago, and ordered to duty at the naval hospital, naval training station, North Chicago.

Smith, W. B., P. A. surgeon, orders of March 17 modified; ordered to duty at the naval hospital, Annapolis, Md.

Ely, C. F., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the naval proving ground, Indian Head, Md.

Halton, E. P., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the naval station, Guam, M. I.

Brown, E. M., asst. surgeon, detached from the naval proving ground, Indian Head, Md., and directed to await orders.

Ohnesorg, K., surgeon, detached from the *Prairie* and ordered home to await orders.

Stuart, Jr., D. D. V., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Idaho*.

Mears, J. B., P. A. surgeon, detached from the *Franklin* and ordered to the Asiatic station.

Howard, J. V., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Supply*.

Pratt, L. L., Omelvena, J. G., and O'Malley, J. J., asst. surgeons, detached from the naval medical school, Washington, D. C., and ordered to the Asiatic station.

Crow, G. B., asst. surgeon, detached from the naval station, Guam, M. I., and ordered home to await orders.

Toulon, A. J., asst. surgeon, detached from the *Supply* and ordered home to await orders.

Elmore, B., A. A. surgeon, ordered to the marine recruiting office, district of the Pacific coast, Seattle, Wash.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 12, 1911.

Stimpson, W. G., surgeon, directed to proceed to Marcus Hook, Pa., and Delaware Breakwater quarantine station on special temporary duty.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the American Association of Pathologists and Bacteriologists to be held in Chicago, April 14-15, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to Delaware Breakwater quarantine station on special temporary duty.

Vogel, C. W., P. A. surgeon, directed to proceed to Marcus Hook, Pa., on special temporary duty.

Warren, B. S., P. A. surgeon, granted fourteen days' leave of absence from April 8, 1911, on account of sickness.

McKeon, F. H., P. A. surgeon, relieved from duty at the immigration station, San Francisco, and directed to report to the commanding officer of the Revenue Cutter *Rush* for duty.

Bailey, C. A., A. A. surgeon, directed to accompany the staff of the U. S. Immigration Service from St. John, N. B., to Quebec, P. Q., for the inspection of arriving aliens.

Hough, J. S., A. A. surgeon, granted thirty days' leave of absence to be taken at such times as may be approved by Surgeon B. W. Brown.

McLarty, A. A., A. A. surgeon, died March 24, 1911.

Board of medical officers convened to meet at the Bureau, April 11, 1911, for the examination of Assistant Surgeon J. R. Hurley, and reconvened, April 24, 1911, for the examination of Assistant Surgeon W. M. Bryan, to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General L. E. Cofer; Passed Assistant Surgeon L. L. Lumsden, recorder.

Board of medical officers convened to meet at San Francisco, April 24, 1911, for the examination of Assistant Surgeon A. J. Lanza, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Rupert Blue, chairman; Passed Assistant Surgeon M. W. Glover; Passed Assistant Surgeon Friench Simpson, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

LEGAL RIGHTS AND OBLIGATIONS OF PHYSICIANS*

John E. Kehoe

CHICAGO

The most important legal question for the physician is that which relates to the rights, duties, legal obligations, responsibilities and liabilities of the physician in caring for his patient. This is becoming a more important question every day. Litigation in the nature of suits for damages of various kinds is, at present, occupying about three-quarters of the time and attention of the courts of Cook County. It almost seems as if the entire populace was trying to find an excuse for suing somebody for damages, and, in this epidemic of damage litigation, physicians and surgeons are by no means forgotten. If a person is dissatisfied with the professional service rendered by the physician or surgeon, it apparently is becoming almost the rule, rather than the exception, to consult a lawyer and see if some basis cannot be found for starting a suit for damages in which the lawyer, as a rule, agrees to accept a contingent fee, consisting of a percentage of the amount to be recovered. It becomes a very important matter, therefore, for the physician to know what his legal rights and obligations are, in order that while doing his full duty to his patient he may, at the same time, protect himself from the danger, embarrassment and annoyance of a claim for damages in case his patient is dissatisfied. A physician's rights and legal obligations are controlled by certain legal principles which, grouped together, are known as the law of negligence. Negligence is defined in law to be an omission to do something which a reasonable man, guided by those considerations which ordinarily regulate the course of human affairs, would do; or, doing something which a reasonable and prudent man would not do. In order to maintain an action for negligence, there must be shown to exist some obligation or duty which has been left undischarged or unfulfilled.

To understand just what constitutes legal actionable negligence on the part of a physician, it is necessary to bear in mind the various degrees of care which the law exacts under various conditions. There are a number of degrees of care under the law: First, there is the highest degree of care which human forethought, reason and diligence can attain. Where the law imposes this highest degree of care, as, for instance, in the case of a railroad company carrying passengers for hire, the slightest negligence or simplest omission of duty becomes actionable in law. This highest degree of care, however, is not exacted or required of a physician or surgeon under the law of this state, or in any other state of the Union. The next degree of care, under the law, is what is known as ordinary care or reasonable care, and is defined in law as being that degree of care which an ordinarily prudent person would exercise under the same circumstances or conditions. This is the degree of care which, together with the exercise of a proper degree of skill, is required in law from a physician or surgeon in the discharge of his duty to his patient.

Going on down the scale, there is a lack of care known to the law as gross negligence which, of course, both as a matter of reason and law, would lay the foundation for damages. There is also known to the law what is called wilful or wanton misconduct, which may be defined as an act showing a willingness to harm the person in question, or such an utter disregard of his rights as to indicate an abandoned or malignant heart. Such conduct in any walk of life would be actionable, and the law says that, as against a claim for wilfulness or wantonness, it is not even necessary that the person presenting the claim must show himself to have been in the exercise of ordinary care.

It will be seen from the above that neither is the highest degree of care exacted of, nor is a low degree of care tolerated on, the part of the physician or surgeon. In other words, the physician and surgeon is held in law to the exercise of ordinary, reasonable care and skill. In general, his duty may be defined substantially as follows: The physician is bound to bestow such reasonable ordinary care, skill and diligence as physicians, in the same neighborhood, in the same general line of practice, ordinarily have and exercise in like cases. Time and locality are to be taken into consideration, and the physician is bound to exercise the average degree of skill possessed by the profession in such locality. In the absence of special agreement, his engagement is to attend the case as long as it requires attention; unless he gives

* Read before the Evanston Branch, Chicago Medical Society, March 30, 1911.

notice of his intention to discontinue his visits, or is dismissed, he is bound to exercise reasonable and ordinary care and skill in determining when his attendance should cease. But his engagement is not to cure the patient, that is, he does not insure that his treatment will be successful; the mere failure to effect a cure does not even raise a presumption of a want of proper care, skill or diligence. It is the duty of the patient to cooperate with the physician and to conform to his prescriptions and directions, and, if he neglects to do so, he cannot hold the physician responsible for his own neglect. On the other hand, he has a right to rely on the instructions and directions of his physician, and incurs no liability by so doing.

This is substantially the rule in Illinois and in practically every other state. There is an implied contract on the part of the physician that he possesses that reasonable degree of skill, learning and experience which is ordinarily possessed by others of his profession, and that he will use reasonable and ordinary care and diligence in the treatment of the case committed to him, and that he will use his best judgment in all cases of doubt, as to the best course of treatment. He is presumed to possess the degree of skill above defined, and to exercise reasonable care and to use his best judgment, but he does not guarantee that his judgment is infallible, and he cannot be held in law responsible for an error of judgment where he shows that he exercised ordinary care, and that he possessed the skill ordinarily possessed by others of his profession in the given locality. His failure to effect a cure can never be held to indicate even a presumption of want of care or skill. It will be noted that the locality is a matter to be taken into account. In a rural community with limited opportunities, the same degree of skill is not required as that which is exacted in a metropolis, where superior advantages are available. For instance, a general practitioner who had had but little experience in the treatment of the eye would not be justified in performing a delicate and dangerous operation on the eye of a patient in a community where a specialist of especial skill and experience is obtainable; while the same general practitioner might be entirely justified in law in attempting the same operation in a community where it was impossible to secure the services of such a specialist. Time and place, therefore, cut some figure in the matter, but the general rule remains universally true that only such care and skill are required as are possessed and applied by physicians in good standing in the community. The Supreme Court of this state has said that you cannot exact of the physician the highest degree of skill which the most learned might acquire in the profession, nor can you regard him as an insurer of the successful termination of his work; that he is not required to possess the highest order of qualifications to which some men attain, but that he must possess and exercise the degree of skill which ordinarily is possessed by members of his profession in good standing. For anything short of a reasonable amount of care and skill in his practice the law will hold him responsible, but the burden always rests on the one presenting the complaint to show that the physician was deficient in this regard. If the physician, in the exercise of reasonable care and skill, uses his best judgment in case of doubt, he cannot be held for a want of success, and so, in the treatment of disease or injury, he is bound to bring to his aid such obtainable remedies and appliances as discovery and experience have found to be most appropriate and beneficial in aiding recovery. But it may often happen that the most appropriate appliances or remedies are the very simplest and most commonplace, and, in such case, he is bound only to use his best judgment with reasonable care and skill. He is not liable, even if injurious results follow his treatment, unless it is shown that such injurious results were due to a failure to use ordinary reasonable care and skill. A fatal result may follow from the peculiar condition of a patient of which the physician had no knowledge, or the peculiar temperament of the patient over which he had no control, and, in such case, the exercise of his best judgment, with the care above defined, constitute a complete defense. The fact that a patient grew worse under the treatment of one physician and became better under the care of another, does not even raise a presumption in law that the treatment of the first was not proper. In other words, the law will not permit the drawing of a conclusion of unskilfulness from the result of the treatment alone. A physician, in passing from a patient infected with a contagious disease to others who are not so infected, must take such reasonable precautions as experience has shown to be necessary to prevent the communication of the infection, but if he does this he will not be held liable for the consequences. In the application of the general rule, a physician is chargeable with the knowledge of the probable consequences of the form of treatment or operation that he undertakes, and is expected to exercise ordinary care and skill to prevent unfavorable consequences. Under the general rule of wilfulness and wantonness, a physician may be held liable for exemplary damages, that is, damages by way of punishment, if it be shown that he was guilty of such a gross want of care as to indicate that he was probably conscious of the consequences of his carelessness and indifferent to the danger to which he subjected the patient.

The patient has a right to assume that one holding himself out as a surgeon possesses reasonable skill; and so, if a physician attempts to perform surgical operations, when his lack of experience renders it impossible for him to exercise ordinary skill, his ignorance of the knowledge of his profession will not constitute an excuse.

The principle of ordinary care applies also to the question of attendance on a patient; that is, there is a duty on the physician to continue his attentions so long as from the condition of the patient one might reasonably expect him, in the exercise of an honest judgment, to believe it necessary, and any culpable neglect on his part in this regard would render him liable to an action. A physician who leaves a patient at a critical stage of a disease, without reason or without attempting to procure another medical attendant, would be held in law to be guilty of actionable negligence. Of course, if he is discharged by some one in authority, this relieves him of responsibility; but ordinarily he must exercise reasonable care in determining when his attendance may be safely discontinued; but no error of judgment in this regard, or any other matter pertaining to his treatment will render him liable for consequences where he keeps within recognized and approved methods, and uses his best judgment with ordinary care and skill. No error of judgment will hold the physician responsible, unless it is so gross as, on its face, to imply a want of ordinary care and skill. Of course, an error of judgment may be so great as to be inconsistent with the belief that ordinary care and skill were exercised. For instance, a man might hold himself out to the world as an oculist, without any knowledge of the science, and obtain a patient and commence tinkering with the most delicate of all the organs, the eye, and destroy the sight. Perhaps it would only be an error of judgment, but it would be such an error as to constitute malpractice.

The physician must exercise ordinary care in giving proper instructions to those in attendance on the patient, and a failure in this regard, if it results in damage to the patient, is actionable. In other words, he must exercise the same care in giving proper instructions to the attendants, where attention is necessary in his absence, as he gives in his own work on the case.

Another principle to be borne in mind is that the physician must follow established practice. The rule is very strict against trying experiments. On its face, this rule seems rather harsh, because it means that any advancement in the profession must be at the personal risk of the physician rather than of the patient. It has been held in many of the states that any deviation from the established mode of practice is sufficient to charge the surgeon in the case with any injury resulting to the patient. In general, the physician is bound by what is universally settled in the profession, not by what some writers and practicing surgeons recommend. If the ordinary and established practice of the profession is to treat an

ailment in a particular manner, and the attending physician adopts some other mode that proves injurious, it is immaterial how much skill he possessed, since his experiment failed. If the settled practice of the profession allows but one course of treatment in the case, any departure from such course is at the physician's risk. He cannot try experiments with his patient to the patient's injury.

When we consider the wonderful advance in medicine and surgery from generation to generation, and consider how near it comes to being an exact science to-day, and how crude and barbarous were the methods described by early writers, and when we remember that all of this advance is the result of new discoveries, new experiments and new methods developed by skilled and learned members of the profession from age to age, the rule above set out seems very harsh, but it is an almost universal rule and it is one that physicians must bear in mind for their own protection.

There are some modifications to the rule: In case of emergency, when there is no well-known method that could be relied on in the particular case, and when the physician must act hastily with such means as are at his command, the rule, of course, would not be enforced. Again, by ordinary and established practice is meant the established practice of the physician's own school, and he is only expected faithfully to treat the patient according to the recognized rules of his particular school. Although someone else might think that some other school of medicine was better, his skill is to be judged by the school of practice to which he belongs and according to the avowed system which he professes. Of course, the law requires him to come up to at least the average standard of the school to which he adheres. By school in this sense the law means generally recognized method of treating disease or injury. A person who attempts to practice as a clairvoyant, or who attempts to heal disease by means of some occult influence exercised by him or some mental intuition received by him when in an abnormal condition, cannot excuse himself on the ground that he is practicing according to his school, but must take the risk if he fails to exercise the skill ordinarily possessed by a reputable practicing physician or surgeon.

In some states it has been held that if the service rendered was gratuitous the physician is not held to the exercise of so high a degree of care, but the rule in Illinois is that if a person holds himself out to the public as a physician he will be held to the exercise of ordinary care and skill in every case, whether he receives a fee for his service or not.

It is perhaps well to say, in connection with the rule of ordinary care above laid out, that the law imposes on the person making the complaint the duty of showing that he also exercised reasonable and ordinary care in carrying out the physician's instructions and in attempting to heal himself. Any failure in this regard on his part, if shown in an action, is a complete bar to his right of recovery in law; that is to say, in order to maintain his action, he must show two things: first that he was not guilty of any failure to exercise ordinary and reasonable care in carrying out the instructions of the physician and in attempting to cooperate with the physician for his own recovery, and second, he must show that the physician failed to exercise ordinary and reasonable care and skill in the conduct of the case; the burden of proof rests on the complainant in both of these respects.

164 Dearborn Street.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Fourth Weekly Meeting

DISEASES OF THE NERVOUS SYSTEM (CONTINUED)

TUBERCULOUS MENINGITIS

PATHOLOGY: Tubercle, size, number, locations. Changes in pia and dura, in brain substance. Character, quantity and location of exudate. Association of meningitis with other tuberculous lesions. Relation of symptoms to lesions.

SYMPTOMS: Prodromata, onset, duration of early symptoms. Convulsions, stupor or coma, headache, crying, muscular rigidity, eye symptoms, gastro-intestinal symptoms. Pulse, temperature and respiration. Second stage: Increase of early symptoms, paralyses, eye symptoms, mental symptoms, respiration. Duration of second stage. Third stage: Coma, eye symptoms, pulse, temperature, respiration. Variations in course of disease at different ages. Duration and prognosis.

CHRONIC BASILAR MENINGITIS (STILL)

ETIOLOGY: *Diplococcus intracellularis.* Syphilis.

SYMPTOMS: Previous history. Onset, opisthotonos, hydrocephalus, muscular rigidity. Eye symptoms. Mental condition. Course and duration.

CHRONIC INTERNAL HYDROCEPHALUS

ETIOLOGY: Primary, congenital, cases; heredity, syphilis, rickets. Secondary; tumor, meningitis.

PATHOLOGY: Quantity, physical and chemical characteristics of fluid. Secondary changes in fluid. Changes in brain substance, in ependyma, in bony structures.

SYMPTOMS: Size of head, character and rate of enlargement. Sutures and fontanelles. Motor symptoms. Eyes, mental symptoms. Clinical varieties.

Monthly Meeting

The Diagnosis and Treatment of Congenital Heart Disease.
The Treatment of Convulsions in Infants and Children.
The Early Diagnosis of Tuberculous Meningitis.
The Diagnosis and Treatment of Cerebrospinal Meningitis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 9. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, May 9. Sec., Dr. P. C. Williams, Texarkana; Eclectic, Little Rock, May 9. Sec., Dr. G. A. Hinton, Hot Springs.

FLORIDA: Regular, Tallahassee, May 8-9. Sec., Dr. J. D. Fernadez, Jacksonville; Eclectic, Lakeland, May 1-3. Sec., Dr. Hiram J. Hampton, Tampa.

GEORGIA: Homeopathic, Atlanta, May 2. Sec., Dr. R. E. Hinman, 153 Whitehall St., Atlanta.

ILLINOIS: City Hall, East St. Louis, May 3-5. Sec., Dr. J. A. Egan, Springfield.

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.; Homeopathic, New Orleans, May 1 Sec., Dr. John T. Crebbin, 1207 Maison Blanche Building.

MASSACHUSETTS: State House, Boston, May 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

MISSISSIPPI: Jackson, May 9. Sec., Dr. S. H. McLean.

NEBRASKA: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

NEVADA: Carson City, May 1-3. Sec., Dr. S. L. Lee.

NEW YORK: May 23-26. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

WISCONSIN: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

New Mexico January Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, Jan. 9, 1911. The number of subjects examined in was 11; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 2, both of whom failed. Fourteen candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

FAILED	Year Grad.	Per Cent.
College		
Tennessee Medical College	(1906)	44
Gate City Medical College	(1909)	35.4

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.
Columbian University, Washington, D. C.	(1894)
Georgetown University	(1908)
Louisville and Hospital Medical College	(1908)
University of Louisville	(1905)
Michigan College of Medicine and Surgery	(1897)
University Medical College, Kansas City	(1901) (1909)
American Medical College, St. Louis	(1891)
New York University Medical College	(1884)
Toledo Medical College	(1907)
Medico-Chirurgical College, Philadelphia	(1906)
University of Nashville	(1904)
Vanderbilt University	(1906)
Medical College of Virginia	(1899)

District of Columbia January Report

Dr. George C. Ober, secretary of the Board of Medical Supervisors of the District of Columbia, reports the written examination held at Washington, Jan. 10-13, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
College		
George Washington University	(1909)	78.7
Johns Hopkins University	(1910)	85.7
University of Michigan, Dept. of Med. and Surg.	(1898)	79.2
St. Louis College of Physicians and Surgeons	(1910)	76.9
Jefferson Medical College	(1909)	84.4
University of Virginia	(1910)	82.5
FAILED		
Jefferson Medical College	(1908)	69.3

Book Notices

DEUTSCHES ARZNEIBUCH. Fünfte Ausgabe 1910. Paper. Price 3.90 marks. Pp. 680. Berlin: R. v. Deckers Verlag, G. Schenck, Königlicher Hofbuchhändler, 1910.

It has frequently been asserted that pharmacopeias, more than any other publication, reflect the ideals and the practices of the medical profession of the time and the country for which they are published. Accepting this statement as based on fact we can readily appreciate the reasons why this, the fifth, edition of the "German Medicine Book" has been so anxiously awaited by pharmacists and by teachers of materia medica. As indicated by the absence of the Latin synonym accompanying the official title in former editions, the present book is thoroughly German and, in fact, is the first of the several editions to be compiled entirely under government supervision, in the division on materia medica of the "Reichs Gesundheitsamt."

Because of the many innovations embodied in this edition the book is being liberally discussed and promises to prove the forerunner of a new era in medicine and pharmacy by indicating how the medicaments used by the physician can and should be controlled to insure their purity and efficiency. To appreciate this more fully it should be understood that in Germany the object and the use of the pharmacopeia is somewhat sharply defined and the book is recognized primarily as one of directions for the apothecary in the manufacture and control of medicaments designed to be used on physicians' prescriptions.

One of the more important innovations is the liberal recognition that has been accorded to perpetually protected or trademarked names. The German government by introducing proprietaries into its pharmacopeia not only gives due credit to German chemical industries for the introduction of new remedies but also safeguards the interests of the public by requiring that the medicaments advertised and sold under recognized trade names must conform to pharmacopeia requirements. Where a scientific designation is more convenient or in general use, it has been adopted as a chief title followed by the trade name.

In addition to the rather liberal recognition given to new remedies, a number of general descriptions or class headings have been adopted. These have long been a distinctive feature of the German Pharmacopeia and are of great practical value, particularly in a book which, like the one under discussion is designed to serve as a guide to the apothecary in the compounding of prescriptions and not to be a book of standards for regulating the trade in drugs and medicines generally. The new pharmacopeia contains a total of forty-four titles more than the Pharmacopeia Germanica IV and this difference is largely made up of new remedies and general headings.

For the medical practitioner in countries other than Germany and more particularly for the medical practitioner of the United States this edition of the German Pharmacopeia is an indication of the services that can and should be rendered by the pharmacist in controlling and safeguarding the identity and purity of the drugs used in the treatment of diseases. With the practice of pharmacy in this country based on scientific training and the pharmacist able to control and to guarantee the purity and efficiency of the drugs he dispenses there would be little or no need for special brands of medicines and absolutely no need for the many ready-made mixtures of the patent medicine type now prescribed by physicians.

I. REPORT ON AN OUTBREAK OF TYPHOID FEVER AT OMAHA, NEB. (1909-1910). By L. L. Lumsden. II. THE WATER SUPPLY OF WILLIAMSON, W. VA., AND ITS RELATION TO AN EPIDEMIC OF TYPHOID FEVER. By W. H. Frost. Hyg. Lab. Bull. 72, November, 1910, U. S. P. H. and M.-H. S. Paper. Pp. 94, with illustrations. Washington: Government Printing Office, 1910.

L. L. Lumsden reports an investigation of an epidemic of typhoid in Omaha, lasting from November, 1909, to March, 1910, a brief account of which was given in THE JOURNAL, May 7, 1910, p. 1555. After eliminating, through a study of the statistics of 105 cases, such sources of infection as milk, ice, etc., a detailed account is given of the probabilities of water as the carrier. The public supply is obtained from the Missouri River at two points, one at some distance above Omaha, and the other at the city. The water is stored for about six hours, and alum is added for a coagulant. Sewage enters the river about 8 miles above the city intake, as well as at a number of places along the banks at no great distance from the city. The number of cases of typhoid fever among persons using water from this latter intake was disproportionately large. Analyses are given showing that the water from both intakes was badly polluted in spite of the attempted purification. A study of climatic conditions led the author to believe that during the fall of 1909 the river was subject to more than the usual degree of pollution. Infected water is regarded as without doubt the source of the outbreak. Recommendations are made that the river be more carefully guarded against dangerous pollution, and that the water be treated by mechanical filtration followed by the addition of hypochlorite of lime.

W. H. Frost, in the same bulletin, reports an investigation made during May and June, 1910, of an epidemic in Williamson, W. Va., which started about Nov. 1, 1909, and continued for several months. The general sanitary condition of the town and the water-supplies was carefully studied. A high power of pollution was found to exist not only in the town water but also in a number of shallow wells, which are in rather general use as the public supply is of a disagreeable character, being obtained from a river which receives washings from a coal mine located in one part of the town. Frost believes that the original source of the epidemic was the water, which became more than usually polluted on account of the low condition of the river in the fall of 1909 and the many possible sources of contamination which exist along its banks. A normal condition was resumed in January, but typhoid fever still continued. This is believed to have been due to contact infection. A study of the statistics of the later cases showed that many had to come in contact with previous cases. More evidence is furnished for this belief by the facts that in a majority of instances no efficient means of disinfection were used, and that great opportunity exists for contamination of wells, owing to the generally poor sanitary arrangements.

Recommendations are made: (1) that the public supply be purified with hypochlorite of lime or ozone, a new supply being considered impractical on account of the lack of sources in the region; (2) that methods of sewage disposal be improved; (3) that more careful disinfection be employed; (4) that the board of health supervise the sale of milk and other foods.

PLASTIC AND COSMETIC SURGERY. By Frederick Strange Kolle, M.D., Fellow of New York Academy of Medicine. Cloth. Price, $5. Pp. 511, with 522 illustrations. New York: D. Appleton & Co., 1911.

The author has brought together in this work a rather full statement of the plastic surgery of the head and face. Preliminary to this he takes up the principles and the practical details of operations in this field, and thus in reality gives the first 100 pages to a consideration of minor operative surgery. In successive chapters he considers the plastic surgery of the eyelids, the ears, the lips, the mouth, and the cheeks; and these chapters are good. They represent a grouping of the subject of plastic surgery of the face and head that is valuable to anyone looking for practical knowledge in this field. The plastic and cosmetic surgery of the nose is taken up after considering paraffin prosthesis.

To the subject of subcutaneous hydrocarbon prosthesis Kolle gives 130 pages, in which the subject is very fully considered. It is a very useful presentation of the subject, to which anyone may turn with satisfaction for information. The author is a very enthusiastic advocate of paraffin prosthesis for the correction of defects. In its use for the correction of serious anatomic defects or deformities we have no criticism of his position to offer, but its use for the removal of trivial cosmetic defects—to smooth out wrinkles, to fill out hollow necks or flabby cheeks, for decorative purposes, for example—we believe should be very strongly condemned. Those of us who are seeing the hyperplastic tumors sometimes following these injections are impressed with the fact that to justify putting a mass of paraffin into the connective tissue there should be a more important indication than the smoothing out of a wrinkle or the improvement of the contour of the alæ nasi, particularly as in making the change one gives the injected tissue all of the motility of a graven image.

On the whole the work will be found a useful treatise on the subject of which it treats.

THE HEALTH INDEX OF CHILDREN. By Ernest Bryant Hoag., M.A., M.D., Medical Director of Berkeley Schools. With Prefatory Note by Frank F. Bunker, Ph.B., Superintendent of Berkeley Schools. Cloth. Price, 80 cents. Pp. 188, with illustrations. San Francisco: Whitaker & Ray-Wiggin Co., 1910.

Dr. Hoag has that happy and all-too-rare ability to address the layman in the layman's own language without in the slightest degree compromising scientific accuracy. Perhaps a single exception may be found in the title of this book itself, which fails to convey to the uninitiated its real purpose and nature as the title of a popular treatise really should.

"The object of this little manual," to quote the author himself, "is to show teachers and parents how to detect easily those ordinary physical defects of the child which bar his progress in school and life, and to suggest means by which such defects may be removed and good health afterward maintained. Incidentally, it may prove of some value to physicians who are for the first time applying themselves to this special sort of public health work." The book contains just such practical information as every parent, teacher and school inspector should have to enable them to detect in their incipiency such defects as adenoids, deafness, eye-strain, nervousness, defective teeth, and to take the proper measures to have them remedied before irreparable damage has been done. The book contains admirable diagnostic tables, few but well-chosen photographs, clean-cut simple summaries, curves and diagrams, all so plain that any mother of average intelligence can understand them. In the present far-reaching tendency to take an eager public into the confidence of the medical profession, this little book should take a prominent position because it deals with those at the threshold of life where defects can be prevented or easily remedied. Such books are the natural antidote to the isms that have grown fat on ignorance; and we wish that every mother and father and school teacher could "read, mark, learn and inwardly digest" this little volume.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By R. H. Aders Plimmer, D.Sc., Assistant Professor of Physiological Chemistry, University College, London. Cloth. Price, $1.80. Pp. 270, with 49 illustrations. New York: Longmans, Green & Co., 1910.

In this book an attempt is made to cover too much ground in a small space, and as a result both accuracy and clearness suffer. Thus, in the first thirty pages the student is informed on no greater number of subjects than qualitative and quantitative organic analysis, distillation, filtration, extraction, melting-point determination, boiling point determination, three methods of molecular weight determinations and discussions under headings such as "Constituents of a Cell" and "Life Cycle of the Elements." The remainder of the text is devoted to brief considerations of the most elementary features of organic chemistry and more or less detailed treatment of the biologically important constituents of protoplasm, the latter being considered from the qualitative and quantitative points of view. Statements such as that the constitution of d-glucose, d-mannose, d-galactose and d-fructose "is proved by their reduction to the corresponding hydrocarbon hexone and by oxidation" are very misleading. There is also at least one important omission. The pyrimidin bases are not mentioned; the student is simply told in different parts of the text that nucleic acid contains pentose, guanine and adenine, that it is obtained from nucleoprotein and that the latter contains phosphorus in the nuclein portion.

DIAGNOSTIK DER NERVENKRANKHEITEN. Von Dr. L. E. Bregman. Oberarzt am städtischen jüdischen Krankenhaus in Warschau. Mit einem Geleitwort von Dr. H. Obersteiner in Wien. Paper. Price, 12 marks. Pp. 535, with 193 illustrations. Berlin: S. Karger, 1911.

Of the books on the diagnosis of nervous diseases which have hitherto appeared in English or German, we know none which approaches the subject from the viewpoint of semeiology, a method which has long been in vogue among the French. It is this method which is successfully followed by Bregman. In sixteen short chapters he approaches diagnosis from such symptom-groupings as paralysis of motion, of sensation, the special senses, reflex and speech disturbances and other symptom-complexes, with, in addition, a chapter on the diagnosis of psychic disorders. In a work including so much, we might expect a mere collection of tabulated diagnostic aids. The author gives, however, a full and concise account of everything important in the clinical diagnosis of nervous diseases. To summarize, it may be said that all topics have been given due attention and are entirely up to date. This manual is the product of one who is not only well trained in the best methods of neurologic examination, but who can also explain them and teach how to correlate the findings. The book on the whole is a distinct gain to modern neurologic literature.

A STUDY OF THE AFTER-RESULTS OF ABDOMINAL OPERATIONS ON THE PELVIC ORGANS. Based on a Series of 1,000 Consecutive Cases. By Arthur E. Giles, M.D., Surgeon to the Chelsea Hospital for Women. Cloth. Price, 10 shillings 6 pence. Pp. 251. London Ballière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1910.

The author analyzes the after-results in 1,000 cases of pelvic operations. Only one who has attempted to follow up patients for some time after operations will appreciate the immense amount of labor it has cost the author to follow out and determine the present condition of 1,000 patients who had been operated on for pelvic diseases during the past several years. It too often happens that the patient who escapes from the hospital with her life is immediately reported as having been cured of her trouble; or, if the case is reported later, it is assumed that the patient is well simply because she has not been seen or heard of since the operation. It is only by the painstaking method adopted by Dr. Giles that the defects, as well as the advantages, of a given operation become apparent. In the first part of the work the author gives in detail the present condition of the patients, classified according to the particular operation performed, and in the second, a brief clinical history of each case.

The author is to be commended for the earnest effort made and congratulated on the excellent results obtained.

HANDBOOK OF TREATMENT FOR DISEASES OF THE EYE (OPHTHALMIC THERAPEUTICS). By Dr. Curt Adam, Assistant-Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a Preface by Prof. von Michel, Berlin. Translated from the Second German Edition (1910), by William George Sym, M.D., F.R.C.S.Ed., and E. M. Lithgow, M.B., F.R.C.S.Ed. Cloth. Price, $2.50. Pp. 264, with 36 illustrations. New York: Rebman Co., (1911).

The second edition of this small manual, as its title indicates, contains the essentials of ophthalmic therapeutics. It is evident that a full account of this important subject cannot be crowded into so small a space, yet the book contains a surprisingly large amount of information. While it is merely a compend, we believe that it stands as a series of useful, predigested facts that will be more readily absorbed by the general

practitioner and by the student of ophthalmology than larger and more imposing treatises. The space (20 pages) set apart for the consideration of refraction and the prescribing of spectacles seems unduly restricted, at least to our American notions, but probably from the German point of view it is sufficient. The work has a place in ophthalmic practice if for no other reason than that judiciously written compendiums on special subjects are always of value to those who do not make a particular study of the medical department in question.

HERNIA. Its Cause and Treatment. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital. Second Edition. Cloth. Price, $1.75 net. Pp. 184, with 62 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

In explanation of the existence of this little volume the author says: "My reasons are that I believe the explanation offered in the following pages as to the cause of hernia to be the true explanation and the results I have obtained by a simple method of operating are extremely encouraging." The author is a firm believer in the so-called saccular theory of the cause of hernia, which was so well presented some time ago by Mr. Hamilton Russell of Melbourne. Most surgeons who have given the subject much study are now convinced that the great majority of hernias are due to congenital defects in the shape of preformed sacs regardless of the age at which the rupture becomes evident. Murray's method of operating does not differ materially from the standard operation generally in use to-day. He merely emphasizes again the necessity of complete removal of the sac whenever that is possible.

LE TRONC CŒLIAQUE. Par Pierre Descomps, Prosecteur des Hôpitaux. Travail de l'Amphitheatre d'Anatomie des Hôpitaux. Recherches d'Anatomie Chirurgicale sur les Artères de l'Abdomen. Cloth. Price, 10 francs. Pp. 205, with 97 illustrations. Paris: G. Steinheil, 1910.

The amount of surgery being done in the upper abdomen on the organs which receive their blood-supply from the celiac axis makes it incumbent on the surgeon to have an accurate knowledge of these vessels, their surgical relations, anastomoses and their most common deviations from the normal. In order to be able to present this subject clearly, the author made a careful study of this region in fifty cadavers. The arteries were injected through one common iliac after ligating the opposite common iliac and the aorta just below the diaphragm. The findings in the fifty cases are well illustrated by ninety-seven figures, each of which is thoroughly described in a voluminous text of about 200 pages. The literature is also well covered and the findings of other anatomists are recorded, where these relate to deviations from the accepted normal. The work is an excellent study in descriptive and surgical anatomy and has a decided practical value.

HISTORY OF ANTHROPOLOGY. By Alfred C. Haddon, M.A., Sc.D., F.R.S., Fellow of Christ's College, University Reader in Ethnology, Cambridge. With the Help of A. Hingston Quiggin, M.A., Formerly of Newnham, Cambridge. Cloth. Price, 75 cents. Pp. 206, with illustrations. New York: G. P. Putnam's Sons, 1910.

This book is one of a series on the history of the various great divisions of science. In addition to the study of the origin, physical and mental characteristics of man, the subject of anthropology includes many of the other sciences, as archeology, technology, sociology and religion, linguistics, etc. The science of anthropology still remains more or less incoherent and unorganized on account of the imperfection of the data on which final conclusions can be based. The history of each of these tributary sciences is given, in so far as it has a bearing on anthropology, together with theories and sketches of men concerned with the development of the science. The book is illustrated, has an extensive bibliography and an index.

A FLESHLESS DIET. Vegetarianism as a Rational Dietary. By J. L. Buttner, M.D. Cloth. Price, $1.35 net. Pp. 287. New York: Frederick A. Stokes Co. (1910)

If Buttner has missed any point of view on this interesting and much-discussed subject, we fail to discover it. If thoroughness of treatment could settle the question, we should all be vegetarians after reading this book, for it is certainly comprehensive. There are elaborate tables and abundant quotations—even pages of quotations from the opponents of vegetarianism which the author includes in order to be fair. Thus the work will be of service as a work of reference, whether or not one accepts the author's conclusions. Its perusal will do good, as no doubt many people eat too much meat and too little of some valuable vegetable products.

HUGHES' PRACTICE OF MEDICINE. Including a Section on Mental Diseases and One on Diseases of the Skin. Revised and enlarged by R. J. E. Scott, M.A., B.C.L., M.D., Attending Physician to the Dem't Dispensary. Tenth Edition. Leather. Price, $2.50 net. Pp. 878, with 63 illustrations. Philadelphia: P. Blakiston's Son & Co. 1911.

This old standby for the student and the general practitioner is evidently keeping up the popularity it has enjoyed for so many years. This popularity is due to the fact that the book gives practical discussions of diseases as briefly as is consistent with the subject, theories being eliminated. The present edition has been brought thoroughly up to date, all necessary changes having been made to adapt it to modern medicine. Many of the articles have been practically rewritten, and some new ones added.

Medicolegal

License Rights of Certain Practitioners—Powers and Duties of State Board

The Supreme Court of Idaho holds, in Vadney vs. State Board of Medical Examiners (112 Pac. R. 1046), that, under the provisions of Section 1298 of the Revised Statutes of 1887, no person was permitted to practice medicine or surgery in that territory (now state) who had not received a medical education and a diploma from some regularly chartered medical school having a bona-fide existence at the time the diploma was granted, and when it appeared that the applicant for a license to practice medicine and surgery in the state was engaged in the practice of his profession under the provisions of the Laws of 1887, and had complied with all of the provisions of section 5 of the Act of 1899, it was the duty of the State Board of Medical examiners to issue to him a license to practice medicine and surgery in Idaho.

A diploma from a regularly chartered medical school, which has a bona-fide existence at the time the diploma was granted, and a compliance with the provisions of section 1298a and 1298b of the Revised Statutes of 1887, with reference to being identified and filing a copy of the diploma, was all the proof that the statute required at that time of the applicant's having a medical education, and under the act of 1899 the medical board had no authority to require any other or further evidence of the fact.

The State Board of Medical Examiners, under the law of 1899, had no authority to refuse a license to an applicant who was engaged in the practice of medicine and surgery under the Laws of 1887, on the ground that the college issuing the medical diploma under which he was practicing was not a "reputable college of medicine in good standing." The board had a right to determine the question about the college issuing the diploma being a "reputable college of medicine in good standing" under the Act of 1899, where the applicant had not been practicing medicine and surgery under the Act of 1887; but when the applicant had been practicing under the Laws of 1887, and made application under the fifth section of the Act of 1899 for a license, the board had no authority whatever to determine that question. If the plaintiff had a diploma from a regularly chartered medical school that had a bona-fide existence at the time the diploma was granted, that was all that was necessary, so far as the diploma was concerned.

If the plaintiff's application was not properly verified, it was the duty of the secretary of the board to return it to the applicant for verification, and if the persons who certified to the good moral character of the plaintiff were not satisfactory, the plaintiff ought to have been notified of that fact and given an opportunity to furnish the names of other persons who would certify to his good moral character, if he could.

Under the provisions of section 9 of the medical law of 1899 there is no provision for an appeal from an order of the State Board of Medical Examiners refusing to grant a license to an applicant; but said section contains a provision whereby

the proper court may review by certiorari certain proceedings of said board.

Relative Weight of Evidence of Attending Physicians

The Supreme Court of Louisiana holds, in the personal injury case of Rickerson vs. Town of Minden (53 So. R. 667), that the testimony of a physician who attended a person immediately after an accident is of more weight on the question of the seriousness of the injury than that of a physician who attended the injured person a year after the accident, for other causes and conditions might have intervened during the year.

Evidence of Fetus Being Quick

The Supreme Court of Kansas says that it was urged in the criminal abortion case of State vs. Hatch (112 Pac. R. 149) that only the mother or persons who have placed their hands on her body and felt the independent motion of the fetus can know whether or not it is quick. But if this were adopted as the iron-clad rule of evidence in such cases, the statute defining the crime of abortion would be practically impossible of enforcement after the death of the mother. The court prefers to hold that where physicians testify, as experts, to the measurements and appearance of a fetus found by them in the body of a deceased woman, and that from such measurements and appearance they each had an opinion as to the age of the fetus and as to whether the woman at her death was quick with child, it is competent to allow such witnesses to testify each to his opinion.

Proof of Amount of Earnings of Physician Not Necessary

The Court of Appeal of the Second District of California holds, in Washington vs. Pacific Electric Railway Co. (112 Pac. R. 904), that, in an action brought by a physician to recover damages for personal injuries, including damages for loss of earning power, the right to recover the latter is not dependent, under the decisions of that state, on proof of some specific or particular sum of money that had been or was at the time of the injury being earned by the plaintiff, where the evidence shows that the plaintiff was a practicing physician and several witnesses testify to having been attended at different times by the plaintiff professionally.

No Illegal Discrimination Against Hospital

The Supreme Court of California reverses a judgment recovered by the plaintiff, in Union Labor Hospital Association vs. Vance Redwood Lumber Co. and others (112 Pac. R. 886), an action brought against the defendant named and six other lumber companies to enjoin them from conspiring and combining together to vex, injure and destroy the hospital business of the plaintiff. The defendants, the court says, compelled every employee to consent to the deduction of $1 from his monthly wage, 12½ cents of which went into a contingent fund to help needy employees who might be injured and 87½ cents of which went to a hospital for an employee's ticket that entitled him to medical and surgical care and attendance in case of injury. The occupations of their men were dangerous. That provision should be made for the medical and surgical care of the men injured was most proper. No objection was made to this, nor to the means adopted to effectuate it, saving that the plaintiff contended that because its hospital was not on the list of enumerated hospitals from which the employees were authorized to make a selection, a species of unlawful discrimination was practiced against it. But the court does not agree with that, or, in other words, that there was an illegal boycott against the continuance of which the defendants should be enjoined.

There being no contractual relations between the plaintiff and the defendants, the defendants, individually or in combination, were under a duty only to refrain from inflicting a legal wrong on the plaintiff. Unquestionably there was nothing illegal in the measures employed by the defendants. The suasion or intimidation or coercion was purely moral, and went no further on the part of the defendants than a refusal to employ or to retain in their employ any one unwilling to comply with their hospital regulation. This was purely a matter between employer and employee, and, where no contract between them stands in the way, it is the unquestioned right of an employer to discharge at his pleasure, or to impose conditions on the retention of the employee in his employment.

The court is unable to perceive where any element of monopoly entered into this case, as the plaintiff claimed. The defendants had the undoubted right to deal with any hospital which they might select. In fact, they were dealing with four, and they were not even prohibiting their men from engaging the services of the plaintiff. That is, the defendants insisted merely that the employee buy a ticket in one of their designated hospitals. Then he was at liberty to buy an additional ticket in the plaintiff's hospital, though, in the nature of things, an employee having purchased a ticket in another hospital would not be likely to lay out more money for such a purpose. And since the acts of the defendants were within their legal rights, the motive for those acts was not a subject of inquiry.

Liability of Company Requiring Injured Person to be Taken to Physician

The Supreme Court of New Jersey holds, in Perkins vs. Trenton Street Railway Co. (78 At. R. 666), that where a printed rule of a trolley company required the conductor of a car in case an accident should occur to take the injured person to a physician, and the motorman met with an accident by which his leg was crushed, and the conductor telephoned to the plaintiff, a physician, who came and amputated the limb, the company was liable on contract to the physician for the value of the service thus rendered.

The court says that the requirement of the rule that when an accident occurs, and necessity for it exists, the conductor shall take the injured person to a physician is meaningless, unless it means that the physician is to render the professional aid necessitated by the accident. The court thinks that this is its meaning and that services of such a character when so rendered are rendered to the company through its duly authorized agent. The authority to take the injured person to the physician of course carries the authority to call the physician to the injured person.

The rule or instruction not making any distinction as to cases of accidents for which the company is not liable, the court, on reflection, thinks that no such distinction can be made in view of the ground on which the rule or instruction itself must be supported as a reasonable exercise of corporate regulation. The directors of the company will be presumed to have framed and promulgated this instruction in the interest of the stockholders. From this point of view they may well have considered that for every injury resulting from an accident in their cars a lawsuit is possible, in the course of which their liability would for the first time be authoritatively determined. If liable they may be deemed, from their knowledge of human nature, to know that the damages assessed by the jury would as a rule be largely enhanced by any show of inhumanity toward the plaintiff at the time of his injury, or any lack of immediate care for him at that critical juncture, and also that humane aid promptly secured by the company would be a circumstance likely to affect the jury favorably. The directors also knew, unless blind to the details of their business, that it is of the utmost importance in litigated accident cases that the medical witness who first sees and ministers to the injured person should not be one selected and paid (or to be paid after the suit) by such person, and still more that such witness shall not be selected by the attorney who prosecutes the suit for damages. A rule that would in all cases tend to secure unbiased testimony on this important feature of every such litigation would be an exercise of sound discretion by the directors.

This answers the objection that it is no part of the directors' duty to provide medical attendance for persons for whose injuries the company is not liable. For such liability cannot be determined at the instant of the accident, and that is the instant at which the conductor is required to act. So that in view of the reason suggested for such rule it would be a sound exercise of discretion for the directors to incur the slight expense in those cases in which it was ultimately determined

that the company was not liable in view of the far greater importance of the results flowing from such rule in cases where the question of damages was involved. For the same reason, and to the same end, the rule should not be interpreted, or rather frustrated, by making the conductor pass as judge and jury on the law and facts of an accident at the instant of its occurrence as the basis of his private judgment as to whether or not it came within the rule that prescribed his duties in case of an accident.

Regarding the case, therefore, as one in which the injured person was guilty of contributory negligence, or such as would bar his right of recovery against the company, the court thinks that that circumstance affected neither the interpretation of the company's rule nor its legal effect on the agency of the conductor.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held Wednesday, March 8, 1911

The President, DR. C. B. LONGENECKER, in the Chair

SYMPOSIUM ON NEPHRITIS

The Chemistry of Nephritis

DR. HOWARD T. KARSNER read a paper reviewing the status of the chemistry of nephritis in reference to the metabolism and the urinary changes in the various forms of non-suppurative inflammations of the kidney and presenting the chemistry of uremia and edema. The paper will appear in THE JOURNAL.

Symptomatology and Diagnosis of Nephritis

DR. JOHN F. RODERER: Bright's disease in my opinion should be divided into: (1) parenchymatous nephritis, (2) the so-called chronic interstitial nephritis. Parenchymatous nephritis, which is essentially a disease of the kidneys, is divided into the acute and chronic forms, and the principal diagnostic symptoms are connected with the urine. The diagnosis of chronic interstitial nephritis can be made, I believe, without any examination of the urine, by the continued high blood-pressure caused by the diseased blood-vessels, and the altered function in the heart, eye, kidneys and other organs, the result of the diseased arteries and high-blood pressure. I am convinced that the condition called chronic interstitial nephritis is not essentially or primarily a disease of the kidneys, but an inflammatory disease of the arteries, possibly principally the terminal arteries. Chronic arterial fibrosis would be a better term. It is true that in this disease the kidneys become affected, but so may every other organ of the body. I am of the opinion that the retention of urea in the system in this disease acts only as an overdose of opium, and that uremia is given credit for some of the symptoms to which it is not entitled. The disease of the blood-vessels and the high blood-pressure will explain all the other symptoms. The brain as well as the kidneys suffers in this disease. The heart suffers most. The disease is insidious in its onset, and may exist for years without giving rise to serious symptoms. A patient may consult the physician for indigestion, headache, failing vision, shortness of breath on exertion, or a general lassitude, and any one of these symptoms may be the first evidence of the disease. Given any one of these symptoms in a patient past middle life engaged in mental labor, and inclined to worry, a thorough examination should be made. The eye is the one organ which will confirm the existence of this disease long before the evidence is shown by the kidneys. There may be normal vision with the presence of retinal lesions.

Operative Treatment of Bright's Disease

DR. MORRIS BOOTH MILLER: In my opinion, the question resolves itself somewhat as follows: First, there is no scientific justification for the assumption that surgery, or anything else, can cure nephritis once it is established. Second, the majority of the theories which have been advanced to warrant surgical interference have not been very convincing, to say the least. A constantly growing mass of clinical data, which is deserving of the closest scrutiny, tends to show, however, that the physiologic cure of Bright's disease through remission may be brought about by operation. Despite an immediate mortality of about 30 per cent., and a mortality of 44 per cent. within a short period, the results of the operative treatment have been hopeful when the desperately ill condition of many of these patients is taken into consideration. The reported cases, now running into many hundreds, show a striking number of recoveries, some of which can only be described as brilliant, and it is not surprising that nearly three-fourths of the surgeons who have expressed opinions are favorably disposed and satisfied with their results. I believe that nephrotomy in these cases does good and often saves life, because it does, and does abruptly and thoroughly, certain things which are within the mental horizon of every medical student whenever he thinks of nephritis. I believe that cutting down on the kidneys accomplishes all the purposes of cupping and bloodletting, and does it better, because it tends to relieve the disturbance at its focal point. Just as in intestinal obstruction the sympathetic nerve impulses create violent peristalsis to overcome the obstruction, so we may have in anuria and uremia intense local vasomotor efforts to overcome the renal block. Furthermore, the removal of the capsule seems wise. No man can say just what part is played in a case of suppression by the edema within the kidney itself, and decapsulation certainly offers an outlet. For this reason I believe with Harrison that drainage should always be done in these cases. There may be other explanations for the value of surgical interference in restoring renal equilibrium based on more precise knowledge of urinary physiology, but for the present these seem sufficient. It is in cases in which hypertension, local and general, and edema are the predominant phenomena that the most successful results have been obtained, while the least satisfactory subjects for the knife have been those whose kidneys were caught in the death-grip of interstitial change. Particularly apt has been the operation in saving life in the severe form of nephritis complicating and following the actue exanthemata, of which scarlatinal nephritis may be mentioned as a type. The results in chronic parenchymatous and, to a minor extent, in diffuse nephritis, have been less satisfactory. Those cases in which the cardiovascular changes are marked are the least favorable of all. Nephritis is and must remain a medical entity, and it is not until medical measures have been given a fair trial and have failed that we are justified in considering surgery. When that time comes, the following fairly well-defined principles may be borne in mind for guidance in the individual case: First, operation may be hopefully done in acute nephritis; second, young patients are the best subjects; third, there is sound reason for operating for anuria or uremia occurring in chronic nephritis; fourth, operation may be resorted to as a last desperate chance in any form of nephritis.

DISCUSSION

DR. HENRY K. PANCOAST: The use of the *x*-ray examination in connection with kidney disease is rather closely limited to the diagnosis of calculus in the kidney or ureter, and to the determination of alterations in the position or size of the kidney. Considering the number and variety of the factors that may affect the accuracy of the *x*-ray diagnosis, it is almost remarkable that the percentage of error is as low as it is. Fortunately, the most frequent sources of trouble may be overcome, guarded against or eliminated. The various sources of error may be classified in somewhat the following manner: Obesity; inadequate preliminary preparation of patient; conditions of the abdomen or pelvis which offer shadows of unusual density; surgical dressings, drainage tubes, etc.; the presence of unusual conditions causing shadows that may simulate those of stones in the kidney or upper portion of the ureter; misplaced or supernumerary kidneys or ureters; conditions or objects which may, by their shadows, lead to error or confusion in the diagnosis of calculus in the lower portion of the ureter; certain anatomic structures, as in the case of stones obscured by the shadows of the pelvic bones and the lower ribs; the consistency of the calculus; lack of adequate clinical knowledge of the case on the part of the examiner. The fact should not be overlooked that it is possible for a stone to be present without producing a perceptible shadow on the radiograph, because pure uric-acid calculi possess such a slight degree of density that they may not produce a distinguishable shadow in any but a thin individual. The modern technic of the examination for renal calculus requires some knowledge of the clinical aspect of the case on the part of the examiner, and the physician who refers the case adds to the possibility of error in failing to supply the necessary data. As a further safeguard against mistakes, it is wise to confirm the findings of a positive examination before submitting the patient to an operation for the removal of a calculus.

DR. B. A. THOMAS: Until we learn more about the kidney along the line of physiologic chemistry, I think not much advance will be made in the investigation of this disease.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 5

1 Disorders of the Stomach and Duodenum, Especially Ulcers. W. J. Mayo, Rochester, Minn.
2 Duodenal Ulcer. F. W. White, Boston.
3 Present Treatment of Gastric and Duodenal Ulcer. A Review of the Recent Literature on the Subject. C. Frothingham, Jr., Boston.
4 Indications from a Medical Standpoint for Operative Procedures in the Presence of Chronic Gastric Symptoms. M. V. Tyrode, Boston.

New York Medical Journal

April 8

5 Growth and Development of the Training School for Nurses of the New York Hospital. G. L. Peabody, New York.
6 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
7 Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
8 Psycho-Analysis as a New Therapeutic Procedure in Psycho-Neuroses. A. Gordon, Philadelphia.
9 Ozone. M. W. Franklin, Schenectady, N. Y.
10 Sodium Cacodylate in Syphilis. O. L. Suggett, St. Louis.
11 Id. H. A. Schirrmann, Portsmouth, Ohio.
12 Rabies. J. A. McLaughlin, New York.
13 Morphinism and Morphinomania. F. McK. Bell, Ottawa, Canada.

Lancet-Clinic, Cincinnati

April 1

14 *A New Principle in Treatment of Hyperthyroidism. G. W. Crile, Cleveland, Ohio.
15 *Blood-Findings in Lymphatic Leukemia. H. L. Woodward, Cincinnati.
16 Indications for Nephrectomy. E. O. Smith, Cincinnati.

14. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1220.

15. **Blood Findings in Lymphatic Leukemia.**—In Woodward's case the left axillary lymph nodes became swollen and suppurated three years ago. They were incised; following this they remained enlarged. One year ago the glands of the right axilla became enlarged also, and soon after those of the neck and groin began to enlarge. In April, 1909, the patient, a woman of 65, was confined to bed for one week, with fever ranging from 100 to 101 F. She complained chiefly of weakness. On May 23, 1909, a blood examination gave the following results: hemoglobin, 48 per cent. (Dare); reds, 2,880,000; whites, 781,000; differential count of 1,000 white cells gave small lymphocytes, 98.6 per cent., 770,060 per c. mm.; large lymphocytes, 0.9 per cent.; 7,030 per c. mm.; polynuclear nutrophiles, 0.5 per cent., 3,900 per c. mm. No nucleated reds were seen in counting 1,000 whites, but careful later search showed a very few. Color index was 0.84. Fowler's solution was started at once, 3 drops, later increased to 10 drops, being given, thrice daily. December 10, 1909, just two weeks before death the blood examination was as follows: hemoglobin, 35 per cent. (Dare); reds, 2,600,000; color index, 0.67; whites, 1,406,000. Differential count of 1,000 whites: small lymphocytes, 7.8 per cent., 109,670; polymorphonuclear neutrophiles, 1.3 per cent., 18,280; transitionals, 0.1 per cent., 1,400. Two normoblasts seen in counting 1,000 whites, or 2,800 per c. mm.

A study of the blood in this case is of interest from several standpoints. On the day of the first examination, May 23, it gave the typical picture of a chronic lymphatic leukemia, the tremendous increase in the small lymphocytes being the most marked feature. Most of these cells were smaller than the red cells, had almost no cytoplasm, and their nuclei stained very deeply with Wright's stain; a smaller number were about the size of a red cell, or slightly larger; they had a somewhat greater amount of cytoplasm, which was very faintly blue, and a deeply-staining nucleus, not quite so dark as the first variety. A third variety of small or intermediate lymphocytes, slightly larger than the red cells, showed a narrow rim of cytoplasm which had taken the stain more deeply than the nucleus, which was concentrically placed and stained light blue; it frequently showed a nucleus. Numerous irregular masses, stained a purplish-blue, were undoubtedly small lymphocytes of the larger varieties which were artificially broken down in making the smears, for they were not seen in the first preparations and were much less numerous in thick smears than in thin ones. The large lymphocytes were only present in very small numbers in this first preparation, and differed only in size from the last-named varieties. Polymorphonuclear neutrophiles were present only in very small numbers, being absolutely as well as relatively decreased. The red cells showed a picture of a moderate anemia of the secondary type, the cells being practically normal in appearance, though somewhat paler than normal. A very few normoblasts were found after prolonged search. On December 10 the white cells had increased in numbers enormously, 1,406,000 per c. mm., the highest white count of which Woodward has found any record in the lymphatic type. The character of the cells had changed also. The large forms of lymphocytes were much more numerous, relatively and absolutely, than in any of the previous specimens. They had, as a rule, a large nucleus rather faintly stained, with a broad surrounding mass of cytoplasm staining only slightly. The small lymphocytes were mostly of the larger types also. One large lymphocyte was seen with a double nucleus, each portion of which showed a nucleolus. Some of the larger lymphocytes were vacuolated. The red blood-count remained almost stationary throughout. Nucleated reds were very rare except in the last count, when 2 were seen in counting 1,000 white cells. The hemoglobin index was persistently minus, except during a reactionary period in September, when it was 1.26, and in the next examination, when it was 1.11. None of the rod-shaped bodies, described by Auer and Ottenberg in acute leukemia, were found in any of the lymphocytes.

Wisconsin Medical Journal, Milwaukee

March

17 Rabies in Wisconsin. M. P. Ravenel and B. W. Hammer, Madison.
18 The Smith Operation for Extraction of Cataract in the Capsule. G. I. Hogue, Milwaukee.
19 Reconstruction of the Bile Ducts. A. S. Sullivan, Madison.

20 Value of Blood-Cultures in Puerperal Fever. J. S. Evans, Madison.
21 Development and Value of the Blood Culture in Typhoid. G. C. Ruhland, Milwaukee.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March

22 Physiologic Action of Sodium Chlorid. D. R. Joseph and S. J. Meltzer, New York.
23 Distribution of Hemolysins, Agglutinins and Poisons in Fungi, Especially the Amanitas, the Entolomas, the Lactarius and the Inocybes. W. W. Ford, Baltimore.
24 *The Site of Action of Strychnin in the Spinal Cord. A. H. Ryan and H. McGuigan.
25 *Control of Strychnin Poisoning by Intratracheal Insufflation and Ether. T. S. Githens and S. J. Meltzer, New York.
26 Inhibitory Action of Sodium Chlorid on the Phenomena Following the Removal of the Parathyroids in Dogs. D. R. Joseph and S. J. Meltzer, New York.
27 Physiologic Studies in Anaphylaxis: Microscopic Study of the Anaphylactic Lung of the Guinea-Pig and Mouse. W. H. Schultz and H. E. Jordan.

24. **Site of Action of Strychnin.**—It was found by the authors that when the lower half of the spinal cord is poisoned by the transfusion method, spasms confined entirely to the lower half of the animal occur when the skin of that region is stimulated. The spasms then become spontaneous in the lower half of the animal. As the poisoning increases the spasms become general, occurring in the upper unpoisoned half when the lower half is stimulated. Spontaneous general spasms then ensue. If at this stage the spinal cord is cut at a level just between the poisoned and unpoisoned portions the spasms cease in the upper half of the animal while they continue below, indicating that the upper half is unpoisoned. An injection of strychnin subsequently into the upper part of the animal again throws it into spasms. If the poisoning be more gradual, as obtained by directly applying strychnin to the spinal cord in different regions, the symptoms of strychnin poisoning are slower to develop and stages intermediate to those just described occur, beginning with exaggerated reflexes and ending with spontaneous spasms, but always localized in the beginning to the poisoned region. Later symptoms are manifested in unpoisoned regions. In an animal in a state of complete general strychnin poisoning, occlusion of the aorta was, of course, followed by a disappearance of symptoms below the point of occlusion.

After the aorta was released, a time came when stimulating the skin above the point of occlusion was followed by general spasms (both upper and lower limbs) while stimulating similarly below the point of occlusion gave absolutely no response. When either the lumbar or the cervical region of the spinal cord is poisoned with strychnin an increase in the excitability of the poisoned area is observed when the corresponding area of the motor cortex is stimulated. The same result is obtained if the posterior roots in the poisoned area are severed. If strychnin is applied to the cervical region of the cord until that region is thoroughly poisoned so that stimulation of the skin of that region causes a general spasm, and then all of the posterior roots are severed, it is found that stimulation of the fore leg area of the cerebral cortex will cause a spasm of the fore legs but none elsewhere. The stimulus required to bring about this result is weaker than that required in the beginning to cause a mere twitch, and is also weaker than that required to cause a twitch of the hind leg on stimulation of its center in the cortex at the time the cervical region is poisoned.

25. **Control of Strychnin Poisoning.**—On the basis of their experimental experience it seems to Githens and Meltzer that ether anesthesia, intratracheal insufflation and intravenous infusion of Ringer's solution, offers a very effective method of treatment for strychnin poisoning in animals. They see no reason why it should not be available also in cases in human beings.

American Journal of Urology, New York

February

28 The Normal and Pathologic Posterior Urethra and Neck of the Bladder. L. Buerger, New York.
29 Massive Destruction of the Urethra After a Succession of Attempts to Restore It in a Case of Hypospadias. G. A. DeS. Saxe, New York.
30 Sexual Neurasthenia: Its Local and Hydrotherapeutic Treatment. M. Porosz, Budapest.
31 Catheter Left in the Deep Urethra and Bladder After Operation of External Urethrotomy. H. J. Scherck, St. Louis.
32 Massage of the Prostate. G. Greenberg, New York.

American Medicine, New York

March

33 A Morning at Bier's Clinic in Berlin. H. G. Watson, New York.
34 Quinin: Its History and Preparation of Its Alkaloids. J. J. Sheridan, New York.
35 The Oral Laboratory. C. E. Field, New York.
36 An Appeal to All Men of Honor of the Medical Profession of America. A. Rose, New York.
37 Posttyphoid Bone Abscess. H. Lilienthal, New York.
38 Colds and Catarrh. I. M. Heller, New York.
39 Dosage to Effect. W. F. Waugh, Chicago.
40 Action of Animal Extracts on Intestinal Movements. I. Ott and J. C. Scott, Philadelphia.
41 The Dispensary Evil and Its Consequences. W. G. Wulfahrt, New York.
42 *A Tonsillotome Improvement. T. H. Shastid, Marion, Ill.
43 Sir Walter Raleigh's "Royal Cordial." J. Knott, Edinburgh, Scotland.

42. **A Tonsillotome Improvement.**—This is an ordinary Mathieu's tonsillotome with an improvement consisting in two anterior pillar hooks, or retractors, ⅜ of an inch in length, either straight or very slightly curved, probe-pointed, and soldered to the anterior margin of the fenestra on the side of the instrument opposite to the impalement-fork—in other words, on the side next the wall of the throat. The hooks diverge somewhat as they leave the instrument, being 4/8 of an inch apart where soldered to the tonsillotome and ⅝ of an inch apart at their probe-pointed extremities. These hooks or retractors are used in the following manner: The anterior pillar is of course, if necessary, first thoroughly separated from the tonsil, and then, the tonsillotome having been introduced into the throat, first the lower hook, or retractor, and then the upper, is inserted into the space between the pillar and the tonsil. The instrument is slightly drawn forward, and then the instrument is pressed round the tonsil, and the ablation completed in the customary manner.

Memphis Medical Monthly

February

44 Treatment of Acute Suppurative Otitis Media. W. L. Simpson, Memphis.
45 The Clinical Side of Fibroid Tumors of the Uterus, with a Brief Description of the Perfected Operation for Cure of This Condition. F. D. Smythe, Memphis.
46 Treatment of Fibroid Tumors of Uterus. W. T. Black, Memphis.
47 Pathology. Degeneration and Complications of Uterine Fibroids. O. S. McCown, Memphis.
48 Technic of Cholecystotomy. J. A. Crisler, Memphis.

Annals of Surgery, Philadelphia

April

49 *Injury as a Causative Factor in Cancer. W. B. Coley, New York.
50 *The Abduction Treatment of Fracture of the Neck of the Femur in Elderly Subjects. R. Whitman, New York.
51 *Fractures of the Shaft of the Femur with Marked Displacement. R. H. Harte, Philadelphia.
52 *Fracture of the Patella. E. G. Alexander, Philadelphia.
53 *Nephro-Ureterectomy. H. Lilienthal, New York.
54 Technic of Operative Treatment of Appendicitis. A. B. Johnson, New York.
55 *Diverticulitis of the Rectum. H. Z. Giffin, Rochester, Minn.

49. Abstracted in THE JOURNAL, Jan. 14, 1911, p. 142.

51. **Fracture of Shaft of Femur.**—Harte suggests finding out all that is possible about the seat of the fracture by the use of carefully prepared Roentgen-ray plates, the pictures to be taken at various angles. The operator should consider carefully what method is likely to give the best results. When the fragments are exposed, the diameter of the bone should be determined with a pair of calipers. In no case should the screws penetrate the opposite side. Suitable instruments, proper drills and screws, and competent assistants should be at hand so that the operation can be completed quickly and with as little destruction to the soft parts as possible. Before closing the wound the operator should see that it is thoroughly dry and that all dead spaces are obliterated, so that there will be no possible chance for the development of a small hematoma, which is so conducive to later infection.

52. **Fracture of the Patella.**—The point emphasized by Alexander in the operative technic is the advantage of the silver wire. Out of thirty cases that he has been able to follow, four refractured the patella; three of these were sutured with absorbable material. The one that refractured with wire was due to a fall downstairs, and so great was the strain thrown on the patella, that the wire cut through the upper fragment.

He regards silver wire as the most aseptic and at the same time the strongest suture material that can be used. The only disadvantage is that it occasionally has to be removed. Removal was necessary in three cases in this series. This undoubtedly can be avoided, provided no infection occurs, but even if skin infection—the most common in this operation—does occur, if the skin incision is well away from the line of the fracture, and if the ends of the wire are not left too long and are well covered by the tendon, fascia lata and prepatellar bursa, removal of the wire may not be necessary. If the wire has to be removed, however, it can easily be done with little inconvenience to the patient. That wire causes softening of the bone around the opening is highly improbable unless some infection occurs. Wire is certainly no more irritating than any other material used in these cases, as kangaroo tendon, chromic gut, or even, as has been used, silkworm gut.

53. **Nephro-Ureterectomy.**—Lilienthal describes a new method of operating which he devised.

55. **Diverticulitis of the Rectum.**—Giffin reports two cases in which operation was done. In one there was carcinomatous degeneration.

Journal of the Oklahoma State Medical Association, Muskogee

March

56 The Obliterated Appendix; Its Pathologic and Clinical Significance. A. L. Blesh, H. Reed and C. E. Lee, Oklahoma City.
57 The Medical Secret and Venereal Diseases. M. A. Warhurst, Sylvian.
58 Empyema. D. E. Broderick, Kansas City, Mo.
59 Thermogenesis. G. H. Thrailkill, Chickasha.
60 Physical Characteristics of the Negro. A. C. Hirshfield, Norman.
61 Cardiac Murmurs and Their Clinical Significance. L. J. Moorman, Oklahoma City.

New Orleans Medical and Surgical Journal

March

62 Importance of Regulating Diet in Treatment of Disease. A. Eustis, Abbeville, La.
63 Extirpation of the Lachrymal Sac. T. J. Dimitry, New Orleans.
64 Biography of Dr. Gordon King. O. Dowling, New Orleans.
65 Vocal Rest—Formol and the Galvano-Cautery in Treatment of Laryngeal Tuberculosis. H. Dupuy, New Orleans.
66 A New Method (Yankauer's) of Local Anesthesia in Tonsillectomy. A. L. Weil, New Orleans.
67 Mechanotherapy in Diseases of the Ear, Nose and Throat. O. Joachim, New Orleans.
68 Diphtheria in Children. E. M. Toler, New Orleans.

April

69 Obstinate Bone Cavities. W. M. Perkins, New Orleans.
70 *The Phenolphthalein Test for Occult Gastro-Intestinal Hemorrhage. J. A. Storck, New Orleans.
71 The Motais Operation as Performed at the Eye, Ear, Nose and Throat Hospital, New Orleans. T. J. Dimitry, New Orleans.
72 Present Status of Bacterial Vaccines and the Four Leading Serums. F. O. Northey, New Orleans.
73 A Very Severe Case of Lobar Pneumonia, with Delayed Resolution and Treatment Used. G. McG. Stewart, Laurel Hill, La.
74 Treatment of Pneumonia with Aconitin. J. T. Abshire, Leroy, La.
75 Tetanus Statistics. J. D. Bloom, New Orleans.

70. **Phenolphthalein Test.**—In his observation of the phenolphthalein test, Storck noted that whenever it gave a positive reaction, the benzidin test also proved positive. The benzidin test several times showed a positive reaction when the phenolphthalein, guaiacum and aloin tests were negative. In the experiments, from 2 to 5 c.c. of blood had been given once daily for forty-eight hours previous to the application of the test. It was found that when more than 15 c.c. of blood were ingested in forty-eight hours the phenolphthalein test always proved positive, but the guaiacum and aloin test often failed.

Denver Medical Times and Utah Medical Journal, Denver

March

76 Treatment of Inoperable Cancer of the Uterus. E. Lanphear, St. Louis.
77 Pregnancy with Unruptured Hymen and Vaginal Atresia. A. M. Ditson, Denver.
78 The Usual Care of Obstetric Cases at Mercy Hospital. T. M. Burns and J. C. Hutchison, Denver.
79 Obstetrical Complications. E. Stuver, Fort Collins, Colo.
80 Non-Surgical Treatment of Retrodisplacements of the Uterus. G. L. Monson, Denver.
81 Prevention of Blindness. F. Stauffer, Salt Lake City.
82 The Menopause. W. E. Waugh, Chicago.
83 Cancer as Known To-Day. I. Levin, New York.
84 Compulsory Notification of Venereal Disease. F. Clift, Salt Lake City.

Maryland Medical Journal, Baltimore

April

85 Korsakow's Syndrome—Cerebropathia Psychica Toxemica. A. P. Herring, Baltimore.
86 Reduction of Blood-Pressure by Phlebotomy—in Emergency. G. Timberlake, Baltimore.
87 Develop Sewerage Systems. W. J. Todd, Baltimore.
88 Ventilation of Schoolrooms. C. W. G. Rohrer, Baltimore.

Interstate Medical Journal, St. Louis

March

89 Bearing of Old and New Facts on Conceptions of Cardiovascular Disease. H. A. Hare, Philadelphia.
90 Autoserotherapy: Therapeutic Use of the Patient's Own Serous Exudates and Transudates. I. I. Lemann, New Orleans.
91 Present Status of Pneumonia. H. G. Beck, Baltimore.
92 The Use and Abuse of Tuberculin. W. V. Voorsanger, San Francisco.
93 Report and Analysis of a Goiter with Marked Intrathoracic Extension. N. W. Sharpe, St. Louis.
94 Salvarsan in Three Rebellious Cases of Syphilis. E. D. Holland, Hot Springs, Ark.
95 Primary Carcinoma of the Appendix. M. W. Myer, St. Louis.

Journal of Experimental Medicine, Lancaster, Pa.

April

96 *A Sarcoma of the Fowl Transmissible by an Agent Separable from the Tumor Cells. P. Rous, New York.
97 Treatment of Yaws (Frambesia) with Salvarsan. R. P. Strong, Manila, P. I.
98 *Cultivation in Vitro of the Thyroid Gland. A. Carrel and M. T. Burrows, New York.
99 *Cicatrization of Wounds in Vitro. E. S. Ruth, New York.
100 *Transfusion and the Question of Intravascular Agglutination. R. Ottenberg, New York.
101 Changes in Nitrogenous Metabolism After Parathyroidectomy. J. V. Cooke, New York.
102 Observations and Experiments on the So-Called Thyroid Carcinoma of the Brook Trout and Its Relation to Endemic Goiter. D. Marine and C. H. Lenhart, Cleveland.

96. A paper based on the same observations by the same author was published in THE JOURNAL, Jan. 21, 1911, p. 198.

98. **Cultivation in Vitro of the Thyroid.**—Since Sept. 22, 1910, the authors have cultivated the thyroid gland from mammals, many times. Small fragments of the gland were extirpated from living and anesthetized dogs, cats and guinea-pigs, and cultivated in the plasma obtained from the same animal or an animal of the same species. These cultures are distinguished as autogenic and homogenic. In all, they have now made fifteen series of cultivation experiments with the gland, each of the series being composed of from four to thirty separate cultures. The proliferated elements consist of connective tissue and epithelial cells, the former predominating. The cells survive in cultures for two weeks or longer, which period can be increased by secondary and sometimes tertiary cultivations. The authors call attention to the fact that the method of growing *in vitro* organs such as the thyroid may come to be used with advantage in the study of the substances concerned with the internal secretion of certain glands.

99. **Cicatrization of Wounds in Vitro.**—The process of the healing of a wound outside the body has been observed and recorded by Ruth in five experiments. The method of study consisted of making an incision or a rectangular wound in the middle of a small fragment of skin and cultivating it outside the body in a drop of plasma. The reparation consists of three mechanisms: the sliding of the epithelium from the edges of the wound into the open space, the epidermization and the progressive contraction of the original edges of the wound.

100. **Transfusion.**—This paper offers a solution of a special problem in isoagglutination; namely, the question whether transfusion is permissible between persons whose sera agglutinate the red blood-cells of each other. It also shows why such transfusions are not regularly followed by serious symptoms. Ottenberg found that intravascular agglutination can occur, and is the probable cause of occasional untoward symptoms, or even death, following transfusion of agglutinative blood. In the majority of cases, however, it does not occur, or if it does, it causes no symptoms. This is dependent on the influence of three factors: (1) concentration of the agglutinin; (2) absorption of the agglutinin by an excess of agglutinable cells; (3) interference with agglutination by an excess of non-agglutinable cells, so that when clumps occur they are microscopic in size. If, for a given transfusion, a non-agglutinative donor, i. e., a donor whose blood is of the same agglutinative class as the patient's, cannot be obtained, then

it is safer to use a person whose serum is agglutinative toward the patient's cells than one whose cells are agglutinated by the patient's serum. Ottenberg suggests that tests for agglutination as well as for hemolysis, ought to be made before transfusion. When time does not permit this, one has to weigh the possible dangers of agglutination or hemolysis against the dangers of letting the patient go without transfusion. Agglutinable cells when transfused are taken up by the phagocytes in the patient's blood; and, for this reason, the transfusion of agglutinable blood, even when no accident happens, can be expected to do little permanent good.

Ophthalmic Record, Chicago

March

103 Acute Retrobulbar Neuritis Caused by an Intestinal Toxemia. F. P. Calhoun, Atlanta, Ga.
104 Excretion of Hexamethylenamin into the Anterior Chamber of the Eye. H. S. Gradle, Chicago.
105 Two Cases in which the Roentgen Ray Failed to Locate a Foreign Body Afterward Shown to Be Present in the Eye. R. L. Randolph, Baltimore.
106 Treatment of Scleritis and Pterygium. E. R. Carpenter, El Paso, Texas.
107 Conjunctivitis with Ulceration of the Cornea, Due to the Bacillus Pyocyaneus. H. McKee, Montreal.
108 Congenital Pigmentation of the Cornea. H. V. Tweedie, Baltimore.
109 A Case of Herpes Zoster Ophthalmicus. W. T. Wallace, Berlin, Ontario.
110 Mixed Irregular Astigmatism Following Injury to the Eye. R. S. Lamb, Washington, D. C.
111 Toxic Paralysis of Accommodation. H. F. Hansell, Philadelphia.
112 An Expensive Pocket Transilluminator. H. Lowell, Boston.

Kentucky Medical Journal, Bowling Green

April 1

113 Conservative Surgery. I. Abell, Louisville.
114 Gall-Stones. B. F. Van Meter, Lexington.
115 How Shall We Improve Public Health Matters in the County? S. Griffin, Henderson.
116 Natural Defenses of the Body. D. O. Hancock, Henderson.
117 Hysteria: Its Symptoms, Etiology, Prognosis and Treatment. J. C. McCreary, Cave City.
118 Minor Eye Troubles. T. O. Helm, Bowling Green.
119 Management of Acute Appendicitis. P. C. Layne, Ashland.
120 Appendicitis. W. K. Smith, Adairville.
121 Typhoid. J. E. Payne, Paducah.
122 Chronic Rhinitis. H. C. Beazley, Hopkinsville.
123 Atropin: Its Physiologic and Therapeutic Effect. E. Harthill, Pewee Valley.
124 The Courteous Physician. W. Salin, Owenton.
125 A Plea for an Early Diagnosis of Pulmonary Tuberculosis. E. Morris, Sulphur.
126 Prostatic Hypertrophy. A. P. Dowden, Eminence.
127 *Treatment of Dysentery. P. F. Barbour, Louisville.
128 Congenital Absence of the Genital Organs, Including the Clitoris and Vagina. A. H. Barkley, Lexington.
129 Vis Medicatrix Naturæ. D. G. Simmons, Adairville.
130 Tonsillectomy: The Tonsils and Their Removal. W. S. Gabhart, Mackville.
131 Can Typhoid be Aborted? W. W. Lasley, Lewisburg.
132 Placenta Prævia. D. G. Simmons, Adairville.
133 The Onward Movement in Medical Organization. B. F. Fyke, Springfield, Tenn.
134 Pseudomembranous Croup. T. C. Nichols, Morgan.
135 Splenic Leukemia. E. D. Sellers, Fisherville.

127. **Treatment of Dysentery.**—After castor oil has been given and the bowels thoroughly moved, Barbour says that some astringent like bismuth subnitrate may be prescribed, 10 grains every two hours until the stools are dark and the frequency diminished. If the stools are not discolored by the bismuth then he would give zinc sulphocarbolate in ½-grain doses every two hours. If there is no fever then small doses of Dover's powder may be given, but usually will not be found necessary if there has been a thorough emptying of the bowels. When there is blood in the stools, bichlorid of mercury, in 1/150-grain doses should be given every two hours until the stools show some bile, when the bismuth may be substituted. For the cramping, the tormina and tenesmus hot applications over the stomach will give great comfort. Hot flaxseed or a glycerinized paste will be helpful. Warm enemata will help relieve the straining, sometimes starch and laudanum eases those cases in which the rectum is very congested and apt to prolapse with the stool. Occasionally, suppositories containing opium and belladonna will quiet this intense activity. Or the official liquor antisepticus alkalinus well diluted with warm water as a colon douche will deplete the inflamed area. With more extensive experience Barbour has grown to use the astringents less and less, for the removal of the fermenting and putrefying mass from the bowel has nearly always stopped the diarrhea. To gain this end the following prescription has been found very useful by him:

℞	gm. or c.c.	
Olei ricini	8	3ij
Pulveris acaciæ	q. s.	or
Syrupi rhei aromatici	30	℥i
Misturæ cretæ q. s. ad	60	℥ii

M. Fiat. emulsio. Sig. One teaspoonful every two hours.

When the character of the stools show that the upper bowel has been unloaded there will be a great improvement in the condition of the child. Then the astringents may be administered with benefit but will not always be found necessary.

Washington Medical Annals

March

136 Progress of Gynecology in 1910. J. W. Bovée, Washington, D. C.

Medical Fortnightly, St. Louis

March 25

137 Influence of the Mind on Health and Disease. L. H. Lanier, Kansas City, Mo.
138 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
139 Abortive Treatment of Gonorrhea. W. R. Jamieson, Torreon, Coah., Mexico.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

March

140 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris, France.
141 Scope and Value of the Blood-Pressure Test. F. A. Faught, Philadelphia.
142 Etiology and Treatment of Gout. A. Bassler, New York.
143 Effect of Alcohol on the Heart Muscle. A. W. Downs, Philadelphia.
144 *Use of Oxygen Baths. A. Bernheim, Philadelphia.
145 *The United States Pharmacopeia. M. H. Fussell, Philadelphia.
146 The Metric System. E. H. Long, Buffalo, N. Y.

144. **Oxygen Baths.**—The use of the oxygen bath in a great variety of affections is advocated by Bernheim. He says that in addition to exercising a powerful suggestive influence, the oxygen bath exerts an effect on the innervation as shown by its removal of parasthesias, its soporific property, and its general sedative and indirectly stimulating action. It assists the circulation, deviating the blood from the skin and doubtless from the viscera, very probably to the skeletal muscles. It reduces excessive blood-pressure and the frequency of the pulse as well.

145. **United States Pharmacopeia.**—Fussell protests against the presence in the Pharmacopeia of such combinations as pulvis acetanilidi compositus. The best method of prescribing acetanilid and caffein is to give to each individual for whom these drugs are used the dose necessary for that individual, and for the particular condition present at the time the patient is seen. This cannot be done if a fixed formula is used, even though, of course, one may use different doses at different times. It is manifestly impossible for anyone to tell before a case is seen just what dose of the drug is necessary. To advise the use of compound remedies is to confirm slipshod, improper methods of prescribing. On this principle, fixed formulas should not be used. If it is not correct principle to use fixed formulas, then they surely should be expunged from the Pharmacopeia.

Still another point made by Fussell is the following: The Pharmacopeia to-day contains certain drugs, their preparations, the method of manufacturing them, their doses, their description, and in certain instances, tests for their purity and assay. As the book stands, therefore, it is manifestly of great use to the pharmacist. Its only use to the general practitioner is the knowledge it gives him of what is supposed to be useful in drugs and their doses. It gives no hint of their indications or contraindications, of their toxic or non-toxic properties. All this knowledge he must perforce get from other books, or from manufacturing chemists. He can get reliable information from the various publications on materia medica or from the dispensatories, and he does get some from these sources; but, sad to relate, most of the information as to drugs which the average physician now obtains after graduation is from manufacturing drug firms, in the form of more or less well-written literature, accompanied by samples and often supplemented by the glib-tongued detail man. Fussell has had described to him the treatment being carried on in certain cases, and has been able to recognize but few of the articles used, because they were prescribed under trade names

of which he was entirely ignorant. One reason why the drug firms, with their literature and instructed agents, are such potent powers in grounding the young physician as to the means he should use in prescribing is because that method is easy and is brought immediately to his attention, whereas the knowledge of materia medica is more or less difficult to attain. Another reason is because the medical schools are not insistent enough in teaching their students that the only proper method to pursue in prescribing drugs after they become practitioners of medicine is to hold fast to that which has been proved of value, and to accept new remedies only after their usefulness has been attested by men of standing by methods of value. Therefore, he continues, if the next issue of the Pharmacopeia is made to contain the therapeutic indications of the drugs recommended for use, it will be of some practical value to the practicing physician. If this should make the volume too bulky, two volumes might be printed; one after the style now in use, and the other to contain the names of the drugs, their description, their dose, and a short description of their therapeutic use.

Vermont Medical Monthly, Burlington

March

147 Practical Points on Diagnosis and Treatment of Diseases of the Upper Abdomen. S. E. Maynard, Burlington.
148 Management of Patients with Sugar in the Urine. C. H. Beecher, Burlington.
149 Principles and Application of Serotherapy and Bacteriotherapy. B. H. Stone, Burlington.

Bulletin of the Manila Medical Society

February

150 *A Case of Masked Tertian Malarial Fever with Marked Mental and Nervous Manifestations and with Unusually Few Parasites in the Peripheral Circulation. W. E. Musgrave, Manila.
151 An Effort on the Part of the Bureau of Health to Improve the Milk Supply of Manila. C. Fox, Manila.

150. **Masked Tertian Malarial Fever.**—At the age of 14, Musgrave's patient had a moderate attack of chills and fever, which recurred at irregular periods for about one year. At the age of 21, he suffered an attack of pleurodynia, following exposure, which kept him in bed for about five days. When 25 years old, he was attacked by bronchitis, which, however, was so mild as not to confine him to bed. At 29 and 31 years of age, there were attacks of influenza, moderate in severity, confining him to bed for about one week in each case. At 35 years of age, he had diarrhea, which lasted for about two weeks and did not incapacitate him for duty. In 1897, there was an attack of intermittent fever ushered in by a chill, two other chills occurring during the first ten days. Malarial parasites were not found. Following this illness, he began to be troubled with palpitation of the heart, shortness of breath on exertion, indefinite rheumatic pains occasionally in the fingers, but no swelling or fever. About this time he began to be troubled with nervousness, inability to think on a definite subject for any length of time, insomnia, and worry over petty details. In July, 1897, he was granted sick leave for nervous debility and rapid heart action; this leave was later extended on other certificates to November. During this time, in addition to periodic attacks of intermittent fever, the general nervous condition failed to improve much and he began to be troubled with a suffocating sense of oppression in the chest and throat. At times there were spells of dizziness. In the fall of 1898, jaundice of a severe type developed and lasted for about four months. The jaundice came on gradually and was accompanied by pain and tenderness over the liver and abdomen. During the latter part of this trouble, chills and fevers developed, lasting for about three days, and a few tertian malarial parasites were found.

From about July 1 to Aug. 12, 1899, there was mild continuous fever. While on sick leave convalescing from this attack, he was exposed to the hot sun for some time and suffered with a recurrence of the old symptoms, insomnia, burning oppressive headache, palpitation of the heart, weakness, general debility and nervousness; and in addition had fever again, which lasted for a week or two, but no chills. His condition again improved and on arrival in the Philippine Islands in October, 1909, his general health was fairly good. The hard duties and the trying climate of the tropics, however, soon caused a return of the old symptoms. The mental phenomena became very marked and the patient made application to be retired on account of mental and physical debility, stating that he believed himself insane. While under observation after this application, he suffered from two attacks of fever, one of them accompanied by jaundice, but malarial parasites were not found. He was finally invalided to America with a diagnosis of melancholia and severe cerebral neurasthenia.

On returning to the United States, he was again placed under observation in one of the large hospitals. While there, he had two or three attacks of fever of an irregular type; but again malarial parasites were not found. He made a second application to be retired for mental and physical disability and the hospital authorities recommended that he be transferred to an insane asylum. Instead, however, he was transferred to the Army and Navy General Hospital, Hot Springs, Arkansas, for further observation and report. On admission, the patient complained of a constant feeling of mental and physical depression and difficulty of concentrating the mind on any one subject, especially on details. Forced thinking in one channel, as in adding a column of figures, gradually weakened the memory so that all track of count was soon lost. All exercise, whether physical or mental, was followed by mental and nervous prostration and physical exhaustion. There was insomnia, mental depression, palpitation of the heart and a suffocating sensation in the chest and throat. Practically nothing was found on physical examination. The patient was fairly nourished and developed; his color was slightly yellow; the general sensation was good; the reflexes normal; the chest negative. There was no apparent enlargement of the spleen, but slight enlargement of the liver and tenderness on deep pressure over the gall bladder. The temperature, pulse and respiration were normal. The red blood-cells numbered 4,020,000, the leukocytes, 6,280; the hemoglobin was 92 per cent. (Fleischl). The differential count showed eosin 0.8 per cent., mononuclears, 2.3 per cent., polynuclears, 75.5 per cent. and irregular cells, 2 per cent. Malarial parasites were not found in fresh or stained specimens. The urine was normal and remained so throughout the five months that he was under observation. The patient did not have diarrhea; but following the hospital custom in cases returned from the tropics, he was given a saline and the stool examined microscopically, but nothing abnormal was found.

After seven weeks in the hospital he had a slight chill one night, which he said was followed by fever and sweat. His blood was carefully examined, but no malarial parasites were found. Following this attack and continuing until the true cause of his trouble was found and removed, he complained constantly of photophobia, which at times was very marked. Seven days after the first chill he had another one at night, which was also followed by fever and sweat as well as by a slight jaundice. Again malarial parasites were carefully sought for but not found. Following this chill the mental and nervous phenomena became more marked and the patient sang, laughed and talked almost constantly for about twenty-four hours. Five days later, there was another chill and the temperature reached 104 F., with more marked jaundice and gastro-intestinal symptoms, including vomiting, slight diarrhea and abdominal pain. The abdominal pain was most marked in the region of the gall-bladder and the patient had not been free from it since the first chill. Malarial parasites were again sought for but not found, either in fresh or in stained specimens. Two days afterward there was another chill similar to the last one, and on this occasion the examination of the blood showed a few—very few—parasites. At this time the patient was in a nervous and mental condition requiring a constant attendant.

Immediately after the finding of the parasites, the patient was put on 1 gram doses of quinin every four hours until marked cinchonism was produced, after which he was kept on 3 grams of quinin daily for fifteen days, when all medication was stopped. Two weeks afterward there was another slight chill and a few parasites were again found. He was then put on a systematic quinin treatment extending over a period of five months, as follows: 3 grams in three doses daily for fifteen days; then 3 grams in three doses on alternate days for one month; then once a week for another month, and finally once every two weeks for at least two more months.

In addition to this treatment, the patient had thermal baths, and iron, arsenic and strychnin. A clearing up of the symptoms was noticed shortly after the quinin treatment was instituted and progressed rapidly. This case is reported somewhat in detail because it is believed to be rare, and because of the injury that was done the patient by a faulty diagnosis which came so near causing him to be incarcerated in an asylum.

Journal of the Delaware Medical Society, Wilmington

March

152 Is Plasmodium Malariæ Conveyed to the Human System Through Any Other Avenue than the Mosquito? J. H. Wilson, Dover.

American Journal of Diseases of Children, Chicago

April

153 Influenzal Meningitis, with Especial Reference to Its Pathology and Bacteriology. D. J. Davis, Chicago.
154 Treatment of Chronic Infantile Paralysis. M. Strunsky, New York.
155 *A Study of Blood-Pressure in Normal Children. M. Michael, Chicago.
156 *Spontaneous Hemorrhage in the New-Born Infant. O. M. Schloss, New York, and L. J. J. Commiskey, Brooklyn, N. Y.
157 *Inflammatory Changes in the Appendix During Early Infancy. G. M. Smith, St. Louis.

155. Abstracted in The Journal, Feb. 25, 1911, p. 617.

156. **Spontaneous Hemorrhage.**—A review of the literature, and a study of nine cases of spontaneous hemorrhage in new-born infants, serve as the basis of this communication. Schloss and Commiskey have treated seven new-born patients with hemorrhage by subcutaneous injections of human blood. The first patient was treated in April, 1908, with, first, an injection of 20 c.c. of human blood serum, and later, an injection of whole blood. The whole blood was used instead of the serum for the reason that it was easier to obtain and could be used immediately, the time required for the serum to separate being saved. It seemed an additional advantage to inject, not only the serum, but also the formed elements which have influence on the coagulation of the blood. In most cases the blood was taken from one of the parents. The required amount was withdrawn from a vein of the forearm by means of an exploratory syringe and injected immediately into the subcutaneous tissue of the infant's back. Of the seven infants thus treated, six recovered and one died. The fatal case was in an infant who had suffered from multiple hemorrhages for eight days and died three and one-half hours after admission to the hospital. The patient was in a moribund condition when admitted and received only a single injection of 10 c.c. of blood. In five of the six cases in which recovery took place, the hemorrhage ceased soon after treatment, and at the same time there was marked improvement in the general condition. In four cases, the hemorrhage was rather severe and the patients presented all the signs of severe anemia due to loss of blood. One case was of moderate severity. In the remaining case a positive Wassermann reaction was obtained; the hemorrhage was only slightly improved after the blood injections, but ceased after the use of mercurial treatment. Whether the blood injections were of value in this case was difficult to determine. The authors believe that the best results can be expected from the use of human blood or serum. In the four successful cases the curative effect of blood transfusion was immediate, but, they say, this method of treatment must have a rather restricted field. The technical difficulties of transfusion in a young infant are formidable and render the method available only in the hands of a very skilful surgeon.

157. **Changes in the Appendix During Infancy.**—Among 200 appendices examined by Smith, fifteen showed inflammatory changes of varying intensity. The two youngest infants were 13 days and 17 days old, respectively. In nine instances, the age ranged between 20 and 30 days. Four infants were between 1 month and 2 months old. In two instances, the cecum was still in an incompletely descended position, lying between the iliac crest and the liver; but in the remainder of the cases the cecum occupied its usual position in the iliac fossa. Three times the distal part of the appendix was found hanging over the pelvic brim, and in such instances the distal part gave the evidence of severe inflammation. In eight cases, the appendix occupied a position directly behind the cecum and proximal part of the ascending colon. It is in this position of the appendix that in infants sharp angulation frequently occurs. The cause apparently is found in the relatively small retrocolic compartment at the time of birth, to which a relatively large appendix accommodates itself. Thus, the appendix passing upward directly behind the cecum and colon, may be bent sharply downward by the upper limit of the retrocolic space formed by the reflection of the peritoneum from the ascending colon to the iliac fossa or posterior parietes. Under normal conditions, even, fusion of the appendix with the cecum, ascending colon, posterior parietal peritoneum or iliac fossa is frequently found. There may result from these conditions not only a permanent fixation of the sharply bent appendix, but also changes in the form of the mesentery of the appendix, possibly causing circulatory disturbances.

In the majority of the cases reported by Smith, inflammation occurred when the appendix was found sharply bent on itself, lying in close relation with the cecum and colon; and in several instances the inflammation was more marked at the site of angulation than in other parts of the appendix. In three cases, the proximal part of the appendix passed upward, inward and to the left, so that the distal part lay curled behind the mesentery of the terminal coil of the ileum. The last described position of the appendix is that most frequently found in infants, as it formed 50 per cent. of all cases in 1,050 autopsies in infants studied by Smith. It is of interest to note that although the majority of inflammatory changes were found in appendices lying erect directly behind the cecum and colon, this variation in position of the appendix in the infant was found in only about 25 per cent. of all infants. Peritoneal exudate was present in seven cases. Thrombosis of the arteries occurred in the appendix and in the mesentery of the appendix in several instances.

Atlanta Journal-Record of Medicine

March

158 Local Anesthesia. W. L. Cooke, Columbus, Ga.
159 Vaccine Therapy in So-Called Surgical Tuberculosis. L. M. Gaines, Atlanta, Ga.
160 What Are the Indications at Present for Transfusion of Blood? E. G. Jones and D. F. Winn, Atlanta, Ga.
161 Salvarsan. E. G. Ballenger, Atlanta, Ga.

Detroit Medical Journal

March

162 Modern Ideas or Conceptions of Kidney Pathology. A. O. Hart, Maple Rapids, Mich.
163 Treatment of Gonorrhea. N. E. Aronstam, Detroit.
164 Relation of the Physician to the Problem of Nurses for People of Limited Means. C. A. Aikens, Detroit.
165 Prof. Herman Schwartze. E. Amberg, Detroit.

Journal of the Medical Society of New Jersey, Orange

April

166 Salvarsan. H. J. F. Wallhauser, Newark.
167 Tonsillar Hypertrophy: Anatomy, Surgical Treatment and Operative Dangers. R. B. Scarlett, Trenton, N. J.
168 *Can the Future Sex of the Family be Controlled at Will by the Parents? W. W. Kain, Camden, N. J.
169 *Medical Expert Testimony. G. A. Rogers, Newark.
170 What Can We Do for the Betterment of Our Society? W. J. Burd, Belvidere.
171 Salvarsan in Syphilis. N. J. Ramos, Newark.
172 Medical Inspection of Schools. W. J. Lamson, Summit.

168. **Can the Future Sex of the Family Be Controlled?**—Kain agrees with E. R. Dawson that the supplying ovary is in reality the essential factor in the causation of sex. Dawson held that the sex of the fetus is not due to the male parent, but depends on which ovary supplied the ovum which was fertilized, and so became that fetus. He found that a male fetus is due to the fertilization of an ovum that came from the right ovary, and a female fetus is due to the fertilization of an ovum that came from the left ovary.

169. **Medical Expert Testimony.**—Rogers suggests as a remedy for present evils that one or more experts should be jointly selected by the two opposing parties, and that these experts should be paid by both sides. In case the two sides should be unable to agree in their choice, the judge might deliver a casting vote; or each side might choose an expert, and a third might be selected by the two experts originally chosen, or by the court—these three physicians to make a joint report. He suggests further that the medical testimony in any given trial might be reviewed by a special committee appointed for that purpose by the medical council of the local medical society. By this means, a physicians who was found guilty of habitual perversion might be expelled from the society and thus discredited in the eyes of the court.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 25

1 Ankylostoma Infection. A. E. Boycott.
2 *Traumatic Myositis Ossificans. R. J. Godlee.
3 *Idem. G. H. Makins.
4 Formation of Bone in Periosteum Separated by Injury. A. A. Bowlby.
5 A Case of Poisoning by Tragopogon Pratense, or Goat's Beard. F. J. Smith.
6 A Record of Ninety Diphtheria Carriers. A. G. MacDonald.
7 Grave and Prolonged Cardiac Failure Following the Use of Cocain in Dental Surgery. F. W. Price and A. B. Leakey.
8 *Two Uncommon Forms of Deformity of the Female Generative Organs. J. A. C. MacEwen.
9 Nuchal Lipomata in the Lower Animals. Sir J. Hutchinson.
10 Clinical Aspects of Some Varieties of Excitement. W. T. Munro.

2. **Traumatic Myositis Ossificans.**—One case of this kind is reported by Godlee. A young man had been kicked on the front of the thigh at football. When Godlee saw him there was a very large oval swelling on the front of the lower half of the thigh. It was symmetrical and very hard, except just above the patella, where it fluctuated, and there was only slight pain on movement. There was pain and stiffness for several months. After three months the mass was slightly smaller. It was obviously fixed to the bone. After another month the lump had almost gone, but a skiagram showed that there was then a distinct flake of bone on the front of the femur, fading off above into the surface of the shaft, but ending below in a sharp spicule. Godlee points out that a very large swelling without treatment may diminish so much in size as almost to disappear and cause no further trouble or inconvenience. He raises the question whether this condition should be called myositis, and what is the evidence that it is due to inflammation of muscle. He thinks it more probable that the essential things are, first, an injury to the periosteum, and, second, an effusion of blood; and that the injury to muscle and the inclusion of muscular fibers in the callus are, so to speak, accidental, though they no doubt govern the shape and position of the new mass of bone. In other words, the injury is more analogous to what occurs when periosteum is stripped off in such operations as excision of the elbow, or in the cephalhematomata of infants, in which it is easy to demonstrate true bone at the margins of the clot, or to the formation of provisional callus in simple fractures.

3. **Traumatic Myositis Ossificans.**—Two cases are reported by Makins. The patients were of the same age, came under observation at the same time, and while one was treated by an active method, the other practically recovered spontaneously. Makins maintains that no active treatment should be adopted in the early stages of the condition. The frequency with which two muscles of the body, the quadriceps extensor femoris and the brachialis anticus, are affected seems to Makins to support the theory that the exciting influence is to be referred to bone-forming cells detached from the periosteum. Makins says that in the general line of treatment to be adopted a period of some weeks' complete rest should be maintained during the continuance of the active progress of ossification. When it is judged by clinical observation and Roentgen-ray examination that progress has ceased or that the process is retrogressive, massage and exercise should follow. Operative treatment should only be considered when the process has manifestly come to a definite standstill, and the patient suffers from functional disability which there is a chance of relieving.

8. **Deformity of Female Generative Organs.**—In the first case cited by MacEwen, a woman, aged 46 years, was suffering from symptoms pointing to intestinal obstruction. The abdomen was distended and tender to palpation, particularly over the left iliac fossa, where a large mass was easily detected on palpation, and it was dull to percussion. On vaginal examination, the cervix was found to be normal in position and direction, but small and ill-developed. The uterine sound could not be introduced into the canal, but an ordinary probe went in for about an inch. The fundus could not be detected. The vaginal roof on the left side was occupied by a mass which was tender to palpation, while on the right side a hard rounded mass was detected which projected toward the rectum, and was easily felt in rectal examination. This mass was about the size of a golf ball and was fixed. The peritoneal cavity was opened and a quantity of sanguineous fluid was evacuated. A large tumôr, subsequently ascertained to be fibromyomatous, at once presented. This tumor was freely movable, being attached to a pedicle, which had become twisted and was partially gangrenous. The pedicle was ligated down close to what was supposed to be the serous surface of the uterus and the tumor removed. The left Fallopian tube was also in a gangrenous condition and was also removed. The left ovary appeared normal but of small size. On passing the finger down along a course of the rectum a mass was now detected. There was no uterine body present. On the left side there was an ill-developed broad ligament, with the gangrenous tube already mentioned, and fairly normal ovary. On the right side, the appendages seemed to be entirely wanting, while a little to the right of the normal position of the uterus the hard mass referred to presented. It emitted a slightly hollow note when tapped. It consisted of a roughly spherical shell of osseous matter, which contained an oily material at first sight resembling pus. No hairs, teeth or other tissue elements were present. The patient made an uninterrupted recovery save for slight transient jaundice for a few days after operation.

MacEwen expresses the belief that the intestinal obstruction in this case was probably due to the pressure of the fibromyoma on the bowel, but no evidence was obtained of any portion being damaged thereby. This woman had menstruated regularly. In the second case there was an absence of the lower end of the vagina.

Bristol Medico-Chirurgical Journal, London

March

11 Cerebrospinal Syphilis. J. M. Clarke.
12 Defects in the Visual Field. F. R. Cross.
13 Nature and Treatment of Chorea. C. F. Coombs.

Clinical Journal, London

March 15

14 A Case of Spasmodic Torticollis and a Case of Cerebellar Tumor. P. Stewart.
15 Facial Tetanus. W. F. Fedden.

March 22

16 The Weak Heart. W. J. Fenton.
17 *Acute Pneumonia in Children. J. P. Parkinson.

17. **Acute Pneumonia in Children.**—With regard to the general treatment of the disease, Parkinson says that the child should be put to bed, and frequently moved from side to side to allow collapsed areas of lung to expand, for the same reason as a fit of crying is useful now and then. The room should be well ventilated so that oxygen is given in a natural way, though oxygen from a cylinder may be useful in cardiac failure with cyanosis. Bronchitis has to be treated on the ordinary lines, and if there be much secretion an emetic may give relief. Ipecacuanha often fails to produce vomiting, and the author considers a small dose of apomorphin safe and efficacious. Ipecacuanha is much too frequently prescribed, he asserts, for it is useless when there is no bronchitis, and when there is, it is by no means sure that this drug acts favorably. It is also certain, Parkinson says, that it upsets the digestion; it is better, therefore, if the child seems to be getting rid of the bronchial secretion without drugs not to give them unless there is definite indication for their employment. The author has often found a hot mustard bath useful in cases of collapse in young infants; it relieves congestion of the lungs and heart by dilating the peripheral arterioles as well as helping the action of the skin. He insists on disinfection of the mouth and teeth to prevent further infection of the lungs. Alcohol, he says, is not necessary as a routine treatment, but may be very useful, especially in long-continued bronchopneumonias, and in cardiac failure. Brandy, well-matured, has an action far superior to that possessed by the cheaper varieties. The feeding in acute pneumonia is of the greatest importance, and so long as a child takes its food all goes well; one of the earliest signs that cause anxiety is failure of the appetite. An important rule is, more water and less food than in health. It has been found from examination of the digestive ferments in children suffering from acute disease that the peptonizing power of the stomach and pancreas is very weak. Emulsifying powers are real or absent. The greatest activity is in the

diastatic power of the pancreas. The practical inference of this is that the food should consist chiefly of carbohydrates, such as starches and sugars; fats should be given in very small amounts and proteids may be predigested. If curds are passed in the stools the milk should be diluted or peptonized.

Indian Medical Gazette, Calcutta

March

18 Cirrhosis of the Liver. J. T. Calvert.
19 Exploratory Laparotomy in Diseases of the Gall-Bladder and Bile-Ducts. F. A. Barker.
20 Ulcerated and Swollen Gums in the Native Army. P. Hehir.
21 An Aid to Diagnosis of Poisonous Snakes. V. B. Green-Armytage.
22 Modern Midwifery Practice in India. G. T. Birdwood.
23 Wounds Inflicted by Tigers, Panthers and Bears. F. H. Gleeson.
24 Native Gunpowder Injuries of the Eye. R. H. Elliot.

Medical Press and Circular, London

March 22

25 Diseases of the Breast. J. R. Morison.
26 Treatment of Lupus Vulgaris with Zinc Ions. S. Taylor and R. W. MacKenna.
27 Colitis. L. A. Bidwell.
28 Bacteriologic Aspects of Colitis. J. C. Matthews.

Archives des Maladies du Cœur, etc., Paris

March, IV, No. 3, pp. 145-208

29 Present Status of Electrocardiography. E. Bordet.
30 Relations Between Pseudoleukemic Anemia and Leukemia. L. Tixier.

Obstétrique, Paris

March, IV N. S., No. 3, pp. 249-344

31 *Uterine Pregnancy After Extra-Uterine Pregnancy. (Des grossesses utérines survenant après une grossesse extra-utérine.) E. Essen-Möller.
32 *Ocular Disturbances in Pregnant Women. (Des troubles oculaires chez la femme enceinte dans leurs rapports avec l'azotémie et la chlorurémie gravidiques.) A. Weil and A. Wilhelm.
33 Structure and Development of Uterine Mucosa. E. Retterer and A. Lelièvre. Commenced in No. 2.

31. Uterine Pregnancies After Extra-Uterine.—Essen-Möller remarks that very little attention has been paid to pregnancies occurring in the uterus after an extra-uterine pregnancy, while a number of articles have been published on simultaneous uterine and extra-uterine pregnancies. Nilsson was able to compile sixty-eight cases of this kind in a memoir not long ago, and a number have been reported since. In Essen-Möller's experience with fifty-six patients with extra-uterine pregnancy, 46 per cent. of the thirty-nine women followed to date became pregnant again later; the sound tube performed its functions apparently normally in twenty-eight pregnancies, two of the women passing through three pregnancies afterward. Seventeen of the thirty-nine women thus bore healthy children, and this experience confirms the necessity for leaving the sound tube unmolested in operating for extra-uterine pregnancy. Engström has reported uterine pregnancies in six cases after removal of the pregnant tube and liberation of the other tube from adhesions; Prochownik has reported the same in four cases, and Essen-Möller reports a pregnancy after the release of the sound tube from adhesions, although in his case the succeeding pregnancy was likewise tubal. The main point in respect to pregnancy later seems to be the refraining from drainage. The tabulated details of his fifty-six cases show only two cases in which a pregnancy followed when there had been resort to drainage, and in these two cases the succeeding pregnancy was likewise extra-uterine or there was an interval of four years before the following conception, showing that the tube required a long time to regain its normal functional capacity. In Engström's series likewise drainage had not been attempted in nineteen of the twenty cases in which the extra-uterine pregnancy was followed by normal pregnancy later.

32. Visual Disturbances in Pregnant Women.—Weil and Wilhelm compare the visual disturbances liable with retention of chlorids, the dropsical form, and with retention of urea, the dry form. In the first type the visual disturbances are an amaurosis of sudden onset, which promptly subsides when elimination of the chlorids is once more under way; the ophthalmoscope shows nothing or merely a venous congestion around the papilla which disappears without leaving a trace. On the other hand, the distinguishing feature of the eye disturbances with retention of urea is the so-called albuminuric retinitis, the gravity of which is explained by the coincident uremia or azotemia. Even with severe symptoms of this kind, emptying the uterus generally causes their complete retrogression. In a typical case reported the patient was at the seventh month of her first pregnancy. She had had primary chronic nephritis as a child, and during the pregnancy the clinical picture of severe azotemia gradually developed, with apathy, anorexia, pruritus, albuminuric retinitis and convulsions, with almost total amaurosis, while the cerebrospinal fluid contained 2.67 gm. of urea. Delivery was induced and the copious diuresis which followed seemed to wash out the retained nitrogenous bodies and the patient rapidly recovered. Sudden transient amaurosis was observed in two other cases reported, evidently due to chloridemia and subsiding at once after spontaneous delivery. One of these patients had had eighteen, the other three eclamptic convulsions. Venesection was done in both cases. There were no convulsions after delivery.

Presse Médicale, Paris

March 11, XIX, No. 20, pp. 185-200

34 Inaugural Lecture on Internal Pathology. (Les orientations de la médecine.) F. Widal.
35 Albumin Reaction in Sputum. Lecaplain.
36 Support for Visceral Ptosis. (Pneu-sangle anti-ptosique.) Charnaux.

March 15, No. 21, pp. 201-208

37 Vaccine Therapy. A. Mauté.

Revue de Chirurgie, Paris

March, XXXI, No. 3, pp. 281-400

38 *Papilloma of Larynx in Children. A. Broca and E. Roland.
39 Experimental Ligation of Inferior Vena Cava. J. Béjan and M. Cohn.
40 Mixed Tumors of the Thyroid. G. Chavannaz and P. Nadal.
41 *Perforation of Bile Ducts. (Traitement des perforations biliaires en plein péritoine au cours de la lithiase.) G. Cotte and L. Arnaud.

38. Laryngeal Papillomas in Children.—Broca and Roland expatiate on the fact that there is no good method of treatment for these laryngeal growths, ensuring against recurrence and leaving the voice normal; the only choice is to determine the least bad technic. If there is dyspnea and much wheezing, tracheotomy may be required; it is well to wait for a time after this as the tracheotomy may eventually lead to the shriveling of the growths. They come and go in the arbitrary and mysterious manner of warts on the skin. Removal of the growths through the mouth, under direct visual inspection, is of course the preferable method and can generally be done after the age of 4 or even a little earlier. But it usually requires more than one operation; the operations must be repeated during months or even years. Tracheotomy may finally become necessary, even then, if the growths sprout again and there is much obstruction of breathing. Exceptionally, thyrotomy or better, perhaps, thyrostomy, may be found preferable. Even after tedious treatment by these various technics, stricture of the larynx may compel laryngostomy. There is always the hope that the papillomas may shrivel spontaneously, however, as the child outgrows the tendency. They sprout as if growing from seed sown by the primary growth, and behave in the larynx much the same as in the bladder. Luys has recently reported a case in which a large papilloma was removed from the bladder, with no sign of recurrence, but a new crop of minute growths of the same kind developed around, requiring multiple cauterization. In addition to the danger of suffocation from the growth of the laryngeal papillomas, there is danger of a suddenly fatal inhibiting reflex. Frenkel has cited such a case in which a child of 6, with no history of dyspnea, suddenly suffocated on rising in the night. The prognosis of papillomas in the larynx is more serious in children than in adults as the lumen is smaller and as children are more liable to warty growths. Spontaneous expulsion and cure was observed by Bruns in three of the forty-eight cases he has compiled; over half the children died before the age of 3 and only five reached the age of 10 without operation. The spontaneous subsidence of the papillomas may explain these cures in some of the cases, and the possibility of this justifies expectant treatment for a reasonable time after tracheotomy. Warts on children's hands sometimes subside after the children have taken a little magnesia, and this treatment has been suggested for children with papillomas in the larynx, hoping thus to favor spon-

taneous retrogression or to aid the retrogression which may follow opening the trachea.

41. **Perforation of Bile Ducts in Lithiasis.**—Cotte and Arnaud give the details of seventy-six cases on record of perforation of the gall-bladder or a biliary passage into the peritoneum. The bile escaping into the peritoneum is almost inevitably septic in case of lithiasis. The main point in treatment, they say, is to drain the gall-bladder outward without delay, not attempting its removal until later if the patient seems unable to bear cholecystectomy at once. This operation is less difficult in these cases than under other conditions as the perforation occurs when the gall-bladder is distended and without adhesions to adjacent organs. If the operation follows soon after the perforation and the peritoneum is not seriously involved, he prefers to wipe it dry and strives to prevent absorption by pouring camphorated oil into the abdominal cavity, and keeping the patients in the Fowler position, that is, raising the head of the bed 18 or 20 inches. There were thirty-four recoveries and forty-two deaths among the seventy-six cases summarized from the literature, including a previously unreported case in a woman of 62. The gall-bladder was merely drained and the liver tamponed off but the temperature did not drop quite to normal, and six weeks later chills, vomiting and fever led to discovery of an abscess near the foramen of Winslow. Prompt and complete recovery followed cholecystectomy.

Semaine Médicale, Paris

March 15, XXXI, No. 11, pp. 121-132

42 *Exercise of the Ear in Treatment of Deafness. (De la gymnastique auriculaire et de son application au traitement de la surdité.) C. Fernet.

March 22, No. 12, pp. 133-144

43 *Diagnosis of Suppurating Echinococcus Disease of the Liver. (Difficultiés et ressources du diagnostic dans certains kystes hydatiques suppurés du foie.) F. Lejars.

42. **Exercise of the Ear in Treatment of Deafness.**—Fernet is not an otologist but he has experimented in his own person and has trained others to exercise the ear as a means of warding off encroaching deafness and utilizing all the auditory capacity left. Instead of using the "best" ear, he turns the defective ear whenever possible and strains to listen with this ear, listening for the ticking of a clock, etc., thus training the ear to listen better. In addition to this exercise in listening he strives to influence the ear muscles so as to favor the hearing by enlarging the meatus and promoting the circulation in the parts. For this he works the scalp around the ear forward and backward, then the outer ear in this way with the regional scalp, and then forward and back and up and down and then in a circle. The sensation of movement is felt down to the depths of the meatus. The exercises should be done gently, with frequent pauses. The best time is in the morning, before arising, for ten or fifteen minutes. Another set of exercises is to listen to a clock's ticking and then gradually draw farther and farther away from the source of the sound until it becomes inaudible, but gradually it is heard again if the ear listens very intensely. The reflex action of the listening act may influence the muscles of the ear to enhance the perception of sounds. By systematic training in this way it is possible to hear the ticking or other sounds at distances previously supposed impossible. The sensibility of the nerves and the better nourishment of the parts all contribute to the benefit derived. The entire organ of hearing functionates better when all its parts are in good vital condition, while any organ doing active work grows stronger and better all the time. In his own person the Eustachian tube leading to the partly deaf ear became permeable after these exercises, thus permitting normal ventilation of the middle ear.

43. **Suppurating Echinococcus Disease of the Liver.**—Lejars comments on the relative frequency of suppurative hydatid cysts in the liver and the available means for diagnosis. The complement-fixation test is extremely valuable in case of positive findings, but it is baffling to obtain a negative response when the operation reveals a large hydatid cyst, as in a recent case in his experience. The cyst was filled with fluid but without daughter cysts. In another case there had been liver colics for three years and a suppurating gall-stone process was surmised, as nothing pathologic could be palpated in the liver. A small subcapsular pus pocket was found and evacuated but the temperature ran up two weeks later and the fixation reaction was distinctly positive. There were chills and jaundice but deep punctures of the liver were negative. Finally he opened the lips of the wound and found in the very center of the liver a large hydatid cyst, distending the liver evenly on all sides, and prompt recovery followed its removal. The suppurating septic angiocholitis first found was evidently secondary to the deep cyst, which was also infective and suppurative. Lejars gives the details of a number of other cases in which the diagnosis was difficult. Fever and local and radiating pains are the most instructive features.

Archiv für Gynaekologie, Berlin

XCIII, No. 2, pp. 189-412. Last indexed April 1, p. 1010

44 Droplets of Fat in the Placenta. J. Bondi.
45 Epinephrin Treatment of Osteomalacia. (Zur Adrenalinbehandlung der Osteomalacie.) J. Novak.
46 Interrelations Between Multiple Sclerosis and Menstruation, Pregnancy and the Puerperium. (Die multiple Sklerose und das Geschlechtsleben der Frau in ihren Wechselbeziehungen.) H. Offergeld.
47 Bacteriology of the Lochia. (Die geeignetsten Methoden zur Untersuchung des Lochialsecretes auf aerobe und anaerobe Streptokokken, ihre Resultate und klinische Bewerthung.) F. Goldschmidt.
48 *Tuberculosis of the Ovaries and Fallopian Tubes. (Beitrag zur Tuberculose der weiblichen Adnexe.) Loiacono.
49 Puerperal Inversion of the Uterus with Chronic Nephritis. Loiacono.
50 The Formation of the Corpus Luteum. (Corpus luteum-Bildung beim Menschen.) R. Meyer.
51 "Pregnancy Liver." (Zur Klärung des Begriffs "Schwangerschaftsleber.") J. Hofbauer.

48. **Tuberculosis of the Ovaries and Tubes.**—Loiacono discusses the findings in twelve cases of tuberculosis of the adnexa in which operative treatment was applied. The first signs of the tuberculous process were noted between the ages of 20 and 37 in all but two cases in which the women were 46 and 47 respectively. There was a primary process in the lungs or bronchial glands in these as in almost all the other cases on record. Eight of the patients were sterile, another had had an abortion, one had borne one and another two children. The symptoms of the tuberculous process in the adnexa were merely disturbances in menstruation, leukorrhea and pains of varying intensity in the region of the adnexa, but there were no sweats, fever or anorexia and tubercle bacilli could not be cultivated from the uterine secretions. The left tube was the seat of the process in all twelve, the right being also affected in nine; the entire adnexa on both sides were involved in only three cases. Three of the patients died soon after the operation; the pulmonary processes were far advanced in these women. The other patients were in comparatively good health at the time of the removal of the diseased tubes, and they regained apparently complete health after the removal of the focus. Histologic study of the adnexa removed and the course of the cases confirm the fact that it is not generally necessary to remove the ovaries in such cases; the tubes are the organs involved, and they display a marked predisposition to tuberculous infection. Their removal is further justified by the necessity for preventing conception later in such women. Even when the ovaries seem slightly involved in the process, it is liable to retrogress to complete restitution after removal of the focus. He adds in conclusion that it may prove an advantage to flush out the abdominal cavity with a weak formalin solution, as is done after an operation for tuberculous peritonitis, in order to rinse out any bacilli that may have been scattered by the operation.

Berliner klinische Wochenschrift, Berlin

March 13, XLVIII, No. 11, pp. 461-508

52 *Affinity of Salvarsan for Nerve Tissue. (Zur Frage der Neurotropie des Salvarsans.) A. Gëronne and C. Gutmann.
53 Salvarsan in Leprosy. H. Isaac.
54 *Spontaneous Fractures in Tuberculous Coxitis. O. Ehringhaus.
55 *Modification of Holmgren's Method for Forcing Out Instead of Aspirating Pleural Effusions. E. Aron.

52. **Disturbances in Nervous System After Injection of Salvarsan.**—Géronne and Gutmann give the details of thirteen cases of this kind. The list includes a case with symptoms of irritation of the cerebral and spinal meninges, a month after injection of salvarsan three weeks after infection. Under a second injection of salvarsan all the symptoms subsided. In a

second case there were evidences of basal meningitis and double facial paralysis, coming on eight weeks after injection of salvarsan and disappearing after a second injection. The facial paralysis and psychic disturbances returned four months later but subsided permanently under injection of calomel. In the other cases there were respectively a basal meningitis with double facial paralysis and disturbance in the auditory nerves; double otitis interna with right optic neuritis and hemianopsia; facial paralysis; oculomotor paralysis; optic neuritis with signs of irritation of the meninges and left otitis interna; alternating double otitis interna; double otitis interna; otitis interna with predominant disturbance in the vestibular nerve, and otitis interna with the Menière symptom-complex. These nervous disturbances came on six or eight weeks after injection of salvarsan. The patients were all in the early stage of secondary syphilis except one with a tertiary gumma on the tongue. There were no syphilitic manifestations in any case on the skin or mucosa, but in one case these developed several weeks afterward. Géronne and Gutmann regard these manifestations as an inflammatory infiltration of nerves or meninges resulting from the action of the spirochetes or their toxins and readily influenced by treatment so that complete restitution is the rule. The manifestations have nothing in common, they assert, with symptoms of arsenic intoxication, and nothing of the kind, they say, has ever been observed in patients given salvarsan for diseases other than syphilis, malaria, chlorosis, relapsing fever, etc. They have also encountered in the last six months four syphilities with disturbances in the auditory nerve who had been treated with mercury alone and had never taken salvarsan; two were in a late stage of syphilis and two had been infected five and six months before. One of the latter patients presented a typical otitis interna exactly as observed in his six patients who had been injected with salvarsan. In this latter group the patients had complained of headache before the drug had been given or their nervous system had been impaired by drink or age and most of them were women. At the same time the frequency of these nervous disturbances and their association with the salvarsan treatment suggest, Géronne and Gutmann remark, that the salvarsan must possess a certain affinity for these nerves. This neurotropic action is not enough to induce a degenerative inflammation in this or that predisposed nerve domain, but yet it is enough to induce some slight change in the nervous system, probably not appreciable even with the microscope, but yet enough to decide the localization of the syphilis. In short, these neuro-recurrences, they say, may be classed as traumatic syphilis. They recommend in conclusion treatment based on this assumption, that is, energetic mercurial treatment, bearing in mind that syphilitic manifestations in the nervous system have a better prognosis the earlier treatment is applied.

54. **Spontaneous Fracture with Tuberculous Hip-Joint Disease.**—Ehringhaus states that in no less than six cases of tuberculous hip-joint disease in his charge the bones in the entire leg became fragile from the trophic disturbance resulting from the tuberculous process. In each case there was spontaneous fracture and it occurred always at the same point where the spongiosa joined the more compact part of the bone, at the lower end of the shaft of the femur, just above the condyle. It is extremely important to keep watch of the bones below with tuberculous coxitis and to examine this special point repeatedly with radioscopy to detect any tendency to fracture and apply appropriate measures to prevent it.

55. **Improved Technic for Forcing Out Pleural Effusion.**—Aron commends Holmgren's technic, described in these columns Jan. 28. 1911, page 312, but he thinks that the same results can be obtained without the necessity for two puncture holes, using merely a two-way trocar. One mouthpiece can be connected with the bulb to pump air into the pleural cavity while the other mouthpiece is connected with the receptacle into which the effusion is blown out by the air forced into the pleural cavity.

Deutsche medizinische Wochenschrift, Berlin

March 16, XXXVII, No. 11, pp. 481-528

56 *Anaphylaxis. (Die Anaphylaxie mit bes. Berücksichtigung ihrer Bedeutung für Infektion und Immunität." E. Friedberger

57 Auto-Infection of Parturients. (Zur Frage der Selbstinfektion.) L. Aschoff.

58 Biologic Action of Radium Emanations. J. Plesch.

59 Technic for Intravenous Injection of Salvarsan. W. Wechselmann.

60 *Cause for Toxic Action of Acid Solutions of Salvarsan. (Ursache für die giftige Wirkung säurer Salvarsanlösungen.) Meissner.

61 *Vaccination Against Small-Pox. (Zur Frage des Impfschutzes.) E. Levy.

62 Quartan Malaria in Germany. A. Hatzfeld.

63 Broad Button Probe for Diagnosing Strictures in Esophagus and Rectum. (Neue Methode der diagnostischen Sondierung der Mastdarm- und Speiseröhrenverengerungen.) R. Callmann.

64 Congenital Angioma of Parotid Gland. P. Harrass and W. Suchier.

65 Ephemeral Traumatic Glycosuria in New-Born Infants. E. Hoeniger.

56. **Anaphylaxis.**—Friedberger recapitulates the arguments which have convinced him that immunity and anaphylaxis are merely quantitative variations of a single phenomenon. Both result from the presence of alien albumin in the organism, which has obtained access outside of the alimentary canal. With natural infection the albumin is produced by the bacteria only gradually; it is not incorporated all at once, like the amount causing anaphylaxis. He has been able to produce anaphylaxis or the symptoms of acute infection at will by administering large or small amounts of the foreign proteid. The temperature curve is particularly interesting under these various conditions, as he shows by detailed reports of his experiments.

60. **Precipitation in Acid Solutions of Salvarsan.**—Miessner is in charge of the veterinary institute at Bromberg and he applied arsenic treatment to ten cattle with foot-and-mouth disease; arsenophenylglycin was given to six and salvarsan to four, in an acid solution. The dose of the latter was only 3 gm., that is, 0.007 gm. per kilogram of weight, but all the animals showed severe symptoms at once—difficulty in breathing, foaming at the mouth—and they all died in from ten hours to two days. Ehrlich suggested that these fatalities might have been the result of a special susceptibility in foot-and-mouth disease, and another group of animals was treated with a smaller dose, 0.005 gm. per kilogram. Similar symptoms developed in these while cattle injected with an alkaline solution bore much larger doses, 0.4 gm. per kilogram, without any signs of disturbance. Microscopic examination confirmed the assumption that the intravenous injection of the acid solution had caused accumulation of the blood in the pulmonary artery into which the drug made its way after being injected into the jugular vein, the vessel becoming obstructed and arresting the arsenic which accumulated at this point. This assumption was confirmed *in vitro*, the acid solution entailing precipitation in defibrinated blood. The injurious action of the acid solution in man is due to the same cause, that is, thrombosis of the pulmonary artery and its sequels, as shown, he says, by the necropsy findings in a recent case in Hamburg in which death followed an injection of an acid solution of salvarsan. These data confirm the necessity for neutralizing the salvarsan. One gm. of salvarsan requires 4.4 c.c. of normal solution of soda to neutralize it; a heavy precipitate is thrown down which requires 6 c.c. more of the soda to dissolve it.

61. **Vaccination Against Small-Pox.**—Levy remarks that small-pox is now so rare in Germany that the present generation of physicians know scarcely anything about it and some may fail to realize the absolute importance of vaccination. He reports a case which is as convincing as a laboratory experiment in respect to the protective power of vaccination and the danger of transmission of the disease from the mildest forms. A German returning from a trip to Siberia had a slight eruption in the face but did not feel ill and paid no attention to it, but it was evidently variola. He had been vaccinated twice, the last time forty years before. His mother had never been vaccinated, and she came down with small-pox and died. Her daughter's family with three children came from a distance to the funeral; all had been vaccinated except the youngest, a boy of 2, and this child developed severe small-pox. The other members of the family contracted the small-pox from the child but in such a mild form that it was scarcely recognizable. The disease had not been recognized at

the time in any of the cases and no measures for disinfection had been applied.

Medizinische Klinik, Berlin

March 12, VII, No. 11, pp. 402-440

66 Office Tuberculin Treatment. (Notwendigkeit und Möglichkeit ambulanter Tuberkulinbehandlung durch den praktischen Arzt.) K. Blümel.
67 *Treatment of Thoracic Empyema. (Behandlung der Thoraxempyeme nach Bülau.) R. Frank.
68 First Aid to the Injured by the Laity. (Erste Wundbehandlung durch Samariterhände.) H. Hans.
69 *Salvarsan in Syphilis. O. Rissom.
70 Bronchial Stenosis. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose. VIII.) A. Posselt.
71 Gastro-Intestinal Hemorrhage with Purulent Cholecystitis. Feldhahn.
72 Tests and Limits of Visual Acuity. (Ueber Sephrüfungen und die Grenze der Sehschärfe.) W. Thorner.

March 19, No. 12, pp. 441-478

73 Importance of Phosphorus in Courses of Forced Feeding, Rest and Passive Exercise. (Ueber Mastkuren.) A. Bickel.
74 *Intestinal Stenosis. J. Schnitzler. Commenced in No. 11.
75 The Sinus Node. (Welche Bedeutung kommt dem Sinusknoten zu.) W. Koch.
76 *Salvarsan in Syphilis. F. Port.
77 Malt Extract. E. Seel.
78 Action of Thyroid Extract on Gastro-Intestinal Cancer. (Wirkung von Schilddrüsenextrakt auf Magendarmkrebse.) E. Diesing.
79 Bronchial Concrements. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose. IX.) A. Posselt.
80 Intoxication from Inhaling Volatile Substances in Tubercle Bacilli Cultures. (Vergiftung mit den Riechstoffen der Tuberkelbazillen.) E. Leschke.

67. **Continuous Drainage of Empyema of the Chest.**—Frank reports his experiences with forty-three patients with empyema in the thorax in the last ten years. About 55 per cent. of the patients were cured; in none of these cases had the empyema been installed for more than six weeks. Three boys and two girls were under 10; four boys and one girl were under 20. In only two cases was tuberculosis certain; it was suspected in two others among the twenty-four cases of recovery. His experience confirms the advantages of permanent drainage according to Bülau's technic; with this a flat flask is suspended by a strap from the opposite shoulder. The empyema drains into the flask through a rubber tube and drain inserted at the lowest point of the empyema, held in place with straps of adhesive plaster. A clamp on the tube is opened every two or three hours to allow not more than 200 c.c. of pus to escape; it is important not to drain too much at one time. He commends this technic as excellent for acute and not too old empyema; it is the simplest and the least annoying of all, he states, and the final outcome is good. Thoracocentesis should be reserved for small encapsulated empyema while the thoracoplastic operations should be reserved for the cases in which the Bülau technic is impracticable or in which there are chronic pathologic changes in the pleura.

69. **Salvarsan in Syphilis.**—Rissom concludes from his experience in the army that salvarsan should not be recommended for the sole treatment of syphilis among soldiers, although in the malignant form and with recent primary lesions it is certainly efficient. If it is used in military hospitals he advises intravenous injection of from 0.4 to 0.5 gm. followed at once by a course of mercurial treatment. The local infiltration with subcutaneous injection interferes with the military service, so that this technic is not advisable.

74. **Acute Intestinal Stenosis.**—Schnitzler advocates prompt relief of peritonitic stenosis of the intestine by opening into the bowel. He has made a fistula of this kind in peritonitic ileus in almost one hundred cases and he has never had occasion to regret it. More than once he has regretted that he had not done it twenty-four hours sooner. Feculent vomiting should not be waited for; colic pains, lack of stool and flatus and the metallic tinkling sounds in the intestine to which Wilms recently called attention—these are signs enough of stenosis and there should be no further delay. He treats the patients in this category the same as for incarcerated hernia, except that he does not try to remove the obstruction but merely makes one or more openings into the distended loops. It is foolish, he declares, to waste time and to annoy the patients with medical measures in these cases; in fact, high enemas are rarely indicated and the most misused measure in modern medicine. Only with volvulus of the sigmoid flexure is the high irrigation superior to an ordinary enema. If a small enema does not bring stool within twenty-four or forty-eight hours he advocates enterostomy without delay. When it is done early, the fistula can be made by the Witzel technic. When the ileus was not due to a neoplasm or other permanent obstruction, stool was voided by the natural route within a few days in every case. He adds that appendicitis may from the start present merely the picture of purely mechanical ileus. In conclusion, he refers to the mesenteric occlusion from compression of the duodenum by the root of the mesentery—the postoperative ileus to which he called attention in 1895. He still maintains that the dilatation of the stomach in these cases is secondary to this compression, this assumption being sustained by the benefit from turning the patient on the abdomen. In all cases of postoperative ileus he urges the physician to refrain from exploring the abdomen, mere enterostomy generally proving sufficient for the time being.

76. **Salvarsan in Syphilis.**—Port insists on having his patients sign a paper which states that the new drug has not crowded out the tried and tested mercury, but is administered at the special desire of the patient and with the understanding that a course of mercurial treatment must follow and that the hospital is not to be held responsible for any injurious consequence of the salvarsan injection. He states that he was delighted to have the certificate in his hands in the numerous cases in which a deep necrotic process developed at the point of the subcutaneous injection. This occurred, he says, in a shockingly large proportion of his sixty cases until he changed to the intravenous technic. In one case there was evidently a small infarct in the lung responsible for pain in the left chest, area of dulness and bloody sputum the day after the injection. The danger of thrombosis and embolism is shown by this case not to be so negligible as many maintain. In any event, the patient should stay in bed for two or three days after the injection. One of his patients insisted on leaving the clinic twenty-four hours after the intravenous injection, but returned two days later with local thrombosis, the arm being swollen; the symptoms subsided under appropriate measures in a few days. On account of the danger of such disturbances the injection is made in the left arm. It is his impression that patients with recent infection react with higher temperature than others. Vomiting and diarrhea were common after intravenous injections, and one patient became very deaf but hearing gradually returned in the course of two weeks. One patient had total right deafness coming on five months after subcutaneous injection of the neutral emulsion, although there were no signs of recurrence of the syphilis. He thinks that these cases of neuro-recurrence are due to toxic injury of the nerves, not only by the endotoxin of the germs killed by the salvarsan but by the drug itself, and he thinks that patients should be warned against such eventualities. He declares, further, that the intravenous technic is not suited for general practice, and that it is not free from danger of thrombosis and embolism even in the hands of specialists.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 5, pp. 675-794. Last indexed April 1, p. 1011

81 *Tumors in Cerebellopontine Angle. (Die Kleinhirnbrückenwinkeltumoren.) H. Leischner.
82 *Gastric Functioning After Gastro-Enterostomy and Resection of the Pylorus. L. Schüller.
83 Reciprocal Relations Between Typhoid and Appendicitis. (Wechselbeziehungen des Abdominaltyphus und der akuten Appendicitis.) E. Hesse.
84 *Conservative Treatment of Spasm with Hour-Glass Stomach. (Ueber Erfolge und Aussichten einer konservativen Therapie des Sanduhrmagens, nebst Beiträgen zur röntgenologischen Diagnostik desselben.) E. Schlesinger and J. Nathanblut.

81. **Tumors in Cerebellopontine Angle.**—Leischner analyzes ten cases of this kind in which operative treatment was applied in the surgical clinic at Vienna in charge of von Eiselsberg. The patients were between the ages of 30 and 50, and the symptoms pointed unerringly to a process obstructing the cerebellopontine angle. In one case, the history of syphilis, the positive Wassermann reaction and the transient benefit under antisyphilitic medication suggested the possibility of a gumma, but the rapid disturbance in vision compelled immediate operation, which proved to have been fully justified as the growth was a true fibroma. Headache, dizziness and deafness in one ear or subjective sounds in the ear first brought the patients

to the clinic; then came vomiting and choked disc. The operation was done in two sittings with an interval of from six to nine days. The intervention has been borne much better since it has been the practice to maintain permanent subcutaneous saline infusion during the first sitting. No attempt is made to drain the site of the tumor since one patient succumbed to secondary infection from this cause. Six of the patients died; four were discharged much improved. This brings to fifty-one the number on record of tumors of this kind given operative treatment. Excluding the incomplete operations, twenty-nine of the remaining forty-four patients died during or soon after the operation, including six who did not survive the first sitting. Shock or paralysis of the respiration or heart centers was the fatal factor in most of the cases; fulminating hemorrhage as the tumor was being shelled out was the cause in three cases. Fifteen patients bore the operation well and eleven are still in comparative health from one to eighteen months since the operation. The end-result depends, naturally, on the degree to which the nerves in the region have been injured by the tumor before its removal, especially the optic nerve. The younger the patient and the smaller the tumor, the better the outcome. An operation should be advocated in every case, he affirms, in which the general condition is still good and the medulla oblongata does not show signs of injury. The tumors are generally readily shelled out, even when they have attained quite a large size.

82. **Functioning of the Stomach After Gastro-Enterostomy.**—Schüller has examined forty patients to determine present conditions after a gastro-enterostomy, and here analyzes the findings in twenty-five, including thirteen cases in which the pylorus was resected. The findings teach the necessity for making the opening at the lowest point of the stomach after resection, and further that the gastric digestion nearly always suffers after a gastro-enterostomy. The conditions in regard to the passage of fluids along into the intestine differ in the human and the dog stomach after this operation.

84. **Treatment of Hour-Glass Stomach.**—Schlesinger and Nathanblut conclude from their analysis of two cases of hour-glass stomach that Roentgen-ray examination is indispensable for estimation of the conditions, and that a superposed spasmodic contraction may be relieved by medical measures and thus the whole clinical picture be so improved that operative treatment may be avoided.

Münchener medizinische Wochenschrift

March 14, LVIII, No. 11, pp. 553-608

85 *Temporary Eventration of Intra-Abdominal Organs for Roentgen-Ray Examination and Treatment. R. Werner and A. Caan.
86 Etiology of Puerperal Fever. H. Schottmüller.
87 Ubiquity of Paratyphus B. Bacilli. P. Schmidt.
88 Pharmacologic Study of Uterine Tonics. (Zur Pharmakologie und klinischen Dignität der Uterustonika.) M. Neu.
89 *Roentgen Rays in Diagnosis of Pregnancy. (Anwendung des Röntgenverfahrens bei der Diagnose der Schwangerschaft.) L. Edling.
90 Behavior of Blood-Pressure with Intravenous Injection of Salvarsan. (Verhalten des Blutdrucks bei intravenösen Salvarsaninjektionen.) R. Sieskind.
91 Jaundice After Injection of Salvarsan. (Ikterus nach Salvarsan.) E. Klausner.
92 Transverse Osteotomy to Correct Torsion of Leg with Club-Foot. (Torsion der Unterschenkelknochen bei angeborenen Klumpfüssen und ihre Heilung.) R. Purckhauer.
93 Preservation of Digitalis Leaves. (Wert der frischen Fol. Digitalis und ihre Konservierung.) M. Winckel.
94 Bolus Alba for Dressings. (Der Bolusverband, ein neuer steriler Wundverband.) J. Stumpf.
95 Finger and Toe Bones as Substitutes for Each Other. (Auswechselung von Finger- und Zehenknochen.) H. Wolff.
96 Eclampsia. W. Hannes.
97 Thucydides' Plague. (Das klinische Bild der Pest bei Thucydides.) Schröder.
98 Memorial Tribute to E. G. Janeway. H. Oertel.

85. **Eventration for Roentgen-Ray Treatment of Internal Organs.**—Werner and Caan have been applying the method suggested by Carl Beck for temporary eventration of inoperable cancers to submit them to the action of the Roentgen rays. They report their experiences with fourteen cases including nine with inoperable gastric cancer, two with advanced rectal carcinoma, and one each of a gall-bladder, ovarian or colon tumor. Besides the beneficial action of the radiotherapy, it is possible, by this means, to apply more radical local measures to the growth. They describe the technic with which they eventrated gastric and rectal cancers, keeping them exposed in this way for some time while the region around is fully protected. They think this method of temporary eventration should take the place of simple exploratory laparotomies and of gastro-enterostomies in most cases, and of other palliative measures. Five illustrations show the technic advocated for this "radiosurgery," as they call it.

89. **Roentgen Rays in Diagnosis of Pregnancy.**—Edling has found it possible to obtain instructive radiographs of the fetus as early as the beginning of the third month of pregnancy. Multiple gestation and abnormal positions and malformations can also be readily recognized by this means. He has been applying the Roentgen rays systematically to a number of pregnant women in the Malmö and Lund Hospitals, and has found the radiographs equally reliable for diagnosis of extra-uterine pregnancies. No harm from the procedure was ever detected.

Wiener klinische Wochenschrift, Vienna

March 16, XXIV, No. 11, pp. 371-410

99 Bacteriologic Revision of Aseptic Operations. (Untersuchungen über Asepsis.) V. Hecht and R. Köhler.
100 Action of Ferments on Tuberculin. T. Pfeiffer and H. Trunk.
101 *Syphilitic Disease of Auditory Nerve. (Erkrankungen des Akustikus bei erworbener Lues.) O. Mayer.
102 *Occurrence of Syphilitic Disease of Internal Ear in Early Stages of Syphilis. H. Frey.
103 Echinococcus Disease of Muscles and Skin. (Muskel- und Hautfinnen. Röntgennachweis verkalter Zystizerken.) K. Pichler.

101. **Disturbances in the Auditory Nerve with Acquired Syphilis.**—Mayer has been analyzing the histories of sixty-five cases of syphilitic affections of the auditory nerve observed at Graz since 1896, continuing the series of sixty-six previous cases reported at that date by Habermann. These series show that the auditory nerve is liable to become affected early after syphilitic infection, even as early as three weeks after the primary sore, and thus by the sixth week after infection. The auditory affection is most frequent during the first six months but it may not develop until after twenty-five or thirty years. Syphilitic affections of the auditory nerve generally commenced with subjective sounds in the ears and, in about half the cases, with dizziness. These symptoms were noted sometimes as part of the prodromal picture. In the later stages of secondary syphilis the ear affection usually develops accompanying recurring manifestations, in which case it may be regarded as part of the latter. The syphilitic affection of the auditory nerve almost always came on gradually and was more or less severe. It was generally bilateral or the deafness was more pronounced on one side than the other. In about half the cases vestibular symptoms were also observed, sometimes merely slight dizziness, in others severe vertigo accompanied by vomiting and serious disturbance in balance. An isolated affection of the vestibular nerve was never encountered in any of the 131 cases in the series, while this was the trouble in Urbantschitsch's five cases of disturbances in the auditory nerve after injection of salvarsan. Isolated disturbance in the vestibular nerve is extremely rare; Mayer knows of only two cases of the kind on record: Ruttin's case, in which no explanation for the disturbance was found, and Leidler's case in which the isolated affection of the vestibular nerve was traced to sausage poisoning. Ehrlich has reported vestibular symptoms in mice treated with arsacetin. These experiences show that the vestibular nerve may be injured by poisons which do not affect the cochlear nerve, and they sustain the assumption that the isolated vestibular disturbance observed after salvarsan may be the result of toxic action from this drug. The fact that not a single instance of an isolated vestibular affection was observed in the sixty-five cases of Mayer's series of syphilitic disturbances of the auditory nerve certainly sustains this assumption. Another argument in favor of it is the fact that the vestibular disturbances developed so soon, within a few hours of the injection of salvarsan, and, further, that such a comparatively large number of cases have been observed within such a short period. In conclusion Mayer reiterates that true syphilitic disturbances in the auditory nerve are not so infrequent as some have asserted recently, while, on the other hand, they differ in many respects from those which have been observed after injection of salvarsan.

102. **Disturbances in the Auditory Nerve with Acquired Syphilis.**—Frey reviews the literature on this subject citing thirty-five authors and adding that auditory affections for which syphilis is responsible are probably more common than is generally recognized as attention has not been attracted particularly to them until recently and only the more striking cases have been reported.

Zentralblatt für Chirurgie, Leipsic

March 11, XXXVIII, No. 10, pp. 345-384

104 Mixed General Anesthesia. (Ueber Injektionsnarkose mit Pantopon-Skopolamin.) G. Brüstlein.
105 Drainage of the Thorax. M. Tiegel.

March 18, No. 11, pp. 385-416

106 Etiology of Cleft Palate. (Zur Entstehung der angeborenen Gaumenspalte.) W. Kramer.
107 Operation for Umbilical Hernia with Extensive Excision of Fat. (Die Nabelbruchoperation mit ausgedehnter Fettexzision.) F. Ochlecker.

Zentralblatt für Gynäkologie, Leipsic

March 18, XXXV, No. 11, pp. 433-472

108 *Progress Forward or Backward. (Vermeintlicher Fortschritt und Rückzug.) B. Krönig.
109 *Etiology of Eclampsia. A. Dienst.
110 The Suprasymphyseal Transverse Incision. (Zur Diskussion über den suprasymphysären Fascienquerschnitt.) R. Klotz.
111 Hypnosis. (Täuschung oder Wirklichkeit?) H. Fulda.
112 Shortening the Ligaments for Uterine Prolapse and Retroversion. (Die Verkürzung der Ligamenta cardinalia bei Prolaps und Retroversionen durch W. M. Polk in Neuyork.) J. Kocks.

108. This is a denunciatory reply to Roth's article summarized in these columns, March 25, page 935.

109. **Etiology of Eclampsia.**—Dienst ascribes eclampsia to the injury resulting from accumulation of fibrin ferment from destruction of polynuclear leukocytes used up in the pregnancy. The fibrin ferment or thrombin accumulates in the liver, and in consequence of the congestion in this organ and the mechanical hindrance to the circulation in the vena cava from the pressure of the large uterus at term, the fibrin ferment does not get into the blood as under other conditions and thus does not come in contact with the antithrombin. The liver suffers from this accumulation and is no longer able to produce the necessary antithrombin in sufficient amounts. Then the fibrin ferment accumulated in the lower part of the body in such large amounts is suddenly mobilized when labor commences, and the blood is thus suddenly overwhelmed with a flood of it. This explanation of the origin of eclampsia has been sustained, he asserts, by his experimental research.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 9, XXXII, No. 30, pp. 315-322

113 *Experiences with Contracted Pelvis. (Casistica dei bacini ristretti) O. Rigamonti.

March 12, No. 31, pp. 323-338

114 Fracture of the Pubis. (Frattura del pube con rottura dell'uretra e della vescica.) M. Fasano.

March 14, No. 32, pp. 339-346

115 Pathogenesis of Rigidity of Abdominal Walls. (Sulla patogenesi della tensione addominale.) U. Fabris.

113. **Contracted Pelvis in Italy.**—Rigamonti states that the custom of carrying a basket on the back, the *gerla*, in common use in the Italian mountains, has a tendency to deform the pelvis, reducing particularly the anteroposterior diameter. He found contracted pelvis in 52 of the 399 women he has delivered in the last three years in his practice in an Italian mountain district with a population of 3,500. Every one of the women with contracted pelvis had been accustomed to carry heavy burdens on her shoulders in this way from the age of about 11.

Policlinico, Rome

March 12, XVIII, No. 11, pp. 326-336

116 *Electricity in Treatment of Post-Diphtheritic Paralysis of the Velum. G. Fumarola.

Riforma Medica, Naples

March 13, XXVII, No. 11, pp. 281-308

117 Spasm of the Larynx. (Laringismo.) F. Massei.
118 Tint and Spectrum of Normal Blood Serum (Colore e spettro del siero sanguigno normale.) D. De Sandro.
119 Causes of Errors in Localization of Lesions in the Brain. (Diagnosi di sede delle alterazioni e dei tumori encefalici.) G. Finzi.
120 Major Operations Under Primary Ether Anesthesia. (L'ebrezza eterea alla Sudeck specie in operazioni di lunga durata.) G. Gheza.

116. **Postdiphtheritic Paralysis of the Velum.**—Fumarola reports five cases of paralysis of the velum following diphtheria in which he applied Larat's technic for electric treatment. In the first three cases the paralysis dated from twenty and forty days and rapid relief followed three or four sittings, with a complete cure after eight and eleven. No benefit was anticipated in the fourth case as the paralysis was of seventeen years' standing, and none was realized. In the fifth case, the electric treatment was commenced too soon, while the diphtheritic neuritis was still in progress, the sixth day after the first signs of trouble. The consequence was an aggravation of both subjective and objective symptoms; this case teaches the importance of waiting for the subsidence of the neuritis before commencing treatment. The current may be a rapid intermittent faradic or the alternating sinusoidal. It should be turned on for about fifteen minutes. The patient should feel it but not enough to cause pain. One of the large electrodes is placed at the back of the neck and the current is closed by placing the hands or feet in a basin of water.

Hospitalstidende, Copenhagen

February 8, LIV, No. 6, pp. 137-168

121 *Rapid Eating in Origin of Gastric Disease. (Om Madslugningens ætiologiske Betydning for Ventrikellidelser.) E. A. Hallas.

February 15, No. 7, pp. 169-192

122 The Wassermann Reaction in Danish Imbeciles. (En Undersøgelse af de aandssvage i Danmark ved Hjælp af Wassermann's Reaktion.) O. Thomsen, H. Boas, B. Hjorth and W. Leschly.

February 22, No. 8, pp. 193-224

123 *Non-Operative Treatment of Cancer. (Den ikke-kirurgiske Behandling af Kræft.) T. Rovsing.

March 1, No. 9, pp. 225-248

124 Syphilis Transmitted to Infant at Birth. (Et Tilfælde af Syfilis erhvervet ved Fødslen: Smitte fra Moder til Barn.) P. Haslund.
125 Croupous Pneumonia in Greenland. A. Bertelsen.

March 8, No. 10, pp. 249-272

126 Case of Polypous Sigmoiditis. H. A. Sølling.

March 15, No. 11, pp. 273-304

127 Case of Lympho-Endothelioma. K. Secher.
128 Two Cases of Obstruction from Meckel's Diverticulum. T. L. Smith.
129 Fatal Ether Accident. (Et Dødsfald ved Aeternarkose.) J. Sturup.

121. **Hasty Eating in Origin of Stomach Disease.**—Hallas found in examination of thirty-two idiots signs of abnormal stomach functioning in no less than twenty-two. All the patients were inmates of the asylum and none chewed food properly. Akesson has also reported six patients with achylia in thirteen imbeciles examined who swallowed their food hastily, while there were signs of abnormal gastric functioning only in five of nineteen who ate more hygienically. Hallas thinks that the insane asylums offer facilities for study of gastric affections better than can be obtained elsewhere, as the patients are under observation for long periods.

123. **Non-Surgical Treatment of Cancer.**—Rovsing's article was read to open the discussion on this subject at the recent international cancer conference at Paris. He has had wide experience with various non-operative means of treating cancer, the results being negative with trypsin in his fifteen cases; fulgurization he has never tried as it cannot be thoroughly curative, while it is too painful for a palliative measure. His experience has been more favorable with Roentgen-ray treatment, especially in a number of cases of small rodent ulcers of the face. He has become convinced that the Roentgen rays actually promote the growth of carcinomas. On the other hand, they have a curative influence on some sarcomas. It is impossible to say, however, which sarcomas are going to yield to this influence; the action is local, having no effect on metastases elsewhere. At the same time he reports the complete subsidence of a sarcoma in the neck in two cases and of an osteosarcoma in three under Roentgen-ray treatment, but only one patient is still in good health to date. The details of this cured case are given with illustrations. This case seems to show that the sarcoma first must be opened up so that it can be directly exposed to the action of the rays. The sarcoma in this case was on the top of the head and after twenty-one exposures in seven weeks not a trace of it was left. The scalp flap was then replaced and five series of exposures were made later. There has been

no sign of recurrence during the four and a half years since. Rovsing thinks that radium may be counted on for a similar curative local action for cancer but, like the Roentgen rays, there is no general action. He also reports retrogression of a cancer after inoculation of erysipelas streptococci. The resulting erysipelas had an unmistakable curative action on the sarcoma on the forearm but the patient succumbed to unsuspected metastasis in the lungs. He adds that the success of salvarsan in syphilis suggests the possibility of an effectual arsenic treatment of cancer. His experiences were still more promising, he states, with vaccination according to Wright's technic. He has applied this since May, 1909, in seven cases of sarcoma, seven of carcinoma of the breast, one of cancer of the bladder, one of the vulva and one of epithelioma of the cheek. No permanent benefit was apparent in the carcinoma cases, but with sarcoma the outlook is more promising; he has two patients who seem to have been permanently cured by this means, one of a recurring sarcoma in the liver and the other in the thigh. There has been no sign of further trouble during the five and nine months since. He is inclined to accept the possibility of direct contagion of cancer. In his own family an uncle, 70 years old, had an ulcerating osteosarcoma. His young daughter tended him and soon developed universal sarcomatosis, fatal in two months. He knows of other cases in which daughters who tended a mother with cancer of the breast also developed cancer. He cites further statistics showing that in the Sorø district cancer is extremely prevalent, while scarcely any cases are known in the Aalborg district. He knows of houses where the people moving in get cancer; in one house at Faxe occupied by several physicians in turn they developed sarcoma and died in the course of a year or two—these experiences speak against the assumption of embryonal factors and point to infection. They are only clinical observations, he adds, but he is convinced that the microbe will some day be found which will explain them. In the discussion of Rovsing's article, Poulsen stated that he has kept records of 400 cancer patients after radical treatment, and nearly all have succumbed since to cancer, if not to metastasis, to a primary cancer at some other point. He even ventures to say that when a human being is once operated on for cancer, he will, if he lives long enough, certainly die of cancer.

Hygiea, Stockholm

February, LXXIII, No. 2, pp. 130-252

130 *Roentgen-Ray Examination of Kidney Pelvis. (Pyelografi.) E. Key.
131 Sigmoiditis, Diverticulitis and Perisigmoiditis. A. Hedlund.
132 Improved Technic for Artificial Anus After Resection of Intestines. (Metod att anlägga anus præternaturalis i vissa fall af tarmresektion.) K. Dahlgren.
133 Progressive Deafness. (Om otoskleros och andra former af kronisk progressiv döfhet.) J. Möller.

130. **Roentgen Findings of the Kidney Pelvis.**—Key discusses the technic for pyelography and the extremely instructive and reliable findings thus to be obtained. He gives them as found in twenty-one cases with the detailed clinical histories and commends it as a harmless method for examination. The method could not be applied in three of the cases described on account of tuberculous ureteritis or other cause.

Ugeskrift for Læger, Copenhagen

March 16, LXXIII, No. 11, pp. 357-404

134 *Chondrotomy for Apical Disease. (Om den operative Behandling af Spidseftise og Emfysem—Freund's Operation.) E. Brandorff.

134. **Chondrotomy for Apical Disease.**—Brandorff reviews the articles that have been published on Freund's operation to restore elasticity to the upper part of the chest wall. He has found forty-five cases on record, to which he adds four done in Denmark. The results have been very encouraging. When the operation is done on one side at a time, it seems comparatively free from danger.

Correction: Louse, Not Flea, Transmitter of Typhus.—Prof. Russell M. Wilder, Chicago, calls attention to the fact that in THE JOURNAL, April 8, p. 1073, in the abstract of an article by Nicolle in the *Annales de l'Institut Pasteur*, the word flea is used in place of louse. Mr. Wilder says that Nicolle's work has all been with the body louse, *Pediculus vestimenti*, and it is with this insect that he obtains transmission of typhus to monkeys, not with the flea. Mr. Wilder is correct. Nicolle states expressly that his experiments with fleas and bedbugs were constantly negative. The prophylaxis of typhus is much easier with the body louse than with the flea, as soap and water and clean linen, Nicolle says, will usually banish lice, whereas fleas are harder to get rid of.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

TEXT-BOOK OF OPERATIVE SURGERY. By Dr. Theodor Kocher, Professor of Surgery and Director of Surgical Clinic in the University of Bern. Third English Edition. Authorized Translation from the Fifth German Edition by Harold J. Stiles, M.B., F.R.C.S., Edin., Surgeon to the Chalmers Hospital, Edinburgh, and C. Balfour Paul, M.B., F.R.C.S., Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. In Two Volumes. Cloth. Price, $12 net. Pp. 723, with 415 illustrations. New York: The Macmillan Co., 1911.

THE APPLICABILITY TO MEDICOLEGAL PRACTICE IN INDIA OF THE BIOCHEMICAL TESTS FOR THE ORIGIN OF BLOOD-STAINS. By Lieut.-Colonel W. D. Sutherland, M.B., I.M.S. (Edited by the Director-General, Indian Medical Service). Scientific Memoirs. By Officers of the Medical and Sanitary Departments of the Government of India. New Series. No. 39. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. Paper. Pp. 35. Calcutta: Supt. Government Printing, 1910.

THE WASSERMANN SERO-DIAGNOSIS OF SYPHILIS IN ITS APPLICATION TO PSYCHIATRY. By Dr. Felix Plaut, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorized Translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D., Assistant New York Neurological Institute. Nervous and Mental Disease Monograph Series No. 5. Paper. Pp. 188. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

WHAT SHALL I EAT? A Manual of Rational Feeding. By F. X. Gouraud, Formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Prof. Armand Gautier, of Paris. Only Authorized Translation into the English Language by Francis J. Rebman. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. Cloth. Price, $1.50. Pp. 379. New York: Rebman Co., (1911).

CLEVER HANS (THE HORSE OF MR. VON OSTEN). A Contribution to Experimental Animal and Human Psychology. By Oscar Pfungst. With an Introduction by Prof. C. Stumpf. Translated from the German by Carl L. Rahn, Fellow in Psychology in the University of Chicago. With a Prefatory Note by James R. Angell, Professor of Psychology in the University of Chicago. Cloth. Price, $1.50 net. Pp. 274. New York: Henry Holt & Co., 1911.

THE SOCIAL EVIL IN CHICAGO. A Study of Existing Conditions with Recommendations by the Vice Commission of Chicago (a Municipal Body Appointed by the Mayor and the City Council of the City of Chicago) and Submitted as Its Report. Chairman, Dean Walter T. Sumner, 117 North Peoria Street, Chicago. Paper. Pp. 368.

VERHANDLUNGEN DER BERLINER MEDIZINISCHEN GESELLSCHAFT AUS DEM GESELLSCHAFTSJAHRE 1910. (Separat-Abdruck aus der Berliner klinischen Wochenschrift.) Herausgegeben von dem Vorstande der Gesellschaft. Band XLI. Paper. Pp. 380, with illustrations. Berlin: L. Schumacher, 1911.

THIRTY-FIFTH ANNUAL REPORT OF THE LADIES' UNION CHARITABLE SOCIETY (INCORPORATED), CONDUCTING THE LAWRENCE GENERAL HOSPITAL AND CHILDREN'S HOME. For the Year Ending Sept. 30, 1910. Organized Oct. 5, 1875. Paper. Pp. 69, with illustrations. Lawrence, Mass., 1910.

DIE BEHANDLUNG DER FRAUENKRANKHEITEN. Für die Praxis Dargestellt. Von Dr. J. Veit, Professor und Direktor der Universitäts-Frauenklinik in Halle a.S.Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger, 1911.

THIRTEENTH ANNUAL REPORT OF THE MANAGERS OF THE NEW JERSEY STATE VILLAGE FOR EPILEPTICS, SKILLMAN, SOMERSET COUNTY, N. J. For the Year Ending Oct. 31, 1910. Opened Nov. 1, 1898. Paper. Pp. 22, with illustrations.

FORTY-FIFTH ANNUAL REPORT OF ST. FRANCIS' HOSPITAL, EAST ONE HUNDRED AND FORTY-SECOND STREET, NEW YORK. Under the Charge of the Sisters of the Poor of St. Francis. For the Year 1910. Paper. Pp. 46, with illustrations.

DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M.D., Member of the American Medical Association. Third Edition. Cloth. Price, $5. Pp. 1037, with 112 illustrations. New York: E. B. Treat & Co., 1911.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Fiscal Year 1910. Cloth. Pp. 256. Washington: Government Printing Office, 1911.

SKETCH OF A COURSE OF CHEMICAL PHILOSOPHY. By Stanislao Cannizzaro (1858). Alembic Club Reprints, No. 18. Cloth. Price, 43 cents. Pp. 55. Chicago: University of Chicago Press, 1911.

LITORA ALIENA. By Medicus Peregrinus. Paper. Pp. 78. Price, 50 cents. Boston: W. M. Leonard, 1911.

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PRACTICAL EXPERIENCES WITH BERIBERI AND UNPOLISHED RICE IN THE PHILIPPINES *

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MANILA, P. I.

The advances made during the past year in placing the etiology of beriberi on a scientific basis have now proceeded far enough to warrant the inference that prophylactic medicine has the knowledge at its command to place this scourge among the preventable diseases.

While it has been possible to control outbreaks of beriberi in public institutions in the Philippines during the past ten years by reducing the rice in the diet and replacing it with meat, vegetables, mangoes, etc., yet it was not until the 1910 meeting of the Far Eastern Association of Tropical Medicine that a rational method for the prevention and cure of the disease became available. This was due to the papers on this subject read at the meeting, especially those presented by Foster and by Aron.

Briefly, it will be remembered that these authors showed by experimental data that beriberi in man and polyneuritis in fowls could be caused by using, as the staple article of diet, rice from which the outer portion or pericarp had been removed; and that, unless advanced degeneration of the nerves had occurred an immediate amelioration of the symptoms took place when rice with the pericarp, or its equivalent, was substituted.

Numerous analyses of rice sold in the Manila market have been made by Dr. Aron, and these showed that Saigon rice Number 2, and locally polished rice almost invariably contained less than 0.4 per cent. of phosphorus pentoxid. (It is desired here to digress for a moment for the purpose of stating that the amount of phosphorus in rice is given only because it is a ready method for determining the degree of polishing that a given rice has undergone; in other words, it is a laboratory method of ascertaining whether much or little of the pericarp has been removed and at this time it cannot be said that the lack of it causes beriberi.) Unpolished or slightly polished rice was found to contain from 0.5 to 0.75 per cent. of phosphorus pentoxid.

Since the opening of the Culion Leper Colony in 1906, rice has been the staple article of diet, and it was customary to use either Saigon rice Number 2, or local polished rice. Beriberi was more or less continuously present until February, 1910. By substituting meat and mangoes for rice it was always possible to reduce the number of beriberi cases, but the disease was never completely eradicated. It was found later that this failure was probably due to the fact that many of the lepers preferred to deny themselves food rather than eat mangoes, so that the authorities had starvation as well as improper diet to deal with.

The total number of deaths at Culion by months from February, 1909, to February, 1910, among an average population of 1,537, was as follows: February, thirty-nine; March, fifty-four; April, fifty-two; May, forty-seven; June, forty-eight; July, fifty-seven; August, sixty-one; September, sixty-five; October, forty-three; November, eighty; December, 188; January, 164; or a total of 898; of this number a total of 309 were due to beriberi.

In February, 1910, the use of unpolished rice was made compulsory for all inmates of the Culion Leper Colony.

The total number of deaths by months from February, 1910, to February, 1911, among an average population of 1,952, or a 27 per cent. greater population, was as follows: February, sixty-six; March, thirty-six; April, twenty-nine; May, twenty-two; June, twenty-seven; July, fifteen; August, twenty-four; September, twelve; October, thirteen; November, fifteen; December, fifty-eight; January, fifty-two; or a total of 369, a reduction in the deaths of over one-half.

Of this number there were no deaths from beriberi after February, 1910. The increased death-rate in December and January was due to an acute outbreak of bacillary dysentery, or even a better showing would have resulted.

At the end of January, 1910, there were approximately fifty patients with beriberi undergoing treatment in the Culion Hospital. On the suggestion of Dr. Aron, 15 grams of rice polishings mixed with milk and sugar were given to these patients twice daily. Two patients in very advanced stages of the disease died within a few days after this treatment was begun; all the others began to improve. Within two weeks half of the number were able to leave the hospital, and within four weeks every patient with beriberi was reported as cured by the attending physicians of the hospital. So much for Culion.

Prior to May, 1910, beriberi was very common throughout the Philippines—in jails, lighthouse stations, charitable institutions, on Government vessels, and among the Filipino troops of the U. S. Army. An investigation has shown that it was the invariable practice to use polished rice as the staple article of diet in all of the places mentioned. In May, 1910, an executive order was issued by the Governor-General of the Philippine Islands prohibiting the use of polished rice

* Read at the eighth annual meeting of the Philippine Islands Medical Association, Manila, P. I., Feb. 23, 1911.

in all public civil institutions. Since August, 1910, only two cases of beriberi in the above places have come to my attention. One of these was among the crew of the steamer *Rizal*. An inspection of the ship's stores showed that the crew's rice was of the white polished variety. Further inquiry elicited the fact that it was customary for most of the crew of this vessel to use a varied diet, which may account for the fact that there were not more cases. The other case occurred in a prisoner in the Tacloban jail. The physician in charge reported that it had not been possible to purchase unpolished rice at Tacloban and for that reason polished rice was being used. He added, however, that every effort was being made to comply with the spirit of the executive order by using more meat, mangoes, potatoes, green vegetables and fish.

At the Hospicio San José, which is an insane hospital, orphan asylum and asylum for the aged, of over 700 inmates, beriberi had been constantly present at least during the past ten years. Since June, 1910, unpolished rice has been used and a few weeks afterward beriberi disappeared, and since then no further cases have been reported.

Extensive inquiry made throughout the Philippine Islands has almost invariably shown that in districts in which hand pounded or, in other words, unpolished rice is commonly used, there is little if any beriberi; whereas in districts in which machine or polished rice is used as the staple article of diet, beriberi is common. An apparent exception to this general rule is found, however, among the residents of the Batanes Islands. It may be mentioned that these are isolated islands north of Luzon and south of Formosa which have communication with the outer world only a few times each year, and owing to their inaccessibility they generally escape visitations of cholera and many other dangerous communicable diseases.

The Batanes are poorly adapted to rice culture, and for this reason considerable polished rice is imported each year, and it would seem reasonable to infer that if the present theories with regard to the etiology of beriberi are correct cases of this disease should be encountered. An investigation of the dietary of the inhabitants of these islands shows, however, that meat and potatoes are more commonly used than in other parts of the Philippines. In brief, food of various kinds, other than rice, is so plentiful that rice is not the staple article of diet to the same extent as it is elsewhere in the archipelago.

Considerable difficulty has been encountered and much opposition has resulted from the attempt to introduce unpolished rice on a large scale in the Philippines. When the Army and the insular government entered the market to purchase large quantities of unpolished rice it developed that the dealers were unable to supply the demand, because managers of rice mills refused to adjust their process of manufacture to meet the new requirements. This resulted in large quantities of rice being used that came from the mills immediately after it was husked.

The machines that are used locally for this purpose let many of the smaller rice grains pass through without the husks being removed from them. Previously such rice went directly to the polishing machine which not only polished the rice, but removed the husks from such grains as still retained them, so that the finished product was clean. It was apparent then that much of the unpolished rice that was issued in the beginning was not very clean and contained many husks. This gave rise to much complaint among those who were required to use it. It was frequently alleged that the husks tickled the throats and often caused gastritis. On investigation, no reliable evidence as to the gastritis could be obtained. Commissary officers, prison wardens, and others who were directly charged with carrying out the orders to use unpolished rice, were constantly besieged with complaints and it was but natural that they should take the course of least resistance and recommend that its use be discontinued. To add to the difficulties of those who were insisting on the use of unpolished rice, the rumor spread that unpolished rice when stored in bulk soon spoiled, thus causing great financial loss. Investigation of this matter showed that there was no reason to believe that unpolished rice, when stored under the same conditions as polished rice, spoiled more quickly.

A campaign of education was then begun. Dr. Aron frequently went to the rice mills in person and was invariably able to demonstrate that rice could be rendered clean and free from husks without polishing it to a degree that would be harmful. Similar work, with like results, was accomplished by Highet in Siam, so that it may now be said that clean, unpolished rice, satisfactory in appearance, can be obtained in the Philippines and abroad, and that the original objections to its use no longer exist.

By January, 1911, so much evidence had accumulated that unpolished rice was an important factor in the prevention of beriberi that it was deemed most desirable to bring about its general use in the Philippines, for a few years at least, in order to test the theory thoroughly. At the most, no harm can result, and on the other hand there is every promise that many hundreds of lives may be saved and a still greater morbidity avoided. Experimental investigations made by Dr. Aron showed that a rice which has only been polished to a point where it still contains 0.4 per cent. of phosphorus pentoxid may be regarded as incapable of producing beriberi. Almost coincidently, similar conclusions were announced by Highet.

For purposes of convenience, then, a rice that contains less than 0.4 per cent. of phosphorus pentoxid is regarded as polished rice, and that which contains a greater percentage of phosphorus pentoxid is regarded as unpolished rice.

Accordingly, a bill was drafted which had for its purpose the bringing about of the general use of unpolished rice in those places where rice was the staple article of diet. After considerable discussion with physicians, lawyers, legislators and others, it was deemed advisable to attempt this with a law that would impose a tax of 5 centavos (2½ cents U. S. currency) per kilo on all polished rice sold, whether foreign or domestic.

Owing to the fact, however, that the legislature adjourned during the early days of February, there was not sufficient time to present this matter to both of its branches.

On account of the successful experience with unpolished rice in the prophylaxis of beriberi in the Philippines during the year, and since these data confirm the work of Fraser, Stanton, Aron, Kilbourne, de Haan and Highet, as reported at the last annual meeting of the Far Eastern Association of Tropical Medicine, it is believed that the time has come for the medical profession to aid in completing the last step in the test which promises to place another weapon in the hands of prophylactic medicine for the eradication of another of the world's serious and costly diseases.

THE RELATION OF PREMENSTRUAL FEVER TO PULMONARY TUBERCULOSIS:

A STUDY OF ONE HUNDRED CASES *

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NEW YORK

In 1861 Fiedler[1] drew attention to definite rises in temperature occurring with anomalies in menstruation, particularly dysmenorrhea. He noticed that fever occurred one or more days preceding the menstrual period and disappeared rapidly with the onset of the menses. He called this "menstrual fever" and thought that it was due to an anomaly in menstruation, but not to an inflammatory process. At times since, physiologists have studied the changes occurring in the circulation, temperature and metabolism associated with menstruation; gynecologists have seen an increase in inflammatory pelvic conditions, or a lighting up of those which had been seemingly latent at this time, and finally, internists have noted the influence of menstruation on pulmonary tuberculosis, particularly the aggravation of subjective symptoms and an increase in the physical signs and temperature changes (F. Neuman[2]). Macht[3] has recently published a review and a careful study of the history of the subject and has indicated the relation between menstruation and tuberculosis, from the point of view of physiology and internal medicine. He states that the heat-regulating apparatus in woman seems to be peculiarly unstable at the time of menstruation; that those who have studied the temperature charts of tuberculous patients at this time have been impressed by the constancy and regularity of these periodic menstrual exacerbations in temperature which seem to differ only as to the frequency of occurrence. The difference in figures, he believes, is due to carelessness in temperature observations, and to disregard of relative rises in temperature; he quotes Mantoux,[4] to the effect that fever may exist without hyperthermia. Macht studied forty cases and states that 50 per cent. showed periodic monthly exacerbations. The cases are not given in any detail whatever and some of the patients were, furthermore, being treated with tuberculin at the time of observation. He finds that rises in temperature may occur in early, as well as in advanced cases, and in the former, are of diagnostic importance. In an extended experience with tuberculosis patients, I was quite unable to substantiate the observations made by Macht, or indeed those of any of the other observers, including Riebold. I consider it of interest, therefore, to add the facts gathered from our patients to indicate the variant findings. Before turning to the cases to be reported a review of the literature directly related to this phase of the subject may be of interest.

In 1899 Turban[5] described a temperature curve with a rise preceding the menstrual period by three to five days and a depression following it. Nine years later he (Turban[6]) presented curves showing premenstrual, intermenstrual, menstrual and postmenstrual temperature rises. The first mentioned he considered diagnostically the most important. Without giving the criteria for his observations he mentions that seventy-three of 100 tuberculous women showed this premenstrual fever on several occasions. Following Turban, Saugman,[7] Sabourin,[8] Kraus,[9] and Jessen[10] laid stress on the fact that premenstrual fever lent evidence to the existence of pulmonary tuberculosis.

Riebold[11] made careful studies of the periodicity of menstruation, the relation[12] between menstruation and ovulation and their influence[13 14] on disease. He believes that menstruation is dependent on ovulation, and usually follows this by one, two, or three days; that ovulation, not menstruation, is the process which is strongly periodical and that the periodicity in woman's life processes is dependent on it. The question whether this characteristic periodicity is inherent in the actively functionating ovary, or whether external, special cosmic influences play a rôle, he thinks must remain for the present unanswered. He advances the theory that during ovulation certain secretions reach the circulation and that these cause an increase in nervous and psychic irritability, increase in blood-pressure and vital energies, general heightening of metabolic processes, and an accompanying vigorous hyperemia of internal organs and activity of lymph-flow. During such a period of increased physiologic activity, the opportunity is offered for resorption from old infectious foci, for the lighting up of latent processes, or for an increase in activity of acute infections already present, which thus become the cause of premenstrual fever. He has later shown from a study of a large series of cases, that premenstrual rises in temperature occur in a great variety of diseases, such as acute infectious diseases, anginas, gynecologic and neurologic conditions.

I have for some time been impressed by the absence of this so-called premenstrual fever in cases of definite pulmonary tuberculosis. The mention in the literature of its frequent occurrence and the emphasis placed on its diagnostic significance led to the study of the following 100 cases. These cases were observed at Bedford, N. Y., in a sanitarium, in which the hygienic conditions were especially favorable. The sanitarium is devoted to the treatment of tuberculous patients only. The patients were under constant observation; a few were confined to bed, but the majority were up and about. Of these 100 cases forty-seven were incipient, thirty-nine moderately advanced, fourteen far advanced, classified according to National Association classification.[15]

* From the Montefiore Home Country Sanitarium, Bedford Station, Westchester County, N. Y.

1. Fiedler: Die Verhältnisse der Körperwärme in verschiedenen fieberhaften Krankheiten; Manuskript, 1861-2; quoted by Riebold, Deutsch. Arch. f. klin. Med., 1908, No. 93, p. 15.
2. Neuman, F.: Beziehung zwischen Menstruation und Lungentuberkulose, Berl. klin. Wchnschr., 1899, No. 21.
3. Macht, D. I.: Tuberculosis and Menstruation, Am. Jour. Med. Sc., December, 1910, p. 835.
4. Mantoux: Revue de la Tuberculose, October, 1905.
5. Turban, K: Beiträge z. Kenntnis d. Lungentuberkulose, 1899.
6. Turban, K.: Menstruation und Lungentuberkulose, Verhandl. d. 25 Kong. f. inn. Med., 1908.
7. Saugman: In von Schröter und Blumenfeld's Handbuch der Therapie der chronischen Lungenschwindsucht, 1904.
8. Sabourin: La fièvre menstruelle des phthisiques, Revue de méd., March, 1905.
9. Kraus, H.: Ueber praemenstruale Temperatur-Steigerung bei Lungentuberkulose, Wien. med. Wchnschr., 1905, No. 13.
10. Jessen: Lungenschwindsucht und Nervensystem, Monographie Jena, Fischer, 1905.
11. Riebold, G.: Der Nachwais des Vorhandenseins somatischer Perioden in weiblichen Organismus und ihrer Abhängigheit von kosmischen Perioden, Arch. f. Gynäk., 1907-1908, lxxxiv, 182.
12. Riebold, G.: Ueber die Wechselbeziehungen zwischen dem Ovulationsvorgang inkl. der Menstruation und inneren Krankheiten, München med. Wchnschr., 1907, No. 38, p. 1868; No. 39, p. 1935.
13. Riebold, G.: Ueber periodische Fieberbewegungen mit rheumatischen Erscheinungen bei jungen Mädchen, Deutsch. Arch. f. klin. Med., April 24, 1908, p. 15.
14. Riebold, G.: Ueber praemenstruelle Temperatur-Steigerungen, Deutsch. med. Wchnschr., 1907, Nos. 11 and 12.
15. Classification adopted by National Association for Prevention and Study of Tuberculosis: *Incipient:* Slight initial lesion in the form of infiltration limited to apices or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms. Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent. *Moderately advanced:* No marked impairment of function either local or constitutional. Localized consolidation moderate in extent, with little or no evidence of destruction of tissue or disseminated fibroid deposits. No serious complications. *Far-advanced:* Marked impairment of function, local and constitutional. Localized consolidation intense; or disseminated areas of softening; or serious complications.

The average period of observation was nine months. Rectal temperatures were taken in all but one case. The sputum in ninety-two of these 100 cases contained tubercle bacilli; of the 8 remaining patients, the evidence for pulmonary tuberculosis was:

CASE 1.—Patient aged 13. Six members of immediate family and one cousin had tuberculosis. Physical examination showed bilateral apical dulness and diminished breathing, more marked on left side. Intracutaneous and von Pirquet reactions were positive. No expectoration; laryngeal smear negative.

CASE 2.—Patient aged 38. Non-tuberculous family history. A history of five years of weakness and cough; five months before admission, blood tinged sputum; slight dulness and shrinkage at right apex; diminished expansion at right base; ophthalmic, von Pirquet and intracutaneous reactions positive.

CASE 3.—Patient aged 18. Non-tuberculous family history; gradually increasing weakness for one and one-half years; cough; thoracic pain; lowering of right shoulder; dulness, increased voice and increased muscular resistance at right apex. Reaction to 7 mg. of Koch's old tuberculin to 102 F.

CASE 4.—Patient aged 16. Non-tuberculous history; hemoptysis on two occasions; dulness, diminished expansion and crackling râles at right base; intracutaneous, von Pirquet and ophthalmic reactions positive; 0.5 mg. tuberculin produced a rise of temperature to 101.4 F.

CASE 5.—No history of exposure to tuberculosis; history of two years' cough; expectoration and pain in chest; dulness at right apex, with a few scattered râles to second space; dulness, diminished tactile fremitus, diminished expansion and a few moist râles at right base; intracutaneous reaction positive.

CASE 6.—No history of exposure to tuberculosis; bilateral apical dulness; few fine râles at right first space; von Pirquet and intracutaneous reaction positive; reaction to 5 mg. tuberculin to 102.2 F.

CASE 7.—Patient, aged 19. No history of exposure to tuberculosis; cough persisting after influenza; dulness and fine râles at left apex anteriorly and posteriorly; injection of 0.5 mg. tuberculin caused rise in temperature to 101 F.; locally moist râles at left supraspinous fossa; injection repeated with similar results.

CASE 8.—Patent aged 21. No exposure to tuberculosis; hemoptysis two years ago; weakness, cough, slight expectoration, anorexia; dulness and dry râles after cough at right apex; impaired resonance, prolonged expiration and shower of fine râles at end of inspiration at left base; von Pirquet and intracutaneous reactions positive.

There are, then, ninety-two cases with demonstrated and eight with very probable pulmonary tuberculosis.

In ninety-six of these 100 cases, there was no evidence of premenstrual fever; i. e., no rise in temperature occurring within five days preceding the onset of a menstrual period. Neither did the patients show any elevation of the minimal temperature described by Saugman;[7] that is, an elevation of the lowest point in the diurnal temperature while still remaining below normal. The intermenstrual fever, described by von Voornveldt,[16] that is, a rise in temperature occurring thirteen to fourteen days after the onset of the preceding menstrual period, thus falling in the interval between two normal menses, was never present in my series. The four remaining cases, however, did show a rise in temperature; in detail they were as follows:

CASE 9.—R. G., aged 16, single; case moderately advanced; observed twelve months, sixteen days; menstruated twelve times while under observation, and presented two premenstrual rises: (a) four days before menses, a rise from usual temperature of 99.5°F. to 101.6 F. for twenty-four hours; (b) three days before menses, rise to 103.2 F. for twenty-four hours.

CASE 10.—L. K., aged 17, single; case moderately advanced; observed eleven months, twenty-three days; eleven periods; two premenstrual rises: (a) rise to 101 F. on third and fourth days before menses; usual temperature 99.2 F. to 99.8 F.; nine days preceding this same period, a rise to 100.8 F. had occurred; (b) rise to 101 F. twenty-four hours before menses; eight days preceding this a rise to 101.6 F. had occurred.

CASE 11.—L. F., single; case incipient; tubercle bacilli in sputum; observed twelve months, twenty days. During this period the patient menstruated fourteen times; seven times preceding the onset of menstruation by twenty-four hours to forty-eight hours, and once, on first day of menstruation, her temperature reached 100 F. On eleven other occasions her temperature reached 100 F. and bore no relation to her menstrual period. A mitral and aortic endocarditis was a complication in this case. It is doubtful, therefore, whether an interdependence between the menstruation and tuberculosis can be maintained.

CASE 12.—S. P., aged 20, married; case moderately advanced; observed nine months. A rise in temperature to 101.6 F. forty-eight hours preceding her menstrual period occurred on one occasion. It is interesting to note that just at this period the patient had a breast abscess.

It appears, therefore, that in the 100 cases of pulmonary tuberculosis, in all stages of the disease, here reported, only two uncomplicated cases of premenstrual fever occurred. It has been shown in a large series of cases (2,000)[14] that similar rises may occur in a large number of unrelated conditions. The proportion in which the rises occurred in my cases is out of all proportion to that assigned to it in literature; so I am forced to conclude that far too great stress has been laid on the incidence of premenstrual fever in tuberculosis. The theory of Riebold, which refers to the relation of ovulation to premenstrual fever, in dormant disease, is one which commends itself, but for which sufficient evidence is not yet present.

I wish to express my thanks to Dr. Kramer for aiding in the compilation of the statistics.

16. Von Voornveldt: Ztschr. f. Tuberk., 1905, p. 543

LEAD-POISONING IN ILLINOIS

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INTRODUCTION

Lead-poisoning in the United States is almost an unknown subject. Go through the literature and you will find here and there the report of an unusual case, an occasional compilation in a text-book, the material for which has had to be drawn from foreign sources; no experimental work, little study of the newer methods of diagnosis and no effort to gather statistical material or to bring the disease under the control of sanitarians.

When we began the study of the lead trades of Illinois we were assured that conditions here were very different from conditions in Europe; that lead-poisoning was a rarity, owing to our superior methods in industry. We found the reverse to be true. There is far more lead-poisoning in Illinois than in the same trades in England and Germany; at least in all those trades in which it has been possible to obtain anything like accurate figures. Far from being safer, American methods are often more dangerous than European, and while the German and English workman is not only better protected, but is under the supervision of an experienced physician, the American workman is, as a usual thing, under no medical supervision at all.

We found, in addition to the greater dangers arising from our methods of work, a very general ignorance of the hygiene of the lead trades on the part of the employ-

ers. In Europe and England employers have been carefully trained in industrial hygiene, but here they have been taught nothing. The result is a mortifying contrast between our industrial morbidity rate and that of other countries.

The fundamental difference does not lie in the attitude of the American employer as compared with his European brother. A perusal of Parliamentary blue-books shows that English employers in the lead trades have been just as vigorous in their objection to outside control of their factories as Americans could be. Nor does it lie primarily in the difference between the two classes of employees, although the isolation of the foreign-born workmen in America, the class who fill our lead industries for the most part, has undoubtedly something to do with their neglected state.

The great contrast appears when we look at the attitude of the medical profession in Europe. There the health of the working classes, the problems of trade diseases, have been and are still studies worthy to engage the best intellects; here, we leave them to a few overworked practitioners with no leisure to use their material. There, it is the medical man who gathers statistics showing the prevalence of lead-poisoning, who outlines the necessary reforms, and gets them embodied in the shape of laws. We find in this field such men as Brouardel, Sommerfeld, Pieraccini, Glibert, Teleky, Rambousek, to mention only one representative from each country. Here it would be difficult to point to any activity on the part of the medical profession. The American Medical Association has never had a single session devoted to the diseases of industry.

It is this very general neglect of one of the most prevalent of trade diseases which has induced me to try to present the results of a study of industrial lead-poisoning in one state, in the hope that by calling attention to the many and varied industries in which lead is used, the lack of protection against lead-poisoning in American factories, and the large numbers of men poisoned, the medical profession may be induced to take that interest in the question without which no reform can be hoped for. The admirable results obtained in England and on the Continent show that much of the lead-poisoning in industry is avoidable.

STATISTICS GATHERED IN ILLINOIS

It is difficult to give the exact number of trades which involve the use of lead, because the classification of trades may be made in so many different ways. One can count manufactured articles, or processes in the manufacture of articles. If we follow the latter method, which was Layet's when he computed that in France 111 industrial processes involved the use of lead, we shall find on our list some seventy industrial processes in Illinois in which lead or its salts are handled and which have caused lead-poisoning in recent times. The list is far too long to give in full, but it may be of interest to mention some of the more unusual industries, such as making and selling wall-paper, polishing brass, polishing nickel, finishing cut-glass, cabinetmaking carried on in the same room with the sandpapering of white lead paint; holding lead-covered nails in the mouth while shingling a roof; working with aluminum foil (7 per cent. lead) in lithography; zinc-smelting; making ornamental tiles (with a non-fritted lead glaze); wrapping cigars in tin-foil; enameling bath-tubs; laying electric cables; stopping the inequalities of wood with white lead in making automobiles; assembling and recharging old storage battery plates; polishing handles of coffins.

That it was difficult to find individual cases, anyone who has attempted to compile statistics of this sort will readily understand. The physicians interviewed could often give valuable information, but seldom remembered the details of single cases, and I can recall but four, three of them foreign-born and trained, who kept written records, other than financial, of their cases. Consequently the 578 individuals on our list represent only a fraction of the real number, but as the record stands it is very startling when one compares it with the records in other countries. In the English and German reports we have statements based on the careful medical inspection of each man employed, repeated once a week or once a month, according to the danger of the trade. Our figures are based on the study of hospital and dispensary[2] records and on the statements of some of the physicians, not nearly all, of course, whose practice is drawn from the workers in the lead trades. Considering the necessarily incomplete character of our figures, one would expect them to fall far below those of England and Germany, but the reverse is true.

WHITE LEAD

One of the large white lead factories in England employs 182 men. No man was poisoned there during the year 1910. A Düsseldorf factory had two cases of lead-poisoning among 150 men during the same year. On the other hand, an Illinois factory with about 142 employed throughout the year had twenty-five cases last year, and another employing from seventy to eighty men had eleven cases during two months' time, which, if kept up during the year, would mean sixty-six cases. The British statistics for 1910 show that in the district of Newcastle-on-Tyne 1,320 persons were employed in white lead works; five cases of lead-poisoning were reported for that year, or one in 264 men employed. One case was fatal. The figures for the same year in Illinois are between 425 and 450 men employed; sixty-three known cases of poisoning, or one for every seven men employed; three fatal[3] cases. These figures are, of course, open to criticism, for there were more men employed in the course of the year than the pay-rolls indicate, and there were persons with lead-poisoning who did not visit hospitals or dispensaries. One physician, for instance, gave us the names of three patients from one white lead factory and said that he had had more than twenty additional cases during the year. We, of course, entered on our list only the three cases.

LEAD-SMELTING

Bad as are the conditions in the white lead trade, it has at least the advantage of being admittedly a dangerous occupation, and in three of the four Illinois factories regular medical supervision of the employees has been introduced, the first step toward controlling industrial lead-poisoning. This is not as yet true of the lead-smelting industry, in which large numbers of men suffer from lead-poisoning and no apparent effort is made to protect them from it. According to physicians

2. These records are not always satisfactory. Meillere at the Brussels Congress of Industrial Hygiene, in 1910, said that to the average physician, as to the layman, lead-poisoning means colic or wrist-drop, an attitude of mind which he compared to that of a man who would say that alcoholism meant delirium tremens. The large number of cases of lumbago, rheumatism, nephritis and heart disease among lead workers, which we find in the records of some hospitals and dispensaries, lead one to suspect that Meillere may be right.

3. Our statistics of fatal cases are very incomplete. There is in the City of Chicago a curious ruling of the coroner's office by which every case of death by "poisoning" must be a coroner's case. Consequently, to save the family this needless annoyance, the physician makes out the death certificate for nephritis, arteriosclerosis, gastro-enteritis, etc.

practicing among these men, the great majority, if not all, become poisoned sooner or later, if they remain at work for more than a few months.

I had the opportunity last summer to visit a large lead-smelting works at Ems, a place under the charge of one of Germany's foremost engineers and subject to the regular inspection of an experienced physician. The contrast between that plant and the best of ours in Illinois was so great that I could easily understand the difference in the morbidity rate of this trade in the two countries. Germany has systematically set herself to control conditions in lead-smelting and the results are shown by a fall in morbidity from 73.7 per cent. of all employed in 1885 to 0.8 per cent. in 1892.

STORAGE BATTERIES

Another trade listed abroad as very dangerous is the making of storage batteries or electric accumulators, as they are called over there. This does not seem even to be recognized as a lead trade in this country, either by physicians or factory inspectors. To make storage battery plates, grids of metallic lead with deep grooves must be filled and covered smoothly with a paste made of oxid of lead. It is a dusty trade and, in the absence of all regulation, a very dangerous one.

We found some cases of very rapidly developing and severe lead-poisoning among workers in storage batteries, and an amount of sickness quite disproportioned to the number of men employed, for Illinois has no large storage battery works. Two small places, one employing eighteen men, the other fifteen, sent each two men to hospitals with acute lead-poisoning within a period of nine months, while the Hart Accumulator Works in London, employing more than a hundred men, did not have one case of poisoning last year. The actual contrast would of course be more striking than this, for there were undoubtedly other cases of lead-poisoning in the Illinois factories. Only a small proportion of workmen go to hospitals for treatment.

PRINTING

It is unnecessary to give further figures showing the contrasting results of neglect in America and scientific control in Europe. That point is certainly clear. There are, however, some interesting facts concerning the all-important subject of occupation which were brought out during this investigation. The printer's trade was found to be much more dangerous than should be the case in these days of linotypes. This is a trade which suffers greatly from lack of ordinary hygienic control; accumulations of lead dust, the practice of dry-sweeping, the use of unhooded melting kettles with no provision for the removal of fumes and an insufficient lavatory equipment—all these are avoidable evils, but they are the rule, not the exception.

The fifty-seven cases of lead-poisoning found among printers were probably all due to the neglect of ordinary precautions. We found, as Sternberg of Austria has noted, that lead-poisoning in printers tends to assume the slow, chronic form, and that, in addition to the fifty-seven typical cases, the death records of the Typographical Union show an unduly large mortality rate from nephritis, heart disease and apoplexy.

COMMERCIAL ILLUSTRATION

The mechanical or commercial artists are a class we had not suspected to be exposed to lead-poisoning. One does not see them mentioned in foreign statistics, and when I inquired about them of the Factory Inspection Department in London, I was told that no cases of lead-poisoning in artists were ever reported in Great Britain. The discovery of the fifteen cases on our lists came as the result of a conversation with a young artist who had been referred to me by his physician as an "unusual case of zinc-poisoning." The man's history was absolutely typical and analysis showed that the paint he supposed to be zinc-white was really white lead.

The artists seem to suffer more than any other one class from their physicians' lack of acquaintance with industrial processes. The patient assures his doctor that he is using no lead paints, for it is the policy of many engraving houses to withhold from their artists the fact that they are using a dangerous lead paint. Consequently all sorts of erroneous diagnoses are made.

The young man I interviewed had been urged by three physicians to have his appendix removed, and a friend of his, well known in the trade, actually had four abdominal operations before the development of a typical radial paralysis revealed the real nature of his trouble. These artists work chiefly with white paint, and we found that all but four of the seventy-four places visited use white lead. The paint brushes are very fine and in order to get just the right degree of moisture and a fine point, the artists put their brushes in their mouths. In addition they use an "air-brush," worked with compressed air, which sends a stream of finely divided white paint over the picture and which is also used to blow off the superfluous paint after it is dry. Owing to the fact that it is a highly skilled, well-paid trade, the men are loth to leave it, and among the fifteen cases there were some of very severe poisoning.

LEAD-POISONING IN WOMEN

There are very few women on our lists and the fact that the lead trades in Illinois do not employ many women is a great advantage, for women are notoriously more susceptible to lead-poisoning than men. Our eighteen women were employed in polishing type with emery, making car-seals, dusting lead colors on litho-transfers, labeling paint-cans in an atmosphere of white lead dust, working with aluminum foil, making artificial flowers, wrapping cigars in tinfoil; one was a commercial artist.

The lead trades of Illinois are not as important as those of some of the large Eastern manufacturing states. Illinois has no large pottery works using lead glazes, or lead glass works or storage battery works of any importance, or rubber works in which white lead is used. There are probably several states in the Union which would yield a much larger return than Illinois to such an inquiry as this. Among the industries classed as lead trades in other countries, but not found in Illinois, are the weighting of silk, lace and passementerie with lead, file-cutting, polishing jewels, making white straw hats, white gloves, using lead glazes for pottery, enameled signs, etc., and making rubber goods. Lead-poisoning is undoubtedly an important trade disease in every state in the Union, for even those states which have little manufacturing have large numbers of painters and printers.

The general subject of lead-poisoning is too well known to need discussion, but it may be of value to give briefly the results of very recent studies in diagnosis and experimental pathology, especially as some of them are to be found only in the reports of the International Congresses on Industrial Hygiene, which are not easily accessible.

DIAGNOSIS OF LEAD-POISONING

The most important point in the diagnosis is universally stated to be the history of the patient's occupation, and this of course assumes, on the part of the diagnostician, an acquaintance with the industrial processes which involve the use of lead. One point should be mentioned in this connection, and that is the latest theory as to the localization of lead paralysis. It used to be assumed that lead had a selective action on certain muscles or certain nerves—according as this paralysis was held to be myogenic or neurogenic—first, the extensor muscles of the fingers and wrist; second, the muscles of the shoulder; third, the extensors of the foot. But close study of the motions involved in those processes in which lead-poisoning occurs, has led to the belief that overwork is the determining factor (Edinger, Teleky). The group of muscles involved in the paralysis of painters and printers includes those of the forearm and hand. Storage battery workers suffer from paralysis of the muscles of the shoulder (Labbé). File-makers grasp the chisel with the left hand, and have paralysis of the left fingers and thumb (Bernhardt, Leichtentritt). Children, who use their legs more than their arms, have paralysis of the leg muscles (Escherich, Variot); laborers, the muscles of the shoulders and legs (Pieraccini).

It can easily be seen, then, that the diagnosis of lead-poisoning in a case of paralysis may depend largely, if not entirely, on the physician's knowledge of the details of his patient's industrial history. His anamnesis may otherwise be of little value, for Tanquerel des Planches found that fourteen of his 200 patients with lead paralysis had no history of colic.

Next to the history the most important place has been assigned now to one diagnostic sign, now to another. At the Milan Congress of Industrial Hygiene in 1906, basophilic granulation of the red corpuscles was agreed on as the earliest and most unfailing diagnostic sign, but at the congress held in Brussels last September a change in opinion was evident. Biondi insists that the granules are merely evidence of the formation of new cells and as this process is intermittent the cells may be present one hour and absent the next, depending on the activity of the hematopoietic tissues. Even if present they must not be regarded as significant unless they reach appreciable numbers, according to P. Schmidt. At least 100 out of 1,000,000 red cells must contain basophilic granules and a count of as many as 300 to 3,000 is usual in lead-poisoning. Oliver stated that he did not find basophilia in most of his cases, and thought the diagnostic value of this sign very dubious. Rambousek failed to produce basophilia experimentally in rabbits which were undoubtedly lead-poisoned. The general verdict of the Brussels congress was that basophilic granulation of the red cells is a good positive, but a bad negative sign.

The value of the procedure advised by Du Moulin, smearing the carefully washed skin with sodium sulphid to produce the black sulphid of lead, has been much criticized of late, especially by von Jaksch and Rambousek, and will probably never be generally used.

As for the search for lead in the urine, there is a wide divergence of opinion between authorities. Oliver finds it present in almost all cases, and regards the test as one of the greatest importance. He found lead in the urine of a woman who had symptoms suggestive of lead-poisoning nineteen years after she had given up work in lead, during which time she had not been in any ascertainable way exposed to lead. Oliver frequently finds lead in the urine of patients with old chronic cases, and Edsall makes the same statement. Agasse, Lafont and Heim also state that lead can always be found in the urine in cases of lead-poisoning. On the other hand, von Jaksch says that the search for lead in the urine in the later stages of chronic lead-poisoning is negative, although lead is present in acute poisoning and in the early stages of chronic. Rambousek and Pieraccini both advise testing the stools for lead instead of the urine. They find lead in the feces constantly, but they doubt whether the kidneys play much part in its elimination.

The lead line on the margin of the gums, so valuable a confirmatory sign when present, is absent in some otherwise well-marked cases.

It is therefore generally held that plumbism is too variable in its development for any one sign or symptom to be regarded as diagnostic. The following is the group of symptoms which, when present, point to lead-poisoning: pallor, due to vascular spasm and disproportioned to the degree of anemia, foul breath, caries of teeth, gingivitis, loss of appetite, increased by the disagreeable taste in the mouth, recurrent attacks of weakness which may render fine work impossible, spots before the eyes, itching around the eyes, gastro-intestinal disturbances, diarrhea or constipation, loss of flesh, showing especially in the cheeks. If these symptoms, each one slight in itself, are present in a lead-worker, T. Weyl would diagnose lead-poisoning in an early stage. When colic has come on, the general vascular spasm is shown in the great pallor, the absence of sweat, even with extreme pain and restlessness, the slow hard pulse, low temperature, retraction of the abdomen, strangury and unconquerable constipation. Dyspnea from spasm of the smooth muscles and sudden, severe myalgia, especially in the flexors of the legs may accompany the colic (Weyl). Oliver finds that the pain is often localized on one side and that the pupils may be unequally contracted, the one on the affected side being the smaller. In such cases pressure on the pneumogastric nerve in the neck on the affected side shows great tenderness in this nerve. Potain finds the liver contracted during the attack of colic, and returning to its normal size after the attack is over, another result of the vascular spasm.

ABSORPTION

The question of absorption of lead is of great practical importance. For many years it was a disputed point whether the skin or the intestinal tract was the chief channel of entrance for the lead salts, but now it is conceded that the intestinal mucosa, including that of the mouth, plays by far the most important part. The English have of late laid great stress on the inhalation of dust as a cause of lead-poisoning, and Goadby reported to the Brussels Congress the result of studies on animals showing that lead could be demonstrated in the lung capillaries of cats which had breathed red and white lead dust. German authorities concede the importance of dust but believe that the greater part of that which is breathed into the mouth is swallowed.

As for the skin, it is admitted by all that water-soluble salts of lead, such as the acetate, chlorid and nitrate, may be absorbed through the skin, but that this is slow and requires long exposure. The non-soluble or poorly soluble salts are thought by some to be changed by contact with the fatty acids in the sweat into soluble compounds. It is held by these observers that in summer while the skin is very active it may be an important channel of absorption. On the other hand, Leyman says

that skin absorption of non-water-soluble lead compounds has never been proved and he does not believe it of the least importance in industrial poisoning. To this Weyl, Toth, Legge, Oliver and Sommerfeld agree. Edsall thinks skin absorption relatively unimportant.

A large single dose of white or red lead is required to bring on symptoms of intoxication, but as lead is a cumulative poison, very small daily doses may be enough to give rise finally to the severest symptoms. Brouardel says that poisoning may follow the ingestion of no more than 1 mg. daily. It is of course only a question of disturbing the equilibrium between absorption and elimination, so that if the dose is suddenly increased or if there is a check to elimination, storing up of the lead begins.

PROPHYLAXIS

It would not seem logical to close without saying anything on the subject of prevention of lead-poisoning. As far as industrial poisoning goes, preventive measures have been worked out with great care by foreign governments and we have only to avail ourselves of the fruits of their experience.

The first requisite is the abolition of dust. Where this is impossible, and unfortunately American methods are much dustier than European, the workman must be protected by a respirator, although it should be remembered that no respirator is really an efficient shield against dust. Men obliged to work in lead dust should be given short hours, for fatigue is one of the strongest predisposing causes of lead-poisoning. Another necessary regulation concerns food. No man should be allowed to begin work fasting. Ample washing and bathing facilities and ample time to use them must be provided, and the men must be obliged to make use of them. If this is done, if dust is abolished and the men not allowed to eat lead[4] or carry it home on their persons, they can work in it with fairly little risk. I saw white lead workers in English and German factories very badly smeared with the lead while at work, yet the records showed no cases of poisoning.

Another necessary part of prevention, one most necessary in America, is the elimination of the casual shifting labor. We found in our study of the lead trades in Illinois that many newly arrived non-English-speaking Slavs, Italians and Greeks were engaged in the more dangerous processes of the lead industries and that they had little idea of the danger to which they were exposed, still less of how to guard against it. When such a man develops symptoms of acute plumbism he leaves his work and another ignorant immigrant takes his place, so that there is a constant procession of untrained men in and out of the lead trades. This condition is notoriously bad. In Germany statistics have shown that the amount of lead-poisoning in the white lead industry is in direct proportion to the number of casual laborers employed, and Oliver makes the same statement for England.

The regular medical inspection which is required by law in most foreign countries makes it possible to detect and remove susceptible workers and to abort a threatened attack of colic. There are factories in Illinois in which this feature has been voluntarily introduced by the employers and the bill now pending before the legislature will make it compulsory.

Legislation to regulate the poisonous trades is much needed in every state, but the first logical step toward it is a study of the conditions in that state, a task which naturally belongs to us physicians.

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4. In many Illinois factories it is customary for foremen to encourage the men to chew tobacco, under the impression that the expectoration clears the mouth of lead dust. In Europe and England tobacco chewing in lead works is forbidden by law, for the sanitarians hold that lead is carried into the mouth by a plug of tobacco which has been lying in lead-smeared clothes and is handled with lead-smeared fingers.

THE VALUE OF ANIMAL EXPERIMENTATION AS ILLUSTRATED BY RECENT ADVANCES IN THE STUDY OF SYPHILIS *

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BALTIMORE

I. INTRODUCTION

No one who is alive to the nature of physical pain or aware of the charm of the domestic animals could fail to sympathize with an inquiry into the warrant for animal experiments. It has always seemed odd, it is true, that this critical demand should not only begin with, but often single out for its entire attention, the one human activity involving animal sacrifice which has for its aim the relief of human distress; and that the good souls who become so concerned over one etherized dog, can regard with indifference the packing industry—with its wholesale slaughter to appease appetite; or the fur industry—with its reckless massacres to satisfy vanity; or the fisheries—consigning myriads of helpless beings to slow death by drowning in the air.

Nevertheless, those who are responsible for deliberate experiments on animals recognize the request for its grounds of justification, as a perfectly reasonable one. If the discussion is one in which facts may be offered as evidence, it ought to be a simple matter to determine whether or not the achievements of the experimental method justify its continuance. The history of the subject is an open book; and in commending it to the honest inquirer, medicine need speak in no apologetic tone. Abundant facts for a final decision of the question would come to light through a study of bacteriology and surgical asepsis—a whole science based on experimentation; or of the acute diseases for which specific cures have been determined (malaria, diphtheria, cerebrospinal meningitis); or of the plagues which may be absolutely prevented by hygienic and therapeutic measures (malaria, diphtheria, yellow fever, small-pox, rabies, tetanus); or of the hospital plagues which aseptic technic has almost abolished (erysipelas, blood-poisoning, hospital gangrene); or of the developments which have made every portion of the body accessible to surgery; or of the triumphs of obstetrics, which have reduced the appalling dangers of childbed fever to an almost negligible minimum. Even then only the most striking conquests of medicine would have been considered; and their significance would not have been even approximately grasped by those unfamiliar with the difficulties encountered by medicine at every step forward.

Nowhere, however, can the value of animal experimentation be so satisfactorily tested as in a study of the history of syphilis.

II. THE SOCIAL IMPORTANCE OF SYPHILIS

A just estimate of the value of animal experimentation in the development of the knowledge of syphilis is of vital interest because of the importance of the disease

* EDITOR'S NOTE: This is Pamphlet 20 in the Defense of Research series. A list will be sent on request.

in the community. This is an importance usually overlooked by the public, whose interest is attracted by the more deadly plagues. Yet it is well within the limits of conservatism to say—so wide-spread is the disease, so calamitous and far-reaching are its effects—that none surpasses it, and few equal it in hygienic importance. The attitude of the public toward experimentation undertaken to extend our knowledge of this disease is then, obviously, by no means a matter of indifference.

Wide-spread as the disease undoubtedly is, we have no means of determining its exact extent with accuracy; so many cases go unreported, and so many of the late effects of the disease unrecognized, that all our estimates are underestimates. Yet even so, the figures are sufficiently striking. LeNoir, after a study of nine years, reported at the International Congress in Brussels that between 13 per cent. and 15 per cent. of the male adults of Paris were syphilitic; in other words, that in this city alone, and considering only the male sex, there were 125,000 cases of the disease. These figures were confirmed by Fournier;[1] yet they by no means give even an approximate idea of the extent of the disease, for they take no adequate account of the ravages of late hereditary and parasyphilitic processes.

Syphilis in its acute stages is not a frequent cause of death; and examination of mortality statistics would, therefore, hardly be expected to demonstrate the extent of its ravages — as it might be expected to do, for instance, in the case of typhoid fever. Yet some idea of its spread and significance may be obtained by a consideration of the attitude of insurance toward it. Runeberg[2] found that, including certain apoplexies, probably syphilitic in origin, the mortality from the disease was about 15 per cent. — the total being second only to that of tuberculosis which caused 21 per cent. of the deaths. These figures, which may be somewhat higher than other statistics would justify, assume added importance when it is remembered that they represent the facts existing among the insured, that is to say, the most vigorous portion of the population. The damage done by the disease consists largely in its lowering the standard of average health, paving the way for other diseases and possibly laying the foundation for mental degeneration and alienation. The extent of these secondary effects can only be estimated. Most insurance companies require that four or five years shall have elapsed after the disappearance of the last symptoms of the disease; and no applicant who has had syphilis is given a policy which will keep him on the company's books after his fifty-fifth year. Greene[3] goes even further, and firmly believes insurance at ordinary rates (even after an interval of five years) to be an error. Under no circumstances would he advise a straight life policy to be issued to a man who has a syphilitic history.

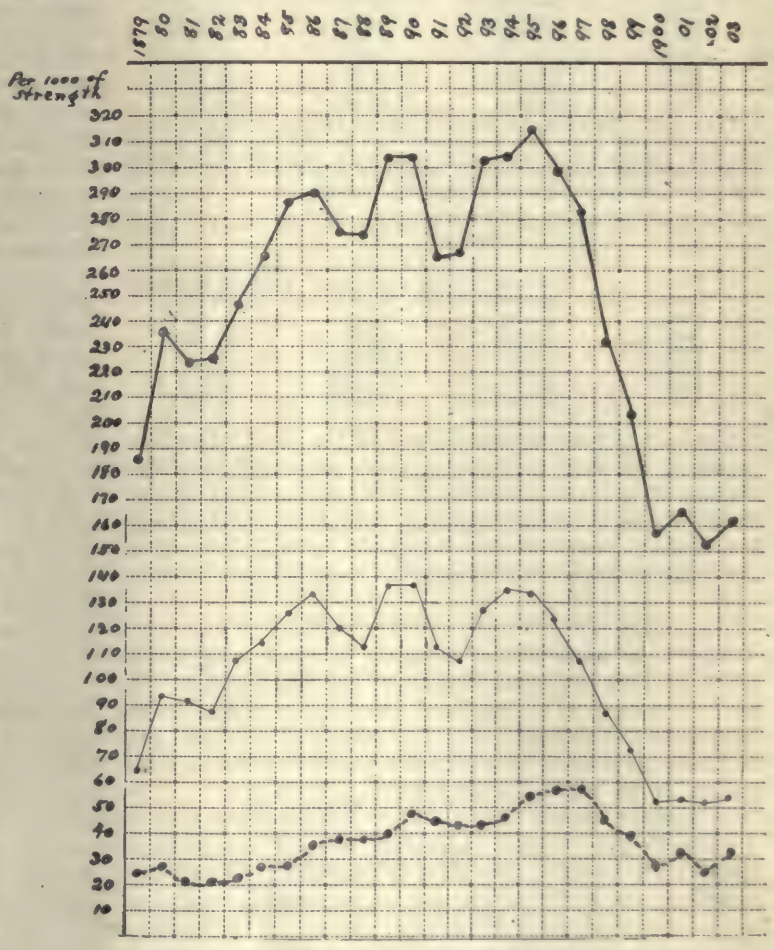
III. SYPHILIS IN THE ARMY

Consider the state of affairs in national organizations in which men are under constant discipline and something like accurate statistics may be obtained. Table 1 represents the admission-rate per 1,000 of strength for syphilis among the British troops in India.

TABLE 1.—SYPHILIS AMONG BRITISH TROOPS IN INDIA PER 1,000 OF ADMISSIONS

Year.	Primary Syphilis, Inc. Soft Chancre.*	Secondary Syphilis.
1887	142.1	29.4
1888	142.1	32.4
1889	225.1	51.2
1890	220.7	66.3
1893	213.6	61.6
1894	248.1	74.6
1895	239.0	84.9
1896	226.4	97.7
1897	201.7	101.9

*It must be observed that the figures in this column include certain non-syphilitic venereal lesions. The above table is from French: Syphilis in the Army.



Chart, taken from French: Syphilis in the Army, Chart III, Appendix III. The upper, heavy line represents the incidence of all venereal disease; the middle, fine line represents the incidence of primary venereal sores; the lower, dotted line represents the incidence of secondary syphilis.

It is the study of such figures as these which leads experts like Sir Alfred Keogh[4] to write:

It may be stated without fear of contradiction, that there is no disease, with the possible exception of malaria, that has so important an influence on the efficiency of an army or navy as syphilis. Other diseases doubtless are more deadly and consequently attract more attention; no other is so lasting in its effects, or so persistent in its attack on the bodily strength of the man who has once acquired it. A soldier gets enteric fever and either dies or recovers. Out of a hundred such, it may safely be prophesied that eighty will survive, and of these seventy, at least, be not only none the worse for their experience, but eventually all the more efficient for field ser-

1. Fournier: Treatment and Prophylaxis of Syphilis, Marshall's translation, edition 1906. Part II, p. 157.
2. Osler and Churchman: Chapter on Syphilis, Osler's Modern Medicine, III, 495.
3. Greene: Examination for Life-Insurance, p. 118.
4. Keogh: Introduction to D'Arcy Power and Murphy's System of Syphilis, vol. vi.

vice in consequence of it. . . On the other hand, thirty men get syphilis, and not one of these can ever be considered the man he was before.

With this expert opinion in mind, a glance at the accompanying chart will convince any one of the tremendously crippling power of syphilis in an army. It represents the facts for the British army at home and abroad.

These statistics may be supplemented by two further tables, showing the incidence of syphilis in the armies of Great Britain and the United States.

TABLE 2.—THE INCIDENCE OF SYPHILIS IN THE BRITISH ARMY AT HOME AND ABROAD *

Year.	Strength.	Admissions for Syphilis.	Admissions Per 1,000 of Strength.
1894	203,469	27,436	145.01
1895	200,681	28,081	140.41
1903	282,182	12,668	52.31
1904	244,425	9,219	37.72
1905	240,075	7,039	29.32
1906	230,128	5,958	25.89
1907	217,844	5,033	23.11
1908	215,647	4,137	19.19

*The slight discrepancies between figures in this table and those in the previous chart are apparently due to the fact that in the chart a certain small number of non-luetic lesions are included under "primary venereal sores." Tables 2 and 3 are from D'Arcy Power and Murphy: System of Syphilis, Volume VI.

TABLE 3.—THE OCCURRENCE OF SYPHILIS IN THE ARMY OF THE UNITED STATES

Year.	Strength.	Admissions for Syphilis.	Admissions Per 1,000 of Strength.
1903	71,679	1,676	23.36
1904	59,671	1,525	25.56
1905	55,619	1,953	35.11
1906	53,573	1,869	34.89
1907	53,249	1,534	28.80
1908	50,705	1,436	28.32
1909	62,263	1,592	25.57

Syphilis is thus seen to be one of the most important causes of military inefficiency, even under the best conditions of medical supervision. Given the least leeway it may break out to an appalling extent, as it did among the British troops in the Peninsula, who christened it the "Black Lion of Portugal."[5]

IV. THE SERIOUS NATURE OF SYPHILIS

The wide incidence of syphilis is, then, sufficiently evident. But the great menace of the disease, not only to the two arms of the national defence, but to the health —even to the existence—of the nation as a whole, can be made plain only by a consideration of the calamitous nature of its clinical manifestations.

1. *Danger to the Individual.*—The dangers of the disease to the afflicted individual himself are perhaps roughly appreciated, though it is doubtful if the serious handicap to work, which the compromising and disagreeable secondary symptoms cause, is sufficiently understood. What is certain is that the laity and a majority of physicians wholly fail to appreciate the grave and often fatal nature of the tertiary manifestations. These are particularly pathetic, because they may appear in the prime of life, years after the initial lesion has been forgotten as a thing of the past; and may absolutely incapacitate an otherwise healthy man, who has become involved in the responsibilities of a husband and father. Nothing is more distressing than the sinister predilection of tertiary syphilis for the nervous system. Of 5,749 syphilitic patients studied by Fournier,[6] 758 developed syphilis of the brain, and 1,099 others syphilis of the cord and nerves. That is to say, nearly one out of every three of the patients exhibited syphilis of the nervous system. And if to the multiform manifestations of the disease in its active stage be added the parasyphilitic phenomena — serious, incapacitating and as yet not amenable to treatment — some faint idea may be gained of the far-reaching effect of the disease on the individual.

2. *Danger to the Family.*—But it is as a menace to the family that this disease appears most formidable. No catastrophe can be more disastrous than its spread by the marital relation; no spectacle more dreadful than its transmission to innocent children.

It is the wife, of course, who is most often—though not *always*—innocently infected; and when this occurs, disasters of many kinds follow. The woman herself is submitted to the discomfort, the risk and the degradation of syphilis; and no consequence of the disease can be more distressing. Nor is this occurrence a rare one. Those who regard syphilis as the peculiar property of the underworld, and eye its victims with suspicion, would be surprised at the facts brought out by Fournier[6] who, in a study of 100 syphilitic women, found one in every five to have been innocently infected by her lawful husband. Such a woman must suffer not only in her own body; she must expose her children to the most serious form of syphilitic heredity—mixed heredity. It is only natural that such a train of affairs once started often ends in the dissolution of the family. Even if actual divorce does not ensue, the family ties fail to stand the test; affection and respect die; and we have the melancholy spectacle of a house divided against itself. Moreover, not infrequently, economic ruin ensues through incapacitation of the head of the family and the household becomes a public burden.

3. *Danger to Posterity.*—But this foul disease appears most foul in its dastardly attacks on the second and third generations; and all other features fade beside its importance in heredity. Indeed, the need of protecting innocent children from syphilitic infection is the complete answer to those who object to the removal of the consequences of syphilis as inciting to vice.

An infant mortality astonishingly high is what the disease produces. In many instances this amounts to a complete annihilation of posterity. Ninety women studied by Fournier—all seen in private practice, all of good constitution and surrounded by a favorable environment of hygiene and wealth—became pregnant during the first year of the disease ("the year of terror"). Fifty of these women aborted, thirty-eight infants died soon after birth, and only two children survived—a mortality of 97.7 per cent.! Another study included 200 men who had married while syphilitic, but who failed to contaminate their wives. Four hundred and three pregnancies for which these men were responsible resulted in 288 living children and 115 still-births, abortions and early deaths. Instances of excessive infantile mortality could be indefinitely multiplied. Ribemont-Dessaignes, for instance, reports a woman who contracted syphilis from her husband; she became pregnant nineteen times, had five still-births and gave birth to fourteen children, every one of whom died under 6 months of age. "A child," writes Fournier, "conceived by a woman in the course of recent syphilis is almost certainly condemned to death."

But to this dreadful indictment must be added the woful heritage which syphilitic parents bequeath to the children who do manage to survive. Fragile infants—a prey to every infection; monsters; pathetic and wizened mannikins; idiots; normal children, condemned to a late

5. Ricord: Illustrations of Syphilis. Historical introduction in Belton's Translation.

6. Practically all that is here written on the dangers of syphilis is taken from Fournier's Treatment and Prophylaxis of Syphilis. Marshall's Translation, ed. 1906, a book that should be familiar to everyone interested in the disease and its relation to society.

syphilitic heredity at the second dentition or at puberty —this is the spawn of syphilis. Nor does the trail of the beast stop here; the heritage which these unfortunates receive they pass on to their descendants; and the effects of the disease in heredity may be traced through three generations (Gilbert, Caubert, Étienne). "To cleanse the brothel," writes Fournier, "is not only to protect those who frequent it; it is also to protect the family hearth, the honest woman, the child and the race."

That syphilis is a formidable national scourge and that complete knowledge of it is of fundamental hygienic importance may, then, be regarded as established.

V. KNOWLEDGE OF SYPHILIS GAINED BY THE EMPIRICAL METHOD

We have next to inquire into the state of medical knowledge of the disease before animal experimentation began. This will be particularly instructive; because by comparing the knowledge thus slowly acquired, through long years of simple observation, with the rapid advances made in the few years in which the study of the disease by the experimental method has been possible, we get a vivid picture of what productive animal experimentation, now adding daily to our knowledge of syphilis, really means.

It may be said at once that the information about syphilis which medicine was able to accumulate, entirely without the aid of animal experiment, was marvelously complete and accurate. Here is a disease, protean in its manifestations, affecting probably every organ in the body, pursuing a long and insidious course, almost identical in its initial forms with other simple venereal infections and possessing a peculiar power of mimicry, whereby it can simulate minutely the signs and symptoms of numerous other diseases. The conditions could hardly present greater difficulties. Yet, purely by the method of clinical observation, chaos was gradually reduced to order. It is true that this result was many long years achieving. At the time of the European syphilitic pandemic (1494) enormous confusion prevailed as to the nature of the various venereal infections. The difficult problem was gradually solved—but how gradually, may be realized when it is recalled that not until nearly 400 years had elapsed was the question of the dualistic nature of syphilitic and non-syphilitic venereal infections settled.

Quite as interesting as the completeness of the clinician's acquaintance with syphilis in pre-experimental days, was the satisfactory condition of its therapeutics. Working by purely empirical methods and entirely without a rational or an experimental basis, the early physicians found and developed a method of treatment by which the disease could almost always be controlled, and, in a large majority of cases, absolutely cured. The choice of mercury—recommended in syphilis by the Galenists for the most absurd of reasons—happened to be a lucky guess.

In 1836 the administration of potassium iodid in syphilis was recommended by Wallace. This date is an important one in the history of the disease: for it does more than mark the year of a valuable contribution to therapeutics. It marks, too, the end of important advance in our knowledge of the disease; for from that year until the recent successful experimental work on animals, medicine stood practically still so far as syphilis was concerned. A few advances were, of course, made; the debate as to the dual nature of luetic and non-luetic lesions was brought to a conclusion by the French school (Bassereau, Fournier, Clerc, Ricord); certain unrecognized syphilitic lesions were described (arthropathies by Richet, bursopathies by Verneuil); extensive statistical studies were made by Fournier and others; and the importance of parasyphilitic and late hereditary forms was recognized and emphasized. But no really new light was thrown on the disease. Clinical study had about reached the limit of its possibilities.

VI. DEFICIENCIES IN PRE-EXPERIMENTAL KNOWLEDGE OF SYPHILIS

It is essential for one interested in good faith in determining the value of experiments on animals in syphilis to ask whether there was any need that this intimate, and in many respects, satisfactory clinical and therapeutic knowledge be supplemented by facts which animal experimentation might supply. Was it merely that scientific curiosity craved satisfaction? Or were there real hygienic needs to be met, and to be met only by the study of the disease in animals?

That a vital demand for further knowledge existed becomes at once apparent when it is stated that, complete as our knowledge of syphilis was, there were a number of points at which it was replaced by ignorance as complete; and that this ignorance concerned certain fundamental features of the disease.

In the first place, it has often been impossible to make an early diagnosis. The first sign of syphilis (the chancre) usually appears about three weeks after infection has occurred. When it *does* appear its nature is often so uncertain that further phenomena must be awaited before the prolonged and disagreeable treatment can be instituted. If specific treatment is undertaken immediately, the sore will disappear, secondary symptoms may never present themselves, a positive diagnosis may never be made and the treatment—which, to be effective, must be carried on thoroughly over a period of years—will at first be half-heartedly undertaken and in a short time discontinued. On the other hand, if treatment is not promptly begun, valuable days, even weeks, pass before the disease can be positively recognized and attacked.

In the next place, positive diagnosis in the later stages of the disease is often impossible. Those unfamiliar with the protean manifestations of syphilis have no conception of the difficulty it may present in diagnosis. Even the most experienced physicians are often unable to tell whether a given condition is syphilitic or not.

But a graver deficiency in our knowledge of this disease, is our inability to recognize it in its "latent" forms. In these cases the infection, though still present and likely to break out at any time or to be passed on to others, is not at the moment producing any obvious signs or symptoms. It is this form of the disease which contributes largely to the danger of syphilis among prostitutes; for the existence of latent syphilis, though a real menace to the community, may escape the most careful medical inspection. A syphilitic woman could quite well be the source of widespread infection and yet possess a clean bill of health on the absence of obvious signs.

Moreover, we have never known how long it was necessary to continue treatment before a complete cure was obtained. As our knowledge of the disease advanced, it became clear that a longer and longer duration of treatment was necessary for safety; and it is now rather arbitrarily estimated at about three years. But this is only an estimate. And how unsafe it is to proceed, in this matter, on an estimate becomes apparent when the importance of the disease to marriage is borne in mind.

All physicians are agreed that no syphilitic should marry until the disease has been positively cured; but they have no way of telling just when cure has been effected; and have, therefore, always lacked the necessary data for intelligent advice to their patients.

Finally, so long as the cause of the disease was unknown and the possibility of its study by the methods of reproduction in animals excluded, advances in the knowledge of the disease—such as these methods had made possible in the case, for example, of suppuration—were quite out of the question.

VII. WHAT EXPERIMENTAL RESEARCH HAS ACHIEVED IN THE CASE OF SYPHILIS

1. *Successful Reproduction in Animals.*—Previous to 1903 animal experimentation practically did not exist so far as syphilis is concerned. So many of the attempts to transmit the disease to animals had been unsuccessful, and so difficult was it to control the supposedly successful results, that the general attitude toward the subject was one of apathy. Certain observers had indeed reported successful transmission to animals. Auzias-Turenne,[7] for example, claimed to have inoculated the cat; LeGros and Lancereaux,[8] the pig; and an occasional success had been obtained in monkeys (Klebs,[9] Martineau and Hamonic,[10] Nicolle[11] and others). But the successes had been only occasional and could not be substantiated by independent observers.

In 1903, however, the first communication of Metchnikoff and Roux[12] was published by the Pasteur Institute. The authors reported the undoubtedly successful transmission of syphilis to a two-year-old female chimpanzee; and the equally successful inoculation of a male chimpanzee with material taken from the first animal. Several bonnet monkeys (*M. sinicus*) were also successfully inoculated; but certain species (e. g., the mandrils) seemed to be insusceptible. These experiments were promptly repeated by Lassar[13] and the results confirmed.

The successful inoculation of animals immediately opened up a dozen avenues of research, and a second communication soon appeared from the same workers.[14] Here, continuation of the inoculation experiments was reported; and it was apparently demonstrated that monkeys might be divided into two groups, according to their susceptibility to syphilis — the anthropoids approaching the lower races of man in susceptibility, the mandrils and maimons exhibiting a complete natural immunity to the disease. The idea was therefore confirmed, which had previously been advanced by others, that failure to use susceptible animals probably explained much of the inconsistency of the experimental work done before this time. Additional confirmation of this work soon came from Neisser,[15] who reported successful inoculations of chimpanzees, orang-outangs and a gibbon. In 1904, Metchnikoff and Roux's third communication[16] appeared. Here the particularly interesting point was made that the syphilitic virus would not pass through a Berkefeld filter. Klingmüller and Baermann[17] had previously made the same assertion *after having inoculated themselves with human syphilitic material* which had been passed through a Berkefeld filter. Finally, the two workers at the Pasteur Institute published their conviction, in a fourth communication,[18] that the chimpanzee, by reason of its susceptibility to syphilis and the similarity of the symptoms produced with those seen in human beings, was the most suitable animal for experimental purposes. More important still, they were able to confirm the work of Schaudinn, which had meanwhile appeared, by finding the *Spirochæta pallida*[19] in 74 per cent. of thirty-one syphilitic monkeys. Thus did the two lines of research promptly cross.

Experimental work on animals other than monkeys was never very conclusive until Bertarelli[20] reported the successful inoculation of the cornea in rabbits. A similar result had been obtained by Haensell;[21] and Bertarelli's observations were promptly confirmed by Hoffmann and Brüning,[22] by Scherber,[23] and by Greef and Clausen.[24]

Thus, in a few short years the technic of animal experimentation—so fruitful in other fields—has been developed for syphilis. It is impossible to exaggerate the importance of this advance, which touches the whole dreary prospect of syphilis with hope. The work of Metchnikoff and Roux on susceptibility and immunity, of Finger and Landsteiner[25] on the infectiousness of tertiary lesions and of semen, of Neisser on the syphilitic testicle: these are a few instances of the way in which new avenues of progress were immediately opened up and promptly traveled by eager scientists. The prevention of syphilis, which previously seemed an utopian dream, became—once the transmission of the disease to animals was assured—a reasonable, if remote, hope; and there was not a single dark crevice into which this discovery did not throw encouraging light.

2. *Discovery of the Cause of Syphilis.*—The year 1905 marks the beginning of a new era in the history of syphilis; for a publication which then appeared put an end to the long and weary search for the cause of the disease. The idea of a living contagium in syphilis had long been held, and the tale of the search for it is one to make the judicious grieve. But a new light broke with the appearance of the paper of Schaudinn and Hoffmann.[26] It was an epoch-making report, but it was a model of calmness. Despite the importance of the observations, the facts were cautiously stated and a discussion of their significance postponed until the accumulation of further data. The authors had found, they said, a characteristic, nonrefractile, delicate organism, from 4 to 14 microns in length, pointed at both ends, with numerous clear, tight, cork-screw-like spiral curves. It was readily distinguishable from other bacterial and protozoan forms, and had been found in numerous primary and secondary syphilitic lesions. Moreover, Metchnikoff had been able to demonstrate its presence in the primary lesion of an experimentally inoculated ape.

7. Auzias-Turenne: La syphilisation, 1878, p. 422.
8. Legros and Lancereaux: In Dictionnaire Encyclopédique des Sciences Médicales, 1884, xiv, 498.
9. Klebs: Arch. f. exper. Path, 1879, x, 161.
10. Martineau and Hamonic: Bull. de l'Acad. de med., 1882, 1007; Soc. med. des hôp., 1883; Rev. Clin. d' androl. et de gynecol., 1903, p. 225.
11. Nicolle: Not published; quoted by Metchnikoff and Roux in their first communication.
12. Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1903, xvii, No. 12.
13. Lassar: Berl. klin. Wchnschr., 1903, No. 52, p. 1; 1904, p. 801.
14. Metchnikoff and Roux. Ann. de l'Inst. Pasteur, 1904, xviii, No. 1.
15. Neisser: Deutsch. med. Wchnschr., 1904, pp. 1369, 1431.
16. Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1904, xviii, 657
17. Klingmüller and Baermann: Deutsch. med. Wchnschr., 1904, p. 766.
18. Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1905, xix, 673.
19. There is some disagreement as to the proper name for this organism; *Treponema pallidum* is probably more correct, but *Spirochæta* is used here as being more familiar.
20. Bertarelli: Centralbl. f. Bakt., Orig. 1, 1906, xli, 320.
21. Haensell: Arch. f. Ophth., 1881-3, xxvii, 93.
22. Hoffmann and Brüning: Deutsch. med. Wchnschr., 1907, No. 14, p. 553.
23. Scherber: Wien. med. Wchnschr., 1906, p. 726.
24. Greef and Clausen: Deutsch. med. Wchnschr., 1906, p. 1454.
25. Finger and Landsteiner: Arch. f. Dermatol. u. Syph., 1906, lxxviii, 385; lxxxi, 146.
26. Schaudinn and Hoffmann: Arb. a. d. k. Gsndhtsamte, xxii, No. 2, p. 527; Deutsche. med. Wchnschr., 1905, No. 18, p. 711.

This paper immediately awakened a new interest in the subject throughout the world; and confirmatory evidence soon accumulated in enormous amounts.[27] Before long, what had at first been cautiously accepted as a probability bordering on certainty, became a certainty; the *Spirochæta pallida* of Schaudinn and Hoffmann withstood all efforts to disprove its etiologic relation to syphilis; and the long and weary search for the cause of the disease was at an end.

3. *Discovery of a Diagnostic Reaction Specific for Syphilis.*—Hardly less important than the discovery of the cause of syphilis, was the demonstration of a biologic reaction, the presence of which is absolute proof of the existence of the disease, even in the absence of signs or symptoms.[28] The very great value of such a reaction in cases of doubtful diagnosis, and particularly in latent syphilis, needs only to be mentioned to be appreciated. The reaction was discovered almost simultaneously by Wassermann, Neisser and Bruck,[29] and by Detre,[30] working independently, but with practically the same technic. The names of Bordet and Gengou[31] must, however, be borne in mind in this connection. These two pioneer observers (who also recognized the *Spirochæta pallida* before Schaudinn and just missed appreciating its significance) were the first to describe the general phenomenon of complement fixation (or deviation), of which the Wassermann reaction for syphilis is a modified example. *This highly theoretical investigation and the immensely practical application of it by Wassermann depended on animal experimentation at every step.*

The Wassermann reaction depends on the capacity which the serum of syphilitic patients has to fix complement in the presence of extracts of syphilitic tissue, or certain other alcoholic extracts. This fixation of complement is tested for by the use of a so-called hemolytic system, which consists of red blood-cells, and a serum capable, in the presence of complement, of hemolyzing them. It is impossible to define the reaction without the use of highly technical terms which would themselves require extensive definition. Here, one may simply state how the test is made. Extract of known syphilitic material and the blood-serum of the patient to be tested are mixed in a test-tube. Fresh guinea-pig serum is then added and the mixture incubated to allow complement-fixation to occur. The hemolytic system, which requires complement for the completion of the hemolysis, is next added. If the serum to be tested is not syphilitic, complement is not bound and hence is available for the use of the hemolytic system; hemolysis, therefore, proceeds, the red blood-corpuscles continue to be destroyed, the mixture becomes red in color and the test is negative. If, on the other hand, the serum is syphilitic, complement is bound, hemolysis inhibited, the red blood-cells not destroyed, the mixture not reddened, and the test is positive.

This test, while not absolutely constant, has turned out to be one of the most valuable of the biologic reactions. When the test is negative, syphilis is not excluded; but when positive, a diagnosis of syphilis is to be made with almost absolute certainty. It has already shown itself even more reliable than the Widal reaction; and no one familiar with typhoid fever is ignorant of the very great value of this diagnostic test.

4. *Discovery of a Specific Drug for Syphilis.*—It would be difficult to find in the history of medicine a more interesting and instructive story than the account of the work which led up to the discovery of salvarsan (606). When Ehrlich began his work years ago, syphilis was the last thing in his mind. He was interested at that time in the idea which possessed him that every living cell has a chemical affinity for some particular substance. This property of mutual attraction he called chemotropism; and in experimenting with dyestuffs he came upon a very pretty example of it in the selective affinity which methylene-blue exhibits for cells of the nervous system. If, then, such a specific affinity did exist, it seemed quite probable that it might also exist between certain drugs and certain parasites; and after some years of further experimentation Ehrlich was able to investigate this point. He believed that for each specific parasite, a specific curative drug could and would be found.[32] Because of the sleeping-sickness epidemic in Africa and because the disease is easily transferable to mice, Ehrlich began with a study of this affection. He succeeded, in connection with Weinberg, in producing a new dyestuff (trypan-red) which caused the organisms to disappear from experimentally inoculated mice in one injection. It was soon shown that parasites rapidly acquired a tolerance for such drugs and that, in order permanently to cure a parasitic disease, it was necessary to destroy every single parasite in the shortest possible time. Ehrlich's very difficult problem then became to produce a substance which was so specific for given parasites as completely to destroy them at one injection, but which was at the same time harmless to the infected animal itself. Starting, then, from atoxyl—an arsenic compound known to be efficacious in trypanosomiasis, but dangerous to the animal—Ehrlich proceeded to the solution of the problem. The task was one of colossal dimensions. Hundreds of substances had to be synthetized and then tested for toxicity on various species of animals. Of the large number of drugs made and tried, only about ten stood the test.

At about this stage in the work it was shown by Bertarelli and others, that syphilis could be transferred to rabbits; and Ehrlich turned his attention to the diseases caused by the spirilla and spironema: syphilis, relapsing fever and chicken spirillosis. In a short time a drug was produced—No. 606 in the series—which Hata found would definitely cure chicken spirillosis in a small, safe, dose, would completely sterilize a mouse infected with relapsing fever, and—in a dose one seventh of the *dosis tolerata*—was sufficient to cause the *Spirochæta pallida* to disappear from a syphilized rabbit.[33] Ehrlich repeated the experiments; the drug was again tested on dogs, *and on two of Professor Alt's assistants, who volunteered to demonstrate in this way the safety of the drug for*

27. It is impossible to indicate even the more important articles. The early literature on the *Spirochæta pallida* is collected in a Leipsic thesis by Julius Glass, December, 1905; and by Herxheimer, in Lubarsch and Ostertag's Ergebnisse der Alleg. Path., Jahrgang, xi, Abteil. 1. The article by F. P. Gay in Internat. Clin., 1907, iii, series 17, p. 199, is accompanied by a useful bibliography.

28. The reaction has been observed also in leprosy and in scarlet fever; but for practical purposes these exceptions do not impair its diagnostic value.

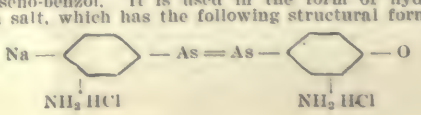
29. Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, xxxii, 745; Wassermann, Neisser, Bruck and Shucht: Ztschr. f. Hyg. u. Infektionskr., 1906, lv, 451; Wassermann: Wien. klin. Wchnschr., 1906, xxi, 745; Wassermann and Meier: Deutsch. med. Wchnschr., 1907, xxxiii, 1287.

30. Detre: Wien. klin. Wchnschr., 1906, xix, 619; Detre and Brezovski: Wien. klin. Wchnschr., 1908, xxi, 1700.

31. Bordet and Gengou: Ann. de l'Inst. Pasteur, 1901, xv, 289; Bordet: Bull. de l'Acad. royale de Belgique, 1906, xx, 454; Ztschr. f. Immunitäts-Forsch., 1909, Referate I, 1. Bordet and Gay: Ann. de l'Inst. Pasteur, 1906, xx, 467.

32. Marks, L. H.: Ehrlich's Biochemical Theory, Its Conception and Application, THE JOURNAL A. M. A., Dec 3, 1910, p. 1974.

33. The chemical name of this preparation is p.p.—dioxy—m.m.—diamido-arseno-benzol. It is used in the form of hydrochlorid of the sodium salt, which has the following structural formula:



human beings. It was then tried on patients. In order to make the test of the drug on human beings as convincing as possible, Ehrlich distributed 20,000 doses to clinicians of standing throughout the world, on the condition that certain rigid restrictions in administration be observed, and that the patients be kept in hospitals several days for observation. On the results thus obtained, Ehrlich will base his conclusions as to the value of the drug in the treatment of human syphilis. Those who have attempted to assemble, one at a time, 20,000 objects of any kind—say something as readily accessible as a canceled two-cent stamp—will appreciate something of the magnitude of this task, when they remember that the preparation of the dose of the drug, the necessary examination and subsequent observation of the patient, the preparation of the records, the critical examination of the results—are proceedings which represent hours of work for each individual case; and that this colossal task is merely the final stage in a research which has been going on for years. This point is worth calling to the attention of those who are accustomed to regard animal experimentation as child's play, undertaken at odd moments, by brutes who love to see animals squirm.

This account of the work of Ehrlich is the briefest possible sketch.[34] It conveys no idea whatever of the difficulty of the problems attacked, or of the genius displayed in overcoming them. It says nothing of several important contributions made to the theory of science, and to the practice of medicine, by the way. One of the earliest points brought out, for example, was a demonstration of the true chemical nature of atoxyl. Again, trypan-red—though used by Ehrlich against sleeping-sickness—was shown by Nuttall to be also effective in the widely distributed Texas fever of cattle. Salvarsan (606), sent by Ehrlich to Iversen in Russia, proved to be of very great value in the treatment of relapsing fever.

Of the exact value of the drug in syphilis it is too early to speak; the evidence is not yet all collected and has not been made public. Moreover, it is recognized as quite possible that a drug so powerful may have important deleterious effects; and until this point is cleared up by experience, any judgment as to its final place in medicine is ill-advised. It is, however, an open secret that astonishing results have been obtained. From the clinics of Wechselmann and many others, reports have already appeared which make it seem certain that—even if the final results fail to fulfil the early hopes—a contribution of the very first importance has been made to the therapeutics of syphilis.

But Ehrlich's work has been more than a contribution of this sort. He has founded a new science of chemotherapy, and has given a new vitality to pharmacology—hitherto interested largely in the toxic effects of drugs on normal animals. He prophesies a new era to be brought about by the interest of chemists like Baumann and Emil Fischer, and clinicians like von Mehring in practical therapeutics. "On the basis of years of experience in the laboratory," he writes, "I indeed believe I am justified in expressing the hope that, by carefully following the path [of chemotherapy] which I have sketched, a sure advance will be made."[35] These are the cautious and serious words of a serious man, whose talent and achievement place him in the very first rank. It is the opinions of such men which should be decisive in these matters.

34. Marks, L. H.: Paul Ehrlich; the Man and His Work, McClure's Magazine, December, 1910; Schweitzer: Ehrlich's Chemotherapy—a New Science, Science, Dec. 9, 1910.
35. Ehrlich: Ber. d. deutsch. chem. Gesellsch., xlii, No. 1.

This, then, is what animal experimentation has done for syphilis. In a period of about seven years the cause of the disease has been established, a specific reaction for its detection has been discovered, its successful transmission to animals has been accomplished, and a drug of apparently first-rate importance has been advanced for its treatment. Those who make practical achievement the final test of the value of experimental work, could hardly ask for more convincing evidence than these splendid results provide.

VIII. PRACTICAL VALUE OF RECENTLY ACQUIRED KNOWLEDGE OF SYPHILIS

To appreciate, however, the real significance of these advances it is necessary to do something more than merely state them. No one could possibly deny their importance, regarded simply as achievements. But it is conceivable that this might not be regarded as sufficient justification for them. "Do they," it might be asked, "represent merely the triumph of scientific curiosity over great natural obstacles; or have they really made medicine more efficient, by enabling it to deal better with this disease?"

It must, in reply, be at once stated, and stated with great emphasis, that there is not a single weak point in the medical attack on syphilis which recent animal experimentation has not strengthened; that complete knowledge has in many places replaced complete ignorance; that diagnosis has been made easy where it was previously difficult, and possible where it was previously out of the question; that the efficiency of treatment has been tremendously increased; and that the way has been indicated for the solution of many, if not all, of the difficulties which still remain.

In order to justify these extreme claims let me take up, in an itemized way, the deficiencies in our previous knowledge, which have already been indicated, and apply to them the facts which animal experimentation has supplied.

1. *Possibility of Early Diagnosis.*—An early diagnosis of syphilis is now possible. On the appearance of the initial lesion, we are able—by finding the recently discovered *Spirochæta pallida*—to make a positive diagnosis of the disease. The confusion with non-syphilitic genital lesions has become a thing of the past and it is no longer necessary to waste valuable time awaiting the appearance of secondary symptoms before treatment is begun.

2. *Increased Possibility of Positive Diagnosis.*—A positive diagnosis is now possible in many cases which previously went unrecognized. The Wassermann reaction and the demonstration of the *Spirochæta pallida* are of great importance in making the sometimes difficult differential diagnosis between syphilis and the host of affections which may simulate it—a diagnosis which, without these aids, was often simply not made.

3. *Recognition of Latent Syphilis.*—It is now possible, in a large majority of cases, to recognize "latent" syphilis. Heretofore, unless symptoms recognized as definitely syphilitic were present, we had no means of detecting the disease. Now, it is possible to say not only that a man has syphilis, but (in a fairly large proportion of cases) that he has had it. This is an advance of the very greatest importance. It enables us to recognize the syphilitic nature of many affections which might otherwise be badly treated. And it promises to be of value in the solution of the vexed problem of prostitution; for we are now able to tell, with a good deal of exactness, which prostitutes are infectious, and efficient hygienic control becomes a possibility. Indeed, the means for

the detection of the disease in the absence of symptoms, the means for its positive diagnosis, and the means for its cure, having been provided, it is now possible for the community—if it choose to make intelligent use of the knowledge—to rid prostitution of syphilis. And this means, in time, the abolition of the disease from the face of the earth. If this sounds like a utopian dream, one has but to recall small-pox, which once raged everywhere, but which medicine—with slender means at her disposal—finally overcame. Sufficient knowledge is now at hand to enable us to recognize and control the main foci of infection; proper use of this knowledge will eradicate syphilis, even though prostitution itself continue, as it quite well may, to flourish.

4. *Possibility of Ascertaining a Definite Cure.*—The time when a syphilitic patient may be regarded as cured, and not only free from the disease himself, but incapable of transmitting it to others, may now be known with practical exactness. The importance of this fact in relation to the question of marriage is evident. To the syphilitic patient anxious to marry, but equally anxious not to confer on his future wife and children the dangers of the disease, medicine has heretofore been able to give only halting advice. After three or four years of treatment she has allowed him to marry, but always with some misgivings. Now, she will certainly forbid his marriage if his Wassermann reaction is positive, no matter how long he has undergone treatment, or how complete is his freedom from symptoms; and she will allow the marriage confidently, if the reaction becomes negative and remains so without treatment. Moreover, if the state ever finds itself prepared to exercise an enlightened control over the physically unfit to prevent them from passing their burdens on to posterity, medicine stands ready to indicate to the state just what, so far as syphilis is concerned, constitutes unfitness.

5. *Proof of Infectiousness of the Tertiary Lesion.*—Not least of the contributions of experimentation has been the proof of the infectious nature of the tertiary lesions. This fact has only to be stated for its importance to be understood.

6. *Increased Activity with Regard to Syphilis.*—Finally, now that the cause of syphilis is known and methods for its study in animals are at hand, the lethargy of preexperimental days, in regard to syphilis, disappears, and is replaced by enthusiastic and hopeful activity. For it must be remembered that the study of syphilis by the use of animals is yet in its infancy; that only the bare beginnings have been made. The recently acquired knowledge of the disease is still in a fluid state; and it is difficult to estimate exactly what the ultimate value of the observations made, will be—as difficult as to prophesy the exact future position of every boat in a fishing fleet, making for harbor with favoring wind and current. Yet, the wind that blows is the wind of progress; the current is the current of hope; and the haven ahead is the harbor of health. Behind, lies the troubled sea of chaos and despair. Anyone who thinks this a mere figure of speech is invited to consider the incalculable value of the achievements of recent experimentations for the host of innocent women, menaced by this disease, and the great army of unborn children, threatened with a syphilitic heritage; and to recall that the loss of animal life involved in the work shrinks to insignificance beside that represented in any meat market you choose to pass, while the amount of animal suffering entailed might easily be duplicated in every one of a thousand fisheries, to whose activities the "humane" societies give never a thought.

IX. SYPHILIS AND ANTIVIVISECTION

The importance of a consideration of syphilis in arriving at any conclusion as to the justification of animal experimentation has, I think, been made sufficiently clear. But a word should be said about the light thrown on one or two of the stock objections to animal experimentation by a consideration of the experimental investigation of syphilis.

It is often asserted that research should be so controlled and limited that only those lines of work could be followed which give reasonable promise of practical result; and that the repetition of experiments solely for the purpose of confirming the work of others, should be made impossible. This sounds like a reasonable suggestion. Yet see how fatal such a policy would have been to the development of the knowledge of syphilis.

The whole remarkable success of Schaudinn came during a research undertaken to confirm the observations of another. Siegel[36] had reported the constant finding of an organism (*Cytorrhyctes luis*) in syphilitic lesions; and the Imperial Board of Health of Berlin appointed Schaudinn—a highly trained protozoölogist—to repeat the work and see if the observations could be substantiated. Siegel's findings were not confirmed, but during the investigation, the real cause of syphilis was unearthed.

Again, who could possibly have prophesied that Ehrlich's early interest in the chemistry of the dyestuffs would lead to contributions to the therapeutics of syphilis? If it was to have any valuable results, one would have expected them in the industrial arts. Yet, starting with chemistry, he then turns his attention to protozoan disease, founds the new science of chemotherapy, hears of the work of Schaudinn and Bertarelli, becomes interested in syphilis and ends by making an important contribution to its therapeutics. One is reminded of the career of Pasteur, who began in physics, with the study of crystallography, was led into an investigation of the wine and silk industries, founded the science of bacteriology and made a contribution to therapeutics of the first importance.

Indeed the work of the various students of syphilis has been so intertwined, and the results of one of so much value to the others, that in an account of any one research most of the prominent names appear and reappear. Schaudinn, Ehrlich, Metchnikoff and Roux, Siegel, Bertarelli—it was the constant familiarity of each of these with the work of the others, and the constant attempts to confirm and advance the results already obtained, that led to the marvelous progress made. Even so remote an event as the discovery of the coal-tars, years before, by Perkins, contributed to the result; for it made not only bacteriology, but also chemotherapy possible.

It is this interdependence of research and the property of discoveries to have the most remote and unexpected value that makes restriction to experimentation, based on the probable importance of its results, unwise. Those who have become familiar with the subject by actual work in the laboratories, feel that to add to the already great difficulties of experimentation, by surrounding it with petty restrictions, would be to reward medicine for her fine achievements by crippling her, to equip her for future tasks by veiling her eyes. For it must be remembered that it is after all to medicine, and not to the "humane" societies, that the public looks for relief from disease; and when your "humane" legislation has forced your scientist into exile if he is to con-

36. Siegel: München. med. Wchnschr., 1905, p. 1321.

tinue his work of enlightenment (this is how Great Britain "encouraged" Lister!), who is to accept the high responsibility for increasing efficiency in the treatment of disease demanded by the suffering patients who will continue to crowd the hospitals? Will the "humane" societies, after making it a misdemeanor for a scientist to operate on an etherized dog without running to them for a permit, undertake to furnish us, in some other way than by experimentation, with the sorely needed facts about cancer and other unconquered plagues? Or should this work be entirely entrusted to those who have proved their fitness by their achievements in the study of syphilis?

It is high time that some protest was made against the cowardly charge that animal experimentation brutalizes men; and time, too, that those who launch it ceased to attain thereby a reputation for high moral sense in the community. The facts in the case are readily accessible; and if the charge is made in good faith, it ought to be backed by a notorious evidence of brutality in the profession which authorizes, and is in sympathy with, this "brutalizing" work. But whatever else physicians, as a class, are, brutal they most decidedly are not. Medicine can point to a group of heroes, not to be surpassed in any profession, who have testified to the sincerity of their scientific zeal by offering their own bodies as material for experiment; and until the opponents of animal investigation can match this, charges of brutality come from them with very bad grace indeed. Moreover, it is a simple fact that the physicians of any community—devoting their lives to the relief of distress—maintain a reputation for interest in others to which the term "brutal" is simply not applicable; and that in communities where experimentation is going on it is to those interested in animal investigation that the profession looks for leadership in its far-sighted campaign for the health and happiness of this and future generations. The reputation of these leaders, so far as brutality is concerned, is above reproach. The high standard of Pasteur, most kind-hearted of men, most active of experimentalists—has been maintained by his successors; and those who, in their righteous indignation, echo the outcry against experimentation on the ground of its brutalizing effect, might better serve the cause of righteousness by an inquiry, among the scientists in their own community, into the truth of this serious accusation.

If, however, this charge—so far from being made in good faith and on the basis of actual instances of brutalization of character by experiment—represents, for all its odor of piety, merely an academic makeshift for the purposes of debate, then one can but marvel at the moral standard of those who, in their concern over animals, permit themselves to make against a profession, busy with intelligent philanthropy, a charge so grave and so unjust.

CONVENIENT TABLE IN THE USE OF TUBERCULINS

GEORGE H. KRESS, M.D.
LOS ANGELES

The revival and wide use of tuberculin in the last few years has led a comparatively large number of makers of biologic products to place the different kinds of tuberculin in most common use on the market. As made by several of these firms, preparations like T. R. and B. E., presumably of the same strength, really contain a different amount of the tubercle solids in the concentrated solutions.

SYSTEM OF NUMBERING DILUTIONS OF TUBERCULIN*

No. of Dilutions	Strength Per Cent.	Compartment A		Compartment C		Compartment D		Compartment E		Compartment F	
		Fld. mg. in 1 c.c. conc. sol.	Fld. mg. in 0.1 c.c. conc. sol.	Solid mg. in 1 c.c. if 10 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c if 10 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 5 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 5 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 2 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 2 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 1 mg. in 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 1 mg. to 1 c.c. conc. sol.
I (orig.)	100.	1000.	100.	10.	1.	5.	.5	2.	.2	1.	.1
II	10.	100.	10.	1.	.1	.5	.05	.2	.02	.1	.01
III	1.	10.	1.	.1	.01	.05	.005	.02	.002	.01	.001
IV	.1	1.	.1	.01	.001	.005	.0005	.002	.0002	.001	.0001
V	.01	.1	.01	.001	.0001	.0005	.00005	.0002	.00002	.0001	.00001
VI	.001	.01	.001	.0001	.00001	.00005	.000005	.00002	.000002	.00001	.000001
VII	.0001	.001	.0001	.00001	.000001	.000005	.0000005	.000002	.0000002	.000001	.0000001

* Old Tuberculin contains 1,000 mg. of Old Tuberculin to 1 c.c. Conc. O. T. (Compartment A, 1,000 mg.).

Von Ruck's T. R. contains 10 mg. of tubercle bacilli to 1 c.c. Conc. T. R. (Compartment C, 10 mg.).

Cutter's B. E. contains 5 mg. of dried tubercle bacilli to 1 c.c. Conc. B. E. (Compartment D, 5 mg.).

Cutter's and Mulford's T. R. contain 2 mg. of solid substance to 1 c.c. Conc. T. R. (Compartment E, 2 mg.).

Parke, Davis & Co.'s T. R. and B. E. each contain 1 mg. of tubercle bacilli to 1 c.c. of Conc. T. R. or B. E. (Compartment F, 1 mg.).

Von Ruck's Watery Extract contains 1 mg. of dry solids to 1 c.c. Conc. W. E. (Compartment F, 1 mg.).

In reading reports concerning patients under treatment, therefore, the dosage mentioned may be actually quite different from that which the reader has in mind from the figures given. As a rule, these firms also use different systems of nomenclature in numbering their dilutions. As a consequence physicians in the West not infrequently have patients referred to them with letters concerning the dosage of tuberculin previously used, the exact meaning of which dosage it is not always easy to understand.

The table above, which I use in dispensary and hospital work, may be worth printing because, if desired, they allow notations of the dose to be made in small space on the history cards and allow one at any time to estimate at a glance the exact amount of tubercle solids in milligrams which is contained in the dose of any dilution injected.

Starting with the original or concentrated solution, which in this system of numbering always receives the Roman digit I, the dilutions, made as is the custom, according to the metric system, are carried to as great a degree as is desired, each dilution being ten times

stronger than the dilution below it, so that 10/10 of a c.c. of any dilution is equal to 1/10 c.c. of the dilution just above.

When these tables are used, the bottles containing the dilutions are labeled with the Roman numerals I, II, III, IV, etc., and in making notations of dosage on the history cards, this number is used as the denominator. The numerator is an Arabic numeral 1, 2, 3, 4, 5, 6, 7, etc., to represent 1/10, 2/10, 3/10, 4/10, etc., of a c.c. of that particular dilution.

Thus, 3/IV O. T. would mean 3/10 c.c. of dilution IV of old tuberculin, which, as may be readily seen by reference to Compartment A of the table below, implies a content of 3/10 milligrams of old tuberculin. Likewise 3/IV T. R., if made by Parke, Davis and Company (see Compartment F), would mean 3/10,000 mg.; while 3/IV T. R. of Cutter's make (see Compartment E) would mean 3/5,000 mg.; and of Von Ruck's T. R. (see Compartment C) would mean 3/1,000 mg. The name of the maker of the tuberculin is, of course, always mentioned on the history card.

The use of some such system of numbering as this can effect, therefore, a considerable saving of time when tuberculins are used with any frequency, and may also be of convenience to those who have need from time to time to calculate the exact dosage of some tuberculin only occasionally used, or in the more accurate interpretation of dosage figures given by colleagues elsewhere.

240 Bradbury Building.

THE FORMATION AND FUNCTIONS OF HYGIENE COMMITTEES FOR UNIVERSITIES

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The position of a university or any other large educational institution in regard to its students is a peculiar one, involving grave responsibilities of many kinds. Boys and girls are brought from their homes from greater or lesser distances, and perhaps for the first time in their lives are freed from the restraining influences of home life. These students collect in various dormitories or lodging houses and mix together on the campus, in class rooms, and in various assemblages incident to university life. The responsibility of the institution is, therefore, an exceedingly grave one. It takes the place of the parent or guardian to this mass of students. The danger of epidemic diseases, which is always present when numbers of people are brought together, is constantly present. That institution which looks only to the education of the mind through the completion of a fixed course of study falls very far short of its true functions. Those of us who are interested in the teaching of hygienic life see in every educational institution a golden opportunity to spread the doctrine of good living. Education, after all, is designed to fit one for a useful career in life and such a career demands first and foremost a vigorous and healthy body.

Most of our institutions, like Topsy, have "just growed." The old buildings which are objects of reverence and affection to many were built at a time when our youth perhaps possessed more vigorous constitutions than those which the present-day fast living has brought about, and when the principles of lighting and ventilation were not as well understood as now. Partly through reverence and partly through the necessities of the case, almost all institutions are still utilizing many of these old buildings, and large classes are held in rooms absolutely unfit to furnish suitable accommodations.

HISTORY OF THE HYGIENIC MOVEMENT AT THE UNIVERSITY OF WISCONSIN

A history of the movement for better things in health matters at the University of Wisconsin will serve to elucidate many of the considerations which we wish to bring before you. Although the university is still comparatively in its youth, having recently celebrated its fiftieth anniversary, many of the buildings are antiquated as regards hygiene. A few years ago, several of the professors, recognizing that there was no one connected with the university whose special duty it was to look after the sanitation of the buildings and the health of the students, asked the president to appoint a committee on university hygiene. The first committee was composed of representatives from the departments of bacteriology and hygiene, physiology, physical training and home economics. The work was developed along several lines.

Ventilation.—First, an attempt was made to secure better conditions in the class-rooms and offices. Where artificial means of ventilation were not provided the windows were fitted with window-boards which permitted the raising of the lower sash without producing direct draughts on the occupants of the rooms. In most of the buildings a combined system of ventilation and heating had been installed. Direct radiation from the steam radiators was supplemented by passing air over steam coils by means of fans and blowing this into the rooms through galvanized iron channels. This apparatus was used for the most part only in extremely cold weather. When the weather was not cold enough to require the use of both systems no artificial ventilation was given at all. The committee insisted that the fans should be used for ventilation and not merely to supplement the heating of the rooms. This improved matters considerably, but still many complaints came in to the committee from professors and students alike that the rooms were stuffy and close, causing headache and sleepiness.

Humidity.—A study of the humidity of the air in a number of these rooms was next undertaken, and it was found that the moisture was frequently as low as 20 per cent. and some times as low as 14. The moistening of the air was brought about by the introduction of steam jets into the ventilating flues at or near the fan, so that the moisture would be thoroughly mixed with the air passing into the rooms. Examination of these rooms after this showed that the air was fairly well moistened and the comfort of the occupants of the room was greatly increased. Several of the professors who had used these rooms for ten or more years stated that never in their experience had they lectured with so little fatigue and discomfort. The committee has several times asked for funds to make more complete studies of the air of class rooms, but it has not been able to procure them up to the present time.

It is not believed that conditions at Wisconsin were worse than those at many other institutions, and yet the actual state of affairs was represented by the following incident. The matron of the woman's dormitory went

into the room of one of the girls and, noticing the bad air, called the girl's attention to it, and received this reply: "What, is the air bad here? Since coming to the university I have become so used to bad air that I do not notice it any more."

Water.—The university had a pure water-supply, but everywhere the common drinking-cup was in evidence, some installed in the early days of the university, but some quite recently. The committee succeeded in having all of these drinking-cups abolished and in their place sanitary drinking fountains (Fig. 1) have been installed. These fountains were devised at the university and made by the mechanics connected with the institution. The cost was estimated at $5 each.

Sweeping.—A third matter to be considered was the cleansing of the buildings. Dry sweeping and dusting were the usual customs. In several of the buildings the committee succeeded in having vacuum cleaners introduced. In two buildings permanent systems have been introduced, and in two, portable machines are being tried out. In selecting a type of vacuum-cleaner, the committee found that while there was evidently a good deal of difference in the relative cleansing power of the machines, there was no described method of testing them. Some members of the committee have undertaken a study of this problem, the results of which are about ready for publication. In anticipation, however, it may be said that, while the permanent systems vary in their ability to clean, they are all satisfactory from a hygienic standpoint; that the portable cleaners are all, so far as tested, less efficient in their cleaning power, and that they all have an insanitary feature of very considerable importance, namely, the discharge of a large number of bacteria into the air again. Such machines, instead of reducing the danger from air-borne germs, may actually increase it.



Fig. 1.—Sanitary bubble drinking fountain.

Toilets.—The toilet rooms of the university have been objects of especial care. Where possible, ventilators have been put into these, but unfortunately change in such facilities often involves a heavy expense and in most instances it has been impossible so far to make any radical changes. The supervision exercised has, however, improved matters considerably. The roller towel has been banished from the university almost entirely and in its place individual towels are provided. A special towel-holder and soiled towel box in one, so arranged that the top towel of the pile may be used and then passed over a curved rod into the compartment for soiled towels (Figs. 2 and 3) has been installed throughout the university. It is the device of three members of the committee and has served an excellent purpose. There is some increase in the expense of laundry, but we feel that this is money well spent. As an example of some of the difficulties which such a committee has to contend with at times we may relate that in one department of the university the dean objected to the increased laundry expense, slight though it was, and, without consulting the committee or any one else, had these small hand-towels sewed together into roller towels.



Fig. 2.—Individual towel distributor.

Gymnasium.—At the University of Wisconsin physical training is compulsory during the first two years of student life. Consequently the university gymnasium is likely to become an important focus for the distribution of disease; but if properly managed it may serve as a valuable center of educational influence along sanitary lines. The committee went vigorously to work at this building. Spitting was common, some of the instructors even believing that it was necessary to spit during exercise. Members of the committee attended all indoor games and kept watch on the careless spitting of the players. In two years' time this habit has been entirely stopped and it is a very rare occurrence to see anyone spit about the gymnasium, or to find the marks of expectoration on the floors. Under the influence of the committee the gymnasium has been cleaned from top to

bottom, new mats have been provided, varnish and whitewash applied, and very important changes made in the toilet-rooms. Formerly any slight wound in the gymnasium meant suppuration and slow healing. This condition of things has greatly improved. Every student was formerly familiar with what is generally known as "gym itch" and "gym sores." While these still exist to a certain extent, conditions have improved. The committee has made a number of analyses of the water in the swimming-pools, both chemical and bacteriologic, and the hygienic laboratory is now preparing to publish the result of these examinations.

Lodging-House Inspection.—Wisconsin has no dormitory system (with the exception of one building for girls, which does not lodge more than one-tenth of the total number). The students are therefore domiciled at private rooming and boarding houses in various parts of the city. The Greek-letter fraternities and sororities flourish, and there are upward of thirty lodges in the town. The university regents, on the request of the committee, have for two years past granted money for the inspection of student boarding and rooming houses. A trained nurse is employed, one hundred and seventy houses have been inspected and a record made of them. A few houses have refused to allow inspection, but as a rule the landlords and landladies have cooperated with the committee in trying to improve the standard. It is proposed to make from one to two inspections yearly and to provide students with lists of the accredited houses; that is, those houses which have such qualifications in regard to lighting, ventilation, heating, bathing and toilet facilities as render them desirable habitations.

Medical Adviser.—The university had never made provision for a medical adviser for the students. When a student was sick he went to one of the physicians in the city, or not, as he saw fit. There was no system even of keeping a record of illnesses. Cases of small-pox have appeared in the class-rooms and in 1908 a severe outbreak of typhoid fever (forty-one cases in one boarding-house) occurred which would probably have been prevented had proper medical supervision, free of charge, been provided. Excuses were granted for non-attendance at classes, etc., by physicians who had no concern with the university. The committee spent a great deal of time in trying to evolve some plan for the correction of this evil and finally recommended to the president the appointment of a medical adviser. This proposition was considered favorably by the board of regents and the matter was then put into the hands of the executive committee of the medical school. Several of its members were also members of the hygienic committee. In February, 1910, an office was opened and it was not long in proving very popular with the students. In less than one year the staff has been enlarged from one physician to three, with three assistants, two of whom are trained nurses. We believe that much epidemic sickness of a minor character has been avoided by consultation with the university physician, who insists on isolation in such cases. More than 3,000 students have consulted the medical adviser during the year 1910.

Emergency Kits.—Accidents of greater or less severity not infrequently happen in the laboratories of the university, especially in chemistry and engineering. Emergency kits, designed by the committee, have been placed throughout the university. They contain absorbent cotton, assorted bandages, a tourniquet, adhesive plaster, safety pins, carron oil, boracic acid ointment and aromatic spirits of ammonia. Each article is plainly labeled. Those on the drugs give the indications for use and the dosage. Charts giving directions for first aid to the injured have also been distributed. Those obtainable have not been satisfactory and the committee is now taking steps to obtain better ones which will be distributed.

Education.—Apart from the practical work which has been outlined, the committee has been strongly impressed with the necessity of educating students along hygienic lines. It has tried in every way to give and to foster instruction in the principles of hygiene. The department of bacteriology and hygiene has for some time wished to make a primary course in hygiene compulsory on all students entering the university. The committee has aided the department as far as possible in this work. Up to the present time it has seemed impossible to require work from each student in the university, but both the department and the committee are impressed with the necessity of this and are working toward such an end. In the meantime an elective course has been offered. This is primary in character and no preliminary studies are required. It consists of eighteen lectures with assigned reading and an examination, for which one hour of credit is given. This course is repeated in each semester of the scholastic year. The lectures are given almost entirely by men connected with the university, especially those in the departments of physiology, physical training, bacteriology and hygiene and chemistry. At the request of the committee the regents have for several years granted a fund of $300 for lectures. The object of these lectures is to bring to the university men prominent in sanitary work, hoping thereby to interest the professors as well as the students in the study of hygiene, and to convince them of its importance and its practical value.

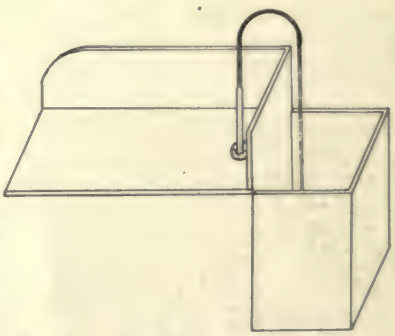


Fig. 3.—Drawing of towel distributor.

MEANS AND METHODS OF HYGIENIC IMPROVEMENT

Institutions of high learning should have their buildings perfectly equipped from a sanitary standpoint. Many institutions, in which technical departments exist, have model machine shops, creameries, cow-stables, libraries, etc. They are leaders in these various lines. Schools, colleges and universities ought to lead in sanitary construction, sanitary equipment, and sanitary care. Class-rooms and laboratories ought to be models of sanitary excellence as well as of convenience and attractiveness. The educational value of such buildings far outweighs any additional expense involved.

Exhibits.—In connection with the educational work which can be done along the line of hygiene, mention ought to be made of the value of exhibits, museums, etc. Collections of models and plans are excellent means of public education. Permanent museums of hygiene are desirable, not only as an aid to class work, but for the instruction of the general public, and it would seem desirable that various sanitary appliances might be exhibited where the public could study them. Such

museums should contain also exhibits which would illustrate the important advances made along the line of public health, and the results which have been accomplished. They should contain models showing the various aspects of water-supply and purification, the disposal of sewage, the details of milk-production and distribution, working models illustrating methods of ventilation, types of bubble fountains, etc., etc.

Janitors.—In Wisconsin, as elsewhere, we are largely dependent on the corps of janitors for the proper care of the buildings and the observance of regulations concerning their care. The superintendent of buildings, who has charge of the force of janitors, has agreed to call them together for instruction, and the committee has outlined a course of lectures for them in which such subjects as lighting, heating, ventilation, cleaning, etc., will be discussed in a simple and practical manner.

Organization and Personnel of a Hygiene Committee.—Our experience has taught us that in order that hygiene committees may do efficient work certain features in regard to organization and the powers given to them are necessary. We have not been able to solve certain questions as yet, but the following points seem clear:

The hygiene committee should be composed of men who are experts in various matters with which the committee has to deal, and it would seem desirable to have a representative from such departments as chemistry, bacteriology, engineering (as heating or ventilation expert), physical culture, and home economics. The chairman of the committee should be the health officer of the institution and would ordinarily be a physician, although what is really needed is a person with special training in health matters.

Of more importance perhaps than the personnel of the committee are its functions and powers. If it is an ordinary faculty committee, it has only the power to make recommendations and to enforce such regulations as may be adopted by the faculty. The committee ought to possess this power, but in addition should have authority derived directly from the governing body—the regents or trustees—since its greatest service to the institution would often come through the duties which it might perform for this body, and its value depends very largely on the powers delegated to it by such a governing body.

This committee should have power to pass on the location, construction, and arrangement of new buildings so far as these items have sanitary significance. It should have the power to dictate the selection of such parts of the equipment as have hygienic significance and to decide on the way in which the buildings must be kept. This would include the method of running the ventilating apparatus, the regulation of heat and moisture in the rooms, the way in which the rooms are to be cleaned, the type of vacuum-cleaner, the kind of water, the type of drinking-fountain, and similar matters. In matters pertaining to the health of the students, this committee, through its chairman, ought to have practically the same powers as conferred on boards or commissioners of health, which would include authority when infectious diseases exist to enforce quarantine, and to disinfect the buildings of the institution, or the rooms of students, when these are not properly cared for by the local health authorities.

In institutions in which dining-rooms, lunch-counters, etc., are conducted in university buildings and under the university authorities the hygienic committee should have supervision of the food-supplies so far as expert advice is needed, and should from time to time see that the preparation of food is well carried out. Where this service does not exist or where it is utilized by only a portion of the students, the committee should be active in the inspection of boarding-houses, and in the examination of public food supplies, such as milk, ice, etc. The work devolving on the committee in this regard will, of course, vary with the enforcement of the laws in individual cities in which the institution may be located.

The cost of analyses of water, milk, food, etc., will vary with the size and equipment of the institution. Generally speaking, however, the cost will be small, as most institutions are provided with such facilities. Whatever the cost, it is money well spent. Preventive medicine is the cheapest life-insurance which can be taken out.

PERIPHERAL NEURAL ATROPHY OF THE THENAR MUSCLES

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In a recent communication[1] Dr. J. Ramsay Hunt described a clinical type of occupation neuritis affecting the deep palmar branch of the ulnar nerve, characterized by a purely motor syndrome, namely, atrophy of the hypothenar and other small muscles of the hand supplied by this nerve. In the present paper I wish to describe and to illustrate a similar motor syndrome, characterized by atrophy of those thenar muscles (abductor, opponens and part of the flexor brevis pollicis) supplied by the median nerve, due, most probably, to compression of this nerve in some part of its course.[2] The by no means remote resemblance of these thenar and hypothenar types of atrophy to progressive spinal muscular atrophy, and, in some degree, to toxic degeneration of the lower motor neurons, renders their recognition a matter of some importance. Obviously prognosis and treatment will vary according to the type of pathologic condition with which we are dealing. In the neural and toxic types the outlook is fair or good; in the progressive spinal type it is, of course, unfavorable.

ANATOMY OF THE MEDIAN NERVE

Between the median and the ulnar nerves in the palm of the hand there is an interesting similarity of arrangement. While still in the forearm, both of them give off palmar cutaneous branches; and having entered the palm of the hand, both are placed in such mechanical relations as very easily to permit of their being subjected to undue pressure, with consequent interference with function. The deep branch of the ulnar dips between the tendons of the abductor and flexor brevis minimi digiti and is here subject to compression, while the branch of the median to the thenar muscles passes over the margin of the annular ligament of the wrist where it, too, may suffer injury in a mechanical way. The palmar cutaneous branch leaves the median at a variable distance above the wrist. It becomes superficial near the upper margin of the anterior annular liga-

1. Hunt, J. R.: Occupation Neuritis of the Deep Palmar Branch of the Ulnar Nerve, Jour. Nerv. and Ment. Dis., November, 1909.

2. After this paper was completed in manuscript Dr. Hunt published (Am. Jour. Med. Sc., February, 1911) another valuable paper, The Thenar and Hypothenar Types of Neural Atrophy of the Hand, in which he covers precisely the same ground as that traversed in the present paper. It would seem, however, that the condition is of sufficient importance to warrant this supplementary description.

ment by piercing the deep fascia between the flexor carpi radialis and the palmaris longus. It supplies the skin of the palm. The thenar branch of the median is a short nerve which arises below the anterior annular ligament and curves outward toward the base of the thumb. It breaks up into filaments which supply the abductor pollicis, the opponens pollicis and the superficial head of the flexor brevis pollicis. These terminal filaments lie between the abductor pollicis and the superficial head of the flexor brevis pollicis above and the opponens pollicis and the deep head of the flexor brevis pollicis below. Compression in the main trunk of this nerve, if it occurs, must occur as the nerve passes to the inner side of the flexor brevis pollicis and over the margin of the anterior annular ligament; and such compression will give rise to the syndrome about to be described.

THE SYNDROME OF NEURAL THENAR ATROPHY

The symptoms of peripheral neural atrophy of the thenar muscles are precise and may be easily recognized. They are atrophy and paralysis (or weakness) of those muscles supplied by the thenar branch of the median. In the two cases here recorded no sensory changes whatever could be discovered on careful examination, nor did



Marked flattening of outer side of thenar eminence, Case 1.

the patients complain of any changes referable to the lesion. The muscles affected were, in both instances, the abductor pollicis, the opponens pollicis and the superficial head of the flexor brevis pollicis. In these muscles there was marked wasting, as the illustration indicates. The muscles involved failed to respond to electrical stimulation through the median at the elbow; when the current was applied to the muscles directly there was no response to faradism and a very feeble reaction of degeneration to galvanism. Voluntary movements in the wasted muscles were abolished, and nearly a year later showed little, if any, return. I never observed fibrillary twitchings in the affected muscles, nor were they sensitive on pressure. All the other intrinsic muscles of the hand were normal in respect of voluntary movements, nutrition and electrical response.

CASE 1.—Miss A. B., aged 22, single, a stenographer by occupation, some two months before coming under observation, began to experience some difficulty in retaining hold of and manipulating her pen. At about the same time she began to experience some limitation of facility in her use of the typewriter. Soon she noticed that the ball of the thumb was beginning to waste and this it was which caused her to seek medical advice. The wasting, after she noticed it, went on very rapidly. When first examined the thumb presented the appearance shown in the illustration. There were no sensory alterations and no subjective discomfort in the thumb. The abductor pollicis, opponens pollicis and superficial head of the flexor brevis pollicis were so wasted as to be scarcely distinguishable as muscles. They did not respond to indirect electrical stimulation nor to faradism applied directly. To galvanism there was a feeble reaction of degeneration in the small amount of muscular tissue remaining. The voluntary movements subserved by these muscles were in abeyance. After almost a year of massage and electricity (galvanic and sinusoidal) there seemed to be no appreciable improvement.

CASE 2.—Mr. X., aged 32, married, an elevator operator, while operating an elevator controlled by a forward and backward lever, observed that the muscles of the thumb of his right hand were smaller than those on his left hand. To this, however, he paid no special attention, for two reasons—he suffered no pain or other discomfort, and he experienced no difficulty in his work. He states distinctly that many times while closing the doors of the elevator shaft in the New York sky-scraper where he was employed, he was accustomed simultaneously to push the side of the handle of the lever with the ball of his thumb. It may be imagined that he did this many thousand times in the course of a week. Having changed his occupation to that of a butcher he noticed the first time he tried to handle a knife that he had much difficulty in doing so. Hence his seeking medical attention. The muscles involved in the wasting, their abnormal electrical reactions and the limitations of voluntary movement were precisely similar to those observed in Case 1. The same treatment was carried out as in Case 1, with somewhat better, though by no means brilliant, results. After eight months of faithful treatment there is some slight access of voluntary power with an appreciable, though small, increase in muscular growth.

The distinguishing marks of peripheral neural atrophy of the thenar muscles are: (1) precise limitation of atrophy and motor defect to the opponens pollicis, abductor pollicis and superficial head of the flexor brevis pollicis; (2) reactions of degeneration confined to these muscles; (3) absence of subjective sensory changes; (4) absence of objective sensory defect; (5) absence of fibrillary twitching; (6) rather rapid onset of atrophy and weakness.

222 Broadway.

A CASE OF ORIENTAL SORE (DERMAL LEISHMANIOSIS) IN A NATIVE COLOMBIAN

S. T. DARLING, M.D., AND R. C. CONNOR, M. D.
ANCON, CANAL ZONE

Oriental sore (dermal leishmaniosis), a disorder endemic in the Levant and the East, has been detected in a few localities in the New World: São Paulo and Bahia, Brazil, French Guiana and Panama. When the latitude and climate of the Oriental countries where the sore is endemic are considered, together with the fact that the autochthonous disorder is present in the New World, so far having been detected between 23.5 S. and 8 N. latitude, it is natural to presume that the disease will be found in Central America, Mexico, and some of the southern states, when especially looked for. A case of autochthonous oriental sore was discovered by one of us (S. T. D.) in the Canal Zone and renewed efforts have been made to find other cases and to ascertain if some have been overlooked in the past.

These facts should be noted by practitioners and laboratory workers in the southern states and seaport cities where examples of this type of ulceration may be encountered. They must also be taken into consideration in the diagnosis of all chronic ulcers in this region. Film prep-

arations from ulcers on exposed parts of several months' duration should be carefully examined for the presence of the pathogenic agent of Oriental sore (*Leishmania tropica*). A preliminary experience with the cultural forms of trypanosomes or with insect flagellates—*Herpetomonas* or *Crithidia*—is helpful in knowing what to search for when the microorganisms are sparse.

Specific diagnosis is important because the infection is undoubtedly transmitted by flies or mosquitoes and the ulcers should be properly treated and protected by dressings from the visits of suctorial invertebrates.

The case reported here is the third one found to date and illustrates certain peculiar features of the disease: the chronic eroding character of the ulcer, its location on an exposed part, the presence of a second ulcer near by (auto-inoculation), the history of a fly-bite, and the

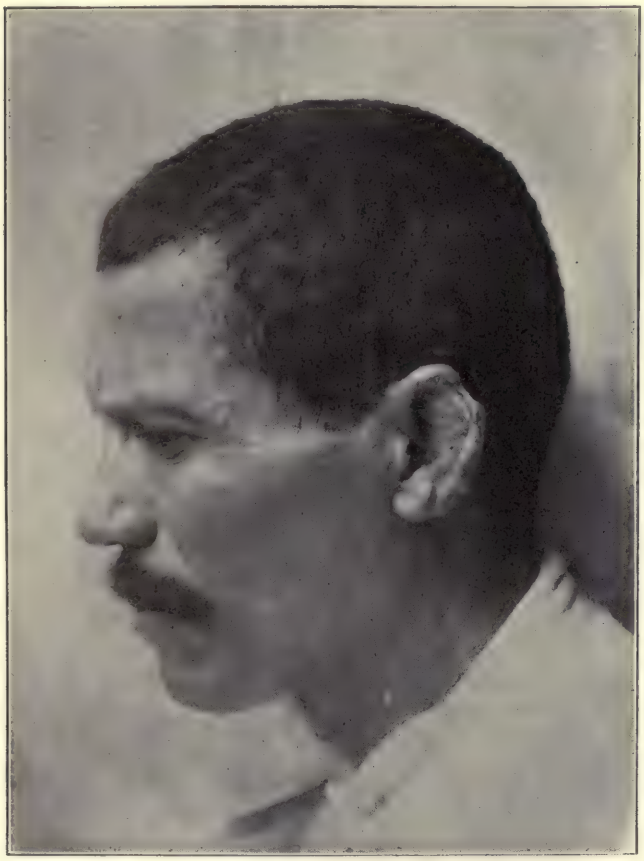


Fig. 1.—Patient with oriental sore on left ear.

difficulty experienced in this case in finding the pathogenic agent.

It should be mentioned that each one of the three patients affected with this disorder who have been examined up to date gave a history of being bitten by a fly out in the bush. No case has arisen as yet within the zone of sanitation.

CASE REPORT

History.—A. V., Hospital Number 88,593; aged 43; native Colombian laborer; born in Cartagena, came to Panama during the régime of the Compagnie universelle du Canal interocéanique, and has lived continuously in Panama for twenty-two years. Recently he had been working with surveying parties in the bush near Frijoles. He was admitted Nov. 25, 1910, with well-developed pulmonary tuberculosis. The peculiar lesions on his left ear were examined on two occasions for the presence of *L. tropica* and on the occasion of the second examination after a crust had been permitted to form, a few characteristic microorganisms were detected.

Examination.—When seen December 21, his left ear was of a dusky, brawny color, somewhat swollen, and the skin rather tense. The margin of the helix was eroded for about 3 to 4 cm. and covered with a depressed, tough, dry crust. At its junction with the lobule there was a second smaller ulcer, circular in shape, about 1.5 cm. in diameter, covered with a flattened tough crust (auto-inoculation). The appearance of the ulcers was suggestive of lupus or rodent ulcer and of Oriental sore. A protective dressing of boracic acid ointment was applied constantly and some improvement in the appearance of the lesions was noted, but the infiltration of the margin of the skin about the ulcers increased. The patient refused more radical treatment on account of his feeble health.

The larger ulcer made its appearance, according to the patient, six or eight months before the date of his admission to the hospital. He believed that it followed a fly-bite, but on inquiry about the variety of fly and additional circumstances connected with the development of the sore, rather a fanciful statement was made by the patient. This is given as it conveys the natives' notion about the cause of this chronic type of skin ulceration.

The fly which the natives believe causes the ulceration is called by them *mosca bayano*. This fly, they say, is found only in the woods in the large yellow flowers of the bayano, a



Fig. 2.—Closer view of oriental sore.

jungle plant. It was impossible to get from the patient a very exact idea of the kind of fly. When shown a number of specimens of *Tabanus, Musca, Stomoxys, Pyrellia, Compsomyia,* and others, he thought the fly was about the size of *Stomoxys calcitrans,* but when he described its habits he said that on approach, the flies darted away so quickly that one could not make out either color or markings. Again the patient said that the fly did not really bite or draw blood, but deposited white feces which made the skin rot.

After the visit of the fly the place began to itch, a blister formed, which was scratched considerably, increased in size and became purulent. An ulcer soon appeared, which, with each removal of the scab, became deeper and larger.

Whatever the mode of infection may have been, there is no doubt of the cause: smears taken from just beneath the raised margin of the crust, when stained by Hastings' and Giemsa's stains, contained a few intracellular and extracellular specimens of *L. tropica*, exactly like those described in the case to be published by one of us (S. T. D.) in the *Archives of Internal Medicine.*

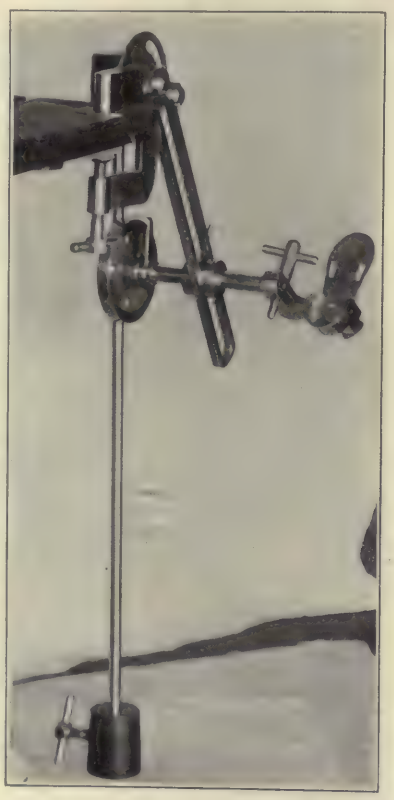
Regulation of Diet.—An ideal diet should be one with not less than 1,500 calories in the twenty-four hours, containing the foodstuffs in as assimilable a form as possible, entailing the least work on the eliminative organs in ridding the body of waste products.—A. Eustis, in *New Orleans Medical and Surgical Journal.*

MINIATURE EXERCISE MACHINE FOR INFANTILE PARALYSIS *

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In treating chronic infantile paralysis by massage, electricity and passive motion of the paretic muscles we must not forget that the seat of the disease is not in the muscles, but in the anterior, gray cornu of the spinal cord, and that atrophy and degeneration in this disease are not limited to the muscles alone, but involve all the structures that enter into the muscular contraction, chiefly, the spinal nerves, the motor cells in the spinal cord, the conducting tracts, the motor brain centers dominating the affected muscles, as well as the weakening of the will power to concentrate on these muscles.

Function is the antagonist of atrophy and degeneration. Massage, electricity and passive motion exercise the muscles, but they do not exercise the other structures involved in the voluntary muscular contraction, and the effect of such exercise — whatever it may be—is limited to the muscles. Permanent benefit to the paralytic muscles is produced only by voluntary exercise because in such exercise the structures involved are simultaneously and cooperatively functioned. The effect of voluntary muscular contraction is to exercise the will power and the atrophic motor brain centers and, by reciprocal action, to develop the motor cells in the spinal cord and the strength of the muscles.



Miniature Zander machine for exercising limb in infantile paralysis. May be attached to a table or chair.

That the spinal motor power can be developed is proved by the improvement that takes place in infantile paralysis often years after the original attack, and by the increased strength in the paralytic limb after scientific and persistent treatment, and by the fact that a great many children, especially those that are mildly affected, gradually outgrow their trouble.

Improvement in chronic infantile paralysis cannot be accounted for by the regeneration of the destroyed motor cells in the spinal cord. The pathologic law that dead organic cells never regenerate is fixed. Improvement can be explained only by the development of the motor gray matter in the spinal cord based on the physiologic law that cells increase in size and strength with function. This is accomplished by the use of the paralytic limb, by muscle education, whereby the child develops his mental power to force the contraction of the paretic muscles, and by the natural growth and evolution of the cerebrospinal system during childhood.

Voluntary exercise of the paretic muscles, the most important element in the treatment of chronic infantile paralysis, is, unfortunately, monotonous and the child's feeble attention soon wanders from its work. The machine illustrated gives the child something to do, with the result that more voluntary muscular contractions are accomplished. The machine is also labor-saving, inasmuch as it assists and resists the movements of the paralytic limbs automatically and takes away this strain from the person supervising the physical culture.

The instrument shown in the illustration is a miniature Zander machine. It is small, portable, cheap, and can be attached to a table or chair. The child sits on the table or chair to which the machine is attached and the paralyzed limb swings the handle. The resistance to the movement is regulated by the length of the pendulum and the "assistance" by the angle of the handle.

Resistance to the movements must be gradually increased. This cannot be done with the hand, because it is hard to remember the exact force exerted at the previous treatment. By regulating the length of the pendulum the resistant force is controlled to a fraction. The gradually increased length in the pendulum is also the record which tells of the amount of improvement that has taken place in the paralytic limb in a given time.

24 West Forty-Fifth Street.

* Demonstrated to the Orthopedic Section, Academy of Medicine, New York City, March 17, 1911.

THE TRANSPLANTATION OF BONE FOR CORRECTION OF DEPRESSED DEFORMITIES OF THE NOSE

REPORT OF CASES *

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It is not my purpose in this paper to discuss the fundamental principles of bone transplantation in the human body, nor do I intend to review in detail the work of the various experimenters in this field of surgery. Suffice it to say that nearly all that has been written on this subject has had to do with supplying defects in the various bones of the body, chiefly those of the head and the long bones, while little has been said about the introduction of bone into the soft tissues, where the conditions for its nourishment and growth must differ widely from those where the graft is used to supply a deficiency in the continuity of another bone.

It is generally admitted (1) that the autoplastic operation, i. e., the transference of bone from one part of the body to another gives the quickest and best results; (2) that homoplastic transplantation, i. e., from one animal to another of the same species, is usually successful; (3) that heteroplastic transplantation, i. e., from one animal to another of a different species, is unsuccessful.

* Read before the New York Academy of Medicine, Section on Laryngology, Dec. 28, 1910.

The belief is almost unanimous that it is necessary to include the periosteum with the graft; with this view, however, I do not agree.

There are a variety of opinions as to the fate of the implanted bone, the majority of writers believing that it is resorbed and new bone deposited in its place by the periosteum. This however, so far as I know, is the observation of those who have done only the homoplastic operation and who removed the periosteum with the graft; their work, therefore, sheds little light on the ultimate fate of the bone in my cases, for each of my patients furnished his own tissue for transplantation, and no periosteum covered the graft. The observations of all these writers relate to implantation for defects in the various skeletal bones, and however interesting and pertinent they may be to the work in hand, the scope of the present paper does not admit of their discussion.

Depressed deformities of the nose, from a surgical point of view, may be divided into two classes: (1) cases without loss of bony tissue; (2) cases in which a large part of the bony framework of the nose has been destroyed.

Cases of the first class are suitable for my bridge-splint operation, which I have described[1] in a previous paper, and which I have used with satisfaction in about forty cases.

But patients in the second class, as I stated in my first presentation of the subject, cannot be relieved by this method, for the success of the bridge-splint operation depends on the presence of a sufficient amount of bony tissue in the nose to retain it in the corrected position after the removal of the supporting bridge.

The cases which I report are from the clinic of Dr. Harmon Smith at the Manhattan Eye, Ear and Throat Hospital. Each patient had a depressed deformity due to traumatism, and each had suffered considerable loss of bony framework of the nose.

The deformity in each case being clearly due to the deficiency in bone, it occurred to me that this might be supplied by transposition of bone from another part of the body; my idea being that the transplanted tissue would receive only a temporary injury, and that it would continue to live and would take part in the process of repair in its new position in the nose.

I decided to use the rib for the following reasons:

1. A portion of the rib is easily removed, especially about the middle of the ninth rib, where the muscular covering is very thin. The patient is caused no inconvenience, and the resected portion is quickly reconstructed from the periosteum. This new growth of bone is hastened by the movements of the chest, for it has been found that a certain amount of irritation is favorable to bone-production. According to Ollier from three to eight months are required for the construction of a bone of considerable size, while he has known a metacarpal bone to be restored in forty days.

2. The shape and structure of the rib favor its use for this purpose. The rib is composed of cancellous tissue covered with a thin layer of compact bone. When the bone is split and the cancellous tissue removed, the strips of compact bone can be easily shaped to suit the deformity and, if the occasion demands it, several layers of this bone can be superimposed. It is necessary to remove the cancellous tissue, as this does not add to the vitality of the graft. In cases in which implantation has been made for defects in the long bones and the medullary tissue has not been removed, it has caused an irritation and aseptic fever.

Furthermore, I believe that the rib is well adapted for transplantation purposes, because it is so abundantly



Fig. 1.—Patient in Case 3 before operation.



Fig. 2.—Patient in Case 3 after operation, from an unretouched photograph.

1. Carter, William Wesley: The Correction of Depressed and Irregular Deformities of the Nose by Mechanical Replacement, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1893.

supplied with minute nutrient foramina. This can be easily demonstrated by examining the surface of a rib with a lens and comparing it with the tibia.

My reasons for removing the periosteum from the grafts are: First, it is easier to resect a rib without injuring the pleura by shelling it out of its periosteal covering. Besides it is desirable to leave the periosteum for the reconstruction of the rib. In the second place, I believe that the bare bone is more quickly and surely nourished by the connective tissue envelope which quickly covers it when it is introduced into the soft tissues of the nose. In this location, all we want is sufficient nourishment for the implanted tissue, we have no desire to grow bone; hence we can dispense with the osteogenetic layer of the periosteum.

The operation in all three of my patients was essentially the same.

The skin over the nose and over the ninth rib on the right side is prepared for an aseptic operation; a short, transverse incision is made down to the bone at the nasofrontal suture. Through this incision the skin and subcutaneous tissues over the dorsum of the nose are elevated with a long, thin, two-edged knife, curved on the flat. (A Seiler septal knife answers the purpose very well.) Above this incision the tissues, including the periosteum, are elevated for about three-eighths of an inch. This wound is covered with sterile gauze. The ninth rib at about its middle is then exposed for two inches and shelled out of the periosteum and removed. I then split this section of rib in its transverse diameter, scrape off its medullary portion and shape one of the strips of bone to suit the deformity. This is then inserted into the wound in the nose previously made for its reception, care being taken to insert the upper end under the periosteum over the nasofrontal process. Both wounds are then irrigated with sterile salt solution, closed with silk sutures and sterile dressings applied. The dressings are changed for the first time on the seventh day and the sutures removed two days later.

CASE 1.—The patient was a little girl, aged 6, who, when 2 years old, fell on her nose, fracturing it. The nose retained its infantile type, developing broad and flat and scarcely protruding beyond the general level of the face. On examination, no nasal bones could be demonstrated. After the operation, which was performed on June 21, 1910, the profile was almost perfect and has remained so up to the present time.

CASE 2.—This patient, a woman, aged 25, fell on her nose when she was 7 years old, the injury in this case being followed by septal abscess. There is no history of specific infection, and the woman says that she has always enjoyed the best of health. The deformity was marked and was of the flattened and concave variety.

Operation was performed on June 25, 1910. In this instance two layers of bone grafts had to be superimposed. When the deformity had been completely corrected the tension on the skin was so great that it became blanched; so, fearing that sloughing might occur, I had to slip the transplanted bone up a little, which left a slight depression near the tip. The bridge, however, is completely reconstructed and the result is satisfactory. There has been no retrograde change in the profile up to the present time, seven months after the operation. The bone is firmly imbedded and interstitial union seems to have occurred between the two implanted fragments.

CASE 3.—A railroad man, aged 47, always healthy, and having no specific history, was knocked down by a train on Dec. 14, 1908. In addition to other severe injuries, his nose was almost completely destroyed (Fig. 1). The nasal bones, the nasal processes of the superior maxillæ and the septum were involved. Erysipelas followed the injury and much bony tissue sloughed out. The bridge was badly depressed and flattened, and a large scar bound the skin to the subjacent tissue. The septum was almost completely destroyed. The case presented a very unfavorable outlook for correction by any method of treatment.

Operation, which was done on Oct. 20, 1910, was somewhat tedious, owing to the large amount of scar tissue making it very difficult to elevate the skin over the dorsum of the nose. The elevated flap, too, was very thin, owing to the large destruction of skin at the time of the injury. A piece of the rib about 2 inches long was inserted, one end extending well down to the tip of the nose, and the other resting on the nasal process of the frontal bone. The normal contour of the nose was immediately restored. The grafted bone acted as a rafter, being firmly supported by the nasofrontal process, and it continued to exert a gradual traction on the soft tissues of the nose, which, having been unsupported, had subsided into two folds on either side of the nose. Within two weeks these folds had completely disappeared, the tissue having been drawn up into its proper place in the nose. The result in this case was practically perfect (Fig. 2).

In none of these patients did the temperature rise above normal, and none complained of much discomfort after the operation. The recovery of all was uneventful, primary union of the wound being obtained in each instance.

The vitality of the bone seems to have been affected in no way, and it is my belief that it has taken part in the process of repair, being nourished by an envelope of connective tissue forming practically a new periosteum. Certainly none of the transplanted bone has as yet been absorbed, and I see no reason why it should be, since the transplanted tissue is not a foreign body but is a living part of the same body into which it is replaced. Its molecular constitution is exactly the same as that of the tissues that surround it in its new position. Therefore it will continue to live, provided that its circulation is reestablished from the surrounding tissues; a sufficient time has elapsed to make us feel reasonably certain that this has already occurred in all three of my cases.

I believe that a large proportion of what have been considered hopeless cases of nasal deformity may be relieved by this method of treatment. Its superiority over all methods involving the introduction of foreign bodies into the tissues is self-evident.

69 West Fiftieth Street.

Black Plague in Newspaper Advertising.—It is encouraging to note from time to time in these columns the indications of an awakening conscience on the subject of truthful advertising. In an address at the one hundred and tenth dinner of the Sphinx Club, at the Waldorf-Astoria, New York City, James Schermerhorn, publisher of the Detroit (Mich.) *Times*, gave little comfort to newspaper men who sell advertising space to any one who has the price to pay for it. "It is a shabby trick," he said, "to capture the reader with editorials upholding the decencies of life only to deliver him over to the spoilers who lie in wait for him in the advertising section of the paper. There is a white plague, and philanthropists are fighting it. The publisher helps in his editorial and news columns. But in his business section there is a black plague, an inky infection in the form of spurious consumption remedies offering false hope to the hopeless; brazenly guaranteeing to cure the incurable. The awful cry of the despairing leper, 'Unclean! Unclean!' ought to be branded on the newspapers infected by the black plague. What of the publisher who entices his readers into wildcat investments by lifting the shell and showing the pea? Is he an opinion-holder or just a capper? The genuine brand of national righteousness should begin with the newspaper that advocates it. It is better to protect the reader every day against chicanery and betrayal than to use tainted money for the spectacular schemes for relief." Such public statements as these help to bring the day when there will be but one standard for right and wrong, and when there will be no privileged class that is permitted to lie and swindle with impunity.

POTASSIUM PERMANGANATE AS A HEMOSTATIC

L. BUCKLE, M.D.
NEW YORK

History.—A new-born baby boy, Jewish, weighed 9 pounds, had good color, nursed well and looked healthy up to the eighth day. No history of hemophilia. When the cord was tied and divided immediately after birth, there was no unusual bleeding and on the sixth day it came off.

Hemorrhage.—On the eighth day, about noon, the boy was circumcised and bandaged. Two or three hours later, the nurse noticed that the bandage and parts of the diaper were saturated with blood. She called me, and, finding the oozing very slight, I ordered gauze saturated with hydrogen dioxid to be applied to the bleeding surface. This I had found adequate to control hemorrhage in apparently similar cases. About 7 p. m., I was again called. The bleeding had not ceased, though the oozing was just as slight as before. I applied styptic cotton, adrenalin 1 to 1,000, powdered alum, tannic acid, and solution of silver nitrate, at different times, but without result. The family became so anxious and excited that they took the child to the hospital. There the skin was stitched to the mucous membrane above the glans, in the hope that this would help to check the bleeding; but it did not. In the two days the baby was in the hospital, it grew so pale and weak from the loss of blood that the father, not getting much assurance from the surgeons of its recovery, took it "to die at home," as he said.

Application of Potassium Permanganate.—On the fourth day after the circumcision I was called hurriedly. The baby was extremely pale and very feeble. It could not nurse from the breast but when some milk was pressed from the nipple into its mouth it slowly swallowed it. Temperature was subnormal; pulse and heart-beats were so weak and rapid that I could not count them. I again tried various styptics, but the result was as disappointing as before. I recalled that on several occasions of slight bleeding from small cuts, I used potassium permanganate with good results. I applied powdered potassium permanganate to the wound. The oozing immediately ceased and there was no recurrence of bleeding.

The action of the potassium permanganate in this case surprised me, and I mention it not with any enthusiastic conclusion, but merely that others may perhaps think of it in similar cases when the usual other agents fail to give good results. A deep cut on the forehead caused by a fall three months later healed without trouble.

321 East Tenth street.

UNUSUAL IDIOSYNCRASY TO ASPIRIN

G. BURTON GILBERT, M.D.
COLORADO SPRINGS, COLO.

The following case is reported because it seems unusual, and because of the violent reaction to an extremely small dose of aspirin. Judging from reports in the literature, poisoning from large doses of aspirin is relatively more frequent than that from small doses, which alone can show a distinct idiosyncrasy to the drug.

History.—On June 20, 1910, the patient, a woman aged 40, on complaining of slight frontal headache, was given, at 10 a. m., 5 grains of aspirin and $^1/_{60}$ grain strychnin sulphate, with instructions to take a similar amount of each at the end of one hour, if the headache persisted.

Symptoms of Poisoning.—Fifty minutes later I was called and found the patient very nervous, excited and frightened. She complained of feeling queer and dizzy. The headache was worse and pain in the inner corner of the right eye was intense. Both eyes were puffy and much swollen, especially under the lower lids. She complained of severe itching all over her head, which she scratched almost constantly. In about fifteen minutes the lips began to swell, reaching three times their normal thickness, and being tense and almost purple. This edematous condition also involved the upper portion of the throat. The voice became husky and breathing very difficult, the patient being unable to lie down. The finger-nails and ears were blue; the pulse was 110 and very irregular, while the temperature remained subnormal. The patient next complained of stiffness in the back of the neck and insisted that her throat was closing up. The itching extended over the ears and back, thence over the entire body, being accompanied by large blotches or wheals. Thus there was a generalized urticaria with a condition of the lips and throat resembling urticaria gigantea or angioneurotic edema.

Treatment and Result.—Cold compresses were applied to the lips, eyes and throat, and an ice bag was applied to the head. A hypodermic injection of ¼ grain of codein was followed in twenty minutes by another of 10 minims of epinephrin (adrenalin chlorid). Warm water containing a little salt was given until vomiting was induced at half past twelve. After this the patient felt somewhat better. She was given an injection of 1/60 grain of strychnin and a high enema. Within half an hour the swelling in lips, eyes and feet began to go down, the color improved and the breathing became easier. About 4 p. m., the patient fell asleep and slept for thirty minutes. By 6 p. m. the urticaria had disappeared except from the back of the neck and the only painful spot was in the right eye. On the following day the woman had entirely recovered except for considerable weakness and some aching in the back and legs.

The patient gave a history of having been poisoned on two other occasions; once from some spoiled sea food, when she was much sicker than anyone else in the party, and once from morphin which her physician had told her never to take again. She was also subject to chronic bronchial asthma. Therefore, the above may represent an asthmatic attack brought on, aggravated and complicated by an intense idiosyncrasy to aspirin.

817 North Cascade Avenue.

THE CAUSE OF THE IMMEDIATE PAIN AND ABSCESS FOLLOWING THE ADMINISTRATION OF SALVARSAN BY THE ALKALINE SOLUTION METHOD

B. C. CORBUS, M.D.
CHICAGO

The intravenous method of administering salvarsan will continue to hold its position as the most comfortable one for the patient, but whether or not it is as potent in the later stages of syphilis, time will have to tell. The trend seems to be toward some form of intramuscular injection.

As the alkaline solution method seems to be the most feasible and simplest in preparation and most far-reaching in its results in the later syphilids, it has been the aim of many observers to perfect it as far as possible. The two objections against this method have been the pain and lasting induration following the injection, the induration being followed at times by abscess formation. In all the reports published, such abscesses are sterile.

In my experience, covering 100 cases, I have found that the pain and induration are due to the sodium hydrate. The directions that accompany the tube of salvarsan advise that a 15 per cent. solution of sodium hydroxid be used in making the solution alkaline. One can readily see how easy it is to get an excess of sodium hydroxid; even one drop might cause an excess of alkalinity which would not only cause excess of pain, but in

an ill-nourished individual might cause considerable necrosis. Following the Alt-Lesser technic, I used a 4 per cent. solution (normal sodium hydroxid) and my success was good in regard to pain and induration. Only twice have I observed an abscess. In one case, the patient was extremely debilitated, and in the other I had to deal with an excessively fat individual. In each of these cases, I believe the abscess was the result of the sodium hydroxid.

I now use a 2 per cent. solution of sodium hydrate. In this way any excess of alkalinity is more easily avoided, the initial pain is lessened, and I find that uniformly the coagulum formed in the muscles is absorbed, leaving the muscles in a soft, pliable condition ready for a second injection whenever necessary.

I first put the 0.6 gm. of salvarsan in a 25 c.c. graduated cylinder, and dissolve it in 8 or 10 c.c. of hot water. The sodium hydroxid is then added in small quantities until a clear solution is obtained, care being taken not to add any sodium hydrate in excess. Hot water is then added in sufficient quantity to bring the total solution up to 20 c.c.; 10 c.c. of this solution are injected deeply into the buttocks on either side. Great care should be used to keep the injected fluid out of the adipose tissue. The sodium hydrate solution should be sterilized before each injection. This is also true of all the glassware used.

32 North State Street.

Modern Conditions Require Evolution in Personal Hygiene.—Dr. Irving Fisher, president of the American Health League, in an article in the New York *Christian Advocate*, says that the health movement means a revolution in the habits of living now prevalent in this and most civilized countries. It seems a radical statement, yet no observer can fail to see that it is already in process of realization. The "outdoor life" undoubtedly has come to stay, including even the growing custom of sleeping out of doors. Likewise, largely under the influence of Mr. Fletcher, and with the approval and aid of scientific and medical authorities, says Fisher, the art of eating is changing rapidly. When hard foods, thorough mastication, and lessened consumption of protein have become universal, we may expect to see less of the dentist or the stomach specialist. The invention of cooking and preparing foods has been a much mitigated benefit. While it has widened the variety of man's diet, it has led to the decay of his teeth. Many of the other inventions of civilization have their unhygienic side. The invention of houses has enabled mankind to dwell in all parts of the world, but it is responsible for tuberculosis, especially after glass was devised, which, while letting in the light, keeps out the air. The invention of the alphabet and printing has made possible the accumulation of knowledge, but it has produced eye-strain with all its attendant evils. The invention of chairs has added to human convenience, but has led to spinal curvature and abdominal congestion. The device of a division of labor has added to wealth, but has destroyed the normal balance of mental and physical work, recreation and rest. Similar fault may be found with clothing, especially corsets, shoes and hats, and with numerous other contrivances. Yet it would be foolish, even if it were possible, to attempt to "return to nature" in the sense of abolishing civilization. We must not go backward, but forward. The cure for eye-strain is not in disregarding the invention of reading, but in introducing the invention of glasses. The cure of tuberculosis is not in the destruction of houses, but in devices for ventilation. It is a little knowledge that is dangerous. Civilization can, with fuller knowledge, bring its own cure, and make the "kingdom of man" far larger, even in respect to hygienic conditions, than "nature" people can even dream of. Unhygienic customs and fashions are exceedingly slow to yield, but they do yield in the end. It should be the part of intelligent men to lead in hygienic reform, not by intolerant and impatient abuse, but by the quiet force of example

Therapeutics

CONSIDERATIONS IN THE MANAGEMENT OF PULMONARY TUBERCULOSIS

The earlier treatment is commenced in pulmonary tuberculosis, the better for the patient, and the greater the chances of an ultimate cure. This axiom indicates the importance of an early diagnosis of the presence of the disease. One of the benefits which has resulted from the recent agitation in regard to tuberculosis is the more frequent recognition of the disease at its beginning. Before the present general interest in tuberculosis, it was not uncommon for patients to go untreated until they had reached an advanced stage of the disease. Less often, but altogether too frequently, patients were under the care of a physician for months before the real nature of the trouble was recognized. So much has been said and written on this subject within the last fifteen or twenty years, that no physician is excusable for neglecting to recognize the nature of the disease as soon as he undertakes the treatment of the patient.

At this day, it is hardly necessary to enumerate the symptoms which would lead one to suspect the presence of the disease and to act on his suspicion by making a thorough investigation of the case, including a careful physical examination. Among these symptoms may be mentioned loss of strength, loss of appetite, loss of weight, loss of physical and mental energy, increased body temperature, increased rapidity of the heart, increased rapidity of the respiration, cough, especially when accompanied by vomiting, and hemoptysis. When any of these are present, if some other cause cannot be found, the presence of tuberculosis should be suspected, and the possibility of its existence should not be given up while the symptom exists, or until some other cause for it has been found.

As soon as it is definitely determined that the patient is suffering from pulmonary tuberculosis, several important questions arise and demand an early solution. In the first place, it must be determined whether the patient shall be treated at home, or shall be sent to a sanatorium in the neighborhood of his home, or shall be ordered a complete change of climate. Certain conditions may determine that the treatment shall be conducted for a time at least, in his own home. When the patient is found to be in an advanced stage of the disease, with a high temperature, rapid pulse, poor appetite, frequent cough, and copious expectoration, it is, in most cases, poor judgment, and cruel, to advise such a person to leave home and friends in order to have the very slight advantage which change of climate will afford him. On the other hand, it may happen, in rare instances, that even patients in the very worst condition improve, contrary to our expectations, hence if the patient manifests considerable powers of natural endurance, and is not likely to be unfavorably influenced by separation from his friends, he may be allowed, even if the symptoms are serious, to try a change of climate. But such cases are certainly rare. Many patients must be treated in their own homes because they cannot afford to leave their homes and be at the expense of traveling and paying board in a sanatorium or health resort.

If the patient while showing sufficient symptoms to enable the physician to make a positive diagnosis is at the same time not very weak, not suffering from much fever, and not coughing very much, it may be wise for

the physician to suggest a very radical move. Unquestionably, in some instances, it is the duty of the physician to advise the family, for the sake of the stricken member, to sever all relations with the community in which the disease has arisen, to sell their home if necessary, to dispose of their business if they have one, and to remove as a whole to a climate where the patient may recover from his disease, and to remain there permanently. This advice may be based on the now generally recognized fact that, if a person suffering from incipient tuberculosis goes to a climate where he recovers from the disease, he should continue to reside there, probably for the remainder of his life, certainly for many years. The converse of this is often true, viz., that patients who have recovered from tuberculosis in any particular climate, when they leave this climate and return to their former residence, often have a recurrence of the disease and go from bad to worse, or frequently develop pneumonia and die of that disease.

When a change of climate has been determined on, there is a wide range for choice in the selection of the particular climate, and it cannot always be determined in advance what climate will be best for the individual patient. Sometimes the patient's own experience of feeling better in summer or in winter will determine the selection for him of a mild or a cold climate. Often it will be found that patients who were born and have passed the early years of their life in a northern climate will do better, when making a change of climate, to select a cold climate. On the other hand, people who were born and raised in a warm climate, and who habitually feel better in summer, will usually do better in a warm climate, such as that of Florida or California.

Those who have a great tendency to have new foci in lung tissue break down, and those who have profuse bronchial discharge, and those who have fibroid phthisis, will generally do well in Arizona and New Mexico.

Some patients with pulmonary tuberculosis do well at the seashore, as has been observed to be the case with children suffering from bone and joint tuberculosis.

On the other hand, many do well in a mild climate, such as in the hills of the Carolinas.

Those who seem likely to do well in a cold climate, may be recommended to go to the Adirondacks or to Colorado.

Altitude is a thing that must be considered in selecting a climate for the tuberculous patient, and it will be found that those of nervous temperaments, with weak, rapidly acting hearts, those with high fever, and those with a tendency to hemoptysis, usually do not do well at a high altitude. On the other hand, those who are depressed by the heat of summer, but who are stimulated and feel stronger in winter, frequently do not do well in a low altitude like that of southern California or Florida. Whatever opinion may have been formed by the physician in advance, if his opinion is not confirmed by the experience of the patient, a change should be made to a climate of a different character.

It should never be forgotten that very sick patients do not stand travel and separation from their friends well, and that patients who find a climate in which they can live comfortably are foolish to leave it.

If the family of a patient is in moderate circumstances, and the patient is in an early stage of the disease, removal to a sanatorium in the neighborhood is frequently advisable. In the first place, this removes a focus of infection from the family and friends of the invalid. It also places him in a position of being instructed as to the proper care of himself. These are very important considerations. Further, his symptoms are daily, perhaps hourly, observed; he is required to do what is best for himself, and he is furnished with abundant and nutritious food. These are of great importance, and most patients at the beginning of the disease are benefited by them, even in the absence of any very marked change in climate. Much may be accomplished by treatment in such an institution as has been lately demonstrated, but it is perhaps too much to claim that such treatment is just as good as treatment in a more distinctly advantageous climate. Unquestionably certain climates are far better for certain tuberculous patients than others; and, unquestionably, for many, a considerable altitude is better.

Wherever the patient is treated, the matter of air is of first importance, as it is also in the preventive treatment of the disease. The patient should remain out-of-doors, if possible, during the whole twenty-four hours. Space forbids here a discussion of the various methods which may be adopted in order to secure this. Shacks, porches, balconies, and window tents may be utilized in appropriate cases. If it is entirely impracticable for the patient to sleep out-of-doors, or while suitable provisions are being made for this, he should at least sleep in a room with the windows open, and in a room to which sunshine has access during the day. At the same time that he is enjoying the benefit of this fresh air, often cold air, he must be adequately protected so that he will not suffer from the cold. He should wear woolen clothing, and be covered with light woolen blankets supplemented by adequate bed quilts and puffs. In cold weather, the head and ears must be protected from chilling, and also the patient must be kept comfortable; *he should be protected from draughts.*

In the advanced stages it is not wise to insist on absolute out-of-door treatment in the coldest weather, and often not even in milder weather. If the patient is weak, he may be treated with benefit within his usual sleeping room, if the windows are allowed to remain open, and the cold air warmed, but the room not allowed to become over-heated.

The question of rest is pre-eminent, and the importance of rest has been increasingly recognized by the medical profession during the last twenty-five years. If the patient has fever even of moderate degree, it will do him very little good in any case, and in most cases will do him positive injury to exercise or even to sit up out of bed. Exercise, even walking or sitting up, is now generally recognized as being almost as detrimental to the patient with tuberculosis as to a patient with typhoid fever. It is necessary to diminish oxidation and to conserve strength as much as possible, and this can only be satisfactorily accomplished by keeping the patient in bed, this to be continued as long, at least, as the temperature rises to 100 F. at any hour of the day, and probably as long as it rises above 99 F. While this is the rule, it is possible that in exceptional cases in which the temperature rises to 100, but not above, the patient may be benefited by brief exercise each day, but these instances are exceedingly rare, and this privilege should be granted only in chronic cases with low fever and not very rapid pulse. A weak and rapid pulse is also a strong indication for rest in bed.

Next in importance to rest and fresh air comes the question of diet. Many patients have been tormented and abused by overfeeding, which has been a fad at many tuberculosis sanatoria. It is now generally recognized by the best authorities on the treatment of pulmonary tuberculosis that overfeeding beyond the pro-

vision of an adequate physiologic supply of food is not wise. The character of the food administered should depend somewhat on the digestive power of the patient. If there is much fever and the digestion is weak, a strictly milk diet may be employed for a limited time. This may be supplemented, as the fever diminishes, and the digestive power increases, by broths and gruels. As improvement continues, eggs may be added. For a convalescent patient and the patient who has not much fever and a good digestion, an ordinary mixed diet (excluding indigestible and innutritious foods) including all easily digestible and nutritious foods, such as milk, eggs, fresh meats, stale bread, boiled rice, baked potatoes, fresh vegetables and fruit in season, will be found useful.

If the patient is very ill and has much fever, the rest in bed implies refraining from doing any business, from corresponding, from reading, or from seeing much company.

The fresh air, the rest, and the diet are the sheet anchors of treatment. Medicines are entirely subordinate to these hygienic measures, and yet, in many cases they are of great value.

Barrels of cod-liver oil have been consumed by patients, and not infrequently with considerable benefit, improving the nutrition and lessening the cough and expectoration. It should, perhaps, be regarded as a food rather than as a medicine, and as a food, unquestionably it will prove of value in many cases.

For many years, the hypophosphites, and especially the hypophosphite of calcium, and in some cases the hypophosphite of sodium, have been used with apparent benefit. Recent studies of the physiologic action of calcium on cell growth and nutrition may lead to a renewal of interest in the hypophosphite of calcium. The use of a combination of half a dozen different hypophosphites need only be mentioned to be condemned. There is no reason for the use of such a combination except the desire of a physician to order some one of the many proprietary hypophosphite combinations on the market.

So many unkind things have been said by such distinguished authorities about creosote, that one hesitates to mention it in connection with this subject, but if one feels impelled to administer an antiseptic drug in the treatment of this disease in which an efficient antiseptic would be so highly esteemed, he cannot do better than administer the carbonate of creosote. It will rarely injure the stomach, and it may promote digestion and nutrition by preventing gastric and intestinal fermentation, and may possibly, and many men believe that it does actually, have a favorable effect on the pulmonary pathologic process.

For the fever it is usually not necessary to give any drug, the light diet and the rest in bed in cool fresh air usually accomplishing the desired result.

If there is much cough, some simple codein expectorant mixture may be given. Such a mixture must not be sweet. The following are suggestions for treatment of the cough:

R.	gm. or c.c.		
Codeinæ sulphatis	20		gr.iv
Ammonii chloridi	5		3iss
Syrupi ipecacuanhæ	5	or	fl.3iss
Syrupi acidi citrici	25		fl.3i
Aquæ	ad 100		ad fl.3iv

M. et Sig.: A teaspoonful, in water, every two or three hours. Shake.

Or,

R.	gm. or c.c.		
Codeinæ sulphatis	20		gr.iv
Ammonii chloridi	5		3iss
Syrupi acidi citrici	25	or	fl.3i
Aquæ	ad 100		ad fl.3iv

M. et Sig.: A teaspoonful, in water, every two or three hours. Shake.

Or, if the cough is just a throat tickling, without much expectoration, the following is often efficient:

R.	gm. or c.c.		
Codeinæ sulphatis	20		gr.iv
Alcoholis	10		fl.3iii
Spiritus chloroformi	5	or	fl.3iss
Syrupi tolutani	50		fl.3ii
Aquæ	ad 100		fl.3iv

M. et Sig.: A teaspoonful, in water, every three hours. Shake.

If there is profuse expectoration, a 5-grain tablet of terpin hydrate crushed by the teeth and taken with water four or five times in twenty-four hours is efficient in diminishing the amount of bronchial secretion.

Coughing that results in vomiting, or at least in retching is very likely to be due to either pharyngeal or lingual tonsil irritation and not to any trouble in the stomach. Gargling with some warm alkaline solution, as the *liquor antisepticus alkalinus*, diluted with equal part of warm water, or a Seiler's tablet solution, or gargling with one-fourth of a teaspoonful of salt and one-fourth of a teaspoonful of bicarbonate of soda to one-half a glass of warm water, will relieve and soothe the throat and stop this kind of irritation. Slippery elm and flaxseed tea are also valuable aids in stopping this lingual tonsil cough.

Codein is the best opium sedative to use. It does not dry up the secretions as does morphin, or interfere with digestion as does morphin, and is not as depressant as heroin.

The question of stimulants is one which often arises, and concerning which there is much discussion. In the advanced stages of the disease, where there is great prostration and no hope of recovery, alcoholic stimulants may be allowed on the ground that they increase the comfort of the patient and make him more reconciled to the wretchedness of his condition; otherwise, they should not be advised for habitual use. The various extracts of malt which contain a small percentage of alcohol are not to be included in this condemnation, and may often be administered with considerable benefit.

As has been urged before in these columns, unless a patient has become cured in a new climate and intends to remain there with new possibilities of occupation, he should, after recovery, return to the occupation to which he is accustomed, or to that which he left when he became ill, unless it is a peculiarly dangerous one for this disease.

Histologic Changes in Hodgkin's Disease.—F. Eve, in the *Practitioner*, states that the histologic changes in Hodgkin's disease are in the connective tissue framework and in the endothelial elements of the gland; and the diagnostic features are thickening of the stroma, with the presence of large multinucleated cells, and of cells rich in eosinophil granules; whereas in primary malignant disease a small round or lymphosarcoma is found, originating from the adenoid tissue, or a round or spindle-celled sarcoma arising from the stroma. Occasionally tuberculous glands present after removal the same pink homogeneous section as lymphadenomatous glands, and show no macroscopic evidence of caseation. Their nature can only be determined with the microscope.

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[*For other information see second page following reading matter*]

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THE LOST ARTS

We are sometimes made to feel humble in the midst of our triumphal march of progress, by being told that in the ancient civilizations men did many things better than we do them now, and that at the best we ought to recognize that what we consider discoveries are mostly but rediscoveries. Probably we need this sort of corrective to self-satisfaction; nevertheless, it seems likely that modern iconoclasts will destroy its efficiency. "The lost arts" is a catch-word by which we set great store, and according to Dr. W. D. Richardson[1] its popularity in this country rests largely on the prominence given it by Wendell Phillips in his lecture on this topic, which he repeated two thousand times, more or less, in lyceum courses all over the country. Dr. Richardson examines the evidence on which rest the claims of unusual chemical achievements by the ancients, and finds it worthless.

The ceramic arts, it is true, did yield products at certain times which were not duplicated later, but it was not the art but the materials which were lost, for the results obtained by the potter depend in large measure on the particular clays he has to work with, and when a certain supply of clay gave out, a particular form of pottery might be discontinued. Fabulous tales of glass, with unequaled beauty and unbelievable ductility and malleability, are of wide popularity. To be sure, the ancients did make a sort of glass, opaque or translucent, often possessed of great beauty from the standpoint of the fine arts; but when it became possible to make a good transparent product the imperfect if more beautiful form lost its market and ceased to be made. Recently the interest in objects of art made of opaque and translucent glass has revived, and this glass is again being manufactured, but the art of making it was never entirely lost. So, too, the stories of marvelous cements, plasters, dyes and pigments, vastly superior to anything now available, are found on examination to possess no truth.

We must always remember that only the best examples of the materials used by the ancients can now exist; it is not at all fair to judge their entire work by these exceptional specimens. As we have pointed out in these columns before,[2] the reputed lost art of embalming, as performed by the ancient Egyptians, was nothing more marvelous than simple pickling in a brine of common salt; its wonderful efficiency was contributed by the dry climate in which the bodies were left. The oft-repeated statement that the same people filled carious teeth with gold according to the most modern practice, is also a myth. The building of the pyramids involved no preternatural knowledge of mechanics, but simply the inhuman use of myriads of slaves. Some arts, of course, depend on dexterity and manual skill, best transmitted by the personal training imparted by one artisan to another, rather than on scientific principles. If, therefore, the demand for the objects so produced becomes lessened, as by war, social disturbances, or change of customs, the arts may be forgotten. Real science, however, does not go backward, and to such extent as arts depend on science rather than on exceptional personalities, or on the continued maintenance of a high level of dexterity and skill, they cannot well be lost.

1. An address delivered before the American Chemical Society, Dec. 28, 1910, Science, April 7, 1911.

ANTIPLAGUE MEASURES

We have referred previously[1] to the outbreak of plague in Manchuria, which promised to be unusually severe and extended, and the death-rate of which was extremely high. On account of the appalling nature of the outbreak, the Chinese government was led to call for international assistance with a view to gaining control over the disease. Scientific studies of plague in a latitude so far north and under the conditions of life to be found there should be productive, and there should be elicited new facts regarding the epidemiology, especially of the pneumonic form of the disease.

Recent official reports and press dispatches indicate the marked diminution in the severity of the outbreak in North China, especially in those centers in which it first appeared. On account of the extension from those centers, however, new foci have been established, and it is safe to say that a wide territory is now affected, thus rendering more difficult the precautionary measures as to sanitation that have been inaugurated.

Notwithstanding the limited trade relations with ports in Manchuria and North China, some apprehension arose as to the possible dangers to our ports from such a severe epidemic, but the precautions taken in Manchuria itself by the Chinese government and other governmental agencies, and by railway officials and others interested, were undoubtedly a great protection to international shipping and particularly because the disease was of the pneumonic type. Besides, there is reliable authority for the belief that there was no infection of the rat population, which, when infected, constitutes the greatest danger to international commerce.

2. May 16, 1908, p. 1610; April 15, 1911, p. 1110.

1. Feb. 11, 1911, p. 45.

Additional precautions were also afforded through sanitary supervision of passenger and freight traffic by medical officers of the Public Health and Marine-Hospital Service stationed at the principal ports of China and Japan. The quarantine system of the Japanese government, on account of the location of that country in the line of transpacific ships from China to the United States, also serves as a barrier to the extension of epidemic diseases. With these precautions abroad, and the careful supervision maintained over arriving ships, their passengers and cargoes, as well as a campaign for the extermination of rats on all vessels at home ports, required under the national quarantine regulations, there appears to be no likelihood of the introduction of the infection of plague as a result of the recent outbreak referred to.

The question arises as to the measures taken to prevent the spread of the infection that has been shown to exist on the Pacific coast. The last outbreak in California began Aug. 12, 1907, from which date to Jan. 30, 1908, there occurred in San Francisco 159 cases with seventy-seven deaths.

Were it not for the fact that the infection had secured a hold among ground-squirrels, all probability of further cases would have ceased, since the disease was eradicated from San Francisco and other bay cities. Those cities are now protected, however, by a squirrel-free zone established and maintained by the sanitary authorities interested.

The first infection among squirrels was found in August, 1908, which indicated that these rodents might serve as a potential agency in fostering the infection, and emphasized the necessity of a systematic and vigorous campaign for their extermination. According to the weekly Public Health Reports, this work has been carried on with the view to the destruction of known foci of infection, determination of the extent of the area of infection and general squirrel extermination.[2]

That the plague-suppression measures have been extensive is shown by the fact that since July 1, 1908, they have cost the federal government approximately $800,000, and the State of California not less than $500,000. Until March 4, 1911, there had been collected 992,247 rodents, 937 of which were found to be infected. Squirrels have been collected over a considerable area of the State of California, and the area of infection appears to be definitely determined. In addition to the maintenance of the squirrel-free zone mentioned, the work carried on includes the destruction of known foci of infection, and the work of squirrel extermination is becoming general, being actively carried on in ten counties.

While the work is being conducted by an officer of the Public Health and Marine-Hospital Service in cooperation with state and local health authorities, much is being done by ranch-owners and farmers, and county authorities are aiding extensively by the appropriation of money and the employment of inspectors.

From the character and extent of the work done and the plans for its continuance, the plague situation on the Pacific coast should cease to be a menace; but the problem of squirrel extermination is a large one, and there is necessity of a clear understanding on the part of the public, not only of the difficulties involved, but of the strenuous measures that have been taken. Those having charge of this work not only should be provided with ample funds, but should also be supported by an enlightened public opinion.

2. Public Health Reports, April 21, 1911.

EXPERIMENTAL TUBERCULOUS REINFECTION AND ITS BEARING ON HUMAN TUBERCULOSIS

In a series of experiments, Römer and Joseph[1] show that in guinea-pigs and sheep a preexisting tuberculosis protects wholly or in part against a later experimental infection. The procedure in general is briefly as follows: An emulsion of tubercle bacilli in physiologic salt solution is penciled over a short incision in the skin of guinea-pigs which some time previously have been infected with tubercle bacilli subcutaneously. Guinea-pigs which were healthy, except so far as the incision and its treatment were concerned, served as controls. Various experiments like this modified in different ways gave the same results. The previously tuberculous pigs were completely immune to cutaneous reinfection, and the wounds made in the skin for the purpose of reinfection healed promptly, whereas the control animals died from disseminated tuberculosis. Guinea-pigs were also immune to reinfection when the bacilli used in the experiments were obtained directly from the organs of tuberculous animals. Experiments on sheep gave the same results as those on guinea-pigs, the reinfected sheep being wholly immune to quantities of bacilli which in control animals caused death from wide-spread pulmonary tuberculosis in the course of eight weeks.

Now it is generally assumed and believed that in man the resistance to tuberculosis increases with age. The young are especially prone to tuberculous infection, only too often of a progressive type running a rapid course. It is usually said that in the very young there exists a physiologic state or "disposition" which renders them more susceptible to infection and less resistant than adults. This predisposition is regarded as specially marked in the children of tuberculous parents. Such children are exposed very freely to infection because of the close contact in which they are placed with those about them and this may explain in part at any rate the apparent increased susceptibility. It may be noted that experiments with the young of tuberculous animals do not appear to indicate that there is any special susceptibility to tuberculosis in them. The large percentage of positive tuberculin reactions in children points unmistakably in the direction indicated, namely, the ease with

1. Römer and Joseph: Beitr. z. Klin. d. Tuberk., 1910, xviii, 281.

which infection occurs early in life. Indeed, it seems not improbable that, at least in the large cities, almost every person is infected with tuberculosis by the time he reaches puberty. Hence it lies near at hand to conclude that the increasing resistance to tuberculosis as age advances may be largely the result of infection with tubercle bacilli early in life.

In the struggle now waged everywhere against tuberculosis the efforts are not always directed toward the point where most effective progress might be achieved. Thus, it should always be borne in mind that in the adult the susceptibility is relatively less than in the young. It is the child that we should aim to protect by all means and especially against the most dangerous sources of infection, namely, the constant association with the tuberculous.

Current Comment

PUBLIC HEALTH PERSONNEL BILLS

Two bills,[1] S. 1182 and H. R. 5599, which deserve the cordial support of those interested in increasing the efficiency of the federal health agencies, have been recently introduced into Congress, one by Senator Owen and one by Representative Charles G. Edwards. These measures relate entirely to the personnel of the Public Health and Marine-Hospital Service and are designed to make that service more attractive to young medical men. While varying in phraseology, the bills have in view the same object—increase in pay. For over a century there have been three national medical services—the Army, the Navy and the Public Health and Marine-Hospital Service—and the requirements for admission to all have been equally exacting. In 1871, the Marine-Hospital Service was organized on its present basis and the appointments and promotions therein were placed on the merit system. In 1889, the pay of its officers was placed on a parity with that of the other medical corps, but in 1908, when the pay of the Army and the Navy medical corps was materially increased, that of the Public Health and Marine-Hospital Service was not similarly raised. The annual salary of a physician entering the Navy at the present, for example, is within $45 of that of one who has been in the Public Health and Marine-Hospital Service for fourteen years. As a result, it is difficult to retain the best men in the service and almost impossible to recruit its ranks with men of proper qualifications. The present bills are designed to overcome these difficulties by more nearly equalizing the pay of the three services. The officers of the Army and Navy receive certain allowances and perquisites which are not contemplated for those of the public health service, so that on the whole the pay of the former would continue somewhat higher. The proposed increased pay in the public health service, however, would doubtless attract a class of young physicians who prefer a civilian to a military career. Within the last few years Congress has repeatedly recognized the justice and necessity of such legislation as is now proposed; in fact every provision of the Edwards bill has at one time or another passed either the Senate or the House of Representatives, but the question of pay, unfortunately, has become so involved in questions of function that bills passing one house have not been acceptable to the other. Thus some members of Congress have opposed all bills for increased pay which did not impose additional duties, while others have not favored bills providing for increased function on the ground that their passage would imperil the chances for a federal department of health. It is to be hoped that this question will be considered solely on its merits, as all interested in public health work, in or out of Congress, agree as to the need and justice of increasing the pay of the officers of the public health service.

1. Reprinted in Miscellany Department, this issue, page 1279.

OPIUM-CONTAINING PROPRIETARIES

In the "Propaganda for Reform" department of this issue, appears a report of the Council on Pharmacy and Chemistry on a proprietary product called Pantopon and a contribution from the chemical laboratory on another proprietary—Papine. While both are opium preparations—that is, owe their chief or entire activity to morphin—there the resemblance ceases. Papine, according to our chemists, is merely a solution of morphin. The manufacturer, a typical St. Louis proprietary firm, claims for this preparation the impossible, namely, that it contains morphin minus morphin's harmful properties; and the unthinking physician is thus led to prescribe morphin recklessly and without due consideration of its dangers. Pantopon, on the other hand, is made by a firm whose products, in a number of cases, have been accepted by the Council for inclusion with New and Nonofficial Remedies. The composition of Pantopon is not secret, for it is definitely stated that it consists of the alkaloids which naturally occur in opium, freed from the other constituents of opium—extractive matter, etc.—in the form of hydrochlorids. Papine and Pantopon, however, resemble each other in that they have names which do not sufficiently indicate to the physician their chief constituent, morphin, and they are, therefore, a menace to the public. In spite of the testimonials for both these products, we believe that physicians would not be far amiss if they would continue to use the drugs, morphin and opium, whose value—and dangers—they know.

SELF-SUPPORTING CRIPPLES

The compensation of workmen in factories and other industries for injuries sustained in the line of their work is a live question at the present time. Many European countries for years have had laws concerning employers' liability and workmen's compensation. A step further in this humanitarian line is the education of persons prevented from following their former occupation or trade by reason of injury. This is accomplished by the establishment of schools wherein such persons are taught various trades by which they may earn a livelihood, even in their crippled condition. At Charleroi, France, at the instigation of Pastur and Caty,[1] a school has been established for this purpose. Among the trades taught

1. Presse Médicale, Feb. 18, 1911.

to people injured in the industrial establishments of this manufacturing city are brush-making, the making of paper boxes, turning, binding, stenography and typewriting, drawing and other forms of manual training. The trade which the crippled individual must take up is, of course, governed in a measure by the nature of the injury; for instance, individuals crippled in the legs would follow occupations allowing them to sit at their work. In one case described in the article referred to, a man with both arms amputated near the shoulder, by means of a mechanical appliance about his neck, follows the trade of a wood-turner. In another instance, an individual with both hands gone was enabled to make brushes. The many occupations which may be followed by the blind are more or less familiar. Similar schools are conducted in other places, at present mostly through private philanthropy. There is no reason why such schools should not be supported by the state; this undoubtedly will be a development of the future, following the securing of efficient employers' liability and workmen's compensation acts.

UNIVERSITIES AS OBJECT-LESSONS IN HYGIENE

"Preventive medicine is the cheapest life-insurance which can be taken out." With this sentence Ravenel and Frost of the hygienic committee of the University of Wisconsin conclude an admirable paper in this issue on "The Formation and Functions of Hygienic Committees for Universities," which gives a history of the formation of the committee on hygiene of the university and its achievements. The need for such a committee in this instance is abundantly shown. Conditions in the University of Wisconsin are probably representative of conditions to be found in many other universities and in smaller schools as well. The worth of the paper lies not so much in the statement of the good accomplished in this one school, as in the admirable scheme of investigation employed and the measures adopted for bettering the hygienic conditions of the buildings and health of the students, which may serve as a model. Their studies have brought them to the following conclusion: "Schools, colleges and universities ought to lead in sanitary construction, sanitary equipment and sanitary care. Class-rooms and laboratories ought to be models of sanitary excellence as well as of convenience and attractiveness. The educational value of such buildings far outweighs any additional expense involved." It might be added that the lessons of this paper would apply with still greater force to industrial establishments employing large numbers of men and women, with longer hours and more exacting conditions than in the schools; and the sentence first quoted might be changed to read, "Preventive medicine is the cheapest industrial insurance which can be taken out."

THE SCOPE OF THE NEXT PHARMACOPEIA

Although the Committee on Revision of the United States Pharmacopeia was appointed nearly a year ago, it has issued no report to show what progress is being made. While there are doubtless good reasons why no such report has been published, the committee should realize that the medical profession is interested as never before in the question of what should be added to, or deleted from, the next edition of the Pharmacopeia. It may not be amiss to point out that physicians frequently accept at their face value claims made by interested persons regarding the therapeutic action of certain drugs. This applies to both proprietary and non-proprietary articles. There is a tendency on the part of certain doctors to prescribe such drugs, even after they have been shown to be worthless, especially if the preparations have been admitted to the official standards and consequently included in text-books. An example of the official recognition — not pharmacopeial — of a valueless preparation is that mixture of pepsin and pancreatin known as Elixir Digestivum Compositum, N.F. A formula for this preparation was put in the National Formulary because of the very extensive use of a nostrum widely exploited with most extravagant and untruthful claims. This nostrum has been and is widely used, not because it is of any therapeutic value, but simply and solely because it has been extensively and extravagantly advertised. It is well known that liquid preparations of pepsin and pancreatin are therapeutic absurdities and chemical impossibilities. So, while a drug may be widely used, it does not necessarily follow that it is of any value whatever. Many text-books contain recommendations for the use of drugs simply because some other text-book recommended them, not because they are of any value. It is to be hoped that those who select the articles to be included in the next Pharmacopeia will have some other basis for inclusion than the mere fact that they are being used. If the Pharmacopeia is to be a scientific treatise on drugs, and is to enlist and keep the respect of the medical profession, the adoption of some other standard becomes inevitable.

Medical News

ALABAMA

Tag Day in Montgomery.—The Young Ladies' Auxiliary of the Montgomery Antituberculosis League will hold a Tag Day, April 29, the proceeds to be devoted to the purchase of a site for a day camp for tuberculous patients.

Antituberculosis Society Election.—At the annual meeting of Jefferson County Antituberculosis Association, held in Birmingham, April 16, Dr. Benjamin L. Wyman was elected first vice-president, and Drs. Cabot Lull and Cunningham Wilson were elected directors. By the efforts of the association, a tuberculosis camp has been established on Red Mountain. The most recent addition to the camp is a dining room pavilion just completed which will accommodate seventy-five patients.

Personal.—Dr. James T. Fowler, Dothan, has succeeded Dr. Edgar R. Burns, Sheffield, as medical member of the State Convict Board.——Dr. George I. DeWald, state bacteriologist, has resigned and will resume practice at his home in Philadelphia.——Dr. Jackson T. Brown, Riverside, has been appointed road commissioner of St. Clair County.——The residence of Dr. James T. Searcy on the State Hospital grounds, Tuscaloosa, was destroyed by fire, March 5.

ARKANSAS

State Society Meeting.—The annual meeting of the Arkansas Medical Society will be held in Fort Smith, May 9-12, under the auspices of the Sebastian County Medical Society.

Sanitarium Established.—A number of physicians of Missouri and Kansas have united in the organization of a sanitarium company at Sulphur Springs. The building is a five-story, stone structure containing 100 rooms with modern

equipment; is situated in a well kept park of 40 acres, which contains also an 8-acre lake and five mineral springs. Dr. J. Morse Griffin is president of the company, and Dr. Edward R. Tenney, medical superintendent.

Needs of the Sanatorium.—After meeting with the board of trustees of the State Tuberculosis Sanatorium, the joint committee of the legislature has decided to ask for an appropriation of $25,000 for construction work, and of $60,000 for maintenance of the institution for two years. The sanatorium at present accommodates seventy patients, but with the infirmary and additional quarters proposed, the capacity will be increased to 100. The cost of maintenance is estimated at $600 per annum per patient.——A bill has passed the senate appropriating $85,000 for a state tuberculosis sanatorium and the bill is at present pending in the house with fair prospects of passage.

CALIFORNIA

Personal.—Dr. Addison Morgan, San Diego, has been appointed autopsy physician to the coroner of San Diego County. ——Dr. Annette Buckel, Piedmont, was the guest of honor at a banquet of the Professional Women's League, Oakland, March 21.

State Society Meeting.—At the annual meeting of the Medical Society of the State of California, held in Santa Barbara, April 18 and 19, Del Monte was chosen as place of meeting in 1912. The following officers were elected: Dr. Thomas W. Huntington, San Francisco, president; Drs. Charles S. Stoddard, Santa Barbara, and John R. Walker, Fresno, vice-presidents; and Dr. Philip Mills Jones, San Francisco, secretary-treasurer (reelected).

COLORADO

Ball for Nurses.—The first annual ball of the Denver Visiting Nurses' Association was given April 18, and netted for the association about $1,000.

Hospitals in State.—The last report of the State Board of Charities and Corrections states that there are eighty-two hospitals in Colorado, of which twenty-two are private or semi-private institutions for the care of tuberculous patients.

Personal.—Dr. Mary E. Phelps, Canon City, has returned after a year abroad.——Dr. William C. Mitchell, Denver, has gone to Europe.——Dr. Richard S. Grant, Colorado Springs, was painfully injured in a runaway accident, April 4.—— Dr. Peter H. Heller, Pueblo, who has been ill in St. Mary's Hospital, has recovered and resumed work

Dispensary Will Build.—The Free Medical Dispensary, established six months ago under the direction of the North Denver Italian Mission, has been so successful that plans are now being made for the erection of a building to cost $20,000. About $7,000 of this amount has already been subscribed. The dispensary has treated so far more than 400 cases a month.

Consumptive Relief Society.—The Jewish Consumptive Relief Society, Edgewater, celebrated its seventh annual meeting, April 16, and laid the cornerstone of the second New York Ladies' Auxiliary Pavilion and the cornerstone of the Beth Jacob Synagogue, the gift of I. Solomon, Denver, in memory of his son. During the last year the society has spent $65,000 and now has a balance of $10,000 in the treasury.

DELAWARE

Wilmington Appoints Vaccine Physicians.—The city council has reelected the following vaccine physicians: Drs. John McGrath, Harry G. Buckmaster, Wilbur E. Postles and Harvey B. Patton.

Quarantined Immigrants Revolt.—About 200 immigrants, detained fourteen days in quarantine in Lewes because of an outbreak of small-pox on the steamship *Verona*, became vexed at the non-arrival of the steamship *Taormina*, which was expected to arrive April 14 and take them to Philadelphia, overpowered the few guards and marched to the Lewes railway station. They were refused tickets and were driven back to quarantine by armed guards, assisted by sailors from the United States Revenue Cutter *Onondaga*.

GEORGIA

Personal.—Drs. Josephus J. P. Bowdoin, Adairsville; Fred V. Turk, Stilesboro, and George Will Battle, Cassville, have been appointed members of the board of health of Bartow County. ——Dr. Philip H. Camas has been appointed medical inspector of the high school of Baxley.

Health Boards Organize.—The Association of State, County and Municipal Health Boards was organized at Rome, April 18, at a meeting of the Georgia Medical Association and the State Board of Health. Dr. James C. Bloomfield, Athens, was elected president; Dr. Olin H. Weaver, Macon, vice-president, and A. V. Wood, Brunswick, secretary.

State Society Meeting.—The Medical Association of Georgia held its annual meeting at Rome, April 19-21, under the presidency of Dr. Edward C. Davis, Atlanta. Augusta was selected as the next place of meeting, and the following officers were elected: president, Dr. William L. Fitts, Carrollton; vice-presidents, Drs. Robert M. Harbin, Rome, and T. E. Bradley, Cordele; secretary-treasurer, Dr. William C. Lyle, Augusta; delegate to the American Medical Association, Dr. William Doughty, Augusta, and alternate, Dr. Edgar G. Ballenger, Atlanta.

ILLINOIS

Asks New Hospital.—Several practitioners of Aurora have started a petition to Bishop Muldoon requesting that the Sisters of Mercy be allowed to erect a hospital on the west side, as the hospitals in Aurora and St. Charles are already overcrowded.

County Society Room Planned.—At a recent meeting of the Montgomery County Medical Society, it was proposed to have a room built on the east side of the Litchfield Hospital 20 by 26 feet to be used as a meeting place and clinic room for the society. The cost of the proposed addition is $2,000.

State Society Meeting.—The Illinois State Medical Society will hold its annual convention in Aurora, May 16-18. Dr. Herman A. Brennecke, chairman of the committee on accommodations, appreciates that accommodations at the hotels will be inadequate and is making early arrangements for accommodations in private houses. Those desiring accommodation should communicate with Dr. Brennecke.

Personal.—Dr. and Mrs. William M. Kaull, Princeton, have returned after a winter spent in Florida and the east.——Dr. William L. Gray has been elected president of the board of education of Champaign.——The office of Dr. James E. D. Silcox, Rio, was destroyed by fire, April 9, with a loss of $2,000, partially covered by insurance.——Dr. Edwin L. Winslow, Danville, has been reelected physician of Vermilion County.

Society Meetings.—At the meeting of Greene County Medical Society, held in Kane, March 10, resolutions were adopted respectfully requesting the legislature and governor to adopt such laws as will give to the state only high class medical schools, and also asking the legislature and governor to establish and maintain one educational standard and one medical examination, except in therapeutics, for all who are licensed to treat human disease, and endorsing the work done, and the standard of medical education adopted by the Council on Medical Education of the American Medical Association. Dr. Henry A. Chapin, White Hall, was elected delegate, and Dr. Henry W. Chapman, White Hall, alternate delegate to the state medical society.——At the annual meeting of the McLean County Medical Society, held in Bloomington, April 6, the following officers were elected: president, Dr. Robert A. Noble, Bloomington; vice-president, Dr. Ferd. C. McCormick, Normal; secretary-treasurer, Dr. Thomas D. Cantrell, Bloomington; censors, Drs. Edward L. Brown, John W. Dobson and Ralph D. Fox, all of Bloomington; delegate to the state society, Dr. Edwin P. Sloan, and alternate, Dr. Ernest B. Mammen, both of Bloomington.——At the annual meeting of Waukegan Physicians' Club, April 4, Dr. Fremont C. Knight was reelected president; Dr. William C. Bouton, vice-president, and Dr. Charles E. Daniels, secretary-treasurer.

Chicago

Bequest for Hospital.—The county judge at Kenosha has admitted to probate the will of the late Caroline Durkee, which devises the entire estate to St. Luke's Hospital, Chicago, and Racine College, Racine, Wis.

Personal.—Major Daniel W. Rogers, M. C., Ill., N. G., chief sanitary officer of the state, has been detailed for temporary duty at the maneuvers on the Mexican frontier.——Dr. and Mrs. Maurice L. Blatt sailed for Europe, April 27.

INDIANA

Health Officers to Meet.—Dr. John N. Hurty, Indianapolis, secretary of the State Board of Health, has issued summonses to all the county health commissioners in the state to attend the annual conference to be held at the Claypool Hotel, Indianapolis, May 9 and 10.

District Society Meeting.—The annual meeting of the Twelfth District Medical Society was held in Fort Wayne, April 12, and the following officers were elected: Dr. William F. Shumaker, Butler, president; Drs. Benjamin P. Weaver, Fort Wayne, and Lyman T. Rawles, Huntertown, vice-presidents; and Dr. Homer E. Glock, Fort Wayne, secretary-treasurer.

Personal.—Dr. Joseph Kentling, Smithville, while crossing the Monon tracks, was struck by a train but only slightly injured.——Dr. Philip E. Stockhardt, Elwood, has been adjudged of unsound mind and committed to the Eastern State Hospital, Richmond.——Dr. Lewis C. Griffith, Bowling Green, has been appointed health officer of Washington Township, vice Dr. T. Roy Cook, Bowling Green.——Dr. and Mrs. Thomas J. Bowles, Muncie, celebrated their golden wedding anniversary, April 14.

MARYLAND

Hospital Made Residuary Legatee.—By the will of the late Benjamin F. Chambers of Trenton, N. J., formerly of Cecil County, Union Hospital of Cecil County, Elkton, is made the residuary legatee and will receive about $60,000.

Decide on Jarrett Portrait.—At a meeting of the Baltimore County Medical Association, held in Towson, April 19, it was decided to have a portrait painted of Dr. James H. Jarrett, Towson, who graduated fifty-nine years ago, the portrait to be deposited with the Medical and Chirurgical Faculty of Maryland in Baltimore.

Annual Meeting of Society.—At the annual meeting of the Montgomery County Medical Society, April 20, the following officers were elected: President, Dr. James Dudley Morgan, Chevy Chase; vice-president, Dr. Frederick N. Henderson, Rockville; secretary-treasurer, Dr. John L. Lewis, Bethesda; censors, Drs. William T. Pratt, Potomac; Clayborne H. Mannar, Rockville; Vernon H. Dyson, Laytonsville, and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James E. Deets, Clarksburg.

State Sanatorium Report.—The fourth annual report of the Maryland Tuberculosis Sanatorium, founded in 1906, and located on the crest of the Blue Ridge Mountains, sixty-nine miles northwest of Baltimore, and established at a cost of $265,000, for white citizens in the incipient stage of tuberculosis, shows that during the year 574 patients ranging from seven to seventy-two years of age, were treated, the daily cost per capita being 95.3 cents. The beds were filled at all times, and there was a waiting list of from four to fifty. More than 500 patients have had to be refused annually. During the year 371 were discharged, 17 or 4.6 per cent. apparently cured; in 142 or 38.3 per cent., the progress of the disease was arrested; in 153 or 41.2 per cent. the condition of the patient improved; in 54 cases or 14.6 per cent., the condition of the patient remained unimproved; and 5 patients or 1.3 per cent. died. Of the patients, 102 remained less than ninety days, and 269 for a longer period. The after results in the case of 618 patients discharged since the opening of the institution in August, 1908, show that 36 are well, 271 are living and working; 173 are living and not working; 106 have died and the condition of 32 is unknown.

Baltimore

Personal.—Dr. Samuel C. Chew is suffering from a severe attack of influenza.——Dr. Jacob D. Norris, president of the board of police examiners, is seriously ill with heart disease.——Dr. Mary Sherwood has been elected president and Dr. Florence R. Sabin, corresponding secretary of the Just Government League.

Home for Physicians' Widows and Orphans.—At the second annual meeting of the board of managers of the Home for Widows and Orphans of Physicians, held April 18, the following officers were elected: president, Mrs. Eugene F. Cordell; vice-president, Mrs. Sophia Cooke Waters; recording secretary, Mrs. Augusta E. Fenton; corresponding secretary, Mrs. John G. Jeffers, and treasurer, Dr. Eugene F. Cordell.

MICHIGAN

Personal.—Dr. David J. Levy, Kalamazoo, has returned from Vienna.——Dr. Arthur R. Hayton, Shelby, suffered severe injuries of the face by an explosion of chemicals in his office recently.——Dr. Collins H. Johnston, Grand Rapids, has sailed for Europe.

State Board Nominations.—The governor sent the following nominations to the state senate, April 19, for places on the State Board of Registration in Medicine: Dr. Henry C. Maynard, Hartford, to succeed himself; Dr. Arthur M. Hume, Owosso, to succeed Dr. Flemming Carrow, Detroit; Dr. Bret Nottingham, Lansing, to succeed himself; Dr. Joseph A. Crowell, Iron Mountain, to succeed Dr. Theodore A. Felch, Ishpeming; and Dr. Austin W. Alvord, Battle Creek, to succeed himself.——Prof. Robert L. Dixon, Ann Arbor, has been nominated by the governor to succeed Dr. Frank W. Shumway, Lansing, as secretary of the State Board of Health.

Antituberculosis Work.—At the annual meeting of the Kalamazoo Antituberculosis Society, March 29, Dr. Herman Ostrander was elected president; Dr. John B. Jackson, secretary; and Dr. S. Rudolph Light, treasurer.——The Detroit Tuberculosis Sanatorium has received an anonymous gift of $5,000, which will provide for the perpetual endowment of one bed in the institution.——The Saginaw Antituberculosis Association has filed articles of incorporation.——Morgan Heights Sanatorium, the Marquette County Tuberculosis Hospital, situated about 7 miles west of Marquette on a high plateau, is practically completed and will be ready to receive patients in a few days.

Certified Milk Bill Passed.—After two years' effort, opposed by money dairymen who were selling milk which was not certified but which was claimed to be certified, the legislature has just passed a bill limiting the term certified milk to the high standard required by the committee appointed by the State Medical Society. This committee is composed of Drs. Collins H. Johnston, Grand Rapids; Marinus L. Holm, state bacteriologist, Lansing; Blanche N. Epler, Kalamazoo; Christopher G. Parnall, Jackson, and Thomas B. Cooley, Detroit. The bill was practically the same as the New Jersey law, except as to the method of selecting the commissioners who are now to be appointed by the local health boards if they have two physicians as members, otherwise by the state board. The bill "provides for the appointment and incorporation of medical milk commissions and the certification of milk produced under their supervision," and details the requirements.

MISSISSIPPI

Health Exhibit Campaign.—Dr. Waller S. Leathers, University, director of the public health and sanitation campaign of the State Board of Health, has received a letter from the Queen and Crescent System offering the board the use of two cars for the use of the health exhibit campaign throughout the state. Plans for the trip of the cars through Mississippi are now being formulated.

State Medical Society Meeting.—The annual meeting of the Mississippi State Medical Association was held in Jackson, April 11-13, under the presidency of Dr. John W. Young, Grenada, and the following officers were elected: president, Dr. Daniel J. Williams, Ellisville; vice-presidents, Drs. John T. Longino, Jonestown; Samuel E. Eason, New Albany, and John C. McNair, Fayette; secretary, Ewing F. Howard, Vicksburg; treasurer, Dr. Levi B. Sparkman, Cleveland; councilors, Drs. Sydney W. Johnston, Vicksburg; Charles M. Coker, Eden, and G. W. Wallace, Arbo. The association nominated the following five members as members of the State Board of Health to be appointed by the governor in 1912: Drs. John Darrington, Yazoo City; Giles S. Bryan, Amory; Elbert A. Cheek, Arcola; Theophilus E. Ross, Hattiesburg, and Inman W. Cooper, Newton. All of the nominees are members of the present state board.

NEW YORK

Personal.—Dr. Montgomery E. Leary has resigned as director of the Rochester Public Health Association after thirteen years' service. Dr. Leary will hereafter give his entire attention to his duties as superintendent of the Iola Sanitarium.——Dr. David H. MacKenzie, Millbrook, is reported to be seriously ill with disease of the gall-bladder in Sadlier Hospital, Poughkeepsie.

Hospital Gifts for Troy.—The Board of Directors of the Samaritan Hospital has received an offer from Miss Alida Van Schoonhoven of that city to erect and equip a memorial hospital.——George B. and Robert Cluett have also offered to erect and equip a new fireproof hospital complete. It is estimated that the two offers will involve the expenditure of more than $300,000.

Urges Restoration of Medical Library.—Albany County Medical Society, at its meeting, April 12, adopted a resolution calling the attention of the legislature to the great loss sustained in the destruction of the medical division of the New York State Library, when a section of the State Capitol was destroyed by fire recently, and asking that steps be taken to restore the library.

Approves Medical Experimentation.—The house of delegates of the Medical Society of the State of New York, on April 17, adopted a resolution declaring "that animal experimentation in this state is conducted in a proper and merciful manner, and that such experimentation is positively essential in medical progress; that unmerciful experimentation is not

practiced in this state, and is prohibited by law," and opposing the bill which provides for a commission to investigate the practice of vivisection, on the ground that it is unnecessary and mischievous and calculated to hinder and cripple experimentation.

State Medical Society Meeting.—At the annual meeting of the Medical Society of the State of New York, held in Albany, April 18-20, the following officers were elected: president, Dr. Wendell C. Phillips, New York City; vice-presidents, Drs. Peter W. Van Peyma, Buffalo; William F. Campbell, Brooklyn, and Clifford R. Hervey, Oswego; chairman of the committee on scientific work, Dr. Louis Neumann, New York City; chairman of the committee on legislation, Dr. Elliott T. Bush, Horseheads; chairman of the committee on arrangement, Dr. William J. Nellis, Albany; chairman of the committee on public health, Dr. Joshua M. Van Cott, Brooklyn; secretary, Dr. Wisner R. Townsend, New York City (reelected); treasurer, Dr. Alexander Lambert, New York City; delegates to the American Medical Association, Drs. Algernon T. Bristow, Brooklyn; James W. Fleming, Brooklyn; Edward W. Mulligan, Rochester; Henry L. Elsner, Syracuse; Edgar A. Vanderveer, Albany, and Edward E. Cornwall, Brooklyn.

New York City

Mount Sinai Hospital Purchases Property.—This institution has purchased two flat buildings in East Ninety-Ninth Street for the site of the proposed pathologic building made possible by the donation of $200,000 by Adolph Lewisohn.

More Meningitis Comes From Greece.—The Greek steamship *Athinai* brought to this port three more cases of cerebrospinal meningitis, making a total of thirty-five cases brought here from Greek ports within two months. There have been eighty cases detained at Quarantine this year with a mortality of 35 per cent.

Preparing to Fight Poliomyelitis.—Several physicians have prophesied an outbreak of infantile paralysis with the advent of warm weather. The health board is preparing to grapple with the disease as it has not done before. Hitherto the law has provided only for the reporting of cases, but if the virulence of the disease seems to warrant the action, the board of health will take charge of it. Two cases have been reported in the Bronx and six in Brooklyn since March 1.

Personal.—Drs. Henry Clarke Coe and Samuel M. Brickner, who were operated on recently for appendicitis, are convalescent.——Dr. William L. Russell, superintendent of the Long Island State Hospital, and for a number of years medical inspector of the New York State Commission in Lunacy, has been elected by the board of governors of New York Hospitals superintendent of the Bloomingdale Hospital, White Plains, vice Dr. Samuel B. Lyon, who will retire July 1 after twenty-five years' service.

Buffalo

Personal.—Dr. Charles S. Meahl has been appointed sanitary expert to the department of health.——Dr. Earl P. Lothrop has returned after a winter in Florida.

City Hospital Site Selected.—The aldermen have voted that the city purchase the West Farm site containing 81 acres for the proposed city general hospital for $225,000. The site has 1,500 feet frontage on Delevan Avenue, and 2,800 feet on Grider Street.

Higher Requirements.—On April 10 the new pathologic and chemical laboratories of the University of Buffalo were inspected by the Erie County Medical Society. The regular meeting of the society was held at the medical school. At the suggestion of the faculty of the medical school, a resolution was passed, recommending that the Medical Society of the State of New York urge that one year of college work be required of medical students for entrance, and a fifth year in a hospital of all graduates.

NORTH DAKOTA

State Association Meeting.—The annual meeting of the North Dakota State Medical Association will be held in Fargo, May 9 and 10.

Personal.—Dr. Archibald L. McDonald, Grand Forks, professor of anatomy in the University of North Dakota College of Medicine, will, it is reported, sever his connection with the institution at the close of the present year and will devote his entire attention to private practice. He will still be a special lecturer on the medical faculty.——Dr. Roy W. Pense has been appointed health officer of Minot.——Dr. F. A. Bordwell, Marmath, was seriously injured in a runaway accident near that place, April 17.——Dr. William C. Eichler, Underwood, has gone to Europe.

PENNSYLVANIA

Personal.—Dr. Charles H. Mann, president of the Bridgeport Board of Health, was recently injured in an automobile accident.——Drs. W. F. Krick of Philadelphia, a graduate of University of Pennsylvania; John J. Sosnowoski, of Mahanoy City, Jefferson Medical College, and Ward J. Brinton, Philadelphia, Jefferson Medical College, have been elected resident physicians of St. Joseph's Hospital, Reading.

Sanatorium Report.—Out of a total of 3,649 cases of tuberculosis, treated at Mount Alto Sanatorium for eighteen months, those in the moderately advanced stage of the disease number 1,382, and in the far advanced stage, 1,803, according to the report just issued. Dnring this period out of 636 moderately advanced cases, discharged from the institution, 134 had the disease arrested and 375 were much improved. In the far advanced cases, 67 out of 780 had been greatly improved with the disease arrested, and 387 showed marked general improvement.

Philadelphia

New Hospital Society.—The physicians connected with the Jewish Hospital, have recently formed a clinical society and elected the following officers: president, Dr. Max H. Bochroch; vice-president, Dr. Jay C. Knipe; secretary and treasurer, Dr. Nate Ginsburg, and recorder, Dr. David Kapp.

Campaign Against Flies.—The public health committee of the Civic Club together with the health authorities will begin a crusade against flies and other harmful insects. Drs. James J. Bradley, Jr., Collin Foulkrod, Elizabeth Snyder and Edith E. Eayre will lecture in the settlement houses throughout the city, and the authorities will require all foodstuffs, such as meat, vegetables and milk, be properly screened and that all butchers and grocers keep their wares from infection from flies.

Gastroenterologists Meet.—The fourteenth annual meeting of the American Gastroenterological Association was held in Philadelphia, April 19-20. The following officers were elected: president, Dr. Walter B. Cannon of Boston; vice-presidents, Drs. John A. Lichty, Pittsburg, and William G. Morgan, Washington, D. C.; secretary and treasurer, Dr. Franklin W. White, Boston, and members of the council, Drs. Samuel J. Meltzer, New York; Charles D. Aaron, Detroit, and Julius Friedenwald, Baltimore.

Personal.—Dr. Jacques Loeb, of the Rockefeller Institute for Medical Research, delivered the address at the annual conversational meeting of the Pathological Society, April 27. His subject was "Fertilizing Effects of the Extracts of Tissues, Blood and Sperm." After the address a reception was given for Dr. Loeb at the University Club.——Prof. Svante Arrhenius, Stockholm, Sweden, will deliver the third Weir Mitchell Lecture of the College of Physicians in Mitchell Hall on May 16. The subject will be "The Passage of Microorganisms Through Interstellar Space: a Theory Bearing on the Origin of Life on a Planet."—Dr. Joseph S. Neff, director of public health and charities, has recovered and returned to his duties at city hall on April 18.——Professor Hugh Campbell Ross, director of research at the Royal Southern Hospital at Liverpool, and honorary clinical pathologist at the Royal Liverpool County Hospital for Children, will give a course of lectures during the coming month at Jefferson Medical College for the purpose of demonstrating new discoveries in the treatment of cancer.

SOUTH CAROLINA

County Association Meeting.—Edgefield County Medical Association held its annual meeting in Edgefield, March 29. Dr. John T. Hunter, Trenton, was elected president; Dr. George B. Walker, Johnston, vice-president, and Dr. John G. Edwards, Edgefield, secretary-treasurer.

Personal.—Dr. Charles F. Williams, Columbia, state health officer, has resigned, but the executive committee of the State Board has refused to consider the resignation.——Dr. John Cauzon Foster has been elected a member of the board of health and health officer of Lancaster.

State Society Meeting.—The South Carolina Medical Association held its sixty-third annual meeting in Charleston, April 18-20, under the presidency of Dr. James H. McIntosh, Columbia. The principal address was delivered by Drs. Alexander Lambert, New York City, and Judson Daland, Philadelphia. Columbia was selected as next place of meeting. The following officers were elected: president, Dr. J. Wilkinson Jervey, Greeneville; vice-presidents, Drs. Archibald E. Baker, Charleston; John H. Miller, Cross Hill, and Henry B. Lee,

Summerville; secretary, Dr. Edgar A. Hines, Seneca (reelected); treasurer, Dr. Charles P. Aimar, Charleston (reelected); councilors, Drs. J. Taliaferro Taylor, Adams Run (reelected); Gottlob A. Neuffer, Abbeville, and Julius A. Faison, Bennettsville; and editor of the *Journal of the South Carolina Medical Association*, Dr. Julius C. Sosnowski, Charleston (reelected).

SOUTH DAKOTA

Personal.—Drs. Charles E. McCauley, Aberdeen, and William Lowe, Madison, have been appointed members of the State Board of Medical Examiners to succeed Drs. H. F. Bright, White Lake, and Alonzo A. Cotton, Vermilion.——G. G. Redfield, Rapid City, has been appointed a member of the State Board of Osteopathic Examiners, and Dr. Robert T. Dott, Salem, a member of the State Board of Health.——Dr. and Mrs. Frank I. Putnam, Sioux Falls, have returned from abroad.

District Society Meeting.—The Eighth (Yankton) District Medical Society held an interesting meeting at the State Health Laboratory, Vermilion, March 28, followed by a banquet furnished by the physicians of the city. The program included papers on "Infection and Immunity," by Dr. Harley E. French, Vermilion; "Present Status of Serum Therapy," by Dr. Philip R. Burkland, Vermilion; "Practical Use of Autogenous Vaccines," by Dr. Edward W. Meis, Sioux City, Ia.; "Practical Laboratory Methods in the Diagnosis and Treatment of Infectious Diseases," by Dr. Mortimer Herzberg, Vermilion; and "Hypodermic Medication in Specific Disease," by Dr. S. H. Richman, Yankton. The next meeting will be held in Pierre June 15-17.

TEXAS

Sanitary Code Prosecution.—The first prosecution under the new sanitary code law of the department of health is to be held at Waco. The alleged offender in the case is the registrar of vital statistics at Mart.

State Association Meeting.—The annual meeting of the State Medical Association of Texas will be held at Amarillo, May 9-11. One feature of the entertainment will be a barbecue and out-door feast at Palo Duro Canyon.

County Society Election.—At the annual meeting of Titus County Medical Society, held in Mount Pleasant, March 23, Dr. Albert A. Smith, Goolesboro, was elected president, and Dr. William H. Blythe, Mount Pleasant, secretary.

Tents for Tuberculosis Patients.—The board of health of Dallas has approved the plan of the local Red Cross for the erection of six tents on the city hospital grounds for the isolation and care of tuberculosis patients in the City Hospital, and the tents will be erected under the direction of city health officer, Dr. Thomas B. Fisher.

Northeast Texas Physicians Meet.—At the annual meeting of the Northeast Texas District Medical Association, held in Fort Worth, April 11 and 12, Dr. Joseph H. McCracken, Mineral Wells, was elected president; Dr. John H. McLean, Fort Worth, vice-president, and Dr. A. D. Patillo, Petrolia, secretary. The next meeting will be held at Mineral Wells.

Leprosarium.—It is announced that the state home for lepers provided for by an act of the thirty-first legislature will be established by Governor Colquitt. Dr. Manton M. Carrick has been appointed superintendent and a commission of three men, including the state health officer to be one, will be appointed immediately to locate the institution. An appropriation of $40,000 was made by the legislature for the purpose of establishing the institution and maintaining it until August 31.

UTAH

Resolutions Regarding Dr. Carnahan.—Weber County Medical Society, at its regular meeting, April 19, adopted resolutions setting forth the high and honorable work done by the late Dr. John D. Carnahan, Ogden, a member of the society, presenting a sketch of his life and deploring his death.

Amendment to Medical Practice Act.—Utah has just secured legislation providing important amendments to its medical practice act. Among other things, the new act provides for higher standards of preliminary education, revocation of licenses for unprofessional conduct and a better definition of the practice of medicine.

VERMONT

Drinking Cups Prohibited.—The first quarterly bulletin of the State Board of Health for the year contains a copy of the regulations adopted by the board, prohibiting the use of the common drinking cup in all public places, parks, fountains, school houses, factories, mills, workshops, libraries, public halls or other public buildings, railroad stations and railroad trains on and after May 1.

VIRGINIA

New Hospitals.—Drs. Robert C. Bryan and H. Stuart MacLean have approved plans for a hospital to be built at Grace and Monroe streets, Richmond, to cost about $60,000.——Dr. J. Shelton Horsley, Richmond, has under consideration plans for a private hospital to be erected at Pine and Grace streets.

Personal.—Dr. William A. Deas, Richmond, has resigned as physician to the Lee Camp Soldiers' Home.——Dr. George T. Myers, Norfolk, has been appointed medical assistant in the health department.——Dr. John J. Lloyd, Jr., Lynchburg, has succeeded Dr. W. E. Jennings as assistant resident physician at Catawba Sanatorium.——Dr. Clarence W. Cowper, Norfolk, appointed medical inspector of the health department, has resigned as alderman of that city.——Dr. Thomas F. Keen, Hamilton, announces his retirement from active practice.

WISCONSIN

Medical Press Board.—At a meeting of the Milwaukee County Medical Association, April 14, a board of censors, otherwise known as a press committee, was appointed, whose duty is to supervise, so far as possible, all articles appearing in the lay press relative to the medical profession or dealing with medical subjects.

Contagion and Eddyism.—The Milwaukee County Medical Society appointed a committee at a special meeting, April 16, "to investigate the attitude of the Christian Science church toward the practice of medicine with especial reference to the treatment of contagious diseases." It was reported that there were, on that day, fifty-three cases of scarlet fever in one ward of the city being treated by Eddyist healers.

Antituberculosis Society Meeting.—The new Wisconsin Antituberculosis Association held its meeting in Milwaukee, April 11, and elected officers. Dr. Harry Greenberg, Milwaukee, was elected chief of the medical staff. A fresh-air camp for tuberculous convalescents will be established on the Kern tract, the use of which has been given the society by the park board. Tents accommodating two patients each will be erected, and the camp will be known as the Social Workers' Tuberculosis Sanatorium.

Personal.—Dr. Clinton H. Lewis, Bayview, Milwaukee, sustained serious injuries of the head and back in a runaway accident, April 17.——Dr. Bernard C. Gudden was guest of honor at a banquet given by the Oshkosh Medical Club, April 14, in commemoration of the thirtieth anniversary of Dr. Gudden's entrance into practice of medicine in Oshkosh.——Dr. Richard J. Muenzner, Allenton, has been elected secretary of the American Medical Association of Vienna.——Dr. Charles R. Bardeen has been reelected president of the board of directors of the Madison General Hospital Association.——Dr. John M. Dodd has been elected mayor of Ashland.——Dr. James V. Canavan has been elected mayor of Appleton.

GENERAL NEWS

Confederate Surgeons to Meet.—The Association of Medical Officers of the Army and Navy of the Confederacy will hold its annual meeting at Little Rock, Ark., May 16-18, at the same time as the reunion of the United Confederate Veterans. Dr. Edwin D. Newton, Atlanta, Ga., is president, and Dr. A. A. Lyon, Nashville, Tenn., secretary of the association.

Therapeutic Program.—The twelfth annual meeting of the American Therapeutic Society will be held in Building "B," Harvard Medical School, Boston, May 11-13, under the presidency of Dr. Harvey W. Wiley, Washington, D. C. The subject of the presidential address will be "Bromato-Therapy," and the scientific program shows twenty-nine titles. The annual dinner will be given at the Hotel Vendome on the evening of May 12.

Travel Study Group.—Dr. Johannes Nietner, secretary of the permanent International Commission on Congresses of Hygiene and Demography, and secretary-general of the fourteenth congress, announces that a group of German physicians is planning a study tour in the United States in the summer of 1912 in connection with their visit to the coming congress, and that for the final arrangements, the group will send a representative to the United States in the autumn of this year.

Manila Physicians Meet.—The annual meeting of the Manila Medical Society was held in the Philippine General Hospital, January 9. The following officers were elected: president, Major Weston P. Chamberlain, M. C., U. S. Army; vice-pres-

ident, Dr. Robert E. L. Newberne; editor, Dr. William E. Musgrave; acting editor, Dr. Vernon L. Andrews; secretary and associate editor, Dr. F. B. Bowman; treasurer and business manager, Dr. Harry D. Kneedler, and councilors, Drs. Musgrave and Andrews.

Alumni Meeting.—The annual dinner of the New England Alumni Association of the University of Vermont was held in Boston recently and was attended by about seventy-five alumni. Dr. Walter D. Williamson, Portland, Me., was toastmaster. The following alumni of the medical department were elected officers: president, Dr. Walter D. Williamson, Portland, Me.; vice-presidents, Drs. Frank W. Page, Boston, and Frank H. Clapp, North Grafton, Mass., and member of executive committee, Dr. C. Parker Holt, Cambridge, Mass.

Society of Tropical Medicine.—The eighth annual meeting of the American Society of Tropical Medicine will be held in Tulane University, New Orleans, May 18 and 19, under the presidency of Dr. William S. Thayer, Baltimore. The first scientific session will be devoted to papers on malaria, the afternoon session to leprosy and sprue. The morning session of the second day will be occupied by general discussion on amebiasis, and the afternoon to election of officers and papers on pellagra, yellow fever and miscellaneous subjects.

Alcohol and Drug Habits Studied.—The American Society for the Study of Alcohol and Other Narcotics held its fortieth annual meeting in Baltimore, April 19 and 20. The principal address was delivered by Dr. Winfield S. Hall, Chicago, on "Biological and Physiological Relations of Alcohol." The following officers were elected: president, Dr. Winfield S. Hall, Chicago; vice-president, Dr. Lewis D. Mason, Brooklyn; corresponding secretary and treasurer, Dr. Thomas D. Crothers, Hartford, Conn.; recording secretary, Dr. G. H. Benton, Doublinggap, Pa., and member of the executive committee, Dr. Thomas A. MacNicholl, New York City. Resolutions were adopted asking the government to use its influence to prevent the sale of opium in China.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 8, 1911.

A Public Health Museum

The National League for Physical Education and Improvement has proposed that the London memorial to the late King Edward, whose great interest in sanitary problems is well known, should take the form of a public health museum. In a recent conference of health-promoting institutions, a discussion on the need of coordination disclosed the existence of over eighty such national agencies in London and of a large number of local agencies in London and throughout the country. It was shown that these suffered much both in finance and work from overlapping, from separation of offices and staff, and from lack of coordination. The striking success of the tuberculosis exhibition opened in Dublin and then transferred to the Irish Village in the exhibition at London and to other places throughout the country, demonstrated the great interest taken by the public in sanitary questions. It is proposed to erect a popular museum which should accommodate a permanent collection and also furnish duplicate material for the equipment of traveling vans. It should be a model in constant and close relation with provincial museums to which it would probably give birth. It might also become a loan center for the distribution of replicas of its models and diagrams for circulation among schools and institutions. The building should also form a nucleus for the coordination of the various health-promoting institutions, both metropolitan and national. For this purpose, it should include the following: Two or three meeting halls of different sizes, ten or twelve committee rooms, central offices, a library and reading rooms, lecture rooms, workshop and draftsman's room. The cost of maintenance would be met, to some extent, by the rental of suites of offices, halls, committee rooms, especially by health-promoting conferences and institutions, and to some extent by small fees for courses of instruction. In the main, however, instruction must be given at a low cost, fees being charged only when they will guarantee greater interest in those who pay, and being reduced to such a level as will admit of the greatest possible use of the facilities provided. This would be sufficient grounds for appealing for subscriptions to trades unions, friendly societies, insurance companies and the general public. An appeal will be made for a memorial sum of $500,000 and a subscription of $25,000 a year as a minimum. The early cooperation of organizations of the working classes and of those working for the prevention of tuberculosis and alcoholism will be sought.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 14, 1911.

The Wassermann Reaction as a Means of Detecting Latent Syphilis

At a recent session of the Académie de médecine, Drs. Letulle and Bergeron read a paper based on the investigation of the Wassermann reaction in ninety patients affected with chronic diseases. There were thirty-nine positive reactions. This was to be expected among a large number of these where the patients were paraplegic and subjects of aortic lesions. Moreover, a positive reaction was obtained in subjects of chronic nephritis, non-tuberculous pulmonary diseases, cerebral or meningeal hemorrhages, etc. Among cases which came to autopsy (twelve) the existence of old or recent syphilitic lesions was ascertained.

The conclusion is that an almost absolute diagnostic value should be given to a positive Wassermann reaction; a negative reaction, however, does not prove that there is no syphilis.

Insufficiency of the Means Employed to Prevent a Drug from Dissolving in the Stomach

On April 7 Dr. Linossier of Vichy called the attention of the Association médicale des hôpitaux de Paris to a practical point of current therapeutics. To preserve a drug (pancreatin for example) which is soluble in gastric juice from contact with this liquid, as well as to avoid the irritating action of certain substances like potassium iodid on the stomach walls, it is customary to enclose these substances in an envelope which is not affected by the gastric juice; and it is supposed that the contents escape only when the envelope is digested by the pancreatic juice. These envelopes, which are usually made of gluten, keratin, or formalinized gelatin, are used to ascertain the strength of the pancreatic secretion. Now, while these envelopes resist the gastric juice, it is very easy to show that the soluble substances enclosed in them pass out by osmose from the time the capsule is swallowed, that is, very rapidly. On plunging commercial capsules of potassium iodid with keratinous or glutinous coating into gastric juice, or even into water, Dr. Linossier has seen reactions of iodin in the surrounding liquid appear in less than a minute. The use of such capsules to protect soluble substances from gastric juice is then altogether unsatisfactory. They may, however, protect an insoluble substance.

Prizes of the Society of Infant Hygiene

The Société d'hygiène de l'enfance has offered a prize for a paper on the following question: *Les cantines scolaires, leur utilité; que doivent-elles être?* (Public provision of lunches for school children: their utility; what ought they to be?). The manuscripts should be received before Dec. 31, 1911. They should be unpublished, written in French, German, English, Italian or Spanish. They should not be signed but each should bear a device or superscription reproduced on a sealed envelope containing the name and address of the author. The society reserves the right to draw from the best work materials for a pamphlet for propaganda and instruction. The papers should be addressed to the Président de la Société d'hygiène de l'enfance, 10, rue Saint-Antoine, Paris.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 7, 1911.

Personal

Prof. v. Eicken of Giessen has been appointed regular professor of otology, laryngology and rhinology. This is another instance, in a Prussian University, where a full professorship has been established to take the place of a special lectureship (*Extraordinariat*).

The Cremation Bill

As was to be expected and as I predicted, the bill for the permission of cremation was rejected by the committee of parliament, the vote being a tie. The eventual passage of the bill by a committee of the whole, in the house of delegates, is scarcely probable, owing to the lively objection of the center and conservatives, "the opposition."

Prolongation of Life

Professor Rahts of the imperial statistical office spoke March 24 before the society for insurance science on the prolongation of life, comparing the mortality of the German population with that of other civilized countries. Since 1871

the number of deaths in Germany has remained nearly constant, amounting to about 1,200,000 annually, although the population has risen from 41,000,000 to 65,000,000. The death-rate for 1871 was 30.6 per 1,000, that for 1909, only 18, a very marked reduction.

The estimation of the death-rate is fallacious, however, in comparing various cities of town and country. One must go back to the figures for the single age periods if he wishes to avoid mistakes in determining a relative death-rate. But this concerns only an ideal group of the population who have been subjected through their whole life to the mortality conditions that prevail in each decade. The average duration of life then shows how many years these groups of individuals have lived. Examination of the curves shows that the minimum and the maximum have not behaved in the same manner, but the minimum has sunk and the maximum risen, so that the mortality under 48 has become less, while that above 48 has grown larger. The typical duration of life in Germany is 71 years in men, 73 in women (in Norway 78 years), so that the saying of the psalmist, "The days of our years are three score years and ten," Psalm xc, still holds true. While this increase in the length of life is gratifying, it is in accord with that in other civilized countries, for in Sweden it has increased ten years, in Belgium and Holland 5, in England 3, in France 4, while only in Italy and Austria do the figures show only a trifling advance. If a comparison in percentages be made the figures for Germany are more favorable, showing an increase of 9.1 per cent. against 1.1 per cent in England. The reason for the slighter rise in Germany is the large infant mortality.

The average length of life is often taken as an index for the productive power of a people, but this is not quite correct because infants and the aged are included. Rahts has calculated the average for the productive period of life from 16 to 60 years and has shown that for this class the average length of life has increased one and three-fourths years from 1870 to 1900. As 1,200,000 enter their sixteenth year annually, this increase means an addition of 2,000,000 years of labor for the community, a gain that is largely due to the social legislation and the improvement in hygiene, so that these measures richly pay for the expense involved. Rahts then proceeds to consider the significance of the corrected figures and asserts that a population in vigorous growth gives different figures than a stationary population. The average duration of life is not sufficient to give a correct picture of the mortality rate, but it is necessary to have an estimate of the death liability. The vitality of a people reckoned from this figure shows how many are living for one death. Rahts reaches the conclusion that it has increased in every age class, rising rapidly in men and sinking again rapidly, while in women the curve is more gradual. This agrees with the results of observations by the medical school inspectors who have found that girls are more frail.

The curve of death liability in men follows a peculiar course: after a fall up to the thirteenth year there ensues a rise to the twenty-first, after which it remains stationary a few years and then rises again. As this peculiarity is found in France as well as in Germany, while in England the stationary period does not occur, it is probable that this stationary period is attributable to the salutary influence of enforced military service in France and Germany. If deaths from tuberculosis are excluded, the curve loses its peculiar character and becomes similar to that in women, so that it is possible also that the differing effect of tuberculosis on the two sexes is responsible.

The Census

According to the current data of the last census taken in 1910 the entire population of Germany was 64,896,881, an increase over the last census in 1905 of 4,255,603 (7.02 per cent.), which means a yearly increase for the German empire of 800,000. It is notable that there is a decrease in the excess of females in Germany. While in 1906 there were still 1,500,000 more women than men, in 1909 only 1,000,000 more women could be found and the census of 1910 shows an excess of females amounting to only 800,000.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 1, 1911.

Statistics About Practitioners in Austria

The official figures dealing with our profession are now accessible and their perusal affords a good insight into the prospects of the medical career in this country. The number of inhabitants at the end of 1910 was 28,000,000 in the Austrian part of the empire, which forms the subject of the official report. There were 13,202 licensed duly qualified medical men practicing, including about 1,250 military doctors who were compelled to do private practice also because there was no other doctor living in the district—which fact illustrates the paucity of doctors in some places. Since 1905 the population has increased by 4 per cent. and the number of practitioners by over 6 per cent. In the report the year 1887, when the present overproduction of doctors commenced, is taken as basis. The number of doctors has increased since that year by 76 per cent., but the population has increased only a little less than 30 per cent. At that time, the ratio of distribution of doctors was 1 for each 3,242 of the population. Now it is one doctor for 2,175. The highest increase was in the largest cities, while in the country there is at present still a decided scarcity of medical men. The increase of doctors is also well illustrated by the figures concerning university pursuits of students. In 1887 the proportion of medical students was 30 per cent. of all university students; in 1895 it was over 40 per cent. The output of doctors by graduation was 5,075 from 1887 till 1895; from 1896 to 1905 it was 7,225. At the same time, however, the number of doctors who settled down and were practicing had increased by 4,500 only, indicating, either that the annual mortality of doctors, which is computed at 18 per cent., is much higher than calculated or, what is more likely, that a large number of graduated doctors preferred to give up the fight for a practice and either emigrated or turned to another occupation.

Hand in hand with the absolute increase of doctors, who do not see their way to live outside of the great towns, specialization has been favored in a very high degree with us. There are, for instance, 475 specialists in Vienna, and 200 in Prague, or in Vienna 16 per cent. of the doctors, in Prague over 25 per cent. have become specialists. These towns, however, are also university towns, where specialists are very frequent for obvious reasons. A large number of doctors practice in health resorts where they have only a season practice. In Karlsbad there are 163, in Meran 76, in Baden 53, in Marienbad 69, in Bozen 37 and Abbazia 36 doctors who live there for only part of the year. The number of these part-time practitioners has increased within five years by 18 per cent. Quite different are the figures pertaining to the local and territorial distribution of doctors. While in certain cities the proportion is exceedingly high, in the country districts the scarcity is alarming. For instance, in Olmütz, a town of 60,000 inhabitants, there is one doctor for each 390 inhabitants. In Trieste we find one to 1,010, while Vienna has one to 610, and Prague one to 560. On the other side, in lower Austria (one of the most cultivated countries of the empire) the figure is one to 2,030, in Styria it is one to 3,075, while the lowest figures are in Galicia, one to 10,000 inhabitants. In these latter countries it is evident that the poverty of the population and the low standard of life deter an educated man from settling down, unless he comes from this stock. There is only one possibility of subsisting—appointments which will furnish a maintenance. The payments are not very high, 1,000-3,000 kronen ($200-$600) per annum. Nevertheless, there was a fairly large number of such appointments vacant for a period of longer than two years because no man was willing to accept the post. Altogether, about 60 per cent. of all doctors hold one or other appointment with the state, the government or the *Krankenkasse* (sick club); while the remainder are satisfied with a strictly private practice. The number of female practitioners in Austria is eighty; seven years ago it was only ten, and they have settled down in towns only. Three are practicing in health resorts, and sixteen have appointments with the sick clubs of the laborers (*Arbeiter Krankenkasse*) for the female members. Only thirty-two school doctors have been reported as such at the end of 1910.

In this country we have three large provident societies of doctors, membership being compulsory in none of them. The number of members is 1,080, 740 and 3,200 respectively, and they provide sick pay for their members, varying between $1 and $2 per day, as well as a sum equal to about one-half dollar per member in case of death, so that the widow or the dependents receive at once a few hundred dollars. Of course, there are besides other but smaller societies with similar aims.

The average age of the doctor obtaining an M.D. diploma in this country is 27½ years; the average expectation of life is 53 in the country, 55 in cities; which also illustrates the worse conditions prevailing in the country. It is also interesting to note that doctors are not very fertile, the average number of children of practitioners being two. The reasons will here too be found in the low standard of income of an average doctor.

Marriages

FRANK L. TRUITT, M.D., Indianapolis, to Miss Maide Zulich, at Indianapolis, April 25.

HERBERT A. THOMAS, M.D., Lima, O., to Miss Annabel Alling of Warren, O., March 15.

ROY WHITTIER PORTEUS, M.D., Chicago, to Miss Edith S. Wells of Evanston, April 18.

ELMER LEE HENDERSON, M.D., Louisville, Ky., to Miss Laura B. Owen of Austin, Minn., at Springfield, Ky., April 4.

JACOLYN VAN VLIET MANNING, M.D., Manhattan, New York City, and Christian Sofian Ernest Spoerl of Wilkes-Barre, Pa., in New York City, March 22.

Deaths

Charles Stedman Bull, M.D., a prominent ophthalmologist of New York City, died in the Presbyterian Hospital in that city, April 17, from valvular heart disease, aged 66. He was graduated from the College of Physicians and Surgeons, New York City, in 1868, and then studied in Europe for ten years, devoting himself especially to ophthalmology, otology, and pathology. He was a member of the American Medical Association, American Ophthalmological Society (of which he was president from 1903 to 1907), New York Academy of Medicine, and New York Ophthalmological Society. He was assistant surgeon to the Manhattan Eye and Ear Hospital from 1871 to 1873, assistant surgeon and surgeon to the New York Eye and Ear Infirmary since 1871, a member of the visiting staff of Charity Hospital from 1875 to 1880, and consulting ophthalmic surgeon to the Presbyterian, St. Luke's and St. Mary's hospitals. Since 1898, Dr. Bull had been professor of ophthalmology in the Medical Department of Cornell University. He made many contributions to the literature of his specialty.

Edmond Robillard, M.D. Laval University, Montreal, 1847; Nestor of the medical profession of Canada; died at his home in Montreal, January 13, from cerebral hemorrhage, aged 86. in Montreal, January 13, from cerebral hemorrhage, aged 86. In 1859 he was elected one of the governors and examiners of the College of Physicians and Surgeons of Canada, and from 1868 to 1874, he was registrar of the college. Bishop's College, Lennoxville, Que., conferred on Dr. Robillard, in 1873, the *ad eundem* degree of doctor of medicine. The honorary degree of master of surgery was also conferred on him by the Medical Faculty of Victoria College, Coburg, Ont., in 1881. He was for many years a member of the Canadian Medical Association, in 1882 its treasurer, and a year later, he was elected vice-president. He was also chief inspector of lunatics for the Province of Quebec and one of the assessors of Bishop's College. From 1884 to 1900, Dr. Robillard lived in Paris returning to Montreal in the latter year.

James Bell, M.D. McGill University, Montreal, 1877; a famous surgeon of Canada; died in the Royal Victoria Hospital, Montreal, April 11, from pneumonia, aged 58. Dr. Bell was probably the best known surgeon of the Dominion, and a man of sterling worth. After his graduation, he became house surgeon of the Montreal General Hospital, was promoted to medical superintendent in 1881, was made assistant surgeon on the staff in 1885, and surgeon in the following year. On his appointment in 1894 as surgeon in chief to the Royal Victoria Hospital, he was elected consulting surgeon to the Montreal General Hospital. He was a member of the British Medical Association, Canadian Medical Association, American Surgical Association and American Association of Genito-Urinary Surgeons. In 1888, Dr. Bell was appointed associate professor of clinical surgery in his alma mater, was made assistant professor of surgery and clinical surgery two years later, and professor of clinical surgery in 1894.

Henry Lyman Shaw, M.D. Harvard Medical School, 1859; for many years a member of the American Medical Association; a member of the Massachusetts Medical Society, American Ophthalmological Society, American Otological Society, and American Association for the Advancement of Science; a district physician of Boston for five years; a pioneer oculist and aurist of Boston; from 1861 to 1864, assistant surgeon, and from that time until 1892 surgeon to the Massachusetts Charitable Eye and Ear Infirmary, and then a member of its consulting staff; died at his home in Boston, April 2, aged 73.

Richard Thomas Styll, M.D. Medical College of Virginia, Richmond, 1877; a member of the Medical Society of Virginia, and president of the Newport News Medical Society; physician in charge of the Richmond Small-Pox and Fever Hospital in 1881; and of the Pinel Hospital in 1885 and 1886; from 1887 to 1896, resident physician of the Hollins Institute, and from 1896 to 1899, first assistant at the Central State Hospital, Petersburg; died at his home in Newport News, April 1, from cerebral hemorrhage, aged 57.

Edward Patrick Stanley Hart, M.D. Long Island College Hospital, Brooklyn, 1897; a member of the American Medical Association; assistant visiting surgeon to St. Francis Hospital, Jersey City; surgeon to the North Jersey Street Railway Company and United Electric Company; captain and assistant surgeon N. G., N. J., assigned to the Second Battalion, Fourth Regiment; for a time connected with the health department; died at his home in Jersey City, April 10, from pneumonia, aged 38.

Robert Rae, M.D. New York University, New York City, 1858; a member of the Medical Society of the State of New York, and at one time president of the Wyoming County Medical Society; for several terms coroner of Wyoming County; assistant surgeon of the First New York Dragoons during the Civil War; a member of the local board of pension examining surgeons; died at his home in Portageville, April 1, from cirrhosis of the liver, aged 76.

James Robert Zearing, M.D. Rush Medical College, 1850; surgeon of the Fifty-Seventh Illinois Volunteer Infantry and later chief surgeon of the Fourth Division, Fifteenth Army Corps serving throughout the Civil War; said to have been the oldest alumnus of Rush Medical College; who had been blind for twenty-five years; died at his home in Chicago, April 16, from cerebral hemorrhage, aged 81.

Christopher Charlton Oliver, M.D. Atlanta (Ga.) Medical College, 1867; a member of the Medical Association of the State of Alabama; a Confederate veteran, and state senator in 1901; formerly surgeon general on the staff of the Fourth Brigade, Ala. Confederate Veterans; local surgeon to the Louisville and Nashville Railway; died at his home in Calera, March 22, aged 64.

John Jacob Koser, M.D. University of Pennsylvania, Philadelphia, 1881; a member of the American Medical Association; treasurer and once president of the Cumberland Valley Medical Association; local surgeon to the Philadelphia and Reading and Western Maryland Railways; chief burgess of Shippensburg, Pa.; died at his home, April 13, from angina pectoris, aged 53.

Richard W. Reasoner, M. D. Medical College of Ohio, Cincinnati, 1883; aged 50; formerly president of the board of health of Morrisonville, Ill.; for the last ten years a resident of Colorado Springs, Colo.; was shot and instantly killed in that city in an attempted holdup, April 14, in which, however, he mortally wounded his assailant.

William H. Clutter, M.D. Cincinnati College of Medicine and Surgery, 1868; a member of the American Medical Association; a veteran of the Civil War; superintendent of health of Oklahoma City and physician of Oklahoma County; a pioneer practitioner of Oklahoma; died at his home in Oklahoma City, April 12, aged 78.

Joel Gilbert Justin, M.D. University of Pennsylvania, Philadelphia, 1875; instructor in chemistry and professor of medical jurisprudence in Syracuse (N. Y.) University from 1886 to 1890; died at his home in Castile, N. Y., March 27, from bronchitis, after an invalidism of eight years due to cerebral hemorrhage, aged 59.

William McMillan, M.D. Starling Medical College, Columbus, O.; assistant surgeon of the Ninth Ohio Volunteer Cavalry and surgeon of the Fifth Ohio Volunteer Cavalry throughout the Civil War; since 1879 an attorney; died at his home in Massillon, O., February 12, from senile debility, aged 77.

Eugene E. Whitaker, M.D. Long Island College Hospital, Brooklyn, 1881; for several years health officer, village trustee and school director of Newport, Vt.; once president of the State Homeopathic Medical Society; died in a hospital in Montreal, March 25, after a surgical operation, aged 62.

John Henry Sanborn, M.D. Berkshire Medical College, Pittsfield, Mass., 1852; for fifteen years city physician of Newport, R. I.; a veteran of the Civil War, and acting assistant surgeon, U. S. Army, for about twenty years thereafter; died at his home in Newport, April 2, from senile debility, aged 75.

Henry S. Wright, M.D. Atlanta (Ga.) Medical College, 1893; a member of the American Medical Association; at one time professor of obstetrics in the International Medical Missionary College, Atlanta; died in a sanitarium in that city, April 9, from cerebral hemorrhage, aged 53.

Adoniram Judson Clark, M.D. Keokuk (Ia.) Medical College, 1892; a member of the American Medical Association; for twenty-eight years a practitioner of Nebraska, and for several years coroner of Boone County; died at his home in Albion, April 11, from pneumonia, aged 59.

Adoniram Judson Wakefield, M.D. Harvard Medical School, 1855; a member of the Florida Medical Association; a surgeon of volunteers during the Civil War, and since that time a practitioner of Jacksonville; died in that city, March 28, from senile debility, aged 87.

Frank E. Kitzmiller, M.D. Fort Wayne (Ind.) College of Medicine, 1879; of Piqua, O.; a member of the American Medical Association; special small-pox expert for the State Board of Health; and health officer of Piqua for fifteen years; died at his home, March 27, aged 61.

John Robinson Hoskins, M.D. Jefferson Medical College, 1905; a member of the American Medical Association; died at his home in West Chester, Pa., April 6, from cerebral abscess following a suppurative mastoiditis, consequent on an attack of influenza, aged 30.

Henry Krollpfeiffer, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the Medical Society of the State of New York; president of the New York Liederkranz for three terms; died in the German Hospital, New York City, April 12, aged 62.

Frederick Birdseye Baker, M.D. University of Maryland, Baltimore, 1888; a member of the American Medical Association; and of the staff of the Norwalk (Conn.) Hospital; died at his home in East Norwalk, April 18, from cerebral hemorrhage, aged 55.

Reuben Harmon, M.D. University of Wooster, Cleveland, 1881; Western Reserve University, Cleveland, 1882; of Onowa; formerly a member of the Iowa State Medical Society; died in Denver, Colo., January 12, from the effects of a fall down stairs, aged 64.

Henry St. Clair Ash, M.D. Pennsylvania Medical College, Gettysburg, 1850; of Philadelphia; a member of the Medical Society of the State of Pennsylvania; died in St. Joseph's Hospital, Philadelphia, April 6, from cerebral hemorrhage, aged 85.

Louis B. Craig, M.D. Missouri Medical College, St. Louis, 1879; formerly a member of the American Medical Association; a member of the Missouri State Medical Association; died at his home in Salem, April 9, from pneumonia, aged 58.

David Smith Williams, M.D. University of Nashville, Tenn., 1858; said to have been the oldest practitioner of Texarkana, Ark.; a surgeon in the Confederate service throughout the Civil War; died at his home, March 23, from influenza, aged 75.

Emory B. Johns, M.D. Chicago Homeopathic Medical College, 1886; of Lexington, Ky.; was found dead in a hotel in that city, April 6, from the effects of a drug believed to have been self-administered with suicidal intent, aged 66.

Joseph Alfred Beall, M.D. Hospital College of Medicine, Louisville, 1891; a member of the State Medical Association of Texas; local railway surgeon at Center Point; died at the home of his father in San Marcos, Dec. 11, 1910, aged 50.

Thomas Hamilton Gray, M.D. University of Michigan, Ann Arbor, 1871; a veteran of the Civil War; formerly a member of the Erie County (Pa.) Medical Society; died suddenly at his home in Erie, April 5, from rheumatism, aged 70.

William Covington Wall, M.D. Pennsylvania Medical College, Gettysburg, 186—; formerly a member of the DeSoto County (Miss.) Medical Society; died at his home in Hernando, July 2, 1910, from uremia, aged 73.

Hiram Harrison Miller, M. D. Medical College of Virginia, Richmond, 1861; a member of the Medical Society of Virginia, and a Confederate veteran; died at his home in Elkton, April 10, from cerebral hemorrhage, aged 73.

Charles A. O'Brien, M.D. St. Louis College of Physicians and Surgeons, 1897; of Fillmore, Ind.; formerly coroner of Putnam County; was found dead in Fillmore, April 7, from the effects of an overdose of chloral.

James Lewis Miller, M.D. Eclectic Medical Institute, Cincinnati, 1894; formerly of Providence, R. I.; a specialist on diseases of the eye, ear and throat; died at his home in Pendleton, Ore., Sept. 27, 1910.

George Gleason Sabin, M.D. University of Michigan, Ann Arbor, 1868; for thirty years a practitioner of Black River, N. Y.; a veteran of the Civil War; died at his home, March 28, from paralysis, aged 72.

Oliver Perry Piper, M.D. Jefferson Medical College, 1872; for fifteen years a practitioner of Schuylkill Haven, Pa.; and physician to the Schuylkill County Hospital; died in Harrisburg, March 17, aged 62.

Edward A. Flewellen, M.D. Jefferson Medical College, 1851; inspector of hospitals in the Confederate service during the Civil War; died at his home, The Rock, Ga., Dec. 9, 1910, from pneumonia, aged 93.

Telemachus N. Bennett, M.D. Kentucky School of Medicine, Louisville, 1893; for two terms deputy coroner of Marion County, Ind.; died at his home in Broad Ripple, April 12, from nephritis, aged 68.

Maria J. Cushing, M.D. New York Medical College and Hospital for Women; for many years a practitioner of Washington and New York City; died at her home in Lynn, Mass., April 9, aged 76.

Lucius A. Squires, M.D. Castleton (Vt.) Medical College, 1851; one of the oldest practitioners of Columbus County, Wis.; died at his home in Poynette, April 10, from paralysis, aged 86.

Edgar T. Walker, M.D. Tulane University, New Orleans, 1882; of Trinity, Tex.; local surgeon for the Missouri, Kansas and Texas Railway; died in San Angelo, Tex., March 31, aged 61.

William Munro Workman, M.D. Hahnemann Medical College, Chicago, 1883; a veteran of the Civil War; died at his home in Grand Junction, Ia., March 15, from heart disease, aged 68.

Rose DeL. Winters, M.D. Homeopathic Medical College of Missouri, St. Louis, 1900; of Kansas City, Mo.; died in Mercy Hospital, Clinton, Ia., February 16, from typhoid fever, aged 49.

Hugh L. Kimberlin, M.D. Kentucky School of Medicine, Louisville, 1852; a retired practitioner of Mitchell, Ind.; died at his home, Dec. 2, 1910, from chronic nephritis, aged 79.

Nathaniel P. Jelks, M.D. Bellevue Hospital Medical College, 1868; a member of the Medical Association of Georgia; died at his home in Hawkinsville, March 27, aged 65.

Howard Miller Taggart, M.D. University of Pennsylvania, Philadelphia, 1896; of Wilkes-Barre; died at a cottage on Wilkes-Barre Mountain, March 30, aged 44.

John Allen White, M.D. Tulane University, New Orleans, 1853; a Confederate veteran; died at his home in Huntsville, Tex., April 3, from senile debility, aged 81.

William D. Bell, M.D. Jefferson Medical College, 1855; a member of the Louisiana State Medical Society; died at his home in Lake Providence, April 9, aged 82.

John Perrie, M.D. Washington University, St. Louis, 1867; a Confederate veteran; of Mayview, Mo.; died in Eads, Colo., March 23, from peritonitis, aged 70.

Edmond James McLennan, M.D. Trinity Medical College, Toronto, 1899; died at his home in Medford, Okla., January 27, from heart disease, aged 46.

Alfred D. McMaster, M.D. Missouri Medical College, St. Louis, 1879; died at his home in Le Grand, Cal., January 26, from nephritis, aged 54.

Daniel Webster Camp, a practitioner of Wyalusing, Pa.; died at his home in that place, February 6, from valvular heart disease, aged 65.

Joseph W. Taylor, M.D. Memphis (Tenn.) Hospital Medical College, 1894; died at his home in Hickory Valley, Tenn., April 3, aged 38.

Joseph Fred Demers, M.D. Laval University, Quebec, 1894; died at his home in Levis, Que., Dec. 26, 1910, from typhoid fever, aged 39.

George Taylor, M.D. University of Louisville, Ky., 1910; died at his home in Kempton, Ill., April 1, from appendicitis, aged 23.

Elston Chamberlain, M.D. Rush Medical College, 1863; died at his home in Dallas, Tex., February 22, from pneumonia, aged 69.

Frank G. Osborne, M.D. University of Buffalo, N. Y., 1868; died suddenly at his home in East Aurora, N. Y., March 2, aged 66.

Allen V. Wright (years of practice, Tex.); died at his home in Corsicana, June 31, 1910, from nervous prostration, aged 71.

Diagnosis of Tuberculosis of the Breast.—This may give rise to much difficulty. The infection may remain localized to one portion of the breast, and give rise to a hard, painless mass. Eventually, softening occurs with the formation of subcutaneous abscess, and sinus formation of this may be delayed for some time.—H. M. Rigby, in the *Practitioner*.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PANTOPON REJECTED

Report of the Council on Pharmacy and Chemistry

A referee of the Council reported that Pantopon was not eligible for inclusion with New and Nonofficial Remedies and recommended that the reasons for its rejection be published. The Council voted to adopt this recommendation and in accordance with its regular procedure the facts were reported to the manufacturers before publication. The firm's reply having been received, the Council authorized publication of the report which appears below.

W. A. PUCKNER, Secretary.

PANTOPON

Under this name, the Hoffmann LaRoche Chemical Works submitted a pharmaceutical preparation of opium, consisting of a mixture of the hydrochlorids of the various opium alkaloids, as extracted directly from the drug, with more or less purification.

The Council holds that this name does not effectively suggest that the preparation is a mixture of opium alkaloids, as is required by the part of Rule 8 which reads:

"In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients."

and further explains:

"It is particularly important that actively poisonous or habit-forming drugs be not disguised under an innocently worded title."

The Council maintains that the name "Pantopon" does not sufficiently protect the public against the habit-forming and other dangers inherent in such mixtures. The manufacturers, on being informed of these objections, offered to substitute the name "Omopon." As this is open to the same objections, it could not be accepted by the Council. After much correspondence, the manufacturers refused to consider any other name which would more definitely suggest its composition.

The Council is therefore forced to reject the product and has ordered the publication of this report.

COMMENT: This is a case in which the rules of the Council are in conflict with the views of the manufacturers and the Council is bound in consistency to stand by its rules, which are framed to protect the public and the profession. Pantopon is not a definite chemical body, but a mixture of known substances—the several alkaloids naturally occurring in opium—and the Council's rules require that such a preparation should bear a name indicative of its composition. The name "Pantopon" although it might suggest opium to those well acquainted with Greek would not do so to all and it would be relatively easy for physicians to fall into the habit of using it indiscriminately without realizing fully the character of the preparation, and the preparation thus becomes a menace to the public.

As to the merits of the preparation itself, it is remarkable what a literature has been built about a simple mixture of the opium alkaloids. The preparation is claimed to be superior to opium because it is more readily soluble. This trifling advantage seems to have been sufficient, however, to justify the publication of a dozen or more pamphlets. But in reality, this preparation is nothing more, therapeutically, than a form of opium and, therefore, should be known to the physician as opium. The reports made of its action seem to indicate a lack of critical sifting of the evidence. Notwithstanding, both its source and the fact that experimental and clinical reports emphasize its close resemblance to opium and morphin, one author (H. Haymann, "Pantopon in der Psychiatrie," *Münch. med. Wchnschr.*, No. 43, 1910) remarks that a habit was not produced, inferring that something in the character of the preparation prevented the formation of such a habit.

The one thing to be kept in mind in considering the claims made in the literature for this preparation is that it represents opium and opium only and any statements of its superiority to opium must be read in the light of the well-known tendency of writers to exaggerate the virtues of proprietary substitutes for official substances.

PAPINE

A Disguised Morphin Solution

To the thinking physician it should be evident that a preparation containing morphin must possess not only all of the valuable properties of this drug, but also all of the objectionable ones. There are still some physicians, apparently, who give credence to the assertions of the manufacturers concerning a morphin preparation from which, it is claimed, all of the undesirable morphin effects have been removed. The following query from a correspondent illustrates this fact:

"Will you inform me as to the contents of "Papine"? I have a case of chronic interstitial nephritis, and my consultant insists on giving this preparation. I asked him if he knew what drugs it contained and his answer was 'one-eighth of a grain of morphin with the objectionable parts of the drug removed.'"

The query was referred to the Association Laboratory, which submitted the following report:

For many years Papine has been advertised by its makers, Battle & Company, St. Louis, as an anodyne. In the circulars Papine is described in part as follows:

"Papine represents in pharmaceutical form the purely anodyne principles of opium freed from the narcotic and tetanising constituents."

"Papine is the anodyne or pain-relieving principle of opium, the narcotic and convulsive elements being eliminated. One fluid drachm is equal in anodyne power to one-eighth grain of morphin."

"Through special methods of preparation, the anodyne and analgesic principles of *Papaver somniferum* are so extracted as to free them of the narcotic and convulsive elements that ever have been, and must ever continue to be serious objections to the use of opium and its common derivatives. . . . No demand is more regularly made on the physician than that for the relief of pain, and to be able to afford it promptly and completely, without the slightest deleterious action, is an advantage that cannot be overestimated."

"Unlike most derivatives and preparations of opium, Papine neither nauseates nor constipates; nor does it inhibit the secretory functions of the body."

"In conditions of extreme nervousness, especially in women, recourse to morphin is attended by the very real danger of the formation of a habit. Lastly, opium and its alkaloids must not be administered to persons whose kidneys are not in good working order on account of the risk of toxic accumulation."

"No such restriction exists in respect of Papine, its action being exerted exclusively on the element pain; in other words, it is purely anodyne."

"Papine does not nauseate, constipate nor create a habit."

From these statements the incautious physician might be led to infer that Papine is a preparation analogous or similar to the official tincture of deodorized opium. Formerly in the manufacture of the latter preparation, in addition to removal of the odorous substances, narcotin, then thought to be the principal convulsive alkaloid,[1] was also removed. By the process for the manufacture of this tincture, which is now official in the United States Pharmacopeia, most of the narcotine is found in the finished preparation. While it is a comparatively simple matter to remove the narcotin from opium and its preparations, thus eliminating most of the commonly reputed "convulsive elements,"[2] to remove the "narcotic elements" from opium would result in destroying the integrity of the product. The reasons for this are that morphin is the most powerfully narcotic substance found in opium, and it is present in the largest proportion of any of the alkaloidal constituents. Its removal from an opium preparation would, therefore, render that preparation practically valueless.

1. Narcotin is now known to possess very little physiologic effect.

2. Of the opium alkaloids, laudanin and thebain possess the most powerfully tetanizing properties, but they are present in opium in too small quantities to produce any noticeable effect. Neither of these alkaloids is removed by the usual processes for "denarcotizing" opium.

From Papine, however, the morphin has not been removed, for *since the passage of the Food and Drugs Act* the label has to admit that Papine contains 1 grain of morphin in each ounce!

A specimen of Papine was examined[3] and found to be nothing more than a simple aqueous-alcoholic solution of morphin, containing glycerin. The preparation is flavored to imitate cherry and colored with cochineal. With the exception of morphin, neither narcotin, codein nor other opianic alkaloids were found, while meconic acid, a characteristic constituent of opium, was absent. Since Papine is claimed not to cause constipation, and as is well known, this condition is frequently produced by morphin, it seemed possible that Papine might contain laxative substances. On examination, however, neither cascara, rhubarb, phenolphthalein nor laxative salts were found.

While Battle & Co. have persistently exploited Papine as being an opium preparation having none of the objectionable qualities of opium, the analysis shows that the paradoxical claims made for it cannot be substantiated. In prescribing morphin there is an abundance of official preparations to choose from, and there certainly is no necessity or excuse for resorting to the much more expensive and in no way superior Papine.

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3. DETAILS OF ANALYSIS: Papine is a dark purplish liquid having a cherry-like odor and a sweetish taste. The specimen examined had a specific gravity at $\frac{25^\circ\ C.}{25^\circ\ C.}$ of 1.0565.

Qualitative tests indicated the presence of morphin, ethyl alcohol, glycerin and cochineal. Small amounts of a chlorid and traces of a sulphate were present. Acetates, lactates and sugars were absent.

Opium Constituents.—From the claims made for the preparation by the manufacturer, it might possibly be inferred that Papine is similar to the official tincture of deodorized opium. Accordingly, tests were made for opianic alkaloids other than morphin and for meconic acid. A portion of the specimen was dealcoholized, diluted with water and shaken with ether. The solvent was washed with water and portions evaporated. The residue from one portion of the solvent was very small; it was taken up in a small quantity of diluted hydrochloric acid and the solution filtered. On the addition of bromin to this solution, no precipitation took place, and on subsequent boiling the solution did not become rose-red. This was taken to indicate the absence of narcotin in Papine. The portion of dealcoholized Papine which had been shaken with ether was made alkaline with ammonia water and the mixture shaken with ether. The solvent was washed with water and shaken with diluted hydrochloric acid. The acid solution was made alkaline with ammonia, shaken with chloroform and the solvent evaporated. Only a very slight residue remained. This was subjected to the usual tests for codein, but with negative results.

A portion of the dealcoholized Papine was slightly acidified with hydrochloric acid and shaken with ether. The washed solvent was evaporated, the residue taken up with water and the solution treated with a drop of diluted ferric chlorid test solution. A red color was not produced. A portion of dealcoholized Papine was treated with a slight excess of lead acetate test solution, the precipitate washed with water, suspended in water and hydrogen sulphid passed in. The precipitated lead sulphid was removed by infiltration, the filtrate evaporated to a small bulk and treated with ferric chlorid test solution. No red color was produced. These tests indicated the absence of meconic acid. No odor similar to opium was observed at any stage of the examination.

As a check an aqueous extract of opium was prepared and subjected to the tests above described. A positive result was obtained in each case.

Laxative Substances.—A portion of the dealcoholized Papine was acidified with hydrochloric acid and shaken with ether. The washed solvent gave no red coloration on addition of ammonia water (absence of emodin and phenolphthalein). A small portion of the material was ignited. Only a trace of ash was given (absence of Epsom salts, Glauber's salt, etc.) These tests were taken to indicate the absence of the more common laxative substances.

Cochineal.—A portion of the dealcoholized specimen was slightly acidified with acetic acid shaken with amyl-alcohol, the solvent washed with water and shaken with a 1 per cent. solution of uranium nitrate. A deep green color was produced at once.

Chlorid.—Chlorid was determined as follows: Fifty c.c. were dealcoholized, diluted with 200 c.c. water, 10 c.c. nitric acid added, chlorid precipitated with silver nitrate, the precipitate collected, washed, dried, heated and weighed in the usual way. The results were calculated to crystallized morphin hydrochlorid ($C_{17}H_{19}NO_3.HCl + 3H_2O$) and to the equivalent of this salt in crystallized morphin ($C_{17}H_{19}NO_3 + H_2O$). From 50 c.c. of the solution 0.487 gm. silver chlorid was obtained; from a duplicate of 50 c.c. of the solution 0.481 gm. silver chlorid was obtained; average, 0.484 gm. silver chlorid. This is equivalent to 0.0968 gm. silver chlorid from each 100 c.c. of solution, or the equivalent of 0.2536 gm. crystallized morphin hydrochlorid in each 100 c.c. This quantity is equivalent to about 1.15 grain morphin hydrochlorid in each fluid ounce, or about 0.93 grain of crystallized morphin in each fluid ounce.

Since the label states that Papine contains 1 grain of morphin in each ounce, the findings from the chlorin determinations were taken to indicate that the morphin is present in the preparation combined as hydrochlorid.

Miscellany

Increase of Pay for Officers of the Public Health Service

Senator Owen has introduced the following bill, which appears on the Senate Calendar as S. 1182. It has been referred to the Committee on Public Health and National Quarantine:

A bill to promote the efficiency of the Public Health and Marine-Hospital Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the salary of the surgeon-general of the Public Health and Marine-Hospital Service shall be $6,000 per annum, and the salary of the assistant surgeon-general shall be $500 in addition to the pay and allowances of his grade; for the ten senior surgeons on the active list, $3,500; for surgeons, $3,000; for passed assistant surgeons, $2,400; for assistant surgeons, $2,000; and the longevity pay and allowances of the said commissioned medical officers shall be the same as now provided by law: *Provided*, That the retirement of the commissioned medical officers shall be the same as is now provided for medical officers of the Navy.

Another personnel bill has been introduced into the House of Representatives by Mr. Edwards. It appears on the House calendar as H. R. 5599, and is as follows:

A bill to promote the efficiency of the Public Health and Marine-Hospital Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter the salaries of the commissioned medical officers of the Public Health and Marine-Hospital Service of the United States shall be at the following rates per annum: surgeon-general, $6,000; assistant surgeon-general, $4,000; senior surgeon, in which grade there shall be ten in number on active duty, $3,500; surgeon, $3,000; passed assistant surgeon, $2,500; assistant surgeon $2,000; and the said officers, excepting the surgeon-general, shall receive an additional compensation of 10 per cent. of the annual salary as above set forth for each five years' service, but not to exceed in all 40 per cent.: *Provided*, That the total salary, including longevity increase, shall not exceed the following rates: assistant surgeon-general, $5,000; senior surgeon, $4,500; surgeon, $4,000.

When officers on active duty are not provided quarters, fuel and lights, they shall receive the same commutation therefor as now allowed medical officers of similar grades in the Navy: *Provided*, That officers while serving outside the boundaries of the continental United States shall receive an additional 10 per cent. of their salaries and increase while on such duty.

The allowance for baggage and personal effects to an officer in changing stations shall be fixed by the Secretary of the Treasury, not to exceed in any case 7,200 pounds.

Vacancies in the grade of senior surgeon shall be filled by promotion, after satisfactory examination, from the grade of surgeon and in the order of seniority of said grade; passed assistant surgeons shall be promoted to the grade of surgeon in the order of seniority at the expiration of twelve years' commissioned service and after satisfactory examination; assistant surgeons shall be promoted to the grade of passed assistant surgeon in order of seniority at the expiration of three years' commissioned service and after satisfactory examination.

Treatment of Gonorrhea.—N. E. Aronstam discusses the treatment of this disease as follows: The abortive plan of treatment is both painful and inefficient. To determine its value the microscope must be always consulted. There is no specific treatment for gonococcic urethritis and some of the much-lauded remedies are worthless, to say the least. Mechanical means, such as injections and irrigations, are apt to injure the urethral mucosa and cause extension of the gonorrheal process. The modern silver preparations, although efficacious and prompt in a number of cases in checking the purulent discharge, are not entirely devoid of danger, as complications are prone to develop in the course of such treatment. Rest is of paramount importance in the treatment of gonorrhea. Gonorrhea must always be regarded as a grave and far-reaching affection. The expectant plan of treatment, although not so prompt as the more rigid aggressive methods, is, however, devoid of all danger and the possibility of complications.—*Detroit Medical Journal.*

Correspondence

Prevention of Pulmonary Tuberculosis

To the Editor:—In The Journal, April 22, 1911, page 1195, among "points which must not be forgotten," I should have been much gratified if you had mentioned the great importance of wearing a perforated zinc inhaler with suitable inhaling fluids, the best of these being equal parts of creosote, alcohol and spirits of chloroform. By the continuous and proper use of this fluid much can be effected in the way of prevention of the disease, not to speak of its very great value as a curative measure. To-day it is sad to note how little is done beyond mere sanitary regulations and hygienic régime to arrest the disease and cure an immense number of sufferers from tuberculosis; and practically nothing else is done to shield an equally large number of people from contracting the disease. For many years I have advocated strongly and frequently the value and importance of continuous antiseptic inhalations in pulmonary tuberculosis as a curative measure. I am equally impressed with its urgency as a protective measure, and especially with a vast majority who cannot go to sanatoriums or get the comforts and surroundings which wealth alone gives.

Beverley Robinson, New York.

Hexamethylenamin in Pellagra

To the Editor:—In The Journal, Nov. 5, 1910, p. 1663, I reported a case of pellagra in which I treated the patient with hexamethylenamin. I stated results of the treatment, which were remarkable, although I had given the patient this treatment only a short time. The patient has continued to improve until she now feels perfectly well. By Christmas she had gained 40 pounds in weight, which she has held until the present time. When I began to treat her, I gave 45 grs. of hexamethylenamin every day for three weeks; then 30 grs. a day for one month. On account of the irritating effects on the bladder, I had to discontinue the drug only a few days during this time. During the winter and spring she has been taking 30 grs. a day for three days and missing three days. This is the only treatment she has taken since she has been under my care.

While one case proves nothing, yet the result in this case is so much better than any I have ever read of that I feel that I should report it. I hope that others, who have a number of cases, may try it.

B. B. Bagby, M.D., West Point, Va.

Overcrowding in the Medical Profession in the West

To the Editor:—It might not be out of place to utter a caution to medical men contemplating settlement in the West. On account of the heavy expense incident thereto, any physician contemplating removal to the West should, if possible, make a trip first and look into matters closely before deciding.

The entire western country is very much congested with physicians of all kinds, and many of them, after spending a year or two in any of the western cities, will find their savings gone in the high cost of living and extortionate rents.

It must be remembered that many medical students in the West are constantly preparing to enter the profession in sufficient numbers to meet the demands of the increasing population.

David H. Lewis, Salt Lake City.

The Round-Ligament Operation

To the Editor:—In a recent issue of The Journal (Feb. 18, 1911, p. 481) is an article by Dr. J. M. Baldy entitled "Operation for Retrodisplacement of the Uterus." I desire to point out that the procedure described is exactly that which was first published by me in The Journal (Oct. 5, 1901).

I am highly gratified that Dr. Baldy advocates the operation so strongly in his paper; but, though he refers to "Webster, who has for the same length of time performed an operation with exactly the same principles"—his description is of such a character as to be very liable to give readers the impression that the operation is Dr. Baldy's invention.

This is not the first paper by him in which there is danger of similar misunderstanding. In the *New York Medical Journal* (April 14, 1906, p. 741), the same operation was described without the slightest reference to my share in originating it. I now consider that it is time to point out what Dr. Baldy has really done and to correct some misrepresentations.

In his recent paper the following sentences occur: "The operation is not new. I first referred to it in a paper in 1902." These statements are incorrect.

The operation was originally descrioed by me in The Journal, Oct. 5, 1901, its essential features consisting in perforation of the broad ligaments, seizing the round ligaments with forceps and drawing them double under the utero-ovarian ligaments, and stitching them to the back of the uterus.

In Dr. Baldy's first paper (*Am. Jour. Obst.*, May, 1902, p. 650), seven months later, he commends the principle of my operation, criticizes my method of doubling back the round ligaments and there describes his own procedure, which he regards as an improvement, viz., *dividing the round ligaments close to the uterus and drawing them through the broad ligaments attaching them to the posterior surface of the uterus.*

Here, then, in clear language is Dr. Baldy's first published account.

I may say, in passing, that I carried out this procedure in a few cases several years ago, but abandoned it as unnecessary. Moreover, there is more liability to intestinal adhesions in connection with it, as some raw edges are apt to be left exposed.

Four years later Dr. Baldy published an article in the *New York Medical Journal* (April 14, 1906, p. 741) of a somewhat amazing character. I quote his own account:

"The operation which I am in the habit of performing for backward displacements of the uterus, and which is frequently designated *by my name*, is one which obtains its result through the use of the round ligaments. The broad ligaments are perforated from their posterior surface by forceps which, on emerging on the anterior surface, are made to grasp the round ligaments, which are then drawn through to the posterior surface with the forceps. The round ligaments are brought together and sutured both together and to the uterus. One who has not seen the result (of this operation) can have no conception of its completeness." Here is evidence of a complete change in the author's practice.

The operation which he lauds so highly is the very one which was described by me in 1901 and which was discarded by him in 1902. He has described my procedure as his own and has not even mentioned my name in the entire paper.

Again in 1909 (*Ann. Gynec. and Pediat.*, May, 1909, pp. 142-146) he describes the operation without any reference to me.

It is not pleasant to me to carry a grievance into print but I cannot remain silent while another claims credit which is not his due. My operation has been described as Dr. Baldy's in a foreign work by Hartmann of Paris, and I consider it time to interfere lest further misrepresentations should appear in medical literature. Moreover, I desire to make it clear that Dr. Baldy, having acknowledged the importance of the principle introduced by me in the surgical treatment of retrodisplacements, criticized my method of operation and recommended another procedure of obtaining the same result. He then abandoned the latter and after four years redescribed my original operation, praising it highly but giving me no credit for it. This line has been followed by Dr. Baldy in other papers to which I have referred, until the impression has been created in various quarters that he is the originator of the procedure.

J. Clarence Webster, M.D., Chicago.

[This letter was referred to Dr. Baldy, who replies as follows:]

To the Editor:—A careful reading of Dr. Webster's letter will fail to elicit any false statement which he attributes to me. He makes a statement which is directly contrary to fact when he says that I have ever claimed priority, directly

or indirectly. He quotes from two of my papers in which I give him full credit but, with apparent intention, he omits to say so, and he quotes an unimportant paper in which his name does not appear as proof of his claim that I pretend to priority. Dr. Webster seems to feel that the operation I described in 1902 is not the same as the one I am now doing. The operation which I described in 1902 consisted in "dividing the round ligaments close to the uterus, and drawing them through the broad ligaments attaching them to the posterior surface of the uterus." What I do now is to draw the round ligaments through the broad ligaments without cutting them, attaching them to each other, and, incidentally only, to the posterior surface of the uterus. Dr. Webster, so far as I can learn from those who have seen him operate, draws the round ligaments through the broad ligaments without cutting them, and attaches them to the posterior surface of the uterus. The principle of these three procedures is the same, and as Dr. Webster gives me credit for the first one, then I claim absolute credit for the second one, the one I am now doing and have done for some years. I have never seen it described by him nor has anyone who has seen him do the operation told me that he does it as I do it. The third method only is his; I claim the other two.

He brings the round ligaments through the broad ligaments, spreads them out over the posterior cornu of the uterus, and stitches them to the uterus, making the full support depend on the suture in the uterus. He does not bring the ends of the ligaments together posteriorly and stitch them together, as I do. Bringing the ends of the ligaments together and stitching them by my present method, makes the whole integrity of the operation depend on the juncture of the ligaments, and the stitch holding the ligament to the uterus is a mere incident, and could be left out.

The method he follows to-day is exactly like my original method, less one fact that I severed the round ligaments and he does not. The method I follow to-day is in no respect like his, except that I no longer sever the round ligaments, but bring them through double, as he does. In other words, his present method is as much like my original one as my present method is like his. If I have appropriated from him for this, so also has he appropriated from me. The truth is that he has modified his details, and I have modified mine. He has adopted as much of mine, as I have of his.

I reiterate most emphatically there is not an iota of difference in principle between what he has been doing for years and what I have been doing for the same length of time, the details of technic are unimportant in the issue, and I have as much right to them as he has, whether he has used them or not.

This brings me to the question of my right to have a hand in the development of this achievement. His first article appeared Oct. 5, 1901. My first paper was read before the Section of Gynecology, College of Physicians of Philadelphia, Feb. 20, 1902. This is an interval of more nearly four months than seven (apparently another deliberate misstatement of his); therefore our original papers were essentially produced at one and the same time, and it can hardly be doubted but that we had, both of us, been working at the subject for a long time beforehand, a thing which has occurred often with different men in different parts of the world.

As for my having withheld credit from him for his work, this is a misrepresentation which certainly seems to be a deliberate one. During all these years I have written exactly three papers of importance dealing directly with this operation. In each of these, I have given full credit to Dr. Webster.

In my original paper, in the *American Journal of Obstetrics and Diseases of Women and Children*, xlv, No. 5, 1902, I discuss in full, using his name, the merits and demerits of both procedures. I go even further in this: I held my paper up for a month after writing it in order to write Dr. Webster, and I added the final paragraph of the paper, giving him additional credit for the contents of his letter. If I take credit for that month, there was in reality only three months between the publications of our work.

My second important publication is found in *Surgery, Gynecology and Obstetrics*, Chicago, April, 1909, pp. 421-434. In this paper I state: "The mechanism is plain, but has never to my knowledge, been fully appreciated or fully pointed out even by Webster, who has, for the same length of time, performed an operation with exactly the same principles, but varying slightly in technic."

In my third important publication on this operation, in THE JOURNAL of the American Medical Association, Feb. 18, 1911, I repeat this statement.

In addition to all this, for years it has been my invariable custom in my lectures at the Philadelphia Polyclinic always to mention the name of Dr. J. Clarence Webster in connection with the operation and to give him full credit. Hundreds of men can readily bear witness to this fact. What has been his treatment of me in all these years? He has never once mentioned my name in connection with this procedure except to abuse me.

The sum total of his charge is that the operation I did originally is entirely different from the one he did. This I deny emphatically. The principle of each is precisely the same. He charges that I claim, and have claimed, priority to this principle, directly or indirectly. I have clearly shown that I do not, and never have claimed priority, but have always given him equal and due credit.

I, however, have, and do claim, that I evolved the principles of the operation at or about the same time as Dr. Webster, and I claim the right to go ahead, and develop that principle in all its details, irrespective of what rights he thinks he has in the premises.

J. M. BALDY, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CAUSE OF CONVULSIONS IN INFANTS

To the Editor:—At a recent meeting of our county society the cause of convulsions in a breast-fed infant of six months was discussed. As etiologic factors the following were mentioned: gastro-intestinal disturbances, adherent clitoris or prepuce, worms, especially roundworms, etc. The question as to what were the common causes of convulsions in infants was discussed, especially the possibility of round-worms being an etiologic factor. What are the possibilities of *Ascaris lumbricoides* causing convulsions in infants, and how frequently are they found in breast-fed infants?

A. Z., Iola, Kan.

ANSWER:—Convulsions in infancy are of three kinds: (1) those due to organic changes in the brain, meninges or skull; (2) those due to epilepsy; (3) those due to tetany. Practically all the so-called reflex convulsions—the convulsions at the onset of acute infections, during the course of gastro-intestinal disturbances—are dependent essentially on a chronic hypersensitive condition of the central nervous system as manifested by electrical and mechanical reactions, and with a tendency toward convulsions, laryngismus stridulus and carpopedal spasms. The two commonest names for this group are spasmophilic diathesis and tetany. The tendency to convulsions is manifest before the actual convulsions occur (latent tetany), and by electric examination one can foretell in a large percentage of cases which infants will tend to have convulsions at the onset of an acute illness.

The cardinal symptoms of tetany are: 1. Erb's phenomenon: This is the response of the motor nerves to minute galvanic currents. Pathognomonic for tetany and most important especially in the latent cases, because it may be the only sign present, is the cathodal opening contraction with a current of less than 5 milliamperes. 2. Chvostek's sign: By tapping the facial nerve a contraction occurs in the muscles of the face supplied by that nerve. 3. In the more severe cases tapping the muscles will produce a contraction; this is best seen by tapping the extensors of the leg. 4. Trousseau's sign: By constriction of the upper left arm the hand will take on the obstetric position; the hand will be flexed at the wrist and the forearm flexed at the elbow.

Thus by electric examination one can determine whether a case belongs in Group 3 or in Group 1 or 2. Almost constantly associated with tetany are more or less marked evidences of rachitis, and it is supposed that both depend on a common error in the metabolism, especially of the calcium salts.

The question of roundworms causing convulsions during the first six months of life of a breast-fed infant is one that can be answered in the negative. Practically all breast-fed children are guarded against the possibility of infection with roundworms, that is, taking the worm larvæ in their food, or by playing on the ground getting the larvæ in their fingers and carrying them thence to their mouth. Recent experiments have shown that from the roundworm toxins can be obtained that act markedly in the gastro-intestinal tract and nervous system. The belief that convulsions occur as the result solely of worms is becoming rarer as the true causes of convulsions are becoming known.

JELLYFISH STINGS

To the Editor:—I have read with much interest your notes on jellyfish sting and am struck by the fact that, although apparently *Physalia* is sometimes a very active poisoning agent, as it is found in our latitude it seems to have lost most of its virulence. On three or four occasions in the last twenty years I have captured a *Physalia* off Newport, R. I., and, though always stung quite unpleasantly, I never found it necessary to resort to any treatment; nor did my father, who has an exceptionally tender skin.

MALCOLM STORER, M.D., Boston.

To the Editor:—In connection with the article on sting of Portuguese man-of-war published in THE JOURNAL, April 22, I would refer you to the adventure of the celebrated Captain John Smith of Virginia with a sting-ray as given in Smith's own history of Virginia.

JESSE EWELL, M.D., Ruckersville, Va.

SLANDERING THE FLEA

To the Editor:—It is a curious coincidence that the leading German weekly, the *Deutsche med. Wochenschrift*, makes the same mistake that THE JOURNAL did (April 8, page 1073) in its abstract of Nicolle's work on typhus. [Corrected April 22, page 1236.]

The German *Wochenschrift* states in its abstract of Nicolle's work, April 6, page 657, that *Flöhe*, "fleas," are involved in the transmission of the disease. What can there be in Nicolle's article that hypnotizes reviewers into mistaking lice for fleas? It is to be hoped that the Flea family will not take revenge on the reviewers for this baseless calumny! At the same time, as the darkey said afterward when his minister had accused him of having stolen some chickens and he was able indignantly to deny the accusation, "If he had said ducks he would have got me."

S.

FILTER WANTED FOR CISTERN

To the Editor:—Please tell me how to construct or where to buy a cheap but effective filter for water running off a roof into a cistern. The water will be used for drinking purposes.

PAUL D. ESPEY, Port William, Ohio.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 22, 1911.

Williamson, L. P., lieut., left Hachita, N. M., with Co. I, Signal Corps, en route to San Antonio, Texas.

Gosman, George H. R., major, orders directing him to proceed to the Philippine Islands for duty revoked.

Bernheim, J. R., D.S., left San Francisco on two months' leave of absence.

Ingalls, R. E., D. S., ordered to proceed from Fort Douglas, Utah, to Fort Huachuca, Ariz., for temporary duty.

Hewitt, John M., M.R.C., relieved from duty at U. S. military prison, Fort Leavenworth, Kan., and assigned to duty on the transport *Dix*, relieving First Lieutenant James B. Ferguson, Medical Reserve Corps.

Griffis, Frank C., M.R.C., relieved from duty at Fort D. A. Russell, Wyo., and ordered to Henry Barracks, Porto Rico, for duty, relieving First Lieutenant Thomas M. Foley, Medical Reserve Corps, who will proceed to New York City for further orders.

Porter, Ralph S., captain, relieved from duty at Army General Hospital, Fort Bayard, N. M., and ordered to Fort William H. Seward, Ala., for duty, relieving Captain Fred W. Palmer, Medical Corps, who will proceed to Seattle, Wash., for further orders.

McAlister, John A., Jr., D.S., will proceed to San Antonio, Texas, for duty with maneuver division.

Cutliffe, William O., M.R.C., relieved from treatment at Walter Reed General Hospital, Takoma Park, D. C., and will return to his station.

Hill, Eben C., lieut., ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

McAlister, John A., Jr., granted leave of absence for ten days.

Brownlee, C. Y., major, left Fort Des Moines, Iowa, with the 1st Squadron, 6th Cavalry, en route to Douglas, Ariz., for duty.

Wing, F. F., D.S., returned to Fort D. A. Russell, Wyo., for temporary duty.

Worthington, J. A., lieut., reports assignment to temporary duty at Fort Riley, Kan.

Austin, Thomas C., lieut., ordered to sail for duty in the Philippine Islands, about August 5, instead of June 5, 1911.

Medical Corps, U. S. Navy

Changes during the week ended April 22, 1911.

Robnett, A. H., P. A. surgeon, detached from the marine corps rifle range, Winthrop, Md., and ordered to temporary duty at the naval hospital, Boston, and to duty on board the *New Jersey* when placed in commission.

Woods, E. L., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to duty with the United States legation guard, Peking, China.

Owens, W. D., P. A. surgeon, detached from duty with the United States legation guard, Peking, China, and ordered home to await orders.

Boyd, J. C., medical director, transferred to the retired list from June 1, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 19, 1911.

Stimpson, W. G., surgeon, granted seven days' leave of absence from April 18, 1911, under paragraph 189, Service Regulations.

Nydegger, J. A., surgeon, granted one month's leave of absence from March 24, 1911, on account of sickness.

Wickes, H. W., surgeon, granted seven days' leave of absence from April 22, 1911.

Bryan, W. M., asst. surgeon, directed to report to the chairman of board of medical officers at Washington, D. C., April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

Krulish, E., asst. surgeon, directed to report to the chairman of board of medical officers at Washington, D. C., April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

Jones, O. E., A. A. surgeon, granted thirty days' leave of absence from April 20, 1911.

Walker, W. S., A. A. surgeon, granted seven days' leave of absence from April 13, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PROGRESS IN STATE LEGISLATURES

ALABAMA

The governor has vetoed the optometry bill which passed the legislature under a misunderstanding of its provisions. The Justice bill, to amend the state medical practice act, is still before the legislature.

ARKANSAS

The state board of health bill has passed the senate.

COLORADO

The Sharpley bill (S. 63), to amend the medical practice act, has passed the senate. The Hasty bill, to require physicians to report all cases of tuberculosis and landlords to report all tuberculous tenants to the health officials, has passed the house.

ILLINOIS

H. B. 493, to provide for the registration of births and deaths, has been referred to the committee on sanitary affairs. This bill is modeled largely after the vital statistics bill drafted by the committee on medical legislation of the American Medical Association. The occupational disease bill passed the house by a vote of 105 to 1. This bill was drafted by a special commission appointed by the governor to investigate conditions in manufacturing establishments where poisonous materials were used, and is intended to protect employees in occupations that subject them to illnesses and diseases incidental to their work. The optometry and osteopathic bills in the senate and house are still in committee.

INDIANA

The McCarty bill, to provide for medical inspection of school children, has passed the house.

IOWA

The osteopathic bill has been killed in the committee on judiciary. A bill introduced by Representative Miller, of Bremer County, to prohibit physicians and surgeons from entering into agreements regarding fees, was defeated in the house by a vote of 22 to 37. A bill to create a commission to investigate the causes of insanity, epilepsy, mental deficiency, delinquency and criminality has passed the house. A bill to provide for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded persons confined in state institutions, has passed both houses.

MAINE

The osteopathic bill has been defeated by a small margin in the senate and by an overwhelming majority in the house. A bill designed to prevent physicians from carrying insurance against malpractice suits has also been defeated.

MICHIGAN

A chiropractic bill has failed to pass. A bill to amend the medical practice act has been withdrawn. A bill to require parties to a marriage contract to furnish a physician's certificate of good health before obtaining a license passed the house by a vote of 57 to 29. A bill which, according to the Bay City (Mich.) *Tribune*, is believed to emanate from the Antivivisection Society of New York, has been introduced; it provides that one-half hour every week be devoted in all the schools of the state to humane education. A bill to require local boards of health to report the effect of occupations on persons subject to tuberculosis has been signed by Governor Osborn. A bill to abolish the common drinking cups in all railroad cars except Pullmans, has passed the senate.

MINNESOTA

S. B. 787 to reduce the requirements for examination for physicians, has been withdrawn. A bill to require a license fee of $500 from Christian Scientists has been "definitely postponed."

MISSOURI

A bill authorizing the formation of districts for the prevention of tuberculosis has passed both houses of the legislature. It is understood that this bill has the personal endorsement of Governor Hadley. A commission appointed by the governor reports that there are between 6,000 and 7,000 cases of tuberculosis of the lungs in Missouri and that infection is transmitted through lack of proper care and precaution. The bill permits of the organization of districts throughout the state to avoid the further spread of the disease and to provide proper care and treatment for those already afflicted.

TENNESSEE

A vital statistics bill and a bill to amend the medical practice act have been introduced, also one providing for the medical inspection of school children. Another bill requires a health certificate as a condition for a marriage license. Through the efforts of the Tennessee Federation of Women's Clubs, a bill providing for the protection of the eyesight of new-born infants, has passed both houses of the legislature and has been signed by the governor. An amendment to the present excellent pure food and drug law, a sanitary hotel bill, an itinerant venders bill and a state hygienic laboratory bill have also been introduced.

NEW JERSEY

A bill to provide for the registration of trained nurses has been introduced, also a bill to amend the existing medical practice act.

NORTH CAROLINA

The legislature has adjourned after increasing the appropriation for public health from $8,000 to $22,000 and giving the state board of health an additional $5,000 to investigate the water-supply. A school for the feeble-minded has been established. A bill to permit the shipment of bodies from this state to other states for the purpose of anatomic work, has become a law. The legislature refused to appropriate $3,000 for free diphtheria antitoxin but appropriated $2,000 for the free treatment of hog cholera. A bill was passed allowing West Asheville to incorporate itself as a sanitary district and to vote a special tax by which to raise sufficient revenue for sanitary work, such work to be carried out by a commission under the direction of the county and state boards of health. It is hoped at the next session of the legislature to extend this privilege to all parts of the state so that any community county desiring may form a sanitary district to raise funds for public health work.

NORTH DAKOTA

H. B. 436 to require licenses of all hospitals and sanitariums and restricting major surgical operations, has been vetoed by the governor.

PENNSYLVANIA

A number of bills to amend the existing medical practice act have been introduced but none has as yet been passed. An antivivisection bill is in the house committee on public health and sanitation.

UTAH

Bills providing for reporting of contagious diseases by physicians and hotel and lodging-house keepers and reporting of inflammation of the eyes of new-born infants, have passed the house.

WISCONSIN

A bill to provide for medical inspection of school children is before the legislature and has been opposed by the Christian Science members of the National League of Medical Freedom.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—First Weekly Meeting

General Subject for the Month: Legal Medicine

SIGNS OF DEATH

SOMATIC DEATH, MOLECULAR DEATH

CESSATION OF RESPIRATION: Auscultation, mirror to mouth, dish of water on chest, etc. Time.

CESSATION OF CIRCULATION: Relation to respiration, tests. Eye changes. Changes in body temperature. Rigor mortis. Changes in skin.

RIGOR MORTIS AND PUTREFACTION: Rigor mortis, onset, duration, causes. Effect of disease, violence, age.

PUTREFACTION: Onset, effect of moisture and temperature, bacteria, air, earth, and cause of death. Adipocere. Mode of decomposition of structures and viscera. Determination of time of death.

CAUSES OF SUDDEN DEATH

SUDDEN DEATH DUE TO NATURAL CAUSES

HEART DISEASE: Cardiac thrombosis and embolism, myocarditis, rupture of heart, coronary disease, valvular lesions, aortic aneurysm.

BRAIN LESIONS: Hemorrhages, embolism, thrombosis, in epilepsy.

LESIONS OF RESPIRATORY ORGANS: Embolism, thrombosis, hemoptysis, pneumonia.

HEMORRHAGIC PANCREATITIS.

ECTOPIC PREGNANCY.

REFERENCE BOOKS FOR THE TENTH MONTH

Draper: Legal Medicine.
Emerson. Legal Medicine.
Taylor: Medical Jurisprudence.
Wharton and Stille: Medical Jurisprudence.
Reese: Medical Jurisprudence and Toxicology.
Whitthaus and Becker: Medical Jurisprudence.
Peterson and Haines: Legal Medicine and Toxicology.
Hamilton and Godkin: Legal Medicine.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
Connecticut State Medical Society, Hartford, May 24-25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

The President, DR. CHARLES STOVER, Amsterdam, in the Chair

PROCEEDINGS OF THE HOUSE OF DELEGATES

DR. CHARLES STOVER, Amsterdam: The Committee on Experimental Medicine is asking for the pecuniary support of this society in carrying on the work entrusted to it, and should receive it. The report of the Committee on Public Health is of more than ordinary interest in that it deals with the importance of establishing and maintaining county laboratories. The funds necessary for carrying to a conclusion the work that has been begun in relation to tuberculosis alone are so great that, inasmuch as the benefit to the public is correspondingly large, there is no reason why boards of health should not take on themselves the continuation of a great deal of the work that has been begun by private fortunes. This has already been done in some of the cities of the state where boards of health have taken over tuberculosis dispensaries originally started by branches of the state charities aid.

Report of the Committee on Experimental Medicine

The Committee on Experimental Medicine, in cooperation with the Committee on Legislation and with public-spirited men throughout the state, labored successfully to prevent the passage by the legislature of 1910 of two bills relating to experiments on living animals. One bill sought to impose restrictions, which were against the public welfare, on the performance of such experiments. A joint hearing before the judiciary committee of the senate and the assembly was held on Feb. 23, 1910. The other bill represented a new departure on the part of antivivisectionists in that it sought to establish a commission to inquire into the extent and nature of animal experimentation in this state. It was a real antivivisection measure thinly disguised. Hearings on this bill were held before the ways and means committee of the assembly and before the finance committee of the senate. The Committee on Experimental Medicine felt it to be its duty to combat the mistaken and unsound notions of their opponents relating to experimental medicine, and to oppose both bills, and its representatives appeared at the hearings and presented arguments to this effect before the legislative committees. Both bills died in committee. There is no doubt that again and again, with each succeeding year, this contest will be renewed; at least, so long as the funds provided for the purpose, and a willingness to regard experimental workers as unworthy of belief in the matter of their operative technic, continue. Every member of the profession should regard this controversy as a personal one, since the results affect all alike so far as the prevention and cure of disease are concerned.

Report of the Counsel

MR. JAMES TAYLOR LEWIS, counsel for the society, reported on Medical Defense. Seventeen state societies have now adopted this feature, and the medical profession is fast coming to realize how important it is that its members should stand shoulder to shoulder in repelling vicious attacks on physicians, since there is no litigation more far-reaching in its importance, not only in its effect on the profession, but also by its indirect influence on the public health.

Report of the Committee on Public Health

While those colleagues who reside in large cities have every opportunity and facility in laboratory advantages, others in the smaller towns and villages do not, and the committee believes them to be entitled to every and any aid which can be given to them. These men stand in the front rank of earnest, honest, hard-working, self-sacrificing members of the medical profession, and they should not be denied these advantages simply because of their environment. Such laboratory facilities would not only enable county medical men to keep modern, but would exert a profound and lasting influence over the public at large. It is assumed that the thirty-eight counties in the state containing hospitals would be glad to furnish laboratory space for the *quid pro quo* of the paid resident pathologist and his assistant.

Report of Committee to Consider the Question of Increasing Interest in the Society

The fifty-eight county societies of the state represent at the present time a membership of about 7,000, and while there has been a steady growth each year, it is not large. If state, district branch, and county society meetings are improved, increased growth will necessarily follow. This committee offers the following suggestions for increasing interest in county societies:

1. Improve programs. Interest in the meeting depends largely on the attractiveness of the program.

2. Take up post-graduate course as recommended by American Medical Association. This systematizes the program.

3. Confer with state board of health for at least one meeting a year on public health matters. Cooperation with the health department is essential to the welfare of the community.

4. Have at least one speaker a year from a distance, obtained by conference with committee on scientific work of state society if necessary. It will be glad to suggest names of those willing to render such service.

5. Arrange for one or more clinical meetings a year. Select subjects and request all who have proper cases to bring them before the society. Then have a discussion, always with the understanding that discussion of the case shall not be held in the presence of the patient; otherwise, frequently patients cannot be shown for obvious reasons.

6. Arrange for demonstration by bacteriologists and pathologists, with specimens, lantern slides, etc.

7. Arrange for social part of meeting. Some light refreshments at the close of the meeting are an adjunct to fraternal intercourse.

8. See that meetings are held often enough to keep up interest. Once or twice a year is not enough. Invite every member of the profession in the county to at least one meeting a year, not necessarily inviting them all to the same meeting. In counties where men do not show a willingness to write papers either designate writers for different meetings or see that outsiders are invited. In other words, see that the meetings are made interesting. It should be the aim of every county society to secure a permanent home, a small library, with a supply of current journals, and the use of the larger libraries for reference books will greatly increase interest in the county organization.

9. Arrange the time of meeting to accommodate the largest number of members. When men come from long distances, an evening session is obviously the most inconvenient. An afternoon session will often appeal to a larger number of men when it permits them to reach their homes at a seasonable hour.

10. Select as officers men who are willing to work. Keep good men in office. Do not promote those who have shown that they will not attend to the duties assigned them. Efficiency is the only criterion of leadership. No physician should accept office unless he is prepared to give the position the attention that it deserves, and unless he is interested in the work.

11. In small societies do not unduly multiply offices—the secretary's and treasurer's duties can be best done by one man.

12. Make dues large enough to warrant conducting the society work in a proper manner.

13. Provide a committee on entertainment which shall welcome new or prospective members or guests at meetings. The officers of the society may be active or ex-officio members of such committee. Newly registered physicians should be visited by such committee or written to and asked to join the county society.

14. See that the meetings, programs of proceedings are published regularly and promptly in the state journal.

15. Have high ideals. Be liberal yet firm in the maintenance of a high ethical standard. Educate the public. Be a power for good in the community. Do not be ashamed of the county society or apologize for it. Make it better. Attend all meetings and see that others do the same. The county society is a conservator of patriotism and worthy citizenship.

Animal Experimentation

DR. CARR, of New York City, offered the following resolutions:

Resolved, That the members of the House of Delegates do hereby declare that animal experimentation in this state is conducted in a proper and merciful manner, and that such experimentation is positively essential to medical progress; that unmerciful experimentation is not practiced in this state and is prohibited by law.

Resolved, That Senate Bill No. 310, calling for the investigation of vivisection in this state is therefore unnecessary and mischevious and calculated to hinder and interfere with vivisection, and correspondingly lessen the humane benefits derived therefrom.

Resolved, That we respectfully petition the legislature to express decided disapproval of all measures coming before it opposed to animal experimentation for the purpose of medical advancement; also all measures calculated to hinder or destroy the same.

These resolutions were adopted unanimously.

Membership in State and National Organizations

DR. E. LEFEVRE, of New York, offered the following:

WHEREAS, The Board of Trustees of the American Medical Association has requested an expression of opinion on the subject of making in the future all members of state societies and county societies in affiliation with them *ipso facto* members of the American Medical Association, and in order that the board may make a satisfactory report to the House of Delegates of the national organization relating thereto, be it

Resolved, That the foregoing request of the Board of Trustees of the American Medical Association be referred to a committee of five, to be appointed by the president of this society for investigation as to the legality, expediency and advisability of the proposition, and to report to this House of Delegates at the next annual meeting.

On motion, the resolution was adopted.

The President appointed on this committee Drs. E. LeFevre, New York; S. B. Ward, Albany; W. W. Skinner, Geneva; J. C. MacEvitt, Brooklyn; and Wisner R. Townsend, New York.

Vaccination of School Children

DR. D. S. DOUGHERTY, of New York, offered the following resolution, which was adopted:

WHEREAS, There is a bill in the assembly known as Bill No. 611, designed to allow unvaccinated children to attend school on presentation of a physician's certificate that such pupil's or person's physical condition is such that vaccination will jeopardize his or her health, or on a written declaration from the parents or guardians of such pupils or persons to the effect that such parents or guardians are conscientiously opposed to vaccination; therefore, be it

Resolved, That this society protests against the passage of this act as inimical to the best interests of the state, and respectfully urges the legislature to withhold its approval of the measure.

Medical Education and Medical Practice Act

The following resolutions were adopted:

Resolved, That the Board of Regents of the University of the State of New York be requested to recommend such change in the medical practice act as will raise the requirements for securing the medical student's certificate to include, in addition to the standard high school course, one year in college, or its equivalent, embracing especially the following subjects: physics, chemistry (inorganic and qualitative analysis), and general biology.

Resolved, That the state society recommends to the Board of Regents that an investigation be conducted in order to ascertain the number of internships available in the hospitals of the state with a view to recommending a fifth year in hospital for the completion of the medical curriculum.

Registration of Midwives

DR. BERNARD COHEN, of Buffalo, offered the following resolution, which was referred to the council:

WHEREAS, In the larger cities in the State of New York nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume, therefore, be it

Resolved, That the Erie County Medical Society favors the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends the state medical society take such action as may lead to the establishment of a standard, the requirements of adequate examinations, with universal registration of all midwives practicing in this state.

Optometry

DR. H. W. WOOTTON, of New York City, presented the following preambles and resolutions, which were referred to the council with power to carry out the recommendations:

WHEREAS, A law is now on the statute books creating a special class of practitioners known as optometrists, and

WHEREAS, This law gives to certain persons the right to adjust lenses to eyes with defects of vision and prohibits the use of drugs in determining the need for and the kind of lenses to be prescribed, and

WHEREAS, It is the opinion of the medical profession that a knowledge of the subjects taught in medical schools is absolutely essential for the proper and safe performance of the work this law gives opticians the legal right to do, and

WHEREAS, The entrusting of work so important to the hands of a class of people inadequately equipped, and who are denied the right to use the means necessary to do properly the work they are authorized to do, is a positive menace to the community; therefore, be it

Resolved, That it is the judgment of the Medical Society of the State of New York that the legislature made a serious mistake in enacting this law; that in the judgment of this society the legislature should be respectfully petitioned to repeal this iniquitous law; that in the judgment of this society Columbia University has taken a decided step backward in establishing a course in optometry in its extension teaching, advertising the same as an opportunity for men and women with only two years of high-school training to enter a "new profession."

Resolved, That Columbia University by creating this department and granting certificates of proficiency to students who fulfil its requirements not only discredits its own medical department but discriminates against its medical graduates, of whom is required a preliminary training far in excess of that required of the optometrist, which discrimination is especially intensified by the fact that the medical graduates who take up the practice of ophthalmology come in direct competition with graduates in optometry.

Resolved, That Columbia University by establishing this course in optometry has given support to a horde of incompetents who are constantly endeavoring to tear down the barriers created by the state for the protection of the public health, as is attested by the fact that the action of Columbia University in this particular is being advertised all over the United States by opticians seeking identical privileges elsewhere.

Resolved, That in view of the foregoing statements the medical society of this state respectfully urges Columbia University, in the City of New York, to abolish its course in optometry.

Officers Elected

The following officers were elected: President, Dr. Wendell C. Phillips, New York City; first vice-president, Dr. Peter W. Van Peyma, Buffalo; second vice-president, Dr. William F. Campbell, Brooklyn; third vice-president, Dr. C. R. Hervey, Oswego; secretary, Dr. Wisner R. Townsend, New York City, re-elected; treasurer, Dr. Alexander Lambert, New York City, re-elected; delegates to American Medical Association: Dr. A. T. Bristow, Brooklyn, Dr. J. W. Fleming, Brooklyn, Dr. Wesley T. Mulligen, Rochester, Dr. Henry L. Elsner, Syracuse, Dr. Edgar A. VanderVeer, Albany, and Dr. F. E. Cornwall, Brooklyn; alternates, Dr. S. W. S. Toms, Nyack, Dr. A. Walter Suiter, Herkimer, Dr. W. B. Handbidge, Ogdensburg, Dr. J. C. MacEvitt, Brooklyn, Dr. W. W. Strang, New York City, and Dr. Otto Pfaff, Oneida.

Albany was selected as the place for holding the next annual meeting, and the time April 16-17, 1912.

(To be continued)

TENNESSEE STATE MEDICAL ASSOCIATION

Seventy-Eighth Annual Meeting, held at Nashville, April 11-13, 1911

The President, DR. JOHN A. WITHERSPOON, in the Chair

The officers elected were named in THE JOURNAL, April 22, in the News Department.

Radium

DR. G. P. EDWARDS, Nashville: In my experience, covering a period of nearly seven years, I have observed the action of radium in a great many different conditions and have gained confidence in its virtue. In thirty-eight cases of cancer of the lip, twelve of which were postoperative, there were thirty-one cures and six failures; one patient failed to report results. In seventy-six cases of cancer of the face, nine of which were postoperative, one patient failed to report, in one the radium failed, and seventy-four patients were cured. Eight recurrences yielded to treatment. In seventeen cases of cancer of the eyelids, nine involving the mucous margin, six the canthus, and two the skin, cures were effected. In eight cases of cancer of the breast there were three failures and five cures. In three cases of cancer of the nipple, there were one failure and two cures. In four cases of lupus vulgaris, all the patients were cured. Of seven patients with lupus erythematosus, six were cured. Of nine individuals with cancer involving the buccal spaces, gum, or mouth, six were cured. Three cases of cancer of the scalp terminated in recovery in all. Of two patients with cancer of the antrum, one recovered; of six with cancer in the nares, five recovered. In one case of cancer of the umbilicus a cure was effected, and also in thirteen cases of cancer of the neck. Six cases of cancer of the hand all resulted in cure. This report does not include patients now under treatment, nor does it include those cases in which the *x*-ray was used in conjunction with radium except when the radium was used subsequent to *x*-ray failure.

DISCUSSION

DR. G. C. SAVAGE, Nashville: I saw the case of malignant growth in the nasopharynx. The growth was removed, and it was one of the bloodiest operations I have ever seen. Radium treatment followed its removal, and the patient is now well at the end of eight or ten weeks. Another patient with sarcoma of the nasopharynx came under my observation, but was not operated on. Radium was used. There had been hemorrhage every day from the malignant growth, but under the use of radium by Dr. Edwards this patient is now fairly robust. There are no longer hemorrhages, and there is free use of the respiratory passages.

Significance and Surgical Treatment of Uterine Displacements

DR. R. M. MCCOWAN, Knoxville: In treatment of uterine displacements there are a few principles that appeal to me more strongly than others. These are: 1. The perineum must be looked on as the most important feature for consideration, for without perfect support here, anything one may do is futile. There are many operations that are suggested for repair of the perineum; I prefer the modified Tait. 2. Next in importance is the correction of the angle between the uterus and the vagina. This is accomplished by shortening the round ligaments, lifting the uterus forward and upward. When the anterior portion of the ligament is especially weak, I have found the modified Gilliam, Mayo and Fowler operation satisfactory. This consists in pulling the inguinal portion of the round ligaments through the outer border of the recti, and stitching them together on the anterior portion of the muscle. Another method which I have used for several years is one suggested first by S. M. Miller, of Knoxville. It consists in lifting the uterus upward and forward through an abdominal opening, until the round ligaments are brought into view; an incision is carried through the parietal covering along the long axis from the uterine end a variable distance toward the pelvic wall, in accordance with the relaxation present; the fibers of ligaments are then separated the length of the incision, and the halves, together with the attached peritoneal covering of broad ligaments, are drawn apart. The distal and proximal extremities are brought together by a suture passed through the tissues beneath the cuts from just beyond one extreme to the other. A single lateral suture on either side the central will close the incision in a transverse line and shorten the ligaments to the extent of the primary incision. In prolapse, the operation of selection is that suggested by Crile. It consists in tying off the ovarian arteries and in doing a supravaginal hysterectomy, leaving a long fan-tail leaf on either side of the body of the uterus; these are brought through the recti on each side and stitched together in the same manner as in the round ligament operation. The greatest difficulty in dealing with these cases is the fact that often there is an existing general visceroptosis. In anterior displacement, usually a complete dilatation of the cervix is all that is required with a pulling down and stretching of the ligaments, or a wedge-shaped portion of the cervix may be removed from the posterior portion, as has been suggested by Dudley.

DISCUSSION

DR. R. CALDWELL, Nashville: I have found as many retrodisplaced uteri in women who have not borne children as in child-bearing women, and yet so far as we could determine, in those women the perineum was normal. I am inclined to believe that if we can maintain the normal position of the uterus by means of the ligaments or guy-ropes, and maintain the proper angle, and bring the uterus forward, we will prevent retrodisplacements.

DR. C. N. COWDEN, Nashville: Not every woman with a backward displacement of the uterus should be subjected to operation, because women are not all of the same nervous temperament, and while a backward displacement in one patient will create enough nervous disturbance to warrant an operation, in other instances such an operation would not be required. We must individualize in these cases before we can ever apply the rule in a sensible way.

Traumatic Perforation of Abdominal Viscera

DR. W. M. MCCABE, Nashville: Within the last eighteen months I have had the following cases of injury to the abdominal viscera: One gunshot perforating wound, the patient dying. Eight gunshot perforating wounds with bullets, four of which required resection; seven of the patients recovered. There were two gunshot-wounds of the liver, one operated on, and one not operated on; both patients recovered; one penetrating gunshot-wound; three stab wounds of the stomach through the left interspaces; four stab wounds of small intestines; one stab wound of ascending and transverse colon; one stab wound of the spleen; three penetrating stab wounds. All patients with stab wounds recovered. I believe that as a rule the median abdominal incision is preferable in gunshot wounds, but occasionally vary this procedure. I do not hesitate to make a subsequent incision if it will facilitate matters and allow of more thorough and satisfactory examination. If resection is decided on, I clamp the gut, take out a triangle of mesentery, and control the hemorrhage. A Connell suture of linen is then inserted at the mesenteric border, and this suture is run continuously around the gut, going through all coats. This part of the anastomosis is completed by suturing the rent in the mesentery with the same thread. This suture is covered with a Czerny-Lembert suture in the peritoneum, and reinforced with catgut, if necessary. I am careful to make the suture approximate, but do not allow it to constrict. I now examine the work, invaginate the bowel through the anastomotic ring, and if the thumb and forefinger meet I am satisfied. If only perforations are to be dealt with, I put in a purse-string suture of linen, if it does not constrict the lumen too much, or suture with a through-and-through linen suture and cover with a Czerny-Lembert of catgut or linen. The perforations having been closed, I wash the intestines with saline solution and drop them back into the abdominal cavity. The peritoneal cavity is then sponged out with gauze sponges; I never flush the cavity with any kind of solution. I have sponged away pumpkin seeds, tomato skins, feces, and other matter, and have yet to regret that I did not flush the cavity. If there has been much soiling of the peritoneum, I insert a drain. I should be delighted if the drain could be dispensed with, but as yet I have not been sufficiently convinced that it is a useless procedure. I have learned, however, that all drains produce necrosis of the abdominal wall, and for this reason they should always be brought through a separate stab, thus

allowing the abdominal incision to heal by first intention and preventing hernia and other complications. The patient is placed in bed in the Fowler position, the Murphy drip enema is given constantly, and all food and water is withheld for twenty-four hours. Purgatives are not given for at least five days. This treatment is not carried out unless I suspect that peritonitis is liable to occur. While I have done the end-to-end anastomosis with success, I believe the lateral method is safer and may use it hereafter.

DISCUSSION

DR. W. D. HAGGARD, Nashville: The meeting of the Southern Surgical and Gynecological Association in this city in 1896 marked the first crystallization of the expression of immediate abdominal section for every penetrating abdominal wound. It was the sense of that body that immediate exploration should be the rule in all cases of gunshot and stab wounds of the abdominal viscera, and since then I think this has been the opinion of most surgeons, and also that if we should fail to do this and peritonitis should occur, and we are powerless to control it after eight hours has been permitted to elapse, we have been guilty of a grave error. I think, sometimes, that in the future this may assume a medicolegal aspect. I do not feel that we should shirk moral responsibility in these cases, to say nothing of surgical responsibility. As a matter of fact, we have two lives in our hands—the life of the victim, and the life of the assailant. Dr. McCabe has reported an unusual group of cases, with a satisfactory rate of mortality, and the lesson we ought to learn is to suspect every penetrating wound of the abdomen to be a perforating one, and never rest contented until we see inside the abdomen and repair thoroughly every wound after having gone over every inch of the viscera.

DR. J. L. CROOK, Jackson: One remarkable thing in cases of this character is the improved mortality within the last five years. The point made of using a stab wound for a drain is a good one, whether operating for perforation of the intestine or for other purposes. If we can make drainage through a separate incision, we can get a better result than by draining in some cases through the original wound.

DR. J. A. GAINES, Nashville: One of our greatest authorities on duodenal ulcer, Moynihan, suggested that when there is perforation, especially when there are beans, lettuce, cabbage and things of that character in the abdominal cavity, another opening should be made and the abdomen flushed. I do not believe that we should make such an opening for the purpose of flushing out things of that character. Flushing should not be done; we should pick out these things, and clear out the foreign material as well as we can by mechanical applications, without flushing the abdomen, and using drainage in all cases of this character.

DR. L. L. SHEDDAN, Knoxville: I have observed that stab wounds are simpler than gunshot-wounds. I have seen two patients die because in closing the perforation the peritoneum was not closed a sufficient distance around the margin of the wound. Again, paralysis is more likely to follow an injury from a gunshot-wound than from a knife of a stab wound. The author of the paper said that in injuries of the liver, the liver does not bleed very much. It has been my observation that it bleeds very profusely when injured.

Cancer of the Breast

DR. H. M. TIGERT, Nashville, advocated surgical treatment for the relief of this condition.

DISCUSSION

DR. L. E. BURCH, Nashville: According to the statistics of the United Kingdom, one woman out of every twelve in the year 1908 died of cancer, and in the State of New Jersey last year more people died from cancer than from tuberculosis. The only way to effect a radical cure of this condition is to make an early diagnosis and operate promptly. Every tumor of the breast in a woman above the age of 35 should be removed and examined.

DR. B. MALONE, Memphis: There is great diversity of opinion as to the etiology of cancer. In Rome practitioners have reverted to the Cohnheim embryonic theory of cancer. They are using an emulsion of embryos in the treatment of cancer in the experimental laboratories there, and while they are not making many claims, the results have been encouraging. Dr. W. J. Mayo, who saw some of this work while he was abroad, says that in his opinion it promises more than anything else in the way of a specific cure for this disease.

DR. J. M. KING, Nashville: Every tumor of the breast should be removed before *x*-ray treatment is resorted to. I do not think any one should apply the *x*-ray treatment to a tumor of the breast unless it has recurred.

DR. E. T. NEWELL, Chattanooga: I have had two cases which showed that tumors of the breast occurring in women over 35 are not always malignant. One patient has gone five years since the removal of the tumor without recurrence, and the other three years without recurrence.

DR. MCPHEETERS GLASGOW, Nashville: In tumors of the breast occurring in young people it is advisable to remove the breast at once, but in a woman over 50 it might be well to watch the case carefully before advising operation. Certainly, operation should not be advised on seeing the patient once or twice.

DR. W. T. BLACK, Memphis: Early extirpation is the only remedy, and all tumors of the breast should be treated as malignant unless they are proved to be benign.

DR. J. OVERTON, Nashville: I think that we should use Coley's fluid in cases of inoperable cancer, unless some serum of more pronounced value is brought to the attention of the profession in the meantime.

DR. W. LITTERER, Nashville: It is important to examine the axillary glands in cases of cancer from a prognostic standpoint.

DR. C. A. ROBERTSON, Nashville, spoke of metastases in cancer of the breast, and detailed a very interesting case which came under his observation within the past eighteen months.

DR. W. H. WITT, Nashville: In two cases in my practice, the disease recurred after ten years in one, and in the other after seven years. These recurrences were metastatic in nature. One patient died two or three months following the recurrence.

Spina Bifida

DR. B. B. CATES, Knoxville: I previously reported three cases of spina bifida operated on, with one death. Since publishing this report, I have operated on four other patients with one death, making a total of seven operations with two deaths. There were five males and two females. The ages varied at the time of operation from 28 days in the youngest to 26 years in the oldest. The situation of the tumors was in the cervical region once in a female, twice in males; once in the lumbar region in a male, once in the lumbosacral region in a male, once in the upper sacral region in a male, and once in the mid-sacral region in a male. One step in the technic of the operation concerns the closure of the spinal defect with osteoplastic grafts. In not one of my cases was there enough bone at hand to cover the opening, so I used the deep fascia, by dissecting enough from without inward to cover over the defect when turned over the middle line. This fascia is strong and dense enough to form a strong bridge. It is not necessary to overlap the flaps, simply stitching the edges together with fine catgut being all that is necessary. I think that I caused necrosis in one case by imbricating the flaps, thus cutting off the blood-supply.

DISCUSSION

DR. J. L. CROOK, Jackson: I have had two cases of spina bifida under observation. In one of these the child was so weak that I did not think it would survive an operation, hence I did not operate. The other child was 8 months old and had a meningocele in the lumbosacral region, on which I operated successfully.

DR. B. MALONE, Memphis: My experience also is limited to two cases. In one, there was a meningomyelocele, and the other was a pure meningocele. In meningomyelocele, in which the sac is composed of cord elements, the prognosis is unfavorable.

DR. R. CALDWELL, Nashville: Attention should be given to the association of spina bifida with hydrocephalus. When this is the case, very little can be expected from operation, as these patients become hydrocephalic and die from exhaustion and imbecility after a few years of life.

(To be continued)

Book Notices

DIFFERENTIAL DIAGNOSIS. Presented Through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Cloth. Price, $5.50 net. Pp. 753, with 195 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Cabot proposes to study medicine from the point of view of the presenting symptom, by the case-history method. Cases are grouped according to the chief symptom, such as headache, lumbar, abdominal or epigastric pain, fevers, chills, coma, convulsions, cough, hematuria, jaundice, etc. Each section is prefaced by a statement of the possible causes of the symptom under discussion. Illustrative cases follow, in which the salient points in the history, examination and laboratory findings are given, the differential diagnosis discussed, and diagnosis made. Numerous plates showing the distribution of pain, physical findings, etc., accompany the case histories. Diagrams are given, showing graphically the relative frequency of the several diseases in which any one symptom may be the principal complaint. These are based on hospital records and at times may be misleading to the general practitioner who sees a less selected series of cases.

Cabot is no respecter of traditions and, as occasion presents, criticizes those which he believes are not founded on facts—e. g., the relation of backache and pelvic disease, tapeworm and abdominal pain, poor teeth and digestive disturbances. It is perhaps superfluous to conduct obsequies over "rheumatism" and "gastralgia," as they have been buried already by most of the profession. The importance of lead intoxication as a cause of many obscure symptom-complexes is rightly emphasized. The cases cited in illustration of abdominal and epigastric pain are particularly instructive.

In many instances the diagnosis is arrived at through an admirable course of reasoning. We may, however, question the advisability, even for teaching purposes, of arbitrarily placing difficulties in the way of diagnosis by the suppression of facts which are obvious on careful examination. A diagnosis made in spite of omissions deserves no special credit. We may also question certain diagnoses in that they are made on insufficient evidence, or the resources of diagnosis are not all utilized. Abdominal pain is frequently caused by constipation, but to dismiss a case with this unreserved diagnosis after a short period of observation may be dangerous, in view of the frequency with which carcinoma presents the same symptoms. It is, however, easier to criticize a diagnosis than to make one, and the general impression made by a case often has a weight which cannot be conveyed by verbal expression.

Typographic errors are few. Kernig's sign is repeatedly referred to as "Koenig's" sign.

The chief value of "Differential Diagnosis" lies not in the introduction of new facts, but rather in the demonstration to the student of the manner by which he may arrive at a reasonable diagnosis by careful observation and proper correlation of the facts obtained from the history, physical examination and laboratory findings. To the practitioner also, who would go beyond the mere treatment of symptoms, or learn of the difficulties surmounted by another, this book will prove of great interest and value.

VAGINAL CELIOTOMY. By S. Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Price, $5 net. Pp. 443, with 148 illustrations. Philadelphia: W. B. Saunders Co., 1911.

In this valuable work the author has very clearly stated the technic of vaginal operations and amplified them with comprehensive illustrations, so that the various surgical procedures are made perfectly clear. Even though the reader has had no personal experience with the vaginal route, he can hardly fail to see its advantages and the great field it offers in certain stated gynecologic operations. The history of anterior vaginal celiotomy is clearly outlined and beautifully illustrated and the possibilities and the indications are so accurately described that one is fully impressed with its value, while the comparative advantages of the vaginal over the abdominal route are succinctly expressed. The technic in anterior vaginal celiotomy is clearly outlined, and, although the author has fully impressed the reader with its difficulties, he encourages those who are not familiar with the route to become acquainted with it. The positive indications for conservative operations on the ovaries and tubes, retrodeviations of the uterus, and cystocele, are tersely given. Added to the subject of total uterine prolapse is the technic of the amputation of the cervix, which is an important evolution in the operative procedure for permanent correction of procidentia. The description of vaginal hysterectomy, myomectomy, vaginal Cesarean section, metreurynter incision, and minor vaginal Cesarean section, makes this volume a complete summary and the most comprehensive work in vaginal operations that has been published. It is invaluable to the gynecologist, the surgeon, and the obstetrician, as well as to every physician who desires to be intelligently informed on the late and advanced methods of gynecologic surgery.

PHOTOGRAPHIC ATLAS OF RADIOGRAPHY OF THE MASTOID REGION AND OF THE NASAL ACCESSORY SINUSES. By Joseph C. Beck, M.D., Clinical Professor of Oto-Laryngology, College of Physicians and Surgeons, University of Illinois. Half Morocco. Price, $8. St. Louis: The Laryngoscope Co., 1911.

This loose-leaved atlas, so constructed as to permit changes to be made in the radiographs it contains, has been compiled by Dr. Beck with the cooperation of a radiologist and a photographer. To avoid marking the photographs which have been used, half-tones being unsatisfactory, the author follows the scheme of using an outline drawing to explain the radiograph after the manner of Killian's "Atlas on Face Reproduction." The importance of following the technic, which is fully outlined, is emphasized. Three positions are suggested: The postero-anterior position shows the frontal sinuses, ethmoids, orbits, and the antra and nasal cavities; the lateral position, the sphenoidal sinuses, the sella turcica and the depth of the frontal; the mastoid position is limited to use in studying the mastoid, the middle ear and the lateral sinus. These positions permit of the study of fractures and diseases of the bones and of foreign bodies, as well as the condition of the sinuses. The photographic methods that have given best results are explained. Eight stereogram illustrations are presented; four showing the positions described, three radiographs of a skull taken in the different positions, and one the difference between a stereoscopic and pseudoscopic image as shown in Dr. Kelly's atlas. Then follow twenty-five photographs, 19 cm. by 24 cm., from radiographs of the skull and of the head, showing the normal and certain abnormal conditions of the sinuses and some results of faulty technic.

The purpose of the atlas is to aid in the interpretation of radiographs of the head. To the degree that it is accepted as establishing a standard of technic, it will attain its object.

SERUM AND VACCINE THERAPY. Bacterial Therapeutics and Prophylaxis Bacterial Diagnostic Agents. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of General Pathology and Bacteriology, King's College, London. Second Edition. Cloth. Price, 7 shillings 6 pence net. Pp. 406. London: J. & A. Churchill, 7 Great Marlborough Street, 1910.

The first chapter of this book is taken up by an introductory consideration of the principles underlying immunity processes in general. The preparation and practical application of the various antitoxic and antimicrobic serums are then concisely described. The section of the book dealing with the principles of vaccine therapy, and giving practical directions for preparation and use, is especially valuable. Hewlett's views concerning direct transfusion are somewhat at variance with the prevailing American ideas and the subject is therefore dismissed with but slight consideration. The references to important literature on the different subjects constitute a valuable portion of the book.

TUBERCULOSIS OF FARM ANIMALS. Bulletin 149, University of Illinois Agricultural Experiment Station. By Charles F. Briscoe and W. J. MacNeal. Urbana, Ill., February, 1911. Paper. Pp. 431.

This bulletin contains a splendid summary of the findings of experimenters and investigators in this and foreign countries concerning tuberculosis in farm animals, especially with reference to its transmission by means of the bovine form of the bacillus to human beings through the various channels. It also contains the results of the study and experiments at the University of Illinois Agricultural Experiment Station, together with an extensive bibliography relating to this line of work.

Medicolegal

Evidence Which Dead Body Cannot Be Made to Furnish

The Supreme Court of New York, Special Term, Erie County, holds, in the case of Danahy vs. Kellogg (126 N. Y. S. 444), that no right of exhumation, inspection, dissection, microscopic examination, and taking of culture is furnished in a civil action by the code provision in that state that a court of record has power to compel a party to make discovery of any article or property in his possession or under his control relating to the merits of the action or of the defense therein.

In this case was the first application of the kind ever made, so far as the court is aware. The action was brought by the administratrix of the estate of Matthew Danahy, deceased, to recover damages for his death, alleged to have been caused by injuries received in a collision with an automobile claimed to have been owned by the defendant. The accident occurred July 10, 1909, and the death of Danahy on November 20, 1910. The certificate of death signed and filed by the attending physician stated the cause to have been malignant endocarditis. The discovery and inspection of the body, with permission to take cultures and to have microscopic examinations made, it was alleged, would furnish the means of determining the exact cause of said disease.

The denial of the application was based squarely on the absence of any right or authority in the court to grant the inspection, etc., asked, notwithstanding the provision in the code above mentioned. In considering the latter, the court is sure that the legislature could not have had any intention to include the body of a dead person within the description of an "article" or "property," or have had in mind an application to exhume the remains of a deceased person for the purposes of the section. But, even though it authorizes an order for the production and inspection of a buried human body, the court finds nothing in the section which could possibly authorize its dissection, etc. If the article to be inspected were a piece of machinery, instead of a human body, the court, under the section relied on, would not be warranted, it thinks, in making an order permitting the machinery to be taken apart, and a part of it carried away for the purposes of further examination. Much less would the court be justified in permitting an autopsy on a human body.

There is, strictly speaking, no right of "property" in a dead body. A long line of judicial decisions appear to have established the general doctrine to that effect, although the law has been relaxed to the extent of giving the husband, widow, or next of kin the right of protecting the remains of the dead and saving them from desecration, which can be enforced by appropriate legal remedies.

Validity of City Ordinance Requiring Tuberculin Test

The Supreme Court of Wisconsin, in Adams vs. City of Milwaukee and others (129 N. W. R. 518), holds valid a city ordinance requiring the tuberculin test, and that there was no error in a judgment against enjoining the enforcement of the ordinance. It says that it is not necessary to support the ordinance to show that human pulmonary tuberculosis is caused by drinking the milk of cows afflicted with bovine tuberculosis. If the milk of such cows produces disease of any kind, or is harmful to health, this is a sufficient basis for police regulation of its sale and distribution in the city.

Attention was called to chapter 542, Laws of Wisconsin for 1909, and to the following statutes of other states, recognizing the efficiency of the tuberculin test: Indiana, chapter 181, Laws 1909; Delaware, chapter 122, Laws 1909; Maine, chapter 133, Laws 1909; Maryland, chapter 466, Laws 1910; Michigan, chapter 172, Laws 1909; Minnesota, chapter 392, Laws 1909; New York, pages 28, 29, vol. 1, Consol. Laws 1909; North Dakota, chapter 160, Laws 1909; Oregon, chapter 213, Laws 1909; South Carolina, chapter 131, Laws 1909; South Dakota, chapter 291, Laws 1909; Tennessee, chapter 475, Laws 1909; Vermont, No. 1, chapter 163, Laws 1908; Virginia, chapter 335, Laws 1910. The court was also referred to the cases of State vs. Nelson, 66 Minn. 166; Nelson vs. Minneapolis (Minn.), 127 N. W. R. 445, and New Orleans vs. Charouleau, 121 La. 890.

The evidence and findings in the present case, this legislation, and these decisions, go to show a widespread recognition of the danger of infection from bovine tuberculosis and of the efficacy of the tuberculin test. When there are conflicting scientific beliefs or theories in such matters it is for the city council to determine on what theory it will base its police regulations, and unless it is clearly and manifestly wrong it is not for the courts to interfere on the ground that the scientific theory on which the ordinance is based is incorrect or unsound.

Nor does the court consider that the ordinance is rendered void because it applies only to dealers in milk drawn from cows outside of the city, when there are other regulations covering the sale of milk drawn from cows kept within the city. There is a sufficient basis for such classification in the difference of facility for inspection and regulation.

Furthermore, the court thinks that a situation was disclosed in which it might be said that the common council had the right to decide that destruction of the milk was the only available or efficient penalty for the enforcement of the ordinance, and that such destruction was necessary, and the ordinance cannot be declared unreasonable in this particular. Then the plaintiff himself must by his own act expose his property to confiscation before this portion of the ordinance will affect him injuriously, and there is a distinction recognized in some cases between preexisting nuisances and those created by wilfully placing property in the forbidden place or condition after the enactment of an ordinance, and in defiance of it. Self-inflicted damage is not recoverable.

Who Accounted "Physicians Now Registered" Under Medical Practice Act

The Supreme Court of Missouri, Division No. 2, holds, in State vs. Carson (132 S. W. R. 587), that, as the defendant was concededly registered and licensed under the Missouri act of 1877, he came squarely within the exception to the act of 1901, as "a physician now registered," and that no subsequent act of the Missouri legislature has revoked the license given him under the act of 1877, so that it was error to require him to have been also licensed by the board of health.

The court says that, after the defendant was duly registered under the act of 1877, namely, in 1880, by filing a copy of a diploma, the legislature passed the act of 1883, which provided that it should not apply to those who had been practicing medicine five years in that state prior to the enactment of that law, but contained no provision as to prior registration. Then came the act of 1901, making it a misdemeanor for any person, "except physicians now registered," to practice medicine or surgery without a license from the State Board of Health. The trial court held that a physician registered under the act of 1874 was a registered physician within the meaning of the law of 1901, and a physician registered under the act of 1877, five years before the act of 1883 went into effect, would be registered within the purview of the law of 1901, but, inasmuch as the defendant was not registered until 1880, less than five years before 1883, he was not a registered physician within the meaning of the law of 1901, which last conclusion was erroneous.

The construction which the state sought to have given the act of 1901 would necessitate the court amending the statute so that it would read: "Any person, except physicians now registered and qualified to practice under the laws of 1883." The defendant was not prosecuted for a violation of the act of 1883 while it was in force. That act was, in turn, repealed by the act of 1901, and five years' practice no longer afforded protection. Thus if a physician had practiced five years before 1883, but was not registered, he would clearly fall under the condemnation of the act of 1901 because he was not registered. What effect then had the act of 1901 on the registration of the defendant's diploma and certificate in 1880? The diploma was registered under the law of 1877, and no subsequent act required or permitted it to be registered again. While it might or might not have protected him from prosecution during the life of the act of 1883, what was there to prevent the legislature repealing the act of 1883 as it did, and providing

that his registration under the act of 1877 should protect him from prosecution and permit him to continue his practice? No act of the legislature had revoked the license the state had granted him in 1880, and no tribunal authorized to do it had done so. Even if it should be said that the act of 1883 impliedly rendered his registration ineffective, it cannot be doubted that the legislature could restore its efficacy by express provision as it did in 1901. This court is unable to see any substantial reason why a physician registered under the act of 1874 should be within the exception to the act of 1901, and one registered under the act of 1877 under the broad language of the exception of the act of 1901 does not also fall within the act of 1901.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 13

1 *An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.
2 *Vaccines in Puerperal Sepsis: W. H. Watters and C. A. Eaton, Boston.
3 *Intrathoracic Insufflation Anesthesia: Apparatus and Cases. A. Ehrenfried, Boston.
4 Extirpation of the Tonsil by Enucleation: Partly Instrumental, Partly by the Use of the Finger. L. M. Freedman, Boston.

1. **Prostatectomy.**—A summary of the results obtained in the twenty-four cases of perineal prostatectomy reported by Davis, shows that two patients died; in neither case was death directly due to the operation. All the others left the hospital in good condition with obstruction relieved. In fifteen cases, the end-results have been excellent in every respect—all that could be expected or desired. In two other cases the result is marred only by the loss of sexual power. One patient has a persistent cystitis which is symptomatically controlled by regular treatment; otherwise he is well. In four cases the results are not so satisfactory. In one there is poor control of the bladder, so that the patient prefers to wear a urinal. In another there is, at times, under stress, lapse of control. Two patients have persistent perineal fistulæ; in one of these there is also some cystitis.

Of the twelve patients operated on by the upper route, two died. One patient, in whom the complication of closure of the bladder outlet during convalescence occurred, requiring a secondary operation, has not been traced since discharge. There is no reason why the final result should not have been satisfactory, however. In one case in which the suprapubic operation followed an unsuccessful partial perineal prostatectomy, by another surgeon, Davis says that the incontinence which followed unquestionably would not have occurred if the external sphincter had not been injured in the first operation. In the eight remaining cases the functional results were excellent. Two patients have died since leaving the hospital, one three months afterward of pneumonia, one four years later of new growth of bladder; in neither were there any symptoms on the part of the prostate. Six patients have recently reported themselves alive and well without urinary symptoms. Data as to amount of residual urine are unfortunately meager; several of the patients lived at considerable distances and were able to report only by letter. In six cases in which it was recorded, the highest amount was 1½ ounces in a man who previous to operation had lived a catheter life for fifteen years; in the other five cases it was less than 1 ounce. As to sexual power, data are still scantier. Two patients are known to have retained it; in one patient who underwent both operations it was lost.

2. **Vaccines in Puerperal Sepsis.**—Fifty cases are reported by Watters and Eaton. This includes all patients who have been treated, the good and the bad, the early and the late. Among this series are a few who received ante partum prophylactic injection on account of bacteriologic findings or unusual opportunities for possible puerperal infection. These all recovered. It is of further interest that certain others who likewise received prophylactic treatment showed pure cultures of streptococcus in the uterus post partum, but without any clinical symptoms of sepsis or other complication. This was never noted in other normal patients not so treated. Among the fifty cases reported, four patients died within twenty-four hours of the first treatment, being practically beyond any hope of recovery when vaccines were first requested. Three others were moribund when inoculations were begun. Here life was possibly prolonged two or three days. Apart from these, there are forty-three patients, two of whom died and forty-one recovered. Of the two who died, one was operated on for suspected pus tube, which was not found, the patient dying six days after; the other was subjected to blood transfusion, dying within a few hours.

The method of using the vaccine was to administer a polyvalent preparation immediately after the diagnosis seemed definite, as determined by bacteriologic tests and to repeat as necessary until the autogenous preparation was ready, about twenty-four hours later. The vaccines were prepared by the use of the minimum degree of moist heat, a method apparently followed by better results than when the earlier method was employed. Careful watch was made to ascertain any possible injurious effects or aggravation, but even in the worst cases none could be demonstrated. On the contrary, a number of patients who seemed to be almost without hope of recovery made very happy convalescences. No claim is made by the authors that the vaccines should replace other generally recognized methods. On the contrary, they insist that the vaccines should be used to assist all other methods that have proved to be of value. In the series reported a hot vaginal douche has usually been employed; very rarely, in only one or two cases, an intra-uterine douche. Curettage was not performed in any instance. The bowels have been maintained in an active condition and remedies have been used when indicated. The authors have strongly advised leaving the patient as free from manipulation or local treatment as possible, and believe that the results well bear out these instructions. Two facts are given in conclusion: One that no demonstrable harm has been often done to any person; the other, that patients have shown much improvement after the inoculations and have recovered when even the best clinicians have foretold a fatal termination.

3. **Intrathoracic Insufflation Anesthesia.**—The apparatus Ehrenfried uses consists of a Wolff bottle with three necks sitting within a copper water jacket, and a foot bellows. By means of cocks on the outside of a jacket, the stream of air from the bellows can be carried through the hot water, over the top of the ether (contained in the Wolff bottle), or through the ether when a particularly strong vapor is desired. Air and ether vapor may be mixed in any proportion. Connected with the delivery end of the apparatus is a safety valve and pressure regulator consisting of a bottle of mercury into which a tube is plunged. The depth of the tube in the mercury, which is adjustable, represents the maximum of pressure which is allowed within the apparatus; if for any reason, such as a spasm of the glottis, the pressure should rise, the valve "blows off" automatically and danger from interstitial emphysema is avoided. In his early experiences, Ehrenfried employed a dial manometer registering in millimeters of mercury, to record the pressure, but he has found that the pressure bottle answers as well for all practical purposes. The apparatus is provided with a device to prevent droplets of condensed ether being carried over into the larynx.

The air or mixture is supplied at a practically constant temperature of about 10 degrees above room temperature; if the operation is to last over half or three-quarters of an hour the contents of the water jacket should be replaced. The air supplied may be filtered and moistened. For an intratracheal tube he uses a French lisle catheter, 22 to 24 F., moistened in hot water to render it pliable, a new and sterile one being used for each case. Soft rubber tubes have the advantage of standing sterilization by boiling better, but they are less easy to introduce. The chief difficulty with this method of anesthesia so far has been the introduction of the tube. He now uses a simple introducer, a laryngeal forceps with sleeves attached for grasping the tube near its extremity, similar in principle to the introducer of Doyen. After considerable pains to produce the proper curve—working on frozen sections and cadavers—Ehrenfried has devised an instrument which can

be guided into the larynx in a few seconds, with the mouth gag in place and the left forefinger on the epiglottis, without the necessity of using a head mirror or electric illumination, or changing the patient on the table to and from the Rose position, as is necessary with the direct laryngoscope. Ehrenfried has tried this apparatus successfully four times on human beings.

Medical Record, New York

April 3

5 *Posture as an Aid in Diagnosis and Treatment of Cardiac Affections and Dropsical Conditions of Various Origin. H. W. Berg, New York.
6 The Chemotherapy of Ehrlich, with Special Reference to the Trypanosome Infections. B. T. Terry, New York.
7 Death-Rates in the Japanese War. C. E. Woodruff, U. S. Army.
8 *A Case of Erythremia with Unusual Features. N. E. Brill, New York.
9 Psychoses of Child-Bearing. J. D. Morgan, Washington, D. C.
10 Acute Urethritis of Chemical Origin. W. J. Robinson, New York.
11 Removal of the Septal Floor in Submucous Operations. A. Kahn, New York.

April 15

12 Purpura. J. S. Thacher, New York.
13 *An Unusual Fracture of the Bodies of the Fourth, Fifth and Sixth Cervical Vertebræ, with Injury of the Spinal Cord. W. H. Swan, Colorado Springs, Colo., and C. A. Powers and H. T. Pershing, Denver.
14 Four Cases of Ureteral Calculus. H. D. Furniss, New York.
15 Metallic Foreign Bodies in the Tissues; a New Telephonic Searcher. W. S. Thomas, New York.
16 Embolism and Thrombosis of the Pulmonary Artery; Report of Three Cases. J. Funke, Atlanta, Ga.
17 *Sterilization of the Skin by a New Iodin Solution. E. McDonald, New York.
18 Case of Congenital Cystic Degeneration of the Kidney. H. B. Mills, Philadelphia.
19 Short Talks with My Students and Others, Being Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

5. **Posture as an Aid in Diagnosis of Cardiac Affections.**—It is for cases of extreme cardiac failure due to dilatation secondary to severe valvular disease or myocardial disease that Berg has found that a posture which is a combination of recumbency with vertical or semivertical position, forms a powerful adjuvant in the treatment. He has placed such patients in bed with the head of the bed raised, as in the Fowler position, but with the patient in what he calls the reversed Trendelenburg position. The patients lie on an inclined plane, body and legs extended, with the head and shoulders at the top and the feet at the bottom of the inclined plane. The posterior legs of the bed on which the patient lies are raised 4 to 24 inches from the floor, resting on chairs or wooden supports with a broad base and narrower top, shaped like truncated cones or pyramids, or by any other means that may occur to the physician or some ingenious relative. The full heignt of 24 inches should not be attained, however, at one stroke, but gradually, so that the patient may not get an annoying sense of insecurity from the unaccustomed attitude of lying on an inclined plane, down hill, as it were. At the foot of the bed the patient's feet should rest against a well-bolstered or padded wooden rest, which extends across the width of the bed. Well-padded boards, 15 to 18 inches wide, should bound the sides of the bed to prevent the patient slipping out during sleep.

The whole structure should be as firm as though the patient's bed were resting in the usual horizontal manner on the floor, in order to give the sense of security. The patient's head and shoulders should be supported by pillows and sometimes by a head rest. The body should lie recumbent on the bed in this inclined plane without any bend at the hips, so that the maximum downward effect of gravity on the liver and abdominal organs may be obtained. The upward pressure on the diaphragm is thus removed, the heart relieved by the increased space thus obtained, and the venous return in the portal veins, vena cava and pulmonary veins encouraged. Berg has seen patients suffering from cardiac failure as a result of dilatation complicating valvular disease and myocarditis, more especially when mitral regurgitation is an element of the valvular disease, immensely relieved of their dyspnea by this posture alone, even before other more direct therapeutic measures were applied.

8. **Erythremia.**—Brill's patient, in addition to an erythrocytosis of between 8,000,000 and 10,000,000 cells, a leukocytosis varying between 20,000 and 45,000 leukocytes, presented few features of a cyanosis, a much relatively diminished hemoglobin content, the color index being far below 1, showed marked signs of bone marrow involvement with a colossal spleen and a very large liver. The spleen was much larger than in other affections, excepting those found rarely in leukemia and more commonly in the Gaucher type of primary splenomegaly. But even in these affections Berg has never seen a larger spleen than this patient presented. From the clinical evidence, he says, one must conclude that this patient was suffering with the disease which has been variously called polycythemia with chronic cyanosis, splenomegaly, erythrocytosis, splenomegalic polycythemia, myelopathic polycythemia, erythremia, erythremia megalosplenica, Vequez's disease, Osler's disease.

13. **An Unusual Case of Fracture.**—The subject of this report was a man, aged 70, who had always been remarkably active physically and mentally. He had been for years harrassed by a gouty eczema and had been treated for arteriosclerosis some years before. About seven months prior to the injury to be described, after a hard day's ride and tramp in the mountains, he had acute dilatation of the heart, from which he suffered up to the time of his accident, though he persisted in long rides and unwarranted exercise. About noon, Oct. 27, 1906, while riding, his horse stumbled. He was thrown, evidently striking on his forehead. There was immediate and complete motor and sensory paralysis below the neck without loss of consciousness. There was involuntary evacuation of the bladder and bowels at the time of the accident and again after being put to bed. By the use of moderate doses of morphin, the patient passed a fairly comfortable night, requiring catheterization; priapism was present. There was no difficulty in swallowing.

During four or five weeks following the injury he was catheterized three times daily and had no irritability of the bladder. From that time up to the time of his death he was catheterized from four to ten times in twenty-four hours, the frequency varying without apparent physical cause. He was given hexamethylenamin continuously during the twenty-eight months of his illness, in daily doses of from 10 to 30 grains. There were apparently no harmful effects from it unless it had to do with the constantly low solids in his urine during the last twenty-four months of his life. He never regained control of his bladder, though after three months he could reinforce the flow and a few times voluntarily passed 1 or 2 ounces. There was often marked tympanites and digestive disturbance, but, for the most part, the bowels were easily moved daily by laxatives and enemata. Occasionally there were loose involuntary movements. There were a number of periods of great weakness and mental hebetude, which were relieved by free elimination by the bowels. There seemed, at times to be an element of mental fatigue in this depression. Sleep was always difficult, requiring constant use of hypnotics. At the end of nine weeks the patient was up daily, taken out in a wheel-chair, and very soon was lifted into his automobile and was taking long rides. During the following year he often drove for five or six hours a day, with no apparent fatigue, was taken to a number of social functions in his own and adjoining towns, and took keen, active interest in all affairs of life. Mentally he was extremely active, at times giving close application to business affairs for six or seven hours a day. He became able to write short notes (writing by whole arm movement); could, without effort, feed himself by means of a spoon or by taking food in his right hand, and was often taken to the dining table, and about his house and grounds in his wheel-chair. He could move his legs to a considerable degree (the right leg and arm much more than the left) but could never stand or sit alone, nor was he ever able materially to change his position in bed without help. The heart at times showed a systolic murmur of the apex, but from the time of his injury was entirely competent.

At the end of eighteen months he had become more sleepless and depressed. He then went to England, making the trip very comfortably. During his six months' stay there he had an attack of bronchitis and lost ground in all ways, coming home in November, 1908, considerably weaker physically and

less active mentally than when he left. During the winter he drove in his automobile almost daily, up to two days before his death, when he became uremic, and died March 13, 1909, twenty-eight and one-half months after his injury. The points of general interest in this case seem to be: (1) The marked mental activity and endurance of the patient; (2) prolonged excessively low solid content in the urine; (3) prolonged use of hexamethylenamin without apparent harm; (4) relief from long standing eczema; (5) the acquiring of compensation in a weak heart by enforced rest; (6) avoidance of bedsores and cystitis. The bodies of the fourth, fifth and sixth vertebræ were moderately crushed together without buckling of the spine or encroachment of its canal.

17. **Skin Sterilization by Iodin.**—The mixture used by McDonald consists of iodin, 2 parts; carbon tetrachlorid, 98 parts.

New York Medical Journal

April 15

20 Causes and Treatment of Rectal Constipation and Obstipation. S. G. Gant, New York.
21 Symptomatology of Leprosy. H. Fox, New York.
22 Evidences that the School Nurse Pays. S. W. Newmayer, Philadelphia.
23 Anterior Polioencephalitis. I. D. Steinhardt, New York.
24 A Case of Syphilis Followed by Paresis. C. Pope, Louisville.
25 Etiology of the Functional Nervous Diseases. G. E. Price, Philadelphia.
26 *Duodenal Ulcer. J. M. Lynch, New York.
27 Importance of Nasal Breathing. A. E. Schmitt, New York.
28 Rôle of Acute Bronchitis, Exacerbations and Remissions in Pulmonary Tuberculosis. H. J. Hartz, Philadelphia.

26. **Duodenal Ulcer.**—In the case reported by Lynch the patient gave no history of any disturbance of digestion. Her pain was all referred to the region of the appendix, and the tenderness was confined to the same region. Later, Lynch elicited the fact that she suffered off and on from what she called indigestion; that she occasionally had pains coming on some four or five hours after eating; took something for relief, vomited and felt better after it.

Lancet-Clinic, Cincinnati

April 8

29 Research Work in Mechanical Therapeutics. R. K. Smith, Boston.
30 A Case of Vagus Heart-Block, and Its Relation to Vagotonic. L. H. Newburgh, Cincinnati.
31 Tonsillotomy or Tonsillectomy? F. W. Davis, Cincinnati.

April 15

32 *Pulmonary Tuberculosis and Syphilis. R. H. Babcock, Chicago.
33 Convergent Squint; Its Etiology and Necessity for Its Early Treatment. H. C. Parker, Indianapolis.
34 Pleural Effusions, Their Diagnosis and Treatment. E. B. Montgomery, Quincy, Ill.
35 Surgical Aspect of Salvarsan. D. C. Handley and C. T. Souther, Cincinnati.
36 The Doctor in the Millcreek Valley Forty Years Ago. F. H. Rowe, Cincinnati.

32. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1220.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

March

37 Multiple Cesarean Section with Results in Thirty-Nine Cases, Done at the New York Lying-In Hospital. R. McPherson, New York.
38 Cesarean Section; Twenty-Seven Cases Without Maternal Mortality. G. M. Boyd, Philadelphia.
39 Contusions of the Abdomen, Resulting in Injury to the Contained Viscera. F. H. Jackson, Houlton, Maine.
40 Uterine Perforation, Laceration of the Small Intestine, Resection, Hysterorrhaphy. S. Wiener, New York.
41 Fibroid Tumors Complicating Pregnancy, Labor and the Puerperium. J. T. Johnson, Washington, D. C.
42 The Pathologic Versus the Physiologic Era in the Surgical Treatment of Intra-Abdominal Infections. J. W. Kennedy, Philadelphia.
43 Simultaneous Occurrence of Adenocarcinoma and Sarcoma in the Same Uterus. A. T. Jones, Providence, R. I.
44 Choice of Delivery in Moderately Contracted Pelves. W. G. Dice, Toledo, Ohio.
45 Conservative Surgery of the Ovaries and Fallopian Tubes. H. S. Lott, Winston, N. C.
46 Fatal Mercurial Poisoning Due to Vaginal Introduction of Bichlorid Tablets. C. B. Schildecker, Pittsburg, Pa.
47 Clinical Considerations of Pelvic and Peritoneal Tuberculosis. C. S. Foster, Pittsburg, Pa.
48 Split Protein Feeding. G. F. Little, Brooklyn, N. Y.
49 Hysteria in Children. R. H. Dennett, New York.
50 Chronic Intestinal Indigestion in Children. T. J. Elterich, Pittsburg, Pa.

April

51 Intramural Abscess of the Uterus. C. C. Barrows, New York.
52 Puerperal Infection, Clinical Varieties and Treatment. J. A. Harrar, New York.
53 Chorioepithelioma. M. Caturani, New York.
54 *Hysteropexies. G. K. Dickinson, Jersey City, N. J.
55 *Four Cases of Eclampsia; Their Treatment. G. W. Kosmak, New York.
56 Treatment of Puerperal Septic Infection and Report of a Case of Septic Thrombophlebitis of Long Duration. W. E. Parke, Philadelphia.
57 Treatment of Acute Puerperal Sepsis. E. J. Ill, Newark, N. J.
58 *Abstraction of Calcium Salts from the Mother's Blood by the Fetus the Cause of Puerperal Eclampsia. J. G. Drennan, Arrocnar, Staten Island, N. Y.
59 Epidemic Infantile Paralysis and Its Control by the State Authorities. B. Sachs, New York.
60 Contagiousness of Acute Poliomyelitis. I. Strauss, New York.
61 Infantile Paralysis—Epidemic and Pandemic. J. van V. Manning, Brooklyn, N. Y.
62 Treatment of Infantile Paralysis by Massage and Electricity. H. W. Frauenthal, New York.
63 Manifestations of the Acute Stage of Poliomyelitis in Children. LeG. Kerr, Brooklyn, N. Y.
64 Surgical Treatment of Anterior Poliomyelitis. D. D. Ashley, New York.

54. **Hysteropexies.**—The object of Dickinson's paper is to encourage a broader study of woman and her miseries, of the many conditions inducing and perpetuating the uterine syndrome, of the relation of uterine deviations to other lesions, and the necessity for selecting skilfully a proper operation, with other treatment added, which shall not only comfortably and permanently replace the organ, but relieve the woman of coexisting pathologic states.

55. **Eclampsia.**—The four cases presented by Kosmak are examples of the average run of eclamptic cases, except that two of them were especially severe. Notwithstanding this, the amount of albumin in the urine was not very great, although the quantity of the urine was restricted. It seems to Kosmak that the latter is a fairly safe guide in the prognosis. Emptying the uterus should, he says, constitute only one step of the treatment and should be carried out with the least possible danger to the mother. This means that the forcible methods of dilating the cervix which have been so largely employed in this class of cases should not be permitted, as we have other means to accomplish the same ends. Vaginal Cesarean section or that by the abdominal route, if no contra-indications are present, offers an excellent chance for rapidly relieving the uterus of its contents. There is no doubt whatever but that the former operation can be carried out rapidly and satisfactorily as regards the actual delivery of the child, but the suture of the wound in the cervix and also in the lower uterine segment is necessarily a difficult procedure as it is almost impossible in many cases to bring the upper portion of the wound down into the field of vision.

58. **Abstraction of Calcium Salts.**—Drennan is convinced that the abstraction of calcium salts from the mother by the fetus causes fatty infiltration of the liver cells of the former. This fatty infiltration causes disturbed liver function with the production of toxins from imperfect protein digestion. Circulation of toxins causes fatty degeneration of liver cells thereby increasing the inability of the liver to functionate, with resulting increased toxemia. She says that no chloroform should be administered as it produces fatty degeneration of liver cells. The prevention and treatment of this condition consists in a liberal calcium diet, lessened protein food and, if the patient is not seen until labor has commenced, rapid delivery to rid her of the fetus which is draining her of calcium salts. The hemorrhage attendant on delivery—and in these cases it is sometimes excessive, owing, no doubt, to lack of calcium salts in the blood—will rid the organism of much toxic substances and have a curative effect.

California State Journal of Medicine, San Francisco

April

65 *The Commitment of the Insane in the State of California. A. W. Hoisholt, Stockton.
66 The Municipal Refuse Disposal Problem, with Special Reference to Alameda County Conditions. C. G. Hyde, Berkeley.
67 Diseases of Domesticated Animals Affecting the Public Health in Alameda County. C. M. Haring, Berkeley.
68 Opportunities of the State Hygienic Laboratory. W. A. Sawyer, Berkeley.
69 *The Making of a Health Officer. W. C. Rucker, San Francisco.
70 The Obstetric Consultant. E. M. Wilder, Sacramento.
71 Treatment of Rodent Ulcer. D. Friedlander, San Francisco.
72 Osteoplastic Operations in Pathologic Bone Cavities. D. D. Crowley, Oakland.
73 A Case of Aneurysm of the Abdominal Aorta, with Operation and Introduction of Wire. J. H. O'Connor, San Francisco.

65. **Commitment of the Insane in California.**—The evils connected with the apprehension, detention and commitment of the alleged insane, and their transfer to state institutions are summed up by Hoisholt as follows: (1) They, as sick people, are not understandingly looked after by the police or constables at the time of their arrest. (2) They are still, in some quarters, kept in insanitary places of detention (jails), in which they are given little if any medical attention, and which places are now and then infested with vermin. They are not kept clean while there, nor as a rule furnished with clean clothes when they leave. (3) They are not given as thorough an examination prior to and at the time of their commitment in court as many of the cases require, the special qualifications of the examiners in lunacy being much below par, a matter, however, which time and proper teaching of psychiatry in the medical schools can rectify. (4) They are escorted by men who are accustomed to take care of criminals, but unqualified as nurses to look after this particular class of sick people, and who are doing this in a very uneconomical way.

69. **The Making of a Health Officer.**—Rucker suggests that if a state is blessed with an unusually efficient and progressive board of health, what would be more natural than for that board to offer instruction gratis to all health officers within the state? The cost would not be great and would include printing, postage and a few books of reference to be loaned to those taking the work. As an experiment, a course in public water-supplies might first be offered, and if this proved a success, the scope of the work might be extended. It is believed that such an opportunity would be welcomed, and in offering it no reflections would be cast on the ability of those who, against great odds and an insufficient remuneration, are fighting the public's sanitary battles. A few lectures on hygiene and the occasional opportunities for self improvement afforded by the meetings of the health officers' association and a few scattering articles in the medical journals, cannot be compared with a regular course of study mapped out by men of the experience and learning of an efficient state board. It is admitted that the correspondence method of instruction is not ideal, but it is believed that it would serve to close the present hiatus until better means can be afforded.

Journal of the Arkansas Medical Society, Little Rock

March

74 Surgical Tuberculosis. W. A. Snodgrass, Little Rock.
75 Treatment of Pelvic Cellulitis in the Female. R. C. Dorr, Batesville.
76 Treatment of Fractures of the Long Bones. H. H. Smiley, Texarkana.
77 A Limited Experience in Treatment of Uncinariasis. A. E. Cox, Helena.
78 The Country Physician's Alimentation. C. S. Allen, Harmony.

Texas State Journal of Medicine, Fort Worth

April

79 Uncommon Forms of Acid Intoxication. A. E. Austin, Galveston.
80 Chronic Pancreatitis, Its Diagnosis and Treatment. J. T. Moore, Houston.
81 Two Cases of Septic Emboli Following Acute Mastoiditis. W. D. Jones, Dallas.
82 Surgical Eye Cases. V. H. Hulen, Houston.
83 *The Open-Air Treatment of Postoperative Nausea and Vomiting from Chloroform and Ether. F. L. Barnes, Trinity.

83. **Open-Air Treatment of Nausea.**—Barnes believes that the very best treatment for chloroform and ether nausea and vomiting is plenty of fresh air; that it is not only essential that fresh air should be supplied in a large volume, but that it should be kept moving, in order that the nauseating odors of the exhalations may be removed rapidly. His observation has this history: A great many negroes for whom there are no hospital accommodations, come to his associate and himself for operations. Originally they had an operating room and beds in connection with their office, but it soon became such a nuisance to have this class of patients continually around the office that they hit on the expedient of having them carried immediately from the operating room to their boarding places. Out of a great many cases handled in this manner, they have never had a single mishap, or a single bad symptom follow the practice. They have never known one of these patients to vomit after being carried into the open air, and they are almost never nauseated. The distances from the operating room to the places to which these patients have been conveyed have varied from ¼ of a mile to 2½ miles.

Immediately on the completion of the operation, the patient is placed on a cot, wrapped in blankets, with the face always exposed to the open air, and external heat applied. The cot is then placed in a wagon or hack and driven slowly to the boarding place. If the patient is awake and nauseated when the hack arrives at its destination, they direct that the cot be not carried into the house until the nausea passes off; they also direct that as few attendants as possible be about the patient. They have frequently observed that when they have been a little slow in getting patients out of the operating room, and the latter become nauseated as a result, they will immediately become quiet and drop into a peaceful sleep as soon as they are carried into the open air and started on their journey. It is the practice of the authors to prepare patients for operation by giving a large dose of castor oil or Epsom salts the night before, and an enema of warm salt solution on the morning of the operation; they also generally administer a hypodermic of morphin, ¼ grain, and atropin 1/150 grain, one hour and a half before the operation. A very light supper of soup or broth is allowed the night before, but no breakfast on the morning of the operation.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

March

84 Atypical Onset of Typhoid. McC. Tompkins, Richmond, Va.
85 Preventive Medicine. H. B. Hiatt, Asheboro, N. C.
86 Mental Hygiene in Children. P. V. Anderson, Morgantown, N. C.
87 Some Cases Treated with Salvarsan. L. T. Price, Richmond, Va.

Western Medical Review, Omaha, Neb.

April

88 Suggestions for Municipal Measures of Prevention of Invasions of Infectious Diseases. J. M. Banister, U. S. Army.
89 Dyspepsia from a Surgical Standpoint. G. Haslam, Fremont, Neb.
90 Apocynum in Spinal Meningitis. A. O. Peterson, Omaha, Neb.
91 After-Treatment of Appendicitis and Appendiceal Abscess. P. A. Sundbury, Holdrege, Neb.

St. Louis Medical Review

March

92 A Gouty State and its Mimicry. D. W. C. Hood, London, Eng.
93 Where the Physician Must Stand. R. Peter, Chicago.
94 Puerperal Fever. R. J. Smith, Logan, Utah.
95 Tuberculosis; Its Nature, Causes and Prevention. J. B. Huber, New York.
96 Complications of Ileocolitis. A. A. Robinson, Ogden, Utah.
97 Treatment of Varicocele. N. N. Wood, Chicago.
98 Evolution and Science in Medicine. J. L. Wolfe, Cedar Falls, Iowa.
99 The Menopause. M. Hale, Hot Springs, Ark.

Interstate Medical Journal, St. Louis

April

100 *Treatment of Malaria. F. S. Meara, New York.
101 Differential Diagnosis and Treatment of Some of the Common Diseases of the Upper Abdominal Quadrant. W. W. Grant, Denver, Colo.
102 *Unexpected Experiences in Lobar Pneumonia. C. G. Stockton, Buffalo, N. Y.
103 Symptomatology of Congenital Pyloric Stricture in Infants. C. G. Cumston, Boston.
104 *A Safe Guide for the Administration of Tuberculin. O. H. Benker, St. Louis.

100. **Treatment of Malaria.**—Speaking of the use of quinin in malaria, Meara says that there is no question that this drug were better given in solution and, indeed, when the condition of the stomach leads to a suspicion of impairment of function and hydrochloric acid may not be secreted, the solution should be used. The drug is freely soluble in any dilute acid, hydrochloric, sulphuric, phosphoric or tartaric. A minim to the grain is enough. The objection to this method is the intensely bitter taste. Effort may be made to disguise it. One way is to dissolve the dose in a few grains of citric acid (gr. x), in a little lemon juice, add to it water in which a pinch of bicarbonate of soda has been dissolved and take while effervescing. In the tertian or quartan fever of a non-pernicious type, Meara says, the daily dose of quinin to begin with should be gr. xv to gr. xx. In the estivo-autumnal form gr. xxx. In the first mentioned forms, Meara prefers to give, if the patient is seen before the paroxysm, gr. xv of quinin sulphate; if seen during the decline of the fever, the same dose. From

that time on he gives gr. xx, divided into four doses in the twenty-four hours (the dose at the decline of the fever forming a part of it), until the succeeding paroxysm is aborted, then diminishing the dose gr. ii every two days until the dose is reduced to gr. vi a day, for three or four weeks. In the estivo-autumnal forms, he gives the large dose gr. xxx to begin with, and after aborting the paroxysms, reduces to gr. xx or gr. xvii and proceeds in the same way as above. In the pernicious infections, quinin must be used hypodermically or intravenously according to the urgency.

The best salt for hypodermic use, in Meara's opinion, is the acid hydrochlorate, which dissolves in less than its own weight in water. He makes up a solution as follows:

℞	gm. or c.c.		
Hydrochlorate of quinin	5	or	gr. lxxv
Distilled water	10		3ijss

Use 15 minims as a dose, which will contain 7½ gr. of quinin.

The amount needed in the twenty-four hours is about 24 grains, given in divided doses in this way. In the severe but less urgent forms, if given by the mouth, the amount should run up to 30 or 40 grains a day. In most urgent cases, it may be deemed advisable to put the drug into a vein. This may be done in physiologic salt solution. For example:

℞	gm. or c.c.		
Hydrochlorate of quinin	1		gr. xv
Sodium chlorid	0.075	or	gr. i
Water	10		3ijss

Inject all at once into the basilic vein made prominent by a ligature above. Other veins, if more accessible, may be chosen.

102. **Lobar Pneumonia.**—Briefly, the cases reported by Stockton are: (1) Typical lobar pneumonia; marked leucopenia without grave depression; rise of blood-count with defervescence; (2) typical lobar pneumonia and convalescence; three weeks later the patient returned with hyperemia of the lung, fever and serious pharyngitis; abscess, pure pneumococcus culture; (3) pneumonia; acute arthritis; pneumococcus and staphylococcus recovered from blood, staphylococcus vaccine, recovery; (4) chronic valvular disease of the heart, lost compensation, acute arthritis, lobar pneumonia, septicemia, septic endocarditis, pericarditis, hemiplegia; (5) alcoholic, pneumonia, slight involvement, delirium, severe trauma, acute, general pulmonary edema; (6) sudden invasion, high temperature, pulse and respiration, thoracic pain, termination by crisis, physical signs of localized edema.

104. **Tuberculin Administration.**—Benker endorses the method which was advocated and used for a number of years by Sahli.

Alabama Medical Journal, Birmingham

March

105 Early Diagnosis of Cancer of the Stomach. U. J. W. Peters, Birmingham.
106 Nervous Symptoms of Arteriosclerosis and the Removal of the State Causing Them. T. A. Williams, Washington, D. C.
107 Three Cases of Pellagra Treated with Salvarsan. C. M. Nice, J. S. McLester and G. Torrance, Birmingham.

Bulletin of the Johns Hopkins Hospital, Baltimore

April

108 Intermittent Fever in Influenza Simulating Malarial Fever. Grave Malarial Fever With Few Parasites in the Peripheral Circulation. Dangers of the Intravenous Injection of Quinin. W. S. Thayer, Baltimore.
109 The Preparation of Antitoxin. E. J. Banzhaf, New York.
110 *Clinical Value of the Determination of the Catalytic Activity of the Blood. M. C. Winternitz, Baltimore.
111 Distoma Pulmonale in Wisconsin. H. Hanson, Milwaukee, Wis.
112 *Blood Platelets and Megalokaryocytes in Hodgkin's Disease. C. H. Bunting, Madison, Wis.
113 Primary General Peritonitis with Isolation of the *Bacillus Lactis Aerogenes* in Pure Culture from the Peritoneal Exudate. J. W. Churchman, Baltimore.
114 Submucous Resection of the Nasal Septum. S. Rosenheim, Baltimore.
115 *Growth of Embryonic Chick Tissues in Artificial Media, Agar and Bouillon. M. R. Lewis and W. H. Lewis, Baltimore.

110. **The Catalytic Activity of the Blood.**—In his studies of the catalytic activity of the blood in disease, Winternitz followed fifteen cases of typhoid throughout the illness. During the early days of the illness there was no change in the catalytic activity of the blood, but toward the third week there was a gradual fall accompanying the anemia. During convalescence the activity became normal together with the red blood-count. Twelve cases of diseases of the respiratory tract, including lobar pneumonia, tuberculosis and empyema were examined. There was a slight decline in the catalytic activity of the blood during the course of lobar pneumonia. The relation of this decline to the crisis and the salt metabolism of this disease has not yet been determined by Winternitz. In other diseases of the respiratory tract there was no noteworthy variation in the power of the blood to split hydrogen peroxid, except when the disease was accompanied by a severe anemia. In four out of five cases of acute peritonitis examined, there was a characteristic rise in the catalytic activity of the blood. In one a reading had been made before the peritonitis had occurred, while in the other three the increased activity was confirmed by the decline to normal, following operation. In two cases of suspected peritonitis with high fever and leukocytosis, the catalytic activity of the blood was normal, and in these cases the peritoneum was found clean at operation. Diabetes mellitus and catarrhal jaundice exerted no influence on the catalytic activity of the blood. In diseases of the thyroid, both hypothyreosis and hyperthyreosis, the catalytic activity of a single patient's blood was not constant from day to day. In hyperthyreosis the activity tended to increase, while in hypothyreosis the activity assumed a level lower than normal. Winternitz suggests that this may be of significance in interpreting the condition of the thyroid where the signs and symptoms are atypical. In renal, cardiac and cardiorenal cases (twenty-four cases were examined), despite the presence of a marked nephritis, provided there were no symptoms of renal insufficiency (uremial), there was no marked change in the catalytic activity of the blood. In cases of chronic nephritis, accompanied by indefinite symptoms of renal insufficiency the catalytic activity of the blood was irregular from day to day, and tended to assume a level lower than normal. In acute mercurial nephritis there was a fall in the catalytic activity of the blood. With uremic coma there was a marked fall in the catalytic activity of the blood which was permanent if the coma ended fatally, but which recovered when the coma disappeared.

With retention of urine due to obstruction of the lower urinary tract, there was a marked decline in the catalytic activity of the blood. This decline, Winternitz says, may persist for some time, but should the obstruction be removed, the catalase will again rise. Even in severe cardiac disease there is no significant change in the catalytic activity of the blood. In some cases it is high. This may be normal for these individuals, as it will be remembered some individuals have a high activity. In no single case was the activity sufficiently decreased after many readings had been made to suggest renal insufficiency. In three cases of cardiorenal disease, in which the clinical findings suggested a renal insufficiency, the catalytic activity of the blood was normal. At autopsy only a chronic passive congestion of the kidneys, the result of a decompensated heart, was found. In two cases of cerebral hemorrhage the catalytic activity of the blood was high. Whether this is an increase over normal is not known, but it is clear that the high reading would differentiate apoplectic coma from uremic coma.

112. **Blood Platelets in Hodgkin's Disease.**—The findings presented by Bunting would seem to indicate that in Hodgkin's disease there is a special activity of the platelet-producing elements resulting in the production of large numbers of platelets and in the emigration of megalokaryocytes in large numbers from the bone marrow. In the lung capillaries these latter are stripped of their protoplasm, which appears in the peripheral blood-stream in the form of the masses and pseudopodia described. What part this increased platelet production plays in the disease, Bunting is unable to say. There is in the findings a suggestion that the toxin of the disease acts as sharply on the megalokaryocytes as on the lymphoid elements, leading eventually to their necrosis.

115. **Growth of Embryonic Chick Tissues.**—Very wonderful growths from the various organs of embryo chicks of various ages have been obtained by the Lewises. The blood of adult

chickens was used. Not only were growths obtained in hanging drops, but much more extensive ones were obtained in Petri dishes, the diameter of these growths sometimes exceeding one centimeter. There was great similarity in the growths from pieces of liver, intestine, heart, brain, kidney, adrenal, muscle, stomach, thyroid, retina, cornea, etc., of chick embryos from 10 to 21 days old. Radiating strands, migrating cells, membrane formations and vesicles or loop-like places seem to be common to all. The spleen, however, usually sends off migrating cells alone for some time after the culture is made, and only later do the radiating cells appear, if they appear at all. The general similarity of the growths from the various organs leads the authors to the conclusion that the growing tissues are only such as are common to the various organs, namely, connective tissues of various kinds and endothelium of the blood-vessels. They have been able to trace, in some fixed and stained specimens, the endothelium from the blood-vessels of the original piece out into the new growth where the cells of the endothelial radiations closely resemble the cells of the other radiations found there. Recently, they succeeded in cultivating small pieces of embryonic chicks in a nutrient agar both in hanging drops and Petri dishes. The growths have, as a rule, not been so extensive as those in the plasma, but otherwise resemble them. Some specimens show radiations, others membranes and reticular formations with migration of cells. Mitotic figures are found in the stained preparations. The cells often show long irregular processes and move outward from the old piece. The following medium (Ringer) has so far given the best result with chick tissue:

Sodium chlorid	.9	
Potassium chlorid	.042	
Calcium chlorid	.025	
Sodium bicarbonate	.02	.....10 c.c.
Water	100.	
Agar	.25	
Bouillon		2 c.c.
Sodium chlorid		.0675 gm.

Into a hanging drop of this medium they transplanted two small pieces from the liver of a 9-day chick embryo. Within twenty-four hours cells began to radiate and migrate from the smaller piece into the surrounding medium. In forty-eight hours the growth had exceeded that of the control in plasma and was as extensive as any growth observed in plasma from such a small piece, less than 0.5 mm. in diameter. The entire growth at the end of forty-eight hours was four times the diameter of the original piece and could readily be seen with the unaided eye.

Proctologist, St. Louis

March

116 Rectal and Perirectal Fistulæ. F. C. Wallis, London, Eng.
117 Hypogastric *versus* Iliac Colotomy. F. S. Edwards, London, Eng.
118 Clinical Aspects and Importance of Sigmoid Diverticula. W. H. M. Telling, Leeds, Eng.
119 Chronic Infective Ulceration of the Rectum. H. G. Anderson, London.
120 Submucous Anal Fistula. H. Cripps, London.
121 Treatment of Cancer of the Rectum. H. Drummond, Newcastle-on-Tyne, Eng.

Journal of the Tennessee State Medical Association, Nashville

April

122 *A Supposed Case of Ascites; Echinococcus Cysts? E. M. Beasley, Coal Creek.
123 Tumors of the Urinary Bladder. E. M. Sanders, Nashville.
124 Iritis. R. S. Doak, Nashville.
125 Adenoids. C. B. Wylie, Chattanooga.

122. **Ascites.**—Twenty-one years ago, Beasley's patient, a miner, was kicked by a mule in the right side, over the liver. This gave trouble for some time. Afterward his abdomen began to enlarge, but never gave him any great amount of trouble until January, 1909, when he was unable to go into the mines for six or eight weeks. In August, he was considerably emaciated, complained of some pain over the liver, though no tenderness on pressure. The abdomen was so distended that it was impossible to tell whether the liver was enlarged or not. Diagnosis was ascites caused by cirrhosis of the liver. Beasley gave various hydragogue cathartics and diuretics without any effect. Repeated attempts to aspirate proved futile. Finally operation was advised. On opening the abdomen, the incision filled up with a cheesy mass which soon passed out. After this ½ gallon or more of fluid of an amber color escaped. The incision was then enlarged, when cysts of various sizes from a small marble to a croquet ball, together with a large number of collapsed cysts, began to roll out. It was necessary to rupture a great many of the cysts in order to remove them. The abdominal cavity was completely filled with these cysts. Some of those that were collapsed showed that it had been some time since they ruptured. These cysts had no attachment to anything, but were packed in the abdominal cavity until there appeared no room for more. The small intestines were pressed up against the diaphragm. The peritoneum and all the abdominal organs had a yellow anemic appearance. Their walls were considerably thickened, and had a rough granular feel. The patient died thirty-six hours after operation. Beasley's final diagnosis is echinococcus cysts of the peritoneal cavity.

Journal of Ophthalmology and Oto-Laryngology, Chicago

March

126 Metastatic Gonorrheal Conjunctivitis. W. R. Murray, Minneapolis.
127 Relationship of Rhinology and Orthodontia. A. J. Hill, Canton, Ohio.

Medical Herald, St. Joseph, Mo.

April

128 One Year's Experience in a Neurologic Hospital. J. Collins, New York.
129 *Colica Mucosa. E. H. Thrailkill, Kansas City, Mo.
130 Medical Expert Opinion Evidence, and the Proposed Law Thereon—Medical Expert Opinion is Hard Earned Property. C. H. Hughes, St. Louis.

129. **Colica Mucosa.**—The following classification of these cases is made by Thrailkill. (1) Those due to a motor and sensory neurosis he designates colica mucosa simplex; (2) those due to extra-colonic conditions, causing an interference with the movement of the fecal discharges, he designates colica mucosa reflexa; (3) those due to an extension of an inflammatory process from the rectum or appendix, or when due to the retention of hardened fecal masses, foreign bodies or of the prolonged use of drastic cathartics, causing an inflammatory condition, he designates mucous colitis.

Dominion Medical Journal, Toronto

April

131 Untoward Results of Delayed Operations and of Incomplete Operations. A. Primrose, Toronto.
132 Forecasts of Medical Practice in the Future. T. D. Crothers, Hartford, Conn.

Woman's Medical Journal, Cincinnati

April

133 Arterial Ligation for Irremovable Cancer of the Pelvic Organs. W. S. Bainbridge, New York.
134 *Functional Periodicity in Women and Some of the Modifying Factors. C. Mosher, Palo Alto, Cal.

134. **Functional Periodicity in Women.**—Mosher defines menstruation as a periodic flow of blood from the uterus of a woman, occurring at fairly definite intervals (reckoned from the first day of the onset of the flow to the first day of the next onset) in the same individual, but the intervals varying in different individuals, this function being unattended with pain or incapacity due to it as such. Mosher says that if we can divorce our minds from all preconceived notions in regard to this function, be they derived from individual experience, sex tradition or accepted teachings, and consider it as we do the other periodic functions, this definition will not seem unreasonable. In the first place, she continues, it must be admitted that there is no reason for treating this function differently from the other periodic functions, such as sleep, digestion, defecation and urination, which likewise have their departures from the normal. In the second place, the observers of menstrual disturbances do not by any means agree as to the numbers affected or the degree of the infirmity. Moreover, the various bodies of statistics giving the percentage of women suffering at the menstrual period have all been based on single statements from women examined. Mosher is convinced that many of the so-called dysmenorrheas are not dysmenorrheas at all, but coincident functional disturbances in other organs. It is highly suggestive that the symptoms coincident with low blood-pressure usually are slight, in busy, active women, as in men. When the attention is of necessity directed to so obvious a process as the menstrual flow, untrained women,

especially if without absorbing occupation, naturally refer their lessened sense of well-being and diminished sense of efficiency, which may accompany the lowered general blood-pressure occurring near or at the menstrual flow, to the function of menstruation.

In a group of average women, Mosher has produced a marked improvement at the menstrual period by using so simple a measure as deep breathing. All constricting dress having been removed, the women, in the recumbent position and with knees flexed to relax the abdominal muscles, have done deep breathing once or twice a day during the menstrual period, with the result that all pelvic sensations, depressions and minor symptoms usually included in the term dysmenorrhea have disappeared. In a number of cases also the period has been shortened more nearly to conform to the period of principal flow. These experiments, Mosher thinks, tend to emphasize still further that the upright position, the force of gravitation and constricting dress are conjoined factors in hindering the circulation of the blood from the pelvis to the heart, and are therefore important factors also in producing dysmenorrhea. Since in women of the uncivilized races we find the minimum of flow with no disability and perfect functioning, there can be no danger in gradually lessening by such physiologic methods the period of prolonged pelvic congestion.

American Journal of Surgery, New York

April

135 Duodenal Ulcer. R. T. Morris, New York.
136 Eleven Successful Operations for Fractured Femur. J. B. Walker, New York.
137 Deformities of the Nasal Septum and Their Correction. C. G. Crane, Brooklyn, N. Y.
138 Surgery of the Thyroid. J. E. Jennings, Brooklyn, N. Y.
139 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
140 Bismuth Paste in Mastoid Surgery. C. J. Imperatori, New York.
141 Cholelithiasis and Cancer of the Gall-Bladder Involving the Abdominal Wall. W. H. Luckett, New York.
142 A Case of Supernumerary Spleen. A. W. Blain, Detroit, Mich.

Journal of Abnormal Psychology, Boston

April-May

143 Psychotherapy and Re-Education. J. E. Donley, Providence, R. I.
144 Influence of Dreams on Waking Life. E. Jones, Toronto.
145 *Detection of a Case of Simulation of Insanity by Association Tests. E. W. Katzen-Ellenbogen, Boston.
146 The Psychopathology of Hysteria. I. H. Coriat, Boston.

145. Detection of a Case of Simulation of Insanity.—In the case reported by Katzen-Ellenbogen, the association test proved very satisfactory. In his general discussion of the subject the author points out that psychology, even in its present adolescent state, can be of assistance in problems of practical life, although it would be entirely wrong to contend that by the association test the truth of a person's statement could be positively determined. Indeed, if the association test were to be used for this purpose, he should prefer to refrain from the use of it altogether. He believes, however, that by skilful application to certain cases, the association test may prove a very valuable addition to many tests in criminal investigating work, as has been lately shown by the Bertillon methods, etc., and be of great assistance in many instances for clearing away doubts as to the truthfulness of witnesses.

In the case under review Katzen-Ellenbogen worked with a man wholly unprepared and incapable of understanding the purpose of the investigation, ignoring the facts that a hesitation, the change of word in the reproduction, were the very instances which would most convincingly tell against him. Considering even the circumstance of his knowing these facts, of his even being a psychologist quite skilful in psychologic technic, he would be equally unable to control the form of his answers and the time of associations, even to a fraction of a second. The attempt to control his answers or prepare them beforehand would incriminate him more than anything else. In this same way a refusal to cooperate might be equally harmful as a result. This argument in favor of the association test is rather directed to the sceptical students of law, as the psychologists themselves are more inclined toward an optimistic than a pessimistic view of the success of these tests. The criminal himself would hardly object to this form of investigation, as it would rather impress him with the fact of his having been cleverly overtricked; to the very end both he and the examiner are able to remain on friendly terms, as it happened in the case reviewed.

Albany Medical Annals

April

147 What is Psychotherapy? N. A. Pashayan, Schenectady, N. Y.
148 Surgical Treatment of Goiter. E. MacD. Stanton, Schenectady, N. Y.
149 Carcinoma of the Stomach, Gall-Bladder, Pancreas and Ducts. W. P. Faust, Schenectady, N. Y.
150 Mucous Disease. C. F. Clowe, Schenectady, N. Y.
151 Differential Diagnosis of Early Carcinoma of the Stomach and Benign Subacidities. J. Meyers, Albany, N. Y.

Archives of Ophthalmology, New Rochelle, N. Y.

March

152 A Useful Addition to the Test Chart. E. F. Snydacker, Chicago.
153 Two Cases of Interstitial Keratitis of Sympathetic or Syphilitic Aspect. J. Santos-Fernandez, Havana, Cuba.
154 Optic Atrophy from Traumatic Asphyxia. F. J. Parker, New York.
155 Early Changes Occasioned by the Invasion of the Eye by the Cysticercus. G. Cirincione, Palermo, Italy.
156 Traumatic Enophthalmus. A. Birch-Hirschfeld, Leipsic, and Meltzer, Wedel.
157 Influence of the Accommodation on the Ocular Tension in Vertebrates. C. Hess.
158 Comparative Studies of Miosis Due to Light and to Convergence, and of the Action of Atropin and Eserin on the Iris and Ciliary Muscle, with Remarks Concerning the Form of the Pupil. F. Kanngieser, Marsburg.
159 Extent of the Pupillo-Motor Area of the Retina. F. Best, Dresden.
160 A New Method of Examination for Double Images. W. Hess, Zürich.

Buffalo Medical Journal

April

161 Recent Views Concerning Treatment of Cancer, Based on its Nature. R. Park, Buffalo.
162 The Midwife. P. W. Van Peyma, Buffalo.
163 Double Inguinal Strangulated Hernia in a Cryptorchid. L. G. Hanley, Buffalo.

Journal of Cutaneous Diseases, New York

April

164 Pellagra in Ohio. W. T. Corlett and O. T. Schultz, Cleveland.
165 A Fatal Case of Bullous Dermatitis. S. Pollitzer, New York.
166 Problems in Metabolism Occurring in Patients with Certain Diseases of the Skin. L. D. Bulkley, New York.
167 Prurigo, and the Papulé with the Urticarial Basis. O. H. Holder, New York.

St. Paul Medical Journal

April

168 Christian Science. J. Knott, Dublin, Ireland.
169 Antituberculosis Work in Minnesota. C. Easton, St. Paul.

Louisville Monthly Journal of Medicine and Surgery

April

170 A Dozen Obstetrical Don'ts. J. G. Cecil, Louisville.
171 Ethmoiditis. S. G. Dabney, Louisville.
172 Cancer of the Stomach with Gastrectomy. C. G. Lucas, Louisville.
173 The LaForce Adenotome. S. G. Dabney, Louisville.

Mississippi Medical Monthly, Vicksburg

April

174 The Puerperium. L. C. Feemster, Nettleton.
175 An Untilled Field in Eye Work. E. C. Ellett, Memphis, Tenn.
176 The County Society. A. J. Newman, Acona.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 25

1 Indigestion. G. Rankin.
2 Hour-Glass Contraction of the Stomach. R. P. Rowlands.
3 *Acute Dilatation of the Stomach; Gastrotomy; Recovery. G. G. Farquhar.
4 *Treatment of Appendiceal Abscess with Pure Phenol and Iodoform. A. E. Maylard.
5 A Case of Idiopathic Dilatation of the Colon. W. Leggett.
6 *Experiments on Cold-Chamber Treatment. J. G. Thomson and R. Ross.
7 *An Analysis of 326 Cases of Asiatic Cholera. H. Stevens.
8 The After-History of Thirty Cases of Movable Kidney Treated by Operation. A. R. Short.
9 The "Cardio-Splanchnic Phenomenon" of Abrams. W. Gordon.

3. Dilatation of the Stomach.—Nearly all the recorded cases of acute dilatation are alike in obscurity of cause and fatality of termination. Farquhar cites a case in which one cause was not only clear, but removable, and the result was uninterrupted recovery. A young woman, aged 23, was advised

by a "wise woman" to eat figs in order to burst a small abscess in the axilla. She ate nearly a pound of dried Turkey figs at 11 a. m., Dec. 24, 1910. Two hours later, ineffectual retching set in with abdominal pain, which continued with increasing severity all day and the following night. The bowels moved slightly in the evening. The girl had several alarming attacks of breathlessness in the night. Farquhar was summoned at 9 a. m. the next day. The abdomen was not distended, and moved slightly with respiration. There was a general slight increase of resistance and a diffuse tenderness, most noticeable between the umbilicus and the left anterior superior spine. The pain had come on gradually and was now severe, especially in the epigastrium, but also in the left iliac region. The pulse was 84 and the temperature normal. After examination she sat up with a sudden cry and gasped for breath; the pupils dilated fully, and showed momentarily a slight red reflex. For about ten minutes she looked as if she might fall back dead. When she regained her breath, a little brandy and water was given and she began to retch, but only a little fig pulp came up. As this seemed too thick to flow through a stomach tube, none was passed lest it should provoke another attack of dyspnea. One hour later, a slightly distended dull area could be made out below and to the left of the umbilicus. An enema of soap and water was ordered and hot applications to relieve the pain, but no morphin was given at this stage.

Twenty-nine hours after the onset of pain and vomiting, the abdomen was opened. A large swelling like an ovarian cyst presented in the wound. It was tympanitic above but dull below, and was found to fill the whole of the front of the abdomen. It was recognized as an enormously distended stomach, the greater curvature being hidden below the pubis, and the lesser curvature appearing like a vertical chink between the inflated halves of the organ. The dilatation seemed to extend to the second stage of the duodenum. An area of the stomach was drawn forward and packed off with gauze from the peritoneal cavity. A small incision was made to allow gas to escape. Fluid containing fig juice and emitting a strong vinous odor, flowed freely for a time, and then masses of half-masticated figs were removed with a scoop. The pylorus and the first part of the duodenum were found to be dilated sufficiently to admit three fingers. When all the contents had been removed, the stomach contracted gradually till the greater curvature was just below the umbilicus. The wound in the stomach was closed in three layers, and the abdominal wall brought together in the usual way without drainage. Recovery was uneventful and complete.

4. **Treatment of Appendiceal Abscess.**—The striking inhibitive effects of phenol when used for external conditions led Maylard to venture on its employment in cases of appendiceal abscess in which the extreme offensiveness of the discharge and the necrotic processes in the appendix suggest conditions not altogether unlike those met with in traumatic gangrene. The abscess cavity is freely wiped with a small gauze swab soaked in pure phenol. An effort is made to reach every part of the cavity. A dry swab is then introduced to soak up any of the remaining acid, and immediately thereafter any amount, up to a half a teaspoonful, of iodoform is put into the cavity, and with a blunt instrument smeared over its walls. A rubber drainage tube about a quarter of an inch in diameter is conducted to the lowest part of the cavity, and on one side of the tube a narrow strip of iodoform gauze is packed in zigzag fashion, just sufficient to fill the cavity; this, with the tube, is conducted out of the abdomen about the center of the wound. The after-treatment is as follows: On the second day after the operation, the iodoform gauze packing is partially removed; on the third day it is completely removed; and, however fetid may have been the pus at the time of operating, the plug will be found to be perfectly "sweet." On the fifth or sixth day the drainage tube is taken away, and on the tenth day the stitches are removed. At the end of four weeks the patient is allowed up.

In sixteen out of the twenty-seven cases cited by Maylard, the abscess was reached by the ordinary "gridiron" incision, neither muscle nor aponeurosis being divided across the direction of the fibers. In twenty-five cases out of the twenty-seven, the appendix was sought for and removed. In one of the remaining two it was only partially removed, as a portion had disappeared, while in the other it could not be found. Every patient recovered, and in none were there any subsequent complications, such as subdiaphragmatic abscess, pylephlebitis, pneumonia or other conditions suggestive of septic absorption or local accumulations of pus. The pulse and temperature usually fell within twenty-four hours. The subsequent results of operation were traced in twenty-five out of the twenty-seven cases, and nineteen of these twenty-five patients were seen and examined. With the exception of the twenty-seventh patient, who had only been operated on a month previously, the interval between operation and report ranged from three months to four and three-quarter years. An examination of these results shows: 1. When the "gridiron" incision was employed, in ten out of fourteen cases there was some bulging of the cicatrix, mostly slight and in almost every instance at the place where the drainage tube and gauze packing emerged. 2. When the internal oblique and transversalis muscles were cut across by extending the incision upward, three out of six cases showed bulging, the protrusion being in one case at the seat of exit of the drainage tube, and in the other two at the lower part of the cicatrix. 3. When the internal oblique and transversalis muscles were cut across by extending the incision downward and inward, the three cases so treated showed bulging. Maylard is convinced that, when proper precautions are taken to protect the general peritoneal cavity, this method of operating admits of every abscess being opened and every appendix sought for and removed with perfect safety. This method prevents any subsequent septic complications, such as subdiaphragmatic abscess, pylephlebitis, pneumonia, thrombosis and other septic manifestations connected either with the wound locally or with deeper and more distant parts. As drainage is considered advisable in every instance, the probabilities are in favor of a weakened cicatrix at the seat of exit of the tube and gauze, with, later, hernial protrusion; but, provided the incision is of the "gridiron" variety, with no cross division of muscle or aponeurotic fibers, and neither the tube too large nor the packing excessive, the bulging may be only slight.

6. A similar article by these authors was abstracted in THE JOURNAL, Sept. 10, 1910, p. 973.

7. **Asiatic Cholera.**—Of 326 cases of cholera occurring in the Funchal epidemic treated in the Isolation Hospital, Funchal, Madeira, in roughly 75 per cent. there was an acute onset; in many it was fulminating. In the remaining 25 per cent. the onset was gradual. The duration of symptoms in those individuals who recovered was from three to ten days. In only 5 per cent. of the cases were cramps in the legs and abdomen absent. After acute symptoms had passed off, about 3 per cent of the patients went into a condition resembling typhoid, with tympanites, slight secondary diarrhea, headache and temperature above 101 F. for more than a week. Some of these gave the Widal reaction in the stronger dilutions, but they all recovered within a fortnight. About 10 per cent. of the patients were chronic alcoholics, and this class of the community seemed especially prone to take the disease. Of the female patients fully 10 per cent. were lactating, which seems a high percentage. There were also five pregnant women among the patients. Of these, four aborted, two between the second and third month and two between the sixth and seventh month; two died, but without any puerperal complications. Among the 326 patients, there were thirty infants under 3 years of age and forty-two persons over 60. The epidemic, comprising about 1,700 cases for the whole island of Madeira, has been disseminated entirely by food and actual contact, and not by means of water supply. It was stamped out by rigid isolation or segregation of all "contacts." Systematic examination of the feces was carried out in the case of all convalescents, all inmates of the "contacts" segregation block, and all hospital employees. Of the 206 convalescents, twenty carried the vibrio in the feces for more than a fortnight after the disappearance of the active symptoms. Out of about 350 inmates of the "contacts" block, only six actually developed the disease, but many who never showed symptoms were found to carry the vibrio in the feces for more than three weeks after being in contact with a patient

Lancet, London

April 1

10 Ankylostoma Infection. A. E. Boycott.
11 *Diagnosis of Gall-Stones. J. Sherren.
12 Congenital Abnormality of the Heart; a Case of Cor Trilocular Biatriatum. J. I. Robertson.
13 *Slight General Enlargement of the Thyroid as Found in School Children. C. W. Hutt.
14 The Fading of Anilin-Stained Microscopic Preparations. A. C. Coles.
15 Extensive Blistering Occurring in an Infant; Diagnosis of Scurvy. S. Bott.
16 *Experiments on Inhibition of Tumor Growth in Rats and Mice, with a Suggestion for an Empirical Treatment in Man. A. S. Grünbaum.

11. **Diagnosis of Gall-Stones.**—Of forty-three patients suffering from gall-stones and operated on by Sherren during the past two years, twenty-six had had indigestion, for which they had been under medical care for long periods; one patient after being treated for gastric ulcer was sent to the hospital on the occurrence of her first attack of colic as a case of perforated gastric ulcer. Another patient had had gastro-enterostomy performed without relief; at operation, Sherren removed 140 small stones from the gall-bladder and one from the common bile-duct. Of these twenty-six patients, twenty had had attacks of biliary colic after periods of indigestion ranging from five months to forty years; in the majority of the cases the history of indigestion was of over five years' duration. The special points in the dyspepsia due to biliary calculi Sherren believes are these: its association with flatulent distention; the frequency with which the patient is awakened at night; the pain is not relieved by taking food, and if associated with vomiting this may not relieve it, but vomiting is unusual. Abdominal examination in these cases may settle the diagnosis; for example, in two of the cases in which Sherren operated, before the onset of colic a distended gall-bladder was distinctly palpable. Tenderness under the right lower ribs is usually present and Murphy's sign may be elicited. Occasionally no physical signs exist. A large proportion of all cases of duodenal ulcer give symptoms enabling a certain diagnosis to be made, the most important being hunger pain relieved by taking food and waking the patient in the early hours of the morning. In these cases the ulcer is in the first part of the duodenum. These symptoms are never produced by gall-stones. There are cases, however, in which the symptoms of gall-stones are mimicked closely by those due to an ulcer in the second part of the duodenum. Cases of this nature are, however, unusual. Among the forty-six cases of chronic duodenal ulcer that Sherren has operated on before perforation has taken place, the symptoms in three simulated those due to gall-stones, and in these the ulcers were situated in the second portion of the duodenum.

13. **Enlargement of Thyroid.**—Hutt calls attention to the fact that slight general enlargement of the thyroid is fairly common in some districts. The number of cases investigated, unfortunately, does not warrant any very definite conclusions.

16. **Inhibition of Tumor Growths.**—On the assumption that some kind of protective substance might be formed in animals affected with epithelioma, the authors injected the serum of a mare having epithelioma of the vulva into some cases of cancer, more especially one of uterine cancer. A violent reaction followed each injection (which was made locally), and the case was modified from an inoperable to an operable condition. Both operation and further treatment were refused, and when the patient returned later, renewed treatment with the serum from another mare failed to reproduce the former effect. Later experiments showed that in rats, regression of inoculated growths may follow the injection of epitheliomatous horse serum and also of simple horse serum, and that this regression occurs in the greater proportion of treated than of untreated rats. Another quite different series of experiments revealed the curious and interesting fact that it was not possible simultaneously to produce immunity against cobra venom and to retain susceptibility to new growth inoculation in mice and rats, nor, conversely, after successful inoculation with tumor, to produce immunity to cobra venom. If the tumor were already present, and continued to enlarge, the animal succumbed to a few ordinarily sublethal doses of cobra venom. On the other hand, in those animals in which immunity could be established, growths which had already reached a size of 1 cm. in diameter would regress.

The inference from this series of experiments was that if the treatment caused the regression, such regression must be due to some antibody or antibodies formed as the result of this active immunization. If this were so, passive immunization with antivenom serum should produce similar effects. Therefore, a series of animals with well-grown tumors was treated with antivenom serum. Regression took place only when the growths had not exceeded about 1.5 cm. in diameter. The authors feel that the results of these experiments warrant the extension of the treatment to human beings, and at the same time show that quite inoperable cases are not fair subjects for such trial, for it seems not unlikely that similar limitation to that seen in rats will exist in the case of man. Three human patients have already received treatment by combined passive and active immunization, but since the mass of tumor was large in each case and was not excised, they were not fair cases for the purpose, although they showed that the treatment in itself was harmless. It is not possible to state whether any lasting effect was produced on the growths, since the patients left the hospital too soon for the formation of a definite opinion.

Annals of Tropical Medicine and Parasitology, Liverpool

March

17 Pathology of Lesions of the Cornea and Skin in Animal Experimentally Infected with T. Rhodesiense. W. Yorke.
18 A Case of Sleeping Sickness Studied by Precise Enumerative Methods. R. Ross and D. Thomson.
19 Trypanosoma Gambiense and Trypanosoma Rhodesiense in Rats, Guinea-Pigs and Rabbits; Periodic Variations Disclosed. H. B. Fantham and J. G. Thomson.
20 Life-History of Trypanosoma Gambiense and Trypanosoma Rhodesiense as Seen in Rats and Guinea-Pigs. H. B. Fantham.
21 Experiments on the Treatment of Animals Infected with Trypanosomes by Means of Atoxyl, Vaccines, Cold, Roentgen-Rays and Leukocytic Extract; Enumerative Methods Employed. R. Ross and J. G. Thomson.
22 Auto-Agglutination of Red Blood Cells in Trypanosomiasis. W. Yorke.
23 A New Genus of Culcinæ from the Amazon Region. R. Newstead and H. F. Carter.

Australasian Medical Gazette, Sydney

February

24 The Work of the Southern District (Australia) Medical Association. H. Stoker.
25 Local Features in Occurrence of Eye Disease. C. G. MacLeod.
26 Endemic Hematuria or Illawarra Red-Water in Bovines and Its Possible Ocurrence in Man. J. B. Cleland.
27 Open Ethyl Chlorid Anesthesia for Minor Operations. R. W. Hornabrook.
28 Pathogeny of Ulcerating Granuloma. C. L. Strangman.
29 *Pneumonia Due to a Gram-Negative Diplococcus. A. S. Vallack.
30 Biologic Properties of the Cholera Vibrio and Other Vibriones. B. Bradley.

29. **Pneumonia Due to a Gram-Negative Diplococcus.**—About thirty cases of pneumonia due to this coccus have come under Vallack's notice, and the features of the disease have been so characteristic that there is little difficulty in differentiating it from pneumococcus pneumonia. In cases of pneumonia due to the pneumococcus, as a rule, only one member of the household is attacked. In the case of pneumonia due to the Gram-negative coccus, other members of the household are attacked by the same germ. The onset of ordinary pneumonia occurs with the greatest suddenness. With the other coccus the onset is not sudden; the patient is ill for several days with catarrh of the upper respiratory tract before the pneumonia supervenes. The temperature of ordinary acute pneumonia is perhaps more characteristic than that of any other disease. In the other disease the rise is more gradual, reaching high-water mark about the third day. The fall is by lysis, and it may take from two to six days or more to accomplish. The toxins of this germ are not nearly so depressing to the heart as those of the pneumococcus. A fair amount of pain may be present, but Vallack has not seen in any case the agonizing pain which may be present in pneumococcus pneumonia. A remarkable difference in the two affections is seen in the comparative absence of distress in this disease. A patient with one whole base consolidated will lie in bed with comparative comfort. The sputum is much more scanty as a rule than in the pneumococcus disease, and may be entirely absent even when considerable consolidation is present. When present it

is of a rusty color and contains numbers of encapsulated diplococci. These are often in large groups comprising fifty or more. They are decolorized by Gram's method. The physical signs of a fully developed case are similar to those of ordinary pneumonia. The stage of suppressed breath-sounds, however, which is common to both diseases, often lasts a good deal longer in this disease than in that due to the pneumococcus. One may find places where the breathing is still suppressed several days after the onset of the disease, while in other places tubular breathing is present. The disease is much less fatal than pneumococcus pneumonia, chiefly owing to the effects of the latter on the heart. Vallack emphasizes that this disease is infectious, and patients should not be admitted to the wards with other patients. Occasionally a patch of this pneumonia takes some time to clear up, giving rise to a suspicion of tuberculosis.

Australian Medical Journal, Melbourne

February

31 Hydatid Disease of the Lung. F. D. Bird.
32 Diagnosis and Treatment of Pulmonary Hydatids. G. T. Howard.
33 Pulmonary Hydatids. D. M. Morton.
34 Prognosis and Treatment of Hydatid of Lung. J. Cooke.
35 A Case of Mediastinal Hydatids. M. L. Williams.
36 The Work of an Army Medical Corps in the Time of War. C. H. W. Hardy.

Practitioner, London

April

37 Hodgkin's Disease, from the Surgical Point of View. Sir F. Eve.
38 Hodgkin's Disease and Intermittent Pyrexia. F. de H. Hall.
39 Aspects of Lymphadenoma (Hodgkin's Disease). H. D. Rolleston.
40 *Low Blood-Pressure. W. Edgecombe.
41 A Case of Splenic Abscess; Operation; Recovery. G. N. Pitt and C. H. Fagge.
42 Obesity. L. Williams.
43 Septic Infection of the Intracranial Sinuses. W. Taylor.
44 Treatment of Progressive Descent of the Uterus. E. Scott-Carmichael.
45 Radiographic Demonstration of Lane's Ileal Kink. A. C. Jordan.
46 A Case of Acute Phlegmon of the Pharynx. J. Harper.
47 Immediate Treatment of Retention of Urine in the Male. W. Edmond.
48 Three Cases of Peroneal Paralysis. W. B. Jack.

40. **Low Blood-Pressure.**—Individuals presenting low blood-pressure, Edgecombe says, are subjects with poor circulation, cold hands and feet, and liable to chilblains. He has encountered several examples in which the systolic blood-pressure rarely rose above 95 mm. Hg. By means of baths, massage and exercise, a temporary rise may be effected, during the maintenance of which the objective and subjective signs of defective circulation improve manifestly; but it is difficult to effect an enduring rise in the general level of blood-pressure in these cases, for they are prone, on cessation of treatment, to relapse to their former state. In cases of pure neurasthenia, having as their prominent characteristic, profound fatigue either somatic or psychical, or both, the blood-pressure is also low. A woman had a systolic pressure of only 85 mm. sitting, and 80 recumbent; she was subject to most violent headaches and had been dosed freely and for long periods with the usual headache remedies. A rise in tension of the circulation temporarily afforded relief to the pain. Whether the low blood-pressure in these cases of neurasthenia is the cause or the effect of the extreme fatigue, Edgecombe says is not easy to say. The probable sequence of events is a lowering of blood-pressure by toxic or other causes, and it is the extreme feebleness of the circulation that gives rise to the subjective sensation of intense fatigue. Certain it is that a rise in blood-pressure is an almost invariable accompaniment of improvement. In marked contrast to these is the irritable type of neurasthenic—the "neurotic" individual, who is frequently not a true neurasthenic, but a psychasthenic or a hypochondriac. In these cases the pulse is usually quick and irritable, and the blood-pressure subject to great variation, but generally above the normal and sometimes markedly so. Tobacco raises the blood-pressure and yet heavy smokers frequently have subnormal pressure. In cases of dilated heart, with or without valvular disease, the pressure will sometimes be found low, and a rise in pressure is one of the indications of the progress of the case toward recovery.

Edgecombe has seen many examples of the so-called gouty or rheumatic manifestations—lumbago, sciatica, neuritis—which showed a blood-pressure somewhat below normal. Many of these patients have a subnormal acidity of the urine, and are liable almost constantly to a copious deposit of phosphates; and this leads to, or is accompanied by, a state of nervous depression, which is a very real thing to those who suffer from it. The origin of the diminished acidity is digestive, and the nervous depression is due to reflex disturbance from irritation of the sensitive nerve mechanism of the bladder and urethra by the phosphatic urine. It is remarkable how rapidly the blood-pressure will rise and the symptoms disappear if the urine is rendered acid and the phosphates kept in solution. The clinical symptom phosphaturia, in whatever condition it may occur, is usually accompanied by a low blood-pressure, probably for the reason given above. Subacute cases of rheumatoid arthritis in young subjects frequently have a blood-pressure below normal, which rises as the condition improves. Exercise, carefully graduated, improves the tone of the heart and vessels and raises the pressure, while altitude and baths have a marked effect in the same direction.

Annales des Maladies des Org. Génito-Urinaires, Paris

March, XXIX, No. 5, pp. 385-480

49 *Polycystic Disease of the Kidney. (Les reins polykystiques.) Pousson.
50 Segregation of the Urine in the Female Bladder. (Un instrument qui rend exacte l'application du séparateur de Luys chez la femme.) D. Taddei.

49. **Polycystic Kidney.**—Pousson reports good results from operative treatment of polycystic degeneration of the kidney in three typical cases and fair results in forty-two others. The operations do not cure completely, he remarks, but they combat the accidents and complications which increase the gravity of the condition and threaten life. The indications for operation are compression of neighboring organs, pain, hematuria, uremia, oliguria, anuria or suppuration. Nephrotomy is the preferable operation. One patient, a carpenter, is in comparatively good health to-day after nephrotomy early in 1908; he had long suffered from gall-stones. The left kidney was in advanced cystic degeneration. During the three years since the nephrotomy the man has been free from all pain and has worked constantly. In another case, the nephrotomy was done for oliguria, headache, cramps and other symptoms of mild nephritis. Pousson ascribes the affection to some inflammatory process, possibly traceable to some acute infectious disease or alcohol or lead poisoning, the gouty tendency or malaria. The assumption of a causal inflammatory process harmonizes further with the clinical course of the polycystic affection. Nephrectomy should be reserved for the tuberculous cases.

Archives Générales de Chirurgie, Paris

February, V, No. 2, pp. 121-240

51 *Cancer of the Kidney in Two Little Girls. R. Buccheri.
52 Favorable Significance for Prognosis of Early Meteorism After Trauma of the Abdomen. D. G. Zesas.
53 *Sigmoiditis and Infection of the Internal Genitalia in Women. J. Poulain. Commenced in No. 1.

51. **Cancer of the Kidney.**—The cancers were a sarcoma and an epithelioma, both inoperable; the patients were 2 years and 7 months and 3 years old respectively. There was no history of traumatism, and the children were otherwise apparently normal.

53. **Sigmoiditis and Infection of Internal Genitalia in Women.**—Poulain warns that disease of the genital apparatus is very liable to spread to the sigmoid flexure. The microbes find their way by the peritoneum and induce production of adhesions which may cause serious trouble later. On the other hand, inflammation in the sigmoid region as a result of constipation may involve the genitalia and may cause misleading symptoms on the part of the ovaries or Fallopian tubes. These facts explain the predominance of left salpingitis. Whenever the adnexa are presenting symptoms of inflammation, the pains being most pronounced on the left side, he advocates hot intestinal enemas rather than vaginal injections, as, while they have practically the same therapeutic action, they permit

energetic disinfection of the sigmoid flexure. He insists that this should be done systematically before attempting to operate in case of salpingitis or for ovarian cyst, etc. These conclusions are based on nineteen cases, including six from his own experience reported in detail with summaries of the others.

Bulletin de l'Académie de Médecine, Paris

March 14, LXXV, No. 11, pp. 351-385

54 Three Cases of Abscess in the Brain Consecutive to Abscess in the Liver. Coutaud and Peyrot.
55 New Name for Malta Fever. (Sur le nom de Mélitococcie à donner à la fièvre de Malte.) R. Blanchard, Chauffard. Benjamin and F. Widal.
56 Case of Laboratory Infection with Malta Fever. F. Widal.
57 Apparatus for Mixed Anesthesia. (Méthode des mélanges titrés pour l'anesthésie chloroformique.) P. Reynier.
58 Amblyopia with Strabismus; Disuse Its Cause and Exercise Its Cure. (De l'amblyopie strabique.) Lagrange.

Bulletins de la Société de Pédiatrie, Paris

February, XIII, No. 2, pp. 65-107

59 *Infant Feeding. (La ration alimentaire du nourrisson.) J. Comby.
60 *Idem. (Hypoalimentation du nourrisson et insuffisance qualitative de la secrétion mammaire de la nourrice.) E. Gaujoux.
61 Idem. (Les nourrissons hypoalimentés, leurs vomissements, leur réalimentation.) J. Lemaire.
62 Technic for Repair of Cleft Palate. (Division congénitale du voile du palais.) V. Veau.
63 *Persisting Thymus and Mediastinal Adenitis. (Hypertrophie du thymus et adénites médiastinales.) V. Veau.
64 *Sterilization of Abscess Cavities. (Lavage des poches d'abcès froids et chauds.) Ombrédanne.
65 Emotional Jaundice in Children. (L'ictere émotif chez l'enfant. Observation d'un cas suivi d'une petite épidémie familiale d'ictère infectieux.) P. Merklen.

59. **Infant Feeding.**—Comby emphasizes the importance of studying individual conditions, but his general rule is 100 gm. of good milk to the kilogram of weight when the infant is strong and well. This amount represents only 75 calories per kilogram, that is 34 calories per pound of weight, and this is not sufficient for weakly infants or the very young. These need 95 or even 100 calories per kilogram, which would require 120, 130 or 150 gm. of milk.

60. **Id.**—Gaujoux makes a point of analyzing the breast milk when a child is not thriving and states that a woman can increase the amount of milk from one-sixth to one-third by drinking fluids but the nourishing value of the milk is reduced in proportion. He warns further that infants fed artificially may not be getting the proper amount of nourishment as the mothers dilute the milk as directed, not realizing that the milkman has previously watered it.

63. **The Thymus and Glandular Disease in the Chest.**—Veau has removed the thymus in nine cases for disturbances in breathing for which the enlarged thymus was supposed to be responsible. But in two cases, notwithstanding the signs of thymic obstruction and difficulty in breathing and swallowing, attacks of suffocation and dulness over the manubrium, the thymus was found quite small. The whole trouble was an infected gland behind the sternum which Veau easily removed, the operation being followed by complete functional success. Removal of glands above the bifurcation of the trachea, behind the brachiocephalic vein, was very easy by this route which permitted also draining of the upper mediastinum. In these cases of supposed enlargement of the thymus an acute pulmonary affection had preceded the disturbances. In future, he says, he will look for mediastinal adenopathy instead of ascribing the subglottic stenosis exclusively to the thymus in such cases. Another sign that might have been instructive, if heeded, was that the difficulty in breathing seemed to be predominantly below the diaphragm; there was only a little above the clavicle and none above the sternum. The organs in the mediastinum were adherent from the preceding inflammation, so that there was no movement when the chest was opened. These adhesions explain the discordance between the diaphragmatic and cervical difficulty in breathing and this lack of agreement between them should suggest, Veau declares, infection of glands rather than enlargement of the thymus.

64. **Lavage of Abscesses.**—Ombrédanne gives an illustrated description of a puncture device connected with three jars and a bulb with which it is possible to aspirate the contents of an abscess, rinse it out and follow this with a disinfectant, all without changing the cannula. The apparatus can be used also for treating a suppurating gland in the neck, but for this he supplements it by drawing silk through the abscess to make an aseptic seton. The needle can be inserted in the silk and a quart of cleansing fluid sent through the lesion, followed by an iodin solution. The lesion is thus healed with merely two minute incisions, one above and one below.

Lyon Médical, Lyons

March 12, CXVI, No. 11, pp. 449-512

66 Serotherapy of Typhoid. A. Rodet. Commenced in No. 10.
67 Technic for Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. P. Courmont.

March 19, No. 12, pp. 513-552

68 Difficulty in Estimating Extent of Injury in Industrial Accidents Involving the Eye. E. Grand-Clement.

Presse Médicale, Paris

March 18, XIX, No. 22, pp. 209-220

69 *Cultivation of Tissues in Vitro. A. Carrel and M. T. Burrows (New York).
70 *Total Resection of Superficial Idiopathic Varices on the Legs. P. Alglave.
71 Spasm of Esophagus. (Ce que doit être actuellement la conception des spasmes de l'oesophage.) Guisez.

March 22, No. 23, pp. 221-228

72 Laws Regulating the Balance in the Cardiovascular System. A. Martinet.
73 Instrumental Re-Education of the Ear. (La rééducation de l'oreille chez les sourds et sourds-muets par l'emploi d'un appareil microphonique.) E. Laime.

69. **Growth of Tissue in Vitro.**—Carrel and Burrows here review their work in this line, which is already familiar to the readers of THE JOURNAL. Some of their most recent communications on the subject were published in THE JOURNAL, Jan. 7, 1911, and in the *Journal of Experimental Medicine*, March, 1911.

70. **Resection of Superficial Varices.**—Alglave summarizes his experience with total resection of superficial idiopathic varices in seventy-five cases. This operation restores working capacity and seems to be equally beneficial for the painful and complicated cases and for the less serious. The incision runs from ankle to groin, on the inner aspect of the leg, and the author advocates the operation in every case in which the varices begin to prove painful or annoying. There is no need to wait, he asserts, for subsidence of the phlebitis; but in this case he always ligates under local anesthesia the terminal segment of the internal saphena before operating on it, to avoid danger of embolism. In his cases the temperature dropped at once after resection of the inflamed veins, showing that the trouble was limited to the vein. In varicose ulcer, he resects a lozenge-shaped flap of skin with the segment of the vein, with Thiersch flaps in the rare cases in which there were no signs of healing after ten or twelve days.

Revue de Médecine, Paris

March, XXXI, No. 3, pp. 177-264

74 Elimination of Uric Acid in Connection with the Diet. (Excrétion urique et alimentation.) M. Labbé and L. Furet.
75 *Nystagmus and Myoclonia. (Le nystagmus-myoclonie. II.) E. Lenoble and E. Aubineau.

75. **Nystagmus and Myoclonia.**—Lenoble and Aubineau give the details of thirty-eight additional cases of the peculiar myoclonia to which they called attention in 1905 as an affection comparatively common in western France and frequently of a familial type. The constancy and the fixity of the nystagmus render it the most striking of the group of symptoms. In the majority of cases the patients lead an active life with no other evidence of physical or mental degeneracy. The affection is congenital; in the few cases in which it was not noticed until after an intercurrent febrile affection, it had probably existed in a latent form. It belongs in the scale of myoclonias ranging from isolated nystagmus, through the nystagmus-myoclonia to Friedreich's paramyoclonus, Morvan's fibrillary chorea and Gilles de la Tourette's maladie des tics. All are manifestations of a special and obscure morbid condition resulting from a biologic degeneracy.

Archiv für Kinderheilkunde, Stuttgart

LV, Nos. 3-4, pp. 161-320. Last indexed February 18, p. 545

76 *Acidity of Urine in Infants. O. Lade.
77 Primary Suppurative Parotitis in Infants. A. Bretschneider.

78 Normal Bactericidal Properties of Intestinal Juice. (Zur Frage von der Verminderung der bactericiden Kraft des Dünndarms unter Einwirkung einiger innerer und äusserer Agentien.) P. S. Medowikow.
79 *Test Breakfast for Study of Stomach Functioning in Children. (Untersuchung der Magenfunctionen der Kinder mittels Probefrühstuck.) F. Seiler.
80 Premature Dentition. (Frühzeitige Zahnung.) H. Rosenhaupt.
81 *Case of Winckel's Disease. F. Brandenberg.

76. Acidity of the Urine in Infants.—Lade discusses what is meant by "acidity" of the urine, the preferable technics for estimating it, the sources for the acidity and its causes, and the variations in acidity under diverse influences. He further reviews extensive clinical experiences and tests of various forms of infant feeding in respect to their influence on the acidity of the urine.

79. Test Breakfast in Estimation of Stomach Functioning in Children.—Seiler has applied Sahli's flour soup method (*Mehlsuppemethode*) to a number of children and has found it as instructive as in adults. The children like it, and he reports the findings in a number of healthy children and in others with various diseases, from a few months to 12 years and older. The details are given for forty-one children examined, including three with gastritis, five with secretory and five with motor anomalies. The findings are like those in corresponding conditions in adults, and exact differentiation is equally important for both children and adults, he declares, to permit proper treatment.

81. Winckel's Disease.—Brandenberg has been able to find in the literature about fifty cases of this disease. It is characterized by cyanosis, bloody urine, hemorrhage and icterus. Most of the cases appeared in epidemic form in Germany or Russia in new-born infants, only a few of whom survived. He reports a case personally observed, with necropsy. An infectious factor seems evident. Baginsky asserts that simple jaundice, acute fatty degeneration or Buhl's disease, and Winckel's disease are probably only varying degrees of the same process. The jaundice is evidently the result of the hemolysis.

Berliner klinische Wochenschrift

March 20, XLVIII, No. 12, pp. 509-556

82 Salvarsan in Syphilis. (Ueber die bisherigen Erfolge der Syphilisbehandlung mit Salvarsan und die Aussicht auf Dauerheilung.) M. v. Zeissl.
83 *Salvarsan in Inherited Syphilis in Infants. (Salvarsanbehandlung bei Säuglingen.) A. Döblin.
84 *Resection of the Stomach. (Zur Magenresection.) Pochhammer.
85 *Acute Gastric Atony. (Zur Lehre von der akuten Magenatonie.) A. Schlesinger.
86 *Two Cases of Acromegaly from Fright. (Akromegalie infolge von Schreck.) P. K. Pel.
87 History of Theories in Regard to Urinary Calculi. (Historiches zur Kenntnis der Entstehung von Harnsteinen.) E. Schepelmann.
88 Temperature Crises in Tabes Dorsalis. W. Stange and S. Brustein.

83. Dangers of Salvarsan for Syphilitic Infants.—Döblin gave salvarsan to six infants and reports that no benefit in the general condition of the child was observed in any instance, the children did not lose their pallor and did not increase in weight thereafter; one strong child died from salvarsan poisoning, although the dose was only 0.03 gm. In another case the infant gained 300 gm. in five days, which he regards as a sign of toxic action of the drug, like the herpes zoster sometimes observed in adults. Four of the infants died, including two in good condition before the injection; this was made subcutaneous or intramuscular in each case and there was little local reaction at the spot. The necropsy findings suggested, he reports, acute arsenic poisoning: acute paralysis of the central nervous system, coma, severe injury of the intestines with diarrhea, drop of the blood-pressure and total paralysis of the contractile elements of the mesenteric capillaries, the so-called splanchnic paralysis. The edema in the mesenteric and subcutaneous fat tissue was evidently the result of arsenic paralysis of the capillaries. The experiences related indicate, he thinks, that 0.03 gm. may be regarded as the fatal dose for infants under the age of 3 months. Even this amount does not ward off recurrence, and as improvement in the manifestations of the syphilis may be observed, as in one of his cases, even with so small an amount as 0.025 gm., it seems reasonable to accept for infants under 3 months from 0.01 to 0.02 gm. as the tolerated dosage, that is 0.005 per kilogram of body weight.

84. Operative Treatment of Stomach Disease.—Pochhammer comments on the constantly improving end-results of surgical treatment of non-malignant stomach affections, especially ulcers and their sequels, but adds that most surgeons now regard a cancer of the stomach as already inoperable when so advanced as to be diagnosed with certainty. He insists that while the ignorance and indolence of patients are largely responsible for the delay in seeking surgical aid, a not inconsiderable share of this responsibility should be laid at the door of the so-called stomach specialists. This, he declares, will have to be proclaimed openly and loudly. These stomach specialists are the ones to whom the victims of gastric affections apply, assuming that some special help may be obtained from them after the family physician, consulted in the first place, has come to the end of his resources. In fact it may be the family physician who advises consulting the stomach specialist. And then several weeks or months of possibly precious time are wasted with all kinds of examinations, tests, lavages and dietetic courses. A tumor is not yet positively palpable; the diagnosis of "chronic gastritis" has a tranquilizing effect at first until suddenly the tragedy begins anew and with increased violence as the symptoms show that the obstruction to the emptying of the stomach has increased, but the stomach rinsings may be continued even then for a short time. By this time, the patient is losing strength rapidly; then the case is regarded as ripe for operative measures; the apparently benign stenosis requires operative intervention, and this discloses carcinoma with extensive metastases. This history is taken from life, Pochhammer declares. It demonstrates the enormous responsibility that rests on the shoulders of the stomach specialists when they attempt to differentiate benign stomach affections which have been causing symptoms for some time from malignant growths. Surgeons, he adds, even when they hold the growth in their hands, may be unable to state positively whether it is benign or malignant. The only means of differentiation is by histologic examination, and the stomach specialists are least of all in a position to do this. He protests specifically against Boas' recent assertion that in practice the time need not be regarded as wasted when a stomach specialist applies symptomatic preliminary treatment to a gastric cancer before it is positively recognized as such. Boas bases this assertion on the premise that only the slowly developing gastric cancers are amenable to operative measures; those which develop rapidly are inevitably fatal, whether an operation is attempted or not. To this Pochhammer replies that while this assumption may tranquilize the stomach specialists it might have disastrous consequences if it were accepted generally by physicians who have not yet fully lost their reverence for authority. There is no physician, he continues, who would not regard it as trifling with a human life, when consulted on account of a dubious tumor in the breast, if he should wait for a long period of observation to watch the further development of the growth instead of insisting on its prompt excision and histologic examination. Gastric affections should be managed on the same principles. Every stomach affection which is not of a transient nature and for which no satisfactory explanation can be found, should suggest the possibility of cancer. And surgeons should reiterate constantly the necessity not only for an early diagnosis but for an early operation. He reports nine cases during the last year and a half with operative treatment. One of the patients was a woman of 34 with extensive carcinoma of the stomach. She had had recurring gastric symptoms for ten years; the cancer had evidently developed in an old ulcer. She has gained 11 pounds during the four months since operation. In another case the first symptoms had been observed four months before the operation, and the tumor required resection of the stomach and of the middle third of the transverse colon. The patient is now in good condition having gained 40 pounds in weight since. The colon stumps were united by lateral anastomosis, which seems, he thinks, to hold better than other technics.

85. **Acute Atony of the Stomach.**—Schlesinger reports an instructive case of acute atony of the stomach developing in consequence of the sudden sliding down of the viscera as the much debilitated patient got up the seventh day after an operation for retrodisplacement of the uterus. The symptoms subsided under repeated lavage of the stomach, the pelvis being kept raised. The special feature of the case, however, was the feculent vomiting; he regards this as proof that there could not have been occlusion of the upper bowel and, consequently, that the acute dilatation of the stomach could not have been secondary to an arteriomesenteric occlusion which some accept as the primary phenomenon in acute postoperative dilatation of the stomach. It is the first case on record, he says, in which acute atony of the stomach was unaccompanied by occlusion of the upper bowel. The case further shows, he declares, the beneficial action of raising the pelvis to remedy conditions, instead of the ventral decubitus which some have advocated for this purpose. With the pelvis raised it is much easier to rinse out the stomach; the stomach sinks down into its normal place and the small intestine follows it, thus relieving the traction on the mesentery. In another case, the pelvis was raised high for twenty-four hours, the patient being kept thus on the operating table for twenty-four hours, the stomach being rinsed out every hour at first and then at longer intervals. He thinks that anything less than these measures would have failed to save this patient. It is not enough to raise the pelvis occasionally for a time; it must be kept raised or the traction on the nerves and mesentery returns again.. He never found it necessary to turn the patient on the side. An important adjuvant measure is to supply plenty of water by the rectum or by saline infusion. Large amounts of water accumulate in the stomach and are evacuated by the lavage, and it is of supreme importance to restore fluids to the body in some other way. Application of electricity to the stomach may also prove useful. In conclusion, Schlesinger reports experiments on dogs to induce acute atony of the stomach.

86. **Acromegaly from Fright.**—A fire in the home or gas explosion was the cause of the fright in the two cases reported. One patient was a housemaid, about 21 years old; the other was a woman of 31, six months pregnant. Menstruation was arrested at once in the case of the younger woman and there was no sign of the menses for several months, then only for two or three months; since then there has been complete amenorrhea. Menstruation did not return after the childbirth in the other case. The other symptoms of the acromegaly developed more gradually but the typical picture has persisted to date, four and sixteen years respectively after the fright.

Deutsches Archiv für klinische Medizin, Leipsic

CII, Nos. 1-2, pp. 1-216. Last indexed March 18, p. 856

89 Tissue Changes Cause of Lessened Resistance to Infections in Diabetes Mellitus. (Ursache der verminderten Resistenz des Diabetikers gegen Infektionen.) E. Handmann.
90 Metabolism During Catatonic and Paralytic Stupor. Eighteen Cases. (Zur Kenntnis der Stoffwechselverlangsamung.) E. Grafe.
91 Clinical and Anatomic Study of Syphilitic Cardiovascular Disease. (Syphilitische Herz- und Gefässkrankheiten.) H. C. Jacobaeus.
92 *Apparatus for Passive "Hill-Climbing" During a Bed-Rest Cure for Heart Disease. (Ruhekuren für Herzkranke in Verbindung mit passiven Bewegungen.) T. Büdingen.
93 Isolated Agraphia in Case of Brain Tumor. E. Forster.
94 Oxygen Ions in Stomach Content. (Die Sauersstoffion-Konzentration im Mageninhalt.) J. Christiansen.
95 Experimental Research on Action of Epinephrin in Kidney Disease and in Health. (Blutdrucksteigernde Wirkung des Suprarenins bei gesunden und nierenkranken Tieren.) B. Scholz.
96 Anemia-Inducing Action of Bacterial Hemolysins. L. Fejes.
97 Metabolism of Matter and Energy in Fever. (Stoff- und Kraftwechsel im Fieber.) H. Senator and E. Grafe.
98 Heart Block from Primary Heart Tumor in Five-Year-Old Boy. (Herzblock, bedingt durch primären Herztumor.) H. Armstrong and J. G. Mönckeberg.
99 *Traumatic and Renal Diabetes. (Einige ätiologisch bemerkenswerte Diabetesformen.) W. Weiland.
100 Determination of Viscosity of the Blood. (Zur Technik der Viskositätsbestimmung.) G. Kagan.
101 Ring-Bodies in the Blood in Anemia. K. E. Russow.

92. **Passive Exercise in Heart Disease.**—Büdingen has been protesting for years against the application to actual heart disease of Oertel's method of exercise treatment for the obese with weak heart muscle. On the contrary, he insists, patients with heart disease should be guarded against the slightest extra demands on their hearts and should be kept in bed during periods of extra weakness on the part of the heart. At the same time it is important for them to exercise without the effort of voluntary movements. Exercising the legs is the best means in such cases to divert the blood from the heart, to improve the peripheral circulation and to stimulate the vital processes generally. He has been trying to contrive an apparatus which would exercise the patient without the slightest active participation on his part, and the apparatus as perfected after nearly two years' experiments is here described and illustrated. The patient lies on the back, the legs fitting into shallow troughs which are lifted in turn by the automatically working apparatus stationed at the foot of the bed and run by an electric motor, the patient being able to start and stop it at will by a touch to the chain in his hand. The movements imparted to the limbs are those of walking or hill climbing, and the patient can thus obtain the benefits of the active exercise without the least strain on his heart. Büdingen has the exercise applied two or three times a day for thirty or twenty minutes each time. The benefit in severe heart disease is surprising, even with ruptured compensation; the venous engorgement and edema subside, the liver returns to normal size and the signs of cardiac insufficiency rapidly retrogress. The apparatus has also rendered good service, he states, in cases of intermittent limping, of gout of the ankle, threatening diabetic gangrene and tabetic ataxia of the legs. Among the cases reported in which the passive exercises proved of special benefit is that of a physician of 47 who, before the age of 22, had had four attacks of febrile articular rheumatism which had left aortic insufficiency. Recurring endocarditis with fever nearly every day was kept under comparative control for a year by the bed rest and passive exercise, alcohol rubs and small doses of heart tonics. In other cases cited, the bed rest cure finally restored patients with mitral insufficiency to comparative health so that they could climb hills. Bed rest alone is not beneficial in cases of cardiac insufficiency with high blood-pressure, with or without kidney disease, but when the bed rest is supplemented by the vigorous passive exercise, conditions are improved as if by magic. It breaks up the vicious circle formed when the patient actively exercises while it gives the advantages of active exercise. In a particularly severe case described, the oliguria and dropsy had continued to increase notwithstanding that the patient had lain in bed for two months. Then the exercising apparatus was brought into use and in two more months the dropsy had drained away in the diuresis that followed the exercising and the general health was remarkably improved.

99. **Traumatic and Renal Diabetes.**—Weiland reports a case in which a wooden pail fell from a height of over 25 feet on the head of a man digging a well. He was unconscious for half an hour but the wound healed without further disturbances. A week after the accident, however, great lassitude, intolerable thirst, polyuria and pruritus developed and after another week the urine contained 4.7 per cent. of sugar. A year later the symptoms still persisted, with 1.7 per cent. sugar in the urine. The patient had been previously healthy, and came of a healthy family with no tendency to obesity or alcoholism. The progressive course of the diabetes in this case confirms the general assumption in regard to the comparatively rapid course of true traumatic diabetes. Weiland is inclined to regard the nervous shock of the accident as more of a causal factor than any pathologic changes at the site of the injury. He describes further three additional cases of renal diabetes, that is, persisting elimination of sugar in the urine without any apparent disturbance in the carbohydrate metabolism. The proportion of sugar in the blood was within normal range. The glycosuria was a casual discovery and the kidneys and other organs were apparently functioning normally. The special feature of the three cases was the lack of hyperglycemia and the absence of the usual subjective disturbances of diabetes, and of polyuria. The patients' weight persisted about the same throughout. It is possible that the diabetes in these cases may have existed long before its clinical discovery. He believes that some disturbance in the kidney parenchyma is probably responsible for this renal form of

diabetes, the injury of the parenchyma escaping detection by our present methods of examination. Theoretically this renal diabetes may be classed with alkaptonuria and cystinuria, an anomaly not threatening the vital functions. He adds in conclusion that it is better to refrain from excess in the articles of food liable to enhance the tendency to the anomaly. At the same time such patients should not be depressed with too stringent dietetic restrictions.

Deutsche medizinische Wochenschrift, Berlin

March 23, XXXVII, No. 12, pp. 529-576

102 *Leukemia. (Behandlung der Leukämie.) M. Sternberg.
103 *Tumors in the Lungs and Pleura. (Zur Klinik der Lungen- und Pleurageschwülste.) A. Fraenkel.
104 *Treatment of Pancreatic Cysts. (Zur Behandlung der Pankreaszysten und -pseudozysten.) W. Körte.
105 Roentgen-Ray Primary Erythema. A. Brauer.
106 *Cystoscopy in Diagnosis of Pregnancy Pyelitis. (Bedeutung der Zystoskopie für die Diagnose und Behandlung der Schwangerschaftspyelitis.) A. Calmann.
107 *Findings in Fundus of the Eye in Inherited Syphilis. (Augenhintergrundsbefunde bei hereditärer Syphilis.) A. Japha.
108 Hemorrhagic Septic Infection of New-Born Infants. (Fall von Buhlscher Krankheit.) G. Röthler.
109 Technic for Intravenous Injection of Salvarsan. (In welcher Konzentration sollen wir die ClNa-Lösung zu unseren intravenösen Salvarsaninjektionen benutzen?) T. v. Marschalko.
110 Idem. (Zur Technik der intravenösen Injektion des Salvarsans.) D. A. Stapler.
111 *Acute Thyroiditis Following Potassium Iodid Treatment. (Thyreoiditis acuta nach Gebrauch von Jodkali.) J. Sellei.

102. **Leukemia.**—Sternberg reviews the typical syndrome and discusses the treatment, emphasizing the importance of Roentgen-ray treatment and keeping the patient under constant supervision, so as to institute another course at the first signs of exacerbations. By this means it is possible to keep the patient in good condition with fair earning capacity for years. One of his patients was thus able to work at his trade of cabinet-maker for two years after comparative retrogression of the myeloid leukemia, dying then of ulcerative endocarditis. In another case a woman of 35 had been treated for weeks without benefit for symptoms suggesting influenza. A second physician was called and he found the spleen enlarged and diagnosed typhoid fever. The patient was anemic, feeble, with irregular fever, bronchitis, enlarged spleen and 450,000 small lymphocytes per c.mm. Roentgen-ray treatment was then applied and by the end of six weeks, the lymphocytes had dropped to 31,000 and the patient was able to take long walks, and this improvement has persisted to date, although the blood is not normal, the hemoglobin declining from 35 to 20 per cent. He is inclined to explain the action of the radiotherapy as partly direct, on the blood-producing organs, and partly indirect, by mediation of substances generated which have an inhibiting action on the production of leukocytes in parts of the blood-producing apparatus not exposed directly to the rays. In some conditions the rays have an opposite effect, that is, they may induce an affection of the blood and lymph-producing organs. Sternberg knows of four physicians who had worked considerably with Roentgen-rays who have died from leukemia or pseudoleukemia and lymphosarcoma. This coincidence must be more than merely casual; they all date from the days when Roentgenologists were less careful about protecting themselves than at present. Sternberg commends Roentgen exposures as the first measure in leukemia; for this institutional treatment is generally necessary, and hydrotherapy can be applied at the same time. During a pause in the radiotherapy or possibly with it, in case the affection is more of the neoplasm order, a course of arsenic may be useful, but he warns against arsenic poisoning, especially herpes, eczema and paralysis as manifestations of arsenic intoxication. The herpes may run into gangrene if the Roentgen exposures are kept up. In one case an eczema of the lips resisted all treatment until the arsenic was suspended, when it subsided at once. In a case of sarcomatosis with leukemic blood findings, the tumors subsided temporarily under large doses of arsenic but the arm became paralyzed and permanent paresis and tremor followed. It is his impression that arsenic is more liable to cause symptoms of intoxication when the lymph and blood-producing apparatus is diseased. He states that organotherapy and salvarsan have no action in leukemia. The main point in treatment is to commence it at the proper time and keep watch of the blood findings in case the leukocyte count is increasing, and suspend the exposures when the blood shows signs of a crisis or when myeloblasts appear in large numbers.

103. **Tumors in the Lungs and Pleura.**—Fraenkel reports three cases of pleural endothelioma leading to diffuse indurations. They all developed rapidly with extensive effusion, intensely hemorrhagic and accumulating again in a few days, and with intense pains, evidently due to traction from and the compressing action of the fibrous bands. In a fourth case the trouble was diagnosed during life as a carcinomatous pleurisy, the diagnosis being confirmed by necropsy. The patients were men between 37 and 48 and a woman of 66. Death followed in from one to two months after the first symptoms of trouble in the pleura.

104. **Treatment of Pancreatic Cysts.**—Körte reports six cases of inflammatory pseudocysts in which Gussenbauer's method of suturing to the skin and draining was successfully applied. In all of these cases the pancreatitis had several times induced symptoms suggesting gall-stone colic. The inflammatory or hemorrhagic effusion is not absorbed and benefit can be anticipated only from its prompt removal as soon as diagnosed. The trouble is in reality an encapsulated effusion or pseudocyst, and probably the cases of recovery reported from this technic have been in cases of this class. When the trouble is a true multilobular cystadenoma, this technic is not sufficient. It was applied twice in a case reported in detail, with only temporary benefit. Then the cystadenoma was radically removed and prompt recovery followed.

106. **Cystoscopy in Diagnosis of Pregnancy Pyelitis.**—Calmann reports four cases which confirm the importance of cystoscopy not only for early diagnosis of the pyelitis but in excluding appendicitis and cholecystitis, in locating the seat of the trouble and in permitting local treatment. In the first case, the patient had been treated for weeks for pregnancy disturbances and cystitis without avail; then cystoscopy disclosed slight hyperemia at the mouth of the right ureter and its catheterization evacuated pus and permitted local irrigation with 200 c.c. of a 1 to 2,000 solution of silver nitrate. All symptoms subsided at once. The same benefit was derived in the second case; the pyelitis developed here during the third month. In another case a chronic nephritis was left after the pyelitis which was in an advanced stage when local treatment was instituted. The macerated fetus was expelled three days after the local treatment; if this had been applied earlier, the death of the fetus might have been prevented as well as the development of the nephritis. It was a question in this case whether to interrupt the pregnancy or treat the kidney pelvis and he decided for the latter as briefer and milder. In two of the four cases the pyelitis was bilateral; in all the turn for the better that followed the disinfection of the pelvis was unmistakable, but a complete cure was not realized at once in any instance, the pus and bacteria persisting to a slight degree until a few weeks after delivery. It is possible that repetition of the procedure might cure completely. He does not advise this direct sterilization of the kidney pelvis as a routine procedure, but only when other measures have failed. It did not prove necessary in five other recent cases of pregnancy pyelitis in his experience.

107. **Eye Findings in Congenital Syphilis.**—Japha has made a practice of having the fundus of the eye examined in every infant showing a tendency to nervous disturbances, at the policlinic in his charge. Among 1,350 ophthalmic patients, in 1909, there were twenty cases of abnormal retina in infants with inherited syphilis, thus in 1.5 per cent. He found further that fully 66 per cent. of infants with inherited syphilis present anomalies in the fundus. Sometimes, with the Wassermann reaction, they are the only signs of the disease and they explain in many cases the convulsions, restlessness and constant crying of the infants. The findings in the fundus are generally bilateral but not always equally severe in both eyes. By this systematic examination, the optic neuritis is detected in its early stage, before it has reached the advanced phase. A peculiar rolling of the eyes, blinking or squint sometimes attracted attention to the eyes, or photophobia and twisting

the head to one side and trembling of the eyelids. The prognosis of the eye disturbance is favorable if treatment is promptly instituted; rapid improvement followed in nearly every instance after a course of mercurial treatment. For this he preferred internal administration of from 0.005 to 0.01 gm. of mercury protoiodid twice a day in two or three fifty-day courses. Recurrence was never observed although a number of the children were kept under supervision for years. Hirschberg, however, has observed recurrence at the ages of 13, 14 and 22. He only found one case of retinal changes from inherited syphilis in 1,000 ophthalmic patients. Among the typical cases reported by Japha is that of an infant whose only trouble was that it cried a great deal, especially at night. At the age of 3 months the eyes were examined and an areolar chorioiditis was discovered. As soon as antisyphilitic treatment was started the child ceased crying.

111. **Thyroiditis Following Iodid Treatment.**—Sellei reported in 1902 a case in which inflammation and swelling developed in a previously sound thyroid after the patients had taken 2 spoonfuls of a 5 per cent. solution of potassium iodid. The acute thyroiditis was accompanied by high fever. He here reports a similar case, the acute thyroiditis developing after the first spoonful and becoming more intense after 2 more spoonfuls. The iodid had been given in this case after a course of mercury. The thyroiditis subsided completely in a week. It was evidently a manifestation of iodism, the picture including palpitations and a pulse running up to 120. He is inclined to explain the symptoms as a manifestation of anaphylaxis.

Jahrbuch für Kinderheilkunde, Berlin

March, LXXIII, No. 3, pp. 259-390

112 *Experimental Research on Action of Products of Decomposing Urine. (Versuche über experimentellen Spasmus nutans und über die Einwirkung von Harnzersetzungsprodukten auf junge Hunde.) R. W. Raudnitz.
113 Regulation of Heat in Infants. (Die Thermoregulation des gesunden und ernährungsgestörten Säuglings.) P. Heim and M. K. John.
114 Blood-Pressure in Children. (Blutdruck im Kindersalter.) V. Salle.
115 Anaerobic Intestinal Bacteria, Especially Those of Butyric Acid Fermentation. F. Passini.
116 Differential Bactericidal Properties of Leukocytes in Respect to Streptococci. (Ueber Unterschiede zwischen septischen und Scharlach-Streptokokken auf Grund bakterizider Reagensglasversuche mit Leukozyten.) F. Schleissner and W. Spät.
117 *Anatomic Findings in Stomach of Infant Five Months After Cure of Stenosis of the Pylorus. J. Simon.
118 Two Cases of Congenital External Hydrocephalus. Z. v. Bokay.

112. **Experimental Research on Injurious Influence of Products of Decomposition of Urine.**—Raudnitz has been studying on animals brought up in the dark the development of a clonic spasm of the sternomastoid muscles when they are exposed to the light, the result being a sort of nodding spasm associated with nystagmus. He has also studied the influence of the products of decomposing urine, his attention being attracted to this line of research by a peculiar intense fragility of the bones observed in two children of a family that lived in a room adjoining the general urinal for a large factory, one wall of the room being constantly damp with decomposing urine. It proved impossible to induce in puppies any tendency to osteomalacia or rachitis even when kept for eight months in the fumes of their own decomposing urine.

117. **State of Infant's Stomach Six Months After Cure of Stenosis.**—The disturbances from stenosis of the pylorus in the case described had never been very severe, and they subsided completely under flaxseed poultices renewed every two hours. There was an inherited neuropathic taint, but after subsidence of the symptoms of stenosis the child thrived normally for six months but then died on the second day of an attack of pneumonia. The stomach was compared with the stomach of a normal child; the findings were extreme hypertrophy by excessive development of the musculature of the pylorus and stomach walls. The assumption of a primary hypertrophy of the stomach walls explains the anatomic, clinical and therapeutic data in these cases of stenosis of the pylorus in infants. The hypertrophy induces secondarily reflex spasmodic contracture of the musculature and thus entails the clinical picture.

Medizinische Klinik, Berlin

March 26, VII, No. 13, pp. 479-518 and Supplement

119 Staphylococcus-Extract Salve and Varnish: An Attempt to Induce Local Immunity. (Ueber einen Versuch, die lokale Immunität für die Praxis brauchbar zu machen.) A. v. Wassermann.
120 *Early Diagnosis of Pulmonary Tuberculosis. (Welche Bedeutung haben die neueren Untersuchungsmethoden zur Frühdiagnose der Lungentuberkulose für den praktischen Arzt?) E. Schwalm.
121 Salvarsan in Malaria. (Beeinflussung der Chininfestigkeit durch Salvarsan bei Malaria.) G. B. Bilfinger.
122 Is Acute Appendicitis Due to Inflammation or Obstruction? (Beruht der akute schwere Appendizitisanfall auf Entzündung oder mehr ileusartigen Vorgängen?) Sorge.
123 *Persistent Hiccup. (Fall von heftigem Singultus.) F. Kanngiesser.
124 Dietetic and Physical Measures in Treatment of Kidney Disease. (Nierenkrankheiten.) J. Hurter.
125 *Irritation of Optic Nerve by Salvarsan. (Zur Kasuistik der Salvarsantherapie.) A. Jansen.

120. **Early Diagnosis of Tuberculosis.**—Schwalm discusses whether the newer methods of diagnosis are of much assistance to the general practitioner, his conclusion being that the clinical examination of the patient is still as always the main reliance, and that the tuberculin test should not be applied except when there is some indication of incipient pulmonary tuberculosis and it is impossible to determine the facts in any other way. If the tuberculin test is applied, it should be by subcutaneous injection for adults and by the cutaneous method for children. The subcutaneous test should not be applied, he says, outside of an institution as close supervision of the patient is indispensable for its proper estimation; if the temperature is taken by the laity the findings are unreliable. He warns further to be on the watch for the pseudoreaction liable to occur in nervous patients; the only means to exclude it is by a control injection of water alone.

123. **Persisting Hiccup.**—In the case reported by Kanngiesser, the distressing hiccup came on during an attack of influenza in an elderly man. No benefit was derived from a subcutaneous injection of 0.001 gm. of atropin sulphate, which has been recommended lately for this purpose; in half an hour the patient's mouth became parched and he felt a burning in the nose but the hiccup was unmodified. After waiting for an hour and a quarter after the injection, the patient was then given in separate glasses a solution of 5 gm. citric acid and of 5 gm. sodium bicarbonate, hoping by the distention of the stomach from the effervescing fluids to act on the diaphragm from below. The procedure was a complete success, the hiccup ceasing at once. The patient was awakened in the night, however, by recurrence of the hiccup and repetition of this measure then failed to relieve, as did also the next day rhythmic traction of the tongue and holding the breath. He was then given a little sodium bicarbonate in water, and the hiccup ceased at once for a few hours, but returned then and persisted until the patient took some warm oatmeal gruel. This arrested the hiccup and had the same effect the next day when the hiccup returned, after which there was no further trouble. Kanngiesser appeals to other physicians to learn if they know of any better measures to arrest persisting hiccup.

125. **Irritation of Optic Nerve Under Salvarsan.**—Jansen states that several days after an intravenous injection of 0.4 gm. of salvarsan, the patient happened casually to mention that, commencing four hours after the injection, everything seemed to waver before his eyes for three hours. Jansen believes that if it were enquired for, this sign of irritation of the optic nerve (*heftiges Flimmern*) might be found frequent after injection of this drug.

Münchener medizinische Wochenschrift

March 21, LVIII, No. 12, pp. 609-664

126 *Cholelithiasis. (Allgemeine Grundsätze für die Diagnostik, Indikationsstellung und Therapie des Gallensteinleidens.) H. Kehr.
127 *Heart and Kidney Disturbances with Chronic Constipation. (Herzmuskelinsuffizienz bei chronischer Koprostase nebst Bemerkungen über die bei letzterer auftretende Albuminurie und Zylindrurie.) W. Ebstein.
128 *Diagnostic Inflation of the Stomach. (Zur Technik der Magenaufblähung.) F. Bardachzi.
129 Traumatic Myopathy. (Muskeldystrophie und Myotonie nach Unfall.) W. Brasch.
130 *Eosinophil Diarrhea in Infants. (Zur Kenntnis eosinophiler Darmkrisen im Säuglingsalter.) L. Langstein.

131 Copper Isolated from Urine and Perspiration of a Worker on Brass. (Isolierung von Kupfer aus Harn und Schweiss eines Messingarbeiters.) E. H. Goodman.
132 Splenic Anemia in Inherited Syphilis and Its Cure Under Salvarsan. W. Schmidt.
133 Technic for Salvarsan Treatment. A. Hauptmann.
134 Typical Coasting Fracture. (Eine typische Rodelverletzung.) Bertram.
135 Improved Technic for Color Ring Tests of Fluids. Schnitter.
136 Paratyphoid Infection. F. Rolly. Commenced in No. 11.

126. **Gall-Stones.**—Kehr comments on the fact that no drugs or medical measures are able to act on the gall-stones themselves; all other measures but direct removal act merely on the conditions resulting from the presence of the stones, especially the inflammation. All that is possible is to keep the stones latent and answer the patient's four questions: "Have I gall-stones?" "Can you feel them?" "Must I have an operation?" and "Is the operation dangerous?" Only in exceptional cases, he continues, is it possible to state positively the presence of gall-stones. Even with his 1,668 gall-stone operations he still makes mistakes in diagnosis of cancer of the gall-bladder, especially when it is associated with empyema. With chronic empyema the temperature may be persistently within normal range in 50 per cent. of the cases. The history is of peculiar importance for the diagnosis of chronic empyema of the gall-bladder and chronic obstruction of the common bile duct, and he makes a point of writing it out and reading it over carefully two or three times to weigh it in all its bearings. A diagnosis based on the history is liable to be more correct than one based on the actual findings at the moment. In the written history we can follow the gall-bladder affection from simple serous cholecystitis to the obstruction of the cystic duct and the accumulation of pus in the gall-bladder, the passage of the stone into the common bile duct or its final perforation into the bowel, and we can trace the various stages of the affection by the presence or lack of jaundice and fever, swelling of the liver and pains. The localization of the pain is frequently misleading. In one case the only tender point was under the left costal arch, suggesting ulcer in the lesser curvature of the stomach, but the trouble was the result of numerous stones in the common bile duct. A high placed appendix may simulate cholecystitis. He states that he has been able to palpate the stones only in two or three out of his total 4,000 patients. Operative treatment is required more for the infectious process and to forestall its spread to other organs than to remove the stones themselves. This infection threatens the liver and pancreas and must be combated by removal of the focus in time, while it is still circumscribed. This is the main aim of treatment, and no time should be wasted with drugs and waters to which the power to dissolve or expel the stones is ascribed. Such measures should be left to quacks, and internists should cooperate with surgeons to check and cure the acute and chronic inflammation. This is best realized by moist heat, purgatives, restriction of the diet and repose, the cholelithiasis having a spontaneous tendency to return to a latent condition so that in 80 per cent. of all cases the colics finally subside spontaneously. The quack claims this 80 per cent. as his "cures," while the physician knows that Nature has wrought the cure and that it often is only a deceptive lull. The only radical cure is by removal of the infectious focus. Among Kehr's other reflections on gall-stone disease is the statement that when there is reason to suspect cancer in the gall-bladder, it is already too late for a radical cure; the patient is doomed. Only when in an operation for gall-stones, traces of incipient cancer are casually encountered, is the patient completely cured of the malignant disease. The loss of the gall-bladder causes no appreciable disturbances, and a new formation of gall-stones in the biliary ducts after cholecystectomy is so rare as to be negligible. Done in time, he reiterates, a gall-stone operation is practically free from danger.

127. **Chronic Constipation in Relation to Heart and Kidney Symptoms.**—Ebstein discusses the albuminuria and tube-casts liable to be found in the urine with chronic constipation or persisting coprostasis, and states that before attempting to estimate the prognosis of the kidney affection in such cases the intestinal functions should be regulated. The pathologic urine may be the result of toxic action from poisons generated in the intestines. The same statement applies to heart disturbances. When the heart is found enlarged or displaced, before assuming the presence of organic disease, conditions should be investigated to exclude displacement of the heart from the pushing up of the diaphragm from below. By removing the causes of this pushing up of the diaphragm—among which chronic constipation takes the first place—the symptoms on the part of the heart, even including those of cardiac insufficiency, may retrogress entirely. He recently reported subsidence of symptoms of exophthalmic goiter in four cases under treatment of chronic constipation by means of large enemas of oil. His report was summarized in THE JOURNAL, February 11, page 467.

128. **Diagnostic Inflation of the Stomach.**—Bardachzi reports from the medical clinic at Prague, in charge of Pribram, that inflation of the stomach with an effervescing mixture or with air alone has been systematically practiced there for years. In one case, however, the ingestion of the effervescing mixture was followed by severe hemorrhage from the stomach, and in another case by severe symptoms on the part of the heart from the pushing up of the diaphragm. Both patients were women in the fifties, and the alarming symptoms soon subsided. Behrend was less fortunate, Bardachzi remarks, as he lost three patients from this cause, the sudden distention inducing perforation of a gastric ulcer in two and of a carcinoma at the cardia in the third patient. For this reason Pribram has abandoned this method except in special cases, and prefers to distend the stomach with air alone. He interposes a glass jar with two mouths between the stomach tube and the tube with the double rubber bulb. If the patient retches during the inflation the vomitus collects in the interposed jar; this method of distention seems to be much less dangerous than with the effervescing mixture, while it permits graduated dosage. In the two mishaps Bardachzi reports, less than a teaspoonful of sodium bicarbonate and half a teaspoonful of tartaric acid were used for the test, each being dissolved in half a glass of water.

130. **Eosinophil Diarrhea in Infants.**—Langstein called attention in 1908 to the passage of mucus and pus by the bowels, occurring suddenly, the mass containing large amounts of eosinophil cells. In a case described here he noticed this sudden eosinophil intestinal crisis, as he calls it, as the first sign of the exudative diathesis; it was speedily followed by facial eczema. The mucopurulent stool in the infant, only a month old, would generally be considered a sign of severe intestinal derangement, but he regarded it as merely the expression of the diathesis and not of an alimentary disturbance in the ordinary sense. Consequently, he made no change in the diet except restricting the amount a little, and the further development of the child confirmed the correctness of these views. The intestinal crisis in these cases may be regarded as similar to what Strümpell calls intestinal asthma in infants; it is not accompanied by a rise in temperature or drop in weight—symptoms scarcely ever absent when it is a question of alimentary or infectious injury.

Wiener klinische Wochenschrift, Vienna

March 23, XXIV, No. 12, pp. 411-442

137 Cholesterinemia in Physiologic Pregnancy. (Biologische Studien über die weibliche Keimdrüse.) J. Neumann, E. Hermann and S. Fränkel.
138 Thymus Not Involved in Blood Production. J. Löw.
139 Technic for Determining Presence of Tubercle Bacilli in the Urine. (Versuche einer Vereinfachung des Tuberkelbazillennachweises im Harn.) R. Bachrach and F. Necker.
140 *Epidemic Endocarditis? (Kann die Endocarditis acuta epidemisch auftreten, und herrscht gegenwärtig eine solche Epidemie in Wien?) M. Herz.

140. **Epidemic Endocarditis.**—Herz states that he has seen so many cases of acute endocarditis at Vienna in the last few months that he asks whether it is possible for this disease to occur in epidemic form. The patients were all between the ages of 6 and 18 and the clinical course was alike in all, beginning with moderate fever without angina or joint symptoms; only later there were pains in one or both ankles in a few cases. Multiple articular rheumatism did not develop in any case, but in the second week there was tachycardia, accompanied later by palpitations, pains in the apex region,

rapid breathing and cyanosis. The myocardium behaved well, seldom showing much dilatation. Another symptom was a tormenting dry cough, especially at night, sometimes brought on by eating and often followed by vomiting.

Zeitschrift für Urologie, Berlin

March, V, No. 3, pp. 161-240

141 The Prostatic Secretion. (Das Prostatasekret.) C. Posner.
142 Idem. (Zur Kenntnis der Natur der Prostatakörner.) P. Fürbringer.
143 Bacteria of Normal Male Urethra. (Beitrag zur Gonokokkendiagnostik.) A. v. Wahl.
144 Advantages of "Stiff Silk Catheter" with Hypertrophied Prostate. (Ueber "steife Seidenkatheter," zum Gebrauch bei Prostatavergrösserung.) O. Heyse.
145 Chancroid in the Fossa Navicularis. (Ulcus molle fossae navicularis urethrae.) Tschumakow.

Zentralblatt für Chirurgie, Leipsic

March 25, XXXVIII, No. 12, pp. 417-456

146 *Exposure of Nasopharynx by Slitting the Lower Jaw and Separating the Soft from the Hard Palate. (Freilegung des Nasenrachenraumes durch mediane Spaltung des Unterkiefers und Ablösung des weichen Gaumens vom harten.) A. Krogius.
147 Prevention and Treatment of Mediastinal Emphysema. M. Tiegel.

146. Exposure of Nasopharynx.—Krogius worked out on the cadaver several years ago the technic he describes with an illustration, and has been commending it for the clinic but only recently had opportunity to apply it himself on two patients. They bore the operation well and the further course was gratifying, while the operation itself was accompanied with remarkably slight loss of blood. It was done for removal of a fibroma in the nasopharynx in both instances. He applied part of the technic in a previous case two years ago but found an inoperable tumor in the pituitary body and the patient died the next day with pulmonary edema. The main features of the technic are the median incision of the lower jaw, enabling the two halves to be turned back on each side, the tongue being drawn down over the cleft. The soft palate is then separated from the hard palate by an incision curving across nearly to the teeth on each side. This permits the soft palate to be drawn down on the tongue quite out of the way, giving ample access to the nasopharynx through the gap thus left.

Zentralblatt für Gynäkologie, Leipsic

March 25, XXXVIII, No. 12, pp. 417-456

148 *Anteflexion of the Uterus as Cause of Development of Myomas. (Zur Aetiologie und Prophylaxe der Uterusmyome.) D. v. Ott.
149 High and Low Epidural Anesthesia. (Hohe und tiefe extradurale Anästhesien.) H. Schlimpert.

148. Anteflexion of Uterus in Origin of Myomas.—Ott has had opportunity to watch over the later fate of large numbers of women with symptoms indicating anteflexion of the uterus. This experience has demonstrated beyond question, he states, that the venous engorgement and other interference with the circulation in an anteflexed uterus invite the development of myomas which are almost certain to follow. He declares, therefore, that anteflexion should no longer be regarded as a comparatively harmless anomaly which it is unnecessary to correct unless it is causing severe symptoms. It should be corrected without delay by medical or other measures, above all when changes in the parenchyma are already installed. Measures to regulate the circulation in the region, especially gynecologic massage, and measures to render conception possible, such as excision of the cervix, are the most important. In over a third of his patients treated with excision of the portio vaginalis on account of anteflexion, the women, long sterile, bore one or more children. The fibrous bands fastening the cervix in front have to be separated, and it is important, he says, to take the sutures at right angles to the line of the incision so that the row of sutures is sagittal to the cervix. A pregnancy transforms conditions and is the chief aim sought in treatment of anteflexion, and this transformation abolishes the conditions which unmolested lead to myomatous degeneration later. Ott thinks that it is absurd to seek for an explanation for the development of tumors which will apply to all; it is also absurd to reject a working hypothesis because it does not explain all kinds of conditions.

Riforma Medica, Naples

March 20, XXVII, No. 12, pp. 309-336

150 Psychic Disturbances of Gynecologic Origin. (Turbe psichiche d'origine ginecologica.) L. M. Bossi and L. Strofeni
151 Improved Technic for Making Microscopic Sections. (Un mezzo semplicissimo per attaccare automaticamente le sezione microscopiche contemporaneamente al taglio.) G. Pollaci.

Nordiskt Medicinskt Arkiv, Stockholm

XLIII, Internal Medicine No. 3. Last indexed January 7, p. 84

152 Leukocytosis During Digestion and the Influence of Sleep and the Waking State on the Leukocyte Content of the Blood. (Bidrag till frågan om förekomsten af en digestionsleukocytos och till kännedomen om sömnens och det vakna tillståndets inverkan på blodets leukocythalt.) W. Wernstedt.
153 Case of So-Called Pseudoleukemic Anemia in Children. K. O. af Klercker.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE DESTRUCTION OF FLEAS BY EXPOSURE TO THE SUN. By Captain J. Cunningham, M.D., I.M.S., Offg. Assistant to the Director, Bombay Bacteriologic Laboratory. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Issued under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. (New Series.) No. 40. Paper. Price, 8 annas. Pp. 27. Calcutta: Supt. Government Printing, India, 1911.

THE EXPERIMENTAL CHEMOTHERAPY OF SPIRILLOSES (SYPHILIS, RELAPSING FEVER, SPIRILLOSIS OF FOWLS, FRAMBESIA). By Paul Ehrlich and S. Hata. With Contributions by H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Cairo; and Dreyer, Cairo. Translated by A. Newbold, and Revised by Robert W. Felkin, M.D., F.R.S.E., Late Lecturer on Tropical Diseases, Edinburgh Medical School. Cloth. Price, $4. Pp. 181, with illustrations. New York: Rebman Co.

THE EFFECTS OF A NUMBER OF DERIVATIVES OF CHOLINE AND ANALOGOUS COMPOUNDS ON THE BLOOD-PRESSURE. By Reid Hunt and R. de M. Taveau. Hyg. Lab. Bull. 73, U. S. P. H. and M.-H. S., Treasury Department, March, 1911. Paper. Pp. 135. Washington: Government Printing Office, 1911

REPORTS OF THE MEETINGS OF THE NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION FOR THE WINTER, 1909-1910. Paper. Pp. 37, with illustrations. Dr. Francis S. Watson, President, Boston. Dr. Richard F. O'Neil, Secretary, Boston. Boston: W. M. Leonard, 1911.

CRIMINAL MAN ACCORDING TO THE CLASSIFICATION OF CESARE LOMBROSO. Briefly Summarized by His Daughter, Gina Lombroso Ferrero. With an Introduction by Cesare Lombroso. Cloth. Price, $2. Pp. 322, with 39 illustrations. New York: G. P. Putnam's Sons, 1911.

TWENTY-FIRST ANNUAL REPORT OF THE VISITING NURSE ASSOCIATION OF CHICAGO. Incorporated November, 1890. For the Year Ending Dec. 31, 1910. Paper. Pp. 45. Office, Room 1408 Unity Building, 79 Dearborn Street. Mrs. H. K. Tenney, Secretary, Winnetka, Ill.

NINTH ANNUAL REPORT OF THE DIRECTOR OF THE BUREAU OF SCIENCE [MANILA] TO THE HONORABLE, THE SECRETARY OF THE INTERIOR. By Paul C. Freer, Director of the Bureau of Science. For the Year Ending Aug. 1, 1910. Paper. Pp. 70. Manila, 1911.

A RADIOGRAPHIC ATLAS OF THE PATHOLOGIC CHANGES OF BONES AND JOINTS. By Amédée Granger, M.D., Lecturer on Radiology and Electro-physics, New Orleans Polyclinic. Cloth. Price, $6. Pp. 207, with illustrations. New York: A. L. Chatterton Co.

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ROBERT KOCH THE FATHER OF MODERN TUBERCULOSIS SCIENCE*

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NEW YORK

Koch's brilliant career as father of modern tuberculosis science began, of course, on that memorable evening of March 24, 1882, when he gave to the world the result of his painstaking work. It was the usual monthly meeting of the Physiologic Society of Berlin, but it was perhaps the largest gathering which that body ever had. Koch's paper was announced under the title, "The Etiology of Tuberculosis." Taking into consideration what Koch had given to science before along the same lines (I refer to the discovery of the spores of the anthrax bacillus and his concomitant bacteriologic studies), the hearers were, of course, expectant and looked for great things in store for them. It was characteristic of Koch's modesty and true scientific spirit that he had preferred to refrain from talking about his researches in tuberculosis until he could conclusively prove his thesis to the satisfaction of everyone and show absolutely accurate results. To students of bacteriology it must be recalled that Koch was the first to seek the production of a solid medium for the purpose of getting pure cultures, and it was only after he was in possession of such a medium that he attempted to isolate the germ found in tuberculous tissue.

It is of historical interest that on the evening of March 24, 1882, after Koch had finished reading his paper, there was no applause nor any enthusiastic manifestation of approval and for the first time in the history of that society, a paper, though listened to with the most profound and respectful silence, was not discussed. The facts presented by that master of bacteriologic science were too convincing for discussion. The audience looked expectantly to that most honored member and veteran debater, the father of cellular pathology, the immortal Rudolph Virchow, but he too remained silent. He felt that another great master in medicine had arisen and that the evidences of Koch's conclusions did not permit any doubt or dispute. The original communication announcing the discovery of the tubercle bacillus as the prime and only cause of tuberculosis appeared in the *Berliner klinische Wochenschrift* of 1882 (No. 15, p. 221). It is a masterpiece of scientific demonstration.

It may be interesting to some to know that access to an exact reproduction of this paper[1] can be obtained. The editors of the periodical referred to very justly stated that a more fitting memorial could not be printed at the time of Koch's death than that important paper which gave rise to all our modern tuberculosis research work, and at the same time gave to its author a well-deserved recognition and world-wide reputation.

In his paper Koch did not fail to pay tribute to the works of Villemin, Cohnheim, Salomonsen, Baumgarten and Tappeiner, who had given us conclusive proof that tuberculosis was a transmissible disease, but through Koch, and Koch alone, we have come to know the actual factor of infection and direct cause of all tuberculous diseases. It is he who showed us the presence of the germ in the pulmonary secretions and involved tissues, and also, to a minor degree, in other secretions of man and beast afflicted with tuberculosis. It is because of this knowledge that the new science which we might call modern prophylaxis of tuberculosis was created.

And now, after a lapse of nearly thirty years since the memorable discovery, we can statistically prove, beyond the shadow of a doubt, that, thanks to the rational, practical yet simple methods of prophylaxis which soon followed the discovery of the bacillus of tuberculosis by Robert Koch, the mortality from tuberculosis has been on a steady decrease in nearly all civilized countries.

When we consider that the present morbidity and mortality from tuberculosis in the countries which have adopted rigorous antituberculosis measures is in some instances two-thirds, and in some even one-half, what it formerly was, we must also admit that the material wealth which is the gain of thousands of communities, because Koch lived and labored, is beyond human calculation. Our sociologists and economists have estimated the value of a single human life as an economic asset of $5,000 to a community. Thus the figures in material gain to the world at large for which this one man is responsible must stagger our imagination. But we as physicians do not look on a life as representing a merely financial asset to the community. We come into too close contact with human suffering and sorrow for that. We rather emphasize the value of the discovery of our great Koch by the number of fathers, mothers, wives, husbands and children who were saved from an untimely death. We think of the tears and sorrow, of the anxiety and worry spared to untold numbers; we appreciate the joys and happiness which were preserved to thousands because the great white plague did not enter their homes. All this preservation of human joy and happiness has been brought about because of one single discovery of Koch, and the resulting indication of how to prevent disease.

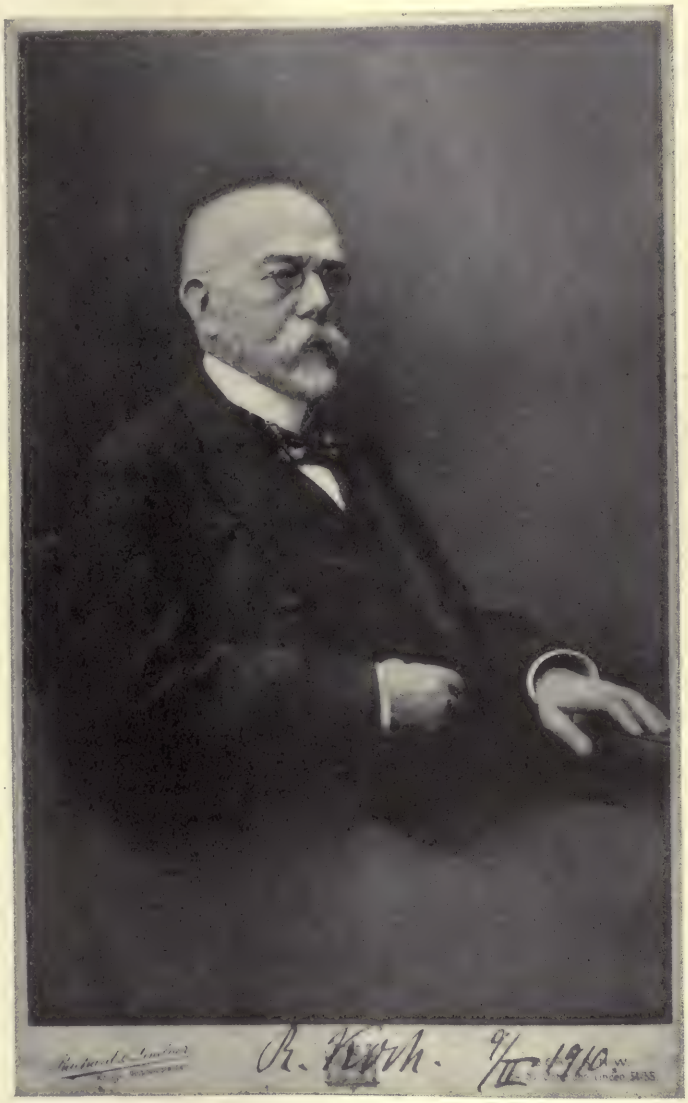
But this phase of our medical science, which is truly preventive medicine, is not the only one whereby we as physicians and the world at large have been benefited by Koch's discovery. The presence of the bacillus in the sputum gives in doubtful cases a well-nigh irrefutable evidence of tuberculous infection of the respiratory

*Address delivered on the Koch-Memorial Evening, March 27, before the Laennec Society for the Study of Tuberculosis, of Johns Hopkins Medical School and Hospital, Baltimore.

1. Ztschr. f. Tuberk., July, 1910, xvi, No. 2.

tract. In the discovery of tuberculin Koch has given us another adjuvant of great value in the diagnosis of tuberculosis diseases in man and animal.

A word regarding tuberculin as a therapeutic product. It is now generally conceded that when in 1890 Koch announced to the world the discovery of tuberculin as a means of curing tuberculosis, he did it against his better judgment, for he felt that he had not experimented with it long enough. The year 1890 was indeed an unhappy one in Koch's brilliant career. The powerful product used in far too large doses, by inexperienced men, indiscriminately in early and late cases, was followed by disastrous results. But time has justified Koch's original claim, and to-day his tuberculin in the hands of careful clinicians has certainly proved to be, in certain cases of tuberculosis, a valuable therapeutic adjuvant.



Koch did not limit his researches to the bacteriologic causes of tuberculosis or to the discovery of tuberculin, and it may be a surprise to many to learn what a deep interest he took in the sociologic aspect of tuberculosis. He studied all sides of the question — municipal control, popular education, the housing problem, etc. More than once did he express to me personally his approval of Professor Biggs' work in New York relating to the municipal control of tuberculosis, and he also referred to it in his celebrated London address in 1901. In regard to this communication made before the British Congress, justice requires us to say that Koch's conclusions as to the rarity of the transmission of bovine tuberculosis to human beings were too sweeping, this having been borne out by subsequent investigations. But had it not been for Koch's London address, much scientific work which has now cleared up the controversy would not have been done.

Koch's last contribution to the *Zeitschrift für Hygiene und Infektionskrankheiten* showed his deep interest in the sociologic aspect of tuberculosis. The article was entitled "The Epidemiology of Tuberculosis." In it he very justly ascribes the still very great prevalence of tuberculosis in certain sections of Europe to the unfortunate housing conditions and particularly to the overcrowded sleeping quarters of the masses. He also came to the conclusion that, where institutional care had been most readily available, the morbidity and mortality from tuberculosis has been reduced to the greatest extent, and *vice versa*.

Koch believed in popular education, and I have received many a kindly word from him to encourage me in my humble labors in that direction. In his last letter to me, a few months before his death, he wrote:

> Popular works on tuberculosis are destined to play an important part in the enlightenment of the people, and the American people seem to be particularly susceptible to such education.

I hope we may deserve this gracious compliment paid to the American people by the great Koch.

And now, in conclusion, a few words on the personal side of this great man. On the evening of April 11, 1908, Koch was the guest of the German Medical Society of New York. It was indeed a distinguished gathering. Professor Karl Beck, as the president of the society, was the toastmaster of the evening. Your own distinguished teacher, Professor Welch, being one of Koch's first pupils, welcomed the great scientist to our shores, and spoke in eloquent words of the achievements of his master. Equal praises were bestowed on Koch by the Nestor of the New York and the entire American medical profession, Prof. Abraham Jacobi. Andrew Carnegie, the philanthropist, who had given 500,000 marks for the Koch Institute in Berlin, praised Koch as a hero of civilization and peace, far greater than a hero in war, and concluded by saying:

> Every age has its ideals, and the servants and saviors of mankind are our present-day ideals, for I firmly believe that service to mankind is the highest service to God.

And what did the great Koch reply to all this praise and eulogy? His answer was of so inspiring and modest a character that I believe it to be worth while to reproduce it in the original words which will be found below. I will also translate it into English as exactly as possible:

> When I now consider the honor you have conferred upon me here this evening, when I consider all that has been said and done in my praise, there arises in my mind a doubt as to whether I am really entitled to such distinction. Some of the kind things which have been said of me I believe I may accept with a clear conscience, but I have done nothing else than what you are doing every day. I have worked as hard as I could and have fulfilled my duty and obligations. If the success really

was greater than is usually the case, the reason for it is to be found in the fact that in my wanderings through the medical field I came on regions where gold was still lying by the wayside. Fortune is necessary to be able to distinguish gold from the base metals, but that is no great merit. I am glad to see Mr. Carnegie here, whose generous gift to the Koch Foundation in Berlin made everywhere such a deep impression. I would wish to thank Mr. Carnegie with all my heart. The foundation which is to bear my name is, I hope, destined to show great results in the field of tuberculosis research. While special hospitals and sanatoriums for the treatment of tuberculosis are of local importance in the combat against tuberculosis, the Koch Institute or Foundation is destined to study the underlying causes and as yet unsolved problems of the disease and thus will benefit mankind at large.[2]

Koch had a remarkable genius for research work, yet his aim was always eminently practical and his sympathies genuine and real. By hard work and diligent application he revealed the hidden mysteries of disease.

Koch was not privileged to see the foundation for further tuberculosis research work, bearing his name, completed. He died May 27, surrounded by devoted pupils and friends. By indubitable right he now takes his place with the immortals and his name will be handed down through generations to come as one who has lived and labored for the good of mankind.

In accordance with Koch's last request, his funeral was of the simplest kind, and as an enthusiastic sanitarian he had directed his body to be cremated. His admirers and pupils gathered the ashes of the beloved master and enshrined them in a mausoleum located in the Institut für Infektionskrankheiten in Berlin, of which Koch had been director for many years.

I venture to say that for generations to come, all physicians, and likewise the many men and women outside of the profession who are interested in scientific or preventive medicine will, on visiting Berlin, deem it a pious duty to make a pilgrimage to this last resting-place of the ashes of Robert Koch.

2. "Wenn ich alles zusammenfasse, was hier zu meinem Lobe gethan und gesagt worden ist, und die grosse Auszeichnung, die Sie mir zu Theil werden liessen, in Betracht ziehe, dann entsteht in mir ein Bedenken, ob ich auch wirklich berechtigt bin, mich so feiern zu lassen. Manches von dem was mir Rühmliches nachgesagt wird, kann ich, wie ich glaube, mit gutem Gewissen akzeptieren. Aber ich habe nichts anderes gethan, als was Sie jeden Tag thun, nämlich ich habe gearbeitet was ich konnte, und meine Pflicht und Schuldigkeit gethan. Wenn etwas mehr dabei herausgekommen ist, so liegt das daran, dass ich auf meinen Wanderungen durch das medizinische Gebiet auf Strecken stiess, wo das Gold noch auf dem Wege lag. Es gehört allerdings Glück dazu, das Gold von dem Unedlen scheiden zu können; das ist aber kein besonderes Verdienst. Es freut mich besonders Herrn Carnegie hier zu sehen, dessen hochherzige Spende zur Koch-Stiftung allenthalben einen tiefen Eindruck gemacht hat. Ich möchte Herrn Carnegie meinen bescheidenen aber herzlichen und warmen Dank aussprechen. Die meinen Namen tragende Stiftung ist berufen, grosse Resultate auf dem Gebiete der Erforschung der Tuberkulose zu zeitigen. Während die Gründung von Krankenhäusern und Sanatorien in der Bekämpfung der Tuberkulose von lokaler Bedeutung sind, soll die Koch-Stiftung uns ermöglichen, in das Wesen der Krankheit tief einzudringen, um so Vortheile zu schaffen, die der ganzen Menschheit zu Gute kommen."

1. Sutton: THE JOURNAL A. M. A., Sept. 17, 1910, p. 1000; Dec. 24, 1910, p. 2213; Hyde and Davis: Jour. Cutan. Dis., 1910, xxviii, 321; Pusey: Ibid., 352; Stelwagon: Diseases of Skin, 1910, Ed. 6, p. 1119.

A CLINICAL STUDY OF SPOROTRICHOSIS

WITH A REPORT OF FOUR CASES

J. M. SUTTON, M.D.

HALSTEAD, KAN.

During the past few months several articles dealing with sporotrichosis in man have appeared in the American literature.[1] Evidently the disease is not so rare as was supposed. Practically all these cases have been seen in farmers and stockmen. The disease seems fairly prevalent in rural districts, and if it is to be successfully treated the nature of the infection must be recognized.

It is possible that cases of sporotrichosis have been diagnosed as tuberculous lymphangitis.[2] Unfortunately, the infection is usually treated surgically and the patient undergoes weeks or months of needless suffering.

As previous writers have pointed out, a traumatic lesion of the arm, hand or forearm which proves resistant to ordinary surgical treatment and is accompanied by the development of one or more sharply defined, painless, cutaneous or subcutaneous abscesses along the course of the lymphatics should always arouse suspicion, especially if the inflammatory manifestations of a coccic infection are absent.

It is well to remember (as occurred in one of the following cases) a concurrent infection of the ordinary pus germs may develop as a result of repeated surgical procedure and thus mask the typical symptoms of the primary trouble.

The organism consists of a branching, septate, coarse mycelium, from which ovoid bodies develop by budding, either from lateral or terminal filaments or from the sides of the threads. These ovoid bodies are spores (Fig. 3, Case 1).

Lutz and Splendorie[3] report the presence of this fungus in the mucous membrane of the mouth of healthy rats; they ascribe the occurrence of cutaneous sporotrichosis of rats to infection from bites. Rather extensive experiments have shown rats and mice to be most susceptible; cats, dogs and rabbits negative; guinea-pigs susceptible, but less so than rats and mice. Intraperitoneal injection in guinea-pigs failed to produce the disease, while in the case of rats the organism was recovered from the circulating blood as well as from different tissues of the body. They found the growth to be very scanty and slow, forty-eight to seventy-two hours elapsing before a few colonies were seen. They cultivated the fungi on all ordinary media both acid and alkaline in reaction. The optimum temperature was found to be 28 C., though a much slower growth still occurred at 37 C. Growth was not inhibited by the addition of 2 per cent. tartaric acid and this substance was added to obtain a pure culture. The addition of grape-sugar to the media produced a more luxuriant growth. His, in his late work, notes the fact that Norris and Larkin found difficulty in growing the streptothrix until they tried fresh sterile kidney tissue of rabbits.

Trimble and Shaw report a case of sporotrichal infection and mention the fact that when cultivated artificially the surface of the growth becomes wrinkled, turning brown to black with age.

In all of the following cases, which came under my observation during the past year, diagnosis was verified by microscopic examination:

CASE 1.—H. G. J., laborer, aged 52, medium height, robust, personal history good, had never suffered any serious illness; physical examination was otherwise negative. About six weeks previous to consultation, while tearing down an old barn the patient received a puncture wound in the palm of left hand from a small nail which penetrated deeply. The injury gave little trouble and was not regarded seriously. Healing was prompt. Three weeks later a nodule developed on dorsum of hand opposite site of puncture. This nodule was 1.5 cm. in diameter, 0.5 cm. elevated, slightly oval in shape, subcutaneous and sharply circumscribed; dark red in color. On palpation fluctuation was evident. No inflammation of the surrounding tissue was present and no areola of inflammation. During the following week successive reddened papules developed (Figs. 1 and 2), twenty-four in number, varying in size from

2. Quain: Tubercular Lymphangitis, St. Paul Med. Jour., August, 1904.

3. Lutz and Splendorie: Centralbl. f. Bakteriol., 1908.

a pea to a lima bean. The recent lesions high up on the arm were hard, sharply circumscribed and the skin covering them was normal in color and texture. Older lesions, near the site of infection, were soft, boggy on palpation, the skin dark red, smooth and eventually breaking down and sloughing away. The entire absence of any evidence of cellulitis or lymphangitis between adjacent nodules was very striking. Under aseptic precautions some of the pus was aspirated with a hypodermic syringe and cultures made on Loeffler's mixture.

The striking features of the case were, the absence of constitutional disturbance and impairment of function, notwithstanding the extensive involvement, the absence of adenitis and the definite limitation of the lesions.

The softened tumors were incised, cauterized with phenol, 90 per cent., and the arm put up in moist dressings. Internally, potassium iodid with iron and arsenic was prescribed. The infection yielded slowly, four weeks elapsing before the patient was discharged. The growth of the culture was slow,



Fig. 1.—Lesion on forearm and hand, Case 1.



Fig. 2.—Lesions on arm, Case 1.

several days elapsing before the colonies were visible. Smears stained with alkaline methylene-blue showed a coarse, branching figure (Fig. 3).

CASE 2.—J. T., aged 40, farmer; family history negative, about August 1, cut the index finger of the right hand on a disk harrow; the injury was slight but the cut refused to heal. Two weeks later the finger showed signs of infection. The patient was treating a cow with an infection following dehorning, and thought the finger became infected from this source. The digit was swollen, and exuberant granulations appeared in the wound, which was covered with a thick, dark-colored pus. In the course of two months, more than fifty small, sharply circumscribed, characteristic cutaneous tumors appeared on the hand, forearm and upper arm (Fig. 4). Of these, nineteen softened, broke down and were lanced, discharging a dirty, brown-colored pus. Later there was enlargement and tenderness of the axillary glands, evidently from an intercurrent infection by the ordinary pus germs. This case showed systemic reaction—rise of temperature, malaise and headache—but as these untoward symptoms developed during the later stages of the disease, one would conclude that the sporotrichal infection was not responsible. This case was seen by the courtesy of a colleague.

CASE 3.—J. J. K., aged 36, farmer, history good, early in October received a slight cut on the second phalanx of the thumb. The wound healed readily. Two weeks later the scar became inflamed and the dorsum of the hand showed nodular enlargement. The scar of the original lesion became red, broke down and granulations appeared; the patient complained that the wound itched severely. As in other cases, there were no constitutional symptoms. The wound was opened and drained of a small quantity of pus and the patient was placed on appropriate treatment. Recovery was prompt.

CASE 4.—The patient, G. N., was a farmer, aged 28; family history excellent. This case is interesting in that no injury was received, the port of entry being a small pimple which was opened with a pin. I was called to see this patient the early part of April. Examination revealed seven small tumors on the upper right arm, inner aspect, the first being about 0.3 cm. in diameter and covered with granulations. There was a tough brownish pus exuding; no axillary involvement; the trouble was limited to the superficial lymphatics. The patient had no rise of temperature and was going about his work as

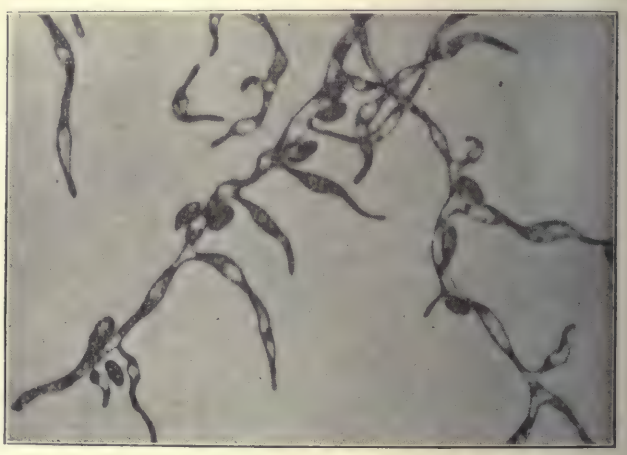


Fig. 3.—The organism from Case 1, a branching, septate coarse mycelium, from which ovoid bodies (spores) develop by budding, either from lateral or terminal filaments, or from the sides of the threads.

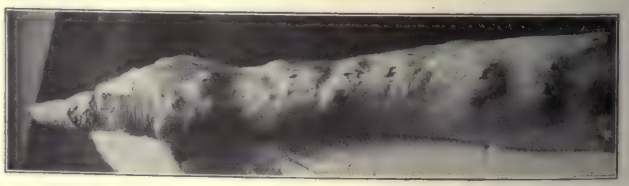


Fig. 4.—Lesions of sporotrichosis, Case 2, which started on index-finger.

usual. The other papules were arranged in a chain along the biceptal groove. The primary lesion was lanced and cleaned out thoroughly. Recovery was rather slow. The first and second nodules were lanced, some scarring resulting. The cicatrices are soft, not sensitive, and there is no muscular involvement. Inspection would lead to a diagnosis of superficial burn as cause of scars.

Personal Hygiene the Foundation for National Health.—But after all has been said as to the importance of public and semi-public hygiene, I cannot but believe that personal hygiene is the most important of the three, writes Dr. Irving Fisher, in the New York *Christian Advocate*. It is personal hygiene, in fact, which gives the motive and stimulus to the individual citizen to maintain and develop semi-public and public hygiene. It is only as each realizes the importance of his own health, or at any rate that of his family, that he can be led to appreciate the importance of the public health.

A NEW METHOD FOR ELICITING THE EXTENSOR TOE REFLEX

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The extensor plantar reflex, to which Babinski first called attention in 1898,[1] and which bears his name, is considered by neurologists as being the most important reflex at their command by which to differentiate between functional and organic nerve lesions. Babinski has shown that normally when the sole of the foot is stimulated by drawing some foreign object across its surface, plantar flexion of the toes follows; whereas, in organic diseases of the nervous system, particularly in spinal cord diseases accompanied by spastic symptoms, instead of a plantar flexion of the toes, an extension of the digits occurs which is most noticeable in the great toe and which acts more slowly than does the normal flexion. While the true pathology of this phenomenon is unknown, save that it indicates an irritation somewhere along the course of the motor leg fibers of the corticospinal element of the central nervous system, it is always considered pathologic except in infants, in whom the pyramidal tracts have not been developed, and in those cases of spinomuscular lesion[2] in which the plantar flexor muscles alone are involved.

The Gordon[3] paradoxic flexor reflex and the Oppenheim reflex produce practically the same phenomenon but in a different manner, the former being evidenced by pressing deeply through the calf muscles on to the deep flexor muscles beneath, the latter by firm stroking with some hard object just behind the postero-internal border of the tibia from above downwards. Neither of the reflexes just mentioned is as constant as the extensor plantar reflex, but they are sometimes present when the Babinski phenomenon cannot be elicited.

While resident physician in the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases I found that the extensor toe reflex could also be obtained in a manner different from any of the above mentioned ways. In every case in which the Babinski sign was present percussion at the base of the great toe would produce extension of this member, accompanied sometimes by extension of the remaining digits. The reflex is best obtained in the following manner: The muscles of the leg should be in a relaxed condition and the toes in a passive state. The skin overlying the upper surface of the first metatarso-phalangeal articulation is struck with the pointed end of a percussion hammer just to the inner side of the tendon of the extensor longus hallucis muscle. The force of the blow required will vary in different individuals, some requiring but a few light taps to produce extension of the toe, while others may require several fairly sharp blows before extension occurs. In all the cases observed I have found that the more marked the Babinski sign the less percussion force it required to produce extension. If the blow be too light a mere transient extension of the great toe alone ensues, but if the force used be excessive and the spastic symptoms are pronounced, not only is there liable to be extreme extension of the member with dorsal flexion of the remaining toes, but the ankle is usually dorsiflexed and in some instances the spasm may be so great as to cause slight flexion of the knee. Sometimes extension of the great toe will occur when the skin about the inner aspect of the first metatarso-phalangeal joint is struck, but I have not found this means so efficacious as when the method above described is used.



Fig. 1.—The manner of eliciting the toe reflex by percussion.



Fig. 2.—The extension of the toe in response to percussion.

Many normal subjects have been examined, and also individuals suffering with various nervous disorders, as neurasthenia, hysteria, epilepsy, Parkinson's disease, chorea, myospasm, etc., but in none could the extensor toe reflex be obtained by the percussion method, and in

1. Oppenheim: Diseases of the Nervous System, Ed. 2, p. 65.
2. Stewart, Purves: Diagnosis of Nervous Diseases, Ed. 2, p. 302.
3. Gordon, Alfred: Am. Med., 1904, viii, 971; The Diagnostic Value of the Paradoxic Reflex, THE JOURNAL A. M. A., March 18, 1911, p. 805.

them, it is needless to say, the Babinski sign was absent. In those cases in which the paradoxic flexor reflex could be obtained, but in which the Babinski phenomenon was absent, I was unable to elicit extension of the great toe by my method.

In conclusion I will state that I believe that the possibility of producing the extensor toe reflex by percussing the skin merely shows that the Babinski, Oppenheim, and perhaps to some degree the Gordon phenomena are all true skin reflexes, and that the extension of the toe probably results from the effects of the sensory impulse acting reflexly in some manner on the irritated leg fibers in the upper motor segment.

I wish to thank Dr. F. X. Dercum of Philadelphia for the privilege of examining cases under his service in the wards of the Jefferson Medical College Hospital, and also for the suggestion of putting these findings on record. I am also indebted to Dr. George E. Price of Philadelphia for similar courtesies extended me, and for many personal favors.

116 South Grand Street.

A CASE OF SPOROTRICHOSIS IN MAN

HARRY J. HARKER, M.D.

HORTON, KAN.

The excessive prevalence of sporotrichosis in America, and particularly in the middle West, has recently been brought to the attention of the medical profession by



Sporotrichosis with development of multiple, painless abscesses in the arm of a boy aged 5.

Sutton.[1] Although isolated examples of the disease had previously been reported by Schenck,[2] Hektoen and Perkins,[3] Trimble,[4] Hyde and Davis,[5] and others, it was not generally realized that the malady was a fairly common one in the Mississippi Valley.

Unfortunately the nature of the infecting agent is not always readily recognized, and the patient is subjected to much pain, and even danger, from needless surgical procedures. When the peculiar symptomatology of the disorder is borne in mind, a mistake in diagnosis is not liable to occur. As has been pointed out, "A traumatic lesion of the arm, forearm or leg which proves resistant to ordinary surgical treatment, and is accompanied by the development of one or more sharply circumscribed, painless, cutaneous or subcutaneous abscesses along the course of a limb, should always arouse suspicion, especially if the inflammatory manifestations characteristic of a streptococcic cellulitis are absent."

1. THE JOURNAL A. M. A., Sept. 17, 1910, p. 1000; Dec. 24, 1910, p. 2213; Boston Med. and Surg. Jour., 1911, clxiv, 179.
2. Bull. Johns Hopkins Hosp., 1898, p. 286.
3. Jour. Exper. Med., v, 77.
4. Jour. Kansas Med. Soc., September, 1909.
5. Jour. Cutan. Dis., July, 1910, p. 321.

The following typical example of sporotrichosis in man has recently been under my care:

The patient, C. B., is a farmer's son, aged 5, a native and resident of Kansas. The cutaneous history of the family is negative. The lesion developed from a small scratch on the back of the right hand. Under home treatment for three weeks the ulcer developed, oblong in shape, with raised edges, about 1 inch long by 1½ inches across. Abscesses began to form on the forearm during the fourth week, extending up to within 2 inches of the axilla. The first physician consulted made a diagnosis of chronic or indolent ulcer, due to an attack of typhoid fever some six months previously, and the ulcer and abscesses were treated by incision and antiseptics. The diagnosis was confirmed by a second physician, who dressed the arm every other day for four weeks and recommended amputation at the end of that time.

The photograph was taken February 4, when I first saw the patient, ten weeks after the appearance of the lesion. A diagnosis of sporotrichosis was made from the clinical appearance of the ulcer and the sharply circumscribed subcutaneous abscesses, being painless and with no glandular enlargement. No microscopic examination was made. The patient was put on 3 gm. potassium iodid daily and the wounds dressed with a 10 per cent. oily solution of iodin. The ulcer began to heal at once, the lesions disappearing entirely in four weeks.

ADMINISTRATION OF GENERAL ANESTHETICS WITH SPECIAL REFERENCE TO ETHER AND CHLOROFORM*

ISABELLA C. HERB, M.D.

Instructor in Anesthetics at Rush Medical College, the University of Chicago

CHICAGO

CORONERS AND DEATHS DURING ANESTHESIA

The following is posted in a conspicuous place in a certain London hospital:

The addresses of the anesthetists are as follows.....
The address of the coroner's officer is.....

This sign is rather startling and naturally suggests that deaths under anesthesia are not uncommon and that an effort is made to determine the cause. It is unquestionably true that the majority of deaths which occur during operations on patients not moribund are due to the anesthetic. Deaths due to operative procedure occur after the patient leaves the operating room. No statistics are quite so unreliable as those dealing with anesthetic deaths. Every death under anesthesia should be recorded as such on the death certificate and the accident reported to the coroner. This does not mean that the coroner should in every case hold an inquest. Indeed he should not do so, if, on inquiry he is satisfied that the anesthetic was administered by a responsible person, with due care and skill.

LEGAL STATUS OF SURGEON AND ANESTHETIST

The legal responsibility as regards surgeon and anesthetizer is difficult to define. It would seem reasonable that the surgeon should be held responsible only in selecting or allowing an incompetent person to anesthetize the patient, and further, if he should attempt to direct the anesthetic while operating, as it is clearly impossible for him to attend simultaneously to two branches, each requiring so much attention. The position of anesthetist, involving as it does risk to life, should not be relegated to one who is unable to assume full responsibility.

* Read before the Chicago Medical Society, Feb. 22, 1911.

CAUSES AND PREVENTION OF DEATHS DUE TO ANESTHESIA

Deaths from anesthetics are said to be on the increase both in this country and abroad. The fact cannot be gainsaid that chloroform occasionally proves fatal in the hands of the most careful and expert anesthetists. A fruitful source of deaths is the administration of anesthetics by untrained administrators and by those who have had a fair training, but are careless, poor observers, or are overconfident in the safety of the drug they are using. At present we have no absolutely safe anesthetic, and as this is an age of activity along research lines new anesthetic agents or combinations are suggested and tried. Questionable methods of producing anesthesia are responsible for a large number of deaths. Then, too, surgeons are frequently at fault in insisting on a deeper narcosis than is safe, particularly when an inexperienced individual is acting as anesthetist.

The remedy for these evils must be education. Both didactic and practical instruction in the use of anesthetics should be made an obligatory part of the medical curriculum. The didactic instruction should consist of a description of the various drugs used for anesthesia, their action, and methods of administration, preparation of the patient, selection of the anesthetic, after effects and their treatment and how to avoid and deal with anesthetic accidents. The practical instruction should

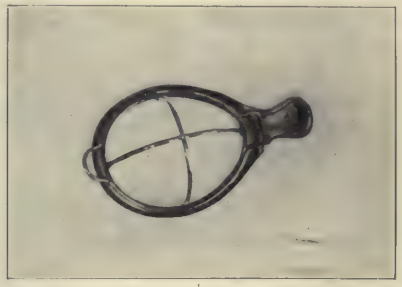


Fig. 1.—Schimmelbusch anesthesia mask.

consist in the administration of anesthetics under competent guidance.

Every hospital in which operations are performed should have on its staff a paid anesthetist, who should be given complete charge of the administration of anesthetics. It should be his duty to visit operating-rooms during operations and instruct, make suggestions to or correct interns in their anesthetic work, and see that they do not perpetuate the evil practices handed down by their predecessors. He should administer all anesthetics requiring special skill. In the latter instance he should receive extra remuneration from all except charity patients.

Unfortunately most anesthetists receive their meager instruction from surgeons, during the operations, and it is a notorious fact that the majority of surgeons are poor anesthetists. From the fact that a man operates hundreds of times a year it does not follow that he is proficient in the art of producing and maintaining anesthesia any more than from the fact that a professional anesthetist glances occasionally at the field of operation it follows that he should become proficient in the art of surgery.

COMPARATIVE SAFETY OF CHLOROFORM AND ETHER

Unprejudiced investigations have placed the comparative safety of chloroform and ether on a firmer basis and it is now quite generally conceded that the limitations of chloroform have been markedly increased while those of ether have been decreased. Clinical results and careful research work conclusively show, not only that death during chloroform administration is much more frequent than when ether is used, but that evil after-effects are quite as common and much more serious. Experimentally it has been found that about 70 per cent. of animals anesthetized with chloroform show liver changes varying from fatty degeneration to necrosis. The degree of destruction seems to bear some relationship to the length of the narcosis, and especially to repeated anesthetizations. The changes usually begin in the center of the lobule and may extend till all the liver cells become more or less affected.

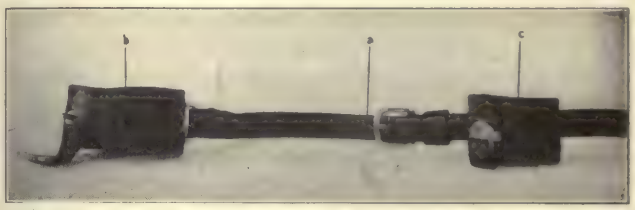


Fig. 2.—Restraint straps for use in anesthesia: a, central strap showing adjustment buckle; b, cuff opened showing clasp fastener; c, cuff closed.

In the human subject the symptoms of late poisoning develop two or three days after the narcosis, in patients who have shown no evil effect from the operative procedures. Death occurs in four or five days. Autopsy reveals small hemorrhagic foci in the gastro-intestinal tract, mesentery, omentum, pleura, pericardium. Kidney epithelium is swollen, contains fat droplets or is necrotic, no inflammatory changes being present. The most marked change, however, is found in the liver. The lobules are decreased in size, the parenchyma cells may be completely destroyed through fatty degeneration or necrosis, but no evidence of acute or chronic inflammation or change in the bile-ducts is present. Persons in good general physical condition are quite as apt to succumb to the poisonous effects of chloroform as the debilitated. The majority of reported deaths occurred before middle life. As the question of safety is of paramount



Fig. 3.—Patient in position for operation with restraint straps adjusted, including a simple canvas surcingle about the knees.

importance and should dominate all others in the selection of an anesthetic, no one is justified in using chloroform except for definite reasons, or under peculiar circumstances. It should be remembered that the more chronic a lesion is the less important it is as a contraindication to the use of ether.

NURSES AS ANESTHETISTS

Nurses when properly trained make very good anesthetizers and frequently their technic becomes quite perfect. But they work at very great disadvantage. Because of their lack of medical training, they are unable to weigh physical findings, and not being familiar with

operative procedures, they are unable to decide which anesthetic is the safest in a particular case, or which will produce for the surgeon the best operative conditions. Consequently the question resolves itself into one anesthetic in all classes of cases and no hope of advancement or research work can be expected.

It may be urged that surgeons prefer selecting the anesthetic, which is generally true because there are so few anesthetists capable of taking the full responsibility of the anesthetic end, as the surgeon does the surgical end. This is not the case where medically qualified professional anesthetists are employed who are never slave to any one anesthetic, but select in a logical manner the agent best suited to the case in hand.

SHALL THE ANESTHETIZER OBSERVE THE OPERATION?

It has been stated that the anesthetizer should never look at the operative field, but should keep his eye riveted on the patient's face. This is a serious mistake, for unless one keeps in touch with the operator, he cannot interpret changes in the circulation and respiration which are directly due to operative procedures. Neither can he tell the degree of narcosis indicated for the operation in hand throughout, or at different periods, and the patients are kept either too profoundly asleep or move or show some sign of too light an anesthesia at a most inopportune moment. I do not mean that every step of the operation should be watched, but an occasional glance at the operative field will keep one posted.

REFLEXES AND INHIBITIONS

Reflexes and respiratory inhibitions are of great importance and should be understood by operators and anesthetists. The region supplied by the superior laryngeal nerve appears to be especially endowed with inhibitory impulses, as is frequently demonstrated in operations about the larynx and pharynx. Swabbing out the throat during anesthesia is occasionally followed by a suspension of respiration. This inhibition, it is true, usually passes off quickly, but it causes consternation, and artificial respiration, with all its attendant commotion, may be instituted before the patient is again breathing in a regular manner. If the patient's head is turned to the side, any mucus which could be reached with a swab will flow out at the angle of the mouth. Modified respiration, due to peripheral impulses, is well demonstrated in exploratory laparotomies, as the examining hand passes from one region to another. Increased, but noiseless, respiration is immediately produced on contact with the peritoneum. Manipulation about the diaphragm causes noisy expiration, while manipulation about the pelvis, sigmoid, rectum and anus causes a prolonged inspiration. Perhaps no reflex action causes the impatient surgeon so much annoyance as the almost explosive expiration caused by manipulations of the intestine, in an effort to replace it in the abdominal cavity. Surgeons usually attribute the difficulty to imperfect narcosis, but if they will cease manipulations for a few moments until the reflex action disappears, they will experience no trouble in returning the bowel through the incision.

OPEN METHOD OF ETHERIZATION

In 1898, I reported to this society a new method of etherization which I had employed in a thousand administrations while in the service of Dr. A. J. Ochsner. Four or five years preceding my observations, Dr. Lawrence H. Prince, the originator of the method, had used it in two series of cases of 500 each. In his published articles may be found a description of the technic employed. The superiority of the method is evidenced by its steady growth in popularity, not only in this country, but also abroad. I have used this "open" method of etherization, as Dr. Prince suggested, with one or two unimportant modifications in over 15,000 anesthetizations. I feel, as I did at the end of my first trial thousand, that when properly used it is in all respects ideal. At the time Dr. Prince demonstrated the possibility of giving ether similarly to chloroform, the only mask on the market was the Esmarch. At present there are so many styles that it is difficult for an inexperienced anesthetizer to select one. I prefer the Schimmelbusch (Fig. 1). The weight is about right to make it easily kept on the face, the shape is good and it is sufficiently large to cover the mouth and nose without being cumbersome or complicated, as is, for instance, the mask suggested by Ferguson. Having no handle or nose-piece it can be used with the patient in any position on the table, or for any operation about the nose or face, except mouth or jaw operations.

I cover the mask with two layers of stockinet—medium quality—and this is all that should be used or is necessary except in cases of alcoholics. With the latter class of patients, it is usually necessary to place three or four layers of gauze over the stockinet, which should be removed as soon as the individual passes the stage of excitement. Placing ten, fifteen or twenty layers of gauze over the stockinet is not only unnecessary, but it approaches the old "closed" method, except that the ether is dropped on the outside to evaporate, while the patient reinhales his own breath from within, instead of the ether being poured inside of the cone and the patient allowed to breathe it and his carbon dioxid as was the case with the old method of etherization. Dr. Prince advocated allowing as much air with the ether as was consistent with anesthetization, thereby reducing the immediate and after ill effects of the drug. It goes without saying that the more gauze one has over the mask the less air the patient receives and the more carbon dioxid he inhales.

RESTRAINT STRAPS

I desire to call your attention to a very humane and simple, but efficient, device used in insane asylums for restraining patients. We have found it an almost invaluable addition to our anesthetic armamentarium. The strap consists of a central piece of leather provided with a buckle, which allows the strap to be adjusted to the width of the individual's hip. At either end of the strap are attached cuffs with clasp fasteners. The cuff, like the central strap, can be adjusted to fit different sized wrists. The patient lies on the central strap with the hands placed at his sides, with the cuffs about his wrists. This is a comfortable position for the patient; the hands are out of the way of the operator; and it is impossible for them to fall off the table causing a possible pressure-paralysis. It is also impossible during the stage of excitement for the patient to use his hands. Furthermore, if a change of position for operative purposes, or if artificial respiration, should become necessary, the hands can be loosened almost instantaneously.

In addition to this strap we use an ordinary surcingle. This should be placed rather snugly just above the knees. If placed below the knees the patient will be able to work the limbs from under it. With these two restraint straps one person can manage the worst alcoholic during the stage of excitement with absolutely no danger of his getting off the table.

DRUGGING BEFORE GENERAL ANESTHESIA

I wish to protest against the routine giving of drugs before ether and chloroform anesthesia. In selected cases it may be of advantage, but the system can eliminate one poison much more easily than it can three or four at the same time. The use of morphin with atropin or with hyoscin (scopolamin) in combination with ether or chloroform is absolutely detrimental in many instances. It is a well-known therapeutic fact that one drug may augment the action of another, and this is especially so in an ether or chloroform-morphin combination. Consequently, an overdose is more easily administered. The excessive action may be undesirable or dangerous. A number of instances have been reported, in which alarming respiratory depressions, or even deaths have been attributed to this method. In cases of any untoward accident, there is not only the volatile and quickly removable drug, but also the non-volatile and comparatively permanent one to be eliminated. Many former advocates have abandoned the method because of deaths reported by competent anesthetizers, which were due to the more permanent drug, although small doses were given.

Not the least of the objectionable features of drugging before general anesthesia is the masking of the most valuable of all guides in anesthesia, namely, the pupillary reaction. With a single drug, as ether, or chloroform, one can interpret every change in respiration and circulation, meet and combat it; not so when several drugs are acting and one has no way of knowing which is the guilty one. Because less chloroform or ether is required when combined with morphin and atropin or scopolamin, the combination has been recommended in mouth operations, but that advantage is more than offset by the disadvantages of the patient's remaining asleep after the operation is completed. Morphin allays the reflex excitability of the air passages, thus retarding coughing and favoring the retention of aspirated blood or vomitus in the trachea or bronchi, which predisposes to pneumonia. Many people are unable to take morphin without distress or vomiting, and in such individuals the disagreeable after-effects of ether or chloroform would be aggravated. If the lovers of atropin will keep the patient's head turned to the side, troublesome mucus will escape at the angle of the mouth or remain in the cheek where it can be wiped out. This position also prevents the tongue from falling back and obstructing respiration. Occasionally, mucus collects in the bronchi, in which case the patient should be allowed to awaken sufficiently to cough. Mucus acts as a foreign substance and causes reflex coughing, although the patient may still be fairly well anesthetized. They very quickly become narcotized again. The much-lauded quieting effect of combination anesthesia, making the patient come to the operating-room in a tranquil frame of mind, is of little moment compared with the disadvantages of the method. The practice is a reversion to the old time "shot-gun prescription," and should be placed on the shelf with the "tried and found wanting." Occasionally at the end of long, difficult operations on debilitated patients, a stimulant may be indicated. Strychnin has given me the best satisfaction of any drug. It acts in an ideal manner on respiration and circulation in a remarkably short time. However, most patients respond nicely to warm saline solutions given per rectum, especially if there has been much hemorrhage. This has the added advantage of supplying fluid, thereby relieving thirst.

5740 Jackson Avenue.

FAMILY PERNICIOUS ANEMIA

THREE FATAL CASES OF PRIMARY ANEMIA (TWO BROTHERS AND ONE SISTER) AND TWO OF SECONDARY ANEMIA (TWO SISTERS) IN MEMBERS OF ONE FAMILY; FATAL PRIMARY ANEMIA IN A PATERNAL COUSIN; A FIFTH CASE OF FATAL PRIMARY ANEMIA IN A PATERNAL UNCLE.

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The title of this paper well defines an interesting series of cases that have come under my personal observation. I have nothing to add to the existing theories of the causation of true pernicious anemia. That the immediate active factor is some hemolysin, is probably uncontradicted, but the mystery of the ultimate cause is still unsolved. William Hunter has emphasized the important rôle played by septic conditions of the mouth and tongue. Grawitz records four cases based on his view of the intestinal origin of the disease. It is further stated (Edwards) that such conditions as "pregnancy and the puerperium, syphilis, poor hygiene, infectious diseases—as typhoid and malaria"—are causative. But the astonishing and absolute increase in the incidence of the disease would seem to warrant a belief that these must be considered rather as bearing an associated than an etiologic relation to primary anemia. On the other hand, intestinal parasitism may with justice be viewed as the only known demonstrable cause. Unfortunately, even this series, here reported, of five cases in one family, permits of no deductions as to etiology.

Pernicious anemia is no longer to be considered of infrequent occurrence, and, unless a particular instance of the disease present unusual features, its detailed history would hardly be warranted. The noteworthy feature of the report here given is that—as far as I can ascertain—medical annals contain no similar observation. A careful search has revealed but a single instance bearing on heredity in pernicious anemia; this statement[1] quotes "an observation of Klein's, who saw a brother and sister succumb to progressive pernicious anemia." Another published report by Sinkler and Eschner[2] of "three cases of pernicious anemia in one family," may be disregarded because no evidence is adduced warranting their deductions; in fact, but one case of genuine pernicious anemia is admissible, and their report has been quite generally discredited as not justifying the claim made. The single previously recorded instance, therefore, of two cases—a brother and sister—in one family, lends added interest to my observation, which, briefly summarized, is as follows:

Three fatal cases of primary anemia (two brothers and one sister) and two of secondary anemia (two sisters) in members of one family; primary anemia in a paternal cousin; a fifth case of fatal primary anemia in a paternal uncle.

Family History.—The mother of the patients here spoken of as Patients 1, 2 and 3 is 78 years old, and is well. Their father died about fifteen years ago, at the age of 52, after an illness of about two years' duration. The cause of his death was variously stated by the family as Bright's disease, liver disease, and "complications." He was not dropsical. The surviving brothers and sisters, after witnessing the gradual development of the fatal anemia in one brother and one sister, have expressed the belief that their father may have died of a similar train of symptoms. This is merely a conjecture on their part and of no value as evidence. A brother of the father of my patients died after the death of my patient (Case 2) of what was recognized as pernicious anemia. (See below, Case 7.)

1. Nothnagel's Encyclopedia of Practical Medicine, Volume on Diseases of the Blood, p. 233.
2. Sinkler and Eschner: Am. Jour. Med. Sc., 1896, p. 287.

The course of this family scourge can best be developed as we follow the histories in brief of the individual members, five brothers and sisters, all of whom have at various times been under my observation, and of two members of collateral branches of the family.

Case 1.—Primary anemia. *Summary.*—Male, aged 35; several remissions during a period of one year; typical blood-findings; lowest red blood-count 650,000, hemoglobin 20 per cent. Died with symptoms of an acute terminal infection—probably endocarditis.

History.—This patient's personal history prior to the fall of 1899 is unimportant. In the summer of 1899 he submitted to an examination for life insurance, and on a very carefully executed test was granted the policy applied for. It is possible that a degree of pallor existed even at this time; but the man was a blond and the pallor may not have been sufficiently striking to warrant a suspicion of its pathologic character. The anemia increased in intensity and was attended with great weakness. He improved markedly in the fall, but suffered a second relapse in December of that year. He was under the care of a competent physician at this time, and the diagnosis "pernicious anemia" was made. I was later informed that during the period of severe illness in this first summer his blood had been reduced to 20 per cent hemoglobin, and 1,500,000 erythrocyte count, but that in the fall the hemoglobin had again mounted to 80 per cent. Feb. 23, 1900, he consulted me. He then complained of feeling very weak, and of having had what he termed an attack of "grip." The history gave evidence of similar previous attacks. This periodic disability consisted of weakness, pain and soreness in the limbs, slight elevation of temperature, and gastric uneasiness.

Examinations.—At this time he looked quite fleshy and his face was round and full, this fleshy but flabby appearance persisting to the end. The skin and the conjunctival and oral mucous surfaces exhibited great pallor. No hemorrhages were noted. Hemoglobin 45 per cent, erythrocytes 1,880,000; color index 1.2. There was no history of malaria or of any other infectious disease, and no evidence of endocarditis or gastric disease. Hemic (?) murmurs were present. The blood picture was at this time quite convincing of an anemia of the pernicious type. Micro-macro-poikilocytes were present to a moderate degree; few nucleated red corpuscles were found. After a lapse of one week I was again consulted. The patient had been having another attack of what he termed "grip": his knees, ankles and wrists were somewhat stiff and lame, though not swollen or tender; his temperature had reached 105 F. the previous day, and was now 103 F. The conjunctivæ were very yellow, the skin of a similar tint. The spleen was enlarged, liver normal in size and not tender, a systolic heart murmur, heard loudest at third left interspace, was present; lungs were normal. A venous hum was very prominent. The urine contained a trace of albumin, but no organic sediment. Three days later the patient developed a cough, and a little frothy, blood-streaked mucus was expectorated. Labial herpes was present. Crepitation was found at right base posteriorly, but no bronchial breathing or dulness; respirations 30 per minute; epistaxis. Blood examined at this time revealed numerous normoblasts and megaloblasts, marked poikilocytosis; erythrocytes 1,175,000; hemoglobin 32 per cent; color-index 1.36. All pulmonary signs and symptoms disappeared in a few days and the temperature dropped to 100 F. The general condition seemed improved, though the blood-picture was disappointing; erythrocytes, 635,000; hemoglobin, 28 per cent; color index, 1.97. Though no white blood-count was made, the smears showed quite conclusively that a leukocytosis existed. Differential count: polymorphonuclears 68, mononuclears (large and small) 27, myelocytes 5. (In pernicious anemia there is usually a reduction in the number of leukocytes, the lymphocytes being relatively increased. The findings in this case are due to the complicating infection.)

Course of Disease.—Under careful medication with arsenic, iron and strychnin the blood picture changed to: erythrocytes, 1,220,000; hemoglobin, 32 per cent; color index, 1.31. There now developed considerable abdominal distention and quite acute epigastric sensitiveness. Peritonitis was suspected, and the suspicion verified the next day when all previous signs had become much accentuated, and abdominal fluid detected. All symptoms became intensified, and death resulted three days later, in a condition of profound asthenia.

Necropsy.—Permission to perform an autopsy was granted, but, to my keen regret, with the provision that it be done as long after embalming as possible, and just before burial, so that the appearance of the deceased be restored to as nearly a perfect condition as the embalmer's art could make it. I found, forty-eight hours after death, that the process had been so skilfully done as to make a proper recognition of conditions as they had existed ante mortem quite impossible. Pulmonary adhesions were found at the right apex anteriorly; no signs of consolidation or infarction. The heart was so filled with formalinized blood, and the valves so brittle and hard and clotty, that their examination led to no conclusion. The heart muscle was pale. In the abdomen there was serous fluid, and the intestines were covered with a fibrinous exudate; the liver was enlarged and covered with exudate; kidneys large and white; spleen twice normal size; no intestinal ulcers discoverable. The bone-marrow was red and soft and contained numerous multinucleated megaloblasts (gigantoblasts), identical with those found in the circulating blood. All the abdominal organs—including the pancreas—were so matted together and hardened by impregnation with formaldehyd solution that it was impossible to get more than a superficial idea of the pathologic conditions that existed. The exact nature of the intercurrent infection that terminated this case of pernicious anemia can be but conjecturally made, and it is possible only to surmise the diagnosis from the clinical symptoms. The probability of its having been a terminal endocarditis is apparent.

Should it be at all necessary to defend the stand that this was primarily a case of pernicious anemia, and not primarily an infectious endocarditis, I would emphasize these facts: the absence of any heart murmurs in the summer of 1899; the remissions in the disease during the latter half of that year; the patient's general appearance; the blood-findings made by competent observers; my own blood examinations showing a very high color-index; the numerous nucleated red corpuscles, and especially the large number of megaloblasts; the condition of the bone-marrow. The relative increase in polymorphonucleated leukocytes was due to the terminal infection.

Case 2.—Primary anemia. *Summary.*—Mrs. J., aged 45, sister of Patient 1. Three remissions; typical blood-findings; erythrocytes 520,000, hemoglobin 15 per cent.

History.—I first made this patient's acquaintance at her brother's bedside. She was fleshy, of rosy complexion, was feeling and looking well. The only noticeable feature was a slight and fairly constant tremor of the head. I was called professionally in consultation in July, 1902, two years and four months after her brother's death. In the patient's personal history there was nothing noteworthy. For a period of about five months previously she had been in poor health and had complained of considerable weakness. Pallor had existed to a prominent degree, though this had fluctuated in intensity. Two months previously the patient had gained in health, but the improvement was very evanescent, and she soon relapsed into her former state of ill health. She had now been in bed six weeks. There was a daily rise of evening temperature to 100 F. She complained of no pain, but of slight gastric distress and occasional headaches. Sight was good.

Examination.—The face had a pasty appearance, skin pale and yellowish (not icteric), conjunctival and buccal mucous membranes very pale. No petechiæ were noted. There was some puffiness about the eyelids—a probable result of the long-continued use of arsenic. There had been slight edema over the tibiæ, though this did not now exist. Neither the long bones nor the sternum were sensitive to touch. Soft systolic murmurs were heard over all valves, and jugular venous hum was prominent. The spleen was enlarged upward: abdomen otherwise negative; urine pale, sp. gr. 1,008; albumin in small amount, but not more than could be accounted for by the presence of bladder-cells and pus. No casts. Blood examination: erythrocytes, 1,500,000; hemoglobin, 40 per cent.; color-index, 1.3; micro-macro- and poikilocytes; few normoblasts. Polymorphonuclears, 80; lymphocytes, 20. A diagnosis of pernicious anemia was made, but only reluctantly

concurred in by the physician in charge. The patient herself feared that her condition might be similar to that which had proved fatal in her brother's case.

Course of Disease.—Arsenic was given. I saw the patient again three weeks later, and found her much improved. The blood examination registered a red count of 2,450,000, hemoglobin 65 per cent., color-index 1.2. Her general appearance was better and she was more hopeful. Four months later she was attending to her Christmas purchases, was the picture of perfect health, felt well and strong; her cheeks were so rosy that one might well have doubted the correctness of the diagnosis and the ominous prognosis previously made, were one unmindful of the remissions so characteristic of this disease. In the following February I was again called to see the patient. She was greatly prostrated and the characteristic yellow-hued pallor was prominent. The mucous surfaces were blanched, conjunctivæ icteric, lids puffy. Her stomach was rebellious. She had no pain, her sight was dim, hearing dull, the abdomen sensitive. Venous murmurs were present. The urine was as previously noted. Blood examination showed 520,000 red corpuscles, but it was so watery that the hemoglobin (approximately 15 to 20 per cent.) could not be readily estimated. Irregularity of red corpuscles was very marked; nucleated red cells, normoblasts and megaloblasts (few of the latter) present. Temperature 101 F., pulse weak and of low tension. The stool was examined for possible parasites, but with negative results. All symptoms became more severe, and the patient died in coma one week later. No autopsy.

The existence of these two fatal cases of anemia, considered to have been more than a mere coincidence, roused this family to a state of great apprehension lest other members become similarly attacked. So when about two years later a third sister developed marked pallor, and after four years a fourth also showed unmistakable evidence of anemia, their fears seemed well grounded. In both of these patients, however, evidence favored anemia of the secondary type (associated with melancholia in one, and in the other with menorrhagia), and they are now and have remained in good health.

While the occurrence of the two cases above detailed was not without interest and, because of the unusualness of the facts, may have deserved reporting, I was loath to place them on record at the time because of the suspicious development of secondary anemia in the two other sisters, it being well established that secondary anemia may eventuate in the primary form. I was wholly unprepared, then, for the blow that came from another and wholly unexpected quarter. A brother, the only member of the family with whom I had had a long acquaintance, next fell victim to the disease.

CASE 3.—Primary anemia. *Summary.*—Male, aged 42. Aplastic form of pernicious anemia. Blood-findings less severe than in Cases 1 and 2. Spastic-paralytic nervous type (system sclerosis of spinal cord).

Of the three cases this one presents the most interesting (because atypical) form of the disease. Whereas Cases 1 and 2 were quite characteristic in their symptoms, development, course, and blood-findings, of the type in which the disease usually manifests itself, and therefore afforded no diagnostic difficulty, this one presented some problems. The blood-findings of the usual form of pernicious anemia are—within certain limitations—rather characteristic, but the less common and so-called "aplastic" type of the disease offers difficulties of proper classification. The aplastic type, as described by Ehrlich, is characterized by the reduced red blood-count and hemoglobin, but the evidence of cellular regeneration, the nucleated red cells, is absent; in other words, the bone-marrow is aplastic. Therefore, in the absence of the natural reparative process, the rapidly fatal issue of these cases is to be foreseen (80 per cent. of the patients die within three months. Edwards).

History.—In addition to representing the aplastic type, this patient also developed in most marked form the spinal sclerotic nervous symptoms occasionally encountered in pernicious anemia. I had had many years' previous acquaintance with this patient, though no professional relations. He consulted me in March, 1909, complaining of a host of nervous disturbances which he referred to an injury (he was struck on the head and badly beaten by a burglar) sustained one year previously. Syphilis was denied. He had apparently recovered completely from the injuries and their temporary effects, and was well until about November, 1908. At this time he first experienced cramp-like sensations, and numbness and paresthesias in hands, legs, feet and on the abdomen; complained of failing memory and physical weakness, of great fatigue, and of loss of sexual power; no pains in arms and legs. He called attention to his anemic condition. There was much mental depression and loss of ambition.

Examination.—Tactile sense was found normal, but some incoordination of upper and lower extremities was present. Buttoning coat and trousers was accomplished with much difficulty. Knee-jerks were active, ankle-clonus absent, cremaster and abdomen reflexes normal; no Babinski. Gait was of the spastic-paretic type, with ataxic incoordination; the legs were held rather rigid and yet were flung about quite uncontrollably, resembling the reeling of an intoxicated person, and requiring support—at first of a cane, and later that of two persons. Pupils were small and reacted sluggishly to light and accommodation. In general the symptoms resembled a spastic paraplegia, with marked incoordination, greatly overshadowing in prominence and intensity the underlying primary anemia itself.[3]

Course of Disease.—I ventured the diagnosis of primary anemia at this time, although this opinion was refused by the family and rejected by another physician. The patient seemed to improve somewhat during the summer; some of his nervous symptoms were less noticeable, others became more pronounced, and the anemia was less prominent. He returned under observation in August with decidedly accentuated nervous disturbances: the mental and physical symptoms had advanced with great rapidity, a fear lest he were syphilitic overcame him, and delusions of persecution became prominent. He saw imaginary foes on mischief intent, lurking on all sides and dogging his footsteps. He became suspicious of food lest it be poisoned, and fought taking drugs for the same reason. Several maniacal outbursts were noted later, and once the nurse described an attack she thought was a convulsion. (This was probably an epileptic seizure.) The incoordination increased and the paresis became paralysis; he became bedridden, refused food, and suffered urinary incontinence and great constipation. The development of bed-sores was unavoidable, and thus, greatly emaciated, and in a condition of asthenia, he died, seven months after having come under my observation.

The blood examination, on his first visit in March, was as follows: red corpuscles, 1,500,000; hemoglobin, 55 per cent.; color-index, 1.7; poikilocytes present but of small degree; no nucleated red cells; heart, lungs and kidneys were normal and remained so throughout the disease. The various erythrocyte counts ranged from 1,500,000 to 3,000,000, the hemoglobin estimate from 45 per cent. to 60 per cent.; color-index always above normal: 1 to 1.7. The pallor of skin and mucous surfaces noted at his first visit became less evident during the early period of general improvement (there was one brief remission with betterment of symptoms and blood-findings), but later were markedly intensified. The peculiar lemon-yellow skin-tint was present, but not of striking intensity.

The blood-findings were characteristic of the aplastic type of the disease: reduction in red cell count and hemoglobin, retention of the high ratio of color to number of cells, and a striking absence of evidence of regeneration. In the many specimens searched, but a small number of nucleated red cells could be found.

It would be idle to speculate on the reason for the apparent staying of the progress of the anemia. The blood-picture, though fluctuating within narrow limits, did not undergo material change after the nervous manifestations became pronounced. This was strikingly illustrated in the repeated examinations made while the patient was bedridden, and during

3. Sclerosis of the posterior and lateral columns has been found in these nervous cases, and three groups are distinguished: (a) those in which the nerve symptoms appear late in the course of a case of obvious pernicious anemia; (b) those in which there are no nerve symptoms (except peripheral paresthesia) during life, but obvious sclerotic changes in the cord post-mortem; (c) those in which the cord symptoms precede and overshadow the manifestations of anemia. This most interesting group of cases has been studied especially by James J. Putnam of Boston, Modern Clinical Medicine, p. 313.

the many weeks of pronounced nervous disturbances, mental and physical. Death was traceable, not so much to the underlying pernicious anemia, as to the adynamia of the pronounced spinal sclerosis that developed in connection with and consequent on the anemia.

The diagnosis of primary pernicious anemia cannot, I believe, be questioned in the three cases cited, and naturally, much alarm is felt lest there be a tendency to the development of the illness in other members of the family. Of the three remaining sisters, one is now, and has been, in perfect health; two have suffered, during the past six years, from recurring attacks of anemia of the secondary type.

CASE 4.—Secondary anemia. The patient was first seen in October, 1904, after the death of Patients 1 and 2. She was then 46 years old. She had had numerous attacks of severe anemia, due to menorrhagia and metrorrhagia, but had always "made blood" rapidly. During my early acquaintance (two years) with this patient her pale and corpse-like complexion was very striking. Any severe loss by menstrual flow brought on an intense, bloodless hue. At one time examination showed a red count of 1,200,000, with 25 per cent. hemoglobin, with microscopic characteristics not those of primary anemia. Improvement ensued: red count increased to 3,550,000, hemoglobin to 50 per cent. After 1906 this patient's improvement seemed quite firmly established, and she appeared to enjoy perfect health. A daughter, an only child, had been chlorotic, but was, at the time of this report, in good health.

CASE 5.—Secondary anemia. Sister of Patients 1 to 4. The patient consulted me in 1908. She was suffering from melancholia, was pallid, but well nourished. Examination showed a red count of 3,700,000; hemoglobin, 45 per cent.; blood of the secondary anemia type. Her appearance suggested the possibility of less favorable blood-findings. Marked general improvement set in during one month's observation, and she has since remained in perfect health, mental and physical.

CASE 6.—Primary anemia. *Summary.*—Mrs. G. C., aged 34. Cousin on paternal side of Patients 1 to 5. Two remissions. Lowest erythrocyte count 300,000. Death due to terminal infection—probably endocarditis.

History.—The father of this patient died of arteriosclerosis at the age of 65; the mother of gastric cancer, aged 50. There are two healthy children, 12 and 5 years of age respectively. This patient was first seen in March, 1910. Until May of the previous year she had always been in good health. At this time she had a severe bronchitis, and with it there existed a mild degree of anemia. She recovered good health and vigor during the following summer, which was spent in the country. She continued well during the winter, but in spring the cough returned, and with it weakness and pallor. Because of the recurring cough she consulted a throat specialist who disregarded entirely the pronounced and rapidly increasing anemia, great weakness and dyspnea, and instituted local treatments for a period of three weeks.

Examination.—On her first visit to me at this time there was no escape from a ready recognition of the seriousness of the illness: her lemon-hued pallor was extreme, the weakness pronounced, and every exertion was attended with dyspnea. She suffered from an irritating cough. At the left base crackling râles were found, without evidence of consolidation. The heart sounds were normal at the apex, and accentuated at the base. Albumin and hyaline casts were present. Abdominal examination was negative. Pupils, reflexes and tactile sensation were normal. A hasty blood examination gave the following result: hemoglobin, 30 per cent.; reds, 1,850,000; marked poikilocytosis; no erythroblasts.

Course of Disease.—One week later jaundice was noted, liver normal, spleen two finger-breadths below costal margin, evening temperature rise to 100 F., pulse 100 to 110. The patient was growing steadily weaker and paler, and suffered from diarrheic stools. A differential leukocyte count made at this time resulted as follows: polynuclears, 63; large mononuclears, 7; small mononuclears, 18; transitionals, 6; eosinophils, 3; myelocytes, 3. A diagnosis of primary pernicious anemia was concurred in by an observer of large experience. All symptoms advanced progressively and quickly, and ten days later the following notation was made: heart dilated, presystolic and systolic murmurs at apex, precordial systolic thrill, liver enlarged and tender, spleen three finger-breadths below costal margin (larger than previously noted); jaundice, stupor and delirium; red corpuscles, 625,000; white, 13,000. Numerous examinations were made during the three weeks' period of observation, the erythrocytes at one time shortly before death recording as low as 300,000, with hemoglobin approximately 20 per cent., though accuracy was hardly possible. Normoblasts were present in small number. poikilocytosis very pronounced. The terminal infection in this patient closely resembled that reported in Case 1.

CASE 7.—Brother of father of Patients 1 to 5; also paternal uncle of Patient 6. This patient did not come under my personal observation, but I have every reason to feel satisfied that the diagnosis of pernicious anemia made in his case is substantiated by the facts as related to me by a competent observer. Blood examinations showed conditions characteristic of the disease.

There has thus been sketched a family scourge that, so far as I have been able to ascertain, is unique in the annals of medical literature. It will be noted that all these cases have developed on the paternal side. I have no explanation to offer, can find absolutely no foundation for even speculative conjecture as to the transmissibility of a hemolytic substance. Patients 1, 2, 3 and 6 were married and had individual households; their consorts have remained uninfluenced, and their children, numbering five, are in perfect health. No parasites were found in Cases 2, 3 and 6 (stool of Patient 1 was not examined).

There can be no question that pernicious anemia is on the increase. The disease was considered one of comparative rarity a decade ago, and its greater frequency cannot entirely be due to its more frequent and ready recognition. Possibly the observation I have here made may suggest research in other channels. Certainly there can be no suspicion that coincidence could, by any mere chance, have played a curious prank in the development of these fatal cases of essential anemia.

I would summarize in the following deductions the study of this series of cases:

1. The clinical history and blood-findings permit of no doubt that five of these patients (two brothers and one sister, a paternal cousin, and a paternal uncle) suffered from primary pernicious anemia.

2. The weight of evidence which the two cases of secondary anemia add is not to be wholly ignored, because anemia of the secondary type has frequently been known to be a precursor of the primary form.

3. Hunter's theory, so strongly defended by him, that septic conditions in the mouth—stomatitis, glossitis, etc.—are the etiologic factors in this disease, sheds no light on this series of family anemias. (No such mouth condition existed in any of the cases.)

4. The possibility, as here shown, of its being a family disease, and the knowledge that the disease is on the increase—not only relative, but absolute—suggest an as yet unrecognized source of hemolysis that is showing increased general activity, and is uninfluenced by environment or station.

141 Wisconsin Street.

Excretion of Hexamethylenamin into the Eye.—Experiments show that urotropin (hexamethylenamin) is excreted into the anterior chamber of the eye in about three hours after ingestion, reaches its maximum excretion in about seven hours, and is excreted in great quantities after repeated paracentesis. The excretion of urotropin into the anterior chamber of the eye is remarkably increased by the use of a mydriatic locally. Urotropin in the aqueous humor in the concentration in which it occurs in the anterior chamber does not inhibit the growth of virulent organisms in the test tube.—H. S. Gradle, in *Ophthalmic Record.*

WHAT SHOULD BE THE ATTITUDE OF THE STATE TOWARD THE PRACTICE OF MEDICINE?

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As a result of the efforts of physicians, every state has enacted so-called medical practice acts, the ostensible purpose of which is to protect the people against ignorance and incompetence on the part of those who treat the sick. The majority of these medical practice acts were passed, or, at least revised—some of them more than once—during the past ten years, which is not only an indication of the unusual activity in these matters, but also means that the whole subject is in a very unsettled and unsatisfactory condition.

Before discussing the principle underlying these medical practice acts I wish to state that I firmly believe that they were passed with the sole purpose of protecting the health of the people, and that the thousands of physicians who labored earnestly and honestly for the passage of these bills were actuated only by the purest and most unselfish motives; yet I never could make myself believe that the principle underlying them is right. I believe that, with one or two exceptions, these medical practice acts are fundamentally wrong in principle. I do not mean to convey the idea that they are illegal or unconstitutional; it would be the height of folly for me to express such an opinion in the face of numerous supreme court decisions, including five by the Supreme Court of the United States, that the acts are constitutional. But the mere fact that a law is constitutional is no evidence that it is right.

For a law to be right it must fulfil other demands than those expressed in or denied by constitutions. It must have inherent that which makes for the betterment of the people and this betterment, when possible, should be of a lasting or even progressive nature rather than some apparent or temporary good.

RESTRICTIVE PRINCIPLE

The present medical practice acts are all based on the restrictive principle. The central idea is to restrict the practice of medicine by licensing those who are permitted to engage in it, no person to be given a license who does not possess certain qualifications. Were such an act justly and honestly administered, so that the license to practice carried with it the evidence of the possession by the holder thereof of the high qualifications mentioned, then it would seem that the people would receive that degree of protection against ignorance and incompetence on the part of the physician which it is the intention and purpose of the act to give. But, notwithstanding the fact that the restrictive principle or licensing plan is in operation in practically every state in the Union, the intent of the law—i. e., the protection of the people—has never been realized. The reasons are not difficult to discern.

In the first place, while practically all medical practice acts are based on the restrictive principle, it will be found on reading them that not one holds strictly to the principle. While the profession has been able to convince the people that, for their own protection, it was necessary to license the physician, it could not make the people believe that it was necessary for them to surrender the right to think and the right to seek health by whatsoever route they saw fit, even though that route was thought by some to be unsound and unsafe. As a result we find the statutes of many states encumbered with acts prohibiting the practice of medicine by anyone except a duly qualified and licensed physician and at the same time containing so many exemptions as to rob the acts of all their power for good.

Is it possible to conceive of a more farcical monstrosity in the shape of a medical practice act than that found in the Code of Massachusetts which exempts osteopaths, pharmacists, clairvoyants, persons practicing hypnotism, magnetic healing, mind-cure, massage, Christian science or the cosmopathic method of healing? Such an act provides that the honest, educated physician must possess all kinds of qualifications, which have taken him years to acquire, and then be examined and licensed before he can practice, while any fake, fad, or fraud may be practiced by anybody without restriction. Scientific knowledge and an honest endeavor are dangerous and must be restrained by license!

Twenty-five states, or a little more than one-half, exempt from the provisions of the law some of the following: Medical students practicing under licensed physicians, interns in hospitals, dentists, pharmacists, oculists, chiropodists, midwives, clairvoyants, hypnotists, magnetic healers, masseurs, osteopaths, sellers of patent or proprietary medicines, persons practicing Christian Science, Swedish movement, mind cure, cosmopathic method, any drugless method of healing or any method not using poisonous drugs. Have any of the present-day fads or fakes escaped recognition? Yes, chiropractic and faith-healing, but they are already knocking at the door, as bills exempting them have just been introduced in Nebraska, the District of Columbia, Minnesota, Iowa and Oklahoma, and similar ones undoubtedly will soon be bobbing up all over the country, for those interested in securing such legislation work with a system worthy of a better purpose.

Another reason why the restrictive or licensing plan has failed to accomplish its purpose is found in the interpretation which many judges and courts have given the acts. The point which the courts usually have been called on to decide is whether a certain method of treating the sick constitutes the practice of medicine. It hardly seems possible that a body of educated, intelligent persons accustomed to interpret the meaning of words as applied to the concrete facts of life would confuse a single means to an end with all that is involved in the concept, practice of medicine, yet we frequently find courts defining the practice of medicine to be the giving of drugs, than which there is nothing more absurd or ridiculous, as such a definition is held to mean that a person who is diagnosing and treating the ailments of human beings is not practicing medicine unless he is giving drugs.

An excellent illustration of the inconsistency of courts in their interpretation of what constitutes the practice of medicine is found in the decisions regarding osteopathy. No person who is at all familiar with the facts will deny for a minute that the osteopath is treating human beings afflicted with all kinds of ailments, yet in fifteen states we find that either by statutory enactment or by decision of the courts the osteopath is held to be a practitioner of medicine, while in twenty states, by decision of courts of equal jurisdiction, he is declared not to be a practitioner of medicine. How can we explain such diametrically opposite opinions of so many equally high courts in so many different states in the Union? It is not contended for a moment that any of the eminent jurists composing the several courts which have passed

on this question were influenced by anything except their best judgment in the matter, but an analysis of the law and of the decisions in the various states shows this curious psychologic fact. In those states in which the law makes some provision for osteopathy most of the decisions have been that the osteopath is practicing medicine, while almost all of the court decisions to the effect that osteopathy is not the practice of medicine have been in those states which make no provision in the law for osteopathy. As a result, the effect of these contradictory decisions is practically the same, inasmuch as it makes it possible for the osteopath to practice in either case.

Can it be possible that the eminent jurists who have decided in so many states that the osteopath is not practicing medicine, and is therefore exempt from the provisions of the medical practice acts, were influenced in their decisions, consciously or unconsciously, by that higher moral law, which says that no person shall be deprived of the right to think and to act as his mind dictates, provided he do no harm? Let us at least hope that such was the case.

Notwithstanding the constant watchful efforts of the profession, osteopathy has gained recognition by one means or another in a large majority of the states in the Union, as has also Christian Science, "optometry" and many other fads, and we may be sure that any other pathy or ism which has a sufficient following will gain recognition in the same way. It may be that this is but a pessimistic view of the subject, but I am satisfied that anyone who has watched the development of, and the changes which have taken place in, the various medical practice acts, and has seen anything of the manner in which the said acts are enforced, must be convinced that they fail to accomplish that for which they were enacted.

It must be admitted, then, that the restrictive or licensing plan of regulating the practice of medicine is a failure, because there are too many exemptions, because too many isms and pathies have gained recognition, and because there have been too many adverse decisions by judges and courts; hence it does not protect the people against ignorance and incompetence as was the intention.

ANOTHER POINT OF VIEW

Let us now disregard the question of the success or failure of the restrictive plan and consider the subject from an entirely different viewpoint.

If it were possible to enact a law which prohibited any one from practicing medicine who has not been licensed so to do, and which prohibited the licensing of any one who was not shown by an examination that he is qualified, would it be a good plan? I believe not, for I think such a law fundamentally wrong in principle. To say that no person shall treat the sick except those licensed by the state on a qualification basis, is but another way of the state saying to the individual: "You may employ no person or no means to relieve yourself of your sufferings and your afflictions except those designated by the state." Can you see any great difference in principle between this dictum and one of not many years ago to the effect that one must believe certain things and worship in accordance with a definite custom?

Has the state the moral right to deprive the individual of the liberty of thought and action in the one case any more than in the other? I believe that it has not, and therein lies the fundamental defect in the principle underlying the restrictive plan of regulating the practice of medicine. It deprives the individual of the liberty of thought and action to his own detriment, and without compensating good to the state.

By this I do not wish to be understood as saying that there should be no difference in the attitude which the state should assume toward the individual's religious beliefs and toward his care of his health. On the contrary, I think there should be a most marked difference. In the one case we are dealing with a spiritual or an immaterial belief which affects only the individual himself, while in the other we are dealing with the material physical health of the individual, which concerns not only himself, but frequently those who are dependent on him, as well as all those who may come in contact with him.

Furthermore, a large percentage of those who are unable to earn a livelihood by reason of temporary or permanent ill health become a charge either directly or indirectly on the public and, therefore, it is not simply a product of the fancy, but a stern reality, that places the health of the people as the greatest asset of the state and ill health or disease as a positive liability which must be met. These facts then, concerning which much more might be said, place on the state an imperative duty to conserve and safeguard the health of the people. In attempting to carry out this duty we find that the state has enacted certain laws which, on analysis, indicate that the legislators who framed them were either unfamiliar with, or else disregarded, the principles and laws of sociology and psychology, and this too frequently is found to be the case. The attention of legislators is directed to the existence of an evil and pressure is brought to bear on them to correct it. A law is passed which often leads to greater evils than the one which it attempts to correct. As an illustration of this point attention may be directed to some of the medical practice acts already cited.

The evils of quackery, fraud, charlatanism, etc., in the treatment of the sick are called to the attention of the legislators. A law is at once passed to do away with the evil by licensing physicians to practice medicine and prohibiting from practicing all those who are not licensed. This law at the same time gives legal recognition to all forms of quackery and charlatanism, the very evils which it was intended to correct, by specifically exempting them from the provisions of the act.

Take another instance. A state passes a rigid restrictive measure which deprives the individual of the liberty of thought and says to him, "You may employ only a person of a certain class to treat you if you are ill." In other words, the state presumes to do the thinking for the individual, which is not only detrimental to an enlightened and progressive mind, but leads to that state of opposition on the part of the people shown by the inability to convict offenders, even in the fact of established guilt, and thus creates a contempt for the law which is destructive of good government.

In this connection permit me to quote from an editorial in the February, 1911, number of the *California State Journal of Medicine* on the enforcement of the California law:

> "It is almost impossible to obtain a verdict, no matter how conclusive the evidence may be, for practicing without a license if the case is tried in a police court. In San Francisco recently a number of such cases were tried and a verdict of acquittal given when the evidence was absolutely conclusive."

And yet California prides herself on her medical practice acts. Such a law also undoubtedly leads some judges so to interpret it as to quite nullify its effect. These are

all greater evils from a sociologic standpoint than the ones sought to be corrected.

The law in a matter of this kind should not be dictatorial to the extent of depriving the individual of the right to think for himself, for when the state assumes to do the thinking for the people progress in that direction is at an end. In framing laws of this nature legislators should constantly bear in mind, not only the evils which are to be remedied, but also the fact that the people as a whole are progressively advancing in an evolutionary sense toward higher levels. The law, therefore, when possible, should attempt to aid rather than hinder this progressive evolutionary development of the people.

It is not contended that the laws can all be made to meet the contingencies of future progress without change, but what I claim is that the laws as expressed by the people should be based on the natural laws of evolution as found exemplified in the individual and in society.

THE CORRECT ATTITUDE

With these facts in mind, what then should be the attitude of the state toward the practice of medicine in its broadest sense?

It will be admitted, I think, by all that the preservation of the health of those who are well and the proper care and treatment of those who are ill and afflicted is a work of the utmost importance and one which should be encouraged and fostered in every legitimate way possible. From this standpoint, then, there can be no reason why those who are qualified should be hampered or restricted in the work in any way whatsoever.

Granting that the licensing of physicians is not a revenue measure, the only sound reasons why the state should interfere in the matter are, first, to guard the individual against fraud, ignorance and incompetence on the part of the physician; and second, to protect the people against the sick individual. The first reason, then, is guidance of the people, the second, protection of the people. These two duties, guidance and protection, however, are separate and distinct functions.

It will be granted that all phenomena in Nature follow definite fixed laws and that these laws apply to animate as well as to inanimate matter. This means that the phenomena of life as manifested in health and disease are all the result of natural laws. From this it becomes self-evident that any person who makes a business of treating the sick in any manner whatsoever should have as thorough a knowledge as possible of those laws which govern the living in health and disease.

It is a well-recognized fact that these laws are abstruse and obscure and so numerous that it requires years of close, hard study for one to become familiar with them; and in order that one may keep abreast with the rapid progress of knowledge it is necessary for one to devote his entire time and energies to the subject. This makes it impossible for those engaged in other vocations in life to hope ever to become familiar enough with most of these laws to make use of them without counsel and advice, and, unfortunately, practically every person at one time or another must seek the advice of some one trained and skilled in this branch of knowledge.

These are the facts which place on the state the imperative duty of guiding him who is in search of such advice to one who is qualified to give it. This the state should do through a suitable board of competent men, whose duty it should be to inquire carefully into the qualifications of all those who may properly come before it; and it should have the power to designate in some unmistakable manner those who are found to possess the necessary qualifications. This designation, be it qualified physician, certified physician or what not, should be used by the person receiving it on his card, his sign, in his office or wherever desired, so that all who may wish to consult him may know at a glance that he is a person qualified to treat the sick.

Of course it should be made unlawful under heavy penalty for any person not authorized to do so to apply to himself in any way whatsoever the term of qualification, or any similar term, with the intent to deceive. Furthermore, in order to make it impossible for anyone to err unknowingly in the matter, every other person who attempts to treat or advise the sick or ailing in any manner whatsoever should be compelled to announce on his own card and in his office or place of business, in a conspicuous manner, the fact that he or she is not a qualified physician. In this manner the state fulfils perfectly its duty of guiding the individual, for it makes it impossible for any person who is seeking a qualified advisor on matters of health unknowingly to go astray. By this method it will be seen that all the perplexing questions of isms and pathies are wiped out at once, as it permits anyone to practice in any way one chooses and it likewise permits any person who thinks that his ailments can be relieved only by the prayers of a Christian Scientist or the rubbings of an osteopath or masseur, to act according to the dictates of his conscience.

Were I to stop here it might be said on first thought that the method would permit all kinds of quackery and charlatanism to run riot throughout the land; but it will be remembered that the duties of the state in this connection were said to be two, namely, guidance and protection, and protection must supplement guidance. Protection of the people in health matters falls under the general supervision of the department of health and under those laws which govern the individual's responsibility to other individuals and to society as a whole.

None but qualified physicians should be eligible to any medical position in the public health service or in any public or charitable institution under the control of the state or any of its municipalities. As all contagious diseases are a menace to the public and as most of them should be reported to the proper health officers, no unqualified person should be permitted to assume the medical care of such cases.

All parents, guardians and institutions having minors under their care or control should be obliged to furnish them, in case they are sick or injured and require it, with qualified medical attention.

No death certificate should be accepted by the authorities unless signed by a qualified physician, etc. In this manner the state will be able to carry out its duty of protection. It protects the people in general and those individuals in particular who rightly come under its jurisdiction, yet it does not deprive the adult of the right to think and to act for himself so long as he thereby does no harm to others.

In conclusion, permit me to say that I believe the restrictive or licensing plan of regulating the practice of medicine is fundamentally wrong in principle, in that it makes the state dictatorial in a matter of personal rights, which is best left to the thinking individual. It makes conviction of offenders by a jury at times impossible, even in the face of established guilt, because the law is against the conscience of the people. For the same reason, perhaps, it leads judges and courts practically to nullify the law by the interpretations which they give to its provisions. It is evident that the restrictive plan has

not the unqualified approval of legislators, otherwise we would not find the law so frequently emasculated by the numerous exemptions found therein.

The law is constantly bombarded by all kinds of pathies, such as osteopathy, optometry, chiropractic, etc., and with increasing success, which shows that the people believe (and justly too) that they have the right to try anything they want to obtain relief from their ailments. On the other hand, the plan but very briefly outlined here is free from all of these objections. It protects the individual in search of a qualified physician by making it impossible for him unknowingly to go astray. It protects the people and all dependents against ignorance and incompetence, so far as it is possible for the law to act; and last, but not least, it is in perfect accord with the evolutionary development of the individual and of society.

100 State Street.

THE SUBSEQUENT HEALTH OF CHILDREN WHO DRANK MILK CONTAINING TUBERCLE BACILLI *

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Three years have passed since I undertook an investigation of the milk sold in New York City, to determine primarily to what extent the ordinary milk sold in cans, which forms the major part of the milk-supply of the city, was contaminated by tubercle bacilli. This study included also an inquiry into the types of these bacilli, whether bovine or human, and a preliminary investigation into the welfare of the children who were so unfortunate as to drink this milk in its raw state. This report was read[1] in 1908, and was afterward published in THE JOURNAL.[2] It showed that of the 107 specimens of milk tested on guinea-pigs, 16 per cent. contained virulent tubercle bacilli. Details of the report will be found in the original paper. In order to elucidate what follows, however, it seems necessary to review briefly some of the facts as to the method pursued in the investigation. To obtain the specimens I accompanied the municipal milk inspector on his regular tour, and asked the dealer in each store (they were situated mainly in the tenement-house district) whether he had small children, and whether the children drank the milk in the raw state. Unless he told me that this was the case, I did not take a sample for the test. Of the samples which were found to contain tubercle bacilli, ten were from dealers whose children had been exposed in this way to infection. There were eighteen children in all; nine of these were 2 years of age or under, and one 5 years of age. The preliminary study of the health of these children was not conclusive, and the data are summarized in Table 1. This table shows that the health of the children did not seem to have suffered from their exposure, except possibly in one instance, in which a cervical adenitis had developed. In this case, however, no search for tubercle bacilli was made when the gland was incised, and accordingly the nature of the infection was doubtful. The child was poorly nourished and gave a positive tuberculin reaction, as did several of the other children.

Since 1907-1908, a period of over three years, I have continued to supervise the health of these eighteen children; visiting them in their homes about every three months and watching carefully for the development of any sign of tuberculosis. This has been attended with some difficulty, as the people of the tenements in New York move frequently, and seem by habit to leave no address. Sixteen children, however, have been closely followed, one for two years, and only one was completely lost sight of. I realize that the number of children on whose condition I can report is not large, and that a period of more than three years might be of advantage in judging of the development of tuberculous infection; but I make this report now as I may be unable to follow these cases any longer, and as I believe that the results are of interest from several points of view.

I may add that the only similar report has been a recent one from the Imperial Health Commission of Germany,[3] which investigated the health of 151 children who drank raw milk coming from cows with tuberculosis of the udder. Two of these children between the ages of 1 and 2 years developed cervical gland tuberculosis, from which a bovine type of bacillus was cultivated. Some other children showed signs suspicious of tuberculosis. The two tuberculous children drank the infected milk for long periods, but, except for the glandular infection, were in good health one and one-half and two years later, respectively.

This report is open to one criticism, which cannot be made in regard to the investigation which I report. Tubercle bacilli were not demonstrated in the milk. A clinical diagnosis of tuberculosis of the udder of the cow was considered the equivalent of finding tubercle bacilli in the milk. Now although this is generally the case, nevertheless it has been found that the milk from cows with tuberculosis of the udder does not at all times contain tubercle bacilli; and, in the second place, udder tuberculosis is frequently confounded with non-specific infections. It is therefore quite possible that some of these children did not drink milk containing tubercle bacilli.

Of the seventeen cases which I have followed, in only one has tuberculosis developed. The other children present the picture of the average tenement-house child, most of them poorly nourished, undeveloped, but free from any active tuberculosis. Four have passed through an attack of measles, one has had scarlet fever, two have suffered from pneumonia without inducing tuberculosis. The child who did develop tuberculosis was 2 years of age when she was given the milk containing tubercle bacilli. This milk was of very poor quality, for milk from the same source was repeatedly found by me to contain virulent tubercle bacilli. In Table 1 this child is described as being poorly nourished, having had cervical adenitis 4 months previously, showing a positive von Pirquet reaction, but with a family history negative as regards tuberculosis. I was out of the city when the cervical adenitis developed and the gland was incised, and accordingly missed the opportunity of obtaining some of the pus or tissue for bacteriologic study. Last winter, however, a cervical gland enlarged near the site of incision of the former gland, and in due course showed fluctuation and was incised. This time I obtained some of the pus, which showed no tubercle bacilli in smear preparations, even with the aid of the alkalin sodium hypochlorite ("antiformin") method, but produced tuberculosis in both guinea-pigs into which it was

* From the Research Laboratory, Board of Health, New York City.

1. Tr. Sixth Internat. Cong. Tuberc., iv, Part 2.

2. The Incidence of Tubercle Bacilli in New York City Milk, with a Study of Its Effects on a Series of Children, THE JOURNAL A. M. A., March 27, 1909, p. 1011

3. Kossel, H.: Deutsch. med. Wchnschr., 1910, No. 8, p. 345.

inoculated. Without going into detail as to the method of isolating and differentiating tubercle bacilli, for such description is no longer necessary, I may state that the strain proved to be typically bovine, as judged by its cultural characteristics and virulence for rabbits.

There is no means of knowing whether this infection was due solely to drinking in tubercle bacilli on this particular day, or whether this child had been exposed similarly on previous days. We may be certain, however, that infection did not result from a subsequent milk exposure, as the parents were warned of the danger, and henceforth boiled the milk for the children. In this connection it should be noted that it is by no means

TABLE 1.—DATA CONCERNING CHILDREN WHO DRANK MILK CONTAINING TUBERCLE BACILLI

Milk Dealer.	No. of Children.	Age. Years.	Conjunctival Test.	Condition One Year Later.
A	2	1	—	Healthy.
		3	—	Healthy.
B	1	1 1/2	—	Healthy.
C	2	2	—	Poorly nourished.
		4	—	Healthy.
W	3	5/12	0	Healthy.
		2 1/2	—	
		5	+	Poorly nourished. Physical exam. and family history doubtful.
E	1	1/2	—	
B	1	2	+	Poorly nourished. Cervical adenitis incised four months ago. Von Pirquet positive. Family history negative.
G	3	3	—	Healthy.
		5	—	Healthy.
		9	+	Healthy. Family history negative.
B	1	5/6	0	Healthy.
B	2	1 1/2	—	Poorly nourished.
		3 1/2	+	Healthy. Physical exam. and family history negative.
O	2	2	—	Healthy.
		4	—	Healthy.
	18		4	

+ = positive reaction.
— = no reaction.
0 = no test.

inconsequential whether a definite amount of tubercle bacilli is ingested in one dose or in repeated doses. The chance of infection is less when the bacilli are taken in at one occasion than when approximately the same number is ingested in divided doses. I was able to demonstrate this fact conclusively by a simple experiment on guinea-pigs. It had been ascertained that 2 mg. of a certain bovine culture of tubercle bacilli did not produce tuberculosis in guinea-pigs when given to them suspended in milk. Of ten pigs which had received this amount, none developed tuberculosis. The animals were

TABLE 2.—TABLE OF GUINEA-PIGS FED WITH TUBERCLE BACILLI IN DIVIDED DOSES

Experiment	No. of Feedings	Amount of Culture, mg.*		Total Dose, mg.	Result
1	10	0.1	=	1.0	Negative.
2	10	0.1	=	1.0	Negative.
3	25	0.05	=	1.25	Negative.
4	25	0.05	=	1.25	Tb.
5	30	0.05	=	1.50	?
6	30	0.05	=	1.50	Tb.
7	30	0.05	=	1.50	Tb.
8	35	0.05	=	1.75	Tb.

* Ten guinea-pigs, used as a control experiment, received 2 mg. of this culture in one dose, and failed to develop tuberculosis.

fed by means of a medicine-dropper, and the suspension was so calculated that each pig received about ten drops of milk. In a second series, ten pigs, weighing between 250 and 350 gm., were now given less than 2 mg. (which may be called the subinfectious dose of this culture), but instead of being fed to them at one time, this amount was divided into ten, twenty, thirty, and thirty-five doses, given on as many days. Two of the pigs died prematurely; the other eight were killed after three months and were examined carefully for tuberculosis (Table 2). From the table it will be seen that several of the animals developed tuberculosis. In other words, a quantity of tubercle bacilli which may be insufficient to cause infection when given at one time, may have this power when given frequently in small amounts. Repeated exposure to infection at short intervals tends to lower an animal's resistance; a law which probably applies to other bacteria besides tubercle bacilli.

This same phenomenon may well have played a part in the infection of the child who developed tuberculous adenitis. The milk which she drank was found to contain tubercle bacilli oftener than any other which I examined, and it is probable that she consumed tubercle bacilli on many occasions, and that the summation of exposures resulted in infection.

From a clinical point of view there are some points in this case worthy of passing mention: The bovine bacilli remained latent in the cervical glands for two years and caused merely a slight enlargement; the tonsils were not markedly hypertrophied, nor were adenoids present; and, finally, the general condition of the child decidedly improved during the course of the past year and the cutaneous tuberculin reaction became much more pronounced.

Without exaggerating the importance of the bovine bacillus in the etiology of tuberculous lesions, I feel that we must acknowledge that its rôle is not insignificant in childhood. The case of milk infection which I report is not of great interest as an isolated instance of infection by this type of bacillus. Since the report of the British Tuberculosis Commission and the more recent report of Park and Krumwiede[4] showing the frequent occurrence of bovine infection among children, it is unnecessary to adduce further evidence as to the incidence of this type of tuberculous infection. It was rather my purpose to show by means of a definite case that, although a group of children can frequently, without apparent harm, drink milk containing tubercle bacilli, nevertheless such milk can be shown at times to incite infection.

I cannot close without some words as to the means of safeguarding the children against infection by the bovine tubercle bacillus. I feel that I can repeat what I wrote in my previous paper: "Milk not coming from tuberculin-tested cows should be pasteurized or brought to a boil." In substance this is the position recently taken by the New York City Board of Health as regards milk for infants. I should like to add to what I said previously that I believe some care should be taken also in regard to butter, which, it is needless to say, is frequently permeated with virulent tubercle bacilli. Butter is fed without concern to almost all children over one year of age. It is a strange anomaly that we should fear the tubercle bacillus in milk, but urge our children to take butter, which has been found so often to harbor the same bacillus. I believe that there is danger in feeding butter to young children, and cannot see why those who demand milk from tuberculin-tested cows do not make the same demand for the butter for the children. It should also be made possible to purchase a certified or a pasteurized butter; that is to say, a safe butter. It is not necessary for me to pursue this subject further. I wish merely to call attention to the matter, at the same time adding that the idea is not quixotic, but has been carried out in Denmark and other countries for many years. The dealers in certified milk frequently have some of their produce left unsold, which, with profit, could be made into small prints of "certified butter."

4. Park, William H., and Krumwiede, C.: The Relative Importance of the Bovine and Human Types of Tubercle Bacilli in the Different Forms of Human Tuberculosis, Jour. Med. Research, 1910, xxiii, 185.

This subject seems to me to be timely for the consideration of the certified-milk committees which have been so efficient throughout the United States.

SUMMARY

Of eighteen children who drank milk in which tubercle bacilli were demonstrated, all but one remained free from active tuberculosis during a period of supervision of three years; this one developed tuberculosis of the cervical glands, from which a bacillus of the bovine type was cultivated.

From animal experiments we can conclude that the chance of infection through milk depends not only on the number of bacilli ingested, but also on the frequency of exposure to small infections. For a quantity of bacilli which was insufficient to produce tuberculosis in guinea-pigs when given in one dose, suspended in milk, was able to incite tuberculosis when fed in twenty-five to thirty doses on as many days.

Tubercle bacilli in milk are a menace to the health of young children. Tubercle bacilli in butter are likewise a menace; therefore, a safe butter, whether pasteurized or certified, should be provided for their use.

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THE SURGICAL RELATIONSHIP BETWEEN UTERINE FIBROIDS AND LOSS OF CARDIAC COMPENSATION *

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Since Hofmeier, in 1885, first called attention to the presence of heart lesions associated with fibroids there has been some little interest shown, as evidenced by the careful study by a few writers of individual and collected cases and reports thereof. From a careful study of the literature and a thorough analysis of personal cases I am forced to conclude that there is a definite relation between fibromyomata and the associated condition of lost cardiac compensation. The term "lost cardiac compensation" is rather indefinite, and in the beginning I wish to explain my acceptance of the term as meaning, the symptoms resulting from a loss of normal cardiovascular tone; whether this be due to morbid, organic or functional changes matters not a bit, for even in a severe anemia we have present all the signs, both subjective and objective, of lost cardiac compensation, and functional heart lesions do often give rise to just as many distressing symptoms as those found associated with organic changes.

Up to this time all that has been written on this interesting subject gives evidence on one side of the question, namely, that there are often associated with fibromyomata the symptoms of cardiovascular changes. I propose to discuss another side of the question, namely, that the eradication of the uterine fibroids not only benefits the patient locally, but in some cases results in a more or less complete dissipation of the cardiovascular symptoms. A few brief reports of cases will clearly show my meaning.

REPORT OF CASES

CASE 1.—*Patient.*—Mrs. S., aged 35, mother of one child 4 years old, suffered with retroversion. I performed a round-ligament suspension operation on her in March, 1907. The uterus at that time was normal in size. Six months later she consulted me for extreme shortness of breath and swelling of the ankles. The uterus at this time was normal in size and position. The dyspnea continued for the next three months and became so distressing that the patient had to stop her work in a cotton factory.

Examination.—Physical examination showed cyanosis of lips and finger-nails, swelling of the ankles, a weak, rapid pulse of the mitral type, a weak apex beat and a distinct murmur over the mitral area. About this time the menstrual periods became prolonged, with excessive flow, and in the next two months became as frequent as every two weeks. None of the usual remedies gave any relief and I concluded that the metrorrhagia was a result of lost cardiac compensation and the coincident passive congestion. As a matter of precaution, I decided to make a pelvic examination and, to my surprise, found two subperitoneal fibroids about the size of walnuts and also a small submucous fibroid. The cardiac symptoms were steadily growing worse and, being unable to lie down, the patient slept propped on pillows or in a chair.

Operation.—The metrorrhagia continued and the demands to stop it became so urgent that an operation was decided on as a choice between two evils. Ether was used and until its powerful stimulating effects began to tell on the heart and vessels the anesthetist had to keep the patient's head and shoulders well elevated on pillows. I hurriedly did a supravaginal hysterectomy, and when the patient was returned to bed her heart action and respiration were so good that I advised placing her flat on her back with no pillow under the shoulders.

Postoperative History.—Recovery from the anesthetic was normal and from that time on the patient had no trouble in retaining the recumbent posture, whereas for two months past she had suffered intensely from dyspnea. The pulse slowed considerably; all the ankle swelling and shortness of breath disappeared completely and at the end of six weeks the patient was able to resume her work. The murmur over the mitral area still persisted, but the symptoms of lost cardiac compensation were completely dissipated and at the time of making this report this patient was doing daily work and was in very good health.

Up to this time I had been totally ignorant of any relation between uterine fibroids and associated cardiovascular symptoms, and it is easy to imagine my astonishment at the results obtained in this case. I then began to study my gynecologic cases with the result that, in the succeeding three years, four more cases of similar type fell into my care. One of the patients was a very intelligent white woman, 43 years old, who had a fibroid the size of a grapefruit, growing symmetrically from the fundus. In this instance there was no hemorrhage, and a rapid, excitable pulse and dyspnea were the only cardiac signs. Removal of the growth resulted in a complete relief of all symptoms.

The next two cases were in colored women, one 40 years old, the other 30, both of whom had no hemorrhages, but there was present a cardiac murmur, rapid feeble pulse and dyspnea, which became distressing on the slightest exertion. These patients found relief of all cardiovascular symptoms in a period of four to six weeks after removal of the fibroids.

My fifth case was the most interesting of all.

CASE 5.—*Patient.*—D. T., colored, aged 35, was brought to me by her physician, who said she was suffering from a large ovarian cyst.

Examination.—I found a typical hepatic facies, extreme shortness of breath, which did not permit the patient to assume the recumbent posture for even a few minutes; a very small pulse, beating 130 times per minute; heart-sounds so weak that I could not be sure of the presence of murmurs; limbs swollen to threefold their normal size and an immensely distended abdomen which rested on the patient's thighs. Palpation, percussion and vaginal examination disclosed nothing

*Chairman's Address before the Section on Gynecology, at the meeting of Tri-State Medical Association at Raleigh, N. C., Feb. 22, 1911

but fluid and I reluctantly had to discredit the physician's diagnosis of ovarian cyst, and expressed the opinion that the whole condition was one of lost cardiac compensation. The physician then said that he had most assuredly felt some hard tumors in the pelvis about three years back and had not seen the patient since until a few days previously. We then decided to tap the abdominal cavity, and after the slow withdrawal of 14 gallons of ascitic fluid a number of subperitoneal fibroids, all confluent and about the size of small apples, were easily palpable. The patient went into collapse at the finish of the tapping and I thought would surely die, but she managed to pull herself together.

Operation.—I then decided to try to stimulate her heart to better work before attempting an operation, and waited four days, during which time there was considerable reaccumulation of ascitic fluid. This patient had not slept lying flat for three months and at the operation the anesthesia was well established before we were able to place her flat on the operating table. Under ether her pulse picked up tremendously and after a supravaginal hysterectomy she was placed in bed in the recumbent position.

Postoperative History.—Reaction was normal, but during the first three days the patient's head and shoulders were kept in a partially elevated position to facilitate easy respiration. After this time she had no trouble in breathing. Her convalescence was eventful, in that the swelling of the limbs entirely disappeared and though there was a slight reaccumulation of ascitic fluid during the first week, there was a total absence at the end of a month and the patient left the hospital with a comparatively good heart action. A communication from the patient's physician one year later informed me that she still maintained her cardiac compensation.

I do not make any claim to originality in reporting these cases, but the results obtained are facts which I think worthy of recording. Too little attention has been paid to the presence of cardiovascular symptoms associated with fibromyomata, and though the cases reported are few in number yet they furnish sufficient evidence to show a definite relation between fibroids and disturbed heart action, and further, that an ablation of the new growths has a decidedly beneficial effect on the symptoms of lost cardiac compensation.

There is sufficient evidence recorded to prove that there are both functional and organic cardiovascular changes associated with fibromyomata, but very little evidence to prove that these changes are due directly to the new growth. The cases herein recorded would lend support to the latter hypothesis.

PREVIOUS LITERATURE ON THE SUBJECT

Following Hofmeier's exposition, the next article of moment on this subject came from Fenwick[1] in 1888, in which he recorded twenty-two cases of large cystic tumors, each patient showing on post-mortem examination fatty degeneration of the myocardium. Fenwick thought that the cardiovascular symptoms and organic changes were due to obstruction of the circulation. Later data would discredit this theory.

In 1898 Strassman and Lehman[2] reported a series of seventy-one cases of fibromyomata in which 48.8 per cent. of the patients had definite symptoms of cardiovascular disease. The signs were both objective and subjective and the observations in each case were made by a careful internist. These authors record one very important fact, namely, that in many of the cases the fibroids were very small. To this fact I shall refer later. In 1904 Fleck[3] reported 325 cases of uterine fibroids in 34.6 per cent. of which there were heart changes giving definite symptoms. In eleven of these cases post-mortem examination showed fatty degeneration and infiltration, and brown atrophy in seven.

The year 1905 brought forth several excellent articles by Noble, Winter, Baldy and Boldt, the last two authors handling the subject in a very fair and careful manner. Winter[4] reported 266 cases of fibromyomata, in 30 per cent. of which there were murmurs and definite heart symptoms. Dilatation and hypertrophy were found in 6 per cent. and organic valvular disease in 1 per cent. Boldt[5] records seventy-nine cases of uterine fibroids, in thirty-seven of which there were cardiovascular disturbances. Baldy[6] records 366 cases, in which series there were thirteen sudden deaths. These he attributed to the associated cardiac degenerations. The two latter writers review the subject from the standpoint of the gravity of cardiovascular changes associated with fibromyomata and give evidence to establish the fact that the cardiac disturbances are often of so serious a nature as to produce sudden death immediately or some time after operation. Webster[7] reports 210 cases with cardiovascular symptoms in 25 per cent. Since the recognition of my first case in the summer of 1907 I have had a series of fifty-five cases of uterine fibroids, in five of which there were definite signs, both objective and subjective, of cardiovascular disturbances.

With these recorded facts before us, our interest would naturally turn to the cause of them; and it is here that much is still left for the pathologist, internist and surgeon to explain. Winter believes that all the symptoms of lost cardiac compensation are due entirely to anemia and that little degeneration of the myocardium and no permanent heart lesions are present. This anemia he ascribes to the hemorrhage and coincident malnutrition accompanying fibromyomata and supports this theory by saying that hemorrhage occurs in two-thirds of all cases. The relation of anemia, kidney insufficiency and cardiac weakness is well known, but statistics will not support the anemia hypothesis. The bulk of authorities record hemorrhage in about one-third of all cases and in Fleck's series 133 patients had no hemorrhage, yet heart symptoms were present in 34.6 per cent. In the five cases reported by me, hemorrhage was present in only one and it is a well-recognized fact that in carcinoma of the uterus hemorrhage and malnutrition are present in about 90 per cent. of the cases; yet these signs produce no such symptoms as those found associated with fibromyomata. Brasin called attention to this fact as early as 1893.

Strassman and Lehman think that the cardiac symptoms are due to the myocardial and vessel changes. This would hardly hold true except in well-advanced cases, because the cardiac symptoms were more or less completely dissipated in my cases after removal of the fibroids, which would have been most improbable if definite organic lesions were present. Veit believes the cardiac symptoms are reflex through the nervous system, and in 1900 he called attention to the frequency of asthmatic attacks in young women with small tumors and thought this asthma was due to fibroids.

Percepied[8] calls attention to dyspnea of utero-ovarian origin and cites a number of instances which he considers reflex from the genital organs; 40 per cent. of his patients suffering with asthma developed attacks near the menstrual period, and this would lend support to

1. Lancet, London, 1888, i, 1015.
2. Arch. f. Gynäk., 1898, lvi, 503.
3. Arch. f. Gynäk., 1904, lxxi, 258.
4. Ztschr. f. Geburtsh. u. Gynäk., 1905, lv, 109.
5. New York Med. Jour., 1905, lxxxii, 887.
6. Am. Jour. Obst., 1905, lii, 370.
7. Am. Med., ix, 401.
8. Ann. Soc. méd-chir. de Liége, 1910, xlix, 126.

the ovarian theory. From a careful study of Percepied's cases the greater evidence would support an hysterical basis of explanation, rather than that the dyspnea was due to some internal secretion from the ovary. Fenwick's theory of obstruction to the circulation is worthless because Veit, Fleck, Strassman and Lehman, Fehling, Hennig and others report cardiac symptoms associated with small growths, and in my cases only one patient had a growth large enough to produce any circulatory obstruction. On the other hand, Fenwick's cases would point to the ovary.

I am disposed to believe that the cardiac symptoms are due to the products of uterine growth on the heart-muscle or heart-ganglia—some internal secretion directly the product of uterine hyperplasia.

This is supported by the following facts:

1. Hemorrhage, as a causative factor, was present in only one of five cases.

2. In Case 1, there is conclusive evidence that the cardiac symptoms developed before there were any signs referable to the uterine growth, this being still small when discovered. Both Veit and Strassman and Lehman cite cases in which cardiac symptoms developed before any signs referable to the pelvis, and this fact alone would discredit the idea of the causative factor being a nervous reflex or organic changes in the heart and vessels; on the other hand, it would lend color to the probable presence of some product of uterine growth acting on the cardiovascular system.

3. Removal of the fibromyomata resulted in a more or less complete relief of all cardiac symptoms; partial relief came too quickly to have resulted from any regeneration of organic changes.

Carl Hennig[9] records two cases of cardiovascular disturbance in which the patients were cured by the removal of associated fibromyomata, and one case in which the patient was relieved after the menopause when the fibroid decreased in size.

Fehling[10] says that in the presence of fibroids, the first symptoms of cardiovascular disturbance should be an indication for operation; and it is interesting to record here a case reported by Carl Wettergreen[11] of Basedow's disease and a submucous myoma beginning at the same time. Removal of the myoma dissipated the exophthalmos and tachycardia.

CONCLUSIONS

1. In a large percentage of cases of uterine fibroids there are present symptoms of cardiovascular disturbance.

2. The size of the growth has no relation to the severity of the cardiac disturbance; symptoms have been apparent while the growth was still small.

3. In some cases of lost cardiac compensation associated with fibromyomata, the symptoms are materially benefited by removal of the growths.

4. In some cases the cardiac disturbances are of so severe a type as to result in sudden death following operation.

5. The first signs of cardiovascular disturbance associated with uterine fibroids should be an indication for immediate operation, and the watchwords in these cases should be: (a) rapid surgical technic; (b) careful hemostasis; (c) as little handling of the viscera as possible, and (d) the greatest caution against overtaxing the heart during postoperative treatment.

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9. Ztschr. f. Geburtsh. u. Gynäk., xxix.
10. Centralbl. f. Gynak., 1904. xi.
11. Abstr. in Centralbl. f. Gynäk., 1890, p. 180.

AN IMPROVED DIFFERENTIAL ELASTIC TISSUE STAIN

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Three years ago I described[1] a new method for staining elastic tissue that had given me more satisfactory results than any of those usually employed. More extended experience with this method has shown that the best results are to be obtained only when the staining fluid is freshly prepared. Not only is this a source of inconvenience, but it entails considerable expense, owing to the large amount of hematoxylin required. After much experimentation, in which it seemed to me I tried every conceivable modification, including the substitution of almost all the metals for iron, I finally devised, about a year ago, the method here described.

This method has the advantages over the previous one, that the staining fluid is made up from stock solutions, that about one-ninth as much hematoxylin is required, and that when carefully carried out, precipitates may be avoided and differentiation of the sections is not necessary. The latter advantage I have found especially great in staining serial celloidin sections prepared in the manner described by me elsewhere.[2] The staining fluid may also be used in my method for staining myelin sheaths,[3] if double the amount of ferric chlorid solution is added, and the sections are allowed to stain six hours or longer.

A stock solution is prepared as follows:

Hematoxylin crystals (Grübler)	0.15 gm.
Absolute alcohol	25 c.c.
Dissolve by aid of heat, then add 5 per cent. aqueous solution of ammonium hydrate	1 drop
Allow to stand five minutes (longer does no harm), then add Lugol's solution (iodin, 2; potassium iodid, 4; water, 100)	22 c.c.

Filter, and allow to stand twenty-four hours (in corked bottle), after which the solution works well for three months. Solutions one year old stain elastic tissue well, but slightly discolor connective tissue.

For use, add to each cubic centimeter required of the above stock solution, one drop of a 7 per cent. stock solution of ferric chlorid in absolute alcohol. Sections are carried from alcohol into the staining fluid, where they remain one to three hours. In the case of Zenker's fixation, sections may be allowed to remain in the fluid over night, but will then certainly require differentiation. The staining receptacle should be covered to prevent evaporation. For celloidin sections, 2 c.c. of the staining fluid are ordinarily sufficient, and a small bottle makes a convenient receptacle.

Wash sections in water a minute or two, examine under the microscope, and if thought desirable, differentiate for a few seconds in a 1 per cent. aqueous solution of ferric chlorid, roughly prepared from the above alcoholic solution.

Wash in water. Counterstain in a 0.2 per cent. solution of water-soluble eosin in 80 per cent. alcohol.

Alcohol, oil, balsam.

1. Some New Staining Methods of Wide Applicability, THE JOURNAL A. M. A., March 14, 1908, p. 876.
2. See Note on Technic in paper on Obstruction of the Central Retinal Vein, Archives of Ophthalmology, 1907, xxxvi, 32.
3. I have recently found that the myelin sheath method is further improved by differentiating the sections for one to two hours in a 10 per cent. aqueous solution of phosphomolybdic acid, instead of in the ferric chlorid solution previously recommended.

By this method elastic tissue is stained black, while connective tissue, fibroglia, myoglia, neuroglia, myelin, and fibrin, take the eosin stain. Nuclei take the hematoxylin stain with an intensity depending on the duration of the staining. Fixation in Zenker's fluid is preferred, but other fixatives give good results. Mercurial precipitates if removable are removed by the staining fluid.

To prevent precipitates it is important to avoid the addition of water to the staining fluid. The measuring graduate and the staining receptacle even if dry, should be washed out with a little alcohol previous to use. It is also necessary to have a nice adjustment of the proportion of ferric chlorid. If too little ferric chlorid is added, the elastic tissue will fail to stain; too much produces precipitates and overstaining. It is possible that different samples of hematoxylin may require a slightly different proportion of ferric chlorid, but this may easily be determined by trial. For ordinary purposes, however, none of these precautions is necessary, since precipitates may be readily removed in the differentiating process.

THE PARTHENOGENETIC DEVELOPMENT OF OVA IN THE MAMMALIAN OVARY AND THE ORIGIN OF OVARIAN TERATOMATA AND CHORIOEPITHELIOMATA *

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Some years ago, I described[1] peculiar structures that are found in the ovaries of guinea-pigs, and expressed the opinion that they originated in ovarian follicles. Soon after I had published my observations, certain considerations suggested to me that these structures owe their origin to parthenogenetically developing ova.

Inasmuch as at that time I had not yet seen early stages of the structures referred to, I was unable to regard this hypothesis as sufficiently well founded to warrant publication. I continued my investigations in this direction, however, and recently I succeeded in finding in two animals the desired early stages. They must be interpreted as embryos developing parthenogenetically within the ovary of the pinea-pig. We see in each case a chorionic vesicle with trophoblast, and plasmodia and syncytia penetrating into the neighboring tissue. There is also a structure present which is probably to be interpreted as the neural tube.

Aberrant blastomeres cannot be seen in the ovaries of guinea-pigs and, inasmuch as the embryonic structures, described in my former communication, are relatively frequent, occurring in approximately 10 per cent. of all guinea-pigs below the age of six months, and, furthermore, inasmuch as they are situated in the cortex of the ovaries at a place where follicles lie normally and are found within follicle-like cavities, they can be derived only from ova developing parthenogenetically. Fertilization through spermatozoa can be excluded, inasmuch as the history of some of these animals is known to us and precludes such an interpretation. It is very probable that the parthenogenetic development sets in soon after ovulation, the altered conditions in the ovaries at that time (variations in blood-pressure, in intrafollicular pressure, changes in oxygen supply) supplying the necessary stimulus. This interpretation agrees well with my former observations[2] concerning the parallelism existing between the first segmentations taking place in ova within the ovary and certain stages of atresia of follicles. At the time of ovulation an almost general degeneration of the Graafian follicles sets in as I have shown[3] recently. It is also of interest to note that frequently the changes described in this communication are multiple, several ova undergoing parthenogenetic development in the same ovary.

It may be concluded, therefore, that in at least 10 per cent. of all guinea-pigs parthenogenetic development of ova within the ovary starts at some period of the life of the animal. The later stages of these developing embryos bear some resemblance to chorio-epitheliomata. During ovulation, these structures are occasionally injured by hemorrhages and they are ultimately invaded and supplanted by the neighboring connective tissue.

These observations demonstrate that chorio-epitheliomata and teratoid tumors that are found in the ovaries are not derived from misplaced blastomeres, as Bonnet and Marchand believed, but that the older view is correct according to which at least the teratoid tumors of the ovary are derived from parthenogenetically developed ova, an opinion which I, also, expressed on previous occasions.

* From the Department of Pathology, The Barnard Free Skin and Cancer Hospital, St. Louis.

1. Archiv. f. mikros. Anat., lxv, 1905.

2. Progressive Changes in the Ova in Mammalian Ovaries. Jour. Med. Research, 1901, i.

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A RARE MANIFESTATION OF EMPYEMA NECESSITATIS *

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A. H., aged 16 months, female, whose family history and past personal history were negative, on Dec. 15, 1910, developed a "cold" which was associated with a stubborn cough, chilliness, and vomiting. On the following day there was added marked dyspnea, anorexia and all the physical signs of a lobar pneumonia involving the entire right side, anteriorly and posteriorly. The temperature was 103 F., the respirations 60 and the pulse 170. December 17, the left lung became similarly involved with the exception of that portion underlying the last three ribs posteriorly. In the early morning of December 18, the child suddenly developed alarming symptoms of collapse, with marked cyanosis, exaggerated dyspnea, rapid running pulse and prostration. The patient was in a moribund condition. Physical examination revealed a marked dilatation of the heart. After several hours of continuous stimulation by mouth, skin and rectum, in which large doses of strychnin, strophanthin, and nitroglycerin were employed, the cardiac condition was restored.

The patient ran a typical course of a very severe type of pneumonia, until on December 29, when an apparently slow lysis was interrupted by a rising of the pulse, respiration and temperature. The respiration reached a maximum of 110, the pulse 180, and the temperature 104.5 F. Physical examination revealed complete flatness over the entire right chest posteriorly, with absence of breath sounds and tactile fremitus. There was marked Skodaic resonance from the fourth to the seventh rib, and from the right sternal margin to the mammary line anteriorly. Exploratory puncture in the seventh interspace, midaxillary line, December 29, brought the expected pus. Microscopic examination of this pus showed the presence chiefly of streptococci, with, also, numerous pneumococci and staphylococci. We were dealing, therefore, with a streptococcic pneumonia. Repeated aspirations demonstrated

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the existence of saccular collections of pus. January 2, the patient suddenly developed a most violent attack of coughing, which could in no manner be checked, and which alarmed the attending nurses. At 10 a. m., she "expectorated" about one-half ounce of pus, during one of these coughing spells, and the diagnosis of rupture of the empyema into the bronchi was at once made. Sedatives were administered in many forms and the cough was somewhat checked. The patient was somewhat nauseated. At 11:20, a gush of four ounces of pus from the mouth followed an attack of cough, and at 12:05, one-half pint of pus was forced through the mouth with a similar attack. At 1.10, two more ounces of pus were expectorated. Thus in a space of three hours, about one pint of pus was expectorated. With careful stimulation the patient improved. January 3, with parental consent, the patient was anesthetized by Dr. Treible, with ether, nitrous oxid and oxygen, given conjointly, and one inch of the seventh rib, in the midaxillary line, was resected. After breaking numerous bands of adhesions which divided the pleural cavity into many pockets, over one quart of pus was liberated. Tube drainage was inserted, followed by the injection of bismuth paste (Beck) and the use of gauze drainage. The patient made an uninterrupted recovery, and is now in Florida enjoying good health.

Generally speaking, the term "empyema necessitatis" refers to an empyema in which pus can make a spontaneous escape (Dorland). Some authors limit the term to the condition in which the pus makes its escape through the chest wall. Empyema may rupture into the esophagus; into the bronchi; through the chest wall; through the diaphragm into the peritoneal cavity; into the pericardium, etc. This spontaneous rupture is a very rare manifestation of empyema complicating pneumonia, especially in an empyema of short duration.

Kerley reports one somewhat similar case of rupture into the bronchi, in a well-nourished boy of three years. Holt states that of nineteen cases of empyema in children, reports of which were collected by Schmidt, "in which a spontaneous discharge of pus occurred either externally or through a bronchus, there were seventeen deaths and two recoveries."

Therapeutics

CAFFEIN

Description.—*Caffeina*, genitive *caffeinæ* (methyltheobromin, or trimethylxanthin) is an alkaloid obtained from the dried seeds of coffee (*Caffea arabica*), and from the dried leaves of tea. When it is obtained from the latter source the alkaloid is called *thein*. Caffein, though the most important constituent of coffee, is a feeble basic principle, and occurs not only in *Caffea arabica* and *Thea sinensis* (or *chinensis*), but also is found in other plants as gaurana, theobroma, cola nut, and maté. Coffee, named from Coffee, a province of Narea, in Africa, grows on a medium sized tree, which is native of Arabia and parts of Africa, but grows in all tropical countries. Coffee was first introduced into Europe in 1554, and into England in 1640.

Tea is a native of Asia, but grows in other warm climates. Green tea leaves are purer than the black, as they are more carefully collected and dried, the black being dried in heaps.

Coffee may be adulterated with various seeds or beans made of clay or kaolin, while tea may be colored artificially.

Caffein was discovered by Runge in coffee in 1820. Thein was discovered by Oudry in tea in 1827. Caffein and thein are identical, and can be obtained from infusions of coffee or tea by chemical reaction. Caffein (trimethylxanthin) can be prepared synthetically from xanthin.

There are various varieties of coffee, the most important of which in the order of their purity are: first, Mocha; second, Java; third, Rio; fourth, Liberian; but all can be injured by too much heat in roasting. Good coffee yields about 1 per cent. of caffein, while maté or Paraguay tea and Chinese tea yield a little more. Cola nuts yield 2 per cent. of caffein, and gaurana 5 per cent. Much of the caffein in the shops is made from the sweepings of tea warehouses, or from tea which is so damaged as to be unfit for a beverage. The volatile oil or empyreumatic oils of coffee have, in hot decoctions, some aromatic action. A cup of coffee may contain a half teaspoonful of such oils.

Caffein occurs as white, long, flexible, silvery-appearing crystals, generally in masses, odorless, not deliquescent, bitter, and soluble in considerable water or alcohol. The dose of caffein is from 0.05 to 0.10 gram (or from 1 to 2½ grains), but it is best used in the form of the citrated caffein.

Local Action.—There is no external action from caffein, though cold strong infusions of tea are mildly sedative to mucous membranes, perhaps due to the gentle astringent action of the tannic acid contained in the tea. Strong solutions of tea or coffee are mildly irritant to the stomach.

Systemic Action.—Caffein as such is rapidly absorbed, having no local action. As a strong decoction of black coffee it may act as a stomachic or bitter tonic, and may, therefore, stimulate the outpour of the gastric juice. Coffee is stimulant to peristalsis by its aromatics, and therefore increases the secretion of the mucous membrane of the intestines and slightly stimulates the bile secretion, hence coffee is a mild laxative. Decoctions of tea if strong, on the other hand, rather retard digestion, and on account of the tannic acid tend to constipate. A cup of good coffee made with half an ounce of ground beans contains from 0.10 to 0.20 gram of caffein and some substances that act as volatile oils. A cup of good tea made with 100 grains of leaves contains about 2 grains of caffein, though bulk for bulk of tea leaves and coffee beans, the tea contains the more caffein. Green tea contains some volatile oils, black tea very little. Both contain about 7 per cent. of tannic acid, which is extracted slowly, hence the viciousness of prolonged steeping. The volatile oil in the after-dinner cup of black coffee is probably a slight stimulant to digestion, while the hot decoction causes a slight carminative action from the volatile oils. Coffee also slightly stimulates the salivary secretion.

Circulatory System.—Caffein causes the heart, in animals, to beat more rapidly by acting either on the heart muscle or on the terminations of the accelerator nerves. This rapidity seems to be due to a shortening of the diastole and the force of the muscular contraction is increased. This acceleration may be due to stimulation of the irritable muscle in the lower parts of the heart. When caffein is administered to man by the stomach, the heart is generally slowed, owing to the action on the inhibitory center in the medulla. A strong action of caffein lessens the strength of the auricular contraction and later of the ventricular, and soon there is a lessening of the amount of dilatation during diastole. As poisoning progresses the diastole grows shorter, and the ventricles and auricles contract irregularly, and as above

stated, without complete relaxation. Very large doses cause very irregular cardiac action, and later permanent contraction or rigor as in skeletal muscles. After death the heart may be found in diastole.

The vasomotor centers in the medulla are stimulated by this drug, causing contraction of the arterioles, and this is the principal cause of the rise of blood-pressure, as the output of blood from the more rapidly contracting heart is not much increased. The muscular coat of the walls of the arterioles is also somewhat stimulated to contraction. The blood becomes somewhat depleted of its water by the strong action of caffein on the kidneys, but it gets its supply again from the tissues.

Nervous System.—Here caffein acts not unlike strychnin, but acts more on the brain. The cerebral cortex is stimulated and the mental functions improve, in fact, it is our best cerebral stimulant. Under its action thoughts are rapid, there is wakefulness and the patient is alert; if the dose is too large, there may be rapid reasoning, but with not so accurate judgment as usual. Whenever fatigue or mental inertia are in evidence, caffein is a temporary cure of the condition, but at the expense of the organism. In other words, it calls forth the reserve power.

Under an over-dose there are convulsions and increased reflex irritability, and any irritation may cause contraction of all the muscles.

Coffee and tea increase the rapidity of mental impressions and the development of thought, but the perfecting or carrying out of these intellectual conceptions may be retarded. Large doses of caffein, or a coffee or tea habit will impair mental activity by increasing the general nervous and reflex irritability. Caffein in over-dose often causes headache, and there may be delirium, tremor, and restlessness, though a tolerance is acquired in those accustomed to its use, but there is always in large doses increased nervous irritability. It is a respiratory stimulant by its action on the medullary center.

The senses are all made more acute under the action of caffein, especially the sense of touch. There is a slight increased temperature during the action of caffein, probably from the increased muscular activity, and also due to the increased oxidation caused by caffein. It has a mild aphrodisiac action, probably due to spinal stimulation.

Muscular System.—A small amount of caffein is a muscle restorative and will increase the strength and temporary endurance of muscles, and more work and longer work can be done without fatigue or sleep under the influence of caffein, probably due to peripheral stimulation of the muscles. However, the system will always pay for this sight draft on its reserve energy. A large amount of caffein, however, is a muscle poison, and injected directly into a muscle it causes a peculiar stiffening or rigor. Coffee and tea, or caffein, increase tissue waste, though they call out the reserve muscle and nerve forces, due to nervous stimulation. The urea and the carbon dioxid output are increased. The chief effects of tea and coffee are due to the caffein and to nothing else.

Action on Secretion.—Caffein is an active diuretic, unless too large doses are used, when a vasomotor contraction is caused by over-stimulation and this contraction affects the blood-vessels of the kidney. Theobromin is, therefore, a better diuretic than caffein, as it causes no contraction of the blood-vessels. Caffein causes some increase of the solids of the urine and the nitrogen is increased, but the increase is mostly of the watery part. Sodium chlorid is the most increased, while uric acid is not at all increased. Hence, caffein probably acts on all the secreting parts of the kidneys; rarely, it may cause a mild glycosuria. The blood depleted of its water gets it either from the tissues or from any edema or infusion that may be present, or demands it from the stomach and intestines.

Action of a Therapeutic Dose or the Primary Physiologic Action.—Caffein increases the tone of the blood-vessels, increases the rate of respiration, stimulates the cerebral functions, increases muscular tone and power, diminishes fatigue, increases the excretion of urine, especially the watery part, and hence raises the specific gravity of the blood, which will then get more water where it can find it. It is excreted by the kidneys and appears in the urine partly as trimethylxanthin or caffein, partly as dimethylxanthin and partly monomethylxanthin, or xanthin.

Toxic Symptoms.—These are: rapid heart, cardiac oppression, due to its irregular contractions, irregular pulse; paleness of the face; restlessness, nervousness; increased reflex irritability, insomnia; rarely delirium and convulsions, and a diminished amount of urine due to vasomotor over-stimulation.

Treatment of Poisoning.—As a chemical antidote for whatever caffein may be in the stomach, tannic acid should be administered in solution or in suspension. As a physiologic antidote to spasmodic contraction of the blood-vessels, nitroglycerin should be given hypodermatically. As cerebrospinal sedatives, chloral and bromids may be given, unless the heart is too weak for such treatment, in which case morphin should be administered hypodermatically. Morphin will quiet the nervous system, but will not stop the action of caffein on the heart, hence nitroglycerin should be frequently repeated. Hot foot-baths may dilate the vessels and relieve some of the tension on the heart. Hot fomentations over the kidneys may aid these to more rapidly excrete the drug.

Therapeutic Uses.—The indications met by this drug are: (1) as a circulatory stimulant; (2) as a cerebral stimulant; (3) as a muscle stimulant; (4) as a diuretic; (5) as an antidote in poisoning.

1. Caffein is more than a cardiac stimulant in that it somewhat strengthens the heart and contracts the blood-vessels. As a cardiac stimulant caffein can be used at any time when such a stimulant is indicated. It acts quickly to tide over a period of cardiac depression, but is not so quick in its action in acute collapse as the reflex stimulation of a strong alcoholic preparation or the stimulation of ammonia. It is, however, a strong adjunct to the above and with strychnin makes an active respiratory and cardiac stimulant with no secondary depression. If there is in the cardiac weakness a good deal of nervous excitability and muscle restlessness, other cardiac stimulants and tonics should be chosen. The same is true when there is high vasomotor tension. As a cardiac stimulo-tonic caffein is indicated in prolonged fevers in place of much alcohol, and is good in typhoid fever in the form of a cup of black coffee given once or twice in the morning. It is best to avoid it in the afternoon on account of its tendency to cause wakefulness. As a cardiac stimulant in weakened heart action with poor cerebral circulation and mental sluggishness it is often efficient. Patients with good compensation in valvular disease should avoid the stimulation from much tea or coffee.

2. As a cerebral stimulant perhaps no drug equals caffein, not only in a person unused to its action, but in those accustomed to its use. While there is no intolerable and uncontrollable desire for caffein when it is

stopped by the ordinary coffee and tea drinker, still at the regular hours for tea and coffee stimulation, if it is omitted the majority of people miss greatly its effects. There is, however, such a condition as the caffein habit, and this habit is on the increase, and its seriousness should be explained to the laity. The hard brain workers at irregular hours, as editors, reporters, authors, and students just before examination, increase the number of hours which the brain will work well by frequent cups of coffee, learning that it is the best and most effectual stimulation that they can take, and often leading to no immediate noticeable secondary depression. As the coffee wakes up the brain, so to speak, it also stirs up the spinal cord and nervous and peripheral reflexes. The man after cerebral stimulation then smokes a good deal, which soothes the spinal irritation, and he then, having coffee plus tobacco can do an immense amount of brain work. If this is long kept up, sooner or later, depending on the individual endurance, a nervous, irritable condition supervenes with insomnia, anorexia, loss of weight, a tremulous tongue, with perhaps some trembling of the hands, with pale or yellowish skin due to disturbed liver function, and perhaps some kidney or bladder irritability, and we have a neurasthenic to treat. This means that all coffee and tea must be stopped and the patient given a mental rest, change of air and scene, and the institution of every legitimate means or subterfuge to produce sleep.

The chronic tea drinkers of this country are generally the kitchen girls and women who remain in the kitchen and in the house a great deal. The teapot is constantly on the stove and the strong stale brew full of tannic acid and bitter extractives is poured into the stomach at frequent intervals. Here we get not only the stimulation of the caffein, but the irritation of the tannin derivatives on the stomach mucous membrane, and tannin precipitates the peptones and albumins and soon causes dyspepsia. The sooner or later result is sleeplessness, an irritable fretty disposition, anorexia, nervous dyspepsia, or even gastritis, and constipation. Of course, the treatment is to stop the cause, treat the insomnia, dyspepsia and constipation, and give fresh air. Tea tasters show earlier than other individuals decay of the teeth. The above shows conclusively that children up to fifteen years should not drink coffee or tea regularly, and caffeinated soda fountain drinks should be prohibited.

Therapeutically, caffein as a cerebral stimulant can be used whenever a sudden demand for much brain work is required, as also in some mental morbid conditions, but all such use of caffein is purely tentative and symptomatic. The cause of the mental deterioration should be sought.

Caffein has been used as a substitute for alcohol in breaking off the alcohol habit. .

As a respiratory stimulant caffein is indicated in conjunction with ammonia whenever respiration is failing. In headache, due to depression, sometimes in autointoxication from fermentation of the bowels, in some forms of neuralgia, and even rarely in migraine, caffein is efficient in changing the circulation and thus stopping the pain. Used for this purpose the dose should be 0.30 gram (5 grains), of the citrated caffein, and if there is no improvement in an hour, 0.15 gram (2½ grains) more may be given.

3. As a muscle stimulant, coffee and tea or caffein can be given to aid the endurance of any forced muscle work, especially valuable to soldiers on forced marches, but if such stimulation is frequently repeated the reaction is not satisfactory, in fact, depression will occur.

4. As a simple diuretic, caffein is rarely used, though its good auspices in this line are often sought in cardiac weakness with edema, but cardiac edema is better treated by digitalis unless there is some contra-indication to the latter and its congeners. In renal or hepatic dropsies it may be of some value, but other diuretics are better, if in fact a diuretic is indicated at all. As a diuretic, theobromin is better than caffein. To cause diuresis in general dropsy or in ascites, caffein must be pushed. This drug in ordinary dose does not irritate the kidneys or genitourinary organs, but in acute inflammation of these parts coffee and tea should be stopped.

5. As an antidote, caffein as such or as strong coffee is indicated in any depressant narcotic poisoning as by opium and its alkaloids, chloral, bromids, and other cerebral and spinal depressants. It is, as above stated, always a respiratory and circulatory stimulant. Enough caffein should be given to get decided improvement of the pulse. Strong coffee may be given by mouth or rectum, or caffein may be given hypodermatically. As an antidote to alkaloids in the stomach, tea containing a little tannic acid might be quickly used as a precipitant, but the precipitate soon dissolves in weak hydrochloric acid and in alcohol, hence alcohol should not be given at the same time that tannin in any form is used as a chemical antidote.

Contra-Indications.—The contra-indications to the use of caffein are palpitation, irritable heart, high blood-pressure, arteriosclerosis, cerebral or spinal inflammations or irritations, insomnia, neurasthenia, and acute genitourinary inflammation.

Official Preparations.—Caffeina Citrata, citrated caffein, is a white, bitter, sour, odorless powder, containing 50 per cent. of caffein, very soluble in water. The dose is from 0.10 to 0.20 gram (from 1½ to 3 grains), three times a day, or 0.30 gram (5 grains) used once.

Caffeina Citrata Effervescens, effervescing citrated caffein (caffeina, citric acid, sodium bicarbonate, and tartaric acid), dissolved in water makes a pleasant effervescing acid drink of caffein. Dose is a teaspoonful to a dessertspoonful, in a glass of water.

Non-Official Preparations.—Caffein-Sodium Cinnamate is a good preparation for hypodermatic use. The dose by the stomach is 0.20 gram (3 grains). Other non-official preparations are: *Caffein Hydrobromid, Caffein-Sodium Salicylate,* and *Caffein-Sodium Benzoate.*

A number of effervescing, non-official preparations containing caffein are found in the shops combined in so-called headache powders with acetanilid, antipyrin, phenacetin, or with one or more bromids. While these preparations are often elegant and efficient, the laity should be discouraged from their indiscriminate and, especially, frequently repeated use, as the bromo-caffein or other stimulo-sedative habit is easily acquired, and the outcome is a nervous heart and a neurotic and neurasthenic tendency. It should be distinctly remembered that it has been proved that the addition of caffein to any coal-tar product, whether acetanilid or some other, does not prevent the depression caused by the coal-tar synthetic, and in fact seems to add to its toxic effect.

Administration.—Caffein is absorbed rapidly and acts quickly, and its action lasts several hours. There is no cumulative effect. For continuous action it should be given three or four times in twenty-four hours. In acute indications it should be repeated every hour for a few doses. If it causes sleeplessness, the evening dose should be omitted. It is best given as caffeina citrata, dry, in capsules. For headache and for cerebral stimulation it is best given as strong black coffee or as tea, or as an effer-

vescing caffein. Caffein may be used hypodermatically in dose of 0.05 gram (¾ of a grain), but it may cause a little pain, for a short time, at the point of introduction. Caffein-sodium benzoate is perhaps the best form for hypodermatic use. Caffein hydrobromid and caffein-sodium cinnamate are also used hypodermatically.

CONGENERS

THEOBROMIN

Theobroma (*θεός*, a god: *βρωμα*, food, "food of the Gods") or cacao, the native name (often called incorrectly cocoa) or chocolate, is made from the seeds of a large tree, *Theobroma cacao,* of Brazil and Central America. These seeds contain theobromin. Theobromin (dimethylxanthin) contains more nitrogen than caffein, and can be prepared synthetically from xanthin. Chocolate contains about 1 per cent. of theobromin, from a trace to 0.25 per cent. of caffein, and a large amount of fat (cacao butter from 30 to 50 per cent.), starch, albumin, and a little volatile oil. As all these latter constituents are assimilable, chocolate is a food. The seeds of the cacao tree, ground while warm with about an equal weight of sugar, and often flavored with 0.5 per cent. of cinnamon or other aromatic, makes the ordinary chocolate ready for solution in water or milk. Chocolate so prepared contains only a trace of caffein.

Theobromin does not stimulate the nervous system, hence it can be given when caffein, tea, or coffee are contra-indicated. Chocolate is rather rich and heavy for digestion in a weak condition of the stomach, hence chocolate is made for convalescents freed from oil and not sweetened. Theobromin has its greatest action on the kidneys, and is a pretty sure non-irritating diuretic. As above stated, it has no action on the nervous system, and but little action on the circulatory system.

Official Preparations.—Oleum Theobromatis, cacao-butter, is a fixed concrete oil expressed from the seeds of theobroma cacao. It is a yellowish-white solid, with a faint odor and taste of chocolate. It melts at the temperature of the body, and hence makes a splendid base for suppositories, one gram (15 grains), being the ordinary amount used for a rectal suppository. It makes a bland, soothing emollient application for irritations on the skin, for sun-burn, etc. It is sometimes adulterated with paraffin, wax and tallow.

Non-Official Preparations.—Theobromina is a crystalline bitter powder rather insoluble and but slowly absorbed. It is obtained from the seeds of theobroma cacao, and is also made synthetically. *Theobromina Sodio-Salicylas* (Diuretin) is a mixtures of equal parts of sodium theobromin and sodium salicylate, containing when pure 50 per cent. of theobromin, but ordinarily only 40 per cent. It is a white, odorless, salty powder, soluble in water. The dose is 1 gram (15 grains), given in aromatic solution or in capsules, generally three times a day, but it is often advisable to give it every three or four hours. It is largely used as a diuretic, as it acts on the renal epithelium without irritation, hence it can be used in both acute and chronic nephritis, and in cardiac and hepatic dropsy. In all ordinary doses there is no effect other than the diuretic. Rarely it produces nausea and headache, but this is probably due to impurities. Experimentally, poisoning can be caused with symptoms of cardiac disturbance and dyspnea, increased temperature and some nervousness.

Theophyllin is another purin derivative found in tea, and is isomeric with theobromin (dimethylxanthin). It somewhat stimulates the nervous system, and is also a stimulant to the muscles. It is at times an active diuretic. It often causes severe irritation of the stomach, even when administered after meals.

It is a white, crystalline powder, almost insoluble in water, but in combination with sodium (theophyllin sodium) it is very soluble. The dose of either is 0.25 gram (4 grains). *Theocin* is a synthetic theophyllin.

GUARANA (BRAZILIAN COCOA)

Gaurana, gauranæ, is a dried brown paste made of the crushed seeds of *Paullinia sorbilis,* which is a climbing shrub, native of Brazil, named from Paullin, a German botanist living from 1643 to 1712; *sorbilis* is from *sorbere,* to suck or to drink. Gaurana is the name of a tribe of South American Indians. This drug contains from 4 to 5 per cent. of caffein theobromin, and about 26 per cent. of tannic acid, a trace of volatile oil, a resin, and a starch. The caffein of this drug has been called *gauranin.* The dose of gaurana is about 2 grams (30 grains). It acts like caffein and is stimulant to the nervous system. It is astringent on account of its tannic acid, and sooner or later upsets the appetite and causes dyspepsia. It is used for ordinary migraine headache, and in nervous and menstrual headaches, and also sometimes is used as a restorative after a drinking debauch. A gaurana habit can be formed.

Official Preparations.—Fluidextractum Gauranæ, fluid extract of gaurana. Dose, 5 c.c., or a teaspoonful.

KOLA

Cola-nut, *Cola acuminata,* is a large tree of Central Africa. The cola-nut contains about 2 per cent. of caffein, theobromin, starch, sugar, and a volatile oil. It acts like coffee and cocoa, and has been used as a food. *Kolanin* is probably a mixture of caffein, theobromin and tannic acid.

The fluidextract of kola has been recommended as a muscle stimulant, as it has been proved that more physical labor can be done under the influence of kola when other food is withheld than without it. This is probably a caffein activity, in other words, depression must follow such stimulation.

Barium Sulphate and Serodiagnosis of Syphilis.—From the experiments of H. Noguchi and J. Bronfenbrenner, reported in the *Journal of Experimental Medicine,* it is clear that the absorption by barium sulphate is not directed in a selective manner to the antibodies. Barium sulphate has almost no anticomplementary action on guinea-pig serum. A light antihemolytic effect has been noticed when 1 c.c. of a 7 per cent. suspension of this salt was mixed with 0.05 c.c. of the complement. Barium sulphate removes both the anticomplementary substances and the syphilitic antibodies. The addition of one part of normal serum to one part of syphilitic serum reduced the removal of the antibodies to one-half of that obtained when no normal serum was added, and the addition of four parts of the normal serum to one part of syphilitic serum reduced the removal to about one-fifth. This indicated undoubtedly that the normal serum employed possessed the same affinity as the syphilitic antibodies for barium sulphate. The syphilitic antibodies are removed by barium sulphate (to which they seem to adhere), and the antibodies thus absorbed retain their activity. Several experiments were performed with antihuman amboceptor (rabbit), and the results show that the amboceptor is quite readily removed from the solution by barium sulphate absorption. The barium sulphate treated with the amboceptor solution retains the amboceptor and causes hemolysis when mixed with human corpuscles and guinea-pig complement. They conclude, therefore, that the barium sulphate absorption is to be recommended for the original method of Wassermann under certain conditions, but that it is unnecessary for the antihuman hemolytic system of Noguchi.

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[*For other information see second page following reading matter*]

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THE ROCKEFELLER COMMISSION FOR THE ERADICATION OF HOOKWORM DISEASE

The whole rationale of lessening the evils of such social plagues as alcoholism, tuberculosis, hookworm infection and venereal disease lies obviously in educating the people up to the point of working out their own salvation. What has been accomplished by public exhibitions and lectures, by well-written popular articles in current magazines and periodicals and by direct personal appeal from physicians themselves, is far from insignificant, and what can be accomplished in a very short time is strikingly shown in two recent reports of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. This commission was organized in October, 1909, and opened its offices in January, 1910. The work done to date is described in two reports, one by the administration secretary, Mr. Wickliffe Rose, the other by the scientific secretary, Dr. Charles W. Stiles, to whose important work the formation of such a commission was undoubtedly due. As stated by Mr. Rose, the task set for itself by the commission was to map out the geographic distribution of the infection, to effect a cure in existing cases and to remove the cause—in this case the pollution of soil by country privies and the use of human excreta as a "fertilizer."

Taking separate states as units for investigation, the commission cooperated with the various boards of health in appointing a director of sanitation in each state under whose direction a field force of sanitary inspectors was soon set to work. In addition, the public health laboratories of most of the southern states cooperated in the matter of making microscopic examinations of patients' stools. By combining the reports of the sanitary inspectors with the laboratory records used to check up their work, scattered hookworm infection has been demonstrated in all the southern states, including Tennessee and Kentucky, as also in Oklahoma, Nevada and California. Infection is particularly heavy in Virginia (ninety-one out of 100 counties), North Carolina (ninety-seven out of ninety-eight counties), Georgia (108 out of 145 counties), Alabama (sixty-three out of sixty-seven counties) and Mississippi (sixty-five out of seventy-six counties). In the mines of California it is reported so heavy as to be a matter of great economic moment. The degree of infection in foreign countries is also in process of investigation.

The task of treating present sufferers from the disease is threefold, involving, first, the cooperation of private practitioners by means of bulletins, letters and personal interviews; and second, the task of interesting the people in their own welfare through public demonstrations as object-lessons, medical examinations of school and factory children, laboratory diagnoses, free lectures and the dissemination of tracts; third, proper treatment of the infected poor by means of voluntary contributions and free treatment, as in Virginia and North Carolina, free dispensaries, as in Mississippi, or by the payment of a special bonus for each patient cured, as in Florida. The results of these various activities, as tabulated in Mr. Rose's report, are significant.

The most satisfactory cooperation of physicians in the general treatment of the disease was naturally secured in states having the greatest density of infection, as in North Carolina, Georgia or Virginia, and the same is true of the number of diagnoses made and the number of patients cured. The newspapers of nearly all the southern states were in thorough sympathy with the movement. It is interesting to note that the newspapers of Mississippi and North Carolina were at first humorously indifferent or resentfully antagonistic, but are now practically all of them in cordial cooperation.

During the first year of its administration the Rockefeller commission has spent over $47,000, while about $13,000 has been spent by the different southern states, making a total expenditure of a little over $60,000 for the eradication of hookworm infection in 1910. The best showing made by any state so far is that of Florida, for the reason that the board of health of that state is maintained by a mill fund of about $75,000 per annum. With such a sum at their disposal it was natural that the Florida public health authorities should have instituted a campaign against hookworm infection before the Rockefeller commission came into being. Since the organization of the commission they have cooperated with its work in a most admirable way, supporting themselves and spending nearly nine thousand dollars to this end, including a sum of $1,806 expended in payment for treatment of poor patients (a bonus of $3 for each patient successfully treated). During the year 1910, bacteriologic laboratories were established at Jacksonville, Tampa and Pensacola, and in these over 7,000 examinations for hookworm were made. A map investigation of the status of hookworm infection in Florida shows that "there is hardly a physician in the state not treating hookworm disease," and that even if the state board were to relinquish the work "the hookworm problem will now solve itself, so far as it can be solved."

The general effect of the propagandism of the Rockefeller Commission can best be ascertained by comparing Mr. Rose's statements in reference to Porto Rican and

American conditions. In Porto Rico, "the infection is severe, the people are sick, they know they are sick, and have learned that they can be cured." In the United States the infection is scattered and relatively light, and the people were at first not disposed to take it seriously; but as they gradually come to perceive its true significance "they come to look on it as they have been accustomed to look on tuberculosis, typhoid fever, or any other serious preventable disease."

The removal of the principal cause of hookworm infection by doing away with soil pollution is the main subject of Dr. Stiles' report. Very effective preventive measures are about to be introduced. Since Looss demonstrated that the hookworm usually enters the body through the skin, reaching the intestines by a devious route, all preventive measures have been concentrated on the surface of the body, in particular the hands and feet of those exposed to infection. The hookworm commonly thrives where it is warm and moist, as in mines, tunnels and cultivated fields. Pollution of the soil is perpetuated by those frankly suffering from hookworm disease, and also by "hookworm carriers," who, like the typhoid carriers, spread disease, although apparently free from it themselves.

Viability experiments, conducted under the direction of the Marine-Hospital Service, show that the mere burial of excreta does not prevent the eggs of the hookworm and other parasites from hatching. Such an expedient might prove an actual agent in infection, especially in the limestone regions. Sewerage is not practicable in the open country, and most of the surface privy systems in vogue are shown to be either faulty or unhygienic. Statistics show, moreover, that a large percentage of southern farms have no privies of any kind. The schools, churches and sawmills in the rural districts seldom have privies attached.

The crux of the hookworm question is, therefore, the contamination of the hands and feet of the country people by fecal matter, and the solution of the problem is in the sanitary privy. As Stiles puts it, "The privy is the great sanitary problem of the open country and the non-sewered village," and most of his recent experimental work, as set forth in his report, has been concentrated on this all-important point. During the past year Stiles, Lumsden and Roberts have devised a simple, inexpensive and practically odorless privy-trap which should assist materially in solving this problem. Improvements in this apparatus are now being made and models have been loaned out to different organizations for exhibition purposes.

A reading of these reports shows that in the short space of a year's time the beginnings of a splendid piece of prophylactic work have been made. The problem of a suitable sanitary privy for our rural population has been practically solved, and all that is needed is the cooperation of the country people themselves. To the missionary work of the Rockefeller Commission and the Marine-Hospital Service the southern newspapers have, in the main, given cordial cooperation, and we cannot too strongly insist on the importance of their most resolute support to this movement.

THE PRESENCE OF BACILLI IN HEALED TUBERCULOUS LESIONS

Just what constitutes healing of a tuberculous lesion is a matter of much importance and great uncertainty. It is now recognized that nearly all adult bodies contain calcified, fibroid, or encapsulated caseous tuberculous lesions, chiefly in the lungs and lymph-glands, and such lesions are commonly looked on as healed and devoid of danger. Recent studies, however, have demonstrated that the tubercle bacillus has remarkable powers of resistance which permit it to remain viable in the tissues of the host for great lengths of time, and even without producing lesions. It may be recalled that various investigators who have injected material from the lymph-glands and tonsils of cadavers into guinea-pigs, have produced tuberculosis in as high as 20 per cent. of the animals, although the glands were themselves free from either gross or microscopic evidence of tuberculosis, and were from bodies which showed no tuberculous lesions. Such a condition constitutes a true latent tuberculosis, even although there are no specific tuberculous lesions, and its apparent frequency makes us more lenient than we otherwise might be to von Behring's theory that bacilli taken in cow's milk during infancy and remaining latent during youth and adolescence constitute an ordinary source of tuberculosis in adults.

The cases in which a tuberculous lesion shows anatomic evidence of quiescence, yet contains living and virulent bacilli, should be regarded as persistent rather than latent tuberculosis. Apparently caseous tubercles practically always contain living bacilli, even when their progress has been checked and they are surrounded by a well-defined fibrous capsule. Until recently it was assumed that when calcification had taken place the lesion had been so long encapsulated that all the bacilli must be dead, but actual investigation has made it necessary to modify this view. Lydia Rabinowitsch injected into guinea-pigs material from four calcified lymph-glands of stony hardness, and in all cases tuberculosis resulted. E. Schmitz examined calcified nodules from twenty-eight autopsies, and could find tubercle bacilli with the microscope in but two; but of thirty-three guinea-pigs inoculated with material from as many calcified nodules no less than thirteen became tuberculous. As was to be expected, positive results were obtained much more frequently with material from the chalky or caseo-calcareous areas (75 per cent.) than with those of stony hardness and presumably greater age (27 per cent. positive). An important fact is that the tuberculosis produced by such inoculations was of a mild char-

acter, only one of the infected animals dying spontaneously from tuberculosis. By use of the new alkaline hypochlorite method Wegelin[1] has been able to demonstrate the tubercle bacilli much more frequently in calcified lesions, in each of three chalky and in four of ten hard calcified nodules bacilli being found.

We must, therefore, conclude that even when a tuberculous lesion has become encapsulated and calcified it is still a possible source of danger, since it may contain living tubercle bacilli. Nevertheless this danger is more potential than actual, for the mechanical protection afforded by the capsule and the lime salts must effectually prevent invasion of other tissues by the bacilli, and we have no observations which indicate that a calcified lesion is often, if ever, the starting-point of a fresh infection. Possibly if a suppurating process, or some trauma, disintegrated both capsule and lime deposits the bacilli might be set free, but even then serious trouble is not probable, for, as Schmitz' experiments have shown, the encapsulated bacilli are of such low virulence that even the susceptible guinea-pig can resist them successfully.

1. Wegelin: Cor.-Bl. f. Schweiz. Aerzte, 1910, xl, 913.

UNRELIABLE PHARMACEUTICAL PRODUCTS

For some years past, pharmaceutical houses have put out in tablet form an enormous number of combinations of drugs of real or fancied value. In many instances the combinations are not suited to the tablet form and it is not surprising that many of these tablets do not conform to the composition that is claimed for them. It is not to be inferred that the manufacturers wilfully put up products that are false to label, but rather that many of the combinations are pharmaceutical impossibilities. That is to say, it is pharmaceutically impossible—or at least, commercially impracticable—to manufacture, in tablet form, some of the combinations that are listed in the manufacturers' catalogues.

These tablet-combinations have been offered to the medical profession primarily because such products are considered as "business-getters" and the manufacturers seem to have tried to outvie one another in the number of combinations which they offer physicians. In most cases these tablets have been made, not to supply, but to create a demand, and as soon as one manufacturer has put out a new combination, his competitors immediately put similar combinations on the market. The result has been harmful to medicine and a discredit to pharmacy.

With the object of showing how pharmaceutically impossible it is to make some of these tablet-combinations, our chemists were asked to examine some of the several brands of tablets said to contain bismuth subnitrate, opium and phenol (carbolic acid). While this tablet is, in itself, of comparatively little importance, it was selected as a type because practically all pharmaceutical houses offer it for sale, because its manufacture offers some difficulties and because its phenol-content can be accurately determined. More than two years ago, the leading brands of these tablets were bought in open market, analyzed by the Association's chemists and the results published in THE JOURNAL.[1] Two years later, similar products of the same firms were again purchased, analyzed and the results published.[2] Both of these reports showed that the composition of the tablets examined—at least so far as their phenol-content was concerned—could not be relied on. The second examination brought out the further fact that practically all the manufacturers whose products had been examined had apparently made no effort either to modify the claims on the labels, to improve the quality of the tablets or to withdraw the product from the market.

In the "Propaganda for Reform" department of this issue appears the third, and final, article from our chemical laboratory on this subject. It will be found not only to verify the statements of the previous two articles, but also to bring out another point that is of almost as great importance as the unreliability in composition, namely, that ready-made mixtures of this type are more than likely to be several years old before they reach the physician. While this does not, of necessity, impair the efficiency of all drugs, it must in many instances be detrimental to scientific prescribing.

The three exhaustive and painstaking examinations made in the Association's laboratory and the articles that are based on these examinations teach some valuable lessons, both specifically and generally. Specifically, they show that there are probably no tablets of bismuth, opium and phenol on the market which contain the amount of phenol stated on the label; this, too, even though the tablets are obtained direct from the manufacturer. It is true that in one case the tablets obtained direct from the manufacturer contained not only all the phenol claimed, but a very appreciable percentage in excess of that amount. These tablets, however, bore such evident marks of having been "made to order" that the general findings of the laboratory were in no way vitiated. Essentially then, it has been proved that it is impracticable, if not impossible, to manufacture tablets of bismuth, opium and phenol so that the phenol-content can be relied on.

Generally, the results are of even greater importance. First is the very evident unwisdom of attempting the pharmaceutically impossible merely for the sake of achieving pharmaceutical "elegance." When one considers the enormous number of tablet combinations on the market—some firms listing over a thousand—and further realizes that undoubtedly in a great number of cases such combinations are absolutely worthless so far as accuracy of dosage is concerned, the menace that such forms of medication must be to scientific medicine becomes apparent.

1. July 25, 1908, p. 330.
2. Dec. 17, 1910, p. 2169.

Second is the responsibility that rests on the pharmaceutical manufacturer for the deplorable conditions that these investigations have exposed. Physicians naturally have supposed that they could rely on the statements of such pharmaceutical firms as those whose products are affected in this exposure, at least so far as the composition of non-proprietary preparations is concerned. The defections are those of the manufacturing pharmacists. It is no excuse for them to say that they are but supplying a demand when they put out such products. The physician, of necessity, does not always realize the limitations to the art of compounding drugs and it has long been considered the function of the pharmacist to enlighten him on such technical points. In the present instance, however, the physician, instead of being advised, has been taken advantage of. Further, as has already been stated, the manufacturers are not so much supplying a demand as attempting to create a demand. Moreover, if they wish to retain the confidence of physicians they should frankly admit, when asked to put up combinations that are not pharmaceutically practicable, that it cannot be done. Instead of taking this attitude, they seem to have decided that, so long as there is money in pretending to make tablets that cannot be made, they might as well get what financial benefit they could out of the pretense.

In view of the facts brought out by our chemists, we are justified in asking a question: We know that the products examined were untrue to label when first taken up over two years ago; we know, further, that the same class of products were equally unreliable two years later, when examined the second time; we also know that still more recently these tablets, even when purchased direct from the manufacturer, are not to be depended on. Twice THE JOURNAL has given publicity to the unreliability of these products, but the manufacturers have neither profited by it nor apparently paid any attention to it. Now, for the third time, attention is directed to the same conditions. We are justified in asking, therefore: Will reputable pharmaceutical houses continue to put on the market products which they know to be not only unscientific but actually fraudulent, simply because it is "business?" The medical profession awaits the answer.

Current Comment

ROCKY MOUNTAIN SPOTTED FEVER

Through the work of the late H. T. Ricketts and others, it was demonstrated that Rocky Mountain spotted fever, an important disease in man, is conveyed by the common wood-tick of the Rocky Mountains. The disease has been found in its most virulent form in the Bitter Root valley in western Montana, the mortality in this section being from 70 to 80 per cent. The importance of ascertaining the distribution of the tick which is responsible for the transmission of such a deadly disease became apparent and, accordingly, the Bureau of Entomology of the United States Department of Agriculture in 1909 began a study of the distribution of this insect. The result of that study is published in Circular 136 of the bureau. In the investigation, specimens of the species causing the disease, *Dermacentor venustus,* were obtained from 225 different localities, embracing the states of California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. While there are no doubt areas of considerable extent within the territory named where the tick is entirely absent, yet its distribution is much wider than was thought before this investigation, but entirely within the Rocky Mountain region. Specimens have been collected at various elevations, from 500 feet to nearly 9,000 feet above sea level. The species seems to reach its highest development and occurs in greatest numbers between 3,000 and 5,000 feet. The immature ticks have been found to feed exclusively on the small mammals and the adults on the large domestic animals. The fever may be transmitted to man in any region where this species of tick is present if the disease is once introduced into a locality by a tick from an infected region, or by man or some other animal susceptible to the malady. There is reason to believe that the disease is spreading, and therefore a knowledge of the range of this species of tick is important, so that steps may be taken to lessen the danger of its introduction into regions as yet uninfected.

A POINT IN THE MANAGEMENT OF THE INSANE

Recently a patient, having been tried, found insane, and ordered sent to an institution, was turned over to the sheriff for safe delivery. The sheriff deceived the patient, a paretic who suffered from grandiose delusions concerning money and property matters, into thinking that he was to inspect a large institution which might be made into a hotel. Thus the patient went peaceably to the insane asylum and the sheriff, having done all that he thought was required of him and transferred his charge to other hands with the least possible trouble to himself, left well satisfied with his finesse; and doubtless most persons who have had little or no experience in the care of the insane would consider his satisfaction justified. Soon the patient saw that his orders about the hotel property were not obeyed, and thus learned that he had been duped. So he protested, resisted and fought and, in spite of careful handling, sustained some bruises; his relatives raised complaint and the institution received scare-head publicity on the first page of the newspapers. An investigation was called for and held, and the exoneration of the authorities received a few lines on an inside page. The state authorities who made the investigation directed the superintendent of the institution, in the future, to make a statement to each patient brought to the institution, in the presence of the sheriff and his attendants, to the effect that the institution was an insane hospital and that the patient had been committed by law to its charge and must obey its rules and regulations. This precaution should be generally adopted.

A STRONG TESTIMONIAL

We have been interested recently to note a faint modern recrudescence of a horrific fable of our youth. Most of us have read blood-curdling tales of individuals who suddenly became human volcanoes, belching forth fire and smoke, and were in a short time utterly consumed. To judge by a recent testimonial, the ghost of the slain theory of spontaneous combustion of the human body still walks the earth. A Chicago woman testifies to her sufferings before treatment by the "United Doctors," a concern employing a number of peripatetic doctors who operate in the smaller towns in various parts of the country:

"At this time my heart became affected also and my suffering was greatly increased by its disturbed action, causing what is commonly called 'hot flashes.' These 'hot flashes' added greatly to my misery and at times the heat from my head would burn and scorch the combs in my hair."

Needless to say, after receiving "treatment" from these noted specialists, the poor patient was restored to her former condition of well-being and comparative frigidity, and the underwriters' rates on property in her immediate neighborhood were immediately lowered.

RACE SUICIDE IN FRANCE

Statistics cited in this issue by our Paris correspondent throw an interesting light on the problem of the diminishing birth-rate in France. It seems that an official investigation has been undertaken to ascertain the probable cost of assistance to needy large families. We are told that there are in France 369,739 families having each more than four children aged less than 13. There are in these families 1,712,322 children. Nearly two-thirds of these families—237,802 to be exact—are in a permanently needy condition. When one remembers the social habits of the careful middle-class Frenchman, which render it most discreditable for a father to fail to make suitable provision for his son's start in life and his daughter's dowry, and when it appears that the greater number of the parents with large families are unable to provide, not merely for their children's future, but even for their present necessities, it becomes evident that measures against "race suicide" will have to go very deep in order to be effective.

Medical News

ALABAMA

New Hospital.—At the last meeting of the Medical Society of St. Clair County, a fund of about $5,000 was raised for the construction of a hospital at Pell City.

Antituberculosis Camp.—Through the efforts of the Montgomery Antituberculosis League, a camp has been secured for that city. Miss Julia Johnston has been elected secretary of the league.

State Society Meeting.—The annual meeting of the Medical Association of the State of Alabama was held in Montgomery, April 18 to 21. The following officers were elected: president, Dr. Lewis Coleman Morris, Birmingham; vice-presidents, Drs. Martin Luther Malloy, Birmingham, and Charles Lee Guice, Gadsden; special officers of the tuberculosis league, Drs. Geo. McWhorter, Riverton, and Benjamin Leon Wyman, Birmingham, and members of the medical council, Drs. John C. McLeod, Bay Minette; Thomas M. Littlepage, Mount Sterling; William Alexander Graham, Fayette; Robert Henry Baird, Cullman; Edward Harris and Wellington Prude McAdory, Birmingham. The Jerome Cochran lecture was delivered by Dr. Rudolph Matas, New Orleans, and was on tuberculosis.

ARKANSAS

Elections.—At the annual meeting of Logan County Medical Society, held in Magazine, April 5, the following officers were elected: president, Dr. John S. Shibley, Booneville; vice-president, Dr. Richard A. Harkins, Ratcliffe; secretary-treasurer, Dr. Austin R. Hederick, Booneville; delegate to the state society, Dr. Early E. Scott, Magazine, and alternate, Dr. E. M. Life, Scranton.——At the annual meeting of the Tenth Councilor District Medical Society, held in Rogers, March 21, the following officers were elected: president, Dr. John Young, Springdale; vice-president, Dr. Ernest G. Epler, Fort Smith; secretary, Dr. Dred R. Dorente, Fort Smith, and treasurer, Dr. Othello M. Bourland, Van Buren. The next meeting will be held in Fort Smith.——At the annual meeting of Lawrence County Medical Society, held at Walnut Ridge, Dr. Horace R. McCarroll, Walnut Ridge, was elected president; Dr. Wight W. Hatcher, Imboden, vice-president; Dr. John C. Swindle, Walnut Ridge, secretary; Dr. John C. Hughes, Walnut Ridge, treasurer; Dr. Gus A. Warren, Black Rock, delegate to the state society, and Dr. William J. Robinson, Portia, alternate.

CALIFORNIA

Personal.—Dr. E. S. Metzger has been reappointed a member of the trustees of the Redondo Beach library.——Dr. Alanson Weeks, U. S. P. H. and M.-H. Service, in charge of the United States Marine-Hospital, San Francisco, has resigned to enter private practice.

Medical Milk Commissioners Organize.—On the occasion of the annual meeting of the Medical Society of the State of California, the California Association of Medical Milk Commissioners was organized and the following officers were elected: president, Dr. Thomas McCleave, Alameda; vice-presidents, Drs. Fitch C. E. Mattison, Los Angeles, and Thomas A. Stoddard, Santa Barbara, and secretary, Dr. Adelaide Brown, San Francisco.

GEORGIA

Additional Officers.—At the annual meeting of the Medical Association of Georgia, held in Rome, April 19 to 21, the following councilors were elected: first district, Dr. J. Lawton Hiers, Savannah; second district, Dr. Jarvis G. Dean, Dawson; third district, Dr. Rupert H. Stovall, Vienna, and fourth district, Dr. Charles L. Williams, Columbus; chairman of the board of councilors, Dr. Wyman W. Pilcher, Warrenton, and editor of the *Georgia State Medical Journal*, Dr. Wm. Clifton Lyle, Augusta (reelected). The next meeting of the society will be held in Augusta.

ILLINOIS

Personal.—Dr. Albert Nicholas Mueller has resigned as a member of the board of directors of the Rock Island Municipal Tuberculosis Sanatorium.——Dr. J. T. Foster, Central City, has been appointed coroner of Marion County.——Dr. Emil W. Brust, Addison, started for Berlin, April 3.

Another Hospital for Oak Park.—The West Suburban Hospital Association has been incorporated with a capital stock of $25.000 all of which has been subscribed, and the fifteen physicians who resigned from the Oak Park Hospital are said to make up the incorporators of the new hospital. The new hospital will be located in territory convenient both to Oak Park and Austin.

State Board Convictions.—Mrs. J. Dunn, who claimed that she had made wonderful cures of cancers by the use of a combination of drugs and who, it is said, had been convicted before in this state, was convicted by a jury in the Municipal Court of Chicago, of violation of the Medical Practice Act, and fined $200.——M. Janik, said to be an old offender who conducts the Cracow Institute, and makes his own medicine, was convicted by a jury in the Municipal Court, and fined $200 and costs.

Chicago

Hospital Acquires Property.—The Provident Hospital has acquired property north of its building at Thirty-Sixth and Dearborn Streets, which will be used for the children's department of the institution.

To and from Europe.—Dr. and Mrs. Clarence E. Brinckerhoff and Dr. and Mrs. Wallace Blanchard have sailed for Europe.——Brigadier General Alfred C. Girard, U. S. Army, retired, and Dr. and Mrs. Theodore Wild, Jr., have returned from Europe.

INDIANA

Personal.—Dr. T. Victor Keene has been appointed a member of the board of health of Indianapolis, vice Dr. Paul F. Martin, to take effect June 1.——Dr. Herman Bowles has succeeded Dr. Clarence G. Rea as secretary of the board of health of Muncie.——Dr. Harold Pierce, Cloverland, is reported to be seriously ill with septicemia due to an operation wound. Dr. Orange G. Pfaff of Indianapolis is just recovering from infection and will go to Atlantic City.——Dr. Roscoe H. Ritter, secretary of the Indianapolis Medical Society, is critically ill at a sanatorium in Martinsville.

Ice Cream Standardized.—The State Board of Health calls the attention of all ice cream manufacturers in the state to the standard for ice cream in Indiana. Hereafter all ice cream shall have a minimum of 8 per cent. of butter fat, and 18 per cent. of milk solids and not to exceed 0.7 per cent. of gelatin or vegetable gums. Fruits, nuts, candied and preserved fruit and nuts, chocolate and other similar products should be classed as flavorings, and all ice cream containing such ingredients shall conform to the standard above specified. The addition of any color or coloring matter to ice cream to make it appear richer in butter fat, or the use of fruit color to counterfeit the color of strawberry, cherry, peach, etc., is not allowed, unless the goods are marked imitation and declare the presence of the color.

District Society Meeting.—The spring meeting of the Eighth District Medical Society was held in Portland, April 21, and was devoted principally to a consideration of cholelithiasis. At the afternoon meeting L. Ert Slack, an attorney of Franklin, spoke on "Health," pleading for a broader conception of the healing art, with special attention to the powers of the mind and the necessity of getting the patient's mind in proper attitude. The following officers were elected: Dr. Thomas Monroe Jones, Anderson, president; Dr. Charles E. Caylor, Pennville, vice-president; Dr. Fred McK. Ruby, Union City, secretary; Dr. Charles Leander Botkin, Farmland; Dr. Joseph E. Hall, Alexandria; Dr. Hamilton P. Franks, Muncie, and Dr. Charles Hollis, Hartford City, censors. The next meeting of the society will be held in Anderson, May 9, 1912.

IOWA

New Hospital.—Fort Madison is to have a new hospital to be ready September 1 and to be under the management of the Sisters of St. Francis of the Third Order.

Medical Women to Meet.—The annual session of the State Society of Iowa Medical Women will be held in Des Moines, May 16-17, under the presidency of Dr. Sophia Hinzie Scott, Des Moines.

Personal.—Dr. and Mrs. Carl W. Wahrer sailed for Europe April 12.——Dr. George P. Hanawalt, Des Moines, who has been ill for a long time, has recovered and resumed practice. ——Dr. Horace Husted has been elected health officer of Muscatine, vice Dr. Benjamin Ernest Eversmeyer.——Dr. Jay Clark Cooper, Villisca, sailed for Europe April 20.——Dr. Fred Albert has been reappointed health officer of Mason City. ——Dr. Edward Tyler Edgerly has been appointed city physician of Ottumwa.

KANSAS

Doctors' Building for Wichita.—In the new Schweiter building, Wichita, not yet entirely ready for occupancy, twenty-eight physicians thus far have arranged to rent offices.

State Hospital for Western Kansas.—Ellsworth, Scott City, Great Bend, Spearville, Norton, Wakeeney, Hill City, Larned, Downs, Ashley and Ashland make up the list of western Kansas towns thus far desiring to be considered as candidates for the location of the new state tuberculosis hospital for which $100,000 was appropriated by the last legislature.

Hospital Staff Organizes.—Twenty-four physicians of Salina were present at a meeting of the staff of St. Barnabas Hospital, April 18, called for organization. Dr. Oliver D. Walker was elected temporary president, and Dr. Jesse Wheeler temporary secretary. For permanent officers Rev. S. M. Griswold was elected president; Dr. Jonathan Harvey Winterbotham, secretary, and Drs. Oliver D. Walker, Howard N. Moses and Melchor Cockay were elected a committee to arrange the times of service for members of the staff.

Medical Society Meetings.—At the annual meeting of Smith County Medical Society, held in Smith Center, April 12, Dr. James A. McCammon, Reamsville, was elected president; Dr. Victor Watts, Womer, vice-president; Dr. Frank Relihan, Smith Center, secretary-treasurer, and Dr. Francis M. Bilby, Kensington, delegate to the State Medical Society.——At the semi-annual meeting of the Southeast Kansas Medical Association held in Independence in April, Dr. Giles A. Blasdel, Garnett, was elected president and Dr. Elmer A. Miner, Independence, secretary. The next meeting will be held in Parsons.

KENTUCKY

Ten-Cent Day.—On April 20 ten-cent day was celebrated in Louisville. The purpose of this scheme is to solicit a subscription of 10 cents from every inhabitant of Louisville, the money realized from the campaign to be turned over to the State Antituberculosis Association.——At the annual meeting of the association, held April 3, W. R. Belkner was elected president; Dr. Sam A. Hartwell, Jr., second vice-president, and Dr. Ellis S. Allen, a member of the board of directors.

LOUISIANA

Site Selected for Isolation Hospital.—The board of health of Hammond has selected a site in the southwest part of town for the new isolation hospital, the erection of which will be proceeded with at once.

Senior Student Dies.—Leon Fereol Beridon, an intern in the Charity Hospital, New Orleans, and a senior student in the Tulane University; a young man of brilliant promise; died in New Orleans, April 6, from typhoid fever, aged 23.

New Parish Society.—Jackson Parish Medical Society was organized April 20 at Eros, and the following officers were elected: president, Jacob H. Landrum, Eros; vice-president, B. E. Brown, Chatham; secretary-treasurer, Dr. A. E. Douglas, Chatham.

Sanitarium Staff Organized.—The staff of the Schumpert Memorial Sanitarium, Shreveport, has been organized with the following officers: president, Dr. J. Ashton Blanchard; vice-president, Dr, Joe J. Frater; secretary, Dr. Jacob Mahne Bodenheimer, and treasurer, Dr. Lewis Henry Pirkle.

Personal.—Major John A. Devron, Jr., M. C. N. G., La., assigned to the Second Infantry, has been detailed for duty at the maneuvers on the Mexican frontier.——Dr. Charles Chassaignac has been appointed chairman, and Dr. John Callan a member of the house committee, and Dr. Louis G. LeBeuf, a member of the finance committee of the Eye, Ear, Nose and Throat Hospital, New Orleans.

MARYLAND

State Medical Directory.—The April issue of the *Bulletin of the Medical and Chirurgical Faculty of Maryland* contains a directory of the membership of the association, which numbers 1,059, of these 1,021 are active, 18 non-residents and 20 honorary members.

Medicine and Man's Redemption.—Dr. Charles M. Ellis, Elkton, who is at present a patient in Johns Hopkins Hospital, Baltimore, suggests that the triumphs of the medical profession in the Canal Zone be recognized by a great international congress on tropical medicine to be held in Washington the year before the Panama Exposition in San Francisco, to demonstrate what medicine has accomplished for man s redemption.

Baltimore

Personal.—Dr. Robert W. Johnson has been elected president of the Churchmen's Club.——Dr. Francis M. Chisholm has moved to Washington, D. C.——Dr. James M. H. Rowland has been appointed a member of the school board.——Dr. Daniel Webster Cathell is engaged in preparing the twelfth edition of his book on "The Physician Himself" which will be published in the fall.

Hospital Report.—The twenty-ninth annual report of the Baltimore Eye, Ear and Throat Charity Hospital states that during the year 5,870 new patients were treated, 3,932 white, and 1,938 colored. Of these 5,509 wer charity patients; namely, 3,312 in the eye department; 840 in the ear department, and 1,548 in the throat department. There were 1,831 operations performed; 459 on the eye; 319 on the ear, and 1,053 on the throat. Dr. Jesse W. Downey, Jr., is superintendent of the hospital and Dr. Francis J. Hackney, resident physician.

MASSACHUSETTS

Estate Left for Research.—By the will of the late Dr. Walter Remsen Brinckerhoff, who died March 2, the entire estate is left to his son, a minor. In the event of the death of the son, two-fifths of the estate is to go to Harvard College to found a memorial to the wife of Dr. Brinckerhoff, the income to be spent for scientific research on communicable diseases.

MINNESOTA

Personal.—Dr. Charles O. Cooley, Madelia, is seriously ill at his home in Madelia.——Dr. John A. Winter, Duluth, has been appointed assistant in the eye, ear and throat depart-

ment of the St. Louis County tuberculosis clinic.———Dr. N. L. Linneman, Duluth, has returned from Europe.——Dr. Ignatius J. Murphy has been appointed police surgeon of Duluth.

Association Meeting.—The annual meeting of the Stearns-Benton Medical Association was held, April 20, in St. Cloud. Dr. Harold Lamb, Sauk Centre, was elected president; Dr. Charles Stewart Sutton, St. Cloud, vice-president; Dr. John C. Boehm, St. Cloud, secretary and treasurer; Dr. Warren L. Beebe, St. Cloud, delegate to the state association, and Dr. James H. Beaty, censor.

The Antituberculosis War.—The annual report of the Minnesota Association for the Prevention and Relief of Tuberculosis for 1910 shows that during the year $4,295 was received and $4,740 expended; and that at the end of the year there was a balance in hand of $212.09.——Plans for the St. Louis County Tuberculosis Sanatorium have been accepted and the building will be ready for occupancy in the fall. The institution will have an initial capacity of seventy patients and the first unit will cost $30,000. The sanatorium is located north of Fond du Lac and is 700 feet above the lake level.

MISSOURI

New Hospital.—St. Joseph's Convent of Mercy has raised $300,000 to build the new St. John's Hospital, St. Louis, on a tract near Forest Park with frontage on Euclid and Audubon Avenues and Park View. The institution is estimated to cost $380,000 in addition to the site.

Wants Merit System.—The hospital committee of the St. Louis Society of Medical Research, at its meeting April 25, announced that a bill would be presented before the municipal assembly, asking that a merit system be substituted for the present hospital commission system in the new City Hospital.

Change in Meeting Place.—Owing to the destruction by fire of the state capitol at Jefferson City, the place of meeting of the Missouri State Medical Association has been changed to Kansas City. The meeting will be held on the dates originally set, May 16-18. Headquarters will be in the Coates House and the sessions will be held in the Coates House and Casino Hall, which adjoins the hotel.

Alumni Reunion Dinner.—An invitation has been issued to the alumni of the Missouri Medical College, St. Louis Medical College and Washington University Medical School to take part in a social reunion and dinner at Kansas City, May 17, during the meeting of the Missouri State Medical Association. Tickets stating time and place may be had by addressing Dr. Richard S. Weiss, 346 North Boyle Avenue, St. Louis.

Personal.—Dr. Abra C. Pettijohn, Brookfield, has been reappointed superintendent of State Hospital No. 2, St. Joseph; Dr. E. H. Trowbridge, Kansas City, has been appointed assistant physician, vice Dr. W. E. Carey, Kansas City, resigned; Dr. Ashman H. Vandivert has been reappointed assistant physician, and Dr. Harlan P. Mills assistant physician and bacteriologist.——Dr. Cleveland H. Shutt, St. Louis, has returned from abroad.——Dr. Ernest F. Robinson has been appointed chief surgeon of the Kansas City Terminal Railway Company.

NEW HAMPSHIRE

State Society Meeting.—The one hundred and twentieth annual meeting of the New Hampshire Medical Society will be held at Concord May 11-12. The meeting of the House of Delegates will be held on the evening of May 10, under the presidency of Dr. Alonzo Stewart Wallace, Nashua. On the first day there will be a symposium on ophthalmia neonatorum with general consideration by Dr. Louis W. Flanders, Dover, and a discussion from the standpoint of the general practitioner by Dr. E. C. Batchelder, Dover; and from the standpoint of the specialist by Dr. Charles Francis Nutter, Nashua; a paper on "Medical Practice Laws" by Dr. John Martin Gile, Hanover, and one on "Rational Medical Treatment" by Dr. Elbert A. Landman, Plaistow. Among the important papers to be considered on the second day are those on "Medical Inspection of Schools," by Dr. Zatae Songsdorf Straw of Manchester, and "The Treatment of Medical Subjects by the Lay Press" by Dr. Henry O. Smith of Hudson Center.

NEW YORK

No Vivisection Inquiry.—By a vote of 34 to 11 the senate defeated the Bayne bill creating a commission to inquire into the nature and practice of experimentation on living animals and the status of the present laws regarding vivisection.

Investigation of Hospitals and Penal Institutions.—Following the appointment of a committee for the purpose of investigating conditions in the Matteawan and Dannemora state hospitals, a general investigation by a legislative committee of conditions in all New York prisons, hospitals and penitentiaries is called for by a resolution introduced by Senator Stillwell. The resolution carries an appropriation of $25,000.

Medical Examiners Appointed.—The following have been appointed as members of the State Board of Medical Examiners by the State Board of Regents: Drs. Arthur W. Booth, Elmira; Aaron B. Miller, Syracuse; Henry B. Minton, Brooklyn; Floyd S. Farmsworth, Plattsburg, and Ralph H. Williams, Rochester.

New York City

For Convalescent Home.—Sixty acres of ground has been purchased by the Burke Foundation on Manaroneck Avenue, White Plains, at a cost of $180,000. Cottages will be built here that will furnish accommodations for 300 patients, convalescents of New York hospitals.

Hospital to Teach Hygiene.—The Union Hospital which has leased the old Fordham Hospital building, opened May 1. It will undertake to teach office hygiene, to direct business and professional men, educators and ministers in sanitary conditions under which they should work. The president of the association is Dr. John F. Holmes, and the vice-presidents are Drs. Nathan B. VanEtten and Frederick W. Loughran.

Funds for Hospitals.—The Presbyterian Hospital won a bequest of $100,000 in the Supreme Court when it was decided that the first will of Edward O. Kindberg was valid and that his second will was invalid.——The will of Bernard G. Amend leaves $2,000 to the German Hospital.——The New York Dispensary, having recently established a social service department which takes care of sick persons and on their recovery finds them employment, has had its activities threatened through lack of funds and has sent out an appeal for help.——The Methodist Episcopal Hospital of Brooklyn will receive $5,000 by the will of the late William Lawrence of Goshen, N. Y.——Mrs. Adolph Scheftel has given $10,000 to the Montefiore Home for Chronic Invalids to endow a ward for the treatment of locomotor ataxia. This gift is in memory of Adolph Scheftel.——By the will of Mrs. Alice A. Hicks of Old Westbury, L. I., the Nassau Hospital Association will receive $100,000, and the New York Association for Improving the Condition of the Poor, $50,000.——A special performance at Wallack's Theater, by stage children, netted $4,000 for St. Mary's Free Hospital for Children.

Hospital Saturday and Sunday.—The distributing committee of the Hospital Saturday and Sunday Association announces that $112,000 has been raised this year. The apportionment among hospitals is based on the amount of certified free service given by each hospital, and is as follows: Montefiore Home and Hospital for Chronic Invalids, $9,400; Mount Sinai Hospital, $8,669; St. Luke's Hospital, $5,345; Orthopedic Dispensary and Hospital, $4,786; German Hospital, $4,352; St. Mary's Free Hospital for Children, $4,094; Home of the Sisters of Misericordia, $3,845; Ruptured and Crippled Hospital, $4,768; Post Graduate Hospital, $3,737; Roosevelt Hospital, $3,683; Lincoln Home and Hospital, $3,486; Lebanon Hospital, $3,483; Hospital for the Lying-In Society, $2,610; Beth Israel Hospital, $2,570; Home for Incurables, $2,204; House of the Holy Comforter, $1,940; Isabella Heimath, $1,834; Manhattan Eye, Ear, Nose and Throat Hospital, $1,788; House of Rest for Consumptives, $1,567; New York Eye and Ear Infirmary, $1,432; Babies' Hospital, $1,399; Flower Hospital, $1,360; Sloane Maternity, $1,107; St. Mark's Hospital, $1,048, and Hospital of the French Benevolent Society, $1,007. Many other hospitals received smaller sums.

PENNSYLVANIA

Measles Closes Schools.—Bryn Mawr College and all public, private and parochial schools in lower Merion Township, even Sunday schools, were ordered closed, April 27, by the board of health, until May 8, pending a thorough fumigation by an augmented squad of health inspectors. This drastic action which also prevents all public meetings of children and young people in the township, was taken as a result of the alarming spread of measles.

Dairy Farms Inspected.—In the campaign for pure milk over 50,000 dairy farms are being inspected by the officers of the State Department of Health. After inspections the farmers receive notice from the state commissioner of health that certain conditions must be remedied and are given to understand that unless sanitary improvements are made the public will not accept the milk produced. The reports of the department show that each inspection has been productive of greatly improved sanitary conditions.

Philadelphia

Bequest to Medical College.—By the will of the late Annie Shoemaker, Swarthmore, the Woman's Medical College of Pennsylvania will receive a bequest of $3,000.

Personal.—Dr. John Herr Musser, Philadelphia, sailed for London April 13.——Dr. George W. Norris has been elected visiting physician to the Episcopal Hospital, vice Dr. David L. Edsall, resigned.

Portraits Presented.—At a meeting of the College of Physicians, April 5, portraits were presented to the college of the late Dr. George Couvier Harland and Dr. James Tyson. Both portraits were accepted by Dr. George E. de Schweinitz, president of the college.

Alumni Room for Jefferson.—The alumni association of Jefferson Medical College has appointed Drs. W. M. Late Coplin, George Evans Reading and Pascal Brooke Bland a committee to devise ways and means to secure funds for the perpetual endowment of a room in the Jefferson Medical College Hospital, to be used for the free treatment of any ethical graduate of the college.

Fellowship for Medical Research.—Friends of the late Dr. J. Allison Scott, adjunct professor of medicine in the University of Pennsylvania, have contributed $10,000 for the establishment of a memorial. It has been decided to make this in the form of a fellowship for medical research. About $200 of the interest will be used to help some worthy third or fourth year medical student to complete his course, and the remainder of the interest will be invested until the entire sum is sufficiently large to constitute a proper endowment for research work.

Milk Temperature Regulation Violated.—The board of health's regulation requiring the temperature of milk shipped into this city to be not more than 60 degrees is being violated every day, according to J. W. Pancoast of the Interstate Shippers' Association, for large quantities of milk are being sent daily to the various receiving stations of the large milk dealers at a temperature of 75 to 85 degrees F. The producers think it unfair that farmers who send milk directly to the city should be compelled to conform to this regulation while farmers supplying receiving stations may send milk at any temperature.

Work on Open-Air School Halted.—For the second time the work of installing an open-air school in this city has been interrupted. The present delay arises from a disagreement between J. Horace Cook, superintendent of the board of buildings and Alexander Wilson, secretary of the Phipps Institute. When the project was started, the institute agreed to assume all the expenses of fitting up the class room, furnish warm clothing for the pupils and provide milk and eggs. The plans for fitting up the roof of the McCall School at Seventh and Lombard Streets, were submitted to Superintendent Cook, who says the proposed structure will have a tendency to deface the school building.

Pennsylvania Tuberculosis Society Meeting.—The annual meeting of the Pennsylvania Society for the Prevention of Tuberculosis was held at the College of Physicians, April 11. J. Byron Deacon, the executive secretary, emphasized the need of Hospitals for advanced cases of consumption, a plea that Dr. Lawrence F. Flick has made for several years. Dr. James Tyson declined to serve again as president and Asa S. Wing was elected to the office. Other officers chosen include: vice-presidents, Drs. James Tyson, Joseph S. Neff, William Duffield Robinson, William Charles White and Talcott Williams; treasurer, Dr. James Gurney Taylor; secretary, Dr. Ward Brinton, and directors, Mrs. Charles F. Jenks, Mrs. Lawrence Lewis, Jr., Miss Henrietta Ely, Francis R. Cope, Jr., and Drs. Henry Robert Munsy Landis and James M. Anders.

Care of Scholars' Teeth.—Twenty thousand toothbrushes and forty gross of tooth powder will be distributed free to public school children by Dr. P. B. McCullough and his assistants in City Hall at the free dental clinic. Dentists of the city in practice more than twenty years raised the fund for this purpose. These will be given each child when his mouth has been put in proper condition at the clinic. At one school, where examinations of the mouths of 110 children were made, only 6 sets of perfect teeth were found. Dr. Joseph S. Neff, director of public health and charities, feels it necessary to have salaried dentists for the work in the free clinic as it is not possible to depend on the corps of volunteer dentists, which in the beginning numbered 200 but now has dwindled to scarcely half a dozen. Councils will be called on to support the clinic.

GENERAL NEWS

Dominion Physicians to Meet.—The forty-fourth annual meeting of the Canada Medical Association will be held in Montreal, June 7, 8 and 9. Sir James Barr, Liverpool, England, will deliver the address in medicine and Dr. Alexander Primrose, Toronto, the address in surgery. Dr. William J. Mayo, Rochester, Minn., will read a paper on "Gallstone Disease," and Dr. Casey A. Wood of Chicago is on the program in the ophthalmologic section.

Change Date of Climatological Meet.—It is announced that the scientific sessions of the twenty-eighth annual meeting of the American Climatological Society will be held in Montreal, Que., June 13-14. The plans contemplate a stay at Saranac Lake, N. Y., June 12, with a visit to the Adirondack Cottage Sanatorium and the New York Sanatorium at Raybrook. The preliminary program includes twenty-two titles, notable among which are the papers by Dr. James M. Anders, Philadelphia, on "The Climatic and Hygienic Influences of Forest Growth;" by Dr. Richard Cole Newton, Montclair, N. J., on "Some of the Laws for the Treatment of Consumption Laid Down by Sydenham and His Successors;" by Dr. David R. Wyman, Wallingford, Conn., on "The Economic Value of Sanatorium Treatment of Pulmonary Tuberculosis;" by Edward Osgood Otis, Boston, on "Blood-Pressure and Physical Exertion;" and by Henry Robert Munsy Landis, Philadelphia, on "After History of Patients Treated in the Phipps Institute."

Medical Sociologists to Meet.—The American Society of Medical Sociology will hold a meeting in the Academy of Medicine, New York City, May 12. The papers of the evening are "What Animal Experimentation or So-Called Vivisection has Accomplished for Mankind," by Dr. James P. Warbasse, Brooklyn; "The Control of Prostitution and of Venereal Disease in This Country and Abroad," by Dr. Frederick Bierhoff, New York City; and "The Question of Abortion from a Social and Ethical Point of View," by Dr. William Josephus Robinson, New York City. The discussion will be opened by Dr. Abraham Jacobi.

Recent Deaths in the Profession Abroad.—In addition to those mentioned by our correspondents, the following deaths have been reported: J. F. Hempel, surgeon-general of the Danish army, died March 8, aged 63.——P. Patron, a leading physician of Peru and on the editorial staff of the *Cronica Medica* of Lima, Peru.——E. E. del Arca, dean of the medical department of the University of Buenos Aires, where he was professor of materia medica, collaborator on the Codex Argentina, member of the state legislature and president of the school board, died March 21, aged 57.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 22, 1911.

Notification of Consumption at Hospitals

The local government board has issued an order embodying further regulations for the notification of cases of pulmonary tuberculosis occurring among the in-patients or out-patients of hospitals and other institutions for the treatment of the sick, which are supported wholly or partially otherwise than by the contributions of the patients. This regulation carries the notification of tuberculosis another step forward. Previously notification was necessary only in the infirmaries provided by the state.

Shellfish and Disease

The dangerous conditions from sewage contamination under which oysters are liable to be collected, fattened or stored, have for several years attracted the attention of health officers. Since 1898, outbreaks of typhoid fever have been traced to this source in England. To cockles similarly contaminated in Belfast Lough the prevalence of typhoid in Belfast is attributed. Dr. Bulstrode, inspector of the local government board, has issued a very important report on "Shellfish Other Than Oysters in Relation to Disease" in which he reviews the evidence connecting the consumption of mollusks with typhoid fever and gastro-enteritis. It has been fairly easy to establish the connection in cases in which a large number of persons partake of these and become ill soon afterward. But in addition to these cases, local investigations made by health officers during the last twenty years have shown that shellfish probably have caused, and are still causing, a serious number of sporadic cases of typhoid fever which contribute largely to maintain its endemic prevalence. Thus in the urban

district of Ormesby, Dr. Johnson, the health officer, has shown that of the patients suffering from typhoid fever, 25 per cent. had eaten shellfish from a contaminated source a short time before, while among a large proportion of the population only 7.3 per cent had eaten shellfish during the whole of the summer. Dr. Bulstrode declares that means must be devised whereby shellfish for human consumption shall no longer be laid down, stored, washed in, or gathered from, positions liable to sewage contamination. The places from which shellfish are procured, cleansed or prepared for market must be periodically inspected. In the meantime, until proper regulations can be enforced, persons who desire to avoid typhoid should consume shellfish only after they have been cooked at the boiling point for at least five minutes.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 21, 1911.

First Aid To Injured Workmen

The president of the Conseil général de la Seine has just received a petition from Dr. Rémy, *agrégé* professor of the Faculté de médecine de Paris, requesting authority to open courses in the professional schools of the city of Paris to train working men to give first aid to injured comrades until the physician should arrive. The Syndicat des Médecins de la Seine has passed a resolution protesting energetically against this petition on the ground that the first dressing should be made with as perfect asepsis and antisepsis as possible.

Responsibility of the Author of a Work of Popular Medicine for a Typographical Error

A cabinet-maker, coming home drunk and realizing his own condition, asked his wife to send to the nearest druggist for something to sober him. His wife consulted a book which she had, the "Médecin du peuple," and found a formula calling for 100 gm. of water, 15 gm. of peppermint water and 15 gm. of ammonia water, to be taken in two or three doses; this she carefully copied and sent to the druggist. The cabinet-maker took the potion and died. The book in question, written by Dr. Georges Migot under the pseudonym of "Dr. Davaud," was first published at Ghent and republished at Paris. In the reprint a serious error crept into the formula copied by the cabinet-maker's wife. The amount of ammonia was given as 15 grams instead of 15 drops. Dr. Migot and the pharmacist were both prosecuted for manslaughter, the one for not having verified his formulas and the other for delivering a remedy without a prescription and without fulfilling the conditions demanded by law. The cabinet-maker's widow, as civil party to the suit, demanded for herself and her two children $8,000 (40,000 francs) damages. Dr. Migot was condemned to three months in prison and the pharmacist to one month. The widow was awarded damages of $200 (1,000 francs) and an annual payment of $60 (300 francs) for herself and $40 (200 francs) a year for each of her two children until they shall be 18 years old. Two-thirds of this pecuniary recompense is to be at the charge of the author of the book in question and one-third is to be charged to the pharmacist.

Large Families in Indigence

An official investigation has been made throughout France into the number of large and indigent families, in order to ascertain the probable cost of monthly relief to such families. It appears that the number of families having from four to ten children, aged less than 13, is 369,739, the total number of children being 1,712,322. Among these 237,802, having 1,078,855 children, are in a condition of permanent indigence.

Protest Against a Play Derogatory to the Medical Profession

A play is now being presented in a Paris theater containing violent attacks against the medical profession. The physicians in this theater have resigned. The Conseil général des Sociétés médicales d'arrondissement de Paris has just unanimously voted its congratulations to the physicians of the theater for not countenancing such outrages by their presence. They call on all their colleagues to follow this example, relying on the professional dignity and solidarity to insure that no physician shall take the place of the physicians who have resigned.

The Signs Displayed by Midwives

Some midwives place at their doors signs announcing that they treat diseases of women. On the complaint of the Syndicat des Médecins de la Seine the prefecture of police has ordered these midwives to suppress all such notices. It is to be hoped that the administration will extend this measure to masseurs and healers of all kinds, and will thereby put an end to an abuse which has lasted too long to the injury of the medical profession.

Has a Physician the Right to Inject a Non-Authorized Serum?

The courts have recently had to pass on the case of a physician, Dr. Lorot of Paris, who was prosecuted for manufacturing and selling without authorization an antituberculous serum called "toxyline." This serum was, according to M. Guignard, director of the Ecole supérieure de pharmacie de Paris, composed of three other serums; one an antityphoid serum, one an antistreptococcus serum coming from the Pasteur Institute of Paris, and the other, the name of which Dr. Lorot was unwilling to give, coming from the Pasteur Institute of Lille. Dr. Lorot's defense was that he did not sell toxyline to patients or to physicians, but that the injections that he made were comprised in the treatment that he gave. Dr. Lorot was acquitted and the court of appeals confirmed the decision of the lower court on the ground that, while the law prohibits the sale of serums not authorized by the government, the injection in the course of treatment, even though it is a serum, should not be considered as a sale.

Treatment of Obesity

On April 11 Professor Albert Robin read before the Académie de médecine a paper on the treatment of obesity by a strictly hygienic and dietetic régime without the administration of any drug and without any quantitative restriction of food or drink. This treatment consists essentially in having the patient take fractioned meals. The first meal in the morning consists of cold meat or fish and hot water with a little tea, and is followed by half an hour's walk. At half past ten the patient eats one or two eggs, drinks hot water and then takes a walk of half an hour. This meal is intended especially to blunt the edge of hunger for the midday meal, for which the patient takes cold meat, a vegetable salad, fresh vegetables and fruit, hot water as before, and then a walk for half an hour. At 5 o'clock he takes a light luncheon with hot drink and a walk afterward; in the evening, a meal like that at noon, but with hot meat, and another walk. This frequency of meals is intended to suppress the sensation of hunger as the ingestion of aromatic hot water restrains thirst, while greatly limiting the quantity of liquid ingested. The treatment is almost always successful. In any case, one may ascertain the outcome very early by measuring the total urine of the two or three days preceding the treatment and, likewise, the urine of the days following. If the treatment is to be successful, an increase of the quantity of urine is immediately observed.

Dr. Maurice de Fleury remarked that Professor Robin was right to reject the starvation treatments, which are always harmful to obese subjects who are affected with tuberculosis.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 13, 1911.

Personal

Dr. Königshöfer, professor of ophthalmology at the veterinary college at Stuttgart, died a few days ago at the age of 59. He secured his preparation for his specialty as assistant to Professor Michel at Erlangen, and has published many investigations in the field of ophthalmology. Moreover, he was active in a scientific and practical way in social hygiene, and did good service as an advocate of the interests of the medical profession, especially for the introduction of the free choice of physicians. It was largely due to him that free choice of physicians in hospitals was introduced in the state hospitals for the railroad and post-office employees of the kingdom of Würtemberg. Königshöfer belonged to the business committee of the German medical league (*Deutscher Aerztevereinsbund*).

Alcohol and Misdemeanors in the Army and Navy

Some interesting facts are given in a recently published article regarding the connection between alcohol and misdemeanors in the German army and navy. According to this article, the offenses committed from drunkenness against military discipline in the army have ranged from 9.6 to 12.5 per cent. of the total misdemeanors in the last ten years, and in the navy from 11.1 to 22.3 per cent. This does not include slight infractions of military order; of the most serious offenses against military discipline (actual attack, mutiny, insubordination) about three-fourths are due to the clouding of the consciousness by alcohol. The geographical distribution of the offenders is also

interesting. In the eastern provinces alcohol is used under its purest forms as whisky, while in the west more wine is drunk, although in the Rhine provinces absinthe is also used, and in Bavaria beer has the preference. The abuse of alcoholic drinks is regulated by the habits of the people of the various divisions of the country.

Repeal of the Tuberculin Test for Imported Cattle

Serious objections have repeatedly been made by German agriculturists against the tuberculin test prescribed to protect the German cattle industry against the importation of foreign diseased animals. On the one hand animals have been rejected on account of their violent reaction to the tuberculin test, which when slaughtered showed only slight tuberculous lesions, conditions that did not necessitate the exclusion of the cattle. On the other hand, it has been established that foreign cattlemen have learned to immunize their cattle to tuberculin, so that animals have passed the test and their importation has been allowed, when later they have proved to be tuberculous. The federal council (*Bundesrat*) has taken cognizance of these complaints, and at its last sitting adopted new regulations for the quarantine of animals imported by way of the sea. The tuberculin test is to be abolished after July 1 and replaced by a clinical investigation.

Hotel Proprietors and the International Hygiene Exposition

At a meeting of the directors of the association for the promotion of commerce between Dresden and foreign places, the chairman stated that the Dresden branch of the international association of hotel proprietors had decided not to impair the invitation of Dresden to foreign cities by a special advance in prices during the international exposition of hygiene, but to support this hospitality by accommodating service. It would be very satisfactory if the Dresden exposition could be made notable above other similar affairs by the carrying out of this resolution.

Municipal Institutions for the Care of Sufferers from Pulmonary and Laryngeal Affections

The Berlin authorities have decided to establish a station for the care of pulmonary and laryngeal patients at Buch, a sewage-farm district belonging to Berlin, where already important municipal institutions are situated, particularly the pest-house, an insane asylum and a hospital for pulmonary patients. The building of a pavilion is contemplated providing for 500 beds, with a possible enlargement to 1,000 beds.

Education of Blind and Deaf and Dumb Children

The upper house of parliament at one of its recent sessions adopted a law for regulating the schooling of blind and deaf and dumb children. In special institutions for the blind, attendance at school is to begin at the sixth year and that for the dumb at the seventh year. For children who are retarded in their development the school attendance is to be postponed three years. As for children who are both blind and deaf and dumb, a special resolution was passed declaring that legal regulations for school attendance were not applicable to such children at present. The government was requested, however, to give particular attention to the schooling and education of such children. As soon as methods for the training of these children have been successfully developed and it is possible to assemble blind, deaf and dumb children in an institution, regulations for their attendance at school are to be established.

BUDAPEST LETTER

(*From Our Occasional Correspondent*)

BUDAPEST, April 10, 1911.

Wood Alcohol Poisoning

Dr. Felletar, director of the Public Analytical Office, in a lecture at a recent meeting of the local medical society, gave some object-lessons on the recent multiple poisoning by wood spirit. He said that in the majority of these cases the persons affected have been of alcoholic habits and have taken to the drinking of the methyl spirit either from a liking for it or as a substitute for unattainable ethyl alcohol. The fatal dose in these cases was half an ounce. One of the patients was poisoned by inhalation of the vapor, and another by absorption through the skin. Both of these were workmen in a distillery. This shows, said Felletar, that in manufactories where large quantities of methyl spirit are used it is necessary to provide for an extra supply of fresh air to the workers. In the cases quoted by Felletar the most constant symptoms of the poisoning were mild intoxication followed by severe headache, gastric pain, retching, dilatation of the pupils and partial or complete blindness. In the most serious cases this sequence was followed by dyspnea, coma with stertorous breathing and death. The toxic amblyopia, continued the lecturer, is of all these symptoms the most constant and important, since even when recovery takes place, atrophy of the optic nerve is likely to follow the neuritis, and permanent blindness is the result. The immediate cause of death in fatal cases is not clear, though respiratory paralysis sometimes precedes circulatory failure. It is thought that the toxicity of the drug may be greatly increased by the production of formates in the body by the decomposition of the methyl alcohol; and formates have actually been discovered in two of these patients. Whatever be the exact pathology of the condition, there is no doubt that the intense toxicity of methyl alcohol calls for extreme caution in its use. It is, moreover, the duty of the profession to see that the public are properly instructed on the point.

Syphilis in Physicians

Dr. Sellei, dermatologist to the Teleia Hospital, recently urged the necessity of counting syphilis as an "occupation disease" of physicians. He has had as patients seven medical men suffering from the disease (Professor Blaschko had twelve). The primary lesion occurred in nearly every case on the hands, and was received in the course of gynecologic examination or operation. In some of the cases the cause of infection was the accidental wounding of the finger with an instrument, but in most it occurred through some unnoticed scratch or minute lesion. In one case, indeed, infection was definitely traced to the performance of an autopsy on a syphilitic. The primary lesion in Sellei's cases was usually very small and by no means painful, and presented some difficulty in diagnosis; in particular, it had to be distinguished from herpes, from anatomic tubercle, and from chancroid. Sellei advises against excessive use of the scrubbing-brush in preparation for gynecologic examinations, as he thinks it is responsible for many slight traumata about the fingers. He advises, too, the more frequent use of gloves in general gynecologic work.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, April 18, 1911.

Military Facilities for Medical Students

The proposed new regulations of the compulsory military service contain some provisions dealing with medical students. Hitherto the rule for the service in the ranks has been three years for the bulk of the population. Medical and certain other students, as well as a few groups of persons having a university education, had the privilege of serving but one year with the colors. The medical students had to serve half a year with the ranks before graduating, and then after having obtained their regular M.D. diploma, they had to serve another six months in the army hospitals. The new plan requires a two-year service with the colors for the bulk, one year for persons with college education, and for medical students three months' service with the rank and file, while the other nine months will be spent in hospitals of the army. Furthermore, the three months of actual army service can be taken during the annual summer vacations, July-September, so that the medical student will no more lose half a year of his curriculum as hitherto. The nine months of hospital service are to be divided up chiefly between surgical and medical wards. Specialist tendencies to be favored whenever present. The military service will, in future, be postponable up till the twenty-eighth year of the student or doctor. After serving his term the doctor will hold the rank of "Oberarzt" (a little less than captain), in his private position. The facilities for medical students have been made necessary by the lack of first-class men in the Army Medical Corps, for nearly all doctors who are capable to do so, leave the army on account of the unsatisfactory position they have to expect there.

Medical Men and the Dissolution of Parliament

The unexpected dissolution of the Austrian parliament has just now come as a welcome period of preparation for the medical profession. The defunct parliament had no more than nine medical members out of a total of 425. They were quite inadequate to cope with the problems confronting our profession just now. The social legislation was framed in such a way that the doctor would have been the sufferer. In previous Vienna letters (THE JOURNAL, Dec. 11 and 25, 1909, pp. 2019, 2171; May 7, 1910, p. 1558) it was explained that a grand action was deliberated in parliament to secure free medical

aid for a large proportion of the population by means of compulsory membership in a Krankenkasse or friendly society. While the profession wanted a certain income limit of 2,400-3,000 kronen ($500-$600) on the part of the insured members, so that persons earning more than that yearly income should not become members of this Krankenkasse, parliament had framed a bill in which no income limit was fixed and all wage-earners could have availed themselves of the opportunity of cheap medical help. This bill spelled ruin to many a private practitioner. By the dissolution of parliament the bill is done away with for a time. Meanwhile the profession has started an energetic action to bring in as many doctors as possible into the new house to be elected in June. All local branches have been asked to nominate medical candidates and the cooperation of influential political parties will be sought after in this endeavor. Especially in certain country districts and in some towns, where the doctor plays a prominent part among the population, there is reason to expect the return of the practitioner into the house. Then, of course, when the bill is again introduced, amendments more suitable to the needs of the profession will be likely to be carried. All the more, as also a new "epidemic act," a "medical regulation act" and a "health officers' act" are under consideration. There will be plenty of opportunity for useful work for would-be members of parliament who are doctors too.

Marriages

JAMES S. ARCHIBALD, M.D., Nokomis, Ill., to Miss Julia Le Hurt of St. Louis, at Edwardsville, Ill., April 15.

EDWIN A. GRIFFIN, M.D., Manhattan, New York City, to Miss Ethel Frances Gibson of Brooklyn, April 12.

CHARLES LEWIS FRANKLIN, M.D., Des Moines, Ia., to Miss Maria Helen Richardson of Chicago, April 26.

CARL O. BERNHARDI, M.D., Jr., Rock Island, Ill., to Miss Edith Snyder of Terre Haute, Ind., April 19.

CHARLES WHEELER WALKER, M.D., to Miss Mary Elizabeth Gaffney, both of Rye, N. Y., April 16.

HUGH PAYNE GREELEY, M.D., Boston, to Miss Floretta Elmore of Milwaukee, Wis., April 20.

CLARENCE E. BRINCKERHOFF, M.D., to Miss Mildred Kathryn Cooney, both of Chicago, April 27.

HEBER BUTTS, M.D., U. S. Navy, to Miss Maude M. Grimes of Washington, D. C., April 17.

EARL B. BUSH, M.D., Ames, Ia., to Miss Edna Evans of Worthington, Minn., April 15.

HENRY M. FINE, M.D., to Mrs. Margaret Havermale, both of Oakland, Cal., April 18.

HENRY B. DECHERD, M.D., to Miss Fannie Dealey, both of Dallas, Tex., April 12.

Deaths

Manning Simons, M.D. Medical College of the State of South Carolina, Charleston, 1868; a member of the American Medical Association; one of the most prominent and successful of the older generation of South Carolina physicians and surgeons; died at his home in Charleston, April 18, from heart disease, aged 64. Almost from the time of his graduation he was a member of the teaching staff of his alma mater as professor of abdominal surgery and gynecology. He was for many years surgeon to the Roper Hospital and the St. Francis Xavier Infirmary. He was formerly president of the South Carolina Medical Association, the Tri-State Medical Association of Virginia and the Carolinas, and the Southern Surgical and Gynecological Association; and was a member of the American Association of Physicians and Gynecologists and International Association of Railway Surgeons. Dr. Simons was local surgeon to the Southern Railway and the Charleston Consolidated Railway and Lighting Company.

Herman Knapp, M.D., an eminent ophthalmologist of New York City; died in Mamaroneck, N. Y., May 1, aged 79. He was born in Dauborn, Prussia, received his degree in medicine at the University of Giessen in 1854, and made studies in ophthalmology in Germany, France and England, thereafter. He became professor of ophthalmology in Heidelberg University in 1864 and continued in that position for four years, when he came to America. He settled in New York City in 1868 and founded the New York Ophthalmic and Aural Institute a year later. In 1869 he also established the *Archives of Ophthalmology and Otology*, of which he was editor for many years. From 1882 to 1888 he was professor of ophthalmology in the New York University Medical College. From 1888 to 1902 he occupied the same chair in the College of Physicians and Surgeons, New York City and, in the latter year, was made emeritus professor.

John Bedford Shober, M.D. University of Pennsylvania, Philadelphia, 1885; died in the German Hospital, Philadelphia, April 27, after an operation for the removal of gall-stones, aged 51. He was a member of the American Medical Association, The College of Physicians of Philadelphia, and the Philadelphia Medical Club; gynecologist to the American Hospital for Diseases of the Stomach and the Howard and Gynecean hospitals, Philadelphia, and to the Bar Harbor (Maine) Medical and Surgical Hospital. Dr. Shober practiced in Philadelphia excepting from June to October of each year, when he resided in Bar Harbor, Me.

Alexander H. Crosby (license, Lewis County, N. Y., 1862); a member of the American Medical Association; and a practitioner of Lewis County for nearly fifty years; in 1875, a member of the state legislature; and for several years a member of the county pension examining board; died at his home in Lowville, March 2, from carcinoma of the liver, aged 74. Lewis County Medical Society, at a special meeting, held March 3, adopted appropriate resolutions regarding the death of Dr. Crosby.

William Green, M.D. Jefferson Medical College, 1858; a member of the Medical and Chirurgical Faculty of Maryland; and chief surgeon in the Confederate Army on the staff of Gen. Robert E. Lee during the Civil War; at one time president of the Baltimore Clinical Society; for several years professor of materia medica and therapeutics in Washington University, Baltimore; died at his home in that city, April 16, from heart disease, aged 74.

Thomas Peter Scully, M.D. Albany (N. Y.) Medical College, 1885; a member of the Medical Society of the State of New York; formerly president of the Oneida County Medical Society; a member of the staff of the Rome Hospital; a member of the Rome board of health, and formerly of the board of health of Cohoes; died at his home, April 19, from pneumonia, aged 41.

Arthur Case Fitch, M.D. George Washington University, Washington, D. C., 1903; formerly night medical officer of the Government Hospital for the Insane, Washington; but for the last two years a resident of Porto Bello, Brazil; and quarantine officer of the Maderra-Manore Railway Company; died suddenly in Porto Bello April 6, from cerebral meningitis, aged 34.

J. Wiltsie Knapp, M.D. Albany (N. Y.) Medical College, 1872; a member of the Medical Society of the State of New York; for six years demonstrator of anatomy in the Syracuse University; for two terms coroner of Onondaga County, and later president of the local board of pension examiners; died at his home in West End, Syracuse, April 14, from nephritis, aged 58.

Edwin Farnham, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Massachusetts Medical Society, the American Public Health Association, and the Massachusetts Association of Boards of Health; medical officer of the board of health of Cambridge from 1889 to 1909; died at his home in that city, April 16, from arteriosclerosis, aged 68.

Addison Parker Macomber, M.D. New York University, New York City, 1853; formerly president of the Iowa State Homeopathic Medical Society; died at his home in Atlantic, Iowa, April 16, aged 79. The physicians of the city passed resolutions expressing their regret at the loss of a faithful associate, and a man of wise counsel and judgment.

William Harper Barrett, M.D. Washington University, St. Louis, 1864; a member of the Missouri State Medical Association, and a charter member of the Cass County Medical Society; major and brigade surgeon of volunteers during the Civil War; died at his home in Harrisonville, April 17, from arteriosclerosis, aged 73.

John Rayner Richardson, M.D. McGill University, Montreal, 1865; a surgeon in the federal service during the Civil War; a member of the American Medical Association; surgeon to the Lakeside Hospital and to the Sons of St. George; died at his home in Chicago, April 27, from cerebral hemorrhage, aged 67.

Katherine Bohm Leidich, M.D. Woman's Medical College of the New York Infirmary for Women and Children, New York City, 1899; a member of the Harrisburg Academy of Medicine; died in the Harrisburg Hospital, March 24, from acute nephritis following an operation for appendicitis, aged 44.

Elbert S. Miller, Jr., M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Tennessee State Medical Association; for about twenty years president of the Johnson City Board of Education; said to have been the oldest practitioner of that city; died at his home, April 12, aged 68.

Charles Stuart Elder, M.D. Rush Medical College, 1863; a veteran of the Civil War; a member of the school board; for two terms alderman, and in 1872, mayor of Chenoa, Ill.; died at the home of his daughter in that city, April 12, from senile debility, aged 75.

Charles C. Phillips, M.D. St. Louis College of Physicians and Surgeons, 1895; formerly a member of the American Medical Association; a member of the Idaho State Medical Association; died at his home in Lewiston, March 29, aged 42.

John Andrew Steele, M.D. Berkshire Medical College, Pittsfield, Mass., 1866; Homeopathic Medical College of Pennsylvania, Philadelphia, 1858; died at the home of his daughter in Minneapolis, April 14, from cholelithiasis, aged 74.

Eugene J. Chassagne, M.D. University of Paris, France, 1877; Jefferson Medical College, 1893; for eight years a member of the staff of Jefferson Hospital, Philadelphia; died at his home in Washington, D. C., April 7, from paresis.

John Fairfield Moulton, M.D. Long Island College Hospital Brooklyn, 1874; a member of the Maine Medical Association; died at his home in Limington, April 14, from peritonitis, following an operation for appendicitis, aged 61.

Samuel Michael Jenks, M.D. Rush Medical College, 1872; of Madison, S.D.; a veteran of the Civil War; and a member of the first board of trustees of the State Normal School; died in Madison, April 14, from pneumonia, aged 65.

Abraham R. Groves, M.D. Kentucky School of Medicine, 1858; University of Louisville, 1867; for a time dean of the staff of the Louisville City Hospital; died at his home in Louisville, April 17, from nephritis, aged 75.

Isaac Frederick Ingersoll, M.D. Queen's University, Kingston, Ont., 1863; medical officer in the United States Army during 1864 and 1865; died at his home in Regina, Sask., Nov. 10, 1910, from senile debility, aged 71.

Robert Louis Hill, M.D. Rush Medical College, 1864; Hahnemann Medical College, Chicago, 1867; consulting physician to the Fabiola Hospital, Oakland, Cal.; died at his home in that city, April 6, from prostatitis, aged 69.

Gabriel A. D. Brown, M.D. Jefferson Medical College, 1868; a member of the Kentucky State Medical Association; of Harrisonville; died at the home of his son in Louisville, April 15, from carcinoma of the stomach, aged 64.

Herbert Benjamin Hutton, M.D. Trinity Medical College, Toronto, 1902; a member of the Welland County (Ont.) Medical Association; died suddenly at his home in Humberstone, Ont., April 8, from myocarditis, aged 33.

Harry Ross Wallace, M.D. College of Physicians and Surgeons, Chicago, 1891; of Chicago; a member of the American Medical Association; died in St. Joseph's Hospital, Alton, Ill., April 12, from diabetes, aged 54.

Samuel D. Smoke, M.D. Medical College of the State of South Carolina, Charleston, 1859; died at his home in Fort Ogden, Fla., Nov. 13, 1910, from chronic nephritis, complicated by aortic stenosis, aged 73.

George Bayneham, M.D. Manitoba Medical College, Winnipeg, 1908; of Brookdale, Man.; died in the General Hospital, Portage la Prairie, April 10, from injuries received in a runaway accident a week before.

Carl Ludwig Larson, M.D. College of Physicians and Surgeons, Chicago, 1902; formerly a member of the American Medical Association; a practitioner of Butte, Mont.; died in Chicago, April 7, aged 39.

Harriett E. Magee Fox, M.D. Hahnemann Medical College, Chicago, 1871; prominent for many years in philanthropic work in Chicago; died at her home in that city, April 21, from diabetes, aged 68.

Robert C. H. Rademaker, M.D. Hospital College of Medicine, Louisville, 1903; clinical assistant in diseases of children in his alma mater; died in Washington, D. C., April 5, from gastritis, aged 37.

Charles James Joseph Lynch, M.D. Bellevue Hospital Medical College, 1890; died at his home in New York City, April 19, from an overdose of paraldehyd, taken as a sleeping potion, aged 41.

William P. Woodcock, M.D. University Medical College, New York City, 1850; for more than thirty years a practitioner of Spencer, Ia.; died at his home, April 6, from senile debility, aged 84.

Hamil Cato Timmons, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; a Confederate veteran, and one of the oldest practitioners of Atlanta; died at his home April 15.

Leander Dixon Rand, M.D. University of Vermont, Burlington, 1888; a member of the Maine Medical Association; died at his home in Fairfield, April 8, from cerebral hemorrhage, aged 48.

James Richard Shapard, M.D. University of Nashville, Tenn., 1874; a member of the Tennessee State Medical Association; died at his home in Nashville, April 18, from meningitis, aged 56.

William Ezekiel Webb, M.D. Jefferson Medical College, 1887; physician to the Chester County (Pa.) Insane Hospital; died at his home in Unionville, April 13, from pneumonia, aged 47.

Percy Ray McLean, M.D. University Medical College of Kansas City, Mo., 1908; of Hunters, Wash.; died in the Monrovia (Cal.) Sanatorium, April 14, from tuberculosis, aged 23.

William R. Endris, M.D. Missouri Medical College, St. Louis, 1882; formerly of St. Louis; a member of the Illinois State Medical Society; died at his home in Brussels, March 31.

Alexander Davis, M.D. Baltimore Medical College, 1892 (license, Tex., Sixth Judicial Board, 1898); died at his home in West, Tex., Oct. 28, 1910, from endocarditis, aged 72.

William H. Hyten (license, Ind., 1897); for sixty years a practitioner of Montgomery County; died at his home in Parkersburg, April 14, from senile debility, aged 87.

John Botsford Sabin, M.D. University of Buffalo, N. Y., 1867; for several years coroner of Kootenai County, Ida.; died at his home in Coeur d'Alene, April 19, aged 65.

Frederick T. Robinson, M.D. College of Physicians and Surgeons, Baltimore, 1893; of Brooklyn, Md.; died in the Johns Hopkins Hospital, Baltimore, April 10, aged 43.

William Carson Wilson (license, Arkansas, 1903); for forty-three years a practitioner of Arkansas; died at his home in Yellville, April 5, from influenza, aged 74.

Arthur Dorval, M.D. Victoria University, Coburg, Ont., 1874; died at his home in Montreal, Que., Dec. 26, 1910, from peritonitis due to a gastric ulcer, aged 58.

Eli Wilson, M.D. Barnes Medical College, St. Louis, 1896; of Puxico, Mo.; died in Hot Springs, Ark., Oct. 15, 1910, from valvular heart disease, aged 43.

Philip A. Austin, M.D. Cleveland University of Medicine and Surgery, 1866; died at his home in Muscatine, Ia., February 13, from pneumonia, aged 76.

Isaac Smith Vreeland, M.D. New York University, New York City, 1876; died at his home in Stony Point, N. Y., April 8, from pneumonia, aged 59.

John J. McElwee, M.D. Washington University, St. Louis, 1863; formerly of Chain of Rocks, Mo.; died at his home in Houston, Tex., April 21, aged 76.

Addison Snively, M.D. University of Wooster, Cleveland, O., 1880; a veteran of the Civil War; died at his home in Cleveland, April 9, aged 66.

Vernon Tuford Chew, M.D. Washington University, St. Louis, 1860; died at his home in Rosenberg, Tex., March 26, from influenza, aged 74.

Thomas J. Solt, M.D. Central College of Physicians and Surgeons, Indianapolis, 1884; died at his home in Mountaintop, Pa., April 3, aged 54.

Joshua M. Fackler, M.D. Pulte Medical College, Cincinnati, 1878; died at his home in Plymouth, O., April 11, from pneumonia, aged 73.

Harry Lloyd Madden, M.D. Medico-Chirurgical College of Philadelphia, 1909; died recently at his home in Mount Alton, Pa., aged 29.

Wesley Jones Burns, M.D. Trinity Medical College, Toronto, 1876; died recently at his home in Caledonia, Ont., aged 57.

R. H. Dyke, M.D. Missouri Medical College, St. Louis, 1878; died at his home in Bellflower, Mo., April 19, aged 57.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

TABLETS OF BISMUTH, OPIUM AND PHENOL

W. A. Puckner and W. S. Hilpert

Nearly three years ago[1], a contribution from the Chemical Laboratory appeared in THE JOURNAL, dealing with the composition of tablets of bismuth, opium and phenol (carbolic acid). It was there shown that these tablets contained only from 72.65 per cent. down to as low as 12.66 per cent. of the amount of phenol stated on the label.

After publishing these results in detail and waiting a little more than two years, we again examined similar tablets of the same makes, bought in the open market. The results of this second examination were published in THE JOURNAL, Dec. 17, 1910. Instead of finding that conditions were better, that the firms had made an effort to market tablets that were true to the label, this examination showed that the phenol-content of the tablets now ranged from 63.53 per cent. down to 12.27 per cent. of the amount claimed.

This second examination also showed that the manufacturers were not sufficiently concerned with the quality of their product to call in any stock which they must have known was untruthfully labeled. In view of this fact, it was thought worth while both to learn the ages of the various tablets that were purchased at the time of, and for the purpose of, making the second examination and also to examine the most recently made tablets put out by the same firms. Accordingly, the identifying marks on each package of tablets examined and which formed the basis of the report of the second paper, were sent to the respective firms with inquiries as to the date of the manufacture of these various specimens. At the same time orders were placed in each case for the firm's most recently made product.

The result of this work is arranged in tabulated form as follows: Table 1 gives the age of the specimens that were used for the second examination; Table 2 compares the composition of tablets as found in the first and second examinations with the composition found in the present (third) examination.

TABLE 1.—AGE OF TABLETS IN SECOND EXAMINATION

MANUFACTURER	DATE OF MANUFACTURE	DATE OF PURCHASE	AGE WHEN PURCHASED
Hance Bros. & White...	Sept. 17, 1910.	Oct. 27, '10	1 month.
W. S. Merrell Chem. Co.	July 11, 1906..	Oct. 27, '10	4 years.
H. K. Mulford Co.....	Nov. 22, 1909..	Sept. 15, '10	1 year.
Parke, Davis & Co.....	Sept., 1910....	Sept. 15, '10	Under 1 mo.
Sharp & Dohme.....	June 1, 1906...	Sept. 15, '10	4 years.
F. Stearns & Co.....	August, 1906..	Oct. 27, '10	4 years.
Truax, Greene & Co....	Prior to 1906..	Sept. 16, '10	4-5 years.
H. K. Wampole & Co...	Aug. or Dec.,'08	Oct. 27, '10	2 years.
W. R. Warner & Co....	Aug. 3, 1906...	Nov. 11, '10	4 years.

Strange as it may seem, some of the manufacturers wrote as if they had not known of the former publication of the laboratory's examination.

Wm. R. Warner & Co. writes that it is going to engage the services of a commercial chemist to examine the stock and that it will not offer the tablets for sale until assurance is had that the tablets are true to claim. While it may cause some surprise to learn that this firm must engage outside talent to learn the quality of its own wares, the decision to discontinue the sale of its practically worthless stock is to be commended.

1. THE JOURNAL A. M. A., July 25, 1908, p. 330.

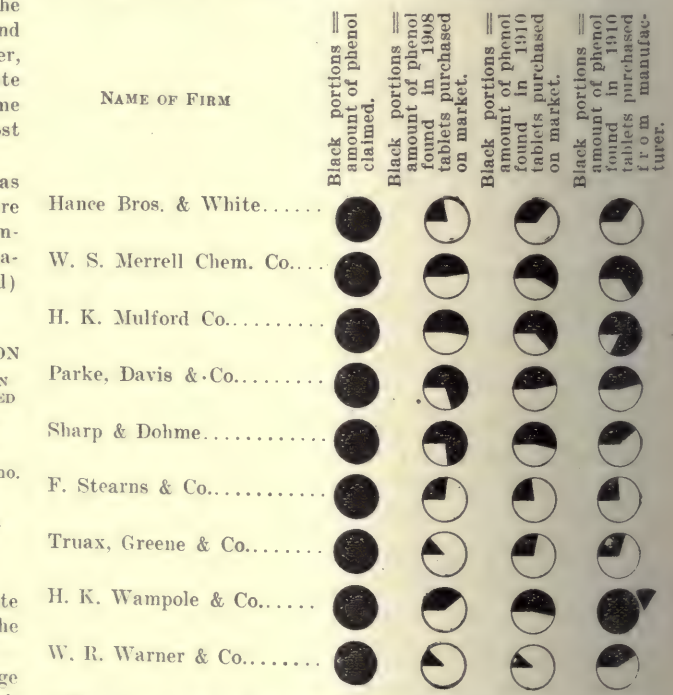
TABLE 2.—COMPOSITION OF TABLETS IN FIRST, SECOND AND THIRD EXAMINATIONS

PHENOL FOUND EXPRESSED AS PER CENT. OF AMOUNT CLAIMED

MANUFACTURER	Specimen Purchased on Market 1908	Specimen Purchased on Market 1910	Specimen Obtained from Manufacturer 1910
Hance Bros. & White.....	21.89	34.19	34.49
W. S. Merrell Chem. Co....	48.89	57.59	68.43
H. K. Mulford Co.....	52.34	63.53	83.18
Parke, Davis & Co.....	(a) 70.23		
	(b) 47.02	46.86	46.83
Sharp & Dohme.....	(a) 72.65		
	(b) 34.63	53.39	38.14
F. Stearns & Co.....	26.55	23.17	24.86
Truax, Greene & Co.....	13.69	28.09	28.24
H. K. Wampole & Co.....	(a) 46.14		
	(b) 39.31	53.75	112.64
W. R. Warner & Co.....	12.66	12.27	41.47

The tablets which were obtained direct from H. K. Wampole & Co. and which were found to contain an amount of phenol in excess of the amount claimed were quite different in appearance when received from any previously examined in that they were damp and had a strong odor of phenol. About two months later, the tablets of this batch which remained in the bottle presented a most remarkable appearance in that they were covered with an efflorescence of crystals of phenol. Should these tablets be dispensed on a physician's prescription the possibilities are that the pure phenol would come in direct contact with the tongue and throat and produce painful burns. Of course these tablets are quite unfit for use.

Another important matter brought out is the fact that ready-made mixtures, such as these tablets, may be four or five years old before they leave the hands of the wholesaler. While, in this case, the efficiency of the remedy is not influenced by age, it is a well-known fact that many drugs rapidly deteriorate. If tablets such as these are likely to be four or five years old before they leave the wholesale house, how old will they be before they are dispensed on a physician's prescription? This question is a pertinent one and the answer—which the laboratory's work furnishes—should do much to discourage the prescribing of such ready-made mixtures.



The above presents the findings of the Association chemists in a graphic form and shows the great discrepancies between the claims made for the tablets and the actual facts. The solid black portions represent the phenol-content. In the first column is given the phenol content claimed by the manufacturer; in the second column is shown the actual phenol-content found in the tablets purchased in 1908; the third column represents the phenol-content as found in the tablets purchased on the market in 1910, while the fourth column shows the phenol-content of the tablets purchased in 1910 direct from the manufacturer. Note the excess of phenol in the tablets sent by H. K. Wampole & Co. in filling the order for a bottle of the most recently made products.

SANATOGEN—ITS FOOD VALUE

To the Editor:—Will you kindly tell me whether or not Sanatogen has any food value?

ARCH DIXON, JR., M.D., El Paso, Texas.

ANSWER.—Sanatogen is said to contain 95 per cent. of casein so that 30 gm. (1 ounce) of this preparation would contain approximately 28.5 gm. of protein, which would yield 117 calories. This is the equivalent in round numbers of one-third of a pint of milk or one and one-half eggs. The same amount of energy would be given by an equal weight of starch or by one and one-fifth as much of flour or other cereals. To present the matter even more graphically, it may be said that $1 worth (4 ounces) of Sanatogen yields approximately no more energy than 6 cents' worth of good milk or 1 cent's worth of ordinary wheat flour. Sanatogen, therefore, like most preparations of this class, while a food, is a ruinously expensive one. The absurdly exaggerated claims regarding it were discussed in THE JOURNAL, Feb. 19, 1910, as follows:

"According to the manufacturers, this patent medicine—or food—is composed of 95 per cent. casein and 5 per cent. sodium glycerophosphate. The preparation is advertised very extensively both to physicians and to the laity, on both sides of the Atlantic. In Great Britain it is a 'tonic food,' in this country a 'food tonic;' whether this is a distinction with or without a difference, it is hard to say. The public is told that Sanatogen is a 'muscle builder and a nerve and brain food;' the medical profession, that 'it should not be regarded as a food preparation in the ordinary sense of the term and it is not offered as such to the medical profession. . . .' Many of the claims made for this combination of milk-curd and glycerophosphates are exaggerated and absurd. The following are taken from advertisements, appearing both in this country and abroad:

"The Re-Creator of Lost Health."
"Sanatogen is . . . a rebuilding food."
". . . revitalizes the overworked nervous system."
"Specific nerve tonic action."
"Most reliable and scientific of all nutrients."
". . . *in certain diseases* it exerts a *specific action* which renders it a valuable adjunct to other curative measures."

"In one of the form letters sent to physicians, the makers of Sanatogen opine that 'you have likely noticed' an article that appeared 'in the May issue' of a certain medical journal. The ingenuousness of this intimation becomes apparent when it is known that a few days previous to receiving the letters, the physicians had been the recipients of pamphlet reprints of said article—'With Author's Compliments.'

"That milk curd has a food value no one will deny; that the glycerophosphates of soda have a place in medicine may be admitted; but that a combination of these two products should become at once the summum bonum of medicinal foods is a proposition that will not appeal to the thinking physician."

Correspondence

Fatal Accident from Toy Pistol Means of Securing Sane Fourth Ordinance

To the Editor:—On April 11, a child, aged 7, was playing with another boy, aged 13, and in some manner a toy blank cartridge pistol, which had been loaded with a 22-caliber cartridge, with the bullet whittled down to allow it to enter the bore of the pistol, was discharged, the bullet entering the younger child's back, between the lower ribs and the crest of the ilium. In spite of everything that could be done, even to opening the abdomen in the hope of tracing the bullet, which had been followed from the rear as far as the spine, the child died about thirty-six hours after the accident.

It was found that the toy pistol causing the child's death had been purchased for the celebration of last Fourth of July.

Attorneys, physicians, and business men, together with the press, at once took up the matter of a prohibitive ordinance insuring a "sane Fourth" and April 17 the desired ordinance was passed by the Enid city commission, and the prohibition made to include all forms of explosive fireworks. Some slight objection was made by one or two members of the commission who wanted an exception made in favor of small firecrackers and other so-called harmless fireworks, but several physicians armed with the statistics summarized in THE JOURNAL, Sept. 3, 1910, turned the tide; the opposition was withdrawn and the ordinance was passed as drawn.

The firms in the city handling fireworks had agreed to cancel their orders in case an ordinance was passed immediately, and to their fair-mindedness in the matter the result was due in no small measure.

The physicians of Enid have been trying to get such an ordinance passed for two or three years, but were always met by more or less indifference, and by the statement that it would be unjust to the dealers to prohibit the sale of stock already purchased. It took this needless sacrifice of an innocent young life to bring the community and the city government to their senses in the matter, but once aroused they have moved in the matter with a promptness truly commendable, and we hope in the future to have a Fourth truly "sane."

P. A. SMITH, M.D., Enid, Okla.

The Round-Ligament Operation

To the Editor:—I believe Dr. J. Clarence Webster and Dr. J. M. Baldy (see THE JOURNAL, April 29, 1911, p. 1280) are both behind the times in respect to priority of the operation above named. I saw Dr. Frank Andrews do this operation at Mercy Hospital in 1898 many times, drawing the round ligaments through the broad ligaments and uniting them back of the fundus. Dr. Andrews said that occasionally it might be advantageous to put a small suture from ligaments to fundus when the round ligaments were greatly relaxed.

WILLIAM J. THOMSON, Portage, Wis.

Method of Staining Bacteria

To the Editor:—My attention has been called to the fact that I have not mentioned the staining of preparations for the standardizing of vaccine by the method described in my article on "The Simplified Method of Staining Bacteria," which appeared in THE JOURNAL, April 22, 1911, p. 1189.

I have used this method of staining for that purpose all along with the greatest satisfaction in place of Leishman's or Wright's blood-stain recommended by most observers.

LEON S. MEDALIA, Boston.

Association News

No Genito-Urinary Section Program at Los Angeles

To the Editor:—At a meeting of the executive committee of the Section on Genito-Urinary Diseases of the American Medical Association, held April 20, it was unanimously resolved to hold the first meeting of the Section in 1912.

The committee finds that proper representation cannot be secured at so late a date in June this year.

H. H. YOUNG, Secretary, Baltimore.
WILLIAM T. BELFIELD, Chairman, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PUBLIC DOCUMENTS NOT FREE

To the Editor:—You recently mentioned the Public Health Bulletins. Every letter that I have received in reference thereto has indicated that the writer had received the impression from your publication that the bulletins were sent free.

If you can see your way clear to publish a few lines removing that erroneous impression, which causes some disappointment to those who address me, and involves considerable correspondence on the part of my clerks, I shall be obliged.

AUGUST DONATH, Superintendent of Documents.
Washington, D. C.

ANSWER.—The language in the editorial referred to, April 8, 1911, page 1039, can hardly be held responsible for the inference that these bulletins are sent free. It is far more likely that this inference comes from the well-known fact that government publications are, to such a large extent, furnished free. The average reader may be excused if he thinks this custom is general, in view of the thousands of tons of speeches and political documents which our representatives and senators send without charge on slight provocation to any of their constituents who may be influenced. For instance, a recent despatch from Washington stated that one senator had shipped two car-loads of envelopes, addressed and bearing his frank, to the largest city in his state, where they were to be filled with copies of his speeches and distributed, gratis, and postage-free to the voters of the state. This enormous mass of literature (?) was distributed for political reasons, and so cost the individual nothing, but will be paid for by the tax-payer. The public health pamphlets on the other hand, were intended only to save life and reduce sickness, and so could not, of course, be distributed free to the tax-payer. A price-list of these documents can be secured from the Superintendent of Documents. Meanwhile political speeches and garden-seeds can be had for the asking, as usual.

QUININ AND UREA ANESTHESIA

To the Editor:—Please give me the technic and other information pertaining to quinin and urea hydrochlorid as a local anesthetic.

E. D. COLLETT, Mangum, Okla.

ANSWER.—The technic of anesthesia by quinin and urea hydrochlorid is the same as that by cocain. The injections are used in the strength of from ¼ to 1 per cent. The ¼ per cent. solution is said to be free from the risk of producing fibrous indurations, which sometimes occur with the stronger solution. For application to mucous membranes solutions varying in strength from 10 to 20 per cent. should be used.

The following articles on this subject have been published or abstracted in THE JOURNAL.

Thibault, H.: A New Local Anesthetic, Jour. Arkansas Med. Soc., Sept., 1907; abstr. in THE JOURNAL, Nov. 16, 1907, p. 1719.

Brown, E. J.: Painless Tonsillectomy and Adenectomy with Quinin Anesthesia, THE JOURNAL, Aug. 8, 1908, p. 496.

Herztler, A. E., Brewster, R. B., and Rogers, F. B.: Quinin and Urea Hydrochlorid as a Local Anesthetic, THE JOURNAL, Oct. 23, 1909, p. 1393.

Gaudier, M.: Quinin and Urea Hydrochlorid, Presse Médicale, July 2, 1910; abstr. in THE JOURNAL, Aug. 6, 1910, p. 538.

Thibault, H.: Local Anesthesia with Quinin and Urea Hydrochlorid, THE JOURNAL, Apl. 23, 1910, p. 1375.

Quinin and Urea as Local Anesthetics, THE JOURNAL, May 14, 1910, p. 1628.

Green, W. O.: Local Anesthesia with Quinin and Urea Hydrochlorid, THE JOURNAL, June 11, 1910, p. 1940.

Quinin and Urea Hydrochlorid, N. N. R. Supplement, THE JOURNAL, Apl. 15, 1911, p. 53.

See also Graham, H. F.: Quinin and Urea Hydrochlorid as a Local Anesthetic, Long Island Medical Journal, June, 1910.

PIPERAZIN, LYCETOL AND LITHIA IN NEPHROLITHIASIS

To the Editor:—Please advise me as to the value of piperazin and lycetol in nephrolithiasis. Are they of enough value to warrant paying such a fancy price for them? Please advise me if there is anything I can do beyond advising a strict diet, plenty of water to drink, and possibly lithia.

C. E. D., M.D., Flora, Ill.

ANSWER.—Piperazin, lycetol, lithium carbonate and other alkalies are more or less efficient solvents of uric acid and urate calculi in the test-tube; careful experimental work, however, as well as theoretical considerations, demonstrate that the chemical conditions are unfavorable for their solvent action in the tissues and in the urinary passages. Critical clinical observers also agree that these drugs are not reliable uric acid solvents. The most rational and effective, as well as the most economical, treatment of nephrolithiasis consists in the dilution of the urine by drinking plenty of water, prevention of excessive acidity by the administration of alkalies, and limitation of the uric acid progeners in the food by avoidance of meats. It is doubtful whether piperazin, lycetol or lithium salts would add to the efficiency of the treatment. The question of uric acid solvents will probably be discussed in THE JOURNAL in greater detail in the near future.

ALCOHOL IN THE TREATMENT OF POISONING BY THE PORTUGUESE MAN-OF-WAR

To the Editor:—It may help Dr. R. S. Lowry, of Fort Lauderdale, Florida [THE JOURNAL, April 22, 1911, p. 1213] to know of my experience, during the past seven years at Palm Beach, with the poison of the Portuguese man-of-war. Among the numerous bathers at the above resort, I have had several cases of more or less severe poisoning by this jellyfish, and the only prompt relief that I have obtained has been by bathing the place stung with alcohol 95 per cent. This gives immediate relief, and the continual use of alcohol and water, equal parts, relieves permanently. My theory has been that the alcohol dissolves and neutralizes the poison, as it does in ivy poison. I have tried nearly every external application, but found nothing so satisfactory as the alcohol.

WILLIAM E. BULLARD, Larchmont, N. Y.

The Public Service

Medical Department U. S. Army

Changes for the week ended April 29, 1911.

Glennan, James D., lt.-col., left Army Gen. Hosp., San Francisco, on 30 days' leave of absence.

Kerr, Robert W., lieut., relieved from duty as surg., transport *Sheridan*, on arrival at San Francisco, about Oct. 12, 1911, and will report to adjunct general of Army for further orders.

Bayly, Rozier C., lieut., relieved from duty as trans. surg. *Logan*, on arrival at San Francisco, about Nov. 12, 1911, and will report to the adjutant general of the Army for further orders.

Suggs, Frank, M.R.C., on withdrawal of troops from Ft. Egbert, Alaska, will proceed to Seattle, Wash., for further orders.

Lincoln, H. F., M.R.C., when his services are no longer needed on the transport *Crook* will proceed to Ft. Apache, Ariz., for duty.

Ruddy, Wm. P. J., M.R.C., recently appointed, will proceed to Ft. Myer, Va., for duty at that station.

Hewitt, John M., M.R.C., assignment to U. S. A. T. *Dix*, revoked.

Fisher, H. C., major, left Columbus Bks., Ohio, on ten days' leave.

Deshon, Geo. D., major, orders directing him to proceed to the Philippine Islands, for duty, on July 5, 1911, revoked.

Hewitt, John M., M.R.C., retd. to station U. S. Mil. Prison, Ft. Leavenworth, Kan., from en route to Seattle, Wash., for duty on transport *Dix*.

Griffis, F. C., M.R.C., to Ft. Robinson, Neb., for temporary duty.

Wolven, F. Homer, D.S., ordered to proceed to several posts in Alaska, for duty.

Knox, Howard A., lieut., resignation accepted by the President.

Richardson, William H., captain, relieved from duty at Army Gen. Hosp., San Francisco, and ordered to Ft. Miley, Cal., for duty.

Boak, S. Davis, D.S., relieved from duty at Army General Hospital, San Francisco, and ordered to West Point, N. Y., relieving William H. Chambers, D.S., who will proceed to the Army General Hospital, San Francisco, for duty.

Ferguson, James B., 1st lieut., relieved from active service under the provisions of an Act of Congress March 4, 1911.

Freeman, Chas. E., captain, relieved from duty at Ft. Miley, Cal., and ordered to the Army General Hospital, San Francisco, for duty.

Each of the following-named officers is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco and take the transport to sail from that place on or about Sept. 5, 1911, for the Philippine Islands, and on arrival at Manila will report in person to the commanding general Philippines division, for assignment to duty: 1st Lt. John T. Aydelotte, M.C., Ft. Sam Houston, Tex.; 1st Lt. Harry R. Beery, M.C., Ft. Benjamin Harrison, Ind.; 1st Lt. Joseph Casper, M.C., Ft. Du Pont, Del.; 1st Lt. George W. Cook, M.C., Ft. Douglas, Utah; 1st Lt. Arthur O. Davis, M.C., Ft. Oglethorpe, Ga.; 1st Lt. Joseph W. Love, M.R.C., Fort Banks, Mass.; 1st Lt. Herbert I. Harris, M.R.C., Ft. Snelling, Minn.

Each of the following-named officers is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco and take the transport to sail from that place on or about Oct. 5, 1911, for the Philippine Islands, and on arrival at Manila will report in person to the commanding general, Philippines division, for assignment to duty: Lt.-Col. Guy L. Edie, M.C., attending surgeon, Washington, District of Columbia; Maj. Wm. E. Vose, M.C., Jackson Bks., La.; 1st Lt. Taylor E. Darby, M.C., Ft. McPherson, Ga.; 1st Lt. Ralph G. de Voe, M.C., Ft. Worden, Wash.; 1st Lt. James S. Fox, M.C., Ft. Sam Houston, Tex.; 1st Lt. Glenn I. Jones, M.C., Ft. McDowell, Cal.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 26, 1911:

Stoner, J. B., surgeon, directed to proceed to Pittsburg, Pa., and assume command of the service.

Wertenbaker, C. P., surgeon, directed to proceed to Fortress Monroe, Va., and inspect unserviceable property on hulk *Jamestown*.

Schereschewsky, J. W., P. A. surgeon, relieved from duty at Baltimore and directed to proceed to Washington, D. C., and report to Director of the Hygienic Laboratory for duty.

Grimm, R. M., asst.-surgeon, relieved from duty in the Hygienic Laboratory and directed to proceed to Savannah, Ga., and assume temporary charge of the service.

Clarke, F. M., acting asst.-surgeon, granted twenty days' leave of absence from May 6, 1911.

Goldthwaite, Henry, acting asst.-surgeon, granted thirty days' leave of absence from April 1, 1911.

Board of medical officers convened to meet at San Francisco, Cal., April 24, 1911, for the examination of Assistant Surgeon A. J. Lanza, to determine his fitness for promotion to the grade of Passed Assistant Surgeon. Detail amended as follows: Surgeon Rupert Blue, chairman; Passed Assistant Surgeon F. E. Trotter; Passed Assistant Surgeon M. W. Glover, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

GOVERNOR O'NEAL VETOES THE ALABAMA OPTOMETRY BILL

The optometry bill recently passed by the Alabama legislature, through a misapprehension as to its intent, has been vetoed by the governor, Hon. Emmet O'Neal. His veto message should be read by all interested in preventing the passage of these bills. Governor O'Neal said:

To the Senate: I herewith return Senate Bill No. 151, without my approval.

This bill proposes legally to organize or establish in this state a new occupation or profession, to be known as optometry, based on the science of optics as applied to the eye.

As I understand it, an optometrist is in reality an optician, and an optician has always been considered a tradesman, and he is not required or expected to have a scientific medical knowledge required by law of the oculist—whose profession authorizes him to medically treat the eye.

Inasmuch as the field of the optometrist constitutes a part of the broad field of the science of medicine, a part already occupied by regularly educated and licensed physicians, known as oculists, it becomes a question worthy of investigation and study as to the wisdom of permitting territory belonging legitimately to one profession to be invaded by persons who are not, and do not claim to be, equipped for membership in that profession. As all know, the eye is a very delicate and important organ of the body. Consequently, to deal with it intelligently there is required a thorough knowledge of not only its optics, but its anatomy, physiology and diseases. While optometrists propose to deal only with the optics of the eye, to draw the line that separates the optics of the organ from its diseases must require a thorough knowledge of everything that appertains to the eye; that is, of its optics, anatomy, physiology and its diseases.

A man who is familiar with only one part of the subject would necessarily often be unable to determine where his domain begins. Just as a physician who understands only the anatomy, physiology and diseases of the eye would not be in a position to deal with its optics, so a person who only understands its optics would not know where its diseases begin. That is, the entire subject seems to be so closely correlated as to render it practically impossible to draw a line of demarcation between its parts, and assign one part to persons who do not claim to study or understand the whole. If this be true, it becomes a serious question as to the good policy of by law authorizing persons to occupy a field, the limits of which they cannot definitely define. A class of men, known as opticians, has long existed. The duties of these consist in grinding glasses and filling the prescriptions of oculists. This relation corresponds with that sustained by druggists and physicians, and it would seem to be the wisest policy to insist that these relations be maintained. To permit an optician to usurp the rights of an oculist, who is at the same time an educated physician, would be quite as irregular as to permit a druggist to usurp the rights of a physician in the treatment of diseases of patients.

I am informed that bills similar to this one have been introduced in many legislatures, inspired perhaps by some large manufacturing establishments for the mauufacture and sale of glasses. It is easy to see that conferring a high-sounding title on men engaged in a trade would tend to exaggerate their importance and skill in the minds of the public.

In vetoing this bill I am not depriving opticians or persons dealing in glasses of any rights that legitimately belong to them.

If such a law is enacted it would, in my opinion, be an infringement on the already existing laws regulating the practice of medicine in this state. I therefore recommend that any applicant for the practice of optometry be required to undergo the same examination as that of any specialist who proposes to practice medicine in his selected specialty.

I am informed by physicians of the highest authority and by men who by life-long study have thoroughly acquainted themselves with the eye and its diseases, that the legislation sought in this bill is extreme, and I am also informed by the State Board of Health that only a thoroughly equipped and licensed physician should be permitted to enjoy the privileges intended to be conferred on optometrists by this bill.

It will be noticed that it is intended by this bill that the opticians of the state shall have exclusive control of the officers provided for in the bill, and I am informed that if there is a department created by legislation akin to that sought by this bill it should be placed under the control of the State Board of Health, or of regularly licensed and educated physicians.

A bill similar to this one was presented in 1907 to Governor Hughes of New York, and was vetoed by him on this very ground.

[After quoting from the veto messages of Governor Deneen[1] of Illinois and Governor Harmon of Ohio,[2] Governor O'Neal concludes:]

The eye is too delicate and valuable an organ to be made the subject of any experiment whatsoever; and if there is to be such a science as that of optometry I fear that it is yet too near to its inception to be given the power contemplated in this bill, which is returned to you without my approval.

EMMET O'NEAL, Governor.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR

BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Second Weekly Meeting

CAUSES OF SUDDEN DEATH (CONTINUED)

DEATH BY ASPHYXIA

HANGING: Death due to obstruction of admission of air, to pressure on blood-vessels, to injury to nerves or spinal cord. Phenomena of hanging; three stages (Tidy). Post-mortem appearances, external and internal. Suspension before and after death. Homicidal hanging.

STRANGULATION: Manual (immediate) or by ligature (mediate). Garroting. Phenomena of strangulation; four stages (Draper). Post-mortem appearances, external and internal. Accidental, suicidal and homicidal strangulation.

SUFFOCATION: Methods. Accidental, suicidal and homicidal suffocation. Post-mortem appearances.

DROWNING: Post-mortem appearances, external and internal. Manner of death. Accidental, suicidal and homicidal drowning. Determination of interval between death and recovery of body.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 9. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, May 9. Sec., Dr. P. C. Williams, Texarkana; Eclectic, Little Rock, May 9. Sec., Dr. G. A. Hinton, Hot Springs.

FLORIDA: Regular, Tallahassee, May 8-9. Sec., Dr. J. D. Fernandez, Jacksonville.

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.

MASSACHUSETTS: State House, Boston, May 9-11. Sec., Dr. Edwin B. Harvey, Room 159 State House.

MISSISSIPPI: Jackson, May 9. Sec., Dr. S. H. McLean.

NEBRASKA: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

NEW YORK: May 23-26. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

WISCONSIN: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Utah Secures an Amended Practice Act

Revisions to the Utah medical practice act have been secured providing: (a) that the attorney general shall be ex officio a member of the board of medical examiners; (b) that the board shall consist of nine members so appointed that

1. THE JOURNAL A. M. A., June 1, 1907, p. 1871.
2. THE JOURNAL A. M. A., June 25, 1910, p. 2135.

the terms of three members expire each year; (c) that the minimum number of hours constituting the medical course required of all applicants be 3,500 hours, no specific total being fixed for the various subjects of the medical curriculum; (d) that the minimum requirement of preliminary education shall be a certificate from a first grade high school which shall have included at least two units work in Latin or German, but that after 1916, each applicant in addition must furnish evidence of at least one year's work in a college of liberal arts; (e) that the fee for examination be $25.00; (f) that authority be given to the board to revoke the license of any practitioner guilty of unprofessional conduct after proof of such conduct has been secured; (g) that the board be empowered to establish reciprocal relations with other states; and (h) for a definition of the practice of medicine.

"Unprofessional conduct" is defined to mean: (1) offering or attempting to procure or aid or abet in procuring a criminal abortion; (2) the procuring or aiding or abetting in procuring a criminal abortion; (3) the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured; (4) the wilful betraying of a professional secret; (5) any advertising naming diseases of or in relation to the diagnosis or treatment of, or medicine for any abnormal or diseased condition of, or pertaining to the organs of generation; (6) all advertising of medicine or of any means whereby the monthly periods of women can be regulated or the menses reestablished if suppressed; (7) conviction of any offense involving moral turpitude; (8) habitual intemperance or gross immorality; (9) lending his name to be used as a physician or surgeon by another person who is not a physician or surgeon; (10) street advertising, soliciting or other public peddling or selling of medical or surgical remedies or appliances in person or by proxy; (11) prescribing any intoxicating liquor to be used as a beverage; (12) prescribing morphin or cocain or other narcotic with intent that the same shall be used otherwise than medicinally or with intent to evade any law in relation to the sale, use or disposition of such drugs; (13) wilful violation of the law in regard to the registration of births and deaths and the reporting of infectious diseases to the State Board of Health.

The definition of the practice of medicine is as follows: Any person shall be regarded as practicing medicine within the meaning of this title, who shall diagnose, treat, operate on, or prescribe or advise for, any physical or mental ailment or any abnormal, mental or physical condition of another, after having received or with the intent to receive therefor, either directly or indirectly, any fee, gift, compensation or other pecuniary benefit, reward or consideration; or who shall hold himself out by means of signs, cards, advertisements or otherwise as a physician or surgeon.

Connecticut Regular, Homeopathic and Eclectic March Reports

Dr. Charles A. Tuttle, secretary of the Connecticut State Medical Examining Board, reports the written examination held at New Haven, March 14-15, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 24 of whom 17 passed and 7 failed. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
College		
Yale Medical School (1910) 75.5, 76.9, 81.5, 82.1, 82.9, 85.8, 88.6.		
Northwestern University Medical School	(1897)	79.4
Johns Hopkins University Medical School	(1908)	77.7
Tufts College Medical School	(1905)	78.3
Long Island College Hospital	(1909)	77.9
Jefferson Medical College	(1909)	83.2
University of Virginia	(1908) 84.7; (1909)	77.2
University of Toronto, Ontario	(1909)	81.9
McGill University, Quebec	(1899)	76.4
University of Rome, Italy	(1898)	78.8
FAILED		
Maryland Medical College	(1910)	65.8, 66.4
Baltimore Medical College	(1907)* (1909)	67 68.1
College of Phys. and Surgs., Boston	(1907) 49.4; (1910)	57.7

* No percentage given.

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, March 14, 1911. Only one candidate, a graduate of Boston University, 1909, was examined and he passed with a grade of 93 per cent.

Dr. T. S. Hodge, secretary of the Connecticut Eclectic Medical Examining Board, reports that at the meeting held at New Haven, March 14, 1911, one candidate, a graduate of the Eclectic Medical Institute, 1883, was licensed through reciprocity with New York.

Washington January Report

Dr. F. P. Witter, secretary of the Board of Medical Examiners of the State of Washington, reports the written examination held at Spokane, January 3-6, 1911. The number of subjects examined in was 11; total number of questions asked, 132; percentage required to pass, 75. The examination included the clinical examination of patients in hospital wards. The total number of candidates examined was 75, of whom 51 passed, including 1 osteopath, and 24 failed. The following colleges were represented:

PASSED	Year Grad.	Total No. Examined.
College		
Gross Medical College	(1901)	1
Bennett Medical College, Chicago	(1896)	1
American Medical Missionary College	(1910)	1
College of Physicians and Surgeons, Chicago (1883) (1908) (2, 1909)	(1910)	5
Rush Medical College (1887) (1900) (1906) (2, 1908)	(2, 1910)	7
State University of Iowa, College of Medicine	(1910)	1
Louisville Medical College	(1901)	1
Johns Hopkins University	(1910)	1
University of Maryland	(1910)	1
University of Michigan, Department of Medicine and Surgery (1903) (1904)	(1910)	3
Harvard University Medical School (1893)	(1898)	2
Saginaw Valley Medical College	(1898)	1
University of Minnesota, College of Medicine (1896) (1902) (1905) (1907)	(1908)	5
Missouri Medical College	(1889)	1
Creighton Medical College (1909)	(1910)	2
New York Homeopathic Med. Coll. and Hosp.	(1910)	1
New York University Medical College	(1893)	1
Albany Medical College	(1900)	1
Jefferson Medical College (1906)	(1910)	2
University of Pennsylvania (1878) (1895) (1896) (1899)	(1907)	5
Tennessee Medical College	(1906)	1
University of Vermont	(1889)	1
Trinity Medical College, Ontario	(1903)	1
McGill University, Quebec	(1910)	1
University of Toronto, Ontario	(1908)	1
University of Christiania, Norway	(1908)	1
University of Munich, Germany	(1901)	1
FAILED		
Rush Medical College (1886) (1899)	(1903)	3
College of Physicians and Surgeons, Chicago	(1910)	1
Northwestern University Medical School	(1910)	1
Bennett Medical College	(1896)	1
State University of Iowa, College of Medicine	(1908)	1
University of Louisville	(1900)	1
Drake University, College of Medicine	(1897)	1
College of Physicians and Surgeons, Baltimore	(1909)	1
Tufts College Medical School	(1906)	1
University of Michigan, Department of Medicine and Surgery (1883)	(1879)	2
Barnes Medical College	(1907)	1
Missouri Medical College	(1895)	1
Bellevue Hospital Medical College	(1898)	1
University of Buffalo	(1910)	1
University Medical College, Kansas City	(1898)	1
University of Pennsylvania	(1909)	1
University of Nashville	(1902)	1
Tennessee Medical College	(1900)	1
University of Vermont	(1899)	1
University of Toronto	(1908)	1
London School of Medicine for Women	(1900)	1

Wyoming March Report

Dr. J. B. Tyrrell, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Cheyenne, March 7-9, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any one branch. The total number of candidates examined was 2, both of whom passed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
College		
Hering Medical College	(1895)	86.6
Creighton Medical College	(1910)	80.8
LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Denver and Gross College of Medicine	(1910)	Colorado
Chicago Homeopathic Medical College	(1903)	Illinois
Keokuk Medical College, Coll. of Phys. and Surgs.	(1904)	Iowa
Northwestern University Medical School	(1910)	Illinois

Book Notices

MODERN TREATMENT. The Management of Disease with Medicinal and Non-Medicinal Remedies. In Contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, Assisted by H. R. M. Landis, M.D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania). In Two Volumes. Vols. I and II. Cloth. Price, $6 net. Pp. 1830, with 193 illustrations. Philadelphia: Lea & Febiger (1910).

This is a composite work; the selection of authors for the various chapters, however, has been judiciously made and the result as a whole is satisfactory. A short introduction by H. A. Hare discusses the general subject of therapeutics and points out its dependence on and close relations to clinical medicine. H. C. Wood, Jr., in a chapter on "Modern Pharmacology," undertakes the difficult task of presenting the conclusions regarding the therapeutic value and use of drugs drawn from the investigation of chemical structure and from animal experimentation. A classification is made from a therapeutic standpoint and the subject is treated in such detail as to insure its marked practical value.

Ambrose Hunsberger, in a chapter on "Combination of Drugs," gives some valuable hints as to the prescription blank, the prevention of repetition, etc. The various forms in which remedies are to be administered are exhaustively described. In connection with this article as well as elsewhere in the work we regret to see a certain carelessness in regard to the Latin of the prescriptions. Errors in the grammatical endings are frequent, while in places a disregard of the official titles and pharmaceutic spelling is noticeable. Thus we find "Adipis lani hydros," "Acetphenetidinæ," "01. theobromæ," "Adipis benzoinatis," etc.

Tuberculin as a therapeutic and diagnostic agent is discussed by F. M. Pottenger, who gives a high value to the tuberculin therapy, but regards it as only one of the agents to be employed. The tuberculin tests are fully discussed; the method of von Pirquet is regarded by the author as of value in adults if interpreted in the right way. We fail to find, however, any specific directions for its correct interpretation. The vaccine treatment of typhoid fever is not considered by D. Riesman as a decided improvement on the older methods. The discussion on this subject is brought fully up to date. The use of horse serum for the hemorrhage of typhoid is suggested. Excellent detailed directions for the administration of specific serum in the treatment of epidemic cerebrospinal meningitis are given by C. H. Dunn.

"The Treatment of Pneumonia" by F. S. Meara exhibits the influence of experimental pharmacology in an important field of practice. Alcohol, in his opinion, has been much used in this disease without justification; it is never a true stimulant. Strychnin, he thinks, has been much overrated and nitroglycerin is absolutely contra-indicated, The method of thoracentesis is described with great detail. Tuberculosis receives 70 pages from the pen of H. M. Landis. Drug therapy receives attention, but aside from a few recommendations for cough and other symptoms, little credit is given to medicine. Even for cough the teaching of self-control to the patient is emphasized.

Syphilis is well treated by William Gottheil. Much space is given to prophylaxis, but the author is skeptical as to the value of moral advice, good as it may be. The treatment with mercury is described with great detail. Salvarsan is noticed, but the author gives merely his own experience, which seems to have been rather unfavorable to the new remedy. The dysenteries are comprehensively treated by J. L. Rhoads.

The article on "Diseases of the Circulatory Organs," by James McKenzie, possesses unusual merit, not only for the expert handling of a subject in which the advances of modern therapeutics have been so momentous, but also for the light thrown on the principles of therapeutics. The tendency of patients and even of physicians to give the credit of the improvement resulting from suggestion to remedies which are in themselves inefficient is especially noted. Such a tendency is often responsible for the continuance of ineffective remedies in cases in which imminent danger demands the prompt application of energetic remedies in sufficient doses. Again, the reader is warned against the tendency to rely too exclusively on the results of laboratory experiments. For instance, although experiment shows digitalis to be a vasoconstrictor, the author's experience shows that therapeutic doses in man do not raise blood-pressure, but often lower it.

"Diseases of the Blood," by J. C. DaCosta, Jr., receives adequate and satisfactory treatment. The work of Joseph Sailer on "Diseases of the Stomach and Intestines" is excellent. The same is true of the treatment of the other internal organs. The technic of local examination and treatment of the female genital organs is clearly described by B. M. Anspach, who contributes one of the most valuable chapters in the book.

Space will not permit specific reference to all the articles in the excellent work, but so far as we have been able to examine them, they seem well adapted to the needs of the practicing physician. The volumes are well illustrated where the subject permits it. Of special interest at the present time are the colored plates showing the erythema of pellagra.

THE MODERN MATERIA MEDICA. The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes and Incompatibles of All Additions to the Newer Materia Medica that Are Likely to be Called for on Prescriptions, Together with the Name and Address of the Manufacturer or Proprietor, and in the Case of Foreign Articles, of the American Agent. Second Edition. Cloth. Price, $1.25. Pp. 432. New York: The Druggists Circular, 1911.

This book lists, alphabetically, practically every medicinal product which has been introduced into medicine during the last decade. The sources from which the information has been compiled are chiefly the circulars of the manufacturers. Consequently, the work cannot have the authoritative value that it would have had if it had been subjected to rigid censorship by the editor. The statements of the manufacturers have not, however, been accepted at their face value in all cases. In a considerable number the reports of analyses made in the laboratory of the American Medical Association and, to a lesser extent, those made in the laboratory of the Pharmaceutical Institute of the University of Berlin, have been carefully abstracted by the editor and the results compared with the claims of the manufacturer. In this way the plain truth has been told about many nostrums. While in most cases the therapeutic applications of the medicaments are indicated, the book makes no pretense of being an authority in therapeutics. The amount of information given, as indicated in the subtitle, makes the work an encyclopedia which should prove useful alike to prescriber and dispenser. Physicians, however, who are not excessively confident of their own ability and good judgment in such matters might find it more satisfactory to limit their prescribing of proprietaries to such as are included in New and Nonofficial Remedies.

THE WORK OF THE DIGESTIVE GLANDS. Lectures by Prof. I. P. Pavlov, Director of the Physiological Section of the Imperial Institute of Experimental Medicine. Translated by W. H. Thompson, Sc.D., M.D., F.R.C.S. (Eng.), King's Professor of the Institutes of Medicine, Trinity College, Dublin. Second English Edition. Cloth. Price, $3 net. Pp. 266, with 43 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Those who read the first edition of Pavlov's work will find little difference in the main part of the book between that edition and the present one. The translator has added something here and there to bring the lectures up to date, but it is a striking testimony to the value and thoroughness of Pavlov's work that, notwithstanding the activity in this field of research during the eight years which elapsed between the appearance of the two English editions, so few new facts were discovered to add to his description of the secretory function of the stomach. The motor function, on the other hand, is more completely understood, as a result especially of x-ray investigations, and in order to present these facts, the translator has added two new chapters drawn largely from American and English sources. In order to conform to the style of the rest of the book these chapters are also presented in lecture form. One other chapter has been largely rewritten.

The readers of the first edition will agree that the character of the facts presented and the charming style in which they are portrayed gave the book much of the fascination of a romance. Both old and new readers will enjoy the perusal of the present edition in which one of the most important and practical sections in the whole field of physiology is so clearly exhibited.

Medicolegal

Adjudications and Prior and Subsequent Conditions as Evidence of Mental Capacity

The Supreme Court of Indiana had, in Taylor vs. Taylor (93 N. E. R. 9), a case where a woman 63 years of age was stricken with apoplexy, July 12, 1899, made a will July 3, 1900, was declared of unsound mind and incapable of managing her estate on a complaint filed January 6, 1906, had a second stroke of apoplexy in July, 1906, and died in January 1907. Unsoundness of mind at the time the will was executed was claimed, and the petition, answer of the clerk and judgment of the court of 1906 were offered in evidence, and excluded.

In holding that there was no error in such exclusion, the Supreme Court says that it cannot perceive that the evidence was so clearly competent or so material, that, if given, it could have had any effect or influence in determining the question of the mental capacity of the woman when the will was executed, when there was direct evidence to the point.

It cannot be doubted that much latitude in point of time, both before and after the transaction under inquiry, is allowable in determining the question of soundness or unsoundness of mind. The reason for the rule is apparent. The consistency or inconsistency of acts or declarations, differences in conduct towards family, relatives, and friends, and differences in habits of life at different times, if they exist, are relevant to, and sometimes highly indicative of, conditions of mind, and therefore competent for the purpose of determining that question, when they are of such character as to denote the mental condition. In some states the statute authorizes the inquiry in lunacy to be extended to a time anterior to the inquiry itself; but the Indiana statute does not authorize a retroactive inquiry to be made, or status fixed, though this court recognizes the prima facie status fixed by the adjudication, and holds that, even though a will is executed after an adjudication of unsoundness, mental capacity may be shown.

Whilst large latitude should be allowed in all such proceedings, and whilst there is no agreed limit of time within which the prior or subsequent condition is to be considered, the circumstances of each case in the very nature of things ought to control, and the discretion of the trial judge, though reviewable for abuse, ought to have weight. The question in such cases is necessarily one of relevancy. The inquiry must be sufficiently near in point of time to aid the jury in determining the mental condition at the time of the execution of the will.

The court knows as a matter of common knowledge that sane people become of unsound mind; therefore there must be some point of time when they thus become. And it knows that persons of unsound mind may have intervals of such lucidity of mind that they are competent to execute wills; hence the fact that a witness has testified that one is of sound mind at one time is only remotely, if at all, affected by the fact of the same person five and one-half years later filing a petition asserting such person to be of unsound mind, and incapable of managing his or her own estate, at that time. The adjudication is only prima facie evidence of mental incapacity.

Liability for "Waste" in Use of Property for Small-Pox Hospital

The Supreme Judicial Court of Massachusetts holds, in Delano vs. Smith and others (92 N. E. R. 500), that the use of property for a small-pox hospital may, under certain circumstances, constitute what in law is known as "waste." The latter it defines as an unreasonable or improper use, abuse, mismanagement, or omission of duty touching real estate, by one rightfully in possession, which results in its substantial injury—a violation of an obligation to treat the premises in such manner that no harm be done to them, but that the estate may revert to those having an underlying interest undeteriorated by any wilful or negligent act.

The plaintiff in this case was a holder of a mortgage on property which the defendants, acting as members of the board of health of the city of Everett, leased from the owner, after he had given the mortgage, "to be used as a contagious disease hospital." The plaintiff claimed damages, in the nature of waste. The jury fixed his damages at $1,800, but the trial judge ruled that there could be no recovery, which the court holds was not necessarily so.

It is the commonly accepted view, the court says, that small-pox is a contagious disease, spread through the instrumentality of germs, which, although invisible to the naked eye, are perniciously active and capable of causing loathsome and often fatal sickness. In Commonwealth vs. Pear, 183 Mass. 242, is a statement of the judicial notice which the court will take of the horrors of small-pox. From the agreed facts the jury would have been warranted in finding that this building was filled in every nook and crevice with the microscopic germs of this dreaded disease. This might have been found to constitute a material change in the qualities and condition of the house with reference to the purposes for which it was intended to be used, such as to constitute a definite injury.

Inoculation with germs of glanders was held to be a "bodily injury" in H. P. Hood & Sons (Corp.) vs. Maryland Casualty Co., 206 Mass. 223. Sowing the seeds of noxious weeds was restrained as waste in Pratt vs. Brett, 2 Madd. 62. Impregnation of a building with the indiscernible but vital germs of a dangerous malady is closely analogous to the sowing of seeds of deleterious plants, and may be in its effect far more injurious. It may be in fact even more harmful than to tear down or remove a part of the building. It is in principle the same general kind of injury as the more familiar instances of waste. The possibility of germination of the disease germs which, it might have been found, were deposited through the action of the defendants within the house in question was or might have been found to be waste, unless it was shown that they could be removed by disinfection or otherwise, without material physical change in the building, so as to make it as safe for residence as before.

A case like this one should be submitted to the jury under instructions which would permit the plaintiff to recover the material diminution in the value of his property for every valuable use among ordinarily intelligent men arising from the occupancy for a small-pox hospital, provided the jury were satisfied that it was not reasonable and proper to let the building for this purpose, having reference to the probable effects on its future growing out of the presence of disease-producing conditions, in view of the existing state of the art of disinfection or other way of rendering it healthful, and excluding all sentimental or fanciful notions affecting only its reputation.

Testimony of Attending Physician Inadmissible in Will Case

The Supreme Court of North Dakota holds, in Auld vs. Cathro (128 N. W. R. 1025), that, the privilege of secrecy attaching to all information acquired by a physician from a patient in attending the patient professionally, in a proceeding contesting the probate of an alleged will of a deceased patient, the testimony and opinion of the latter's attending physician as to her mental capacity, based entirely on information derived from her statements or his observations while treating her professionally and for the purpose of such treatment, were properly excluded. The court says that while this question has not heretofore been passed on by it, and while some courts, notably Minnesota, Iowa and Missouri, have held under certain circumstances that such testimony was admissible under statutes somewhat similar to that of North Dakota, the court thinks the better rule is as above stated. New York, Wisconsin, California, Utah and other states hold such evidence inadmissible, holding that the privilege is personal with the patient, that it applies in testamentary matters, and cannot be waived by the heirs and personal representatives.

Neurasthenia and Movable Kidney.—Movable kidney is proved to be a cause of neurasthenia by the following facts: 1. There is no doubt about the very great frequency of movable kidney in neurasthenic patients, male and female. 2. When these movable kidneys are supported by a proper belt great relief is experienced. 3. Nephropexy cures neurasthenia. Not one relapse has been observed in 150 cases.—C. W. Suckling, in the *Practitioner*.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Surgical Association, Denver, June 19-21.
American Therapeutic Society, Boston, May 11-13.
Association of American Physicians, Atlantic City, May 9-10.
Cong. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Hampshire Medical Society, Concord, May 11-12.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Rhode Island Medical Society, Providence, June 1.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Continued from page 1285)

President's Address: Medical Teaching and State Board of Medical Examiners

DR. C. STOVER, Amsterdam: An evolutionary movement originating within the medical profession has for some years been directed toward the elevation of medical education in the United States, and the last report to the American Medical Association by the Council on Medical Education was distinctly in the line of advancement. It was not marked by excessive tenderness toward the weak institutions, and fairly indicated the relative strength and weakness of the various medical colleges. The Council cannot greatly regret the appearance of the Carnegie report, for, having been criticized for its somewhat advanced position taken last year, by comparison the Council will be generally considered moderate, and its work in the future rendered easier. The medical schools that have the best laboratories and hospital facilities will attract the best prepared students, and it is equally true that the institutions having inadequate means of instruction will be distinguished by the inferiority of their students. It is at this point that the State Boards of Medical Examiners have abundantly justified their existence. The state has assumed the right to pass on the competency of the graduates of the medical colleges. They touch this problem at three points: (1) the preliminary educational requirements; (2) the facilities of the medical schools; (3) the examinations for licensures. The future of these boards will be marked by increasing importance and responsibility, for on their action more than on any other agency will these problems depend for their evolution. While this is fully appreciated nominations by this society for medical examiners will be among the weightiest duties to be performed. With the increasing importance of laboratory work, it does not require great far-sight to anticipate examinations on laboratory methods, in order to guarantee fully equipped physicians for practice. It is not unlikely that a national board may ultimately be evolved that will unify the chaotic practice of the various states. Is it not clear that if a curriculum of study is to be standardized in the medical schools, it will be equally necessary to have a standard of preliminary training in order to teach with any degree of efficiency? If so, then the entrance examination will be relied on to stop on the very threshold the ill-prepared students. If one were to venture a forecast of the future, it would be that a revolution is not impending, but that the intervention of the state, encouraged by advanced medical opinion, will increase the importance of medical examining boards, that higher and uniform standards of admission on entrance, and more rigid examinations for licensure will eliminate the unfit, and the colleges that best provide the equipment for education will survive, and those that are inadequately equipped must go to the wall. This seems inevitable.

Operations for Adherent Retrodisplaced Uteri by Shortening the Round Ligaments

DR. L. BROUN, New York: After the abdomen has been opened for pelvic conditions, the preference given by operators for retaining the retroverted uterus in an anterior position has been usually some intra-abdominal operation. The operations giving the best results are those in which the strongest part of the ligament is utilized. The Alexander operation, the operation of Gilliam, and also the Simpson operation all do this. The Peterson operation, with some slight modifications, has become so satisfactory in my hands that I have practically discarded other methods. It is for this reason, and because it seems to be little known, that I bring it before the society. The several steps of the operation as I carry them out are as follows: A horizontal incision after the manner of Pfannenstiel is made, but lower down in the area of the growth of the parts. The length of the cut need not be over two and a half inches long. The fascia is divided horizontally and dissected free from the muscle above and below. The recti and pyramidali are now separated, and the peritoneal cavity is entered. Through this opening in the abdomen adhesions can be severed, diseased tubes or the appendix can be removed, and all ordinary pathologic conditions dealt with. Having completed the necessary work in the abdomen, and before closing the incision, the fat in one angle of the wound is dissected free from the fascia in the direction of and up to the external abdominal ring, which is easily located by palpating the pubic spine. This dissection is quickly done with a few snips of the scissors. The skin is retracted beyond the ring, which is readily exposed to view. The round ligament is grasped and withdrawn until the reflexion of the peritoneum comes well in view. This is not stripped from the ligament. If preferred, the fascia can be split up for a short distance, making the ready picking up of the ligament easier. The external abdominal ring of the opposite side is exposed in the same manner, and the ligament is withdrawn, as in the corresponding side. Before anchoring the ligaments in the new position, I retract the edges of the abdominal wound to be sure that no loops of intestines lie over the fundus of the uterus, which generally will be found to be in admirable position. The ligaments are now stitched to the pillars of the ring with chromic catgut or silk, as may be preferred, and the abdominal wound is closed. While drawing out the ligament from the canal, I have found it of value to use for that purpose clamps in which the sharp edges of the serrations have been filed off and the edges also rounded. If ordinary artery clamps are used, the sharp teeth lacerate and cut through the ligament, causing much annoyance, and at times embarrassment. With a flat file the sharp serrations on old discarded

clamps can quickly be taken off and at the same time the edges rounded. In dressing the wound after the completion of the operation, full pressure should be applied over the site of the operation to secure close approximation of the separated parts.

DISCUSSION

DR. H. P. JACK, Canisteo: For the last ten years I have been doing operations for retroflexion of the uterus. In regard to the operation Dr. Broun has brought before us, I can see several objections which have occurred to me in the use of the Alexander-Adams operation. The ilio-inguinal nerve comes through the canal and is frequently injured and pressed on in any shortening of the round ligament, and although I do not do this operation myself, I have seen a number of cases in which the patients have suffered much pain in the region of the inguinal canal, much more pain than from the retroflexion. For that reason, I think Dr. C. H. Mayo has discarded the operation which he originated himself and in which he shortened the ligaments through the inguinal canal by bringing the forceps down and dragging the ligament through the canal. He has given up that operation entirely, and does the Noble operation of fastening the round ligament behind. That operation, he tells me, has been very successful. After ten years' experience with the Gilliam operation I cannot commend it too highly. Patients operated on by this method do not have pain afterward, and with the modification that has now been made we have an ideal operation. I have had a number of these patients go through labor, and the uteri are still in position. I think it has all the advantages of the Peterson operation, it is simpler of performance, and less liable to give pain in the inguinal canal, and requires less dissection.

DR. L. BROUN: I can only suggest that Dr. Jack try this operation, and he will be so pleased with its simplicity and the excellent position of the uterus afterward that I am sure he will do just as I have done, adopt it exclusively.

Diagnosis and Surgical Indications of Duodenal Ulcer

DR. J. T. PILCHER, Brooklyn: It is impossible to differentiate duodenal ulcer from uncomplicated ulcers of the gastric outlet in some cases. The purest type of symptom-complex is evidenced by duodenal ulcer. There are four cardinal symptoms: chronicity, periodical exacerbations, peculiar pain, and pain relieved by the ingestion of food. In this paper I analyze 156 cases with reference to the cardinal symptoms named. The confirmatory conditions are obtained by analysis of the stomach contents. The hyperacidity of gastric secretions must be considered, and the existence of latent cases is not to be overlooked. There is no ground for conflict between the surgeon and physician in this field of work. The symptoms indicating operation are hemorrhage, stenosis, tumor, and intractability.

DISCUSSION

DR. ALEXANDER LAMBERT, New York: After twelve or fifteen years of pain and constant recurring discomfort and disability which such a condition brings about, these patients are glad to go to a surgeon and be relieved. Those are as much surgical cases as are the stenoses of the pylorus or ulcers of the stomach that have formed cicatrices and a more or less contracted or hour-glass condition. A question that is constantly referred to me is what should the medical man do to a young man or person who comes into his office who shows this symptom-complex for the first time? If in a healthy young person who has pain two or three hours after eating, which is relieved as soon as food is taken, and in which by gastric analysis the physician finds distinct hyperacidity, he is generally convinced in his own mind of the probability of duodenal ulcer. After a three days' test of no meat or blood-forming content in the food, one may or may not find occult blood in the stool. Should such a patient be sent to a surgeon for operation? I cannot settle this question from my own experience. Some years ago, I saw such a patient who gave that symptom-complex for the first time, and while quietly lying in bed suddenly bled to death from one large hemorrhage. A better care of the individual patients will be given by both medical men and surgeons if we can settle in our minds what should be done with the early single cases of duodenal ulcer, or those which present the syndrome which justifies us in considering they have duodenal ulcer.

DR. ELLIOTT P. JOSLIN, Boston: The average duration of cases of duodenal ulcer before operation is from twelve to thirteen years. What is the average duration of patients who have been subjected to gastro-enterostomy? That is still *sub judice*. We do not know how long these patients are to get on comfortably with that artificial opening. Undoubtedly patients in the class referred to by Dr. Pilcher should be operated on. It is the duty of medical men, whenever they advise operation for the relief of duodenal ulcer, to qualify their advice by saying that the operation shall be done by a man who has had considerable experience in gastric surgery.

DR. NATHAN JACOBSON, Syracuse: The question of diagnosis was presented to me about two weeks ago when I was called to see a case of duodenal hemorrhage. The patient, a man of 49, was in an extremely low condition, with the sudden appearance of duodenal hemorrhage. Melena was very profuse; the hemoglobin percentage was nearly 40; the red blood-count a little over 2,000,000. This case presented a series of manifestations so different from what I had seen before, that I could not but consider that we were dealing with more than a simple duodenal ulcer. The first thing that stared me in the face in regard to the diagnosis was the absence of all previous gastric manifestations. This man had never had gastric distress and none of the characteristic manifestations portrayed in the paper. His temperature ranged from 101 to 102 F. While there was a loud endocardial murmur, it was not the hemic murmur we should get from simple loss of blood. It was accentuated. I found petechial spots, and the question arose as to whether we were not dealing with some other condition than duodenal ulcer. A blood-culture was made and a pure culture of pneumococcus was found. There was a case in which the blood-infection showed its first disturbance as duodenal hemorrhage. Once before I have seen intestinal hemorrhage which showed itself first with the symptoms of acute appendicitis as the first manifestation, a purpuric condition, a condition in which we have the appendix with other evidence of intestinal hemorrhage in its region, and subsequently hemoptysis, renal hemorrhage, and purpuric spots, and the first evidence of trouble in that case was intestinal hemorrhage. To those who have seen duodenal ulcers occur in the course of burns I will say that we may think of an acute case of duodenal hemorrhage, due to the pouring out of toxins in the duodenum and irritating processes there, and I want to emphasize the necessity of studying cases of acute hemorrhage and acute conditions and whether or not they are cases for operation. Certainly this case was not one for operation, and its subsequent course justified that conclusion.

DR. A. E. CHASE, Tarrytown: I recall the case of a boy who had been seen by physicians in New York and a number of diagnoses made. He finally came to Tarrytown, and a number of diagnoses were likewise made there. He was brought to the hospital in a moribund condition. He had general septic peritonitis, and I endeavored to do what I could for him. I made a rather large incision, and found the signs of septic peritonitis with considerable pus. But back of that the intestines were matted together by the firmest adhesions I have ever seen, these adhesions being so strong and dense that they could not be torn but had to be cut. In the midst of them was a sinus communicating with an old duodenal ulcer, passing down to the middle of the abdomen and up again to the spine. That sinus had been there for a long time. This boy had had duodenal ulcer for three years; it had perforated, and gave him general septic peritonitis, which caused death.

DR. A. MCFARLANE, Albany: No man can tell beforehand what one must do in the individual case. But the important thing that the Mayos have brought clearly to our minds is that a great many of these patients who are relieved are not neurasthenics or nervous dyspeptics, but are suffer-

ing from serious anatomic lesions. Whether it is best to operate immediately, or to try local medical treatment in such cases, is a matter to be decided in each individual case.

DR. I. ADLER, New York: While in rare cases gastric ulcer will heal perfectly, duodenal ulcer never does, and the chances of doing irreparable harm are much greater there than in gastric ulcer. I believe that whenever duodenal ulcer has been diagnosed, operation should be decided on at once. It is only a question of time in my mind when operation should be recommended, and I would guide myself always by the appearance of the occult hemorrhage. If there is more or less occult hemorrhage, then I would not delay operation very long, but advise that it be done early.

The Bladder and the Prostate

DR. JOHN F. WHITBECK, Rochester: It has been estimated that at least one-third of all men after the age of 40 or 50 have enlargement of the prostate, and it is just as certain that hypertrophy of this gland or increase in size from any cause, whether simple or complex, involves the bladder in difficulties. If a patient can be persuaded and taught to lengthen gradually the intervals of urination within the limit of reason, much better control will be obtained with or without the aid of the catheter and patients should be as careful and deliberate as possible while passing urine in order the more completely to expel some portion of the residual fluid. Prostatectomy is rational and offers a complete cure when the individual has no serious organic disease, but is sound or may be made so. Experience shows conclusively that a man in fair health may be cured surely without danger. Contrast for a moment the entire relief afforded by the removal of the prostate when it is enlarged enough to act as an obstruction and a state in which the gland is allowed to remain and the lateral lobes to grow larger, while a middle or third lobe is formed and acts as a ball valve to close the urethral canal, although it lets a catheter pass easily. It is not the frequent desire and necessity to urinate, or the mere use of the catheter from which one shrinks and seeks relief, but the risk of infection, of cystitis, or calculus or pyelitis, or abscess of the prostate, or traumatism from the use of various instruments and the progress from bad to worse.

SYMPOSIUM ON SALVARSAN

Indications for Salvarsan in Syphilis

DR. S. POLLITZER, New York: Every patient with active infective lesions of syphilis should receive a dose of salvarsan. every individual with extensive gummatous or ulcerative lesions should receive a dose of salvarsan. The effect of salvarsan on such lesions is in general so marked, so prompt, that in justice to our patients we owe them this treatment which so greatly shortens the period of the local treatment. Patients in whom important structures, like the eye or the throat, are involved, should receive salvarsan, as also those with painful lesions of the bones or of the throat and syphilitic cachexia. In these cases the effect of the drug on the constructive metabolism is most striking; a gain in body weight of from 10 to 15 pounds within a fortnight has been observed repeatedly. Individuals with syphilis complicating pulmonary tuberculosis should also receive salvarsan. In these cases the tuberculous process is aggravated by administration of mercury and iodid, and the fear of further damaging the patient's lungs makes it difficult to treat the syphilis properly. Infants with hereditary syphilis should receive salvarsan in minute doses. Here, again, we have the prompt antisyphilitic effect of salvarsan aided by its tonic effect on metabolism. This drug is also useful in an early stage of tabes with pains or sphincter symptoms. While we cannot expect to restore degenerated nerve tracts, the work of Erb and Nonne has made it seem probable that in early tabes there are still active syphilitic foci in the cord, and it seems likely that salvarsan will at least exercise an inhibitory influence on the course of the disease. In the rare cases of oversensitiveness to mercury on the one hand, or of resistance to the effect of mercury on the other, the patients should be treated with salvarsan. Patients who, notwithstanding a thorough course of mercury, show a positive Wassermann reaction, even in the absence of visible lesions, should receive a dose of salvarsan. In the present state of our knowledge a positive Wassermann reaction must be regarded as evidence of an active focus of syphilis. In several individuals who had received a four or five months' course of salicylate of mercury injections in doses up to 5 grains, a persisting positive Wassermann reaction was promptly changed by an injection of salvarsan.

Action of Salvarsan on the Wassermann Reaction

DR. HOWARD FOX, New York, presented a tabulated list of thirty-four cases in which salvarsan had been used, and drew the following conclusions:

1. It is difficult at present to draw general conclusions, owing to the great discrepancies in the results of various observers.
2. These discrepancies are partly due to the different methods of injection and to the different stage of the disease in which the injections were given.
3. The results of a single injection given by either the intravenous or intramuscular methods are, as a rule, rather unsatisfactory from the serologic standpoint.
4. Repeated injections seem to have given better results and offer a more hopeful outlook for the future.
5. The action of salvarsan on the Wassermann reaction is, in general, analogous to that of mercury.
6. The effect on the Wassermann reaction is much less favorable than on the clinical manifestations of syphilis.

Therapeutics of Salvarsan

DR. S. J. MELTZER, New York, laid special stress on the scientific principles which form the basis of Ehrlich's experiments in contrast to the use of mercury, which is a remedy hit on by chance. He described the steps by which Ehrlich evolved salvarsan and the brilliant results that have been obtained, and stated his belief that this discovery may be the means of raising therapeutics to the dignity of a science. This article will be published in full in THE JOURNAL.

Treatment of Syphilis with Salvarsan

DR. JOHN A. FORDYCE, New York: This paper presents an analysis of the clinical and serologic results obtained in the treatment of 175 patients with this disease with salvarsan. Salvarsan gives more rapid and brilliant results in this class of cases than is seen from the administration of the classical drugs. It is possible that there is here a different strain of organisms more easily influenced by salvarsan than by mercury and potassium iodid. The lesions heal rapidly, a decided increase in weight occurring within two weeks, and the temperature often becoming normal. In advanced disease of the nervous system no benefit was noted from the administration of the drug, but in several cases of early tabes, in one of paresis, in endarteritis of the base of the brain, and in several cases with persistent headache most gratifying results were obtained. In this series of cases there were six relapses, all after treatment with a single dose. They are periosteal lesions in a case of malignant syphilis, plantar and palmar syphilis, mucous membrane lesions and acute unilateral optic neuritis and iritis. Failures were encountered in advanced tabetics and paretics, and in five cases of hereditary syphilis, but three of the latter it is hardly fair to class as failures, since the dose was inadequate. In only one case were by-effects noted which have given any anxiety, namely, convulsions and hemiparesis three days after an intramuscular injection of 0.2 gm. alkaline solution to a child 7½ years old with an extensive gummatous infiltration of the nose and upper lip. The child made a good recovery, and the lesions for which it was treated healed rapidly.

Technic and Methods of Administration of Salvarsan

DR. HOMER SWIFT, New York, described the method of preparing the salvarsan solution and its employment.

A Few Plain Truths About Salvarsan

DR. W. S. GOTTHEIL, New York: Salvarsan is valuable in certain cases as an additional weapon in our armamentarium, but it does not accomplish the marvels attributed to it. It does not cure any more than does mercury. It is powerful in combating symptoms. Symptoms of the persistence of syphilis appear more frequently after treatment with salvarsan than after treatment with mercury. Individuals recently

infected are the only ones in whom its efficacy must be estimated. Mercury is still the antisyphilitic for general use. The latest advice from high places is to use salvarsan first, and then to go back to mercury. Cases of idiosyncrasy in which mercury cannot be borne are not so frequent as some would have us believe since the discovery of salvarsan. Salvarsan has been efficacious in the early type of syphilis. The symptomatic effects are equal to those of mercury and sometimes fail. Salvarsan is as useless as mercury in late cases. It is useful in persistent lesions in mucous patches, and in cases not permitting of long medication.

By-Effects of Salvarsan

DR. JAMES WINFIELD, Brooklyn: The by-effects are local, organic and general. The local effects are pain, infiltration, sloughing, necrosis, especially with the subcutaneous method of injection, swelling of the lymphatic glands in the neighborhood, scarlatiniform eruption, icterus, herpes zoster and urticaria. Among the organic effects are pulmonary embolism and pneumonia, cardiac and circulatory disturbances, hemorrhagic nephritis and acute necrosis of the convoluted tubules. There are no serious effects on the gastro-intestinal tract. Affections of the cerebrospinal system seem to increase after its use, also ocular involvement and oral effects, which are often transitory. The vital organs should be carefully examined before this remedy is used for any deviation from the normal.

Discussion on Salvarsan

DR. GEORGE HENRY FOX, New York: To those who imagined that syphilis was to be forever cured by one dose of salvarsan, and that thereafter mercury will be of value on account of its historic interest, the disappointment has been severe. Even those who have witnessed beneficial results of the remedy, or the numerous and speedy reliefs which have occurred, have been disappointed in a milder degree. While salvarsan has proved a disappointment and in some respects has not yet and probably never will fulfil the high hopes its discoverer intended, it must be admitted that in many cases it has proved to be a remedy as efficacious in its action as it was brilliant in its inception. From what I have observed in private practice and hospital experience, I am convinced that it is a remedy which in certain cases is able to accomplish what no other remedy or method of treatment has done. While I agree with Dr. Fordyce that salvarsan has accomplished what mercury has never accomplished, at the same time I heartily concur in the assertion made by Dr. Gottheil that the disappearance of the symptoms is by no means indicative of a cure of syphilis.

(To be continued)

TENNESSEE STATE MEDICAL ASSOCIATION

Seventy-Eighth Annual Meeting, held at Nashville, April 11-13, 1911

(Concluded from page 1287)

Fractures of the Tibia and Their Treatment

DR. P. F. EVE, Nashville: I have treated many of these fractures and have had a number of others under observation; in not a few instances I have seen ununited fractures which demanded operative interference. In some of these cases the interposition of the soft parts prevented union, while in others the inability to maintain the fragments in coaptation caused a like result. I have come to the conclusion, therefore, that there are some varieties of fractures of the tibia which call for an open method of treatment. I base this conclusion on the following facts: 1. Should non-union occur from the interposition of the soft parts, and an operation be required after waiting the requisite length of time for union, the very nature of this operation results in a much greater shortening than would have occurred had the operation been performed at the time of the injury. 2. The time required for union in such cases is twice as long. 3. The physical condition of the patient is not nearly so good as soon after the receipt of the injury, his general health having suffered in the many weeks which have elapsed in the effort to accomplish healing of the fracture. 4. The anatomic and cosmetic appearance is not so pleasing

Report of Case of Pellagra

DR. E. H. JONES, Murfreesboro: In this case the patient lives in the country, appears well, and is working and has been doing so all fall and winter. The treatment consisted of arsenic, iron and strychnin, the arsenic being pushed to tolerance.

DISCUSSION

DR. J. M. KING, Nashville: There have been forty or fifty cases of pellagra in and around Nashville, and I have seen a number of them. The treatment has been climatic, together with the use of iron, quinin and strychnin. I have not pushed the arsenic too much. Moderate doses of arsenic are sufficient, with the very best of food and nursing, with probably bismuth or some of its preparations for the diarrhea.

DR. J. P. RUNYAN, Clarksville: Has menorrhagia been a prominent symptom in any of the cases? In two cases I have seen, that symptom was pronounced.

DR. W. LITTERER, Nashville: It is the general consensus of opinion that pellagra is contracted through the intestinal tract—that it is some kind of intoxication. Whether it is produced by the food that is ingested or by some bacterium, we do not know. Torrance and McAlester have given salvarsan intravenously in three cases of pellagra with marvelous results.

DR. J. OVERTON, Nashville: It is proper to employ tonic treatment for a week or so, but unless decided improvement is shown, some more radical procedure should be resorted to, such as direct transfusion. Cole has obtained a remarkable percentage of recoveries in severe cases of pellagra by transfusion.

DR. W. FRANK GLENN, Nashville: I do not believe that good corn meal will ever produce pellagra, but I am inclined to believe that the disease is communicable.

DR. L. L. SHEDDAN, Knoxville: I know of two cases of pellagra in which menorrhagia was a symptom.

DR. B. J. RASH, Nashville, narrated a case of pellagra in which menorrhagia was a symptom.

DR. C. N. COWDEN, Nashville: I treated a patient for two or three months for infection of the skin, but later a diagnosis of pellagra was made. One diagnostic symptom of pellagra is extreme redness of the tongue.

DR. M. C. MCGANNON, Nashville: A young girl had been under my care for two years, and I was unable to account for the inflammation of the vagina which was so intractable to treatment. The condition of the patient steadily progressed until now she has developed all the symptoms of pellagra without, however, any skin eruption.

Reform in Public Schools

DR. O. DULANEY, Dyersburg: There is need of reform in public schools with reference to hygiene and sanitation. Medical inspection of school children is of great importance, as are also the frequent inspection of buildings by a sanitary officer, and the need of law governing school buildings, and the necessity for medical representation on the state board of education.

The Physician and the Public

DR. JOHN A. WITHERSPOON, Nashville: Physicians are in a measure public men, in that they should be the guardians of the health and lives of the people. A physician should stand for everything that is right and uplifting in his commonwealth. His standing in his community should be such that his influence is great and widespread. Belonging to a profession of highest ideals and greatest of responsibilities, in which his opportunity to do good is as great, if not greater, than the ministry, the people have a right to expect a great deal from him. At the same time, they owe a great deal to the physician and should uphold his hands in every way. It is high time that the press, law-makers and people should recognize the fact that the medical profession is the most self-sacrificing in the world, and quit this idle talk of doctors' trusts and all other equally fallacious and untrue statements which only retard the efforts of physicians in the public interest and give to the enemies of mankind a weapon to be used to retard progress and keep from the people the wonderful and life-saving methods which modern medicine offers in the

way of preventing disease and insuring that development, mentally and physically, so necessary to the welfare of mankind and good citizenship. Physicians have been subjected to charges of all kinds of crimes and misdemeanors by means of pamphlets circulated by an alien, who suddenly is so much in love with our people that he rushes to their rescue from the north as a representative of the National League of Medical Freedom—whatever that is. I understand that it is composed of the "patent-medicine" manufacturers and others who have been the vampires that sucked the blood of our people so long that they have grown arrogant and dictatorial to the extent that they assume to themselves all the virtue and wisdom of the age and ruthlessly and falsely make charges against the medical profession. Our duties to the public do not end here, but to see that none but safe, moral and competent physicians are permitted to enter the profession. To practice medicine is a very sacred and grave responsibility and the people have a right to expect protection. How can this be done? In two ways: First, by insisting that none but high-grade, well-equipped medical schools for the training of the young men be tolerated; second, by passing such laws by the legislatures that none but moral and well-qualified doctors can be licensed to practice. The passage of good laws and the appointment of strong and competent men to enforce them would soon rid this country of charlatans and ignorant pretenders and strike the death-blow to quacks and venders of nostrums, whose stock in trade is the cupidity and ignorance of the people. If there is any creature any lower than he who traffics in the ills and afflictions of his fellowman, or he who withholds any remedy or treatment that might alleviate human suffering or assist in any way to save human life, it has never been my fortune to meet him. We are misunderstood and often accused of selfish motives when we raise our voices in protest against fads or harmful practices by which individualism and often life is sacrificed on the altar of ignorance.

Acute Inflammatory Glaucoma

DR. WALTER DODSON, Gallatin: Iridectomy is the greatest of all primary operations for glaucoma, but after the operation has been done and the pain and increased tension continue, or should we have a recurrence of the disease, I would not further mutilate the iris by doing a second or third iridectomy, but would do a cyclodialysis. This operation has fallen into disrepute as a primary operation, unless the eye be blind before operation, and then it seems to be the ideal operation. Enucleation is reserved as the last resort, but we find many persons who have been neglected until the eye is blind, and the eye-ball or some parts of it are undergoing a stage of degeneration.

Typhoid Fever

DR. THOMAS WEAVER, Nashville: Two outbreaks of typhoid fever in an institution were traced to bacillus-carriers. These outbreaks serve to emphasize several points that may well be remembered. First, the question of bacillus-carriers is one of very great importance, and should always be borne in mind in tracing the source of infection in an outbreak of typhoid fever. Second, the possibility of this danger should be considered in the employment of cooks and other culinary employees, not only in private families, but especially in institutions. Third, it should not be forgotten that the presence of Eberth's bacillus in the stools of bacillus-carriers is by no means constant, and repeated examinations are frequently necessary for its detection.

Practical Laboratory Work for the General Practitioner

DR. N. EVANS, Nashville: Gastric diseases do not receive the attention from a scientific standpoint by the general practitioner which they deserve. They are very frequent, occur for the most part among the better classes, and in a large proportion of the cases are relieved by proper treatment. In many cases it is absolutely essential, in order to make a correct diagnosis, to examine the stomach contents by means of the chemical tests for hydrochloric acid and the organic acids. It is the duty of the teachers of microscopy and allied subjects in medical colleges to make the students see clearly the difference between the laboratory procedures which have simply an educational value and those which have an immediate practical importance. In the latter every man should be so thoroughly trained that he is master of them, can perform them with absolute assurance, and can trust his own findings in, for instance, the recognition of tubercle bacilli, the malarial parasites, and urinary casts. I am satisfied that many physicians graduate from medical colleges without the practical experience in these simpler methods which they ought to have. I believe the plan is most satisfactory where two physicans are associated together in practice, where one can do the greater part of the necessary laboratory work. In most cases the younger men who have more recently worked in the college laboratories will be better fitted to do that part of the work.

The Disease and the Man

DR. W. B. ST. JOHN, Bristol, gave a condensed history of physicians who are discoverers of diseases which bear their names, giving incidents in their lives, their best-known works, under what circumstances their contributions to medicine were brought about, where they were born, what good they did, and how they are remembered and the debt of gratitude the profession owes them.

The Duty of the Country Physician to the Mother and Child

DR. HOWARD C. CURTIS, Algood: Every mother should be told how to care for her baby, no matter what her circumstances or environment in life; the poorer and more unfortunate mother should have special attention to enable her to better care for her offspring. She should, if possible, nurse her child, and be taught the proper care of the infant's eyes, its mouth and skin, and that it should have a daily bath; that the clothing should be light and cool; that it should have plenty of outdoor exercise; fresh water to drink instead of paregoric and laudanum; that it should have regular habits, and also that it should have regular hours to nurse. A good many other things—feeding, etc.—should not be neglected.

Salvarsan and the Wassermann Reaction in Sixty Cases of Syphilis

DR. W. LITTERER, Nashville, drew the following conclusions:

1. The consensus of opinion now is that a single injection has in favorable cases approximately the same results as a four or five months' treatment with mercury.
2. Salvarsan seems to be of particular value in malignant precocious syphilis, in threatening destructive processes, and in cases that are refractory to mercury.
3. There seems to be no uniformity between the disappearance of the Wassermann reaction and in the improvement of the patient.
4. In a number of instances relapses could be detected by the Wassermann test before clinical symptoms manifested themselves.
5. More favorable results can be expected in a beginning tabetic showing a distinctly positive Wassermann reaction than in one in which a slight reaction appears.
6. In the majority of instances administration by the extravenous (intragluteal) route should first be instituted, since it is the safest method. Should the patient not become Wassermann-negative, the intravenous route may be resorted to.
7. In my series, after a single injection, 35 per cent. resulted in a negative Wassermann reaction in six weeks' time. Out of this number 15 per cent. showed a positive test in three months, while an additional 6 per cent. recurred two months later.
8. A final opinion as to the permanence of its action can only be given after a lapse of several years, during which time both clinical manifestations and Wassermann reactions must be carefully observed.

Treatment of Syphilis

DR. W. F. GLENN, Nashville: After many years' experience with various preparations of mercury, I feel sure that we can hope for less good from proto-iodids than from any other preparation. I would not willingly abandon entirely the use of a remedy, such as mercury, which has been a sheet anchor for almost 400 years; at the same time I regard salvarsan as a great addition to the therapeutics of syphilis, and truly a boon to humanity.

Injuries of the Head

DR. D. EVE, JR., Nashville: There are three prime indications in the surgical treatment of fracture of the base, and these are asepsis, relief of compression, and drainage. In

case a fracture communicates with the nose, the nostrils are sprayed with mild antiseptic solution, gently dried and packed with sterile gauze, the packing should not be very tight, the idea being to filter all the air reaching the seat of fracture. In the middle fossa, first place a little piece of sterile cotton in the canal of the ear, then wash the whole outer ear with green soap and sterile water, then remove the cotton and douche the canal with warm normal salt or boric acid solution and insert gauze loosely into the canal. Fluff gauze is placed on this, and retained with a bandage. Compression is relieved by the decompression operation and lumbar puncture. If the fracture involves the anterior or the middle fossa, the operation consists of subtemporal trephining in the temporal region with drainage. Cushing advises trephining on both sides; with fracture of the posterior fossa, the operation should be occipital decompression with drainage. Patients with dilatation and fixation of both pupils, deep coma, rapid rise of temperature and stertorous breathing are rarely benefited by operation. We often see patients in whom the coma is not profound after the accident, but later grows gradually or suddenly worse, showing signs of increased intracranial pressure, then operation with drainage will save many of them. Lumbar puncture should be done for diagnostic and therapeutic purposes. It is a positive means of distinguishing subdural hemorrhage from supradural hemorrhage; also it diminishes the intracranial tension. Ransohoff uses repeated lumbar puncture in cases in which the coma is not profound, and claims that this takes the place of the decompression operation.

Appendicitis With Concurrent Typhoid Fever

DR. W. D. SUMPTER, Nashville: In a case of appendicitis in which the symptoms of typhoid did not appear until after operation, the distal end of the appendix was distended with thick pus and was so near rupture that after the operation, in handling it, pus oozed spontaneously from its wall. The proximal end appeared normal except for adhesions.

Vaginal Hysterectomy

DR. J. A. GAINES, Nashville: The vaginal method of hysterectomy is indicated for carcinoma of the cervix of corpus uteri in any case in which there are not such glandular involvements as preclude operation by any method. For non-adherent fibroids not too large to be delivered by the vagina the operation is indicated. Either general myofibroma, subperitoneal or submucous tumors are easily dealt with in this way. This method is also greatly superior in dealing with prolapsus uteri after the child-bearing period is passed, as it lends itself more readily to the plastic work required to support cystocele and rectocele, one or both of which are always found in association with this condition. The vaginal route offers ready access to the ovaries or tubes which may be removed, resected, or the tube removed, leaving any part of the ovary desired, with as careful plastic resection as the abdominal route will permit. No vaginal celiotomy for any cause should be done without a thorough preparation of both vaginal and abdominal fields. In any vaginal hysterectomy, conditions may arise or be found making it most desirable to finish by the abdominal route, using the combined method, which is preferred by some as a regular procedure.

Other Papers Read

The following papers were also read: "Lacerations of the Deep Urethra," by Dr. J. J. Waller, Oliver Springs; "Pellagra Associated with Uncinariasis," by Dr. J. W. Breeding, Ravenscroft; "When Does the Gonorrheic Cease to be Infectious?" by Dr. C. F. Anderson, Nashville: "Surgery of the Intestines," by Dr. J. H. Carter, Memphis; "The Relationship of Food to Disease," by Dr. E. A. Timmons, Columbia; "Technic for Intravenous Injection of Salvarsan," by Dr. E. T. Newell, Chattanooga; "Sarcoma of the Stomach," by Dr. J. Overton, Nashville; "Oblique Inguinal Hernia," by Dr. D. Eve, Nashville.

House of Delegates

The House of Delegates by resolution commended the work of Senator Owen, of Oklahoma, in his effort to promote the passage of national legislation for the establishment of a National Department of Health, and urged each member to interview Senators Taylor and Lee of Tennessee, with a view to enlisting their support in the passage of the bill.

The association adjourned in a body and appeared before the Committee on Ways and Means of the Senate, and urged the passage of the following bills: a model vital statistics bill, a state hygienic laboratory, and the medical inspection of school children. The senatorial committee, after listening to speeches from several members of the medical profession, in less than thirty minutes, recommended the three bills for passage. A similar hearing was granted the profession before the Committee on Ways and Means of the House, where the opposition to the bill on the medical inspection of schools was violent, but it is thought that the three bills will finally pass.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 20

1 *Scoliosis with Marked Structural Change and Rotation. R. Soutter, Boston.
2 Acute Postoperative Dilatation of the Stomach. E. W. Lee, New York.
3 *Id. R. T. Morris, New York.
4 An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.

1. **Scoliosis.**—Soutter pleads for the more thorough treatment of stiff scoliotic cases, in many of which absolute correction of the curve seems practically impossible. Simple, flexible and uncomplicated curves are not considered in this paper. He urges that the general condition must be improved. Developmental exercises should be done systematically, all exercises taken in a position which brings a minimum strain on the deformity. This may be accomplished best by suitable machines for the purpose under skilled assistants. It is accomplished also at home to a less extent. The flexibility of the spine in all directions should be increased; having attained this, and improved the general physical condition, the state of mind and endurance of the patient is much better. The periods for eating, for rest and for work should be established with regularity. Correction of the deformity is started during the development and flexibility treatment; later it is carried to a greater extent and the points of greatest deformity attacked more vigorously. Exercises are adjuncts in the treatment but will not take the place of especially adapted corrective machines and apparatus applied to the deformity. The advanced case of scoliosis should not be trifled with.

In addition to the appliances in which the patient is treated for from three to four hours each day, the patient should have apparatus to wear when about, and other apparatus to wear when in bed. The amount of apparatus and the treatment necessary varies with the patient. The apparatus worn at night is made after a certain amount of correction has been attained. The night and day apparatus must be carefully adapted to the improvement. Corrective jackets follow the other treatment. The patient is kept recumbent and successive corrective jackets applied either from remodeling the cast or from newly applied jackets. Following from two to four months of corrective apparatus, a retentive apparatus is applied, maintaining the full correction in a comfortable way and the patient is allowed to go from two to six months, when further treatment may be instituted, according to the requirements.

Excellent results were obtained in 182 cases treated by Soutter. Sixty-five, or one-third, were greatly corrected, ninety-seven were improved; in twenty, while the patients were benefited in strength, endurance and health, their curves were not improved. Considering the degree of rigidity as a factor

in those that were greatly corrected, thirty-nine were of slight degree of rigidity, none was extremely rigid. In the cases with marked improvement, thirty-two were slightly rigid, twenty-eight were rigid and thirteen were extremely rigid. Of the patients who were improved, three were slightly rigid, eleven were more rigid and eight were extremely rigid.

3. **Acute Postoperative Dilatation of the Stomach.**—In cases of acute gastric dilatation Morris advises placing the patient on the abdomen, inclined a little to the right side. That will mechanically compress the dilated stomach and unkink the duodenum. He would wash out the stomach every hour or two if necessary with the stomach tube. That allows the postural mechanical resource to become more effective, and it takes away saprophytic poisons.

New York Medical Journal

April 22

5 The Starnook and the Window Tent: Two Devices for the Rest Cure in the Open Air and for Outdoor Sleeping. S. A. Knopf, New York.
6 The Study of Fats and Lipoids in Animal Tissues. J. Wright, New York.
7 The Prevalent Misuse of the Prostate in Gonorrhea. H. G. Klotz, New York.
8 Chronic Backache; Etiology; Treatment. C. Ogilvy, New York.
9 *A Case of Psychogenetic Convulsions, Simulating Epilepsy. H. W. Frink, New York.
10 *Clinical Studies in the Pepsin and Diastase Content of Urine. E. H. Goodman, Philadelphia.
11 Breaking Down of Wounds Following Operations. J. J. Gilbride, Philadelphia.
12 Studies of Antiformin Resistant Microorganisms Found in the Brain of Animals Infected with Rabies. F. Proescher, Pittsburg, Pa.
13 Clinical Importance of the Impure First Sound at the Cardiac Apex. S. Neuhof, New York.

9. **Psychogenetic Convulsions.**—A woman, aged 23, gave a history of attacks of *petit mal* from her second to her fourth year; she had *grand mal* attacks, from four to twenty a month, from the fourth to the twenty-third year, with hallucinatory attacks, and compulsive ideas. Treatment by suggestion produced immediate and almost complete relief for a period of eleven months.

10. **Pepsin and Diastase in Urine.**—Goodman is convinced that no diagnostic aid is to be sought in the amount of pepsin or diastase in the urine. He disclaims all value for the determination of the ferments in the urine, *per se*.

Kentucky Medical Journal, Bowling Green

April 15

14 Indications for the Induction of Premature Labor. J. G. Cecil, Louisville.
15 Pernicious Anemia. O. W. Doyle, Louisville.

Journal of the Indiana State Medical Association, Fort Wayne

April

16 Catheters, Sounds and Drainage Tubes; Their Selection, Care and Use. W. N. Wishard, Indianapolis.
17 *A Plea for the Cesarean Operation, Based on a Report of Fifty-Three Cases Performed in Indiana. G. W. H. Kemper, Muncie.
18 *The Conservatism of Elective Cesarean Section. O. G. Pfaff, Indianapolis.
19 The New Physician. M. C. Kimball, Converse.
20 *Bone Transplantation. D. Ross, Indianapolis.

17 and 18. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1926.

20. **Bone Transplantation.**—By an accidental discharge of a gun, Ross' patient was shot in the middle third of the right leg, the shot carrying away part of the tibia and fracturing the fibula, and completely destroying the anterior tibial group of muscles in the middle third of the leg. A posterior splint, well-padded, was applied with plaster-of-Paris encasing the foot and the thigh. The father refused to allow the foot to be amputated. Infection followed and for a while threatened the life of the patient. When it became evident that union was not going to take place voluntarily, Ross began to look about for some means of relief and finally decided to try Huntington's suggestion of using the fibula in a somewhat modified form. An incision was made about 6 inches in length midway between the tibia and fibula in the lower part of the upper third and the upper part of the middle third of the leg. The muscles were carefully dissected away and the fibula was cut about 2 inches below its articulation with the tibia. The adjacent borders of the two bones were denuded of periosteum and fastened with nails which were removed ten days later. The tibia and fibula had become united by callus below the seat of the fracture so required no care; except for a pointed projection, there was a space of at least 1½ inches between the bones. One fragment of dead bone in part filling this space was removed and the cavity curetted and cleansed as well as possible. Considerable infection followed with breaking down of scar tissues. Despite this, in four weeks' time the union was fairly firm. The patient walked on the foot about seven months after operation. The limb is about 1¼ inches short, due in part to shortening allowed to bring ends of bone nearer together and, in part, to imperfect growth since accident, as the left foot is about ¾ of an inch shorter than the right. Shortening does not seem to have increased since operation. The gap between the ends of the tibia is completely filled with new bone.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

April 1

21 *The Selection of Operation for Inguinal Hernia. A. MacLaren and H. P. Ritchie, St. Paul.
22 The Grossich (Iodin) Method of Skin Sterilization. E. C. Robitshek, Minneapolis.
23 Finkelstein's Classification of Diseases of the Gastro-Intestinal Tract in Infants. F. W. Schlutz, Minneapolis.
24 Signs Determining the Activity and Latency of Tuberculosis. E. L. Tuohy, Duluth.

21. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298.

New York State Journal of Medicine

April

25 *When Shall We Operate in Puerperal Septic Infection? J. O. Polak, Brooklyn, N. Y.
26 *Extra-Uterine Pregnancy. A Review of 100 Consecutive Operative Cases. C. Graham, Rochester, Minn.
27 Diagnosis of Ectopic Gestation. C. F. Adams, New York.
28 Appendicitis During Pregnancy. C. C. Lytle, Geneva, N. Y.
29 Toxins, Antitoxins, Antiserums and Bacterial Vaccines, with Comparisons. G. F. Seaborn, East Orange, N. J.
30 A Case of True Staphylococcus Pyemia Treated Exclusively with Vaccines. W. A. Sherwood, Brooklyn, N. Y.
31 Bacterial Vaccines in Middle Ear Infections in Infants and Young Children. E. M. Sill, New York.
32 A Case of Otitic Meningitis and Temporosphenoidal Abscess. Operation. Recovery. S. Oppenheimer, New York.
33 Treatment of Diffuse Peritonitis. G. D. Gregor, Watertown, N. Y.
34 County Hospital Care for the Tuberculous. D. B. Hardenbergh, Middletown, N. Y.
35 Embolism and Thrombosis of the Mesenteric Vessels. E. C. Thompson, Newburgh, N. Y.
36 Functional Albuminuria. I. O. Nellis, Herkimer, N. Y.
37 Iodin Disinfection of Wounds. C. F. Nieder, Geneva, N. Y.
38 Rewards of the Obscure Physician. M. J. Sanford, Suffern, N. Y.
39 The Economic Consciousness of the Physician. S. B. Allen, Riverhead, N. Y.
40 Therapy in Typhoid. T. H. Dexter, Brooklyn, N. Y.

25. **Puerperal Septic Infection.**—The query propounded in the title of this paper is answered by Polak as follows: Each case of postpartum or postabortal infection must be studied individually, and an accurate diagnosis made on the clinical and bacteriologic findings, before any treatment is instituted. Nature is competent in the majority of instances to localize and circumscribe the infection. Operative procedures should be avoided if possible, and are not indicated unless there is demonstrable evidence of intrapelvic or abdominal inflammation, necrosis or suppuration. Curettage, douches and examinations during the acute stage, break down barriers and open avenues for the further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, and the danger from curettage increases with each month of pregnancy. Enormous pelvic and abdominal exudates may disappear without operation, and in time enlarged ovaries, tubes, etc., may assume their proper size and function, and so long as the patient's general condition improves, no surgery is advisable. All operations are attended with less risk after the acute stage of the infection has subsided, and an exact diagnosis is more easily made at this time. After the uterus is thoroughly emptied, the pelvis should be left absolutely alone, and every effort should be made to support the patient and increase the natural blood resistance.

Vaccine therapy has a definite but limited field in the treatment of puerperal septic infection. Inoculation with autog-

genous vaccines will promise prompt results in staphylococcus and colon bacillus infections, but in streptococcus poisoning vaccine treatment is unreliable and is of value only when the virulence of the germ is attenuated, or when Nature has already developed a phagocytic defense.

Extraperitoneal drainage of local foci should be elected when possible, either by incision just above Poupart's ligament or by posterior vaginal section, and when this is impossible, because of an inability to determine the exact anatomic relations of the local focus, an exploratory laparotomy is justifiable in order to make an exact diagnosis, and to determine on the safest route for drainage. Operative interference, in the acute stage of sepsis, is only indicated in general purulent peritonitis, postabortal pelvic peritonitis, infected tumors in or near the genital tract and uterine rupture, when said rupture has occurred in the course of labor and has been handled outside of a well-managed maternity, and finally, thrombophlebitis is a conservative process on the part of Nature to limit the infection, and any form of pelvic manipulation only tends to break down and separate parts of these thrombi, extending the infection to the more remote parts, and thus jeopardizing the patient's life.

26. **Extra-Uterine Pregnancy.**—In this series of cases, fifty pregnancies were on the right side, forty-four on the left, one double, and the others were not recorded. Sixty-six cases were diagnosed as ectopic, fourteen (three diagnosed fibroids and four with a question of appendicitis) as pelvic tumor, with a question as to the cause, but no mention of ectopic pregnancy, three as appendicitis, four as twisted pedicle of extra-uterine pregnancy, seven pelvic inflammation (pyosalpinx, hydrosalpinx, etc.). In some cases gall-stones and perforations were considered in making the diagnosis, one patient being sent for gall-stones only and gall-stones were found. Five did not give a diagnosis, though most of them gave a clear history and were recommended to the hospital for surgical pelvic trouble. In summing up the points in differential diagnosis, Graham says: Briefly, one gets (1) the history of a normal menstruation missed, usually but a few days (fourteen), possibly weeks; (2) there are more or less severe colicky pelvic or abdominal attacks, alternating irregularly with periods of perhaps normal health, (3) accompanying these painful attacks or immediately following them is a scanty, intermittently prolonged flow; (4) examination reveals pregnant changes in genital tract, smooth, velvety mucous membrane, softened cervix, enlarged uterus, a tumor, tender, localized and not large, before rupture. After rupture, tender and large without a prolonged history to account for its size, and no history of infection. Vomiting, chills and fever with fainting and collapse attend the severer cases. Careful history development and careful physical examination should leave fewer unmade diagnoses in extra-uterine pregnancies.

Journal of the Michigan State Medical Society, Battle Creek

April

41 Alcohol as a Factor in Mental Diseases. G. F. Inch, Kalamazoo.
42 *Operations for Radical Cure of Inguinal and Femoral Hernia Under Local Anesthesia. J. A. MacMillan, Detroit.
43 Diagnosis of Surgical Diseases of the Kidneys and Ureters. J. D. Matthews, Detroit.
44 Pellagra. B. N. Colver, Battle Creek.
45 *Id. E. L. Eggleston, Battle Creek.
46 Chorea Minor. I. L. Polozker, Detroit.

42. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1676.
45. Abstracted in THE JOURNAL, Oct. 22, 1910, p. 1492.

Iowa Medical Journal, Des Moines

April

47 Prevention of Typhoid. A. C. Page, Des Moines.
48 Gonococcus Infection in Girls, Wives and Mothers. J. C. Powers, Hampton.
49 *Modified Pyloroplasty. F. S. Hough, Sibley.
50 Traumatic Synovitis of the Knee. A. Steindler, Des Moines.
51 A Plea for Therapeutic Advancement. D. G. Lass, Ocheyedan.
52 *Probable Cause of Acute Poliomyelitis. D. S. Grossman, Minburn.

49. **Pyloroplasty.**—Hough thinks that his modification of the ordinary pyloroplasty might prove effective by furnishing a permanently large pylorus and could be done with greater ease than Finney's operation and in some cases in which a Finney operation would seem to be impracticable. The objection to it is that it is an open operation and cannot be done with clamps, but in a patient prepared properly and guarded by gauze, this is not to be considered seriously. It is the sliding of a wedge of stomach wall into the spreading duodenal part of the incision. This is accomplished by making a Y-shaped incision and suturing it into a V-shaped form. An incision 4 or 5 inches long, 2 or 2½ inches of which are on the duodenum and 2 or 2½ inches on the stomach wall, is made as in the ordinary pyloroplasty, after which the stomach end of this incision is carried for a short distance in two diverging directions, making the arms of the Y. These arms diverge at any required angle—the more obtuse the angle the greater the width of the new pylorus. By bringing the apex of the wedge along the spread duodenogastric incision until it can be attached to the other end of the incision, the wedge gradually becomes wider and the result is a V instead of a Y.

52. **Probable Cause of Acute Poliomyelitis.**—Corn and cornmeal are here associated etiologically with anterior poliomyelitis. Grossman points out that there were more cases of infantile paralysis in Iowa in 1910 than ever before in any one year. There was much more spoiled cornmeal and spoiled corn consumed by the people of the state the same year than ever before. In examining the diagrams of the towns where the disease was prevalent last year, the diagrams being drawn by expert physicians, and showing the residences of those who were stricken by the disease, Grossman could not conclude that the plat of the towns showed any evidence whatever that the disease is contagious. Here and there in different parts of the towns persons were affected, or perhaps in some families there may have been two persons thus affected. Therefore, he asks whether it does not look very much more as if some grocery might have had sour cornmeal, or spoiled corn in some other form, and the people in different parts of the towns and country used it.

Military Surgeon, Washington, D. C.

April

53 The Training of Sanitary Troops. P. F. Straub, U. S. Army.
54 Efforts, Accomplishment and Aim of the Ohio National Guard. J. A. Hall, N. G., Ohio.
55 The "Inactive" Medical Reserve Corps. H. C. Coe, U. S. Army, New York.
56 The Medical Department at Sea in Its Parallelism to the Construction and Administration of Naval Hospitals as Seen by a Fleet Surgeon. A. M. D. McCormick, U. S. Navy.
57 Duties of the Supervising Surgeon of a Naval Hospital. E. M. Shipp, U. S. Navy.
58 Practical Points in Diagnosis and Treatment of Asiatic Cholera. J. McLaughlin, U. S. P. H. and M.-H. S.
59 Contagion and Infectious Diseases. A. N. Collins, Minn. N. G.
60 Mental Diseases in the Military Services, with Special Reference to Dementia Præcox. L. L. Smith, U. S. Army.
61 Report of the U. S. Army Board for the Study of Tropical Diseases as They Exist in the Philippine Islands. W. P. Chamberlain, H. D. Bloombergh and E. B. Vedder, U. S. Army.

Illinois Medical Journal, Springfield

April

62 The Pioneer Period of Medicine in Illinois. O. B. Will, Peoria.
63 Hygiene in Schools. L. M. Bergen, Highland Park.
64 *Raw and Pasteurized Milk and Milk Serums. E. Gudeman, Chicago.
65 *A Sanitary Milk Supply for Cities from a Medical Standpoint. R. A. Black, Chicago.
66 Heredity in Cancer. H. W. Abelmann, Chicago.
67 *Two Insufficiently Appreciated Baths. B. Fantus, Chicago.
68 Real and So-Called Incontinence and Its Treatment. F. Kreissl, Chicago.
69 Carl Spengler's "I. K." Treatment. C. W. Leigh, Chicago.
70 *Prevention of Hemorrhage in Pulmonary Tuberculosis by Administration of Autogenous Vaccines. R. T. Pettit, Ottawa.
71 Two Cases Treated with the Vaughan Cancer Residue. F. L. Evans, East St. Louis.
72 Myopia of the Medical Profession. W. R. Allison, Peoria.
73 Appendicitis from a Medical Standpoint. E. E. Sargent, Le Roy.
74 Syphilitic Evidences in the Rectum. C. J. Drueck, Chicago.

64. **Milk and Milk Serums.**—Gudeman is convinced by the results of his experiments that if a milk-supply is to be protected for the benefit of the public health, real pasteurization is not sufficient, and commercial pasteurization, much less so. Sterilization is a much better safeguard (home sterilization)—even with is effects on the milk, change in character as to taste and possible effect on ratio of digestibility. It is fully as necessary to protect and watch sterilized milk

as raw milk, and pasteurization, *per se*, Gudeman says, is only protection for the benefit of manufacturers and vendors of pasteurizing machinery. Cleanliness is the most necessary, most essential and most efficient requirement in the production and distribution of milk. Milk should be watched and protected against contamination of all kinds, from cow to consumer, both inside and outside of the containers used in its distribution. Raw milk, spoiling and becoming "sour" within a short time, condemns itself and the acid-forming germs are the safeguards, indicating to the consumer the age, that is, the actual condition of the milk. Acid-forming germs do not increase the toxicity of the milk; just the contrary. Pasteurized milk, unless as fresh as the raw milk, can be and often is the cause of an infinite number of troubles, the absence of "souring" being a false indication of security. Sterilized milk is a safe milk, being free from living germs and free from toxic substances due to their decomposition, although also free from the living active germs necessary for a complete and perfect digestion of the milk, under normal conditions. Clean, raw milk comes first; thereafter Gudeman's choice is sterilized milk, fresh or canned, but if one is compelled to use commercially pasteurized milk of unknown origin and uncertain age, he would practice self-protection and boil the milk before consumption. Commercial pasteurization is a poor makeshift, a premium offered for the distribution of old, dead, stale and often unwholesome, dirty milk. Pasteurization, he asserts, deteriorates clean milk.

65. **A Sanitary Milk-Supply.**—Instead of contending and temporizing with improper pasteurization, or pasteurization of improperly procured milk, or improper care of pasteurized milk, Black would demand and work for pure, clean milk. Work with the dairyman to have him produce it, work with the general public to keep it so after receiving it, and last, but not least, occasionally remind our own profession of the important place they have in this battle.

67. **Unappreciated Baths.**—The effervescent bath and the continuous bath are discussed by Fantus and their more frequent use is urged.

70. **Prevention of Hemorrhage.**—Since June 15, 1909, Pettit has administered autogenous vaccines to eighty-four patients with pulmonary tuberculosis. Of these eighty-four, sixty-five were under observation two months or longer. It has been observed during the past nineteen months, that hemorrhages have been less frequent than before. The class of patients, diet, exercise, sleeping conditions, supervision, etc., were practically the same as in preceding years; the only new factor introduced into the treatment was the administration of autogenous vaccines. It has occurred to Pettit that possibly the injection of vaccines against the organisms of mixed infection had a protective action against tissue dissolution and hence against hemorrhage. In all cases considered in the class receiving vaccines at least three doses of vaccine were administered. In thirty-two cases vaccines were made from organisms isolated from the sputum. In twenty-two cases vaccines were made from organisms isolated from the blood-stream. The percentage of hemorrhage in individuals receiving vaccines was approximately ⅓ of that in persons not receiving vaccines. The percentage of hemorrhage in those treated with vaccines made from organisms isolated from the sputum is very much lower than it is in individuals treated with vaccines made from organisms isolated from the blood. The results shown in patients showing hemorrhagic tendencies are suggestive of the protective effect of the vaccines. Pettit regards the administration of autogenous vaccines justifiable in a large number of cases as a protective measure in the same way typhoid inoculations are used in the prevention of typhoid.

United States Naval Medical Bulletin, Washington, D. C.

April

75 Intravenous Administration of Salvarsan. G. B. Trible and H. A. Garrison, U. S. Navy.
76 Satisfactory Results with a Simplified Wassermann Technic (Emery). E. R. Stitt, U. S. Navy.
77 Preparation of a Culture Medium from a Dried Blood-Serum. E. W. Brown, U. S. Navy.
78 Existence of Anchylostoma Duodenale in Guam. W. M. Kerr, U. S. Navy.
79 Intestinal Parasites Found Among the Crew of the U. S. S. *South Dakota*. E. G. Parker, U. S. Navy.
80 Examination of Filipino Mess Attendants for Intestinal Parasites. W. A. Angwin and C. B. Camerer, U. S. Navy.
81 Practical Use of Carbon Dioxid Snow as Seen at the West London Hospital. G. D. Hale, U. S. Navy.
82 Nomenclature for Causes of Physical Disability in the Navy. C. N. Fiske, U. S. Navy.
83 An Atypical Typhoid Bacillus. O. J. Mink, U. S. Navy.
84 Parasites Found at Animal Autopsies in the Naval Medical School Laboratories During 1910. C. S. Butler and P. E. Garrison, U. S. Navy.
85 An Intestine Tray for Necropsies. P. E. Garrison, U. S. Navy.

Colorado Medicine, Denver

April

86 Causes and Treatment of Chronic Backache. G. B. Packard, Denver.
87 *An Unusual Powder Smoke Fatality. C. Johnson, Montrose, Colo.
88 Congenital Body Atresia and Choana. F. L. Dennis, Colorado Springs, Colo.
89 *Non-Diabetic Glycosuria. S. Ringolsky, Denver.
90 A Case of Bilateral Sarcoma of the Adrenals. O. M. Gilbert and R. C. Whitman, Boulder, Colo.

87. **An Unusual Powder Smoke Fatality.**—On Jan. 16, 1911, a blast was set off in the Gunnison Tunnel at 2:30 in the afternoon. The men at work retired to a safe distance, as they had done several times daily for many weeks, to allow the smoke to clear away. In less than three days nine of a bunch of thirteen men who inhaled the smoke died of acute pulmonary trouble. A like disaster had never been heard of by engineers in charge of the work. There were many old miners among the men who were working in the tunnel, and none of them had ever known of a similar occurrence. An analysis of the circumstances by Gilbert and Whitman seems to show that the cause of the deaths was the inhalation of nitrous fumes, particularly of ntirogen tetroxid or dinitryl, N_2O_4, and that these fumes were formed by the action of the electric power current on the smoke from the burning powder. Although no record can be found of the formation of dinitryl in this manner, sufficient has been written on the subject to show the entire reasonableness of this explanation. When nitric acid is exposed to the air or is brought into contact with organic matter or metals it is partly volatilized and partly decomposed, and the oxids of nitrogen are formed, particularly nitrogen tetroxid, N_2O_4, also called dinitryl or nitrogen peroxid. The simpler and less poisonous form of this gas is NO_2 or nitryl. It will be shown that nitryl, NO_2 was present in the smoke. Only the action of the electric current could then be necessary to convert it into its allotropic or nascent form N_2O_4, or dinitryl. Johnson cites briefly the history of each of the thirteen cases. He calls attention to the possibility that some of the rapidly fatal cases of pneumonia to which miners are subject may be due to dinitryl.

89. Also published in the *Denver Medical Times* and *Utah Medical Journal*, April, 1911.

Journal of the American Public Health Association, Columbus, Ohio

March

91 *Report of Committee on Education of the Public as to the Communicability and Prevention of Gonorrhea and Syphilis. G. M. Kober, Washington, D. C.
92 *Venereal Prophylaxis in the U. S. Navy for the Benefit of Public Health Officials. C. N. Fiske, U. S. Navy.
93 *Venereal Diseases Among Seamen of the Merchant Marine. J. W. Kerr, U. S. P. H. and M.-H. S.
94 *A Plea for Applying the Usual Methods of Preventive Medicine to Venereal Diseases. J. R. Kean, U. S. Army.
95 Bacterial Content of Separator Cream and Separator Milk. P. G. Heinemann and E. Class.
96 Epidemiology of Diphtheria, Scarlet Fever and Measles. H. W. Hill.
97 Importance of the Registration of Marriage Certificates. F. W. Shumway, Lansing, Mich.

91 to 94. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1136.

Archives of Internal Medicine, Chicago

April

98 *Blood-Pressure in Tuberculosis. H. Emerson, New York.
99 Pyrogenic Action of Salt Solutions in Rabbits. H. F. Helmholz, Chicago.
100 Retention of Alkali by the Kidney with Special Reference to Acidosis. H. M. Adler, Hawthorne, Mass., and G. Blake, Boston.
101 *Effects of Certain Internal Secretions on Malignant Tumors. G. L. Rohdenburg, F. D. Bullock and P. J. Johnston, New York.
102 Duration of Trypanosome Infections. J. L. Todd, Montreal, Canada.
103 *Pathologic Anatomy of the Human Thyroid. D. Marine and C. H. Lenhart, Cleveland, Ohio.

104 *Studies on Water Drinking. S. A. Rulon and P. B. Hawk, Urbana, Ill.
105 *Use of Digipuratum in Heart Disease. W. F. Boos, L. H. Newburgh and H. K. Marx, Boston.
106 A Case of Strongyloides Intestinalis with Larvæ in the Sputum. J. G. Gage, New Orleans.

98. **Blood-Pressure in Tuberculosis.**—A complete study was made by Emerson of the status of the blood-pressure in tuberculosis. He says that hypotension or subnormal blood-pressure is universally found in advanced pulmonary tuberculosis, in which condition emaciation may play a part in its causation. Hypotension is found in almost all cases of moderately advanced tuberculosis, or in early cases in which the toxemia is marked, except when arteriosclerosis, the so-called arthritic or gouty diathesis, chronic nephritis, or diabetes complicate the tuberculosis and bring about a normal pressure or a hypertension. Occasionally the period just preceeding hemoptysis or during hemoptysis may show hypertension in a patient whose usual condition is that of hypotension. Emerson emphasizes that hypotension should be sought for as carefully as it is the custom at present to search for pulmonary signs. Hypotension when found persistently in individuals or families or classes living under certain unhygienic conditions should put us on guard aganst at least a predisposition to tuberculosis. Hypotension, when it is present in tuberculosis, increases with an extension of the process. Recovery from hypotension accompanies arrest or improvement. Return to normal pressure is commonly found in those who are cured. Continuation of hypotension seems never to accompany inprovement. Prognosis, Emerson found, can as safely be based on the alteration in the blood-pressure as on changes in the pulse or temperature.

Emerson believes that the causes of low blood-pressure in tuberculosis are probably primarily a toxic action on the vasomotor center in the medulla, allowing of a vasoparesis or stimulating an active vasodilatation. and secondarily, progressive cardiac atrophy or degeneration. Rapid heart action is a usual and necessary sequel to low blood-pressure and will, if extreme, aggravate the hypotension by the very act of its shortened diastole. It has been suggested, but not proved, that lack of vagus inhibition owing to pressure by enlarged bronchial lymph nodes and presence of sympathetic excitation from similar or reflex causes such as pulmonary or gastric irritation, are responsible for the tachycardia and hypotension. Marked vasomotor irritability is recognized as a frequent phenomenon in pulmonary tuberculosis and is supposed to result in tachycardia and hypotension, but it is not easy to see exactly what is meant by this term unless a certain functional instability, for which we have no proof of any definite local cause. The result of hypotension in tuberculosis or in any other condition is insufficient capillary pressure, more or less venous stagnation and insufficient nourishment, with resulting atrophy or degeneration of the essential organs of the body.

Emerson emphasizes that the treatment of tuberculosis in all its stages should take into consideration the need of assisting in every way the return to normal blood-pressure, first by relieving the relaxed vessels of the load put on them during the vertical position or exercise, and later by assisting the heart by abundant nutrition, moderate exercise and the stimulating effect on cardiac and vascular tone of cold fresh air, to meet the extra work put on it by the loss of vascular tone. Thus will the heart be able to maintain its normal bulk and strength or even to gain from the atrophy or small size of the early disease, to a normal size, so that the brain, kidneys, lungs and body at large may be properly nourished, until the disease is arrested and the toxic products of the tubercle bacillus are no longer distributed from the site of the lesion.

101. **Effects of Internal Secretions on Tumors.**—Briefly summarizing their evidence, the authors point out that: (1) removal of certain glands (i. e., thyroid, thymus and testes) appears to decrease the susceptibility to cancer; (2) removal of single glands or combination of glands in immune animals leads to lessened immunity to cancer; (3) extracts of thymus, thyroid, spleen, pancreas, pituitary and testes on injection tend to increase immunity against cancer and extracts of certain other tissues produce like effects; (4) similar extracts, on injection in cancerous organisms, alleviate pain, reduce tumors or even cause them to disappear; and finally (5) their results, combined with those of other observers, tend to the conclusion that many tissues contain some common element, possibly of the nature of a hormone, which is capable of producing immunity.

103. **Pathologic Anatomy of the Human Thyroid Gland.**—The classification of the thyroid diseases made by Marine and Lenhart is as follows:

I. Normal thyroid.
II. Active hypertrophies and hyperplasias (goiter).
  1. Developing from the normal thyroid.
  2. Developing from the colloid gland (goiter).
III. Colloid glands (goiters).
IV. Regeneration (hyperplasias).
V. Atrophies:
  1. Premature atrophies:
    (a) of obsesity.
    (b) of cretinism.
    (c) of myxedema.
  2. Senile.
VI. Degenerations:
  1. Hyaline.
  2. Amyloid.
  3. Calcareous, etc.
VII. Inflammations:
  1. Acute thyroiditis.
  2. Chronic thyroiditis.
VIII. Tumors:
  1. Benign.
    (a) Fetal adenoma.
    (b) Simple adenoma.
  2. Malignant.
    (a) Carcinoma from fetal adenoma (carcinoma simples).
    (b) Glandular carcinoma.
    (c) Sarcoma.
    (d) Endothelioma.
IX. Complications:
  1. Hemorrhage.
  2. Cyst formation.
    (a) From hemorrhage.
    (b) From fetal adenoma.

Thus, there are nine major anatomic divisions, which represent different physiologic or pathologic stages. The first four divisions, viz., normal thyroid, active hypertrophy or hyperplasia, colloid gland and regeneration, are physiologic. The remaining five divisions are properly designated as pathologic and are only the generally accepted groupings common to all body tissues.

104. **Water Drinking.**—Three experiments are described by Rulon and Hawk in which the topic under investigation was the influence of copious water drinking between meals on the excretion of chlorids. The subjects were young men ranging in age from 22 to 29 years. Each experiment was divided into three periods, a preliminary period during which nitrogen equilibrium was attained through the feeding of a uniform ration of low water content, a water period during which the uniform ration was supplemented by the drinking of large volumes of water between meals, and a final period in which the conditions of the preliminary period were in force. In two of the experiments there was a pronounced increase in the output of chlorids in the days of added water intake with a return to normal during the final period. This augmented excretion of chlorids is interpreted as indicating that the large volume of water ingested during this period has markedly stimulated the secretion of gastric juice. The excess hydrochloric acid thus passed into the intestine has been reabsorbed and appears, at least in part, in the urine as ammonium chlorid. The main bulk of the increase in the chlorid excretion they believe to have originated in this way. The flushing of the tissues and the stimulation of protein catabolism brought about by the copious water drinking may have been contributing forces in causing the increased output of chlorids observed. In one experiment there was a small increase in the chlorid output on each day of increased water ingestion followed by a pronounced rise in the output on the first day following the water period. Neither the flushing properties of the water nor its stimulating efficiency as regards protein catabolism or gastric secretion offers a satisfactory explanation for the high chlorid concentration observed on the day following the period of copious water drinking.

105. **Digipuratum in Heart Disease.**—Digipuratum has now been in use at the Massachusetts General Hospital for over a

year, and more than 180 cases of primary heart disease or secondary cardiac involvement have been treated with it. The effect on the urinary output has been very prompt in most instances. There was not a single case of vomiting or diarrhea. In fact, the vomiting of a number of cardiac patients at entrance was promptly stopped by digipuratum. Cumulative poisoning has never been observed. One of the early patients, a boy of 16, was given 106 tablets in six weeks; at no time was there any suggestion of digitalis poisoning. In one or two instances the house officers were made uneasy by sudden drops of 40 or more beats in the pulse-rate, but no disagreeable consequences followed in any case. It must be borne in mind, however, that digipuratum is a digitalis preparation, and that as such it must necessarily have a tendency to produce poisoning by cumulation. In the case of digipuratum this tendency is merely much diminished, so that it is possible by means of this drug to push digitalis therapy in a manner heretofore unknown.

Southern California Practitioner, Los Angeles

April

107 Fracture of the Skull with Intracranial Injuries. C. E. Zerfing, Los Angeles.
108 Necrosing Mastoid, Without Involvement of the Antrum, Middle or Internal Ear. Fatal Acute Suppurative Otitis Media of Two Days' Duration in an Adult. Persistent Bleeding Following Adenoid Operation. E. W. Fleming, Los Angeles.
109 Liver Abscess with Tertian Malaria. O. I. Towner, Los Angeles.
110 Overeating and Its Consequences. B. Reed, Alhambra, Cal.

Laryngoscope, St. Louis

March

111 Manifestations of Thyroid Disease in the Upper Respiratory Tract. B. R. Shurly, Detroit, Mich.
112 Bone Cyst of the Ethmoid Cells. J. A. Thompson, Cincinnati.
113 A Case of Sarcoma of the Tonsil in a Young Child. L. C. Cline, Indianapolis.
114 Erysipelas of the Larynx. D. B. Delavan, New York.
115 Clinical Studies of Five Cases of Suppurative Labyrinthitis. P. D. Kerrison, New York.
116 A Set of Antral Cannulas. J. Dunn, Richmond, Va.
117 A Non-Caustic Cresol (Cresatin) in Diseases of the Nose, Throat and Ear. M. D. Lederman, New York.
118 A Speculum for the Direct Examination and Treatment of the Naso-Pharynx and Eustachian Tubes. S. Yankauer, New York.
119 Electric Laryngeal Mirror Heater. J. D. Heitger, Bedford, Ind.
120 *A New Tongue Depressor. D. W. Layman, Indianapolis.
121 Two Well-Known Tonsil Dissectors Mounted in Convenient Form on a Single Handle. C. M. Harris, Johnstown, Pa.

120. **A New Tongue Depressor.**—The tongue depressor devised by Layman is intended especially for operative work under a general anesthetic, when the tongue is held by an assistant. The instrument conforms readily to the shape of the floor of the mouth, when the tongue is depressed, holding the tongue firmly downward and forward. The handle is so constructed that it affords a firm, non-slipping grip. There is a groove on the inner side of the upper part of the handle, in which rests the index finger, and below the groove the handle is obliquely fluted. The handle is set at an obtuse angle from the rest of the instrument so that it is out of the way of the patient's chest. The part of the mouthpiece that joins the handle is so shaped that it overrides the teeth easily; the drop or downward curve at the end, which joins the tip, is so placed that it permits a free forward or backward placement of the instrument. One size tongue depressor serves for both adults and children. The tip is nearly triangular in shape, and is serrated on the tongue sides and curves down just enough to conform to the shape of the depressed tongue. The downward drop of the tip gives an advantage of at least an inch or more over the ordinary right-angled tongue depressor; thus the tongue is held in the desired position with less effort. It does not obstruct the view of the operative field, and is out of the way of other instruments.

Journal of Biologic Chemistry, Baltimore

April

122 The Determination of Alkylamines Obtained from the Urine After Kjeldahl Digestion. C. C. Erdmann, Waverly, Mass.
123 The Recovery of Adenin. G. DeF. Barnett and W. Jones, Baltimore.
124 The Combined Action of Muscle Plasma and Pancreas Extract on Glucose and Maltose. P. A. Levene and G. M. Meyer, New York.
125 General Metabolism with Special Reference to Mineral Metabolism in a Patient with Acromegaly Complicated with Glycosuria. F. Medigreceanu and L. Kristeller, New York.
126 Presence of Histidin in Pig Thyreoglobulin. F. C. Koch, Chicago.
127 Fate of Benzoylacetic Acid in the Animal Body. H. D. Dakin, New York.
128 Nucleases. W. Jones, Baltimore.
129 Catabolism of Phenylalanin, Tyrosin and Their Derivatives. A. J. Wakeman and H. D. Dakin, New York.
130 The Chemical Nature of Alkaptonuria. H. D. Dakin, New York.
131 Researches on Purins. C. O. Johns, New Haven, Conn.
132 Physiologic Agents Concerned in the Nuclein Fermentation, with Special Reference to Four Independent Desamidases. W. Jones, Baltimore.

Journal of Infectious Diseases, Chicago

April

133 Investigations on the Purification of Boston Sewage. C. E. A. Winslow and E. B. Phelps, Boston.
134 *Liver Broth: A Medium for the Determination of Gas-Forming Bacteria in Water. D. D. Jackson and T. C. Muer, Brooklyn, N. Y.
135 Guinea-Pig Test of the Virulence of Diphtheria Bacilli. P. G. Weston and J. A. Kolmer, Philadelphia.
136 *Variations in the Phagocytic and Coccidal Power of the Blood in Pneumonia and Scarlet Fever. R. Tunnicliff, Chicago.
137 Fusiform Bacilli and Spirilla. R. Tunnicliff, Chicago.
138 *Transmission of Spotted Fever by Other than Montana and Idaho Ticks. M. B. Maver, Chicago.
139 Complement Deviation in Rocky Mountain Spotted Fever. B. F. Davis and W. F. Petersen, Chicago.
140 *Time Relationships of the Wood-Tick in the Transmission of Rocky Mountain Spotted Fever. J. J. Moore, Chicago.
141 Technic for the Inoculation of Bacteria and Other Substances into Living Cells. M. A. Barber, Kansas City, Kan.
142 The Number of Cellular Elements in Milk. R. S. Breed and I. R. Stidger, Meadville, Pa.
143 Institutional Dysentery. G. F. Dick, Chicago.

134. **Determination of Gas-Forming Bacteria.**—For those observers who desire to determine the presence of all gas-formers, including *B. coli*, to the highest accuracy, the use of liver broth is recommended by Jackson and Muer. In the examination of water, dilutions of 0.1, 1.0 and 10 c.c. of the sample may be inoculated into lactose bile and another series into liver broth. Positive tests in the lactose bile indicate the degree of recent pollution with the colon group. Gas formation in the liver broth indicates the degree of contamination with gas-forming bacteria, both attenuated and vigorous. Any difference in the results obtained in lactose bile compared with those found by transplanting within twelve hours from the liver broth into a second set of lactose bile tubes gives a fairly accurate idea of the amount of attenuated *B. coli* present. Negative results in both sets of bile tubes and positive results in the liver broth usually show that the gas-producing bacteria present are not of the colon group.

136. **Blood in Pneumonia and Scarlet Fever.**—The observations recorded by Tunnicliff indicate that, as a rule, there is an increase in the phagocytic power in the leukocytes in mild cases of pneumonia. In mild and uncomplicated cases of scarlet fever, there is no change in the phagocytic activity of the leukocytes. In severe cases of pneumonia and scarlet fever, the phagocytic power of the leukocytes is generally diminished during the height of the disease, but when the patient improves, it rises above normal, to which it returns during convalescence. Although the opsonic power of the serum is specific, there is no such specificity in the phagocytic power of the leukocytes, so far as Tunnicliff's results indicate. So far as pneumonia and scarlet fever are concerned, variation in the opsonic power of the serum and in the phagocytic activity of the leukocytes, as a rule, is accompanied by a corresponding variation in the pneumococcidal or streptococcidal power of the serum and the leukocytes.

138. **Transmission of Spotted Fever.**—From Maver's experiments it appears that in so far as ability of ticks from various regions to transmit the virus of spotted fever is concerned, the disease might find favorable conditions for its existence in localities other than those to which it now is limited.

140. **Time Relationship of Wood-Tick in Spotted Fever.**—The minimum duration of feeding necessary for a tick to infect a guinea-pig, Moore found to be one hour and forty-five minutes. The average time necessary seems to be about ten hours, while twenty hours were almost constantly infective. The duration of feeding necessary to infect a tick is approximately twenty-five hours, while the minimum incubation period in the tick was not definitely determined. With ticks obtained

from Nature it is necessary to infect the tick, and the incubation period in the tick will be found to be much less than is indicated here.

143. **Primary Vaccinations.**—This is a strong endorsement of vaccination, which Amesse says is the safest, simplest and most potent specific prophylactic in the field of preventive medicine. Of itself, it is essentially harmless; the infections sometimes complicating the operation are due to faulty technic on the part of the physician or unclean handling on the part of the patient. The plain duty of the profession, therefore, is to advocate, in season and out of season, early vaccination, preferably during the first years of life, and again at the age of 12. Compulsory health laws of this character, while apparently antiquated and oppressive, must continue to be enforced so long as public sentiment, in purely medical affairs, questions or denies the deductions of large experience and ripe judgment.

Denver Medical Times and Utah Medical Journal, Denver

April

144 *Conclusions from 30,000 Primary Vaccinations. J. W. Amesse, Denver.
145 Chronic Otitis Media and Its Treatment by the Radical Mastoid Operation. J. J. Pattee, Pueblo, Colo.
146 Prevention of Typhoid. W. T. Hasler, Lehi, Utah.
147 A Mild Case of Typhoid. R. J. Smith, Logan, Utah.

West Virginia Medical Journal, Wheeling

April

148 Modern Surgery of the Kidney. J. Ransohoff, Cincinnati.
149 Extra-Uterine Pregnancy. O. F. Covert, Moundsville.
151 Diseases of the Accessory Sinuses, with Reference to the Eye, Ear, Nose and Throat. J. McK. Sites, Martinsburg.
152 Local Use of Magnesium Sulphate. B. B. Wheeler, McKendree.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

April

153 *Falling of the Humerus Associated with a Dislocation of the Shoulder and Paralysis of the Arm. T. T. Thomas, Philadelphia.
154 An Extramedullary Tumor of the Spinal Cord, Apparently Caused by Trauma. D. Bovaird, Jr., and M. G. Schlapp, New York.

153. **Falling of the Humerus.**—In 1879, Jonathan Hutchinson reported a case under the title of "An Incomprehensible Case of Arm Paralysis with Recurring Dislocation of the Shoulder." Thomas has seen three cases of what he believes to be essentially the same condition. He attempts to show that it is only a variation of the ordinary anterior dislocation of the shoulder, and that paralysis is the result of the displacement in the joint, not of actual nerve rupture, although the latter condition may occasionally be present. He believes that the importance of the lesion of a dislocation of the shoulder and its analogous condition, a sprain, has not been appreciated in the etiology of obscure brachial paralyses. For the sake of brevity, Thomas proposes the name "dropped shoulder" or "dropped humerus" for this condition, because according to his experience it is the distinguishing feature and the primary and underlying cause of the whole trouble. He believes that it is the result of the tearing away from the humerus of the attachments of the upper part of the capsule with or without those of the external rotators from the greater tuberosity which is in the upper part of the joint. All three of his cases were apparently the result of an anterior dislocation, which was associated with a downward displacement of the humerus, but had not the usual rigidity of a dislocation. By operation in such cases, the normal joint relation can be restored, and the operation can be followed by a complete or almost complete return of function in the paralyzed muscles. Such a result was obtained in two cases, the operation being performed in one case eight weeks and in the other five weeks after the accident which caused the trouble. How long after this accident the result can be obtained remains to be determined. There is some reason to hope that the paralytic dislocation of the shoulder ascribed to poliomyelitis and to injuries of the brachial plexus at birth may be due to a similar cause, and that by early operation a cure may be obtained.

Cleveland Medical Journal

March

155 Untoward Results of Delayed Operations and of Incomplete Operations. A. Primrose, Toronto, Canada.
156 The Mental Hospital of the Future. H. H. Drysdale, Cleveland
157 Relation of Pharmacology to Clinical Medicine. W. deB. MacNider, Chapel Hill, N. C.
158 Ointments and Their Therapeutic Use. W. T. Corlett, Cleveland.
159 Ointments. L. C. Hopp, Cleveland.
160 Eight Cases of Fatal Meningeal and Cerebral Complications of Suppurative Ethmoiditis. J. A. Stucky, Lexington, Ky.
161 A Juvenile Case of Paresis. T. Diller, Pittsburg, Pa.

Alabama Medical Journal, Birmingham

April

162 Is Anything the Matter with the Physician? W. J. Robinson, New York.
163 The Fermental Form of Summer Diarrhea of Infants. W. W. Harper, Selma.

Canadian Medical Association Journal, Toronto

April

164 A Study of 850 Cases of Scarlet Fever, with a More Particular Consideration of Seventy-One Fatal Ones. J. McCrae, Toronto.
165 Duodenal Ulcer. W. H. Rankin, Montreal.
166 Human Bacillus-Carriers. W. T. Connell, Montreal.
167 Mounting Moist Specimens. E. L. Judah, Montreal.
168 Social Problems in Relation to Medicine. R. Monahan, Toronto.

Journal of the Kansas Medical Society, Kansas City

April

169 Injuries to the Abdominal Viscera, Produced by Indirect Violence: A Plea for Early Operation. G. M. Gray, Kansas City.
170 Art and Science in the Practice of Medicine. W. A. Carr, Junction City.
171 Rheumatism. J. Dillon, Eureka.
172 Gunshot Wounds of the Abdomen. H. L. Snyder, Winfield.
173 Tonsil Operations. J. E. Sawtell, Kansas City.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 1

1 *Acute Emergencies of Abdominal Disease. B. G. A. Moynihan.
2 Chemical Composition and Mode of Formation of Renal Calculi. B. Moore.
3 Examination of Suspected Small-Pox. A. F. Cameron.
4 *Renography, or Study of Abnormal Movements of Living Kidney. E. H. Fenwick.
5 Anthrax and Fatalism. W. Mitchell.
6 The Infective Granule in Certain Protozoal Infections, as Illustrated by the Spirochetosis of Sudanese Fowls. A. Balfour.
7 *The Therapeutics of Sugar. J. Sawyer.

April 8

8 *Heart Failure. J. Mackenzie.
9 Antivivisectionists and the Research Defence Society. E. Schäfer.
10 Medicolegal and Practical Considerations of Melancholia. G. M. Robertson.
11 Etiology of Iritis. T. H. Butler.
12 Common Diseases of the Eyes. H. P. Bennett.
13 Mechanical Etiology of Optic Neuritis. M. Mamourian and C. J. Smith.
14 Salvarsan in Syphilis. C. Gibbs and E. S. Calthrop.

1. **Acute Emergencies of Abdominal Disease.**—The catastrophes which occur within the abdomen are not, Moynihan says, strictly speaking, "acute;" they are, on the contrary, usually the result of the abrupt transition from a quiescent to an acute phase in a disorder of long standing. An acute emergency can, therefore, be prevented by a timely recognition of the value and the significance of the early symptoms, so often ignored or misunderstood, of the chronic malady in which it is the final development. The sudden occurrence of an attack of intolerable agony in the abdomen, associated with tense rigidity of all the abdominal muscles, indicates that there is an acute lesion which needs immediate surgical attention. These two signs, and these alone, are an urgent warrant and compulsion to treat the case at once by operation. A differential diagnosis is generally possible if strict attention be paid to the details of the history, and if the firm abdominal wall be searched for a tender area of supreme resistance. Shock is not a symptom of perforation, for in the early hours after this disaster has occurred the pulse is very little altered in volume or in rate. In all cases of abdominal pain, especially in children, Moynihan says that the use of aperients should be avoided.

2. **Chemical Composition of Renal Calculi.**—Experimentation has convinced Moore that the formation of renal calculi has

for its basis a condition of diminished oxidation, in which there appear primarily calcium salts of incompletely oxidized bodies, such as calcium oxalate and calcium urate, associated with calcium phosphate. Further, such diminished oxidation, occurring locally or generally, is seen in many pathologic conditions, such as calcium salt deposition in bone in old age, in tuberculous lesions, in gout, in arteriosclerosis and generally in calcification processes in the body. The tendency toward such deposition increases with age, and is probably accompanied by an increased alkalinity of the body fluids.

3. **Renography.**—This is a report on a study of the abnormal movements of the living kidney, and a hint of its bearing and influence on renal surgery. Fenwick utilizes skiagrams of the kidney region made during forced inspiration, then forced expiration, and finally a combination of both with posture. The results are most striking, not only as bearing on the detection and study of the over-movable kidney, or in aiding in the detection and elucidation of false shadows, but in indicating the technic of operative procedure. The method is described in detail. Some of his findings he summarizes as follows:

> If I come across a fixed dense kidney, with profuse hematuria, I know I have to deal with a carcinoma of the kidney that has passed through its capsule, and has fixed it so that there is no use operating; that I shall not be able to get the kidney away without damaging the inferior vena cava or abdominal aorta, or without getting a rapid recurrence by opening up planes along which the malignant growth has interpenetrated.
>
> A fixed dense kidney shadow high up under the costal arch, with profuse, intermittent hematuria, means a "too-late" cancer, for it denotes a malignant kidney that has become glued, and is therefore inoperable.
>
> A fixed shadow of a dense kidney, with stinking pyuria and shadow of pelvic stones, means nephrectomy, and, if the surgeon is wise, subcapsular nephrectomy by the lumbar incision, without touching or separating more of the pericapsular attachments than is just necessary to enucleate the organ and control its pedicle. The surgeon who acts thus will not lose these severe cases.
>
> A fixed dense kidney shadow without stone but with *B. coli* pyuria or staphylococcus pyuria generally needs the simplest pelvic drainage through the loin without disturbance of the pericapsular area.
>
> A dense fixed kidney shadow with pyuria needs serum treatment for the corticitis.

6. **Therapeutics of Sugar.**—Sawyer has used cane sugar freely and frequently during the last ten years or so with success in a variety of morbid conditions. In wasting disorders, in various forms of anemia, in adynamic varieties of rheumatism, and especially in the neurasthenic manifestations of neurotic persons, he has found the continued ingestion of cane sugar markedly beneficial, increasing weight and power, appearing to act not merely as a nutrient but also as a tonic in the best senses of that word, gently stimulating the vital energies to an aroused action by a kind of mild stimulation, slowly produced and permanent in effect. For an adult, he has usually prescribed from ¼ to ½ pound of lump cane sugar, to be eaten slowly daily, a lump or two to be taken at odd times through the day or night, but not just before a meal, the patient always carrying a little store with him, and eating some of it when so disposed.

8. **Heart Failure.**—In this, the first paper in a series, Mackenzie considers particularly the inadequacy of the back-pressure theory to explain heart failure. He says that the theory of heart failure from back pressure lays stress on and magnifies the factors of little importance and ignores the essential factors in the production of heart failure. The back-pressure theory leaves out of consideration the fact that the valve lesion may be a steadily progressive one, and it omits the still more important fact that there are coincident changes going on in the structure of the heart muscle, impairing its efficiency, and leading up to the essential cause of heart failure. But most important of all, this back pressure theory has failed to recognize that the changes which have led directly to the production of heart failure and produced such symptoms as dyspnea, ascites, enlargement of the liver, are due to the sudden inception of a different rhythm in the heart's contraction by fibrillation of the auricle. He attempts to show that the accepted view of heart failure has been based on a misconception of the means by which it has been brought about and that certain phenomena associated with heart failure had attributed to them, in consequence of this association, a significance which they do not possess.

Lancet, London

April 8

15 *Heart Failure. J. Mackenzie.
16 *Two Hundred Cases of Total Enucleation of the Prostate. P. J. Freyer.
17 *Treatment of Pulmonary Tuberculosis with Bovine Tuberculin. N. Raw.
18 Acute Inflammation of the Thyroid. W. S. Robertson.
19 How Far Can the Abuse of Drugs be Prevented by Law? W. Gadd..
20 *An Unusual Case of Gunshot Wound of the Skull. W. L. Harnett.
21 *The Eye of Surgical Needles: A New Form. J. L. Thomas.

15. Also published in *British Medical Journal*, April 1, 1911.

16. **Total Enucleation of Prostate.**—In connection with these 200 operations cited by Freyer, there were nine deaths, or 4.5 per cent., the causes of death being as follows: 1. Five patients died from uremia; in two, aged 59 and 71 respectively, necropsy revealed extensive pyelonephritis; in two, aged 76 and 83, necropsy showed long-standing backward pressure changes (aseptic) leading to almost complete absence of secreting tissue in the kidneys, only a thin layer of cortex remaining; and in one, aged 73, the patient was suffering from an extreme form of paralysis agitans. 2. Two patients died from exhaustion. In one of these, in whom death occurred thirteen days after the operation, there were almost daily rigors with high temperature, though the bladder was clean; no doubt the kidneys were pyelonephritic, though no necropsy was obtained. The other, aged 87, had been confined to bed for six weeks from pneumonia immediately previous to operation. 3. One patient, aged 74, very stout, suffering from severe cystitis, chronic asthma and bronchial catarrh with dilated heart, succumbed from bronchitis twenty-two days after operation. Spinal anesthesia was tried in this case but failed, and general anesthesia had to be employed, which, no doubt, was responsible for the fatal bronchitis. 4. In a man, aged 78, double vasectomy and subsequently castration had been performed by another surgeon several years before, without any benefit to the prostatic symptoms. For two years before coming under Freyer's care he had passed urine through a suprapubic fistula established for this purpose. The apparatus fitted badly, owing to the bladder being filled by the enormous prostate, causing great pain and frequent hemorrhage, and urine constantly leaked beside the tube. Altogether the patient was in an extremely wretched condition, and begged to be relieved at any risk. The prostate, which weighed 11 ounces, was easily enucleated, but the patient succumbed to shock in eight days. Frever calls attention to the fact that in all of these nine cases in which death supervened on the operation the patient was afflicted with one or more grave complications which must have proved fatal after much suffering. In no case did death ensue where the vital organs were sound at the time of the operation. Had the cases been selected, therefore, the mortality would have been *nil*.

17. **Pulmonary Tuberculosis and Bovine Tuberculin.**—After a large experience in the treatment of tuberculosis in all its forms, Raw has come to the firm conclusion that tuberculin is a valuable remedy in a great many cases. The special variety of tuberculin to be used must be determined by the nature of the infection, and as nearly all cases of pulmonary tuberculosis or "consumption" are of human origin—that is, they are caused by the bacilli of the human type—it is necessary to use a tuberculin prepared from the bacilli of the bovine type, and named bovine tuberculin. In fact, he declares, one must inject the opposite kind of tuberculin. Bovine tuberculin is less irritating and less liable to produce reaction when given in the larger doses in cases of consumption. Raw does not consider tuberculin a specific remedy in severe tuberculous infections; but combined with other methods of treatment, directed to raise the general nutrition, assists in producing immunity of a more or less temporary character, but its chief effect seems to be to prevent the further spread of the disease, and to inhibit the growth of the bacilli in the human tissues, so that as the original tuberculous process dies out no further development takes place. In other words, it has a specific action on the blood in retarding the growth of tubercle bacilli. The immunity which it produces must be arrived at slowly and with caution, so that the blood may be

very gradually accustomed to its presence, and it cannot be too strongly emphasized that all tuberculous infections of however mild a type become constitutional or blood infections in a very short time, as is evidenced by the skin reaction of v. Pirquet.

20. **Bullet Wound of the Skull.**—In the case reported by Harnett, a spent bullet penetrated the skull through the squamous portion of the temporal bone, passed between skull and dura without injuring the latter and lodged in the pars petrosa.

21. **Eye of Surgical Needles.**—The eye of the needle used by Thomas has a side entrance protected by a spring grip—like a harness snap.

Journal of Tropical Medicine and Hygiene, London

April 1

22 Experiments to Ascertain if the Domestic Fowl of Uganda May Act as a Reservoir of the Virus of Sleeping Sickness. Sir D. Bruce, A. E. Hamerton and H. R. Bateman.
23 Three Cases of Pseudomuscular Hypertrophy in One Family. R. H. Castor.

Journal of Obstetrics and Gynecology of the British Empire, London

March

24 *Sixteen Cases of Hebosteotomy from the Clinics of Berlin, Munich and Königsberg (Pr.). E. B. M. Haarbleicher.

24. **Hebosteotomy.**—Haarbleicher lays emphasis on the fact that to avoid disastrous risks hebosteotomy must be performed with a very exact technic, relatively early in labor, and in carefully selected cases, uncomplicated by any previous obstetric interference. He also states that the benefit to be expected in a subsequent delivery is, to say the least, problematical. Even after a strikingly successful operation and uneventful immediate recovery, the condition of the patient is not always enviable, especially in the case of a working woman who is compelled to return to her duties after a short convalescence. Thrombosis, prolapse, sacral pain, drag on evidently although the gait is relatively seldom disturbed. Statistics show that 80 per cent. of deliveries with contracted pelves are spontaneous, if left to Nature, but if hebosteotomy is not performed till the child is in danger, or till both mother and child have suffered by a protracted labor, the goal of the operation, a living child, is uncertain, and the mother incurs a grave risk.

In order to ensure a living child at minimum risk to the mother, hebosteotomy must be performed early in labor, and as no certain benefit can be claimed for future deliveries, it has no advantage over Cesarean section. Although the technic of the operation, as now developed, is brilliantly simple and exact, Cesarean section in equally skilled hands has never shown such a list of disasters. Cesarean section overcomes all mechanical difficulties, whereas in all pelvic enlargements these have still to be faced. The exact relation of the size of the head to that of the pelvis, the condition of the child, and resistance of the soft parts cannot be gaged with certainty. Injury to the bladder and soft parts, if avoided by the technic of the operation, may occur when the bones are pressed apart by the passage of the child's head and especially so if the delivery has to be aided by forceps or version. To avoid these disasters the patients must be selected so carefully that the field for hebosteotomy must remain a narrow one, viz.: multiparæ, with a conjugata of not less than from 7 to 7.5 cm. in a flat, or 8 cm. in a generally contracted pelvis, when a segment of the head has already entered the pelvis, and it is quite clear that only a very little increase in the pelvic measurement is required for the head to slip through easily, when the child has not been endangered by previous attempts at delivery, e. g., version, forceps or induction of premature labor, and when the mother is not infected. Even in these cases Cesarean section will be considered by many to hold the field.

Dublin Journal of Medical Science

April

25 Medical Inspection of Schools and School Children. J. B. Story.
26 Diagnostic Value of Luys' Segregator. R. A. Stoney.
27 Diagnosis of Renal Tuberculosis. C. P. Smyly.

Glasgow Medical Journal

April

28 Treatment of Pulmonary Tuberculosis in the Victoria Infirmary, Glasgow. A. Napier.
29 Two Cases of Aneurysm of the Splenic Artery. R. S. Taylor and J. H. Teacher.
30 *Treatment of Sciatica by Saline Injections. A. G. Hay.
31 The Protein Requirements of the Body. E. P. Cathcart.

30. **Treatment of Sciatica by Saline Injections.**—Of twelve patients treated by saline injections by Hay, eight were cured, one was made worse and three were lost sight of. With regard to the technic of the injection, Hay injects at the sciatic foramen or at the gluteal fold, according as pressure causes greater pain at the one point or the other. To find the foramen he draws imaginary straight lines from the posterior superior iliac spine to the tip of the great trochanter and to the middle of the ischial tuberosity, bisects the angle contained by these lines, and measures 2½ inches along the bisecting line. At the gluteal fold the nerve lies midway between the trochanter and the tuberosity. To ascertain whether the needle has penetrated into the nerve, press the plunger of the syringe gently so as to expel a few drops of the solution. If the needle is in the nerve the patient experiences a sensation as if something were trickling down within the leg to a variable distance, sometimes only to the middle of the thigh, sometimes as far as the heel. In evidence of the permanence of the cure, Hay cites the case of a man whom he injected eleven years ago. For several years before the man was treated, he was confined to the house with sciatica every winter for periods varying from a few days to many weeks; since being treated he has never lost a day's work.

Journal of Laryngology, Rhinology and Otology, London

April

32 The Question of Ozena. J. S. Fraser and F. E. Reynolds.

Clinical Journal, London

March 29

33 Bronchitis. J. E. Squire.
34 Some Common Forms of Deafness. W. H. Kelson.

Medical Press and Circular, London

April 5

35 Hyperthyroidism. R. Saundby.
36 Salvarsan in Syphilis. S. Taylor and R. W. Mackenna.
37 The Mechanism of Mental Processes, with Special Reference to Emotional Control. G. R. Jeffrey.
38 Self-Retaining Mastoid Retractor. C. A. Adair-Dighton.
39 *A New Form of Roentgen-Ray Penetrometer. F. Hernaman-Johnson.

39. **Roentgen-Ray Penetrometer.**—Hernaman-Johnson's procedure is based on the determination of a point at which a screen first became faintly illuminated. The essential part of his apparatus is a slide made in two pieces, numbered from 1 to 6 and from 7 to 12, and consists of squares of metal arranged according to thickness in geometrical progression. The rays from the focus tube on their way to the screen have to pass through this slide. As soon as a faint fluorescence becomes visible, it is the penetration number of the tube. Hernaman-Johnson has graded his instrument against a Wehnelt radiometer, so that the numbers correspond approximately to this scale.

Bulletin de l'Académie de Médecine, Paris

March 21, LXXV, No. 12, pp. 387-414

40 Graduated Mixed Anesthesia. (Méthode des mélanges titrés.) P. Reynier.

Presse Médicale, Paris

March 25, XIX, No. 24, pp. 229-244

41 *The Professional Responsibility of Physicians and Surgeons. A. Colin.
42 *Professional Responsibility in Induced Medical Abortion. E. Bonnaire.
43 *Induced Abortion. (De l'avortement provoqué.) H. Montal.
44 *The Rights of the Father of the Family Over His Children. (A propos du droit du père de famille sur ses enfants.) L. Picqué.

March 29, No. 25, pp. 245-252

45 *Diagnostic Importance of the Concentration of Urine. Significance of Polyuria. (Volume des urines et concentration maxima.) J. Heitz-Boyer and Moreno.

41-43. **The Professional Responsibility of Physicians and Surgeons.**—This issue of the *Presse Médicale* is devoted to articles bearing on this subject written by lawyers and physicians, with a discussion at a joint meeting of members of these professions.

43. **Permission to Operate on Minors.**—The French law gives the parents and guardians the right to forbid operations on minors and the insane, and Picqué cites examples to show the evils resulting from this law, as for instance when the father of a girl between 20 and 21 refused to permit the amputation of her leg on account of a sarcoma of the lower end of the femur, declaring that he preferred death to amputation for his daughter, notwithstanding the girl's agonized appeals for the operation. He also cites instances in which the family refused to permit a needed operation on an insane member of the family, their refusal often being dictated by sordid or criminal motives. Picqué describes his efforts to influence legislation to correct such deplorable conditions, but he has been unable to accomplish anything to date in this line.

45. **Diagnostic Importance of Maximal Concentration of Urine.**—Heitz-Boyer and Moreno distinguish between a facultative polyuria in which the increased amount of urine depends on conditions external to the kidney, such as the amount of liquid ingested, influence of diuretics, etc., and a true or obligatory form in which the kidney is unable to excrete the solids of the urine in greater concentration. In true polyuria a distinction must further be made between the total amount of solid substances eliminated and the concentration of the urine in these substances. The total amount of solids depends on the diet and is no criterion for appreciation of kidney functioning. The important factor, therefore, in the modification of diuresis is the maximal capacity for the concentration. This depends on the state of the kidney parenchyma, and it is thus an index of its permeability. The maximal concentration of urea, for instance, is a direct and reliable index of one of the principal functions of the kidney. For each individual there is a certain figure above which the kidney parenchyma is unable to eliminate the different substances of the urine; this figure is the maximal concentration for the substance in question. To make the test, the individual limits as much as possible the intake of fluids while ingesting as much as possible of the substance in question. In this way the kidney is forced to eliminate the maximum of the substance in the minimum of water, that is, in the most concentrated form. A healthy man given increasing amounts of urea eliminated from 40 up to 120 gm. of urea a day, but the urine never contained more than 4.5 per cent. of urea. This was his maximal concentration. In a case of nephritis, the patient taking 20 gm. of urea for four days and then 40 gm. for a day and then none, the maximal concentration ranged from 1.45 to 2.05 per cent. in the seven days of the test. The body has reserves of water to draw on, so that the concentration of the urine is regulated by physiologic laws. Much more water is ingested ordinarily than is actually needed for urine production, so that there is enough, even when the intake is much restricted below the ordinary, for production of urine. Instead of basing our diagnosis on the volume of urine in the twenty-four hours, which is such a variable and unreliable index, depending on so many casual factors, the authors declare that the diagnosis should be based on the maximal concentration which is an exact and scientific index of the actual functional capacity of the kidney in respect to solid substances. It is easier to estimate the maximal concentration of urea than that of salt, so that urea is generally used for the test.

Semaine Médicale, Paris

March 29, XXXI, No. 13, pp. 145-156

46 *Headache from Nodules in the Muscles. (La céphalée musculaire.) F. Rose.

April 5, No. 14, pp. 157-168

47 Standards for Registration of the Venous Pulse. (De la notation et de la lecture des tracés du pouls veineux.) L. Bard.

46. **Muscular Headache.**—Rose refers by this term to the pain caused by nodules forming in the muscles of the head and back of the neck. It is sometimes called chronic rheumatic headache or nodular and callous muscular cephalalgia. The lumps in the muscles can be palpated with the lubricated fingers. They may be in the subcutis or muscles and may range in size from minute points to actual lumps, and are extremely painful even under slight pressure, especially those in the top of the scalp. They pass through three stages, swelling, elastic resistance and cartilaginous induration, and the tonicity of the muscle is always exaggerated, sometimes to actual contracture. The points where the muscles are most painful are near the articulation of the sternum and clavicle and the upper cervical vertebræ, especially the fourth, and the articulation between the atlas and the spine. Light pressure at these points causes the muscles to contract, while strong pressure abolishes the pain and relaxes the muscles. This muscular headache has been studied mostly by Swedish writers. The rare acute cases subside under salicylic or sedative medication; even in the chronic cases the prognosis is also good under suitable massage treatment. Each of the hypertonic muscles should be examined individually. With scientific massage it is possible to relieve the patient speedily after the affection has been once diagnosed. Müller states that of 140 patients in this category who were given over twelve massage treatments, 119 were cured, while 21 were either not benefited or the ultimate outcome is unknown. The trouble is most frequent in women, but it has been encountered in children. There is usually a history of some toxi-infection, influenza, recurring sore throat, acute and chronic muscular or articular rheumatism. Some explain the nodules as gouty deposits; the *Muskelschwielen* may involve the nerves in the nodules. A rheumatic origin seems probable, but Müller noticed a tendency to goiter in a number of the patients. It is possible that the contraction of the muscles in the front of the neck may compress the thyroid and thus induce insufficiency and set up a vicious circle. This assumption throws light on the headache and facial and cranial neuralgias sometimes observed with defective functioning of the thyroid. Müller asserts that headache which cannot be traced to an organic affection of the brain, skull, eyes, nose or ear is sure to be of this muscular cephalalgic type. Even with alcoholism, the headache may be of this type and may be cured by massage, as also when it is a complication of neurasthenia.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 4, pp. 711-972. Last indexed April 8, p. 1075

48 *Ileus with or Following Appendicitis. (Darmverschluss bei und nach Perityphlitis.) E. Ruge.
49 Arteriovenous Anastomoses Without Interruption of Circulation. (Anlegung arterio-venöser Anastomosen bei erhaltenem Blutkreislauf.) S. Hadda.
50 *Sarcoma of the Calcaneum. (Fusswurzelsarkome.) C. Stern.
51 Bone Plastics. (Beiträge zur freien Knochenplastik.) A. Stieda.
52 Resection of Left Lobe of Liver. N. Kron.
53 *Outcome of Operations on Stomach for Non-Malignant Disease. J. Galpern.
54 *Primary Resection of Large Intestine. (Zur Frage der primären Dickdarmresection.) H. v. Haberer.
55 Improved Technic for Suturing Tendons. (Einige Bemerkungen zur Technik der Sehnennaht. O. v. Frisch.
56 *The Toxic Behavior of Metallic Lead in the Tissues. (Das toxische Verhalten von metallischem Blei und besonders von Bleigeschossen im thierischen Körper.) L. Lewin.

48. **Obstruction of the Intestine During or After Appendicitis.**—Ruge reviews forty-four cases of this kind, including fourteen in which the ileus was due to atony of the bowel, ten with broad adhesions and eighteen with narrow, one with an inflammatory tumor and one with stenosis from ulceration in the cecum. These appendicitic cases formed 17.9 per cent. of the cases of ileus in his experience in the last twenty years, but only 1.8 per cent. of the total cases of appendicitis. The diagnosis is frequently difficult as the appendicitis may mask the ileus or there may be no known history of appendicitis or merely a vague history. In twenty-one cases nothing was known of any history of appendicitis or else it had been extremely mild. In twenty cases the ileus accompanied the appendicitis. Violent peristalsis is the best sign of obstruction, and when the obstruction is suspected a history of appendicitis existing or in the past should suggest the necessity for an immediate operation. The obstruction is generally high up and operative treatment must be more extensive than with simple mechanical ileus, on account of the danger from the appendicitis. Only ten patients recovered in the twenty with existing appendicitis and only thirteen in the twenty-four with trouble due to the relics of appendicitis. In the entire number there is no case in which an early operation

was done for the appendicitis: this confirms the importance of an early operation to ward off such contingencies in the future.

50. **Sarcoma of the Calcaneum.**—Stern has encountered two cases; the patients were men of 54 and 28 and the growth was inoperable in the first case. In the other the trouble had been supposed to be of an inflammatory nature and a plaster cast was applied four weeks after the first symptoms. The increase in the pains compelled its removal in ten days when the ankle was found more swollen than at first and the patient refused to permit massage. The progress of the growth soon required amputation of the leg and the man died of metastasis in a few months. In the other eighteen cases on record, the sarcoma was mistaken for a tuberculous process in a number, but the difference in the shape of the joint might have excluded this. With tuberculosis, the joint assumes the spindle shape while this is not generally observed with sarcoma until the soft parts become involved, although in one of Stern's cases the spindle shape was pronounced from the first. The knobby tuberculous process is usually in the capsule, while with sarcoma it is more liable to be in or near the cartilage. So long as the sarcoma is restricted to the bone, the joint swelling shows a tendency to subside in most cases, but Stern's case was an exception to this rule likewise. With sarcoma, the skin is not reddened as with inflammation, and the movements of the joint are less painful, until the growth involves the joint surfaces. This does not occur for a comparatively long time as the cartilage seems to display great resistance to the spread of the sarcoma in most cases, although not in all. The pain with sarcoma is described as a pulling or tearing or neuralgic pain, while with inflammation it is more a throbbing. Fever, chills and local pains may come on suddenly as the first symptoms of the sarcoma. In some cases the pains and disturbances may be ascribed to flat-foot; this occurred in Borchardt's case, in which the patient was treated for nine years on this assumption and all kinds of insoles, massage, etc., having been applied. Radiography is extremely useful in differentiation of the sarcoma, the uniform light patch being different from the picture in tuberculosis and osteomyelitis with which there are generally shadows scattered through the light patch. The thickening and disintegration of the periosteum help in differentiating gumma from sarcoma, which otherwise the findings resemble. There is no time to waste, Stern says, in tentative antisyphilitic medication. Radioscopy is further useful with sarcoma as it permits discovery of metastases in the lungs or elsewhere before they make their presence felt, and it reveals the first tendency to recurrence after removal of the growth. With exploratory puncture or excision, the scrap should be taken from the periphery of the growth as the conditions differ materially at this point with gumma and sarcoma while in the center it is hard to distinguish between them. Before operating, the glands should be investigated; if they show signs of metastasis, there are probably metastases at other points. Of the twenty sarcoma patients two were known to be alive two years after removal of the spindle-cell and giant-cell sarcomas and one five years after removal of a sarcomatous chondroma. In Stern's two cases the growth was a small, round-celled sarcoma with occasional giant cells. The small, round-celled sarcomas seem most rapidly fatal. It is important after the amputation to saw the bone across to ascertain how far the sarcoma has proliferated up into the bone marrow; exarticulation of the knee or hip may be the preferable technic.

53. **End-Results of Operations for Benign Gastric Disease.**—Galpern has reexamined 128 of 160 patients of this class, and he here classifies them and the ultimate outcome, comparing this material with that reported from other clinics. The best results were obtained with cicatricial stenosis of the pylorus; next to this, in the cases of pyloric ulcers, while the poorest results were found with ulcers at other points in the stomach. In twenty-eight cases there was recurrence of symptoms or peptic duodenal ulcer developed.

54. **Primary Resection of the Large Intestine.**—Haberer reports nineteen cases of primary resection of the large intestine at von Eiselsberg's clinic at Vienna. Three of the patients did not survive the operation; one of this group had had a febrile sore throat a short time before and the fatal peritonitis was due exclusively to streptococci. He regrets that the operation was not postponed to allow time for the streptococcus infection to die out. In another similar case, although the patient recovered, yet streptococcus peritonitis followed the angina and streptococci could be cultivated from the blood. In the third case the patient was doing well up to the fifth day after extensive resection of stomach and intestine but then a suture on the ascending colon gave way. In all the other cases the wound healed by primary intention. Eiselsberg makes it a principle to use the simplest technic and ordinary instruments in all his surgical work, for the impression and effect on the students who, when they come to practice, will seldom have more than the most modest equipment.

56. **Poisonous Action of Metallic Lead in the Body.**—Lewin records a large number of interesting cases of lead poisoning from swallowed shot or the practice of holding shot in the mouth, or inhalation of air laden with lead particles, bullets shot into the tissues, etc., discussing the chemical action of the organic fluids on the lead. His conclusions are in favor of the necessity of extracting without delay the metal body which is liable to act sooner or later in an insidiously harmful way on the vital functions. He has been growing more pessimistic in this respect with increasing experience. No one can tell, he says, how soon the metal will become mobilized under chemical action, and when this has once happened it is practically impossible to control the consequences. The argument that people are known who have carried bullets about in them for years without harm is not based on scientific evidence, he declares. There are no records of any such persons followed carefully through years, and no records as to the symptoms with which death finally came to them. It is not known whether they died finally of lead poisoning or not. Internal medication, with potassium iodid for example, is inadequate to cope with the constant fresh supply of lead being fed into the blood from the mass in the bullet or shot. In one of his cases the symptoms of lead poisoning were observed from merely a single shot which had lodged between the teeth as the woman was eating an apple.

Berliner klinische Wochenschrift

March 27, XLVIII, No. 13, pp. 553-604

57 The Constitution and Pulmonary Tuberculosis. C. Hart.
58 *Intermittent Limping and Spinal Disturbances from Male Fern Poisoning. (Intermittierendes Hinken und Rückenmarkserkrankung nach Vergiftung mit Extractum filicis maris.) A. Magnus-Levy.
59 *General Principles for Estimating and Treating Cardiovascular Diseases. (Zur Beurteilung und Behandlung cardiovasculärer Erkrankungen in der Praxis.) G. Honigmann. Commenced in No. 12.
60 *Functional Valvular Occlusion of Intestine in Infants. (Eine wichtige Form von funktionellem Darmverschluss im Säuglingsalter und ihre Beziehungen zur Hirschsprung'schen Krankheit.) E. Blochmann.
61 The Alleged Peroneus Paralysis from Salvarsan. (Ueber angebliche Peroneuslähmung durch Salvarsan.) W. Wechselmann.
62 Case of Fistula Between Gall-Bladder and Appendix. (Fall von Fistel zwischen Gallenblase und Wurmfortsatz.) T. Tanaka.
63 Technic for Puncture of the Brain. (Zur Technik der Hirnpunktion.) M Borchardt.
64 *Clinical Importance of Decapsulation and Scarification of the Kidney. M. Zondek.
65 Treatment of Leukorrhea. (Der vaginale Fluor und seine Behandlung.) E. Runge.

April 3, No. 14, pp. 605-652

66 *Promotion of Growth of Plants by Radium Emanations. (Wachstumsforderung durch Radiumemanation.) W. Falta and G. Schwarz.
67 *Influence of Radium Emanations on Gaseous Metabolism and Circulation of the Blood. (Einfluss der Radiumemanation auf den Gaswechsel und die Blutzirkulation des Menschen.) A. Loewy and J. Plesch.
68 Connection Between the Kidneys, the Suprarenals and High Blood-Pressure in Human Pathology. (Hypertonische Diathese und nephrogene Hypertonie.) E. Frank.
69 Roentgen Rays in Diagnosis of Pulmonary Tuberculosis. (Zum Wert der Röntgenstrahlen für die Diagnose der Lungentuberkulose.) M. Levy-Dorn.
70 Cause and Significance of Scapular Sounds. (Scapularkrachen.) R. Habermann.
71 Cysts in the Tarsal Scaphoid. (Knochencyste im Os naviculare.) G. A. Wollenberg.
72 Legislation on Injurious Dyes. (Zur Revision des Reichsgesetzes betreffend die gesundheitsschädlichen Farben.) T. Weyl.
73 *Quantitative Determination of Uric Acid in Urine, Blood and Other Serous Fluids. (Einfache und schnelle Methode zur quantitativen Bestimmung von Harnsäure.) Aufrecht.

58. **Intermittent Limping and Spinal Symptoms After Poisoning with Male Fern.**—In the case reported by Magnus-Levy the patient, a man of 38, took 8 gm. of extract of male fern with 16 gm. of castor oil, the combination being a proprietary mixture (Tritol-Stark) to expel tapeworm, the man believing that he had this parasite and taking the medicine without consulting a physician. For several years he had had symptoms suggesting a slight tendency to intermittent limping, but not sufficient to impair his usefulness as a policeman. The trouble was most pronounced in the morning, after the night's rest, the same as in a case recently reported by H. Curschmann. The male fern caused vomiting, violent clonic and tonic cramps, irritation of the kidney and fever, but the eyes did not seem to be affected. The tendency to circulatory disturbances was seriously aggravated, the toes were congested, numb and with blue patches on the leg. The man had to stay in bed for six weeks with varying pains in the contracted leg, and he was left with serious paresis of the leg, the type suggesting poliomyelitic paralysis. Levy is inclined to explain the syndrome as the result of a direct toxic action of the drug on the already diseased artery wall, on the cells in the spinal cord, and also on the smooth musculature. The artery cramps seemed to affect predominantly the vasa vasorum of the already pathologic blood-vessels of the left leg and of the lowest segment of the spinal cord, where the toxic action of the drug was felt most powerfully and inflicted permanent injury. The patient improved under iodin and electricity so that after a four-weeks' course he could walk for ten or fifteen minutes without being obliged to stop and without fatigue. The skin is more of a normal tint and the pulse in the arteries of the foot is occasionally perceptible although weak. The effect of iodin is soon apparent in these cases, the parts showing the influence of better nourishment and function. The benefit from iodin in intermittent limping is accepted by Levy as sustaining its efficacy in general arteriosclerosis although ordinary arteriosclerosis is by no means necessarily the causal factor in intermittent claudication, and the latter may improve even without the use of iodin.

59. **Disease of Cardiovascular System.**—Honigmann states that more than 20 per cent. of the mortality after the age of 40 is due to cardiovascular disease, and that the proportion of persons with these disturbances is still higher among the well-to-do. The general practitioner should aim to make a correct prognosis rather than to seek for the exact anatomic basis. Even if the newer methods of estimating the functional capacity of the heart are able to do all that is claimed for them, yet it would be impossible, he says, to get the ordinary patient to submit to the full battery of these tests. And even if he would, the tests reveal only isolated phases of the cardiovascular functioning; even the determination of the blood-pressure is dependent on so many factors that it is impossible to interpret it always exactly, and the gross variations can be estimated with the finger as well as with the most complicated apparatus, unless a prolonged study of the pulse is made which is not practicable outside of institutions. In reviewing his twenty-five years' experience with patients with cardiovascular disturbances under observation for many years, Honigmann has been impressed with the comparative frequency of three types: fibrous degeneration of the heart muscle, angina pectoris and renal arteriosclerosis with heart trouble. The main feature of the first type, the chronic myocarditis, is the severity of the disturbances from lack of compensation while the prognosis is more favorable than in other forms of heart disease. These patients suffer from shortness of breath with physical or even mental effort; the pulse is irregular and it may remain so after compensation has been restored and the pulse is full and strong. The irregularity is the result of some fibrous patch in the heart and is a favorable sign in these conditions. The disturbances in these cases come on gradually, but the second type is distinguished by the sudden onset, and after subsidence of the attack of cardial asthma all returns apparently to normal. The more the dyspnea symptoms in this type predominate, the better the prognosis, while sensory disturbances, suggesting angina pectoris, render the prognosis graver. If the patient can spare himself in the intervals, this form of heart disease may permit long survival. In a case cited, eight years elapsed after the first attack before the patient succumbed, and the trouble had probably been developing long before that first attack of cardial asthma. It is typical of the disturbances in this group of cases that they do not follow the overexertion at once but come on several hours afterward. Signs of general arteriosclerosis are evident as a rule in these patients, but the heart is not dilated although symptoms during the attack may indicate that it is. Development of a Cheyne-Stokes type of breathing and psychic symptoms naturally render the prognosis graver. When the attacks commence in the form of angina pectoris, the heart is close to the limits of its functional capacity and in his experience such patients have survived only for six or nine months.

In the third type, the arteriosclerosis involves principally the kidneys although the kidney symptoms seem to be merely a by-phenomenon. The albuminuria and tube-casts in the urine vary from time to time and a careful watch should be kept over them and over the hypertrophy of the heart. When the left heart is hypertrophied and the disturbances are thus perfectly compensated, the prognosis is not bad. With slight changes in the mode of life such patients can continue at business even if annoyed by sensations of pulsation, especially before dropping to sleep, frequent fatigue and a peculiar oppression in the chest. The functional capacity of the heart must be estimated from the behavior of the pulse and other organs. Cheyne-Stokes breathing and the psychic behavior of the patient are instructive signs with cardiovascular disease, especially slight confusion on waking from sleep, carrying dream impressions into the waking state. Occasionally these patients forget names and words, they feel depressed and irritable without cause. Especially after the attacks a kind of confusion persists, although physically the patient feels comparatively well. He is liable to confuse places and imagine he is in some place where he used to live or is in some foreign land; and he confuses periods of time. These phenomena may last for a few days or only hours, but they have a bad prognostic significance; when they have subsided the patient is liable to brood over them and finally they become more constant. In time they may change to agitation and excitement, with distrust of the family and friends. In cases in which these psychic disturbances were observed, the patient never survived for longer than a year or year and a half in his experience. These symptoms were never encountered with the chronic myocarditis or coronary angina but they were frequent with general arteriosclerosis and most so with arteriosclerotic contracted kidney. They coincide with the increase in the insufficiency of the cardiovascular apparatus, and thus seem to form an integral part of the disturbance, and hence are important for the prognosis. Honigmann warns against premature and injudicious use of digitalis; bed rest alone will often answer the purpose. Morphin on the other hand is often indispensable. It is not wise, he thinks, to inform the patients that they are dangerously ill. So long as the state of compensation permits, the trouble should be painted for the patient in brighter colors than as the physician sees it. Particularly with cardiovascular disease should every effort be made to refrain from depressing the patient, who knows that something is wrong with his heart and that he must spare it extra exertion, but his business need not be interfered with; the danger lies in the hours outside of business, in sports, eating and drinking. In proscribing dangerous factors the physician must constantly weigh whether the good to be derived from his restrictions will counterbalance the depression caused by the loss of coffee, alcohol or exercise, etc. By permitting the minor pleasures of life it may be possible to secure more important changes in the entire mode of life.

60. **Functional Ileus in Infants.**—Blochmann reports three cases of suddenly developing occlusion of the bowel in young infants which he was able to remedy by introducing a rubber tube into the anus and pushing it up into the bowel for a little over 3 inches. This evidently opened a valve-like

contraction or fold in the bowel; flatus and stools came at once and the children were cured. One succumbed to the sepsis resulting from the long continued ileus before treatment was applied. The others recovered although one had recurrence of the trouble a few months later, conquered anew by the tube at the first sign of trouble. In all the children the abdomen was enormously distended which is never observed under other conditions in breast-fed infants with obstruction of the intestines even for so long as five days. This valve occlusion of the intestines may produce conditions similar to those in Hirschsprung's disease and may aggravate this disease if it be already present.

64. **Scarification in Place of Decapsulation of the Kidney.**—Zondek reports experimental research and clinical experience which show that decapsulation is liable to entail serious injury of the kidney while approximately the same results can be obtained by merely scarifying the capsule. The surgeon's task is extremely simple; the main point is to determine the indications for operating, and this general practitioners, clinicians and anatomists must study in concert. The scarification technic spares the larger vessels better than nephrotomy.

66 and 67. These and other communications on radium were summarized in the Berlin Letter in THE JOURNAL, April 15.

73. **Quantitative Test for Uric Acid.**—Aufrecht evaporates the urine, blood or other fluid, adds a saturated solution of ammonium chlorid, separates the ammonium urate by centrifuging and titrates with potassium permanganate. The technic is described in detail and stated to be simple and reliable. The findings were regularly the same as those with the Ludwig-Salkowski test applied to control specimens.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 20, XLI, No. 9, pp. 289-336

74 Serotherapy of Diphtheria. F. Krumbein and E. Tomarkin.

Deutsche medizinische Wochenschrift, Berlin

March 30, XXXVII, No. 13, pp. 577-624

75 *Serotherapy of Typhus. (Zweiter Bericht über die Behandlung des Typhus abdominalis mit Heilserum.) R. Kraus and R. v.Stenitzer.
76 Cause and Treatment of Hay-Fever. (Ursache und spezifische Heilung des Heufiebers.) W. P. Dunbar.
77 Physiology of Sympathetic Nervous System. (Allgemeine Bemerkungen zur Physiologie des vegetativen Nervensystems.) L. R. Müller.
78 Traumatic Circumscribed Hyperhidrosis. (Zur Kasuistik der zirkumskripten Hyperidrosis—mit Ageusie—auf traumatischer Basis—Läsion der Chorda tympani.) K. Halbey.
79 *Auscultation Findings in Intestinal Tract and Their Diagnostic Importance. G. Glücksmann.
80 Successful Decapsulation of the Kidney in Uremia from Acute Nephritis in Girl of 6. (Nierenaushülsung bei Urämie.) T. Gumbel.
81 *Eye Disturbances After Salvarsan. (Augenerkrankungen nach Salvarsanbehandlung.) H. Davids.
82 Suggestions for Improved Treatment of Neuropathic and Psychopathic Individuals. H. Oppenheim.

75. **Serotherapy of Typhoid.**—Kraus and Stenitzer review the experiences with typhoid antiendotoxin in three epidemics; nearly a hundred patients were given subcutaneous or intravenous injections and when this was done early in the disease the beneficial action was unmistakable. The results confirm those reported in their previous communications on the subject and justify, they declare, further efforts in the line of serotherapy.

79. **Diagnostic Importance of Auscultation of Gastro-Intestinal Tract.**—Glücksmann comments on the neglect of this important aid for diagnosis of conditions in the gastro-intestinal tract, and describes his application of auscultation to determine conditions in regard to the motor functioning of the stomach. He does not attempt to distinguish the quantitative or qualitative features of the sounds, but merely the time of their appearance and their duration. He has devoted his attention mainly to auscultation of the pylorus, and has found that it is possible by this means to determine when and in what manner the stomach passes its contents along into the intestines, in short, to supervise its motor functioning. He applies the stethoscope to a point three fingerbreadths to the right of the umbilicus and three fingerbreadths above the plane of the latter. A long strip of paper is marked off into sixty numbered fields and at each sound that is heard the listener makes a mark on the square field corresponding to the minute as he notes it on the watch. The findings can be controlled by a rubber bulb which the patient holds in his hand that records simultaneously on a revolving drum the moment the sound is perceived. He has applied this method of examination to over a hundred persons, some healthy and others with various stomach symptoms. The stethoscope was thus applied for half an hour before breakfast. The patient then took a test breakfast and after this the stethoscope findings were recorded for an hour or an hour and a half. The room was kept a little warmer than usual and the findings were compared with those obtained by other methods of testing stomach functioning. Among a number of interesting facts learned by this method is that the digestive tract is never in absolute rest, the sound of fluid passing through the pylorus can be heard occasionally even with the fasting stomach, and this pyloric reflex occurred constantly at the moment when breakfast was brought into the room. The pyloric reflex occurred further much more frequently and was much more pronounced in case of disease of the small intestine. It was interesting to watch the behavior of milk; when the secretory function was at fault the milk was expelled like any other fluid from the stomach, but with normal acidity it coagulated into a solid body, as could be readily recognized by the auscultation findings; they thus revealed the existence of gastric achylia and permitted an estimation of the individual capacity for digesting milk. This may prove of great importance in pediatrics. The findings threw light also on the action and effects of various drugs, on the antagonism between certain drugs, morphin and belladona or drugs to correct acidity, stomach bitters, etc.

81. **Eye Disturbances After Salvarsan Treatment.**—Davids reports a case of bilateral iritis developing in previously sound eyes two days after injection of salvarsan. It accompanied a pronounced Herxheimer reaction, and he is convinced that all the eye affections observed after administration of salvarsan are true syphilitic phenomena, and that they might have been prevented by injecting larger doses of the salvarsan. In his case the iritis promptly subsided without leaving a trace after a second, intravenous injection of salvarsan. He reviews all the literature he can find on the subject of eye disturbances after administration of salvarsan, the data confirming, he states, the above explanation of the trouble.

Deutsche Zeitschrift für Chirurgie, Leipsic

March, CIX, Nos. 1-2, pp. 1-204

83 Behavior of Ureters with Genital Prolapse. (Verhalten der Ureteren beim Genitalprolaps des Weibes.) W. Hirokawa.
84 *Prognosis of Dislocation of the Shoulder and Elbow. (Prognose der Luxatio humeri und Luxatio antibrachii posterior.) H. Schmidt.
85 Local Anesthesia for Appendicectomy. (Anwendung der Lokalanästhesie bei Eingriffen wegen Appendicitis, nebst Bemerkungen zur Erklärung appendicitischer Schmerzen.) F. Hesse.
86 *Resection of Gasserian Ganglion for Trigeminal Neuralgia. (Beitrag zur operativen Behandlung der Trigeminusneuralgie nach Krause.) E. Bircher.
87 *Peroral Intubation for Operations on Nose, Mouth and Throat. W. Kölle.
88 Dislocation of the Radius with Pathologic Cubitus Valgus. B. Baisch.
89 *Acute Osteomyelitis of the Spine. (Akute Wirbelsäulenosteomyelitis.) W. Gundermann.
90 *Incarcerated Gangrenous Hernia. (Erfahrungen bei der operativen Behandlung des abgeklemmten brandigen Darmes.) K. Berkofsky.
91 *Cysts in Common Bile Duct. (Zur Kenntnis der Choledochuscysten.) H. Schloessmann.
92 Separation of Epiphysis and Fracture of Neck of Femur in the Young. (Ueber Epiphysenlösung am Schenkelhalse und echte Schenkelhalsfrakturen im jugendlichen Alter.) Stephan.
93 *Fracture of Jaw. (Neue Methode zur Behandlung der Unterkieferbrüche.) B. Cuffaro.
94 Incarceration of Ovary or Tube in Hernia in Infants. (Bruch-einklemmung von Adnexen im Säuglingsalter.) O. Langemak.
95 Tumor of the Nipple. (Primäre Geschwulstbildung der Brustwarze.) O. Creite.

84. **Prognosis of Dislocation of Shoulder or Elbow.**—Schmidt states that the outcome was good in 81.5 per cent. of his cases of dislocation of the shoulder and was satisfactory in 69 per cent. of the cases of dislocation of the elbow, but only twenty-seven of his total material of ninety-two cases of dislocation of the shoulder could be traced to date, and only twenty of the forty-six cases of dislocation of the elbow. These results are much more favorable than those reported by

other German surgeons, and Schmidt ascribes the better functional outcome to the lack of orthopedic treatment after reduction. The arm is merely held in a loose sling passing around neck and wrist, and nothing more than light stroking massage is applied and this only enough to promote the circulation and hasten the absorption of the extravasated blood. The Roentgen-ray findings in the twenty cases of backward dislocation of the elbow are reproduced. The findings seem to demonstrate that the manipulations necessary to reduce the dislocation are responsible for the local ossification which interferes with normal functioning in so many of these cases. This explanation applies in particular to one of his cases in which complete ankylosis developed. The vigorous attempts to reduce the dislocation had not been successful and had evidently injured the joint so that there was a large patch of ossification in the bend of the elbow.

86. **Gasserectomy.**—Bircher states that only twelve operations for intracranial removal of the Gasserian ganglion have been done in Switzerland and he adds three more to the list. The first two patients were women 76 and 30 years old, and both were cured at once of the trigeminal neuralgia and unilateral vasomotor symptoms. The operations were done according to Krause's technic. Seven peripheral operations had been done on the first patient in the course of fourteen years with transient benefit each time after resection of a stretch of the nerve. In the younger patient all three branches of the trigeminal nerve were affected, and the symptoms indicated an intracranial trouble, so no time was wasted on peripheral operations. The assumption of an intracranial site for the trouble was sustained by the edema of the lid and the congestion in the right side of the face and right arm and exophthalmos—all of which disappeared after the gasserectomy. In both cases the external carotid artery was ligated as a preliminary measure. The younger patient for two weeks after the operation showed symptoms of mild psychic disturbance which then subsided; it is possible that the injury from the retractor holding back the brain tissue may have been responsible for this. In a third case there was so much bleeding that the operation proved exceedingly difficult. The patient was a man about 70 with pronounced arteriosclerosis which had altered the vessels so that they did not behave normally and death followed in a few hours from internal cerebral hemorrhage. Gasserectomy is evidently too long and serious an operation to be attempted with existing arteriosclerosis, especially of the vessels of the neck and head; it increases the bleeding and renders the brain more sensitive to the pressure of the retractor while it enhances the danger of apoplexy. Nearly all the fatalities on record were in patients with arteriosclerosis.

87. **Kuhn's Peroral Intubation.**—Kölle gives an illustrated description of Kuhn's flexible tube and the method of its application to aid in operations on nose, mouth and larynx, with detailed reports of three cleft-palate operations, and four of tumors in all of which the peroral intubation rendered valuable service.

89. **Acute Osteomyelitis of the Spine.**—Gundermann reports a case of this affection, the only one on record, he says, terminating in recovery. His patient was a previously healthy man of 28, and the spinal affection followed a carbuncle on the back of the neck. He was traveling at the time, and the frequent change in physicians and a complicating pleural empyema aided in retarding differentiation of the true trouble. It is the fifth case on record with complicating pleural empyema. The osteomyelitis involved the seventh dorsal vertebra, with posterior mediastinitis and irruption into the left pleura and secondary, non-suppurative involvement of the right pleura, with final irruption into a bronchus. After resection of ribs and part of the left transverse process of the seventh dorsal vertebra and evacuation of the spinal process, with removal of sequesters, and measures to control the kyphosis, the patient finally recovered. He coughed up small sequesters of bone from time to time, but by the end of eighteen months after his primary carbuncle he was in permanently good health. Staphylococci could be cultivated in pure cultures from the pleural and spinal lesions. This case and others in the literature emphasize the importance of prompt and energetic measures on suspicion of vertebral osteomyelitis. As soon as the most dangerous stage is past, steps should be taken to prevent development of kyphosis, keeping the patient in bed at first and having him wear a supporting corset when allowed to get up, which should be done very cautiously. Complete restitution is the rule. In the case reported the patient was able to resume his active duties as a cavalry officer.

90. **Incarcerated Gangrenous Hernia.**—Berkofsky analyzes sixty-one cases of gangrenous hernia and twenty of gangrene of the intestines from other cause. The mortality was 32.6 per cent. in the cases of hernia with primary resection of the bowel and 62.5 per cent. in the others. Sixteen interesting cases are reported in detail, including one with volvulus of the sigmoid flexure recurring within three years, and another with volvulus of the small intestine recurring so that the bowel twice had to be resected. When the large intestine was involved in the gangrenous process, the outcome was nearly always unfavorable, whether the bowel had been resected or not. But with gangrene of the small intestine, primary resection cured the patients.

91. **Cyst in Common Bile Duct.**—Schloessman adds another to the fifteen cases of this affection on record; in all the true cause of the trouble was not recognized during life, and the treatment instituted was directly contrary to the correct indications. His patient was a girl of 7. The symptoms in this and the other cases were merely intermittent jaundice, possibly continuing for years, a tumor in the right upper abdomen of varying size and consistency, and colic-like or continuous abdominal pains, generally proportional to the varying jaundice and tumor. The ages ranged from 4 to 24 in the cases on record, and only two of the patients were males. Exploratory puncture of the cyst in his case permitted the escape of contents into the peritoneum, with consequent fatal peritonitis. As the cyst contents were sterile, the peritonitis did not develop at once, even although the operation was not attempted until thirty hours after the cyst had been punctured. Only one case of recovery is known; the patients are usually not seen until the condition is precarious from the long cholemia, and then more precious time is wasted in trying to differentiate the trouble, so that when an operation is attempted the patients are too debilitated to recover. It is not enough to evacuate the cyst, he declares; arrangement must be made for ample communication between the bile duct and the duodenum.

93. **Treatment of Fractured Lower Jaw.**—Cuffaro fitted a strong plate over the lower teeth which held them firmly in place and immobilized the two halves of the jaw. A groove was cut out of the top of the plate, permitting the lower teeth to be used in chewing, which aided functional restitution. The results were good, with the minimum discomfort for the patient.

Medizinische Klinik, Berlin

April 2, VII, No. 14, pp. 529-558

96 The Wassermann Reaction. (Die Wassermannsche Probe.) C. Fraenkel.
97 *Clinical Manifestations of Vital Reactions. (Allergie, Anaphylaxie, Immunität.) J. Bauer.
98 *Therapeutic Importance of the Steam Jet. (Bedeutung des Dampfstrahls.) L. Brieger.
99 *Discoloration of Inflamed Eyes by Fluorescein Taken Internally. (Färbung entzündeter Augen durch innerlichen Gebrauch von Uranin.) O. Fehr.
100 Prevention and Treatment of Flat-Foot and Deformities of the Toes. G. Müller.
101 Technic, Anatomy and Indications for Suprasymphyseal Delivery According to Frank. K. Hartmann.
102 The Blood in Typhoid. (Zur Hämatologie des Typhus abdominalis.) H. Rotky.

97. **Vital Reactions to Infections.**—Bauer discusses the various clinical manifestations of the vital reactions to infections, the so-called allergy which is evidenced in the form of immunity or anaphylaxis. The phenomena of the vital reactions are generally acute primary pictures of pathologic conditions. The changes in organs are generally the consequences of these original vital reactions. It is the task of the future, he says, to reveal the connection between them.

98. **Importance of the Steam-Jet Treatment.**—Brieger is in charge of the hydrotherapeutic institute of the university of Berlin, and he declares that the steam jet is not accorded the

importance in therapeutics which it deserves. He shows the fundamental physiologic difference between the action of dry and moist heat; dry heat has only a superficial action, as it is a poor conductor. Moist heat, on the contrary, is an unexcelled conductor and rapidly penetrates through the organs of the body. The steam jet possesses this property in the highest degree, inducing a hyperemia which may last for more than twenty-four hours. The best method of its application is the jet of steam under high pressure, which procedure he applies to a third of his patients. In sciatica he has the steam jet played on the painful points of the sciatic nerve and its main branches for ten or fifteen minutes. A combination of the steam jet with massage and passive movements is especially effectual. The steam jet softens the tissues, improving conditions for massage; dry heat leaves the tissues so dry that massage afterward is liable to be painful. The best results have been obtained with joint affections of rheumatic, gouty and gonorrheal origin, particularly when only one joint was affected. Excellent results have also been obtained with elbow and hip-joint disease. In one case rapid benefit was obtained by this means in a severe rheumatic affection of the jaws which had immobilized them.

99. **Differential Stain for Inflammation of the Iris and Ciliary Body.**—Fehr has confirmed in fourteen cases Hamburger's statement in regard to the remarkable way in which a stain, fluorescein, given by the mouth in a dose of 5 gm. for adults, was followed by green discoloration of the inflamed region in the eye in case of keratitis, iritis or uveitis. There is no discoloration in the sound eye or with other ocular affections, such as conjunctivitis and glaucoma. The discoloration is probably due to the increased permeability of the vessel walls.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

March, XXXIII, No. 3, pp. 265-412

103 *Tuberculosis and Pregnancy. (Gynäkologische Tagesfragen.) F. Schauta.
104 Bactericidal Properties of Vaginal Secretion and Urine During Pregnancy. (Bakterizide Eigenschaften des Vaginalsekretes und des Urines Schwangerer.) B. Zöppritz.
105 Auto-Infection or Ectogenous Infection? C. Koch.
106 Scopolamin-Morphin Anesthesia in Obstetrics and Surgery. (Der Dämmerschlaf oder die Skopolaminmorphin-Mischnarkose in ihrer Anwendung bei Entbindungen und Operationen.) B. Bosse.
107 *Allowing Patients to Get Up Early. (Frühaufstehen der Wöchnerinnen.) H. Pruska.
108 Ovarian Cause of Uterine Hemorrhage. (Die ovarielle Ursache uteriner Blutungen.) O. Pankow.

103. **Tuberculosis and Pregnancy.**—Schauta thinks that it is impossible to estimate beforehand whether the tuberculosis is going to flare up under the influence of the pregnancy or not, as this is liable even in the mildest cases. The records show aggravation in 75 per cent. and a fatal outcome in 50 per cent. of all cases. Even sanatorium treatment is generally unable to ward off or modify the aggravation of the disease. Allowing the pregnancy to progress to its latter half and then interrupting it, is particularly disastrous for the mother, but might be indicated in exceptional cases to obtain a living child, the mother being beyond hope. The logical conclusion from the evidence presented is, he thinks, that early abortion should be the routine procedure when a woman with certain tuberculosis of the lungs or larynx becomes pregnant. He prefers vaginal Cesarean section rather than the use of tents, which is more than liable to be followed by an ascending catarrhal affection of the tubes with suppuration. The anterior colpohysterotomy avoids this, and he supplements it by ligating the tubes, without pulling down the uterus, merely seizing the round ligament close to the uterus and ligating the tube twice, then drawing the round ligament up and suturing it over the uterine stump. It is unnecessary to bury the other stump. This technic is simple and permits restitution of the permeability of the tube if the tuberculous process should heal and the woman longs for a child. The resected tube or the ovary might possibly be implanted in the uterus wall. The other technics that have been suggested for temporary or permanent sterilization require laparotomy.

107. **Allowing Parturients to Get Up on the Fourth Day.**—Pruska concludes from the experiences at the third obstetric clinic at Prague that the morbidity of the lying-in period is materially reduced when the patients are allowed to leave the bed by the fourth day after delivery; the involution of the uterus proceeds fully as well, retroflexion is much less rarely observed, and the general health is materially influenced, he thinks, for the better. Only those are allowed to get up so early who have not required suturing, who feel well and whose pulse and temperature have been persistently normal. He compares a group of 1,000 patients allowed to get up on the fourth day with an equal number who were not allowed up till the ninth day but who might have got up on the fourth day according to the present rule. In the first group only 5.8 per cent. developed fever after the fourth day while it was observed in 10.5 per cent. of the second group.

Münchener medizinische Wochenschrift

March 28, LVIII, No. 13, pp. 665-720

109 Experimental Syphilis. (Sekundäre Syphilide, primäres Hornhautssyphilom.) E. Hoffmann.
110 Anaphylaxis and Lymph Formation. M. Calvary.
111 Serodiagnosis of Trichinosis. H. Strobel.
112 *The Tryptophan Test for Gastric Cancer. (Zur Frage der Verwertbarkeit der Glyzyl-Tryptophanprobe für die Diagnose des Magenkarzinoms.) O. Neubauer and H. Fischer.
113 *Return Cases of Diphtheria. Sörensen.
114 Simultaneous Scarlet Fever and Typhoid. Meissner.
115 Lipogenous Diabetes. E. H. Kisch.
116 Cause of Incarceration with Pregnant Retroflexed Uterus. H. Cramer.
117 Experiences with Salvarsan. H. Isaac.
118 Behavior of Heart with Congenital Funnel Breast. (Verhalten des Herzens bei kongenitaler Trichterbrust.) F. M. Groedel.
119 Antithyroidin Treatment of Thyroid Hyperfunctioning. (Thyreotoxische Erscheinungen und ihre Behandlung mit Antithyroidin.) E. Laser.
120 Obstetrics in Munich a Century Ago. (Münchener Geburtshilfe vor hundert Jahren.) O. Mittelacher.

112. **Glycyl-Tryptophan Test for Gastric Cancer.**—Neubauer and Fischer report the experiences of others with their new test which have confirmed their previous announcements that the gastric juice in normal conditions does not contain the enzyme which splits glycyl-tryptophan. The findings were positive in 84 per cent. of twenty-six cases with certain cancer, in 75 per cent. of twelve cases with clinically certain cancer, in 23 per cent. of twenty-six cases of cancer suspects and only in 12 per cent. of forty-two patients with nonmalignant stomach trouble. These figures do not include those of Weinstein as he used a slightly different technic [described with the findings in thirty-nine cases and negative findings in twenty-four other patients free from gastric cancer, in THE JOURNAL, Sept. 24, 1910, page 1085]. Neubauer and Fischer remark that absolute specificity cannot be expected in a chemical reaction like this. The data they present are compiled in this way to show the value of the test in the most objective manner.

113. **Return Cases of Diphtheria.**—Sörensen states that there were eighty-two return cases in connection with the 7,037 diphtheria cases at the Copenhagen hospital between 1889 and 1901. In only eight of the patients occasioning the return cases could diphtheria bacilli be found in the throat when they were discharged. The interval was from two to thirty-three days, the majority of cases occurring from four to twelve days after the first patient had returned home.

Virchows Archiv, Berlin

March, CCIII, No. 3, pp. 321-480

121 The Parathyroid Bodies in Tetany and Other Diseases. W. Haberfeld. Commenced in No. 2.
122 Glycogen in the Thyroid. M. Ramberg.
123 Heart with Double Left Auricle in Girl of 11. (Herz mit linkem Doppelvorhof.) N. William and A. Abrikossoff.
124 Aneurysm of Left Ventricle. (Aneurysma des linken Herzventrikels mit abnormer Abgangsstelle der linken Koronararterie von der Pulmonalis bei einem fünfmonatlichen Kinde.) A. Abrikossoff.
125 Metaplasia of Epithelium. R. Kawamura.
126 The First Changes with Tuberculous Process in Kidneys of Cattle. (Die ersten Veränderungen der Nierentuberkulose bei den Schlacht-Rindern.) E. Moser.
127 Fat Content of Tuberculous Foci. E. Joest.
128 Traumatic Kidney Tumor. (Fall von traumatisch bedingtem Nierentumor, mit Bemerkungen zur Pathologie des "infiltrierenden Nierenkrebses.") R. Beneke and K. Namba.
129 Arteriosclerosis in Animals. (Ueber Arteriosklerose bei Tieren und ihr Verhältnis zur menschlichen Arteriosklerose.) C. Otto.

Wiener klinische Wochenschrift, Vienna

March 30, XXIV, No. 13, pp. 443-478

130 *Pathogenesis and Prophylaxis of the Plague. H. Albrecht.
131 *Decapsulation of Kidneys in Eclampsia. (Nierendekapsulation bei Eklampsie.) R. Franz.

132 *A Sulphur Reaction in the Urine with Cancer. (Eine Schwefelreaktion im Harne Krebskranker.) H. Salomon and P. Saxl.
133 Physiology of the Human Stomach. (Physiologie des Magens beim Menschen.) C. Mantelli.
134 Atoxyl Does Not Seem to Influence Production of Antibodies. (Beeinflusst Atoxyl die Bildung der Antikörper?) So.
135 Preventive Salvarsan Treatment of Syphilis. R. Knaur.
136 Temporary Sterilization of Women. K. Bucura.
137 The Question of Syphilis of the Auditory Nerve and Labyrinth. (Zur Frage der luetischen Erkrankungen des Labyrinthes und der Hörnerven.) G. Alexander.

130. **The Plague.**—Albrecht was a member of the Austrian committee sent to Bombay in 1897 to study the plague. Its four members, he says, were the first to insist that rats have something to do with the plague, and they proved it by discovering the bacilli in the carcasses of rats found dead in the streets. As early as 1895 plague was known to be endemic among the marmots of northwestern Asia, and he thinks that these animals may be the perennial source of the plague. When plague first appeared in India, the pneumonic form was most prevalent but gradually the bubonic type supplanted it, and he thinks that this same experience may be repeated in China and Manchuria. With a little care, prophylaxis of the bubonic type is effectual, as he learned by his personal experience at Bombay. An encouraging feature with plague is that it spreads very slowly at first, so that there is time to stamp out imported cases before an epidemic develops. But once obtaining a foothold in a place, it seems to be almost ubiquitous, like a genius epidemicus, at least in the slums.

131. **Decapsulation of the Kidneys in Eclampsia.**—From the successful case reported and other experiences, Franz concludes that decapsulation of the kidneys may prove of great value but that there is no sense in applying this measure until after delivery. The latter alone may afford the desired relief, but if the oliguria or anuria persist or the albuminuria increases and the convulsions or coma persist, then decapsulation may prove the only life-saving measure. It was done on both kidneys in the case reported, about seven hours after delivery; the patient, a primipara of 24, was in collapse with cyanosis, tracheal râles, small pulse of 140, blood-pressure 70. The convulsions had kept up after delivery; eleven preceded and four followed the decapsulation but improvement was soon marked and progressive.

132. **Sulphur Reaction in Urine with Cancer.**—Further experience has confirmed the previous announcement of Salomon and Saxl of the presence of polypeptids, of oxyproteic acid in particular, in the urine with cancer. They have now a record of over 500 urines which have been examined for their oxyproteic-acid content. In 70 per cent. of the cancer cases the findings were constantly positive while they were positive only in a very few other cases, and those mostly very serious conditions. The reaction, however, was obtained in pregnant women the same as in cancer. Even with early small cancers the reaction proved positive in many cases. The disappearance of the reaction after the cancer has been removed testifies to its connection with the malignant disease, but it seems to be independent of the cachexia and of the size and location of the tumor. The reaction is obtained by oxidizing out the neutral sulphur element of the oxyproteic acid in the urine. This is done with hydrogen dioxid, as they describe in detail, a distinct precipitate being thrown down in the urine from cancer patients while there is scarcely a trace of precipitation in other urine.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 3-4, pp. 189-376

138 Relations Between the Circulation in the Kidneys and the Arterial Blood-Pressure. (Beziehungen des Nierenkreislaufs zum arteriellen Blutdruck.) H. Senator.
139 *Causes of Hypertrophy of the Heart in Kidney Disease. (Ursachen der Herzhypertrophie bei Nierenkrankheiten.) H. Senator.
140 *Acute Encephalitis and Cerebral Thrombosis. S. Laache.
141 Measurement of Pulse Energy. (Zur Kritik der Sphygmobolometrie.) H. Sahli.
142 Action of Saponin on Blood-Producing Organs. (Experimentelle Untersuchungen über die Einwirkung des Saponins auf die hämatopoetischen Organe.) S. Isaac and K. Möckel.
143 Digestion and Absorption of Raw Starch. (Verdauung und Resorption roher Stärke verschiedener Herkunft bei normaler und krankhaft veränderter Tätigkeit des Magen-Darmkanals.) L. Fofanow.
144 Manchurian Typhus: Clinical Picture and Its Bacillus. S. S. Botkin and S. S. Simnitzki
145 *Syphilis of the Aorta. H. Grau.
146 Influence of Respiration on Size and Position of Heart. (Röntgenkinematographische Studien über den Einfluss der normalen Respiration auf Herzgrösse und Herzlage.) F. M. Groedel.
147 Accelerated Respiration from Lack of Oxygen. (Ueber die Sauerstoffmangelpolypnoe und deren Bedeutung für den Organismus.) C. Sonne.
148 *Uremia. F. Obermayer and H. Popper.
149 Atony of the Esophagus. G. Holzknecht and D. Olbert.

139. **Causes of Hypertrophy of the Heart with Kidney Disease.**—Senator shows the fallacies in the various theories which ascribe the hypertrophy of the heart to mechanical, hydrostatic factors. Even injection of fluid paraffin into the renal artery, inducing embolism in the finest vessels in the kidney, is unable to produce conditions sustaining the assumption of physical factors. On the other hand, there is considerable evidence to prove that it is lack of the blood-pressure-raising substance, constantly present in sound kidneys, which is responsible for the hypertrophy of the heart with kidney disease. Either other organs work vicariously and to excess to supply this lacking physiologic substance, or some inhibiting action from some other direction is lacking. In studying the subject, a number of other organs should be taken into consideration, besides the suprarenals; this, he says, opens a broad field for research.

140. **Encephalitis and Cerebral Thrombosis.**—Laache reports a case of recurring encephalitis; the first attack ten years before had subsided under treatment but the second proved fatal at the age of 34. Except for an acute articular rheumatism in childhood the patient had been healthy. The symptoms in both attacks were intense headache, right facial paralysis and hemiplegia, with aphasia. Necropsy disclosed merely a pinkish discoloration of the white matter of the left brain, corpus callosum and cerebellum, with two foci of softening but no traces of a scar or cyst, and the vessels were comparatively intact. In another case, an acute hemorrhagic encephalitis was accompanied by secondary thrombosis of the cerebral veins. The patient was a young and previously healthy housemaid who had complained at times of severe headache during the last five or six weeks but there had been no appreciable fever. Then the headache became more severe and the girl died in five days, after three days of stupor. In a third case extensive cerebral thrombosis developed in a woman of 47, secondary to chronic renal tuberculosis and soon proved fatal. In a fourth case, an acute and intensive hemorrhagic encephalitis developed in a man of 36 with a history of epilepsy and chronic nephritis and positive Wassermann reaction. Whether syphilis or the kidney disease or both were responsible for the epilepsy and encephalitis is an open question. Eichhorst gives syphilis the first place among the infectious diseases which may entail epilepsy, but Strümpell denies that it has any connection with genuine epilepsy.

145. **Syphilis of the Aorta.**—Grau reviews twenty-three cases of disease of the aorta with a history of syphilis, three of mixed etiology and sixteen free from syphilis—his total material of aortic affections in the last two years. The latter group includes nine patients with a history of articular rheumatism. In the twenty-three syphilitic cases, there had been an interval of from six, fifteen, twenty-five and twenty-nine to forty-one years since the infection. The subjective symptoms were remarkably late in developing in the syphilitic cases while in the non-syphilitic they had been attracting attention for years. The syphilitic aortic lesions may exist unsuspected for years, without causing subjective symptoms. When these do appear, the condition is then so far advanced that breakdown of compensation follows soon after. There is less enlargement of the ventricle and less disturbances in the peripheral vessels with syphilitic disease of the aorta than with the non-syphilitic. The Wassermann reaction was positive in twenty-one of the syphilitic cases of aortic disease, but he found it negative in three certain cases. The prognosis is generally very unfavorable with syphilis of the aorta when failing compensation is observed. In three of the syphilitic cases melancholia and hypochondria were noticeable, and in another there was an actual psychosis with confusional anxiety and hallucinatory ideas; this type is apparently characteristic of the disturbances in the circulation in the brain resulting from the aortic lesions

148. **Uremia.**—The research reported confirms the importance of the presence of indican in the blood-serum as a sign of kidney disease in the stage of uremia. Recent literature on the subject is reviewed and the results of extensive clinical experience are tabulated. All the evidence shows the absence of indicanemia in health and outside of kidney disease, and its constant presence with advanced nephritis and retention of certain elements of the urine.

Zentralblatt für Chirurgie, Leipsic

April 1, XXXVIII, No. 13, pp. 457-488

150 *Suction Treatment of Infectious or Suspicious Wounds by Sterile Sand Baths. (Die Saugbehandlung infizierter und infektionsverdächtiger Wunden im sterilen Sandbade.) A. Thies.
151 Drainage of the Peritoneum. H. Iselin.
152 *Spiral Incision in Treatment of Varices and Leg Ulcers. E. Bircher.

150. **Suction Hyperemia in Sand Bath.**—Thies boils the sand in a 1 per cent. soda solution for half an hour in linen bags holding 3 or 4 quarts. The bags are then hung up for a few hours to dry. The sand is then poured on a large pan with removable end-walls. The sand is rendered alkaline by the soda solution and the infected or suspicious lesion, on the arm for instance, is placed in the pan and the sand heaped over it. The capillary attraction of the sand keeps the wound dry, the suction being the greater the finer the grain of the sand. With a spoon the patient keeps putting fresh sand over the lesion. Thies applies these sand baths twelve or fourteen hours a day or longer unless the suction is so great that it cannot be tolerated so long. Burns, leg ulcers, phlegmons and all large open surfaces with inflammatory infiltration, putrid sores and gangrene are particularly adapted for this treatment which is also effectual in treatment of transplanted flaps, first covering the flaps with a piece of chiffon glued to the sound tissues around the flaps. The capillary attraction of the sand is shown by connecting an alcohol manometer with a Berkefeld filter full of water, and standing in a dish of fine sand; the water is drawn through the filter by the sand, leaving a negative pressure in the filter and rapidly sending up the manometer index.

152. **Treatment of Leg Ulcer.**—Bircher has obtained excellent results with the spiral incision running around the leg from ankle to far up on the thigh, according to the technic advocated by Rindfleisch. He has applied it in eight cases. The large veins are divided at so many points that the tendency to varices is permanently cured.

Zentralblatt für Gynäkologie, Leipsic

April 1, XXXV, No. 13, pp. 505-536

153 Treatment of Umbilical Cord According to Ahlfeld. O. Wolde.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 19, XXXII, No. 34, pp. 355-370

154 Research on Fasting Animals After Nephrectomy. (Ulteriori osservazioni sul digiuno dopo la nefrectomia unilaterale.) A. Malesani.

March 26, No. 37, pp. 387-402

155 The Poliomyelitic Syndrome in Infectious Diseases of the Nervous System. H. Claude and L. Valensi.
156 *Local Applications of Iodin in Erysipelas. M. Ferrari.

156. **Local Application of Iodin in Treatment of Erysipelas.**—Ferrari reviews the history of iodin treatment of erysipelas and reports forty cases in which he has applied it with excellent results. It is important to paint the sound zone around first; then, with a fresh wad he paints the erysipelas patch and covers it with cotton to prevent the patient touching the region and spreading the contagion. He has found it best to apply the iodin lightly five or six times a day, thus preventing the tanning which is liable to occur when the skin is swabbed too copiously with the tincture. He prefers a 10 or 12 per cent. strength and warns that the tincture must be made comparatively fresh, and reiterates that it must be applied from the periphery of the lesion working toward the center instead of from the center outward, which is liable to spread the infection.

Policlinico, Rome

March 19, XVIII, No. 12, pp. 357-388

157 Incomplete Forms of Exophthalmic Goiter. (Le forme fruste del Morbo di Basedow.) P. Alessandrini.
158 *Treatment of Tetanus by Subcutaneous Injection of Phenol. G. Finzi and others.

March, Medical Section No. 3, pp. 97-144

159 Cobra Venom Hemolysis in Diagnosis. P. Alessandrini.
160 Activation of Cobra Venom by Tuberculous Serum and Its Diagnostic Importance. T. Pontano.
161 Pathologic Anatomy of Malta Fever. A. Tomaselli.
162 Severe Jaundice with Paratyphoid Infection. (Ittero grave con reperto del bacterium paratyphi *B* nel sangue e nella milza.) G. Antonelli.

March, Surgical Section No. 3, pp. 97-144

163 Effect on the Blood of Intravenous Injection of a Saturated Solution of Chloroform. (Effetti della cloroflebonarcosi sul sangue.) F. Gangitano.
164 Fracture of Costal Cartilages. V. Barnabo.
165 Etiology of Neoplasms. (Sui recenti contributi alla dottrina dei neoplasmi.) G. Fichera.

158. **Subcutaneous Injection of Phenol in Treatment of Tetanus and Sciatica.**—A number of reports by various writers are here collected, all showing the great benefit from the Baccelli technic in treatment of tetanus and sciatica to supplement local measures. About twenty-five case histories are reported with five of sciatica; the results were favorable in every case.

Riforma Medica, Naples

March 27, XXVII, No. 13, pp. 337-364

166 *Inflammatory Tumors from Migrating Foreign Bodies. (Tumori infiammatori da corpi estranei migrati.) I. Tansini.
167 Reactions in the Urine in Infectious Diseases. (La reazione di Volovskye; la reazione di Butenko.) L. Ferrannini.

166. **Inflammatory Tumors from Migrating Foreign Bodies.** Tansini found a fish-bone in a tumor in the abdominal wall below the navel; the tumor was excised on the presumptive diagnosis of a fibrosarcoma or neoplasm of embryonal origin. In a second case the tumor was in the submaxillary region, was indolent and growing harder, and was about the size of a hen's egg. It proved to be an inflammatory reaction to the presence of a scrap of a grain of wheat in the salivary gland. No giant cells were found in the inflammatory tumor in either case.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A TEXT-BOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M.D., Ph.D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia, and L. Napoleon Boston, A.M., M.D., Adjunct Professor of Medicine, Medico-Chirurgical College. Cloth. Price, $6 net. Pp. 1195, with 443 illustrations. Philadelphia: W. B. Saunders Co., 1911.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Fifth Edition. Cloth. Price, $1.50 net. Pp. 455, with 99 illlustrations. Philadelphia: W. B. Saunders Co.,1911.

HOSPITAL MANAGEMENT. A Handbook for Hospital Trustees, Superintendents, Training-School Principals, Physicians, and All Who Are Actively Engaged in Promoting Hospital Work. Edited by Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse." Cloth. Price, $3 net. Pp. 488, with 154 illustrations. Philadelphia: W. B. Saunders Co., 1911.

UNSOUNDNESS OF MIND. By T. S. Clouston, M.D., LL.D., F.R.S.E., Formerly Lecturer on Mental Diseases in the University of Edinburgh. Cloth. Price, $2.50 net. Pp. 360, with 14 illustrations. New York: E. P. Dutton & Co., 1911.

STUDIES IN CARDIAC PATHOLOGY. By George W. Norris, A.B., M.D., Associate in Medicine at the University of Pennsylvania. Cloth. Price, $5 net. Pp. 233, with 85 illustrations. Philadelphia: W. B. Saunders, 1911.

THE PREVENTION OF MALARIA. By Ronald Ross, D.P.H., F.R.C.S., D.Sc., Nobel Laureate. With Contributions by Various Men. Cloth. Price, $5 net. Pp. 669, with illustrations. New York: E. P. Dutton & Co., 1910.

THE SOURCES AND MODES OF INFECTION. By Charles V. Chapin, M.D., Sc.D., Superintendent of Health, Providence, R. I. First Edition. Cloth. Price, $3 net. New York: John Wiley & Sons, 1910.

COURTSHIP UNDER CONTRACT. The Science of Selection. A Tale of Woman's Emancipation. By James Henry Lovell Eager. Cloth. Price, $1.20 net. Pp. 440. New York: The Health-Culture Co., 1911.

TWENTY-NINTH ANNUAL REPORT OF THE STATE HOSPITAL FOR THE INSANE AT WARREN, PA. For the Year Ending Nov. 30, 1910. Cloth. Pp. 97. To the Board of Commissioners of Public Charities.

SIXTH ANNUAL REPORT, INCLUDING MEDICAL SUPPLEMENT, OF THE PROVINCIAL SANATORIUM. A. F. Miller, M.D., Superintendent, Kentville, Nova Scotia. Paper. Pp. 15.

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THE RÔLE OF DREAMS IN ETIOLOGY *

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Interest in the subject of dreams has been especially stimulated since Freud enunciated his theory. As is well known, Freud claims to be able to unravel dreams by his so-called analytic method, and he further regards dreams as directly concerned in the production of various hysterical symptoms, phobias, obsessions and delusions. In his brochure "Ueber dem Traum," and in his book "Die Traumdeuting," he tells us that he reached new conclusions with regard to dreams when he applied to them the same method of psychologic research which he had previously applied to the solution of various morbid phenomena. It becomes necessary, therefore, in order that we may have clear conceptions, to briefly review the origin and nature of his method.

Psycho-analysis, as is well known, began with Breuer's case of hysteria. Breuer and Freud stated that they found that the individual symptoms of hysteria immediately and permanently disappeared whenever they were successful in fully arousing in the patient the memory of the event which was causal to the development of the symptoms, together with the accompanying emotion, if, added to this, the patient gave the fullest possible description of this event and gave verbal expression to the emotion. Originally this method presupposed that the patient was capable of being hypnotized and was based on the expansion of consciousness which was supposed to ensue under hypnosis. Subsequently formal hypnosis was dispensed with. Freud's endeavor was to set aside the patient's symptoms, and he attained this end in so far as he placed the patient back into the psychic state in which the symptoms first made their appearance. There appeared under these circumstances memories, thoughts and impulses which had long disappeared from his normal consciousness. When the patient communicated these, his "soul happenings," to his physician, and did so with intense emotional reaction, the symptom was conquered and its recurrence prevented. This result Breuer and Freud explained as follows: The symptom had existed as a substitute or in place of another past experience which had been suppressed (*verdrängt*), and the recollection of which had become subconscious—that is, it was a conversion of the original memory of an act and its associated emotion into a pathologic symptom or obsession. The therapeutic efficacy of their procedure Breuer and Freud explained as the catharsis of the repressed, "locked-up" emotion which had been attached to or associated with the suppressed psychic experience. Freud asserts that his method, or the "cathartic method" as it has also been termed, is, in contrast to all other methods of psychotherapy, characterized by the fact that its therapeutic efficacy is not due to suggestion, a statement which the facts attested by Freud himself lead us frankly to question. I need hardly detail the method which Freud employs. Briefly it is as follows: The patient lies on her back on a couch, while he himself sits on a chair back of her and out of her line of vision. He no longer requests the patient to close her eyes as he did in his earlier method and avoids every touch or procedure such as would be in keeping with hypnosis. Such a séance, he informs us, has the character of a conversation between two persons equally awake, one of whom, the patient, is spared every possible muscular effort and every diverting sensory impression such as might disturb her in her concentration on her internal psychic processes.

In order to take advantage of these involuntary ideas or conceptions of the patient, Freud requests the latter to allow herself to drift in her communication, just as one would drift in a conversation in which one passes in turn to the most varied subjects. He enjoins on the patient, before she enters into the detailed account of her history, to tell everything that comes into her head, whether she thinks it important or unimportant, whether it seems relevant or senseless. The patient is especially requested not to suppress any thought or idea because this idea happens to be shameful or painful.

It is with this procedure as applied to dreams that we are in this paper concerned. The essential facts of a dream having been noted in writing or in an oral statement, as the case may be, the individual is to communicate every idea without exception that occurs to her in connection with the dream. Ordinarily a person thinking about a dream will reject this or that idea suggested by the dream as unimportant and as having no connection with the dream. It is this judgment or critique, as Freud calls it, which under ordinary circumstances causes the patient to reject certain ideas from the communication; but if the patient can withhold all judgment or critique in regard to the ideas which present themselves in thinking over the substance of a dream, a psychic material is furnished which leads to the solution or unraveling of the dream. The essential facts of the dream, that is the dream as it is remembered, Freud calls "the manifest dream content"—(*den manifesten Trauminhalt*). The material derived from the dream, i. e., from the unrestrained association of ideas ensuing on a giving up of one's self to dwelling on the dream, Freud calls the "latent dream content." The psychic process by means of which the latent dream content is revealed, he calls the "dream work" or *Traumarbeit*. The opposite psychic process he calls the "analysis work" or *Analysenarbeit*.

* Read before the Philadelphia Neurological Society, Feb. 24, 1911.

Further, Freud says that when one compares the number of ideas contained in a dream, as written down from memory, with the number of ideas to which the analysis leads, the dream work reveals that a very great condensation, or *Verdichtung,* as he calls it, has taken place in the dream. It is difficult to form an adequate idea of this condensation. It becomes more apparent the deeper the dream analysis penetrates. We do not find a single factor of the dream content from which threads of association do not lead into three or more different channels; there is no situation which is not pieced together out of three or four impressions and experiences; in other words, Freud evidently regards the dream content as a compound of a number of psychic elements. He compares it to the composite family photographs of Galton. The dream work brings the various apparently superimposed dream components to light. The common factors of the dream content become more prominent, while conflicting details disappear. This explains in part the varying prominence or peculiar indistinctness of so many elements. Where common factors or common elements between the dream thoughts are not present, the dream work endeavors to evolve such in order to make a common presentation of the dream possible. The simplest way to bring thoughts which have nothing in common nearer to each other, consists in the change of the verbal expression for one of them by means of which the other by a corresponding transformation may approach nearer. It is a process similar to that of making rhymes in which the similarity of sound supplies the common element.

Freud believes that through the process of condensation of the dream, we find an explanation of certain features of its content which are peculiar to it alone and are not found in conceptions formed in the waking state. These are the collective and mixed conceptions of persons and the strange mixed pictures, creations and animal compositions, comparable to those of oriental phantasy. In dream compositions they are formed with inexhaustible richness. Every element of the dream content is through the material of the dream thoughts, as Freud puts it, overdetermined, and traces its origin, not to a single element of a dream-thought, but to a whole series of such thoughts. The latter do not stand close to each other, but are of the most varied origins in the thought fabric. The dream element is, in the right sense, the representation in the dream content of all this disparate material.

The analysis reveals, however, another side of the relation between dream content and dream thoughts. Just as from every dream element connections lead to a number of dream thoughts, so, as a rule, a dream thought is represented by more than one dream element. The association paths converge not simply from the dream thoughts to the dream content, but intersect and interweave many times on the way. In complicated and confused dreams, the impression of dissimilarity between dream-content and dream-thought cannot be entirely ascribed to condensation and to dramatization. There is evidence of the working of a third factor. Freud notes that when he, by means of his analysis, arrives at a knowledge of the dream-thoughts, the manifest dream-content deals with entirely different material from that of the latent dream content. This, however, is merely an appearance which vanishes on closer examination, for Freud finds that all of the dream-content is carried out in the dream-thoughts and that almost all of the dream-thoughts are represented by the dream-content. However, there is still a difference remaining. That which in the dream was clearly and plainly marked as the essential content, must be relegated to a very subordinate rôle among the dream-thoughts, and that which among the dream-thoughts has the claim to greatest attention is the representation of material which is found either not at all in the dream content or is only represented there by a very remote allusion in an uncertain region of the dream. Freud expresses this idea as follows: During the dream work the psychic energy passes from the thoughts and conceptions to which it by right belongs, to others, which, in his judgment, have no claim to such an emphasis or importance, and it is this process which has to do with the concealment of the meaning of the dream and with making the connection between dream-content and dream-thought unintelligible. This process, to which Freud ascribes great importance, he terms "dream-displacement" or *Traumverschiebung.* It would seem that that which is most vivid in the dream-content would be the most important, but according to Freud's theory, it is precisely in an obscure dream element that he finds the direct evidence of the most important dream thoughts.

Displacement plays a very varying rôle. There are dreams in which no displacement takes place; these are clear and intelligible dreams, like the dreams of an unveiled or unconcealed desire. In other dreams, again, not a single particle of the dream thought retains its proper psychic value. Everything important in the dream-thoughts is replaced by secondary matter. A most complete series of transitions can be recognized. The darker and more confused a dream, the more we may count on the factor of displacement. Again, when instead of the original elements—instead of the really pertinent material—indifferent material finds a place in the dream-content, we have merely to do with an act of displacement.

Further, the dream-work, or *Traumarbeit,* fashions the preformed dream-content into a dream-composition. The dream acquires a kind of façade which covers almost all, but not all, of its parts. In this portion of the dream-work, motives become apparent, motives which have their origin in a regard for the comprehensibility of the dream.

The kernel of the problem, says Freud, lies in the displacement. The essential condition of the displacement is a purely psychologic one. It is of the nature of a play of motives or activation of motives. We ascertain the cause of this activation of motives when we realize that we are compelled to break off in communicating the contents of a dream because thoughts present themselves which cannot be revealed—cannot be spoken of to others—without the injury of most important considerations, personal and private. Freud asserts that this is true of the content of every dream; that every dream contains thoughts which necessitate privacy. If, Freud says, he pursues the dream-thoughts for himself, he arrives finally at thoughts which surprise him, which he did not know existed in him, and which not only appear strange to him, but are also unpleasant and which he, for this reason, would energetically resist. Freud says that he cannot do otherwise than to suppose that these thoughts are really present in his soul-life (his subconsciousness?), and possess a certain psychic intensity or energy, but because they had been in a peculiar psychologic situation, they could not become known to him, i. e., could not reach his consciousness. He terms this condition *Verdrängung,* suppression. He says he cannot refrain from concluding that between the obscurity of the dream content and the condition of suppression,

there is a causal relationship, and he concludes that the dreams had to be obscure in order that the tabooed dream-thoughts should not reveal themselves. The misrepresentation of the dream serves to conceal the latter.

Freud believes that the dream-work, *Traumarbeit,* is one of a series of psychic processes to which the origin of hysterical symptoms, phobias, obsessions and delusions are to be ascribed. Condensation and specially displacement are characters never wanting in the other processes as well. Freud believes that a whole train of phenomena of the every-day life of normal individuals, forgetfulness, unconscious mistakes in speech, in simple acts and other errors, are due to analogous psychic mechanisms.

Freud's therapeutic application of the dream consists in having the patient submit himself to the procedure already outlined, i. e., of allowing all of the thoughts suggested by the dream, no matter what their character, to find verbal expression, and, just as in his method of psycho-analysis, the suppressed, painful or shameful thought thus finds a vent. Freud assumes that even in the deepest sleep a certain degree of psychic activity is present which manifests itself as a watchfulness or guardianship over the sleeper. This guardian-like attention or watchfulness concerns itself among other things with a suppressed desire and forms with the latter the dream, the dream being a compromise of this guardian-like attention and the suppressed desire. Thus is produced a kind of psychic relief for the suppressed desire, for the dream represents the desire as fulfilled.

It is to be noted that the feature of Freud's conception of the dream is, first, its personal, intimate nature, dealing with a subject of such a character that the latter cannot be discussed without injury to the dreamer, without lesion of the proprieties, and second, that the dream always deals with a desire. Freud divides dreams as follows: first, those which consist of an unveiled, undisguised realization of an unsuppressed desire; second, those which consist of the realization of a veiled desire latent and suppressed; and third, those which consist of the realization of a suppressed desire, little or but slightly veiled or disguised. The secret, non-communicable nature of the dream and the desire, veiled or outspoken, constitute, according to Freud's theory, the moving factors of the dream.

Freud's theory, though ingenious, and, I believe, unnecessarily involved, challenges criticism from two points of view; first, as to the secret or sexual content which he declares every dream contains; and second, as to his method.

In discussing Freud's theory, as applied to the unraveling of the psychoneuroses, in a paper read before the Philadelphia County Medical Society some years ago, I pointed out that the first criticism—a truly glaring criticism—which offers itself is the peculiar view which Freud holds in regard to the origin of obsessions. Breuer in his first patient, the patient whose case originally suggested the method, fancied or perhaps did detect in the history a cause of self-reproach or blame which had led to her hysteria, and the unloading or confession of which led to her prompt recovery. At any rate the studies made by his colleague, Freud, have led the latter to some very remarkable conclusions, conclusions to which comparatively few neurologists as yet have been able to subscribe. Freud believes that the various obsessions, hysterical and otherwise, have their origin in some passionate sexual action or aggression of childhood. Obsessions are, he says, always reproaches changed or evolved from the suppression of the memory of reproaches having this sexual origin; in other words, the memory of the sexual action itself, being repulsive or abhorrent, is suppressed, but the feeling associated with the memory persists in the mind and now associates itself with or attaches itself to some other memory or action and that in this way arise the various obsessions. Others than myself have dwelt on the glaring inconsistency of the sexual immaturity of children and the intrinsic biologic improbability of this theory. Perhaps Freud has himself been impressed by this fact, for of late years it would appear that he has retreated to the age of puberty, attempting to save the situation, however, by saying that the memory of these sexual events is projected from puberty into the period of childhood. Whether every dream has a secret or sexual content must be left to the sober thought and honest judgment of ourselves and others; must be left to the testimony of human experience in general. As far as my own experience goes, as far as the testimony of those in whom I have studied the subject of dreams goes, I must come unhesitatingly to the opposite conclusion. It is true that dreams with sexual content do occur, that unquestionably they occur in young persons, especially in young men and are no doubt normal accompaniments of sexual evolution; but that all dreams possess this secret content is certainly not in accord with general human experience, any more than it is in accord with our experience as neurologists that every obsession, for instance, is due to the suppressed memory of a sexual aggression in childhood.

Further, it is extremely probable that Freud by his method suggests the memories of sexual occurrences to his patients; in other words, that he elicits from them a fictitious memory of sexual events in their childhood, of events that have never occurred. Indeed, Loewenfeld gives an instance of a patient of Freud who subsequently came into his (Loewenfeld's) hands.[1] The woman stated to him that the sexual events which she had related to Freud when under his treatment had really never occurred. She declared that the whole thing had been a piece of pure imagination.

Not only does the presumption of a secret content in the dream, sexual in character, challenge criticism, but Freud's method of dream analysis is likewise open to criticism, similar to that which we apply to his method of psycho-analysis of the obsessions. The method that he practices for the elucidation of the obsessions is carried out under a condition which is such as to bring about in the patient a state of actual or borderland autohypnosis. He places the patient, let us remember, on her back; she closes her mind to every possible external impression; she lies perfectly still; concentrates her mind on her thoughts; and then in giving her account of her past experiences is expressly instructed to allow herself to drift at will, to tell everything, no matter what, that enters her mind. It is further admitted that the process is very fatiguing. It may be doubted whether conditions more favorable to autohypnotic states could be devised, and the presumption is justified that there is but little credence to be placed in the saying of a patient in this condition. It is extremely probable—indeed certain in cases of hysteria—that under such circumstances the patient will respond with alacrity to the slightest suggestion, inadvertent or unintentional though this may be on the part of the physician. That confession of imaginary sins, especially sexual transgressions, should be made under these circumstances is not to be wondered at.

1. Loewenfeld: Sexualleben und Nervenleiden, 1899, p. 195.

Now the very condition which Freud imposes in the analysis of the dream-content is equally comparable to an autohypnosis, and that under these conditions the material secured is unreliable, is extremely probable. It is presupposed that the mind, in reflecting on the dream, drifts at will without the guidance of what Freud calls the critique—which critique can be freely rendered as the personal equation of judgment. Such a severance of mental function as the conditions of the dream analyses imply, that is, the unrestrained drifting of thought and the suspension of all judgment, is not normal. Such a severance of function implies of itself a state of hypnosis—or a state of mind closely akin to hypnosis, and it certainly seems unphilosophic and unscientific to regard the various mental pictures resulting as representing the undoubted and intrinsic factors of the dream—as representing the essential features and the structure of the dream. There is nothing to justify such an inference, and yet Freud regards it as a foregone conclusion.

It is hardly the function of this paper to enter into a consideration and discussion of the origin and nature of dreams. Suffice it to say, however, that I believe, as does Samuely,[2] that dream conceptions arise just before the sleeper awakens, i. e., just as he is in the act of entering into consciousness. The dream conceptions are part and parcel of the act of awakening. The conceptions furnish the material from which the dream is subsequently constructed. This construction occurs only after waking consciousness has been established. The confused, simultaneously arising dream pictures are then arranged according to time and location, the lacunæ being filled in by the aid of the imagination and reflection. Semi Meyer[3] also believes that the dream history is usually constructed only after the person has awakened. According to Meyer, every dream is something added to the act of awakening. It is a phenomenon dependent on, and is a part of, the act of awakening. There is in every act of awakening an intermediate twilight state of mind, usually very brief, but sometimes prolonged, during which inroads, vague and indistinct, are made on the sensorium from without, and the conceptions thus arising, are, when the patient fully awakens, arranged automatically into some semblance of order and sequence both as to time and space. That long dreams, dreams of complex content and implying long duration of the dreaming act really occupy but a very short period of the dreamer's time has been repeatedly proved. Thus Flux[4] describes a dream in which the period of unconsciousness did not exceed ten seconds, and yet the dream dealt with a shipwreck with all its details, the time necessary for the occurrences being about three and three quarter hours. The truth is that the arrangement of the dream pictures is automatic, begins at once in the act of awakening, and is later often elaborated and dramatized. It is probable that when the awakening occurs quickly, i. e., when the transition to consciousness is sudden and complete, that the dream remains fragmentary. To take such a dream and submit its conceptions to a process, the essential features of which are indistinguishable from those of autohypnosis, may lead to almost any vagary. That the ideas resulting from this method are determined by the personal peculiarities of the individual, by his training, his education and his habits of thoughts; by his desires, his instincts and his sex, goes, I think, without saying; but that one has the right to ascribe to these ideas any value other than this, can be, to say the least, seriously questioned; to go so far as to say that because in one individual dreams usually have, or always have, a sexual content, therefore, we are to conclude that all dreams in all individuals have a sexual content, is, to say the least, not quite logical. To ascribe to ideas which are manifestly secondary abstractions, ideas evolved subsequently to the dream—a causal character, an etiologic value to explain preexisting symptoms, is again not quite logical. To say that the dream analysis of Freud unearths a repressed dream-complex, the unearthing of which gives relief to the patient, is merely to say that the patient dwelling on his dream and induced to speak without hindrance, merely tells the unpleasant, perhaps secret and personal fact or facts of his history which he would have told and constantly does tell without reference to any dream. The danger, however, arises, just as it does in Freud's psychoanalytic method, that the patient will fabricate, involuntarily or perhaps voluntarily, as did Loewenfeld's patient, and recite events that never occurred. Perhaps they are purely fictitious happenings to fill inconsistencies and lacunæ, and yet, arising spontaneously in the patient's mind, may be accepted by the patient as true and find a place among the memories of his actual experiences. Such a patient is, I believe, damaged, just as is a patient who takes away with him after an hypnosis, a persistent suggestion as to fictitious past occurrences.

We are all of us familiar with the relief which patients experience by giving a full account of their symptoms. Sometimes this account, although by no means invariably, embodies the recital of symptoms of a very personal and intimate nature and at such times the recital has all the force of a confession. That the relief of a patient under such circumstances is very great, we all of us know, and we know, too, that a strange and cumbersome procedure, such as is undertaken in a psycho-analysis, namely, the detailed recital of all the events of the patient's life, embodying especially the assumption of active, aggressive and other sexual occurrences in the patient's history, are unnecessary, just as they are painful, distressing and ethically objectionable; surely the dream analysis is alike unnecessary, if it be not, indeed, misleading and futile.

Finally, in the dream analysis, as in the other form of psycho-analysis, both the physician and the patient assume an expectant attitude of mind. The physician already believes, and the patient is involuntarily led to believe, that a cure of the monophobia, agoraphobia or what not, will supervene when a sexual trauma or aggression has been revealed; and it would seem that the more revolting or disgusting the incident unearthed, the greater its power to cure! Surely here is suggestion, involuntary and unintentional perhaps, but none the less suggestion. What also shall we say as to the rôle played by the shame, the self-abasement and the upheaval of the emotions, in the final result? Surely the theory of psycho-analysis commends itself to our understanding as little as does its practice.

Whether dreams ever really play a rôle in the etiology of nervous symptoms must, to say the least, remain an open question. We all know that patients not infrequently awaken from dreams in fright, as witness the familiar example of the nightmare, and yet to ascribe to the nightmare a uniformly sexual character, as does Ernest Jones,[5] is again stretching human credulity beyond the bounds of human experience.

2. Samuely: Ztschr. f. Psychotherap., 1909, i, No. 3, p. 150.
3. Meyer: Ztschr. f. Psychol., 1909, lxiii, 206.
4. Flux: Brit. Med. Jour., 1901, ii, 13

5. Jones: Am. Jour. Insanity, 1910, lxvi, No. 3.

That dreams are sometimes followed by symptoms, every alienist knows, but even here it is probable that the dream is itself really a product of the already existing psychosis. Such, for instances, are the cases recorded by Santi di Sanctis.[6] Kazowsky,[7] again, describes a case in which a dream of murder preceded the actual commission of a murder. Penta[8] describes cases in which periods of intense excitement of short duration followed dreams and in one of these cases the dream likewise preceded the murder. Others might be added to this list, but it is safe to say that in these cases the dreams were always symptomatic of the preexisting mental disease and in no sense prodromal.

If, in conclusion, we are asked as to the rôle that dreams play in etiology, we are justified, to say the least, in the inference that that rôle is a very doubtful one; dreams are probably always symptomatic and never causal. Finally also, we may conclude that their symptomatic value is of little consequence.

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THE SO-CALLED ŒDIPUS-COMPLEX IN HAMLET *

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Of all Shakespeare's plays Hamlet is the one which has the most peculiar and abiding interest for medical readers. This is mainly so because of the problem of insanity which it presents. This problem has been as gravely discussed by alienists as though Hamlet were a real person and not a mere creature of the imagination. But in a wider sense the play appeals to the student of mental phenomena because of its psychologic, as distinct from its psychiatric, questions. The most accomplished literary critics have thus propounded many theories, and in Germany a whole body of literature has grown up about this question. To attempt even to enumerate these various theories is out of my present range, and I will merely quote one writer in *Blackwood's Magazine,* who in his despair announced that Shakespeare himself could not have written a regular dissertation on Hamlet—and then proceeded to write one himself. But if Shakespeare could not have given us a satisfactory explanation of the Prince of Denmark's mental state, I can hardly be expected to do so either, and I must beg to be excused from the attempt.

My object is not so much to discuss Hamlet as to discuss briefly a recent theory which has been advanced to explain Hamlet. The task is really not of my own choosing, but I was drafted into it by the council of this society, who must have thought I was peculiarly fitted still further to obscure the subject. They probably did not expect me really to pluck out the heart of this mystery, but merely to demonstrate that there are more things in heaven and earth than are dreamt of in my philosophy.

We have come to an era of what may be called subterranean psychology. We are invited to plunge boldly into the subconscious, the "subliminal," and in these dark underground recesses of the mind to search with confidence for the data practically of a new science. The eagerness with which this call has been answered by all manner of men and women is shown curiously in widely divergent tendencies, in medicine, in literature, and in religion; and as a result we have psycho-analysis, Christian Science, the Emmanuel movement in Boston, and the Œdipus theory of Hamlet as promulgated by Ernest Jones. All these tendencies can be classed together in what may be called the cult of Freud.

According to Ernest Jones the whole mystery of Hamlet is to be explained by the theory of Freud's "repressed emotions." This is his thesis in a nutshell. Hamlet is "suffering from an internal conflict, the essential nature of which is inaccessible to his introspection." In other words, the Prince did not know what it was that ailed him. Moreover, Shakespeare himself did not know what it was; the audience has never known what it was; the commentators do not know what it was; nobody knows what it was but Jones, and he has discovered it by the methods of psycho-analysis, applied to the play after three hundred years.

The nature of this conflict is about as follows: Hamlet as a boy had an intense passion for his mother. This was not what the world in its ignorance calls the natural affection of a child for his mother, but it was distinctly erotic; in short, the first manifestation of sexual passion. We are assured that this is not uncommon, and that women of a passionate nature frequently inspire this feeling in their young sons. Jones even quotes with approval Freud's dictum that "the mother is the first seductress of her boy."

Hamlet soon learned, however, that this would never do. The conventions of the world, or of "the herd," as Jones calls it, frowned on such erotic emotions of a boy for his mother; consequently Hamlet early learned to "repress" these emotions. Here, you see, we are at once introduced into the Freudian amphitheater. Hamlet has a great store of "repressed" sexual emotions for his mother, which in time he forgets, but which are ready to assert themselves when the opportunity offers.

As a natural corollary to this youthful experience, Hamlet had developed a feeling of jealousy for his father. But this feeling also he had instinctively "repressed," until it was forgotten, relegated to the limbo of the subconscious; and in its place had even grown up a strong affection for him, as manifested in the play.

This being the state of Hamlet's subliminal mind, all these "repressed emotions" would probably have remained quiescent, deeply buried many fathoms deep in the subconscious strata of his psyche, if it had not happened that his uncle killed his father and promptly married his mother. The effect of this cataclysm was stupendous, and I confess that the psychologic processes as expounded by Jones are from this point somewhat difficult for me to follow, although I have read his paper very carefully twice over. As I understand the psychoanalysis, however, the result was somewhat as follows:

Hamlet had laid on him the task of avenging his father's death, and, as we all know, began that remarkable career of vacillation and declamation which leads no whither, and which constitutes the mystery of the play. Now, according to Ernest Jones, this is all to be explained by the surging up of these old "repressed emotions." Just why or how, I confess I do not see; but we are assured that the thought of killing his uncle, who stands as a sort of rival to him in his mother's affections, sets all this underground machinery to going (if I may be pardoned the term), and that this is so intolerably painful to Hamlet that it paralyzes his will and arrests

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* Read before the Philadelphia Neurological Society, Feb. 24, 1911.

6. Santi di Sanctis: Jour. de neurol. et d'hypnol., 1897, Nos. 23-24, p. 473.
7. Kazowsky: Neurol. Centralbl., 1901, xx, 440.
8. Penta: Riv. mens. di psichat. fas., 1902, p. 324.

his hand. The concatenation of events is not at all plain to me, but I give it as accurately as I am able to interpret Ernest Jones. The argument seems to require that there is some deep and obscure association of ideas in Hamlet's mind, which he himself does not recognize, but which evokes from his subconscious memory painful "repressed emotions" which were inspired in him in childhood by his mother, and which were sexual in tone. Whether this is genuine science or whether it is mere vulgar fantasy, I leave to the consideration of others.

Ernest Jones calls this the "Œdipus-Complex," a term which he also borrows from Freud, because he sees in it a train of psychologic phenomena similar to what is seen in the old Greek legend of Œdipus. Let us see.

The "Œdipus Tyrannos," one of the two dramas by Sophocles which embody the most familiar form of the legend, is one of the masterpieces of Greek tragedy. The hero is the son of Laius, king of Thebes, and of Jocasta, his wife. An oracle had warned Laius that he would meet his death at the hand of a son of his own; consequently Œdipus at his birth was given by his father to a herdsman to be exposed to die on Mount Cithæron. But the infant was rescued, and was reared by Polybus, king of Corinth, as his own son. When he grew to manhood he was taunted with being a supposititious child, and he repaired to Delphi to consult the oracle. The god warned him that if he returned to his native country he would kill his father and commit incest with his own mother. To avoid this fate he resolved to shun Corinth, thinking that to be his native country. Wandering through Greece, still ignorant of his own origin, he happened to meet his father, King Laius, attended by only a small retinue, and in an altercation he killed the king, of whose identity he was ignorant. At this time a monster, called the Sphinx, sent by Juno to ravage the kingdom of Thebes, proposed the celebrated riddle, on the correct solution of which depended the redemption of the city. Œdipus hastened to Thebes, answered the riddle, and was proclaimed king. To complete the horror of the situation he straightway married the widowed Jocasta, his own mother, both of them being entirely innocent, for they were ignorant of their mutual relationship. By her he had children, one of whom was his devoted daughter, Antigone. He was thus caught in the meshes of an appalling tragedy.

The drama of Sophocles deals entirely with this situation, and unfolds it with all the intensity and concentration which the unities of Greek tragedy had developed into a supreme art. No one can read this drama, even in an English translation of to-day, without being profoundly moved with the simplicity, the pathos, and the accents of an irrevocable doom which speak to us across the long lapse of more than 2,000 years.

There is nothing in this tragedy by Sophocles to invite the modern methods of psycho-analysis. There is nothing in it that I can discover of the subliminal or the subconscious or the play of "repressed emotions." It was contrary to the Greek genius to deal in such obscurantism. All is as clear and as open as day. The audience knew the story well; it was only the hero and his mother who were ignorant of their horrible involvement; and as an acute critic has pointed out, it is this very contrast between the attitude of the audience and the ignorance of the hero that gives to the tragedy a singular note of the irony of fate. When the final revelation comes it comes as with the climax of doom: Jocasta kills herself, and Œdipus puts out his eyes and goes forth a wanderer on the earth, led by the devoted Antigone.

I fail to see in this tragedy any essential resemblance to the situation in Hamlet. The Prince of Denmark was not involved in any mystery arising out of mistaken identity. He knew perfectly who his mother was, and she knew that he was her son. This alone is enough to stamp the radical difference between Hamlet and Œdipus. The theory that Hamlet had any "repressed emotions" of amatory passion for his mother, is entirely gratuitous, and outrages every sentiment of nature as well as every canon of art. There is no expression in the play that I know of that supports such a theory, and it is only by reading it into the play between the lines by a process of artificial psycho-analysis that such a monstrous theory has its origin. It is supported neither by science nor by literary criticism, and of all the theories yet sprung to explain the so-called psychology of Hamlet it is the vilest and the most far-fetched.

The emphasis laid on sexual ideas by Ernest Jones in his paper is highly characteristic of the whole Freudian school. They seem absolutely obsessed with ideas of sex. They cannot get their minds out of this channel; and it would be an interesting test of the value of their own psycho-analytic methods for somebody to turn their guns on themselves, and see to what repressed sexual emotions in their own subliminal strata is due this overemphasis of a somewhat forbidden subject. Can it be that the whole Freudian phenomenon is a form of sexual neurasthenia breaking out among a class of idealistic men and women with a tendency to scribble?

I do not pretend myself to pose as a critic of Shakespeare, but there are some thoughts which I offer in conclusion, with the more confidence as they are not entirely my own. I do not believe myself that there is nearly as much of a profound mystery in Hamlet as the critics and commentators are disposed to see. They are looking for something which is not in the play, and they have consequently wrapped it in unnecessary obscurity. Mr. Furness, of this city, the most eminent of living Shakespearian commentators, sweeps the whole problem of Hamlet's insanity aside by saying that he was neither insane nor pretended to be insane. It is impossible to classify his insanity, or to make it accord with our scientific ideas.

As a dramatic writer, moreover, Shakespeare had his faults. In common with all English playwrights he ignored the law of unities as observed by the Greek dramatists. A comparison of Hamlet with the Œdipus of Sophocles makes this apparent. The Greek holds the situation thoroughly in hand and goes straight to the climax, but the climax in Hamlet is lame and unsatisfactory.

But in my opinion the most glaring inconsistency in Hamlet is the age of himself and his mother. He is represented as a man of thirty; this at once must place his mother well along in middle life, and yet she is presented as a woman in the full bloom of her sexual charms. This bears directly on the subject of this paper.

All readers feel the fascination of Hamlet. His personality has appealed to men and women far more than any fictitious character in modern literature. I believe this is the keynote of the alleged mystery and of the romance which surround him. His grace, his personal magnetism, his melancholy, his philosophizing, his wit, his princely station and bearing, his love for Ophelia, his unhappy destiny, have all served not only to attract but to dazzle mankind. A discerning critic has said that the deep and permanent interest is in the conception of Hamlet himself rather than in the plot. In other words,

Hamlet is greater than the play. No theory is necessary to explain this: it is simply Shakespeare's transcendent poetic art which has presented us with a complex and lovable character.

If Shakespeare had his faults as a technical dramatist, we must remember that he was simply writing for the entertainment of a sixteenth century English audience. He was not writing history, or biography, or science, or metaphysics, and least of all was he indulging in any process of psycho-analysis. Probably no one would be more astonished than he at the theories of Freud and his followers. To take Hamlet and attempt to pump out of him a whole lot of "repressed emotions" of sexual love for his own mother, is not only disgusting, but is no more sensible than to stand by the side of a beautiful marble statue, and, with note-book in hand, to pretend to jot down the story of the statue's subconscious life as imbedded in the depths of its marble head.

Mr. Furness has somewhat tartly said that there has been much commenting on Shakespeare which is a nuisance and a weariness of the flesh. This was even before the appearance of Ernest Jones' essay, or of my present paper.

3918 Walnut Street.

CHRONIC GLANDERS IN MAN

REPORT OF A CASE: PATIENT TREATED WITH GLANDERS VACCINE. APPARENT CURE

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In 1906, C. D. Robin of the Royal Victoria Hospital, Canada, reported 156 cases of chronic glanders, collected from medical literature. Since this excellent review of the subject there have been reported but four definite cases, accessible to me—one by Post and one by Sieur in 1907, one by Dr. A. T. Bristow of Brooklyn, and one recently shown at the New York Surgical Society by Dr. Hitzrot. Several cases of acute glanders have occurred, however, and have been chronicled.

After reading Robin's article and noting his conclusions, drawn from an exhaustive study of his many cases, one is forcibly impressed by two salient facts; first, that chronic glanders in man is an exceedingly rare disease, unless many mistakes in diagnosis are made; second, that the mortality is extremely high, only 6 per cent. of the 156 cases reported being positively known to have resulted in a cure. These two facts alone seem to offer sufficient justification for the publication of the following case, which came under my observation in Bellevue Hospital in the service of Dr. J. D. Bryant, to whom I am greatly indebted for the privilege of studying and recording this case as one of those in which an apparent cure was obtained, the patient remaining free from the disease for a period of eighteen months. No further report of the case is possible, as the patient has returned to his native home.

In presenting this record the rule used both by Robin and Bollinger is employed to differentiate between the chronic and acute form of glanders, namely, the existence of the disease for six weeks or longer. In reporting this case, also, I have refrained from a positive statement relative to actual permanent cure, realizing that it is very difficult to state definitely just when a patient with glanders can be considered cured, as so many of those patients reported as affected, even after many months, and in a few cases after many years, finally succumb to the disease.

This patient, as stated above, had remained free from any symptoms of glanders for eighteen months, was in good health, doing hard work daily, and had also been under close observation. This patient was treated with glanders vaccine, which proved of inestimable value in controlling the disease. The vaccines were made by the New York Board of Health from a glandered horse and kindly furnished to me by Dr. W. H. Park. These vaccines were not standardized, and so the actual number of bacteria is not definitely determined, but estimated at fourteen to twenty million per cubic centimeter. The report of the case follows:

History.—M. M., aged 34, a Pole, a cement worker, was admitted to Bellevue Hospital, Oct. 20, 1908. There was nothing in the family history which could possibly have had any bearing on his illness. The patient's habits were good, he drank four or five glasses of beer daily, ate and slept well, and worked very hard. He was employed in making cement walks; was exposed to wet and cold a great deal, his feet often becoming wet and his clothes soaked by rain. In no way was he ever directly associated with the care or handling of horses, nor was any member of his family. No other member of his family was ill.

Previous Illness.—One year previous to his admission to the hospital the patient had had a "stitch" in his right side. He was ill about one week and made a good recovery, except that occasionally he had a slight cough without expectoration. Generally speaking, however, he enjoyed fair health, working each day and eating well.

Present Illness.—Four weeks previous to admission, the patient's clothing became wet through from exposure and the same evening he had chills and fever, followed by profuse sweating. He had similar attacks three or four times weekly previous to his admission. One week after the first chill, there appeared a swelling over the right forearm, followed the next day by one over the left forearm and right thigh, without any association of pain or tenderness over them.

Clinical Data on Admission.—When the patient entered the hospital he had a temperature of 100.2 F., pulse 120, respiration 24. Blood: Leukocytes, 11,400; polynuclears, 78 per cent.; lymphocytes, 17 per cent; transitionals, 2 per cent; basophils, 2 per cent; eosinophils, 1 per cent. Urine: amber, clear, urinous odor, sp. gr. 1.022, faint trace of albumin; many leukocytes, amorphous urates, and a few hyaline casts.

General Physical Examination.—The patient was of medium frame and poorly nourished; mucous membranes clean, but anemic; pupils equal, reacted normally to light and accommodation; tongue heavily coated, slightly tremulous; pulse regular, of moderate tension. There were a few sibilant râles over base of the right lung; no nasal discharge nor expectoration; inguinal and axillary lymph-nodes palpable; reflexes normal.

Lesions.—Small abscess over radial side of middle third of left forearm; another on ulnar side of right forearm near elbow; another on posterior surface of calf of right leg, five inches below knee, and still another about six inches in length over posterior aspect of left thigh at the middle third. There were no signs of inflammation referable to these tumors and no pain nor tenderness associated with them. These abscesses, which were deeply situated in the muscles, were opened under cocain anesthesia, the cavities irrigated with mercuric bichlorid solution and drainage instituted. The pus was of a chocolate color, fairly thick, with no odor. The report of the findings obtained by examination of the pus is given in full below by Drs. Norris and Pappenheimer of the Pathological Department of Bellevue:

PATHOLOGIC REPORT

"A deep abscess situated on the posterior and outer aspects of the middle third of the right thigh was aspirated with a sterile syringe, about 5 c.c. of pus being withdrawn. Morphologic examination of this pus on smears and in hanging drop revealed no microorganisms.

"Cultures made on slanted and coagulated Loeffler's blood-serum, and on agar tubes, remained sterile after a week in the incubating oven. With this pus two guinea-pigs were inoculated, one subcutaneously, the other intraperitoneally.

"November 7, seventeen days after inoculation, the pig inoculated subcutaneously was found greatly emaciated, and had developed at the site of inoculation an abscess of considerable size, say 3 cm. in diameter. The abscess was incised, and the pus evacuated. Smears made from this pus revealed a few Gram-negative rods, which closely resembled in their morphology the *Bacillus mallei*. Besides these rods of distinctive morphology, there were found a number of involution and degeneration forms, and of globules and round masses, not staining by Gram's method, but taking on an after-stain with fuchsin.

"Cultures made from this pus yielded in forty-eight hours, on slant glycerin-agar, a growth of Gram-negative rods, resembling the glanders bacilli in morphology. With this pus, an emulsion of a glycerin-agar slant was made and inoculated into two large male guinea-pigs, each pig receiving approximately half of the agar culture emulsion.

"The pigs showed a marked and prompt reaction after inoculation, and the morning following the inoculation both pigs were very ill, with hair standing on end, extremely sensitive to the touch, especially on the peritoneum, and with greatly enlarged testicles. The pigs were found dead the following morning, approximately thirty-six hours after inoculation.

"Examination of both pigs showed a diffuse general serofibrinous peritonitis, and the typical exudate on the tunica vaginalis. The organism was found in the exudate of both guinea-pigs in smears, and by culture. The two guinea-pigs inoculated with the human pus were greatly emaciated, and were chloroformed November 13, in a moribund condition, twenty-three days after inoculation. The pig inoculated subcutaneously showed no lesions in the gross beyond the abscess at the site of inoculation in the skin. The pig inoculated intraperitoneally showed a number of well-encapsulated abscesses in the peritoneum and retroperitoneal lymph-nodes, and in the skin at the site of the puncture of the needle, and abscesses of the liver.

"The bacillus which was isolated corresponded in all morphologic characteristics with that of the *Bacillus mallei*. It decolorized by Gram's stain. The cultural characteristics corresponded in every way to that of the glanders bacillus, giving a characteristic growth on potato and blood-serum.

"Microscopic examination of the tissues of the lesions of the two guinea-pigs inoculated with human pus show the typical lesions of glanders, with numerous characteristic bacilli."

A blood-culture made also at this time proved positive.

The patient ran an irregular temperature till Nov. 5, 1908, when he insisted on returning home.

In December of the same year the patient was seen by me. he in the meantime having received treatment in one of theNew York dispensaries. At this time the wounds were all healed and I decided to show him before the Bellevue Alumni Association in February, 1909, but when he was seen again, in January, 1909, two of the old wounds were discharging pus, the patient was having some elevation of temperature, chills and sweats. He was admitted to the isolation ward at Bellevue in this condition on Jan. 22, 1909, with a temperature of 102 F., pulse 108, respiration 24. He had a leukocyte count of 12,000; polynuclears, 78 per cent.; lymphocytes, 20 per cent.; basophils, 1 per cent.; eosinophils, 1 per cent. Staphylococci were found in smear and culture made from pus obtained from arm and leg, but no *Bacilli mallei*. No *Bacilli mallei* were found in the sputum. The agglutination test was negative.

Treatment.—January 29, 8 minims of glanders vaccine were injected into the gluteal region. In six hours the temperature rose from 100 to 104 F., pulse from 88 to 124, the patient had a severe chill and sweat, and there was considerable reaction in the region of the injection. The temperature dropped gradually to normal in three days and inflammation about the gluteal region subsided. This dose was considered too large and so on February 5, 4 minims were injected as before, the temperature rising to 102 F., and the pulse 108.

February 8, 4 minims were again injected; the temperature rose to 105.8 F., with chill and sweat. An interval of five days was then allowed before another injection of 4 minims was made. The temperature rose to 100 F., and pulse to 96.

February 21, 4 minims were injected. The temperature rose to 104.8 F., pulse to 118. About this time the patient was shown at the Alumni Association. At this time his general condition was markedly improved, but there was a slight discharge from the wound in the right forearm.

The patient insisted on going home and was subsequently treated by me at Bellevue Hospital Dispensary as follows: March 1, 1909, 4 minims of vaccine were injected. April 6, when he returned all wounds were healed and the patient's general health was excellent. He was given 4 minims, however, and again on April 20, May 4, May 18, June 4, and June 21, respectively, on which occasions there was very little, if any, reaction to the injection. Subsequently the patient was seen by me at different times, the last time being eighteen months after all his symptoms had disappeared. In October, 1910, in endeavoring to locate the patient, I was informed that he had returned to his native country, and so no further report is possible.

CONCLUSIONS

There are several points in connection with this case and chronic glanders as a whole which I wish to bring forward.

1. Cases of chronic glanders can easily be overlooked unless one is constantly on the lookout for the disease.
2. Multiple abscesses, especially on the extremities, without definite cause, should excite suspicion, as Robin has shown that in 80 per cent. of cases multiple abscesses occur.
3. In this case there was no direct association with horses.
4. The point of entrance of the infection was unknown in this case, no abrasion on the body being present and no history of a wound being obtainable.
5. There was never any nasal discharge.
6. The patient remained apparently cured for six weeks and then showed a return of symptoms.
7. No bacilli were found in the sputum.
8. Extreme exposure to bad weather seems to be a predisposing cause.
9. This case was proved to be one of glanders by laboratory methods and by reaction to the vaccine injections.
10. This patient was apparently cured by vaccine injections.

349 West End Avenue.

CASE OF CHOKED DISK AND PROGRESSIVE BLINDNESS DUE TO SARCOMA OF THE BRAIN

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Some years ago I reported in part[1] a case of choked disk probably due to brain tumor. Recently I have heard of the termination of this case in operation and death, and I consider the complete case of enough interest and importance to submit for publication again. In giving the early history of the case I shall draw at length on the original record included in my earlier report.

Patient.—A man, aged 22, first came under my care Dec. 11, 1906, in the clinic of Dr. W. E. Lambert, New York Eye and Ear Infirmary; he stated that two weeks previously he had been "struck blind" at the car-barns, where he was waiting to take out the car of which he was conductor, but recovered the vision of his left eye about five minutes later to such an extent that he was able to take charge of his car for about

1. Thomas, J. B.: Long Island Medical Journal, November, 1907.

two hours longer, when he was allowed to go home; he never regained the vision in his right eye. He had had a burning pain in the eyes just after the stroke of blindness, but had slept well that night, and since then had had no pain of that character. His vision at the time of examination was fairly clear but frequently blurred for a moment, giving him a depressing sense of insecurity and of impending blindness. His history previous to the sudden loss of vision was as follows: Three years before, and again, two years before, he had attacks of unconsciousness, epileptoid in character, during the night; one year before he had attacks of transient numbness of the right face, arm, body and leg, beginning in the arm and lasting a few minutes.

Examination.—Right Eye: Total blindness; the optic nerve-head was yellowish gray, raised by swelling about 1 mm. above the surface of the retina; the central vessels were much engorged; there were several bright white splashes of retinal atrophy between the disk and the macula. This eye had probably been blind for several months, but the fact was not recognized by the patient until his other eye failed.

Left Eye: Vision 20/40. The optic nerve-head was raised about 1.5 mm. above the retina, and its borders were blotted out by a yellowish exudate extending into the retina; the central vessels were intensely congested, and the center of the disk was covered by a network of congested capillaries. The whole appearance was that of an acute process as compared with the atrophic changes in the other eye; the field of vision was about normal; both pupils were dilated and reacted to light, accommodation and convergence, though feebly at times; spontaneous oscillations of the pupils made it difficult to determine the pupillary reactions but the results were verified by several examinations made on different occasions.

Possible foci of infection were sought in the ears, nose, and accessory sinuses, but with negative results. An examination of the urine was negative. There were no traces of syphilis, and the patient denied having any venereal disease.

Treatment and Course of Disease.—After about three weeks' treatment with large doses of the iodid of potassium without improvement, the patient was given daily hypodermic doses of pilocarpin, beginning with gr. 1/12, and finally reaching a daily dose of gr. ¼.

Mercury and iodids were given by mouth at the same time. After three weeks of this treatment the patient was discharged from the wards. The exudate about the optic disk was more circumscribed and the central vision was a little more acute, but there still were frequent momentary lapses of vision. The field of vision was moderately contracted.

About Feb. 1, 1907, the headaches became more severe and the patient had occasional attacks of vertigo. His central vision was still 20/40, but he was more often subject to momentary lapses, and his field of vision was becoming ominously contracted. The consensual pupillary reactions were examined carefully on several occasions and found to be positive, though feeble. The tendon reflexes were normal, and the function of the cranial nerves normal; there were no areas of anesthesia, no symptoms of acromegaly; the temperature sense was normal.

Although there were no motor or other localizing symptoms on which to base a diagnosis of cerebral tumor, it was thought justifiable, in view of such marked symptoms of intracranial pressure as progressive choked disk and persistent headache and vertigo, to advise a decompressive operation for the relief of pain and with the hope of arresting the strangulation of the optic nerve fibers of the left eye. Both operation and lumbar puncture were refused.

By the third week in February the frontal headache and attacks of vertigo were still more severe. The patient appeared dazed at times like one awaking from a deep sleep; his vision had fallen to 20/100, and his field was telescopic.

The patient then ceased to visit the infirmary, and I lost track of him until April 10, 1907, when I examined him in Bellevue Hospital, by the courtesy of Dr. Alexander Lambert, in whose wards he had been treated for several weeks. The only trace of vision remaining was a slight and doubtful perception of light when flashed into the macular region of the left eye. He had frequent intense headaches, and vomited a little every day. Both pupils reacted feebly to light; the consensual reactions were doubtful. There was slight, if any, change in the swelling of the optic nerve-head. He was taking 150 gr. of potassium iodid daily for the relief of the pressure symptoms.

Operative Findings.—The patient was soon removed from Bellevue by his parents and the next news I had of him was that he had been operated on Nov. 26, 1907, at the City Hospital, service of Dr. H. D. Collins, to whom I am indebted for the final data in the case. A tumor was found in the cortex of the brain, about 2 inches in diameter, "lying partly in the posterior part of the left frontal and anterior part of the left parietal region." The tumor was diffuse and could not be enucleated. The patient died within a few hours after the operation; no autopsy was permitted. The laboratory reported the tumor as a "large round-celled sarcoma, very vascular."

Although there are several gaps in the history of this case and no post-mortem examination could be secured, it constitutes a valuable unit in the statistics of optic neuritis and brain tumor.

The case demonstrates the value of optic neuritis as a very early sign of brain tumor; it developed in this patient at least four months before the appearance of other distinctive symptoms.

Progressive narrowing of the field of vision in optic neuritis is of evil omen, although the central vision may remain nearly normal and the appearance of the nerve-head show no change. This fact is familiar to the ophthalmologist, but not always appreciated by the general practitioner or the surgeon.

The experience of my patient gives one courage to advise the decompression operation early for the relief of impending blindness before the appearance of motor or other localizing symptoms.

Dr. Saenger, the eminent Hamburg neurologist, said in his address[2] before the American Medical Association at St. Louis in 1910, that he preferred to postpone a decompressive operation until, with choked disk, the vision begins to show impairment. By this I infer that he refers to peripheral as well as central vision. Dr. J. A. Bordley, Jr., of Baltimore, discussing Dr. Saenger's paper and speaking as a collaborator of Dr. Harvey Cushing, said that there was no change in the optic disk with which he was familiar, from the active stage of hyperemia to the later stages of atrophy, in which a decompression operation was not advisable. Dr. J. Herbert Parsons of London, in discussing the same paper, stated that the advisability of surgical interference in these cases, and the time of operation as well, should be determined by the ophthalmologist rather than by the neurologist; for the only palliation in many of these cases is the retention of vision during the rest of the life of the patient, which may last for a period of months or even years. The neurologist is inclined to wait so long for the more definite and convincing focal symptoms that he often delays the palliative operation until the optic nerve fibers are irreparably injured. That such conservatism is unnecessary and is contra-indicated is proved by the experience of our best brain surgeons and the case is strongly stated by Dr. Saenger as follows: "Palliative trepanation of the skull according to the modern standing of surgery, in the hands of a skilful surgeon who has experience in neurologic work, is almost without danger and an extremely beneficial operation, which I should recommend in every case of inaccessible brain tumor, in order to ease the torments of the patient, and above all to save him from impending blindness."

2. Saenger, Alfred: Choked Disk in Its Relation to Cerebral Tumor and Trephining, THE JOURNAL A. M. A., Sept. 24, 1910, p. 1100

Viewing my case history in the light of some of the conclusions reached by Leslie Paton[3] in his study of 400 cases of brain tumor, the following facts may be noted:

1. The tumor was precentral and the accompanying optic neuritis was very severe. Paton concludes that precentral tumors are nearly always associated with a fairly severe neuritis, whereas postcentral tumors are nearly always associated with a moderate neuritis. It is unnecessary to remind the oculist that the severity of the optic neuritis should be judged not so much by the loss of vision as by the height of the swelling of the disk, turgescence of the retinal vessels, the extent of hemorrhages and patches of exudate.

2. The eye on the opposite side of the tumor was first affected.

3. The difference in severity of the optic neuritis in the two eyes could not be noted because the process in the right eye had begun the atrophic stage and in the left eye was at the height of the acute stage when the patient first came under observation. Both the second and third signs as noted above are untrustworthy, according to Paton. In about one-half of his cases a difference in the severity of the neuritis in the two eyes was observed, but the more severe neuritis often occurred on the opposite side from the tumor.

REPORT OF A CASE OF ANENCEPHALUS

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The following report of a case of anencephalus presents some points of interest.

Mother's History.—The mother, white, American, aged 42, was married at 17 and had nine children. Twenty-two years ago, she gave birth to her second child, a hydrocephalous female infant. She stated that she had unusually difficult labors with all her female children.

Present Confinement.—Labor occurred Jan. 29, 1911. On examination I found the abdomen unusually large, the umbilical region being rather flat, and the sides fuller than ordinary. The limbs of the fetus could be felt on the left side. By bimanual examination, a water sac could be felt, filling the roomy vagina and projecting from a partly dilated cervix. Combined version having failed, I anesthetized the patient, dilated the rigid os manually, cut the tough membrane, performed podalic version, and delivered an anencephalic fetus, which lived but a moment after birth. I estimated the amount of liquor amnii at nearly 4 gallons. The third stage of labor was normal. The placenta showed no abnormality, but the umbilical cord was about a foot long, as thick as a man's thumb, and markedly congested.

Description of Fetus.—The child, a female, weighed about 6 pounds and was well developed, except the head, which was hardly larger than a small orange. The external tissues were lacking over a space extending from just above the supraorbital arch of the frontal bone to the superior nuchal line of the occipital and from the zygomatic process of the temporal bone on one side to the corresponding point on the opposite side. The sunken brain was exposed and showed cherry color through the delicate membrane covering it. The convolutions were very indistinct, except over the frontal lobes, which were elevated, round, and about half as large as a small English walnut. The mouth, chin and cheek, and the lower part of the nose were normal, but the root of the nose was decidedly flat and the eyeballs were protruding. There was a strip of hair about half an inch wide around the neck. Unfortunately no necropsy was permitted.

The case presents the following points of interest:

1. The birth of two abnormal fetuses from the same mother at an interval of twenty-two years, all the other children being normal. Edgar says of hydrocephalus: "It has been observed to occur several times in children of the same mother." I have failed, however, to find any reference to a mother giving birth to a hydrocephalous child at one time and to an anencephalous child at another.

2. Both of the monsters were females. Is this merely a coincidence?

3. A possible relation of hydramnion to anencephalus. J. C. Webster gives anencephalus as an etiologic factor for hydramnion.

REPORT OF A CASE OF BRONCHOPNEUMONIA, SHOWING POSITIVE BRUDZINSKI NECK AND COLLATERAL SIGNS

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In view of the cases reported by Brudzinski and Morse, in which Brudzinski's neck sign was constantly absent in all diseases other than those of the nervous system, I believe that the report in my case will be of interest. Before proceeding, however, to the history of the case, I shall briefly describe these signs:

Brudzinski,[1] while trying to test the rigidity of the neck in a child suffering from tuberculous meningitis, observed that flexion of the neck caused the legs to become flexed on the thighs, and the thighs on the abdomen. He followed this observation up in other cases and found this sign to be positive in 95 per cent. of children ill with tuberculous meningitis, and in 100 per cent. of those ill with either cerebrospinal, serous or pneumococcus meningitis. The sign was found to be absent only in the late comatose stage (*état agonique*) of tuberculous meningitis.

Brudzinski found this sign present in one case of mongolian imbecility, in one case of meningism, and in four cases of arrested development. He never found the sign to be positive in any other acute disease, or in normal cases.

Morse,[2] who has examined 400 patients, agrees with Brudzinski.

TECHNIC TO ELICIT "NECK SIGN"

The head is forcibly flexed with the left hand, while the child is lying flat on its back; with the right hand, pressure is exerted on the chest to keep the child from being lifted. If the sign is positive, both legs will flex on the thighs and the thighs on the abdomen.

The identical collateral sign consists in flexing one leg on the thigh and the thigh on the abdomen when the opposite lower member will assume the same position.

With this brief description I shall proceed to the history of my case.

History.—Baby B., aged 9 months, had a normal but difficult birth; no instruments were used. It had been artificially fed since birth. Stools passed twice daily, yellow, no curds. Nutrition was good. Family history is negative. There is a history of scarlet fever (?) three weeks before I saw the child. The infant became suddenly ill on Jan. 27, 1911; the mother observed fever and cough.

3. Paton, Leslie: Brain, 1909, xxxii, No. 125.

1. Arch. de méd. des enfants, 1909, xii, 745.
2. Arch. Pediat., 1910, xxvii, 561; Northrup: New Reflex Signs in Meningitis Diagnosis, THE JOURNAL A. M. A., Jan. 14, 1911, p. 114.

Physical Examination.—The head was abnormally shaped, the left occipital region sloping downward and being depressed. It had been so since birth. The anterior fontanelle was one-half inch wide; there was no bulging or pulsation. No flatness could be elicited over the skull. The tongue was coated. Prostration was intense. Respiration was rapid, but not accompanied by pneumonic grunt or dilation of the alæ nasi. The pulse-respiration ratio was 2½ to 1. The lips were slightly cyanosed. There was slight rigidity of the muscles of the neck. The chest showed diminished expansion on the left side. There was no dulness, and neither râles nor bronchial breathing, though on the third day small mucous râles and bronchial breathing could be made out in the lower midaxillary region on the left side. The abdomen was not large, was rather soft and flabby. The spleen and liver were slightly enlarged. Heart action was rapid but there were no murmurs.

Reflexes: The pupils were normal and reacted to light; there was neither nystagmus nor ptosis of the lids. Brudzinski's neck and collateral signs were present. Kernig's and Babinski's signs were also present.

All these signs were elicited up to the third day. Between the third and seventh days I did not try to obtain them. On the seventh day the temperature was normal and these signs were no longer obtainable.

The temperature ranged between 102.5 to 104 F.; respiration ranged from 65 to 90 and was irregular; pulse varied from 160 to 200. The child made an uneventful recovery.

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THE TREATMENT OF CANCER WITH BODY FLUIDS AND CANCEROUS ASCITIC FLUID

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BOSTON

This paper is a report of the work done at the Massachusetts General Hospital, under the direction of the Cancer Commission of Harvard University, during the months from February to September, 1910, inclusive, on the treatment of inoperable cancer with the various normal and abnormal body fluids and with cancerous ascitic fluid.

This line of work was suggested by the results obtained by Hodenpyl of New York, which were reported in February, 1910.[1] The purpose of the present investigation was twofold: (1) to determine whether any curative properties existed in the ascitic fluids of cancerous patients; and (2) to determine what effect the various normal and abnormal body fluids, non-cancerous in origin, had on the cancer patient or his tumor. The theory advanced by Hodenpyl in regard to the action of the fluid in his apparently spontaneously cured patient, was along the lines of other theories of immunity. This theory was that the patient in this case must have manufactured within herself some substance in the nature of an antibody, which was detrimental to the growth of her cancer and which eventually caused its retrogression. Subsequent autopsy in this case, however, showed that the patient eventually died of metastatic cancer not demonstrable during life. Weil, in a subsequent report of the analyses of Hodenpyl's fluid and fluids from other cancerous and non-cancerous cases, was unable to find, by any biologic or chemical test, any antibody or any specific substance in any of these fluids whereby they could be differentiated from one another. The nature of the action of Hodenpyl's fluid on cancer remains, therefore, unexplained. Hodenpyl believed that in his case there was produced a specific antibody for the cancer cell. Whether that be true or not, we know of many cases in which the patient resists the inroads of cancer for many years, and MacKay[2] in England has collected from the literature nearly fifty authentic cases of more or less complete spontaneous retrogression of cancerous growths. Spontaneous retrogressions of various tumors, including cancer, are known to occur, but the process by which this is brought about has not been determined. We can conceive, however, of the production in the body of some substance which acts on the tissues surrounding the tumor so that the stroma necessary to the sustenance of the tumor is made to degenerate, possibly by the development of a connective tissue barrier which cuts off its nutrition, or of a substance which acts as an antibody against the cancer cell or its toxins. It is, therefore, not unreasonable to suppose that the cancer patient, as well as the patient with an infection, can manufacture substances which tend to retard the cancerous process. With this theory as a working basis the present clinical experiments were undertaken.

The cancer patients of one group (the group which comprises the main part of this study) were treated with ascitic fluids obtained from patients with cancer in all stages of the disease. An effort has been made to obtain, as far as possible, ascitic fluids from patients resistant to their disease, with the idea that the amount of antibodies per cubic centimeter of fluid in these cases would be larger than in very active or non-resistant cases.

In a second and smaller group, cancer patients were treated with the various normal and abnormal body fluids, other than cancerous fluids, in order to determine their effect on the cancer patient and his disease. In a third group, untreated patients were watched coincidentally for the purpose of comparison with the series of patients treated with the cancerous and the non-cancerous fluids. With these two classes of controls a satisfactory check could be made on the patients treated by the cancerous fluids. The fluids used in the second series were:

1. Normal blood-serum.
2. Hydrocele fluid.
3. Spermatocele fluid.
4. Ascitic fluid from a case of alcohol cirrhosis.
5. Ascitic fluid from a case of incompetent heart.
6. Pleuritic transudate resulting from broken compensation.
7. Pleuritic transudate: non-tuberculous in origin.

Bile, cerebrospinal fluid and chyle have not been used.

None of these fluids, except spermatocele fluid, which exerted a noticeable stimulant effect, especially on females, has had any beneficial effect on the cancer patient or his cancer so far as observed.

A series of ten patients (later treated with the cancerous fluids) was given a trial of from two weeks to one month with these non-cancerous fluids. The latter were given mostly in large doses so as to get all the effect possible. No local symptoms in the tumors, such as were witnessed with the cancerous fluids, or constitutional reactions, were witnessed even with doses of 60 c.c. of any of these fluids. Normal blood-serum was given only in small doses of from 1 to 5 c.c., and gave none of the phenomena of anaphylaxis. In one or two cases a slight rise of temperature was recorded after the largest doses of fluids and also after a 5 c.c. dose of blood-serum. Leukocyte counts were not recorded in this series. It is conceivable that a continuance of the largest doses over a longer period might produce some

1. Med. Rec., New York, Feb. 26, 1910, p. 359.

2. Brit. Med. Jour., July 20, 1907. Also Wells, H. G.: The Resistance of the Human Body to Cancer, THE JOURNAL A. M. A., May 29, 1909, p. 1731.

constitutional reaction. As no beneficial results were seen in the cancer patient or his tumor after one month, this series was discontinued, as it seemed reasonable to suppose that the time was sufficient for the appearance of some favorable or unfavorable symptoms.

For the main part of this work the following cancerous fluids have been used (they are designated in this paper by the patient's last initial):

1. "T" fluid, obtained from Mrs. G. M. T., aged 79, whose mother died of cancer; five brothers died of tuberculosis. Patient had had many febrile diseases. Four months ago she had gastric distress, pains later, vomiting with gradual increase in size of abdomen; much loss of weight. On examination, patient showed cachexia; glands above clavicle, in axillæ and groins; abdomen slightly distended, mass 3 by 4.5 cm. in epigastrium, tender, shifting dulness in flank. Patient was tapped; 3.580 c.c. alkaline fluid obtained, sp. gr. 1,011; albumin 1.6 per cent; culture, negative; slight tinge of bile. Small lymphocytes 78 per cent.; large lymphocytes 16 per cent.; polynuclears 5 per cent. Wassermann reaction, negative. Clinical diagnosis, cancer of liver.

This fluid was the most effective in producing sloughing of tumor masses. Whether this was due to the small content of bile we are unable to state. (The later use of a non-cancerous fluid with large bile content produced practically no sloughing.)

2. "K" fluid, obtained from M. K., aged 53, who had two brothers; one sister died of tuberculosis. For three months, patient had had pain in abdomen, vomiting, loss of weight (25 pounds) and increase in size of abdomen. On examination, liver edge was not felt; abdomen was tense; fluid wave present; edema of legs up to knees. After tapping, nodular masses size of hen's egg and larger were felt all over the abdomen; large mass in left pelvis. By tapping 4,000 c.c. clear dark-yellow fluid were obtained; culture, negative; Wassermann, negative. Clinical diagnosis, general abdominal cancer, active.

This fluid has been practically inert.

3. "L" fluid, obtained from Mrs. K. L., aged 28, who was operated on five years ago for malignant disease of right ovary. May, 1910, patient was in fair flesh and general good condition, but had to be tapped every four weeks. There was a hard, lobulated, slightly tender mass size of grapefruit in right lower quadrant. Fluid was pale yellow; sp. gr. 1,010. Culture, negative. Wassermann, negative. Clinical and pathologic diagnosis, malignant papilloma of right ovary.

This fluid has been valuable in relieving symptoms and retarding the growth of several cases.

4. "P" fluid, obtained from Miss E. P., aged 31, who had an operation in June, 1901, for abscess of right ovary; 1908, repair of hernia in scar. At this time a small mass in right pelvis was felt but was undisturbed. May, 1909, the abdomen began to swell again. July, 1909, the malignant ovarian mass was partially removed; patient made a good recovery. Patient was then in excellent general physical condition; in good flesh, up and about everywhere, but had to be tapped every four to six weeks. Fluid was dark yellow, slightly viscid; sp. gr. 1,024; culture, negative; Wassermann, negative. Clinical and pathologic diagnosis, malignant papilloma of ovary.

This fluid is from the most resistant type of case and produces marked reactions. It has been especially effective in several uterine cases in checking hemorrhage, and in other cases in stopping pain and has seemed to produce more retardation than any other fluid used.

5. "H" fluid, obtained from Mrs. H. H., aged 58, who had, for several months in 1905, right-sided abdominal pain with gradual increase in size of abdomen. Operation in November, 1905, revealed a right-sided malignant ovarian mass which was partially removed. Patient made an uneventful recovery, gained weight and seemed in perfect health until about April, 1910, when she began to have symptoms of increasing constipation, but no pain, loss of weight or change in size of abdomen. Physical examination was negative. At operation, May 17, 1910, recurrent papillomatous mass was found with a little free brownish fluid. Fluid was brownish, watery, sp. gr. 1,010; slight blood content; albumin, 2 per cent; culture, negative; Wassermann, negative.

This fluid seems to have had a decided retarding effect. Not enough was obtained, however, to last more than for two months' treatment. But it was from one of the most resistant types of cases and probably had some specific effect.

TECHNIC

The peritoneal cavity was in each instance tapped under sterile precautions and the fluid drawn off into a sterile bottle and put on ice until used. No standardization was attempted and no preservative was added. The following precautions were taken before the fluids were used: 1. A culture was taken to prove them free from bacteria. 2. A negative Wassermann reaction was required from the patient from whom the fluid was drawn. 3. A series of injections was given to cancer mice to prove that the injections were in no way harmful to administer to human beings. Daily injections of 5 minims of each fluid were given subcutaneously to different series of cancer mice. These were large doses for mice. If no harm came to the mice, and none did, except in three instances, which were due either to a fault in the technic of injection, or to a contamination of the fluid with bacteria, which occurred in one case, the fluid was then used on human beings. These precautions were considered necessary before the institution of this form of treatment, for we were dealing with an entirely new experimental fluid of unknown potency and content, and every safeguard should be used before subjecting even the hopeless cancer patients to its influence.

The fluid had no apparent effect on the growth of mouse tumors.

The patients treated all had inoperable growths, either primarily so or because of recurrence or metastases. All grades of the process have been treated. No case was refused because the process was too extensive, for we wished to get our data from unselected cases; hence, the work has been largely with decidedly unfavorable cases. The patients have been treated as out-patients, reporting three times a week for injections. Fourteen of the cases have been treated as house patients, with large daily injections, for periods of one to two weeks at a time. The clinical diagnosis was unquestionably cancer in every case. In all but three this was confirmed microscopically. In all, forty-five cases have been treated.

The injections were given in four different ways:

1. Subcutaneously in the skin of the abdomen or breast, rather removed from the local disease, in large doses.

2. Subcutaneously, as near the tumor as possible, in large doses.

3. Into the substance or base of the tumor in small doses.

4. Remote from the tumor in small doses.

The dose varied from 5 minims, for the small dose, to 50 c.c. for the large dose; the usual dose, which was given regularly in most cases, without producing either local or constitutional reaction was 15 c.c.

Patients varied noticeably in susceptibility, some getting constitutional reaction with 10 c.c., while others got no reaction with 50 c.c. This variation seemed to be due more often, however, to the nature of the fluid than to the patient. Reaction at the point of inoculation varied from none at all to a temporary redness, soreness and even induration, lasting from twelve to twenty-four hours. In obese patients the reaction was usually marked. No abscesses ever developed. Local hyperemia and some swelling practically always occurred in the tumor itself immediately following the injection, and

lasted a few hours, whether the injection was at a distance from, or near to, or into the tumor. It seems to me that this one fact speaks more clearly than anything else for the specificity of these fluids. The fact that a definite local reaction in the tumor itself can be produced within a few hours after injection by a substance injected at a distance from the local disease, indicates strongly the existence of some specific substance in these fluids, which acts on the tumors themselves. The exact way in which this action is brought about and the nature of the substance causing the effect, we have not been able to determine. It is hoped that further biochemical investigation may be able to throw some light on this important point. Constitutional symptoms varied from slight headache to general malaise, chills and fever, nausea and, rarely, vomiting. The temperature seldom went above 102 F. in any case, although large doses occasionally produced a higher rise. A temporary leukocytosis developed in the cases with the most marked reactions. Urinary analyses showed in no case any evidence of an acute nephritic condition being started up. Acute nephritic conditions have been reported by Beebe in New York, and a routine urinary examination should be made as a precaution in all cases under this form of treatment. The patients were started on 3 to 5 c.c. and increased at each injection up to 50 c.c., if well borne, except in those cases in which it was the intention to keep the dose small.

The following histories give the course of each case in detail.[3] Some patients reported very irregularly, while others were allowed to rest from treatment from time to time in order to observe the effect, after a certain number of doses.

CASE 1.—Mr. C. S., aged 61, had a growth which appeared one year previous to examination, as a small dull-red lump the size of a marble over mid-sternum, which was cauterized repeatedly, but grew steadily larger, and ulcerated, with much pain. At examination, patient was a large-framed, nervous old man, with ruddy color. Over mid-sternum was an orange-sized, fungoid, ulcerated, protruding mass with depressed center and cauliflower edges. *X*-ray showed extensive involvement of sternum. Pathologic diagnosis was cancer. February 21 to March 29, 1910, Coley serum was given up to 3 minims at a dose, with no improvement or change; much pain. April 1, 1910, patient was started on "L" fluid (cancer of ovary of five years' duration) and received 25 c.c. every other day till April 11, then 50 c.c. daily up to June 1, 1910. The first five doses caused softening of the edges and increase in discharge and later a marked filling up of the ulcer in the center took place so that bone could no longer be felt at the bottom as before, and no increase in size of the tumor was noted. The patient had to take large doses of opium, however, to control the pain, which was present all the time. A large gland developed in the right axilla after about two months, and the patient very slowly became more feeble; but the original tumor seemed to have been checked in its growth and to have remained at a standstill for the three months the patient was under treatment. June 1, 1910, the patient contracted a severe "cold" and has not reported since.

In this case retardation seemed to have been effected for nearly three months by large doses of fluid from a fairly resistant type of case.

CASE 3.—Mr. W. T., aged 52, had cancer of upper and lower jaw; submaxillary gland on the left was the size of a marble. Two similar masses along ramus of jaw on left and smaller nodule above one molar tooth on upper jaw. Clinical diagnosis was cancer. March 17 to 25, three doses of 2 c.c. hydrocele fluid were given, with slight increase in size of nodules. March 29 to April 23, ten doses of 25 c.c. of "L" fluid (cancer of ovary, five years' duration) were given; injections were always followed by local hyperemia in tumor, sometimes slight bleeding of gums and marked constitutional reaction with chill, headache and increase in pain. "T" fluid (cancer of liver with bile) was tried but produced such marked constitutional reaction and swelling of neck that it was stopped, and from April 25 to May 23, thirteen injections of "P" fluid (cancer of ovary, nine years' duration), were given with rapid increase in size of tumor of jaw, which on May 9 pointed and broke, discharging small bits of cancer tissue. May 23 treatment was discontinued at patient's request, as he was having much pain.

In this case neither hydrocele nor the two fluids from the most resistant cases accomplished anything at all, but rather seemed to hasten the rapidity of growth. The patient gradually grew weaker and died Sept. 1, 1910, with no change for the better.

CASE 5.—M. D., a man aged 58, had an epithelioma of the leg excised in 1908. There was recurrence in the parotid within eight months. Pathologic diagnosis, cancer; rapid growth occurred after several partial removals; ulcerated. The patient was treated for four months with large doses of *x*-ray. Face swollen, lips protruding, drooling; large, red, deep ulcerated area replaced whole parotid region and right upper neck and cheek. Abundant discharge. April 9, 1900, 15 c.c. "L" fluid (cancer ovary, five years' duration), followed by marked local reaction in tumor evidenced by acute swelling, increase in discharge and excessive pain. April 21, patient entered ward and kept under the influence of morphin while nine injections of 50 c.c. each of "L" fluid were given, resulting in a marked increase in the discharge of serum and tissue from the ulcer, but no improvement in the condition. In this patient pain was so excessive that treatment could not be continued. It is suspected that the previous use of such large doses of *x*-ray was an influencing factor. The patient declined rapidly and died six days after the last treatment. This was an extensive, rapidly-growing case and the patient received absolutely no benefit from the serum except the increased discharge.

CASE 6.—Mrs. N. G., aged 56, two years ago had a lump in the right axilla opened and removed; the wound never healed. Examination showed an indurated, puckered scar in right axilla, with red edges and sinus. Piece removed proved to be cancer. The breast showed no lumps or indurated areas. There were two hard glands the size of English walnuts above right clavicle at edge of sternomastoid. From April 12 to May 11, thirteen injections of "K" fluid (carcinomatosis of abdomen) were given, with cessation of slight discharge from sinus, and occasional very painful heavy condition of the breast following the injections. March 14, 1 c.c. "T" (cancer of liver with bile) fluid was injected directly into most indurated part of tumor, with resulting renewal of discharge from sinus and slight increase in size of tumor mass. This was a slow-growing condition and practically no change was noticed except those relating to the discharge. The glands in the neck, however, seemed to have grown considerably smaller. Patient was still under treatment at time of this report. There was practically no change from April to August 1, when patient stopped coming for a month. She was seen Sept. 20, 1910, when the mass in the axilla had increased 1 cm. in size; the corresponding arm was much swollen and the patient had lost considerable weight. In this case retardation lasted nearly four months. Jan. 1, 1911, patient was much emaciated and had involvement of lungs.

CASE 9.—Mr. C. H. A., aged 70, had an infiltrated, ulcerated epithelioma of right jaw removed October, 1909. November, 1909, dissection of neck was done, with removal of internal jugular vein for rapid recurrence. Examination April 16, 1910, showed portion of lower right jaw missing. There was a small pea-sized ulceration at mid-scar, slightly nodular along scar; a more prominent nodule just under the ear. Pathologic diagnosis was cancer. General condition was excellent. April 16 to May 28, sixteen doses of 5 minims each "T" fluid were injected directly into various nodules in scar, with marked alleviation of pain and slight softening of nodules, and until May 28 the patient showed marked improvement; the recurrence, which had been very rapid before, seemed to

3. On account of the length and number of the case reports not all of them have been included in the paper as printed in THE JOURNAL, but all will be found in the author's reprints. Those selected here illustrate the various phases of the subject.

be completely held in abeyance, but on May 28 it was found that since May 23 a hard mass had developed under the molar in the right upper jaw. This case was evidently retarded for over a month by the use of "T" fluid (cancer of liver with bile), but suddenly, as in Case 8, flared up after a considerable period of quiescence. Patient stopped treatment June 3, and died July 7, 1910.

CASE 11.—M. F. W., aged 34, had a growth which appeared November, 1909, as a lump the size of a small marble under skin on right side of neck. January, 1910, the lump became ulcerated. No treatment was given. Examination showed orange-sized, hard, slightly red, tender mass under right parotid, with three ulcerated areas exuding pus. Ulcers were not continuous. Breath was foul. Patient was unable to open mouth, which was sore inside. Pathologic diagnosis was cancer. From April 21 to May 31, eighteen injections were given, averaging 25 c.c. each, of "T" fluid (cancer of liver with bile). The first injection of 3 c.c. caused extensive sloughing and moderate hemorrhage. The next three injections were followed by increase in pain also. After six injections the growth was breaking down fast and after ten, large pieces of tumor tissue dropped away. This extensive sloughing plus a mild injection throughout the mass caused much pain, sore throat and a very disgusting condition. Daily dressings were done by a district nurse, but even they did not control the profuse, bloody, very foul discharge. Patient was getting very feeble. The tumor had increased about double in size up to one week prior to report, since when it remained stationary. In this case the fluid undoubtedly caused a more marked and rapid breaking down of the tumor-cells. A fluid with small content of bile was used. The patient discontinued treatment June 7 and died June 14, 1910, without any relief.

This is the case in which the most marked sloughing was produced.

CASE 13.—Miss E. P., aged 31, was the patient from whom fluid "P" was taken. Operation was performed in 1901; drainage of abscess (?) of ovary, probably malignant. In 1908 a second operation was done: repair of hernia in scar. Small mass in the right lower quadrant of abdomen was not removed. A third operation was performed in 1909: partial removal of malignant right ovarian mass. Pathologic diagnosis was papillary adenoma. April 22, 1910, patient was in excellent general condition; had had no loss of weight; in fact, had had some gain lately. Color was good. Patient was about everywhere; she suffered no inconvenience except that she had to be tapped every four to six weeks. There were bilateral, grapefruit-sized masses in each lower quadrant. April 25 to May 9, ten injections of 50 c.c. each of her own fluid were given subcutaneously, with no reaction of any kind. These were daily injections. After leaving the hospital patient had biweekly injections of her own fluid, and remained in excellent condition; tappings were more frequent and the mass in the pelvis seemed more pedunculated and smaller. Further operation for removal was advised. Patient was operated on in October, 1910, and mass practically completely removed. Patient had had no return of tumor or fluid by Jan. 1, 1911, and seemed in perfect health.

This was an interesting case, in which the patient was apparently benefited by reinjections of her own fluid. This case seems to illustrate the benefit of giving of autogenous serum.

CASE 14.—Mr. F. C., aged 60, for two months had had a swelling of the gum of the right lower jaw. Teeth were removed without relief. Examination showed swollen, indurated, nodular, slightly ulcerated gum of right lower jaw from angle to median line, pushing the lip forward, with marble-sized glands under jaw. Patient's general condition was good. May 13, 1910, 15 c.c. "P" fluid (cancer of ovary, nine years' duration) were given, followed by no symptoms. May 18, a loose piece of the cancer tumor was excised and transplanted under skin of left breast. Pathologic diagnosis was epithelioma. May 31, no "take" had been effected and patient was again started on the fluid. Tumor was increasing rapidly.

This transplantation experiment was tried in the hope that if the transplant could be made to grow it might retard, as Gay has found in mice, the original tumor. Patient reported irregularly up to August 1, but was gradually losing strength and the growth increasing in size.

CASE 15.—Mrs. I. M. Q., aged 34, had a growth which appeared in the left breast, just outside the nipple, three and one-half years previous to admission, as a lump the size of an egg. Nine months later patient had her last child, but there was no milk in left breast. The tumor broke through skin one year previous to admission but never discharged. No treatment was given. Examination showed a tumor the size of a fist, hard and nodular, with dry ulcerated area the size of a quarter in the left lower quadrant of the left breast. There were many large glands in axilla and above both clavicles; a small septic area at the top of the mass about to break, which did break after first injection. Patient had doses of 20 c.c. "L" fluid (cancer of ovary, five years' duration) with marked reaction at site of injection in the form of a hard, tender lump and heavy breast, with much pain after many of the injections. Patient's general physical condition was excellent at the start. May 10, 1910, the breast had become much softer under treatment and the ulcerated areas discharged more profusely. Since August 1 patient had had but one injection and the breast meanwhile became much harder again and the ulcerated areas dried up. The fluid evidently had a specific action in this case, as shown by the marked softening while under treatment. It was a slow-growing case and little change was noticed other than the softening during the four months of treatment. Jan. 1, 1911, patient was still alive but had metastasis in right tonsil and was beginning to fail and to show evidences of metastasis in the brain. Patient died Jan. 13, 1911, with typical symptoms of brain tumor.

CASE 17.—Mrs. M. N., aged 42, six years prior to admission had a lump appear in the left breast, which was "drawn" by a quack. Three years later it returned. Quack treatment was continued. Six months prior to admission another lump appeared in the right breast. Examination showed almost complete solidification of both axillæ, and both sets of pectorals with cancer nodules; both breasts were ulcerated and dry; the left the size of one's palm, the right the size of a half dollar. Patient was in excellent general health; color very good. May 14, 1910, to May 31, patient received five injections "P" fluid (cancer of ovary, nine years' duration) with decided relief from pain; slight constitutional reaction with first two doses. There was no increase in discharge. The fluid acted as a tonic. The ulcers cleaned up materially. The patient's health was still good after four months' treatment. This was a slow-growing process, but seemed to have been benefited. Patient reported Jan. 1, 1911, that she was well except for "rheumatism," and that there then had been no change in her breast at all.

CASE 19.—Mrs. L. J., aged 48, a widow many years, had had two children and two miscarriages; there had been much laceration. Three months prior to admission leukorrhea appeared, which became foul, and one month later pain in back and vagina developed. Examination showed foul discharge; vaginal vault extensively indurated; cervix nodular, hard, fissured. Patient's general condition and color were excellent. May 5, 1910, cautery and curettage of cancer of cervix was done. Pathologic diagnosis was cancer. Treatment was started May 23, 1910. Patient was very obese and had several severe local reactions at site of injection, but immediately after treatment was instituted the flowing and pain ceased and the discharge at first became increased and later decreased. Sept. 27, 1910, patient was still in excellent condition, had no pain, but considerable discharge from a process which was slowly enlarging and extending to rectum. In October, 1910, patient had suppression of urine from blocking of both ureters. She entered hospital, had ureters catheterized, but was discharged against advice, to be taken home by sister to die at home. She has been lost track of.

The most noticeable effect of treatment in this case was the cessation of pain and hemorrhage.

CASE 27.—Mrs. E. W., aged 49, widow, had a "lump" in the front of her neck for ten years. Operation was performed in 1908 for carcinoma of thyroid. Pathologic report was cancer. There was almost immediate recurrence. On examination was found to be short and stout; general condition good; no cachexia. There was a hard, purplish, indurated, nodular mass involving whole thyroid region, slightly more prominent on left, reaching to below sternal notch and up to right parotid

and right tonsil, with many small glands surrounding; a very extensive process. There was a slight numbness of right arm; no pain. July 5 to Sept. 30, 1910, patient received "P" fluid. After the third injection the tumor mass became much softer, and after two more injections the purplish color disappeared and the skin took on an almost healthy color. It was impossible to give this patient over 10 c.c. doses, as she got violent constitutional reactions from larger ones. She left off treatment for one month and during that time the old tense purplish color came back and the stony hardness of the mass. Considering the rapidity of growth before treatment it seems certain that the fluid had caused some retardation in this case.

CASE 31.—Mrs. C. B., aged 56, widow, had always been well until January, 1910, when she had pain when she sat down. The coccyx was removed and hypernephroma, extending to sacro-iliac joint on left, found and confirmed by pathologic examination. Five weeks prior to admission a lump appeared in the buttock. There was no pain, but discomfort on sitting. Examination showed a large-framed, obese, red-nosed woman, with poor superficial circulation, acne rosacea of face, and red scar 1½ inches long at base of sacrum; no nodules in scar. There was a hard, firm, slightly lobulated mass in right buttock, apparently springing from deep structures; no tenderness; rather tense. Pelvic examination was negative. A mass 4 by 6 inches was indefinitely determined. July 5, 1910, to Sept. 30, 1910, 15 c.c. average doses of "P" fluid were given with very slow growth of tumor to 8 by 8 inches, but considerable softening in tumor. This patient had marked local reactions after injections and numerous constitutional reactions, so that fluid could not be pushed to a high dosage. The only noticeable effect was the very slight softening in the mass following injections. The process later was growing more rapidly. From Oct. 1, 1910, to Jan. 1, 1911, the tumor grew only very slowly. At the time of this report it measured 9 by 9 inches, but was slightly harder. The patient was able to take 50 c.c. at a dose of the fluid and had no pain. The patient's condition was excellent.

This case proved to be very interesting, and a condition which gave no promise for relief has been greatly retarded.

CASE 36.—Mr. J. N. W., aged 56, had a growth which appeared twenty years ago as a small, hard pimple back of left ear and broke out and healed up off and on for five years; fifteen years ago patient had it "drawn" by a "quack." Operation was performed August, 1909. The epithelioma was excised and a plastic operation done on the ear. The growth recurred in September, 1909. The patient had *x*-ray irregularly afterward; had Coley serum for five months with gradual slow increase in ulceration under unsettled diagnosis. Pathologic report finally settled the lesion as epithelioma. Examination showed a spare, "wiry" man in excellent health and good color; lobule of left ear absent; crescentic ulceration around base of ear and partially healed ulceration nearly surrounding whole ear; slight ptosis of left lower eyelid. July 16 to September 30, patient received doses of 10 c.c. each of "P" fluid, with increased discharge from ulcerated surfaces at first, followed by slow cleaning up of ulceration, which then looked much cleaner and more healthy than before. General health was still excellent. In October all of the ulcers above the ear were hard and covered with skin. In November ulceration started in below the lobe of the ear and has been growing slowly ever since, and the last four or five injections had seemed to hurry up the destructive process so that on Dec. 31, 1910, the patient was advised to omit treatment for a month. Facial paralysis became complete on left side. Jan. 20, 1911, process had not spread further and there were islands of scar tissue present in several places. February 1, more scar tissue. Considerable reparative process going on.

CASE 37.—Mr. A. S., aged 58, had syphilis in 1879; was treated off and on for ten years with no resulting symptoms. One year prior to admission a small crust formed on the left side of the neck back of and below the ear; there was no ulceration until six months prior to admission, since which time it ulcerated and gradually spread and grew deeper. There was some pain. On examination the patient appeared well developed and nourished; a slightly pale man, and husky voice. There were old brownish scars over the legs and back. On the left side of the neck, back of and below ear, was an ulcer ½ to 1 inch deep, with ragged edges, but fairly clean, 2½ by 3½ inches across; edges not much undermined. The sternomastoid muscle and several small vessels and nerves were exposed in the bottom of the wound. There were small whitish epitheliomatous-looking patches in bottom of ulcer. Pathologic report was epithelioma, without doubt. July 16 to September 30, the patient received *x*-ray and "P" fluid in small doses twice a week with no change for the better, but with gradual deepening of the ulcer under the ear. The ulcer was clean, no hemorrhage. Complete facial paralysis on left side slowly developed and patient began to look a little paler, and was getting weaker. This patient had normal blood-serum for one month before the "P" fluid was started. No effects were noticed constitutionally or locally from biweekly injections of 1 c.c. blood-serum and certainly the "P" fluid, in small doses, has had no effect. During November and December, 1910, large doses, up to 50 c.c. were tried, but the process went swiftly on, causing an almost complete anatomic dissection of the neck down to the vertebral column. The patient's condition, however, did not suffer much and it seems as if the large doses of fluid had stimulated and nourished him considerably.

CASE 39.—Mrs. A. C. C., aged 41, had had no children or miscarriages. For five months prior to admission there was a gradually increasing vaginal discharge, not especially foul. The catamenia were not much affected. Three weeks prior to admission patient began to be very constipated and abdomen became bloated with gas. She vomited repeatedly, and had very little relief from enemas. She noticed that the uterus was lower down than normally. The patient was a small, dark-skinned, very thin, sallow woman, with pulse poor, abdomen distended, visible peristalsis, no masses. On vaginal examination the cervix was found low, hard, and with an ulcer with ragged, raised edges; the uterus was increased in size and almost completely obstructed the rectum. The patient was relieved from this attack of obstruction by one week in hospital; she went out in very poor condition. July 29, 1910, to September 30, biweekly doses of "P" fluid were given with several severe reactions, but rapid improvement in general condition, lessening in discharge and pains and gain in weight. This patient was started on four doses of 5 c.c. each of spermatocele fluid, which produced a marked stimulating effect. The cancer was slowly growing and ulcerating more rapidly, but the general condition had improved from almost *in extremis* to be very good indeed. From September to October 30, the condition remained about the same but the tumor continued to grow until the mass almost completely filled the pelvis, shutting off the rectum and nearly shutting off the bladder. Patient's strength continued good and she had little pain. The serum has been of very doubtful benefit in this case, although it seems as if the stimulating effect of large doses may have kept up her general physical condition.

CASE 40.—Mr. C. H. M., aged 59, several members of whose family died of tuberculosis, had fever and ague at 18. For thirty years patient had a tumor and a sore on the right side of neck posteriorly, which ulcerated fifteen years ago, was excised once, and "drawn" six or seven times. His voice was hoarse since October, 1909. Examination showed a tall, spare, husky-voiced man, with good color; head slightly bent to left; sternomastoid on right tense. Over an area the size of a silver dollar was a hard indurated-edged ulcer with fairly clean base and granulations. Several surrounding nodules and the tissues around for 1 or 2 inches were hard and contracted, most of which seemed to be scar tissue, but some of which was typically cancerous. Examination of the larynx showed right vocal cord in cadaveric position, and paralysis of right recurrent laryngeal nerve, from presence of the disease, probably. July 27, 1910, to August 3, as house patient, he received large daily doses of "P" fluid, with severe constitutional reaction after the last two doses, but practically no change in the local condition, except, perhaps, a little softening of the edges, but with continued relief from the pain in the brachial plexus which had been complained of. August 3 to September 30, 25 c.c. of fluid were given once a week with little change, except that the ulcer seemed cleaner. This had been a very slow-growing process, and aside from the permanent relief

from pain showed no change after two months' treatment. On Jan. 1, 1911, patient was admitted to the hospital and the ulcer curetted and skin grafted, with relief of pain.

CASE 43.—Mr. R. W., aged 66, had always been well until two or three years prior to admission, when a lump appeared on the side of the neck and grew slowly. It was excised several times; excision with a plastic operation was done June 1, 1910. Since then patient had a recurrence of what examination showed to be epithelioma, and much pain, which required a grain of morphin a day to control. June 23 to July 30, 5 c.c. doses of "P" fluid were given every day, with complete relief from pain, but with increase in discharge and spreading of process. Letter from wife September 30 stated that patient had not had the serum for nearly six weeks; he had gradually failed in strength of body and mind and was expected to live only a few weeks. The process had spread all over the jaw, several sinuses led into the mouth and the patient was in a pitiful condition. The only benefit in this case, therefore, was complete relief from pain while under the serum treatment.

CASE 44.—Miss F. H. S., aged 50, had an operation June, 1909, for carcinoma of left breast, three months after appearance of a lump near the nipple. There was recurrence in the scar after nine months. Examination showed a strong, large-framed woman in excellent health. There was a ¾-inch linear, red recurrence in mid-scar; no pain; marble-sized nodule, with several pea-sized nodules in skin of chest wall under axilla. The arm had been swollen nearly twice its normal size since the operation. Aug. 18, 1910, to Sept. 30, 1910, the patient received 5 c.c. doses of "P" fluid twice a week, with no increase in size of nodules during this time and a noticeable decrease in the purplish-red color of skin over nodules. The swelling of the arm was controlled by massage. This case was taken early and ought to have been a favorable one for retardation. Up to Nov. 15, 1910, the disease seemed to be held completely at a standstill, but afterward there was more pain and a very slight increase in the size of the nodules. The general health, however, remained excellent.

CASE 45.—Mr. H. T., aged 65, Dec. 29, 1909, had an eyebrow excised with a plastic operation for epithelioma. There was recurrence in right side of neck in May, 1910. At time of admission patient had small, hard glands under right jaw and a mass the size of a pigeon's egg under the symphysis of the jaw. The breath was foul. There was no involvement of mouth. September 20 and 27, "L" fluid was administered, with some softening in mass. Fluids were continued to Oct. 25, 1910, when patient evidently had an infection of the diseased area, with swelling, pain and redness. This subsided under poultices, and patient was admitted to hospital in November and the greater part of the mass removed. He made a good recovery. Patient remained in this condition for one month, with no increase in size of remaining nodule. Jan. 15, 1911, there was a second flare-up of the process and rapid increase in size of mass, with breaking down in several places.

This was another jaw case in which the process seemed to have been checked for a time, but which later developed with lightning-like rapidity. This series makes one doubt the beneficial influence of the ascitic fluids in jaw cases. They even seem to be harmful in some cases.

Definite results witnessed in this series of cases are as follows:

In five cases there was a decrease in, or absolute abolition of, the pain previously complained of. These were cases in which maximum doses were given (Cases 19, 22, 33, 40, 43).

In three cases there was a decided increase in the discharge from an ulcerated surface and a breaking down of cancerous tissue, considerable portions of which sloughed away entirely—enough to cause moderate hemorrhage. In no case was a fatal or even dangerous hemorrhage produced. Moderate increase in the discharge from an ulcerated or broken-down surface has been noticed in practically every patient treated. This in some cases was only temporary, but was followed later by noticeable cleaning up in the ulcer and more healthy granulations.

Cessation of bleeding in several cases of uterine cancer was seen, especially in Cases 16 and 19.

Increase in pain was experienced in Cases 12 and 5, the latter patient, who had been having very large doses of *x*-ray previous to injection, had excessive pain even with very small doses of the fluid. In Case 37, however, the patient also had large doses of *x*-ray with his treatment, but had no increase in pain.

There was apparent retardation of the growth in eight cases for periods of two to five months, and in three others for a period of over one month. These tumors were growing very rapidly when started on the serum, and, when compared with other cases in this series, as well as in the control series, it seems justifiable to state that they have actually been retarded. These are Cases 14, 8, 9, 12, 4, 6, 13, 22, 26, 27, 31.

Physical as well as psychic effects of this treatment are often marked. Twelve patients have remained in excellent general physical condition, gaining strength and weight in spite of a slowly growing process, and this has been seemingly due to the stimulating effect of the fluid. This fact may be of some importance in relation to Leary's treatment of marasmic infants with ascitic fluid.[4]

On the other hand, in no case was there actual shrinking in the size of the tumor, and from the rapid increase in the size in two cases (3 and 12), there seems to have been a decided increase in the rate of growth of the tumor; due apparently to the use of the fluid.

There was no constant effect on so-called metastatic rheumatic pains.

In no instance was any marked harm done. One dose of a fluid, which "went septic," previous to being administered to several patients, caused marked constitutional symptoms which, however, passed off in twenty-four to forty-eight hours and left no ill effects so far as could be observed, the reaction being similar to that experienced with Coley serum.

The number of fluids available from resistant cases has not been large so that it cannot be positively stated that they always have a more specific action on the cancer than the fluids from less resistant cases, but it has been noted that local and constitutional reaction has occurred more often from the use of the fluids from resistant cases, and from this we are led to believe that their action is more specific, and hence beneficial.

CONCLUSIONS

A trial of seven months' duration has now been made with a series of forty-five cases, comprising variety enough both in the fluids used and in the type of cancer treated to warrant the following statements in conclusion, based on a careful analysis of the results in this series.

1. The various transudates and exudates of the body, cancerous and non-cancerous, have no effect in retarding the growth of cancer in mice.

2. The use of cancerous ascitic fluid from patients in the active or even moderately resistant stages of the disease has no permanent effect in preventing or checking the growths of cancer, or permanently benefiting the cancer patient.

3. The other non-cancerous body fluids are even more inert.

4. Boston Med. and Surg. Jour., Aug. 18, 1910, p. 283.

4. Temporary beneficial effects may be noticed for periods of one to five months, but the course of the disease is in no way permanently retarded.

5. Temporary relief from pain, especially in uterine cases, and in other cases in which large doses can be given, and retardation of the growth for periods varying from one to five months, may be expected in a small per cent. of the cases.

6. Noticeable benefit in the general physical condition has resulted in one patient with cancer of the ovary by the injection of her own fluid.

APPENDIX

Since the completion of this report on the first forty-five cases, Oct. 1, 1910, twenty additional patients have been treated, with practically the same results as in the reported cases, which have confirmed our stated conclusions.

The information obtained from these twenty additional cases, and the more complete following up of the forty-five original cases, emphasized the following points:

1. Great symptomatic relief can be obtained in a good percentage of the patients treated, evidenced by relief from pain and improvement in nutrition and general physical condition.

2. Retardation is noticeable and prolonged from one to six months in many cases.

3. Ascitic fluids are liable to hasten the process in practically all mouth and jaw cases.

4. This work, together with the use of the *x*-ray in other cases, and curetting and skin-grafting sluggish epitheliomatous ulcers, has impressed me with the fact that much can be done for the relief of the seemingly hopeless inoperable cancer patient. While cures and benefit cannot be expected in every case, in spite of the fact that no cures have been accomplished, the work has emphasized the fact that much symptomatic relief can be given to suitable individual cases.

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CHEMICAL DERMATITIS FROM INCOMPATIBLE EXTERNAL APPLICATIONS

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It is a well-known fact that dermatitis is frequently caused by internal medication. With somewhat less frequency do we see a case of dermatitis caused by a combination of internal medication with a wrongly chosen external application—as for example, iodids internally and calomel dusting powders externally. Still more rarely do we see a case of dermatitis caused by chemically incompatible drugs used externally; and it is for this reason that I consider the following case of sufficient interest to be reported:

History.—A patient, male, came to me suffering from a typical case of impetigo contagiosa. There were eight or ten lesions irregularly distributed over an area about 8 cm. in diameter in the left anterior cervical region. Ammoniated mercury ointment was ordered.

Dermatitis.—The patient returned the following day to say that shortly after the first application of the ointment the area began to burn and sting severely. For several hours he underwent a great deal of discomfort. On examination it was found that a very large area, probably from 15 to 20 cm. in diameter, was highly inflamed. It was of a diffuse bright red color, with several small blisters and larger blebs which contained a thin seropurulent exudate. Some of the larger blebs were from 1 to 2 cm. in diameter. Careful inquiry proved that no mistake had been made in the ointment used. Inquiry was then made as to whether the patient was taking iodids. This inquiry was answered negatively, but brought out the fact that the so-called colorless tincture of iodin had been used externally.

This tincture of iodin had been prepared by adding to ordinary tincture of iodin enough sodium thiosulphate to displace the color. It should be remembered that such a pharmaceutical preparation would result in a mixture of sodium iodid and sodium tetrathionate, and that since it would no longer contain free iodin it should not be called "tincture of iodin" ($2Na_2S_2O_3.5H_2O+I_2=2NaI+Na_2S_4O_6$ IOH_2O).

I attributed the condition to biniodid dermatitis. As a means of corroboration some of the "tincture of iodin" and the ointment were rubbed up together and the white ointment was at once converted into a pink or brick-red. Extraction of the oil by ether left a brick-red granular precipitate.

The reaction in and on the skin between the sodium iodid (NaI) of the mixture and the ammoniated mercury ($HgNH_2C1$) of the ointment had evidently resulted in the production of biniodid of mercury (HgI_2), which, through its irritating influence, had produced a dermatitis.

A PECULIAR CAUSE OF INTESTINAL OBSTRUCTION

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Patient.—E. Z., a white man, aged 29, family history negative, was seen first by family physician September 8, suffering with pain in the abdomen, was given purgatives without any relief. Next day purgatives and enemas were given without any relief. In the afternoon, when I saw the patient, he had pain of an intense griping character and vomiting; he retained nothing by stomach; had no fever. The diagnosis was intestinal obstruction.

Operation.—When the abdomen was opened in the median line, free fluid was found in the abdominal cavity. In the ileum, about two feet from the ileocecal valve, two hard lumps, 2 inches apart, were found obstructing the lumen of the intestine. The intestines were incised, the foreign bodies removed, the intestine sutured, and the abdominal wound closed.

The patient made an uneventful recovery.

The foreign bodies consisted of unmasticated dried apples. The patient had been eating, the morning of his illness, apples dried in portions of halves and quarters, swallowing them without much mastication. The portions after entering the intestines continued to swell, as dried apples do, and obstructed the lumen of the intestine.

Therapeutics

GENERAL PROPHYLAXIS OF TYPHOID FEVER

In many particulars, no disease surpasses typhoid fever in its importance. It attacks, as a rule, healthy adults, causing a sickness that may last for weeks and even months, and may frequently end in death. It is one of the most preventable of all infectious diseases; it is, therefore, almost inexcusable that it is so widely prevalent.

It is now generally recognized that the essential agent in the causation of typhoid fever is the *Bacillus typhosus.* Since its discovery in the early '80s, and subsequent careful investigation by a number of students, our knowledge of the method of its transmission has been greatly increased. The bacillus has been found in the blood, in the feces, in the urine, and in the bile. It cannot always be discovered in the early days of the disease, but in the second or third week it can generally be detected. It may

persist for years, even as many as twenty-five or fifty, after the patient has become convalescent. It may also exist in the body, and particularly in the feces and urine of individuals who have never themselves, so far as can be determined, suffered from an attack of the disease, but who have taken the infection into their bodies in some perhaps unexplained way. These individuals in whom the bacillus exists are known as "typhoid carriers," and those in whom the bacillus exists, but who have never suffered from an attack of the disease, are known as "contact carriers."

The problem in the prevention of typhoid fever is the destruction of the bacilli which are excreted by the patients suffering from the disease, or by the typhoid carriers. It might seem that this would be a simple task, and it has been claimed that typhoid fever might be stamped out in any country within a year, but such a very desirable and Utopian result seems very unlikely of accomplishment in our generation.

To consider first the measures which should be adopted in the case of the patient who is ill with typhoid fever: It is the duty of the physician to lay down such rules for the guidance of the patient and his treatment as will effectually prevent the dissemination of any of the morbific bacilli. The physician's first and most important duty is to make an early diagnosis of the disease. It has been too much the practice in past years for the physician to neglect this important part of his work. Patients have been treated for malaria, for simple continued fever, for bilious fever, and many other real or imaginary conditions who actually were suffering from typhoid fever. There is no excuse to-day, and there has not been much excuse within the last twenty or thirty years, for any physician to overlook the possibility of his patient having typhoid fever on the first day of his attendance. This does not mean that he must actually make a positive diagnosis of the disease at his first visit, but it does mean that he must be on the alert to consider the possibility that his patient may have typhoid fever; and if he does this he will save himself and the community a great deal of trouble.

While possibly the infection may be communicated by a person in the first few days of the disease, this is not nearly so probable as during the second and third weeks, when the danger is the greatest.

The bacilli are found most frequently and most abundantly in the feces. It has long been recognized that in them the chief danger of the transmission of the disease lies, and it has long been recognized that their effective disinfection is most important and most necessary. This the physician should insist on. There are various methods of doing this. The feces immediately on being passed should be covered with a 5 per cent. solution of phenol, and the hard masses should be broken up so that the disinfectant will thoroughly penetrate the fecal matter and come in contact with all microorganisms which may exist therein. Other disinfectants may be used, such as the chlorid of lime, corrosive sublimate, cresol, and the sulphate of iron. The utmost cleanliness should be used by the attendants in connection with the movements of the bowels. The skin surrounding the anus should be carefully washed with a disinfectant solution, and the cloths used for this purpose should be put in paper bags and subsequently burned. The attendant also should, after bathing the patient, always wash her hands in a disinfectant solution. In a similar manner the urine should be discharged into a vessel and mixed with a disinfectant solution.

The bacilli can sometimes be found in the sputum, and if the patient has any cough, the sputum should be collected on cloths and burned. Even if the patient has a dry cough, expectorating the so-called droplets from the mouth, pains should be taken to collect this on pieces of cloth which should be burned.

All bedding should be soaked in a disinfectant solution and boiled before being washed. The cups, glasses, dishes, knives, forks, spoons, and napkins used by the patient should also be disinfected before being washed.

During convalescence, the feces and the urine should be subjected at intervals to bacteriologic examination, to determine whether the bacilli are still present. It has been found that they may be absent at one time, and may reappear later, so that repeated examinations are necessary. The patient should be carefully isolated until repeated examinations have shown entire absence of bacilli, both from the feces and the urine. When these rules have been observed in the care of any patient suffering from typhoid, he, his friends, and the physician, will rest assured that there will be very little likelihood of his communicating the disease to anyone else directly or indirectly.

As has been stated, the disease may be carried directly from the patient suffering from the disease, or from a so-called bacillus-carrier. The bacilli may be received directly by a person who does not possess immunity to the disease by handling articles, such as clothing or utensils used in eating, which have been contaminated by fecal matter, urine, or sputum from a typhoid patient. A far more common mode of infection is indirect method, which embraces infection through water and through various food supplies, especially milk and oysters. Many epidemics have been due to the infection of a water-supply from patients suffering with typhoid. This may occur to a limited water-supply, such as that furnished from a well or spring to a single family or to a few families, or to the water-supply of a large city. It was recognized many decades ago that a well, spring, or water-supply might be infected by improper disposition of the fecal discharges of a patient suffering from typhoid. Before disinfection was generally recommended and occasionally done, it was a common practice to throw the discharges from the bowels onto the ground in any convenient place, or into a so-called privy. If this happened to be in winter, when the ice and snow melted, or in any season of the year, when the rain fell the bacilli contained in the discharges were washed away through the ground, and if a spring or well or brook happened to be in the way of this current of flowing water, it was sure to be contaminated with the bacilli, and the people who drank of the water were very likely to become infected with the disease. With the more general spread of the knowledge of the nature of the disease and the manner of its introduction into the system, this method of transmission is becoming less frequent and less important.

Another important agent, and perhaps at the present time the most important of all, is the milk supply. It has been determined that typhoid bacilli multiply in milk, and this is true of very few other media. The milk may be contaminated in various ways, either directly from patients suffering from the disease, or from a bacillus-carrier. The infection may occur from handling the milk with infected hands, or from the use of infected water in washing the cans and bottles in which the milk is carried. This is to-day perhaps the most common, and yet the most elusive method of transmission.

Shellfish in general are said to be common media for the transmission of typhoid, but the oyster is the chief agent in this communication. This happens in the following manner: The oysters are taken from deep water and placed in shallow, fresh water in order that they may absorb the fresh water and, as the expression is, become fattened. This shallow water is very likely to become infected by sewage from surrounding houses, and if there happens to be a case of typhoid fever in a house, the sewage of which drains into the bed where the oysters are fattened, the oysters are likely to absorb the bacilli and carry them to anyone who eats the oysters, unless they have been thoroughly cooked.

TYPHOID BACILLUS-CARRIERS

One of the most interesting, and perhaps the most important, problem connected with the prophylaxis of typhoid fever which has attracted study and discussion during the last dozen years is that of the typhoid bacillus-carrier. It is only within comparatively recent years that it was discovered that a not inconsiderable number of cases of typhoid fever, whose origin had been inexplicable by the ordinary known methods of contagion, were due to infection from persons whose excretions contained the typhoid bacilli, although they had not recently themselves been ill with the disease.

These bacillus-carriers were found to be divided into two classes: one class embracing those who were known to have had well-marked attacks of typhoid fever; the other, those who had not suffered an attack of typhoid, so far, at least, as it was possible to learn from a study of their pathologic history. These latter individuals are believed to become infected with the bacilli by contact with some individual suffering from typhoid fever, but through the possession of some immunity they do not suffer the ordinary febrile attack of the disease, but the bacilli remain within their bodies and undergo multiplication and subsequently are excreted.

Under another form of classification these bacillus-carriers are distinguished as: (1) precocious carriers, which includes persons who have been recently infected with the disease but have not yet shown symptoms of it, although they may later do so; (2) the convalescent, temporary or transitory carriers who have passed through the disease and are convalescent from it, but whose excretions still contain the bacilli; (3) the chronic carriers, those who after an interval of three or four months have not ceased to present the bacilli in their excretions.

It is generally recognized that typhoid bacilli occur in the blood in a large majority of patients suffering from typhoid fever. In the feces, they are found most frequently about the third week of the disease. Various observers have found them in from 33 to 100 per cent. of cases in the third and fourth week of the disease. They are less commonly found in the urine, in ordinary cases, but it is generally agreed that they are found there in from 20 to 25 per cent. of typhoid patients. Some observers believe that in all cases in which the bacilli are found in the urine, there will also be found a slight trace of albumin. They may appear in the urine early in the disease, and in the majority of cases disappear in from three to thirty days, but in exceptional cases they may persist much longer. These facts render it important, from the standpoint of the sanitarian, to observe the cases of typhoid fever during convalescence much more thoroughly than has hitherto been done. When it is considered that these bacillus-carriers may continue to excrete bacilli for from one to fifty years after the original attack of the disease or the original infection, the immense importance of preventing their existence is easily recognized.

The natural corollary of these observations is that the health authorities in every city should conduct systematic observations of the urine and feces of every typhoid fever patient until repeated examinations on different days show that both these excretions are free from typhoid bacilli. It has been suggested that when the typhoid bacillus-carriers have been entirely eliminated that very much will have been done to entirely abolish typhoid fever.

When it has been determined that a certain individual is a typhoid carrier, the next problem is how to stop his elimination of typhoid bacilli. This is a problem which is both important and difficult. Where the bacilli are eliminated with the feces, it must be taken into account that the gall-bladder is a very important focus for the development of the bacilli. This is often associated with inflammation of the gall-bladder and with the development of biliary calculi. In fact, long before the existence of bacillus carriers was even suspected, it had been noted that people who had had typhoid fever were especially likely to suffer from inflammation of the gall-bladder and from biliary calculi.

The attempt has been made to destroy the bacilli in the gall-bladder and intestines by the administration of various drugs, among which may be mentioned hexamethylenamin (urotropin), salol, beta-naphthol, oil of turpentine, sodium salicylate, chloroform, calomel, and bile and its salt. All of these drugs, however, have but a temporary effect. The most useful are hexamethylenamin, sodium salicylate, and salol. Even the *x*-ray has been tried, but seems to be of little value.

When the bacilli are found in the urine, hexamethylenamin has been tried, and while it does decrease the number of bacilli eliminated during its administration, they often reappear when the use of the drug is discontinued.

When drugs fail, the vaccines, preferably the autogenous vaccines, have been used with apparent benefit in several cases. The usual dose is from 40,000,000 to 1,000,000,000, repeated several times. This treatment with vaccines is the more efficient the earlier during convalescence it is commenced.

The carrier himself usually suffers little inconvenience from the presence of the bacillus within his body. In some cases there may be gall-bladder symptoms, due to inflammation of the gall-bladder, or to the formation and presence of calculi. Occasionally headaches are complained of. Sometimes intestinal disturbances are noted, especially in the spring, summer, or late autumn. When the carrier is aware of his condition, and of the efforts which are taken to cure him of it, if of a nervous temperament, he may develop a form of neurosis. Sometimes the carrier may succumb to a general infection by his own bacilli causing auto-infection.

Neurasthenia an Insanity.—In pure neurasthenia there is no disturbance of the general relationship of the individual to his environment, no disorder of conduct, and therefore no insanity. It is unfortunate that the term "neurasthenic insanity" should have been applied to patients suffering from this condition in whom, while there is admittedly no insanity, the mental symptoms are exceedingly prominent. It is totally erroneous to speak of insanity, however we may qualify it, in regard to persons who are not insane, and a better term for these conditions of neurasthenia in which the symptoms are largely mental would be "psychasthenia gravis."—A. F. Tredgold, in the *Practitioner*.

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[*For other information see second page following reading matter*]

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IMPURE AIR AND MEDICINE

Impure air has long been considered the direct cause of many diseases which modern medicine can no longer explain on that basis. Laymen still not infrequently ascribe such diseases as typhoid and diphtheria to "sewer-gas" contamination, and the very name of malaria bears testimony to the erroneous theory with regard to it formerly held by the medical profession. But there remains a large and important class of diseases, principally of the respiratory tract, in the production of which atmospheric impurities play no small part. So, for instance, workers in the dust-producing industries are notoriously liable to tuberculosis, to say nothing of the added danger in the case of those dusts that in themselves are poisonous.

The vast expansion of our modern industrial centers, with the aggregation of large numbers of smoke- and soot-producing furnaces, has opened a new phase of the subject, and one whose exact significance is still a matter of dispute. The ultimately injurious action of the constant inhalation of smoke and carbon particles can almost be assumed as self-evident; but that it has effects of any great seriousness cannot be regarded as proved. In a long series of articles Ascher[1] has sought to demonstrate, by both statistical and experimental evidence, the directly injurious action of the "smoke plague" in causing death from acute inflammatory diseases of the respiratory tract.

On the other hand, Gebecke[2] in a recent article, disputes Ascher's findings, both experimental and statistical. Inasmuch as his statistical data are for the most part derived from the same sources as those of Ascher, the ultimate result seems merely to demonstrate anew the proverbial fallaciousness of such evidence. But, nevertheless, Gebecke's article serves to indicate that our modern smoke evil has not the pronouncedly harmful effect on the mortality rate that one might be inclined to assume. In regard to such diseases as may be considered as directly air-borne, such as those produced by the poisonous dusts, or by inhalation of "infectious droplets," the situation is of course quite different. The recent rapid spread of the pneumonic form of plague in North China demonstrates strikingly the potentialities of direct respiratory infection; and occupational dust-poisoning, although far less wide-spread, has been considered of sufficient importance to justify legislative control in some parts of Europe at least. The means taken to combat the evil are as ingenious and as varied as are the different industries in which it occurs. Moistening of material, substitution of innocuous ingredients for the poisonous ones, and removal of dust at the point of origin, are all taken advantage of when possible. But there still remain several industries in which these procedures are inapplicable, and in the worst of these, as for example the alkali, chrome, and dry lead works, the German government prescribes the use of respirators. A comparative experimental study has been made of the different types of these by Schablowski,[3] and his results are of interest as revealing the inefficiency of many such devices. Twenty-six of a total of thirty-seven masks of different manufacture permitted the passage of 30 per cent. or more of dust, some allowing as much as 89 per cent. to pass through. Of the remaining eleven, five were variations of the same model, and two were respirators constructed experimentally by Kobrak.[4] These last consisted simply of a fine-mesh batiste, fastened in cowl fashion by means of constricting bands about the forehead and shoulders, with an aluminum frame to keep the gauze some distance from the mouth and nose. Such a mask, it was found, absolutely prevented the passage of infectious droplets forcibly expelled by sneezing from a distance of 30 to 40 centimeters. With dust it was not so effective, as 18 per cent. passed through. On the substitution of filter-cloth for the batiste, this was reduced to 11 per cent., but at the expense of some degree of the comfort with which it was borne. The best of the commercial masks, similarly equipped, was just about as effective.

The data cited here seem to point out in some measure the difficulties that lie in the way of adequate legislative control of occupational diseases. As Schablowski somewhat pessimistically states, the choice of respirator in any given case would depend on the chooser; if the employer chose, the cheapest would be selected; if the male laborer, the most comfortable; and the female laborer, the most becoming—no one apparently being greatly concerned with the practical efficiency of the device.

1. Ascher: Deutsch. med. Wchnschr., 1909, xxxv, 585.
2. Gebecke: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 105.
3. Schablowski: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 169.
4. Kobrak: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 157.

THE CHOLERA SITUATION

Official reports indicate that cholera has appeared in Hawaii, 35 cases and 26 deaths having occurred between February 25 and April 16, 1911. This close approach to the Pacific Coast and actual infection of the island territory gives cause for concern at this time, when the disease has apparently receded from European ports.

The present pandemic that has now threatened both our Atlantic and our Pacific coasts began in India in 1902, and in that year spread to China and the Philippine Islands. Since then the disease has gradually but steadily extended, both by caravan routes and by sea, until Persia, Arabia, Egypt, Syria, Palestine and Asia Minor were infected. Had the infection stopped there, American shipping would have been in no great danger, but outbreaks also subsequently occurred in Russia, a few cases were reported from Germany, and during the past fall and winter rather severe outbreaks have occurred in different parts of Italy and the Madeira Islands.

During the past year, cholera prevailed in serious form in Japan, which was an added menace to the west coast, and now that the disease has reached Hawaii, the danger to the United States is more direct and threatening than at any time since 1892.

That there has been real danger of the introduction of cholera during the past few months is shown by the fact that cases were discovered among arriving aliens at the ports of New York and Quebec. The fact that Italy was declared free from cholera Jan. 31, 1911, and Funchal on February 24, is, on the other hand, reassuring, but the knowledge of the liability of recurrence of the disease in previously infected localities must be borne in mind.

It is altogether probable that the disease will recur in some parts of Europe during the coming summer, and render necessary close quarantine supervision over transoceanic shipping. During the recent past this supervision has consisted in the sanitary inspection of ships and passengers at both foreign and domestic ports, close medical inspection of aliens, and the notification of state and local health authorities regarding the destination in the United States of all arriving aliens.

Such precautions would seem to furnish more than adequate protection; yet, owing to the fact that the infection of cholera may be carried by healthy individuals showing no signs of the disease, it would be possible for a bacillus-carrier to enter the United States without detection, and the nearer the approach of cholera to our shores, the greater is this danger. The present situation, therefore, demands that federal authorities shall be provided with all adequate facilities to prevent the introduction of the disease and its spread, should it unfortunately gain entrance; and all health officers should be especially alert and look with suspicion on any intestinal disturbance, particularly in individuals recently arrived, or associated in any way with newcomers.

Neurasthenia and Movable Kidney.—Neurasthenia is an exceedingly common symptom of movable kidney. To those well acquainted with the anatomy of the kidney and the difficulty with which the organ is displaced from its position surgically, the idea that neurasthenia can cause movable kidney appears absurd. Neurasthenia can no more cause movable kidney than it can dislocate a joint.—C. W. Suckling, in the *Practitioner*.

PRESIDENT TAFT'S MESSAGE TO PHYSICIANS

President Taft was tendered one of the most extraordinary receptions and banquets, as well as a demonstration of popularity last night, that has marked his career as President of the United States, and in being the guest of honor of the Medical Club of Philadelphia . . . received fitting tribute for his humanitarian endeavors while secretary of war and as chief executive.

Thus is expressed the layman's view—that of the Philadelphia *Public Ledger*—of the splendid testimonial banquet and reception tendered by the physicians of Philadelphia, of Pennsylvania, and of the whole country—for the country as a whole was represented—to the President of the United States last week at Philadelphia. The officers and members of the Medical Club of Philadelphia are to be congratulated on the well-planned and dignified testimonial to the President of the United States in recognition of his services to sanitary science and as an appreciation of his aid in the advancement of public medicine.

No other president has been so honored by the medical profession; and no other president has so honored the physicians of the United States. But it must be said also that no other president has been brought into contact with physicians and their work in so many ways—has had such a practical knowledge of what medical science has done and is doing—for no other president has had the opportunities for personal observation of the results of scientific sanitation that President Taft had in the Philippines, in Cuba, in Porto Rico, in the Canal Zone and as Secretary of War. His address to the thousand physicians at the reception—and to the medical profession of the country, for he took pains to emphasize the fact that he had a message for the medical profession of the United States—was a gratifying appreciation of the economic and humanitarian benefits that have resulted from modern medicine. It was also an evidence that, for a layman, the speaker had an unusually wide knowledge of medical affairs and grasp of medical science and what it has accomplished.

As one listened, one could not help believing that, if President Taft could have his way about it, public health matters would be given greater recognition by the national government than they are now given, even to the extent of the creation of a department of public health, with a secretary in the cabinet. Of course he did not say so. He did not even hint at a department of public health, or intimate that he had ever heard of such a proposition; but others thought of it, and three speakers who followed him mentioned it aloud, and with emphasis. Not that there was any indication of a desire on the part of any one to make use of the opportunity to advance the idea of a department of public health or any other measure; on the contrary, the spirit that prompted the function and that prevailed throughout the evening was that of brotherly love and of respect for the President, who by word and deed, in the many responsible positions he has occupied, has shown a knowl-

edge of medical science and an appreciation of its importance, from the economic as well as from the humanitarian aspect, as has no other public man. The medical profession feels more than ever assured that President Taft is in sympathy with the plans for increased federal activity for better public health.

Current Comment

LIFE-SAVING ABROAD AND LIFE-WASTING AT HOME

It is significant, and by no means gratifying to our national pride, that President Taft,[1] when desiring to demonstrate the value of modern sanitary methods, was forced to draw all his illustrations from our island and provincial possessions. Modern sanitary science has abolished yellow fever in Cuba, discovered the cause and largely controlled the ravages of hookworm anemia in Porto Rico, barred yellow fever and Chagres fever from the Canal Zone, isolated leprosy in Hawaii and the Philippines and aided in the investigation of beriberi. This work has practically revolutionized conditions in our tropical possessions and has enabled the President to say that "in the short twelve years that we have been responsible for the health of our people in the tropical climates, we have made more progress in the discovery of methods of prevention and cure of tropical diseases than all other countries have made in the past two centuries." Modern sanitary methods backed up by intelligent and authoritative administration have indeed worked wonders in the tropics; but what of our own country? Tuberculosis, typhoid, pneumonia and the appalling black plague of venereal infection still lay waste the land. They are tolerated chiefly because we are accustomed to their presence. If tuberculosis were a newly discovered tropical disease, if typhoid fever were limited to the tropics, how horrified would we be at their ravages and how warmly would we applaud any efforts of the national government to control them! But through long association, we have become tolerant of their presence and reconciled to their destructiveness. Yet modern sanitation, if permitted, can effect as marvelous changes here as in the Canal Zone or in Havana.

PUBLIC HYGIENE AND PRIVATE PRACTICE

In his response to the toast "The American Medical Association," Dr. Welch emphasized one fact thoroughly familiar to physicians but not yet appreciated by the public, which should be given the widest possible circulation. He said: "Public hygiene and preventive medicine have acquired an economic and social significance among the organized forces of civilization but little appreciated to-day by the general public or by legislators and administrative officers of government. They occupy a field quite apart from systems and schools of medical practice." The opponents of increased governmental activities for the conservation of life are apparently unable to discriminate between the practice of medicine by the individual physician and the application of demonstrated scientific facts in public hygiene. In no other way is it possible to account for the fact that efforts to increase the health functions of the federal government have been regarded as an invasion of the personal rights of the individual. He who cannot distinguish between the treatment of an individual typhoid fever patient by an individual physician, and the removal of the cause of typhoid fever through the purification of the water-supply of a community, is still in an elementary state of education. The treatment of the individual patient is not and should not be a matter of governmental concern. The correction of insanitary and unhygienic surroundings and conditions is of the highest importance to the modern state and is worthy of its utmost activities.

1. See report of the banquet of the Medical Club of Philadelphia, in General News, this issue.

THE PRESIDENT VERSUS "LIFE"

In a former number[1] we quoted the profound and learned comments of *Life* regarding the use of typhoid vaccine in the army. In his address before the Philadelphia Medical Club, President Taft said on this point: "Now we have a division of 1,800 men in Texas and California. They have been there for two months living under canvas and in a country soaked with rain. . . I need not recall the dreadful record of sickness from typhoid fever in the camps at Chickamauga. . . . Of the volunteer regiments mobilized during the Spanish-American war, 90 per cent. [about 16 per cent. of the men] became infected with typhoid fever within eight weeks after the date of mobilization. To-day, two months after mobilization with the modern health regulations and by the use of vaccine against typhoid, not one case of typhoid has appeared in the entire force, except that of one teamster who was not vaccinated." This seems to be a question of veracity between President Taft and *Life*.

HUMAN FALLIBILITY

To one who, from time to time, looks over the accident bulletin of the Interstate Commerce Commission, it is not a little discouraging to see the number of accidents that continue to occur in spite of the endeavor of railroad officials to prevent them. One safeguard sought for is to have more than one employee responsible for the carrying out of one particular order so that, if one man forgets or fails, the duty will be performed by another, or, at least, the error detected; and yet we find an engineer rushing past both torpedo and red lantern, a conductor and engineer both misreading an order, a telegraph operator making an assumption contrary to written orders in his hand—each an instance of human fallibility. Then the trains come together and lives and property are lost. The human mechanism often seems far more fallible than mechanical safety devices. One reason may be that we are not accustomed to investigate cause and effect so rigorously in the case of the human as in that of the inanimate machine. When disaster occurs from the wrong working of a steel and iron machine, people do not stop with saying "The machine was to blame"; those who pay the cost of the new one usually find out whether the old machine was made of

1. THE JOURNAL, March 25, 1911, page 1902.

poor material, constructed on wrong principles, worn out or inefficiently operated; and they endeavor to avoid that cause of failure for the future. When a wreck occurred through the failure of a telegrapher to transmit orders or of an engineer to read them, if we may judge by the reports of those acquainted with the circumstances, the tendency in the past too often has been to stop with "fixing the blame," without endeavoring systematically to go further and find out how such errors can be eliminated thereafter. A letter published in this issue indicates that the railroads of the country are awake to their responsibilities. This is gratifying and creditable. Our correspondent, however, seems to take the position often assumed, namely, that the road cannot justly be held responsible for accidents due to failure of employees to carry out orders. We believe that more exhaustive study of the problem will show that a public service corporation is as responsible for the quality of its employees as for that of its machinery; as responsible for their discipline as for the repair of its equipment. Since, no matter how much may be required of inanimate machines, the directing human element can never be wholly eliminated, we hope that systematic study of railroad accidents from the point of view of the circumstances which affect the working of the human mechanism will some day help to reduce the total as nearly as possible to the sum of the humanly unpreventable.

CHILD WELFARE EXHIBITS

In the education of the public in hygienic and health matters, the child welfare exhibits that have been held in a number of cities constitute an important agency. The exhibit recently held in New York City was a pronounced success, being attended by a large number of people. An exhibit is being held in Chicago (May 11-25) and great interest is being taken to make it a success by both the municipal health department and the various public welfare agencies. Among the features of the exhibit are demonstrations of the methods of care and feeding of infants, infant hygiene, illustrations of defective methods and their results, graphic representations of the high death-rate of infants from preventable causes, the causes and manner of preventing blindness in infants, the problems of fresh air and light, play and play-grounds, the effects of work and the hours of work on children, what municipalities and the various social welfare agencies are doing for the welfare of the children, and by charts, placards, figures, pictures, exhortations, demonstrations, etc., showing what may and should be done for the advancement of the welfare of the rising and the coming generations of children to make them healthy, strong and efficient citizens. As indicated by the success of the New York exhibit, the demonstration in Chicago should have valuable educational results.

SACCHARIN AN ADULTERANT

The referee board that was appointed to review some of the decisions of the Bureau of Chemistry has recently concluded its investigation regarding the use of saccharin in foodstuffs. Those of our readers—and they are many—who received with regret the board's decision regarding the use of benzoate of soda, will be pleased to learn of its decision in the case of saccharin. The board reports that "the continued use of saccharin for a long time in quantities over three-tenths of a gram per day is liable to impair digestion; and the addition of saccharin as a substitute for cane sugar or other forms of sugar reduces the food value of the sweetened product and hence lowers its quality." On the strength of these findings, the United States Department of Agriculture has declared that after July 1, 1911, saccharin-containing foods will be regarded as adulterated within the meaning of the Food and Drugs Act. As saccharin is several hundred times sweeter than sugar and by no means an expensive product, it has been used for years as a substitute for sugar by manufacturers who are more concerned with their dividends than with the quality of their products. Enormous quantities have been used as a sweetening agent in the inferior qualities of ginger ale and it has been used to some extent by the manufacturers of canned corn, peas, etc., to lend an artificial sweetness to these products. Fortunately, this form of fraud—for it is a form of fraud—will have to cease, so far as goods for interstate commerce are concerned, after the first of July of this year.

Medical News

ILLINOIS

Hospital Corner-Stone Laid.—The corner-stone of the Deaconess Home and Hospital of the Central Illinois Conference of the Methodist Episcopal Church, Peoria, was laid, with impressive ceremonies, May 3.

State Surgical Institute for Children.—Companion bills, providing for the establishment of a state surgical institute for children under 14 years of age and appropriating $60,000 for buildings and $15,000 for furnishing, were passed by the House of Representatives, April 26, without a dissenting vote. The establishment of the institute is dependent on the donation of 160 acres of suitable ground for a site.

Optometry Bill Defeated in Senate.—The State Board of Health announces that Senate Bill No. 140 to regulate the practice of optometry in the State of Illinois was defeated in the senate, May 3, by a vote of 14 to 10. Eighteen more senators were present but did not vote. To pass a bill, twenty-six votes are required. This action is said to kill the house bill which is still in the subcommittee of the judiciary committee of the House of Representatives.

Personal.—Dr. Arthur F. Wilhelmy, Decatur, has been detailed for duty at the maneuvers, San Antonio, Tex.——Dr. and Mrs. Hugh M. Orr, LaSalle, sailed for Europe, May 3.——Dr. Charles W. Hall has been appointed physician for Kewanee Township.——Dr. James D. Harlan has been made mayor of Fairfield.——Dr. Wiliam G. Alexander has been elected president and Dr. William C. Danforth secretary of the Evanston Tuberculosis Institute.——Dr. Theodore F. Gerould, Centralia, has been appointed diphtheria coroner of Marion County.

District Society Meeting.—The District Medical Society of Central Illinois held its thirty-seventh annual meeting in Pana, April 25, and elected the following officers: President, Dr. Melvin P. Parrish, Decatur; vice-presidents, Drs. John H. Miller, Pana, and Edgar B. Kerr, Westervelt, and treasurer, Dr. John N. Nelms, Taylorville.——The annual meeting of the Rock Island Medical Society was held in Rock Island, April 11. The following officers were elected: President, Dr. Warner L. Eddy, Milan; vice-presidents, Drs. Evlan Sargent, Moline, and William D. Snively, Rock Island; secretary, Dr. Albert Nicholas Mueller, Rock Island (reelected); treasurer, Dr. Arthur Thomas Leipold, Moline (reelected); delegate to the state society, Dr. Henry S. Bennett, Moline, and alternate, Dr. Joseph R. Hollowbush, Rock Island.

Approves Endeavor to Raise Standard.—Henderson County Medical Society, at its last meeting held in Stronghurst, adopted resolutions setting forth the existence of a number

of unnecessary medical colleges from which great numbers of incompetent or illiterate physicians are graduating; that some of the best equipped medical colleges, owing to competition, are graduating improperly qualified physicians; that state boards of examiners have not proved themselves capable of neutralizing the lenient tendencies of certain medical colleges; that many teachers in medical schools reap undue advantage from their connection with such schools in the way of honors and fees; and that the foregoing conditions are disastrous to the country practitioner; and resolving that the management of the American Medical Association be thanked for the services already rendered in the way of elevating medical standards, and that it be requested to employ its utmost endeavors still further to raise the standards of medical education and of medical practice in the United States.

Chicago

Hospital Enlarges Site.—Provident Hospital has acquired property north of its present location as the result of a campaign which brought in seventy-eight contributions, ranging from $1.00 to $1,000 each.

Hurt in Auto Wreck.—Drs. James A. Jennings and H. E. Corley, while riding in their automobile across a grade crossing of the Chicago Terminal Railroad, May 4, were struck by a train and painfully injured.

Much Communicable Disease.—During the week ending May 6, twenty-six cases of diphtheria were received at the Contagious Disease Hospital. Twenty-eight patients were discharged, recovered, two died, and sixty-four patients still remain under treatment. The Isolation Hospital received seven cases of small-pox, all of unvaccinated individuals, discharged five patients, recovered; one patient died, and thirty-one remain under treatment.

Staff Returns to Hospital.—Drs. Alice Conklin, Henrietta M. Farquharson, Bertha Van Hoosen, Grace Campbell, Lois L. Wynekoop, Sara J. McCollum and Louise Acres, who were discharged from the staff of Mary Thompson Hospital on charges of alleged insubordination March 1, have been reinstated, and, beginning with May 9, the institution is operated under new management. The new plan provides that the Chicago Woman's Club will be represented on the board of control by eight of the twelve members.

MARYLAND

Personal.—Drs. Timothy Griffith and J. Marshall Price have been appointed members of the Board of Health of Frostburg.

Increased Accommodation at Sanatorium.—A contract has been entered into, that will provide accommodation for two hundred advanced tuberculosis patients at the State Tuberculosis Sanatorium.

County Society Election.—Montgomery County Medical Society held its annual meeting and election at the Chestnut Lodge Sanatorium. Dr. James Dudley Morgan, Chevy Chase, was elected president; Dr. Frederick N. Henderson, Rockville, vice-president; and Dr. John L. Lewis, Bethesda, secretary and treasurer (reelected).

Hospital Transferred to Church Authorities.—The papers formally conveying the Maryland General Hospital to the Methodist Episcopal Church were signed April 27. The conveyance was made in return for the assumption by the church of the debt of $167,000 which rests on the institution. The relations of the faculty of Baltimore Medical College to the institution remain unchanged.

No Attempts to Violate Pure Food Law Discovered.—Dr. Charles Caspari, Jr., Pure Food and Drug Commissioner, says that not a single deliberate attempt to violate or evade the state pure food law has, as yet, been discovered. In his opinion, the law has two defects which should be corrected: it grants permission to sell substandard goods, provided the formula is printed on the package, and it requires that every case be taken before the criminal court for settlement.

State Physicians' Meeting.—The one hundred and thirteenth annual meeting of the Medical and Chirurgical Faculty of Maryland was held in Baltimore, April 25-27, under the presidency of Dr. Franklin B. Smith, Frederick. The following officers were elected: President, Dr. Hugh H. Young, Baltimore; vice-presidents, Drs. J. L. Rieley, Pocomoke City, Daniel E. Stone, Mount Pleasant, and Joseph A. Chatard, Baltimore; secretary, Dr. John Ruhräh, Baltimore; treasurer, Dr. William S. Gardner, Baltimore; trustee, Dr. James W. Humrichouse, Hagerstown; councilors, Drs. Charles O'Donovan, Baltimore, Lewis C. Carrico, Bryantown, James E. Deets, Clarksburg, and Harry B. Gantt, Millersville; delegate to the American Medical Association, Dr. G. Lane Taneyhill, Baltimore; alternate, Dr. James J. Carroll; and members of the State Board of Medical Examiners, Drs. Lewis A. Griffith, Upper Marlboro, and James A. Stevens, Easton.

Baltimore

Faculty Appointments.—The following are recent appointments to the faculty of the College of Physicians and Surgeons: Dr. Charles E. Simon, professor of clinical pathology and experimental medicine, with Drs. G. Howard White and W. Milton Lewis as assistants, and Dr. Henry L. Whittle lecturer on physiologic chemistry.

Personal.—Dr. William Simon, the autochromatic photographer, is confined to his home with a slight attack of typhoid fever.——Dr. Lewellys F. Barker, who was operated on, April 10, for appendicitis and gall-stones, left the hospital, May 3.——The appointment of Dr. James M. H. Rowland to the Baltimore School Board has been confirmed by the city council.——Dr. Norman F. Hill underwent operation at Mercy Hospital recently, and is reported to be in serious condition.——Dr. Joseph C. Benzinger fell recently, breaking his arm.

Commencement at University.—At the approaching commencement of the University of Maryland, the address to the graduates will be delivered by Dr. Harvey W. Wiley of the Department of Agriculture, Washington, D. C. The honorary degree of LL.D. will be conferred on Christopher Johnston, M.D., A.M., Ph.D., professor of oriental history and archeology in Johns Hopkins University, who is a son of the late Dr. Christopher Johnston, for many years a leader in the profession of the state, and professor of surgery in the University of Maryland.

Favor Tropical Disease Congress at Baltimore.—The medical faculty of the University of Maryland has declared in favor of holding the Congress on Tropical Diseases, proposed at the recent meeting of the Medical and Chirurgical Faculty of Maryland, in Baltimore, as a recognition of the part played by the medical profession at the opening of the Panama Canal. It is pointed out that Drs. James Carroll, Walter Reed and Jesse W. Lazear received their training and inspiration in Johns Hopkins Hospital and the University of Maryland. The proposal is said to be meeting with general approval.

MASSACHUSETTS

Transfer of Nursery.—By a recent decision of the supreme court, the property of the Boston Day Nursery has been turned over to the dispensary in ratification of an arrangement entered into by mutual consent of both corporations, and actually in effect since last October. The dispensary is maintaining a hospital of sixteen beds for infants and children.

Bequests.—Under the terms of the will of the late Harriet E. Goodnow, Sterling, $5,000 is bequeathed to the Massachusetts General Hospital, $5,000 to the New England Hospital for Women and Children, and $5,000 to St. Margaret's Hospital; with the proviso that the money be used in each instance for the endowment of Waite memorial beds.

Hospital Notes.—The new St. Margaret's Hospital, Dorchester, Boston, was opened for public inspection, May 5. The building is situated on a high elevation and contains thirty-three private rooms. The hospital is an open-staff institution. ——On April 26, Dr. Caroline Hastings turned the first spadeful of earth for the foundation of the hospital, home and training school of the New England Moral Reform Society, on the old Fisher estate, Jamaica Plain.

Personal.—Dr. Henry J. Barnes, professor of hygiene in Tufts Medical School, Boston, announces that he will sever his connection with the school at the close of the present year.——Dr. Moses Greeley Parker, Lowell, was elected president-general of the Sons of the American Revolution, May 3.——Dr. and Mrs. John Bergeson, Boston, sailed for Europe, April 19. ——Dr. and Mrs. Martin T. Field, Salem, have gone abroad. ——Dr. Francis A. Bragg, Foxboro, has been reappointed medical examiner for Norfolk County.——Clement F. Coogan, Pittsfield, has been made a member of the State Board of Health vice James W. Hull, deceased.

MICHIGAN

Small-Pox in Hospital.—Small-pox which developed in the Homeopathic Hospital, Ann Arbor, April 22, was positively diagnosed as such, April 24. There were five cases and the patients have been quarantined on an upper floor of the institution.

Antituberculosis Association Formed.—At a meeting, held in Blissfield, April 18, at which Dr. Alfred S. Warthin, Ann Arbor, secretary of the State Society for the Prevention of

Tuberculosis, delivered an address, an antituberculosis society was organized and Dr. Rosingrave M. Eccles, Blissfield, was made chairman of the organization committee.

Personal.—Dr. James H. Bogan, Mackinac, while splitting wood a few days ago, cut off his left forefinger with an axe. ——Dr. Paul C. Dulitz, Detroit, has been elected president of the poor commission of Wayne County, and Dr. Otto Scherer, vice-president.——Dr. William Acker has been appointed city physician of Monroe.——Dr. Isaac W. Houston has been elected health officer of Marshall.——Dr. Clarence Young has been reelected mayor of Allegan.——The governor has sent to the senate the nomination of Prof. Robert L. Dixon to succeed Dr. Frank W. Shumway, Lansing, as secretary of the State Board of Health.——Dr. Henry A. Newkirk has resigned as health officer of Iron Mountain.——Dr. Charles N. Bottum, Birch, has been appointed physician of the Morgan Heights Sanitarium, Marquette.——Dr. James E. Mead, Detroit, major M. C., N. G. Mich., has been ordered for duty to the maneuver camp at San Antonio.

NEW JERSEY

Personal.—Dr. Richard Cole Newton, Montclair, has been appointed a member of the State Board of Health.——Dr. William H. Kensinger, Camden; Frank J. Hughes, Union, and Elmer S. Loomis, Mercer, have been appointed members of the State Tuberculosis Commission.——The residence of Dr. Robert H. P. Ellis, Paterson, was damaged to the extent of about $14.000 by fire and water, April 19.——Drs. William Franklin Faison, Louis Franklin, Oliver R. Blanchard, Edward Leonard Bull and William Phyle, all of Jersey City, will open a sanitarium on Fairmount Avenue in the Bergen section.

Health Officers' Association Organize.—At the meeting of the executive officers of the Board of Health of New Jersey, held at Newark, April 17, a permanent organization, known as the Health Officers' Association of New Jersey, was formed, with the objects of advance of knowledge relating to public health and sanitation and the encouragement of social intercourse among health board officials. C. H. Wells, Montclair, was elected president; John O'Brien, Jr., Plainfield, vice-president, and J. Scott MacNutt, Orange, secretary and treasurer. An executive committee was elected and the officers of this committee were instructed to draw up a constitution and by-laws to be presented at a meeting to be held May 17. All health officers allowed state board of health licenses are eligible for membership and, doubtless, this privilege will be extended to other health board officials and employees and members of local boards of health.

NEW YORK

Site for Tuberculosis Hospital.—An option has been given to the special supervisors' committee of Broome County on a tuberculosis hospital on the property owned by Mrs. W. B. Cleves, on the summit of Mount Prospect, near Binghamton, for $15,000. The building has been used for twelve years as a summer hotel and can, it is said, be utilized for a tuberculosis hospital with little remodeling.

Health Board Prohibits Exposure of Food.—Commissioner Lederle believes that the exposure of food to the dust and dirt of the public streets is a measure to health and has directed inspectors of the department to enforce strictly the sanitary code relating to the conditions under which food products may be sold when exposed outside of stores. The police department has been called on to assist in this work.

Hospital Notes.—Rockaway Beach has just opened its first hospital. It is a brick structure, built at a cost of $100,000, which was raised by popular subscription.——Mrs. O. H. P. Belmont and others who founded the Hempstead Hospital, Mineola, L. I., are said to be dissatisfied with the management of this institution. Recent action by the directors aims to do away with the hospital and to sell the property to Nassau County for an almshouse.

Antisyringe Bill Passes.—The assembly has passed the Boylan bill making it unlawful to sell at retail or give away hypodermic syringes or needles, unless the purchaser has a written order from a duly licensed physician or veterinarian. When syringes are sold to persons with orders the dealer is to enter the date of the sale and the name and address of the purchaser in a book kept for that purpose. The object of the bill is to reduce the rapidly growing drug habit.

Personal.—Dr. Robert E. Doran, Albany, has been appointed superintendent of the Long Island State Hospital, Flatbush, and Dr. Edward P. Case, Patchogue, has been appointed missionary of the American Board of Commissioners of Foreign Missions and, after six months' study in Paris, will go to Aintab, Turkey, and later to Erzeroum, Persia.——Dr. Eugene B. Horton has been appointed city bacteriologist of Niagara Falls, vice Dr. Harry C. Dumville.——Dr. G. H. A. Clowes, Buffalo, has gone abroad.——Dr. Charles H. Ludlum, Hempstead, is reported to be seriously ill with septicemia.

Bill Affecting Cold Storage.—The Senate Committee on Public Health has amended the Brennan bill and reported it favorably. The bill proposes to limit the period that foodstuffs could be kept in cold storage to six months, or if the State Commissioner of Health, or the State Commissioner of Agriculture permitted it, to one year. In its new form the period has been extended to ten months. Butter products are excepted and may be kept in cold storage for twelve months. The new bill requires the stamping of all foodstuffs received by cold storage warehouses with the date of receipt and gives the State Commissioner of Health authority to inspect and supervise all storage and refrigerating plants, to adopt reasonable rules for the protection of the consumer, and to designate persons to inspect warehouses.

New York City

New Hospital.—A new hospital in connection with the Ottilie Orphan Asylum in Jamaica, Queens Borough, has been dedicated.

Faculty Changes.—Dr. Henry Pike has been appointed assistant professor of physiology and will have charge of the undergraduate course at Columbia University.——Dr. Warfield C. Longcope, of the University of Pennsylvania, has been appointed assistant professor of medicine.

To Teach Office Hygiene.—The new Union Hospital, it is announced, will undertake to direct business and professional men, educators and ministers as to sanitary conditions under which they should work, and the length they and their employees should work each day and each year to make the most of their time, abilities and health.

Personal.—Dr. William L. Russell, Brooklyn, sailed for Europe April 29.——Fire in the residence of Dr. Joseph D. Nagel, New York City, April 30, caused damage amounting to more than $3,000.——Dr. Louise J. Bucholz, New York City, was given a surprise call April 22 by her friends of the Alumnæ Association of the New York Medical College and Hospital for Women, on the occasion of the twenty-fifth anniversary of her entrance into practice.

NORTH CAROLINA

District Society Meeting.—The fourth annual meeting of the Sixth District Medical Association was held in Durham under the presidency of Dr. William A. Graham of that city. The following officers were elected: President, Dr. John M. Manning, Durham; vice-president, Dr. Charles Henry Peete, Warrenton, and secretary, Dr. Charles Augustus Woodard, Durham.

Personal.—Drs. J. Howell Way, Waynesville, and William Oliver Spencer, Winston-Salem, have been reappointed members of the State Board of Health.——Dr. Bessie Puett, Dallas, has completed her term of service as assistant physician at the Williamsburg (Va.) State Hospital for the Insane and will enter practice at Dallas.——Major Eugene Beauharnis Glenn, Asheville, M.C., N.C.N.G., has resumed practice after absence of a month at the army maneuvers in Texas.

OHIO

Personal.—Drs. William T. Corlett and J. P. Sawyer, Cleveland, have returned from Europe.——Drs. Rodger Perkins and Howard D. Haskins, Cleveland, have been appointed to make an investigation as to the practicability and possibility of efficient chlorin disinfection of the city water-supply.——Dr. Lester E. Siemon, Cleveland, has been appointed a member of the State Board of Medical Registration and Examination. ——Dr. James A. Park, Columbus, fractured his right arm while cranking his automobile, April 20.——Dr. Edmund C. Brush, Zanesville, chief surgeon of the Ohio National Guard, has been retired with the rank of brigadier general.——Dr. Frank S. Thompson has been appointed a member of the Dayton Board of Health.

Tuberculosis News.—Dr. Henry Baldwin, superintendent of the Springfield Tuberculosis Hospital, has erected two tents adjoining the main building for incipient cases.——The directors of the infirmary for indigent tuberculosis patients of Stark County have suggested that a brick wing be added to the infirmary hospital at a cost of about $5,000.——At the first annual meeting of the joint board of commissioners in charge of the Kinnane Tuberculosis Hospital, it was reported

that the average cost per patient had been $1.69 per day. There have been thirteen deaths since the hospital opened. Three patients left the hospital with the disease arrested, and at the end of the fiscal year eighteen patients were under treatment.——The new district tuberculosis hospital, Lima, has cost, for the site, $6,525, and for equipment and appurtenances $65,378.44. The hospital will now accommodate about thirty patients.——A resolution was introduced at the Cleveland Common Council, April 10, authorizing the expenditure of $238,329.12 for the erection of a tuberculosis sanatorium.

Cincinnati

Personal.—Dr. David I. Wolfstein, who was operated on recently for appendicitis in the Jewish hospital, has returned home.——Dr. Charles T. Pearce sailed for Europe, April 30. ——Dr. Otto Jeuttner suffered a stroke of paralysis, April 18, and is reported to be in serious condition.——Dr. James A. Rudolph has resigned from the health department to accept the position of milk and food inspector at Anderson, S. C.——Dr. Karl Zapp, at one time a prominent physician of Cleveland, is ill at the City Hospital with pernicious anemia.

Academy Censors Censure President.—At the meeting of the Cincinnati Academy of Medicine, April 17, the Milk Commission of the Academy, consisting of Drs. Albert Friedlander, Henry A. Woodward and Otto P. Geier, presented its fourth annual report and incorporated the following resolutions which were adopted:

WHEREAS, Certain members of this Academy have, by innuendo and otherwise, cast reflection on the integrity of the members of the commission in special reference to the financial administration of their work; and

WHEREAS, It has been suggested to the dairymen under the commission's supervision that they have been charged exorbitantly for such supervision; and

WHEREAS, Such action directly impugns the honor of the members of the commission; now therefore,

We, the members of this commission, do demand that these insinuations and the entire administration of the commission, from its inception to the present time, be searchingly investigated by the Board of Censors of the academy, who shall have power to employ an expert public accountant to assist them in their work. Furthermore:

We ask that this report by the Board of Censors be submitted in writing and made the special order of business of the Academy of Medicine for 9 o'clock on Monday evening, May 1, 1911.

A motion prevailed that the academy reelect the commission in recognition of its faithful and beneficent labors. At the meeting of the academy May 1, the board of censors submitted an exhaustive report, which, on motion, was adopted. The report after reviewing the splendid work of the Milk Commission, described in detail their methods of investigation, including the investigation of all accounts by a certified public accountant, and their examination of all who were in any way connected with the affair. Not only was the Milk Commission exonerated from every charge made against them, but the censors adopted a vote of censure against Dr. William D. Haines, president of the Academy, Dr. Frank Lamb and Dr. George Strobach, editor of the *Cincinnati Lancet-Clinic*, on the ground that they had been guilty of unprofessional conduct in their methods of investigation of the work of the Milk Commission.

PENNSYLVANIA

One Board Medical Bill.—On May 4 the "One Board Medical Bill" was passed by the house on second reading, all proffered amendments being rejected.

Gift to Consumptive Home.—Through Dr. Herman L. Duhring, superintendent of the Protestant Episcopal City Missions, the treasury of the Home for Consumptives, Chestnut Hill, has received $2,000.

New Hospital.—The Armstrong County Physicians' Association has sold stock to the amount of $75,000 for the new hospital at Kittanning, which is to cost $100,000. The details for the purchase of the site on which the hospital is to be built have been completed.

Personal.—Dr. Robert Steele has been elected health officer and Dr. Oliver S. Weddell city physician of McKeesport.——Dr. Elmer G. Kriebel, Worcester, is ill with typhoid fever. ——At the reorganization meeting of the Board of Health of Reading, Dr. John N. Becker was elected president; Dr. Samuel L. Kurtz, a member of the committees on adulterations and poisons, and law and ordinance, and preventable diseases; Dr. William F. Marks, a member of the committees on drainage, sewerage and water supply, school hygiene, and registration and vital statistics; and Dr. Charles Roland, a member of the committee on registration and vital statistics.

Health Work in Pittsburg.—The annual report of the director of the department of health and charities, Pittsburg, mentions that the site for the tuberculosis hospital, for which $200,000 has been appropriated, will soon be selected, and that the plans will be ready shortly for the garbage incineration plant which is to cost $100,000. During the year there were 9,601 deaths, an increase of 2 per cent. over the preceding year, which is due, in great measure, to the great number of cases of infectious diseases, particularly measles. The medical inspectors made 80,000 inspections of school children during the year and the bureau of milk inspection, 17,797 inspections.

Philadelphia

Free Lunches for School Children.—The experiment begun in March by the lunch committee of the Home and School League, in order to prove the beneficial effects of the three-cent lunches (a warm meal at noon) on fifty children selected from the Woods School has been prolonged for an indefinite period.

For a Stricter Poison Law.—A conference at which Dr. Neff, Director of Public Health and Charities, and Dr. Christopher Koch of the State Pharmaceutical Board were present, was held at the private office of Coroner Ford, for the purpose of drafting a new and more stringent law governing the sale of cyanid of potassium and other deadly poisons and placing the bill before the legislature.

School for Consumptives.—Because of a disagreement with the superintendent of buildings of the board of education, the Phipps Institute has withdrawn its offer to erect an open-air school for incipient consumptives and generally weak children on the roof of the General McCall School, and instead will build its shelter and conduct its experimental classes on the roof of the College Settlement Building at Fifth and Christian Streets.

Dr. Oliver's Bequests.—The will of Dr. Charles A. Oliver gave his entire estate, valued at $15,000, to charity. The will directed that the estate be divided in three parts and the income be distributed: for the establishment of the Charles A. Oliver operating room at the Wills Eye Hospital for indigent blind and lame, to the University of Pennsylvania for an annual gold medal to the leading medical student in ophthalmology, and to the College of Physicians for the purchase of journals on ophthalmology. Dr. Oliver left his ophthalmologic library to Harvard University.

Plans to Reduce Infant Mortality.—Dr. Joseph S. Neff, Director of Public Health and Charities, has asked the mayor to send a special message to Councils urging that body to appropriate $5,000 to further the summer campaign against infant mortality. The plans for this work include the maintenance of the open-air hospitals on the Race and Chestnut street piers, keeping them open day and night, the establishment of a third recreation pier at Shackamaxon Street Wharf and the erection of a tent for open-air treatment of babies in Fairmount Park, provided the Park Commission will grant permission.

GENERAL NEWS

Orthopedists to Meet.—The twenty-fifth annual meeting of the American Orthopedic Association will be held in Cincinnati, May 15-17, under the presidency of Dr. Albert H. Freiberg. Headquarters will be in the Hotel Sinton. One of the features of the meeting is announced as the address by Dr. Edward H. Bradford, Boston, on "Currents and Counter-Currents in Medicine and Surgery."

Congress Committee on Organization.—The seventh meeting of the committee on organization of the International Congress on Hygiene and Demography was held in the Army Medical Museum, Washington, D. C., April 15, with Dr. Abraham Jacobi, New York City, in the chair. Dr. Joseph W. Schereschewsky, U. S. P. H. & M.-H. Service, was made director of the exhibition. An exhibition building is to be constructed on government land between the Washington monument and the Continental Memorial Hall for an exhibit in connection with the meeting of the International Red Cross in the spring of 1912, and the plan for this building, which has a floor space of 17,500 square feet, may be modified so as to accommodate the exhibit of the congress. The proposal will be investigated. The executive secretary was instructed to invite the executive officers of the life-insurance companies of the United States and Canada to contribute suitable exhibits of their mortality experience or medical statistics, with due regard to the elements of age, race, nativity, occupation, locality, anthropometry and other pertinent facts of medical or general interest.

PRESIDENT TAFT AND THE MEDICAL PROFESSION

Banquet and Reception to President Taft and Invited Guests

Given by the Medical Club of Philadelphia at the Bellevue-Stratford, May 4, 1911

The Medical Club of Philadelphia gave an elaborate banquet May 4, President Taft being the guest of honor. This delightful affair is commented on editorially in this issue. A report of the speeches follows, some of them being given in full.

The reception following the banquet was held in the greater ballroom of the hotel, beginning at 9:30 p. m.

DR. WILLIAM L. RODMAN, president of the club, presided and felicitously presented each speaker. In an appreciative tribute he introduced the President, saying, in part:

We could, sir, as loyal and patriotic Americans, spend more time than is allotted to us in reviewing your magnificent administration, its fruitful and beneficent results, and commend you for the unflinching courage and admirable patriotism shown in administering to the affairs of the nation. Twice in as many years have you called the national Congress to assemble in extraordinary session that it should do its plain duty by the people and enact legislation that it had failed to pass in ordinary session. It would be a superlative pleasure to review at length the many things which you have done for your fellow citizens at large, and which have caused you to be acclaimed by the foreign press as having done more to make possible international peace than any of your illustrious predecessors or contemporaries.

But we are only a lot of doctors, interested but untrained in matters of state, devoted to our profession and grateful to all who have lessened human suffering and have, by the opportunity offered by public station, inspired and enabled us to do better work in the line of our calling. No one, sir, has shown a greater appreciation of what American medicine has done, and can do, than yourself. Every official act as governor, secretary and President, affecting matters medical, has demonstrated your comprehensive and judicial grasp of the question under consideration.

The 8,000,000 inhabitants of the Philippines can never forget that you gave them educational, administrative and commercial advantages hitherto unknown to them; but, better than these, you, by a wise administration, gave them health by encouraging the study of tropical diseases, which has practically put an end to devastating epidemics of cholera and plague; and by segregating all lepers on the Island of Culion leprosy will eventually be stamped out. The hospitals of Manila are splendidly equipped, admired by all who visit them, and must ever remain as a monument to your constructive genius. In your brief administration in Cuba that troublous and turbulent people were quieted as if by the magician's wand. There you nationalized sanitation by causing to be created a department of health with representation in the cabinet. Formerly a perpetual menace to this country's health and commerce, Cuba is now visited by thousands as a winter health resort.

But greater than this was the work wrought on the Isthmus of Panama by the Medical Corps of the Army under your orders as secretary of war. This zone, for many years so inhospitable to human life that it was abandoned by the French, is now as healthful as Washington or Philadelphia. A work is there progressing, with a pace which almost staggers the imagination, that must, when finished, increase our importance as a world power, double the efficiency of our Navy and add countless millions to our commerce. Congress and the nation support you almost solidly in your insistence that so important, so costly, so strategic a position should be fortified. To do less would be to indulge in iridescent dreams that the day of universal peace—indeed, the millennium—were at hand.

But I should say that your greatest work, so far as our profession is concerned, was your urgent insistence in both of your annual messages to Congress that all of the governmental forces, outside of the Army and Navy, should be coordinated into an effective whole, and made into a Bureau or Department of Health. This the American medical profession has wanted, advised and worked for at least a quarter of a century; but you, sir, are the first president who has both recognized that it should be done and courageously insisted on it.

Much more could be said, but the proprieties of the occasion require that I should give way to one whom every body has come to hear. "Nothing can cover his high fame but Heaven." Therefore, gentlemen of the club, I wish to present you, your guests, and this magnificent audience to the President of the United States.

Address of President Taft

PRESIDENT TAFT arose amid cheers and, after the demonstration had subsided, said, in part: The "City of Brotherly Love" is one of the most important medical centers in this country. When, therefore, this Medical Club invited me to attend one of its meetings I gladly accepted, because it seemed to me that if I had any message to the medical men of the United States I could not find a more favorable place to deliver it than here.

Since 1898 and the Spanish war the people of the United States have been a colonizing and colony-holding people. We have become responsible for the welfare of Cuba, Porto Rico, the Isthmus of Panama and the Philippines. We have had under our care and guardianship the hygiene and the health of tropical peoples, and, while I should be the last one to minimize the importance and value of the benefits that we have conferred on the inhabitants of the tropics thus coming under our government of a political and economic and educational character, I do not hesitate to say that we have been most distinctly successful in the measures we have adopted, maintained and enforced for the improvement of the health and physical condition of these peoples in the torrid zone, over whom we have assumed guardianship.

It is not too much to say that the prevalence of yellow fever in Cuba and its constant recurrence as an epidemic in Havana and other cities of that island, so near to our own shores, threatening death to our own southern cities, was one of the chief causes, and, I may add, one of the real justifications for the popular feeling that led to the Spanish war. Hence it was that no sooner did we take Cuba, to bring it under our control, then the most strenuous efforts were directed toward cleaning it up as a pest-hole and changing its character as a neighbor dangerous to health.

The same task fell on us in assuming possession and control of Porto Rico, in undertaking the government and improving the conditions in the Philippines, and finally in the preparation of the Canal Zone for the construction of the canal. In the first three of these tasks of hygienic reform the control of governmental methods devolved in the first instance on the Army, because the early governments were all military governments. In consequence the health regeneration in these three colonies became the work of the Medical Corps of the Army; and so well was it performed that when the necessity for cleaning up the Canal Zone and making it healthful became apparent we took a member of the Army Medical Corps and put him in charge.

THE SANITARY REGENERATION OF CUBA AND PORTO RICO

It was while we were in Cuba that Walter Reed, an army doctor, investigated and verified the correctness of the theory announced some little time before, that the germ of yellow fever was conveyed from one human being to another by a certain species of mosquito. This discovery revolutionized the method of treating yellow fever, and it was made clear that the great effort and expenditure of money required to clean up Havana and the other infected towns, while useful in the prevention of other diseases, had little or no effect to prevent yellow fever. An entirely different course of procedure had to be followed. It was adopted in Havana and the other cities of Cuba, and was most successful; and one of those officers engaged in the work was Colonel Gorgas, of the Army Medical Corps.

Then we took over Porto Rico. We found that in that island the people were not suffering so much from yellow fever, but there was what was called "tropical anemia," and it was not long before an army doctor, Bailey K. Ashford, discovered that this was not the result of starvation and the absence of nutritious food, but was a disease due to the presence in the intestines of the so-called hookworm, and that it yielded to treatment, and that the many deaths and the general disability that the hookworm produced in the people of Porto Rico could be avoided in the future by comparatively simple and specific treatment. Half a million people have been the recipients of this treatment and have recovered, and a second campaign is now being planned of greater thoroughness, preparation and practice, which will doubtless rid the island of this disease.

THE TASK OF SANITATION IN THE PHILIPPINES

In the Philippines we did not encounter yellow fever, for that as yet had not reached the Pacific; but we found there, in glorious exuberance, cholera, bubonic plague, beriberi, malaria, small-pox, amebic dysentery and leprosy. By improving the water-supply and introducing mountain water into Manila, at a cost of $2,500,000, and by the introduction of artesian wells in many of the towns and villages of the interior, by regulations as to the food-supply, by a new sewage system in

Manila, costing $2,000,000, and by regulations securing the proper and safe disposal of sewage in the smaller towns and villages, and by the use of inoculation with cholera lymph, we have greatly reduced the number of victims from cholera in those islands. By a wholesale vaccination of all the inhabitants of the Philippines, carried on carefully and rigorously, we have practically stamped out small-pox of all kinds in the islands, in which the black small-pox of the most virulent type, flourished before our coming. By a crusade against rats and a cleaning up and destruction of the foci of the disease we have taken all the terrors in the Philippines out of bubonic plague. By careful attention to the destruction of the mosquito we have greatly moderated the injurious effects from malaria, and, while amebic dysentery continues to be a most dangerous and lingering form of disease in the Philippines in many cases, if treated in time it is subject to the control and cure of the remedies discovered and adopted there.

When we went to the Philippines lepers were at large. There were leper hospitals in Manila, in Cebu and in some other parts of the country, but the horrible and sickening character of them beggars description. We have segregated the lepers in all provinces in the islands to the number of 4,000 and have taken them to Culion, a beautiful island in the southern seas, have given them almost a self-governing colony and have made them so happy and comfortable that we have now no difficulty in inducing all persons afflicted with this disease to join the colony. The effect of this segregation has been to reduce the new cases annually of leprosy to 16 per cent. of what they were formerly.

One of the most obstinate and difficult diseases in the Philippines, and, indeed of the whole Orient, has been what is called "beriberi." For a long time the cause of it was beyond our discovery. But now it has been definitely traced to the use of polished rice as food. I need not go further than to say that 24 per cent. of the Japanese army were afflicted with beriberi during the Russian-Japanese war. The change of this food from polished to unpolished rice has practically stamped out the disease in the Philippines. This is a discovery since I left there, and I speak of it without practical knowledge, but only on report, but I know that the disease was under examination by the expert pathologists and investigators during my entire stay in the Philippines, and that the present discovery is only in keeping with the progress and success made in every other direction in the official inquiries made into the causes of tropical and Oriental diseases and their cure.

I may add that the investigations which have been made by our physicians into the character of the intestines of the native Filipinos indicate that those intestines are, if I may so say, a veritable "zoologic garden" of germs, microbes and bacilli that greatly enfeeble the race, and that by proper treatment might be eliminated, and the constitutions of the people at large greatly strengthened; and in the course of our stay in the Philippines I doubt not but that this method of strengthening the race will be pursued with greater and greater success.

SANITARY ENGINEERING IN THE CANAL ZONE

With all this experience, secured by our army doctors and those civilian physicians who followed them in Cuba, Porto Rico and the Philippines, we came to the problem of the construction of the Panama Canal, in a region as pest-ridden as any on the face of the earth. It is not too much to say that yellow fever and malignant malaria, known there as the "Chagres fever," contributed more than any other one cause to the failure of the French to build the canal; and when we went to the Zone to begin operations we found there lingering and ready to offer the same obstacles up to that time so fatal to success in this great work; but the Spanish war and the responsibilities it had thrust on us had given such light on the method of meeting and reducing these obstacles that we have finally swept them away. It took two years for us to make the necessary preparations before we could begin the work of excavation and construction. Those were a hard two years, with thoughtless critics demanding when the digging was to begin, criticizing every effort made and prophesying a dismal failure of our work. But we had selected as our medical officer a man who had acquired his knowledge in Havana and had practiced the new remedies there, and, with the resources of the government at his back, Colonel Gorgas changes a pest-ridden zone into a district as free from disease as any of the states of the south. He stamped out yellow fever so that for now more than four years there has not been a case on the Isthmus, and he reduced the malignancy and extent of malaria on the Isthmus to such a point that the percentage of deaths in the foreign population in the Zone is considerably less than in our large cities. He has made the Zone a pleasant place and a healthful place to live in. This great work of construction goes on without thought now of the dangers which made French success impossible.

Is not such a record one on which we can dwell with the utmost national pride? Does it not speak marvels for American courage, energy and scientific thoroughness, skill, research and power of original discovery? Other countries have been in the tropics for nearly two hundred years, and yet I do not think it an exaggeration to say that in the short twelve years that we have been responsible for the health of our peoples in tropical climates we have made more progress in the discovery of methods of prevention and cure for tropical diseases than all other countries have made in those two centuries.

OTHER SANITARY ACHIEVEMENTS

And now we have a division of 18,000 men in Texas and California. They have been there for two months living under canvas and in a country soaked with rain and deep with profanity-provoking mud. But so effective have been the regulative and preventive methods adopted to reduce sickness that the percentage of sick men is less than it was in the posts from which these men were mobilized. I need not recall the dreadful record of sickness from typhoid fever in the camps at Chickamauga and other camps established during the Spanish-American war. The percentage of typhoid cases was so high that it is hard to believe. Of 120,000 men there were twenty thousand cases, with a case mortality of 7 per cent. Of the volunteer regiments mobilized during the Spanish-American war 90 per cent. became infected with typhoid fever within eight weeks from the date of mobilization. To-day, two months after mobilization, with the modern health regulations and by the use of vaccination against typhoid, not one case of typhoid fever has appeared in the entire force, except that of one teamster, who was not vaccinated. It is hard to credit the accuracy of such a record. But, as I have it directly from the war office, I can assert it as one more instance of the marvelous efficacy of recent medical discoveries and practice.

When we consider how in times past the efficiency of an army has been reduced by large percentages through disease we can realize what an important part of the army the Medical Corps has become. But, without reference to war, when we consider the enormous advances made in the discovery of methods of preventing disease in the tropics, by members of the Medical Corps and under government auspices, and all within the last thirteen years, I think we may take pardonable pride in the record.

We expended many lives and much money in the Spanish war and in the discharge of the responsibilities that have followed that war. But they are as nothing compared with the benefits to the human race that have already accrued and will continue to accrue from the discoveries made under the conditions and necessities which the exigencies of that war and the governmental burdens following it presented.

I congratulate the Medical Corps of the Army, I congratulate the medical profession at large (for these discoveries were not all made by army doctors), that they have had the opportunity, and have seized it, to make such progress in relieving the suffering of the human race and in becoming, in so conspicuous a way, the benefactors of mankind.

Following his address President Taft was made the first honorary member of the Medical Club of Philadelphia, his certificate of membership being handed to him by Dr. Rodman.

DR. RODMAN, introducing Dr. S. Weir Mitchell, said: It is fitting that the President of the United States should be followed by the most distinguished and widely renowned physician in America, one who shares with Lord Lister of Great Britain, the mother country, the honor of being the world's two most famous medical men. We should felicitate ourselves, Mr. President, on the fact that the English-speaking peoples have given to science the greatest living physician and the greatest living surgeon. Not only does the gentleman I shall next present represent the noblest, the most cultured, the most ethical sentiments of American medicine, but he is your friend and former host, and the *beau idéal* of the Philadelphia profession. It gives me great pleasure to present —he needs no introduction—Philadelphia's most illustrious citizen, the eminent physician, the medical author, the historian and poet—"a man so various that he seems to be not one, but all, mankind's epitome"—S. Weir Mitchell.

The Debt of the Country to Physicians

DR. S. WEIR MITCHELL, Philadelphia, said, addressing President Taft: . It is pleasant as citizens of the world to congratulate you and ourselves on your endeavor to establish arbitration and promote peace between the two great branches of the English-speaking race; nor could there be a more fitting occasion to remind you, and through you the people of this country, how deeply they are in debt to the American physician. For us this occasion is eloquent of opportunity. Your own profession of the law owes to you the illustration of judicial appointments where the only partiality shown was for ideal fitness and the possession of personal qualities such as your own life on the bench and at the bar has amply exemplified.

I said, sir, just now, that the country was in our debt. I would like to add that the country is of late more heavily than ever our debtor. We owe it to you, and I may add in part to your energetic predecessor, that you have given to the members of our profession who represent us in the ranks of the Army the first chance in the history of the world to prove what the intelligent despotism of educated discipline can enable the physician to effect for mankind. The chief of staff of the Army, General Leonard Wood, once—and he says "always"—a physician, with a group of young surgeons, swept the yellow-fever plague out of Cuba and freed the world from this terrible scourge; alas, at what sad cost! They cleared the island also of malaria and there and in the Philippines put an end to small-pox. You, sir, well know that it was Colonel Gorgas and his staff who have made so swiftly possible the gigantic engineering surgery which will have cleft the Isthmus of Panama from sea to sea. This was our opportunity; it was unique; and I beg to remind you, sir, and my fellow physicians, with pride, that our use of it was an unequalled display of hygienic competence.

You, sir, may not recall as I do what we did in the great war which welded the states into one. North and south the physicians remained an undivided guild in the service of humanity, while churches and the state were rent asunder. What our brothers in the south lost we do not know. We, ourselves, lost in battle 51 killed and 83 wounded, and 283 who died from disease. We have asked, sir, no reward; neither pensions, places, ambassadorships, nor even presidencies, have been for us. No memorial speaks of these great services; our dead are unrecorded in the annals of the war. The land is populous of statues of private and general; there remains for us the unrewarded consciousness of duty simply done in obedience to a creed old before Christ had spoken His great message to the world. You are, of course, aware that after a great victory general or admiral had sometimes been rewarded by the thanks of Congress. Is it too much to expect that when our flag leads a procession of the navies of the world through that great canal, Congress will commemorate the event by thanking, in the person of Colonel Gorgas, those who have read mankind a lesson in sanitary efficiency and for whom no other reward is possible? Again, Mr. President, accept our thanks for the latest chance to read into action our creed of duty.

We have been in the past nobly equal to every task laid on us, and, perhaps, sir, we may hopefully look forward to seeing in some future cabinet a secretary of health, who will enable us to do on a larger scale what we have so admirably effected in the far-sown islands of the sea.

DR. RODMAN, introducing Dr. William H. Welch, said: It is now the highest honor that can come to one of our profession to be chosen president of the national Association. Thrice on the Lupercal did Caesar put aside the crown offered by Mark Antony, but, it is said, each succeeding time more gently than before. It is within the knowledge of many here that he whom I shall next present, and who is now the honored president of the Association had, before his election, more than thrice put the crown from himself, and in a way that left no one to doubt that this gentle, wise and excessively amiable man could, when necessary, be as impregnable as Gibraltar itself.

I unhesitatingly declare that he has done more for American medicine than any medical man since Samuel D. Gross; for while possessing an unusual gift for conceiving and directing "big things," he has not been tied down by the exactions inseparable from private practice. Therefore has he conceived and directed great clinical hospitals and experimental laboratories, and has been the chief inspiration to more medical teachers and molders of thought in various cities and pathological laboratories of America than any living man. To-day he is in the Hopkins School or Hospital, in Baltimore; tomorrow, in the Rockefeller Institute in New York; and the next day, directing the Foundation in Washington; leaving on the midnight train for Chicago to run the American Medical Association. I introduce to you Dr. William H. Welch.

The American Medical Association

DR. WILLIAM H. WELCH, president of the American Medical Association: The city of Philadelphia has had a large share in making the medical history of this country. To-night it is contributing an event unique and memorable in the reception by this medical club of the President of the nation as its guest of honor. This is an event in which the whole medical profession of this country cannot fail to rejoice and take pride, and I esteem it a high privilege, Mr. President, to be permitted to offer to you, in behalf of the American Medical Association, our cordial greetings and best wishes, and to express to you our profound appreciation and great pleasure in the honor conferred by your presence on this occasion. Permit me especially to express the appreciation and thanks which I am sure all physicians in this country would desire me to offer for the inspiring words which you have spoken and for the fine tribute which you have paid to the work of members of our profession in our colonial possessions. Your voice will carry to the larger public that record of achievement which should be a source of pride to the whole country and to the world.

The American Medical Association, with an actual membership approaching 40,000 and with a much larger potential membership, represents the organized medical profession of this country. During the sixty-five years of its existence it has been a great unifying force, which has reflected the conditions and the progress of American medicine. By improving medical education, by inculcating high standards of professional conduct, by favoring the enactment of beneficial medical and sanitary laws, by protecting physicians and the public from frauds, by promoting the science and art of medicine, by preaching the gospel of public health, and in various other ways this Association has rendered important service, not to the medical profession alone, but also to the people as a whole.

The great conquests over disease which have been set forth to-night so clearly and fittingly by the President are wholly the result of a remarkable extension of our knowledge during the last three decades into the nature and causes of the infectious diseases, which are the diseases of the greatest racial and social significance to mankind. At no previous time in the world's history could such a record of triumphant achievement have been attained. It is in the power of man to control to-day great pestilences, such as yellow fever, cholera, pernicious malaria and the plague, and even more devastating, although from their familiarity less dreaded diseases, such as tuberculosis, typhoid fever and infantile diarrhea, because Koch and Pasteur and Ross and Reed and a host of workers in the new fields of bacteriology have discovered how these diseases originate and spread, and have thereby placed sanitary practice on a rational and scientific foundation. It is immensely gratifying that our country has been able to furnish to the world the most striking example in the history of preventive medicine of the conquest of a great scourge by the extirpation of yellow fever through the discoveries of Reed, Carroll and their colleagues of the Army yellow fever commission and the practical application of these discoveries by Colonel Gorgas—all names of undying fame. These, as well as all of the discoveries in this domain, are triumphs of the experimental methods of research.

We know that you, Mr. President, in your administrative duties in the Philippines, in Cuba and on the Isthmus, have been brought into close touch with this life-saving work of physicians and sanitarians, the results of which, as you have authoritatively stated, constitute the greatest of our services to the peoples of these possessions, and we know also that you have aided and furthered this work in important ways by your advice, cooperation and sympathy. I desire on this occasion, on behalf of my colleagues of the medical profession, to pay tribute to the great services which you have thus rendered, and to the intelligent and sympathetic interest which you have repeatedly manifested by word and by deed in the cause of public health.

Public hygiene and preventive medicine have acquired an economic and social significance among the organized forces of civilization but little appreciated to-day by the general public or by legislators and administrative officers of government. They occupy a field quite apart from systems and schools of medical practice. The great International Exhibition of Hygiene, which has just been opened in the city of Dresden, affords an impressive demonstration of the methods and results

of public health administration and activities, and of every kind of effort in the conservation and promotion of the health of the peoples of the world. It is deplorable and greatly to our discredit that of all the civilized nations of the world ours is the only one not officially represented in this international exhibit. We have, however, an opportunity to make partial amends for this slight dereliction by adequate governmental support and vigorous efforts in behalf of the success of the International Congress of Hygiene and Demography to be held in the city of Washington in September, 1912, on the invitation of our federal government.

It is a remarkable and significant fact that in order to make an impressive showing of what our country has done for public health we have to pass beyond the boundaries of this broad land which we inhabit and tell of what we have done for the peoples of distant islands and on the Isthmus of Panama; and it is true that our nation has organized better for scientific and practical sanitary work in these possessions than it has done at home.

We have a few highly efficient municipal and state departments of health, but we should have many more. The contributions of the Massachusetts State Board of Health to the principles of purification of public water-supplies and of sewage disposal, and of the New York City Department of Health to the administrative control of tuberculosis are recognized everywhere as of the highest importance. The state of Pennsylvania is setting the pace for the rest of the country in liberal support and efficient conduct of its department of health.

The activities of the Public Health and Marine-Hospital Service, our chief national health agency, have greatly improved and extended in recent years on both the scientific and the practical sides, but a larger and better plan of organization of our federal health agencies is urgently needed.

The health of the people is the greatest asset of the nation and should be the first consideration of governments. The interest of medical men in this subject differs in no respect from that of the rest of the community, nor is this interest longer confined to the medical profession. It is incredible that any one who has any realization of the suffering, inefficiency and enormous waste to the country resulting from preventable disease and insanitary conditions of living and of work can fail to appreciate the incalculable benefits to our people which would accrue from larger hygienic activities of the national government in ways entire consonant with our form of federal government and within the proper scope of such government.

Did our federal government not fall so far short of its plain duty in the way of promotion of public health, we should find here at home records of as beneficent achievement as those which have been cited from distant lands, and our own people would reap the full benefits of that ever-advancing knowledge of disease and its prevention, which carries its messages of hope to mankind.

DR. RODMAN, introducing Dr. Charles A. L. Reed, said: We have heard from the distinguished President of the American Medical Association, who has told us of its achievements and its purposes. I shall next present a man who had much to do in making the Association what it is, for it was under his presidency that the epoch-making reorganization occurred. A Cromwell was needed and the alert, the lion-hearted, the determined president of 1901 was equal to every constructive and parliamentary emergency at the meeting in St. Paul.

Moreover, he, as Chairman of the Committee on National Legislation, has served not only the profession, but the public in a way that few appreciate. As a member of the committee for ten years, together with the distinguished gentleman who has just spoken, I know something of the splendid work he has done in bringing about necessary and wholesome changes for both profession and public.

Although living in the Middle West and carrying on an extensive practice, he never hesitated to go to Washington when the call of duty was sounded. He recked not whether it was the Army reorganization bill, the pure food law, or the Dodds bill under consideration. He was always there and his presence was an inspiration to his followers, and a dismay to opponents.

I present to you the Queen City's best-known surgeon and author, the fellow-townsman and admirer of our distinguished guest—"one not in the rôle of common men"—Charles A. L. Reed.

National Medical Legislation

DR. CHARLES A. L. REED, Cincinnati: The Medical Club of Philadelphia stands for much in this country. It typifies not only fraternity, organization and effective ultraism, but shows the strength and vitality of the present-day movement, not only to lengthen but to broaden and to make happier the span of human life. That movement is fortunate in having here to-night such a leader as President Taft has shown himself to be. As Governor-General of the Philippines, he established medical education on a governmental basis in that country. As Secretary of War, as I happen to know, he cut the bands of red tape that officious officialdom had wrapped about Colonel Gorgas and that were hampering him in the very sanitary administration that alone has brought the great engineering achievement at the Isthmus within the range of possibility. So with the sanitation of Cuba, the reorganization of the Medical Corps of the Army, the enforcement of the pure food law and the development of the great Red Cross organization, President Taft has shown himself the actual leader in the very movement in behalf of the people to which movement alone the medical profession stands consecrated.

What shall be the next forward step? What are some of the conditions to be met? The people of this country are dying from preventable causes alone at the rate of more than one a minute. This is an impressive fact whether viewed from an economic or humane standpoint. It is likewise impressive that Congress has failed to furnish an adequate national mechanism to assist in staying this havoc, a havoc that is equivalent five times over, to the death every year of every officer and man in both the Army and Navy of the United States. It is true that we have some public health agencies scattered throughout five departments of the Government and it is likewise true that each of five members of the Cabinet takes a whack at being national health officer. This, of course, is all very absurd and, as I know from personal investigation in Europe only last summer, it makes us the laughing-stock of the world. But Congress seems to be destitute of pride as it appears to be destitute of interest in this subject. It seems to be sorely afflicted with constitutional lawyers who have been authoritatively defined by President Taft as lawyers who have ceased to be lawyers and gone into politics. These wiseacres seem to think it constitutional for the government to educate the people to protect swine but not to educate them how to protect themselves against disease. They seem to think it incontestably constitutional to control interstate commerce but entirely unconstitutional to control the sanitation of that commerce; or, in other words, they assume that the healthfulness of an interstate commodity is no attribute of that commodity at all. They concede that the government can and does exercise jurisdiction over the navigation and commerce of interstate waterways but contend that it has no right so to regulate the sanitation of such waterways as to make such navigation and commerce possible. In the Ohio Valley we have a thousand miles of river and a thousand miles of typhoid; from which it would seem to be entirely constitutional for the United States to use its streams for the dissemination of disease and the destruction of the people.

The derelictions of Congress in dealing, for instance, with the plague condition in this country cannot be hidden by its surreptitious expenditure of a half million dollars epidemic fund every year in fighting conditions many of which ought never to have become established. I could lengthen this indictment against Congress by giving you a fresh count every minute for an hour. It is enough to say that for every one of the more than 600,000 deaths from preventable causes in the United States every year each member of Congress has a certain measure of individual responsibility. The sooner he is made to feel that responsibility and feel it by votes of the people, the better. As the President has just stated, clearly the next step forward must be a more highly evolved national health service. Whether "department," "bureau," "commission" or "board" it should be so constituted that every available agency and every branch of modern science shall be brought to bear in solving the complex problem of human health and human efficiency.

DR. RODMAN, introducing Surgeon-General Stokes, said:

The sister service, the Navy, is in every sense the equal of the Army—they cannot be dissociated—and by its ability, its chivalry and cosmopolitanism, has so maintained the credit of our country in foreign lands as justly to cause it to be one of the chiefest prides of the American profession. No wiser and better administrative act was ever done than that which placed medical officers in command of hospital ships. If hospital ships are necessary, and assuredly they are, who else can so well command them as well equipped surgeons? We have with us to-night one who commanded the hospital ship *Relief* in the now famous cruise around the world. He originated a war plan which adds to the military efficiency of the fleet, attends to the humanities of battle, and bids fair to revolutionize some features of naval warfare. The judgment he displayed, together with his executive ability

and charming personality, caused him to be promoted to the honorable post of surgeon-general—a position that he now adorns, and should for many years adorn. "He has a head to contrive, a tongue to persuade and a hand to execute."

I take great pleasure in presenting one, who, though surgeon-general and holding the rank of admiral, likes to be called plain doctor—Charles F. Stokes.

The Sanitary Organization of the Navy

DR. CHARLES F. STOKES, Surgeon-General, U. S. N.: With the exception, possibly, of medicine and surgery, no branch of science has been more completely revolutionized than that of naval warfare. Not only has this great change been effected in ships and personnel, but in spirit and aims. Spars, sails and wooden hulls have given way to the grim monsters of steel that carry our flag to-day. The change in the personnel has been almost as radical. The agile, cat-like top men, of the age of spars and masts, have been replaced by the seaman-mechanic, the gunner-mechanic and mechanics of other sorts. The muzzle-loading rifle, of decidedly indifferent effectiveness, has given way to the high-powered breech-loading rifle with smokeless powder, and a projectile of almost a ton of metal. Instead of, as in the past, having its field of usefulness limited largely to the treatment of sick sailors, the Medical Department of the Navy, to-day stands side by side with the fighting branches in adding to military efficiency and all that has to do with making the winning of battles possible.

You physicians in civil life are giving considerable attention to the so-called occupational diseases. Those diseases have been for a long time the subject of careful study by naval medical officers, not on economical and humanitarian grounds, as they would interest you, but on the score of pure military efficiency; for example, the solution of the problem of sustaining life in disabled submarines is a complex proposition. It is something more than simply generating oxygen and removing carbon dioxid; it has to do with the so-called fatigue-poison, hydrogen given off by batteries, the gasoline emanations, and so on. The men who manipulate the search-lights must be screened from actinic rays, otherwise their sight is seriously damaged. Ears must be prepared for and protected against the blasts of gun-fire. The continuous use of telescopic sights by gun-pointers frequently leads to serious impairment of vision. It is on these men that we must rely for accuracy of fire. The constructors may give us stable battleships, the ordnance officers high-powered rifles, and the commanding officers may maneuver the ships with consummate skill; still, if the men who point the guns cannot see straight, we are not going to have hits, and the outcome of battle may hinge on this remediable defect.

An ophthalmologist of recognized ability is studying the vision of gun-pointers in the Atlantic fleet, and without doubt the crippling effects of this industrial disability will be averted and military efficiency thus very materially advanced.

Sanitation has made the building of the Panama Canal possible; with the completion of the canal the field of operations of the battleship fleet will be practically doubled; in other words, the Atlantic fleet will be placed within striking distance of the Pacific and conversely the Pacific fleet will become effective in the Atlantic. No more impressive demonstration of the value of sanitation to a military establishment could be pointed out.

Any war plan which fails to take into consideration the sanitary features of the problem—the term sanitary is used in its broadest military sense—and to benefit by the best advice obtainable along these lines, should be cast aside as incomplete and likely to break down under actual battle conditions. Such a plan, must, of necessity, be one-sided. Until recently the Atlantic fleet was so organized that, had it gone into battle, the breakdown in the medical department would have been one of the most appalling in history. This condition of affairs was the result of a one-sided development. The awakening of a new spirit in the Navy Department, one of coordination and cooperation, in other words team-work, with military efficiency as its prime object, has made the solution of this problem possible. It is perfectly plain that medicine and surgery, by virtue of what they are doing and have done to promote military efficiency, stand in the front rank of the fighting arms of the nation to-day, and any attempt unduly to subordinate them or to deprive them of the recognition that is their due should be combated to the bitter end.

If the regulations or the laws make it impossible to put into operation effective organization and administration, then the laws and regulations must be changed to meet the new conditions. If these conditions of naval warfare have been such as to relegate to oblivion wooden ships, sails and spars, and with them much of the romance of the sea, then there should be no hesitation in casting aside cherished traditions, often clung to tenaciously for the sake of these traditions themselves, to make way for practicality and effective accomplishment. Responsibility should be recognized by appropriate rank and in this, as compared with foreign navies in all branches of the service, there is much to be desired.

The watchwords of the Navy Department to-day—and these watchwords have been instilled into us by our illustrious Commander-in-Chief—are, first and foremost, military efficiency, to be accomplished by coordination and cooperation, team work, close scrutiny of expenditures, the avoidance of needless waste; in other words, effective practical economy. Organized along these lines it is safe to say that the Navy will give as good an account of itself in the future as it has in the past, and its very preparedness will make it a potent factor in maintaining peace.

DR. RODMAN, introducing Surgeon-General Torney, said:

There is no abler, more representative, more patriotic a body of soldiers on the face of the earth, whether in peace or on the firing line, than the Medical Corps of the United States Army. It has not only demonstrated this ability and patriotism in times of war, when almost superhuman strength and courage were necessary to attend properly to the large number of wounded entrusted to its care, but it has done even more in peace, by demonstrating the cause of yellow fever and malaria, and ameliorating the terrors of each. The heroic and self-sacrificing experiments of Carrol, Reed and Lazear can never be forgotten either by their medical confreres or humanity for whom they died.

The Medical Corps of your Army, Mr. President, made it possible to build the Panama Canal after others had signally failed in this audacious and world-astounding enterprise. It was placed in such command, sir, by your orders as secretary of war. Its work has been characterized by Dr. Mitchell as "engineering surgery," and so successful was the operation that Colonel Gorgas, the operator, was unanimously elected President of the American Medical Association.

We have with us this evening the distinguished head of this corps, a man, "modest, kindly, all accomplished, wise." I now call upon and introduce to you that surgeon, soldier, gentleman—General George H. Torney.

Sanitary Progress in Fort and Field

DR. GEORGE H. TORNEY, Surgeon-General U. S. A.: Of the records of the history of our country there are none more interesting than those of the Medical Department of our Army. It began at the siege of Boston in 1775. Without going into details it will suffice to state that no adequate provision was made for its administration until it was forced upon Congress by General Washington, because of the large morbidity and mortality rates amongst the troops of the Revolutionary Army.

At the end of the Revolutionary War the Army was practically disbanded, and its medical department went out of existence. After the War of 1812 there was a reorganization of the Army, but in this reorganization the Medical Department received scant consideration.

Engaged in that war was Assistant-Surgeon Beaumont, who was destined to make his name in the medical history of his country. In 1822 Alexis St. Martin, of whom you have all read, suffered from a wound of the stomach, which was finally cured, leaving a fistula. Fortunately for science he fell under the care of Surgeon Beaumont and when in 1825 the wound of the stomach of Alexis St. Martin had healed, Surgeon Beaumont began his experiments in the study of the physiology of digestion. In the light of history Beaumont should be given the credit as the first scientific investigator in physiology in our country. For it was he who instituted and carried out his investigations with all the acuity so well illustrated by modern methods. His work will endure forever.

The Mexican War brought to the Medical Department of the Army a grave responsibility in the care of the sick and wounded, and also the management of epidemics in a foreign land, and those of you who have had experience in this work will appreciate the labor involved in the solution of such problems. In this connection it must be remarked that the medical department of an army on a peace basis is inadequate in personnel for war, and this statement applies to all other armies as well as our own. The very suggestion for adequate provision of the medical department of an army seems to appall the administrative authorities of the service.

When the Civil War began the Medical Department of the Regular Army was small in numbers, and on it was thrust the medical administration of a vast army which, through the early part of the war, could not be made efficient because of inadequate personnel and lack of appreciation of its needs.

The Civil War developed Jonathan Letterman, a surgeon of the Army, of whom but a few of you have heard, but whose name stands out most prominently in the medical history of the War of the Rebellion. It was he who organized and administered the Medical Department of the Army of the Potomac under a system which was adopted by other armies in the field. There was much opposition to his policy of administration, but the War Department and Congress ultimately recognized its merit.

At that period the Medical Department had frequently 80,000 patients under its care. Exceptionally these numbers ran over 100,000, and in one instance 120,000 patients. To-day Letterman's system for the administration of the medical affairs of the Army of the Potomac has been adopted as original by the military authorities of Europe without credit to its author, and with no mention of the United States.

After the termination of the Civil War the medical and surgical history of the War of the Rebellion was written by the officers of the Medical Department of the Army ,and to-day it stands as a monument of the industry of the men who engaged in this work. At the same time was begun the Index-Catalogue of the Library of the Surgeon-General's Office. At first it was a pamphlet of twenty small pages; to-day it is the greatest work of its kind in the world.

From the end of the War of the Rebellion to the beginning of the Spanish War, the Army of the United States was occupied in subduing the hostile Indians on what was known as the frontier. In these wars the officers of the Medical Department were fully engaged with their brothers of the line and exposed to the same dangers. At the outbreak of the Spanish War the personnel of the Medical Department was inadequate in numbers for the care of its own sick, and the sudden increase in the volunteer forces, for which no adequate provision had been made, added to its burden.

During this war a board composed of Vaughan and Shakespeare of the volunteer forces and Reed of the regular Army investigated the epidemic of typhoid fever which preveailed in the volunteer Army. The conclusions of this board are valuable to our profession. It is my belief that it proved that typhoid fever is a contact disease in the majority of cases.

After the Spanish War investigation was immediately begun in the study of tropical diseases, which resulted in proving by the board of which Walter Reed, surgeon, United States Army, was the directing head, that the mosquito is the intermediate host for carrying the infecting toxin of yellow fever. Of the brilliant results that followed this investigation you all know. It was due to this discovery that Gorgas, in Cuba, was enabled to stamp out yellow fever, and on his transfer to Panama, as chief sanitary officer, following the same methods to prevent the development of the disease on that Isthmus. It was this discovery, also, that enabled Kean of the Medical Corps of the Army, in Cuba in 1906, as chief sanitary officer of that island, to stamp out yellow fever after it had recurred in that island; and by his efforts to establish a department of public health which is to-day a model for the world. Measured in terms of money it is estimated that the discovery by Reed has already more than paid the cost of the Spanish War, the Philippine War and of the construction of the Panama Canal. I wish also to mention Ashford of the Medical Corps of the Army, who in 1902 began his investigations in Porto Rico as to the cause of the anemias among the inhabitants of that island. His report, with Dr. King of the Marine-Hospital Service, that the hookworm was the parasite that causes a large percentage of disability in tropical countries, was published in 1904.

To-day the Army Medical Department is engaged in an antityphoid campaign for the prevention of that dread disease. This campaign has followed the work of the typhoid board, composed of Musser, Thayer, Lambert, Vaughn, O'Reilly, Russell, Councilman and Flexner. To-day, in Texas, there is a division of the United States troops, every man of which is vaccinated against this infection. In that division not a single case of typhoid fever, which is the disabling disease of armies, has occurred. In the Spanish War typhoid fever developed in 90 per cent. of all the regiments within eight weeks after their organization.

I hope that the import of this statement will be fully impressed on you, since, from a medical point of view, this is history.

Tropical Medicine.—The eighth annual meeting of the American Society of Tropical Medicine will be held in New Orleans, May 18-19, under the presidency of Dr. William S. Thayer, Baltimore. The society will be the guest of the Orleans Parish Medical Society and part of the sessions will be held in its new building. At the morning session on May 18, held in this place, the president's address will be given and papers on malaria will be read. At the afternoon session, held in the Richardson Memorial, Tulane Campus, leprosy will be the topic. On the morning of May 19 there will be a clinic on pellagra at Charity Hospital, and at the morning session, held in the Hutchinson Memorial, Tulane Medical Department, there will be papers and a general discussion on amebiasis. The afternoon session at the same place will be devoted to the election of officers and members, and to papers on pellagra, yellow fever, snake poison, etc. An excursion to the Louisiana Leper Home has been arranged for May 20. The committee of arrangements extends a general invitation to all who are interested and requests those who are coming to notify the chairman, Dr. J. Birney Guthrie, Suite 602, Perrin Building, New Orleans.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 29, 1911.

Proposed Compulsory Opening of Windows

The antituberculosis campaign has had great effect in educating the public as to the importance of fresh air, and windows are now kept open to an unprecedented extent. But the compulsory opening of windows is a step which the most ardent hygienist would not dream of advocating in this country, in which the liberty of the individual is valued so highly and the house has been called the "Englishman's castle." However, the health committee of the Paddington Borough Council (one of the metropolitan boroughs) has recommended for adoption the following new by-laws for tenement houses: "It shall be compulsory for all windows of sleeping apartments to be opened wide for at least two hours a day, and for floors to be swept once a day and washed once a week." It is proposed to appoint inspectors with right of entry into the houses to see that the regulations are observed. The maximum penalty for breach of these laws will be $25, and $10 for each day the offense is continued.

The Seventeenth International Congress of Medicine

Arrangements are being made for the seventeenth International Congress of Medicine which will be held in London on August 6-12, 1913. The University of London, the Imperial College of Science and Technology and the City and Guilds College have expressed their willingness to put rooms at the disposal of the congress. It has been decided that the sections of laryngology and otology will be allotted two adjoining rooms and that the councils of these two sections shall arrange their programs in a conjoint meeting, and that their transactions shall be published in one volume and supplied to each member of the section. A section of radiology will be included in the congress. The section of pathology will include a subsection of chemical pathology. A section of anesthesia, both general and local, will be established. Sections XX and XXI of the last congress will be so altered that one section will be devoted to naval and military medicine and another section wholly devoted to tropical medicine. The following alterations have been made in the titles of the sections: Section III, from general and experimental pathology to general pathology and pathological anatomy; Section IV, from bacteriology and pathologic anatomy to bacteriology and immunity; Section XVIII, from hygiene and immunity to hygiene and preventive medicine. Papers introducing subjects for discussion will be previously printed and distributed to all the members of the section who have intimated their intention to take part in the discussion and to any members who may apply for them. The introductory papers cannot be printed in all the four official languages, but abstracts of them will be printed, as was done at the last London congress. In each section, the morning sessions will be devoted to discussions on subjects of interest to be selected by the officers of the sections. Each discussion will be introduced by not more than two speakers, to be selected by the officers of the section, with due regard to the international character of the meeting. It shall not be permissible to read the introductory papers already printed, but a time not exceeding twenty minutes shall be allowed to each introducer to read and elaborate an epitome of his introductory paper. Subsequent speeches in the discussion shall not exceed ten minutes. None but the introductory speakers shall be invited by the officers of the section to take part in the discussion. At the morning session no papers other than on the subjects set down for discussion shall be taken up, unless the general discussion has terminated before the hour fixed for the termination of

the morning section. The afternoon session shall be devoted to papers offered by the members of the section. The staff of the section shall have the power of selection from among the papers offered. Not more than fifteen minutes shall be allowed for the reading of any such paper nor more than five minutes for any speech discussing it.

The Cambridge Hospital for Special Diseases

At Cambridge a very small but remarkable hospital was founded five years ago for the study of special diseases by some of the leaders of the profession—Sir Clifford Allbutt, Professor Osler, Sir William Church, Sir Jonathan Hutchinson, Sir Richard Douglas Powell, Sir Henry Morris, Sir W. Watson Cheyne, Sir Victor Horsley and Sir Donald MacAlister. The objects for which the hospital were established were thus stated by the committee: "Much and fruitful research has been done in acute diseases, but there are many chronic and widespread maladies which have not yet received the attention they deserve. These, though not commonly immediately fatal to life, incapacitate the sufferer from active work, cause great pain and misery, and finally leave the victim helpless and entirely dependent on the kindness and charity of his friends or of strangers. Patients suffering from these diseases, owing to the slow progress and long continuance of their illness, are not suitable for reception into general hospitals, which as a rule admit by preference cases of the more acute diseases. The mode of origin or progress of these affections is very imperfectly known, and little therefore can be done in the way of their rational treatment. The great need of scientific research on these chronic diseases has been strongly felt by the medical profession for many years." At present, the hospital is lodged in a small private house containing four beds, and for the most part is supported by subscriptions from physicians. A bulletin giving the results of the work of the staff is issued from time to time. Rheumatoid arthritis is one of the subjects which has been investigated. Though no great advance in knowledge can be chronicled yet much careful work has been done which clears away prevalent misconceptions and may make a path for future advances. The house which is used as a hospital is small and in many ways inconvenient. It has therefore been decided to build a small hospital for which a site of one acre on the outskirts of Cambridge has been secured. The plans have been drawn up. There will be a consulting room, library, three rooms for research, a photographic dark room and a room for *x*-ray apparatus. The cost is estimated at $8,000.

The Teaching of Hygiene in Elementary Schools

Dr. Addison, lecturer on anatomy at St. Bartholomew's Hospital and liberal member of parliament for Hoxton, has introduced a valuable bill: "to require that in public elementary schools instruction shall be given in hygiene, and to girls in the care and feeding of infants." This bill is in no sense a party measure and has received the support of more than 200 members of the house on all sides. Its first reading has been carried unanimously. Since the bill was first introduced last year the principal health officer of the local government board has stated in one of his reports that the provision of this instruction would greatly prevent the waste which has caused so much pauperism in Great Britain. Of late years there has been considerable quickening of the public conscience in this matter, and owing to the efforts of various associations and the voluntary work of teachers and public authorities there has been a remarkable diminution in infant mortality. Nevertheless, one child in every three dies under the age of 5 years, and one out of every five under the age of 12 months. The number of children who die under the age of 5 years amounts to 150,000. The causes are manifold: bad sanitation, crowded rooms, poverty, etc. But Dr. Addison does not hesitate to say that at least 50,000 die as a direct or indirect consequence of parental ignorance. This is particularly true for the manufacturing districts of the north. In the fifteen large Lancashire towns with a population of 3,000,000 the death-rate for the summer quarter of last year was 30 per cent. higher than in London, and this was mainly due to infant mortality. In the town of Burnley, which has an unenviable reputation, the health officer attributes one-fifth of the deaths to the fact that the mothers work in factories and leave their children in charge of ignorant persons.

Plague in India

The recrudescence of plague in India was announced in a previous letter to THE JOURNAL. In reply to a question in parliament, Mr. Montague, the under secretary for India, stated that the situation was very seriously regarded by the authorities who had been hopeful of a permanent diminution, and had made every effort to stamp out the disease. In the central provinces of Agra and Oudh alone the deaths from plague amounted to 43,508 in February and 95,884 in March.

The Lowest Birth-Rate and Death-Rate on Record in Scotland

A short time ago the lowest birth and death-rates on record in England were reported in THE JOURNAL. A similar announcement has just been made with regard to Scotland. The birth-rate for 1910 was 25.16 per thousand and the death-rate 14.66, the lowest figures ever recorded.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 28, 1911.

Illegal Practice of Medicine in the Pharmacies

The Syndicat médical de Paris has just made an attempt to come to an understanding with the Syndicat des pharmaciens de Paris et de la Seine on the question of the illegal practice of medicine in the pharmacies. Unfortunately, after two entire sessions devoted to the joint examination of the important questions interesting the two professions, it appeared evident that the point of view of the physicians and that of the pharmacists were irreconcilable. The delegates from the Syndicat des pharmaciens asserted that the illegal practice of medicine was forced on them by the public and that their business existence depended on it. If one druggist were to refuse to sell non-toxic drugs, the customer would merely go to another pharmacist. The delegates of the Syndicat médical de Paris replied that the simplest drugs might in certain cases be harmful, or at least, useless, and might, if only by causing the patient to lose precious time, become dangerous. The delegates of the Syndicat des pharmaciens then proposed that pharmacists should be granted the right to sell once to a customer commonly used drugs, without a prescription, at the same time urging the patient to find a physician before coming again. This proposition was evidently too contrary to the law of the practice of medicine and pharmacy to be accepted. A medical society, charged with the duty of defending the interests of the medical profession, could not take the responsibility of approving a tolerated violation of law.

The delegates of the medical society proposed that a notice like the following should be posted in all of the pharmacies which wished to accept it, and especially in those of the members of the pharmacists' society: "In accordance with the laws which regulate the practice of medicine and pharmacy, in order to safeguard strictly the responsibility of pharmacists and in the interests of its health, the public is invited, in case of any indisposition, to call in a physician, since any delay in medical intervention may entail irreparable consequences, which might be avoided by the judicious attentions which can be given only by a physician." The pharmacist delegates, however, considered the proposition impracticable. They merely proposed to aid physicians to prosecute for such overt instances of illegal practice of medicine as consultations in the rear of the shops, and systematic dressings, etc., given to patients. They were also willing to take part in a newspaper campaign of publicity with regard to the danger of asking a druggist for drugs without a physician's prescription.

Similar divergencies came to view on the subject of the renewal of prescriptions. According to the law, druggists have no right to deliver drugs on old prescriptions, whether they call for toxic substances or not. The law on this point is violated daily, and the delegates of the Syndicat des pharmaciens declare that this violation is forced on them by the habits of the public. To regularize their irregular situation, they proposed the following principle: "Every prescription which does not bear the words 'not to be renewed' may be filled again." The delegates of the medical association, on the other hand, proposed the following rule, which is in accordance with the spirit of the law and guarantees the safety of the people: "No prescription may be renewed by a druggist, except those on which the physician shall have written the words 'to be renewed.'"

Other divergencies also appeared on the question of the delivery of drugs without prescriptions. The pharmacists expressed a wish that a list of drugs not to be delivered without prescriptions should be drawn up, while the physicians wished that a list should be made of the only drugs which the pharmacist would have the right to sell without prescriptions. Agreement was not reached on any of these points.

Personal

In its session of April 25, the Académie de médecine elected as national correspondents, Dr. Blanquinque of Laon and Dr.

Laguesse, professor of histology at the Faculté de médecine de Lille.

Improvements in the Hospitals

The municipal counsel of Paris has just authorized the expenditure of $2,000,000 (10,000,000 francs) for improvements in the following hospitals: the Hôpital Cochin, the Hôtel-Dieu, the Bicêtre, the Hôpital des Enfants-Malades, the marine sanatorium of Hendaye, situated on the Bay of Biscay, and the Nouvelle-Pitié.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 20, 1911.

Personal

In place of Professor Matthes, Professor Moritz of Strasburg has been nominated for first place for the internal medical clinic at Cologne, and it is rumored that Moritz has accepted the call. The singular circumstances that a man should go from a university to an academy and thus sacrifice his position is explained by the fact that Moritz soon after his appointment at Strasburg alienated from himself the physicians of that place and did not possess the faculty of securing himself in his present position. It is to be hoped that this experience will stand him in good stead in his new place.

Inoculation of Syphilis in Rabbits

Professor Uhlenhuth, director of the imperial health office in Berlin and soon to be professor of hygiene in Strasburg, reported, at a recent meeting of the *Berliner medizinische Gesellschaft*, the inoculation of rabbits with syphilis. The injections were made into the testicles and into the blood vessels. By further inoculations into other animals, sixteen transmissions were secured and in this manner the virulence was raised so that the inoculations yielded 100 per cent. of successes. Clinically three forms could be distinguished: Erosions of the scrotal skin, chronic inflammation of the testicle and periorchitis. Histologically the lesions resembled those of human syphilis and contained many spirochetes. Moreover, Uhlenhuth and his coworkers were able, by the injection of very virulent rabbit material into the circulation of other rabbits, to induce general syphilis in these animals. In the circulating blood of these animals living spirochetes could be demonstrated. General syphilis could be produced also in monkeys through the circulation. In the discussion that followed this paper the skepticism which Professor v. Hansemann expressed regarding the etiologic significance of *Spirochæta pallida* for syphilis was remarkable. He admits that the spirochete plays a certain rôle in syphilis, but he doubts that it causes the disease since it is not found in the tertiary forms. In the products of the inoculation there could be found many deviations from the manifestations typical of human syphilis. The other speakers opposed this skepticism with the exception of Dr. Siegel, who used to champion other ameba-like germs as the cause of syphilis. Uhlenhuth asserted in closing that the same symptoms were found in the infected monkeys as in man. That no spirochetes are found in gummas is not singular as even in tubercles it is sometimes impossible to demonstrate tubercle bacilli. He added that malaria parasites have not yet been grown in pure culture, and yet no one doubts their etiologic significance.

Age and Tuberculosis

The Prussian national statistical office has recently published a review of the mortality from tuberculosis in Prussia according to sex and age for 1908 and 1909. In an article in the *Zeitschrift für Tuberkulose* B. Frankel reproduced these tables and remarks that they demonstrate the progressive diminution in the death-rate from tuberculosis. In 1908 there died in Prussia, 63,320; in 1909, 60,871. For 100,000 living there were in 1908 16.40, in 1909, 15.59 deaths from tuberculosis. The mortality from tuberculosis in the first year of life shows in 1908 the high percentage of 26.86 per 100,000 living, the highest in any of the age classes, but in 1909 it was only 23.65. The death rate from tuberculosis of children from 1 to 15 years old has never since 1881 reached so low a figure as in 1909. While in 1881 the deaths numbered 11,000, and in 1902 they were more than 13,000, in 1909 they amounted only to 10,621.

Ward for Pay-Patients at the Moabit City Hospital

At the last session of the city council this new departure which I have previously mentioned was inaugurated. A physician belonging to the Sozialdemokratische party opposed this move as essentially an introduction of class distinctions into the municipal hospitals. He declared that every preference of the better as against the poorer classes was an evil. He was of the opinion that such an arrangement would work prejudicially to the general care of the sick. He wanted no class distinctions in the municipal hospitals and opposed it also on account of the financial interests of the city. In reply to this the mayor emphasized the pressing need of meeting the requirements of the middle classes in the way proposed. Care should be taken to bring the arrangements already present into an orderly legitimate system. He was convinced that by the establishment of a second class, the level of the third class would be raised. So long as class distinctions existed they must be recognized. As a matter of fact there are many people who for certain reasons cannot apply to the municipal free hospitals, who yet are unable to pay the high prices charged by private sanatoria, or for medical treatment at home, without actually impoverishing themselves. If the city should devote a small portion of the public funds to the assistance of these people, a good work would be accomplished. There is no occasion for any uneasiness on the part of the medical profession in view of this undertaking.

Disinfection of Books

Under the heading, "The Spread of Infectious Diseases by Printed Matter," Dr. Trautmann, who is at the head of the state hygienic institute in Hamburg, presents a very interesting article in the *Zeitschrift der Schulärzte*. The possibility of conveying infection by printed matter must be admitted although positive evidence of its occurrence can seldom be furnished. It is evident that circulating libraries constitute an especial danger in this respect. The conveyance of tuberculosis is especially to be feared, because this disease is wide-spread, usually runs a chronic course, giving opportunity for literary recreation for a long time, and further the bacillus is readily deposited on objects by coughing and the disease germs have an extraordinary capacity of resistance. Naturally other diseases can be conveyed in the same way. The use of books at school is not without danger. There is possibility enough for transmission of disease by means of text-books and books from the school library. England, America and Austria have possessed for a long time the beginnings of an official regulation for the disinfection of books. Until a few years ago, however, Germany has had no effective and harmless method for this purpose.

Books are difficult objects to treat; neither dry heat nor streaming steam at 100 C., neither sulphur dioxid nor cold formaldehyd gas gives satisfactory results. At present a solution of the question appears to have been reached and by two entirely different processes. The method of Findel and Xylander consists in the application of hot air at a temperature of 75-80 C. (167-176 F.) with a relative humidity of 30-40 per cent. or even up to 80 per cent. The moist heat acts essentially by conduction and radiation. Unfortunately sterilization by this process requires a considerable length of time. The process for a single disinfection of closed books, and the process is intended for these, requires two days. Moreover only the vegetating forms of bacteria are killed, the resting forms not being affected.

In Glaser's quicker acting modification of this method, air at 98-100 C. and a humidity of 60 to 80 per cent. is employed with the addition of formaldehyd, but there are objections to this method, which seems to be injurious to the books. Trautmann proposes another process which he considers more reliable. He bases it on the investigations of Esmarch and Kister. He calls attention to the process introduced three years ago with the so-called "Hamburg apparatus" which depends on the operation of a stream of steam evaporated under reduced pressure and saturated with formaldehyd at a low temperature. This process has worked well in the disinfection of furs, skins, leather, silk and velvet goods, and is also well suited to the disinfection of books, butterflies, stuffed animals, etc. The most important point is that the Hamburg process operates with streaming saturated steam but at a low temperature, and does its work in a short time, more effectually and at a lower cost. A complete disinfection does not take longer than ninety minutes at the most.

A condition for the successful action of the Hamburg apparatus is the careful spreading of the leaves of the book. It is not suited to the disinfection of closed, thick books or closely packed printed matter. Trautmann uses for the necessary spreading a stout rack in the form of a trough; another method consists in drawing back the covers of the books, tying

them together over the back of the book and hanging a row of books thus treated on the rods in the Hamburg apparatus. Xylander unites the two methods in one. The proposed method of disinfection kills all disease germs and does not injure the books in any way. Trautmann's claims have been confirmed by a thorough trial by Xylander and Glaser. Gärtner selects alcoholic steam for disinfection, but this method is not to be recommended because the disinfection takes a long time and injures the books.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 25, 1911.

The Repeated Use of Prescriptions

In this country the doctor's prescription is handed back to the patient by the apothecary who has made it up, only the date of the prescription being added by him. Very often the latter rule is not strictly adhered to; thus the patient is enabled to obtain the remedy for an indefinite number of times. By such means, crimes and suicides have been committed repeatedly here within a short time, lately. Therefore, a memorandum has been presented to the ministry of the interior by medical associations, and the necessity of strict adherence to the existing rules emphasized. Shortly afterward, all druggists and pharmacists, as well as doctors, were admonished by an ordinance of the ministry, to turn their attention to the abuse of medical prescriptions by patients. The law requires that every filling of a prescription be marked on it by the dated stamp of the dispenser. If "heroic" remedies or strong poisons and other narcotic substances are contained in the prescription, the doctor should add how often the patient may have it made up by writing down: *Ne repetatur*, or *Repetatur semel*. Attention is chiefly drawn to the hypnotic and narcotic substances of modern chemistry, which are not yet contained in the "poison list," but which are most often the object of repeated administrations by the patients. On this point the interests of the public are coincident with those of the profession, although naturally the impossibility of obtaining a remedy without consulting a physician will be found an unpleasant difficulty by many easy-going patients.

Marriages

FRANCIS WINSLOW JOHNSON, M.D., Glyndon, Md., to Miss Marion Lawrence Reese, at Baltimore, April 24.

DAVIS THOMAS BOWDEN, M.D., Paterson, N. J., to Miss Helen W. Bryce of Passaic, N. J., April 19.

RAYMOND H. GAYNOR LAUB, M.D., Brooklyn, N. Y., to Miss Lucretia Ferris of Elmira, N. Y., April 24.

JOHN RICHARD CALLAWAY, M.D., to Miss Luella Louise Wingfield, both of Kansas City, Mo., April 29.

ANDREW JOHNSON BROWN, M.D., The Dalles, Ore., to Miss Marie Wetzel of Portland, Ore., April 20.

JAMES SOUTHALL WILSON, M.D., to Miss Julia Gardiner Taylor, at Williamsburg, Va., April 17.

ARTHUR H. MEYERS, M.D., Mystic, Conn., to Miss Helen M. Barker of East Orange, N. J., April 21.

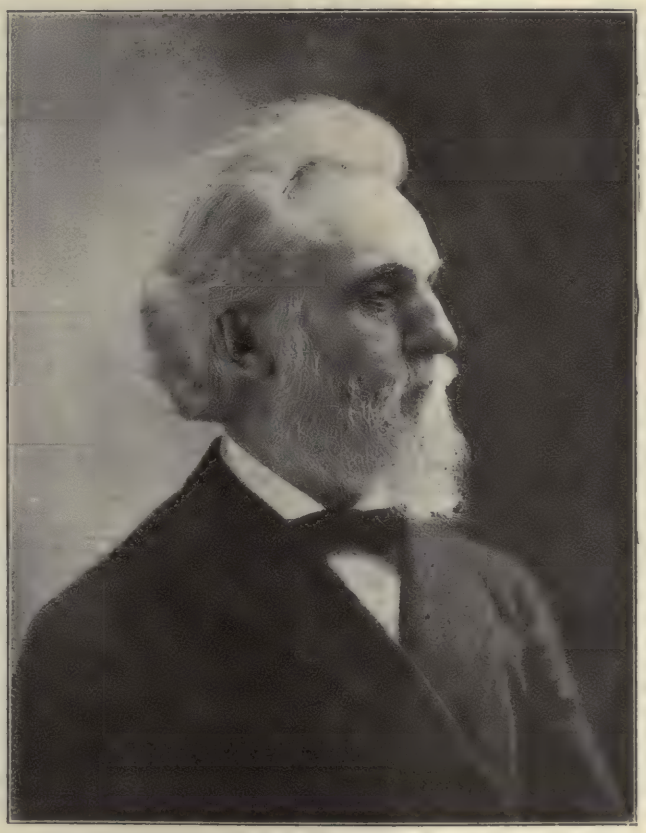
PETER H. JOBSE, M.D., to Miss Minnie Fitzgibbon, both of Milwaukee, April 26.

Deaths

Isaac Newton Danforth, M.D., one of the best beloved of the older physicians of Chicago; died at his home, May 5, from heart disease, aged 75.

Dr. Danforth was a descendent in direct line of Nicholas Danforth who landed in Massachusetts Bay in 1634. His paternal grandfather and three uncles were physicians before him and this naturally turned young Danforth's mind toward medicine. He graduated from Dartmouth Medical School, Hanover, N. H. in 1862, and was given the honorary degree of A.M. by Dartmouth College nineteen years later. After four years of practice in New Hampshire, Dr. Danforth located in Chicago where he soon attained high rank as a practitioner and teacher.

His work as a medical teacher commenced in 1868, when he became instructor in chemistry at Rush Medical College. Three years later he was made lecturer of pathology; in 1873 president of the spring faculty and in 1881 professor of pathology. His work in Northwestern University Medical School began in 1882, when he was made professor of pathology. From 1887 to 1895 he was professor of clinical medicine in that institution. In 1876 he became professor of pathology in the Woman's Hospital Medical College, which afterward became Northwestern University Woman's Medical School, and continued in this position for nineteen years; and for four years thereafter was dean of the faculty and professor of internal medicine.



I. N. DANFORTH, 1836-1911

He became attending physician to St. Luke's Hospital in 1870 and continued in that position until 1895. For the first ten years of the existence of Wesley Hospital, he was chief of its medical staff; for many years he was pathologist to Cook County Hospital, and consulting physician to various hospitals in Chicago for thirty years past.

His society membership included the American Medical Association, the Association of American Physicians, the Chicago Pathological Society, of which he was once president, and he was one of the founders and first president of the Society of Medical History of Chicago.

Dr. Danforth was a frequent contributor to the medical literature, and more especially of late years, on the lines of medical history and biography; in 1907 his life of Dr. Nathan Smith Davis was published. Dr. Danforth's chief recreation was in the line of history and his collection of Americana was of more than local repute.

In 1909 Dr. Danforth founded a medical missionary hospital in Kiu Kane, China, in honor of his first wife, Elizabeth Skelton Danforth.

He had not been in robust health for a long time, but was confined to his house for only about three weeks. He had been a sufferer with asthma for a long while, but his death was due to valvular disease of the heart.

As a general practitioner, Dr. Danforth was exceptionally successful. He was one of the first in Chicago and the Northwest to use the microscope in pathology. He was a man of steadfast conviction, of most exemplary life and stood always for the best in all things. His death will be deplored by his many friends and by the hundreds of men and women in the profession all over the world whom he has helped, both materially and by wise counsel.

Herbert Milton Nash, M.D. University of Virginia, Charlottesville, 1852; the oldest and most esteemed physician of eastern Virginia; died April 26, at the Sarah Leigh Hospital, Norfolk, Va., from shock following an operation for the removal of gallstones, aged 79. After his graduation, Dr. Nash took post-graduate work for a year in New York City, and then began practice in Norfolk, and was the only survivor of the physicians who combated yellow fever in that city in the great epidemic of 1855. On the outbreak of the Civil War he was appointed assistant surgeon of the State Force of Virginia and later was made surgeon and corps surgeon in the Confederate service, where he served throughout the Civil War. He was a charter member of the Norfolk Medical Society and served for several terms as its president; a member of the Virginia State Medical Society and, at one time, its president; and at the time of his death an honorary fellow. He was also a member of the American Medical Association, American Public Health Association and the Southern Surgical and Gynecological Association. He was at one time vice-president of the Medical Examining Board of Virginia, president of the Norfolk Board of Health, president of the Board of Quarantine Commissioners of the district of Elizabeth River, and formerly quarantine officer. He was also a member of the staff of St. Vincent's and the Norfolk Protestant hospitals. In 1902, on the occasion of the fiftieth anniversary of the graduation of Dr. Nash from the University of Virginia, he was the guest of honor of the faculty of that institution. The Norfolk County Medical Society, at a special meeting, adopted resolutions expressing the personal and professional loss felt by its members in the death of its oldest and most esteemed ex-president and member.

Carlton C. Frederick, M.D. University of Buffalo, N. Y., 1881; a member of the American Medical Association, the American Gynecological Society, the American Association of Obstetricians and Gynecologists, president of the Buffalo Academy of Medicine and many local societies; adjunct professor of obstetrics in the medical department of Niagara University from 1883 to 1896, and clinical professor of gynecology in the University of Buffalo since 1897; one of the founders and surgeon in chief to the Buffalo Woman's Hospital, and a member of the staff for many years of the Buffalo General and St. Mary's Lying-In Hospitals; author of many monographs on gynecology and abdominal surgery; died at his home, April 30, from endocarditis, aged 55. At a special meeting of the Buffalo Academy of Medicine, action was taken on the death of Dr. Frederick and eulogies were pronounced by many of his colleagues.

Norman J. Pettijohn, M.D. Kansas City (Mo.) Medical College, 1884; formerly a member of the American Medical Association; a Federal soldier and later assistant surgeon of volunteers in the Civil War; formerly chief surgeon of the Kansas City, Fort Scott and Memphis Railroad, and later assistant chief surgeon of the Frisco system; for several years chief surgeon of the Metropolitan Street Railway Company of Kansas City; once president of the International Association of Railway Surgeons and of the Jackson County Medical Society; died at his home in Kansas City, April 22, aged 71.

Erasmus Van Meter Swing, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the American Medical Association; president of the Coatesville, Pa., Board of Health and chief of staff of the Coatesville Hospital; who came to Philadelphia to attend the reception given President Taft by the Philadelphia Medical Club, May 5; died in the Bellevue-Stratford Hospital in that city, May 6, from acute gastritis, aged 70.

Jacob Dimmitt Norris, M.D. University of Maryland, Baltimore, 1878; a member of the Baltimore Clinical Society; president of the board of police examiners of Baltimore; formerly a member of the city council and vaccine physician; president of the local pension board and formerly mayor and surgeon of the Fourth Infantry, N. G., Maryland; died at his home in Baltimore, April 24, from heart disease, aged 67.

Harry Johnson Dean, M.D. Jefferson Medical College, 1890; a member of the American Medical Association and American Academy of Ophthalmology and Oto-Laryngology; eye, ear, nose and throat surgeon to the Hershey Memorial Hospital, Muscatine, Ia.; died at his home in that city, April 26, from nephritis, aged 42.

Edward W. Fox, M.D. Denver and Gross College of Medicine, Denver, Colo., 1904; a member of the Colorado State Medical Society and president of the Las Animas County Medical Society; a specialist in diseases of the eye and ear; died at his home in Trinidad, Colo., April 30, from disease of the lungs, aged 32.

James B. Morgan, M.D. Medical College of Georgia, Augusta, 1876; professor of anatomy and clinical surgery in his alma mater; sometime president of the Medical Association of Georgia and the Alumni Association of the University of Georgia; for several years president of the Augusta Board of Health and coroner's physician for Richmond County; a member of the State Board of Health; died at his home, April 23, aged 53.

Robert Caldwell, M.D. University of California, San Francisco, 1869; a member of the Medical Society of the State of California and a pioneer practitioner of San Jose; for several years a practitioner of Nagasaki, Japan; a member of the Western Union Telegraph Company's famous expedition through Alaska in 1867 and 1868; died at his home in San Jose, April 20.

Thomas Hamill, M.D. Eclectic Medical Institute, Cincinnati, 1855; Humboldt Medical College, St. Louis, 1867; Missouri Medical College, St. Louis, 1868; acting assistant surgeon in the army during the Civil War; for twenty years a member of the board of pension examiners of Johnson County, Kan.; died at his home in Olathe, March 18, aged 85.

Henry Allison Lathrop, M.D. Hahnemann Medical College, Chicago, 1881; New York University, New York City, 1890; a member of the American Medical Association; a member of the Wisconsin state legislature in 1887; died at his home in Marshfield, Wis., April 25, from cerebral hemorrhage, aged 61.

Thomas Hodge Johnson, M.D. Eclectic Medical Institute, Cincinnati, 1879; a veteran of the Civil War; for several terms superintendent of schools of Laclede County (Mo.); a member of the Missouri legislature for three terms; died at his home in Springfield, April 24, aged 70.

Cornelius Sampson Jackson, M.D. Harvard Medical School, 1865; assistant surgeon of the Thirtieth Massachusetts Volunteer Infantry during the Civil War; a member of the Boston Surgical and Gynecological Society; died at his home in Hudson, Mass., April 22, aged 67.

Richard E. Johnson, M.D. Miami Medical College, Cincinnati, 1856; a member of the American Medical Association and a life member of the Ohio State Medical Association; president of the First National Bank of Lima; died at his home in Gomer, April 24, aged 76.

Lewis S. Brown, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; a member of the Missouri State Association, and for several years president of the Knox County Medical Society; died at his home in Edina, April 21, from arteriosclerosis, aged 75.

Vesley Marvin Newcombe, M.D. University of Vermont, Burlington, 1884; a member of the New Hampshire Medical Society; a physician of Somersworth, and a numismatist of note; died at his home, April 25, from cirrhosis of the liver, aged 50.

Cameron Piggot, M.D. University of Maryland, Baltimore, 1882; dean of the academic department and professor of chemistry and geology in the University of the South, Sewanee, Tenn.; died at his home in that place, April 30, aged 55.

George Bruce Thomas, M.D. University of Alabama, Mobile, 1898; of Maysville, Ky.; died in the Hord Sanitarium, Shelbyville, Ind., April 8, from the effects of corrosive poison believed to have been self-administered with suicidal intent, aged 45.

Alfred H. Caviness, M.D. Baltimore University School of Medicine, 1901; a member of the Medical Society of the State of North Carolina; died at his home in High Falls, April 29, from septicemia, the result of a carbuncle of the neck, aged 53.

Lewis H. Kirk, M.D. University of Pennsylvania, Philadelphia, 1877; a member of the American Medical Association and local United States pension examining surgeon; died at his home in Oxford, Pa., April 26, from heart disease, aged 60.

John Worthing Hurlbert, M.D. Cleveland University of Medicine and Surgery, 1877; formerly a member of the American Medical Association; died at his home in Uniopolis, Ohio, April 24, from carcinoma of the stomach, aged 58.

Thomas Jefferson Largen, M.D. Texas Medical College, Galveston, 1874; of San Antonio; formerly a member of the State Medical Association; a Confederate veteran; died at the home of his son in San Antonio, April 23, aged 70.

John Clayton Abernathy, M.D. University of Nashville (Tenn.), 1866; a prominent practitioner of East Tennessee and a Confederate veteran; died at the home of his son in Chattanooga, April 20, from senile debility, aged 87.

Robert I. Bowie, M.D. Royal University of Munich, Bavaria, 1880; formerly a practitioner of San Francisco, but for many years a resident of Nagasaki, Japan, where he founded a hospital; died in the latter city, April 24, aged 52.

George M. Covert, M.D. University of Louisville, Ky., 1873; local surgeon for the Missouri Pacific Railway at Arkansas City, Kans., and one of the directors of the Arkansas City Hospital; died at his home, April 22, aged 70.

Horace T. Cooper, M.D. Hahnemann Medical College, Chicago, 1867; a pioneer resident of Colorado Springs and a veteran of the Civil War; died at the home of his son in Denver, April 23, from senile debility, aged 82.

Archibald Alexander Terhune, M.D. Jefferson Medical College, 1888; a member of the State Medical Association of Texas; died at his home in Jefferson, April 22, from accidental poisoning by phenol, aged 50.

Fannie L. Draper, M.D. Chicago Homeopathic Medical College, 1902; formerly a missionary of the Methodist Episcopal Church in China; died recently and was buried in Jackson, Mich., April 23, aged 78.

Roland Augustus Davis, M.D. Boston University School of Medicine, 1893; a member of the homeopathic staff of the Somerville (Mass.) Hospital; died recently at his home in that city, aged 64.

Frederick Gelwicks Strock, M.D. Jefferson Medical College, 1886; of St. Thomas, Pa.; a member of the Franklin County Medical Society; died in Johns Hopkins Hospital, Baltimore, April 25, aged 48.

Henry Slosson, M.D. Cleveland University of Medicine and Surgery, 1861; for many years a practitioner of Youngstown, O.; died at his home in that city, April 23, from cirrhosis of the liver, aged 75.

Joseph Warren Cadwell, M.D. Jefferson Medical College, 1863; Bellevue Hospital Medical College, 1866; of Chandler City, Mo.; was suffocated by smoke in his room in that city, May 2, aged 72.

Carl Lebrecht Rudolph Zimmermann, M.D. University of Breslau, Germany, 1857; a practitioner of Campbellsport, Wis., since 1858; died at his home, March 28, from heart disease, aged 81.

Joseph Brockway (license, Iowa) a practitioner of Iowa and Oklahoma since 1864; who retired in 1901; died at his home, Aline, Okla., April 26, from senile debility, aged 84.

Lyman Monson Nichols, M.D. Geneva (N. Y.) Medical College, 1858; for thirty-five years a practitioner of Pulteney, N. Y.; died at his home in that village, April 24, aged 75.

John Wright, M.D. University of Louisville, Ky., 1857; surgeon in the Confederate service throughout the Civil War; died at his home in Sardis, Miss., April 26, aged 76.

R. Russell Martin (registration Seventeenth Judicial District, Texas, 1901); of Burleson; died in a hospital in Fort Worth, April 11, from septicemia, aged 33.

Jesse Mitchell Seabrook, M.D. Howard University, Washington, D. C., 1908; of Washington; died in Asheville, N. C., Nov. 12, 1910, from tuberculosis, aged 30.

Gustav Fuchs, M.D. Missouri Medical College, St. Louis, 1873; surgeon of volunteers during the Civil War; died at his home in St. Louis, April 19, aged 74.

Francis Stephen Winter Cook, M.D. Eclectic Medical Institute, Cincinnati, 1896; died at his home in Toledo, O., March 13, from chronic nephritis, aged 56.

William Wallace Runkel, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1898; died at his home in Milwaukee, April 6, aged 38.

Roderick Kennedy, M.D. Queen's University, Kingston, Ont., 1863; of Bath, Ont.; died in the General Hospital, Kingston, Ont., recently, aged 88.

Hans Treskow, M.D. New York University, New York City, 1882; of New York City; died in the Lebanon, N. Y., Hospital, April 18, aged 56.

Gilbert H. Tollington, M.D. College of Physicians and Surgeons, Chicago, 1885; died at his home in Clearwater, Minn., February 12, aged 49.

William Reilly, M.D. University Medical College of Kansas City, Mo., 1874; of St. Louis; died in St. Mary's Hospital in that city, April 24.

Clarence Spahr (license, Allegheny County, Pa., 1881); for thirty-five years a practitioner of Ridgeville; died at his home, April 22, aged 67.

Walter Howard Muchmore, M.D. New York University, New York City, 1894; died at his home in Brooklyn, April 19, aged 48.

Davis H. Richardson, M.D. Jefferson Medical College, 1885; died at his home in Calvert, Md., April 25, from pneumonia, aged 60.

Henry B. Speitel (license, Indiana, 1897); died at his home in Radnor, April 14, aged 80.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TUBERCLECIDE

Another Consumption Cure Humbug

Tuberclecide is a consumption cure fake exploited by the Tuberclecide Company with headquarters at Los Angeles, Cal. The reputed discoverer of this remedy is one Charles F. Aycock, formerly of Oklahoma. Tuberclecide is brought to the attention of newspaper readers not only by display advertisements, but by means of advertisements in the form of news items. Its method of exploitation differs little from that of similar fakes—the inevitable "follow-up letters" and other paraphernalia of the mail-order medical quack being used. Some of the claims made for this nostrum are:

"The discovery of the age—Tuberclecide."
"Consumption can be cured by Tuberclecide."
"Tuberclecide is an unfailing Germicide for all Tubercle Bacilli."
"Tuberclecide is a specific that eliminates tubercle bacilli from the human body."
"This treatment will cure tuberculosis in anyone who has enough vitality to survive twelve weeks independent of our treatment."

Tuberclecide, which is a pale yellow, oily liquid, comes in a 2-ounce bottle, for which $15 is asked. The instructions are to take eight drops on a raw egg, followed with a glass of milk. It is to be taken three times a day during or after each meal, the dosage to be increased until fourteen drops has been reached. An original sealed bottle of this nostrum, sent in by Dr. Edward P. Fick of Seattle, was submitted for examination to the Association Laboratory. The Association's chemists reported:

"Examination of the contents of a sealed, original bottle of Tuberclecide shows it to be essentially a solution of creosote or guaiacol in some bland oil, probably olive oil."

This is but another verification of the statement so often made, that practically all nostrums that contain any medicinal ingredients whatever, consist of drugs that have been used for years by the medical profession. The "patent-medicine" manufacturer, for the purpose of deceiving the purchaser, invests such drugs with virtues they do not possess.

In the case of Tuberclecide, we find, as indicated by the chemists' report, that the tuberculous patient, after being instructed as to diet and hygiene, is given as an accessory treatment small doses of creosote or guaiacol, remedies that have been in use for years. It is easily conceivable that a consumptive who should strictly follow the rules regarding the methods of living, which every intelligent person now knows to be the essential treatment in tuberculosis, would in all likelihood be benefited, whether he took minute doses of creosote or not. The viciousness of the Tuberclecide treatment is twofold: First is the fact that individuals taking it will be led to rely on the medicine—which has no curative value—rather than on the dietetic and hygienic treatment which, while really the all-important part of it, is made to appear as incidental and subordinate. Second, it is little less than robbery to charge anyone, well or ill, $15 for a mixture of olive oil and creosote that is not worth 15 cents. In the preposterousness of the claims and in the inordinate price charged for it, Tuberclecide is typical of the many cruel consumption cure frauds with which the country is afflicted.

GLORIA TONIC

This rheumatism "cure" is exploited by John A. Smith, Milwaukee, Wis., and is advertised extensively on both sides of the Atlantic. Some of the claims made for this preparation are:

"The world's greatest rheumatism and gout remedy."
"Gloria Tonic has conquered the demon rheumatism in many cases."
"Has cured many cases of thirty or forty years' standing."
"No remedy is surer—none quite as sure—as Gloria Tonic."

The preparation has been analyzed by the British Medical Association's chemists, who reported:

"Analysis showed the presence of potassium iodid, guaiacum resin, extract of licorice, powdered licorice, starch, mineral matter—apparently a mixture of talc and kaolin—a resinoid substance, and a trace of alkaloid. . . . The quantities of the various ingredients are estimated as accurately as possible, and the following formula was indicated:

"Potassium iodid	1.8 grains
"Guaiacum resin	0.8 grain
"Extract of licorice	1.0 grain
"Resinoid (phytolaccin?)	0.9 grain
"Powdered licorice	1.7 grains
"Rice starch	2.0 grains
"Talc and kaolin	2.1 grains"

The variability of nostrums of this type is well illustrated by the fact that a sample of Gloria Tonic analyzed by Dr. Aufrecht of Berlin showed a different composition from those tablets analyzed by the British chemists. Aufrecht, in an article that appeared in the *Pharmazeutische Zeitung*, June 8, 1910, reported: "The Gloria Tonic Tablets examined consisted essentially of 26.76 per cent. potassium iodid and 2.81 per cent. iron (probably in the form of iron saccharate)."

The price charged for a box of fifty tablets of Gloria Tonic is $1; the estimated cost of the ingredients in these fifty tablets is 16 cents.

Correspondence

The Railroads and Human Safety

To the Editor:—In THE JOURNAL, April 15, 1911, p. 1113, after citing the list of accidents shown by the accident bulletin of the Interstate Commerce Commission for July, August and September, 1910, you refer to "the deliberate, cynical disregard of human safety which foreign observers are prone to consider an American characteristic," and say: "When the people are awakened to the possibilities and the necessities of the whole situation, there will be a change."

I beg to call your attention to the Act of Congress, passed April 14, 1910, prescribing the kind and location of safety appliances on all cars engaged in interstate commerce, which, as testified in hearings before the Interstate Commerce Commission, will involve expense on the railroads of $55,000,000. When the commission held hearings preliminary to determining what regulations should be enforced under this law, the railroads offered no objection to the essential features of plans proposed for fully equipping all cars with uniform safety appliances, notwithstanding the enormous expense involved.

J. W. Watson, chief inspector of safety appliances of the Interstate Commerce Commission, in his report for 1909, says:

"As showing the care with which the safety appliances demanded by the law are being maintained, it may be noted that while the railroads dispensed with the services of a great many employees to meet the economies necessitated by falling off of business in 1907, the force of men employed to maintain safety appliances suffered the least curtailment of any. As a result the condition of equipment continued to improve during the slack period of 1908-09, the year just closed showing the least percentage of defective equipment of any years since the law became operative, notwithstanding that the number of cars examined by our inspectors was 125,000 greater than in any previous year. As indicating the great improvement that has taken place within the past five years, it may be stated that the defects per thousand cars inspected in 1905, numbered 309.56, while for the year 1909 the figure is 74.65.

"It is only proper to say that the attitude of most presidents and general managers of railroads has contributed greatly to the good results accomplished. As a rule such officials are in thorough sympathy with the aims and purpose of the law. They have earnestly striven to meet its requirements and have cheerfully cooperated with the commission to secure its effective enforcement."

In his report for 1910 Mr. Watson states that the average of defects found per 1,000 cars had decreased to 65.33 during the year.

The Interstate Commerce Commission's reports show that while in 1900, 67.6 per cent. of the total railway equipment of the United States was fitted with train brakes, in 1910, 99.1 per cent was so fitted. In 1900, 94.3 per cent. of the total equipment was fitted with automatic couplers, while in 1909, 99.3 per cent was so fitted.

The large railroads of the United States paid out for injuries to persons in their transportation departments for the year ending June 30, 1909, $17,705,333. Even were railroad managers controlled by a "deliberate, cynical disregard of human safety" this large payment, which does not fully represent the cost of railway accidents, appears sufficient to cause them to exercise every precautionary measure of safety.

Statistics of the Interstate Commerce Commission will show that a large percentage of railroad accidents are due to the carelessness of employees. Although much railroad legislation has been enacted during the past several years, and a great deal of it in favor of the railway employees at their initiative, no act has ever been passed making it a crime for a railroad employee to disregard a signal or to disobey a rule.

During the railroad rate hearings held by the Interstate Commerce Commission last autumn, many representatives of railroads cited the need of safety appliances, abolition of grade crossings and more substantial construction in general as leading to future increase of expenditure.

While the number of railroad accidents in the United States is greatly in excess of accidents in European countries, yet the conditions of construction here and abroad are very dissimilar. The railroads of Europe were constructed through thickly settled regions and substantial construction was necessary from the beginning.

In the United States the railroads have been largely pioneer enterprises in advance of traffic. The need to get the track down so that the commerce might be served was paramount. So rapid has been the growth of railroad construction that the single track mileage operated in the United States has grown from 192,556 miles in 1900 to 235,402 miles in 1909. At the same time, the rapid growth of population in this country has tended everywhere to render inadequate systems of railroads constructed in comparatively recent years. Vast sums are now being spent in the elimination of grade crossings and for other improvements to promote safety of operation.

In view of these facts, is it quite fair to refer to "deliberate, cynical disregard of human safety" as the attitude of the railroads? Is not the showing that the railroads have made in the interest of greater safety an indication that railroad men are awake to the necessities of the whole situation?

CHARLES E. KERN, Assistant to Director,
Bureau of Railway Economics, Washington, D. C.

[COMMENT.—We are glad to give space to this letter, since, as our correspondent has misapprehended our intent, others may have done the same.

We did not impute "deliberate, cynical disregard of human safety" to the interstate railroads, as a class. It will be remembered that the instance cited was one of disregard of human safety by an urban street railway, which, in spite of warnings, since amply justified, laid its tracks so close together that any one caught between two moving cars was almost certain to be crushed and killed. No words can be too strong to characterize the conduct of a road operated under conditions such that the presumption is, from the outset, that loss of life must result. Such conditions exist and they endanger the public. We are glad to believe, however, that such conditions have grown very rare among the railroads to which our correspondent refers.

Our correspondent will doubtless admit that even here there is still much room for improvement. We fear that the weak point in the defense of these railroads is indicated in the statement that "a large percentage of railroad accidents are

due to the carelessness of employees." Before the carelessness of employees can be urged as an excuse, it must first be shown (1) that the discipline is such that the railroad has every right to expect obedience and carefulness in general; (2) that the proved character of the employee in any responsible post is such that the road has every right to expect faithfulness from him; and (3) that the conditions of operating are such as, on the one hand, to leave as little room as possible for disaster resulting from carelessness, and, on the other, to place no undue strain on the employee's strength and capacity.

It is gratifying to see that the reputation of these roads, with respect to their care of human life, is highly valued. This augurs well for the improvement of whatever conditions may still remain to be improved.—EDITOR.]

Who Should Apply the Wassermann Test?

To the Editor:—This week I was approached by one who styles himself a chemist asking me to instruct him in the Wassermann reaction. The following copy of the reply which I mailed to him is self-explanatory:

"*My Dear Sir:* Your inquiry yesterday, in regard to my willingness in teaching you the details of the Wassermann reaction, has received the most earnest consideration by me. Heretofore I have refused no one who wished to know this work. All such applicants, however, have been physicians.

Personally I should like to teach each one who is interested. The prevalent opinion in Germany to-day is that only trained serologists should do this work. In a recent number of the *Münchener med. Wochenschrift*, K. Taege asserts that only his ability as a physician has enabled him to interpret difficult reactions, made by himself, satisfactorily in given cases.

To avoid being personal and prejudiced in this matter, however, I determined to place your letter in the hands of Dr. Paul G. Woolley, director of the laboratory of the Cincinnati Hospital, and to be guided by his decision. Dr. Woolley is of the opinion that I could not give you a certificate, after a period of instruction in this work, stating that you are fully competent to make a correct reading in every case which may come to you for analysis, because of your lack of medical training.

Since you asked me at the end of a period of instruction to give you a certificate stating that at such time you would be fully competent to do this work, and inasmuch as, according to the opinion of Dr. P. G. Woolley, a recognized authority in pathology, I would be unable to do so, I must refuse the offer you so kindly made me."

I am a staunch supporter of the medical profession, and I believe that none but a physician is capable of passing judgment on the question as to whether a given patient is luetic or not. Experience has shown us how difficult this reaction may become in many instances. The physicians of this state are busily engaged in trying to have the optometry bill vetoed, and I think that we all should be equally active in trying to prevent laymen from practicing medicine in any other of its branches. Furthermore no physician ought to give a certificate to any one certifying to his competency to practice any branch of medicine, and least of all in a case of this kind in which a man absolutely without a knowledge of general medicine and its ethics might affiliate himself with the advertising "venereal quack," and become a harpy to prey on the people.

This man now intends to go East with the hope of finding some physician willing to instruct him, and then to return here with a certificate announcing his fitness.

OSCAR BERGHAUSEN, B.A., M.D., Cincinnati.

An Observation Bearing on the Causation of Sex

To the Editor:—I noticed in THE JOURNAL (April 22, 1911, p. 1228) an abstract of a paper by W. W. Kain, "Can the Sex of the Family be Controlled at Will by the Parents?" Kain is said to agree with E. R. Dawson that the supplying ovary is in reality the essential factor in the causation of sex, the right ovary producing the male and the left ovary the female. I believe that a study of the chromosomes with their adjunct sex chromosomes, etc., will dispel any such notions. But that is too big a subject for this letter. I wish at this time only to report a case that came under my observation last October. A girl married at the age of 14; at the age of 15 she gave birth to a boy, and at 17 to a girl, following which she had three miscarriages produced by herself with a catheter. About two weeks following her last miscarriage she died of lobular pneumonia, at the age of 19. Necropsy revealed a tuberculous cavity in the right apex the size of an English walnut, a serofibrinous pleurisy of the right side, a pericarditis with effusion, no inflammation of the pleura of the left side but the pneumonic condition as bad on the left side. The pelvic area showed no evidences of the miscarriages. There was, however, a congenital absence of the left tube and ovary, of which there was not even a remnant, the broad and round ligaments being apparently normal. The right ovary and tube were perfectly normal. Dr. A. E. McDowell assisted me.

W. O. WISNER, Spokane, Wash.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VENTILATION IN THE PUBLIC SCHOOLS

To the Editor:—I wish to get some information about ventilation of public schools. The system in use in our school, and in a large number of schools in New Jersey, is based on the idea that carbon dioxid is heavier than air, which is correct at a certain temperature. The inlet for pure air is placed near the ceiling, in the expectation that the vitiated air will be forced downward to the outlet near the floor. To my mind this reverses the laws of Nature. Gases will expand when heated, volume increased, specific gravity lessened. Just imagine a class of little children seated in a kindergarten on little chairs having the impure air forced down on them in order to get it out through the outlet! When the room is heated to about 70 F. (the transoms and windows and doors closed with this system), does the carbon dioxid rise to the ceiling? If so, why not let it out there? Being a medical inspector, I would like some light on the subject. JOSEPH PAYNE, Midland Park, N. J.

ANSWER.—You will find much information about ventilation and heating in the following books:

Shaw, W. N.: Air Currents and the Laws of Ventilation, 1907. Cambridge Univ. Press.
Monroe, W. S.: Steam Heating and Ventilation, 1902, New York, Engineering Record Series.
Harrington: Practical Hygiene, 1902, Lea Brothers.
Notter, J. Lane: Treatise on Hygiene, 1908, Blakiston.

You state that the inlet for pure air is near the ceiling but do not say whether the incoming air is warm or cold. The problem is one of heating as well as ventilation. If the incoming air is warm it will tend to remain near the top of the room. If the outlet is high in the wall the warm air will tend to pass out without either warming the room or materially changing the air of the room. If the outlet for air is at the floor the warm air after raising the temperature of the room will sink and pass off at the bottom.

Carbon dioxid itself in the quantity ordinarily found in rooms is harmless. It is simply taken as an indicator of vitiated air. The amount of carbon dioxid added to schoolroom air by respiration is slight, seldom more than 10 parts per 10,000. Experiments have shown that people confined in small, tight compartments endure without any symptoms of illness or discomfort an atmosphere containing 150 parts of carbon dioxid per 10,000, provided the temperature and moisture are kept low. Tests in crowded schoolrooms under similar conditions show that the pupils are unaffected. Results are different if the temperature is allowed to rise to 70 F. and the humidity is high. It seems well established that results commonly attributed to poor ventilation are not due to any change in chemical composition of the air but to physical changes. The solution of the problem of ventilation lies in the maintenance of the normal heat interchange between the body and the surrounding air.

Whether expired air will rise or sink depends on several factors, its temperature, amount of CO_2, moisture content and the temperature of the surrounding air. Taking what is perhaps an average density for expired air, if the temperature of the surrounding air is below 81 F. the expired air will tend to rise. The expired air will tend to sink if the temperature of the surrounding air is above 81 F. and neither rise nor fall if the surrounding air is at this critical temperature. The expired air will sink to the floor after rising and cooling, as it will tend to do in a room temperature of 70 F. unless the flow of air downward made by forced draught is overpowering.

THE POSSIBILITY OF DUPLICATION OF THE APPENDIX

To the Editor:—In THE JOURNAL (Jan. 21, 1911) Dr. W. G. Young reported a case in which he had at one operation removed two appendixes. The story raised my doubts. Nevertheless, when I was a medical student we made no study of embryology, or of comparative anatomy, and I had made no special investigation of the appendix along either of these lines. Dr. G. K. Dickinson of Jersey City published an article on "Appendicitis and Its Moving Pathology" in the *Journal of the Medical Society of New Jersey*, March, 1911, which showed careful study of the morphology of the appendix. I wrote asking him if it were a physical possibility for one cecum to have two appendixes, and referring him to the report in question. He replies that he had felt surprised that the editor of THE JOURNAL had allowed the article to be published. He says that embryologically it is "impossible for a cecum to segregate into two appendicular portions. There is nothing in comparative embryology which would permit us to expect such an anomaly. So for as I know, no surgeon of reputed careful observation has seen the human cecum with two appendixes." He says that he thinks that in the reported cases a colonic tab or a diverticulum of the small intestine (Meckel's), has been mistaken for a real appendix.

I have on at least three occasions, perhaps four, removed an appendix from a patient, from whom a previous operator asserted that he removed one, but the previous operators were all men of very limited experience, and their failure to find the appendix was not surprising. One of them, indeed, brought his patient to me a few months after the operation, and admitted that he had "failed to find" it.

It seems to me that it would be well to bring up in some way an issue in this instance, and not allow this reported case to go unchallenged. There may be ignorant surgeons and dishonest surgeons, but I do not believe that any human cecum ever had two appendixes. B.

ANSWER.—Supernumerary appendices are very seldom seen. Indeed, Heineck (*Chicago Med. Times*, 1908, xli, 197) who studied over 3,000 cases failed to observe a single instance. Nevertheless there is found in Verheyn's "Anatomy," 1704, but not in the 1710 edition, a cut showing an "ordinary" and an "extraordinary" processus vermiformis. Fleischmann and Meckel are quoted by Strengel ("Appendicitis," 1906, p. 7) as having observed double appendices. But Kelly ("Vermiform Appendix," 1905, p. 105) states: "In regard to misplaced and supernumerary appendices most of these can be accounted for on other grounds." More recently McCook (referred to in *American Practice of Surgery*, 1910, xliv, 624) has reported an appendix having a bifid base. Rosenberger (*Proc. Path. Soc.*, Philadelphia, 1902, vi, 205) describes a processus vermiformis having two distinct lumina each with its mucosa, lymph-nodes and muscularis; and Prentiss (*Washington Med. Ann.*, 1906, p. 25) under the title, "A Double Appendix" says: "I wish to present a microscopic slide of an appendix having two distinct lumina."

From the meagerness of the literature it is plain that anomalies as to number in this organ are exceedingly rare and that most careful observations should be made in cases of apparent duplications so as not to mistake Meckel's diverticulum or other formations for an appendix.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 6, 1911.

Wallace, George S., M.R.C., reported for duty at Presidio, Texas.
Napier, Edward L., lieut., reports for duty at Yuma, Ariz.
Frick, Euclid B., lieut.-col., will, in addition to his present duties, assume the duties of medical supply officer, Provincial Brigade, Point Loma, Cal.
Freeman, Charles E., captain, relieved from duty as medical supply officer, Provisional Brigade, Point Loma, Cal., and ordered to duty with troops designated to proceed to Yosemite National Park, Cal.
Johnson, Thomas H., lieut., relieved from duty with Provisional Brigade, Point Loma, Cal., and ordered to duty with the troops designated to proceed to Segnoia National Park, Cal.
Fisk, Owen C., sick leave of absence extended one month.
Maloney, James E., M.R.C., honorably discharged from the service of the United States, his services being no longer required.
Griffis, F. G., M.R.C., reported for temporary duty at Fort Mackenzie, Wyo.
Long, C. J., reported for temporary duty at Fort McKinley, Maine.
Grubbs, Robert B., major, granted thirty days' leave of absence when his services can be spared, with permission to apply for thirty days' extension.

Medical Corps, U. S. Navy

Changes during the two weeks ended May 6, 1911.

Payne, J. H., acting assistant surgeon, appointed acting assistant surgeon from April 20, 1911.
Stalnaker, P. R., P. A. surgeon, detached from the naval station, Culebra, P. R., and ordered home to await orders.
Shepard, G. W., asst.-surgeon, detached from the naval station, Culebra, P. R., and ordered home to await orders.
Hayden, R., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to duty at the Naval Medical School Hospital, Washington, D. C.
Dickinson, D., Jr., A. A. surgeon, appointed acting assistant surgeon from April 28, 1911.
Hale, G. D., P. A. surgeon, ordered to duty at the naval hospital, Las Animas, Colo.
Sutton, D. G., P. A. surgeon, detached from the *Des. Moines* and ordered to the *Indiana*.
Rose, M. E., asst-surgeon, resignation accepted, to take effect on arrival of *Celtic* in the United States.
Jacoby, A. L., asst.-surgeon, detached from the *Mayflower* and ordered to the *New Hampshire*.
Hough, F. P. W., asst.-surgeon, detached from the *New Hampshire* and ordered to the *Des Moines*.
Miller, O. J., A. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the marine recruiting station, Buffalo, N. Y.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 3, 1911:

Irwin, Fairfax, surgeon, directed to proceed to Nagasaki, Japan, on special temporary duty.
Lavinder, C. H., P. A. surgeon, granted twenty-one days' leave of absence from May 3, 1911.
Vogel, C. W., P. A. surgeon, directed to report to the Bureau, Washington, D. C., for conference.
Bryan, W. M., asst.-surgeon, granted twenty days' leave of absence from May 1, 1911.
Porter, Joseph Y., quarantine inspector, directed to proceed to Tampa Bay Quarantine Station on special temporary duty.
Fisher, C. E., acting asst.-surgeon, granted seven days' leave of absence from May 1, 1911.

Medical Economics

LEGISLATIVE SUMMARY

The following summary indicates the situation in the various state legislatures, many of which have adjourned.

ALABAMA

The legislature has adjourned. The only important medical legislation enacted was to amend the medical practice act, making it unlawful for physicians to advertise so as to mislead the people in regard to health matters, and granting the right of appeal to the supreme court in all cases involving the revocation of license, right of appeal being granted to either party.

CONNECTICUT

The legislature is still in session. The senate optometry bill has been rejected by both houses. The house optometry bill is before the senate. An antivivisection bill has been rejected by the house.

ILLINOIS

The legislature will adjourn May 19. The senate bill regarding common drinking-cups has passed the senate. Other bills of medical interest are practically in the same position as when last reported. Senate bill 235, to amend the medical practice act, has passed the senate and is in the judiciary committee of the house. The vital statistic bill is on third reading in the house. The sectarian bills are in committees, as previously reported.

IOWA

A bill to appropriate $2,000 for antitoxin, a bill to appropriate $2,000 for the vital statistics department, a bill to authorize the sterilization of criminals and a bill requiring disinfection of premises previously occupied by cases of tuberculosis or infantile paralysis, have become laws. The osteopathic bill was defeated. A bill to reorganize the state board was also defeated.

KANSAS

The state legislature has adjourned. A vital statistic bill, modeled on the American Medical Association bill, became a law. A tuberculosis sanatorium was established and money was appropriated to carry on campaign of education against tuberculosis.

MAINE

The state legislature has adjourned. A revised medical practice act was passed and an osteopathic bill was defeated in both houses. A bill to prohibit physicians from insuring themselves against damage suits for malpractice was also defeated.

MICHIGAN

The legislature has adjourned. The following bills have become laws: A bill to require physical training to be taught in the city schools; a sane Fourth of July bill; a bill placing all maternity hospitals under the state board of health and a bill to require local boards of health to report all cases of tuberculosis. The chiropractic bill was defeated.

MISSOURI

The legislature has adjourned. No bills of special interest to the medical profession have been enacted. The optometry bill was defeated.

NEBRASKA

The legislature adjourned April 2. A bill was passed to establish a board of control for state institutions, also bill to establish a state tuberculosis hospital and appropriating $40,000 for its maintenance. An appropriation of $75,000 was made for the enlargement and maintenance of the state orthopedic hospital. An appropriation of $100,000 was made for new buildings for the state hospital for the insane.

NEW HAMPSHIRE

The legislature has adjourned. A bill to consolidate the three existing boards of medical examiners into one, failed to pass. An optometry bill became a law. An osteopathic bill was defeated. A bill to forbid the use of common drinking-cups became a law.

OHIO

The legislature is still in session.

OKLAHOMA

The state legislature has adjourned. An optometry bill became a law.

OREGON

The legislature has adjourned. A bill to empower the state board to prosecute illegal practitioners failed to pass.

PENNSYLVANIA

The legislature is still in session. No laws of special interest to physicians have been adopted. A bill to provide for a single board of medical examiners has passed the senate and is now in the house. A midwifery, a neuropathic and an optometry bill are in committees.

TEXAS

The legislature has adjourned. The sanitary code drafted by the state board of health was enacted as a part of the statutes. A state tuberculous sanatorium and a state leprosarium were established.

UTAH

The legislature has adjourned. A new medical practice act was passed, also a bill to require physicians and midwives to report all cases of blennorrhea in new-born children within six hours of its appearance.

WISCONSIN

The legislature is still in session. No laws of interest to physicians have as yet been passed.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Third Weekly Meeting

CAUSES OF SUDDEN DEATH (CONTINUED)

DEATH FROM COLD: Symptoms. Post-mortem appearances.

DEATH FROM HEAT: Symptoms. Post-mortem appearances.

DEATH FROM STARVATION: Acute and chronic. Symptoms. Post-mortem appearances.

DEATH FROM ELECTRICITY: From electric current, from lightning, or by electrocution. Post-mortem appearances.

INFANTICIDE: By commission or by omission. Evidences of live birth. Appearances of lungs, hydrostatic test. Other organs and tissues. Duration of child's life. Cause and manner of death.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Surgical Association, Denver, June 19-21.
American Therapeutic Society, Boston, May 11-13.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Missouri State Medical Association, Kansas City, May 16-18.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911

The President, DR. J. W. YOUNG, Grenada, in the Chair

A list of the officers elected was given in THE JOURNAL, April 29, page 1271.

Delegates to the Los Angeles Session of the American Medical Association were instructed to vote against the proposition to make membership in the state associations include membership in the national organization.

Addresses of welcome were made on behalf of the city of Jackson by Hon. A. F. Crowder, mayor of Jackson, and on behalf of the Hinds County Medical Society by Mr. W. H. Watkins. These were responded to by Dr. H. M. Folkes of Biloxi.

President's Address: Value of a Good Physician to the Public

DR. J. W. YOUNG, Grenada: I thank God that every real true physician is a gentleman; and an optimist, and an altruist, a "jolly good fellow," and an all-round good citizen—loyal to the flag, loyal to the courts, loyal to his patrons, loyal to everything that is good and true—but, alas, in so many instances he is not loyal to his fellows, or his state and county medical societies. We are altruists for everything and everybody except each other. Why can we not be colleagues rather than competitors? Instead of knocking, why can we not occasionally, at least, take a fellow-doctor by the hand and say: God bless you, my brother, I wish you well and hope you are prospering? No man in any community is more valuable to the public than a good, reliable physician. Others may bring personal comforts, wealth and material conveniences, but on the physician the people must rely to guard their physical welfare, without which wealth would be of little value. In mere money, the value of his services can never be counted.

Medicine in all ages has attracted to its ranks the most self-sacrificing members of society. Medical men stand alone on the earth, they only are striving with their whole might to extinguish their own business. They preach temperance, virtue and cleanliness, knowing well that when people come to follow their advice their occupation, like Othello's, is gone. The time has come when the medical profession must wake up to the fact that it has been largely ignored in the past. The heroism displayed and martyrdom suffered in the medical profession will never be known. There is a quietness about it that distinguishes it as true heroism. We hear little of the many instances of blood poisoning from treating a septic wound; of the brave stand against the most deadly epidemics, of physicians courting death in the most loathsome forms, away from the comforting touch of loved ones, that the sick

and dying may not have to fight alone their battle with the pestilence. What a true physician could not be hired to do for all the money the world could offer, he will do joyfully and without expectation of reward, from the higher sense of duty and his love for mankind.

Physicians all over the land have given up their lives in efforts to save others, often leaving loved ones in penury and want. Has anyone ever said that they were heroes, or has any one ever proposed that their dependent ones should share in a hero fund? Nay, verily. The physician walks amid the ruin and desolation of pestilence; he goes forth to dare and do in a supreme effort to save the lives of his fellowmen. Think of the thousands who are being saved from untimely graves by and through the recent discoveries of medical and sanitary science. Think of what Reed and Carroll and Lazear did for mankind in subjecting themselves to the deadly virus of yellow fever to prove the mosquito origin of that disease. Think of what Jenner and Simpson, and Marion Sims, Crawford W. Long and Ephraim McDowell and Koch and others have done for the world. Nearly every organization of any kind has a pension fund. All Christian denominations provide funds for their aged and superannuated preachers. A fund is provided to pension all college professors after twenty-five years of service. All United States judges, from highest to lowest, and all army officers, whether they have seen any service or not, are permitted to retire on a pension at the age of 65. Every Union soldier is the recipient of a monthly stipend from Uncle Sam's treasury. A good physician who has literally worn himself out toiling and working to save the lives of others, when he is no longer able to work, has any one ever been heard to even suggest a pension for him? Nay verily. "Earth's heroes who have gone down in battle or who have been sacrificed to maintain their solemn convictions of duty to country or religion, deservedly receive the honor and praise given them. The hero dead who sleep in the National or Confederate cemeteries of the land are rightfully held in loving remembrance by the people of the sections for which they fought and died, and no one calls in question the homage paid them in holding them dear to memory," but there are other heroes just as deserving of praise, the many true and noble physicians who have died in the line of every-day duty, and gone down to death in the fulness of loyalty to that duty.

This is the life and character of a true physician, and this leads me to the inquiry: Why is it that we as physicians, individually and collectively, have so little influence, and fail so often to get the ear of our legislators? We have never asked for anything for our own personal benefit. All that we have ever asked for was looking to the general welfare of the commonwealth, and rather to our financial detriment than otherwise. It is because of the petty jealousies and the knocking in our own ranks. We are never a unit on anything. As an instance: Several years ago this association passed a resolution declaring that we would not examine for any of the old line insurance companies for less than $5.00, and only a few weeks ago an agent of one of these companies told me that they have an examiner in nearly every city and town in Mississippi and are only paying a minimum fee of $3.00. We always agree to disagree, and hence a house divided against itself must—as a matter of course—fall. Thus by our own action are we discredited by the public at large.

It is usually possible to get an appropriation from the legislature for the study and cure of animal diseases, but when physicians go before the legislature and state that 3,000 Mississippians are annually dying from the great white plague, and half as many from typhoid fever—both preventable diseases—and ask for an appropriation to stay the spread and ravages of these diseases, the door is slammed in our faces and we are charged with the fact that as physicians we cannot agree as to what we want.

On this occasion, therefore, I plead for harmony in our ranks—I plead for better feeling toward and more love for each other—I plead for a fuller exercise of the virtues and graces which should characterize the life of every true physician—I plead for a greater interest in our county and state associations. The very youngest of us has but a very few years on earth; then how much better we must feel when we come to die to know that we have always loved our fellows—to know that we have been kind and loving colleagues, rather than ugly and mean competitors.

Treatment of Chronic Tuberculous Sinuses with Bismuth Paste. Removal of Birth-Marks by Carbon-Dioxid Snow

Dr. S. H. McLean, Jackson, reported a case of tuberculous abscess treated with bismuth paste and one of nevus treated with carbon-dioxid snow. He described in detail the methods of using these remedies.

DISCUSSION

DR. J. H. FOX, Jackson: Dr. Beck in treating tuberculous sinuses always administers the paste in liquid form to allow it to enter all cavities. He advises that it be applied warm. He also advises the placing of an ice pack over the sinus to prevent the bismuth paste running out. My attention was first called to carbon-dioxid snow by Dr. Gaskell. I have had splendid results with this treatment. I collect the snow in a manner similar to Dr. McLean's method. The time of application varies. In the case of black moles it must be applied longer than in some other cases.

DR. W. C. CAMPBELL, Memphis: These abscesses are better not opened. The treatment should not be begun until the sinus is three months old. About once a week or five days I fill the cavities. I have seen harm done by giving too much of this paste—with a little care this can be avoided.

Lobar Pneumonia in Infancy

DR. B. H. BOOTH, Drew, living in a malarial district, is accustomed to use quinin in all cases of pneumonia and believes it shortens the course of the disease and lessens its severity. He discusses the variations in pathology and treatment in the disease in children as compared with these in adults.

DISCUSSION

DR. S. S. CAROTHER, Duck Hill: In my opinion, the danger in giving quinin during the progress of pneumonia is too great.

Dr. J. G. GAITHER, Oxford: I use no turpentine, but petrolatum and mustard, 1 part mustard to 16 parts of petrolatum. The patient is anointed daily.

DR. G. W. WALLACE, Arbo: I keep these patients in bed and not in their mother's arms. They are allowed to nurse. The child should be kept very quiet.

DR. B. S. WALLER, Silver Creek: I have noticed great difficulty in breathing. I usually make a plaster with a few drops of turpentine, sometimes a little glycerin.

DR. F. M. BROUGHER, Belen: It is necessary to keep the lungs warm. I have found quinin of no value in treatment of pneumonia.

DR. B. H. BOOTH, Drew: I use quinin because it is a stimulant to a certain extent. In regard to keeping the child in bed, I should like to know how one can keep the child quiet so easily as in its mother's arms.

(*To be continued*)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Continued from page 1354)

Discussion on Salvarsan (Concluded)

DR. V. C. PEDERSEN, New York: I want to warn against the indiscriminate use of the intravenous injection of salvarsan; this is a surgical procedure of no small importance. It was my misfortune recently to have a case of nearly fatal collapse after the intravenous injection of this drug. Three weeks before the injection the man was examined very carefully as to his heart and arteries and kidneys and they were found to be normal, so far as one could judge in a man who had had syphilis for twenty-one years.

DR. J. M. SWAN, Watkins: I have recently had a patient with an infected antrum in whose case the infective organism was supposed to be the *Treponema pallidum* and in whom the

Wassermann reaction was said to be positive. The blood had been taken three times, twice from a finger puncture, and once from wet cupping of the back. In my opinion a Wassermann test made in this way is valueless and should not be interpreted as an indication for administration of salvarsan or any other antisyphilitic remedy.

DR. EDWARD D. FISHER, New York: Mercury has a curative effect on syphilis, and so has salvarsan. Mercury is not supposed, by most of us, to have any curative effect on parasyphilitic conditions, such as general paresis or tabes. A few of the manifestations that may occur in tabes, such as ptosis, or ocular muscle paralysis, which have been shown to disappear by the use of salvarsan have been known also easily and quickly to disappear with the use of mercury. My position at present in reference to the use of salvarsan in organic nervous diseases is that probably this drug will be as ineffective as mercury. In view of its tendency to induce degeneration, and especially in certain nerve fibers, it is too dangerous a drug until we get further reliable information to use it in these diseases.

The Relationship of Tabes Dorsalis to General Paralysis; Are They the Same Disease Differing Only in Situation of the Lesion?

DR. EDWARD D. FISHER, New York: While both diseases are parasyphilitic or metasyphilitic manifestations of a primary syphilis, tabes in its classical or typical form rarely or never presents mental or cerebral symptoms characteristic of general paresis. Tabes is a chronic progressive disease, confining its lesions to the posterior spinal nerve ganglion, posterior nerve roots, posterior columns and meninges of the spinal cord, and the cranial nerves, especially the oculomotor and optic. General paresis is a disease comparatively acute, as compared with tabes, running its course in three years, while the former may continue for twenty years or longer. Its lesions are chiefly cerebral, involving the meninges and cerebral neurones, to a slight degree the cranial nerves, as the optic nerve and the superior nucleus of the oculomotor nerves. The spinal lesions are rarely systemic in type, but fall under the head of a diffuse or combined sclerosis of the spinal columns. In 100 cases of general paresis of the optic or cerebral and tabetic type, only one resembled a classical case of tabes. Clinically the symptoms from cases observed in hospital, dispensary and private practice, while approaching each other in a minor degree, essentially differ in intensity in the more marked symptoms. In tabes, the ataxia is much more extreme, and the lightning pains and crises are much more frequent and disabling. The ocular manifestations are much more constant than in general paresis, whether of the cerebral or tabetic type. It is impossible to believe that a disease essentially spinal in its symptomatology and lasting usually at least twenty years can be the same, differing only in the site of the lesion, as a disease limited usually to three years or even in the unusual or extreme cases to ten years.

DISCUSSION

DR. E. B. ANGELL, Rochester: The tendency seems to be to disregard the so-called systemic manifestations of degenerative diseases, and ultimately, so far as possible, to include them under one general classification. Clinically, Dr. Fisher is right, and I believe, so far as treatment and recognition of methods of treatment are concerned, that his views are perfectly sound, but it is rather early yet to come to a definite conclusion regarding this matter.

DR. W. W. KIDDER, Oswego: Tabes is a disease of a definite tract and associated clinically with a definite set of functions which are less general than the functions of the parts affected by general paresis; and from the limitation of the original tabetic affection we would naturally expect it to trespass less on the tissues which are involved in paresis than we would expect the paretic affection to trespass on the tissues affected by tabes.

Paralysis of the Upper Extremity Due to Nerve Injury

DR. N. JACOBSON, Syracuse: This paper is based on four cases: Two involve the musculospiral nerve, one is a complication of fracture of the humerus, the other is the result of a lacerated wound in the lower part of the arm. The third patient sustained a fracture of the neck of the scapula, implicating the brachial plexus, and the fourth case was due to a penetrating wound of the neck severing the fifth cervical nerve. In each instance more or less complete paralysis resulted which was improved or entirely cured by surgical operation.

Experience of the Army With Vaccination as a Prophylactic Against Small-Pox

COL. JOHN VAN R. HOFF, Medical Corps, U. S. Army: Wars have taught us that the mobilization of military resources promotes the incurrence of small-pox in armies, and all experience has shown that efficient vaccination and revaccination absolutely control it. We of the medical department would be loath to return to conditions under which one-tenth of mankind died of small-pox, and which obtained up to the beginning of the nineteenth century. These conditions ceased with the application of Jenner's discovery and since have been effectually controlled by vaccination. In spite of all these facts, it is asked: Does vaccination really grant immunity from, or lessen the severity of, small-pox? Is not the gradual disappearance of this infection due to isolation and sanitation? The answer is obvious. Of isolation Chapin writes:

> Small-pox is less likely to escape detection than is any other disease. Yet epidemics grow in the face of the most rigid isolation. Unrecognized cases, even in this disease, are so numerous that the isolation of the recognized cases often seems to be a complete failure. The state board of health of Minnesota, realizing this, has had the boldness to advise that no attempt be made to isolate, and that entire reliance be placed on vaccination. It was hoped that this would lead to more complete vaccination. There has been no alarming increase in small-pox in Minnesota.

A century or more ago tuberculosis and small-pox shared almost equally the unenviable reputation of being the most potent causes of mortality in the human race. To-day tuberculosis still maintains its evil reputation, but among enlightened people the mortality from small-pox is negligible. While sanitary standards and practice have measurably advanced since 1797, they have not yet greatly changed the mortality rate for tuberculosis. Why should they have so marvelously affected that for small-pox? They have not, and we are forced to the conclusion that to vaccination and revaccination alone are we indebted for power to control this formerly devastating and deadly infection. The great blessings of vaccination are not bought for nothing, though they are purchased at a very trifling cost.

Diagnosis of Common Tropical Infections

DR. S. M. SHOOK, U. S. N.: New York furnishes a large number of cases of the tropical infections, two of the most important of which, malarial fever and amebic dysentery, may be acquired in the state. Diagnoses of the intestinal infections due to animal parasites may be easily made by examination of a fluid stool. Blood examinations for malarial parasites may be readily made with a good polychrome stain which is stable.

Fracture of the Tarsal Bones

DR. F. H. ALBEE, New York: Direct trauma to the plantar surface of a foot is likely to cause a fracture of the tarsal bones. In every case diagnosed as flatfoot, whenever a slight injury has occurred, the patient should be examined for fracture of the tarsal bones. This should include an *x*-ray examination. An important feature in treatment of fresh fractures, is to keep patients from weight-bearing, for at least six weeks, and then only with the aid of an arch support for two or three months longer. The best results are obtained in the treatment of fresh tarsal fractures. One of the essential features in the management of these fractures is attention to the changed fatty conditions. This is especially true in the old neglected cases.

Arteriosclerosis or the Cardiovascular Disease

DR. L. F. BISHOP, New York: In treatment of cardiovascular disease the Nauheim methods are of much value, although it is not easy to define the route by which improve-

ment is brought about. By Nauheim method I mean change of mode of life, environment, change of diet, removal from work and worry, carbonated baths and resistance exercises. It has seemed to me that possibly the carbonated baths in some way promote the elimination of indol and its allied products through the skin. The most important thing in treatment of a case depending on intestinal putrefaction is the regulation of food, the use of suitable cathartics, and the encouragement of the germs of lactic acid fermentation by the use of the less fermentable carbohydrates. Recently I have been using milk sugar. Abdominal conditions, such as enteroptosis and gastroptosis must be attended to. Alkaline mineral waters by counteracting the natural acidity of the intestinal tract often do great harm which appears as a most intense auto-intoxication, after a course of such treatment. I saw a patient this winter in whom, following a severe alkaline reduction cure, there was such intense poisoning of the heart muscle from auto-intoxication that chronic fibrillation of the auricle resulted. The question of alcohol and tobacco must be decided according to the individual case.

DISCUSSION

DR. D. AYERS, Fort Plain: The principal cause of trouble in these cases is intestinal putrefaction, a general condition of auto-intoxication. It is estimated that about 90 per cent. of the general practice in my section of the state is in connection with conditions dependent on auto-intoxication. I have under observation a woman, aged 74, whose blood-pressure was 260 plus; I do not know how much more than that it was because the scale does not run any higher. She is dizzy most of the time. She has been very toxic for years, and has been constipated ever since she can remember. She has always been a good eater and is jaundiced most of the time. Occasionally she has hemorrhage from the nose. The retinal vessels are very much engorged and varicosities appear. Recent treatment reduced the blood-pressure below the point mentioned, but it is still very high.

DR. E. B. ANGELL, Rochester: I am not yet ready to say whether it is intestinal putrefaction or inefficient elimination of the nitrogen material through the kidney that is the cause of most of the symptoms in these cases. However, there is no doubt but that the over-ingestion of meat, or the over-ingestion of nitrogenous food, has more to do with cardiovascular disease than any other one thing. We must bear in mind that meat tends to putrefactive conditions in the intestinal tract.

DR. J. M. SWAN, Watkins: Arteriosclerosis is not an inflammation, but a degenerative change dependent on a great many varying causes, the intemperate use of alcohol and tobacco being among them. But a great many people who have never used alcohol and tobacco, who have had the acute infectious diseases, and who have indulged in the overeating of proteid food as well as carbohydrate foods, have improper elimination of the end-products of these substances on account of insufficient exercise. The disease is a general one, but its symptoms may be manifested in one of three main places: in the kidneys, producing nephritis; in the heart muscle, producing fibromyocarditis, and in the brain, producing the various brain symptoms of arteriosclerosis.

DR. H. SCHOONMAKER, Clifton Springs: When we resort to the so-called starvation treatment, that is, putting these patients to bed and keeping them on a milk diet, cleaning the bowels out and giving them rest and sufficient water to drink, it is surprising how much better they get. It has been my observation that the carbon dioxid bath, the so-called Nauheim bath, unless it is materially modified, does not do so well for the patient as the sweating bath.

DR. F. D. REESE, Cortland: Patients with arteriosclerosis should be put on a restricted diet. I do not care so much what a man eats as I do the amount he consumes. If you can get the confidence of a patient, you will gain one point, then tell him to fast every other day. This seems harsh treatment, but it is the most effectual treatment in arteriosclerosis or high blood-pressure of anything I have prescribed.

(To be continued)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.

NEBRASKA: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

NEW YORK: May 23-26 and June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

WISCONSIN: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

New Board in Oklahoma

The Oklahoma State Board of Medical Examiners, as at present constituted, consists of Dr. F. B. Fite, Muskogee, president; Dr. R. E. Sawyer, Durant, vice-president; Dr. F. A. Englehart, Oklahoma City, treasurer; Dr. John W. Duke, Guthrie, secretary; Dr. M. Gray, Mountain View; Dr. Leroy Long, McAlester; Dr. J. O. Wharton, Duncan; Dr. W. L. Bonnell, Chickasha, and Dr. Philip Herod, Alva. The first examination under the new board was held April 13, when thirty-two applicants were examined.

Iowa January Reciprocity Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports that at the meeting held at Des Moines, January 24, 1911, twenty candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1910)	Illinois
	(1896)	Nebraska
Northwestern University Medical School	(1906)	Illinois
	(1898)	Wisconsin
Coll. of Med. and Surg., Physio-Medical, Chicago	(1886)	Wisconsin
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Hahnemann Med. College and Hospital, Chicago	(1909)	Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
State University of Iowa, College of Medicine	(1908)	Illinois
University of Louisville	(1910)	Illinois
College of Physicians and Surgeons, Baltimore	(1904)	Illinois
St. Louis College of Physicians and Surgeons	(1909)	Kansas
American Medical College, St. Louis	(1903)	Missouri
St. Louis University	(1906)	Missouri
University Medical College, Kansas City	(1910)	Missouri
Starling-Ohio Medical College	(1909)	Ohio
Jefferson Medical College	(1909)	Delaware
Woman's Medical College of Pennsylvania	(1907)	New Jersey
Medico-Chirurgical College of Philadelphia	(1898)	New Jersey

Utah April Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, April 3-4, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed, including 1 osteopath, and 2 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Georgetown University	(1908) *	
Jefferson Medical College	(1910) *	
FAILED		
Gross Medical College	(1895)	56
Keokuk Medical College, Coll. of P. and S.	(1905)	73

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Keokuk	(1898)	Iowa
Michigan College of Medicine and Surgery	(1895)	Michigan
Northwestern Medical College, St. Joseph	(1892)	Iowa
Kansas City Hahnemann Medical College	(1904)	Kansas
Albany Medical College	(1908)	New York

* No percentage given.

Medicolegal

License and Proof Required to Recover for Services—Evidence Against Charge of Malpractice—Wealth of Patient Cannot Be Shown to Justify Fee

The Court of Civil Appeals of Texas reverses, on the appeal of Swift vs. Kelly (133 S. W. R. 901), a judgment obtained by the latter party, a physician who brought the action to recover for professional services. The court says that the defendant insisted that the lower court erred in overruling his general demurrer to the plaintiff's petition, in that it failed to show that the plaintiff was authorized by law to practice as a physician and surgeon and to maintain a suit to collect for such professional services. That contention is sustained.

By the Texas statute, as amended by the legislature in 1901, boards of medical examiners were established, a license from which was required as a condition precedent to the right to practice medicine and surgery in the state; and one article provides that any person who shall practice medicine, surgery or midwifery in the state in violation of the statute shall be fined or imprisoned, and it shall not be lawful for him or her to recover by action, suit, motion or warrant, any compensation for such services. It is well settled that a physician practicing in Texas without the license required by the statutes cannot recover for his services. A compliance with the requirements of the law regulating the practice of medicine and surgery having been made a condition precedent to the right to so practice, it is necessary for one suing to recover for such services to allege and prove such compliance, and a failure to so allege in the petition is fatal on general demurrer thereto.

It is also well established that, in the absence of proof to the contrary, it will be presumed that the laws of other states are the same as the laws of Texas on the same subject. The plaintiff failed to allege in what state his services were performed. If they were performed in Texas, then the Texas statutes would apply as a matter of course. If performed in some other state, then the presumption would obtain that the same statutes had been there enacted and were in force. It was not sufficient that he alleged in his petition that he resided in a certain other state, was a physician and surgeon, practicing his profession in such state, and was a professor in a university in such state.

Then, over the defendant's objection, the plaintiff was permitted to introduce in evidence the defendant's promissory note in the plaintiff's favor for $500 of the amounts sued for, and also letters and telegrams from the defendant to the plaintiff requesting an extension of time for its payment. The ground of the defendant's objection was that, as the suit was to recover on a promise to pay the reasonable value of the services, evidence showing a contract to pay a specific sum was irrelevant and incompetent. The evidence was not admissible to prove the value of the services rendered by the plaintiff. But, among other defenses, the defendant alleged unskilful and negligent treatment of him by the plaintiff, and offered evidence in support thereof. As against that defense, the court thinks the evidence to which the objection was made was admissible as the same would be in the nature of an admission at variance with the defendant's plea of unskilful and negligent treatment.

Lastly, this court is of the opinion that the lower court erred in permitting the plaintiff to show the reasonable value of his services by proof that the defendant was wealthy, coupled with further proof of a custom among physicians to graduate their charges according to the financial condition of the patient, and to charge a wealthy patient a higher fee by reason of his superior ability to pay. The suit was to recover the reasonable value of professional services rendered by the plaintiff. In 30 Cyc. 1600, it is stated that there is a conflict in the authorities on this question, and the announcement seems borne out by the decisions there cited. In Robinson vs. Campbell, 47 Iowa, 625, one of the cases cited, it was held that such testimony is not admissible, and the reasoning there advanced this court thinks is sound. Certainly no court would hold that the value of ordinary labor could be determined by such a test, and on principle this court can see no distinction between such a claim and one of the character now under discussion. If the recovery sought in this suit for professional services had been on an alleged implied contract by the plaintiff to pay such fees as are customarily charged for the same character of services performed for a patient of like financial ability to pay a fee therefor, then a different question would be presented, but, as the same is foreign to the record, the court foregoes a discussion of it.

Book Notices

MANUAL OF DISEASES OF WOMEN. By W. E. Fothergill, M.D., Assistant Gynecologic Surgeon, Royal Infirmary, and the St. Mary's Hospital. Cloth. Price, $3 net. Pp. 433, with 144 illustrations. New York: William Wood & Co., 1910.

Certain parts of this compendium will be found useful for the general practitioner, more especially the student and the nurse. The anatomy and embryology are handled exceptionally well. It is to be regretted that, in the chapter devoted to physical examination, the author has practically ignored asepsis. He has not even remotely suggested the use of rubber gloves, the sterilization of hands and instruments, or in any way recognized the need of protecting the examining physician, or emphasized the danger of infecting the patient with dirty technic. Several methods mentioned of preparation of the field of operation could well be relegated to the antiquities of surgery. In discussing the treatment of infections, the author warns against washing out the protective lactic acid bacilli in the vaginal secretions with the vaginal douche; yet further on, in contradiction to these views, he recommends the treatment of acute pelvic infections with the hot douche. Although the author intimates his belief in the radical removal of the glands and perimetric tissue in uterine carcinoma, he fails to recommend specifically or in any way to describe the radical Wertheim operative procedure.

AN INTRODUCTION TO SURGERY. By Rutherford Morison, M.A., M.B., F.R.C.S., Edin. and Eng., Professor of Surgery, University of Durham. Cloth. Price, $2.50 net. Pp. 162, with 151 illustrations. New York: William Wood & Co., 1911.

As its title indicates, this work is intended as a preliminary course for students in the study of general surgery. The author states in the preface that it is his aim to direct the student toward the main principles of diagnosis and treatment, thereby simplifying and making rational the treatment of the various surgical affections. In some particulars this object has been admirably realized. The chapters dealing with inflammation and sepsis are good, treating the subject in a practical and lucid manner. The same may be said of the treatment of the surgical diseases of the hollow viscera, the diagnosis of syphilis, tuberculosis and malignant disease, and also of the chapter on ulcers and gangrene.

On the other hand, it appears that comparatively too much space, which might better have been given to some subjects treated briefly, has been allotted to others of minor importance. Also, some subjects have been introduced which today are not ordinarily included in a course of general surgery. A little more accuracy in the definition of certain terms might have been exercised and the use of some obsolescent terms avoided.

The work is profusely illustrated with well-executed sketches, diagrams and photographs, which add not a little to its value as a students' text-book.

THE INFLUENCE OF STORAGE AND VARIOUS PRESERVATIVES ON THE DISSOLVED OXYGEN IN WATERS. By Dr. Arthur Lederer. Paper. Pp. 14. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The conclusion is drawn from a considerable number of chemical analyses that the addition of 1 c.c. per 8 ounces will preserve the content of dissolved oxygen in both unpolluted and polluted water for sufficient length of time for samples to be transported to the laboratory for examination. The percentage reduction of dissolved oxygen in stored samples is believed to constitute a "fair index of appreciable pollution."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Southern Medical Journal, Nashville, Tenn.

April

1 Aneurysm of the Arch of the Aorta. J. B. Murfree, Murfreesboro, Tenn.
2 Cancer of the Cervix Uteri—Its Treatment. A. G. Payne, Greenville, Miss.
3 Pathology and Treatment of Ununited Fractures. J. N. Baker, Montgomery, Ala.
4 *The Artificial Leech in Acute Mastoiditis. U. S. Bird, Tampa, Fla.
5 *The Heath Mastoid Operation. M. M. Cullom, Nashville, Tenn.
6 *Operative Treatment of Fractures. C. W. Allen, New Orleans.
7 *Operative Treatment of Fractures of the Long Bones. J. L. Crook, Jackson, Tenn.
8 *Radical Cure of Painful Halux Valgus (Bunion). H. P. Cole, Mobile, Ala.
9 *Occurrence of Intestinal Parasitic Infections Among the White Patients at the Florida Hospital for Insane. R. N. Greene, Chattahoochee, Fla.
10 *Carbonic Acid Baths in Treatment of Heart Disease. J. H. Honan, Bad-Nauheim, Germany.
11 *Collapse of the Trachea While Performing Thyroidectomy. T. C. Witherspoon, Butte, Mont.
12 Anterior Poliomyelitis. O. H. Wilson, Nashville, Tenn.
13 Id. C. M. Nice, Birmingham, Ala.
14 Treatment of Anterior Poliomyelitis. A. W. Harris, Nashville, Tenn.
15 Certified Milk. D. T. McCall, Mobile, Ala.

4 and 5. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1920.

6. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2005.

7. **Fracture of the Long Bones.**—Crook reports four recent cases of fracture of both tibia and fibula in which he operated, and in all of which he secured good results, a result which, he says, could not have been obtained without operation.

8. **Painful Halux Valgus.**—Cole reports one case in which he used Mayo's method—resection of the head of the first metatarsus, removal of exostosis; restoration of joint by inserting flap of synovial tissue between stump of metatarsus and base of first phalanx. The result was perfect.

9. **Occurrence of Intestinal Parasitic Infections.**—Among 220 white men in the Florida Hospital for the Insane, Greene found ninety-two cases of uncinariasis, or a percentage of nearly 42. The 187 women examined showed a total of 87 cases of uncinariasis, or a percentage of nearly 47; 4 per cent. more women than men showed uncinariasis in this series. These examinations show for the total number of cases in the white departments of the hospital a percentage of nearly 44. Forty-two patients not showing hookworm infection, or a percentage of over 10, were infected with other forms of intestinal parasites, namely, trichocephalus trichiuris, oxyuris vermicularis and ascaris lumbricoides. Taking these other forms of intestinal parasites into consideration in the computation of the percentages would reveal the surprising result, that among the 407 persons examined, there were found 221 cases of intestinal worm infection, or a percentage of 54. Round worms were found associated with hookworms in two cases, one of these being in each sex. *Trichocephalus dispar* infection was noted with uncinariasis in twenty-six cases, sixteen among the women and ten among the men. Triple infection was noted in three patients, all men, the parasites present being *Uncinaria americana, Ascaris lumbricoides* and *trichocephalus trichiuris*. Greene advocates that every county and municipality appoint a physician for special work along this line, and that he should, under the direction of the State health officer, make at frequent intervals an examination of the feces of every individual within the limits of his prescribed area.

10. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

11. Abstracted in THE JOURNAL, Jan. 14, 1911, p. 141.

New Mexico Medical Journal, Las Cruces

March

16 The Internal Ear in the Light of Recent Investigations. I. E. Friedman, Carlsbad.
17 The Medical Service and the Law. E. L. Medlar, Albuquerque.

Journal of the Delaware State Medical Society, Wilmington

April

18 Exophthalmic Goiter. H. F. Smythe, Odessa.

Journal of the Missouri State Medical Association, St. Louis

April

19 *Colon Bacillus Pyelocystitis in Infancy and Childhood. D. E. Broderick, Kansas City.
20 Experiences with Tuberculin Therapy in Dispensary Practice. S. T. Lipsitz, St. Louis.
21 *Teaching Medicine Aright. R. H. Jesse, Columbia.
22 Common Abuses of Surgery. W. F. Grinstead, Cairo, Ill.
23 Transposition of Appendix. B. B. Parrish, Kirksville.
24 What is the Key to the Permanency of a Voluntary Association of Individuals in a Common Cause? A. B. Freeman, Joplin.
25 Salvarsan in Syphilis. J. L. Boehm, St. Louis.
26 Relation of the Physician to the Dentist. J. Miller, Maryville.

19. **Pyelocystitis.**—Six cases are reported by Broderick, five of them occurring in females, in each of which there was a preceding history of ileocolitis within six months of the urinary infection. In only one of the cases was there a rigor; it lasted twenty minutes. There was slight vulvitis in two cases. Broderick adopted Thompson's method of treatment. It consists in the administration of potassium citrate (from 48 to 60 gr., increasing to from 120 to 180 gr. in the twenty-four hours). There will be noticed a rather marked change as the urine becomes alkaline. Hexamethylenamin, in doses of from 3 to 5 grains, is frequently administered. Broderick combines the two methods, giving the citrate in increasing doses, every two hours, until the urine is alkaline. He then gives hexamethylenamin, in doses of from 3 to 5 grains, three times daily. The remaining treatment is that of any infection of the urinary tract.

21. **Teaching Medicine Aright.**—The experiences and the sober thought of thirty-three years—thirty of them (from 25 to 55 years of age) spent as dean or professor or president in three universities, each with a medical department, are laid bare by Jesse. He says that people need not have much knowledge of anatomy or physiology to understand that to learn medicine aright one must have considerable previous training; nor is it necessary to know the length of the alimentary canal to see that professors who spend most of their time in private practice, devoting only spare time to teaching, cannot give the best instruction. If any professional school aims at excellence, it should admit no students that have not had at least four years of good high school training and two years more in a college. In preparation for medicine these two years should be devoted to general chemistry, physics, zoology, botany, French, German and English. Moreover, no school can now give good instruction in medicine unless it has a library, a museum and a number of laboratories, all well-equipped, and each occupying several rooms. How many laboratories are indispensable? The most modest estimate would surely include (1) anatomy, (2) physiology, (3) physiologic chemistry, (4) bacteriology and pathology, (5) pharmacology and materia medica. The equipment of these laboratories is expensive and each must be in charge of a professor who gives all his time to teaching and research. Moreover, he must have one or more paid assistants, according to the number of students. Large income from endowments or other sources is absolutely necessary; fees alone will not pay the bills. Work in these laboratories should occupy the whole time of every student in the first eighteen months of his course.

The last two years (eighteen months) of the four years' course (thirty-six months) are given, in good institutions, to preventive and curative medicine—clinics, so-called. For this instruction there must be a sufficient hospital, a dispensary, a number of laboratories, clinical teachers and, in Jesse's opinion, much revision of modern methods in America. As to whether the clinical teachers should have a private practice, Jesse states that no man can meet the demands of a large private practice and at the same time give the best instruction in any professional school. Success in practicing a profession comes rather late in life for a man to pick up skill in teaching, and attainment in the technic of an art does not of itself bring ability to instruct others therein. Every medical school should have its principal chairs for clinics filled by men who devote their entire time to teaching and research—men who are not for hire by individuals. They should receive adequate

salaries, say from $3,000 to $7,500 a year, according to the value of tne man and the costliness of the living in the locality. They should practice in the college hospital of course, but the fees, if there be any, should go to the institution. The hospital, furthermore, should be absolutely under the control of the college. Jesse considers that at least these five cairs, filled in this way, are necessary: (1) surgery, (2) theory and practice of medicine, (3) gynecology, (4) therapeutics and (5) eye, ear, nose and throat surgery.

Revision is needed also in the management of college hospitals. They should accept only, or chiefly, at least, carefully selected patients useful for clinic or research. Only in this way can the best material be obtained for illustration in teaching and for discovery through research. Another false notion, in Jesse's opinion, is that the larger the number of cases the better the clinics, even for undergraduates. Vast clinics and various cases are not necessary for the undergraduate, or even good for him; but rather clinics graded and selected. The undergraduate might spend his summer vacations in larger hospitals, as young engineers spend theirs in field or mine or factory. Moreover, in every state university, at least, the hospital ought to be practically free. In this way it can be made far better, both for teaching and for research.

Another fundamental error found everywhere, he says, is that good clinics are obtainable only in large cities. This notion is far wide of the truth. A hospital of 150 beds, by carefully selecting its patients, can give the best instruction for undergraduates in reasonable number. Every state university in a small town, with a hospital of 150 beds, by accepting without charge cases curable, or incurable, but interesting for illustration or research or both, can have all its beds regularly occupied. It has only to support one good traveling lecturer on hygiene—personal, household and municipal—and to employ one collector of cases in every large city of the state. The collectors (who would not give all their time to this work) might be obtained for $500 a piece annually, and the lecturer for $3,000 or $3,500 with (say) $1,500 more for traveling expenses—about $5,000 a year. What would be the results? The lectures, all free, would illuminate the people and thus promote public health; the physicians of every locality visited might be brought into hearty cooperation with the state university and thus serve as collectors of patients. Jesse points out that state universities, nearly all in small towns, have a rich opportunity through their medical departments, to raise to right notions on this subject the people about them, if only they will go boldly forward toward traveling lecturers, free campus hospitals, selected clinics, investigations into the causes of diseases and right ways of preventing and of ejecting them. Their chief aim should be preventive medicine.

Journal of the South Carolina Medical Association, Charleston

March

27 Cancer of the Face. A. E. Baker, Charleston.
28 Cancer. LeG. Guerry, Columbia.
29 A Plea for the Intravenous Method of Administering Salvarsan. C. W. Barron, Columbia.
30 A Plea for the More Rational and More Energetic Care of the Insane. J. H. McIntosh, Columbia.

Bulletin of the American Academy of Medicine, Easton, Pa.

April

31 *The Hospital and the Young Physician. W. E. Darnall, Atlantic City, N. J.
32 The Economic Influence of the Hospital as Shown on the Profession. W. F. Waugh, Chicago.
33 *Hospital's Recompense to the Staff. T. D. Davis, Pittsburg, Pa.
34 *The Economic Influence of Hospital Administration on the Medical Profession. A. Vander Veer, Albany, N. Y.
35 *Influence of Hospitals on Their Respective Communities. P. V. Eisenberg, Norristown, Pa.

31. **Hospital and the Young Physician.**—Speaking of the value of hospital training to the recent graduate, Darnall says that it brings him in intimate contact with the best of the profession, enabling him to be started along right paths. The ability to apply practically what he has learned is developed within him, besides a systematic way of doing things, and he learns that not all of medical lore is to be found in printed books or prosy lectures; he sees something of the personal relation between physician and patient, which, sociologically, is a most important thing. If afterward he acquires a position in some hospital it will stimulate him to put forth his best efforts in scientific attainment. If he has ability along any certain line it will give him the opportunity to demonstrate it. The hospital becomes for the young man a finishing school in which the mind is trained to accurate methods and correct reasoning. The daily habit of thoroughness, diagnostic accuracy and the ability to go straight to the point, laying aside the non-essential and unimportant, after a time become habitual. His work is all charted, and is an open book. He must submit to the criticism not only of men of older and richer experience, but also of the younger men with newer methods and even the interns themselves fresh from the laboratories and the schools. It behooves him, therefore, that his work should be of the highest grade and the pride of his reputation cannot afford that it be otherwise. His position demands that he should stand for all that is best and most scientific in medicine. This critical fire to which he is subjected, however, brings out whatever qualities he has and stimulates him to give the best that is within him. The greatest good the hospital does in any community is not so much what it does for the individual as the good it does in sending out men trained to the scientific habit of mind, and whose influence and authority as leaders is reflected in the general diffusion of sanitary knowledge in the community.

33. **Hospital's Recompense to the Staff.**—In Davis' opinion, the indirect compensation to a doctor on a hospital staff has been greatly exaggerated. If the same amount of time spent in hospital work were spent in study and investigation, and attention to one's office and practice, he thinks that much more benefit would ensue. He says that it is only the small hospitals and some church institutions that do not now pay their physicians for attending patients who occupy private rooms. Of course, the amount of these fees varies much, but it is becoming more and more a recognized principle that the physician laborer is worthy of his hire.

Davis asks whether a hospital patient who is able to pay should not have the choice of his medical attendant, and, also, should hospitals receiving state aid distribute their favors to only a few physicians, or should all have an equal chance? He believes that the answer to these two questions will lead, sooner or later, to the establishing of two kinds of hospitals, the first, a purely eleemosynary institution where none will be treated except those who are unable to pay, and its staff will consist of men who are paid a just salary by the management for their services, in the same manner as hospitals for the insane pay their physicians now. The other kind will be, as it were, invalid hotels, open only to those who will pay according to their accommodations. Such an institution would have no staff, but would be at the service of all reputable physicians. The medical attendants would arrange for their compensation with their patients, just as they would do in private practice. The hospital would make such charges as the manager should see fit for rooms, operating rooms, nurses, etc. Such an institution could restrict its patients to special diseases, or have different departments. It could have private operating rooms to lease to special surgeons. It would supply nurses and such conveniences as a hospital should offer, but private nurses could be employed by any physician. If these two institutions should be housed in one building, the method of paying the medical men would remain exactly the same as if they were in separate buildings. This might be the type for so-called church hospitals. It would prevent hospitals from sailing under the banner of charity, when they are too often simply money-making institutions. It certainly would recompense medical attendants in hospitals, in a much more equitable way than at present. It would also keep from unduly increasing the number and capacity of hospitals and establish them more firmly on a business basis. In many cities the hospital accommodations are very much larger than are required and the expense of maintenance is urged as a reason for not giving proper recompense to the staff.

34. **Economic Influence of Hospital Administration on the Medical Profession.**—The points which Vander Veer brings out are summarized as follows:

1. Contributions for the construction of the general hospital to be received from those who are disposed to give for such a charitable purpose, thus becoming a partner with the physician in caring for patients who cannot pay for services in their own homes.
2. The care of such contributions, and the organization of the hospital to rest in a board of governors, or trustees, there being a representation on said board from the medical staff of the hospital, the object of this being a close community of interest, at their meetings, and for the discussion of subjects in which they are mutually interested.
3. Appointments on the medical and surgical staff to be made on the recommendation of the staff proper, to be confirmed or rejected by the board of governors.
4. The fee for care of patients in the semiprivate wards or private rooms to be left entirely with the attending physician or surgeon in like manner as though the attention were given in their own homes, hotels or boarding-houses.
5. The semiprivate wards, too, offer an opportunity for the younger members of the medical profession to care for a larger number of patients, when brought to the institution and who are unable to pay for services, than they could elsewhere.
6. Encouragement for every patient who can do so to pay for his board in the public or semiprivate wards, knowing they will receive the attention of the staff of the hospital, or, as is the case in many instances, of the physician or surgeon whom they themselves may select.
7. An opportunity for the public to give to the general hospital such sums as they may feel disposed for making up the deficit that so often occurs in the care of patients who pay all they can and yet are not able to meet the full charge for their expenses. In this manner the self-respect of the patient and friends is maintained, although they still require a little additional aid.
8. A most excellent method for the city to care for its sick and injured and a great protection to the taxpayers.
9. The endowment fund offers an opportunity for the benevolently inclined to place such gifts as he or she may feel disposed to give under the control of an institution that is to be lasting, and where only the interest is to be employed for the annual expenses. Few institutions in this country have endowments sufficiently large whereby the interest will maintain all expenses, and where such do exist only strictly charity cases should be admitted.

35. **Hospitals and Their Respective Communities.**—Eisenberg points out that the influence of a hospital on its surrounding community is beneficial in the broadest sense.

1. The presence of a hospital in any community furnishes prompt attention in all cases of accident or disease, especially to grave and apparently fatal ones, that might otherwise be jeopardized by transmission to some more remote point.
2. The nearness of a hospital arouses more interest and sympathy in its administration and for those cared for in its wards. Especially is this the case when those on the board of management are selected from the citizens of the immediate community.
3. The proximity of a hospital with its continual needs of assistance appeals to the benevolent heart of a community and stimulates not only giving but benevolent work for its support.
4. The location of a hospital in any community wherein its presence has created benevolent interest accomplishes much toward effacing the hard-and-fast social and sectarian lines by unifying sentiment in one common purpose.
5. In all populous centers wherein a sufficient number of physicians and surgeons are found willing to support a hospital by their gratuitous services such association with the institution is highly beneficial to that community, because of a better feeling that is thus promoted among the medical staff of the institution.
6. The medical staff of such hospital, because of the accumulation of clinical material of great value, is being constantly trained and educated for better work in the homes of their private patients and, therefore, indirectly the community itself is benefited.
7. The great advance within the past twenty-five years in methods of prevention of disease and of the necessity of more scientific care of the sick and injured has rendered a school for training nurses an essential adjunct to a well managed hospital, therefore such institution, in preparing and furnishing trained nurses for service among the sick in their homes, confers a great benefit on a community.

American Journal of Urology, New York

March

36 Salvarsan in Syphilis. E. Tomasczewski, Berlin.
37 Normal and Pathologic Posterior Urethra and Neck of the Bladder. L. Buerger, New York.

Journal of Ophthalmology and Oto-Laryngology, Chicago

April

38 Management and Treatment of Trachoma Among Indians. W. H. Harrison and D. W. White, U. S. Indian Service.
39 Inter-Relationship Between the Eyes and Nose. J. S. Weaver, Kansas City, Mo.

Chicago Medical Recorder

April

40 *Cystoscopic Findings in Early Tabes Dorsalis. I. S. Koll, Chicago.
41 The Visiting Nurse in the Municipality. W. A. Evans, Chicago.
42 Perforating Gastric Ulcer. H. F. Lewis, Chicago.
43 *Legal Rights and Liabilities of Physicians. J. E. Kehoe, Chicago.
44 *Neuralgia of the Larynx. H. Kahn, Chicago.
45 Scarlatina—Its Prevention and Treatment to Avoid Complications. G. W. Reis, Chicago.

40. **Cystoscopic Findings in Tabes Dorsalis.**—Lateral trabeculæ formation, rigidity of the ureteral orifices and hypertrophy of the interureteric ligament, according to Koll, compose the three important points which should lead to a further investigation directed toward changes in the spinal cord. Symptoms referable to the urinary tract should call for a cystoscopic examination. The bladder picture which is found, *in toto*, differs from any other seen through the cystoscope. The most striking changes are found at the ureteral orifices which, instead of showing the rhythmical, uniform, sphincter-like action with each extrusion, allow the urine to flow out without any evidence of a muscular contraction. To this condition, which he has been unable to find described anywhere, Koll has given the name ureteral-orifice rigidity. In some of the cases this rigidity may not be complete, and thus closely resemble the rigidity of the sluggishly acting pupil. There is a more or less marked hypertrophy of the interureteric ligament manifested by increased vascularization and distention of the arteries; the ridge between the two orifices is distinctly higher and stands out well above the remainder of the mucosa of the bas fond.

A third point to make up the diagnostic triad is the typical trabeculization, or the *balken* of the Germans. This differs from the picture given by an overworked bladder due to obstruction by showing the trabeculæ only on the lateral walls of the bas fond, and apparently continuous with the interureteric ligament at either end. The trabeculæ, too, are finer and more nearly resemble the papillary muscles of the heart. In no case in the class under consideration did Koll see any trabeculæ in the median line, in the fundus or extending high up on the lateral vesical walls.

43. This article appeared in THE JOURNAL, April 22, p. 1215.

44. **Neuralgia of the Larynx.**—Kahn reports five cases of non-ulcerative laryngitis dolorosa. He describes laryngeal neuralgia as being a painful non-ulcerative disease of the larynx, characterized clinically by more or less intermittent or constant pain, painful areas, dyspnea, dysphagia, disinclination to talk and fear of approaching death.

Lancet-Clinic, Cincinnati

April 22

46 *Roentgen-Ray Therapy of Enlarged Thymus. S. Lange, Cincinnati.
47 Treatment of Disease. I. O. Allen, Richmond, Ind.
48 The Reason and Purpose of the American Society of Medical Sociology. W. J. Robinson, New York.

46. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1583.

Vermont Medical Monthly, Burlington

April

49 Surgical Treatment of Empyema Without Complicating Apparatus. S. Lloyd, New York.
50 Anaphylaxis. G. S. Graham, Hanover, N. H.
51 Vaginofixation of the Retroverted Uterus in the Cure of Cystocele in Parous Women. C. W. Strobell, Rutland.

Surgery, Gynecology and Obstetrics, Chicago

April

52 The Operative and Specific Treatment of Renal and Vesical Tuberculosis. H. Kümmell, Hamburg-Eppendorf, Germany.
53 Tuberculosis of the Kidney and Ureter. A. D. Bevan, Chicago.
54 Gonococcus Infection of the Kidney. P. I. Nixon, Baltimore.
55 Tuberculosis of the Tubes, Ovaries and Bladder. G. Kolischer, Chicago.
56 *Value of Chromo-Ureteroscopy in Functional Kidney Diagnosis. B. A. Thomas, Philadelphia.
57 Malignant Papillary Adenoma of the Kidney. J. S. Eisenstaedt, Chicago.
58 Congenital Epulides (Odontoblastomata). L. G. Kaempfer, New York.
59 Intermittent Hydrarthrosis. V. C. David, Chicago.
60 The Radiograph Shadow and the Cystoscope. W. F. Braasch, Rochester, Minn.
61 *Ventrosuspension by the Round Ligaments for Backward and Downward Displacement of the Uterus. H. N. Vineberg, New York.
62 *The Closure of the Abdominal Incision. S. E. Tracy, Philadelphia.
63 Acute Postoperative Dilatation of the Stomach Following Gastrojejunostomy. M. R. Barker, Chicago.
64 Treatment of Eclampsia. L. F. Watson, Oklahoma City, Okla.

56. **Chromo-Ureteroscopy.**—Conclusions as to the functional sufficiency or insufficiency of a kidney, based merely on the onset of the elimination of indigocarmin, Thomas says, may be erroneous. The intensity of the color reaction must also receive serious consideration. Therefore, the first law of the chromo-ureteroscopist is to obtain and maintain an absolutely clear fluid content in the bladder. The second law is to have a sufficiently brilliant illumination. If these two conditions are not secured, he will frequently fail to observe the earliest

onset of the elimination of the indigo, particularly if it is a light blue coloration and merely oozes from the ureteral orifices into the bladder, instead of exhibiting the normal spurt. The first law can be best fulfilled by prolonged irrigation, if indicated, and the employment of an evacuation cystoscope, so that the bladder may be emptied quickly and refilled when necessary. The second law is not so difficult, requiring simply care in the selection of a good cystoscope and the testing of the lamp before introduction into the bladder.

Chromo-ureteroscopy based on the employment of indigocarmin is regarded by Thomas as the most valuable single test for renal sufficiency or insufficiency. The test is said to be particularly applicable for surgical affections of the kidneys and ureters and almost invariably suffices to establish the diagnosis, if, when the indication arises, it be supplemented by ureteral catheterization. It is of no value in movable kidney in the absence of a ureteral kink or hydronephrosis, pyelitis, early tuberculous and certain other forms of nephritis and small tumors not involving a majority of the parenchyma. It is of value in the differential diagnosis of hemorrhagic and chronic interstitial nephritis from other types of the disease. Supplemented by ureteral catheterization, and the Roentgen ray, it will serve to diagnose practically every case of renal and ureteral calculus. In hydronephrosis, pyonephrosis, pyelonephritis and chronic tuberculosis of the kidney involving approximately one-third of the parenchyma, chromo-ureteroscopy is of exceptional merit. In simple hypertrophy or carcinoma of the prostate, causing chronic retention of the urine, the indigocarmin test promises to be of value in the differentiation of operable and non-operable cases.

Chromo-ureteroscopy is also of great value in the differential diagnosis of obscure abdominal tumors, also in facilitating difficult ureteral catheterization. Indigocarmin is eliminated from normal kidneys as a dark blue in from 4½ to 20 minutes; as a light blue, not later than 15 minutes. In 86.7 per cent. of normal kidneys it appears either as dark or light blue in from 4½ to 15 minutes. If the indigo does not appear at the expiration of from 15 to 20 minutes, it is evidence of serious insufficiency of the renal function. If the elimination of the dye does not occur at all, the kidney or ureter is gravely diseased. The intensity of the color reaction (dark blue or light blue) depends on the concentration of the urine and the individual secretory power of the organ. A surgically diseased kidney eliminates the dye less intensely than its normal sister organ, or not at all. The test is very simple and by alternate observation of the two ureteral orifices, differences between the two kidneys are readily and speedily noted.

61. **Ventrosuspension in Displacement of Uterus.**—In Vineberg's method, four sutures are used to suspend the uterus by means of the tubes, two on either side. One suture passes around the tube 4 cm. from the uterus, the other at its insertion into the uterus. The sutures pass through the rectus muscle and fascia and are tied on the fascia. The wound is closed in the usual manner.

62. **The Closure of the Abdominal Incision.**—Overlapping of the cut edges of the rectus fascia is the end aimed at by Tracy. The peritoneum is sutured with catgut, and the same suture is used to whip together the muscle. On the right side of the wound, the fascia is separated back from the muscle, for from 1 to 3 cm.; likewise on the left side. Tension sutures are then introduced through the skin about 3 cm. from the edge of the wound, passing through the fat and the fascia about 1 cm. from the edge, then in and out through the fascia on the left side from 1 cm. to 3 cm. from the edge, and back through the fascia on the right side, then out through the fat and skin on the left side. The sutures are placed from 4 to 5 cm. apart. Next the edge of the overlapping fascia is whipped down with chromic catgut, and the skin sutured with a buttonhole stitch. If the ends of the tension sutures are drawn taut, the fascia will overlap, and the whipping down of the edge will be facilitated. Gauze saturated with 70 per cent. alcohol is placed over the wound and the tension sutures are tied over the gauze. The tension sutures are removed in from ten to fourteen days.

In patients in whom there is a wide separation of the recti muscles and marked relaxation of the abdominal wall, the fascia is overlapped to the extent the recti muscles are separated. In cases of marked relaxation, the recti muscles are dissected out and sutured from an inch above the umbilicus to the pubic bone. It is not considered advisable to constrict the upper abdomen as such a procedure has a tendency to increase the visceroptosis, which is usually present. If the peritoneal cavity is opened when separating tissues about the umbilicus, the peritoneum is sutured transversely as there is less tension and the approximation is better. After the recti muscles are sutured, the edge of the fascia on the left side, which is slid under the fascia on the right side, to the extent the muscles were retracted, is anchored with mattress sutures of chromic gut, and the edge of the fascia from the right side is sutured in the usual way. In order to make a good approximation and to avoid any infolding of the fascia at the upper end of the wound, this fascia on the right side is cut transversely, and the vertical incision carried slightly upward, and to the left. The upper segment (above the transverse cut) is then slid under and the lower segment over the fascia on the left side. The free edge of the fascia is then sutured. When it is necessary to leave one end of the wound open for drainage, the same technic is employed, except that no gauze is interposed between the skin and the tension sutures. By employing this method the separation of the fascia in the part of the wound not closed is less, and the abdominal wall is stronger than if closed by through-and-through sutures; dead spaces are eliminated; the fascia is overlapped and approximated accurately and remains overlapped even if the catgut is absorbed in a few days. No dead space is left in the fat and the necessity of suturing this layer is eliminated. In cases in which there is an excess of serum or slight oozing in the skin or fat immediately after the operation, the pressure from the tension sutures tied over the gauze will force the serum or blood through the skin incision, where it will be taken up by the gauze. If primary union of the wound takes place, it is practically impossible for a hernia to follow, and if the technic is proper, suppuration will seldom result.

Northwest Medicine, Seattle, Wash.

April

65 Neurasthenia Gastrica, or the Nervous Dyspepsia of Leube. A. A. Robinson, Ogden, Utah.
66 The Principles of Chemotherapy, and the Relation of the Wassermann Reaction to Syphilis. R. W. Matson, Portland, Ore.
67 Laboratory Methods in Diagnosis of Syphilis. C. Snow, Salt Lake City, Utah.
68 Salvarsan, Its Place in Medicine To-Day and in the Future. G. S. Peterkin, Seattle, Wash.
69 Significance of Jaundice in Gall-Stone Disease. F. Hinman, Spokane, Wash.
70 Origin of the Various Constituents Found in Urinary Calculi. G. S. Gordon, Vancouver, B. C.

Therapeutic Gazette, Detroit

April

71 Diseases of the Skin. J. W. Miller, Cincinnati.
72 Results of Gall-Stones. J. A. McGlinn, Philadelphia.
73 Exostoses of the Os Calcis. A. J. Davidson, Philadelphia.
74 Puerperal Infection. E. P. Davis, Philadelphia.
75 *A Modified Vaccine Therapy Based on the Theory of Multiple Infections and Quantitative Reaction. A. F. Schafer, Bakersfield, Cal.

75. **A Modified Vaccine Therapy.**—The vaccines used by Schafer are neither "bacterial vaccines" nor "serums" as ordinarily understood, but are solutions in sterile water (to which approximately 0.5 per cent. phenol has been added) of the soluble substances generated by the organisms when grown in suitable culture media. The product is sterile and contains neither live nor dead bacteria, all organisms having been removed by filtration through porcelain. The "mixed-infection vaccine," which is used in the treatment of infections of any character whatever (except where the diagnosis has been clearly established and the predominating causative organism is known) is made from a large variety of pathogenic bacteria. This is a polyvalent preparation, since the organisms are not confined to any one strain of a given species. Two

hundred patients ill with pneumonia have been treated with the special pneumococcus vaccine. A series of fifty-six patients with lobar pneumonia treated with the special vaccine without a single death included two infants, seven children whose ages varied from two to eleven years, eight adults who were chronic alcoholics (three of whom had delirium tremens), sixteen complicated with measles, three with peritonitis, three with virulent peripheral lesions; two obstetric patients; five with typhoid infection, six with double lobar pneumonia, and fourteen individuals over 60 years of age, one being 92. One hundred and fifty patients with typhoid were treated, and of these four died, two from perforation and one from hemorrhage. The average time from the treatment to recovery was ten days. Good results were obtained in several cases of acute articular rheumatism. Considerable improvement followed the use of tuberculosis vaccine in a series of ten cases exhibiting a variety of tuberculous lesions. In gonorrheal infections the results were such that definite conclusions are unwarrantable.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

April 15

76 Brain Tumors. H. W. Jones, Minneapolis.
77 Practical Use of Tuberculin in Diagnosis. G. E. Brown, Brainerd.
78 Two Cases of Conservative Amputation. J. H. Rishmiller, Minneapolis.
79 A Plan for the Establishment of Local Routine Epidemiologic Work in Minnesota. H. W. Hill, Minneapolis.
80 Evil Effects of Small Adenoids. C. F. Coulter, Wadena.

Archives of Pediatrics, New York

April

81 Diarrhea in Children, with Especial Reference to Pods of Cesalpinia Corriaria (Divi-divi) as a Drug, and to Banana Flour and Plantain Meal as a Food. A. E. Vipond, Montreal, Canada.
82 Value of Prophylaxis in the Early Life of the Exceptional Child. S. V. Haas, New York.
83 A Record of the First 500 Cases Cared for at the Nathan Straus Infants' Milk Depots of Washington, D. C. L. Tayler-Jones, Washington, D. C.
84 Malarial Fever in Children. E. G. Wherry, Newark, N. J.
85 Tuberculous Peritonitis in Children, With Report of Cure Following Two Operations in a Dry Non-Exudative Form of the Disease. J. H. Bradshaw, Orange, N. J.
86 Infant Mortality in Summer: How to Conduct a Successful Campaign Against It. A. Stern, Elizabeth, N. J.
87 *Treatment of Typhoid with Special Reference to the Use of Hydrochloric Acid. A. McAlister, Camden, N. J.

87. **Hydrochloric Acid in Typhoid.**—It is McAlister's uniform practice to use the acid in every case just as soon as the alimentary tract has been well prepared for systematic feeding by the use of eliminatives, preferably broken doses of calomel followed by a saline or castor oil. He gives the acid well diluted, in doses ranging from 2 to 15 minims, according to age and the needs of the individual case, three or four times a day. Pepsin may be added when it seems especially indicated, particularly in the very young or very delicate, and the mixture may be made especially palatable by giving it in the form of an artificial gastric juice. This McAlister regards as being the ideal mixture for pediatric use. The treatment calls for water, both for pleasant administration of the acid and to satisfy the thirst it tends to excite. This in itself is a noteworthy advantage in the treatment of this particular febrile condition in which patients almost never, without special and constant urging, imbibe enough water. But the greater value of the acid lies in its effect on gastric digestion and the tone of the digestive processes generally. He urges more extensive use of this treatment.

Ohio State Medical Journal, Columbus

April

88 Treatment of Hip Disease as Based on its Pathologic Mechanics. H. O. Feiss, Cleveland.
89 The Fergus Advancement Operation for Ptosis. E. Lauder, Cleveland.
90 The Facial Expression and Posture of Disease. S. Loving, Columbus.
91 Tracheobronchoscopy. S. Iglauer, Cincinnati.
92 Diagnosis and Treatment of Puerperal Sapremia and Septicemia. F. Fletcher, Columbus.
93 Review of the Theories of Etiology of Cancer. R. L. Bidwell, Toledo.
94 Treatment of Carcinoma and Sarcoma. H. M. Freeman, Toledo.
95 Further Reasons Why a Natural History is Needed in Ohio. O. V. Huffman, Cincinnati.

Medical Record, New York

April 22

96 Present Day Health Activities. W. Wyman, Washington, D. C.
97 Treatment of Epithelioma, Lupus, etc., with Thorium Paste. L. D. Bulkley, New York.
98 Teaching School Hygiene. J. Burnet, Edinburgh, Scotland.
99 *Serotherapy of Pneumonia in Infants and Young Children. E. M. Sill, New York.
100 *Treatment of Diabetes Mellitus, with Table of Carbohydrate Equivalents. H. S. Carter, New York.
101 *Spontaneous Disappearance of Malignant Growths. J. W. Gleitsmann, New York.
102 Diagnosis of Duodenal Ulcer. M. Gross, New York.
103 Reactions to Tuberculin. L. C. Rouglin, Atlanta, Ga.

April 29

104 *Pulmonary Symptoms as Premonitory Signs of Venous Thrombosis. L. A. Conner, New York.
105 Street Sanitation in New York. W. Van V. Hayes, New York.
106 *A Case of Multiple Myeloma with Albumosuria. C. K. Austin, Paris, France.
107 Drugs in Gastric Therapeutics. J. W. Weinstein, New York.
108 Significance of a History of Alcoholic Addiction. T. D. Crothers, Hartford, Conn.
109 Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

99. **Serotherapy of Pneumonia in Infants.**—About a year ago Sill became interested in a polyvalent composite serum obtained from diphtheria-immune horses for use in pneumonia. The serum was injected subcutaneously, in doses of 10 c.c., at varying intervals, depending on the symptoms and the effect it had on the patient. In some cases one injection seemed to be sufficient to relieve the symptoms and check the disease, while in others repeated injections of 10 c.c. were given every day or at longer intervals, although not always with favorable results. Sill thinks that, perhaps, in these latter cases, if larger doses had been given or the serum had been injected at more frequent intervals, it might have made a difference and given a more immediately favorable result. In all, twelve patients were treated by means of the serum, eight males and four females. Their ages ranged from 5 months to 3 years; all but two were under 2 years, and three of these were under 1 year. There were three cases of lobar pneumonia and nine cases of bronchopneumonia. Two patients died, one of empyema and one of extensive double pneumonia, marasmus and cardiac failure (mortality 16.6 per cent.). Two other patients besides those who died were not helped by the serum, but the other eight were all more or less improved and in some of the patients the effect of the serum seemed marked. Those patients who received the serum early in the disease seemed to be most benefited by its use.

100. **Treatment of Diabetes Mellitus.**—Carter calls attention to the fact that the only real success comes through a proper dietary regulation, and as the chief symptom, glycosuria, is dependent on the incomplete metabolism of carbohydrates, any plan for efficient treatment must center about the proper training of the organism to reacquire, to some extent, the lost power of properly burning the carbohydrates. In other words, it is the partial re-education of the individual to the proper digestion of starch and the sugars, a power which has been lost through some defect in the physical economy of the secretions, notably the pancreatic internal secretion.

101. **Spontaneous Disappearance of Malignant Growths.**—Attention is directed by Gleitsman to the fact that this phenomenon does occur, and he urges that the subject be made one of more intensive study.

104. **Venous Thrombosis.**—The chief points to which attention is called by Conner are the following: Pulmonary symptoms are, not infrequently, the first indication of a beginning venous thrombosis, preceding often by several days the local evidences of such thrombosis. Such symptoms are the result of the lodgment in branches of the pulmonary artery of emboli derived from the newly formed, friable thrombi in the peripheral veins. These early pulmonary emboli are usually of small size and the symptoms arising from them are frequently slight and transient. The symptoms of pulmonary embolism and infarction by no means always correspond to the classical descriptions of them. One or more of the cardinal symptoms are frequently lacking. This is especially true of hemoptysis, which is often absent entirely, and at other times appears only several days after the onset of the other symptoms. The physical signs are usually either those of a more or less extensive plastic pleurisy or of a small area of

pneumonic consolidation which lasts only for three or four days. Venous phlebitis and thrombosis, in very many instances, begins in the small peripheral veins, especially in those of the calf, where it may exist for some days before the symptoms of thrombosis of the large veins appear. The chances of pulmonary embolism seem to be much greater at the beginning of a venous thrombosis than later on in its course. Some of the obscure chills in typhoid, Conner says, are related to the lodgment of pulmonary emboli. He cites nine cases to illustrate the points made by him.

106. **Case of Multiple Myeloma.**—The disease that carried off Austin's patient was a myeloma, that is to say, a tumor of the bone-marrow, whose point of departure was in the substance of the twelfth dorsal vertebra, which collapsed through total disappearance of its bony substance. There were metastatic nuclei in the neighboring vertebræ, and in the ribs. This myeloma was characterized by the predominance of lymphocytes. The lymphnodes had undergone a form of atrophy, and a radical change of structure such as is sometimes observed in anemia. There were evident traces of old and healed tuberculosis of the lungs. There were likewise traces of former inflammation of the pleuræ and peritoneum, which was no doubt also tuberculous. It was to this inflammation that the renal lesions appeared to have been due. The points in this case that seem to be of particular interest are the following: A long period of preliminary silence, which probably covered the entire winter. The period of increasing pains, lasting three months, ending in a big crisis, and followed by six months of uninterrupted improvement resulting in a condition that the patient considered practically a normal one. The apparently favorable action of the atoxyl treatment; the fact that with a whole vertebra entirely destroyed, and without the slightest artificial support, the patient suffered no inconveniences whatever from this pseudo-arthrosis, while at no time were there paralytic symptoms of any sort.

Journal of the Oklahoma State Medical Association, Muskogee

April

110 The Repair of Fracture. J. H. Scott, Shawnee.
111 Antityphoid Vaccination. J. W. Riley, Oklahoma City.
112 Tuberculosis of the Fallopian Tube. C. N. Ballard, Oklahoma City.
113 Duty of the Physician to Himself. L. H. Huffman, Hobart.
114 Electricity and the Nervous System. T. A. Williams, Washington, D. C.
115 Lacerated Cervix-Uteri. J. H. Hansen, Grandfield.
116 Pyloric Obstruction Due to Extrinsic Causes. G. A. Beedle, Kansas City, Mo.

Boston Medical and Surgical Journal

April 27

117 Men, Manners and Medicine. R. M. Green, Boston.
118 *Climatic Treatment of Tuberculosis. G. Hinsdale, Hot Springs, Va.
119 *Common Colds. J. A. Honeij, Boston.
120 Analysis of Forty-six Cases of Prostatectomy. L. Davis, Boston.
121 Pemphigus Chronicus Vulgaris of the Oral Cavity and Larynx. R. A. Coffin, Boston.
122 Acute Toxemia Caused by Infection of the Throat by the Colon Bacillus. C. B. Faunce, Jr., Boston.

118. **Climatic Treatment of Tuberculosis.**—Hinsdale is firm in the belief that for the majority of incipient cases, when the patient can well afford it, life in a selected locality in the west offers the best prospect of cure; but that for eastern patients a period of training in an eastern sanatorium is highly desirable—the first and most important stage in beginning any climatic treatment. He believes that dryness, sunshine and altitude are features of the best climate, but that they decidedly disagree with some patients when presented in extreme doses as in some of our southwestern resorts. Hinsdale agrees with others that given simple pulmonary tuberculosis (not far advanced), somewhat over 60 per cent. of such patients will do better and live longer in the West than they would in the East, supposing every other consideration to be equal; also that nearly 40 per cent. of the total will do better and live longer in the East than in the West, similar conditions prevailing in both places. Of course those comprising this latter 40 per cent. in the East may not do quite so well proportionately as those of the 60 per cent. in the West, but in the East they will be doing the best that they can, and a small majority of the 40 per cent. can be cured under eastern conditions that would probably fail utterly in the West. In other words, conditions other than money, nostalgia, etc., should enter into the question of cases of tuberculosis being treated and remaining West or East. Doubtless every patient who is able to afford it easily should try the West; the first and essential part of the western trial being a period of regulated régime in the East.

119. **Common Colds.**—This is a statistical paper. Honeij details the results of an investigation of the prevalence of common colds and the economic loss due to them, together with a study of the various types of colds, sources of infection, the vocations most affected and other facts of more or less interest and importance.

Virginia Medical Semi-Monthly, Richmond

April 7

123 Diagnosis and Treatment of Tumors of the Breast. J. S. Horsley, Richmond.
124 Late Methods in the Diagnosis and Treatment of Gastric Diseases. J. R. Verbrycke, Jr., Washington, D. C.
125 Hydronephrosis. K. Ruffin and L. Gwathmey, Norfolk, Va.
126 Some Interesting Mastoid Cases. J. R. Winslow, Baltimore.
127 Appendicitis—Review of 130 Operative Cases. W. L. Peple, Richmond.
128 Treatment of Advanced Cases of Appendiciais. J. N. Lewis, Roanoke.

Long Island Medical Journal, Brooklyn, N. Y.

April

129 Status of the Radical Mastoid Operation for Cure of Chronic Suppurative Otitis Media. W. C. Braislin, Brooklyn, N. Y.
130 Salvarsan. J. M. Winfield, Brooklyn, N. Y.
131 Correction of Paralytic Deformities in Young Adults. W. Truslow, Brooklyn, N. Y.
132 Treatment of Movable Kidney. T. B. Spence, Brooklyn, N. Y.
133 Some Pelvic Pathology and Reflexes. R. T. Morris, New York.

Medical Fortnightly, St. Louis

April 10

134 Aphonia. L. D. Brose, Evansville, Ind.
135 Supplying Anatomic Material. G. H. Bogart, Brookville, Ind.
136 Personal Experience with Specific Vaccines. E. E. Clark, Danville, Ill.
137 Important Difference Between the Opsonic Negative Phase and the Clinical Negative Phase in Bacterial Therapy. F. E. Stewart, Philadelphia.

Annals of Ophthalmology, St. Louis

April

138 The Chemistry of Metabolism in its Relation to Eye Disease. S. L. Ziegler, Philadelphia.
139 Relation of Cerebral Decompression to the Relief of the Ocular Manifestations of Increased Intracranial Tension. G. E. de Schweinitz, Philadelphia.
140 Ocular Complications of the Acute Exanthemata. J. M. Griscom, Philadelphia.
141 Vaccine Therapy and Serotherapy in Disease. W. Zentmayer, Philadelphia.
142 Restoration of Contracted Sockets After Enucleation of the Eyeball—Advantages of Thiersch's Skin Graft Over Other Methods of Treatment. V. L. Raia, Providence, R. I.
143 A Modified Pterygium Operation. P. B. Wing, Tacoma, Wash.
144 Ocular Symptoms of Infantile Scurvy. J. H. Dewey, Philadelphia.
145 Elephantiasis of the Eyelids. W. B. Weidler, New York.
146 Papilloma of the Conjunctiva. F. Krauss, Philadelphia.
147 Gumma of the Brain, with Absolute Blindness and Complete Recovery. E. O. Winship, New London, Conn.
148 Vertical Imbalance (Hyperphoria and Hypophoria) and the Value of the Vertical Prism in Ophthalmic Practice. W. Reber, Philadelphia.
149 An Improved Astigmatic Axis Finder. E. B. Coburn, New York.
150 The Scientific Versus Method by Rule, for Converting Cross Cylinders into Compound Lenses. W. C. Langhorst, Aurora, Ill.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 15

1 Arteriosclerosis and the Kidneys (to be continued). Sir C. Allbutt.
2 *Heart Failure. J. Mackenzie.
3 *Surgical Treatment of Chronic Colitis. D. Power.
4 *Vaccines in Acute Mastitis. T. H. C. Benians.
5 *Erythema Nodosum Following Measles. E. P. Joynt.
6 *The Value of Surgical Treatment of Pulmonary Cavities. J. D. Harris.
7 Scopolamin-Morphin Anesthesia in Labor. D. Corbett.
8 Evidence of Recent Severe Illness Afforded by the Nails. N. Flower and Sir S. Wilks.

2. **Heart Failure.**—The point is emphasized by Mackenzie that an individual affected by a heart lesion which diminishes

his working force must live within the limits of his powers. This can only be done by the period of rest being sufficient to restore the exhaustion of the work force. In this way alone will heart failure be avoided, and a reasonable prospect of longevity be attained. Treatment need not be given in the presence of any abnormal conditions unless there is distinct evidence of heart exhaustion. Where there is such evidence, then the treatment, in the first place, must consider the possibility of diminishing the amount of daily effort. From the point of view that heart failure arises because the period of work is so great that the period of rest cannot restore a sufficient amount of work force, the essential principle of treatment becomes self-evident—namely, rest. The success of the treatment depends entirely on the amount of rest the heart has procured. Mackenzie thinks it probable that drugs which have such a potent and beneficial effect on the heart as those of the digitalis group owe their good effects mainly to the amount of rest procured by the slowing of the heart's rate. At all events, in the researches Mackenzie has been carrying on for some years, the patients who have obtained the greatest benefit from digitalis were those in whom the heart's rate was decreased by the digitalis. He has repeatedly seen relapse of patients coincide with an increase in the pulse-rate when the digitalis was diminished or left off.

The vast majority of patients in whom digitalis acts with such marvelous effect in slowing the rate and improving the condition are those affected by auricular fibrillation. Hearts with the normal rhythm are seldom so sensitive to digitalis, and in them there is not the same tendency to slowing of the rate. Mackenzie says that it is a matter of every-day experience to find individuals with a murmur or an irregularity, who for years have been subjected to treatment and made to visit health resorts, for a condition which neither indicates heart failure in the present nor its likelihood in the future. The fact that heart failure did not arise has probably been attributed to the precautionary measures. From this comes the belief in the efficacy of many of the drugs and methods in use to-day. When many of the vaunted remedies are carefully investigated, their uselessness becomes evident. There are many conditions in which rest alone fails to benefit the heart, as when the heart is invaded by a toxin, or rendered irritable from some lesion in the organ itself, or when the ventricle in heart-block contracts so seldom as to endanger life. For these and many other conditions, we are absolutely without any means of meeting the impending and actual danger, and yet we are kept in ignorance of this fact because writers pour forth a stream of remedies for any and every kind of heart trouble. Were we more alive to our own limitations, we should be more industrious in the search for real and valuable remedies.

3. **Chronic Colitis.**—Appendicostomy is favored by Power in these cases of ulcerative colitis. The products of the ulceration are very abundant, and their absorption is one of the most serious dangers of the disease. It is important, therefore, to cleanse the bowel and to keep it free from putrefying products. Drainage through the appendix enables this to be done in the most satisfactory manner. The operation of appendicostomy is not so serious as that required for removal of the appendix during the quiet stage. It is very effective, and the fistula can afterward be closed without trouble; indeed, in some cases the difficulty is to prevent spontaneous closure. On the other hand, Power emphasizes that it must be clearly understood that appendicostomy will not cure ulcerative colitis, and the friends of the patient should have this clearly explained to them at the time of the operation, or they will be disappointed. The object of the operation is to keep the bowel clean and to prevent the absorption of toxic products. The ulcerative process continues until the patient becomes immune either by a natural process or by artificial means. Appendicostomy, therefore, prolongs the life of the patient, and thus gives him a better opportunity to be cured.

In the cases which have come under Power's observation (ten) the first effect of appendicostomy has been a material improvement in the condition of the patient, even in the most advanced cases. The temperature falls, the appetite returns and may remain good permanently. The improvement in the general condition, however, is not maintained in its full extent, and a relapse occurs after a week or two. These relapses are a cause of great anxiety, but, so far as he has seen them, they have only been temporary, and the net result of the operation has been a slow but interrupted progress to recovery after months of illness. Power has tried many different drugs as local applications in these difficult cases of ulcerative colitis. Phenol in all its forms, however disguised, has caused carboluria so often that he has ceased to use it. Bismuth salicylate, perchlorid of mercury, biniodid of mercury and boric acid caused irritation in the earlier stages and were discontinued. Bismuth carbonate (15 grains to 1 pint) and potassium permanganate (1 in 30,000) were some of the drugs which proved most useful and were soothing. In the later stages of the disease irrigation with perchlorid of mercury (1 in 20,000), zinc sulphate (4 drams to 3 pints) and silver nitrate in the strength of 5 to 10 grains to the pint of sterilized water gave the best results when they were used alternately. Ionized irrigations were employed on several occasions, but he could not satisfy himself that there were any marked improvements.

4. **Vaccines in Acute Mastitis.**—Benian cites a considerable number of cases of acute mastitis and chronic suppurating sinuses of the breast in which the vaccine treatment was eminently successful.

5. **Erythema Nodosum Following Measles.**—In 9 out of 300 cases of measles erythema nodosum developed. In most of the cases about ten to fourteen days had elapsed since the first onset of measles before the erythema nodosum made its appearance. In half the cases the first symptom was pain in the joints, followed by the erythema in about twenty-four hours. There was no history of rheumatism or contact with rheumatic fever in any of the cases, and no rheumatic or cardiac lesions were found in any of the patients. The question of sore throat before or at the time of the measles rash was carefully gone into by Joynt, but it was present in one case only. So far as he knows no other case of erythema nodosum has occurred in the sphere from which these cases have been collected. Seven of the cases occurred among the poorer class attending the hospital, and two were private patients in fairly good circumstances.

6. **Surgical Treatment of Pulmonary Cavities.**—Harris reports another case (his second) in which opening a pulmonary cavity and treating it surgically seemed indicated. He regards the procedure as being useful and fairly safe in non-tuberculous cases in which the cavities are but few in number. The result was all that could be desired. This case presented one or two special points of interest. Thus there were no adhesions found strong enough to prevent the lung from retracting from the wound. Neither was there anything to guide the palpating finger to the dilated bronchus. Again, the movements of respiration, so much exaggerated anteriorly as compared to the movements of the ribs posteriorly, repeatedly pulled out the tube from the bronchiectasis, for although the latter was carefully mapped out prior to operating, as soon as air entered the pleura the bronchiectasis was drawn upward and toward the mediastinum. The operation was therefore divided into three stages. When efficient drainage of the bronchiectasis was established, the temperature fell to normal, and remained so with cessation of all sweatings. Lastly, the collapsed lung and injured pleural cavity were subjected to Roentgen rays for twenty minutes on four occasions.

Lancet, London

April 15

9 *Heart Failure. J. Mackenzie.
10 *Indications for and Technic of Cesarean Section. A. Routh.
11 *Nature of the Skeleton Changes in Acromegaly. A. Keith.
12 *A House Epidemic of Typhoid Fever Due to a Carrier of an Atypical B. Typhosus. W. J. Wilson and J. A. Sinton.
13 Three Hundred Cases of General Anesthesia Combined with Narcotics. G. Brown.
14 *Prolapsus Uteri: Ventrofixation. J. O'Conor.
15 Common Forms of Deafness. W. H. Kelson.
16 An Improved Drainage Tube for Suprapubic Cystotomy, Liver Abscess and Abdominal Cysts. L. McGavin.

9. Also published in the *British Medical Journal*, April 15, 1911.

10. Also published in the *Journal of Obstetrics and Gynecology of the British Empire*, February, 1911.

11. **Skeleton Changes in Acromegaly.**—After having examined a considerable number of skulls, Keith concludes that the changes in acromegaly are of the nature of true growth, and are apparently due to the circulation through the body of a substance formed in the pituitary. This substance seems only to sensitize the tissues, the actual cause of their growth being mechanical stimuli arising from muscular action and mechanical movement. The growth changes seen in the acromegalic are of the same nature as those which occur normally in anthropoids and in the Neanderthal race, and both are probably due to a condition of hyperpituitarism.

12. **A House Epidemic of Typhoid.**—A house epidemic consisting of seven cases of typhoid is reported by Wilson and Sinton. The first patient was the mother who had eaten cockles a fortnight before her illness and who became a bacillus-carrier. The infecting bacillus was at first immotile when grown on agar, and was somewhat inagglutinable. The mother gave birth to a healthy full-term child, and her milk was very rich in agglutinins.

14. **Prolapsus Uteri: Ventrofixation.**—As experience has tended to prove that permanent reliance cannot be placed on any method of suturing the fundus, O'Connor adopted the following procedure with, so far, most promising results. The abdomen having been opened by a low central incision, the uterus is drawn forward with the left hand, and a small transverse cut is made at the site of the reflection of the peritoneum on the anterior surface of the uterus (exactly similar to the preliminary peritoneal incision in hysterectomy). With the handle of a knife or with the right index finger, the peritoneum with the bladder is pushed downward and forward, until a space of about an inch square is left on the anterior surface of the cervix. The peritoneum on each side of the exposed area is seized with pressure forceps, and is retracted out of the way, while he passes three strong catgut sutures, about one-third of an inch apart, through the denuded surface of the cervix, deep enough to get a firm grip of the cervical muscular coat. The needles having been removed, he draws the ends out, respectively, on each side through the recti muscles, by the aid of Childe's ligature forceps. Thus the peritoneum is excluded, and the exposed cervical connective tissue is brought into direct apposition with the recti. Before tying these three fixation sutures, O'Connor always closes the peritoneal layer of the parietal wound by a continuous catgut suture, the first few loops of which he passes also through the uterine peritoneum just above the denuded area, in order that no raw surface may be left for the omentum or the intestine to adhere to. The three cervix-recti sutures are next tied, and the muscles are approximated through the remainder of the incision by another catgut suture, the rectus sheath is similarly closed, and the skin is united by a subcuticular silk thread.

Clinical Journal, London

April 5

17 *Dyspnea in Nephritis and Diabetes Mellitus. N. Tirard.
18 Acute Intussusception. E. S. Bishop.

April 12

19 *A Fatal Case of Acute Suffocative Catarrh of Pneumococcal Origin (Pneumococcus Bronchitis). A Second Case of Pneumococcus Bronchitis (Unilateral) of Long Duration and Not Fatal, with Other Analogous Cases and Remarks. S. West.
20 Mixed Morbid Conditions in the Chest. J. W. Carr.
21 Acute Bronchial Affections in Young Children. T. D. Lester.

17. **Dyspnea in Nephritis and Diabetes.**—Urgent dyspnea, Tirard says, is always of grave import in nephritis and diabetes. In nephritis, when dyspnea is found, one must determine the cause, and to which of these categories of dyspnea the case belongs. It is essential for the purpose of treatment. The treatment should be hot-air baths and purgatives. Diaphoretics may do good in one group, and in another group it may be necessary to withdraw the fluid from the legs, the abdomen and the chest. In yet another group of cases, success may be obtained by stimulants and by expectorants. In diabetes, when dyspnea develops, one must examine the chest very closely for evidence of tuberculosis or other pulmonary trouble, and must also examine the urine closely for evidence of acetone or diacetic acid, remembering that this may be present even when, or particularly when, the sugar has shown signs of diminishing. When the sugar diminishes and dyspnea is worse, it is almost always certain that acetone or oxybutyric acid or diacetic acid will be present. Another practical conclusion is that when this symptom of air-hunger develops in patients who are not known to be diabetic, or who are known not to be diabetic, or when there is marked apathy or drowsiness in patients who are being fed by the rectum, it is advisable to examine for acetone and diacetic acid, and when these substances are present, whether one is dealing with diabetics or non-diabetics, it is always a safe rule to give alkalies and carbohydrates.

19. **Acute Suffocative Catarrh of Pneumococcal Origin.**—West regards the association of bronchitis with pneumonia as being always serious, but the gravity depends on the relation between them. Pneumonia occurring in the course of an ordinary bronchitis is an awkward complication, but not necessarily fatal. If, however, the signs of bronchitis develop in the course of a pneumonia, the result is almost invariably fatal. The meaning of the bronchitis in the two cases is different. In the first it is merely an association of two independent diseases. In the second the bronchitis is a sign of pulmonary failure, the result of the strain thrown on the lungs by the pneumonia; the lungs having done all they could to cope with the pneumonia, but failed, the signs of the failure being those of bronchitis. This is sometimes called secondary congestion of the lung. But the congestion of the lung may be primary. It may be coincident with the onset of pneumonia, and produce very grave symptoms. It may even be associated with hemoptysis, which is sometimes considerable. Yet as the consolidation develops in some part of the lungs, the primary general congestion may subside and the physical signs gradually limit themselves to those of ordinary consolidation. This may be compared to the widespread initial swelling which occurs in the subcutaneous tissue precedent to the development of a boil, and which rapidly disappears as soon as the infection localizes itself. If, when the pneumonia localizes itself, this general congestion still continues, it constitutes a very grave complication. This general congestion, bronchial as well as pulmonary, may also exist independently of any, or of anything but slight, consolidation. It is then a condition of the greatest gravity.

Medical Press and Circular, London

March 29

22 *Rheumatic Manifestations in Childhood. R. O. Moon.
23 Congenital Cystic Kidney. K. E. L. G. Gunn.
24 The Senile Heart: Prognosis and Treatment. J. Hay.
25 Primary Pneumococcus Peritonitis. T. G. Moorhead.
26 A Case of Acute Visceral Syphilis. T. Bushby.

April 12

27 Salvarsan in Syphilis. S. Taylor and R. W. Mackenna.
28 *A Case of Anomalous Cutaneous Eruption. W. K. Wills.
29 Paratyphoid Fever. G. Peacocke.
30 Fractures of the Patella and Their Surgical Treatment. C. B. Lockwood.

22. **Rheumatic Manifestations in Childhood.**—In Moon's opinion, there is one thing more important than all else in the treatment of rheumatism, and that is rest. Thus the rheumatic nervous children should have their school hours reduced, and in particular should not be allowed to work in the evening; in addition, an hour's enforced rest in the middle of the day is often advisable in such cases. But it is above all in the cardiac manifestations that rest is of such sovereign importance; a couple of months or more in bed is none too much when a cardiac lesion has been detected, and when the child first gets up, great caution must be exercised for some months longer. In the present state of knowledge this is far the most important thing to be done in order to save the heart from an entire breakdown of compensation. It is important that these children be warmly clad, but there is no reason why they should not eat the same food as ordinary healthy children. Care should be taken that they are not overworked at school or over-fatigued by too much exercise; any indication of this, such as headache, restlessness at night or general nervousness should be promptly treated by stopping school work, resting at home for two or three weeks, and, perhaps, it may be well to give small doses of arsenic and iron or cod-liver oil and iron, always bearing in mind the insidious attack which rheumatism so often makes on a vital organ.

28. **An Anomalous Cutaneous Eruption.**—The patient whose case is reported by Wills was a boy, 6 years old, who had had tonsillitis, cervical adenitis and sore throat. The skin eruption followed. The skin over the shoulders became scaly, and this condition spread in a couple of weeks to the whole trunk, and to a lesser extent to the thighs, arms, neck and face, but did not involve the hands, feet or scalp. By the end of the month, while the scaly condition was extending, the parts first involved were showing more inflammatory changes, and a small amount of serous discharge appeared, and the scales were shed, leaving a raw surface. At the end of three weeks, the whole of the trunk had become "raw," the conjunctiva had become involved, the gums and lips were also ulcerated, and the condition of the child most pitiable. The discharge had soon become purulent and offensive, but no local treatment seemed in any way to allay the symptoms. The temperature was of a septic type, but did not run very high. He presented the appearance of a profound toxemia. Cultures were made from the throat lesions, from the nose, eye and the skin lesions, and all were returned "positive Klebs-Loeffler." Almost immediately after injecting diphtheria antitoxin improvement began to set in. The local treatment had comprised boric ointment and zinc and mercury applied on lint.

Annales de Gynécologie et d'Obstétrique, Paris

March, XXXVIII, No. 3, pp. 129-192

31 *Myelitis and Polyneuritis During Toxic Vomiting of Pregnancy. L. Job.
32 Carcinoma of the Uterus. G. Rossier.
33 Superheated Air in Treatment of Gangrene, etc. (Quelques résultats de l'aéro-thermo-thérapie.) R. Dupont.
34 Transient Retention of Nitrogen During Protracted Delivery. A. Couvelaire.

31. **Polyneuritis During Pregnancy.**—Job has compiled sixteen cases of myelitis or polyneuritis occurring in the course of toxic vomiting in pregnant women. In each case in which the pulse is recorded the rate had been over 100 before the signs of paralysis developed, confirming the necessity for active measures whenever the pulse runs over 100 in the vomiting of pregnancy. Five of the women died; six were delivered at term but most were left with severe functional disturbances. In five cases the gravity of the symptoms led to early interruption of the pregnancy and the outcome was by far the most favorable in this group. In a case reported in detail, abortion was not induced until nearly two months after the first symptoms and the patient did not long survive. The auto-intoxication seemed to follow a regular course in the entire sixteen cases, affecting first the vomiting center, then the cardiac center and, finally, the peripheral nerves. The nervous symptoms may continue to develop after all the gastric symptoms have subsided and, once installed, they show scarcely any tendency to subside so long as the pregnancy persists. The prognosis is better with abortion or premature delivery induced in time.

Annales des Maladies des Org. Génito-urinaires, Paris

March 15, XXIX, No. 6, pp. 481-576

35 *Calculus in Kidney or Ureter in Children. (De la lithiase rénale et urétérale chez l'enfant.) M. Rafin.
36 Action of Colon Bacillus on the Kidney. (Action du "Bacterium coli" sur le rein.) F. Cuturi.
37 *Technic for High Incision of the Bladder. (Taille hypogastrique.) O. Pasteau.

35. **Calculus in Kidney or Ureter in Children.**—Rafin has been able to collect thirty-nine cases of this kind in children in which the stones were found in the kidney or ureter at an operation or necropsy. He has also operated in two cases. The symptomatology seems to be the same for children as for adults, but radioscopy is even more instructive with children. The knowledge that there are stones located at different points through the urinary apparatus is important, as the gravity of the condition is enhanced by the multiplicity of the localizations. Nephrotomy seems to be even less injurious in children than in adults. The immediate results were good in all the cases after the operation; the four fatalities were all in cases with severe infection and multiple concrements. The end-results are known in only very few of the children. It is more than probable, he thinks, that in many cases of urinary calculi in adults, the concrements had commenced to form in childhood, as in a case cited in which a stone, weighing 25 gm., was removed from the ureter of a girl of 16, who for ten years had had occasional kidney colics and hematuria. Five of the thirty-nine children were under 5, eighteen between 5 and 10, and twelve between 10 and 15. The lithiasis was exclusively on the right side in twenty-one cases and bilateral in six of the thirty-five in which the localization is mentioned; the concrements were in the right kidney alone in seven, right ureter alone in eleven, both kidney and ureter in two, while both were involved on both sides in three cases and in another bilateral case the bladder was also involved, as also in another case exclusively on the right side. In one of Nicolich's cases, radioscopy showed a stone in the right kidney, three in the left, and five in the left ureter. The latter were spontaneously expelled and the kidney stones removed by operation, after which radioscopy showed the entire urinary apparatus clear of concretions. In conclusion Rafin reiterates the comparative harmlessness of operations on the urinary apparatus in children and the necessity for keeping watch over the little patients so as to institute medical measures to ensure a permanent cure of the infectious process; it is liable to persist in a latent form unless diligently sought and eradicated.

37. **Technic for Suprapubic Incision.**—Pasteau stands on the left side of the patient and raises the pelvis before opening up the prevesical space. Then, when ready to incise the bladder, he has the pelvis raised still higher, as much as 35 or 40 degrees, not lowering it until the bladder has been sutured again. He distends the bladder with air and makes the incision in a part of the wall lifted up by two catgut threads run into the wall on each side of the median line, these threads aiding later in the suture.

Bulletin de l'Académie de Médecine, Paris

March 28, LXXV, No. 13, pp. 415-462

38 Sixteen Years of Antitetanus Serotherapy. Vaillard.
39 Preliminary Medical Education in France. (Nos écoles préparatoires.) Motais.
40 *Syphilitic Jaundice. (Ictère syphilitique—Ictère hémolytique ou sanguin.) E. Gaucher and Giroux.

40. **Syphilitic Jaundice.**—Gaucher and Giroux report two additional cases of syphilitic jaundice accompanying the secondary manifestations and developing with the clinical and blood findings of acquired hemolytic icterus. There was no general reaction nor signs of biliary intoxication, pruritus or bradycardia. The destruction of the red corpuscles was due to their abnormal fragility in one case and in the other to the presence of hemolysins in the circulating blood. Both types differ entirely from catarrhal jaundice which is an ordinary icterus with no syphilitic features.

Journal de Chirurgie, Paris

February, VI, No. 2, pp. 137-248

41 *Treatment of Extensive Phlegmon of the Synovial Sheaths in the Hand. (Remarques sur le traitement des phlegmons graves des gaines synoviales de la main.) P. Lecène.

41. **Extensive Phlegmon of the Synovial Sheaths in the Hand.**—Lecène has never obtained any benefit from Bier's method of inducing hyperemia in these serious cases, and quotes Forsell's actually disastrous experience with it. He adds that even in Germany this method is comparatively little used now in this class of cases. The best results are obtained, he asserts, by a long incision following the tendon sheath and extending the whole length of the infected segment. According to its location, the incision starting above the wrist was carried to the tip of the thumb, of the little finger or the second finger in the four cases reported. The grave lesion healed without impairment of the functioning of the wrist in each case, and the fingers regained normal functioning in all except two of his patients, in whom the little finger was left stiff, the tendon in this finger having been totally destroyed by the suppurative process. His patients were two men and two women, all in the forties.

Lyon Médical, Lyons

March 26, CXVI, No. 13, pp. 553-592

42 Growth of the Long Bones. (Note sur la croissance des os longs.) Galloid and Latarget.

Presse Médicale, Paris

April 1, XIX, No. 26, pp. 253-268

43 Inaugural Lecture in Neurology. Dejerine.
44 Abdominal Cavity from the Surgical Standpoint. H. Hartmann.

Semaine Médicale, Paris

April 12, XXXI, No. 15, pp. 169-180

45 *Rupture and Perforation of Pyosalpinx. F. Lejars.

45. **Rupture and Perforation of Pyosalpinx.**—Lejars reports another case of this kind to supplement five others he has previously reported. He also reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before and a slight contusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion. Chevassu recently reported a case of this kind; a woman introduced a long bone cannula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Mary has encountered three similar cases in lying-in women. All succumbed and one tube was found perforated. Puerperal infection was the presumptive diagnosis and the flaring up of a puerperal process may lead to rupture of a hitherto latent pus tube. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and tympanites, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. Lejars found streptococci exclusively in the pus in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of ruptured abscess in an ovary. Lejars has also encountered two cases in which the tube had perforated and had become gangrenous, the conditions resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive; the pains are localized in the pelvis, and are severe from the first; the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing; removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

Berliner klinische Wochenschrift

April 10, XLVIII, No. 15, pp. 653-696

46 Experimental Syphilis in Rabbit. (Experimentelle Impfsyphilis der Kaninchen.) P. Uhlenhuth and P. Mulzer.
47 Transportable Apparatus for Inhalation of Radium Emanations. A. Bickel and W. Engelmann.
48 Excision of a Liver Cavernous Angioma. (Fall von Exstirpation eines Lebercavernoms.) J. Israel.
49 Development of a Sarcoma on Floor of a Lupus Carcinoma. E. Senger.
50 *Diagnostic Importance of Laryngeal Paralysis. (Kehlkopflähmung.) H. Grabower.
51 *Control of Strychnin Poisoning by Intratracheal Insufflation and Ether. T. S. Githens and S. J. Meltzer (New York).
52 *Improved Method of Artificial Respiration. G. Meyer.
53 *Flat-Foot Disturbances and Deforming Arthritis. P. Ewald.
54 Anaphylaxis of Pregnancy. (Die Ueberempfindlichkeitserscheinungen in der Schwangerschaft.) A. Hirschberg.

50. **Diagnostic Importance of Paralysis of the Larynx.**—Grabower insists that examination of the larynx is as important as that of the tundus of the eye in all nervous affections, and should be a routine procedure. Paralytic conditions in the larynx may exist without causing appreciable symptoms; they may even be the earliest sign of tabes dorsalis and possibly permit effectual treatment before irreparable lesions are installed. The laryngeal disturbance with multiple sclerosis may be merely a tremor of the vocal cords or a twitching movement, but laryngeal symptoms deserve to rank as a diagnostic measure with nystagmus and temporary blanching of the papilla. Paralysis in the larynx is, further, characteristic of syringomyelia, especially unilateral recurrent paralysis. Grabower's research has shown that the posterior crico-arytenoid muscle has only 230 nerve fibers in comparison with the 680 fibers of the inner portion of the thyro-arytenoid muscle; it is thus less resistant and becomes paralyzed more readily. As tuberculosis frequently begins in the bronchial glands and these compress the recurrent laryngeal nerve, paralysis of the posterior crico-arytenoid muscle controlling the vocal cords may be observed in the very earliest stages of incipient tuberculosis. The right recurrent nerve is more liable to be compressed in this case than the left, as the right bronchus is higher than the left and thus closer to the right inferior laryngeal nerve. The left is more liable to suffer from compression by aortic aneurysm as the left nerve encircles the arch of the aorta and is thus liable to be compressed quite extensively. The right inferior laryngeal nerve may be compressed with an aneurysm in the subclavian artery. Enlargement of the thyroid may also compress this nerve, and signs of paralysis in the larynx indicate extension of the goiter into the depths. The same is true of tumors in the esophagus, the posterior crico-arytenoid muscle feeling the effects first but the rapid growth of the carcinoma soon involving the recurrent laryngeal nerve. Another cause of peripheral paralysis of the recurrent nerve is a healed inflammatory process in the right apex of the lungs. Nerve substance may be found embedded in the cicatrix at necropsy; there probably had been recurrent paralysis during life causing moderate hoarseness for which no cause could be discovered. The hoarseness may have subsided and yet the unilateral recurrent paralysis must have persisted throughout life, the sound vocal cord vicariously acting for the paralyzed one. The right inferior laryngeal or recurrent nerve passes close to the right apex of the pleura, and is thus naturally drawn into the retracting cicatricial tissue as the inflammatory process in this region heals. Mitral stenosis is sometimes accompanied by paralysis of the left recurrent nerve. In regard to laryngeal paralysis with brain tumor, he says that unless the medulla oblongata is investigated, the examination cannot be regarded as complete. Among other symptoms in the larynx mentioned is the twitching of the vocal cords liable to be noticed with a tumor in the frontal lobe. Twitching of the vocal cords, Grabower states, is presumptive evidence that the tumor is in the base of the frontal lobe and that it is actively growing.

51. Summarized in THE JOURNAL April 22, 1911, p. 1224.

52. **Improved Method for Artificial Respiration.**—Meyer has modified the Silvester method, drawing the arms upward but pressing them down toward the floor, the body thus assuming the opisthotonous attitude, the head and heels bent backward, the body bowed forward, over the cushion under the shoulders. Another point is that the arms are held with the four fingers above the elbow, on the inside, the thumbs on the outside of the arms. This permits a stronger control of the arms in pushing them toward the floor. This modified technic floods the lungs much more profusely with air.

53. **Flat-Foot and Arthritis.**—Ewald presents evidence to show that the changes of flat-foot leave disturbances such as in all other joints are known as deforming arthritis.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 1, XLI, No. 10, pp. 337-384

55 Medicolegal Aspect of Induced Abortion. (Mutterschutz und Strafrecht.) A. Goenner.

Deutsche medizinische Wochenschrift, Berlin

April 6, XXXVII, No. 14, pp. 625-672

56 Ulceration in the Intestines. (Diagnose und Behandlung der Darmgeschwüre.) C. A. Ewald.
57 *Operative Treatment of Phlegmon in Stomach Wall. (Ueber Magenwandphlegmone im subakuten Stadium und eine Heilung durch Magenresektion.) F. Koenig.
58 *Subacute Patches of Myelitis with Recurring Endocarditis. H. Lewy and F. H. Lewy.
59 Arsenic Necrosis. L. Geyer.
60 *Kala-Azar in Greece. A. Christomanos.
61 Differential Manometer. (Das logarithmische Differentialmanometer—ein neuer Apparat für physiologische und klinische Druckmessungen.) T. Christen.
62 Permeability of Glass for Ultraviolet Rays. A. Bieber.

57. **Phlegmon in Stomach Wall.**—Koenig's patient was a woman of 28 whose illness had commenced with high fever, headache and vomiting; typhoid had been assumed at first. After subsidence of the acute symptoms pains in the stomach, independent of intake of food, persisted, with oppression and vomiting at times of brownish yellow masses but there was no blood in the stool and no diarrhea and the gastric chemistry was approximately normal. The appetite remained good but the woman grew constantly thinner, losing over 50 pounds in weight; palpation revealed a soft, transverse, long tumor which slid about under the fingers. The trouble proved to be a suppurative inflammation of the stomach wall, a purulent gastritis, which had passed into a subacute stage. The mucosa was perforated in various places, almost like a sieve, while the serosa showed signs of peritonitis and adhesions were forming. It is the first case on record in which the process was inspected at such an early stage and excision of the lesion restored the patient at once to health. The case shows that even after the phlegmon has emptied itself and the pus has been vomited up, yet the lesion does not necessarily heal but may persist in a subacute form, and progressively debilitate the patient. A gastro-enterostomy would not have mended matters, while resection without preliminary opening up of the stomach proved a complete success, the soft tumor-like mass into which the phlegmonous part had been transformed being readily excised.

58. **Myelitis with Recurring Endocarditis.**—Lewy's patient was a woman of 37 with chronically recurring endocarditis and an inflammatory affection of the spinal cord and meninges located at three different points. The affection ran a separate course at each of these points, each being preceded by a recurrence of the endocarditis. During the year and a quarter before the final fatal termination the symptoms had suggested the most various and erroneous diagnoses until microscopic examination cleared up the mystery except in regard to the puzzling behavior of the reflexes. Lewy has not been able to find any similar case on record. The foci in the spinal cord were of a chronic degenerative character in the anterior horns of the sacral segment of the cord, while the process in the upper dorsal segment was a circumscribed meningitis, and the final trouble was an acute disseminated encephalomeningitis.

60. **Kala-Azar in Greece.**—Christomanos recently found the Leishman-Donovan bodies in two hospital patients at Athens, and he thinks that kala-azar is probably prevalent in Greece although it has hitherto been diagnosed as a form of malaria, rebellious to quinin. A certain disease described by Hippocrates as endemic in Greece seems to have been kala-azar, which thus is shown to be not a new importation. No benefit was derived in Christomanos' cases from either atoxyl, arsacetin or salvarsan. Forty-eight hours after an intravenous injection of 0.35 gm. salvarsan the parasites were found still numerous and unmodified in the blood taken from the spleen. Quinin and change of climate gave no relief. The first patient, a girl of 18, has had fever constantly twice a day for nine months; the reactions for syphilis, Malta fever and tuberculosis are negative. The blood shows 1,700,000 reds, hemoglobin 30 per cent. The other patient is a man of 30 and he has had a chill and fever every evening for thirteen months. The spleen is enormously enlarged in both patients and the parasites can be readily detected in blood obtained by puncture of the spleen.

Medizinische Klinik, Berlin

April 9, VII, No. 15, pp. 559-596

63 *General Principles for Treatment of Uterine Myomas. H. Peham.
64 *Formation of Concrements in the Urine and Means to Influence It. (Die steinbildenden Prozesse des Harns und die Wege ihrer Beeinflussung.) H. Schade.
65 *Recurrences in the Nervous System After Salvarsan Treatment of Syphilis. (Zur Neurotropie und Depotwirkung des Salvarsans.) K. Heuser.
66 Potassium or Sodium Bromid? (Bromnatrium oder -kalium?) P. Jödicke.
67 Technic for Intravenous Salvarsan Treatment of Syphilis. (Injektion oder Infusion bei der intravenösen Salvarsanbehandlung?) H. Assmy.
68 *Improved Technic for Saline Infusion. (Kochsalztransfusion.) H. Hellendall.
69 Cataract Operations. (Die moderne Technik der Staroperation.) W. Feilchenfeld.
70 Syphilis of the Bronchi. A. Posselt.
71 Etiology of Trachoma. C. H. Sattler.

63. **Uterine Myoma.**—Peham dreads the general anesthesia for a debilitated patient with myoma more than an operation. He comments on the bread-like consistency of myomas and the symptoms liable from pressure and traction on the uterus and on the adjacent organs. There may be no pains but when they exist they may be intensified during menstruation, the hyperemia of the myoma itself adding to the disturbances. Ascites is not unusual as a complication and thrombosis is favored by the pressure. In respect to palliative treatment, he remarks that the cures that have been reported after a course of baths must have been due to an erroneous diagnosis or to the approaching menopause in which the myoma retrogressed. Iodin and its salts promote absorption of inflammatory products and stimulate the circulation so that the general health is favorably influenced. The history of operative treatment of uterine myoma, he says, is one of the most brilliant chapters in gynecology, the mortality having dropped from 36.2 per cent. in 1878 (Gusserow), and 23.1 per cent. in 1891 to 3.8 per cent. in Döderlein's 388 cases of the last six years. Peham's mortality has been 5.4 per cent. in 164 laparotomies and 0.5 per cent. in 180 vaginal hysterectomies for myoma.

64. **Chemical Processes in Urinary Lithiasis.**—Schade's announcements in regard to the share of the colloids, especially fibrin, in the production of concrements in the body are reviewed below in abstract 75. He comments here on the new horizons opened for therapeutics and prophylaxis by means to prevent precipitation of colloids or to dissolve their precipitates when already formed. It is easy to do this *in vitro* and the task now is to discover some substance which will do this harmlessly in the body. He calls the attention of physicians at watering places, in particular, to this task as many of the problems involved can, perhaps, best be studied with mineral waters.

65. **Nervous Disturbances during Salvarsan Treatment of Syphilis.**—Heuser reports a case of papulous iritis a few days after intramuscular injection of 0.2 gm. salvarsan, followed by an intravenous injection of 0.4 gm. salvarsan. Then epileptiform seizures developed. The patient was a painter but there were no signs of lead poisoning; it is possible, however, that the lead might have created a predisposition. In a second case a young workman had paralysis of the vocal cords and soft palate three days after an intravenous injection of 0.5 gm. of salvarsan. No paralysis of this kind had ever before been observed at the clinic in the early stages of syphilis. No improvement was observed under calomel for several weeks but recently slight improvement has become manifest. This patient also presented occasional outbreaks of profuse perspiration during the two months he was in the hospital, suggesting a possible general injury of the nervous system. In a third case, ten weeks after a subcutaneous injection of salvarsan, severe symptoms on the part of the brain developed including choked disc, intense headache and facial paralysis with epileptiform seizures. Heuser is convinced that the cases of cerebral syphilis with these peculiar tonic-clonic spasms are encountered more frequently under salvarsan treatment than corresponds to our previous experience. He tabulates further the findings in regard to the presence of arsenic in the urine after salvarsan treatment; they show that from six to nine months after intramuscular injection arsenic can be detected in the urine (twenty-three cases) and three months after intravenous injection. In one case the arsenic was refound in the blood, also, two months after the intravenous injection. The experiences related apparently confirm, he thinks, Buschke's view in regard to the special affinity of salvarsan for nervous tissue. This neurotropic action of salvarsan is confirmed further, he adds, by Walterhöfer's case of peroneus paralysis, the cases of epileptiform seizures reported by Spiethoff, Gilbert and others, Jorgensen's fatality, and the disturbances in the auditory and optic nerves reported by Stern, Rissom and Bettmann.

68. **Saline Infusion in Emergencies.**—To save time, Hellendall carries in his obstetric bag a concentrated solution of chemically pure salt (8 to 30), so that all that is necessary is to dilute it with boiling water and cool to the desired temperature by standing in a jar of running water.

Monatsschrift für Kinderheilkunde, Leipsic

March, IX, No. 11, pp. 593-632

72 Research on the Colostrum. (Zur Physiologie des neugeborenen Kindes.) W. Berk.
73 Pathology and Therapy of the Secreting Breast. (Die laktierende Mamma.) A. Schiller.

Münchener medizinische Wochenschrift

April 4, LVIII, No. 14, pp. 721-776

74 Present Conception of Diatheses and Dyscrasias. (Die Diathesen und Dyskrasien im Lichte unserer wissenschaftlichen Erkenntnis.) H. E. Hering.
75 *Laws Regulating Formation of Concrements in the Body. (Allgemeine Gesetzmässigkeiten betreffs der steinbildenden Prozesse im Körper. II.) H. Schade.
76 Pancreatitis with Cholelithiasis. (Entstehung der Pankreatitis bei Gallensteinen.) L. Arnsperger.
77 *Hemolytic Test with Cancer. (Ueber Komplementablenkung bei Karzinom.) A. Caan.
78 *Recurrences in the Nervous System After Salvarsan Treatment of Syphilis. (Zur Statistik und Therapie der Neurorezidive unter Salvarsanbehandlung.) J. Benario.
79 Instantaneous Skiagraphs. (Ueber Röntgen-Blitzaufnahmen.) W. Alwens.
80 *The Tourniquet Sign of Scarlet Fever. (Zur Bestätigung des Rumpel-Leedeschen Phänomens bei Scharlach.) H. Bennecke.
81 Juvenile Criminals and Attenuated Responsibility. (Straffällige Jugend und psychopathische Minderwertigkeit.) Rupprecht.
82 Value of Epidural Injections in Treatment of Idiopathic Vulvar Pruritus and Other Sacral Neuroses. G. Schubert.
83 Conflicting Formulas for Albumin Milk in Infant Feeding. (Die Eiweissmilch.) F. Siegert.

75. **Formation of Calculi.**—Schade has continued his research on this subject and states that colloids are involved in the production of stones in the body to a far greater extent than has hitherto been realized. The colloids throw down precipitates which assume the form of strata. Fibrin, for instance, has this power of stratification-precipitation to a marked degree. If it is deposited on an unattached particle, the stratification occurs concentrically. Crystalline substances deposited with it unite to form the concrement; this applies to all calculi formed in the urinary and salivary passages, in the pancreas or in the intestines, prostate or joints and also to the bilirubin-lime stones, but cholesterin stones are formed by the confluence of droplets. The problem of stone formation is brought nearer solution by the discovery of the participation of the colloids, he declares, and the outlook for therapeutics is broadened. It may be possible to alter the medium in such a way that the colloids, especially fibrin, may be prevented from precipitating; if the medium is rendered more alkaline, the colloid remains dissolved and no precipitation occurs. Changes in the electrolytic property may also check the tendency to precipitation of colloids. The benefit from mineral waters in some cases may be explained by their influence on the precipitation of colloids. In his experiments he found that antiformin would dissolve out the colloids, leaving the crystalline elements practically unaffected; the latter dropped to the bottom of the dish as the colloid framework was dissolved by the antiformin, confirming the large share of the colloids in the stone formation. In conclusion he calls attention to the efforts of Nature in this line; in the fresh-water crab (*Astacus fluviatilis*) typical stratification stones form in accessory cavities of the stomach by glandular secretions, the stones being formed of calcium carbonate and phosphate, with organic colloids, the so-called crabstones. They serve a physiologic purpose as a deposit to be drawn on when the crab casts its shell and a new one forms. The stones then drop out into the lumen of the stomach and are rapidly dissolved by the gastric juice and ferments and are absorbed in the intestine. Nature teaches us in this example that it may be possible to influence the pathologic concrements in man in a similar way when the conditions determining the solution and precipitation of the colloid elements in the stones are better studied.

77. **Deviation of Complement with Cancer.**—Caan applied the Wassermann test in eighty-five cases of carcinoma with positive findings in 41 per cent. The reaction was positive in six out of seven cases of carcinoma of the lip, in 67 per cent. of fifteen chancroids and epitheliomas, while positive findings were obtained in only 9 per cent. of the cases of mammary cancer and in 17 per cent. of the thirty-one gastro-intestinal cancers. He applied the deviation of complement test in all its various modifications in each case, with parallel findings.

78. **Recurrence in Nervous System after Administration of Salvarsan in Syphilis.**—Benario sent out a question blank to a number of physicians to collect their experiences in this line. In 126 (147) of the 14,000 cases in which salvarsan has been applied a neuro-recurrence was observed, and he classifies these cases under various headings and compares the findings with the experiences of others with and without salvarsan treatment. The total material confirms, he says, Ehrlich's explanation of these disturbances as manifestations of the syphilis in nerves enclosed in narrow bony canals, not of a drug toxie nature but the work of the few spirochetes left after the destruction of the majority of the spirochetes by the treatment. The striking clinical symptoms are not due to the extent of the process, he says, but to the confined site. Study of the data collected shows that the early secondary stage is peculiarly predisposed to these neuro-recurrences, as also the cases in which the primary sore is extragenital. The malignant character of these extragenital primary lesions, especially those on the head, the *chancres céphaliques*, is well known; the latter being near the central nervous system are peculiarly liable to affect it. Pre-existing headache also should warn against the possibility of neuro-recurrences; there had been intense headache in thirty-six of the sixty cases mentioned in the question blanks in which the headache pointed unmistakably to the injury of the central nervous system by the spirochetes. The conclusion naturally follows that patients with these four predisposing factors should be excluded from salvarsan treatment or its dangers should be fully aired. The data presented further emphasize the advantages of treatment by an intravenous injection of salvarsan, this being followed by a vigorous course of mercury, and this in turn with another intravenous injection of salvarsan. Elderly patients and those debilitated from any cause should be excluded from salvarsan treatment. Benario adds that the attention now paid to manifestations of syphilis in the nervous system will certainly redound to the benefit of patients, as more vigorous treatment will be instituted and the syphilis will be eradicated, thus saving many who might otherwise be candidates for serious irreparable cerebrospinal disease later.

80. **Tourniquet Sign of Scarlet Fever.**—Bennecke confirms the reliability of this sign, described in THE JOURNAL, March 18, 1911, page 859. The absence of the sign seems to exclude scarlet fever, but positive findings are sometimes obtained in other diseases.

Therapeutische Monatshefte, Berlin

April, XXV, No. 4, pp. 209-268

84 *Treatment of Placenta Prævia. R. Birnbaum.
85 *Treatment of Congenital Torticollis. (Der angeborene Schiefhals.) P. Glaessner.
86 *Successful Decompressive Trephining. (Erfolgreiche Trepanationen ohne Befund.) M. Lewandowsky.

84. **Treatment of Placenta Prævia.**—Birnbaum describes the treatment he advocates for the general practitioner, emphasizing that treatment must be begun the moment the diagnosis is made. He insists on shaving the parts and on the use of ten or twenty moist cotton wads for tamponing the vagina, instead of gauze, although the latter is better for the uterus itself. His experience with the Momburg belt constriction has been unfavorable, as he had severe collapse in two cases, and one patient died; for this death he regards the constriction as responsible. Great caution is necessary in moving the woman on account of the danger of air embolism and thrombosis. Massage of the legs is necessary from the first day after delivery unless symptoms indicate that thrombosis is already installed.

85. **Congenital Torticollis.**—Glaessner severs the muscles subcutaneously in the very mild cases in young children but otherwise exposes the sternocleidomastoid muscle and resects the fibers for a stretch of 1 or 1.5 cm., afterward applying a plaster cast in over-correction.

86. **Successful Trephining without Findings.**—Lewandowsky reports two cases in which the patients were restored to health by decompressive trephining although nothing was found when the skull was opened to explain the symptoms that had been

observed. The first patient was a woman of 36 who developed intense headache and symptoms indicating disease of the left hemisphere after a slight trauma—striking the left side of her head against the edge of an open door. By the end of a month she had seizures suggesting epilepsy, with right paralysis, total aphasia and stupor. Conditions were found apparently normal on trephining but there must have been a high tension in the brain as there was prolapse of brain tissue, but the patient improved remarkably by the next day. She still has traces of paraphasia but otherwise has been well during the four years since. In the other case, intense headache and tenderness in the region of the temple persisted for six months after the young man had been kicked in the side of the head by a horse, after which he had been unconscious for four days. The trephining showed apparently normal conditions with no sign of abnormal pressure or inflammation, but the headache never returned after the operation and the patient has been in perfect health during a year since. The strict localization of the headache, its tenacity and the lack of neurasthenic or hysteric symptoms and the complete recovery after the operation suggest that the trouble must have been some traction on the dura from a possibly slight fracture of the skull.

Therapie der Gegenwart, Berlin

April, LII, No. 4, pp. 145-192

87 *Epidemic Poliomyelitis. (Akute epidemische Kinderlähmung.) P. Krause.
88 *Radiotherapy of Internal Disease. (Der gegenwärtige Stand und die nächsten Ziele der Röntgen-Therapie bei Erkrankungen innerer Organe.) H. E. Schmidt.

87. **Epidemic Poliomyelitis.**—Krause has compiled a number of tables showing the geographical and chronological prevalence of this disease. Other tables show the development of the disease by groups compiled from the replies to the question blanks he sent out to physicians in the German provinces along the Rhine. The transmission of the disease by healthy carriers is further demonstrated by the material tabulated. A grandmother in one instance carried the disease from one grandchild to another who lived at some distance. Another table shows the ages of the patients in his compiled material. The majority were 2 years old (165); 101 were 3 years old, ninety-seven between 4 and 7, thirty between 8 and 10, three between 20 and 30, and two between 30 and 40, with eleven less than a year old. In Germany the months of August, September and October contained nearly all the cases. The mortality in all the epidemics tabulated was the lowest (5 per cent.) in the New York epidemic; it was 16.7 per cent. in Sweden; 14.56 per cent. in Norway, and 22.3 in Austria. The article is to be continued.

88. **Radiotherapy of Internal Organs.**—Schmidt refers in particular to the treatment of deep cancer and states that better results may be anticipated when we learn how to sensitize the deep-lying tissues. This is accomplished for superficial tissues by means to stimulate the metabolism, for which active hyperemia is the most effectual known to date. If we can learn how to induce local hyperemia in the deep cancers, the Roentgen rays reaching them will have their action immeasurably enhanced. He thinks that it may be possible to discover some serum or drug, which, like tuberculin, will have an elective action on the tumor tissue inducing a local reaction and thus sensitizing it for the Roentgen rays. At present the only way that this can be accomplished is by thermopenetration, that is, applying the high-frequency current, which permits the tissues below to be raised to any desired temperature while sparing the skin. He reports the details of a case of epithelioma of the nose which subsided under radiotherapy after two years but returned four years later. The patient refused operation and the ulcerating epithelioma subsided anew under the Roentgen rays applied the day after the mercury-vapor lamp had been used to induce a local erythema. Only four applications of the mercury light plus Roentgen-ray exposures were required before the lesion had entirely healed over. There has been no sign of recurrence during the three months since. The mercury light was applied again a few times to enhance the resisting power of the cicatrix. The task now before Roentgenologists is to improve the technic for inducing hyperemia in the depths to enhance the sensitiveness to the Roentgen rays, as we know that expelling the blood from a superficial lesion reduces its sensitiveness to the rays.

Wiener klinische Wochenschrift, Vienna

April 6, XXIV, No. 14, pp. 479-518

89 Pigmentation of the Skin. (Zur Kenntnis der menschlichen Hautpigmentierung.) Y. Tanaka.
90 The Lipoid of the Suprarenal Cortex. (Das Lipoid der Nebennierenrinde.) H. Albrecht and O. Weltmann.
91 *Psychic Etiology and Treatment of Arteriosclerosis. M. Herz.
92 *Paroxysmal Hemoglobinuria. A. Krokiewicz.
93 Oculomotor Paralysis in an Infant. A. Purtscher.

91. **Arteriosclerosis and the Strenuous Life.**—Herz regards the subject of arteriosclerosis as one of the most vital of all for the medical profession not only on account of their patients but because physicians, themselves, are particularly prone to acquire arteriosclerosis or at least to imagine that they are acquiring it. He says that fully 300 out of the 3,000 physicians in Vienna have consulted him on account of arteriosclerosis, and although the fears of many were groundless, yet an unusually large proportion actually show signs of arteriosclerosis. For this he is inclined to incriminate the peculiarly strenuous life of physicians, their cares and worries, the constant strain on their sympathies, the harassing feeling that perhaps if they had treated some patient along other lines he might have done better. Herz comments on the fact that life has become so much more strenuous during the last decades. All feel that they must work under high pressure and provide for the future instead of enjoying life as they go along and providing only for the immediate present. He says that life has become Americanized, and that arteriosclerosis is becoming more frequent in consequence although it is more of a chronic cardiac and cardiorenal type rather than the angina pectoris type of former decades. Treatment and prophylaxis should aim to banish worry and gloom and promote cheer. Instead of impressing on the young constantly their duties and responsibilities to others and the state, they should be taught that they have a duty to themselves, to seek cheer and joy to alternate with work. Physicians must train their patients to look on the bright side of things and stop worrying, for there is not the least doubt, he reiterates, that every persisting worry or carking care is distinctly dangerous for the heart and kidneys, and physicians must strive to cultivate cheeriness. Herz applies to the medical profession Goethe's remark in regard to German literary men, namely, that the members of the medical profession are like billiard balls; each is intent only on going its own way, and if two come into contact they bound apart and go their separate ways with even greater energy and haste.

92. **Paroxysmal Hemoglobinuria.**—Krokiewicz reports a case of this kind in a man of 48, previously healthy. The paroxysmal hemoglobinuria was first observed seven years ago and since then he has had the attacks whenever he has been much chilled; great fatigue and excitement do not bring on the attacks unless accompanied by chilling. Sometimes the hemoglobinuria occurs without other symptoms but generally there is a sense of exhaustion, pains in the muscles, restlessness and headache, then in twenty minutes a chill and fever and after half an hour the urine is as red as Burgundy wine; it clears up again in the course of from two to five hours. While under observation the hemoglobinuria could be brought on like a laboratory experiment by having the patient hold his feet in cold water for a little while. A tourniquet applied to the thighs never brought it on, and the attack could be arrested by applying heat (water bottles to the legs). The attacks could be brought on at intervals as brief as twenty-four hours. Hemolysins were found in the blood and their presence in the blood accumulating in the viscera in consequence of the exposure to cold, with the local accumulation there likewise of carbon dioxid in the blood, produce conditions similar to those of Hymans' test-tube experiments. Hemolysis follows and the hemoglobinuria results; the whole process can be broken up by putting an end to the action of cold by warming the legs. The Wassermann reaction was positive in this patient which possibly throws light on the unusual lack of resistance to carbon dioxid on the part of the red corpuscles.

Zeitschrift für Kinderheilkunde, Berlin

I, Nos. 5-6, pp. 423-572. Last indexed March 4, p. 706

94 The Work of T. Escherich. C. v. Pirquet.
95 *Histologic Structure and Bacillary Etiology of Papulous Tuberculides in Infants. M. Lateiner.
96 Research on the Parathyroids, with Special Regard to Tetany and Sudden Death of Infants. (Epithelkörperchen-Untersuchungen.) P. Grosser and R. Betke.
97 Chemical Study of Infants' Urine. (Chemische Teilerscheinungen im Harne gesunder und kranker Säuglinge.) E. Mayerhofer.
98 *Summer Heat and Temperature of the Home in Relation to Infant Mortality. (Sommerhitze, Wohnungstemperatur und Säuglingssterblichkeit.) H. Rietschel.

95. Diagnostic Importance of Tuberculides in Infants.—Lateiner regards the papulous or papulo-squamous tuberculides of infants as of blood-borne origin, and of diagnostic importance even when the tuberculide appears isolated. The Hamburger type is smaller, more superficial and free from a tendency to ulceration. Acid-fast bacilli can be regularly discovered in the papulous form in the various stages of its development, and the bacilli are capable of inducing fatal typical tuberculosis in guinea-pigs. In the ten infants with these tuberculides whose histories are reported, the cutaneous tuberculin reaction was the only other sign of tuberculosis in three; in six there was miliary tuberculosis. These tuberculides are encountered only in infants with tuberculosis of internal organs, and as they are so small and cause no disturbances they are often overlooked. They vary from a pinhead to the size of a hemp seed; they project very little; there is no encircling zone of inflammatory redness and no infiltration around. They are light red at first, then a livid brown, with a scab in the center, and when this is scratched off a shallow depression is left which does not bleed or weep. Some of the tuberculides may be very flat, without a scab, merely a dimple in the center. Lateiner found also, occasionally, small circular, slightly depressed scars of a livid brown color. From one to four tubercle bacilli were found in each tuberculide, and guinea-pigs inoculated promptly developed typical tuberculosis. A single tuberculide of this kind on the upper arm was the only manifestation of the tuberculosis in one case. In another there was one on the dorsum of one foot and three on the sole of the other, with signs of tuberculous meningitis. Other infants had one on the knee and one on the foot; another, several on feet and fingers; one a pin-head tuberculide on the elbow; another, several on leg and forearm, and still larger numbers on some of the others. In one of the infants the first two nodules subsided and four others developed elsewhere.

98. Summer Heat and Infant Mortality.—Rietschel has been examining conditions in the homes of the poor in Dresden in regard to the actual temperature of the rooms during the summer. Maximal thermometers or thermographs were installed and the findings recorded in daily visits by his aids. The research was limited to the tenements or houses in which more than one infant had died in the last five years. The summer was an unusually cold one, but the thermometers registered for weeks at a time in the rooms where the infants lived over 25 C. (77 F.) and in some days up to 35 and 37 C. (95 and 98.6 F.) with an outdoor temperature of 23.5 and 21.3 C. (74.30 and 70.34 F.). The heat in the living room is thus shown to be intense in the homes of the poor and this keeps up for weeks and months and is, he is convinced, the direct decisive factor in infant mortality during the heated term.

Zentralblatt für Chirurgie, Leipsic

April 8, XXXVIII, No. 14, pp. 489-528

99 Operation for Hare-Lip. (Zur Technik der Operation der Hasenscharte.) K. Vogel.
100 *Cholangiocystostomy. J. E. Lohse.

100. Cholangiocystostomy.—Lohse commends the palliative operation he performed in a case of severe cholemia from cancer of the common bile duct. The patient was thus tided past the dangerous period of cholemia and survived in comfort for nearly three months afterward. A long forceps was passed into the gall-bladder and through it into the adherent liver until the tip could be felt through the convex margin of the liver. A thick drain was inserted into the passage thus formed and the wound sutured around it. Only a little bile escaped the first day but the amount increased to 200 c.c. by the third and by the end of two weeks the jaundice had disappeared.

Zentralblatt für Gynäkologie, Leipsic

April 8, XXXV, No. 14, pp. 537-568

101 Etiology of Placenta Prævia. R. Meyer.
102 *Improved Technic for Tubal Sterilization. A. Labhardt.
103 Technic for Auscultation of Fetal Heart Sounds. (Neues Verfahren zur Auskultation der fötalen Herztöne und über die Zeit, in der sie zuerst gehört werden können.) R. Todyo.

102. Tubal Sterilization.—Labhardt describes a method of subserous resection of the tubes in common use at von Herff's maternity at Basel. Sterilization is regarded as a matter of course in cases of severe prolapse of the uterus in multiparæ over 40. He has applied the Asch method in thirty cases without a failure, but during the last two years he has avoided the disadvantages of this technic by drawing out the proximal tube for 2 cm. beyond its peritoneal mantle. The stump is then cut off and what is left withdraws into the depth of the empty mantle of the peritoneum which is then sutured and soon grows together, shutting off the stump of the tube entirely. This technic can be applied by the vaginal or abdominal route, and has several advantages, he declares, over other methods in vogue.

Zentralblatt für innere Medizin, Leipsic

April 8, XXXII, No. 14, pp. 345-368

104 Roentgen-Ray Diagnosis of Pregnancy. (Diagnose der Schwangerschaft mittels des Röntgenverfahrens.) R. v. Jaksch.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 28, XXXII, No. 38, pp. 403-410

105 Diaphragmatic Pleurisy and Peritoneal Syndrome. G. Baglioni.

April 2, No. 40, pp. 419-434

106 Experimental Research on Castration and Parathyroidectomy. A. Massaglia.

April 4, No. 41, pp. 435-442

107 Chorea in Malaria. (Corea ed infezione palustre.) V. Fusco.

Policlinico, Rome

March 26, XVIII, No. 13, pp. 389-420

108 *Acute Infections of Unknown Origin. G. Baccelli.

April 2, No. 14, pp. 421-452

109 Eosinophil Cells in Sputum in Asthma. M. Pennetta.

108. Acute Infections of Unknown Origin.—Baccelli refers in particular to what Leube calls cryptogenetic infections but which he designates as infections of latent origin. He claims that the conception of toxemia resulting from bacterial invasion originated in the Rome clinic before the discovery of the tubercle bacillus. The infectious germs may be classed, he says, as those inducing fever, those inducing inflammation, neurospastic conditions, neuroparalytic conditions and abnormal conditions in the blood, or combinations of these types. Differentiation of the cause of the infectious process is frequently impossible; sometimes it invades the blood first and the tissues later, sometimes the germs localize first in the tissues and pass later into the blood, possibly intermittently. The specific reaction can never be regarded as absolute, he continues; it is merely one important symptom to be estimated in connection with others. From these and other arguments cited he concludes that the aim should be to stimulate the production and the functioning of the phagocytes in all these infections of unknown origin at least; by this means the toxic substances in the blood are rapidly neutralized, and the supreme means to accomplish this is by intravenous injection of mercury bichlorid. His formula is 0.01 gm. mercury bichlorid, 0.075 gm. sodium chlorid and 10 gm. water. This injection can be repeated two or three times in twenty-four hours in the severest cases. Immediately after the injection the temperature drops, the synthetic reaction on the part of the organism to the infectious cause reduces the intensity of the infection, and he reports a number of instances to show the benefit that follows this measure. In one case of acute infectious disease, which no one was able to explain, a turn for the better followed the mercurial intravenous injection and the patient was soon restored to health. Baccelli has collected a number of similar testimonials to the life-saving efficacy of the measure and has accumulated an imposing array of testimony during the twenty years or more since he has been advocating this heroic intravenous medication.

Riforma Medica, Naples

April 8, XXVII, No. 14, pp. 365-392

110 *Echinococcus Disease of the Spleen. (Caso di echinococco della milza.) D. Biondi.
111 Spinal Anesthesia Plus Scopolamin-Morphin. (La rachistovainizzazione combinata con "sonno incerto.") G. Bazzocchi. Commenced in No. 13.

110. **Echinococcus Disease of the Spleen.**—Biondi's patient was a country woman of 42, previously healthy. A tumor was noticed in the left hypochondrium after a childbirth, but no symptoms were felt for seven years, then high fever and intense pain in the epigastrium, radiating to the back and hypochondrium, developed, with obstinate constipation. The fever dropped by a crisis and the pain in the epigastrium subsided but that in the left hypochondrium persisted, and there was pronounced eosinophilia with slight albuminuria. The operation revealed non-suppurating, multilocular hydatid cysts in the spleen, which was adherent to the diaphragm, colon and to the wall of the vena cava, but the splenectomy was finally completed.

Norsk Magazin for Lægevidenskaben, Christiania

April, LXXII, No. 4, pp. 417-528

112 Traumatic Pulsating Exophthalmos Cured by Orbital Operation. H. Lystad.
113 Dextrocardia. H. F. Høst.
114 Necropsy in Case of Cystic Kidney Over a Year After Nephrectomy. (Videre meddelelser om et tilfælde av cystenyre. P. Bull.
115 Roentgen-Ray Diagnosis of Tuberculosis of Lungs and Bronchial Glands. S. A. Heyerdahl.
116 Rectoscopy and Sigmoidoscopy. (Rekto-romanoskopi.) N. B. Koppang.

Ugeskrift for Læger, Copenhagen

March 30, LXXIII, No. 13, pp. 443-476

117 Vibratory Massage in Treatment of Chronic Pharyngitis. G. Fanøe.
118 *Medical Organization. (Lægekunsten og Lægen i Nutiden.) V. Scheel.

April 6, No. 14, pp. 477-510

119 "Tuberculin Titer" Test in Tuberculosis. (Tuberkulintiterbestemmelser hos Ftisikere.) K. Lundh.
120 *Relief of Disturbances in Swallowing by Compression of the Ear Region. (En simpel Metode til Bekæmpelse af visse Former af Synkesmerter.) P. T. Hald.

118. **Outlook of the Medical Profession.**—Scheel discusses the prevailing tendencies in regard to medicine and the medical profession and the importance of organization, commenting on the remarkably small part taken in public affairs by physicians as a rule. This, he declares, is the more striking as logically medical men should be the leaders in the movements to improve the public welfare. He ascribes this to the fact that physicians by the nature of their work are inclined to be individualists, but he warns that this tendency should be combated.

120. **Relief of Disturbances in Swallowing by Compression of the Ear Region.**—Hald's experience has confirmed the assertions of Milligan and Horne in regard to the relief of pain in the throat by strong pressure applied to the tragus or mastoid process. In thirty-two cases he was able to relieve or banish completely the pains in swallowing with inflammatory affections in the tonsils or vicinity while in fourteen other cases no benefit was apparent. He uses for the compression a light adjustable frame with two pads to press on the tragus or mastoid process on each side. He explains the effect as due to the counter-irritation on the skin at a point where the sensory nerves are closely connected (centrally) with the sensory nerve supply of the tonsils.

Upsala Läkareförenings Förhandlingar, Upsala

N. S. XVI, Nos. 4 and 5, pp. 231-348. Last indexed Feb. 4, p. 390

121 Infantilism. A. Josefson. Continued.
122 *Salvarsan in Syphilis of the Nervous System. H. Marcus.
123 Determination of Tubercle Bacilli in the Sputum. (Jämförande undersökning öfver de nyare metoderna för påvisande af tuberkelbaciller i upphostningar.) J. Heyman.
124 Experimental Research on Behavior of the Thymus After Castration or Roentgen-Ray Exposures of Ovaries or Testicles. (Thymus efter exstirpation, resp. röntgenbestrålning af könskörtlarne.) O. Gellin.

122. **Salvarsan in Syphilis of the Nervous System.**—Marcus gives the details of a dozen cases out of a total of fifty cases of syphilis of the nervous system in which he administered salvarsan. Although the remedy is powerless against severe advanced paralysis or tabes dorsalis, yet the bladder and bowel disturbances and the pains were much ameliorated and improvement was apparent in other directions; in some patients the memory improved, others lost their apathy and difficulty in speaking. Five of the patients have died since the injection, one, eight days afterward from hemorrhage in the pons; one a month later from an accidental fall; one from recurring cerebral hemorrhage, and two from the progressive course of a glioma in the brain or of chronic pyelonephritis and cystitis with diarrhea. He states that there did not seem to be any connection between the medication and the death in any instance. But the severe diarrhea in the last mentioned case is not absolutely free from suspicion in this line, although he has never seen any mention in the literature of diarrhea following administration of salvarsan.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

PRACTICAL CYSTOSCOPY AND THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEYS AND URINARY BLADDER. By Paul M. Pilcher, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital. Cloth. Price, $5.50 net. Pp. 398, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

YELLOW FEVER. A Compilation of Various Publications. Results of the Work of Maj. Walter Reed, Medical Corps, United States Army, and the Yellow Fever Commission. Sixty-first Congress, Third Session. Document No. 822. Paper. Pp. 250. Washington: Government Printing Office, 1911.

MODERN SURGICAL TECHNIC IN ITS RELATION TO OPERATIONS AND WOUND-TREATMENT. By C. Yelverton Pearson, M.D., M.Ch., F.R.C.S., Professor of Surgery, University College, Cork. Second Edition. Cloth. Price, $4 net. Pp. 484, with 129 illustrations. New York: William Wood & Co., 1911.

A WORKING MANUAL OF HIGH-FREQUENCY CURRENTS. By Noble M. Eberhart, A.M., M.S., M.D., Professor and Head of the Department of Electrotherapy, Chicago College of Medicine and Surgery. Cloth. Price, $2. Pp. 303, with 63 illustrations. Chicago: New Medicine Publishing Co.

PLASTER OF PARIS AND HOW TO USE IT. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital. Second Edition. Cloth. Price, $1.25. Pp. 101, with 90 illustrations. New York: Surgery Publishing Co., 92 William Street, 1911.

AN INTRODUCTION TO DERMATOLOGY. By Norman Walker, M.D., F.R.C.P., Physician for Diseases of the Skin, The Royal Infirmary, Edinburgh. Fifth Edition. Cloth. Price, $4 net. Pp. 346, with 142 illustrations. New York: William Wood & Co., 1911.

TRANSACTIONS OF THE AMERICAN HOSPITAL ASSOCIATION. Twelfth Annual Conference Held at St. Louis, Mo., Sept. 20-23, 1910. Volume XII. Paper. Pp. 413. Published by the Association Office of Secretary, Toronto, Canada, 1911.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchison, M.D., Edinburgh, F.R.C.P., Physician to the London Hospital. Third Edition. Cloth. Price, $3 net. Pp. 615, with illustrations. New York: William Wood & Co., 1911.

THE NATURE OF ENZYME ACTION. By W. M. Bayliss, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Cloth. Price, $1.20 net. Pp. 137. New York: Longmans, Green & Co., 1911.

DIE HERNIEN UND IHRE BEHANDLUNG. Von O. Borchgrevink, Oberarzt des Diakonenhospitals in Christiania. Paper. Price, 5 marks. Pp. 311, with 40 illustrations. Jena: Gustav Fischer, 1911.

THE FATS. By J. B. Leathes, M.A., M.B., F.R.C.S., Professor of Pathologic Chemistry in the University of Toronto. Cloth. Price, $1.25 net. Pp. 138. New York: Longmans, Green & Co., 1910.

THIRTY-SEVENTH ANNUAL REPORT OF THE MEDICAL DIRECTOR OF THE CINCINNATI SANITARIUM. For the Year Ending Nov. 30, 1910. H. P. Collins, Secretary. Paper. Pp. 18, with illustrations.

ANNUAL REPORT OF THE MERCY HOSPITAL (FORMERLY CITY HOSPITAL), BALTIMORE, MD. For the Year Ending Dec. 31, 1910. Paper. Pp. 72. A. C. Gillis, Medical Superintendent.

FIFTEENTH ANNUAL REPORT OF THE STATE MEDICAL BOARD, STATE OF OHIO. For the Year Ending Dec. 31, 1910. Paper. Pp. 67. George H. Matson, Secretary. 1910.

REPORT OF THE COMMISSIONER OF EDUCATION. For the Year Ended June 30, 1910. Volume II. Cloth. Pp. 1373. Washington: Government Printing Office, 1911.

NINETEENTH ANNUAL REPORT OF THE BOARD OF HEALTH, CITY OF SPOKANE, WASH. For the Fiscal Year Ending Dec. 31, 1910. Paper. M. B. Grieve, Secretary.

THE CHEMISTRY OF SYNTHETIC DRUGS. By Percy May, B.Sc. (London). Cloth. Price, $2.25 net. Pp. 229. New York: Longmans, Green & Co., 1911.

THE JOHN CRERAR LIBRARY: SIXTEENTH ANNUAL REPORT FOR THE YEAR 1910. Paper. Pp. 66. Leonard A. Busby, Secretary. Chicago, 1911.

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THE CAUSE OF INFLAMMATION OF CRANIAL NERVES AFTER THE USE OF SALVARSAN

A PLEA FOR THE INTRAVENOUS METHOD

JAY FRANK SCHAMBERG, M.D.
PHILADELPHIA

The new remedy, salvarsan, introduced by Ehrlich and Hata, has now been used in over 50,000 cases. It is conceded by all to be the most effective drug in syphilis known to medical science. Used properly in appropriate cases, it is as safe as most other potent remedial agents. Ehrlich regards salvarsan as less poisonous than mercury, if cases of heart disease and severe cases of paralysis are excluded.

The only disturbing results that have been reported after the use of salvarsan are occasional inflammation of cranial nerves, particularly of the optic and auditory nerves. Relative to the number of cases treated, the incidence of such complications has been very small, probably not one in a thousand.

It is probable, however, that some cases have occurred that have not been placed on record. Furthermore, the seriousness of such complications makes it imperative that their cause be thoroughly studied. Ehrlich has kept thoroughly in touch with these complications, and with all the evidence in his possession, he denies any etiologic relationship between the use of the drug and the development of the neuritis. He regards them all as cases of *neuro-recidiv,* i. e., fresh syphilitic neuritis. There are a number of able clinicians abroad, however, who are not willing to exculpate the drug as a causative influence.

CASES OF OPTIC NEURITIS REPORTED

Professor Finger,[1] of Vienna, a noted syphilologist, has reported four cases (the first four following) of optic nerve disturbance:

CASE 1.—Robust 19-year-old girl with initial lesion and beginning roseola. Infection eight weeks before. August 2, 1910, she received 0.45 gm. of salvarsan intragluteally. Prompt regression of lesions and negative Wassermann on September 20. October 5, she returned with headache, visual disturbance, vertigo, right-sided oculomotor paresis and beginning left optic neuritis. October 12, she was given 0.45 gm. salvarsan subcutaneously, in acid solution. October 28, mercury and iodids administered without result: neuritis of the right optic nerve set in.

CASE 2.—Girl, 19 years old, with lues of two and one-half months' duration. July 20, 1910, she received 0.4 gm. salvarsan in neutral suspension. By August 5, regression of all lesions had occurred, but returned October 18, with visual disturbances and abducens paresis.

CASE 3.—Girl, 22 years old, who had been treated for malignant lues, with mercury and iodids and thirty injections of arsacetin and eighteen of enesol. July 6, 1910, the patient received 0.4 gm. salvarsan for gummata of nose and pharynx. September 5, three months later, symptoms of beginning optic atrophy with visual disturbances, sluggish pupils and contracted fields were present.

CASE 4.—Man, 28 years old, with lues of five months' duration. Aug. 8, 1910, received 0.45 gm. of salvarsan. October 3, the Wassermann reaction was negative. He returned Nov. 10 with a chorioiditis of the right eye.

CASE 5.—Kowalewski,[2] of Berlin, reported the case of a 28-year-old woman, injected with salvarsan in the spring of 1910, for an early syphilid. Rapid improvement. In July symptoms of luetic meningitis and neuritis optica developed. The employment of mercurial inunctions was followed by a rapid cure.

Blaschko[3] reported before the Berliner dermatologische Gesellschaft, Dec. 13, 1910, a second case of neuritis optica which he had observed after injections of salvarsan. He stated that the cases were different from the toxic optic atrophy encountered after atoxyl.

Held, at the same meeting, likewise reported a case of optic neuritis after salvarsan.

Rille,[4] of Leipsic, reported two cases of optic neuritis in association with auditory disturbances after salvarsan, and a third case of auditory disease alone. These will be referred to later.

In the discussion following the reading of Finger's paper, November 18, 1910, before the Royal Medical Society of Vienna, the following cases were reported:[5]

Oppenheim, out of sixty-four cases, observed one case of optic neuritis treated with salvarsan for secondary lues.

Nobl saw no injurious results among seventy-two patients.

Von Zumbusch, out of 300 cases, observed one of optic neuritis, which improved under mercury and then relapsed. A short time before he had seen a similar case which occurred in a patient treated only with mercurial injections.

Dimmer treated many eye lesions, including seven cases of iridocyclitis luetica, with salvarsan, with very good results. In one case there was a recurrence with severe papilloretinitis.

Doerr had uniformly good results in 270 cases.

Carl Stern[6] reports cases of oculomotor palsy after subcutaneous injections of salvarsan. Stern has observed three cases of oculomotor paralysis in 200 patients treated with salvarsan. The patients had negative Wassermann reactions.

1. Wien. klin. Wchnschr., 1910, No. 47.
2. Berl. klin. Wchnschr., Nov. 21, 1910, p. 2141.
3. Monatsh. f. prakt., Dermat., lii, No. 2, p. 70.
4. Berl. klin. Wchnschr., 1910, No. 50.
5. Abstr. in Monatsh. f. prakt., Dermat., 1911, lii, No. 6, p. 308.
6. Deutsch. med. Wchnschr., Jan. 5, 1911, p. 15.

CASE 6.—Fordyce[7] reports the case of a physician with a digital chancre and secondaries, who received 0.6 gm. of salvarsan Oct. 7, 1910. In November, he suddenly developed a choked disk. Fordyce also reports a similar case which developed while the patient was under mercurial treatment and which was cured with salvarsan.

CASE 7.—Schamberg[8] reported the case of a woman, aged 29, who presented herself Nov. 10, 1910, with a general macular eruption of three months' duration, with persistent headaches during this period. Wassermann reaction +++. November 11, she received 0.45 gm. of salvarsan in neutral suspension subcutaneously. On the following day she said the "misty vision" (of which she had not previously spoken) and the headache had disappeared. Gradual disappearance of the eruption. She returned December 28, complaining of severe headaches, vertigo, vomiting and loss of vision in right eye, with some dimness in left. Dr. George E. de Schweinitz, who examined her, reported choked disk with retinal hemorrhage, and almost no vision in right eye, with beginning involvement of left. She was later vigorously treated with mercury and iodids by Dr. Howard Hansell and on discharge from the hospital was greatly improved, having 20/40 vision in right eye and 20/30 in left.

AUDITORY NERVE DISTURBANCE

Finger reported the three following cases (8, 9, 10):

CASE 8.—Man, aged 22. Cutaneous syphilis and periostitis. Aug. 24, 1910, 0.5 gm. neutral salvarsan injected. Next day nystagmus, dizziness, typical falling symptoms; normal hearing. Diagnosis, vestibular nerve disturbance. Complete recovery in a few days.

CASE 9.—Man, aged 25. Syphilis of six weeks' duration. Aug. 27, 1910, 0.45 gm. salvarsan injected subcutaneously. Later negative Wassermann. Nine weeks after injection, dizziness and deafness developed. Diagnosis, bilateral labyrinthine deafness. Conditions remained unchanged.

CASE 10.—Girl, aged 18. Syphilis of three months' duration. Aug. 5, 1910, 0.45 gm. salvarsan injected subcutaneously. November 3, complained of dizziness and headache. Diagnosis, labyrinthine deafness, dizziness and spontaneous nystagmus. No improvement by Nov. 27, 1911. Wassermann negative.

CASE 11.—Dr. H. Frey[9] reported a case of deafness and some vestibular nystagmus in a patient injected Aug. 9, and returning in October with the above mentioned symptoms. He had treated 100 patients with salvarsan.

Rille reported three (12, 13, 14):

CASE 12.—Woman, aged 21, with early syphilis. Injected July 7, 1910, 0.45 gm. salvarsan. Four weeks later there developed dizziness, noises and deafness in right ear. Later partial facial paralysis. Up to Nov. 15, 1910, some improvement.

CASE 13.—Girl, aged 18. Salvarsan, 0.45 gm., injected July 10. Oct. 10, headaches and dizziness, and on following day right-sided facial paralysis, followed in three days by optic neuritis. Under mercurial inunctions, the facial palsy and other symptoms disappeared. Patient cured.

CASE 14.—Man, aged 32. July 7, injection of salvarsan. In middle of October, high-grade double labyrinthine disease developed.

In the discussion following the reading of Finger's paper, the following cases were reported:

Kren examined eighty-nine of 140 patients treated with salvarsan in Riehl's clinic. In one case two months after the injection there was a slight labyrinthine impairment of hearing, with a negative Wassermann.

Urbantschitsch examined the ears of sixty patients treated by Finger, Riehl and Ehrmann and observed five cases of suppression of function of the vestibular nerve, which developed shortly after the injection and rapidly disappeared.

Matzenauer had one case of auditory disturbance in 126 cases.

Ullmann treated sixty-two patients without any complications.

Rusch observed a case of severe involvement of the auditory nerve two months after the use of salvarsan.

Finger reported one additional case of auditory nerve disease, Beck a case of one-sided deafness from the clinic of Zumbusch and one case of vestibular disease was seen by Zechmeister of Sarajewo.

Alexander,[10] of Vienna, reports the following case (15) of a patient treated by Nobl:

CASE 15.—Woman, aged 30, contracted syphilis in the spring of 1910, received injections of mercury and at the end of July complained of deafness and tinnitus in right ear. This was later cured. In October trouble with left ear began, which was treated with salvarsan. In November left ear grew worse and ended in complete deafness.

CASE 16.—Dr. George L. Richards,[11] Fall River, Mass., refers to two patients of Dr. Daniel Kaufman, who had deafness and labyrinthine symptoms some time after injections of salvarsan. Wassermann positive. Under mercurial injections, the symptoms were improving.

CASE 17.—Zeissl,[12] of Vienna, saw a patient who developed facial palsy and tinnitus. The patient received salvarsan intragluteally August 7. November 7, the facial palsy developed.

CASE 18.—Paul Lazarus[13] had a patient in whom left-sided labyrinthine disease with tinnitus and deafness developed three days after an injection. In some days this disappeared.

Von Zumbusch found in the literature among 7,000 cases of patients treated with salvarsan in twenty-five clinics, nine cases of auditory nerve disturbance. All were cases of syphilis between the second and the seventh month. In most cases the Wassermann reaction was negative.

There are doubtless other cases of optic and auditory neuritis that have been reported, which have escaped my search. While the detailed references to these cases give perhaps an alarming impression, it is perhaps well to state that the entire number of cases of optic and auditory disease here abstracted is not over twenty-five.

EHRLICH'S COMMENTS

In September, 1910, Ehrlich[14] addressed an inquiry to a large number of clinicians, and determined that not a single case of blindness had occurred among 8,000 patients treated with salvarsan. Since that time one case of retinal atrophy has occurred (Case 3 of Finger), and this patient had had almost a year's prior treatment with arsenical preparations, such as arsacetin, enesol, etc. Ehrlich believes that a hypersusceptibility to arsenic was thus established. A large number of observers including Deutschmann, Gross, Havan, Ogersheimer, Römer, Schanz, Wechselmann (1,400 cases) and Seeligsohn have reported good results in the treatment of luetic ocular conditions. They did not observe any bad effects even in optic atrophy. In syphilitic retinal conditions, splendid results were often obtained. Ehrlich states that salvarsan itself has no injurious effects on the eye.

In regard to auditory disease, Ehrlich made an inquiry of twenty-five clinicians who had treated 7,000 patients with salvarsan: but nine cases of auditory nerve disturbance had been encountered.

7. Fordyce, John A.: The Modern Treatment of Syphilis, with Reference to the Recent Synthetic Preparations, THE JOURNAL A. M. A., Jan. 21, 1911, p. 186.
8. Univ. Penn. Med. Bull., January, 1911.
9. Wien. klin. Wchnschr., 1910, No. 50.
10. Alexander: Boston Med. and Surg. Jour., March 9, 1911.
11. Boston Med. and Surg. Jour., March 9, 1911.
12. Wien. med. Wchnschr., 1911, No. 7, p. 439.
13. Deutsch. med. Wchnschr., Jan. 26, 1911.
14. München. med. Wchnschr., Jan. 3, 1911.

LUETIC OPTIC AND AUDITORY NEURITIS BEFORE THE USE OF SALVARSAN

A careful study of the reported cases of optic and auditory trouble following the use of salvarsan leads convincingly to the conclusion that all, or nearly all, of these cases were instances of syphilitic neuritis or *Neurorecidiven,* as they have been called abroad. In proof of this is the fact that many have been improved or cured by mercury and the iodids or a second dose of salvarsan. The important question is whether the salvarsan employed has been a determining factor in their development.

ARE CRANIAL NERVE INFLAMMATIONS COMMONER AFTER SALVARSAN THAN AFTER THE OLD TREATMENT OF LUES?

On this question there is difference of opinion. The known injurious effects of atoxyl and similar substances on the cranial nerves led Ehrlich at the outset to warn against the use of salvarsan in optic nerve conditions. With increasing experience he became convinced of the harmlessness of the new remedy.

Finger, Alexander, Rille and others feel that cranial nerve complications are more commonly seen now than under former methods of treatment. Professor Alexander, the Vienna otologist, states that in the course of six years before salvarsan, he had seen only twelve cases of ear disease in the early stages of syphilis. According to him, acute neuritis of the auditory nerve in early syphilis is very rare.

On the other hand, Professor Urbantschitsch, of Vienna, had previously called attention to disturbances of the optic and auditory nerves after the use of soluble mercury salts.

Jansen, of Berlin, stated to Ehrlich that auditory nerve trouble is by no means rare in recent syphilis. He had obtained further improvement from second injections of salvarsan in such cases.

Paul Lazarus[15] says that latent vestibular disease in luetics is commoner than is believed.

Kreibich[16] saw in Graz in one year, four cases of luetic recurrence affecting the auditory nerve, before the introduction of salvarsan; in Prague in four years he had seen only two cases.

Benario, of Frankfort,[17] in view of Finger's reports, searched through a part of the case reports sent to Ehrlich, and utilizing only those with exhaustive data, found seven cases (Cases 19 to 24, and 28) of auditory nerve disturbance before the use of salvarsan. In addition, data concerning three other cases (Cases 25, 26, 27) were communicated in letters. All were early cases.

CASE 19.—Woman, aged 23. Mercury salicylate injections. Complete deafness in one ear and partial in other; oculomotor palsy. After two injections of salvarsan, complete cure.

CASE 20.—Man, aged 27. Mercurial treatment. Facial and auditory palsy three months after infection. After salvarsan, disappearance of symptoms in three days. Brilliant result.

CASE 21.—Woman. Received forty mercurial injections; six months after infection, facial palsy, almost complete deafness, diplopia and ptosis. (Disappearance of facial palsy under mercury). After salvarsan, improvement in hearing and disappearance of diplopia.

CASE 22.—Man, aged 22. Forty mercurial injections. Five months after infection, right-sided facial palsy and deafness in right ear. No improvement in hearing after salvarsan.

CASE 23.—Man. Six injections of insoluble mercury salts. One month after infection almost complete deafness. Following use of salvarsan, gradual restoration of hearing to normal.

CASE 24.—Woman, aged 39. Eighteen injections of salicylate of mercury. About three months after infection, partial deafness in both ears; could not hear conversation Ten days after salvarsan, great improvement. At time of last report, hearing normal.

CASE 25.—Woman, aged 34. Three months after infection, partial deafness. After use of salvarsan, rapid improvement. At present, hearing normal.

CASE 26.—Woman, aged 30. Eight mercury injections. Several months later, labyrinthine disease (tinnitus, partial deafness, vertigo). Cure under mercury.

CASE 27.—Complete deafness during secondary stage. Could not hear pistol shot. Mercury used without results. Improvement under salvarsan. Can now hear loud conversation.

CASE 28.—Reported by Professor Unna, of Hamburg (Unna: *Monatsh. f. prakt. Derm.*, 1910, li, No. 12). Musician developed during the remission period impaired memory, failure of concentration, tinnitus and impaired hearing. Patient had previously had mercurial treatment. After an injection of salvarsan, all the symptoms disappeared except the one most important to the patient, namely, his deafness, but this was gradually cured in the course of a number of weeks.

Becker,[18] in 1907, found among 200 syphilitics in the early period, 6 per cent. of cases of optic neuritis.

Fehr, of Berlin, examined the eyes of a large number of Wechselmann's patients and stated that before treatment he found 2 to 3 per cent. of cases of neuritis, choked disk and retrobulbar neuritis without subjective disturbance.

Wechselmann says that among more than 1,400 patients treated with salvarsan, he did not observe any ocular trouble, although ophthalmic examinations were pretty generally carried out. In two cases, there were temporary "floating specks."

RESULTS OF TREATMENT

In a considerable number of cases, the optic and auditory trouble has improved or cleared up under the use of antisyphilitic remedies. Patients with neuritis occurring spontaneously or after mercury have often done well under salvarsan or further mercurial treatment, and in cases occurring after the use of salvarsan the patients have often improved under a second dose or under mercury and the iodids.

Marshalko[19] says beginning optic atrophy is no contra-indication to the use of salvarsan if the drug is otherwise indicated. After consultation with Professor Imre, director of the Eye Clinic in Klausenberg, Marshalko injected a number of such patients. No injury occurred in any case; indeed, the process became stationary in some, and in others there was apparent improvement. These results prove that the neuritis is not a primary toxic condition, but a fresh syphilitic involvement, a conclusion most pertinent to this discussion.

Another point of interest is that in all or nearly all of the cases reported the patients have been in the early stage of syphilis, between the second and eighth month after infection. This is additional evidence of the luetic nature of the process.

Furthermore, all of the cases have occurred after the subcutaneous or intragluteal use of mercury and none, so far as the reports go, after the intravenous administration.

This is most suggestive in view of the fact that the intravenous administration is the most intensive method

15. Deutsch. med. Wchnschr., Jan. 26, 1911, p. 186.
16. Deutsch. med. Wchnschr., Jan. 5, 1911, p. 11.
17. München. med. Wchnschr., Jan. 3, 1911, p. 20.
18. Quoted by Riehl: Wien. klin. Wchnschr., 1910, No. 51.
19. Deutsch. med. Wchnschr., Feb. 2, 1911, p. 199.

of treatment. Furthermore, among those clinicians who have used the largest doses of salvarsan (Gennerich, Duhot, Weintraud) neuritic disturbances have not been observed.

THEORIES AS TO THE CAUSE OF THE COMPLICATIONS

Abstracting the views of various men, the following propositions may be formulated:

1. The optic and auditory nerve trouble is syphilitic in character and may occur spontaneously or after mercury or salvarsan, and is unrelated to the latter (Ehrlich).

2. These complications are syphilitic, but in some way related to the administration of salvarsan, perhaps due to the traumatic effect of the drug on the nerves (Finger, Rille et al.).

3. When occurring early, it is suggested that the complications may be an effect analogous to the Herxheimer reaction (Urbantschitsch, Pincus, et al.).

4. It is believed by some observers that the introduction of salvarsan in "depots" in the subcutaneous or muscular tissues, where much of it may remain and undergo chemical change, may be responsible for a toxic effect on nerve structure.

5. I believe that an important factor in many cases in the production of the neuritic complications has been the cessation of treatment after a single subcutaneous or intramuscular dose of salvarsan; so much was anticipated concerning the radical curative effects of salvarsan that no subsequent treatment was given for months. In sixteen cases in which the dates of the administration of the salvarsan and of the development of the neuritis are given, between two and three months elapsed in twelve of the cases. In a very few cases, it must be admitted, the complications have arisen within a few days. In these cases it is suggested that the condition may be analogous to the Herxheimer cutaneous reaction. If the neuritic manifestations are commoner after salvarsan than after mercury, the discontinuance of treatment may account for the difference, for mercurial treatment is continued for a much longer period of time. If subcutaneous and intragluteal injections are administered they should be followed in a short time by other treatment. It is reasonable to believe that this would in large part prevent the neuritic inflammations, as they are as a rule favorably influenced by the readministration of treatment.

A PLEA FOR THE INTRAVENOUS USE OF SALVARSAN

Not only is the intravenous administration of salvarsan infinitely less painful than the subcutaneous or intragluteal methods; not only does it obviate the liability to tumefactions, abscesses, and necrosis of tissue, but it is decidedly more effective.

Schreiber, of Magdeburg, who has used intravenous injections, and at times reinjections, in over 800 cases, has observed only four recurrences. In the early period when he employed intramuscular injections, he encountered seventeen recurrences out of a relatively small number injected.

Writing in October, 1910, Schreiber[20] said that in over 400 patients treated intravenously, he had observed no untoward effects on the eyes.

A. Frankel[21] states that an intravenous injection cured a patient with tertiary lues of the skin whose case had not been influenced six weeks before by an intramuscular injection.

In my own experience, I have found the intravenous injections to be distinctly more efficacious than the treatment by other routes. To be sure, subcutaneous or intragluteal injections will often effect a disappearance of the lesions, but this does not teach us the extent to which the underlying disease has been influenced.

It is proved that recurrences are much less early and less frequent after intravenous injections than after administration by other methods. It appears also that inflammations of the cranial nerves have only occurred after intramuscular and subcutaneous injections, therefore, the superior advantages of the blood route over other methods seem to be established.

The theoretical consideration that elimination is more rapid after intravenous injections should not weigh as an argument against the determined clinical results. Arthur Bornstein[22] has shown by experimental research on animals, that the largest part of the dose of salvarsan administered intravenously does not remain free in the blood, but is deposited in the liver, spleen and kidneys.

CONCLUSIONS

1. Inflammation of the optic, auditory, facial and other cranial nerves has developed in a minute percentage of cases after the use of salvarsan in syphilis.

2. The same complications may occur spontaneously or after the use of mercury.

3. Whether the incidence of such neuritic complications is larger after salvarsan than after mercury is a mooted question, on which foreign specialists are not agreed.

4. These inflammations have occurred almost exclusively in cases of recent syphilis.

5. They appear to have occurred exclusively after intramuscular and subcutaneous injections and not after the intravenous administration.

6. Optic and auditory neuritis have in many instances cleared up under a second dose of salvarsan or under mercury and the iodids.

7. Most of the cases of neuritis have occurred two to three months after a single injection. A risk is incurred in discontinuing antisyphilitic treatment for a long period in early syphilis, after a single injection of salvarsan, particularly when given subcutaneously or intramuscularly. It would be, of course, likewise dangerous to cease treatment after brief mercurial administration.

8. The intravenous method of treatment has many advantages over the treatment by other routes.

1922 Spruce Street.

20. Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1899.
21. Deutsch. med. Wchnschr., Jan. 26, 1911, p. 18.
22. Deutsch. med. Wchnschr., Jan. 19, 1911, p. 112.

Intestinal Surgery.—The present-day success of intestinal surgery is due largely to careful observations of conservative clinicians. Great progress was made when surgeons had a fair understanding of bacteriology and biology and a clearer conception of the vital processes in connection with all lesions within the abdomen. The part played by the peritoneum in connection with infection within the abdominal cavity and the repair of wounds of the intestines is now known and has greatly modified surgical technic. The study of phagocytosis, antibodies and opsonins in the blood has enlarged the surgical horizon. The elimination of all possible bacteria from the alimentary canal previous to the operation and the strict observance of asepsis at the time of operation has greatly increased the possibility of success in intestinal work.—A. E. Benjamin, in *Lancet-Clinic.*

IMPERMEABLE CARDIOSPASM SUCCESSFULLY TREATED BY THORACOTOMY AND ESOPHAGOPLICATION

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The operative method carried out in the case described below may be of interest, and perhaps also of some practical value.

History.—R. M., a woman, aged 47, sick for fifteen years with typical symptoms of cardiospasm, with frequent regurgitation, became worse gradually; she was treated by a number of physicians, but the cardia was never dilated; of late the patient had been unable to swallow anything. The patient entered the medical division of the German Hospital (Dr. M. Einhorn). Neither sounds nor dilator could be made to pass into the stomach; they evidently slipped sideways into an esophageal pouch, which rested on the diaphragm. Metal sounds passed down a distance of 17¼ inches from the teeth before they met resistance (14 inches being the normal distance in grown persons); flexible tubes could be made to pass 1½ inch further down. Rectal feeding had to be resorted to, but soon had to give way to a gastrostomy according to Kader's method (Dr. M. Rehling). Operation was well borne, and the patient was instructed to chew her food, but instead of swallowing it, to spit it into a receptacle partially filled with some kind of nourishing fluid, from which it was then poured into the stomach. In spite of this she did not gain and asked to be relieved by operation.

The proposition made to her to let me try first to pass the contracted cardia with the help of the esophagoscope was refused, and was not particularly pressed in view of the unfavorable results obtained by others in cases of such long standing. An attempt was made, however, to pass the cardia from below, for which purpose the stomach was washed clean and direct gastroscopy performed with the electric cystoscope introduced through the gastric fistula. Owing to the lack of proper landmarks I did not succeed in definitely locating the cardia, an experience I had frequently had before in similar cases; nor was I able to pass a ureter catheter by means of the ureter catheterizing cystoscope, although at one time a metal probe had been introduced through her mouth down to the obstruction, and this, as well as the ureter cystoscope, had been made visible with the help of the fluoroscope, the *x*-ray tube being placed at the back of the patient for the purpose of locating the cardia. The failure was evidently due to the fact that the cardia proper could not be pressed forward by the sound.

After consultation with Dr. Einhorn I decided to perform thoracotomy under differential pressure and, if the diffuse esophageal pouch demonstrated by the *x*-rays should be found to be due to cardiospasm and not to a carcinoma which might have developed on the basis of an old ulceration, I would then try to reduce its diameter by esophagoplication. Excision of a large ellipsoid piece of the entire length of the esophageal wall with immediate suture would have been a more radical step. However, such an operation would have involved greater risk than it seemed wise to take in view of the patient's greatly reduced condition; she weighed 87 pounds.

Operation.—May 31, 1910, operation was performed under positive differential pressure by means of the positive chamber in use at the German Hospital since April, 1909. Stomach lavage was first performed, the gastric tube removed and the fistula packed with iodoform gauze and covered with zinc adhesive plaster. The patient was given a hypodermic injection of morphin ⅛ gr., atropin 1/100, and, by hypodermoclysis, 1,000 c.c. saline solution. Anesthol anesthesia was employed, with two narcotizers in the chamber, with oxygen tank and esophageal sounds. The thorax was put on the stretch by means of the new operating-table for thoracic surgery elsewhere described,[1] a curved incision was made over the sixth to the tenth ribs, exactly corresponding in direction with the lower part of the typical Schede incision, and a skin and muscle flap raised. An incision was then made in the eighth intercostal space. The lung was superficially injured on dividing the pleura because of a total adherence of the lung to the costal pleura. Careful blunt dissection was done and the incision lengthened anteriorly and posteriorly. The wound was then gently separated and the rib-spreader inserted, but, in order to avoid rib fracture, wide separation was not forced. Separation of the lung from the costal and diaphragmatic pleura posteriorly proved easily feasible. A number of double ligatures, with divisions between, were needed for firm ligamentous bands. When the lung was pushed off from the anterior mediastinum it tore at two places, which were temporarily covered with moist gauze sponge. When the loosened lung (which remained adherent inwardly) was pushed upward and inward, away from the diaphragm and aorta, a large pear-shaped swelling was seen, corresponding to the lower end of the esophagus. This evidently was the sac in which the instruments had been caught. The overlying pleura was split, the pneumogastric nerves made out and thoroughly separated from the esophagus on either side for fully five inches. The sac was loosened all around with both hands until the finger-tips met posteriorly at the spinal column. The cardia was palpated through the diaphragm and found not infiltrated and could be pulled into the thorax for a distance of about one inch without opening the abdominal cavity, a phenomenon also observed in previous cases. The cardia was surrounded by the finger, then by a piece of twisted gauze, the ends of which were clamped. This gave a good hold. The tip of a long flexible sound now introduced into the esophagus was felt in the pouch posteriorly and laterally over the spinal column. It was lifted by the left hand, which rested behind the esophagus, and met by the right in front which guided it toward the cardia, the latter resting on the gauze handle. The sound passed the cardia nicely, its upper end being gently pushed by the narcotizer. This proved conclusively that the cardia was permeable to instruments.

The sound being withdrawn, a double esophagoplication was done, the same as is done when performing gastrotomy according to Kader. Interrupted silk sutures, flat curved needles and the indispensable "Küster's swan" were used,[1] care being taken not to penetrate the esophageal wall and not to include the pneumogastric nerves. Meanwhile an intravenous injection of saline with 20 mm. of adrenalin had become necessary. The esophagus was then dropped back into its normal place and the initial lung incisions and tears stitched with a straight round needle threaded with fine silk, grasping just enough of the pleura to close the wound. Suture of the rents near the mediastinum were technically difficult or impossible and a small flap of parietal pleura just hanging handy was stitched on to the lung to cover one of the rents. Air was thought to be heard passing out of the lung now and then. Closure of the thoracic wound was then undertaken. Two pericostal silk sutures, tied, held the ribs in proper apposition until three double chromicized catgut retention sutures, made to pass through drill-holes in the middle of the lower rib and surrounding the upper one were tightened. Then the silk sutures were cut and removed. The external wound was closed with continuous catgut sutures and the dressing applied. The patient was removed from cabinet and returned to bed; pulse was 108; stimulation was employed.

Postoperative History.—On the following day at noon there was cyanosis and dyspnea, a pulse of 140 and increased respiration. Diagnosis: compression of lung by fluid or air, which latter, it was thought, might have escaped through the pulmonary tear that could not be sutured. To make sure of this, the patient was brought back to the cabinet and the pressure turned on, with everything ready to reopen the wound in case of increase of dyspnea, which would indicate the presence of a pressure pneumothorax. Fortunately, this did not happen, and, as the patient felt comfortable under differential pressure and complained of difficulty in breathing the moment it was stopped, she was left in the apparatus for almost ten hours, food being given frequently through the tube which had been reintroduced through the gastric fistula. When the head was removed from the chamber at 9 p. m. and the patient placed

1. Ann. Surg., July, 1910, p. 40.

in an upright position, her lips were red as before, and pulse unchanged. She was then brought back to her bed and went on to recovery.

Interesting points during convalescence were:

1. Accumulation of about one pint of turbid sanguinolent serum, which necessitated drainage on the twentieth day after operation; rib resection was done under cocain, making use of the lowest part of the curved skin incision.

2. A hematogenous infection of the right (movable) kidney, with perinephritis.

3. Spontaneous return of the ability to swallow any kind of food, not only liquid, but also solid.

In the fourth week after operation in this case, sudden dysuria with fever and local tenderness over the right kidney set in; the urine contained pus. As catheterization had not become necessary at any time after operation, and patient had been free from urinary trouble before, we had to diagnose a hematogenous infection. Medicinal treatment was resorted to. Subsequently the infiltration was very much reduced, the urine clear and bilaterally normal, as proved by ureteral catheterization. Evidently a cortical abscess had perforated into the perinephritic fat.

In the third week after the operation, during a very hot night, the patient drank a whole glass of water, passing it into the stomach without any trouble. So far she had been fed exclusively through the gastric fistula and had been warned not to make use of the esophagus for feeding purposes. One week later semisolid, and soon thereafter, solid food passed through the cardia without any difficulty. This favorable condition continued unchanged since the middle of June, 1910, that is over six months, and may, therefore, be considered a permanently established feature. Later, six and a half months after the operation, the patient was absolutely well.[2] The wound remained definitely closed since the middle of July, 1910. The patient swallows her food with perfect ease; there is never any difficulty in deglutition, nor the slightest tendency to regurgitation. She weighs 118 pounds against 87 pounds before the operation, and is gaining steadily. At times there was a slight rise of temperature due to the still present perinephritic infiltration.

The cure of the impermeable cardiospasm in this case seems to have been due, first, to the forcible separation of both pneumogastrics from the esophagus, tearing the many tiny nerve fibers that enter the muscularis of this organ on either side; second, to the artificial reduction of the circumference of the pouch.

It had been the intention to sound the esophagus soon after the operation and if the tube passed the cardia, to try the dilator and distend the contracted muscular ring. This became unnecessary, as the desired condition set in spontaneously.

A direct operative attack on the cardia for spasm was first undertaken by the late von Mikulicz. He stretched the cardia with forceps through a gastrotomy wound. Wendel performed osteoplastic resection of the costal arch, following this by a plastic operation according to pyloroplasty by the Heinecke-Mikulicz method.

As an after-effect of thoracic operations on the human subject, it has been a frequent observation by other surgeons, as well as myself, that an effusion of a serous or serosanguinolent fluid takes place into the pleural cavity operated on, and that aspiration of this fluid does not overcome the dyspnea. In the majority of cases the accumulation of this fluid has been the cause of death, or at least has materially contributed to the death. This fact appears to justify the conclusion that the future of thoracic surgery rests on the development of a proper after-treatment. I have thus expressed myself in various medical societies and note from a recent article of Wendel's that he has come to the same conclusion. Air-tight closure of the thoracic cavity whenever possible after the intrathoracic work is finished, has been the advice given by other workers in this field. In the light of the experience gained in this case, however, as well as that which I have had in several other thoracic operations, it seems to me that this dictum may have to be changed or modified. Instead of using air-tight closure, I think it will be necessary for us to learn how to drain the thorax during the first twenty-four hours, perhaps even thirty-six or forty-eight hours, after a severe thoracic operation, without incurring the dangers of a pneumothorax.

Several ways of fulfilling this desideratum come to mind. One of them is the use of the chamber. The head of the patient is kept within the chamber under pressure and tubes drain the thoracic cavity or cavities into the aseptic dressing which has been applied. Relays of assistants and nurses attend to the needs immediately after operation.

Another procedure would be to apply a sort of valve dressing permitting of drainage.

Wendel, in speaking of operations for cancer of the cardia, expresses the intention of draining internally into the abdomen or through the abdomen to the surface after a combined thoracic-abdominal operation.

As soon as the patient has satisfactorily passed the first twenty-four to forty-eight hours and the pleura has ceased to secrete, the drain or drains may be withdrawn and, under increased differential pressure, the wound covered with rubber tissue and a large dressing, closing the thorax air tight.

Should equally favorable results be obtained with the above-described procedure in subsequent similar cases a new method of radical cure of impermeable cardiospasm by the most direct route would then be established.

NOTE: Since I wrote the above, the patient has passed through a severe attack of influenza, January, 1911. Shortly after she had recovered from this attack, the scar resulting from the empyema reopened in one place and gradually an esophageal fistula established itself, producing some leakage through the fistula. Evidently one or more of the silk sutures in the esophageal wall caused a perforation, swallowing meanwhile continuing with perfect ease. This experience teaches that chromicized gut should be used rather than silk for sutures and ligatures within the thorax, if we are unable to guarantee aseptic wound healing.

700 Madison Avenue.

2. The patient was presented before the New York Surgical Society, Nov. 23, 1910.

CARDIOSPASM

REPORT OF A CASE: TREATMENT BY OPERATION AND SUBSEQUENT DILATATION

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There is little about cardiospasm found in text-books, and until recently almost nothing in periodical literature. Within the past few years, however, a great deal of attention has been attracted to it, especially in Germany, and the facts stated by careful observers, there and elsewhere, who have been on the alert to detect cases of cardiospasm, would seem to justify the assertion that many of us are overlooking some, and perhaps many, patients affected with this condition.

H. S. Plummer of St. Mary's Hospital, Rochester, Minn., reported forty cases.[1] Only four of his patients were treated by operation, the simpler method of dilatation being sufficient to effect a cure.

1. Plummer, J. A.: THE JOURNAL A. M. A., Aug. 13, 1908, p. 549.

It might be well at this point to define cardiospasm.

Cardiospasm is a condition in which there is spasm of the circular fibers of the cardiac orifice or esophageal opening of the stomach; dilatation and retention of food in the esophagus, with periodical regurgitation. This, of course, describes a fully developed case.

The causes of the disease, as collected by Plummer in his full and valuable paper, are as follows:

"First, primary cardiospasm (Meltzer); second, primary atony of the musculature of the esophagus (Rosenheim); third, simultaneous presence of cardiospasm and paralysis of the circular fibers of the esophagus, brought about by paralysis of the vagus (Kraus); fourth, congenital disposition (Fleiner, Zenker, Luschka, and Seivers); fifth, primary esophagitis (Martin); and, sixth, kinking at the hiatus esophagi."

This observer in discussing the causes of the disease says:

> In the study of a considerable number of cases the almost invariable history of a spasm at the onset, followed at a later period by the evidence of dilatation—that is, retention of food in the esophagus—is most convincing evidence that the spasm precedes the dilatation, and primary atony is relatively a rare condition.[1]

While it is true that a spasm of the cardia may be due to, or associated with, lesions of the esophagus or stomach, I do not believe that it is the cause in many cases. Certainly no lesions of these organs, and no history of their previous existence, were found in the case about to be reported.

Swallowing is divided into three acts. I shall consider only the third, in which the food passes through the esophagus. Every part of the tube, as it receives the morsel and is dilated by it, is stimulated to contract: hence an undulatory or peristaltic contraction of the esophagus occurs. If we suppose the bolus to be at one particular place in the tube, it acts stimulatingly on the circular fibers behind it and inhibitingly on those in front; the contraction, therefore, squeezes it into the dilated part in front, where the same process occurs, and this travels the whole length of the tube.[2]

The esophagus does not contract in sections, as was once thought, but there is a peristaltic wave. It is usually thought that the sphincter of the cardia is tonically contracted.[3] However this may be, it is certain that contraction of the esophagus is due to the vagi; and if it is true that these nerves supply the esophagus with motor, and the cardiac sphincter with inhibitory fibers, any disturbance or degenerative changes of these nerves would produce cardiospasm. "Division of both pneumogastric nerves gives rise to paralysis of the esophagus and stomach and firm contractions of the cardiac orifice. These nerves, therefore, normally supply the esophagus with motor, and the cardiac sphincter with inhibitory fibers. If food is swallowed after these nerves are divided, it accumulates in the gullet and never reaches the stomach. While it is true that peristalsis is an inherent property of the muscle, which is normally controlled by nervous agency, it must be remembered that the nervous control is especially marked in the esophagus. . . . It seems probable that the peristaltic contractions of the esophagus, to be efficient, must be supported by nervous influences from outside. In this respect the esophagus is different from the remainder of the alimentary canal."[2]

2. Kirk's Handbook of Physiology, Ed. 21.
3. Gray's Anatomy, Ed. 17.

REPORT OF CASE

History.—M. S., aged 18, unmarried, a farmer, was seen by me Jan. 20, 1910, at the request of his physician. His father had died thirteen years previously with "white swelling" of leg; his mother, brothers and sisters were living and in good health. The patient had measles in early childhood; otherwise had never been ill, and had enjoyed perfect health until the present trouble began, in 1906. He had always been in the habit of eating his meals very rapidly. One morning in 1906, having just finished eating, he suddenly experienced a choking sensation, with considerable pain, in the region of the cardia. He described it by saying that it felt as though part of his breakfast had stuck in his chest. In a short time this passed off and he ate his dinner, about three hours later, without discomfort. Attacks occurred after this about once a week, gradually increasing in frequency, with marked difficulty in swallowing. At first he was able to force all the food into the stomach, but finally part of it seemed "to stop just below the lower end of the breast-bone." The condition gradually grew worse until it would take him from two to three hours to get any considerable amount of food into the stomach. After filling the dilated esophagus, part of the food was forced into the stomach and part was regurgitated. The patient had been treated by a number of physicians without any relief whatever; was compelled to stop working on account of weakness, and because most of his time was taken up trying to eat; had lost weight slowly at first, but very rapidly of late. For the previous month or two the patient had devised a method of getting a certain kind of food into the stomach, and on this alone he had subsisted. A syrupy mixture was made by mashing a few crackers and then adding sugar and water. This was eaten, but did not enter the stomach. After this the patient would swallow solid food until he was conscious that he would regurgitate it if more were taken; then, after taking a sip of weak coffee, he would take a deep inspiration, close his mouth, shove his head forward and with slow pumping motions force the syrupy mixture into the stomach. When this method was successful he had a distinct sensation of food entering the stomach; but when it did not, the air compressed in the throat and mouth, rushed back through his mouth and nose. At other times some of the air gained entrance into the larynx, giving rise to coughing, such as is caused when one has, as is said, "swallowed the wrong way." The solid food would remain in the esophagus until regurgitated, or could be, and usually was, washed out immediately after passage of the syrupy mixture into the stomach. Living in the country, where modern plumbing facilities were not at hand, he had learned that the most convenient method of doing this was to lie on the ground beside a running stream, and after taking several swallows of water allow it to regurgitate and be carried down the stream. In this way he would wash all the retained food from the esophagus.

The difficulty of getting food into the stomach could easily be seen when the patient ate. He could easily swallow liquids or solids up to the amount of two and one-half glassfuls, or about 20 ounces, when, as he stated, he could swallow no more without regurgitating it. This material left in place for three hours could be regurgitated without difficulty, by simply stooping over until all ran out. Of course, during this time a certain amount of the liquid would seep through the cardiac orifice by gravity.

Physical Examination.—The patient was a thin but otherwise healthy-looking youth, about 5 feet 10 inches in height, and weighing 109 pounds. No abnormality could be detected by ordinary examination; urine normal; blood deficient in hemoglobin.

Diagnosis.—The two cardinal symptoms, the difficulty of getting food into the stomach, with frequent regurgitation of food and mucus, at once called attention to some obstruction above the stomach. After the history of the patient was taken, syphilis and the swallowing of caustics and foreign bodies excluded, and a general examination made, a stomach-tube was stiffened with a large esophageal bougie and introduced. The distance from the incisor teeth to the obstruction was measured and found to be 42 cm. At times the tube would

pass through the cardia, not very easily on gentle pressure; at other times with great difficulty, if it could be made to pass at all. The times when it could be made to pass were very few, and then the end of the tube had to be held against the cardia for some time and considerable pressure used. That it could be made to enter the stomach, however, was proved by the entirely different character of food obtained, which showed hydrochloric acid present, and which contained partly digested food with a sour odor. After having thoroughly washed out and entirely emptied the esophagus, a thorough examination was made with the esophagoscope, which revealed no evidence of a diverticulum, new growth, ulcer, fissure or foreign body; the mucous membrane appeared normal, the esophagus large and the walls rather flaccid. Twenty ounces of potato soup containing 20 per cent. of bismuth subnitrate was given and a radiograph of the chest was made. This showed a greatly dilated esophagus, tapering to a point near the cardia. Examination of the contents of the esophagus, two days after eating meat and hard-boiled eggs, showed large pieces of undigested meat and egg and considerable mucus; there was no odor; the reaction was alkaline. There was no evidence of pepsin or hydrochloric acid. From this there seemed to be no doubt that the contents removed were from the esophagus only. Photographs of pieces of solid food were taken. The patient complained of dyspnea and slight discomfort when the esophageal sac was full, which entirely disappeared when the contents were regurgitated, or washed out.

As there seemed to be no doubt as to the diagnosis, it was decided to operate, first, in order that the patient might be fed through a tube fastened in the stomach, thereby permitting the patient to gain strength and weight; second, to allow the dilated esophagus complete rest and to contract as much as possible; and third, that the sphincter might be stretched at the same time that gastrostomy was performed.

Operation.—Jan. 28, 1910, gastrostomy was performed under ether. Witzel's method was used, except that the incision was made longer than four inches, as described in his operation. After opening the peritoneal cavity the stomach was seized, brought out of the wound, and gauze packed around it. An incision was made into the stomach wall large enough to admit the hand. One finger was introduced into the cardiac opening of the stomach and the contraction of the hypertrophied sphincter could easily be felt, resembling the contraction of the uterine cervix before thorough dilatation, preliminary to curettage. Under the control of two fingers a curved intestinal clamp, the blades of which were guarded with rubber tubing, was introduced with some difficulty into the esophageal opening. The blades of the forceps were gradually opened and closed until the cardia was fairly well dilated. No measurement of the distance between the blades was taken; the amount of force used was determined by muscular sense, care being taken not to use sufficient force to tear the esophagus. The forceps was then withdrawn, the opening in the stomach closed in the usual way, except for a hole large enough to introduce a tube with diameter equal to a number 25 French bougie. The operation was then completed according to Witzel's method.

Subsequent Treatment and Course.—Nothing worthy of note occurred immediately after the operation. Rectal alimentation was not resorted to, the patient being fed through the tube in the stomach by introducing a funnel and removing the clamp from the tube. For the first twenty-four hours nothing was given except normal saline solution, by proctoclysis, to relieve thirst. On the ninth day the superficial sutures were removed. The wound had healed by primary union and nothing remained except the fistulous opening into the stomach. In a short time the tube was withdrawn from the stomach and introduced through the fistula each time the patient was fed. At the end of two weeks the patient was up and around, and had learned to introduce the tube and feed himself, but he was not permitted to introduce any food into the stomach other than the amount and kind prescribed. During twenty-four hours the patient was allowed 3 liters of milk, 30 gm. of sugar, 60 gm. of cream and 240 gm. of thick potato soup, with 4 gm. of sodium chlorid. Tincture of ferric chlorid in water (30 minims) was also administered. Up to this time the patient had taken nothing by mouth. This diet was prepared as follows: each morning 3 quarts of milk and six eggs were thoroughly mixed, strained through cheese-cloth and put in a cool place, ready for use at regular intervals; 8 gm. of lactose, 8 gm. of sugar and 30 gm. of cream in 270 gm. water were given morning and night. Potato soup was prepared in the usual manner, and to it the sodium chlorid was added.

Regardless of this liberal diet the patient continually complained of hunger and in order to be sure that he did not increase the amount of food allowed, the tube and funnel were kept by Miss Decou, the chief nurse, who prepared his food and saw that he received it at intervals of about two hours, and to whom much credit is due for the boy's progress and ultimate recovery.

I now began to pass daily an ordinary stomach-tube which in a very short time the patient learned to pass himself without the least difficulty. Three weeks after operation the patient had gained eight pounds, felt strong and no longer complained of being hungry.

Dilatation of the cardia was then begun with an esophageal dilator made by cementing a rubber-dam balloon to one end of a non-elastic rubber tube in such a way that the tube just passed through the balloon. The end of the tube was closed with a rubber plug and a number of holes so punched in it that its lumen communicated with the interior of the balloon. A silk bag was fastened over the balloon in order to preserve its shape, when distended, and a second rubber balloon over this to facilitate the passage of the dilator. The dilator was constricted at its center, by tying silk around it, to lessen the tendency for it to slip into the stomach. The distance to the cardia having been previously found and a mark made on the tube, the dilator was then passed and the balloon distended by water forced in by an ordinary Davidson's syringe. The force used was determined by the tolerance of the patient, care being taken not to increase the size of the dilator by forcing in more water after pain was experienced. The principle of this dilator is essentially the same as that described by Plummer, from whose writing I received the idea, though his is more complete and scientific.

During the fourth week the dilatations were continued every other day, and milk and water were given by mouth, most of which readily passed into the stomach. Five weeks after the operation soft diet was permitted, by mouth, and the fistula in the stomach was allowed to heal. The esophageal sac at this time would hold only a few swallows instead of 20 ounces, which was its capacity before operation.

A radiograph showed the esophagus contracted down to nearly normal. From this time on diet was steadily increased in variety, solids being gradually added. The dilator was introduced every few days.

March 22, 1910, the patient announced that he was well and desired to return to his home in West Virginia, and, on being refused, attempted to prove, as so frequently occurs, that the doctors were not so wise as the patient. That night he celebrated a grand feast on fresh pork, potatoes, etc. At 2 o'clock the following morning I was hurriedly called and informed that "Sandy" was dying. On arriving at his room I found him in great pain, frightened, unable to speak above a whisper, abdomen rigid and greatly distended, rapid pulse, flat on his back, bathed in cold perspiration and evidently suffering from acute dilatation of the stomach. A stomach-tube was passed and the stomach was thoroughly washed out, considerable gas being set free and quantities of large pieces of undigested food were removed; in fact, some of these pieces were so large that the stomach-tube often became clogged and had to be removed to be cleared, and then reintroduced. Washing of the stomach gave almost immediate relief. An enema was then given, which was expelled soon afterwards with considerable quantities of gas.

The patient rested well for the few remaining hours of the night and arose late the next morning a sadder but a wiser boy. He stated that he had gone to the hospital kitchen the previous night and had eaten an excessive amount of food and had "bolted" it, fearing that someone would come in before he had finished.

From this time on patient improved rapidly, dilating the cardia himself about once a week.

April 11, 1910, the patient was discharged as cured. He then weighed 150 pounds and was eating all varieties of solid food. After that time I saw the patient twice and there had been no return of the disease.

I cannot assign any definite cause for this boy's trouble, unless it was some disturbance or possible degenerative changes in some of the fibers of the pneumogastric nerves. Again, it will be remembered that the patient was in the habit of bolting his food, which, it seems to me, might have caused a stretching of the lower end of the esophagus, producing a relative increase in the obstruction of the cardia. At the same time the suddenness of the onset, with intervals of absence of symptoms and increasing frequency of attacks, would point to primary spasm of the cardia with resultant dilatation of the esophagus. However this may be, the fact remains that the condition existed and has apparently been cured by operation.

The apparent rarity of this disease, the few cases reported in the literature, and especially the small number that have been operated on, seem to justify the report of this case.

In conclusion I wish to express my appreciation of the valuable assistance given me by Assistant Surgeon George F. Cottle, U. S. N., Miss Decou, Nurse Corps, U. S. N., and Hospital Steward C. P. McGarr, U. S. N., who did the radiographic and photographic work.

THE TREATMENT OF COUGH IN THE CONSUMPTIVE

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No symptom in pulmonary tuberculosis is more obvious or more annoying than the cough; now rasping and ineffectual, now milder but continuous, now paroxysmal, or again, remarkably periodical. Each variety has in its turn a rational means for relief, if its cause is but patiently sought. No symptom, probably, in any disease receives more perfunctory or rule-of-thumb therapy than this,[1] at least from others than specialists long skilled in its treatment. And yet by the simplest means the most complete and lasting benefits are often gained.

The types of cough are generally pretty well defined. Thus, in the earlier stages of the disease, most patients complain of the attack of coughing directly after getting out of bed in the morning. Here is where most practitioners err, in starting too soon their sedatives. In nearly every case, this morning clearing-up process, due probably to the change in posture, and to the change in temperature from bed to that of dressing-room, is beneficial. Unless inordinate, followed by exhaustion, or retching, which destroys all appetite for breakfast, this type may best be let alone. Where a moderate amount of secretion has collected over night, and the morning's paroxysm is unique in the twenty-four hours, it is wiser to follow the *laissez-faire* method and conserve the weapons of offense for later use. They are pretty sure to be needed.

Retching is often due to excessive pharyngeal mucus, which, hanging suspended, acts reflexly to set up vomiting. A simple gargle kept beside the bed, and used immediately on waking to cleanse the walls of the pharynx, will often clear up the condition entirely. This procedure worked remarkably well in an adult German woman in the tuberculosis ward of St. Luke's Hospital, who had coughing fits ending in vomiting every morning for months prior to her admission. Some such bland gargle as this may be used:

℞

	gm. or c.c.			
Ac. borici	30	00		ʒi
Phenolis		12		gr. ii
Glycerini	8	00	or	ʒii
Aq. rosæ	4	00		ʒi
Aq. dest. ad	240	00		ad ʒviii

M.

Sig.—Use half and half in tepid water as a gargle.

It is sometimes of advantage to have a comfortably warm dressing-room, into which the patient can step quickly before the temperature of the body, on getting out of bed, is too rapidly lowered.

Most of all, however, should be done through instruction. Mental suggestion may play a real part. The will to hold in check the cough often does more than a prescription. This is not easily inculcated in all the sick, and the end accomplished is often an excellent index of the team-work between doctor and patient. Carefully regulated breathing exercises, mild calisthenics, a series of deep, full inspirations, holding the breath several seconds, etc., are all useful aids.

In the constant dry, nagging cough which lasts off and on all day, a prolonged, systematic search should be made for local causes in the nares, pharynx and larynx. A long uvula is a prime offender.

This has often been carefully pointed out in the standard books, but is still curiously overlooked in many cases. Recently a negro presented himself for a constant cough and spitting of blood-streaked mucoid expectoration. He had a typical infiltration of the right apex; but the inordinate amount of sputum, always streaked with bright blood, demanded an explanation. He had been treated in two other dispensaries with small doses of morphin and absolute rest in bed, presumably under the notion that he was having a mild continued hemoptysis. He was found to have a long, edematous uvula which had irritated the epiglottis till it was twice the normal size. The lower pharynx, and upper larynx were deeply congested, and the sublingual tonsil was enormous. Amputation of the uvula gave him prompt relief, and checked the cough and amount of sputum briskly.

Large turbinates, adenoids, hypertrophied tonsils, and ulcers of the larynx, all demand local treatment. Occasionally cough appears to be due solely to fever. It leaves with the lowering of the temperature. Simple rest in bed generally turns the trick. Again, it is curious how much trouble a small patch of pleuritis can raise. Counter-irritation with mild (1 to 5 or 1 to 6) mustard plasters, repeated every four hours, or better still, strapping the chest for five or six days, is quite efficient. The actual cautery to the subclavicular region, a method formerly employed, is probably not used now by most practitioners; but in some cases it certainly has given relief in the past. The following has been suggested to check excessive secretion in the nasopharynx:

℞

	gm. or c.c.			
Iodini pur.	0	1 to 0	3	gr. 2 to 10
Potassii iodidi	1	0 to 3	0 or	gr. 15 to 45
Glycerini	10			ʒ 3

M. Sig.—Paint the nasopharynx every day or every other day.

1. Brown, L.: A System of Medicine (Osler), iii, 400.

Often no obvious local cause can be found which will account for the incessant, dry cough. Here again, suitable occupation and stimulation of mental interest should be tried. This can be carried out exceptionally well in sanatoriums or day camps. It is a matter of daily observation, let us say in the theater or lecture room, that as soon as the interest of the audience lags for a few moments, short irritable fusillades of coughing can be heard in all parts of the room. They disappear, as by magic, with renewed excitement or heightened interest. A similar phenomenon can be observed at any time when numbers of consumptives are sitting together. While a visitor or nurse reads aloud from an absorbing story there is complete and grateful quiet. This can be maintained ordinarily at will, by skilfully contriving to occupy the attention and imagination of the sick. It is no small task to keep renewing their flaccid energies, through diverse means of manual employment (puzzles, knitting, the jig-saw, sloyd, etc.).

Another distinct type of cough is that which occurs after eating. This is presumably due, reflexly, to the dilatation and sudden activities of the stomach walls. Its most obvious and most efficient means of control is in small, more frequent meals. The dietary should depend wholly on the general conditions present. But a more concentrated meal repeated as often as the digestion will stand, or the general needs seem to warrant, will obviate the seizure which in a large percentage of cases succeeds in setting up enough vomiting to remove most of the meal. In some cases the assumption of the upright posture for eating, after reclining all the morning, seems to be the cause. It is a good plan to have a tray taken to these patients, and the small meal eaten slowly, avoiding carefully any change in position. A little regulation will serve to keep the day's intake constant, and the calorific value need not suffer.

Sudden changes of temperature, such as that experienced on leaving a warm church or theater, often start vicious attacks of coughing. A slower progress and more careful gradation should be tried. Standing in the entry for a few moments and protecting the face with a handkerchief until several full inspirations of cooler air are drawn, may prevent the attack.

Again, the local conditions of the patient's work must be looked into minutely. A glance over the records of any clinic will show (especially in the men's histories) a surprising number who have worked for a long time in some dusty pursuit. Of course this should cease, and new employment be found at once. But this change is not always (or indeed often) feasible. Yet through the cooperation of the social service departments and the bureaus for organized charity, a great deal of very real help may be obtained. This simple change in surroundings has been sufficient to produce genuine comfort in a good many cases.

There remain to be considered two other types of common cough, "depending sometimes on the amount of expectoration, sometimes on its quality."[2] Here drug therapy would seem to be clearly indicated. But one must even now approach the Pharmacopeia with caution. Austin Flint[3] taught that "expectorants have no place in the treatment of phthisis. An expectorant remedy that includes nauseants must do harm by interfering with alimentation and digestion. Cough palliatives, containing opiates are allowable only when the violence or frequency of cough causes fatigue and prevents sleep."

A number of methods are advocated to allay hypersecretion. Foremost, probably, stands the use of the perforated inhaler, suggested early in England by Sir W. Roberts of Manchester, and Dr. I. Burney Yeo,[4] and long championed in this country by Dr. Beverley Robinson. This simple apparatus is worn easily by patients, and with judicious periods of rest can be kept on most of the time. At night many wear it without annoyance. There is one real objection here, during the colder months. The warm expired air rapidly condenses and finally drenches the face and pillow repeatedly. This is a very genuine drawback to some, disturbing their rest, and it is far better then to discard the apparatus while sleeping. Its beneficial results are often striking. Recently in an adult, who had a rasping cough and profuse expectoration, the constant use of the inhaler over a period of only six weeks, practically eliminated the cough, greatly reduced the amount of sputum, and cleared the chest of all large, moist râles. He had the added benefit of rest at a day camp.

The principal drugs used on the inhaler are creosote or formaldehyd solution in some combination. The former is used at the Vanderbilt Clinic thus:

℞
Creosoti .....
Chloroformi ..
Spts. vini rect. āā p. æ. [i. e., equal parts of each].
M.

The latter is used in this combination:

℞

	gm. or c.c.		
Formaldehydi (40 per cent.)	1|00		♏ xv
Chloroformi	2|00		3ss
Mentholi	0|30	or	gr. v
Ol. pini	0|75		♏ x
Spts. vini rect. ..... ad	15|00		ad 3iv

M. Sig.—Use drops x on inhaler.

In Quincke's clinic, the attempt has been made to check excessive secretion by induced hyperemia. The foot of the bed is raised from 9 to 12 inches in the early morning, for two or three hours, and again at night. The patient lies flat on the back, the face turned toward the side.

Kuhn's suction mask[5] is still another means to a similar end. It is a device worn over the nose and mouth, like the perforated inhalers, so constructed by a series of valves that inspiration is forced and at a raised pressure (*Einatmungsbehinderung*), while expiration is accomplished naturally. This has been used by Kuhn, even in advanced cases with cavity formation, without accident. He is enthusiastic over the results.

Creosote, administered internally as recommended by Sommerbrodt, must be watched with great care. Its facility for upsetting the stomach is considerable.

Guaiacol (see Sahli's report)[6] has proved milder and safer. But in very few cases is it advisable at all to medicate much by mouth. The inhaler seems to serve every purpose.

Care must be taken not to dry up the secretions to a point where a thick and viscid sputum, almost incapable of being dislodged, makes miserable a patient who formerly enjoyed reasonable comfort. If this complication occurs, which, as pointed out by Hughes Bennett,[7] happens at times during the process of healing and of drying out a large cavity, a mixture containing the syrup of hydriodic acid may be used cautiously for a few days.

2. Fox, W.: A Treatise on the Diseases of the Lungs and Pleura. Edited by Coupland. 1st edition, 1891.
3. Flint, A.: Phthisis, p. 400, et seq.
4. Yeo, I. Burney: Lancet, London, clxxx, 4558, p. 16.
5. Kuhn, E.: Deutsch. med. Wchnschr., 1906, xxxii, 1486.
6. Sahli: Lancet, London, 1887, ii, 1287.
7. Bennett, H.: Reynolds' System of Medicine, iii, 585.

The nauseants (squills, senega, antimony, ipecac, etc.) may best be wholly discarded.

Preissnitz[8] recommends hot, wet compresses to the throat and neck.

Of the depressants, codein, heroin, and finally, morphin, given in dry, tabloid form upset the alimentary tract, taken all in all, less than when in some syrup-like combination. To codein is given the preference, as it tends less to constipation.

In the terminal, hopeless stage, free use of morphin seems imperative. The general discomfort and suffering otherwise, is appalling. An excellent combination suggested by Dr. H. S. Patterson is this:

℞

	gm. or c.c.		
Morph. sulph.	.005		gr. 1/12
Tinct. belladonnæ	30	or	♏ v
Ammon. chlorid.	30		gr. v
Aquæ dest. ad	4.00	ad	℥i

M. Sig.—Such a dose every four hours, if necessary.

Or this of Dr. S. W. Lambert:

℞

	gm. or c.c.		
Ext. opii			
Ext. Belladonnæ āā	.12		gr. ii
Chloroformi	1.3		♏ xx
Syrup. tolutani	30	or	℥i
Aquæ dest.	120	ad	℥iv

M. Sig.—A teaspoonful every four hours, if necessary.

For a short time heroin (grs. 1/8 to 1/2) seems to work well; but its efficiency is short-lived, and in the very advanced cases soon must give way to morphin, which at last is the sole means of comfort, scant at best.

16 Central Park West.

MENINGISMUS FROM ACUTE CERVICAL ADENITIS AND PERITONSILLAR INFILTRATION

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Surgeon to the Boston Dispensary
BOSTON

Some unusual features in this case, which so closely simulated some form of meningitis, make it of enough interest to report.

Patient.—A. L., a boy aged 4, was seen June 23, 1910.

Family History.—Father is living and well. Mother has pulmonary tuberculosis, now quiescent. The mother's tuberculosis was first diagnosed while she was nursing this child; she was fairly well advanced in the second stage at this time and undoubtedly had the disease when pregnant.

Personal History.—The patient was an only child and had always been well except for bowel upsets and slight tonsillitis in March. On May 17, a severe attack of coryza came on, and the boy was alternately better and worse for two weeks with more or less constant nasal discharge and slight cough. Then this trouble seemed to clear up and he was all right for a time. The mother had an attack of scarlet fever in May, and the child was exposed on May 6; the mother was promptly isolated. Three weeks after this exposure a slight transient erythema was noticed across the chest, of not more than two or three hours' duration. The boy felt perfectly well at this time. He had eaten fish for the first time in his life the day before this erythema was noticed. After the first week in June the cold which had been much better still persisted. On June 15, the cervical glands were swollen, bilaterally, more on the right than on the left. June 16, 17, 18, the glands were less swollen and the child seemed better at this time. June 19, there was stiffness of the neck on the right side. Temperature 99.6, the tongue coated and the throat clear.

Examination.—June 23, I first saw the boy. Examination showed him to be well developed and nourished. Examination of the heart and lungs revealed nothing abnormal. The throat showed chronically enlarged tonsils; it was perfectly clear, no membrane or exudate was visible. The teeth were good. There was bilateral cervical adenitis. The glands were the size of filberts and slightly larger, discreet, tender, not fluctuant; the skin over them was not reddened. Temperature was 101.2 F. The child felt languid.

Course of the Disease.—Next day, after a restless night, the temperature and pulse were normal. In the morning, the child was sleeping quietly and breathing easily. The glands were somewhat less tender. The condition gradually changed for the worse.

June 25: The child was more listless and weak. Examination showed the pupils equal and reacting to light. No Babinski or Kernig sign was present. Nothing abnormal was found in the examination of the lungs. Examination of the left ear showed the drum slightly reddened. Pulse was 120, temperature 100.2 F. The throat was clear; the tonsils were much enlarged, boggy and pale pink. Gradually the general condition grew much worse. The child's condition was much weaker despite stimulation with salt solution, whisky, caffein and small doses of digitalis.

June 26: The child was apathetic and stupid. The pulse was markedly irregular and somewhat intermittent and would drop suddenly from 120 to 80. The child answered questions only when aroused. Stiffness of the back of the neck was noticed for the first time. At 2 a. m. the condition was alarming. The breathing was stertorous and the child was markedly apathetic, the pulse being weak and irregular. The cervical glands had markedly increased in size. The nose seemed obstructed and the clinical picture resembled that seen in the last stages of nasal obstruction in diphtheria. The child was given antitoxin, though careful and repeated examination of the throat had shown nothing. The result of the cultures taken the day before had not been heard from. Later these cultures showed staphylococcus and streptococcus growth. The child was stimulated with brandy and salt solution and rallied from the acute collapse. The breathing was not quite so obstructed. There was a leukocytosis about 30,000.

In the afternoon, the condition was as follows: General condition about the same as before collapse of early morning, cervical glands markedly swollen, head and neck absolutely rigid, moved with body as a whole, like an iron rod, knees rigid, Kernig sign more marked (a suspicion at a previous examination). Examination of the throat showed a marked bulging shelf over the left tonsil. There was no exudation. Digital examination of the throat was unsatisfactory.

Consultants' Opinions.—The child was seen in consultation by two specialists in children's diseases, one of whom thought, with me, that the condition was tuberculous meningitis. The other thought that there was a possibility of the symptoms being due to the infiltration around the left tonsil and the markedly enlarged cervical glands. These glands had at no time showed fluctuation or softening. It was thought possible that there was pus around the tonsil, but expectant treatment was decided on for a while.

Termination of Case.—That night the child was somewhat better. Next day the shelf over the left tonsil had disappeared; the throat was more easily inspected, the right tonsil was very much enlarged and a condition similar to the shelf-like projection on the left side was present, only not so marked. This quickly subsided. From this time on, the improvement was rapid. The pulse became regular, stiffness of the neck gradually disappeared and the cervical glands became smaller. When the rigidity of the head and neck had almost subsided it was possible to feel enlarged cervical glands as far back as the occiput. Save for a slight irritability of the heart, the boy convalesced quickly, and this irritability soon subsided.

Remarks.—Some weeks after the boy was up and around, there was peeling of the palms of the hands. Desquamation was not noted in any other part of the body. The treatment consisted of digitalis, whiskey, salt solution and caffein. As

8. Preissnitz: Quoted by Cornil in Nothnagel's Practice: Tuberculosis, p. 609.

soon as possible the child was put out of doors for all day, with great benefit.

Two interesting points in regard to the case are: 1. Had the child recovered from a mild case of scarlet fever and were the glands sequelæ? None of those who saw the case believe this to be a fact. 2. The fact that the mother was tuberculous, and was undoubtedly so when pregnant with this child, influenced me to a great extent in arriving at a diagnosis of tuberculous meningitis. Dr. Hunter Dunn, one of the consultants, pointed out the possibility of the glands and throat being responsible for all the marked meningeal symptoms, which proved to be the case.

261 Beacon Street.

GOOD AND BAD CORSETS

GEORGE B. SOMERS, A.B., M.D.
SAN FRANCISCO

In preparing a paper on "The Use and Abuse of Corsets" read in the Lane Course of Popular Lectures at Cooper Medical College Feb. 10, 1911, I had the following diagrams drawn. They represent the chief points which seem to me characteristic of the good as contrasted with the bad corset.

While the diagrams are in themselves sufficiently explanatory, and afford a formula for judging the good and bad points of any corset, it may not be amiss to add a few words on the subject in general.

Every practicing physician recognizes the evils resulting from improperly worn or improperly shaped corsets and yet few take pains to investigate a patient's habits in this regard. I venture to say that still fewer have any fixed ideas as to what constitutes a good corset.

FUNDAMENTAL PRINCIPLES

In considering the basic principles on which a corset should be built, the method of support is of first importance.

In that region of the body covered by the corset, the pelvic bones and spinal column afford the best opportunities for rigid fixing of the framework.

At the hips, the space between the crest of the ilium and the prominence of the trochanter extended as a zone about the body, lends itself admirably to tight lacing, without danger of injuring internal organs. Lacing here affords a means of holding the corset firmly in place.

Along the back, following the contour of the spine, we may run a more or less rigid piece forming the rear elevation of the structure.

The strength and supporting properties of the corset rest in this back piece and in the hip zone.

To complete the skeleton framework, a front piece less rigid than the back, but straight, should run up as high as the bust. The other main points are sufficiently explained by the diagrams.

LACING

A separate short lace string should be inserted at the hip zone and this part firmly laced first when adjusting the corset. The upper part should be more loosely laced by one or two strings. Whether the corset should be front-laced or back-laced is not of great importance. Each method has its advantages and disadvantages. The choice should be left to the corset-maker, as the situation of the lacing involves problems in the mechanical construction of the corset. The back lacing allows of the simplest construction.

The good corset is shown in Figure 1:

1. It is fixed by lacing about the hips and holds its place entirely independently of garters or straps.
2. It supports the lower abdomen and reduces the hips.
3. It has a straight front.

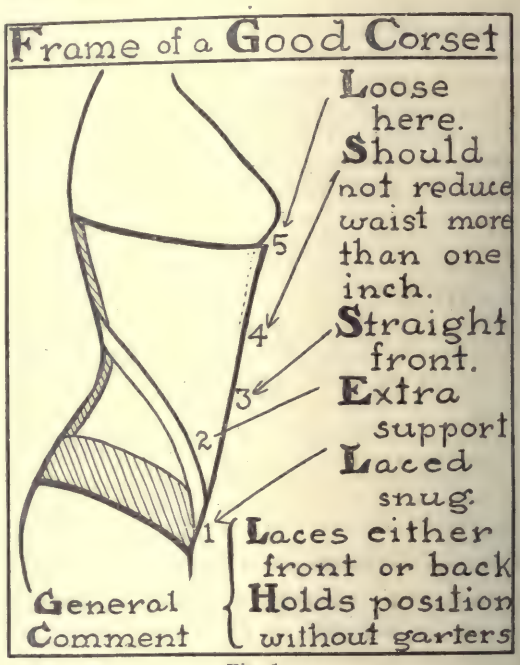


Fig. 1.

4. It is only form-fitting or loose about the waist and bust.
5. It diminishes the waist measure not more than one inch.
6. It laces from below upward by means of two or more lace strings.

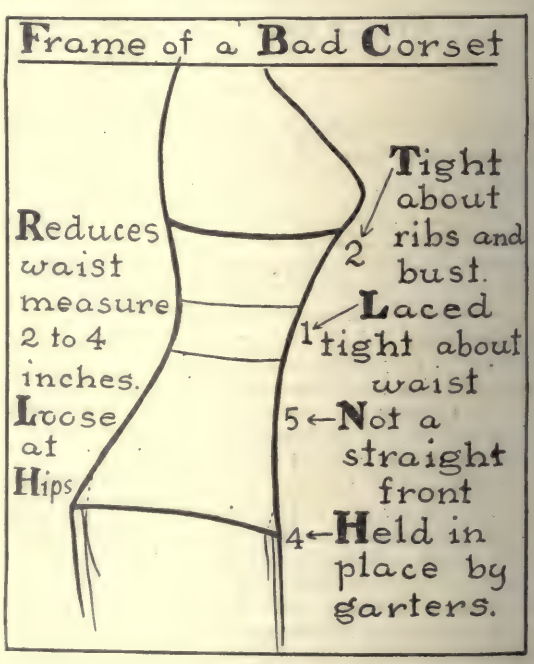


Fig. 2.

The bad corset is shown in Figure 2:

1. It shows the zone of greatest compression about the waist.
2. It is loose about the hips.

3. There is no provision for fixing it about the hips.

4. It is held down by garters or fixed by tight lacing in the upper portion.

5. It diminishes the waist measure from two to four inches.

6. It laces by a single lace.

In the selection of a corset the first consideration should be its conformance to the natural form. Secondly, the mechanical device for keeping the corset in place should depend on means which are not injurious. Finally, the corset should be comfortable without being sloppy. If it tends to produce the normal form it cannot do serious harm even if quite snug. Loose corsets are worse than no corsets. The worst corsets made are loose about the hips, giving them no true basis of support.

906 Butler Building.

A NEW CLAMP FOR END-TO-END INTESTINAL ANASTOMOSIS

C. E. TENNANT, M.D.
DENVER

The uncertainty of perfect approximation of the mesenteric border of the intestine has, no doubt, been the greatest objection to the suture method of end-to-end intestinal anastomosis. Because of the apprehensive postoperative period, the ingenious button device of Murphy has been largely superseded by the suture method of Connell.

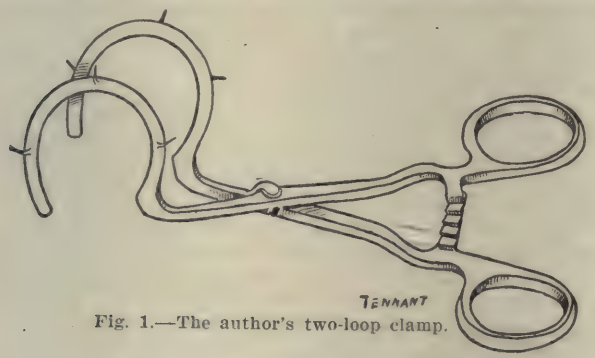


Fig. 1.—The author's two-loop clamp.

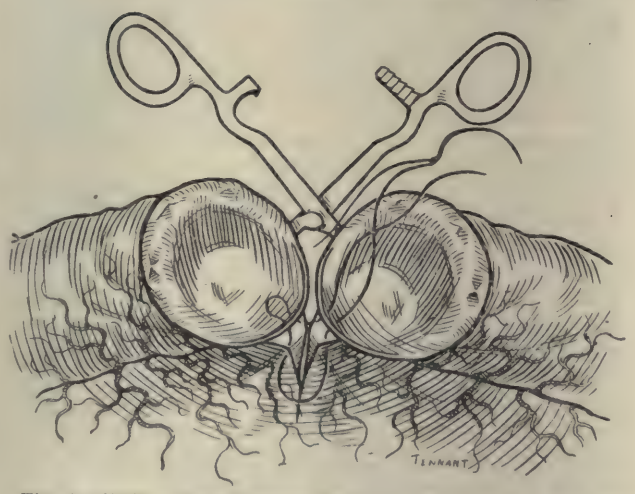


Fig. 2.—Ends of bowel grasped by loops. Mesenteric border very accessible.

The last-named method seems to have proved most satisfactory in side-to-side intestinal anastomosis. The objections to the end-to-end anastomosis are first, as stated above, the difficulty of securing perfect approximation of the mesenteric border, and second, the awkwardness of the method, necessitating as it does, considerable practice on the part of the surgeon before it can be successfully performed.

To work from the inside of such a cylindrical body as the intestine, closed with no free ends, is at first a serious mechanical difficulty. The object of the Connell method, as of all others, is of course to secure an inversion of the free ends of the intestine, thereby approximating the peritoneum. This is satisfactorily secured by the Connell method, but only after considerable practice.

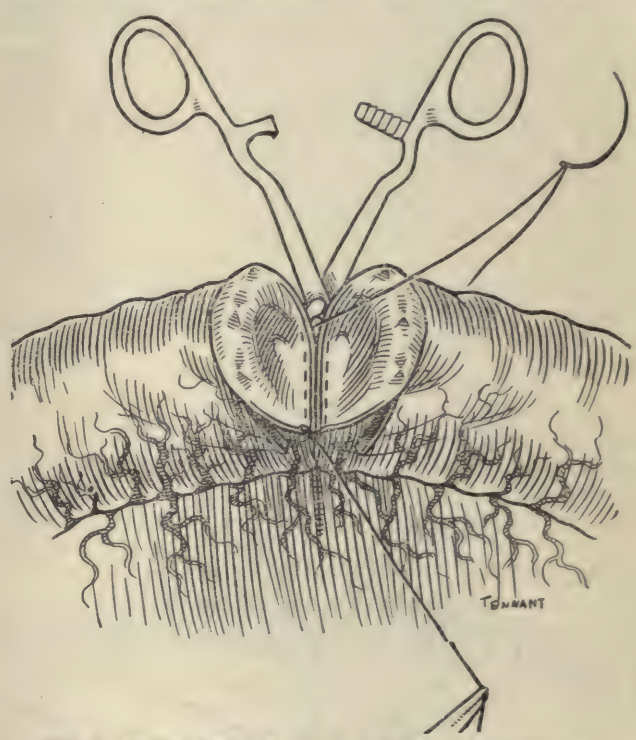


Fig. 3.—Suture half way up on each side of the intestine.

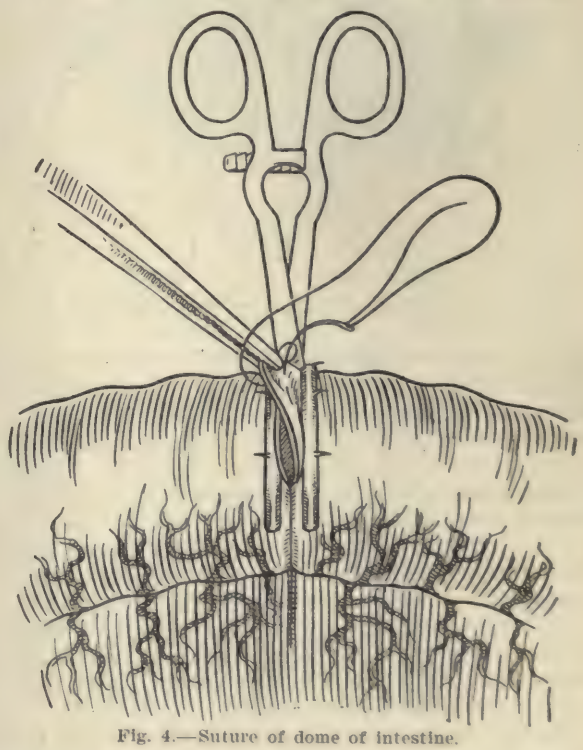


Fig. 4.—Suture of dome of intestine.

To simplify this method and, at the same time, to add to the security of the mesenteric approximation, I have devised the simple two-loop clamp here illustrated. (Fig. 1.) The clamp has a Collins lock, and is easily separated so that each end of the intestine may be engaged in its respective loop (Fig. 2), although the ends may at first be inches apart. The mere locking of the blades brings the ends of the intestine into close apposition with the mesenteric border well drawn up into the operating field. Before the clamp is completely closed, this mesenteric border is securely approximated by suture, and the continuous suture is then carried one-quarter way around each side (Fig. 3), commencing at the mesenteric border and continuing according to the Connell method.

The first tie is made at the mesenteric border with sufficient linen thread left at each end to continue around the intestine. The instrument being placed with its handles away from the operator, the suturing is continued well up on the side nearest the operator first, with the last suture entering the lumen of the intestine. The

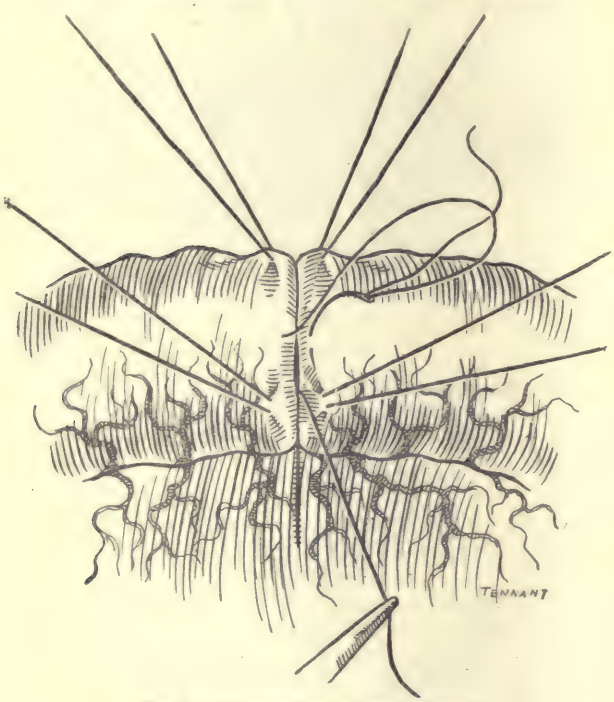


Fig. 5.—Introduction of guy stitches.

curved round needle is then transferred to the distal side of the intestine and the same Connell method is pursued as long as necessary.

As the dome of the intestine is reached, the suture is made to emerge on the outside (Fig. 4). The clamp is then either closed and the ends of the intestine freed from the retaining pins, or the clamp is removed altogether and guy stitches introduced about 1 cm. from the free edge, as illustrated (Fig. 5). These sutures when raised tend to invert the edges of the intestine.

A Cushing parallel deep suture, including all coats of the bowel, is then commenced; this is practically the Connell suture, only right side up, and consequently very much more readily introduced.

As the two ends of the suture meet, the last is made to enter the lumen of the bowel with the final stitch. Both ends are now together, and are accordingly threaded into the eye of the needle as in the Connell plan, and the knot tied inside the bowel. A few Lembert sutures may then be applied about the sites of the guy sutures (Fig. 5), or where the ends of the intestine were impaled on the pins of the clamp.

Criles' technic of end-to-end blood-vessel anastomosis first suggested this idea, and the recent report by Pollock and Spiedel[1] deserves mention in this connection.

612 Empire Building.

A CASE OF MENINGOCOCCUS SEPTICEMIA WITH DEMONSTRATION OF THE MENINGOCOCCUS IN THE BLOOD-SMEAR

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BALTIMORE

Simon[2] reported a case of meningococcus septicemia in which the meningococcus was demonstrated in the blood-smear. Since then he has found the same conditions in a second case and he has told me that two or three other men have reported similar findings to him. So far as I have been able to ascertain, these are the only cases which have been observed up to the present time, and hence it may not be out of place to report briefly the following instance in which the same findings were observed.

Patient.—A boy aged 12, was in good health until February 24, when he complained of pain over the mastoid region on both sides with some swelling and tenderness.

General Examination.—The patient was first seen on February 27 by Dr. Beck. His pulse was 100; temperature 104 F. There was neither headache nor vomiting, but slight ptosis of the left eyelid and some rigidity of the muscles of the neck and the extremities were present. On lumbar puncture, 25 c.c. of turbid fluid escaped under pressure. Smears made from the centrifugalized spinal fluid showed the menigococcus in small numbers both free and enclosed in polynuclear neutrophilic leukocytes which constituted the cytological picture.

Blood Examination.—A blood specimen gave the total leukocyte count as 7,500, 85 per cent. of which were polynuclear neutrophilic leukocytes, 4 per cent. small mononuclear leukocytes, 11 per cent. large mononuclear leukocytes, while eosinophilic and mast cells were absent. Fully 1 per cent. of the leukocytes contained diplococci, the majority only one pair, but a few contained two pairs; the organisms occurred both in the mononuclear and polynuclear cells. Extracellular organisms were not seen, although they were present in Simon's case. The number of organisms calculated per cubic centimeter in this instance was 7,500. Simon calculated 7,500,000 per cubic centimeter in his case, one neutrophilic cell alone containing over 50 pairs of diplococci.

Many of the neutrophilic cells contained vacuoles which perhaps represent empty digestive vacuoles.

CONCLUSIONS

It is possible that the occurrence of the meningococcus in the leukocytes is much more common than is generally supposed, but owing to the relatively small number of cocci in the blood and the difficulty of finding them, they have no doubt been overlooked. The positive findings in the few cases which have been carefully examined indicate, however, that in doubtful cases careful search in this direction should not be neglected.

Character.—Men build on the rocks, not on the treetops. So do nations. America owes more to the cabin than to the palace; to the man with a calloused palm than to the man with a diamond stickpin.—*United Presbyterian.*

1. Surgery, Gynecology and Obstetrics, xi, 612.
2. Simon, C. E.: THE JOURNAL A. M. A., June 8, 1907, p. 1938.

VENOUS ANASTOMOSIS FOR CURE OF VARICOSE VEINS: VENOVENOSTOMY *

H. EDWARD CASTLE, M.D.
SAN FRANCISCO

In this paper is described briefly the technic of an operation devised by H. A. L. Ryfkogel and myself in these laboratories, and then practiced in the San Francisco Polyclinic and Post-Graduate School.

After working one year in the laboratory on the subject of vascular surgery, with comparatively uniform results, we felt that our technic was worthy of being put into practice in the clinic. Accordingly we performed Delbet's operation on several patients.

As Delbet's operation carries with it a certain amount of danger, by the possibility of thrombus formation in the femoral vein, we concluded to make an end-to-end anastomosis of a branch of the superficial femoral vein with the internal saphenous vein. By so doing, we obviate the danger from a thrombus, for if by error in technic one forms, it will be remote from the femoral vein.

The object of this operation is to reestablish a normal flow of blood in the internal saphenous vein, and in its tributaries. This is accomplished by changing the current of blood from the upper end of the saphenous vein into the superficial femoral vein. Thus the valves of the femoral vein are utilized to support the heavy column of blood which in the normal subject is supported by the valves of the saphenous. The lower part of the saphenous is relieved of all backward pressure from the inflow of blood into it from the superficial external pudic, superficial epigastric, superficial circumflex iliac, and other smaller tributaries. When this vast pressure is released the valves of the saphenous are often competent to sustain the remaining saphenous blood column.

The branch of the femoral vein that we are wont to make use of may be absent. If this should occur one has recourse to three other operations, viz., Delbet's, Trendelenburg's, or Ferguson's.

Delbet's operation, as is well known, consists of a terminal implantation of the proximal end of the distal fragment of the internal saphenous vein into the side of the superficial femoral vein. The operation is not difficult of execution for one skilled in vascular surgery, and is worthy of due consideration. Its chief fault lies in the possibility of a thrombus forming and occluding the lumen of the femoral vein.

Trendelenburg advises ligature of the saphenous in the upper part of the thigh.

Ferguson removes a section of the saphenous near its upper end and, after making a circular skin flap, removes the varicosed veins from the lower part of the thigh and those from the inner aspect of the leg.

The favorable results of venovenostomy depend almost entirely on asepsis and freedom from injury to the veins by mechanical, chemical, and thermal means. There is no danger of leakage in the suture line as the method employed is competent to obviate its occurrence.

The science of surgery is deeply indebted to Alexis Carrel, whose ingenious mind gave it this very efficient and simple technic, which is entirely adequate for any anastomosis of blood-vessels, whether it be arteries or veins, irrespective of size. At the same time, this technic is so uncomplicated and easy of execution that it can be utilized by any surgeon. The only special materials needed are China bead silk, No. 16 cambric needles, and weak clamps (tapes may be used in place of the clamps).

PREPARATION OF SUTURES

The manner in which the suture material is prepared is of vital import. We have tried many methods with much dissatisfaction, but now employ the one here described with entire safety and little inconvenience.

The needles are threaded with China bead silk as it comes from the market, or it may be split. Then the threaded sutures are sewed into a piece of gauze bandage. They are rolled so as to avoid bending the fine needles, and put into a wide-mouthed ounce bottle. The bottle is filled with warm petrolatum, and put into the autoclave for sterilization. When removed from the autoclave, the bottle is sealed with wax and so kept until needed. At the time of operation, the bottle is washed with pure liquor cresolis compositus. After the bottle has been washed free from all the antiseptic it is opened by sterile hands which are covered by gloves.

PREPARATION OF PATIENT

The evening prior to the operation the patient is given 2 ounces of castor oil, the leg is washed with soap and water from hip to knee, and covered with sterile gauze. One half hour before operation the patient is given $^1/_6$ grain of morphin sulphate and $^1/_{100}$ grain of atropin sulphate hypodermatically.

When the patient is on the operating table three coats of iodin are applied to the field of operation. Along the proposed line of the incision the iodin is removed with alcohol immediately preceding the beginning of the operation. Nitrous oxid and oxygen, or ether, is administered in the smallest amount that is sufficient to keep the patient quiet.

OPERATION

An incision 3 inches in length is made along the inner edge of the sartorius muscle and over the lower part of Scarpa's triangle. The linen is sewed to the skin at the edge of the wound with closely applied interrupted sutures, so as to avoid as nearly as possible any contamination from the skin, either chemical or bacterial. The wound is retracted inwardly and the internal saphenous vein immediately found lying buried in fat external to the fascia lata. It is freed from fat and adventitia. The vein is then ligated in the upper angle of the wound. Two inches distal to the ligature it is clamped with a Langenbeck serrefine, which clamp must have a soft spring, and the vein is severed with a sharp knife. We never employ scissors for cutting the vessels, on account of the crushing effect. The distal part is washed clear of all blood remaining in its lumen with Locke's solution, or normal salt solution. The vein is then heavily coated with petrolatum, and it is ready for anastomosing. The next step is to seek the branch of the femoral that is to be anastomosed to the saphenous.

By opening the fascia lata over Scarpa's triangle the internal cutaneous and long saphenous nerves are seen crossing the vessels from without inward. The crural branch of the genitocrural nerve lies in the sheath of the vessels, slightly external and anterior to the artery. The artery lies anterior to the vein, leaving only a slight margin of the latter to be seen on inspection. The vein is separated from the artery and a large branch is sought. When found it is ligated about 2 inches from the femoral vein. Then a Langenbeck serrefine is placed on the branch near the femoral vein. The branch is then cut about 2 inches from the femoral and treated as was the saphenous.

* From the Laboratories of Experimental Research, State University of California.

The distal end of the saphenous is then joined to the proximal end of the branch of the femoral in the following manner:

Three guy sutures are placed so as to unite the two veins, and so as to divide their circumference into three equal parts. When made taut, the circumference of the veins forms a triangle which has a guy suture at each angle. For descriptive purposes these guy sutures will be labelled I, J, and K. If traction is made on I and J by an assistant, the surface I J of the triangle will be brought anterior and made accessible for the introduction of the continuous suture which is to be used to unite the vessels permanently. If traction is at the same time made on K by a weight (we employ an artery clamp for this purpose) the sides of the vessels are drawn away from the surface that is being sutured, and thereby are prevented from becoming injured by the passing needle. These guy sutures have another function, viz., they elevate a slight collar at the margin of the vessels which is equal in depth to the distance they are placed from the free edge of the veins. This facilitates the introduction of the stitches of the permanent suture which is to be placed.

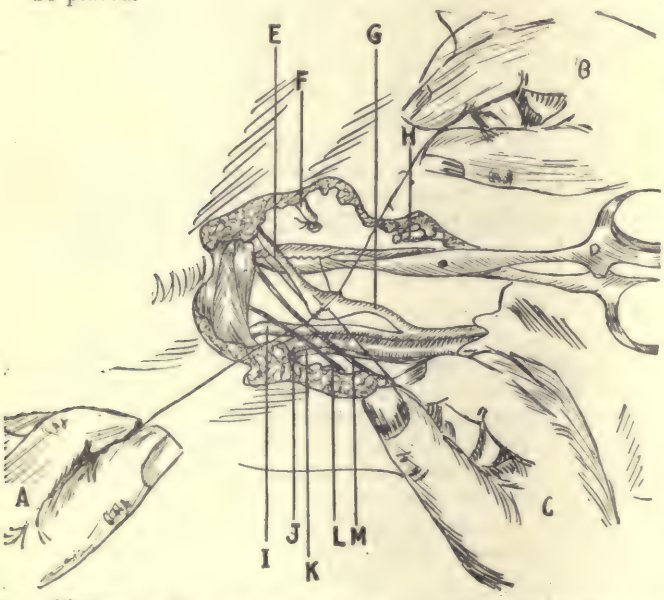


Diagram to illustrate the procedure of venous anastomosis for varicose veins: A and B, hands of assistant making traction on anterior guy sutures; C, hand of surgeon passing continuous suture; D, weight on posterior guy suture; E, distal end of saphenous vein; F, distal end of branch of femoral vein; G, proximal end of branch of femoral; H, proximal end of saphenous; I, femoral vein; J, femoral artery; K, crural branch of genitocrural nerve; L, internal cutaneous nerve; M, long saphenous nerve.

We now begin a continuous suture at guy suture I, including in the grasp of the stitch only the fine collar raised by the traction on the guy sutures, and placing the stitches as closely together as possible. This suture is responsible for the prevention of all leakage, therefore, it must be accurately applied. It passes through the entire walls of the vessels, and brings intima into contact with intima. It is important to avoid any adventitia being drawn into the lumen of the vessels, as blood is prone to clot when in contact with foreign tissues. This continuous suture is carried completely around the vessels and tied to its free end when the latter is reached. The assistant changes the weight and his hands to the proper guy sutures when the continuous suture reaches the consecutive angles of the triangle.

The anastomosis is thus completed and when the serrefines are removed the veins fill at once with blood. There is no bleeding if the suturing has been executed properly, but if there be a bleeding point an interrupted suture will suffice to stop it. The deep tissues are closely and carefully adjusted around the area of the anastomosis to avoid as much as possible any dead space, and sutured with No. 0 iodized catgut sutures. The sartorius is allowed to fall back into place, and the integument is closed with the fine artery needles.[1]

The patient is put into bed, and his leg kept elevated for two days; after this length of time he is permitted his freedom.

1820 Sutter Street.

RESUSCITATION BY CARDIAC MASSAGE

CHARLES H. FRAZIER, M.D.
PHILADELPHIA

Cardiac massage was first suggested by Schliff in 1874, but not until 1898 was it applied to man. Since then, and with each succeeding year, an increasing number of cases have been recorded with a fair measure of success.

This extraordinary power of the heart to resume its function after death under certain physical conditions is well known to the laboratory worker. I think that it was Kuliabko who first demonstrated that the isolated heart could be made to contract by injecting Locke's solution into it under pressure, and that too after the heart had remained in a frozen salt solution for a period of twenty-four hours. The essential factors for the resumption of the cardiac mechanism are the presence of a certain amount of fluid in the ventricles and the necessary pressure in the coronary arteries. In the laboratory, these factors may be provided by injecting into the carotid artery toward the heart normal saline solution charged with epinephrin. Spina of Prague obtained similar results by injecting 200 c.c. of saline solution into the veins of a dog; this forced the blood along before it and when the semilunar valves were reached the stream closed them and the blood was driven into the coronary arteries.

While these methods have proved successful in the lower animal they have not, so far as I know, been applied with equal success to the human subject. When, for one reason or another, the action of the heart has been arrested there remains but one practical method of resuscitation, namely cardiac massage. Although the majority of instances in which this procedure has been resorted to have been those of chloroform syncope, it has been recommended when the syncope is the result of drowning or asphyxia, and when due to the suspension of function from simple exhaustion or injury.

The following case recently came under my observation:

Patient.—R. T., male, aged 55, reg. No. 2840 (P. E. H.) was admitted to the hospital Oct. 3, 1910. The diagnosis was hydrocele. There was nothing of significance in his family or personal history. He was a moderate user of alcohol There was no lesion of the lungs and the heart sounds were clear, rhythmical and of good quality.

Operation.—The patient was prepared for operation for the radical cure of hydrocele. The anesthetic at the beginning was ether; difficulty was experienced in its administration, however, and as the patient had taken an unusual amount without the desired result, chloroform was substituted apparently with satisfactory results.

1. Wound Closure with Minimum Scar, THE JOURNAL A. M. A., April 24, 1909, p. 1333.

Collapse and Treatment.—The operation had just begun, the incision was made, when it was observed that the patient had become intensely cyanosed. In a moment he was pulseless and soon afterward respiration ceased. The head of the table was rapidly lowered and artificial respiration at once resorted to. Realizing the otherwise hopeless situation, the abdomen was rapidly opened and with one hand on the chest wall and the other against the diaphragm I massaged the heart at the rate of from 15 to 20 movements to the minute. The actual time was not recorded in the excitement of the moment, but in approximately 2 minutes feeble but irregular fibrillary contractions were felt. Gradually the impulses became more forcible and more regular, and after an interval of 8 minutes, during which time massage was continued, resuscitation seemed assured. At this time the pulse-rate registered 130.

Result.—The abdominal wound was closed, the operation on the hydrocele completed and the patient returned to the ward. The subsequent history was uneventful.

In a series of forty-six cases, reports of which are collected by Cockovic,[1] in seventeen the results were classified as positive and in twenty-nine as negative. Of the former, in only nine was the effect permanent; in the other patients survived for from five to twenty-seven hours. Thus there was only 20 per cent. of successes.

Perhaps the most important practical consideration is the method of procedure. Shall the heart be massaged directly through a thoracoplastic opening, by the transdiaphragmatic or by the subdiaphragmatic route? Dismissing any theoretical considerations, we find the best results are obtained by the subdiaphragmatic route. In sixteen instances of the latter there were ten positive results, in twenty-four of the thoracic route only seven; and in the six cases by transdiaphragmatic route there were no resuscitations.

The following table[2] shows the relative value of the various methods:

	Successful.	Partially Successful.	Failures.	Total.
Direct	2	8	18	28
Transdiaphragmatic	0	1	2	3
Subdiaphragmatic	8	5	6	19
Total	10	14	26	50

Because of its greater simplicity and higher percentage of recoveries the subdiaphragmatic route should be adopted as the conventional procedure, except perhaps in children in whom the elasticity of the chest wall enables one to make adequate pressure on the heart without opening either chest or abdomen. How long one is justified in waiting before resorting to massage may be judged from the fact that there have been no recoveries when the syncope has been of more than ten minutes' duration; and the largest measure of success was obtained when the interval did not exceed five minutes. The sooner the massage is begun, therefore, the brighter the prospects. As the proper oxygenation of the blood is indispensable to resuscitation, artificial respiration should at the same time be practiced, or direct insufflation by the Auer-Meltzer method.

In a case reported by Rehn,[3] failing to resuscitate the patient by subdiaphragmatic massage and Sylvester's method of artificial respiration, he opened the diaphragm, practiced direct massage, and at the same time established positive pressure with the Brauer apparatus. The result was almost instantaneous on both heart and respiration. In two hours the respirations failed again and further attempts at resuscitation were ineffectual. The secondary collapse was attributed by Rehn to a pneumothorax, which developed when the pleura was torn in opening the diaphragm.

1. Cockovic: Arch. f. klin. Chir., lxxxviii, No. 4, p. 917.
2. Progressive Medicine, March, 1911.
3. Rehn: München. med. Wchnschr., Nov. 30, 1909.

NOMA (CANCRUM ORIS) IN AN ADULT, WITH REPORT OF A CASE

HOWARD D. KING, M.D.

NEW ORLEANS

Noma in the aged is of such unusual infrequency, compared with its occurrence in children, that I am induced to record a case which came under my observation in the summer of 1910. Considering the rarity of the condition as well as the scarcity of the literature dealing with the disease, especially as relates to its presence in the aged, I believe that I am justified in offering a brief account of the nature of noma.

Noma is a rapidly progressive and probably specific infectious process of a gangrenous type, causing extensive tissue destruction and usually having its origin on the mucous membrane of the vulva, gum or cheeks, and sometimes, though seldom, the ear or anus. Noma affecting the region of the cheeks or gums is known as cancrum oris; involvement of the vulva is termed noma pudendi.

Children between the ages of 3 and 8 years are most frequently attacked; the disease occurs more frequently in girls than in boys. This sexual predisposition continues throughout life and is not due to any peculiar susceptibility, but to the fact that the female genitalia offer a more suitable field for infection. Text-books on pediatrics are almost unanimous in declaring the condition to be one essentially of childhood and that the disease is not seen in nurslings or adults. That this impression is somewhat erroneous will be seen from the case reports below.

Between the years 1848 and 1903, an interval of fifty-five years, several cases in the aged have been recorded in medical literature. Tourdes[1] 1848, reported nine authors who had seen noma in persons between 15 and 72 years of age; von Bruns[2] 1859, from 413 cases collected by him, found only eleven in persons whose ages ranged between 15 and 70; Strueh[3] 1872, reports a case of his own in a patient aged 30, and calls attention to a case observed by Vogel in a youth of 18; Hildebrand[4] 1873, collected a series of cases numbering twenty-two in persons over 15 years of age; Brydon[5] 1882, one case; Herman[6] 1883, one case; Murillo[7] 1886, one case; Herff[8] 1890, one case; Masterman[9] 1891, two cases; Koster[10] 1892, one case; Stephenson[11] 1892, seven cases; Ziegler[12] 1892, one case; Le Count[13] 1898, one case; Mangubi[14] 1898, one case; Zusch[15] 1901, one case; and Reale[16] 1903, one case.

Poorly nourished, cachectic subjects and those living under vitiated environments are said to be the types most frequently affected. That filth, squalor and tenement life are not alone responsible for the disease

1. Tourdes: Thèse de Strassburg, 1848.
2. Von Bruns, V.: Handbuch der practischen Chirurgie, i, Part 2.
3. Strueh: Inaugural Dissertation, Gottingen, 1872.
4. Hildebrand: Quoted by Ziegler, *ride* reference 12.
5. Brydon: Brit. Med. Jour., 1882, p. 838.
6. Herman: Trans. Obst. Soc., Lond., 1883, xxv, 141.
7. Murillo: Noma (*a proposita de un caso en un adulto.*) Rev. med. de Chile, Sant de Chile, 1886-87, p. 312.
8. Herrf: Deutsche med. Wchnschr., 1890, xvi, 949.
9. Masterman: Two Cases of Spreading Gangrene Around the Mouth Occurring in Adults, St. Bartholomew's Hosp. Rep., London, 1891, xxvii, 2055.
10. Koster: Ett fall af noma hos 44-arigivinna, Förh., Gotesborg Läk. Sällsk., 1892, p. 74.
11. Stephenson. Cancrum Oris in Adult Life, Brit. Guiana Med. Ann., Demerara, 1892, p. 127.
12. Ziegler: München. med. Wchnschr., 1892, xxxix, 107.
13. Le Count: Tr. Chicago Path. Soc., 1898, iii, 180.
14. Mangubi: Sluchai nomi u. vzroslavo. Vrach. zapiski, Mosk., 1898, v, 18.
15. Zusch: Ein Fall von Noma mit ausgedehnter Soorbildung in hohen Alter, München. med. Wchnschr., 1901, xvii, 785.
16. Reale: Un caso di noma in adulto. Policlinico, Rome, 1903, ix, 1431.

has been conclusively demonstrated in more than one instance, especially in the epidemic of noma which occurred in an orphanage at Albany, N. Y., where good practical sanitary, hygienic and dietetic conditions prevailed. It also occurs very frequently as a complication of the exanthemata, notably measles.

In the above-mentioned cases of noma the underlying conditions have been most varied. Thus, we see the disease, according to the case reports, following erysipelas, typhoid fever, amebic dysentery, pleuritis and nephritis. Stephenson[11] regards renal disease as an important factor in the causation of cancrum oris in the aged.

The exact status of the disease as to etiology has not been definitely established and is further rendered confusing by the multiplicity of the terms used in the description of the malady. Noma, at all events, is a rare condition, but its assumed rarity was very probably due to the difficulty experienced in recognizing an exact causative organism. At the present time, even, it is by no means certain that the organisms described by investigators of the past have anything to do with the disease. The frequent use of the term "noma" synonymously with "gangrenous stomatitis" is to be regretted, as the latter term is purely a generic one and of no precise significance, nor does it furnish us with any adequate idea of the existing pathologic condition. The following terms have been used and are to-day employed to describe noma: gangrenous stomatitis, gangrena oris, gangrenopsis, stomato-necrosis, necrosis infantilis, buccal anthrax, water canker, cancer aquaticus, and sloughing phagedena. *Wasserkrebs,* a term originally coined by A. Richter in 1828, in his initial treatise on noma, is the name given the disease by the Germans. The French use the phrase *gangrène de la bouche.* The foregoing terms are a source of confusion and of no importance save from a symptomatic standpoint.

Reverting to the etiology of the disease, it was once believed to be the manifestation of some neural disturbance, owing to the almost invariable occurrence of the disease in a certain part of the cheek. Whether the disease is some form of mycotic necrosis, as first claimed by Froriep[17] or of bacterial origin, is still an open question. Lingard[18] found in the tissues long, thread-like growths, the individual threads being composed of small bacilli. He reported also finding a bacillus similar to the above in a calf suffering from what was apparently cancrum oris. Ranke[19] found in noma tissues certain cocci, the specific nature of which have never been recognized. As a result of his findings, Ranke concluded that different forms of gangrene resulting from noma unquestionably occur in children who have a tendency to disease of this character; i. e., without infection from contact.

The endemicity of the malady in public institutions coupled with the seeming choice of the disease for localization on the mucous membrane of the different openings of the body suggest that the causation may be looked for in the invasion from without of microorganisms. Schimmelbusch,[20] as a result of his bacteriologic study of one case, found bacilli often in shortened pairs and sometimes in long filaments.

An extremely good digest of the subject of noma is given by Blumer and McFarlane,[21] who have reported a series of sixteen cases occurring in epidemic form which they accepted as undoubted noma. As a result of their investigations, they concluded that the disease began as a simple infection and terminated in a mixed infection, and that the mixed infection was not always due to the same organism, but was usually due to a long organism of a leptothrix type. In a most elaborate and highly interesting treatise on noma by Weaver and Tunnicliffe[22] is incorporated the results of the bacteriologic researches concerning noma as undertaken by Grawitz, Bartels, Guizetti, Babes, Zambilovici, Foote, Nikolaysen, Schmidt, Petruschky, Freymuth, Saft, Krahn, Seiffert, Perthes, Braun, Matzenauer, Elder, Ranke, Rosenberger, Brunning, Rona, Buday, Pollard, Herrman, Passini and Leiner, Walsh, Sailer, Strueh, Schimmelbusch, Longo, Hofmann, and Kuster. In the majority of the cases of the above observers the superficial parts of the slough showed mixed cultures; in the deeper parts, the sections often showed almost a pure growth. The organisms most frequently found were slim, thread-like bacteria, decolorizing rather easily by Gram and not growing on ordinary media.

REPORT OF CASE

History.—June 4, 1910, I first saw Mrs. E. M. F., a housewife, aged 59, whose family history was of no material value. The patient was the mother of eight children; had one miscarriage; menstruated at 14; climacteric reached at the age of 43 without any untoward results. For the last eighteen or twenty years previously the patient had had very poor health, being almost constantly ill with gastric and intestinal disturbances. As the patient tersely stated it: "All my life I have been a sufferer from loose bowels and heartburn." Within the past five years the patient has been afflicted with articular rheumatism. Queries as to previous treatment revealed the fact that during the previous five months the patient, at seven different intervals, had taken large amounts of calomel in broken doses. She declared that her former physician advised her when feeling unwell to take a dose of calomel. A daughter of the patient aptly termed her mother a "calomel fiend."

Examination.—Patient looked at least ten years older than she really was. She was wrinkled and emaciated, and bore all the earmarks of a woman who had had a strenuous struggle with life. Evidences of insufficient nourishment and hard work were most striking; personal hygiene very bad; living environments wretched. On going over the patient very thoroughly I found that I had to deal with a chronic interstitial nephritic condition, complicated with endocarditis.

Treatment and Course of Disease.—As it was apparent that the patient's span of life was drawing to a close, only simple palliative measures were resorted to. Under this mode of treatment the patient maintained her balance for a fortnight, when early on the morning of the fifteenth day of her illness my attention was directed to a slight swelling on the left side of the face. Examination of the mouth revealed an ulcerated patch on the mucous membrane of the gum covering the outer aspect of the mandible. The teeth were carious and disgustingly dirty; the lower teeth were artificial; there was a limited amount of exudation. The odor was most fetid. I prescribed an oral antiseptic and promised to call again the same evening.

On my second visit the swelling had increased and had extended more to the middle line. There had been a slight hemorrhage at this time and the exudation had increased. Within the short space of seven hours the ulcerative process had become a dark and dusky red, which was soon followed by a circumscribed area of dead exudate. There was also a slight sloughing which the patient was trying, in vain, to expectorate. It was at this juncture that Dr. Stephen W. Stafford kindly consented to see the patient with me. As a result of his examination, he concurred in my diagnosis and immediately pronounced the condition cancrum oris. The disease was now spreading rapidly and there was a well-marked line of sloughing tissues following the imprint of a set of

17. Froriep: Chirurgische. Kupfertafeln, 1844, p. 458.
18. Lingard: Lancet, London, 1888, ii.
19. Ranke: Zur Aetiologie und pathologischen Anatomie des nematosen Brandes, Jahrb. f. Kinderh., Leipsic, 1888, xxvii, 309.
20. Schimmelbusch: Deutsche med. Wchnschr., 1889, xv, 516.
21. Blumer and McFarlane: Am. Jour. Med. Sc., xxii, 527.
22. Weaver and Tunnicliffe: Jour. Infect. Dis., 1907, iv, 8.

false (lower) teeth. The frenum of the lower lip soon became involved and it seemed that that portion of the mouth between the outer mucous membrane of the alveolar process and the inner side of the cheek was literally rotting away. The odor at this time had become so bad that it appeared to invade the whole household. It was most disgusting and the deodorants employed proved of little value.

On the morning of the third day the frenum of the lower lip began to split from within outward and the whole of the inner aspect of the mucous membrane of the left cheek was one black, greenish and garnet mass, attended with a slight hemorrhage. The tongue was swollen beyond its natural size and deglutition was very difficult. Speech was painful and required great effort.

Later the same day the tissue destruction had progressed to such an extent that the inner angle of the cheek began to break down. The patient's condition at this time was most serious and death was but a question of a few hours. There was profound prostration, feeble pulse and retention of urine. The patient's condition rapidly grew worse, she soon went into a typhoid state and died that night at 11 o'clock. Only twice during her illnes did the temperature go beyond 100 F.

June 21, tissue scrapings and oral secretions were submitted for bacteriologic study to Dr. William H. Seeman, who made the following report:

Slide 1.—Leishman (Romanowsky) staining. *Spirochæta dentium* present in considerable numbers. Great quantities of pus cocci. Organism of a leptothrix type plainly discernible. Fusiform bacilli present, but not to any marked extent.

Slide 2.—Weak carbol-fuchsin staining. Innumerable spirochetes easily demonstrable. Bacilli also present which seem to be the early stage of some form of spirillum. In no way does the latter resemble Vincent's spirilla.

Anaerobic culture yielded practically negative results. Pus cocci and non-pathogenic bacilli found. The culture failed to show any thread-like organisms.

It was fortunate that during the above examination Dr. Seeman had at the same time submitted to him secretions from a case of Vincent's angina and he made comparative examinations between the specimens of the two cases. As a result of this comparative bacteriologic study, Dr. Seeman was able to determine very distinctly the morphologic and cultural differences between the causal organism of Vincent's angina and the organism which probably causes noma. The essential difficulty of recognizing a certain and definite causative organism is usually obscured by the great number of bacilli of uncertain character which are always found in nomatous tissue. Moreover, it must be noted that in the mouth of the normally healthy person bacteria are always present in large numbers and the following have been found: *Spirochæta dentium, Spirillum sputigenum, Bacillus buccalis maximus, Iodococcus vaginatus,*[23] *Leptothrix buccalis innominata* and the *Leptothrix buccalis maxima.* In all likelihood, they are non-pathogenic. The existence of dental caries always proves a most favorable nidus for microorganisms. Aside from this, it is interesting to note that the following pathogenic microorganisms may also be present in the mouth under apparently normal conditions: the *Diplococcus pneumoniæ, Diplococcus lanceolatus, Micrococcus septicæmia sputi, Streptococcus pyogenes, Micrococcus tetragenus, Bacillus crassus sputigenes,* and the *Bacillus coli communis.*

From a consideration of the case just recorded it is possible to obtain a clinical picture of the disease. The diagnosis does not present difficulties when the disease is well established. However, noma, when affecting the genitalia, might be mistaken for ulcerating granuloma of the pudenda. The symptoms are similar in some respects to those encountered in infectious submaxillary angina (Ludwig's). In fact, in many cases it is impossible on clinical grounds alone to distinguish angina from noma. Ludwig's angina differs from noma in that it displays more of a tendency to destroy loose tissues and avoid the denser ones. It often happens that Ludwig's angina terminates in gangrene.

The symptoms produced by noma in the aged do not differ materially from those seen in childhood. It can be readily seen that the predisposing factor in the foregoing case was a frail human economy whose vital powers were lowered by chronic renal and cardiac disease, to which were added insufficient nourishment and vitiated environments. It may be asked if the heavy calomel medication just prior to the last illness may not have played its part in aiding the condition. While it is possible that there may have been a condition bordering on mercurialism, it must be borne in mind, says Reisman,[24] that mercury as a causative factor in this condition has been absolutely disproved, quoting Coates[25] in support of this view. Dr. Benjamin Rush[26] cites an instance in which a colleague of his, Dr. Stewart, was in the habit of giving 20 grains of calomel three or four times a day and continuing this as routine treatment for five or six days without any ill effects. It is to this same Dr. Stewart that modern syphilographers owe the idea of mercury medication by inunction, as he was the first to compel patients to wear socks containing mercurial ointment in the treatment of luetic conditions. Dr. Stafford, who saw the case in consultation, also rejects the idea of calomel medication having anything to do with the production of the disease.

The condition of the patient at all times precluded the possibility of ever doing anything except to institute palliative measures. The drastic treatment so necessary for a cure in these cases was entirely out of the question.

CONCLUSIONS

1. Noma does exist in the aged, but its occurrence is remarkably rare.

2. Noma in the aged does not differ materially from the disease as seen in childhood. The supposed predilection of this malady for the female sex is due alone to the fact that the female genitalia offer a more suitable field for infection.

3. No certain and definite organism has been definitely established as the causative factor; the indictment of the long, thread-like bacillus, so frequently regarded as the cause of the disease, is on purely conjectural grounds. While in the realms of the hypothetic metabolic retrogression brought about through previous illness, vitiated environment and bad hygienic conditions may effect a change in the pathogenicity of the previously harmless microorganisms of the mouth to such an extent as to cause an overwhelming of the tissues of the cheeks and jaws, and thus produce gangrene and a condition of general sepsis.

4. Infectious submaxillary angina may be the forerunner of noma, and once the gangrene arises it would be difficult, indeed, to say whether the condition was due to Ludwig's angina or noma. This, too, despite bacteriologic observations, as it is more than probable that the two conditions could be coexistent. It is highly probable that noma is a process caused by more than one type of organism.

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23. *Iodococcus vaginatus* (Miller) is found in unclean mouths; gives a peculiar reaction with iodin, the sheath being stained yellow, the cocci dark blue.

24. Reisman: Osler's Modern Medicine, ed. 5, 48.
25. Coates North American Med. and Surg. Jour., ii, 1826.
26. Rush, Benjamin: Medical Inquiries and Observations, 1815, iii, 23-4, Philadelphia.

THE CHEMISTRY OF NEPHRITIS*

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The purpose of this paper is to present, as concisely as is consistent with clearness, the chief points in the chemical changes which occur in an organism suffering with nephritis. The aim is to confine the remarks to those non-suppurative forms of nephritis, which are termed Bright's disease, rather than the various suppurative or other focal lesions due to localization of bacteria. If, throughout the paper, many of the statements seem dogmatic, the necessity for brevity must be held accountable. Lengthy argument would only seem to render less clear a subject which, at best, is but in its developmental stages. The point of view presented is taken to represent that which is most modern and most widely accepted.

It is proposed to take up the subject in this sequence:

I. Review of normal metabolism of proteins, fats, carbohydrates and salts, in reference to excretion of intermediate and end-products by the kidneys.

II. Metabolism, excretion and retention in (a) acute nephritis, (b), chronic nephritis of interstitial and parenchymatous varieties.

III. Metabolism, excretion and retention in nephritis with uremia, with a consideration of the theory of internal secretion.

IV. Metabolism, excretion and retention in nephritis with edema.

V. The relation of chemistry to vascular hypertension and cardiac hypertrophy.

I. NORMAL METABOLISM OF PROTEINS, FATS, CARBOHYDRATES AND SALTS

The foods ingested are in the form of proteins, fats, carbohydrates, inorganic salts and water. The end-products of fats and carbohydrates are carbon dioxid and water, the former excreted chiefly through the lungs, the latter through lungs, skin, intestine and kidney. If for some reason the metabolism of the carbohydrates is incomplete, the intermediate products can be excreted by the kidney for a long time with little disturbance in this organ, as may be seen in diabetes. Late in the course of this disease one often sees a large, pallid kidney which, however, may possibly be caused by other factors than the mere excretion of glucose, beta-oxybutyric and diacetic acids. In the case of fats the intermediate products, and even the emulsified fat itself, as in cases of lipemia and lipuria, may be excreted without apparent influence on the kidney. Inorganic salts and water apparently pass through the organ with no difficulty in health. The end-products of protein metabolism, urea, carbon dioxid plus water, also are eliminated with no difficulty, but in those diseases in which the necessity for the elimination of intermediate products appears, the universal incidence of some form of chronic nephritis would seem to indicate that these bodies, the purins, ammonia, carbamic acid and uric acid, have a distinct irritative effect on the kidney.

It is believed to-day that urine depends for its water and inorganic salts on the activity of the glomerules, and for its organic constituents on the activity of the epithelial cells of the tubules; but the nature of the changes in the materials passing through the epithelium has been incompletely studied and is vaguely understood. It is known, however, that the epithelium has synthetic power, as is seen in the building up of hippuric acid from benzoic acid, the latter a metabolite of intestinal putrefaction. Anabolic activity is evidenced in the formation of creatinin from creatin. Aside from this meager information the chemical changes in the kidney itself form a chapter for investigation that can only be opened with newer and more exact methods of experimentation and observation.

II. METABOLISM, EXCRETION AND RETENTION IN ACUTE NEPHRITIS AND CHRONIC INTERSTITIAL AND CHRONIC PARENCHYMATOUS NEPHRITIS

In nephritis the elimination of the end products of metabolism has been studied extensively with the idea of learning to what degree the disease may cause retention of final or intermediate products and what influence the disease may have on metabolism in general, either directly or through the retention of injurious metabolites.

For the purposes of this paper it is sufficient to classify nephritis as acute, chronic interstitial and chronic parenchymatous.

In the course of acute nephritis the retention of the products of protein metabolism, as shown by the determination of the total quantity of nitrogen eliminated, in relation to the total nitrogen ingested, usually is very considerable. This is especially evident in the earlier stages of the disease when the total excretion of urine is almost *nil*. Later in the disease, however, as the amount of urine increases, the output of nitrogen increases and may be relatively excessive for several days, apparently in the attempt to get rid of that stored up in the organism during the preceding period of depressed excretion.

A very important feature, that of sodium chlorid excretion, which will be discussed more fully in connection with edema, may be dismissed at this point with the statement that in a general way in acute nephritis it parallels that of nitrogen. Exceptional cases have been described in which the ability to excrete sodium chlorid was very much less than the ability to excrete nitrogen, and, indeed, any other urinary constituent, even including water. Experimentally it has been found that in those forms of nephritis in which the tubules especially are affected, the nitrogen output is diminished, whereas this is not the case where the glomeruli are affected almost to the exclusion of tubular disease.

In the chronic nephritis of both interstitial and parenchymatous forms the nitrogen elimination is variable. For periods of days and even weeks there may be well-marked retention of nitrogen amounting to as much as 4 gm. a day, but this cannot persist for a great length of time and usually is followed by a period in which the elimination of the retained nitrogen becomes evident in an amount of urinary nitrogen far in excess of the intake. This relation is not peculiar to the one form of chronic nephritis rather than the other, nor does prolonged retention necessarily excite uremic attacks. Particular kinds of diet have little influence on the condition; nor does the amount of water ingested give rise to considerable differences in the nitrogen excretion. Up to the present time these striking variations in nitrogenous output cannot be definitely explained. Attempts are being made to differentiate chronic parenchymatous and interstitial nephritis by the use of phenolsulphonephthalein but the work at the present time is insufficiently controlled by autopsy findings and is not to be accepted as final.

* Presented before the County Medical Society of Philadelphia as part of a Symposium on Nephritis, March 8, 1911.

Before discussing the chemistry of the accidents or complications of nephritis it may be well to briefly consider the variations in the normal constituents of the urine caused by the nephritic process and to consider the elements new to the urine as a result of the disease.

It is but natural to expect that the amount of urea in the urine of nephritics is subject to the same variations as have been indicated in discussing nitrogen. Not only do the amounts of urea and nitrogen excretion parallel one another, but in addition the amount of ammonia follows the same curve. Most recent observations lead to the belief that much of the ammonia in the urine, either normal or pathologic, is the result of decomposition; but urine preserved under uniform conditions would show variations in ammonia dependent largely on the variations in the amount of urea. Uric acid and the purins show very much less variation than the urea, although occasional cases occur in which retention of uric acid occurs; in such cases, however, the retention of urea is considerably greater than that of the uric acid. Under normal conditions the amount of creatinin in the urine is quite constant. In nephritis, however, it is said to be subject to considerable variation, but the question is one that is by no means settled. The most important feature in connection with this phase of the subject is that the older theory holding creatinin retention to be the cause of uremia has been abandoned. In the same way, the question of the amount of hippuric acid in the urine is unsettled.

Turning to the inorganic salts, we find that phosphates and sulphates are retained and eliminated in amounts parallel to that of nitrogen. This is not true, however, as regards the chlorids for, although numerous cases can be found in which the chlorid output is fully equal to that of the normal patient, yet in other cases considerable deviations from the normal may occur. These deviations may be of three types: (1) a marked daily variation, even with a uniform diet; (2) a marked excess of chlorid output, in which case the patient is usually one recovering from a period of retention, such as might be seen in an acute or subacute attack of nephritis or in patients with a disappearing edema; (3) a notable retention of chlorids. In the last group some instances are those of more or less permanent disability to excrete chlorids on the part of the kidney, a condition not especially relieved by dietary restriction; whilst, on the other hand, some instances represent a temporary embarrassment of the kidney, due to relative or absolute excess of chlorids in the diet, a condition which is relieved by diminishing the dietary chlorid intake for a short period, during which time the organ often regains its normal power of chlorid excretion.

Of great importance in connection with the variations in these normal urinary constituents is the excretion of water by the kidney. The bearing that this has on the chemistry of the organ is that excesses of water excretion aid in excretion of solids, and diminution of water excretion hinders the output of solids. The question of water excretion in this connection, however, seems more that of the physiologist than of the chemist.

Of the abnormal constituents of the nephritic urine, albumin is of most importance and interest. The albumins found are especially serum-albumin, serum-globulin and nucleoprotein. In dietary excesses in the presence of a normal kidney the albumin found in the urine is that which has been ingested. In kidney disease the same phenomenon, with but slight modification, may be observed. The identity of these proteins has been proved by the precipitin test. The serum albumin is almost always found associated with globulin in the urine and various attempts have been made to attach diagnostic importance to the relation between the two. This has failed, however, except possibly in the case of amyloid kidney, in which the amount of globulin is said to exceed that of the serum-albumin. It has also been claimed that in cases of cyclic albuminuria the albumin present is largely in the form of a protein, very much like, or identical with, one of the serum-globulin fractions. Nucleoprotein is of especial significance in connection with acute nephritis and fever cases. Albumose has no direct bearing on nephritis and when present in this disease represents a hydration of the urinary albumin present as a result of the disease. Why the kidney is impervious to the serum-proteins in health and pervious to them in nephritis remains an open question. Nor is it helped by the reflection that cell-proteins (e. g., hemoglobin) and protein-products (albumose) pass through the normal kidney without apparent resistance on the part of the organ.

III. METABOLISM, EXCRETION AND RETENTION IN NEPHRITIS WITH UREMIA

The accidents of nephritis, particularly uremia and edema, present much for study by chemical and physiologic methods. Uremia is certainly a toxic condition and many attempts have been made to identify the particular toxic agent responsible for it. Theory after theory has been discarded, with the result that the problem still remains unsolved. Nevertheless, certain phenomena of metabolism in the process have been worked out very concisely. Nitrogen excretion in uremia is usually low, but that it is the cause of the condition is combated by the fact that many nephritics show depressed excretion of nitrogen and are quite free from symptoms of uremia. Much more insistent claims have been made for intermediate products of protein metabolism, such as uric acid, carbamic acid and ammonia, as the etiologic agents in uremia, but more careful research has shown that even though these substances are retained they are not responsible for the condition. Inorganic salts have been held responsible for uremia and the discovery that the urine of uremics is of higher molecular concentration than normal led to the inference that the increase was due to salt concentration.

The fact was soon discovered, however, that increased molecular concentration appears in other diseases than nephritis and without uremia, and further, that the increase cannot be due to inorganic salts, because the urinary electrical conductivity remains the same as for normal urine. Alterations in the supposed internal secretions have been held accountable for the phenomenon and many experiments have been brought forward to support the view, but the most recent work indicates that the kidney in all probability has no internal secretion and the older work in partial nephrectomy, ligation of ureters and administration of extracts of kidney, has been held to be insufficient to prove the point.

That some toxic agent is at work cannot be denied, and numerous recent writers consider that it is in the nature of a specific lysin for kidney substance—a nephrolysin. That nephrolysins can be produced by artificial immunization of animals is quite true, but that they are absolutely specific for the kidney is open to grave doubt, and according to most observers their administration is attended by distinct lesions of other tissues, including the blood. The production of autonephrolysins, that is, by the animal for its own kidney, fails of conclusive demonstration. Nevertheless, it has been shown that

the serum of nephritic dogs contains a substance which on injection into other dogs produces a true nephritis. It is suggested, however, that this fact be applied to the pathology of nephritis only after further evidence has been adduced to support it. As material accumulates on this subject it seems evident that if the toxin is a nephrolysin, it probably is not identical with the nephrolysin obtained by artificial immunization. That seen in nephritis must have a much higher degree of specificity than the experimental product.

The relation of uremia to gastro-intestinal conditions frequently is brought forcibly to the attention of the clinician. Whether the gastro-intestinal condition, or the uremia, is the primary event is as yet an unsolved problem. Some experimental workers think that uremia produces toxins that are excreted into the intestinal tract and that these are of irritant nature. Recent work in nitrogen metabolism indicates that a large percentage of nitrogen is eliminated into the intestine and reabsorbed, but as yet there is no definite evidence to indicate that this process is associated with any distinct toxic elements. If intestinal conditions can produce the toxemia which we know as uremia, no acceptable evidence has been adduced to prove it.

IV. METABOLISM, EXCRETION AND RETENTION IN NEPHRITIS WITH EDEMA

Explanations of edema in connection with nephritis call into play physical, physiologic and chemical observations. Of great importance to the clinician are hydremia and chlorid retention, for these two factors are capable of control in the diet of the patient. Experimentally, hydremia appears to be absolutely necessary to the production of edema, and clinically it is generally conceded that some degree of hydremia plays an important part.[1] Lesions in the vessel walls, whether depending on the hydremia or on some toxic substance, possibly an endotheliotoxin, also influence the condition. From the standpoint of chemistry the question of chlorid retention comes more prominently to the fore than in any of the other phases of nephritis. That chlorids are retained in cases of edema and that increased elimination of chlorids appears at the time of disappearance of the edema are well-established facts.

The chief point under discussion at the present time, as to whether the retention of chlorids or the retention of water is primary, remains an open question. If the retention of water be primary, it requires sodium chlorid to balance the osmotic pressure in the blood. If the sodium chlorid retention is primary, the same need for balance of osmotic pressure is felt and water is retained. If the sodium chlorid occurs particularly in the tissues, then the attraction of water to the tissues is easily explained by the same necessity for equalization of osmotic pressure. Numerous views have been expressed pro and con, and experiment has been adduced for and against, but the matter remains in a somewhat chaotic and distinctly unsatisfactory state.

V. VASCULAR HYPERTENSION AND CARDIAC HYPERTROPHY

From the chemical point of view, so little has been done on the question of heart hypertrophy and vascular hypertension in chronic interstitial nephritis that it requires little discussion. Granting that the internal secretion of the kidney is a problematic factor we must turn to retained toxic substances or to the influence of other internal secretions, particularly that of the adrenal, for the explanation. Experimental, anatomic and physiologic work have appeared to throw some light on this phase from time to time, but as new facts have been brought out old ones have been controverted or minimized and to-day none of these branches of pure science can offer much for the satisfaction of the eager clinician.

What has been presented in this brief communication represents the results of years of ardent and careful work on the part of clinicians and laboratory men, working either separately or hand in hand. If there remains much to be learned, that does not minimize what has already been well established. As methods are improved and observation and deduction become more accurate, the results will become more applicable to the living human patient.

In this review I have drawn freely on the works of Von Noorden, Pearce, Bainbridge and Beddard and others, in addition to the most recent articles in current medical literature.

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1. Edema has been produced recently without introduction of excess of water into the animal, but this does not exclude hydremia as an essential factor in the development of the condition.

CLASSIFICATION OF DIPHTHERITIC CONJUNCTIVITIS

REPORT OF A CASE WITHOUT MEMBRANE FORMATION *

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The following case is reported because of the very severe catarrhal conjunctivitis due to diphtheria bacilli, which ran its course without the development of a membrane.

History.—The patient, a physician, aged 56, consulted me Jan. 25, 1908, for a very mild conjunctivitis of the right eye, the left being unaffected. The eye had been uncomfortable since the day before and he feared that some irritant like formaldehyd solution had caused the trouble. The irritation was chiefly in the inner canthus.

Course of Disease.—A 5 per cent. solution of argyrol was ordered but the condition did not improve and rather increased in severity.

January 27: Some of the secretion was sent to a bacteriologist, who reported that it contained bacilli but he was unable to determine them from the slide specimen.

January 29: The lids became greatly swollen and the eyes teared profusely. There was no purulent solution. The patient now complained of some discomfort of the nose and throat and a prominent rhinologist examined them and reported congestion of the pharynx and tonsils. The right tonsil was more prominent and there was an indistinct yellowish line near the posterior pillar in the long axis of the tonsil. Two prominent colleagues were called in, who likewise were unable to account for the ocular condition and its resistance to treatment.

January 30: The condition remained almost the same, the temperature being slightly elevated to 100 F. The patient was somewhat depressed, which was attributed to worrying about his condition. The pathologist suggested that the organism which had been handed to him was suggestive of diphtheria and he requested a smear from the edge of the lid. This was taken, as was one from the pharynx, and I may say that while the smear from the edge of the lid did not develop any organisms, the pharyngeal smear gave a typical growth of the diphtheria bacilli, and the pathologist was convinced that the organisms in the first slide were identical with these. The membranous rhinitis and pharyngitis meanwhile increased and large masses were subsequently thrown off.

January 31: The condition was as follows: There was no membrane formation in the conjunctiva of either lid. The

* Read at the joint meeting of the Sections on Clinical Medicine and on Ophthalmology, Baltimore City Medical Society, Jan. 20, 1911.

edema of the conjunctiva of the eyeball was very marked, as was also that of the lids. The cornea showed considerable irregularity of the epithelium without any ulceration. This had been noticed a day before. Along the intermarginal space when examined with a magnifying glass a few very fine gray spots were seen which could not be rubbed off with a cotton pledget. On this day, 2,000 units of antitoxin were given and in the evening 5,000 more. Within the next two days additional quantities of antitoxin were injected, making a total of 40,000 units.

February 1: Cultures taken from the eye were negative to diphtheria but showed staphylococci. The patient's condition improved after the use of antitoxin.

February 6: The temperature was normal; there was diminution of the secretion.

February 7: The nose began to give trouble and there was nosebleed; at this time the eyes again became more painful.

February 9: On this date I observed a faint superficial opacity running across the anterior of the cornea. The patient was now treated locally with argyrol and later with dionin, and the cornea became clearer though the central opacity remained. In the meantime the vision became almost half normal.

Subsequent History.—During the following June, the eye became congested and painful, and there was again breaking down at the side of the ulcer. The inflammation became rather intense and some hypopyon developed. Several weeks were required for recovery.

The peculiar course of this disease and the finding of the diphtheria bacillus in the fauces and the discovery of the same bacillus in the smear, though at first not recognized as diphtheria, with the undoubted diphtheritic appearance of the nasal and pharyngeal inflammation, seem to establish this as a case of diphtheritic conjunctivitis without membrane formation, in spite of the absence of the more convincing tests.

The inflammation in this case, while resembling the conjunctivitis due to the Koch-Weeks bacillus or to pneumococci, differed clinically, especially at first, in the absence of mucous or purulent secretion, in the resistance to ordinary treatment and in the appearance of the minute spots along the intermarginal border. Later, mixed infection occurred, as is not uncommon. The age of the patient is exceptional. Noll[1] has reported a patient aged 61, but he was able to find only a very few reported cases in adults (Kasztan, whose patient was 23 years old; Zur Nedden, whose patient was 17 years of age; Jessop,[2] whose patient was 29 years of age; and Schanz).

In the case here recorded it seems probable that the eye was the primary seat of infection, for the earliest nasal and pharyngeal symptoms made their appearance several days after the onset of the conjunctival disease.

A number of attempts have been made to substitute a bacteriologic basis for that of the clinical appearance in the classification of conjunctival diphtheria. Schirmer[3] pleads that we call all conjunctival inflammations due to diphtheria bacilli, diphtheritic conjunctivitis, it matters not what the clinical picture. Fuchs[4] in his textbooks takes the same view, distinguishing between superficial and a deep necrotic form. Luedde[5] contends against the old classification. Jessop[2] goes further and suggests that all cases of conjunctivitis with membrane should be merged into one class called "membranous conjunctivitis" or "membranous ophthalmia." . . . He would "like to see the term diphtheritic conjunctivitis disappear, as it is most confusing." On the other hand, many writers still hold firmly to the old classification, foremost among them being Saemisch[6] in his monumental work.

It is clear that accurate diagnosis and treatment as well as prophylaxis demand that we do away with the confusion. There is no possible reason why we should use one nomenclature for the pharynx and another for the conjunctiva. The term "diphtheritic" should in the future be applied only to inflammations produced by the diphtheria bacillus.

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1. Noll: Arch. f. Augenh., lix, 14.
2. Jessop: Tr. Ophth. Soc. U. Kingdom, 1902, xxii, 58.
3. Schirmer: Arch. f. Ophth. (Graefe's), 1894, xl, No. 5, p. 161.
4. Fuchs: Augenheilkunde, sixth German ed., p. 96.
5. Luedde: Am. Jour. Ophth., 1907, p. 231.

CARBON MONOXID POISONING RESULTING IN GANGRENE OF BOTH LEGS

ANGUS McLEAN, M.D.

DETROIT

The ordinary clinical picture of carbon monoxid poisoning is almost too well known to demand description. Carbon monoxid is a gas which, being colorless and tasteless, is usually inhaled unconsciously. Most cases of poisoning occur during sleep. It is an exceedingly poisonous gas. The method by which it produces its direful and fatal effects is by forming with the blood coloring-matter a compound which is more stable than oxyhemoglobin.[1] The affinity of carbon monoxid for hemoglobin being 200 times greater than that of oxygen, it causes asphyxia by destroying the power of the blood-corpuscles to carry oxygen from the air to the tissues.

The symptoms encountered when a considerable amount of this gas has been inhaled are vomiting, languor, headache, debility, etc., leading to deep unconsciousness, with shallow breathing, rapid pulse, cold, clammy perspiration and, finally, death. With active treatment patients in extreme conditions often recover, but on account of the stability of the carbon monoxid compound formed with the blood coloring-matter, the symptoms of languor, etc., often are very persistent, lasting until the coloring-matter, rendered useless by the carbon monoxid, is replaced by a new formation. This time is very variable and may last from several days to several weeks, when the condition of the patient again gradually becomes normal. This gradual return to normal is not, however, always uneventful. Nervous symptoms, even simulating insanity,[2] cerebral hemorrhages,[3] usually occurring in the caudate nucleus and optic thalamus, hemiplegia,[4] nutritive changes in the brain and skin,[5] etc., all have been recorded as occurring after carbon monoxid poisoning in persons apparently normal up to the time of the accidental inhalation of the gas.

I report herewith a case of carbon monoxid poisoning, followed by a very stormy convalescence, characterized by a clinical picture which is rare—indeed unique, for nowhere in the literature of the last decade have I been able to find a similar report. The case is one in which the carbon monoxid poisoning was followed by gangrene of both legs, necessitating amputation. The history of the case is as follows:

6. Saemisch: Graefe-Saemisch Handbuch der gesamten Augenheilkunde, v, Part I, p. 332.
1. Ueber symmetrische Gangrene, Ztschr. f. Heilk., 1882, iii; Wien Klin., 1882, Nos. 10 and 11.
2. Certain Alterations in the Blood and Lungs in CO Poisoning, Kharkow Med. Jour., 1908, v, 447.
3. Hirnblutung bei CO Vergiftung, München. med. Wchnschr., 1909, lvi, 1211; Gehirnblutung im Folge einer Kohlenoxydvergiftung, Aertzl. Sachverst-Ztg., Berl., 1908, xiv, 135.
4. Fall von Hemiplegia nach Kohlendunst, München. med. Wchnschr., 1903, l, 757.
5. Ueber Ernährungstörungen des Gehirns und der Haut nach CO Vergiftung (Haufgangrene), Wien. med. Wchnschr., 1905, lv, 1621.

J. H., male, aged 22, American by birth, was admitted to Harper Hospital Dec. 20, 1909. The patient's family and previous history were unimportant. There was no specific history. On the morning of Dec. 20, 1909, the patient was found unconscious in his bed in a room in which there had been burning a small gas-burner, from which the flame had become extinguished during his sleep. He was immediately sent to the hospital and on admission at 11 a. m. there were present profound unconsciousness, slow, shallow respiration and a rapid, thready, uncountable pulse. He had involuntary evacuations from his bladder and his body was covered with a cold clammy perspiration. Shortly after admission his temperature was 102 F. The leukocyte count, differential and absolute, was normal. The red blood-count was normal, but there was present a marked degeneration of red blood-cells, with a striking tendency to clumping, each clump with a nucleus of débris taking a deeper stain. The hemoglobin index was 40 per cent. The diagnosis was carbon monoxid poisoning. From inquiry at the chemical laboratory of the City Gas Company, it was determined that the gas inhaled by the patient was illuminating gas and that the most actively poisonous ingredient, carbon monoxid, was present in the proportion of 7 per cent. A lesser percentage will readily produce poisoning.[1] Forty-eight hours after admission, during which time stimulation, artificial respiration and oxygen inhalation had been resorted to almost continuously, the patient had regained sufficient consciousness to speak. His pulse and temperature gradually approached the normal. By the end of the fourth day he was able to sit up; on the fifth day he walked about a little. He was dismissed on the evening of the fifth day apparently in good condition, complaining, however, of pain in the feet and legs.

December 27, two days after leaving the hospital, he was again admitted on account of the increasing pain in the feet and legs. Examination showed that the legs and feet were swollen and slightly discolored in patches, the discoloration extending below the knees, somewhat higher on the right than on the left side. The limits of the discoloration were rather sharply defined. The discolored portions were cold, and sensation was practically absent. During the next two weeks the pain in the legs continued, at times being so severe that it necessitated the administration of opiates. The discoloration increased to gangrene, the dorsum of each foot being seemingly attacked last. The legs became edematous.

January 7, longitudinal incisions were made to determine the condition of the deeper tissues. These were found to be necrotic, with all the appearances of moist gangrene. Culture showed pure growth of *Staphylococcus aureus*. Up to this time the patient's condition was extreme; he was delirious at times, with an irregular temperature curve ranging between 101 and 105 F.; pulse 130 to 160, systolic blood-pressure 110 mm. The blood-picture showed a marked leukocytosis with 85 per cent. polymorphonuclear leukocytes.

January 9, the right leg was amputated, and January 13 the left leg. For the remaining part of January the patient's condition was very critical. Bed-sores developed over the sacrum and on either buttock. The flaps of the left stump sloughed away. There was profuse sweating practically all the time. January 16, the blood examination showed hemoglobin 55 per cent. The red cells numbered 4,376,000, but were degenerated and very pale. The leukocytes were diminished in number. The blood itself was very watery and showed practically no tendency toward clotting.

About the middle of February the patient began to improve generally and the stumps showed evidences of granulations around the skin margins. On March 19 he was anesthetized (ether narcosis) and the stumps were trimmed; the right tibia and fibula were disarticulated at the knee-joint, and a portion of the condyles of the left femur were removed. From this time convalescence was uneventful; the stumps made good progress, being almost completely closed over at the time of his dismissal one month later.

The patient was dismissed April 15, 1910, practically four months from the time he was asphyxiated.

This case demonstrates that the effects of carbon monoxid poisoning are more far-reaching than is generally supposed. It also demonstrates that although recovery may be apparently complete, yet after the lapse of a few days or (as in some cases reported in the literature, reference to which will be appended below), even a few weeks the most startling and irreparable damage to the human organism may become evident as a result of the inhalation of this gas.

The question naturally arises: What is the exact pathologic condition which occasions such a wide-spread destruction of tissue, as, for instance, gangrene of both legs in the case above reported? In this case diabetic gangrene, chemical gangrene, senile gangrene and gangrene from exposure to extremes of temperature can all be excluded. Thrombotic and embolic gangrene, too, can be excluded, at least in this case, as after a careful search for thrombi and emboli our findings were negative. Some writers, however, report cases of thrombosis[6] following carbon monoxid poisoning. Such a case occurred in the practice of Dr. William J. Seymour some years ago.

A man aged 45, entered St. Mary's Hospital, Detroit, unconscious from carbon monoxid poisoning. He remained unconscious for about twenty-four hours, after which he complained of headache, stupor and a general languid feeling. On the fifth day he complained of considerable pain in his left arm, after which the hand and forearm became immensely swollen and edematous. This condition of pain and swelling persisted for about four weeks; then it gradually subsided. The diagnosis here was thrombosis of the axillary vein.

There certainly was no such picture in my case. Besides, if due to thrombosis, the gangrene would more probably have been unilateral. What then was the condition to which the gangrene in this case could be attributed? Was it an angioneurotic gangrene—the poison having affected the trophic nerves or the trophic cells in the anterior part of the cord, causing degenerative changes, thus disturbing their functionating power, which became manifest first by an angiospastic anemia, or, as Weiss[7] calls it, a "regional ischemia," resulting finally in gangrene? Or was it due to the constitutional, or rather the general, altered condition of the blood, the nutritive powers of which had been so enormously diminished by the sudden formation of the carbon monoxid-hemoglobin compound, that the parts in which normally the circulation is poorest, i. e., the lower extremities, would naturally become affected first?

Of the first proposition I can say but little definitely, for I had no way of determining whether or not the degenerative changes really did take place in the trophic nerve-cells or their fibers. Any conclusion I could draw from this as to the primary pathologic condition causing the gangrene in the extremities would, therefore, at best be but problematical.

As to the second proposition, the altered nutritive value of the blood, we know that the hemoglobin is the oxygen-carrier of the blood, and that this oxygen carried by the blood is absolutely essential to the life of the body tissues. If, for some reason or other, the normal supply of oxygen is disturbed and a sufficient amount prevented from coming into contact with the tissues, these will suffer and, depending on the amount of oxygen of which they are deprived, gangrene or other nutritive changes

6. Hirnblutung und Erweichung bei CO Vergiftung, Strassb. med. Ztg., 1909, vi, 165.

7. Korsakoffsches Syndrom bei CO Vergiftung, Berl. klin Wchnschr., 1908, xlv, 1621.

will result. Such is the condition which it seems we had to contend with.

Hemoglobin, once converted into carbon monoxid hemoglobin, is useless for the body economy. This compound is stable and for this reason oxygen can never displace the carbon monoxid. After carbon monoxid poisoning, the normal oxygen supply to the body will take place only when a new supply of hemoglobin has been furnished; in other words, the tissues must wait for their normal oxygen supply until such a time as the body will again be able to furnish or manufacture, if you will, a sufficient supply of hemoglobin to carry the oxygen to its different parts. If, in the first place, the amount of carbon monoxid inhaled is so great as to combine with all the hemoglobin of the blood, the condition resulting (i. e., 100 per cent. carbon monoxid hemoglobin, 0 per cent. hemoglobin or oxyhemoglobin), is incompatible with life and the patient dies immediately. If, on the other hand, the amount of carbon monoxid inhaled is such that it combines with only part of the hemoglobin of the blood, the condition resulting (say, 50 per cent. carbon monoxid hemoglobin and 50 per cent. hemoglobin or oxyhemoglobin), is such that the patient will live, but the tissues will not receive the necessary supply of oxygen for the performance of their normal functions. This insufficient supply of oxygen will continue until the time when the new formation of hemoglobin can take place. During this time, the hemoglobin which is free from carbon monoxid must supply the oxygen to the tissues as best it can. The amount thus supplied may be sufficient to sustain life in every part of the organism. If it falls short of this, the parts in which circulation normally is poorest will first show the effects of insufficient oxygenation. This condition, I think, is well illustrated in the case reported. Here, hemoglobin, sufficient to cause grave constitutional disturbance and death of both extremities (the parts normally sparingly supplied with blood), but not sufficient to cause the death of the organism, was rendered inert by the formation of the stable carbon monoxid hemoglobin compound.

According to experiments by Nasmith and Graham[8] made on guinea-pigs, the time for the new formation of hemoglobin is variable, three to four weeks usually elapsing before the oxygen-carrying power of the blood again becomes normal; i. e., before compensation takes place by an increased number of red blood-cells and hemoglobin content. At the end of this time the irreparable damage, as in the case reported, will have been done and the best that can then be expected from the compensation is to improve the vitality of those parts which have not been starved beyond repair; in other words, which have not gone on to the stage of gangrene.

This explanation of the gangrene following carbon monoxid poisoning seems plausible to me. Sufficient proof, however, is not at hand to determine this fact definitely. Yet, on considering the exact mode of onset in this case—how the gangrene did not commence at the toes and travel progressively upward, but how islands of comparatively healthy tissue were left in which vitality seemed to persist longer than even some more proximal parts—on considering other cases of gangrene of the skin reported, in which the gangrenous patches were usually distributed irregularly over the body where the activity of the peripheral circulation is often impaired even normally, I feel more than ever that the diminished nutritive value of the blood brought about by the formation of carbon monoxid hemoglobin is the most probable cause of the localized gangrenous condition.

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8. Jour. Physiol., 1906-7, xxv, 32

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A NEW METHOD OF COUNTING THE BLOOD-PLATELETS FOR CLINICAL PURPOSES

AND SOME OF THE RESULTS OBTAINED WITH IT *

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AND

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A number of methods[1] have been employed for estimating the number of blood-platelets per cubic millimeter of blood, but none of them has seemed to us practical or satisfactory for clinical purposes. A new method has therefore been devised, and it is as follows:

The blood is mixed with a diluting fluid in the proportion of 1 to 100 by means of the pipette used for counting red blood-corpuscles, and the counting is done in an ordinary blood-counting chamber with a high power dry objective. In order to render the platelets more clearly visible, the specially thin cover-glass of Zeiss, with central excavation, is used (cover-glass No. 146, Zeiss catalogue). This may be obtained from Eimer & Amend, 205 Third Avenue, New York. The diluting

* From the Pathological Laboratory of the Massachusetts General Hospital.

1. The methods and observations of most other workers in this field are well described and summarized in the papers by J. H. Pratt (A Critical Study of the Various Methods Employed for Enumerating Blood-Platelets, THE JOURNAL A. M. A., Dec. 30, 1905, p. 1999), and by Kemp, Calhoun and Harris (The Blood-Plates: Their Numeration in Physiology and Pathology, THE JOURNAL A. M. A., April 7, 1906, p. 1022, and April 14, 1906, p. 1091).

References not given in these papers are: Howlett: Lancet, London, 1882, i, 223. Osler: Medical News, April 3, 1886, p. 365. Eschistowitsch: Folia hæmotol., Berl., iv, 295. Cadwalader: Bull. Ayer Clin. Lab. Penn. Hosp., No. 3, 1906, p. 50.

fluid consists of two parts of an aqueous solution of "brilliant cresyl blue" (1:300) and three parts of an aqueous solution of potassium cyanid (1:1,400). These two solutions must be kept in separate bottles and mixed and filtered immediately before using. Of course, the pipette should be well shaken before withdrawing the sample for counting. After the counting chamber is filled it is left at rest for ten or fifteen minutes in order that the blood-platelets may settle to the bottom of the chamber and be more easily and accurately counted.

The platelets appear as sharply outlined, round or oval, or elongated, lilac-colored bodies, some of which form a part of small spheres or globules of hyaline, unstained substance.

The red cells are decolorized and appear only as "shadows," so that they do not obscure the platelets. The nuclei of the white cells are stained a dark blue, the protoplasm light blue. If the technic is correct there should be no precipitate in the preparation.

The cresyl blue solution is permanent, but should be kept on ice in order to prevent the growth of yeasts. The cyanid solution should be made up at least every ten days. It is, of course, necessary that the solution be made from pure potassium cyanid, which has not undergone decomposition. As already stated, the two solutions must be mixed and filtered immediately before using, because after filtration, if the mixture is allowed to remain exposed to the air for a short time, a precipitate will form in it. After the diluting fluid has been mixed with the blood in the pipette, however, no precipitate forms and, as the platelets do not quickly break up in the mixtures, the counting may be done after some hours, if necessary. For example, a count immediately after filling the pipette was 258,000, and another count from the same filling of the pipette made eighteen hours later was 253,000.

A proper technic yields a remarkably even distribution of the platelets in the chamber. For all practical purposes the counting of the platelets in 100 small squares is sufficient, but for greater accuracy all 400 small squares should be counted, or 200 small squares in each of two fillings of the chamber.

Table 1 is a sample count showing the even distribution of the platelets in the counting chamber:

TABLE 1.—PLATELETS COUNTED IN A ROW OF TWENTY SMALL SQUARES

—Chamber 1.—		—Chamber 2.—	
22	21	21	25
27	28	21	23
27	24	27	22
23	30	22	25
21	21	23	31
120	124	120	126

By our method the platelet count of normal adults is found to vary from 226,000 to 367,000 per cubic millimeter, the general average being 297,000. Table 2 is a table of counts of normal individuals, all adults males.

TABLE 2.—COUNTS OF BLOOD-PLATELETS IN NORMAL INDIVIDUALS

Normal Individuals.	No. of Counts.	Over period of	Average.	Highest.	Lowest.
A	23	1 year	272,000	328,000	226,000
B	5	2 weeks	336,000	367,000	297,000
C	2	1 week	305,500	319,000	292,000
D	4	10 days	263,500	272,000	252,000
E	2	1 week	332,000	347,000	317,000
4 individuals, 1 count each			273,250	330,000	224,000

The objection has been made to the methods of platelet enumeration involving the use of a mixing pipette, that the counts obtained by them are too low because many of the platelets stick to the glass of the pipette and thus escape observation. We do not think that this objection applies to our method, for the following reasons:

1. When blood and, immediately afterward, the diluting fluid are drawn up into a capillary pipette, microscopic examination does not reveal any platelets sticking to the glass.

2. Our normal counts range higher than those of all other observers who have employed methods involving the use of a pipette, except one. Thus, the highest count among the large number of counts contained in the reports of Cadet and others is only 310,000. The exception is the count of *"kaum ½ million"* stated by a reviewer to have been found by Prus for normal blood in contrast to 2,000,000 for leukemic blood. This inexact numerical expression might very well mean a count, or counts, for normal blood not greatly in excess of our own. Van Emden, however, used Prus' method and obtained normal counts which do not range as high as our own. He attributed Prus' apparently high normal figure to fragmentation of the blood-cells by too much shaking of the pipette.

3. Our normal counts do not differ significantly from those obtained by several observers who used methods based on the determination of the ratio between the platelets and the red corpuscles. Thus, Pizzini obtained figures varying from 250,000 to 370,000 among fifty-seven counts made on seven healthy persons to determine the possible effect on the numbers of the platelets produced by digestion, heat, cold and fatigue; Determann among twenty-five normal bloods found counts varying from 180,000 to 250,000, if we assume that the red corpuscles count for each was 5,000,000; and Cadwalader, in nine counts on two normal persons, found 259,360 to 400,000 the average being 348,000.

Certain other observers, however, working with ratio methods, have reported higher normal counts than those just mentioned, but we believe that their methods were erroneous and that their results are not reliable.

Thus, Brodie and Russell used a diluting fluid consisting largely of glycerin, which is destructive to red corpuscles, and therefore the ratios which they obtained are obviously not to be relied on as being the true ones.

Kemp and Calhoun report twenty counts from thirteen normal persons, ranging from 730,000 to 962,000. In a later paper, however, they report that they found fifteen ratios of platelets to red corpuscles in five normal men, determined on the same three successive days, to vary from one to eighteen to one to twenty-three, which, on the basis of 5,000,000 red corpuscles to the cubic millimeter, would represent counts of only about 217,000 to 270,000. Such a marked discrepancy between these two sets of counts seems to us to be sufficient to discredit their method and the high counts which they obtained with it.

J. H. Pratt found in seven normal individuals counts agreeing with ours (226,000 to 377,000), but in eighteen others his counts vary from 416,000 to 725,000. In view of the results of other workers, this seems to us to be a wider degree of variation in normal individuals than can be accounted for by any supposed superiority in his method, and we therefore believe that these higher counts should not be accepted.

4. The closeness of successive counts from the same individual and the high counts obtained in certain diseases are also good evidence. For example: 257,000, 271,000 and 263,000 from a normal individual; 698,000 and 708,000 from a case of hemophilia; and 1,130,000 and 1,077,000 from a case of anemia after hemorrhage. These results seem to us to be incompatible with any important loss of platelets by sticking to the glass. If there be a loss of platelets, it must be a constant factor which does not vitiate the usefulness of our method for determining the fluctuations in the numbers of the blood-platelets.

We have counted the platelets by this methods in a considerable variety of diseases, studying especially their numbers in anemia, in typhoid fever and in pneumonia,

and the results obtained are summarized below. Our observations fully confirm those of Hayem and others in the three diseases mentioned.

In secondary anemia we have found the blood-plate count to be generally high, while in pernicious anemia we have found it to be always low at some period of the disease. Thus, in seven out of nine cases of secondary anemia, counts above 400,000 were obtained, while in none of the cases was a count below normal found. The highest counts were 1,130,000 and 1,162,000 obtained in two cases due to hemorrhage. On the other hand, in nine cases of pernicious anemia the twenty-three counts made varied from 20,000 to 161,000 while the tenth case showed a count of 381,000, which fell to 172,000 ten days later.

In view of these observations, it would seem that the platelet count will prove to be of material assistance in distinguishing between the two forms of anemia in doubtful cases.

This contrast between the two forms of anemia in the platelet content of the blood is readily explained by the following considerations: It is well known that in secondary anemia an hyperplasia of the red marrow of the bones takes place sooner or later and thus an increase is brought about in the number of the marrow giant cells, the megakaryocytes, which have been shown by one of us,[2] to produce the blood platelets by the fragmentation of their cytoplasm. Consequently, the number of the platelets in the blood is increased. On the other hand, the diminution in the number of the platelets in the blood of pernicous anemia is explained by the observation of one of us that the peculiar red marrow of this disease, although greater in amount than normal red marrow, regularly does not contain as many giant cells as does normal red marrow or the hyperplastic red marrow of secondary anemia.

In two cases of chlorosis, normal counts were noted, while in a case of splenic anemia a count of 75,000 was obtained.

In three out of four cases of lymphocytic leukemia, one being of the large cell type, the counts were lower than normal, ranging from 37,000 to 130,000. We attribute the low counts to lymphomatous transformation of the bone marrow, with consequent reduction in the number of marrow giant-cells.

In two cases of myelocytic leukemia the counts were high, varying from 595,000 to 860,000, while in one case the count was normal. In this connection it is of interest to note that while the leukocyte count in one case fell from 385,000 to 161,000 under *x*-ray treatment, the blood-platelet count, which had been 860,000, remained high, 771,000. This observation constitutes additional evidence that the blood-platelets are not closely related to the leukocytes, or to their parent cells of the bone marrow, the myelocytes.

Forty-four counts in all were made in seventeen cases of typhoid fever. The results show that in the beginning of the disease the number of the blood-platelets is below normal or a low normal, but as the disease progresses their number increases and during convalescence may be very high, in one case reaching 759,000. In two cases of relapse the platelet count became low after having been normal or high, becoming again normal or high in convalescence.

In lobar pneumonia during the progress of the disease the number of the platelets may be low, normal, or slightly above normal, but at or soon after the crisis it increases very rapidly and in one case reached 944,000. In a case in which empyema developed the counts rose to 714,000 and 813,000 during this complication, while during the pneumonia they were 229,000 on two occasions.

In two cases of malaria there were low counts. In one of them the count was 143,000, but six days after quinin treatment had begun it had risen to 449,000.

In a case of hemophilia with persistent epistaxis and purpura, the count was 125,000 on July 2 and 337,000 on August 17, but fell to 27,000 three days later. Another count made after the lapse of some months was 87,000. In another case of hemophilia, however, the count was high, being 698,000, and 708,000 three days later. A case of Henoch's purpura also showed high counts (508,000 to 645,000 in five counts during sixteen days).

In a child with chronic bloody diarrhea due to ulcerative colitis, five counts made in the course of three weeks varied from 18,000 to 62,000.

The platelet counts of a man who had been drunk for about two months and had eaten but little, was of special interest. He entered the hospital with delirium tremens, bleeding from the gums and symptoms suggestive of scurvy. He also had cirrhosis of the liver. Two days after entrance the count was 136,000. Under feeding and the administration of orange juice he rapidly grew better and the counts taken at intervals of one or two days were successively, 141,000, 160,000, 187,000, 270,000, 365,000 and 350,000.

Counts made in other diseases were as follows: infectious polyarthritis, two cases, 518,000 and 641,000; pleurisy with effusion, two cases, 628,000 and 335,000; streptococcus septicemia, 456,000; chorea, 445,000; "Hodgkin's disease," 458,000; gangrene of the gall-bladder, 221,000.

The relation of the number of the blood-platelets to the number of the leukocytes in the same blood has also been studied. By using a counting-chamber with a Türck ruling, we have been able to make leukocyte counts parallel with the platelet counts in the same chamber, the counting being facilitated by the staining of the leukocytes. In this way 164 leukocyte counts of widely varying figures were obtained and compared with the platelet counts in the same cases. The results clearly show that variations in the number of the platelets and in the number of the leukocytes have no constant relation to each other. This is a further evidence that the blood-platelets are not derived from the leukocytes, as some writers have believed.

2. Wright, J. H.: The Histogenesis of the Blood-Platelets, Jour. Morphol., July, 1910, xxi, No. 2; Publications Massachusetts Gen. Hosp., iii, No. 1.

For Honest Advertising.—"The action of the federal authorities in excluding offending newspapers from the mails protects only a part of the readers of fraudulent advertisements. There should be state legislation holding publishers accountable for printing the palpably dishonest advertisement swindles, and of all other unscrupulous advertisers who seek to betray the reader's confidence in the integrity of the press." Above is the concluding paragraph of Governor Osborne's inaugural message to the legislature. It is given prominence here for the reason that no Detroit daily newspaper has printed it, with the exception of the *Times*, and we believe it merits the widest possible publicity. Dishonest advertising is eliciting increasingly courageous criticism from the more reputable journals throughout the country.—Detroit *Saturday Night*.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

COLLOIDAL SILVER PREPARATIONS[1]

Under certain conditions involving a very fine state of subdivision, metallic silver and some of its compounds ordinarily insoluble appear to become soluble in water. These preparations are not precipitated by the ordinary precipitants of silver salts. Consequently they can be mixed with organic liquids or injected into the tissues or even into the bloodstream without precipitation and without causing marked symptoms or irritation. They possess to a greater or less degree the antiseptic properties of solutions of silver.

CARGENTOS.—Argenti Oxidum Colloidale, Mulford.—Colloidal Silver Oxide, Mulford.—Cargentos is claimed to be a preparation of colloidal silver containing 50 per cent. of metallic silver in the form of oxide, together with a sufficient amount of modified casein to maintain the silver oxide in colloidal form when in solution.

Cargentos is prepared by precipitating an alkaline solution of silver caseinate and silver oxide by an acid, dissolving the precipitate in an alkali, dialyzing the resulting solution against running water and evaporating the remaining colloidal solution to dryness in vacuo.

Cargentos occurs in odorless and tasteless black scales of metallic luster. It is freely soluble in water and glycerin. Solutions of cargentos are reddish brown by transmitted light and greenish black by reflected light. Solutions of cargentos should be prepared with cold water and kept in dark colored bottles.

Its solutions are not precipitated by sodium chloride nor by albumin in the secretions.

Cargentos, when assayed by the following method, should be found to contain silver equivalent to 48 to 52 per cent.

0.3 to 0.5 Gm. cargentos is weighed into a crucible, ignited gently at first, afterwards with full flame of a bunsen burner, until the ash is light in color.

The residue is treated with concentrated nitric acid and if completely dissolved the solution is diluted with 50 Cc. water, 2 Cc. ferric ammonium sulphate solution added and directly titrated with tenth normal potassium sulphocyanate. If, after treating with nitric acid an insoluble residue of silver chloride remains, it is collected on a filter, washed with water, dried, ignited and weighed as silver chloride; the silver content of the filtrate is determined by titration with tenth normal sulphocyanate as before and the silver so found is added to that obtained in the silver chloride.

Actions and Uses.—Cargentos is claimed to possess considerable germicidal power and pronounced penetrating properties. It is said to be non-irritating even in 50 per cent. solution.

It is said to be useful as a substitute for the ordinary compounds of silver in treatment of inflamed mucous membranes and as an intestinal antiseptic. It may be used in 50 per cent. solutions for the purpose of producing a shadow in Roentgenographic examinations.

Dosage.—For application in diseases of the eye and of the genitourinary organs 5 to 25 per cent. solutions; for application to other mucous membranes 10 to 50 per cent. solutions may be used. Freshly made solutions are always to be preferred.

Manufactured by H. K. Mulford Company, Philadelphia. Process patent applied for. Not trademarked.

Cargentos Tablets.—Colloidal Silver Oxide, 3 grains. Mulford.—Each tablet contains cargentos 0.195 Gm. (3 grains) without excipient.

To prepare a solution the tablet should be crushed and powdered, sprinkled on the required quantity of cold water and allowed to stand for about 5 minutes and then agitated until solution occurs.

Cargentos Rectal Suppositories.—Colloidal Silver Oxide Rectal Suppositories, Mulford.—Each suppository weighs 1.25 Gm. (19¼ grains) and contains cargentos 0.130 Gm. (2 grains) in a vehicle consisting of oil of theobroma together with a sufficient quantity of yellow wax.

Cargentos Vaginal Suppositories.—Colloidal Silver Oxide Vaginal Suppositories, Mulford.—Each suppository weighs about 6.4 Gm. (98½ grains) and contains cargentos 0.325 Gm. (5 grains). The vehicle consists of oil of theobroma together with a sufficient quantity of yellow wax.

Cargentos Urethral Suppositories.—Colloidal Silver Oxide Urethral Suppositories or Bougies, Mulford.—Each suppository weighs about 2.5 Gm. (37 grains) and contains cargentos 0.130 Gm. (2 grains). The vehicle consists of glycerite of boroglycerin, gelatin and water.

OVOGAL—Albumen Cholicum.—Ovogal is a combination of bile acids with egg albumen.

Ovogal is a greenish-yellow powder, insoluble in water, dilute acids, ether, benzol, fats, etc. Alcohol and acetone do not dissolve it, but after long action remove from it small amounts of the bile acids. Alkalies dissolve ovogal, splitting it into albumen and bile acids (glycocholic and taurocholic acid).

If 0.5 Gm. of ovogal is boiled with 1 to 2 Cc. hydrochloric acid until a clear green solution is produced and then diluted with from 30 to 40 Cc. of absolute alcohol an abundant cloudy precipitate separates, which when washed with alcohol until the washings are colorless, gives the characteristic reactions for proteins. On evaporation of the alcoholic filtrate, the bile acids may be recovered and identified. Ovogal on ignition should leave no weighable residue.

Actions and Uses.—Ovogal is said to pass the stomach without marked decomposition and to be dissolved and absorbed in the intestine.

For therapeutic indications see Bile Salts.

Dosage.—0.5 to 1 gm. (8 to 15 grains) several times daily in capsules with water, tea, coffee or fruit juices.

Manufactured by J. D. Riedel A. G., Chemische Fabriken, Berlin, Germany. (Riedel & Co., New York.) Not patented in U. S. German patent No. 176,945. U. S. trademark No. 78,352.

Ovogal Capsules.—Each capsule is said to contain ovogal 0.5 Gm. (7½ grains).

XERASE.—Xerase is a mixture of a specially prepared dry beer yeast 150 parts, grape sugar (dextrose) 20 parts, white bole 125 parts and a mixture of nutritive salts 3 parts.

Xerase is a yellowish-gray powder, having a weak odor of yeast and a salty taste. It is only slightly soluble in water. It resists ordinary atmospheric conditions.

Actions and Uses.—This mixture is absorbent on account of the bole and readily induces fermentation which is favored by the sugar and salts and it is claimed that the yeast has a bactericidal action on such organisms as the gonococcus. It is said to adhere readily to mucous membranes.

It is claimed that this mixture is useful in inflammations and ulcerations of the vaginal and cervical mucous membranes and in the treatment of putrid wounds, ulcers, inoperable carcinoma, etc. It may be applied as a powder by insufflation or inserted into the vagina in a gelatin capsule.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). Not patented in the United States. U. S. trademark applied for.

Xerase Capsules.—Each capsule contains about 3 Gm. (45 grains) of Xerase.

1. In accepting Cargentos, the Council has voted that a general article on Colloidal Silver Preparations be inserted in N. N. R. and Cargentos and Collargol be placed under it.—W. A. PUCKNER, Secretary

Therapeutics

TYPHOID FEVER

VACCINATION AGAINST TYPHOID FEVER

The demonstration of the important relation which bacilli bear to typhoid fever led shortly to the query as to whether by cultivation of the bacilli any product could be obtained which might be successfully used in the treatment of the disease or in its prevention.

The studies of Haffkine, in India, with reference to obtaining a substance which could be used for prophylactic inoculation in the prevention of cholera, led to similar investigations in regard to typhoid fever. These were taken up by Pfeiffer, in Germany, and in London by Sir Almroth E. Wright; and to Wright especially do we owe the development of the present system of antityphoid inoculation.

The vaccine used for preventive inoculations is prepared by cultivating a strain of not very virulent typhoid bacilli. These are destroyed by heat and have added to them a small amount of an antiseptic to prevent contamination with aerobic microorganisms. It is customary to standardize the solution so that 1 c.c. will contain 1,000,000 of the bacilli. This is the usual dose administered, although sometimes half the quantity is used. The vaccine retains its strength for at least three months, and it has been found in some cases to retain its efficiency for fifteen months. It is used by hypodermatic, not intramuscular, injection and is usually given in the arm, but it may be given under the skin of the abdomen. It is usually advisable to repeat the dose after ten or twelve days in order to get the maximum amount of protection from the inoculation. Following the first dose there is a varying amount of reaction. This may be indicated locally by redness of the skin, which may vary from a patch three or four inches in diameter to one that extends down the forearm and to the shoulder. The axillary glands may be enlarged.

Accompanying this local reaction there may be a constitutional reaction which may vary from slight indisposition in mild cases to chills, with an elevation of temperature to from 101 to 103 F., with aching throughout the body, accompanied sometimes by a headache—symptoms such as accompany the onset of a severe cold or influenza. Rarely is there nausea or diarrhea.

After the subsidence of the local manifestations there may remain a slight nodule, which, however, disappears in about two weeks, leaving no mark to show where the vaccination has been done.

The constitutional symptoms appear in two or three hours in mild reactions, and disappear in from twelve to twenty-four hours; in severe reactions the symptoms last for from forty-eight to seventy-two hours. In children, the constitutional symptoms are usually less marked than in adults.

A great deal has been said about the so-called negative phase. This has reference to an increased susceptibility to typhoid fever during the first two or three weeks after the inoculation has been made. The alleged presence of this so-called negative phase has been used as an argument against the general adoption of the inoculations, but Wright has demonstrated conclusively that this may be prevented by avoiding a large dose, and the dose of one billion bacilli is not so large as to cause this temporary increased susceptibility to the infection.

The injections are best given in the late afternoon, so that the patient may retire early in the evening, and the greater part of the unpleasant symptoms from the reaction, in a mild case, may disappear during the following morning.

A considerable number of statistics have been reported by various observers, and especially through Wright, of England, concerning the results of these inoculations in various parts of the world, and especially in the British and United States armies. Comparing, in the same regiment or groups of regiments, the men who have been inoculated with those who have not been inoculated, it has been observed uniformly that fewer cases of typhoid fever have occurred among the inoculated men than among those who have not been inoculated. Still more striking is the observation on the mortality of typhoid fever. The mortality of the small proportion of inoculated men who suffer from typhoid fever is very much less than the mortality among the uninoculated men.

These various statistics would seem to prove conclusively the usefulness of inoculation in diminishing the number of cases of typhoid fever, and still more in diminishing the mortality among those affected with the disease.

What is the significance of the facts thus set forth to the general practitioner? Is it his duty to advise all who consult him to subject themselves to antityphoid vaccination? Does he not show himself guilty of negligence which is deserving of severe criticism, if he does not do so? Certainly, to-day neither the members of the medical profession nor the citizens of the country have been educated up to the point where the conscientious physician can reasonably be expected to advise his patients to submit to antityphoid inoculation, however thoroughly he may be convinced of its usefulness. With regard to certain classes in the community there can be no question of the advisability of these inoculations. It is recognized by all that the disease occurs with the greatest frequency among youths and young adults. Consequently, it is with reference to these that the problem is most urgent.

One class of young adults with regard to whom the sentiment is pretty well formed that vaccination should be done, consists of soldiers who are about to engage in war. As is well known, typhoid fever is especially prevalent in armies during military campaigns; consequently, all soldiers who are about to enter on a campaign should receive inoculations, and at present a large number of them are getting it.

Perhaps the next class in the community which is especially exposed to the danger of contracting typhoid fever includes the permanent attendants on sick people in general hospitals, viz., the nurses, the orderlies, and the resident medical staff. It may be fairly said that at present those in authority are liable to be censured if they do not insist on these individuals receiving typhoid inoculations, unless it may be those in hospitals where typhoid fever is never treated. How many such hospitals are there?

Perhaps the next classes to be considered are young men and women who leave home to go to college or boarding school, people who make long trips away from home, and people who take summer recreation trips. As is well known, typhoid fever is common among the people of these classes, and it would no doubt be wise if all such persons should submit to antityphoid vaccinations before leaving their homes. Were this done, unquestionably many cases of the disease would be prevented, and many deaths avoided.

Finally, taking up the rest of the community, there seems to be no reason to doubt that, except in those parts of the country where typhoid fever is unknown and where the people never leave their homes, it would conduce to the avoidance of the disease and the prevention of death from it, if everyone submitted to an inoculation.

The period during which the protection against the disease persists is not definitely established. It seems to be pretty well proved that the protection is effective for at least two years, and there is very strong reason for believing that a considerable degree of protection, though not so complete protection, is afforded for many years, or even during the rest of the individual's life.

When sanitation has entirely stamped out the disease, these inoculations of course will be superfluous; until that time arrives there is every reason to believe that they will be advised with increasing frequency by conscientious physicians and will be increasingly demanded by people who intend to avoid sickness and death from typhoid fever.

THE SPECIFIC TREATMENT OR SEROTHERAPY OF TYPHOID FEVER

Thirty or forty years ago, at the time when Ziemssen's monumental cyclopedia of medicine became known to American readers, the term "specific treatment" as applied to typhoid fever was used to indicate the administration of large doses of calomel during the early part of the disease. Since the discovery of the *Bacillus typhosus* and the active work of bacteriologists on typhoid fever, the term has been applied to those forms of treatment in which it was attempted to make use of a serum in the treatment of the disease.

No treatment of this character at all comparable to the serum used in the treatment of diphtheria has, up to the present, been found for typhoid fever, although great effort has been expended in trying to discover such a serum.

The one concerning which the most favorable reports have been made and which seems to have accomplished the most is that used by Chantemesse, of Paris. He began the administration of his antityphoid fever treatment in 1892, but his results were not successful until, in 1899, he produced a soluble typhoid toxin. From this he was able to produce his antityphoid serum. The serum which he employs is obtained from horses immunized by injections of the soluble typhoid toxin. This serum he uses in doses of from 10 to 12 c.c. at first, and if the temperature does not fall within a week, 4 or 5 c.c. more are injected. In connection with the serum he employs cold baths. In his reports he states that the average mortality in the other hospitals of Paris is 18 per cent., while in those under his charge among the patients treated by his serums and baths, the mortality is reduced to 4 per cent.

The manufacture of this serum is so difficult and the expense of obtaining it is so great, that it has not been extensively used in this country, and consequently American physicians are not prepared to express an opinion in regard to its use, or to administer it to patients.

Chantemesse maintains that the best results are obtained when the remedy is administered early, during the first week of the disease.

He reports that after the injection of his serum there is at first a period of reaction, when the temperature in some cases is elevated. This may last for from a few hours to several days. Subsequently, the temperature falls gradually, and the pulse is slowed, the blood-pressure raised, the quantity of urine increased, and the patient feels decidedly more comfortable. The temperature continues to fall for ten or twelve days, and the patient soon goes on to rapid convalescence. Should the patient seem to remain at a standstill, a second injection may be required.

GENERAL MANAGEMENT AND DIET

This subject was discussed in The Journal, Oct. 10, 1908, page 1233; Sept. 4, 1909, page 800; Oct. 15, 1910, page 1381.

THE PROTECTIVE TREATMENT OF THE HEART AND BLOOD-VESSELS DURING AND AFTER AN ATTACK

Everyone is familiar with the striking impression which typhoid infection makes on the heart during the course of the disease, and of the degenerative changes in the cardiac muscle which are found on post-mortem examination of that organ. It is not strange, in the case of a disease which lasts so long and which produces these degenerate changes in the heart, that during and following convalescence the heart should often be found to be profoundly affected.

The cardiac and vascular changes which are found after typhoid fever during the months and years following convalescence are of several kinds. It is well known that during the course of the disease pericarditis is a rare complication. Frequent cardiac murmurs are discovered during the later weeks of the disease. In many cases these disappear during convalescence, but if patients are examined from five to ten years after having experienced an attack of typhoid fever, it will be found that in the majority of these individuals the blood-pressure is considerably higher than in individuals of the same age who have not had typhoid fever. It will also be found that the radial arteries are palpable in a far larger proportion of persons who have had typhoid fever than in those who have not. Further, the average size of the heart is greater among those who have had typhoid fever than in those who have not. Finally, it will be found that a larger proportion of persons who have had typhoid fever will have organic disease of the heart than of those who have not suffered from an infectious disease.

It is maintained by many observers of wide experience that, with the exception of rheumatism, no infectious disease is more likely to produce permanent damage to the heart than typhoid fever.

Bearing these facts in mind, it is the obvious duty of the physician who takes care of a patient with typhoid fever, to guard against these different forms of damage to the cardiac and vascular system. It is the realization of these different forms of cardiovascular damage which gives added importance to the enforcement of rest during convalescence. This rest is recognized as being important for the patient not only in preventing a relapse, but it should also be recognized as being important in preventing the development of any of these circulatory troubles. The rest should be enforced for considerably longer than has commonly been done. This does not mean that the patient should be kept in bed for an indefinite number of weeks after convalescence has been established, but it means that he should be limited in the amount of exercise which he takes, and that he should not be allowed to undertake severe physical or mental work until several weeks have elapsed after the establishment of convalescence, and until careful examination fails to show any disturbance of the circulatory organs. Such disturbance may be indicated by a rapid pulse and weak action of the heart, and by various disturbances of the peripheral circulation such as coldness of the feet or sweating at night.

As undoubtedly the food taken by an individual affects the nutrition of the heart and its action, the diet recommended should be such as will not tend to produce arteriosclerosis or increase vascular tension. The amount of protein undoubtedly should be limited, although a moderate amount of protein is essential for the restoration of the degenerated tissues. Milk and fruit should for a long time constitute an important part of the diet.

The patient should be kept in bed until the pulse regains its normal rapidity, and the amount of exercise that he is allowed to take should not be such as will increase the action of the heart beyond the normal rate. It is also important that the nervous system should not be subjected to unusual irritation, and he should avoid cares and worries as far as possible. Protracted rest and a simple diet are the essential features of this protective treatment.

NERVOUS, MENTAL AND SPINAL CONDITIONS

Perhaps one of the most striking results of the progress which has been made during the last few decades in the treatment of typhoid, is the diminution of the frequency and severity of the nervous phenomena observed during the course of the disease. The so-called typhoid condition characterized by a dry and brown coated tongue, lips and teeth covered with sordes, dull and apathetic mind, or delirium, sometimes violent and sometimes busy, with muttering, muscular tremors, and subsultus tendinum, are comparatively rarely seen at the present day. Now other nervous phenomena are demanding attention, and among these may be mentioned changes in the mental condition both before and after the attack of the fever. Cases have been reported, chiefly in patients who had a defective mental inheritance or who themselves were not up to the average of mental development, in which the attack of typhoid fever has been preceded by maniacal delirium, which subsided with the onset of the fever. More frequently, but yet only occasionally, during convalescence various disturbances of the mind have been observed which are classed together as the psychoses of typhoid fever. In the initial delirium, motor excitement appears to be a constant feature, so that when an unexplainable attack of mania, accompanied by this motor excitement, occurs, it is well, if the patient is found to have any fever, to test his blood by the Widal method.

During convalescence, the common forms are the so-called collapse delirium, in which the patient imagines that he has been taken from his previous surroundings, that he is somewhere other than in the place where he really is, or there may be various forms of mania or melancholia. In addition to these, various forms of neurasthenic phenomena are frequently observed.

With a view to avoiding and preventing these postfebrile phenomena, the nervous system should be carefully watched during the course of the disease and such measures adopted as will quiet nervous restlessness and prevent loss of sleep. The most important of these methods is cold or tepid sponging, or other cold applications. When for any reason these are impracticable or ineffective, they may be supplemented by hypnotic drugs, such as the bromid of sodium, chloral, sulphonethylmethane (trional), or morphin. The last in small dose is often the best.

As soon as convalescence is fairly established, the nutrition should be rapidly improved by the addition of such food as the patient can digest and assimilate. The patient should maintain a condition of rest so long as there is any evidence of irritability or nervous instability. He should not be disturbed by visitors or by having business cares and worries brought to his attention.

The prognosis of these conditions and even of a mild insanity is, as a rule, favorable, and treatment at home may be continued for a greater length of time than in cases of ordinary insanity.

In connection with these nervous and mental disorders may be mentioned the condition described by Gibney as typhoid spine, which consists of an inflammation of the structures in and around the joint called by him perispondylitis. This condition is characterized by a great deal of pain in the spine, usually in the lumbar region, accompanied by swelling and tenderness of the boney structure of the affected region. It should be distinguished from a painful condition of the muscles on each side of the spine resulting from strain from the patient lying with his back not properly supported (often too soft bed-springs), also from the hypersensitive spine seen in neurasthenic patients and other functional troubles. The pain is sharp and shooting, relieved by lying flat on the back, but aggravated by any movement of the spine. The treatment consists of rest in bed, with counterirritation and massage. The patients as a rule recover.

THE HAIR IN TYPHOID FEVER

Typhoid fever in all the aspects of its symptomatology, pathology and treatment has been so voluminously discussed by so many teachers and writers that it is surprising to find in the literature relating to this disease so little definite information in regard to the occurrence of loss of hair and its prevention. In works treating of dermatology this matter is incidentally mentioned under the head of *alopecia prematura* or *presenilis*. To the condition here to be discussed the term *defluvium capillorum* is also applied.

Naturally, during the height of the fever when the physician is exercised in attempting to prevent the death of the patient, to relieve the fever, to maintain the circulation, and to keep up the general nutrition, it is not strange that a matter of so little life and death importance as the hair should be neglected; but after the fever has left the patient, after convalescence has become established, and when the patient walks around and receives the visits of friends, one of the most annoying symptoms in a large number of cases is the impending and active loss of the hair. This causes great annoyance, especially to female patients, and its causation and prevention are worthy of careful study by the physician.

The condition is undoubtedly associated with the defective nutrition of the entire body, and one of the most important measures for combating it is by improving the general nutrition. Of course, food stands in the first place in this regard, but it may be supplemented by medicinal treatment, and especially by the addition of moderate sized doses of arsenic, which is generally recognized as having a direct action on the nutrition of the skin, perhaps four or five drops of Fowler's solution, well diluted, three times a day, after eating. Calcium glycerophosphate is also of value.

Locally, the nutrition of the skin may be improved by massage with the application of a moderate amount of some oily substance, of which the best perhaps is the official adeps lanæ hydrosus. In addition, such remedies as stimulate the scalp are of considerable importance. Among the different preparations recommended for stimulation of the scalp are various solutions containing tincture of cantharides, various cinchona or quinin preparations, sulphur either suspended in solution or in various strength of ointments, oil of turpentine combined with bland oils, or with alcohol, and solutions containing ammonia or chloroform.

When the hair commences to fall out after an attack of typhoid fever, the question of cutting the hair or shaving the scalp is frequently raised. It is, of course, of great importance, especially if the patient is a woman, to retain the hair if possible. Certainly, no physician should advise cutting off the hair when it is luxuriant, and before advising it the local applications already enumerated should be tried. In severe cases, in which these measures are not successful, it unquestionably is beneficial to cut the hair. In the majority of cases this will stop the falling of the hair, and ultimately, new hair will grow, and the new growth will be of equal thickness with the original. Occasionally, perhaps, it may be slightly coarser.

THE LOS ANGELES SESSION

THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION TO BE HELD AT LOS ANGELES, JUNE 27-30, 1911

OFFICIAL CALL

TO THE OFFICERS AND MEMBERS OF THE CONSTITUENT ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-second annual session of the American Medical Association will be held on Tuesday, Wednesday, Thursday and Friday, June 27, 28, 29 and 30, 1911, at Los Angeles, Cal.

The House of Delegates will convene at 10 a. m., Monday, June 26, 1911.

REPRESENTATION

In accordance with the reapportionment of delegates made at the Atlantic City Session of 1909, state associations are entitled to delegates for 1911-12 as follows:

Alabama 3	Louisiana 2	Oklahoma 2
Arizona 1	Maine 1	Oregon 1
Arkansas 2	Maryland 2	Pennsylvania ... 9
California 3	Massachusetts .. 6	Philippine Is... 1
Colorado 2	Michigan 3	Rhode Island.... 1
Connecticut 2	Minnesota 2	South Carolina... 2
Delaware 1	Mississippi 2	South Dakota ... 1
Dist. Columbia.. 1	Missouri 5	Tennessee 3
Florida 1	Montana 1	Texas 5
Georgia 2	Nebraska 2	Utah 1
Hawaii 1	Nevada 1	Vermont 1
Idaho 1	New Hampshire.. 1	Virginia 3
Illinois 9	New Jersey..... 3	Washington 2
Indiana 4	New Mexico..... 1	W. Virginia..... 2
Iowa 3	New York.....11	Wisconsin 3
Canal Zone..... 1	North Carolina.. 2	Wyoming 1
Kansas 2	North Dakota.... 1	
Kentucky 4	Ohio 7	

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

EXTRACTS FROM BY-LAWS

The following quotations from the By-Laws of the American Medical Association are given in this connection, for their bearing on the qualifications of delegates, their election and their time of service.

"No one shall serve as a member of the House of Delegates who has not been a member of the American Medical Association for at least two years."

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one-half, as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States Army, United States Navy and United States Public Health and Marine-Hospital Service, shall hold office for one year."—Chap. III, Secs. 1 and 2, By-Laws.

GENERAL MEETING

The General Meeting which constitutes the opening exercises of the scientific functions of the Association will be held at 10:30 a. m., Tuesday, June 27, 1911.

REGISTRATION DEPARTMENT

The Registration Department will be open from 8:30 a. m. until 5:30 p. m. on Monday, Tuesday, Wednesday and Thursday, June 26, 27, 28 and 29, and from 9 to 10 a. m. on Friday, June 30, 1911.

WILLIAM H. WELCH, Baltimore, President.
GEORGE H. SIMMONS, Chicago, Secretary.

LOS ANGELES

MEETING PLACE OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Only three times in the past has the American Medical Association held its meeting on the Pacific slope, the past meeting places having been San Francisco in 1871, Portland in 1905 and San Francisco in 1894. This will be the first time that a session has been held in Los Angeles.

For the better information of those who anticipate being present at the Sixty-Second Session of the Association, a description * of the city and its attractions, the surrounding points, coast resorts, etc., will be of interest.

Los Angeles, the City of the Angels

There are few cities in the United States that have had such a remarkable and varied career as Los Angeles, the chief city of southern California, and the commercial metropolis of the southwest section of the United States. Few cities of this size, moreover, are so well known throughout the length and breadth of this country, as well as abroad. The rapid growth of Los Angeles, from an insignificant semi-Mexican town to a metropolitan city, has been told and retold, until it is familiar in a general way to millions of Americans, while the attractions offered by the city to health-seekers, pleasure-seekers and tourists have been spread abroad by hundreds of thousands of visitors who, after one trip to this section, are usually anxious to return, frequently becoming permanent residents.

Population

During the past thirty years Los Angeles has grown from population of 11,000 in 1880, to 319,198 by the census of 1910. There are three leading features that have contributed to such growth. These are climate, soil and location. Any one of these advantages would be sufficient to build up a large city, but taken together they insure the future of Los Angeles as the metropolis of the southwest.

Name and Origin

The original name of the pueblo or town of Los Angeles, following the custom that then prevailed among the Latin races of giving religious names to places, was Nuestra Senora de Los Angeles, sometimes written Nuestra Senora la Reina de Los Angeles—Our Lady, the Queen of the Angels. This has been shortened by the practical Yankees to Los Angeles. Los Angeles was founded on Sept. 4, 1781, by a small band of forty pablodores or colonists, who had been recruited in the Mexican states of Sinaloa and Sonora, and brought here under command of a government officer, to found an agricultural colony, for the purpose of raising produce for the soldiers at the presidios. The first census of the little city, taken in August, 1790, gave the total population as 141. They were a mixed class, composed of one European, seventy-two Spanish-Americans, seven Indians, twenty-two mulattoes and thirty-nine Mestizos. As recently as 1831, fifty years after the founding of the pueblo, the population was only 770. In January, 1847, the population was 1,500. It began to grow rapidly about 1880, and has continued until it has reached the figures quoted above.

* Information for this article was furnished by George H. Kress, M.D., secretary-general of the Los Angeles Committee of Arrangements.

Streets

Considering that twenty years ago it had not a single paved street, Los Angeles has made remarkable progress in street improvements. There are now over 450 miles of graded and graveled streets, 63 miles of paved streets and 320 miles of sewer. Los Angeles has a complete sewer system, including an outfall sewer to the ocean.

Lighting

At night Los Angeles presents a brilliant appearance. It was the first city in the United States entirely to abandon gas for street lighting, and to replace it by electricity, which was done twenty-five years ago, and it is now one of the best lighted cities in the Union. Many of the lamps are on high masts. Seen from one of the surrounding hills, the view of the city at night is most beautiful and striking. Broadway and Spring streets are now lighted their entire length by clusters of electric lights on handsome iron electroliers, 100 feet apart, paid for by the property owners, the city supplying the "juice." A similar lighting scheme has been installed on Main Street to Tenth, a distance of ten blocks, and also on Hill Street to Pico, a distance of thirteen blocks.



Fig. 1.—Public buildings in Los Angeles: State Normal School at the top, the Postoffice at the right, the California Club at the left, and the Court House at the bottom.

Business

That Los Angeles is and will always remain the commercial metropolis of southern California admits of no doubt. The city possesses the great natural advantage of being located on the shortest route, by the easiest grades, between the Pacific and the Atlantic oceans. The merchants of Los Angeles do a large business with a section of country extending from the eastern limits of Arizona on the east to Fresno on the north. The principal articles of export are fruits, fresh and dried, vegetables of great variety, beans, wine and brandy, wool, honey, canned goods, sugar, olives, corn, wheat, barley, petroleum and by-products.

The assessed valuation of property in the city this year, including personal property, is $265,570,272.

Banks

The banks of Los Angeles are noted throughout the country for their solid and prosperous condition, with deposits aggregating $102,000,000. The clearings of the Los Angeles city banks for the year 1908 amounted to $505,588,756. Los Angeles has been leading all cities in the United States in increase of bank clearings.

Railroads

Los Angeles possesses the advantage of four transcontinental lines. These are the "Sunset Route" of the Southern Pacific, by way of El Paso and New Orleans, the Ogden route of the same company, connecting with the Central and Union Pacific, the Sante Fe route, by way of Albuquerque, and the San Pedro, Los Angeles and Salt Lake Railroad, the operation of which began May 1, 1905, opening up a comparatively unknown section in southern Utah and Nevada, which is wonderfully rich in precious and useful minerals. The Southern Pacific has two lines between Los Angeles and San Francisco—one through the San Joaquin Valley and the other along the coast. The Santa Fe also connects with San Francisco via Barstow, in San Bernardino County. Altogether, there are over a dozen lines of railway centering in Los Angeles. The Pacific Coast Steamship Company runs vessels regularly from Los Angeles County ports to San Francisco on the north and San Diego on the south.

Harbor

Reference is made elsewhere to the work of the national government on a deep-water harbor at San Pedro. This work, when completed, will give a great impetus to foreign commerce, and Los Angeles should before long become an important point for Oriental trade.

When the Isthmian canal is constructed the coast of Los Angeles County will be on the direct course of steamships sailing from the Atlantic coast and from European to Asiatic ports. It will also furnish a greatly enlarged market for the horticultural products of this section.

Street Railways

The street railway system of Los Angeles is excellent. There is probably no city of the size in the United States that has a more modern or a better equipped system. The total mileage of single track is over 300 miles, all electric. There are suburban electric lines to the ocean beach towns, Santa Monica, by two different routes; to Redondo, also by two routes; to Port Los Angeles, Long Beach, Newport, Huntington Beach, Naples and San Pedro, and to inland towns, Pasadena and Altadena, Alhambra, San Gabriel and Monrovia, Whittier, Azusa, Glendora, Sierra Madre, Covina, La Habra, Glendale and Santa Ana in the fruit country. The suburban electric railroads radiating from Los Angeles aggregate 767 miles of single track. They are almost all double track. Some have four tracks.

Building

For a dozen years past Los Angeles has been the scene of great activity in building operations. Scores of fine business blocks and hundreds of handsome residences have been built. The value of the building permits issued in Los Angeles during the year 1908 amounted to $10,000,000. The actual value of the buildings was much larger.

Parks

There are a dozen public parks within the city limits, aggregating over 600 acres, of which six are of considerable size. Westlake Park, 35 acres in area, on the Seventh Street car line, is one of the most popular open-air resorts, and is in the heart of a splendid residence section. It has a lake with boats, fine drives and extensive views from the adjacent hills. Eastlake Park, in East Los Angeles, covers 50 acres, and has been made attractive. Here also is a lake and the park nurseries and a menagerie. Prospect Park on Boyle Heights is a small but beautiful place, with many choice trees and shrubs. The oldest and best improved of the city parks, on Sixth Street, not far from the business center, is known as Central Park. The trees have attained a large growth. Hollenbeck Park is a tract of about 20 acres, on the east side of the river, on Boyle Heights. It has been improved with shade trees and a small lake. Echo Park, a beautifully improved tract in the northwestern part of the city, contains the largest body of water in Los Angeles.

Elysian Park, 500 acres in area, is a remnant of the thousands of acres of such land which the city formerly owned. It may safely be said that this tract offers the greatest possibilities for diversity of growths of any piece of ground within the limits of an American municipality. Much of the land is within the frostless belt. The views of mountains, valley and ocean, city and plain are grand in the extreme.



Fig. 2.—View of the Barlow Sanatorium for the Poor Tuberculous of the County of Los Angeles.

What has been said in regard to Elysian Park is true of Griffith Park, a tract of 3,000 acres, donated to the city. It is located about a mile north of the city limits, and embraces a varied assortment of mountain, foothill and valley scenery. A boulevard to connect the parks of Los Angeles has been commenced. The large tract of land in the southwest part of city, known as Exposition Park, was recently made part of Los Angeles. Plans have been prepared to make this a handsome and attractive park. A museum, an armory and a mammoth exposition hall are being erected.

Los Angeles has now seven regular public playgrounds and four vacation or summer centers. The cost of maintaining the playgrounds during the past year was $42,000. The public library maintains a branch at three of the regular playgrounds. During the winter months a series of free lectures and entertainments is given.

Homes

After all is said, the chief attraction of Los Angeles to new arrivals lies in its beautiful homes. The rare beauty of the grounds surrounding the attractive homes of Los Angeles, Pasadena and other Los Angeles County cities is a constant theme of admiration on the part of eastern visitors. Other cities may show greater business blocks, but when it comes to gardens, Los Angeles is *facile princeps*. The mildness of the climate permits the most delicate plants and trees to flourish in the open air all through the winter.

A great variety of architecture is found among the residences of Los Angeles. The picturesque and comfortable early mission style, which should have been more extensively adopted long ago by the American settlers, is at length coming into vogue. Some of the more pretentious of these mission residences have spacious tiled courtyards, covered with glass, in which fountains splash, flowers bloom and birds warble.

Another comfortable and artistic style of residence that has become exceedingly popular during the past few years is the bungalow, adapted from India—a cottage of one or one and one-half stories, with from three to seven rooms, built of lumber and shingled, with wide eaves.



Fig. 3.—A group of Los Angeles hospitals: Pacific Hospital above to the left, the Sisters' Hospital at the right, and the California Hospital below.

It costs less to build in southern California now than it did in the early days. Again, a $10,000 residence here is practically as good as a $20,000 residence in the east.

One of the most attractive features about a home in this section is the wonderful rapidity with which vegetation of all kinds grows, so that instead of having to wait years for a new residence to assume a settled and homelike appearance, the owner has to wait only a few months until his house is surrounded with thrifty plants and climbing vines, while even some trees, such as the eucalyptus, grow to a respectable size within a year, and can be planted around the lot while less rapidly growing trees are attaining size, thus obviating the bare hard appearance attaching to new residences in less favored climates, however beautiful architecturally the building may be.

A Cosmopolitan Place

The population of Los Angeles is cosmopolitan. During the past twenty years it has received accessions to its population from every state in the Union and from almost every country in the world. For instance, a statement published in the Los Angeles *Times* showed that, a few years ago, of the 53,413 voters then on the register of Los Angeles County, only 5,244, or less than 10 per cent., were natives of California.

Water-Supply

The most notable thing that has ever happened to the city of Los Angeles is the acquirement by the city of water rights, extending for many miles along the banks of the Owens River, in Inyo County. This water will be brought to the city a distance of 220 miles, by means of an aqueduct and more than 20 miles of tunnels. Work is now rapidly progressing and will be completed in 1912. This will give Los Angeles a supply of pure water from the snow-clad sides of the highest mountain in the United States, sufficient for a population of 2,000,000, so that not only can the city be amply supplied for many years, but there will be enough surplus to irrigate about all the available land in the county. Not only this, but the water will furnish an immense amount of power for electric lighting and for power for factories. The cost of this great enterprise is estimated at $25.000,000. The bonds were carried by a vote of ten to one.

Climate

Decidedly the chief attraction of southern California is its climate. This is the feature that brings three-fourths of the eastern visitors to southern California.

Southern California—that is, the section we have indicated, especially including Los Angeles—has an "all-the-year-round" climate. This is a rare and inestimable feature, possessed by very few sections of the world. It is well to insist specially on this point, because very erroneous ideas prevail on the subject in the east, where it is generally believed, among those

who have not spent an entire year with us, that the whole of California is a counterpart of hades during the summer—a veritable fiery furnace, as its name would indicate. Strangers have yet to learn that California includes within its limits almost as great a variety of climates as may be found in the world. Take, for instance, an August afternoon in San Francisco and at Indio in the Colorado desert. In the former place the inhabitants will be found attired in heavy overcoats and sealskin wraps, or seated around large open coal fires; at the latter a thin shirt and overalls are too warm for comfort. Los Angeles occupies a happy position between these two extremes, and our climate is shared, with slight variations, by the suburbs for 20 miles around, becoming somewhat moister and cooler toward the ocean, dryer and warmer toward the mountains.

The winter season is marked by the rains, which come between November and April. This is really the spring, when the grass and flowers mantle the hills. Usually the rain storms do not last more than two or three days at a time, with frequent spells of fine weather lasting ten days or more. The rainfall at Los Angeles for the past twenty-five years averaged about 16 inches, the lowest being 5.53 and the highest 38.13. Thunderstorms are very rarely experienced and cyclones are unknown. During the year an average of 316 days will be found with cloudless skies or when the sun is but partly obscured.

For a few days in summer the mercury rises high in Los Angeles, yet, owing to the dryness of the atmosphere, 100 degrees of heat is less oppressive than 80 degrees in New York. The cool trade wind from the Pacific is felt nearly all summer, and is the great modifier of the heat, rendering the hottest day bearable. In winter the modifying influences of a warm return current from the south are enjoyed, which, south of Point Conception, takes the place of the Pacific Gulf stream, the Japanese current Kuro-Shiwo, which sweeps down the Pacific Coast. This explains why the water at Santa Monica has a temperature of 61 degrees in January, while that of Newport on the Atlantic at the same time is 32 degrees.



Fig. 4.—The Hamburger Building, Eighth and Broadway, where will be found the Registration Bureau, Post Office, Telegraph Office, Scientific Exhibit, Commercial Exhibit, and also the roof garden, where the general smoker will be given.

Facts About Los Angeles

Center of great oil-producing fields, as it also is of the great orange belt.

City will spend $10,000,000 on San Pedro harbor, already one of the best on the Pacific Coast.

Wholesale trade with the southwest, including Mexico, exceeds $300,000,000 a year and growing rapidly.

Shopping district compares favorably with any in the large eastern cities.

Local general colleges are the University of Southern California, Occidental College, Throop Polytechnic Institute (Pasadena), Pomona College (Pomona), and University of Redlands (Redlands).

Local medical colleges are two: the State University Medical Department (Los Angeles Branch), which gives instruction in the last two years only, the first two years' instruction being given at Berkeley; and the College of Physicians and Surgeons of the University of Southern California, which gives the regular four years' course.

Churches, all denominations, 225; public schools, 117; teachers employed, 1,440; school children census, 53,954; enrolment, 50,000; miscellaneous private schools and colleges, 40.

Public library contains 137,184 volumes, home circulation, 773,572. In addition, there are other libraries in the city with total of 103,643 volumes.

A resort both winter and summer, and one of the busiest and most enterprising cities in the United States, as it also is one of the most beautiful.

A dozen resorts on the Pacific Ocean may be reached within forty minutes by trolley and steam lines.

There are more than sixty cities and towns within two hours' ride of Los Angeles, having populations ranging from 500 to 40,000.

Short Trips from Los Angeles

The following comprise only a few of the trips that may be made from Los Angeles in a couple of days or less:

HALF-DAY TRIPS

Santa Monica, Ocean Park, Venice.
Terminal Island, Long Beach, San Pedro.
Redondo Beach, Hermosa, Manhattan, Playa del Rey.
Baldwin's Ranch, San Gabriel Mission.
Ostrich Farm, Soldiers' Home, Pasadena, Whittier, Hollywood and Cahuenga Valley.
Observation Car over the Los Angeles Railway.

ONE-DAY TRIPS

Mount Lowe; electric road and cable incline.
"Kite-Shaped Track" of the Santa Fe System, including stops at Riverside and Redlands.
"Inside Track" of the Southern Pacific, including stops at Pomona, Ontario, Redlands and Riverside.
"Orange Grove Trips" of the Salt Lake Route, with stop at Riverside and by trolley to Redlands.
"Balloon" trip of the Los Angeles-Pacific.
Tilton's Trolley Trip, Pacific Electric.
"Surf" trip of the Pacific Electric Railway.
Santa Ana, Orange, Tustin and surroundings.
Oil wells of Whittier, Fullerton and Puente.
Monrovia, Duarte, Azusa and Glendora (heart of San Gabriel Valley).
San Buenaventura, San Juan Capistrano Mission.
Santa Catalina Island, Santa Barbara.

TWO-DAY TRIPS

Wilson's Peak; railroad, electric, stage and burros; Elsinore.
San Luis Rey Mission; railroad and stage.
San Diego, Coronado Beach and Mexican line.

San Diego may be reached by railroad or by the Pacific Coast steamship line, by large, modern boats, sailing three times a week from San Francisco, and touching at Los Angeles Harbor. The distance is 120 miles and takes about seven hours.

THE SCIENTIFIC PROCEEDINGS

The Papers to Be Read at Los Angeles—The Preliminary Program and the Official Program

The following is a partial list of titles of papers to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program. This Official Program will be a pamphlet similar to those issued in the previous years, and will contain the final program of each section, with abstracts of the papers, lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of Los Angeles, etc. To prevent misunderstandings and to protect the interests of advertisers, etc., it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON PRACTICE OF MEDICINE

CHAIRMAN, ALLEN A. JONES, BUFFALO, N. Y.; SECRETARY, WILDER TILESTON, NEW HAVEN, CONN.

Clinical Phases of Arteriosclerosis (15 minutes).
THOMAS D. COLEMAN, Augusta, Ga.

Verruca Peruana or Carrion's Disease (15 minutes).
H. A. GILTNER, U. S. Navy.

Epidemiology of Pneumonia (10 minutes).
C. M. RICHTER, San Francisco.

Successful Treatment of a Typhoid Bacillus-Carrier by Vaccination (10 minutes).
WALTER BREM and F. C. WATSON, Cristobal, Canal Zone.

Causation and Treatment of Fever in Tuberculosis (10 minutes).
F. M. POTTENGER, Monrovia, Cal.

Streptothrix (Actinomycosis) of the Lungs (15 minutes).
NORMAN BRIDGE, Los Angeles.

Hemorrhagic Erosions of the Stomach (10 minutes).
N. W. JONES, Portland, Ore.



Fig. 5.—The Baptist Temple and Auditorium, Fifth and Olive Streets, where the general meeting will be held. Here also are halls for the meetings of the Section on Surgery, Section on Obstetrics and Diseases of Women, and Section on Preventive Medicine and Public Health.

Immuno-Diagnostics in Internal Medicine (15 minutes).
W. J. BUTLER, Chicago.

The Leukocytology of Typhoid and Paratyphoid Fevers (10 minutes). J. F. HULTGEN, Chicago.

Effects on Secondary Anemia by Hypodermic Injections (10 minutes). W. JARVIS BARLOW, Los Angeles.

Reserve Renal Capacity in Chronic Interstitial Nephritis (10 minutes). EDWARD F. WELLS, Chicago.

Pathologic Findings in Hypertension (10 minutes).
ROGER I. LEE, Boston.

Myatonia Congenita (Oppenheim); Report of a Case with Autopsy (15 minutes).
W. T. COUNCILMAN and C. H. DUNN, Boston.

New Clinical Values in the Treatment of the Gastric Neuroses (15 minutes). CHARLES L. GREENE, St. Paul, Minn.

Infantilism with Disease of the Pituitary Gland (15 minutes). A. W. HEWLETT, Ann Arbor, Mich.

Importance of Quantitative Regulation of Diet (15 minutes).
H. D. ARNOLD and R. C. LARRABEE, Boston.

Pleurisy and Empyema in Pneumonia (10 minutes).
J. M. ANDERS, Philadelphia.

Value of So-Called Digestants in Preparation of Materials to be Examined for Acid-Fast Organisms (particularly Tubercle Bacilli), with Clinical Results of Two Years' Study of "Antiformin" (10 minutes).
FRANK SMITHIES, Ann Arbor, Mich.

Experimental and Clinical Studies of a Modified Vaccine Treatment of Pneumococcus Infections in Animals and Man (20 minutes).
S. P. BEEBE, New York, and P. K. BROWN, San Francisco.

SYMPOSIUM ON SYPHILIS

Laboratory Diagnosis of Syphilis (15 minutes).
L. S. SCHMITT, San Francisco.

Visceral Syphilis (20 minutes). FRANK BILLINGS, Chicago.

Value of the Wassermann Reaction and of Salvarsan (15 minutes). ALBERT KEIDEL, Batimore.

Disadvantages Incident to the Administration of Salvarsan (10 minutes). D. W. MONTGOMERY, San Francisco.

Adequate Treatment of Syphilis (15 minutes).
W. T. WOOTTON, Hot Springs, Ark.

Salvarsan (10 minutes). E. G. BALLENGER, Atlanta, Ga.

Treatment of Diabetes (15 minutes).
A. J. HODGSON, Waukesha, Wis.

Early Diagnosis of Hyperthyroidism (15 minutes).
JOHN A. WITHERSPOON, Nashville, Tenn.

Bubonic Plague with Special Reference to that of Ground Squirrel Origin (15 minutes).
G. W. MCCOY, San Francisco

Treatment of Intestinal Amebiasis (15 minutes).
W. E. MUSGRAVE, Manila, Philippine Islands.

Experimental Work on Intestinal Auto-Intoxication (20 minutes).
J. W. D. MAURY, Rochester, Minn.

Some Obscure Conditions of the Digestive Tract as Studied by the Roentgen Ray (20 minutes).
G. R. SATTERLEE and L. T. LEWALD, New York.

Availability of Roentgen Rays in the Clinical Study of the Pancreas (10 minutes).
A. W. CRANE, Kalamazoo, Mich.

Oration in Medicine: A Clinical Study of Disturbances in Rate and Rhythm of Respiration.
C. F. HOOVER, Cleveland, Ohio.

Relation of the Symptomatology and Pathology to Operative Mortality in Exophthalmic Goiter (10 minutes).
H. S. PLUMMER, Rochester, Minn.

Mobility of the Heart. DUDLEY FULTON, Los Angeles.

SYMPOSIUM ON POLIOMYELITIS

Joint Meeting With the Section on Diseases of Children

Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania (20 minutes).
SAMUEL G. DIXON, Harrisburg, Pa., and H. T. KARSNER, Philadelphia.

Recent History and Etiology of Infantile Paralysis (20 minutes). R. W. LOVETT and M. W. RICHARDSON, Boston.

Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis (20 minutes).
R. W. LOVETT and M. W. RICHARDSON, Boston.

Infantile Paralysis as Observed in Massachusetts, 1907-1910 (20 minutes).
R. W. LOVETT and M. W. RICHARDSON, Boston.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN

CHAIRMAN, H. G. WETHERILL, DENVER; SECRETARY, C. JEFF MILLER, NEW ORLEANS

Chairman's Address: Retrospection and Introspection: Our Opportunities and Obligations.
H. G. WETHERILL, Denver.

Carcinoma of the Clitoris and Report of Case.
CHARLES D. LOCKWOOD, Pasadena, Cal.

Torsion of a Subserous Pedunculated Fibroid Complicating Pregnancy at Four and One-Half Months. Operation: Recovery with Delivery at Term.
E. M. LAZARD, Los Angeles.

Adiposity of the Mammary Glands.
J. R. GUTHRIE, Dubuque, Iowa, and HENRY ALBERT, Iowa City, Iowa.

The Exciting Causes, Means of Prevention and Early Treatment of Cancer of the Uterus.
A. E. BENJAMIN, Minneapolis.

Hemorrhagic Degeneration in Myomas.
ARTHUR E. HERTZLER, Kansas City, Mo.

Introduction and Development of Antiseptic Surgery in America.
HENRY O. MARCY, Boston.

Parametritis Posterior and its Associated Reflex Disturbances.
FRED J. TAUSSIG, St. Louis.

Prevention of Postoperative Gynecologic Psychoses.
H. P. COLE, Mobile, Ala.

Value of Pyelography. W. F. BRAASCH, Rochester, Minn.

Postoperative Urinary Retention and Cystitis.
J. H. JACOBSON and J. G. KELLER, Toledo, O.

Pericystitis. M. L. HARRIS, Chicago.

Removal of Ureteral Calculi by Cystoscopic Methods.
BRANSFORD LEWIS, St. Louis.

Pathologic Kinks and Adhesions in the Terminal Portion of the Ileum. FRANKLIN H. MARTIN, Chicago.

Treatment of 140 Consecutive Cases of Uterine Myoma
WALTER B. DORSETT, St. Louis.

Surgical Treatment of Ptosis of Abdominal Organs by Hammock Operation. R. C. COFFEY, Portland, Ore.

Essential Points in Round-Ligament Surgery.
CHANNING W. BARRETT, Chicago.

Use of the Pessary in Retroversion of the Uterus and the Mechanism of its Support. J. RIDDLE GOFFE, New York.

Utero-Vaginal Prolapse in Elderly Women.
GEORGE B. SOMERS, San Francisco.

Relation of Appendicitis to Adnexal Inflammation of the Right Side. H. J. BOLDT, New York.

Special Considerations in the Surgical Treatment of the Female Pelvic Organs.
HENRY PARKER NEWMAN, San Diego, Cal.

Proper Operative Period and Methods of Drainage in Pelvic Infections. L. G. BOWERS, Dayton, O.

The Employment in Abdominal Surgery of Two Rubber Drainage Tubes with a Single Stab Wound Exit, Instead of a Single Tube with Exit by Incision or Otherwise Wherever Drainage is Desired.
PHILANDER A. HARRIS, Patterson, N. J.

Postoperative Complications. F. F. SIMPSON, Pittsburg, Pa.

Two Years' Experience with Vaccine in Obstetric and Gynecologic Infections. JOHN O. POLAK, Brooklyn, N. Y.

Primary Carcinoma of the Fallopian Tube.
E. E. MONTGOMERY, Philadelphia.

Prolapse of the Gravid Uterus.
PALMER FINDLAY, Omaha, Nebr.

Pernicious Vomiting of Pregnancy.
C. B. INGRAHAM, Denver.

Tuberculosis and Pregnancy.
GEORGE C. MOSHER, Kansas City, Mo.

A Study of Cholecystitis and Cholelithiasis in Their Relation to Pregnancy. LAURA H. BRANSON, Iowa City, Ia.

Axis Traction Forceps. J. P. MCMAHON, Milwaukee, Wis.

Cesarean Section: Indications and Technic: Report of seventeen cases. T. MITCHELL BURNS, Denver.

SECTION ON SURGERY

CHAIRMAN, GEORGE W. CRILE, CLEVELAND; SECRETARY, JOHN T. BOTTOMLEY, BOSTON

Brachial Palsy. CHARLES H. FRAZIER, Philadelphia.

Results of Operations on the Gasserian Ganglion for Trigeminal Neuralgia. HARVEY CUSHING, Baltimore.

The Advantages of the So-Called Decortication of the Lung for Old Empyemata. FRED B. LUND, Boston.

The Precancerous Lesions in One Thousand Skin Cancers.
JOSEPH C. BLOODGOOD, Baltimore.

Pylorectomy or Excision of the Ulcer-Bearing Area.
WILLIAM L. RODMAN, Philadelphia.

A Plea for More Direct Methods in Dealing with Gastric Ulcers. R. C. COFFEY, Portland, Oregon.

Oration on Surgery: Ascending and Hematogenous Infections of the Kidney. GEORGE E. BREWER, New York.

Treatment of Localized Appendicular Abscess.
VAN BUREN KNOTT, Sioux City, Iowa.

Subphrenic Abscess, the Result of Acute Infection of the Appendix. GEORGE G. ROSS, Philadelphia.

Diabetes, a Surgical Disease.
JOHN B. DEAVER, Philadelphia.

The End-Results of Gall-Bladder Surgery.
E. MACDOWELL STANTON, Schenectady, N. Y.

Typhoid Infection of the Biliary Tract.
CHARLES N. SMITH, Toledo, Ohio.

Factors Hostile to Success in Gall-Bladder Surgery.
B. B. DAVIS, Omaha.

The Pathology and Treatment of Tuberculosis of the Long Bones. HOWARD STILES, Edinburgh, Scotland.

The Three Main Rules in the Treatment of Adult Joint Tuberculosis. LEONARD W. ELY, Denver.

Gonorrheal Osteoperiosteitis of the Long Bones.
STEPHEN H. WATTS, Charlottesville, Va.

Direct Experimental Transplantation of Tendons and Fascia.
DEAN D. LEWIS and CARL B. DAVIS, Chicago.

Experimentally Produced Intestinal Obstruction.
FRED T. MURPHY and BETH VINCENT, Boston.

Study of Five Hundred Cases of Prostatectomy.
EDWARD S. JUDD, Rochester, Minn.

Sensibility of the Peritoneum and Abdominal Viscera.
JAMES F. MITCHELL, Washington, D. C.

Several Unusual Joint Cases, Their Treatment and the Results.
GEORGE W. GUTHRIE, Wilkes-Barre, Pa.

Spinal Fractures. A. F. JONAS, Omaha.

Thirty Years' Experience with Fractures at Minnequa Hospital. R. W. CORWIN, Pueblo, Colo.

Pinning Fragments of Bone Beneath the Fluoroscopic Screen; A Simple Procedure to Aid the Splint in Selected Cases.
ROBERT T. MORRIS, New York.

The Open Treatment of Fractures.
EDWARD MARTIN, Philadelphia.

Clinical and Experimental Work to Determine the Value of Lane's Plate in Treatment of Fractures.
WILLARD BARTLETT and M. R. HEWITT, St. Louis.

New Methods for Closing Skin Wounds.
E. WYLLYS ANDREWS, Chicago.

Lingual, Sublingual and Other Aberrant Thyroids.
CHARLES H. MAYO, Rochester, Minn.

The Theory for the Pathologic Physiology Involved in Diseases of the Thyroid and Its Therapeutic Application.
JOHN ROGERS, New York.

Factors Influencing the Safety of Surgical Treatment for Goiter. M. B. TINKER, Ithaca, N. Y.

Lymphangiomata of the Omentum and Omental Cysts.
STANLEY STILLMAN, San Francisco.

Tumors of the Mesentery. H. A. ROYSTER, Raleigh, N. C.

Rhinoplasty; a Suggestion for Preventing Contracture of the Nares After Operation.
E. DENEGRE MARTIN, New Orleans.

A New Technic for Rectopexy for Rectal Prolapse.
L. L. MCARTHUR, Chicago.

Surgery of the First Portion of the Left Subclavian Artery, with Report of a Case of Successful Ligation.
JAMES M. NEFF, Spokane, Wash.

A Plea for Larger Incision and More Thorough Examinations in Abdominal Surgery.
JAMES E. MOORE, Minneapolis.

Membranous Pericolitis.
JABEZ N. JACKSON, Kansas City, Mo.

The Surgical Treatment of Megacolon.
WALLACE I. TERRY, San Francisco.

Wooden Phlegmon of the Neck (Reclus).
CHARLES A. POWERS, Denver.

SECTION ON OPHTHALMOLOGY

CHAIRMAN, ALBERT E. BULSON, JR., FORT WAYNE, IND.; SECRETARY, EDGAR S. THOMSON, NEW YORK CITY

Chairman's Address.
ALBERT E. BULSON, JR., Fort Wayne, Ind.

Healing of Iridectomy Wounds and Its Influence on Glaucoma.
ADOLPH ALT, St. Louis.

Significance of Non-Syphilitic Retinitis, Based on a Study of the Subsequent History of 187 Cases.
F. T. ROGERS, Providence, R. I.

Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants.
MARK D. STEVENSON, Akron, O.

Further Report on Corneal Regeneration.
M. WIENER, St. Louis.

Immediate Removal of Traumatic Cataracts.
J. A. DONOVAN, Butte, Mont.

Medical Treatment of the Patient Before or After Cataract Extraction. D. W. GREENE, Dayton, O.

A New Operation for Extraction of Cataract in Its Capsule. VARD H. HULEN, Houston, Tex.

Intrusion of the Amnion as a Possible Cause of Congenital Cataract. OTTO LANDMAN, Toledo, O.

Intra-Ocular Neoplasms, With Report of Five Cases. F. PARK LEWIS, Buffalo, N. Y.

Another Case of Chloroma ARTHUR J. BEDELL, Albany, N. Y.

Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor. HARVEY CUSHING and G. J. HEUER, Baltimore.

Subhyaloid and Vitreous Hemorrhages. HIRAM WOODS, Baltimore.

Report of the Committee on Collective Investigation Concerning the Ocular Muscles. LUCIEN HOWE, Buffalo, N. Y.; HOWARD F. HANSELL and THEODORE B. SCHNEIDEMANN, Philadelphia.

The Optometry Question and the Larger Issue Behind it. EDWARD JACKSON, Denver.

Shortening of an Ocular Muscle by Tucking. H. W. WOODRUFF, Joilet, Ill.

A New Method in Operating for Ectropion. A. EDWARD DAVIS, New York.



Fig. 6.—A group of park views, including one of the famous sunken gardens.

Report of Nine Cases of Brain Tumor. SHERMAN VOORHEES, Elmira, N. Y.

Tuberculous Interstitial Keratitis, with Special Reference to Treatment with Tuberculin. R. S. LAMB, Washington, D. C.

Use of Tuberculin in Corneal Lesions in General, and Phlyctenular Keratitis in Particular. R. J. TIVNEN, Chicago.

Tuberculous Cyclitis Occurring in a Previously Injured Eye, Simulating Intra-Ocular Tumor. OSCAR DODD and FRANCIS LANE, Chicago.

The Venous Pulse and Blanching of Retinal Vessels, Induced by Making Pressure on Eyeball, an Index to General Blood-Pressure. MELVILLE BLACK, Denver.

Fundus Lesions Associated with Alterations in the Composition of the Blood. JAMES BORDLEY, JR., Baltimore.

Plastic Surgery of the Eyelids, Using the Wolffe Graft. F. PHINIZY CALHOUN, Atlanta, Ga.

Ocular Discomfort, the Result of Near Use of the Eyes Under Modern Artificial Illumination. NELSON M. BLACK, Milwaukee, Wis.

Changes Occurring in the Refraction of Corrected Ametropic Eyes. WILLIAM ZENTMAYER, Philadelphia.

Refraction Changes in Diabetes. CASSIUS D. WESTCOTT and JOHN B. ELLIS, Chicago.

The Psychologic Aspect of Refraction. S. L. LEDBETTER, Birmingham, Ala.

Nystagmus. E. R. LEWIS, Dubuque, Ia.

The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference. G. C. SAVAGE, Nashville, Tenn.

SECTION ON LARYNGOLOGY AND OTOLOGY

CHAIRMAN, DUNBAR ROY, ATLANTA, GA.; SECRETARY, GEORGE E. SHAMBAUGH, CHICAGO

Chairman's Address. DUNBAR ROY, Atlanta, Ga.
Treatment of Tuberculosis by Sanatorium Method in the Southwest. E. S. BULLOCK, Silver City, N. M.
Histologic Examination of the Faucial Tonsils With Reference to Tuberculosis. E. C. SEWALL, San Francisco.
Laryngeal Growths. J. McCOY, New York.
A Nasal Rubber Tampon. MARK D. STEVENSON, Akron, O.

Symposium on Diseases of the Frontal Sinus

Pathologic Conditions Involving the Frontal Sinus. B. R. SHURLY, Detroit.
Conditions in the Frontal Sinus Which Require an External Operation. C. M. COBB, Boston.
Indications for Intranasal Operations for the Relief of Frontal Sinus Disease. HARMON SMITH, New York.
Report of Twenty-Eight Killian Operations. HENRY HORN, San Francisco.
Recognition of Serous Labyrinthitis. J. R. FLETCHER, Chicago.
Report of a Case of Primary Infection of the Sigmoid Sinus and Jugular Vein. SHERMAN VOORHEES, Elmira, N. Y.

Symposium on Relations of Nasal Accessory Sinuses and Diseases of the Eye

Anatomic Conditions which Have Practical Bearing on Relations Between Diseases of Nasal Accessory Sinuses and Diseases of Eye. W. E. SAUER, St. Louis.
Eye Complications Arising from Diseases of the Nasal Accessory Sinuses. A. H. ANDREWS, Chicago.
Operative Treatment of Suppurative Sinus Disease Producing Orbital Complications. J. H. BRYAN, Washington, D. C.
Improved Technic for Skin Grafting in the Radical Mastoid Operation. C. F. WELTY, San Francisco.
Diagnosis of Retrolabyrinthine Affections. H. B. GRAHAM, San Francisco.

Symposium on Relations Between Middle-Ear Diseases and Conditions in the Nose and Throat

Influence of Climate on Middle-Ear Diseases. J. J. PATTEE, Pueblo, Colo.
How Far May Conditions in the Nose and Throat be Responsible for Middle-Ear Diseases? W. R. MURRAY, Minneapolis.
What Improvement Can Rationally be Expected from Treatment Applied to the Nose and Throat in Cases of Middle-Ear Deafness? J. F. BARNHILL, Indianapolis.



Fig. 7.—View of Glenwood Mission Inn, Riverside, with pleasure parties just about to drive away.

SECTION ON NERVOUS AND MENTAL DISEASES

CHAIRMAN, W. A. JONES, MINNEAPOLIS; SECRETARY, E. E. SOUTHARD, CAMBRIDGE, MASS.

Chairman's Address: The Sensory Pathway. W. A. JONES, Minneapolis.
Arthritic Muscular Atrophy, Clinical and Experimental. CHARLES LEWIS ALLEN, Los Angeles.
A Year's Experience with Salvarsan in Treatment of Chronic Nervous Diseases Consecutive to Syphilis. JOSEPH COLLINS, New York.
Nervous and Mental Diseases Following Castration in Women: A Statistical Study of 237 Cases. ALFRED GORDON, Philadelphia.
Recognition of the Preneurasthenic and Pre-Insane Condition in the Young, with Reference to Prevention: A Study for the General Practitioner. ROSS MOORE, Los Angeles.
Auto-Intoxication as a Cause of Mental Disease. L. VERNON BRIGGS, Boston.
A Hitherto Undescribed Symptom in Paralysis Agitans: The Cog-Wheel Movement of the Extremities. HAROLD N. MOYER, Chicago.
Cerebellopontine Tumors, Their Treatment and Possible Complications in Their Diagnosis. A. T. BRISTOW, Brooklyn, N. Y.
The Training Camp Idea in Treatment of Neurasthenic and Allied Functional Diseases. T. J. ORBISON, Pasadena.
Surgery of the Nervous System. HARVEY CUSHING, Baltimore.
Parietal Lobe Lesions in Cortical Disease. E. E. SOUTHARD, Cambridge, Mass.
The Peripheral Nerves in Experimental Poliomyelitis. E. W. MOOERS, Boston.
Voracity in Mental Diseases. J. RALPH JACOBY and EDWARD LIVINGSTON HUNT, New York.
Traumatic Nervous Diseases, with Special Considerations of the Prognosis. T. DILLER, Pittsburg, Pa.
The Study of Tumors of the Acoustic Nerve. J. RAMSAY HUNT, New York.
Tuberculous Meningitis: A Pathologic Study. JOHN H. W. RHEIN, Philadelphia.
Differential Points in Tabes Dorsalis and General Paresis. EDWARD FISHER, New York.
Chorea: A Study. H. A. COTTON, Trenton, N. J.
The Relationship of Drug Addicton to Neurology and Psychiatry. C. C. WHOLEY, Pittsburg, Pa.
State Cure of Drug and Alcoholic Habitués. DANIEL CROSBY, Oakland, Cal.
Distinct Neuropsychoses Common to All Cases of Inebriety and Alcoholism. T. D. CROTHERS, New Haven, Conn.
Recent Advances in Treatment of Narcotic Drug Addictions. C. L. CASE, Oakland, Cal.
Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment. GEORGE E. PETTEY, Memphis, Tenn.
Importance of Determining the Cause of Inebriety. BENJAMIN T. BURLEY, Worcester, Mass.
Neuropathologic Studies. G. Y. RUSK, Berkeley, Cal.
Defects of the Mouth and Throat and Their Relations to Cerebral Disorders. GEORGE V. I. BROWN, Milwaukee, Wis.
Experimental Poliomyelitis. DRS. LUCAS and OSGOOD, Boston.
Spinal Pachymeningitis. JAMES J. PUTNAM, Boston.
Tabetiform Degenerations in a Case of Compression of the Spinal Cord by Aortic Aneurysm. J. B. AYER, Boston.
The Diagnosis and Prognosis of the Unfit. LOUISE PATTERSON, Vineland, N. J.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

CHAIRMAN, W. A. EVANS, CHICAGO; SECRETARY, C. HAMPSON JONES, BALTIMORE

Ventilation of Cars. T. R. CROWDER, J. A. DENNY and C. A. SCHROYER, Chicago.
Prevention of Ophthalmia Neonatorum. F. PARK LEWIS, Buffalo, N. Y.
Control of Venereal Disease by a Municipality. GUY L. KIEFER, Detroit, Mich., and GEORGE M. KOBER, Washington, D. C.
Public Education. J. N. HURTY, Indianapolis; W. F. SNOW, Stanford University, California, and OSCAR DOWLING, Shreveport, La.
Typhoid Fever. L. L. LUMSDEN, Washington, D. C.; W. C. RUCKER, P. H. & M.-H. S., and A. W. FREEMAN, Richmond, Va.
Small-Pox. H. M. BRACKEN, St. Paul, Minn.

Control of Tuberculosis, Laws, etc., for Resort Communities. G. W. HOLDEN, Montclair, Colo.; W. J. BARLOW, Los Angeles, Cal., and W. H. ANDERSON, El Paso, Texas.
Laws for Small Communities. B. F. ROYER, Harrisburg, Pa.
Disinfectants. W. E. POST and E. K. NICOLL, Chicago.
Controlling Hydrophobia in the Human Subject. A. M. STIMSON, Washington, D. C.
Methods for Controlling Diphtheria. C. HAMPSON JONES, Baltimore; M. L. PRICE, Baltimore, and W. C. WOODWARD, Washington, D. C.
Control of Bovine Tuberculosis in Relation to Milk Supply. M. P. RAVENEL, Madison, Wis.
Pasteurization. P. G. HEINEMANN and E. O. JORDAN, Chicago.
Plague Control Methods. RUPERT BLUE, San Francisco.



Fig. 8.—A group of residences. Note the characteristic California foliage.

Controlling Privy Vaults and Night Soil in a City. CLYDE E. FORD, Cleveland, and R. G. BRODERICK, San Francisco.
Educating a City in Public Health. RAYMOND RUSS, San Francisco; D. L. EDSALL, Philadelphia, and E. R. PRITCHARD, Chicago.
Houses for Working Men. C. C. BROWNING, Monrovia, Cal., G. H. KRESS, Los Angeles, Cal., and C. B. BALL, Chicago.
Purification of Sewage. RUDOLPH HERING, New York, and ARTHUR LEDERER, Chicago.
Methods of Controlling a Milk Supply in Cities with a Railroad Haul. E. J. LEDERLE, New York.
Prompt Marketing of Milk. L. S. MACE, San Francisco.
Physical Examination of School Children. GEORGE L. LESLIE, E. C. BEACH, Los Angeles, and E. B. HOAG, Pasadena, Cal.

Control of Oysters.
H. W. WILEY and CHARLES WARDELL STILES, Washington, D. C.

Methods for Control of Tuberculosis in a Resort State.
W. S. GODFREY and T. Y. HULL, San Antonio, Texas.

Pellagra. C. F. WILLIAMS, Columbia, S. C.; W. S. RANKIN, Raleigh, N. C., and H. F. HARRIS, Atlanta, Ga.

Legal Principles of Police Power.
W. A. EVANS, Chicago; H. B. HEMENWAY, Evanston, Ill., and HON. HARRY OLSON, Chicago.

Efficiency Methods in Public Health Work. G. KOEHLER, Chicago.

Control of Contagion Through Doctors and Nurses.
HEMAN SPALDING, J. D. RAWLINGS and H. COHEN, Chicago.



Infantile Paralysis.
Methods for Control. W. H. FROST, P. H. & M.-H. S., S. G. DIXON, Harrisburg, Pa.

Public Exhibits for Permamanent Installation.
FRANK B. WYNN, Indianapolis.

The Cause of Arteriosclerosis and Its Prevention. LOUIS F. BISHOP, Buffalo, N. Y.

Woman's Place in the Public Health Movement. ROSALIE SLAUGHTER MORTON, New York.

The Reportability of Syphilis and Gonorrhœa. FRANCES M. GREENE, Cambridge, Mass.

Control of Drinking-Water.
W. F. DUTTON, Carnegie, Pa., and G. E. FELL, Buffalo, N. Y.

Blood-Pressure and Its Bearing on Public Health Problems.
HARLEY E. MCDONALD, Los Angeles

Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes.
G. E. FELL, Buffalo, N. Y.

The Methods of Making Throat Cultures.
F. O. TONNEY, Chicago.

Fig. 9.—Street views. The picture above is at Fourth and Main Streets, looking west. Farmers and Merchants Bank on left. Hotel Westminster and Hotel Van Nuys on right; also H. W. Hellman Building. The tall building in the rear of the banks is the Union Trust Building, the last two being on the corner of Fourth and Spring Streets; the view below is a bit of Broadway, one of the main shopping streets of the city.

SECTION ON STOMATOLOGY

CHAIRMAN, STEWART L. MCCURDY, PITTSBURG, PA.; SECRETARY, EUGENE S. TALBOT, CHICAGO.

Oral Development in the Progeny Influenced by the Buccal Tissues During Pregnancy. ARTHUR ZENTLER, New York.

Importance of the Deciduous Teeth in the Development of the Child. M. EVANGELINE JORDON, Los Angeles, Cal.

Alteration in Nostril from Birth to Puberty: Relation to Operations on Lip and Nose. T. E. CARMODY, Denver.

Speech Defects Due to Imperfect Development Without Cleft Palate. GEORGE V. I. BROWN, Milwaukee, Wis.

Acute Mercurial Poisoning Followed by General Necrosis of Maxillæ and Otitis.
ADOLPH B. BAER, San Francisco.

Some Bacterial and Non-Bacterial Diseases. E. S TALBOT, Chicago.

Dental Subjects Touching Medical Fields.
EUGENE R. WARNER, Denver.

The Stomatologic School in the United States.
HILAIRE ALLAEYS, Antwerp, Belgium.

(a) Report of the Committee on the Advancement of Stomatologic Education. (b) Report from the Committee on the Advancement of Stomatologic Education from the American Medical Association to The Carnegie Foundation for the Advancement of Teaching.
EUGENE S. TALBOT, Chicago; HERBERT A. POTTS, Chicago; FREDERICK B. MOOREHEAD, Chicago.

Intimate Relation Between Condition of Oral Cavity and General Health. C. DEICHMILLER, Los Angeles.

Osteomyelitis of Maxilla. A. B. BAER, San Francisco.

SECTION ON DISEASES OF CHILDREN

CHAIRMAN, S. M. HAMILL, PHILADELPHIA; SECRETARY, L. T. ROYSTER, NORFOLK, VA.

Chairman's Address: The Opportunities of the Pediatrist in Relation to Public Health.
S. M. HAMILL, Philadelphia.

Report on Brain Cases in Children.
WILLIAM J. BUTLER, Chicago.

A Study of Children in Reference to Enteroptosis.
RICHARD R. SMITH, Grand Rapids, Mich.

Institutional Care of Young Infants.
THOMAS S. SOUTHWORTH, New York.

Influence of Summer Heat on Production of Gastro-Intestinal Diseases of Infants. I. A. ABT, Chicago.

A Statistical Investigation on the Influence of Various Methods of Infant Feeding on the Morbidity and Mortality of Infants, Occurring in New Orleans from August 1, 1909, to July 31, 1910.
W. W. BUTTERWORTH, New Orleans.

Recent Experiences in Artificial Feeding of One Hundred Infants During the First Three Months of Life.
F. C. NEFF, Kansas City, Mo.

Relationship of Gastric to Pancreatic Fat Digestion in Infants.
J. P. SEDGWICK and F. W. SCHULTZ, Minneapolis.

The Neurotic Basis of Juvenile Delinquency, Based On Some Special Cases of the San Francisco Juvenile Court.
PHILIP KING BROWN, San Francisco.

Obstructions at the Pylorus Occurring in Infants.
LANGLEY PORTER, San Francisco.

Etiology and Treatment of Acute Nephritis in Children, With Report of Fourteen Cases.
H. M. MCCLANAHAN, Omaha, Neb.

Relation of Meat Ingestion to Indicanuria in Childhood.
E. C. FLEISCHNER, San Francisco.

Rachitis in Its Early Stages.
J. W. COKENOWER, Des Moines, Ia.

Leukemia in Childhood. W. F. CHENEY, San Francisco.

Tuberculosis of the Bronchial Glands; Symptomatology, Physical Signs and *X*-Ray Appearance.
HENRY FARNUM STOLL, Hartford, Conn.

Joint Session with Section on Medicine

Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania. SAMUEL G. DIXON, Harrisburg, Pa.

Recent History and Etiology of Infantile Paralysis.
ROBERT W. LOVETT and MARK W. RICHARDSON, Boston.

Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis.
ROBERT W. LOVETT and MARK W. RICHARDSON, Boston.



Fig. 10.—Two views of the beach at Ocean Park. Does it remind you of Atlantic City?

Infantile Paralysis as Observed in Massachusetts, 1907-10.
ROBERT W. LOVETT and MARK W. RICHARDSON, Boston.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

CHAIRMAN, LAWRENCE LITCHFIELD, PITTSBURG, PA.; SECRETARY, M. I. WILBERT, WASHINGTON, D. C.

Chairman's Address. LAWRENCE LITCHFIELD, Pittsburg.

Address of Chairman of Delegation from American Pharmaceutical Association. ALBERT SCHNEIDER, San Francisco.

Report of the Committee on the United States Pharmacopeia, by the Chairman. REID HUNT, Washington, D. C.

Dangers of Certain Ethical Proprietary Preparations to Both Physicians and Public. M. H. FUSSELL, Philadelphia.
Present Status of Treatment of Hyperthyroidism by an Antithyroid Serum. SILAS P. BEEBE, New York.
Pharmacology of Caffein. WILLIAM SALANT, Washington, D. C.
Pressor Principle of Our Eastern Mistletoe. A. C. CRAWFORD, Stanford Univ., Cal.
Treatment of Chronic Hypertension. L. G. VISSCHER, Los Angeles.
Purin Content of Common Articles of Food. H. D. ARNOLD and RALPH C. LARRABEE, Boston.
Uric Acid and Purin Metabolism. A. C. REED and GEO. B. WALLACE, New York.



Fig. 11.—View of Redlands and the orange groves, with the mountains in the background.

Experiments on Relation of Thyroid to Diet. REID HUNT, Washington, D. C.

Symposium on Uncinariasis

Treatment of Hookworm Disease in the Individual and in the Community. CHARLES W. STILES, Washington, D. C.
Relative Efficiency, as Compared with Thymol, of Certain Proposed Remedies for Hookworm Disease. W. H. SCHULTZ, Washington, D. C.
Hookworm Infection in the Deep Gold Mines of California. E. E. ENDICOTT, Jackson, Cal.



Fig. 12.—The famous eucalyptus drive.

Hookworm Disease. HERBERT GUNN, San Francisco.
Prevention of Hookworm Disease in California. WILLIAM F. SNOW, Sacramento, Cal.
Therapeutics of Ulcer of the Stomach. J. R. ARNEILL, Denver.
Relative Value of Physical and Functional Signs in the Management of Failing Circulation. EMILE SCHMOLL, San Francisco.
Relation of Cardiac Irregularities to Treatment. A. W. HEWLETT, Ann Arbor, Mich.
Factors in Treatment of Myocardial Lesions. W. W. KERR, San Francisco.
Choice of Diuretics in Cardiac Edema. EGBERT LEFEVRE, New York.



Fig. 13.—Picking oranges—a pleasure to anticipate.

Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs. WORTH HALE, Washington, D. C.
Relations of the Nervous Mechanism of the Heart to Drug Effects as Indicated by Experiments on the Terrapin. RAY LYMAN WILBUR, San Francisco.
Use of the Different Salicylates in Rheumatism. ALEXANDER LAMBERT, New York.
Use of Salvarsan. J. O. HIRSCHFELDER, San Francisco.
Further Experience with Salvarsan at the New York Skin and Cancer Hospital. HOWARD FOX and WILLIAM B. TRIMBLE, New York.



Fig. 14.—A residence at Redlands.

Treatment of Hemoptysis in Pulmonary Tuberculosis. MAX ROTHSCHILD, San Francisco.
Climate in Treatment of Pulmonary Tuberculosis. W. JARVIS BARLOW, Los Angeles.
Management of Endopericarditis as a Complication of Acute Tuberculosis. FRANK A. JONES, Memphis.
Dietetic Studies in Sanatoria for the Tuberculous in Colorado. C. D. SPIVAK, Denver.
Hypodermic Use of Citrate of Iron in Secondary Anemias. E. S. BULLOCK and LEROY S. PETERS, Silver City, N.M.

Specific Tissue Inoculation of Vaccine.
GERALD B. WEBB and G. BURTON GILBERT, Colorado Springs, Colo.

Studies on the Treatment of Pneumonia, Typhoid Fever and Other Infections with Bacterial Vaccines.
AUGUSTUS F. SCHAFER, Bakersfield, Cal.

Report on One Hundred and Thirty Cases of Psoriasis in Private Practice on a Strictly Vegetarian Diet.
L. DUNCAN BULKLEY, New York.

The Rôle of Pharmacology and of Empiricism in the Management of Postoperative Cases.
S. T. POPE, Watsonville, Cal.



Fig. 15.—A group of views in Los Angeles and some surrounding points of interest: A view in Eastlake Park; the Cawston ostrich farm; pigeon farm in Los Angeles, 100,000 birds; the cable incline on Mount Lowe; view of the harbor and shipping at San Pedro; the cliffs at Santa Monica; street in Chinatown, Los Angeles.

Difficulties Encountered in the Therapeutic Use of Tuberculin.
F. M. POTTENGER, Monrovia, Cal.

Production of Immunity in Tuberculosis by Intravenous Injections of Tuberculin. CHARLES A. SHEPARD, Needles, Cal.

How Our Therapeutics May Be Improved.
BOARDMAN REED, Alhambra, Cal.

The Principles of Hydrotherapy in the Treatment of Diseases.
GEORGE K. ABBOTT, Loma Linda, Cal.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Chairman, YANDELL HENDERSON, New Haven, Conn.; Secretary, LEO LOEB, St. Louis.

Chairman's Address: Clinical Physiology, an Opportunity and a Duty. YANDELL HENDERSON, New Haven, Conn.

Streptothrix and Streptothricosis. E. J. CLAYPOLE, Los Angeles.

Relation of Specific Precipitation to the Reaction of Fixation. FREDERICK R. GAY, Berkeley, Cal.

Specificity. H. GIDEON WELLS, Chicago.

Heart-Block. J. G. VAN ZWALUWENBURG, Ann Arbor, Mich.

Pathology of Joint Tuberculosis, with Lantern Slide Demonstration. LEONARD W. ELY, Denver.

Immunity in Tuberculosis. Its Production in Monkeys and Children. GERALD B. WEBB and WM. WHITRIDGE WILLIAMS, assisted by ALEXIUS M. FORSTER and G. BURTON GILBERT, Colorado Springs, Colo.

Hypertrophy and Cancer of the Prostate. LOUIS B. WILSON and B. F. MCGRATH, Rochester Minn.

Antiformin. FRANK SMITHIES, Ann Arbor, Mich.



Fig. 16.—A group of headquarters hotels; in the center is the Alexandria, the general headquarters; above to the left is the Lankershim (Practice of Medicine); to the right, the Angelus (Otology and Laryngology); at the left below, the Van Nuys (Ophthalmology), and to the right, the Westminster (Diseases of Children).

Some Factors that Determine the Virulency of the Bacillus Coli Communis. FENTON B. TURCK, Chicago.

A Laboratory Study of the Metabolic Products of Certain Pathogenic Bacteria. E. MARK HOUGHTON, Detroit.

Bacteriology of the Ear. JESSIE B. HUDSON, Iowa City, Ia.

Photogenic Bacteria. HALDEN JONES, Los Angeles.

Reactions Induced by Antityphoid Vaccine. HENRY ALBERT and A. M. MENDENHALL, Iowa City Ia.

Splenic Anemias. J. F. HULTGEN, Chicago.

A Case of Diffuse Cerebral Sclerosis Occurring in Infancy. GLANVILLE Y. RUSK, Berkeley, Cal.

A Study of Experimental Bland Infarction. HOWARD T. KARSNER and J. H. AUSTIN, Philadelphia.

Some Urinary Findings in Eclampsia. L. B. STOCKEY, Los Angeles.

Influence of the Thyroid Gland on the Healing of Fractures. R. L. THOMPSON, St. Louis.

Subacute and Chronic Nephritis as Found in 100 Unselected Post-Mortem Examinations.
W. OPHÜLS, San Francisco.

Verruca Peruana.
SAMUEL T. DARLING, Ancon Hospital, Canal Zone.

The Pathogenesis of Balantidium Coli.
FRED B. BOWMAN, Manila. Presented by W. E. MUSGRAVE, Manila, P. I.

The Pathogenesis of Interstitial Myocarditis and Hypertrophy of the Heart.
LEO LOEB and MOYER S. FLEISCHER, St. Louis.

The Action of Drugs in Pathologic Conditions.
WILLIAM SALANT, Washington, D. C.

Bone Hyperplasia and Tumor of Bone.
E. R. LECOUNT, Chicago.

The White Cells in Tuberculosis.
W. WARNE WATKINS, Phoenix, Ariz.

The Use of Rebreathing in Administration of Anesthetics and as a Therapeutic Measure.
W. D. GATCH, Baltimore.

Wednesday night a reception in honor of the President will be given at the Shrine Auditorium. This is the most formal social function of the meeting.

Thursday night a smoker and vaudeville entertainment will be given at the Hamburger Roof Garden, Eighth and Broadway, to which everybody is invited.

Friday night there will be a midsummer night carnival at Venice and Ocean Park beaches. These beaches are reached by electric trains from the central station on Hill Street, between Fourth and Fifth.

The afternoon programs for the benefit of the ladies will include a reception and tea at the Hotel Alexandria Tuesday afternoon; an automobile trip about Los Angeles Wednesday forenoon; a garden party on the grounds of Dr. and Mrs. W. Jarvis Barlow in Los Angeles Wednesday afternoon, and Thursday afternoon an Al Fresco Musicale on the grounds of the residence of Dr. and Mrs. Norman Bridge in Los Angeles.



Fig. 17.—View of Avalon and the bay on Catalina Island, twenty miles from the coast of San Pedro harbor. A pleasure trip has been arranged for the members and their friends to Catalina Island. Points of interest on the island are: Sugarloaf Island; Hotel Metropole; glass-bottom boats for observing marine life on the bottom of the bay; Greek theater for band concerts; wireless station.

ENTERTAINMENTS

Social Functions and Amusements Abundantly Provided for the Los Angeles Meeting

An elaborate series of entertainments and amusements has been provided for the members and the visiting ladies during the meeting. The evening entertainments will be as follows:

On Monday night there will be banquets and smokers of several of the auxiliary societies which meet a day ahead of the American Medical Association.

Tuesday night will occur the banquets, smokers and vaudevilles of the sections and the various college classes, etc. The places and times of holding these entertainments, and further details, will be announced later, or on arrival at the meeting.

On Friday a Spanish luncheon and flower fête will be given at noon in the Sunken Gardens in Pasadena. These gardens comprise eighty acres and are acknowledged to be the most beautiful in America. Views of the gardens will be found in this issue. Following the luncheon, there will be Roman chariot races and a wild west tournament at Rose Tournament Park in Pasadena. This will be a unique entertainment. Automobiles will be provided to carry the visitors to the Sunken Gardens and to the park.

On Saturday, and on Friday also, there will be trips to Catalina, the magic island of the Pacific, with side trips in the glass bottom boats to the famous deep sea gardens. A typical Spanish barbecue will be given to the guests on both days. Another point of interest on the island is the Seal

Rocks. The fishing, which is famous at Catalina, will also attract many.

On Saturday also, there will be trolley trips to Long Beach, with luncheon at the Hotel Virginia, and a trip to Los Angeles harbor at San Pedro, with a cruise on the boats of the South Coast Yacht Club.

Other trips to surrounding resorts and cities may be made on Saturday and Sunday, or at any time during the week.

Southern California is a holiday country and there is no end of entertaining trips that may be taken through the orange groves, to the mountains or to the San Gabriel valley and the old San Gabriel Mission.

COMMITTEE ON BUREAU OF INFORMATION

Chairman, Dr. J. Y. Oldham, 214 Grant Building.

COMMITTEE ON RECEPTION AT RAILROAD STATION

Chairman, Dr. Earl Sweet, 823 Story Building.

COMMITTEE ON HOTELS AND HEADQUARTERS

Chairman, Dr. W. LeMoyne Wills, 540 Wilcox Building.

COMMITTEE ON HALLS

Chairman, Dr. John T. Ferbert, 222 Bradbury Building.

COMMITTEE ON SECTION MEETING PLACES

Chairman, Dr. Albert Soiland, 916 Wright & Callender Building.

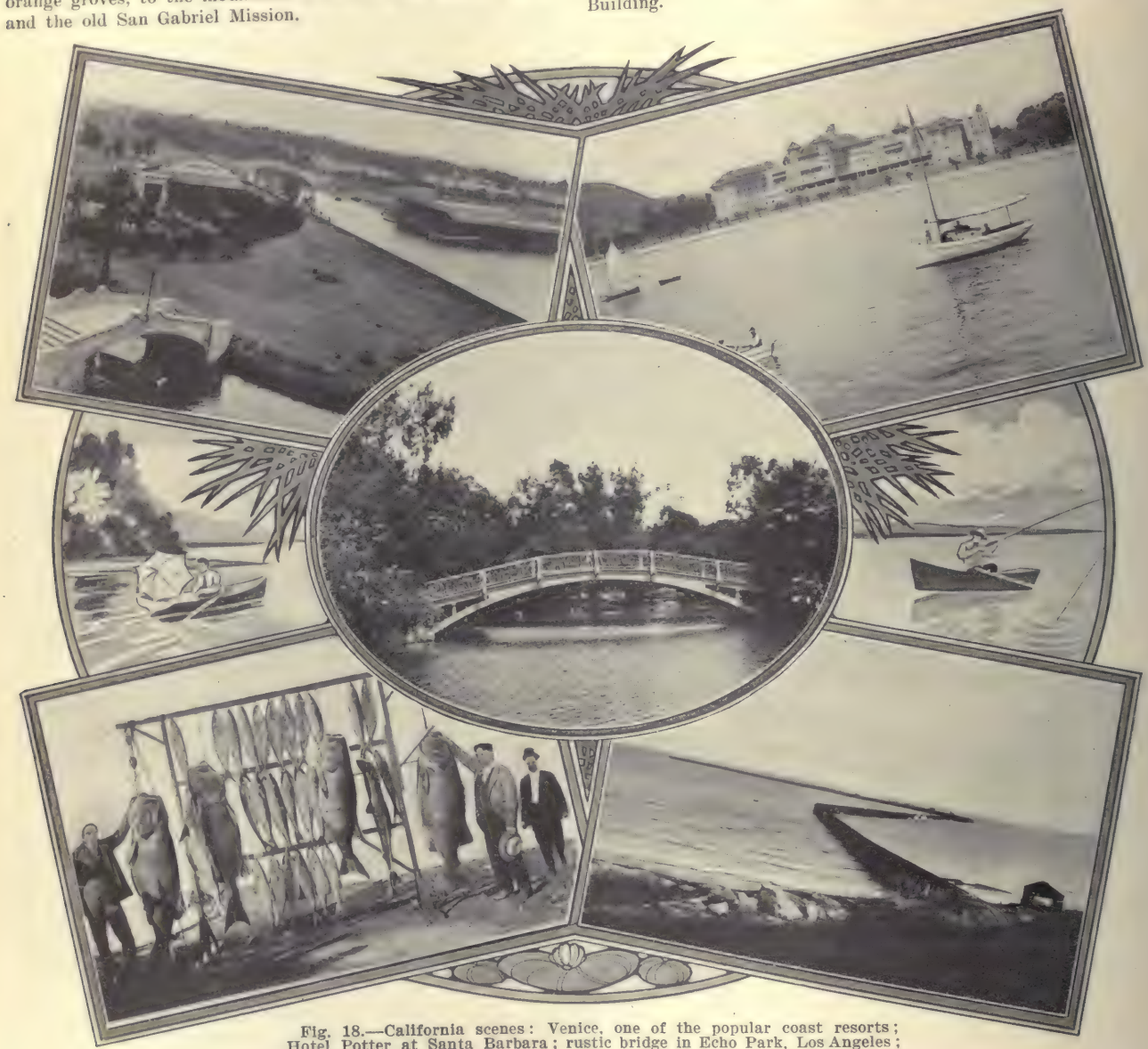


Fig. 18.—California scenes: Venice, one of the popular coast resorts; Hotel Potter at Santa Barbara; rustic bridge in Echo Park, Los Angeles; a day's catch of fish at Catallina; view of the government breakwater at San Pedro, nearly 10,000 feet in length; cost nearly $3,000,000.

COMMITTEE ON ARRANGEMENTS

The central office of the Los Angeles Committee on Arrangements is at 240 Bradbury Building, Third and Broadway, and is in charge of Dr. H. Bert. Ellis, Chairman, and Dr. George H. Kress, Secretary.

CENTRAL EXECUTIVE COMMITTEE

General Chairman, Dr. H. Bert. Ellis, 245 Bradbury Building; General Secretary, Dr. George H. Kress, 240 Bradbury Building; Treasurer, Dr. Walter Lindley; Dr. Fitch C. E. Mattison, Pasadena; Dr. W. Jarvis Barlow.

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Vice-Chairman, Clarence W. Pierce.

Section on Practice of Medicine, Dr. Dudley Fulton.

Section on Surgery, Dr. E. R. Smith.

Section on Obstetrics and Diseases of Women, Dr. M. L. Moore and Carl Kurtz.

Section on Ophthalmology, Dr. T. J. McCoy.

Section on Laryngology and Otology, Dr. Hill Hastings.

Section on Nervous and Mental Diseases, Dr. H. G. Brainerd.

Section on Preventive Medicine and Public Health, Dr. L. M. Powers.

Section on Diseases of Children, Dr. Clarence Moore.

Section on Pharmacology and Therapeutics, Dr. Theodore G. Davis.

Section on Dermatology, Dr. Ralph Williams.
Section on Pathology and Physiology, Dr. John C. Colliver.
Section on Stomatology, Dr. J. Franklin Cook.

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Chairman, Dr. C. B. Nichols, 721 Grant Building.

COMMITTEE ON REGISTRATION

Chairman, Dr. W. W. Beckett, 213 Exchange Building.

COMMITTEE ON COMMERCIAL EXHIBIT

Chairman, Dr. W. H. Kiger, 306 Conservative Realty Building.

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Chairman, Dr. J. H. Seymour, 311 Grant Building.

COMMITTEE ON PROGRAM

Chairman, Dr. O. O. Witherbee, 606 Auditorium Building.

COMMITTEE ON BADGES

Chairman, Dr. F. M. Pottenger, 1202 Union Trust Building.

COMMITTEE ON NON-AFFILIATED ASSOCIATIONS

Chairman, Dr. Granville MacGowan, 602 Lissner Building.

COMMITTEE ON SMOKER ENTERTAINMENT

Chairman, Dr. Chas. W. Bryson, 402 Delta Building.

COMMITTEE ON SECTION ENTERTAINMENTS

Chairman, Dr. Andrew Stewart Lobingier, 609 H. W. Hellman Building.

COMMITTEE ON PRESIDENT'S RECEPTION

Chairman, Dr. W. Jarvis Barlow, 616 Security Building.

COMMITTEE ON PRESS AND PUBLICITY

Chairman, Dr. George H. Kress, 240 Bradbury Building.

ASSISTANT EDITOR OF THE BULLETIN

Dr. Donald J. Frick, 815 Wright & Callender Building.

COMMITTEE ON SCIENTIFIC EXHIBIT

Local Representative, Dr. Stanley P. Black, 424 Auditorium Building.

COMMITTEE ON ENTERTAINMENT OF LADIES

Mrs. Walter Lindley, 2007 South Figueroa Street.

REGISTRATION

Importance of Registering Early

The Registration Headquarters will be found in connection with the Scientific Exhibit, the Postoffice and Commercial Exhibit on the fourth floor of the Hamburger Building, at the corner of Eighth Street and Broadway, easily accessible from hotels and meeting places, or by the car lines from the depots by those who wish to go there directly.

It will be necessary to register in order to obtain the official badge and program. No one will be admitted to any entertainment without a badge. Members are urged to register as soon as they can name their hotels.

The Registration Department will be open from 8:30 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 26, 27, 28 and 29, and from 9 to 10 a. m. on Friday, June 30.

Attention is called to the following directions:

1. Each physician desiring to register will first fill out a registration card. One should write very plainly, or print, as the cards are given to the printer to use as "copy" for putting the names in the daily *Bulletin*.

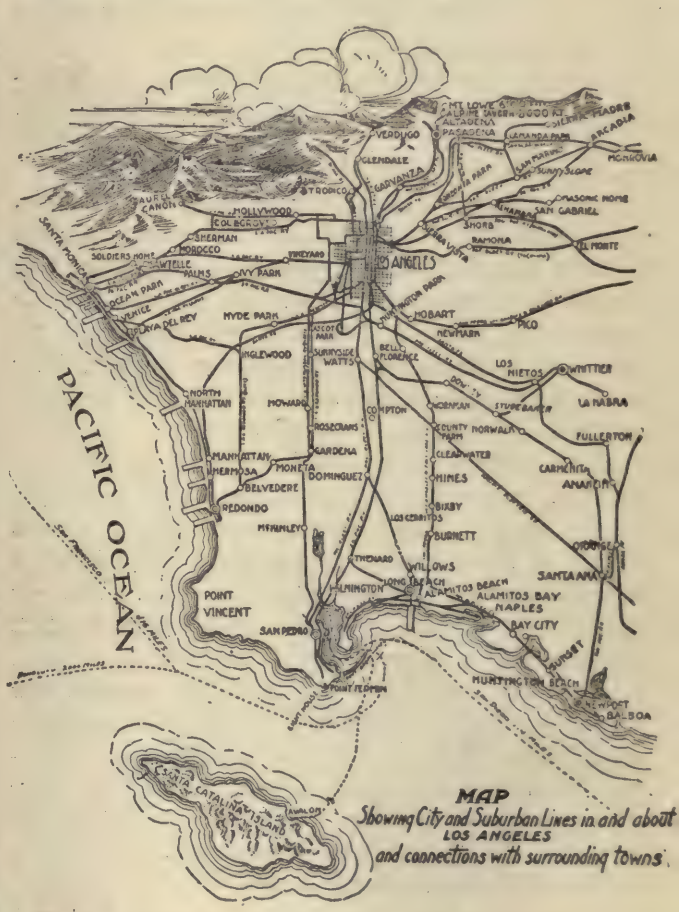
2. *Each member who has paid his annual dues* in full will present his pocket card (which was sent him from the Chicago office) and his filled-out registration card at a window marked "Registration by Pocket Card."

3. *The registration of members* who have paid their dues, but *who have failed to bring their pocket cards*, will be delayed, while the records are consulted. Hence, be sure to bring your "pocket card."

4. *Members who have not paid* their dues will present registration card and make payment at a window marked "Cash."

5. *Each applicant for membership* will present his registration card at the window marked "New Members," with a certificate of membership in his state society. Prospective members, however, will save delay and annoyance by sending in their applications before the session. All such applications should be mailed to the American Medical Association, 535 Dearborn Avenue, Chicago, so as to arrive not later than June 15.

6. Each member on registration will receive a badge, a copy of the Official Program, containing the full details of the scientific proceedings, invitations to the social functions, and such other announcements as may be necessary.



MAP
Showing City and Suburban Lines in and about LOS ANGELES and connections with surrounding towns.

INFORMATION FOR ARRIVING MEMBERS

The three transcontinental lines which come into Los Angeles are the Southern Pacific Railroad, the Santa Fe Railroad and the Salt Lake Railroad.

Arrangements will be made to have local committeemen at each of these depots. The cars which pass these depots take one to the heart of the business and hotel districts. A reference to the map in this issue showing the different streets and the locations of the hotels and meeting places will make the transfers easy.

The street cars coming from the Santa Fe and the Salt Lake railroads nearly all go south on Broadway, Spring or Main streets, so that one has simply to remember the numerical street number where one wishes to get off. The cars from the Southern Pacific run west and reach the hotel district in the neighborhood of Fourth and Fifth and Spring streets.

Those who arrive in the daytime, if they wish, can take the cars at the Santa Fe and Salt Lake stations and go direct to the Bureau of Information on the fourth floor of the Hamburger Building, which is the block bounded by Eighth, Broadway and Hill streets.

[THIS LOS ANGELES MATTER IS CONTINUED ON PAGE 1521.]

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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[*For other information see second page following reading matter*]

SATURDAY, MAY 20, 1911

INTESTINAL ANAEROBES

The problem of the intestinal anaerobic bacteria, though one of enormous complexity, has been attacked by many investigators, and results both interesting and valuable have been obtained. Passini[1] in a recent article has reviewed some of these, and while space will not permit an enumeration of the various workers, their results are of such interest as to warrant their presentation here.

The meconium of the new-born child, as might be expected, is sterile. But in a few hours, depending largely on the child's environment, microorganisms appear in it, and even among these early invaders anaerobic bacteria take an important part. The gas bacillus (*B. welchii*) appears to be the most constant and important of these. With the ingestion of mother's milk the intestinal flora alters, the chief anaerobe now present being the so-called *Bacillus bifidus,* an organism closely akin to, if not identical with, the familiar Oppler-Boas bacillus. Subsequent alterations in food evoke changes in the bacteriology of the child's intestines, and it is only with the adoption of adult diet that the bacteria assume the corresponding type.

Of the various anaerobes the greatest amount of work has been devoted to the butyric-acid-forming group, of which the gas bacillus is a typical example. As with organisms of the colon group, it has been found that the different members, while fairly sharply differentiated from one another, possess intervening types that would make any precise classification a matter of difficulty. Again, as with the colon group, it has been found possible with these bacteria to demonstrate the phenomenon of group agglutination, and thus to support the idea of kinship between the various individual organisms.

The pathologic significance of the anaerobic intestinal flora offers a still comparatively unexplored field. Numerous experiments have led to the belief that bacterial invasion of the alimentary tract is in the main distinctly beneficial, and apparently it is only when certain organisms become unduly predominant, or altered nutrition affords opportunities for abnormal activity of special organisms, that direct harm results. The problems confronting the investigator in this field are of unusual difficulty, and definite etiologic relationships between specific diseases and anaerobic intestinal infections cannot be regarded as absolutely established. Several instances, however, of fairly constant association of the one with the other, are known. Thus Herter[2] has found that primary anemias of the pernicious type are ordinarily associated with predominance of *B. welchii* in the feces. And so, too, the so-called "enteric catarrh" of infancy has received much attention from this point of view. This alimentary disorder follows as a rule on an excessive sugar diet. In the normal infant, sugar digestion and absorption are practically complete before the lower small intestine is reached; but with large amounts of sugar in the diet, this is no longer the case, and an abnormal medium is provided for the anaerobes inhabiting this part of the alimentary tract. Now it has been found that with special media—essentially albuminous material subjected to tryptic digestion, with subsequent addition of sugar—the gas bacillus is capable of producing a substance violently poisonous, in suitable, though small, doses to laboratory animals. It produces rapid death by paralysis of the respiratory center when given intravenously; and when it is injected into the intestines of dogs, violent peristalsis ensues, with temporary recovery and late death from a hemorrhagic inflammation of the intestinal mucosa. When this substance is applied locally to smooth muscle, tetanic contractions of long duration result. It is, of course, unsafe to ascribe to the action of this poison the human clinical picture. But in favor of this view are the following facts: First, in the stools of enteric catarrh the prevailing organism appears to be the gas bacillus; second, the disease occurs, for the most part at least, in cases of excessive sugar-feeding; third, elimination of sugar from the diet, along with improvement in the patient, is accompanied by a change in the intestinal flora, the spore-free sugar-fermenting type of the gas bacillus giving place to the sporing form, typical of growth in sugar-free media; and fourth, on one occasion at least it has been possible to obtain the characteristic poison by alcoholic extraction of the stools in this disease. The poison thus possibly at the bottom of enteric catarrh is apparently not a toxin in the bacteriologic sense. It is relatively very stable to heat and preservation; it can be extracted with alcohol; and attempts to obtain an antitoxin have been unsuccessful. In its formation, the presence of both sugar and the products of tryptic digestion appear to be essential. Whether or not this toxic substance is identical with the butyric acid produced by the organism, cannot be regarded as absolutely settled. McCampbell[3] obtained as poisonous an effect from solutions of butyric acid of strength equivalent to that of the bacterial cultures as from the filtered cultures themselves; but Passini states that neutralization or even alkalinity of his special medium has no effect on the toxicity.

1. Passini: Jahrb. f. Kinderh., 1911, l: xiii, 284.

2. Herter: Jour. Biol. Chem., 1906, ii, 1.
3. McCampbell: Jour. Infect. Dis., 1909, vi, 537.

It is unfortunate that the connection between the results of the laboratory and the clinical pictures is in part at least conjectural. The necessity for further work is of course obvious; but the results hitherto obtained, though not in themselves conclusive, are of such a nature as to invite the investigation that must lead toward ultimate solution of the problems presented.

EUROPE IN ADVANCE OF US—A TRIBUTE TO HERMANN KNAPP

The recent death of Dr. Hermann Knapp has occasioned a reflection not complimentary to the American people. Before he began his American career he had studied in several European universities, and had established a dispensary and hospital for eye diseases which is now a part of the University of Heidelberg, at which he taught four years. The science and the art of ophthalmology in this country were indeed a puny pair of twins until 1868, when Knapp brought us the ophthalmoscope which his teacher, von Helmholtz, had invented seventeen years before, and which von Graefe—of whom Knapp was also a student—had applied to eye diseases. Thus, Knapp's advent among us initiated the special work in orbital practice by which such beneficent results are now every day in evidence.

Soon after he established himself in New York, Dr. Knapp founded the New York Ophthalmological and Aural Institute, where under him many of the foremost workers in eye diseases in this country received their early training. Himself an extensive producer of papers, treatises and text-books, he began those *Archives of Ophthalmology and Otology* which are to-day an imposing monument to his zeal for the dissemination of the best literature in this special field. The span of his life was eight decades; and from his youth almost to his death, he gave to humankind the best of his heart and mind and strength; night and day he worked, sustained by a most inspiring enthusiasm for his calling and for humanity, until several years ago his health quite gave way; the prosperous and the penniless received alike his equal ministrations.

Now, outside his profession, the American people, whom he served with such self-abnegation, have permitted the occasion of his death to pass practically unnoticed; the representative lay press has given his career not nearly as much space as would be devoted to that of a pugilist or a second-rate politician. True, there was that in Dr. Knapp's fine temperament which lent itself to effacement; he shrank ever from ostentation. It was sought repeatedly to give dinners in his honor, to celebrate his anniversaries; on his retirement from the faculty of the College of Physicians and Surgeons the students wanted to commemorate his services; but he would have none of that. For his seventieth birthday a like celebration was planned; but he kept out of the way until the day and the occasion had passed. Loving-cups, engrossed resolutions and the like are indubitably good in their way; but they were not in Dr. Knapp's way.

Now to the point: had Dr. Knapp died in Germany or in France, his beneficent life and labors would have been the themes of grateful and nation-wide eulogy. For example, in Paris, Berthelot was laid in state in the Pantheon, a great assembly giving its presence, the president of the republic, the diplomatic corps, members of the French Academy, judges, deputies, senators, deputations from many societies, taking part; the French Minister of Education related impressively the dead chemist's achievements; the whole Parisian garrison defiled before the catafalque; on that day every school in France was closed.

The honor paid the memory of Pasteur is another instance: There was several years ago a *plébiscite* to determine who were the ten greatest Frenchmen of the nineteenth century; 15.000,000 votes were cast. Who was first? Napoleon? No. Victor Hugo? No. Pasteur headed the list; among the ten were Curie and Roux; Ampère came eleventh; and Arago, the physicist, was fifteenth.

Virchow's funeral was most impressive, in that the whole German people took part. Von Bergman died in Berlin; but on his seventieth birthday (without waiting to bestow posthumous honors, and while he was still in the plenitude of his powers), his fellow-countrymen, both professional and lay, gave him the fullest meed of respect and affection; about forty delegations, bringing gifts of all kinds, consumed nearly five hours in passing before him. The imperial government, and the great seats of learning were represented; men notable in the arts, in music and the drama, and in other lofty pursuits paid tribute to his sympathetic appreciation of professions other than his own; four important works were prepared and published in commemoration of this great birthday.

Thus do they honor science and the humanities on the Continent. We, it would seem, have still considerable progress to make before we reach a like stage in civilization.

THE WISCONSIN PURE FOOD LAW NOT EMASCULATED

Twice before we have called attention to the fact that the people of Wisconsin are not willing to allow the "interests" to dictate to them the terms of their pure food law. When the federal Food and Drugs Act went into effect the "glucose trust" protested against Dr. Wiley's ruling that the company must label its product "glucose," insisting that it should be permitted to use the more euphemistic term, "corn syrup." Its protest was heeded, Dr. Wiley was overruled, and the first breach in the federal Food and Drugs Act was made. The Wisconsin pure food law also requires that the manufacturer tell the truth on his labels and the officers that enforce this law have insisted that glucose should be

called glucose. In this case, also, a protest was made by the trust, but Wisconsin was not so easily cajoled as was Washington. Finding its protest of no avail the "glucose trust" declared a boycott against the state and refused to ship its product into Wisconsin and, what was of still greater moment, it practically ceased advertising in the newspapers of Wisconsin. But the fact that, previous to the boycott, Wisconsin had purchased thousands of pounds of glucose and was therefore a profitable market, caused the makers of this substance to bring to bear all the pressure they could to change the Wisconsin law.

During the early days of the present session of the Wisconsin legislature two bills were introduced by Mr. Perry and Mr. Stevenson, respectively, each having for its purpose the legalizing of the term "corn syrup" as a synonym for glucose. One of these, the Stevenson bill, was withdrawn from the committee and from the assembly, but there was a public hearing on the other. The Perry bill was reported back to the assembly for passage. When the measure came up in the assembly for action on the report of the committee, the bill was killed by the vote of 68 to 22.

This result is cheering to all who believe that pure food laws should be passed and enforced in the interest of the public rather than in the interest of manufacturers. As we have said before, Wisconsin is to be congratulated not only on having an enlightened legislature and a supreme court that interprets the law in the public's interest, but also on having virile and fearless officials who enforce the law without fear or favor.

It now remains to be seen whether the boycott, which the manufacturers of glucose declared, but which was raised during the time that the present legislature was in session, will again be declared against Wisconsin. If a few more states could be prevailed on to insist on the same degree of honesty on the part of manufacturers that Wisconsin requires, it would be but a short time before the Corn Products Refining Company would be only too pleased to label its products "glucose" in accordance with the facts. In the present more or less chaotic condition in the various state food laws, one unfortunate feature is the unfair commercial advantage that a state having loosely liberal laws has over those states which try to protect their citizens by making stringent laws and enforcing them strictly. If competition in the manufacture of glucose were commercially practicable, a boycott on the part of the glucose trust would not be of any great moment, as men of capital would undoubtedly recognize the commercial possibilities of manufacturing glucose within the boycotted state and selling it under its true name. Unfortunately, competition against a practical monopoly, said to be backed by the Standard Oil interests, is probably not commercially practicable.

Against the use of glucose, *per se*, as a food product, we know of no great objection. It is a very inexpensive substitute for real syrup and undoubtedly has a definite food value. Of course, practically all the flavor possessed by the so-called corn syrup preparations, is due to the admixture of cane or some other real syrup with the glucose; for in its pure state glucose is insipid and but very slightly sweet. The fraud on the public consists in selling glucose under the name "corn syrup," for it is not a syrup in the sense understood by the public, namely, the concentrated sap of a sugar-producing plant. The makers of glucose have argued that the word "glucose" is in such ill repute that people will not purchase it under its own name. If this is true, it is all the more reason why the public should not be deceived into purchasing, under a euphemistic name, a substance that they otherwise would not have.

The Corn Products Refining Company, popularly known as the "glucose trust," would have exhibited greater foresightedness and more long-headed business sense if, instead of lobbying against certain features of the Wisconsin Pure Food Law, it had spent the same amount of money on a campaign of education by which the public might learn the harmlessness and food value of glucose. We sometimes wonder how long it will be before all manufacturers that have wholesome products will be willing to sell them honestly and on their merits instead of attempting to build up an artificial demand for them by means of falsehood and political chicanery.

THE USE OF ORANGE-RED UNDERCLOTHING IN THE TROPICS

The theory of Woodruff, that the deterioration of the white man in the tropics is due more to the actinic rays of the sun than to exposure to excessive heat, has found many adherents. With the view of ascertaining the truth or falsity of this hypothesis, the experiments conducted in the Philippines by the Medical Corps of the Army were continued for over a year, and the results are embodied in the last annual report of the Surgeon-General of the Army.[1]

Orange-red underclothing and hat-linings were chosen on account of the known resistance of this color to the actinic rays of the sun. The tests were carried out by making comparisons between 500 soldiers equipped with these garments and 500 controls using white, care being taken to choose the two sets of men from the same companies and to divide them in such a way as to make the two groups as nearly as possible equal in physique. The exceptionally weak and those having had long tropical experience were excluded.

A comparison of the sick reports showed insignificant differences between the two groups, except that there was a higher admission rate for heat exhaustion among those wearing the orange-red underclothing than among the controls. Those wearing orange-red suffered more from perspiration than those wearing white, and extensive experiments, both on and off the body, showed that exposure to the sun caused a greater temperature beneath the colored garments than beneath similar white mate-

1. Report of the Surgeon-General, U. S. Army, 1910, page 118: experiments carried out at certain Philippine posts by Major Collins and First Lieutenants McKenney, Phillips and Cowles.

rial. The fall in blood-pressure, as well as the increase in red blood-cells and diminution in percentage of hemoglobin which the unacclimated suffer in the tropics, was more apparent among the wearers of the orange-red than among the controls. The former also showed a tendency to lose weight more rapidly than the latter. Fifteen hundred observations showed temperature, pulse and respiration to be slightly higher for the orange-red group than for the controls. The impressions of the individual wearers were, on the whole, decidedly adverse to the colored underwear. There were only sixteen men who preferred it to the white. Fifty-four expressed no choice, but the remainder, constituting nearly four hundred men, expressed their disapproval. The consensus of opinion seemed to be that it was more uncomfortable, the discomfort being, in the main, attributed to the excessive perspiration which it caused. It is significant that no organization commander saw any benefit from its use, and that of sixteen officers who gave it a personal trial there was only one who expressed approval.

The medical officers who conducted the experiments reached the general conclusion that the test undercloth-ing was of no material value, but that, on the contrary, it increased the burden of heat which the system was compelled to endure. They are of the opinion that the sun's rays alone are not responsible for the physiologic effects of the climate in the Philippines, and that, even if the actinic rays have any influence at all on the system, the campaign hat and the khaki uniform constitute a sufficient protection against them.

Current Comment

THE PROBLEM OF PURE MILK

In a recent issue[1] we commented briefly on the report of the Philadelphia Milk Commission. At that time the full report was not at hand. It has since been printed, however, and is available for study by those interested in clean, healthful milk, and that should include every citizen, be he health officer or other public official, or private individual. The report may be heartily recommended for study, too, as it covers one of the most searching investigations of this important problem yet published, and sets forth a complete scheme of regulations for the production, transportation, handling and delivery of milk to the consumer, proposes a plan of reorganization of the division of milk inspection of the health department, and reports on chemical and bacteriologic standards. The commission says that the problem of the safeguarding of milk-supplies for municipalities is too large and too serious to be considered solely from the point of view of the effect that regulation might have on the commercial interests involved, which has been the point of view generally adopted hitherto. Bad milk is one of the great factors in the production of the enormous death-rate of infants under one year of age. It also figures largely in the propagation of typhoid fever, diphtheria, scarlet fever and tuberculosis. T regulation of milk production, transportation and su sequent handling, therefore, becomes one of our mo serious problems. The investigations of the commissi in many instances revealed wretched conditions in the stages of the milk business from the producer to t consumer; the members say that to permit the contin ation of the milk business under existing conditio could only contribute to the mortality of the communi The most valuable feature of the report is not that exposes and condemns conditions in Philadelphia pa ticularly, but that its findings and its comprehensi plan for remedying them might be applied with b little modification to almost any other city. The repo is a valuable municipal text-book on the milk questio

1. March 11, 1911, p. 749

MAKING ROOM FOR CITY PARKS

The growth of many cities in the United States h been so rapid that proper provision has not been ma for adequate public parks and breathing-places for t people. Recent agitation for more parks and pla grounds, and for the general sanitation and hygiene cities, has resulted in the making of parks at enormo expense in the midst of thickly populated districts. New York City the necessity for further parks and al for greater dockage facilities in the harbor has cu minated in a scheme for the creation of a park in t air, so to speak. At the present time nearly the wh of the west side of Manhattan Island is occupied by t New York Central Railroad tracks, and a plan has be devised whereby a space 200 feet wide and several mil long will be converted into additional space for railroa and docks by filling in along the water-front. It is pr posed[1] to cover over this entire space by heavy steel a concrete roofing and then to fill in this roof with so and make a water-front park. Most cities having wate fronts have allowed these naturally advantageous loc tions for parks to be absorbed by railroads or oth industrial enterprises. Chicago, with its wonderf water-front on Lake Michigan, has allowed this happen, to a certain extent. The plan of New Yor though an expensive one, seems to be entirely feasibl at least, it has been so pronounced by engineers. Ce tainly it would form a most attractive addition to t park system of that city.

1. Plan of Park Commissioner Stover and Dock Commission Tomkins; described in Scient. Am., May 6, 1911, p. 446.

FREE DISPENSARIES FOR HOOKWORM DISEASE

The idea of the free dispensary as a factor in suppre sing hookworm infection originated in Mississippi, whe the first institution of this kind was organized at Colu bia, Marion County, in December, 1910, and is now ru ning a full capacity of 300 patients monthly. T Columbia Dispensary is supported by public and priva cooperation, the county health officer having given t use of a four-room building for twelve months, the nece sary drugs being supplied by the county board of supe visors, while the beds and other hospital appointmen are furnished by the Columbia County Club, and t linen by the women's clubs of the city. A trained nur has been installed to take care of the dispensary and i patients and people are now coming in for examinatio

and treatment from a radius of over twenty miles. Resting as well as ambulant patients are treated and applications for beds are now sent in well in advance. The Mississippi idea has already begun to take root in other southern states. In Alabama, for instance, there are four dispensaries in Geneva County, five in Dale County, three in Coffee County and two at Houston. Very significant are the results already obtained at the "free clinics" in Coffee County, which are hardly a month old. A circular distributed through the county in March announced that free clinics for hookworm patients would be held at Elba, Brockton and Enterprise at stated intervals. Up to April 14, the total number of patients treated at the three clinics was 1,416, and on one day (April 8) as many as 439 patients applied for treatment at Enterprise alone. In addition, two local county newspapers have engaged to mail 1,000 copies each of a folding circular on sanitary privies to their subscribers. We congratulate the public health authorities of these southern states on the important sanitary work they are doing and hope their example will stimulate other states to similar efforts in the same direction.

PERSECUTION OF DR. KANTOR, THE FOE OF QUACKERY

We have frequently had occasion to commend the organ of the German Antiquackery Society, the *Gesundheitslehrer,* published by Dr. Kantor of Warnsdorf, Bohemia. Dr. Kantor has often been sued for damages by persons and firms injured by his propaganda for reform and exposures of fraudulent proprietaries, and he still has a number of suits on hand. An anonymous pamphlet calumniating his personal and professional character has recently been scattered broadcast. As the slandered physician has no means of legal redress against the authors or instigators of this attack, he has sent to the medical press a reply denouncing the pamphlet as a collection of falsehoods and perversions of fact intended to discredit him, both professionally and as the publisher of the *Gesundheitslehrer.* He adds that, notwithstanding the numerous suits that have been brought against him, no one has succeeded in producing any evidence of dishonorable conduct on his part, either private or professional, and that moneyed interests are bringing every means to bear in order to down him, or to disgust him with his difficult struggle against quackery. His sturdy little monthly costs only seventy-five cents a year and contains a fund of information, written in popular German, on nostrums and different phases of the practice of medicine by unqualified persons. It is to be hoped that Dr. Kantor will receive still more of the support of the German medical profession and of the intelligent lay public in his campaign against the nostrum evil. For a private individual to oppose single-handed the powerful interests involved requires courage and determination of a high order, since the attempt would appear hopeless to an ordinary character. We in America may congratulate ourselves at least on the fact that the organized medical profession has taken a firm stand on the subject, in which it has been sustained by the more progressive portion of the lay press.

Medical News

ARKANSAS

State Medical Society Meeting.—The thirty-fifth annual meeting of the Arkansas Medical Society was held in Fort Smith, May 2-5, under the presidency of Dr. Robinson C. Dorr, Batesville. Hot Springs was selected as the place of meeting for 1912, and the following officers were elected: president, Dr. Morgan Smith, Little Rock; vice-presidents, Drs. James B. Roe, Calico Rock; William W. York, Ashdown, and John W. Webster, Siloam Springs; secretary, Dr. Clinton P. Meriwether, Little Rock; treasurer, Dr. John S. Wood, Hot Springs; delegate to the American Medical Association, Dr. Gus A. Warren, Black Rock; alternate, Dr. John W. Webster, Siloam Springs, and councilors, first district, Dr. Hughey, Knoble; second district, Dr. James H. Kennerly, Batesville; third district, Dr. Tillman B. Bradford, Cotton Plant; fourth district, Dr. Arthur D. Knott, Wilmot; fifth district, Dr. Robert A. Hilton, El Dorado; sixth district, Dr. Leonce J. Kosminsky, Texarkana; seventh district, Dr. Reuben Phillips, Malvern; eighth district, Dr. A. H. McKenzie, Dardanelle; ninth district, Dr. Frank B. Kirby, Harrison, and tenth district, Dr. Matt S. Dibrell, Van Buren.

CALIFORNIA

Builds Sanatorium.—Dr. G. Richard Hickok, Gardnerville, Nev., is about to establish a tuberculosis sanatorium at Badger, 35 miles northeast of Visalia, and has purchased 880 acres as a site.

Illegal Practitioner Sentenced.—Mrs. Salvatrice Mingilino, San Francisco, arrested at the instance of the State Board of Medical Examiners, is said to have been found guilty of practicing medicine without a license and to have been fined $100, with the alternative of fifty days imprisonment in the county jail.

Personal.—Dr. Charles F. Whitmer, Oakland, fell from a tree, May 2, fracturing his left leg.——Dr. Stanley P. Black has been appointed city health inspector of Pasadena.——Dr. William R. Dorr, warden of the City and County Hospital, San Francisco, has resigned.——Dr. George B. Walrath, Los Angeles, while attempting to board a rapidly moving car at Venice was thrown to the ground, fracturing several ribs.——Dr. Edgar W. Clark, Los Angeles, is reported to be seriously ill at his home.——Dr. Charles C. Browning, Monrovia, while in attendance at a meeting of the State Board of Health at Santa Barbara, had an attack of acute appendicitis and was taken to the Good Samaritan Hospital, Los Angeles, where an operation was performed April 20.

Tuberculosis Bill Passed.—Assembly Bill No. 821, introduced by Assemblyman Bliss at the instance of the Alameda Society for the Study and Prevention of Tuberculosis, was passed by the legislature and signed by the governor. The purpose of the new law, which carries with it an appropriation of $5,000, is set forth in the first two sections of the bill, which read as follows:

> Section 1.—It shall be the duty of the State Board of Health to cause special investigation of the prevalence of tuberculosis in California and the effects of localities, employments, conditions and circumstances on the health of those developing the disease, and to determine the best means for its eradication.
>
> Sec. 2.—The State Board of Health shall publish or procure and distribute free to the people of the state of California printed matter, charts, pictures or models, or demonstrate to them in any practical way the prevalence of tuberculosis, the danger of infection therefrom and the means of prevention.

COLORADO

Asks Wards for Drug Addicts.—Dr. Elizabeth Cassidy recommended to the Board of County Commissioners of Denver County that wards at the county jail be set aside for users of cocain, morphin, opium and other drugs, and that the older addicts be segregated from the beginners.

Grants Petition.—District Judge Allen has granted the petition of Dr. Elizabeth Cassidy, Denver, a member of the Board of County Commissioners, to have the proceedings of the board for several months investigated by the district court. Dr. Cassidy's advocation contends that the board is wasting at least $30,000 annually, and that claims are not carefully investigated before payment.

Personal.—Dr. Elizabeth C. Cassidy, Denver, has been appointed a member of the State Board of Charities and Corrections.——Dr. Paul S. Hunter, Denver, has been appointed secretary of the State Board of Health.——Drs. W. W. Flora, Colorado Springs, and George Sullivan, Victor, have been made members of the Board of Dental Examiners, and Dr. Charles

S. Morrison, Colorado City, has been appointed a member of the Lunacy Commission.——Dr. Edgar D. Heaton, Centerville, Ia., was thrown from his bicycle, April 27, fracturing his right arm below the elbow.——Dr. Sherman Williams, Denver, has been appointed a member of the State Board of Health, vice Dr. Minnie C. T. Love.

ILLINOIS

State Board Prosecution.—L. C. Crump, indicted on charges by the State Board of Health for the illegal practice of medicine, was tried before a jury in the municipal court, Chicago, and fined $100 and costs. The defendant is said to have issued a card setting forth that he is a man of God and a divine healer. He is said to have examined each of those who applied to him, prayed with him, given him a big bottle of medicine and charged $1.

Personal.—Dr. Joseph C. Myers, Clinton, who has been ill in Decatur, has returned home.——Dr. and Mrs. Martin Van Buren Montgomery, Opdyke, celebrated their golden wedding anniversary, May 6.——Dr. Frank L. Hall, Jacksonville, has retired from the practice of medicine.——Dr. Benamjin P. Marsh, Bloomington, is reported to be ill with neurasthenia. ——Dr. Henry J. Gahagan has been named as city physician of Elgin.——Dr. Charles G. Beard, Sterling, has been appointed district surgeon for the Northwestern System, vice Dr. Frank Anthony, Sterling, deceased.

Society Meetings.—At the annual meeting of the Brainard District Medical Society, held in joint session with the Logan County Medical Society at Lincoln, April 27, the following officers were elected: President, Dr. Edwin P. Sloan, Bloomington; vice-presidents, Drs. Charles W. Carter, Clinton; Charles B. Caldwell, Lincoln, and Robert A. Noble, Bloomington; secretary, Dr. Harry S. Oyler, Lincoln; treasurer, Dr. Charles C. Reed, Lincoln, and censor, Dr. Athens L. Brittin, Atlanta.——DeKalb County Medical Association, at its annual meeting held in Sycamore, April 28, elected Dr. Charles H. Mordoff, Genoa, president; Dr. John B. Nesbitt, Sycamore, vice-president, and Dr. Stoddard L. Anderson, DeKalb, secretary and treasurer.——The Elgin Physicians' Club, at its annual meeting, May 1, elected Dr. George J. Schneider, president; Dr. Edward H. Abbott, vice-president; Dr. Jane Trull, secretary and treasurer, and Dr. Charles E. Sisson, a member of the executive board.——La Salle County Medical Society, at its annual meeting held in Ottawa, April 25, elected Dr. Everett H. Butterfield, Ottawa, president; Dr. Milton E. Blanchard, Marseilles, vice-president; Dr. Albert J. Roberts, Ottawa, secretary and treasurer; Dr. George A. Discus, Streator, censor; Dr. William O. Ensign, Rutland, delegate to the state society, and Dr. William Schoenneshofer, Lostant, alternate.

Chicago

Sanatorium Site Chosen.—The Paul Lawrence Dunbar Sanatorium for Colored Tuberculosis Patients will be established on a tract of land nine acres in extent, lying between Washington Heights and Morgan Park.

Playground Established at Hospital.—A playground for the exclusive use of convalescent children has been established by St. Luke's Hospital on a lot 50 feet by 163, adjoining the institution, which has been purchased and will be fenced in and equipped with outdoor gymnastic apparatus.

Suburban Hospital.—Thirty-five physicians of Oak Park, Austin, Elmhurst and Melrose Park met at the Oak Park Club, May 15, and organized the Suburban Hospital Association. The following officers were elected: President, Dr. Charles E. Humiston, Austin; vice-president, Dr. Charles W. Poorman, Oak Park; secretary, Dr. Fred W. Kettlestrings, Oak Park, and treasurer, Dr. Thomas E. Motter, Oak Park. Drs. Humiston, Poorman and William G. Willard were appointed members of the site committee.

Personal.—Dr. Henry J. Pieper, of the University of Chicago, has been appointed assistant professor of physiology in Columbia University.——Dr. and Mrs. Eugene S. Talbot and daughter sailed for Europe, May 20.——Dr. Fenton B. Turck gave a reception to the class of 1891 of Northwestern University Medical School at his house, May 6.——Dr. John B. Murphy is reported convalescent after an attack of typhoid fever. ——Dr. Walter B. Schwuchow has moved to Los Angeles, Cal. ——Dr. Samuel W. Forney has moved from Chicago to Boise, Ida.

INDIANA

Alumni to Meet.—The Alumni Association of the Indiana University School of Medicine will hold its annual meeting at Indianapolis, May 29. In the evening a banquet will be given at the Columbia Club.

Fly Catechism.—Dr. Charles S. Woods of the City Sanatorium of Indianapolis distributed 30,000 leaflets to the school children of that city on the care of the teeth and also a fly catechism dealing with the province of the ills due to the house fly.

Handling of Foodstuffs.—At a special meeting of the State Board of Health, three rules were added to the regulations for the handling of foodstuffs. The first provides that hotels and restaurants shall be classified as cold storage plants, except when the storage is less than thirty days. The other two rules refer to the handling of dairy products in unsanitary dairies or manufactories, and provide that it becomes a violation of the law for milk, butter, cheese or other milk products to be offered for sale when the product is from an establishment that has been condemned by the board.

Personal.—Dr. Mary E. Jackson, Hammond, who was operated on at the Mary Thompson Hospital, Chicago, for the removal of gall-stones, has returned to her home, convalescent. ——Dr. Stanley W. Edwins, Elwood, has retired after fifty-five years of practice.——Dr. Orange G. Pfaff, Indianapolis, who has been ill for several weeks from septicemia is convalescent and has gone to Atlantic City.——Dr. Fairfield Snyder, Corunna, has been declared of unsound mind and application has been made for his admission to the Longcliffe Hospital. ——Dr. James Trelor Tresidder, Tipton, has gone to Indianapolis for operation.

State Board Prosecutions.—Dr. Rudolph C. Tilley, who is said to have taken two examinations before the State Board but failed to obtain the proper certificates, was arrested on the charge of practicing medicine without a license at Lawrenceburg and fined $25.00 and costs.——At a meeting of the State Board of Medical Registration and Examination, May 11, the license of Dr. William McKinstray, South Bend, is said to have been revoked on an affidavit filed by Dr. Alexander P. Forbes Gammack, and afterward verified, which stated that Dr. McKinstray had purchased his diploma from the National Medical University of Chicago.

MARYLAND

Officers Hold Over.—Under an amendment to the constitution adopted at the late meeting of the Medical and Chirurgical Faculty of Maryland, the new officers will not assume their duties until Jan. 1, 1912, the officers of 1910 holding over until that time.

Personal.—Dr. Henry W. McComas has been elected secretary of the Board of Health of Garrett County and physician to the County Jail, vice Dr. John C. Legge.——Dr. Charles M. Ellis, Elkton, is reported to be critically ill at Johns Hopkins Hospital, following a surgical operation.

Baltimore

Personal.—Dr. Harry Friedenwald sails for Europe, May 13.——Dr. George A. Strauss, Jr., who was operated on at Mercy Hospital, May 7, is reported to be convalescent.——Dr. Marcus S. Dillon has been appointed medical supervisor of the Franklin Square Hospital of the Maryland Medical School, vice Dr. James A. Duff.

Endows Hospital and Industrial School.—James L. Kernan has placed on record deeds of trust whereby the net dividends from 3,400 shares of the capital stock of the James L. Kernan Company will be applied, at his death, to the James Lawrence Kernan Hospital and Industrial School for Crippled Children founded by him at Radnor Park.

Dispensary Election.—At the annual meeting of the board of directors of the Baltimore Eastern Dispensary, held May 8, Dr. Daniel W. Cathell was elected president, Drs. George F. Hancock and Frank C. Bressler were elected directors, and Dr. Robert S. Kirk was reelected superintendent for the twelfth year. During the year just ended, 25,840 patients were given treatment at the institution.

Will Ask Enabling Act.—The Municipal Tuberculosis Commission will ask the next legislature for an enabling act to allow Baltimore to float a loan to provide for a hospital to accommodate three hundred tuberculosis patients. Baltimore is said to have been the first city to inaugurate a systematic fight against tuberculosis. Mrs. William Osler raised a fund and paid a nurse to investigate cases throughout the city and to instruct those afflicted as to their care. The Maryland Association for the Prevention and Relief of Tuberculosis then came into existence and took up the work, employing four nurses. A few years later the work became so heavy that the city was called on to take charge and provided fifteen public nurses, and it is believed that next year twenty-five nurses will be needed.

MASSACHUSETTS

Personal.—Drs. John L. Ames and Arthur B. Coffin, Boston, have resigned as school physicians.——Dr. Patrick H. Mullowney has been appointed a member of the Boston Board of Health.

Physicians to Aid Foreigners.—At the recent missionary jubilee in Boston, a number of women physicians organized the Medical Women's Association for Aiding Women in Medical Work in Foreign Countries; and elected the following officers: president, Dr. Frances M. Morris; vice-presidents, Drs. Helen I. Woodworth and Edith Hale Swift; secretary, Dr. Blanche A. Denig, and treasurer, Dr. Mary R. Mulliner, all of Boston. The object of the association is to raise money to endow already existing medical institutions for women in foreign countries; to provide scholarships for native women in medical schools; to take a personal interest in women medical students who are studying to enter the foreign field, and to provide equipment and hospital facilities as far as possible.

District Society Elections.—At the annual meeting of Essex North District Medical Society, held in Lawrence, May 3, the following officers were elected: president, Dr. Warren W. Pillsbury, Newburyport; vice-president, Dr. William H. Merrill, Lawrence; secretary-treasurer, Dr. J. Forrest Burnham, Lawrence; commissioner of trials, Dr. John F. Croston, Haverhill; nominating councilor, Dr. Israel J. Clarke, Haverhill; alternate, Dr. Charles G. Carleton, Lawrence; supervising censor, Dr. Frank B. Pierce, Haverhill; censors, Drs. Robert M. Birmingham, Lawrence; John A. Magee, Lawrence, John A. Fitz-Hugh, Amesbury, and Thomas R. Healy, Newburyport, and councilors, Drs. Charles G. Carleton, Lawrence, Israel J. Clarke, Haverhill, John A. Douglass, Amesbury, Ernest H. Noyes, Newburyport, Frank B. Pierce, Haverhill, Frank W. Snow, Newburyport, Frederick E. Sweetsir, Merrimac, and J. Forrest Burnham, Lawrence.——At the annual meeting of Berkshire District Medical Society, held in Pittsfield, April 27, the following officers were elected: President, Dr. Clifford S. Chapin, Great Barrington; vice-president, Dr. Isaac S. F. Dodd, Pittsfield, and treasurer, Dr. Joseph D. Howe, Pittsfield. ——At the annual meeting of the Springfield Academy of Medicine, Prof. John M. Tyler, Amherst, gave an address on biology. The following officers were elected: president, Dr. Philip Kilroy; vice-presidents, Drs. Ralph H. Seelye and J. B. Cummings; secretary, Dr. Alexander C. Eastman; treasurer, Dr. John M. Birnie, all of Springfield, and censor, Dr. J. Clark Hubbard, Holyoke.

MICHIGAN

Pays for Registration of Births.—The state has begun the payment of approximately $36,000 to Detroit physicians for registration of births during 1910.

Antituberculosis Work.—At the first regular meeting of the Saginaw Antituberculosis Society, held May 3, Dr. George L. Alger, Saginaw, was elected president, and it was planned to launch an extensive campaign with lectures, literature and personal effort.——An antituberculosis league has been started in Adrian. A committee was appointed on constitution and by-laws on which Dr. Eli T. Morden was made chairman.

Personal.—Dr. Edwin Goodwin has been appointed health officer of Bay City.——Dr. Ross U. Adams, Kalamazoo, who has been in the Borgess Hospital with septicemia, due to an operation wound, is reported to be much improved.——Dr. Clarke B. Fulkerson has been reappointed city bacteriologist of Kalamazoo.——Dr. Jos. B. Griswold, Grand Rapids, has been appointed a member of the Board of Control of the Soldiers' Home in that city.——Dr. William A. Wilson, Detroit, has been reelected national president of the Federation of Florence Crittenton Leagues.

Alumni Week at Detroit.—Alumni week will be celebrated by the Detroit College of Medicine with a series of clinics extending from May 17 to May 25, inclusive. The special features of the week are clinics by Drs. Albert J. Ochsner, Chicago, on "General Surgery;" Jesse S. Myer, St. Louis, on "Cardiospasm;" Emilius C. Dudley, Chicago, on "Gynecology;" George W. Crile, Cleveland, O., on "Surgery;" Jay F. Schamberg, Philadelphia, on "Dermatology;" Charles S. Williamson, Chicago, on "Heart Disease;" Edward L. Keyes, Jr., New York, on "Genito-Urinary Diseases," and William T. Henderson, Mobile, Ala., on "Local Anesthesia in Hernia." On May 19 the alumni will be given a lunch at the Ford Motor factory and in the afternoon will inspect the Walker-Gordon farm near Birmingham. On May 23 there will be a boat ride to the St. Clair flats, following an inspection of the research laboratory of Parke, Davis and Company; and on May 25 there will be a luncheon at Harmonie Hall, followed by the annual meeting of the association.

MISSOURI

Hospital Cornerstone Laid.—The cornerstone of the new German Hospital at Kansas City was laid with formal ceremonies, April 30. The building is to cost $150,000 and marks the completion of a quarter of a century's existence of the institution.

Changes in State Institutions.—Dr. Robert Scott Magee, Green City, assistant superintendent of the State Hospital, No. 3, Fulton, has been appointed acting superintendent of the State Hospital, No. 4, Farmington, vice Dr. Robert E. Keaney, Farmington, resigned.——Dr. Porter E. Williams, Clarksburg, with two other members of the State Board of Charities, has been detailed to go to Farmington and make an investigation of the system and methods there in vogue.——Drs. Henry Lloyd and Frank S. Weber, assistants at the State Hospital, No. 4, Farmington, have resigned.

Society Proceedings.—Carroll County Medical Society was reorganized at Carrolton, April 24, and the following officers were elected: president, Dr. Richard F. Cook; vice-presidents, Drs. William C. Baird, Bogard, and Strong, Norborne; secretary and treasurer, Dr. H. Jackson Harrell, St. Louis; delegate to the state association, Dr. Edward H. Musson, Norborne, and alternate, Dr. Rezin C. Shawhan.——At the annual meeting of the Linton District Medical Society, held in Mexico, May 2, the following officers were elected: president, Dr. Robert C. Strode, Mexico; vice-presidents, Drs. August W. Kampschmidt, Columbia, and Frank J. Tainter, St. Charles; secretary, Dr. R. T. Gibbs, Mexico, and treasurer, Dr. Ned R. Rodes, Mexico.

St. Louis

Inebriates' Home.—The St. Louis Society of Medical Research inaugurated a movement at its meeting, May 7, for a state home for inebriates, to cost $100,000. The plan is to establish a colony to which inebriates may be committed for indeterminate sentences.

Personal.—Dr. Henry S. Atkins, superintendent of the municipal sanatorium, has resigned.——Dr. Edward L. Cooley has returned from abroad.——Dr. Max Starkloff, newly appointed health commissioner, has been appointed registrar of vital statistics.

Hospital Board Needs More Money.—The hospital board has asked the municipal assembly to appropriate $200,000 in addition to the appropriation of $700,000 already made, for its uses. This amount is to go toward the maintenance of the City Hospital, the sanatorium, infirmary, Robert Koch Hospital and the city dispensaries.

Research Society Organized.—The St. Louis Society of Research in Tuberculosis was organized April 20. The object of the society is to stimulate research in problems connected both with medical and surgical tuberculosis. Dr. William Porter was elected president, Dr. Louis C. Boisliniere, vice-president, and Dr. Ross Hopkins, secretary.

NEBRASKA

County Society Meeting.—Sherman County Medical Society, at its annual meeting held in Loup City, May 2, elected Dr. Mary A. K. Hendrickson, president; Dr. Archibald J. Kearns, Loup City, vice-president, and Dr. Anton E. Wanek, Ashton, secretary and treasurer.

Rush Alumni of Nebraska Hold Meeting.—The annual meeting of the Rush Alumni Association of Nebraska was held in Omaha, April 30. Dr. John M. Dodson, dean of the college, was the guest of honor and delivered an address on the "History of Rush Medical College." Dr. Frank E. Coulter, Omaha, was elected president, and Dr. Rodney Bliss, Omaha, secretary of the society.

State Association Meeting.—The forty-third annual meeting of the Nebraska State Medical Association was held in Omaha, May 2-4, and the following officers were elected: president, Dr. Andrew D. Nesbitt, Tekamah; vice-presidents, Drs. N. T. Johnston, Upland, and Voorhees Lucas, North Platte; secretary, Dr. Alonzo D. Wilkinson, Lincoln (reelected); treasurer, Dr. Alexander S. Von Mansfelde, Ashland (reelected); chairman of the board of councilors, Dr. Harvey H. Bellwood, Alliance, and delegate to the American Medical Association, Dr. A. R. Mitchell, Lincoln.

College News.—The Nebraska legislature has passed a bill, which has been signed by the governor, appropriating $100,000 with which to begin the development of the campus of the College of Medicine of the State University in Omaha. This is the first step toward the development of a complete medical college plant.——Fire in the elevator shaft of Creighton College, May 8, caused a loss of more than $60,000. The chief

damage was caused to the laboratories of the institution.——The commencement exercises of Creighton University were held, April 29, and a class of forty-three was graduated from the medical department.——At the annual meeting of the Creighton Alumni Asscciation, April 27, Dr. Gustav Hahn, Omaha, was elected president, and Dr. Rudolph Rix, Omaha, secretary and treasurer (reelected for the twelfth successive term).

NEW JERSEY

Health Board Reorganizes.—The State Board of Health met for reorganization in Trenton, May 9. J. H. Capstich, Montville, was elected president, and Bruce S. Keater, Asbury Park, was reelected secretary.

Personal.—Dr. Edmund L. B. Godfrey, Camden, has been appointed Surgeon General of the National Guard of New Jersey, with the rank of brigadier general.——Dr. Edward A. Ayers has been appointed president of the Board of Health of Newton.——Dr. David B. Ackley, Trenton, is reported to be ill with septicemia as result of an operation wound of the hand.

Society Meetings.—The Middlesex Medical Society held its annual meeting in New Brunswick, April 20, and elected Dr. John L. Lund, Perth Amboy, president; Dr. Howard Crosby Vorhees, New Brunswick, vice-president; Dr. Martin Stoetzel Meinzer, Perth Amboy, secretary; Dr. David Combs English, New Brunswick, treasurer, and delegates to the state society, Drs. William E. Ramsay and John L. MacDowell, Perth Amboy.——At the annual meeting of the Hudson County Medical Society, held in Hoboken, Dr. George Myrtle Culver was elected president; Dr. Frank F. Bowyer, vice-president; Dr. Charles H. Finke, Jersey City, secretary; Dr. Henry H. Brinkerhoff, treasurer, and Dr. Joseph Abraham Koppell, reporter.——At the annual meeting of the Passaic County Medical Society, held in Paterson, April 11, the following officers were elected: Dr. William S. Flitcroft, president; Dr. Robert Morison Curts, vice-president; Dr. Joseph Allen Maclay, secretary (reelected); Dr. William Wallace MacAlister, treasurer; Dr. Thomas Arthur Clay, reporter; Dr. Charles H. Scribner, censor; Drs. Edgar Carroll Dayton and Joseph V. Bergin, permanent delegates, and Drs. Benjamin H. Rogers, James H. Curts, Frank Joseph Keller, James Alexander Browne, Thomas A. Dingman and Orville Reed Hagen, annual delegates.

NEW YORK

County Society Meeting.—The annual meeting of the Schuyler Medical Society was held in Watkins, May 9, and the following officers were elected: President, Dr. John M. Quirk, Montour Falls; vice-president, Dr. Arthur H. Jackson, Odessa; secretary, Dr. John M. Swan, Watkins, and treasurer, Dr. Delivan W. Scutt, Watkins.

Vetoes Site for City Hospital.—Mayor Furhman has vetoed the West Farm site for the proposed Buffalo General Hospital. This site had been agreed on by all concerned as favorable and contains 81 acres, whereas the site favored by the mayor is the one on which the present Erie County Hospital is located and comprises only 47½ acres.

New Buildings Needed for Sanatorium.—Mountain Sanatorium, Binghamton, is in further need of a building in which patients in advanced stages of tuberculosis, or moribund, may be cared for. The building proposed will be about 24 feet square, with male and female wards, and a room adjoining for the use of the nurse in charge of the building.

New York City

Gift to Columbia.—Columbia University has received an anonymous gift of $10,000 annually for four years, to be used in surgical research.

Personal.—Dr. Winford H. Smith sailed for Europe, May 25. He will assume charge of his duties as superintendent of Johns Hopkins Hospital about the middle of August.——Dr. Edwin H. Fiske, Brooklyn, has been appointed a police surgeon, vice Dr. Charles H. Terry, retired.

NORTH CAROLINA

Personal.—Dr. Francis O. Rogers, Concord, is about to remove to Galveston, Tex.——Dr. Baxter B. Hunter, Kings Mountain, has returned from New York City and is about to reenter practice in Charlotte.——Drs. J. Howell Way, Waynesville, and William O. Spencer, Winston, have been recommissioned members of the State Board of Health for six years.

To Have County Superintendent of Health.—The commissioners of Gilford have decided to elect a county superintendent of health at a salary of $2,500 per annum, requiring the individual so elected to devote his entire time to the care of the inmates of the various county institutions and the instruction of the children in the schools throughout the county in hygienic living.

The Hookworm Campaign.—The campaign against hookworm in the state continues active. Last week Dr. Platt W. Covington, Rockingham, was added to the field force which now includes four traveling physicians under the direction of Dr. John A. Ferrall, assistant secretary for hookworm of the State Board of Health. Six microscopists in the Laboratory of Hygiene at Raleigh are devoting their entire time to the investigation of specimens sent in.

NORTH DAKOTA

Physicians of State Hold Meeting.—The North Dakota State Medical Association held its twenty-fourth annual meeting in Fargo, May 9-11, and elected the following officers: president, Dr. Clinton E. Spicer, Litchville; vice-presidents, Drs. Alexander J. McCannell, Minot; Murdock MacGregor, Fargo, and R. Hudson Beek, Lakota; secretary, Dr. Hezekiah J. Rowe, Casselton (reelected); treasurer, Dr. Frank J. King, St. Thomas (reelected); councilors, Drs. Francis R. Smyth, Bismarck; Henry M. Wheeler, Grand Forks, and Andrew Clark; delegate to the American Medical Association, Dr. Victor H. Stickney, Dickinson, and alternate, Dr. Henry H. Healy, Grand Forks. Valley City was selected as the place of meeting for 1912.

OHIO

Cleveland Personal.—Dr. James D. Pilcher, who was recently operated on for appendicitis, is reported to be making good progress toward recovery.——Dr. Henry J. Gerstenberger has been appointed a member of the Cleveland Milk Commission, vice Dr. Edward F. Cushing, deceased.——Dr. George N. Upson was recently operated on for hernia and adhesions, following appendectomy.

State Association Meeting.—The sixty-sixth annual meeting of the Ohio State Medical Association was held in Cleveland, May 9-11, the Cleveland Academy of Medicine acting as host. The annual address on surgery was delivered by Dr. J. Chalmers Da Costa, Philadelphia, and it was decided to hold the next annual meeting in Dayton. The following officers were elected: president, Dr. Horace Bonner, Dayton; vice-presidents, Drs. Charles B. Parker, Cleveland; John C. Larkin, Hillsboro; George W. Hixson, Cambridge, and Sidney D. Foster, Toledo; councilors, Drs. Dana O. Weeks, Marion, and William E. Wright, Newark; secretary, Dr. John H. J. Upham, Columbus, and treasurer, Dr. Joseph A. Duncan, Toledo. A report of the scientific proceedings will appear in THE JOURNAL.

OKLAHOMA

Health Officers Meet.—The Oklahoma State Health Association, at its annual meeting in Muskogee, May 10, elected Dr. W. E. Wright, Tulsa, president; Dr. William G. Blake, Tahlequah, vice-president, and Dr. Joseph C. Ambrister, Chickasha, secretary-treasurer.

Woman's Auxiliary Meeting.—The Woman's Auxiliary of the Oklahoma State Medical Association, at its meeting in Muskogee, May 11, elected Mrs. W. C. Mitchiner, Okmulgee, president; Mrs. David A. Myers, Lawton, and Mrs. Walter B. Reeves, Wapanucka, vice-presidents; Mrs. Patrick H. Mayginnes, Tulsa, secretary and Mrs. John F. Duckworth, Tahlequah, treasurer.

Personal.—Captain Hugh Scott, M.C., N.G. Oklahoma, Waukamis, has been detailed to attend the army maneuvers at San Antonio.——Fire in the Westfall building, Oklahoma City, did great damage to the offices of Drs. Everett E. Phillips and Arthur L. Edington.——Dr. William Ernest Floyd, Coweta, has been appointed physician of Wagner County.

New Medical Examining Board.—The State Board of Medical Examiners held its meeting for organization in Oklahoma City, April 12, and elected Dr. Francis B. Fite, Muskogee, president; Dr. R. Ellis Sawyer, Durant, vice-president; Dr. John W. Duke, Guthrie, secretary, and Dr. F. A. Englehart, Oklahoma City, treasurer.——Dr. Jesse L. Wharton, Duncan, has been appointed a member of the State Board of Medical Examiners, vice Dr. D. C. F. Stillwell, Piedmont.

State Society Election.—At the nineteenth annual meeting of the Oklahoma State Medical Association, held in Muskogee, May 9-11, the following officers were elected: president, Dr. Charles L. Reeder, Tulsa; vice-presidents, Drs. James L. Shuler, Durant; H. Marion Williams, Wellston, and John W. Duke, Guthrie; secretary-treasurer, Dr. Claude A. Thompson, Mus-

kogee (reelected), and chairman of the department on the eye, ear, nose and throat, Dr. W. Albert Cook, Tulsa. Shawnee was selected as the next place of meeting.

PENNSYLVANIA

Personal.—Dr. Oscar Kniffler, Pittsburg, has decided to move to Wiesbaden, Germany, on account of the health of his wife. ——Dr. George G. Harman, Huntingdon, who was operated on for appendicitis in the German Hospital, Philadelphia, March 22, has fully recovered.

Mount Alto Sanatorium.—According to State Health Commissioner Dixon, centralization of the state's tuberculosis work at Mount Alto, Cresson and Hamburg has not only great economic advantage, but also secures much better conditions for the patients under which to make the fight for health. At Mount Alto 800 patients are now being treated and the capacity will soon be raised to 1,200. One central heating plant serves for the entire village, and in the camp for incipient cases, there is a comfortably large sunshiny cottage for every eight patients, two in a room.

Touring Lecturer to be Employed.—At a meeting of the board of directors of the Pennsylvania Society for the Prevention of Tuberculosis, held May 9, it was decided to employ a lecturer to tour the state addressing the school children and teachers on the methods of preventing tuberculosis. Town meetings will be held by him and he will organize a corps of instructors to carry on the work. Plans were also formulated for an organized agitation to obtain county hospitals for advanced cases. Conferences will be arranged with the various county poor boards and a vigorous campaign started in all parts of the state.

Philadelphia

Hospital Building Dedicated.—A large addition to the Mt. Sinai Hospital was dedicated May 6, with elaborate ceremonies. A number of addresses were made and an interesting feature of the program was the sale of the golden keys (of the main door, vestibule, dispensary, various wards, private rooms and clinics) by auction, the twenty keys bringing in a total sum of $3,160.

Personal.—Dr. Warfield T. Longcope has been appointed assistant professor of medicine in Columbia University.—— The vacancy created in the editorship of the *American Journal of the Medical Sciences* by the death of Dr. Aloysius O. J. Kelly has been filled by the acceptance of the position by Dr. George Morris Piersol.——Dr. Herbert P. Leopold sailed for Europe, May 13.——Drs. George G. Ross and Albert D. Whiting have been appointed instructors in surgery at the Medical School of the University of Pennsylvania.——Dr. William M. Sweet has been appointed attending surgeon to the Wills Eye Hospital, to fill the vacancy caused by the death of Dr. Charles A. Oliver.

Urges Use of Byberry.—The Council's committee on health and charities, which made a tour of inspection of insane asylums in other cities, in its report to Councils on May 4, recommended the immediate erection of a hospital for insane at Byberry; the overcrowded condition of the present quarters and the fact that the city is paying for the maintenance of 1,930 patients in other institutions were given as reasons for prompt action. It was suggested that Councils make an appropriation for a temporary building at Byberry to house 400 of the able-bodied insane male patients, who should be put to work preparing the ground for new buildings; that the new institution be built in a semi-detached system, all buildings to be connected by corridors and tunnels; that the institution be equipped with common dining rooms, except in the infirmaries and wards for feeble and unclean cases, kitchen building, laundry, workshops, convalescent building, infirmaries, attendants' homes, recreation buildings, auditorium, chapels, power plant, surgical operating room and a morgue.

TENNESSEE

College Commencement.—The thirty-fifth annual commencement of Meharry Medical College, Nashville, was held April 25. The address to the graduating classes was delivered by Rev. C. T. Walker, Augusta, Ga. This was followed by an address from Governor Hooper. A class of fifty-five was graduated from the medical department.

Society Condemns Hospital Superintendent.—The Memphis and Shelby County Medical Society, at its meeting May 2, went on record as condemning Alvin F. Tate, superintendent of the City Hospital "on account of his personal unfitness, his discourteous treatment to members of the medical profession and his discourtesies to the interns and nurses."

TEXAS

State Association Election.—At the forty-third annual meeting of the State Medical Association of Texas, held in Amarillo, May 9-11, the following officers were elected: president, Dr. David R. Fly, Amarillo; vice-presidents, Drs. Wiley H. Freeman, Lockney; A. L. Lincecum, El Campo, and Joe H. McCracken, Mineral Wells; trustee, Dr. John T. Moore, Houston; councilors, Drs. Hugh D. Barnes, Tulia; Washington A. Harper, Austin; William H. Blythe, Mount Pleasant; Walter Shropshire, Yoakum; Wallace Ralston, Houston, and Newton J. Phenix, Colorado (reelected); delegates to the American Medical Association, Drs. Arthur C. Scott, Temple; Vard H. Hulen, Houston; William L. Brown, El Paso, and Joe Becton, Greenville, and alternates, Drs. Frank D. Boyd, Fort Worth; Charles A. Smith, Texarkana, and James C. Loggins, Ennis. Waco was selected as the next place of meeting. Resolutions were adopted setting forth the necessity for the state to promptly provide adequate room and treatment of the insane of the state so as to avoid the necessity for confinement of insane persons in jails at any time, and providing for a state commission on insanity and substituting diagnosis by the commission for trial by jury.

WISCONSIN

District Society Meeting.—At the annual meeting of the 9th Councilor District Medical Society, held in Stevens Point, May 2, Dr. Thos. H. Hay, Stevens Point, was elected president, and Dr. Potter, Marshfield, secretary and treasurer.

Higher Death-Rate.—The Wisconsin State Board of Health, in its quarterly report on vital statistics, says that the mortality rate during the first quarter of 1911 was 13.7 per 1,000 of population, an increase of 1.5 per 1,000 as compared with a similar period of last year; and that this was due chiefly to the prevalence of pneumonia.

Personal.—Dr. John A. Roberts, Portage, was operated on at the Bentley Hospital, May 7, and is reported to be doing well.——Captain James Scott, M. C. N. G. Wis., Appleton, has been ordered to attend the maneuvers at San Antonio.—— Dr. Frank E. Morley has been appointed health officer of Viroqua.——Dr. Frederick W. Bromley, Palmyra, after twenty-eight years of practice, has retired.——Dr. Gustave Bjorkman, Racine, is reported to be critically ill with gangrene of the right foot.

WYOMING

Personal.—Dr. and Mrs. Fred Horton, Newcastle, have started for a trip through the South.——Dr. Norvel H. Baker, Gillette, has been appointed house physician at the Sheridan Hospital, vice Dr. Vanatta, resigned.——Dr. Charles H. McLean, Laramie, is reported to be critically ill with pneumonia in Denver.

GENERAL NEWS

Association of American Physicians.—The Association of American Physicians, at its meeting in Atlantic City, elected Dr. J. George Adami, Montreal, president; Dr. Lewellys F. Barker, Baltimore, vice-president; Dr. George M. Kober, Washington, D. C., secretary; Dr. Solomon Solis-Cohen, Philadelphia, recorder; Dr. J. P. Crozer Griffith, Philadelphia, treasurer; Dr. Francis H. Williams, Boston, councilor; Dr. William S. Thayer, Baltimore, representative on the executive committee of the Congress of American Physicians and Surgeons, and Dr. Theodore C. Janeway, New York City, alternate.

Railway Surgeons Will Meet.—The sixteenth annual session of the Association of Southern Railway Surgeons will be held in Charlotte, May 29-31, under the presidency of Dr. William C. Day, Danville, Va. Dr. John R. Erwin, Charlotte, will deliver the address of welcome, to which Dr. J. Howell Way, Waynesville, will respond.

THE CHILD WELFARE EXHIBIT

A Presentation in New York and Chicago of Factors Influencing Childhood

The Child Welfare Exhibit, which opened in Chicago, May 11, and will continue until May 25, includes the New York Child Welfare Exhibit which was so successful in that city and is supplemented by an enormous amount of local material, which has become available for Chicago through the generosity of Mrs. Cyrus H. McCormick, Jr. Never since the conferences and exhibitions of the World's Fair in 1893 has such a general interest been emphasized in a civic or philanthropic exhibition. The exhibit was referred to editorially last week.

EXPLAINERS

The work of explaining the various features of the exhibit is in the hands of several hundred earnest workers who speak, not only English, but also all the languages used by the polyglot population of Chicago; and in addition to the explainers most of the sections are in charge of experts in the field which they cover.

DEPARTMENT OF HEALTH

The exhibit of the Department of Health, Chicago, is especially noteworthy. In one of the first booths there is a mechanical model to demonstrate how quickly the air is vitiated in a room with closed windows, and how fresh the air remains if the windows are kept open, and this is emphasized by posters and diagrams on the surrounding walls. In the Motherhood Booth the advantage of the breast-fed baby over the child who has a cow or a whole drove of cows for his foster-mother is shown and the cartoon indicates some of the chances of pollution which dairy milk runs in its journey from the farm to the city. Diagrams, charts, models and cartoons innumerable show citizens how they can use or cooperate with the city's machinery in safeguarding the health or relieving the ailments of their children, and also trace the effects of physical defects or diseases on the physical and mental development of the child. The matter of communicable diseases of children is treated in the same manner, and maps and charts show the concentration of contagious diseases. The precautions to be taken to minimize infections are set forth and a simple method of disinfecting is demonstrated. A graphic representation of the mortality of children is shown in a mechanical procession of dolls like that of the apostles in the Strasburg clock, in which every fourth doll drops from the line to illustrate that only three out of every four infants grow to maturity. Demonstrations seem to be the slogan of the department. A model demonstrates the danger of the tuberculous cow to children, and there are illustrations of the proper methods of home filtration, pasteurization and modification. The life of the fly is demonstrated and its effects as a disease carrier.

OPEN-AIR SCHOOLS

The open-air schools of Chicago have an interesting exhibit. Illinois, it is said, spends $1,187,000 every year in educating children who die of tuberculosis before they are twenty years of age, and whose lives might have been saved by transformation of the living conditions from unsanitary to sanitary by the substitution of good for poor food, and fresh for foul air. At the open-air schools there is no long confinement at desks for the pupil; there is plenty of rest, plenty of food and an abundance of fresh air. The result of the first year's work of these schools speaks for itself. The children who entered the schools were below grade and brought records of slow progress, trouble with teachers, an irregular attendance; but in the open-air school the child who had been kept from school by illness continued in school, well, and the intractable pupils became good students. An actual school completely furnished is shown in the exhibit, together with the tent used for shelter for the children in stormy weather. The work now being done in two of the public schools points the way to the work which eventually must be undertaken by the Board of Education, backed and supported by public opinion.

THE CONSERVATION OF VISION

An exceedingly interesting exhibit is that prepared under the supervision of a committee of which Dr. Thomas A. Woodruff was chairman on the conservation of vision and the wording of two of the most interesting charts of this exhibit are here reproduced:

PREVENTION OF BLINDNESS—LEGISLATION NEEDED

A law to compel physicians and midwives to report all cases of red and swollen eyes in the new born to the local boards of health within twelve hours after discovery.

A law requiring local health officers to see that all cases of ophthalmia neonatorum receive adequate treatment.

A law compelling physicians to see that cases of contagious eye diseases are surrounded with prophylactic safeguards against communication.

A law requiring adequate training of midwives and systematic registration and control.

A law compelling manufacturers to install safety appliances to prevent injuries to eyes.

A law prohibiting the indiscriminate use of fireworks.

A law requiring the proper lighting of all public buildings, particularly factories and schools.

A law preventing the manufacture of wood alcohol.

A little care at birth would have saved about 35,000 eyes.

Immediate treatment and proper care would have saved about 21,000 eyes.

Industrial precautions would have saved almost 12,000 eyes.

A sane Fourth of July would have saved over 600 eyes.

Seventy thousand eyes sacrificed through carelessness and ignorance.

Cost in money to society, about $12,000,000 every year.

Of the 89,000 blind individuals in the United States, it is said that at least one in four goes through life "in the dark" because of the ignorance or carelessness of the one who attended him in the first hour and who failed to apply a simple and harmless remedy before the infection in the eyes could begin.

The exhibit also includes the accidents to the eyes, the effects of wood alcohol and tobacco, the effects of light on the eyes—both direct and artificial—and the proper diffusion and softening of artificial light; with general directions for the lighting of rooms and industrial lighting.

The American Association for the Conservation of Vision announces as its purpose the collecting and standardization of existing in formation on all subjects pertaining to the use and care of the eyes; the securing of the investigation of subjects on which present information is incomplete or contradictory, and the promulgating of knowledge relating to the conservation of vision.

THE HEALTH ALPHABET

In the tuberculosis exhibit is a health alphabet prepared by a Chicago tuberculosis nurse, which is of sufficient value to reproduce.

HEALTH ALPHABET

A is for ADENOIDS which no child should own
B for right BREATHING to give the lungs tone
C is for COUGH which we should not neglect
D for the DENTIST who finds tooth defect
E is for EVILS of foul air and dirt
F is for FRESH AIR—too much cannot hurt
G is for GARDENS where boys and girls play
H is for HARDINESS gained in that way
I is for INFECTION from foul drinking-cups
J is for JOY in the bubbling taps
K is for KNOWLEDGE of rules of good health
L is for LUNGS whose soundness is wealth
M is for MILK, it must be quite pure
N is for NURSES, your health to insure
O is for OXYGEN, not found in a crowd
P is for PENCILS—in mouths not allowed
Q is for QUIET, which sick people need
R is for REST—as part of our creed
S is for SUNSHINE to drive germs away
T is for TOOTH BRUSH used three times a day
U is for USEFUL health rules in the school
V is the VALUE of learning these rules
W is WORRY, which always does harm
X is 'XCESS—indulge in no form
Y is for YOUTH, the time to grow strong
Z is for ZEST—help the good work along

In this exhibit is shown a tuberculosis map of Chicago, which shows that of the 3,948 children examined, 760 were suffering from pulmonary tuberculosis and 365 from tuberculosis of other portions of the body. In all, about one-third of the number examined—and these were not selected cases—were suffering from some form of the disease. There are also charts, illustrations and diagrams showing the work accomplished at the sanatoria of the Chicago Tuberculosis Association, illustrations of the outdoor sleeping porch and tent, the diet, kitchen, the milk laboratory, etc.

THE VISITING NURSES

The Visiting Nurses' Association shows its activity in child welfare work by its interesting exhibit. The association has the peculiar ambition and desire to work itself out of existence; so to improve conditions that there will be no need for its services, but, at the present time, not only has this not been accomplished, but the necessity for the use of more nurses has increased disproportionately with the supply of nurses to be obtained. An extensive series of photographs shows the work that is being done daily by the visiting nurses for the children of the poor. The nurse not only teaches the mother how to care for her child, but how properly to prepare food, and emphasizes by precept and example the necessity of cleanliness of person and surroundings.

CONFERENCES AND ENTERTAINMENTS

In addition to the exhibits daily conferences and entertainments are held in the conference room in the annex, in an adjoining church (Grace) and in the main court of the Coliseum. Demonstrations for parents, teachers and others to whom the custody of the child is entrusted form an important part of the conference programs. In a second group of conferences, experts in various lines of child service daily discuss the problems connected with their work and the direction in which an advance is most needed, such as social hygiene, the further development of juvenile court work, the better classification of children with reference to mental and physical defects, better cooperation between parents and teachers, the treatment of dependent, truant and delinquent children, and the better organization of recreational facilities. The third group of conferences is addressed by those who can

best interpret the claims of child-life and child-care to the interest, support and service of the whole city. On the main floor of the Coliseum daily entertainments of various kinds, as musical, athletic, apparatus work, plays, etc., are given daily by children of all ages. The results of such an exhibit must be far-reaching and will make for a better and healthier childhood.

FOREIGN NEWS

International Sanitary Conference.—The United States Department of State has been recently advised by the French government that the International Sanitary Conference called by that government to meet in Paris May 26, has been postponed until Oct. 10, 1911. The object of this conference is stated in the invitation to be to revise, to amend and, should the occasion arise, to complete the Sanitary Convention of Dec. 3, 1903, as to the measures to be applied by the powers participating in the conference to control the spread of plague, cholera and yellow fever. It is probable that among the amendments which will be adopted at this conference will be additional articles relating to yellow fever, closely corresponding with those adopted by the Second General International Sanitary Convention of the American Republics, Washington, Oct. 14, 1905. The representatives on the part of the United States who have been designated to attend this conference are Lt. Colonel J. R. Kean, Medical Corps, U. S. Army; Surgeon J. C. Pryor, U. S. Navy, and Surgeon Henry D. Geddings, U. S. Public Health and Marine-Hospital Service.

CANADA

McGill Alumni Reunion.—There will be a reunion of the graduates of the medical department of McGill University, Montreal, in that city June 5-6, just before the meeting of the Canadian Medical Association.

Academy Meeting.—The fourth annual meeting of the Toronto Academy of Medicine and the first to be held in its new home in Queen's Park, was held May 3, and the following fellows were elected to office: President, Dr. Newton A. Powell; vice-president, Dr. Richard A. Reeve; past president, Dr. Albert A. Macdonald; honorary secretary, Dr. W. Harley Smith; honorary treasurer, Dr. William A. Young; and chairman of sections-medicine, Dr. Graham Chambers; surgery, Dr. Herbert A. Bruce; pediatrics, Dr. John T. Fotheringham; pathology, Dr. John J. McKenzie; ophthalmology, Dr. Charles Trow, and state medicine, Dr. John S. McCullough.

Personal.—Dr. J. L. Todd, St. Anne, Que., of McGill University, has started for West Africa to study sleeping-sickness. ——About fifty members of the staff of Toronto General Hospital attended a banquet in Toronto, April 9, in honor of Dr. John Nelson Elliott Brown, the retiring general superintendent. A handsome silver salver was presented to Dr. Brown and an illuminated address was read and presented by Dr. David J. G. Wishart.——Dr. Henry Raymond Casgrain, Windsor, has been elected chairman of the liquor license commission for that district.——The council of the Royal Geographical Society of England has awarded to Dr. Wilfred T. Grenfell, St. Anthony, Labrador, the Murchison bequest for the current year in recognition of his contribution to the geographical knowledge of the world.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 6, 1911.

A Committee of the British Medical Association for the Investigation of the Treatment of Fractures

About twenty years ago, "collective investigation" was employed by the British Medical Association for the investigation of disease. This consisted in issuing to physicians blanks on some question in need of investigation. These when filled in and returned were handed over to some authority on the subject for collation, and the results were published in the *British Medical Journal*. The project was started with high hopes; it was thought that the collected experiences of many men would do much to advance medical science and furnish results where individual experience had failed. But in spite of a large amount of work, freely and unsparingly done both by physicians and by eminent authorities who collated the observations, the tangible results were insignificant and it is impossible to point to a single discovery of even minor importance made by this method. Even the very term "collective investigation" has fallen out of use. Such a result might have been anticipated. Observations have weight as well as number, and require skill and experience. Where skilled investigators have failed a host of observers not selected for any special aptitude cannot be expected to succeed. All the discoveries of medicine, whether great or small, have been made by individuals working alone or with a few collaborators selected for the purpose. The Hippocratic maxim as to the difficulty of experience has especial application to investigations carried out by many observers. However, the method has been revived by the association. In consequence of a recommendation made by the section of surgery at the last annual meeting on the conclusion of the discussion on the operative treatment of simple fracture, the council has appointed a committee to inquire into the ultimate results obtained in the treatment of simple fractures with, or without, operation. A notice has been published in the *British Medical Journal* requesting the cooperation of surgeons, surgical registrars of hospitals and other practitioners who may be in a position to assist the inquiry to let the committee have access to records of suitable cases. The investigations will be limited to simple fractures of the long bones which have occurred in the five years 1906-1910.

Destruction of Fleas by Exposure to the Sun

In India the prevalence of plague renders the destruction of fleas a serious problem. For the destruction of these pests in travelers' baggage various powders have been tried. Napththalin acted well, but was too slow, requiring six and one-half hours to kill fleas in a closed space and nine hours in the open. It was then determined to ascertain the effect of the heat of the sun. The results are given in a very instructive "Memoir of the Medical and Sanitary Departments of the Government of India," by Capt. J. Cunningham, an army surgeon. In previous experiments it had been found that rags spread on the ground in thin layers were freed from fleas in three hours. In the present investigation the attempt was made to determine the different ways in which fleas behave when clothes are spread on different kinds of ground. Tin trays 4 by 4½ feet, with sides 4 inches high were made. In these were placed cotton carpets (*dhurries*) and a hundred fleas were introduced, half above and half below the carpet. The tray was drawn out into the sun and the behavior of the fleas carefully watched. They were seen to escape from the glare, but after seven minutes all on the surface were killed, and at the end of half an hour also all those beneath the carpet. When carpets were spread on sand the effects were more marked, the sand absorbing the sun's heat faster than the trays. The fleas made no attempt to burrow into the sand and were almost immediately killed. When the carpets were spread on leaves and grass the fleas dived under the grass and got protection from the sun. With carpets spread on hard ground the time necessary for the destruction of all fleas was forty-five minutes; on sand, somewhat less, the temperature being 117 F. under and 118-142 F. on the surface of the carpets. Experiments were also made with the padded cotton quilts, used by the natives, to see if they protected fleas from the sun's heat. In one or two cases the heat did not penetrate the whole thickness of the quilt and some fleas survived, but on turning the quilt over no fleas were found alive after an hour's exposure to the sun; the temperature inside the quilt was found to be 143 F. The following rules have therefore been drawn up for the disinfection of flea-infested clothing by a means which is simple, reliable, and free from expense. The ground must be fully exposed to the sun and devoid of anything that can shelter the fleas, and should be covered with a 3-inch layer of fine sand. The surface temperature of the sand must be at least 120 F. before the clothing is spread. The clothes must be spread evenly in a single layer for one hour, padded articles being turned once or twice. No clothes must be placed within three feet of the edge of the sand (to prevent the fleas from traveling away). The whole area should be fenced in to keep off animals.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 5, 1911.

The Sense of Direction Among the Blind

During one of the last sessions of the Académie des Sciences, M. Truschel, of Strasburg, read a communication on the sense of direction in the blind. It is known that the blind find their way very easily and that they seem to avoid obstacles as if they had a special sense. Some authors, to explain these phenomena, have assumed a new sense, sometimes called "the sixth sense of the blind." It has even been maintained that obstacles are felt by means of unknown emanations. It appears, from experiments undertaken by M. Truschel, that the blind have actually the ability to perceive obstacles at some distance, but it is not a sixth sense, the sensation being due

exclusively to reflection of sound and not being peculiar to the blind exclusively. For instance, when the ground is covered with snow or the floor with a carpet, the blind find the greatest difficulty in orienting themselves. Therefore, they are able to perceive obstacles brought close to them very slowly and silently, only when there is absolute silence in the room. When the head of the blind person is enveloped with paper, cloth, etc., however, the perception persists. Only a large cylinder surrounding the head can suppress the sensation, because it produces the same effect as the approaching object. M. Truschel believes that the organ of these perceptions is the labyrinth, and that the sense of direction which is so highly developed among certain animals may be explained in the same way.

Monument to Dr. Mesny

A committee has been formed to erect a monument to Dr. Gérald Mesny, who died a victim of his devotion at Foudzadian (THE JOURNAL, March 18, 1911, p. 826). M. Berteaux, minister of war, has accepted the honorary presidency of the committee. A subscription will be opened at Tien-Tsin, among the residents and the French physicians, the mandarins and the Chinese students of the school of medicine, of which Dr. Mesny was professor.

The Training of Dogs for the Sanitary Service

In a previous letter I mentioned encouraging results obtained in the experimental employment of dogs for the search of the wounded (THE JOURNAL, Sept. 17, 1910, p. 1036). The ministry of war has just created at Fontainebleau, near Paris, military kennels for the breeding and training of the sanitary service dog.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 27, 1911.

Benzoic Acid and Its Salts as Food Preservatives

The official board of experts (*Wissenschaftliche Deputation für das Medizinalwesen in Preussen*) has presented a report to the Prussian ministry regarding the permissibility of the use of benzoic acid and its salts for the preservation of foods. In this report the investigations made by the United States Department of Agriculture are referred to, by which it was shown that benzoic acid produces poisonous effects only in relatively large doses. The board, however, believes it cannot be said with certainty at present that larger doses (to the amount of several grams) will be permanently so harmless to all human beings as the smaller amounts. The experiments of the American scientists were of too short duration and the results subject to such limitations that they cannot be regarded as convincing proofs of the unconditional harmlessness of the acid. Taking into consideration food legislation in other countries, the board comes to the conclusion that the use of benzoic acid and benzoates for the preservation of foods should not be permitted. The danger of harm is most marked with children and weak or sick individuals. A further objection is raised against chemical food preservatives in general, namely, that by their use the care necessary to prevent food from putrefying or molding will be neglected by manufacturers and dealers.

Personal

Professor Moritz of Strasburg has accepted the call as director of the medical clinic of the academy for practical medicine in Cologne.

Professor Leube of Würzburg contemplates resignation from his teaching position at the end of the summer semester on account of his advanced age.

Professor Manz, the ophthalmologist of Freiburg, died April 21, at the age of 78 years. He joined the faculty in 1859 and became director of the eye clinic in 1868. His chief works dealt with the development, malformations and tuberculosis of the eye and with optic neuritis. He retired from active work in 1901.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 1, 1911.

Responsibility of Physicians and Medical Institutes

The problem of medical responsibility has commanded the attention of physicians in a high degree for the last few years, owing to recent lawsuits which have taken place in this country. Especially *x*-ray workers have lately been victims of such actions, and although in all the recent cases the claims have been dismissed, nevertheless the worry and trouble incurred by the doctors were very telling. Surgeons and obstetricians have lately had to fight out such claims, and in one instance a rhinologist was accused of having disfigured a man whose nose assumed a shape not expected by the patient before he submitted to a plastic operation of this organ. Also hospitals have been sued for damages by patients and in one instance the junior house surgeon, who actually was so unfortunate as to be guilty of malpractice, had to pay heavy damages. The consequence of it was that the members of all the hospital staffs refused to work in the government hospitals unless they were insured against liabilities arising out of such occurrences. A special insurance company has been established by physicians for physicians, whose chief object is to protect the profession against such claims. The medical associations have repeatedly admonished their members to be careful in such instances, and that all medical colleagues should be defended against unjust attacks. Furthermore, all hospitals have been warned against operating on a patient without the written consent of the patient, or, in case he be a minor or not fit to judge for himself, without the consent of his responsible friends. Great stress is laid on the qualities of the anesthetist in operations. In this country he must be a duly qualified M.D. Perhaps to these stringent precautions we owe the relative scarcity of deaths under an anesthetic, otherwise a fruitful source of claims for compensation by the relatives. At present nearly all physicians practicing surgery of any kind in this country, and all hospital physicians also, belong to one or another of the insurance companies. The rate of premiums is 25 kronen ($5) for insurance up to the sum of 20,000 kronen ($4,000), with an additional 10 kronen for each further 10,000 kronen insured. The hospitals are insured, not per person especially named, but per number of doctors employed. The medical councils are at present engaged in statistical research of the points in question: the actual damage done to a patient, whether moral or material, and the actual error on the part of the physician or the nurse or other person employed by the physician, as well as the sums claimed for damages and the sums awarded them in court.

Schools for Crippled Children

A number of children have been placed in special institutions lately in this city with an object of studying the possibility of schools for cripples. The idea is to help those children who are defective in one or more organs, excluding the blind, deaf and mute. The experimental classes consist of forty-three boys, of whom thirteen have lost the normal use of the right arm; seven have lost the right, nine the left eye; fourteen are hunchbacks, while nearly all of the latter show also pathologic changes in the extremities. The children are taught as far as possible on equal lines with normal children of the corresponding age, but with special attention to the individual defect. As far as the results obtained already can be judged, teaching begun early will make the child as useful a citizen as any other person. Great stress is laid on teaching of such subjects as will be of use in future in helping the cripple to earn a living.

Marriages

LUCIUS C. BUCKLEY, M.D., New York City, to Miss Edna Bruner of Sacramento, Cal., at Petchaburi, Siam, March 20.

JAMES GILBERT HOWARD, M.D., Ozone Park, L. I., to Miss Mabel E. Clarke of Brooklyn, at Newark, N. J., May 11.

RENA MAY HEILMAN, M.D., Leechburg, Pa., and Alexander Pitcairn Lindsay of Pittsburg, at Leechburg, April 12.

GEORGE ANDREW CATHEY, M.D., Portland, Ore., to Miss Bertha Anne Kruse of North Bend, Ore., April 28.

CHARLES M. STEELE, M.D., Reno, Nev., to Mrs. Mylo Egan of New York City, in San Francisco, April 28.

SAMUEL E. GROUT, M.D., Birmingham, Ala., to Miss Mary Stewart Wells of Dyersburg, Tenn., May 18.

FREDERICK R. WILLIAMS, M.D., Bisbee, Ariz., to Miss Elizabeth A. Taft of Houston, Tex., April 26.

JAMES ALEXANDER LOGAN, M.D., Colona, Ill., to Miss Clara Rimbey of Murrayville, Ill., April 24.

THOMAS J. LYNCH, M.D., St. Joseph, Mo., to Miss Clare O'Connor of Buffalo, N. Y., May 1.

WILLIAM WESLEY PETER, M.D., Toledo, to ELEANOR E. WHIPPLE, M.D., of Chicago, May 4

LONNIE L. LANIER, M.D., Stillmore, Ga., to Miss Marguerite Harper, at Stillmore, May 7.

ROCCO ANDREW MONTANI, M.D. to Miss Eustasia Morone, both of Indianapolis, May 3.

CARL H. MEYER, JR., M.D., to Miss Johanna N. Jurgensen, both of Baltimore, April 25.

EDWARD L. HEINTZ, M.D., to Miss Bertha Marie Hansen, both of Chicago, May 4.

CHARLES EDWARD SIDWELL, M.D., to Miss Ruth Edna Allen, both of Chicago, May 11.

EMIL GEIST, M.D., Minneapolis, to Miss Augusta Ohage of St. Paul, May 9.

MANNEY RICE, M.D., to Miss Mabel Smith, both of Columbia, S. C., April 30.

Deaths

Roscoe H. Ritter, M.D. Medical College of Indiana, Indianapolis, 1897; a member of the Indiana State Medical Association; secretary of the Indianapolis Medical Society; pathologist to the Indianapolis City Hospital; professor of pathology in the Indiana Medical College, and chairman of the college curriculum committee; professor of materia medica and therapeutics in the Indiana Dental College; died at his home, May 6, from nephritis, aged 37. The Indianapolis Medical Society and the faculty of the Indiana University of Medicine, at special meetings held May 6, adopted resolutions regarding the death of Dr. Ritter.

William A. Duncan, M.D. Chattanooga (Tenn.) Medical College, 1898; a member of the American Medical Association, and Association of Southern Railway Surgeons; president of the Chattanooga Academy of Medicine and Hamilton County Medical Society in 1910; for one term city physician of Chattanooga, and a member of the staff of the Erlanger Hospital; local surgeon for many of the railways centering in Chattanooga; died at the home of his parents in that city, May 4, from tuberculosis, aged 35.

William Samuel Smith, M.D. University of Southern California, Los Angeles, 1902; for two years assistant surgeon at the Los Angeles County Hospital and then a practitioner of Arizona for three years; a member of the territorial board of examiners of the insane; physician of Yavapai County and superintendent of the county hospital; died at his home in Santa Monica, Cal., February 19, aged 32.

Jasper Tidball, M.D. University of Michigan, Ann Arbor, 1874; Bellevue Hospital Medical College, 1878; a member of the American Medical Association; local surgeon at Grafton, Ill., for the Chicago, Peoria and St. Louis Railway; who gave up practice about two years ago and went to San Diego, Cal.; died at his home in that place, April 25, from pernicious anemia, aged 62.

Thomas C. Longino, M.D. Southern Medical College, Atlanta, Ga., 1895; a member of the Medical Association of Georgia; captain and assistant surgeon of volunteers during the Spanish American War, and thereafter for a time a practitioner of Galveston, Tex.; died at his home in Atlanta, April 28, aged 37.

George Washington Talson, M.D. New York University, New York City, 1860; for several years a member of the staff of St. Francis Hospital, Jersey City, and physician to the Little Sisters of the Poor; died at the home of his sister in Wheeling, W. Va., April 19, from heart disease, aged 70.

Samuel Eccleston Holtzman, M.D. New York University, New York City, 1862; assistant surgeon and surgeon of the Fifty-Eighth Indiana Volunteer Infantry during the Civil War; formerly of Pontiac, Ill., but of late years a resident of Takoma Park, D. C.; was found dead at his summer home in Ocean Grove, N. J., May 8, from heart disease, aged 73.

Charles Magnus Brucker, M.D. Eclectic Medical Institute, Cincinnati, 1882; for one term mayor of Tell City, Ind., and for two terms a member of the common council; president of the local medical board; a member of the local pension board and local surgeon to the Southern Railway; died at his home, May 9, aged 51.

Madison Waldo Leonard, M.D. University of Alabama, Mobile, 1894; of Attala, Ala.; a member of the Medical Association of the State of Alabama; died in that place, April 30, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent while despondent, aged 45.

James Huntington Bailey, M.D. University of Vermont, Burlington, 1857; the oldest practitioner of Ticonderoga, N. Y.; surgeon of the Eighth Vermont Volunteer Infantry during the Civil War; died at his home, April 13, from the effects of a fracture of the hip, due to a fall seven months before, aged 77.

John B. Trowbridge, M.D. Rush Medical College, 1882; a member of the American Medical Association; local surgeon at Haywood, Wis., for the Chicago, Milwaukee and St. Paul Railway, and a member of the local board of United States pension examining surgeons; died at his home, in April, aged 60.

William Alfred Trueblood, M.D. University of Alabama, Mobile, 1902; Washington University, St. Louis, 1903; a member of the American Medical Association; formerly of Ottumwa, Ia., and a member of the staff of the Ottumwa Hospital; died in Baker City, Ore., May 1, from pneumonia, aged 37.

James M. Louther, M.D. Philadelphia University of Medicine and Surgery, 1865; one of the oldest practitioners of Somerset County, Pa.; for many years a practitioner of Stoyestown; at one time a member of the State Board of Medical Examiners; died at his home in Somerset, April 25, aged 72.

George W. Hafele, M.D. University of Maryland, Baltimore, 1908; of Baltimore; died at the home of his sister in that city, May 3, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent while despondent from over-study, aged 32.

Emanuel T. Rehrig, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the American Medical Association; for four years resident physician at the Whitehaven (Pa.) Sanatorium for Tuberculosis; died at the home of his parents in Easton, Pa., April 28, aged 28.

Augustus Alexander Clewell, M.D. University of Louisville, Ky., 1871; a member of the American Medical Association; a Confederate veteran; for thirty years a practitioner of Baltimore; died at his home in that city, April 28, from angina pectoris, aged 65.

Benjamin Kinyon, M.D. University of Michigan, Ann Arbor, 1871; for many years a practitioner of Cincinnatus, Ill.; for eight years a member of the Board of Supervisors; died at the home of his daughter in Wilmette, Ill., April 12, aged 68.

Henry Kunkel, M.D. College of Physicians and Surgeons, Baltimore, 1889; a member of the American Medical Association and American Academy of Medicine; died at his home in Kingston, Pa., April 26, from chronic bronchitis, aged 49.

Henry Jay Brink, M.D. New York University, New York City, 1883; physician of Britt, and Hancock County, Iowa; was found dead in a livery barn in Britt, May 8, after returning from a professional call, from heart disease, aged 51.

Benjamin S. Shaug (license, Iowa, years of practice 1886); a veteran of the Mexican War, and a surgeon throughout the Civil War; for twenty years a practitioner of Eldon, Ia.; died in Ottumwa, April 28, from cerebral hemorrhage, aged 84.

Thomas Callaghan, M.D. Baltimore (Md.) Medical College, 1900; of Smith's Hill, Providence, R. I.; a specialist in obstetrics and diseases of children; died at the East Side Hospital, Providence, May 5, from cerebral hemorrhage, aged 39.

Alexander J. Rogers (license, Westmoreland County, Pa., twenty years of practice, 1881); a veteran of the Civil War; for many years a practitioner of Scottdale; died at the Rogers homestead in Connellsville, April 28, aged 76.

Marquis Greenwald (license, Indiana, 1897); a pioneer practitioner of Auburn, where he had practiced twenty years; died at the home of his daughter in Auburn Junction, April 25, from cerebral hemorrhage, aged 76.

Harry H. Baker, M.D. Chicago Homeopathic Medical College, 1897; of Chicago; for several years a lecturer on materia medica at Hahnemann Medical College; died in Brooklyn, May 13, from heart disease, aged 45.

Emory E. Howard, M.D. University of Vermont, Burlington, 1884; formerly of South Hadley, Mass.; secretary and treasurer of the Florida Open Air Association; died at his home in Sorrento, May 1, aged 60.

Perdelete Hebert, M.D. Bellevue Hospital Medical College, 1898; a member of the American Medical Association; died at his home in Iron Mountain, Mich., April 26, from carcinoma of the stomach, aged 53.

Henry Garrettson Spooner, M.D. Harvard Medical School, 1897; formerly of Boston; first editor of the *American Journal of Urology*; died in the Massachusetts General Hospital, Boston, May 3, aged 39.

John S. Renninger, M.D. Hahnemann Medical College, Chicago, 1881; formerly a member of the Minnesota State Medical Association; died at his home in Marshall, Minn., last month, aged 54.

Selden LaFayette Blake, M.D. California Eclectic Medical College, Los Angeles, 1880; of San Francisco; died in the Irving Sanatorium in that city, April 28, from cerebral meningitis, aged 54.

Henry Rossignol, M.D. Medical College of Georgia, Augusta, 1848; surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Atlanta, Ga., April 25, aged 85.

Andrew F. Hammer, M.D. Hahnemann Medical College, Chicago, 1878; a member of the Illinois State Medical Society; died at his home in Taylorville, May 1, from nephritis, aged 61.

Charles A. Walters, M.D. New York Homeopathic Medical College, New York City, 1878; died suddenly at his home in Brooklyn, May 2, from cerebral hemorrhage, aged 57.

Dyas C. Ellis (license, Missouri, 1883); for fifty years a practitioner of Missouri; a veteran of the Civil War; died at his home in Garden City, April 21, aged 78.

Emmett Eugene Horn, M.D. College of Physicians and Surgeons, Chicago, 1906; died at his home in Englewood, Colo., March 14, from tuberculosis, aged 29.

William L. Stephens, M.D. Eclectic Medical Institute, Cincinnati, 1901; formerly of Lenapah, Okla.; died at his home in Idaho, April 1, aged 52.

T. M. Morton (registration, Oklahoma, act of 1908); for many years a practitioner of El Paso, Ark.; died at his home in Davis, Ark., April 30.

Leonard Von Stein (license, Ohio, years of practice, 1896); of Upper Sandusky, O.; died in the Wyandot County Infirmary, April 25, aged 81.

William H. Kindleberger, M.D. Indiana Medical College, Indianapolis, 1875; died at his home in Indianapolis, May 2, from neuritis, aged 54.

William H. Yarnall, M.D. Eclectic Medical Institute, Cincinnati, 1865; died at his home in Detroit, May 6, from pneumonia, aged 68.

Jonathan Edward Burford, M.D. Jefferson Medical College, 1879; of Patterson, Tex.; died in San Antonio, April 27, aged 55.

George W. Harmon, M.D. Hahnemann Medical College, Philadelphia, 1884; of Newark, N. J.; died in Mena, Ark., April 21.

William Anderson, M.D. Victoria College, Coburg (Ont.) 1858; died recently at his home in Newcastle, Ont., aged 74.

Adolphus T. Keckler, M.D. Physio-Medical College, Cincinnati, 1866; died at his home in Cincinnati, April 22, aged 80.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TUCKER'S ASTHMA SPECIFIC

An Insidiously Dangerous Cocain Mixture

This nostrum is sold by a Dr. Nathan Tucker of Mount Gilead, O., and is applied locally by means of an atomizer. When written to, Dr. Tucker sends a form letter with circulars describing his "system" for the cure of "asthma, hay fever and nasal catarrh." The "treatment," for which $12.50 is asked, consists of an atomizer and 4 ounces of the "cure." This nostrum has been analyzed repeatedly and in almost every case, so far as we know, cocain has been found in it.

In 1903, Aufrecht examined the stuff and assigned to it the following composition:

Cocain hydrochlorid	1 per cent.
Potassium nitrate	5 per cent.
Glycerin	35 per cent.
Bitter almond water	35 per cent.
Water	25 per cent.
Vegetable extractives (probably from stramonium)	4 per cent.

In common with nostrums of all kinds, its composition seems to change with the whim of the manufacturer, for when Bertram analyzed the preparation in 1905, he reported finding:

Atropin sulphate	1 per cent.
Sodium nitrate	4 per cent.
Vegetable extractives, dissolved in water, with some glycerin	0.52 per cent.

Still later O. Anselmino (*Pharmaceutische Centralhalle*, Dec. 6, 1906) reported that one of his analyses disclosed the presence of hydrocyanic (prussic) acid, but that the analyses of another sample did not show the presence of this drug. He also reported finding a nitrite in the first sample examined but no potassium nitrate. The amount of alkaloid found by Anselmino was 1 per cent., the greater part of which was cocain.

In THE JOURNAL, August 4, 1906, Dr. Herman Vickery of Boston, reported that he had had analyses made of this preparation and that 7 grains of cocain hydrochlorid had been found in each ounce of the remedy. In THE JOURNAL, August 28, 1906, Dr. N. P. McGay of Shiloh, O., reported a case of cocain poisoning in a 5-year old child from the use of Tucker's preparation.

The Massachusetts State Board of Health, in its official bulletin for January, 1907, listed Tucker's Asthma Specific among other cocain-containing preparations which are unsalable in that state.

The London *Lancet*, Feb. 29, 1908, reported a case of poisoning following the use of this preparation. The victim was a married woman, age 36, who had been suffering for some time from asthma. The physician who was called just before her death discovered symptoms of cocain poisoning and refused to give a certificate of death. At the inquest it was shown that she had been taking the Tucker preparation for about two years. In the same issue, the *Lancet* stated that the British agent for this nostrum had been prosecuted under the Pharmacy Act for selling a product containing certain poisons (cocain and atropin) without labeling the preparation "poison." Analysis of the asthma cure at that time was said to have shown the presence of 3.6 grains of cocain and 0.91 grain of atropin to the ounce.

In 1910, the United States Department of Agriculture issued "Farmers' Bulletin 393," a twenty-page pamphlet entitled, "Habit-Forming Agents," by Dr. L. F. Kebler, Chief of the Division of Drugs of the Bureau of Chemistry. In this pamphlet the public was warned against using the various nostrums containing habit-forming drugs. Under "Asthma Remedies" the following statement appears regarding Tucker's "cure":

> "An example of the cocain type is 'Tucker's Asthma Specific,' which consists of a solution of cocain and is sold throughout the United States as a result of extensive advertising and personal recommendation. The 'Asthma Specific' consists of a bottle of medicine containing cocain to be used as a spray with an atomizer. The price of the latter is $12.50. Recent investigations showed that the amount of cocain purchased by the promoter of this remedy from a single manufacturing house during four months varied between 256 and 384 ounces a month."

In March, 1911, a physician sent to the Association's laboratory a sample of this nostrum. Analysis indicated once more that cocain was present.

When one considers the prevalence of the cocain habit and the demoralizing and brutalizing effect that this habit has on its victims, the viciousness of the indiscriminate sale of a preparation of this sort becomes evident. While the excuse is made by the exploiter of this dangerous nostrum that the amount of cocain that it contains is very small, every physician knows that the application of drugs to the nasal mucous membrane will produce constitutional effects in quantities that would be considered negligible if administered by mouth. It is only necessary to call attention to those cocain

habitués, known as "coke-sniffers," to realize the enormous harm that can be done by the taking of cocain in this way. Under the existing federal law, it is impossible to reach the men who engage in this cocain dispensing traffic, unless they make misstatements on the label. It is high time, then, that the various states enact such laws as will make the promiscuous distribution of cocain a penal offense. When this has been done, Nathan Tucker may perforce engage in a business that will be more respectable, if less profitable, than his present occupation.

MAGIC FOOT DRAFTS

An International Rheumatism Cure Fake

This widely advertised humbug is sold as a cure for rheumatism. It emanates from Jackson, Mich., a town that has the unenviable distinction of being the home of a large number of international medical fakes.

F. G. Badgley, is said to be not only president of this company, but also secretary and treasurer of the J. Lawrence Hill consumption cure fraud[1] and president of the Van Vleck pile cure concern; Badgley is also a lawyer. Whether his interest in law is greater than his interest in quackery, we do not know.

H. H. Mallory, is said to be vice-president of the Magic Foot Draft Company, ex-vice-president of the Hill consumption cure fake and vice-president of the Van Vleck pile cure. Mr. Mallory is also an advertising agent.

R. A. Oliver, whose name still appears in connection with the advertisements of this fake, is said to be no longer living although it is understood that his estate still has an interest in the Magic Foot Draft Company. In common with others of the group, Oliver when living was connected with the Hill consumption cure and the Van Vleck pile cure.

The Magic Foot Draft Company is said to have a somewhat extensive printing plant. This may explain the typographic sameness of much of the advertising sent out by the Hill, the Van Vleck and the Magic Foot Draft concerns.

The foot drafts consist of plasters to be applied to the soles of the feet. The plaster mass is in the central portion of the unfinished side of a sort of oilcloth, the margin of which is coated with an adhesive mixture. The ingredients of the plaster mass were investigated by Dr. L. F. Kebler of the Bureau of Chemistry and the results published some time ago[2] in THE JOURNAL. Dr. Kebler reported that the composition of the plaster was:

Poke root	30 per cent.
Pine tar	62 per cent.
Cornmeal	8 per cent.

Dr. Kebler reached the following conclusion regarding the value of the Magic Foot Draft: "They possess no curative element whatever, which when absorbed into the blood will neutralize the poisons which are supposed to be the cause of the rheumatism and in this manner effect a cure."

At the same time, Dr. Kebler also called attention to the fact that the Magic Foot Draft Co. sent out pills of methylene-blue under the name, "Magic Regulators." The value of the Magic Regulators was thus described by the company:

"To prove the action of our Magic Regulators on the kidney, the organs which in rheumatism are always diseased and fail to do their work, allowing the poisonous acids to accumulate and lay the foundation for a long and painful run of rheumatism, watch the color of the urine, voided. If it assumes a light blue or bluish green color you may rest assured that the Magic Regulators are doing their work."

As the urine of every healthy person always "assumes a light blue or bluish-green color," when methylene blue is administered, it is needless to say that the "Regulators" usually did their work!

The Magic Foot Draft concern advertises heavily in Great Britain and for this reason the British Medical Association recently analyzed the plaster mass of the foot drafts. Their chemist reported:

"The plaster itself weighed about 80 grains and was found to be a mixture of Stockholm tar and the powdered rhizome of white hellebore; determination of their proportions showed the formula to be approximately:

"Powdered white helebore (veratrum viride)..40 per cent.
"Stockholm tar .....60 per cent.

"No other ingredients could be detected. Estimated cost of ingredients for one pair, 1/6 of a penny." (1/3 of a cent.) Selling price, $1.00!

The difference in the findings of the British and American chemists bears out what has been stated many times, namely, that the composition of nostrums can never be relied on. From what has been said, it is evident that Mr. Adams, in his Great American Fraud series, characterized the Magic Foot Drafts correctly when he said: "Affixed to the soles of the feet they are advertised as drawing out the rheumatic poison from the whole system. Of course they might as well be affixed to the barn door, so far as any uric acid extraction is concerned."

1. The exposés of this and similar frauds have been reprinted in the pamphlet "Consumption-Cure Fakes," price 6 cents.
2. Kebler, L. F.: Nostrums and Fraudulent Methods of Exploitation, THE JOURNAL A. M. A., Nov. 10 and 17, 1906.

Correspondence

The Round-Ligament Operation

To the Editor:—I have read with much interest the letters of Dr. J. Clarence Webster, of Chicago, and Dr. J. M. Baldy, of Philadelphia, in THE JOURNAL, A. M. A., April 29, p. 1280, regarding the origin of the so-called Webster or Baldy operation for suspension of the uterus by posterior suture of the round ligaments. This argument is most amusing to one familiar with certain facts, which, with your kind permission, I shall endeavor to set forth herein.

In 1900 and 1901 I held the chair of anatomy and operative surgery in the Post-Graduate Medical School of Chicago. Sometime in the year 1900, Dr. Frank Andrews, of Chicago, told me of an operation for suspension of the uterus that he had then been using for more than ten years. Dr. Andrews' operation consisted of drawing the round ligaments backward through the broad ligaments beneath the Fallopian tubes, and suturing them to each other and to the posterior surface of the uterus, thus suspending the uterus in a sling.

This operation appealed to me, and I taught it to my classes in gynecology, on the cadaver, and in my lectures at the Chicago Post-Graduate Medical School, calling it the Andrews operation. My first opportunity to try this operation on the living individual came in June, 1901. The patient, Mrs. C. M., entered Chicago Hospital (record number 2,584), and was operated on June 18, 1901. Through a median abdominal incision the uterus and appendages were freed from adhesions; the diseased right ovary and tube were removed; an intraligamentous cyst was enucleated from the left broad ligament, and the uterus was suspended by bringing the round ligaments together behind the uterus and suturing them to each other and to the posterior uterine wall. This patient recovered with the usual pain following this procedure, but with the uterus in good position.

I did this operation next on Mrs. E. M., at the Chicago Post-Graduate Hospital, Aug. 13, 1901. My case record shows that I amputated the cervix, curetted, made a median abdominal incision, resected one-quarter of the left ovary, removed the degenerated right ovary, and a right hydrosalpinx, and suspended the uterus by passing both round ligaments through the broad ligaments and suturing them to each other and to the posterior wall of the uterus.

The next patient on whom I performed this operation was Mrs. M. H., sent into Chicago Hospital by Dr. R. C. Cupler, of Chicago. The record number was 2,696; she was operated on Sept. 8, 1901. I was assisted by Drs. R. C. Cupler and Roy M. Wheeler; the anesthetic was administered by Dr. J. G. Chichester. A typical Andrews operation was done, both round ligaments being drawn backward through the broad ligaments and sutured together and to the posterior uterine wall.

While this patient was still in the hospital, Dr. J. Clarence Webster sent a patient into the Chicago Hospital and did a ventral suspension.

The house surgeon, Dr. J. G. Chichester, took the liberty of talking to Dr. J. Clarence Webster about the Andrews operation on the round ligaments that I had done a few days before.

A few weeks later, viz., Oct. 5, 1901, there appeared in THE JOURNAL A. M. A., an article by Dr. J. Clarence Webster descriptive of his new suggestion for uterine suspension, illustrated with very crude drawings. In this paper technic only was discussed, no cases being reported.

I have no comment to make on this coincidence. Frequently like operations are conceived by different men—often by men residing in different localities.

I have no doubt that Dr. Webster, having independently conceived the operation, naturally desired to be the first to publish a description of it.

I do desire to state, however, that Dr. Frank Andrews, of Chicago, is the real pioneer in round ligament suspension and should be so accredited.

RAYMOND C. TURCK, Jacksonville, Fla.

To the Editor:—A good way to settle the Baldy-Webster priority controversy, in my humble opinion, would be for the disputants to shake hands and agree that they have discovered something that wasn't worth finding.

Their operation practically sacrifices the inner strong ends of the round ligament, and puts all the weight and strain on the outer attenuated and weakened ends of the ligament. Their operation has no advantage over Alexander's or one of its modifications in uncomplicated cases, and certainly is not so good as Montgomery's or the old ventral suspension in those cases requiring laparotomy—ventral suspension to be used in postclimacteric cases only of course.

The Baldy-Webster proposition's greatest weakness is the fact that it does not raise the uterus up unless the broad ligament is perforated low enough down to invite postoperative flexion. It simply draws the organ forward and in that respect is not so effective as Alexander's operation.

Let Drs. Baldy and Webster "bury the hatchet" and compromise on the Montgomery modification of Gilliam's operation for retrodeviations demanding surgery, and devote themselves to solving some of the real problems in pelvic diseases.

C. F. ENGLISH, M.D., Sonora, Cal.

Lectures on Sex Hygiene

To the Editor:—It seems to have been agreed by the various societies of social hygiene in this country that, for the present at least, the best results in the campaign against the social evil can be attained by educating the public, along sanitary rather than moral lines, in matters of sex hygiene. A recent article by W. D. Parkinson in the *Educational Review*, which was commented on editorially by THE JOURNAL, pointed out the unwisdom of merely emphasizing the dangers of the venereal diseases, and the advisability of education of a positive or constructive type along these lines. It may be of interest to note that the National Institute of Moral Instruction is now preparing an illustrated lecture which will deal in a general way with the subject of sex hygiene along the lines indicated. A number of the most prominent educators and capitalists in the country are interested in this organization, and an endowment fund of $500,000 is being raised to extend the work. A number of illustrated lectures on various topics have been prepared and are being given in various cities, especially in high schools, academies, etc. These illustrated lessons, consisting of from fifty to one hundred lantern slides and a printed, illustrated text, are sent by express from four local distribution centers, Baltimore, Knoxville, Chicago and Berkeley, Cal., to all parts of the United States for use by teachers, principals and superintendents. The lessons are intended for use during school hours, the teacher delivering the text while the pictures are being shown. The importance of a lecture which would thus visualize the importance of sex hygiene, reaching as it would thousands of young men, can scarcely be overestimated. Mr. Milton Fairchild, the able and energetic director of instruction of the organization, is now engaged in the preparation of such a lecture, which he proposes to entitle "A Gentleman's Treatment of Women." As a tentative outline, he plans to present the subject matter under the following heads: 1. The beast in man. 2. The dangers of promiscuity make it the practice of a fool. 3. The degeneration of self-abuse. 4. The manliness and honor of continence. 5. The practice of self-control. 6. Purity of mind and body a preparation for marriage. 7. The ideal marriage. 8. Eugenics. 9. A gentleman's treatment of women.

Without offering any personal criticisms of this outline, I am presenting it, at the request of Mr. Fairchild, to the readers of THE JOURNAL for their criticisms and suggestions, which Mr. Fairchild requests be sent to him directly and which he will appreciate very much. His address is 903 Calvert Building, Baltimore.

EMIL NOVAK, Baltimore,
General Secretary, Maryland Society of Social Hygiene.

Thyroidectin in Exophthalmic Goiter

To the Editor:—Having read with interest the article on "Treatment of Exophthalmic Goiter with Thyroidectin" (THE JOURNAL, April 22, p. 1176) I desire to report one case. I realize fully that one case proves nothing, but I desire to contribute one instance to the sum of collective observation.

The patient, Miss H., aged about 35, housekeeper, came for treatment Sept. 1, 1910, presenting a typical case of exophthalmic goiter. The pulse-rate was 140; the neck measured 15 inches in circumference; marked protrusion of the eyes was present, with tremor, heart murmurs, systolic thrill over the thyroid, etc. The thyroid gland was the size of an average hen's egg, central and uniform in shape. The patient was given thyroidectin 5 gr. capsules three a day, one after each meal. This was continued to October 10, about six weeks, with no discoverable improvement in any way. On the suggestion of a brother practitioner, I changed to quinin hydrobromid, 5 gr. three times a day, after meals, and after five months of that medication, with occasional interruption of one week, the results are certainly remarkable. No other treatment was given; no suggestions were made in regard to hygiene or mode of life, and the patient continued about her work as before.

About the middle of March the pulse was 80, and the neck measured 13½ inches, the reduction of 1½ inches in circumference being due to the disappearance of the growth, as only a normal thyroid could then be felt; the tremor had disappeared; there were no heart murmurs, or thrill over the neck, as there was nothing to thrill. The exophthalmos, however, still persists, though it is possibly not so marked as before the beginning of the treatment, and I fear that the condition may be permanent. During each of the one-week intermissions of the quinin hydrobromid, the patient would not be so well, and the pulse-rate would increase; but during the first week after resuming the remedy, there would be a marked improvement, more noticeable than during the weeks of continuous administration.

W. F. WILSON, Lake City, Minn.

President Taft on Beriberi Among the Japanese

To the Editor:—There was a rather important clerical error in the typewritten manuscript furnished you for President Taft's speech before the Medical Club of Philadelphia. [THE JOURNAL, May 13, 1911, page 1400, middle of first column.] He said, "I need not go further than to say that twenty-four per cent. of the sick of the Japanese army were afflicted with beriberi during the Russo-Japanese War." The words "sick of the" were omitted in this sentence, just before the word "Japanese." It seems to me the error is so obvious that it will not make any great difference, except to certain literal souls who will perhaps write to inquire about it. I am asked to write you in the name of the White House to make the correction, with the statement that it was a clerical error.

J. R. KEAN, Washington, D. C.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RECENT LITERATURE ON BONE-GRAFTING

To the Editor:—Please refer me to recent literature on bone-grafting. I have a patient with a part of the tibia lost and I want to insert a bone if possible. Has this been done with success?

J. F. CLARK, Fairfield, Iowa.

ANSWER.—Bone-grafting, bone-transplantation and bone-transference have been successfully employed in a number of cases for the purpose of supplying defects in the long bones.

Huntington (*Ann. Surg.*, xli, 249) and Codman (*Ann. Surg.*, xlix, 820) both report interesting cases of bone-transference in which the fibula was made to supplant a defect in the tibia.

In the article on "Intrahuman Bone-Grafting" (*Ann. Surg.*, December, 1909) Mac Ewen describes a method of grafting small particles of bone to fill in bone defects.

Magruder writes on "Bone-Grafting and Osteoplasty" (*Washington Med. Ann.*, July, 1910, and in *Surg., Gynec. and Obst.*, August, 1910).

Tomita (*Deutsch. Ztschr. f. Chir.*, xc, 247) mentions several cases of bone-transplantations. In one case he successfully transplanted 12 cm. of bone from a calf to fill in a defect of the tibia in a man and in another case he used the femur of a rabbit. These are successful cases of heteroplasty. Several cases of autoplasty or the transference of pieces of the tibia to fill in a defect in the same bone at another point are also reported.

Heller (*Ergebn. d. Chir. u. Orthop.*, vol. i) reviews the whole subject of transplantation and his article contains a bibliography of recent literature on the subject.

PHYSIOLOGIC ACTION AND THERAPEUTIC USES OF COTTON-SEED OIL

To the Editor:—1. What are the physiologic action and therapeutic uses of cotton-seed oil?

2. What is the average dose, the maximum dose, and how often should the dose be repeated?

3. What are the comparative food values of cotton-seed oil, olive oil, and eggs?

J. A. BURNETT, M.D., Marble City, Okla.

ANSWER.—1. Cotton-seed oil has the action of other fats and fixed oils. It hinders to some extent the secretion of gastric juice, and tends to provoke the regurgitation of bile and pancreatic juice into the stomach. In the intestine it undergoes saponification and if in excess is excreted with the feces rendering the passages softer and of a light color.

Therapeutically it may be used in place of olive oil to restrain hyperacidity, allay irritation, and relieve pain in the intestinal canal.

2. The dose is from a teaspoonful to a tablespoonful or more, given with or after meals.

3. Oils consist practically of pure fat, which yields 9.1 calories per gram. Half an ounce of cotton-seed oil or olive oil would yield approximately 135 calories; either is equivalent to one and one-half eggs.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 13, 1911.

Snyder, H. McC., lieut., ordered to Fort D. A. Russell, Wyo., for duty on completion of examination for promotion.

Phelan, Henry du R., M.R.C., ordered to Fort Barry, Cal., for duty.

Dickenson, C. F., M.R.C., relieved from duty at Fort Barry, Cal., and ordered to Fort Duchesne, Utah, for duty.

Bayley, Edmund W., M.R.C., ordered to Fort Sill, Okla., for duty.

Holmberg, Carl E., lieut., relieved from Presidio of San Francisco and assigned to duty at Army General Hospital, Fort Bayard, N. Mex.

VanHorn, James B., M.R.C., relieved from further duty in the Philippines division and assigned to duty at Army General Hospital, Fort Bayard, N. Mex.

Kendall, William P., lieut.-col., leave of absence extended one month.

Brown, Ira C., M.R.C., ordered to proceed to Fort Douglas, Ariz., for duty in the field.

Freeman, Charles E., captain, assignment to duty with troops for station at Yosemite National Park, Cal., is revoked, and instead assignment to duty at Army General Hospital, San Francisco.

Richardson, William H., captain, assigned to duty with troops from Presidio of San Francisco for station in Yosemite National Park, Cal.

Bayley, Edmund W., M.R.C., ordered to accompany the 55th Company, C. A. C., from San Francisco to Fort Du Pont, Del., on the completion of this duty to proceed to Fort Sill, Okla., for station.

Miller, R. M., captain, granted thirty days' leave of absence.

Long, Charles J., D.S., granted thirty days' leave of absence.

Purnell, H. S., captain, relieved from duty at the Army General Hospital, San Francisco, and ordered to Madison Barracks, New York, for duty.

Medical Corps, U. S. Navy

Changes during the week ended May 13, 1911.

Butler, S. St. J., surgeon, detached from the naval medical school, Washington, D. C., and ordered to the Asiatic station.

Zalesky, W. J., P. A. surgeon, detached from the *Salem* and granted sick leave for two months.

Wheeler, L. H., P. A. surgeon, detached from the *Virginia* and ordered to the *Salem*.

Halsey, W. H., asst.-surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Virginia*.

Ames, M. H., P. A. surgeon, detached from the *Albany* and ordered to the *Helena*.

Dessez, P. T., P. A. surgeon, detached from the *Helena* and ordered home.

Higgins, S. L., P. A. surgeon, detached from the naval hospital, Yokohama, Japan, and ordered home.

Thomas, G. E., asst.-surgeon, detached from the *Saratoga* and ordered to the naval hospital, Yokohama, Japan.

Ohnesorg, K., surgeon, ordered to the Navy Yard, New York.

May, H. A., P. A. surgeon, detached from the naval hospital, Las Animas, Colo., and ordered to duty at the naval medical school hospital, Washington, D. C.

Holloway, J. H., P. A. surgeon, detached from the naval hospital, New York, and ordered to duty and treatment at the naval hospital, Las Animas, Colo.

Woodland, E. E., A. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Iowa*.

Dickinson, D., Jr., A. A. surgeon, ordered to the marine recruiting station, Cincinnati.

Kindleberger, C. P., surgeon, detached from the navy yard, Mare Island, Cal., and ordered to the naval station, Guam, M. I.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 10, 1911.

Carter, H. R., surgeon, directed to proceed to Cairo, Ill., on special temporary duty.

Banks, C. E., surgeon, granted ten days' leave of absence from May 10, 1911.

Carmichael, D. A., surgeon, granted fourteen days' leave of absence from May 26, 1911.

Williams, L. L., surgeon, directed to proceed to Vineyard Haven, Mass., on special temporary duty.

Geddings, H. D., surgeon, granted one month's leave of absence on account of sickness.

Brown, B. W., surgeon, leave of absence for one month on being relieved by Surgeon F. W. Mead amended to read "nine days from Dec. 6, 1910."

Lumsden, L. L., P. A. surgeon, detailed to attend the annual meeting of the Ohio State Medical Association at Cleveland, Ohio, May 8 to 11, 1911.

Billings, W. C., P. A. surgeon, granted seven days' leave of absence from April 8, 1911, under paragraph 191, Service Regulations.

Salmon, T. W., P. A. surgeon, leave of absence for two months and ten days from Feb. 8, 1911, amended to read "one month and twenty-three days from Feb. 8, 1911, and seventeen days from April 1, 1911, on account of sickness."

Ashford, F. A., P. A. surgeon, granted seven days' leave of absence from April 12, 1911, under paragraph 191, Service Regulations.

Kaplan, M. I., A. A. surgeon, granted seven days' leave of absence from April 12, 1911, under paragraph 210, Service Regulations.

Moorer, M. P., A. A. surgeon, leave of absence for ten days from March 28, 1911, amended to read "twenty-four days from March 28, 1911, on account of sickness."

Porter, Joseph Y., Jr., A. A. surgeon, granted eight months' leave of absence from May 1, 1911, without pay.

Torres, J. F., A. A. surgeon, granted thirty days' leave of absence from May 22, 1911, with pay, and five months' from June 22, 1911, without pay.

Bowie, R. I., sanitary inspector, died at Nagasaki, Japan, April 24, 1911.

Board of medical officers convened to meet at the bureau, May 22, 1911, for the examination of candidates for admission to the service. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant-Surgeon W. C. Rucker, recorder.

Strangulated Hernia.—B. B. Davis, in the *Western Medical Review*, emphasizes the following points: (1) decrease of the number of candidates for strangulation by a more general employment of operations for radical cure; (2) operation in all cases in which the hernia is not well retained by trusses, or in which it is otherwise unusually liable to become strangulated; (3) condemnation of prolonged or harsh methods of employing taxis; (4) immediate operation in every case of strangulated hernia that is not quickly reduced by gentle taxis; (5) in cases of gangrene of bowel in the late cases the superiority of resection rather than any of the make-shift procedures so uniformly unsuccessful.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

IOWA: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

KANSAS: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MICHIGAN: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEBRASKA: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW YORK: May 23-26 and June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH CAROLINA: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WISCONSIN: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

WYOMING: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Ohio January Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Jan. 3, 1911, fifteen candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
Indiana University	(1910)	Indiana
Tufts College Medical School	(1906)	Maine
Harvard University Medical School	(1906)	New York
College of Physicians and Surgeons, Baltimore	(1910)	W. Virginia
University of Michigan, Department of Medicine and Surgery	(1889) (1906) (1909) (1910)	Michigan
University and Bellevue Hospital Medical College	(1910)	New York
Long Island College Hospital	(1909)	New York
Eclectic Medical College, Cincinnati	(1909)	W. Virginia
Western Reserve University	(1886)	W. Virginia
Laura Memorial Woman's Medical College	(1897)	Michigan
Woman's Medical College of Pennsylvania	(1909)	New Jersey

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Fourth Weekly Meeting

WOUNDS AND THEIR MEDICOLEGAL RELATIONS

INCISED WOUNDS: Appearances, depth, length, direction, shape. Value as indicator of weapon used.

CONTUSED WOUNDS: Appearances, color changes, character of weapon, degree of force or violence. Relation of local lesion to injury to deeper structures; fractures, ruptured viscera.

PUNCTURED WOUNDS: Character of weapon; size, shape, direction, depth of wounds. Injury to deep structures.

GUN-SHOT AND PISTOL-SHOT WOUNDS: Wound of entrance, shape, size, edges, discoloration, powder burns; variations due to shape and momentum of missile, distance, angle of incidence, and tissues injured. Injury to tissues in track of missile. Injury to muscle, fascia, bones, etc. Deflection of bullet. Foreign substances in tissues. Wound of exit, shape, size, relation to wound of entrance.

LACERATED WOUNDS: Character of weapon or injury. Appearances.

HOMICIDAL, SUICIDAL AND ACCIDENTAL WOUNDS: Situation, usual site in suicide. Nature of wounds, extent and number, direction of wound. Bearing of sex. Position of body. Environment.

DISTINCTION BETWEEN ANTE-MORTEM AND POST-MORTEM WOUNDS: 1. Evidences of free bleeding. 2. Clotted blood about edges of wound, and infiltration of surrounding tissues. 3. Retraction of edges. 4. Swelling and injection of edges. 5. Retraction of sides of wound under skin. Differences in incised, punctured, lacerated, contused and gunshot wounds.

Monthly Meeting

Pistol-Shot Wounds in Their Medicolegal Relations.

Infanticide; Evidences of Live Birth; Cause and Manner of Death.

The Legal Status of the Medical Expert in This State.

NOTE: This completes the course as outlined for the year.

Book Notices

A SYSTEM OF OPHTHALMIC OPERATIONS. Being a Complete Treatise on the Operative Conduct of Ocular Diseases and Some Extraocular Conditions Causing Eye Symptoms. Edited and Partly Written by Casey A. Wood, M.D., C.M., D.C.L., Late Professor of Ophthalmology and Head of the Department, Northwestern University Medical School. Complete in Two Volumes. Volumes I and II. Cloth. Price, $15. Pp. 1824, with 968 illustrations. Chicago: Cleveland Press, 1911.

The extent and comprehensiveness of this work may be realized from the fact that the two large volumes aggregate 1830 pages, and that its composite authorship comprises thirty collaborators. These collaborators include the most distinguished practitioners and authors, and the subjects have been assigned to them so that the whole list of surgical diseases and operations on the eye is covered.

In addition to the chapters on purely technical subjects there is a short chapter on the history of ophthalmic surgery by Mortimer Frank, with brief biographical sketches of the originators of operations in this branch of surgery and of men prominent in the development of ophthalmology. There is also a rather exhaustive chapter on the forensic relations of ophthalmic surgery by Thomas Hall Shastid. Both of these are apropos in a work of this character and are well done by their respective authors.

In a brief review of a book containing the work of so many distinguished ophthalmologists it would be impossible even to mention the excellencies of the work of each; so that with no desire to make invidious distinctions we may comment on certain features of the book. The chapters on minor ophthalmic surgery, the extraction of senile cataract, operations on the retina and orbital operations, by the editor, Dr. Casey Wood, are admirable. The first mentioned chapter at once expands the usefulness of the work beyond the limit of the skilled ophthalmic surgeon and furnishes much information of the greatest value to the general practitioner who must, perforce, treat many minor ophthalmic conditions.

The chapter on the surgery of the ocular muscles by Jackson should afford a feeling of satisfaction to the surgeon. Jackson speaks with the authority of experience, knowledge and judgment in presenting his own views, and at the same time does not slight the work nor the opinions of others.

Cataract, always one of the most important subjects with which the eye surgeon has to deal, is fully covered by Casey Wood, D. W. Greene, Peter Callan and Myles Standish, Greene furnishing a chapter on the intracapsular operation according to the Smith method, maintaining with force that while it may have its shortcomings, as do most other cataract operations, it is entitled to a distinct place in the surgery of cataract. The two chapters by Frank Brawley and A. E. Halstead, the first on the surgery of the sinus conditions affecting the eye, and the other on the surgery of other collateral conditions influencing vision, as pituitary and other brain tumors, or conditions requiring decompression operations, are features of great value. The editor has thus wisely recognized the fact that the limits between general and ophthalmic surgery have, during the past few years, become more and more narrow.

The general plan of the work is the same as that followed in the "System of Ophthalmic Therapeutics," the two volumes before us serving as a supplement to it, and the three comprising a complete system of ocular treatment.

The illustrations are a distinguishing feature of this book, and of themselves raise the work into the ranks of *éditions de luxe*. It can be said without fear of contradiction, that no work on ophthalmic surgery rivals it in this particular. The pictures are almost all original, and effectively assist in elucidating the text.

The editor and also the ophthalmologists of this country are to be congratulated on the completion of this great work. It has its imperfections and errors, but they are few and unimportant as compared with the thoroughness, care and scientific exactness maintained by most of the chapters. This system should be in the possession of every English-speaking ophthalmic surgeon.

CASE HISTORIES IN PEDIATRICS. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis and Treatment of the Most Important Diseases of Infancy and Childhood. By John L. Morse, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School. Cloth. Price, $3. Pp. 314, with illustrations. Boston: W. M. Leonard, 1911.

In this book the author presents the case histories of 100 actual pediatric cases from his practice, which cover fairly completely all the important diseases of children. These cases are classified systematically, as in any text-book, in the table of contents, for easy reference. In the text the history and physical examination are given first, and the diagnosis follows in heavy type after the clinical evidence is weighed. The prognosis and treatment follow. The reader can thus take up each case as a new patient that presents himself for diagnosis without knowing the diagnosis in advance. This method of teaching from case histories has been in use at Harvard for ten years and commends itself to Morse as "almost as valuable as the clinical lecture in which the patient is shown," and as "surpassed only by bedside instruction to small groups of students." His favorable experience with this method of teaching both graduates and undergraduates has led him to feel that "there was need for the utilization of this method for the presentation of the subject of pediatrics to the practitioner." The book is written in Dr. Morse's well-known direct and vigorous style and makes interesting and profitable reading to any one interested in the diseases of children.

HISTORY OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION. With Biographies of its Presidents, Complete Roster of its Officers, Programs of its Meetings, and the Past and Present Laws Relating to the Practice of Medicine in Mississippi. Cloth. Pp. 171. Dr. E. F. Howard, Secretary, 506 First National Bank Building, Vicksburg, Miss., 1910.

This book was written because the secretary of the Mississippi State Medical Association when he entered on the duties of the office found "an entire absence of records." "There was not even a file of the official transactions, due to the fact that at least twice the secretary's office had been wiped out by fire." Finding it impossible for the Mississippi State Medical Association to obtain a complete set of transactions, Dr. Howard undertook to abstract the items that appeared to him to be of particular interest from copies which he was able to borrow. These abstracts have been made the basis of this history. Along with the history of the association are the other documents named in the title. Possibly this book will suggest to other state associations the desirability of similar work.

The author acknowledges that the book is by no means complete or perfect. Important events in the society's history must have escaped his knowledge. When the members have offered their constructive criticism, a second edition, revised and enlarged, might be written.

THE NINTH YEAR-BOOK OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION. Part II, The Nurse in Education. By Thomas D. Wood, A.M., M.D., Professor of Physical Education, Teachers College and Columbia University; M. Adelaide Nutting, Professor of Nursing and Health, and of Household Administration, Teachers College, New York City; Isabel M. Stewart, Instructor in Nursing and Health, Teachers College, New York City, and Mary L. Read, B.S. Supplement to the Year-Book on "Health and Education" Discussed at the Indianapolis Meeting of the National Society, Feb. 28, 1910. Paper. Price, 78 cents. Pp. 76. The University of Chicago Press, Chicago.

The second part of the Ninth Year-Book of the National Society for the Study of Education deals with the nurse and contains, beside an introduction by Dr. Thomas D. Wood and a valuable bibliography, two papers: one on "The Educational Value of the Nurse in the Public School," by Isabel M. Stewart, and one on "Professional Training of Children's Nurses," by Mary L. Read. The first paper emphasizes a function of the trained nurse which has not been generally considered. The value of the properly trained nurse to the physician, to the hospital and to the patient has been repeatedly discussed, but the educational value of the nurse to the public has been given comparatively little attention. The paper is an opportune one in view of present-day developments along this line.

PRINCIPLES OF PUBLIC HEALTH. A Simple Text-Book on Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, M.D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth. Price, 50 cents net. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

This little book is the fourth one of a series issued for use in the public schools. While necessarily elementary, it is so written and illustrated as to interest and instruct the child. The book in the main is excellent, although one might wish that such illustrations as the one on page 64 showing "the effect of cigarette smoking" had been omitted.

Miscellany

CLIPPINGS FROM LAY EXCHANGES

Another Group of These Popular Quotations

MUST HAVE HIT HIM IN THE NECK

"He escaped with a sprained ankle, which is remarkable, as the machine struck him between the lamp and the radiator."—Sibley (Ia.) *Gazette.*

WILL IT ALSO MILK THE COW?

"The V.... Pharmacy . . . has been named as a supply station for antitoxin. . . . The antitoxin will be used in cases of diphtheria, to prevent blindness in newly born babes, for throat cultures and in the examination of blood in typhoid and malarial cases."—Cleveland *Plain Dealer.*

SOUNDS AS THOUGH SHE WOULD MISS WEDNESDAY TOO

"Miss B.... W.... was unable to attend to her school duties Monday and Tuesday on account of an attack of cerebral cusa."—Roundup (Mont.) *Tribune.*

FORTUNATELY HIS LEFT RIB ESCAPED

"While cranking his automobile, T.... C.... sustained what is technically known as a Colles fracture of the right rib."—San Francisco *Chronicle*, Feb. 2, 1911.

NO TROUBLE FOR AN OSTEOPATH

"Dr. C. D. V...., the osteopath . . . witnessed an operation while at Kirksville. The operation consisted in the removal of part of the spinal column of a man who was paralyzed. . . . He came out from the operation all right and the physicians all thought he would get well without any trouble."—Atlantic (Ia.) *Telegraph*, Jan. 5, 1911.

INTERNATIONAL GAS FACTORY

"Dr. W. H. W...., the Philadelphia physician decorated by the Kaiser, was already the one American doctor who enjoys the distinction of having a bacillus named for him. And the Bacillus Welchii is the gas bacillus dwelling in the international track."—Boston *Record*, April 8, 1911.

THE BLIND LEADING THE BLIND

"Dr....., on account of failing eyesight and nervousness, has concluded to abandon dentistry and take up optics. He has already partly completed a college course."—Johnstown (Pa.) *Daily Democrat*.

BROKE HIS KNOB—AND THEY SAY THERE'S NO REMEDY

"Mr. F. P. B.... who was injured . . . by stepping from a moving train, was examined by a specialist in Columbus last Monday; and it was found that the knob, on the end of the bone that worked in the socket at the hip joint, was broken from the bone, and that no operation could remedy the injury."—*Marion County Patriot*, Buena Vista, Ga.

A NEW SYNONYM—SOUNDS ODD, BUT CERTAINLY IS DESCRIPTIVE

"Alice H...., an English actress, died suddenly of optical goiter at Roosevelt Hospital, New York."—*Dramatic Mirror*.

FANCY COLORED FITS

"Three surgeons were called to prove that he would always be a sufferer from chromatic epilepsy."—Erie (Pa.) paper.

ABERRATIONS

"The cause of death was given as shock and acute lumbar pneumonia following six gunshot wounds."—Chicago *Record-Herald*, Jan. 25, 1911.

"Dr. W. R. M...., is recovering from an operation for rhynophima, or 'big nose,' at the Protestant Hospital."—Cincinnati *Post*, March 7, 1911.

"Mrs. M.... died yesterday of diabetes mylitis."—Worcester (Mass.) *Telegram*.

ODD STATEMENTS IN PREVIOUS HISTORY

Naturally, applicants for life-insurance may be expected to put as good a face as possible on the reports concerning relatives and the causes of their deaths, but they sometimes make rather amusing statements. Some one has collected a few of these which were originally published in the *British Medical Journal*.

"Mother died in infancy."
"Father went to bed feeling well, and the next morning woke up dead."
"Grandfather died suddenly at the age of 103. Up to this time he bid fair to reach a ripe old age."
"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."
"Applicant has never been fatally sick."
"Applicant's brother, who was an infant, died when he was a mere child."
"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."
"Applicant's fraternal parents died when he was a child."
"Mother's last illness was caused from chronic rheumatism, but she was cured before death."
"Father died suddenly; nothing serious."

There is a delightful innocence about some of these. Take the last, for example. This has a western flavor, as though the applicant appreciated father's having made little fuss about it. When the time came he simply went, that was all.

Vaccination.—In Manila, during Spanish times, there were so many deaths from small-pox that it was necessary to erect in that city a large temporary hospital for the victims, most of whom died. During the last five years no one who had been successfully vaccinated during the five previous years has died in Manila. No one at all has died there since June, 1909. In large cities, and in localities which are easily accessible, the disease is now mild. Owing to a combination of circumstances vaccination, which was begun twelve years ago by the American sanitary authorities, was suspended in Bagac during a period of nine years. A bad epidemic broke out, but when vaccination was begun again no new cases occurred. The official reports from the islands make a very strong document in support of the benefits of vaccination. By the way, the Republicans put a National Bureau of Health into their platform and then took no interest in the subject. The president was enthusiastic about it for a little while and then apparently forgot it. Will the Democrats, who also put it in their platform, pay a little attention to it next winter? A passenger was standing outside the door of a Pullman sleeper when the porter asked him to come inside. "I thought a platform was meant to stand on." "Oh, no, sah, a platform is meant to get in on."—*Collier's*, April 22.

Medicolegal

Poisoning from Ivy Not "Taking" of Poison, But Death Therefrom is Accidental—Visible Marks

The United States Circuit Court, in Minnesota, says that the insured in the case of Dent vs. Railway Mail Association (183 Fed. R. 840) went with his wife to the outskirts of the city of St. Paul, where he, leaving her, walked into some adjacent woods and there cut a branch of oak and a little stick, which he brought back to her. Within a day or two he called her attention to a discoloration between the fingers of his hand which subsequently turned into an eruption that spread to his arms, neck and chest. This eruption progressed and in the latter part of the month he called on a physician who prescribed for him. His condition grew worse, until his death, which the undisputed evidence showed was caused by poison ivy.

He was insured by the association, but its constitution provided: "Nor shall any benefit be paid where death or disability results from voluntarily inflicted injuries, be the member sane or insane; nor from poison or other injurious matter taken or administered accidentally or otherwise." However, the court is very clearly of the opinion that, when it is considered that the word "taken" is used in connection with the word "administered," and that they are both used in connection with the words "accidental or otherwise," it does not include such a case as this one. It must have been an internal taking, and that taking must be the effect of an act voluntary or involuntary of the person injured.

The court thinks that it would shock the ideas of justice of us all to hold that this policy did not include a death by the bite of a poisonous snake. If anything could be considered an accident, that would be so considered, and there is no reason why this association should not pay for such a loss and should not be willing to do so. The clause quoted was undoubtedly inserted to exclude a case of suicide. It was intended to cover such a case, and exempt the company where death resulted from the taking of the insured's own life by the administration of poison by himself; or perhaps to cover such a case as the one in Wisconsin, in which a dentist administered some poisonous substance to his patient.

The next question was whether the circumstances proved in this case showed an accident, and the court thinks that they did, holding that the taking or catching of this poison by cutting the shrub or bush was an accident, and that it came within the terms of the policy.

Nor does the court think that the association could be relieved by reason of the provision in the policy that, "No benefit or sum whatever shall be payable in any case whatever, unless the accident alone results in producing external marks of injury or violence suffered by the body of the member." This does not say when the visible marks must be produced, and it seems to the court that it must be held that it is complied with if such visible marks appear afterwards, though of course it must be established to the satisfaction of the court or jury that those visible marks were the result of the accident. So, if it was established to the satisfaction of the court or jury that these visible external marks were the result of the injury, the fact that they did not appear instantly was not a defense to the suit on this policy of accident insurance.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Thirteenth Annual Meeting, held at Baltimore, April 25-27, 1911

The President, DR. FRANKLIN B. SMITH, Frederick, in the Chair

A list of officers elected was published in THE JOURNAL, May 13, p. 1396.

A resolution was adopted providing for the appointment of a committee of five to investigate and report on conditions surrounding the care of inebriates in the state, with the view of obtaining such legislative measures as may seem warranted.

A resolution was adopted reciting that, since the completion of the Panama Canal without serious mortality from epidemic and endemic diseases will be a signal triumph of the appreciation of scientific discoveries in the field of preventive medicine, the opening of the canal should be marked by conspicuous recognition of these and kindred services of preventive medicine in the advancement of human welfare and the reclamation of tropical regions to civilization, and that such recognition may be secured and such an occasion fittingly commemorated by the holding of an international congress of tropical medicine.

The Profession of Medicine and Its Relation to the State

DR. FRANKLIN B. SMITH, Frederick: In matters of public interest, such as health and sanitation, pure food, education and the conservation of mental and physical resources, medical men should lead and dominate the laity. Our practice is too continuously on the individual. It should take a wider range, grasp greater subjects, such as pertain to the protection and elevation of society, subjects embracing the prevention of disease and the best means of overcoming ignorant opposition. The value of experimentation on living man and on the lower animals is so evident that it is incompatible with our ideas of good education and common sense to deny it; but, on the other hand, under the present development of modern civilization, no preventable pain, cruelty or torture to either man or animal can be tolerated. Therefore the sensible—not the fanatic—opponents of vivisection may be met squarely and convinced of its necessity and its benefits, while the reasonable prejudices and fears of humane people may be allayed by such restrictions as will make it a certainty that these experiments are never unnecessarily performed or needlessly painful.

Other professions, educators and workers interested in the welfare of the state must be drawn into their proper relation to us and such mutual cooperation secured as will bring about harmonious but well-rounded and developed schemes of advancement. Organized charity, public and private, education and general economics, all offer more inviting fields of usefulness and glory as specialties for the progressive medical man than the overcrowded ranks of surgery, obstetrics, gynecology and even general practice. The subject of the control of the evils of intemperance by restriction of the manufacture and sale of the so-called intoxicants has been before the public for a long time. Much time, money and energy have been spent by able and earnest men known as prohibitionists, advocates of high license, antisaloon leaguers and pledge enthusiasts. Our profession has never taken the part it should take in this question of vast economic importance. This matter has been treated as a religious or political question, or else as one of morals or economics. While in reality it is all of these, in its more essential aspects it is, above all, a medical question.

In the administration and disbursement of its public charities, however, the state needs counsel more than in any other of its departments. In these matters the members of the medical profession are directly interested both as medical men and as citizens. Public money should be disbursed only for value received. Commissions should be appointed because of the merit and fitness of their members rather than because of their political records and influence. The licensing or chartering of hospitals should be entrusted to this sort of control, with power to prescribe the standard of equipment and service without which they could not lawfully prosecute their work. Our efforts should be for higher standards of attainment for our profession, a more general and more discriminative education of the laity in medical matters, greater influence by means of better men on our state boards, a general standardization secured through organization and through the representatives of our national association, cooperation and agreement leading to uniformity of state legislation, rather than the enactment of national laws.

The annual oration was on "Phylogenetic Association in Relation to Exophthalmic Goiter and Sexual Neurasthenia," by Dr. George W. Crile, Cleveland, Ohio.

The Tonsil Question

DR. H. E. PETERMAN, Baltimore: There is much difference of opinion as to the physiology and functions of the tonsils. It is my belief that the tonsils perform an important function in childhood, and I seldom perform a tonsillectomy in children under 6 years of age, unless there is some special condition demanding it. Tonsillectomy should always be classed as a major operation, because it is usually necessary to give a general anesthetic, and also because of the fact that severe hemorrhage is often encountered and in this region is difficult to control. When the patient is an adult and not of the nervous type, it is easier and more satisfactory to perform the operation under local anesthesia. The operation should always be done in a hospital. When a general anesthetic is used, ether should always be chosen, unless there is some special contraindication. The key to the successful enucleation of the gland consists in getting properly started under the capsule or between the capsule and the parts beneath. The dangers of the operation are hemorrhage, injury of the muscular structures surrounding the tonsils and infection of the wound.

DR. WILMER BRINTON, Baltimore: I am glad that Dr. Peterman does not advocate the wholesale removal of tonsils which is practiced by a good many men, for it is quite certain that there will sooner or later be a reaction against this practice, just as there has been against the indiscriminate removal of ovaries.

Case of Pneumococcus Peritonitis

DR. HARVEY G. STONE, Baltimore: The patient, a female child, 5 years old, had pneumonia two years ago, complicated by acute otitis media. After recovery from the pneumonia the otitis persisted and became chronic, with frequent exacerbations of earache and discharge. On March 30, following an indiscretion of diet on the previous evening, she was seized with sudden severe abdominal pain and vomiting, fever and diarrhea. The fever and pain, which was generally distributed over the abdomen, but most acute over the umbilicus, persisted, as did the diarrhea, in spite of calomel. There was slight symmetrical distention of the abdomen in the lower half. There was no localized tenderness and no masses were felt. On opening the abdomen thick greenish-yellow pus welled out. The pus was odorless. No lesion accountable for the infection could be found. The bacteriologic report of the pus examination showed pneumococci. In spite of the Fowler position, Murphy treatment, etc., the child died the day after the operation. No autopsy was secured.

(To be continued)

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911.

(*Continued from page 1414*)

A Case of Empyema

DR. ROBERT DONALD, Hattiesburg: In this case, the patient, who was a child whose illness in the beginning simulated malaria, was given antimalarial treatment. Later, an incision was made and drainage instituted. On removal of the tube on the ninth day the cavity refilled and drainage was again instituted, with satisfactory results.

DISCUSSION

DR. J. W. BARKSDALE, Winona: I do not think it necessary to insert a very long tube. All that is necessary is that the tube project into the pus cavity.

DR. S. S. CAROTHERS, Duck Hill: How much quinin was given the child? The case may have been a mild one of pneumonia.

DR. J. T. LONGINO, Jonestown: The cause of the trouble is bacterial infection. If a microscopic examination had been made several bacteria would have been found playing a part in this infection. I am very much opposed to attributing the cause to quinin.

Report of a Case of Ophthalmia Neonatorum and a Case of Hereditary Syphilis

DR. I. W. COOPER, Newton, reported a case of ophthalmia neonatorum and one of hereditary syphilis and their treatment as texts for a discourse on the problem presented by venereal diseases and the duty of the medical profession to attempt their prevention.

DISCUSSION

DR. S. A. MAJURE, Dixon: I want to speak on the point of legislating against promiscuous marriage. Young girls, their mothers not thinking of any trouble, have been allowed to marry men who have been loose in their habits. A life of misery follows.

DR. L. C. FEEMSTER, Nettleton: I think that it would have been better to use the argyrol in a 50 per cent. solution. When we first began to use this drug we used only 10 per cent. But now we do not use less than a 25 to 50 per cent. solution.

DR. R. D. SESSIONS, Natchez: I have been very much disappointed in the use of argyrol. I am much better pleased with nitrate of silver and I believe that it will accomplish more than the use of argyrol. It is the duty of the obstetrician to carry argyrol or nitrate of silver with him; 90 per cent. of the blind children in the asylums are there on account of gonorrheal ophthalmia. Let us prevent it.

DR. ROBERT DONALD, Hattiesburg: I generally carry 50 per cent. argyrol. Dr. Sessions has not had success with it in every case. I also make use of a boracic acid solution.

DR. R. S. CURRY, Columbus: A continuous application is necessary and the strength of the solution is not so important as its continuous use. As good a result is obtained with a 10 per cent. solution if it is applied frequently.

DR. I. W. COOPER, Newton: I now use as strong as 50 per cent. solution.

Some Intestinal Parasites of North Mississippi

DR. L. KOHLHEIM, Guntown, has encountered 327 cases of intestinal parasites in North Mississippi in the past four years. These he classified as follows: *Necator americanus* 269, *Ascaris lumbricoides*, 21; *Oxyuris vermicularis*, 15; *Strongyloides intestinalis*, 5; *Hymenolepis nana*, 17. He touched briefly on prophylaxis and treatment and made a strong plea for an educational campaign as the only means of eradicating these pests.

Acid-Fast Bacteria and Some of Their Points of Difference

DR. L. HART, Meridian, described various methods in the differentiation and cultivation of acid-fast bacteria. He contended that the smegma and leprosy bacilli cannot be differentiated by the animal inoculation test.

DISCUSSION

DR. GUSTAV MANN, New Orleans: I can hardly agree with the author that we cannot grow the leprosy bacillus. Professor Duval has shown that leprosy bacilli will grow in ordinary goldfish.

DR. J. G. GAITHER, Oxford: Within the last year series of experiments were conducted in two cities, New York and Philadelphia, I believe, and in one city they used acid-fast bacteria but not in the other. In those which showed the bacteria ordinary running water was used but when distilled water was used no bacteria were found.

DR. H. B. WOOD, Jackson: Rosenberger has been exceedingly careful in his work. I think he is correct. When he and his associates found tubercle bacilli they were using distilled water. They got this distilled water from a demijohn. Rosenberger asserts that he has never seen tubercle bacilli which do not stain.

Microscopic Findings in the Diagnosis of Uncinariasis

DR. W. S. LEATHERS, Oxford: There are various reasons why the hookworm has not been noticed in the South until recent years. Its prevalence is practically universal. From investigations by the Mississippi State Board of Health in fifteen counties and two institutions it is to be inferred that Mississippi has a large proportion of infected inhabitants. Microscopic examination of feces should be a routine procedure in general practice.

The Limitations of a Laboratory

DR. H. B. WOOD, Jackson: A laboratory is a place of consultation and the diagnosis made there should not be considered as obviating the necessity of clinical observation. A negative diagnosis should not be interpreted "non-existent" but "not found." Some causes of failure to diagnose in the laboratory are due to faulty technic.

Pathology of Acute Malarial Infection

DR. C. R. GARRAWAY, Brandon, described the blood changes due to malarial infection and indicated briefly the theories as to the causation of fever in malaria.

DISCUSSION

DR. J. T. LONGINO, Jonestown: The internal organs probably undergo some changes as a result of damage done by malarial parasites, due to pathologic changes of the blood. The collection of all this waste matter in the organs causes anemia and consequently enlargement of these organs.

Physiology of the Thyroid

DR. A. M. HARRELSON, Newton: A perfect secretion of the thyroid is necessary for the proper development of bone and fat, for the proper functioning of the skin and the development of many functions of the body. It is perhaps the best understood of any of the ductless glands.

Cardiac Stimulants

DR. S. A. EGGLESTON, Lexington, has small faith in any cardiac tonics save digitalis and rarely uses any of them except in presence of some absolute contra-indication of that drug. He described the physiologic effects of and indications for digitalis, comparing it, point by point, with the other cardiac stimulants.

DISCUSSION

DR. R. E. HOWARD, Durant: We are not perfect diagnosticians. Various cardiac troubles frequently give the same symptoms. No drug that we have equals digitalis in these cases, but we must be very careful in using digitalis.

A Forgotten Use of Calomel

DR. S. MYERS, Vicksburg, called attention to the diuretic effect of calomel and the almost universal ignoring of this action of the well-known drug by the latest text-books. He gave some case reports showing this effect.

DISCUSSION

DR. B. H. BOOTH, Drew: The use of calomel is not forgotten in the Delta. We can always depend on calomel, it is almost magical in its results.

DR. P. R. BROWN, West Point: In my practice I have had no remedy which gives me the same results as calomel. There are some cases in which calomel is the remedy *par excellence.*

DR. S. MYERS, Vicksburg: I know that this remedy is not forgotten in the Delta. It is, however, absolutely forgotten in the teaching in the medical schools. It was with the intention and hope of calling attention to this invaluable drug that I wrote the paper.

Iritis

DR. M. H. BELL, Vicksburg: In this disease treatment gives a good eye and no treatment frequently results in blindness. Symptoms are severe pain, worse at night, redness of eye, contracted and sluggish pupil, blurred vision and lacrimation. The causes are syphilis, rheumatism, trauma, etc.; in the negro race syphilis causes 80 per cent. of cases. Treatment consists in use of atropin, dionin, Arlt's ointment to forehead, leeches to temple and appropriate general treatment directed to the cause if that can be ascertained.

DISCUSSION

DR. H. D. BRUNS, New Orleans: There are three classes of acute inflammation of the iris with which each of us should be familiar: conjunctivitis, iritis or glaucoma. If it is a case of iritis the pain will be greater than if it is conjunctivitis. The other eye must be well covered. If the person has an equally painful eye with discharge, that is conjunctivitis. If atropin be put to the eye in a mild conjunctivitis it is of no avail.

DR. W. L. HOWARD, Greenville: An extremely red eye is an indication of iritis.

DR. R. E. HOWARD, Durant: After one makes a diagnosis of iritis it is necessary to decide whether it is caused by syphilis or rheumatism. In the majority of cases it seems to be due to syphilis.

Glaucoma and Its Recognition by the General Practitioner

DR. HENRY DICKSON BRUNS, New Orleans: Glaucoma is divided into the violently painful, acute type and the simple, non-inflammatory type, with other cases presenting symptoms not wholly of either type. In an acute attack, the patient is alarmed, often awakened by violent pain in the eye, not relieved by the usual domestic remedies. The symptoms are a "raw-meat" red globe, steamy cornea, shallow anterior chamber, dilated pupil, sluggish iris and stony hardness of the eye-ball as compared to the normal eye when tested by fingers applied to the upper lid. The eye will be blind or nearly so. No one who cannot compare tension of two eyes should use atropin in an eye. Fatal mistakes are made in these cases through lack of knowledge and by haste, taking the word of the patient that it is neuralgia or seeing a red eye and concluding that it is iritis. No neuralgia ever made an eye more than slightly pink and an acute iritis does not cause dilatation of the pupil. The family physician is the one who sees these cases at the time that treatment can be beneficial, hence the importance of his making a correct diagnosis. A few hours' delay means hopeless blindness. Though these attacks appear so suddenly in most cases premonitory symptoms have usually passed unnoticed for varying periods. In simple glaucoma the burden lies entirely on the ophthalmologist and at the beginning it will at times be impossible to state definitely that we are dealing with glaucoma until the eye has been under observation for awhile. This type of glaucoma has been found common in the negro race. The treatment is iridectomy and miotics.

DISCUSSION

DR. R. S. CURRY, Columbus: It is important that we recognize the condition early. Atropin is the most dangerous thing for the glaucomatous eye. The dilated pupil and the contracted pupil ought to be sufficient to make us distinguish clearly between iritis and glaucoma. Iridectomy will relieve the pain, and I am very much in favor of this procedure even if the patient is blind. The pain is very acute.

DR. J. B. BULLITT, Oxford: The general practitioner generally ignores the eye; and the conditions in Mississippi are in some respects unfortunate because there are so few ophthalmologists.

DR. N. A. MCLEOD, Brookhaven: I wish to propose a vote of thanks for the paper because I think we all feel indebted to Dr. Bruns.

The motion was seconded and carried.

DR. H. D. BRUNS, New Orleans: It is impossible for any man to say much original about glaucoma. The only point that has any originality about it is the observation relative to the negro being especially liable to glaucoma.

Treatment of Postpartum Hemorrhage

DR. T. H. SEAY, New Hebron: This condition may occur after any labor and many of the predisposing causes may be overcome if treated during pregnancy. Treatment is massage, an intra-uterine douche of acetic-acid solution and packing, combined with such general measures as elevation of the foot of the bed, and ergot hypodermatically.

DISCUSSION

DR. J. H. COOK, Laurel: I visited a patient who had been under the care of a midwife of much experience, who, however, failed to deliver the placenta. She let the patient die. We should not sit by and let a patient bleed to death in these cases. I believe that strychnin is all right in the after-treatment. I have had success with the use of 1/30 or even 1/60 grain of this drug.

DR. W. M. TURNAGE, Marksville: We ought to get rid of midwives in the state of Mississippi.

DR. T. J. BROWN, Grenada: What is the purpose of leaving the placenta in the uterus for thirty minutes? My experience has been that if this were done the patients would all have been dead.

DR. S. W. PURIFOY, Yazoo City: I have seen but one such patient die. I am in favor of delivering the placenta very quickly after birth of the child.

Treatment of Aneurysms

DR. S. W. JOHNSTON, Vicksburg, reported several cases of aneurysm in which he had operated by the Matas method, the most interesting being one of the abdominal aorta.

DISCUSSION

DR. L. D. DICKERSON, McComb City, told of the pain he got in his fingers using pressure for the cure of aneurysms in his college days.

DR. J. A. CRISLER, Memphis, Tenn.: Let us remember that aneurysms may not pulsate.

DR. J. G. GAITHER, Oxford: I likewise have seen cases in which there was no pulsation.

DR. W. B. JOHNSON, Greenville: The smallest and best material for these sutures seems to be Japanese silk.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Concluded from page 1416)

Significance and Therapy of High Blood-Pressure

DR. J. F. ROONEY, Albany: In summing up, one may say: First, the utility of the vasodilators is conversely apparent with the acuteness of the pathologic condition. Second, eliminative measures, hot air, carbon dioxid baths and catharsis, are of much more marked effect in the toxic group. Third, phlebotomy is of great service in the acute toxic groups accompanied by dilatation of the heart, but has fallen into undeserved disuse. Fourth, blood-pressure determinations alone cannot differentiate between the crises of tabes and intra-abdominal perforations. Fifth, the effect of nitroglycerin is as prolonged as that of any of the nitrite group except erythrol tetranitrate, and that its rapidity of action is as great as any and nearly as great as that of amyl nitrite. Sixth, the use of the aconite group as vasodilators is pharmacologically unfounded, and except in the toxemia of pregnancy with a strong heart muscle should be entirely discontinued.

Hydrotherapeutic Treatment of Chronic Disease of the Heart

DR. JOHN M. SWAN, Watkins: In treatment of chronic diseases of the heart, following the lead of the German and French physicians, particularly those at Nauheim, the value of carbonated brine baths has become a matter of common use. In many hospitals and hydrotherapeutic institutes in the large cities, artificially prepared brines charged with carbon dioxid are used in treatment of cardiac diseases with much benefit. At Glen Springs a natural brine is used in treatment of these diseases. The baths are given on alternate days, so that the complete cure requires six weeks. The carbonated brine baths in suitable cases of cardiac disease produce the following effects: (1) a diminution in the size of the heart; (2) a slowing of the pulse; (3) a slowing of the respiration; (4) reddening of the skin on account of the dilatation of the smaller blood-vessels in the cutis vera; (5) reduction in the size of a congested liver; (6) increased flow of urine. These results are due undoubtedly to the influence of the baths on the cutaneous circulation. The amount of blood in the skin is increased, the blood-vessels of the skin are enlarged in caliber, and as a result the heart is relieved of impediments in satisfying the demand of the circulation, so that the blood-flow is equalized in the viscera.

DISCUSSION

DR. L. F. BISHOP, New York: I am thoroughly convinced of the value of the Nauheim method of treatment with baths, but I hesitate to recommend this method at home without being perfectly sure who is going to give it. I make the latter statement because there are a great many physicians who do not give the treatment in suitable cases. This treatment is not specific; it is the adaptation of a great many different things to bring about a result. In severe cases of arteriosclerosis the carbonic acid gas in the bath is better left out. There is more carbonic acid bath in one artificial bath given by some physician in America than there is in a dozen such baths given at Nauheim.

DR. H. SCHOONMAKER, Clifton Springs: The question of prescribing the Nauheim treatment is an important one to the individual. We must select the cases. We must know what the conditions are. I like the term Nauheim method rather than Nauheim baths because the scheme involves much more than the baths. It will be helpful when the actual results of the so-called Nauheim method can be determined irrespective of other treatments, because we have to admit that our patients are under a very careful regimen of rest and diet, etc.

Olive Oil in Postoperative Nausea

DR. C. R. HYDE, Brooklyn: The use of olive oil to lessen and even control postoperative nausea has not received the attention of surgeons that its success warrants. Just as the patient is beginning to return to consciousness, 2 ounces of ordinary olive oil are administered by mouth from a cup. The patient must be sufficiently out from the ether to understand the command to drink the oil, which is then swallowed without any difficulty. It is of interest to note that after regaining complete consciousness the patient does not even recollect taking the oil. Usually within five minutes after the oil has been given, there is free and copious vomiting, which in the large majority of cases concludes the gastric disturbance. The nurse who gives the oil should be instructed to have at hand a basin and towels, and to remain by the bedside of the patient, as the vomiting which is initiated very soon after the ingestion of the oil is explosive and projectile in character. This precaution is imperative, as some patients will vomit with such a violent expulsive effort as to soil the floor for some distance around the bed. Rarely does a second vomiting attack occur, and within a short time the patient is resting comfortably, so far as the stomach is concerned, and is free from nausea or retching. The method insures a quick, rapid stomach cleansing, usually terminating with this one performance, and should be used as a substitute for gastric lavage on the operating table before the patient is returned to the recovery room or bed.

Surgical Treatment of Exophthalmic Goiter

DR. MARTIN B. TINKER, Ithaca: The symptoms of goiter are the symptoms of poisoning, similar to that produced by narcotic poisoning. The excessive secretion acting as a poison is produced by the thyroid. In removing a portion of the thyroid we remove the cause of the trouble. The over-use of tobacco causes tachycardia and weakness of the heart's action, not at all unlike the condition seen in hyperthyroidism. Excessive use of tobacco also causes nervousness, general unrest, tremor, sleeplessness, sometimes nausea, vomiting and diarrhea. The presence of excessive thyroid secretion in the circulation has a similar effect.

No sensible man would consider it logical to treat tobacco heart or tobacco amblyopia and allow his patient to continue the excessive use of tobacco. It is just as logical to treat exophthalmic goiter with drugs without removing the source of the excessive secretion. No one, whether internist or surgeon, is so radical as to suggest operation in all cases. Osler's advice that surgical treatment should be recommended after three months' careful medical treatment, if the patient is not better, if it were generally followed, would save many lives and restore to efficiency many patients who do not die. Operation should certainly be advised before irreparable damage has resulted to important vital organs. The greatest strain comes on the organs of circulation and the nervous system, but almost every important vital organ suffers in advanced cases. With careful preliminary study of the patient to determine how much can be done with safety, dividing the operation into several short stages of two days or even weeks apart, with operation under local anesthesia, or in some cases nitrous oxid anesthesia, the operative risk can be reduced to a minimum. In 150 consecutive operations, without fatality, many of the patients were in extremely bad condition. With three exceptions, every patient who has appeared for operation has been operated on. The three patients who were refused operation all died medical deaths in periods ranging from twenty-four hours to three weeks of the time when they were seen. Dangers of delay and frequency of recurrence of symptoms in serious form were mentioned.

DISCUSSION

DR. W. W. SKINNER, Geneva: I agree with Dr. Tinker with reference to the surgical treatment of these patients, and I hope he will teach what he has set forth in his paper until physicians cease holding these patients in bondage, allowing destructive changes to go on in the body, as has been shown by microscopic sections, until they are absolutely useless members of the community.

DR. PARKER SYMS, New York: Hyperthyroidism is the real thing we have to consider, and the question which arises in connection with these patients is whether or not they are being poisoned by the internal secretion. Cases of simple goiter of various forms may become the so-called exophthalmic goiter, that is, at some period in their history there may be hyperthyroidism, and it is then that we have these patients presenting a complex line of symptoms from the initial poisoning. It is a poisoning which varies in degree from the mildest disturbance to the most disastrous results. Degeneration takes place throughout the nervous vascular and muscular systems. The important point is that we should recognize this change when it begins; that we should study our patients carefully long before they require operative treatment. My experience has only been with general anesthesia, and I think it has in these cases so many advantages over the disadvantages of local anesthesia that general anesthesia should not be discarded.

DR. E. A. CHASE, Tarrytown: I have had experience with the Beebe serum, and while it has a beneficent influence over cases of exophthalmic goiter in controlling the symptoms, I cannot say that it has ever cured a patient with this disease.

DR. A. L. SORESI, New York: The only contra-indication to local anesthesia in the surgical treatment of cases of exophthalmic goiter must be a more difficult technic and the pain the operator inflicts on the patient.

DR. G. E. BEILBY, Albany: No one is radical enough to maintain that every case presenting the symptom-complex, more or less complete, of exophthalmic goiter should be operated on. These patients should be placed under observation for two weeks or two months, and then if the symptoms do not improve, operation of some degree should be performed. I believe that local anesthesia is the most important single factor in lowering the death-rate of operations of these cases.

DR. E. M. STANTON, Schenectady: There is no more definite, clean-cut anatomic operation in surgery than the incision of one lobe of the thyroid, and under these conditions of simple goiter there should be practically no mortality. Dr. Tinker has shown that under local anesthesia the mortality following operations on cases of exophthalmic goiter is now exceedingly low.

DR. C H. HACKER, Albany: Excitation is an important etiologic factor and we should avoid it in these cases before and after operation. I see no reason why we should not use general anesthesia in cases of partial thyroidectomy. The results obtained by Ochsner, of Chicago, have convinced me that it is a safe procedure, and in a large series of patients operated on by him, covering a period of two years, there was only one death.

Developmental Defects of the Abdominal Viscera with Their Surgical Significance

DR. W. F. CAMPBELL, Brooklyn: Observation in 500 necropsies, together with clinical experience, have convinced me that many abnormal conditions of the abdominal viscera heretofore regarded as acquired are due to developmental defects and are rationally explained on this basis. In the course of evolution from the quadruped to the biped the long mesenteries of the former have been shortened and eliminated. In the quadruped the abdominal wall acts as a hammock for the viscera; in the biped it acts as a corset. This should be borne in mind in treating enteroptosis. Enteroptosis, nephroptosis and Lane's kink are developmental defects not due to wearing corsets. In the treatment of enteroptosis abdominal supports should be relegated to their proper place and gymnastics should be used to greater extent. Lane's kink is a factor in intestinal stasis, and simulates chronic appendicitis. It should be corrected by surgical procedure.

Malignant Tumors of the Kidney

DR. H. ADSIT, Buffalo: Hypernephroma occurs in from 91 to 97 per cent. of all kidney tumors; it has been a pathologic puzzle. The weight of evidence is in favor of epithelial origin of these tumors and that they are a malignant development of aberrant adrenal tissue. In serial sections of 241 normal kidneys adrenal rests were found in 7 per cent. These growths are not infiltrating. Metastases take place through the veins, seldom through the lymphatics. These tumors vary greatly in rapidity of growth, I have seen them of eleven years' standing; others grow very rapidly. In one case, the tumor weighed 7 pounds at the end of two months. Many cases reported as carcinoma are found to be hypernephromata, or else metastases from a primary cancer elsewhere. It is most frequent between the ages of 40 and 50, although cases have been observed in children.

Auscultation of the Cough

DR. A. H. GARVIN, Ray Brook: Auscultation of the cough offers the best means of diagnosis, and it requires no expensive apparatus or special experience. There are four positions of the cough in respiratory cycle: (1) the cough at the beginning of the inspiration, or at the end of expiration—at this point fleeting râles can be heard, especially in the axillary region; (2) the cough during some phase of inspiration—at this position it gives important information in the advanced stages of tuberculosis; (3) the cough at the zenith of inspiration—this is not to be used, as it obscures the sign; (4) the cough in this position, corresponding to the second position, is during some phase of expiration and frequently reveals abundant râles.

Exophthalmos a Common Symptom of Nephritis

DR. H. C. GORDINIER, Troy: This symptom, in varying degree, is a common sign of chronic nephritis, occurring in nearly one-half of the cases. It is usually associated with hypertension, without enlargement of the thyroid or marked tachycardia. It has been entirely overlooked in text-books, and only within a few years is mentioned in medical literature.

DISCUSSION

DR. L. F. BISHOP, New York: The degree of exophthalmos in Bright's disease varies with the condition of the patient, in that it is more marked when the condition of the patient becomes worse.

The Precancerous Stage

DR. PARKER SYMS, New York: A careful analysis of cases of cancer with a careful retrospection will teach us more systematically just what abnormal conditions and lesions are frequently followed by cancer, and in this way we really will arrive at the most practical knowledge of the etiology of cancer. From a knowledge of the cause of a disease to a knowledge of its proper treatment is a comparatively easy step, and if we properly apply the lessons we have learned we shall be able to prevent, and that is far better than to cure, a large proportion of cancers.

Cancer Immunity in Its Present Status

DR. HARVEY GAYLORD, Buffalo: A small percentage of animals with primary cancers recover, and this is true in a few instances in human beings. This has led to work on immunity. A certain immunity seems to be conferred by inoculating an animal with a growth from a different species. This immunity it has been found is not directed against the cancer cell, but against the growth; it is entirely independent of the cancer cell. From the spindle-cell sarcoma of a rat it has been possible to filter an agent which will produce tumors. One tumor has been thus produced, but it is not a spindle-cell sarcoma, but chondrosarcoma. Sarcoma has been produced in two animals by injection of warm fluid from a cancer of the omentum in a human being. The immunity obtained is specific. The question of vaccination has again arisen, and six cures by this method were reported at the late convention in Paris. In all probability the field for the employment of vaccination will be very limited. Early cases may be amenable. When tumors begin to retrograde it is necessary to remove as much of them as possible. Rats with small tumors have shown a pseudo-Wassermann reaction or deviation of complement reaction. The cases that show improvement give, in course of time, a Wassermann reaction equal to a marked syphilitic reaction. This reaction is a mark of growing immunity. A blood reaction known as the antitryptic reaction gives good indications of the progress of the case and enables one to tell when metastases are occurring.

Treatment of Intestinal Tuberculosis

DR. S. G. GANT, New York: The results are much better from modern treatment than from the older methods, and more favorable results were obtained in cases in which the infection involved the superficial mucosa than in the enteroperitoneal form in which the inner and outer coats of the bowel sooner or later become involved. A large proportion of cures are now being effected by improved surgical technic and with comparatively little danger to the patient. Therapeutic measures employed in the treatment of intestinal tuberculosis may be divided into measures for improving the general health, symptomatic treatment, irrigation with ichthyol, balsam of Peru, boric acid or krameria and soda, 0.5 per cent. alternated daily with high injections of olive oil and bismuth to soothe the bowel; topical applications of silver nitrate, 8 per cent., balsam of Peru or ichthyol 20 per cent. Surgical treatment includes appendicostomy and cecostomy. Cecostomy and use of the enterocolonic irrigator provides a certain means of irrigating both the large and the small intestine separately or together.

The Rôle of Physicians in the Prevention of Insanity

DR. A. W. FERRIS, New York: The cooperation of physicians is especially desired in the efforts to inaugurate psychopathic wards or pavilions, maintained as a part of general medical hospitals, where borderland cases are received for care pending commitment or other disposition, where initial temporary treatment may be given, and where decent hospital accommodation will be substituted for the jail and the lockup. It is a matter of common notoriety that many insane persons are put under arrest and are treated as criminals and thrown into jail along with criminals simply because no adequate provision has been made by either city or county authorities for their care pending commitment. Here lies the physician's opportunity and herein is found his duty. Lives are in jeopardy, the happiness of thousands of families is at stake. Prophylaxis through a concerted effort is the only true economy and the only logical agency at this critical period in the history of our commonwealth.

Chronic Appendicitis

DR. E. M. STANTON, Schenectady, presented a critical study of postoperative end-results, and then drew the following conclusions:

1. In my experience appendiceal dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicitis, namely, attacks of epigastric or midabdominal pain or distress, but only rarely accompanied by subjective symptoms, referrable to the region of the appendix. During these attacks the pain or distress is nearly always increased by food intake.
2. Pain confined chiefly to the right lower quadrant and not associated with attacks of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicitis in those cases every other possible condition should be excluded.
3. The majority of failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cecum, usually accompanied by other evidences of enteroptosis. In the future, a certain proportion of those patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure.
4. Unless the diagnosis is absolutely certain, the gall-bladder, stomach and right kidney should be explored, and the possibility of a Lane's kink excluded in all patients operated on for chronic appendicitis.

Other Papers Read

The following papers were also read: "The Nervous Woman," by Dr. E. B. Angell, Rochester; "Radiographic Diagnosis of Lesions of the Gastro-Intestinal Tract, with Lantern Slide Demonstration," by Dr. L. G. Cole, New York; "Gunshot Wound of the Abdomen," by Dr. E. A. VanderVeer, Albany; "A New Method of End-to-End Anastomosis," by Dr. A. L. Soresi, New York; "Treatment of Bladder Tumors with the High-Frequency Current of Oudin," by Dr. E. Beer, New York; "The New Thoracic Department of the German Hospital of New York," by W. Meyer, New York; "Deductions from Clinical Experience with Use of a Polyvalent Bacterial Vaccine," by Dr. J. M. Van Cott, Brooklyn; "Clinical Observations of Cardiac Arrhythmias from the Modern Standpoint," by Dr. W. B. James, New York; "Mutual Helpfulness in Conservation of Public Health," by Dr. W. A. Howe, Phelps; "Exactness in Diagnosis of Renal Calculus," by Dr. P. M. Pilcher, Brooklyn; "A Local Hematologic Factor in the Causation of Uterine Hemorrhage," by Dr. A. Sturmdorf, New York.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held March 22, 1911

The President, DR. C. B. LONGENECKER, in the Chair

SYMPOSIUM ON THE HOSPITAL DISPENSARY ABUSE PROBLEM IN PHILADELPHIA

DR. OSCAR H. ALLIS: The problem is so simple that any physician can solve it; yet simple as it is, it has remained the same after many annual discussions before the various medical societies. Considering the subject chiefly from the standpoint of state appropriations—which are made to our medical college hospitals and dispensaries in return for the enormous amount of charitable work they claim to do—and as this dispensary work must necessarily be extended to those who come on foot, it is obviously unjust to appropriate state funds for purposes which mostly concern the city. If the state would take care of the insane, aged and infirm, and the feeble-minded, and leave the various localities to care for the injured and for transient illnesses, the question of hospital dispensary abuse would resolve itself into the care of the very poor and such as really could not compensate the physician for attendance.

DR. ADDINELL HEWSON: The abuses that occur in hospitals come from a misconception on the part of the public. They feel that because they have paid their taxes they are entitled to receive gratuitous treatment from those connected with hospitals. It seems to me that the remedy must come through the county medical society insisting on investigation of those applying for free treatment. From a personal investigation, I have been surprised to learn the character of many so applying. Some patients had been to Europe several times. Some came to hospitals in carriages but dressed in old clothes, and waited in the dispensary. If investigation were made through some of the bureaus of the city equipped for this work there would be less dispensary abuse and the men living in the neighborhood of the hospitals and not connected with them would have a better opportunity of receiving that to which they are entitled. The institutions themselves ought to be impressed with the idea that as distributors of alms they are guilty of malfeasance in office if they give alms to people unworthy to receive them. I assert that if a patient who is well able to pay for treatment receives such treatment without cost that the managers of the institution are responsible for the wrong distribution of alms in their hands and their action ought to be checked.

DR. AUGUSTUS A. ESHNER: By hospital dispensary abuse I understand the availment gratuitously of medical services in a charitable institution by those able to pay. No doubt a certain measure of such abuse exists, but the extent and degree are somewhat difficult of estimation. In its worst form, it represents a desire to obtain something for nothing; or an endeavor on the part of those in modest circumstances to secure without cost special service that otherwise would be a strain on their resources, if not entirely beyond their means. Physicians' fees differ considerably, and the question arises whether a sick person shall have the privilege of selecting for his treatment the physician of special skill, ability or experience whose fee he may not be able to pay or shall be compelled to submit for treatment to a physician of lesser skill, ability and experience whose fee he can afford to pay. Who shall decide whether a patient can afford to pay for medical services or not; and how much he can pay? It would seem that the patient himself is the best judge, and if he is willing to admit his inability he should receive the benefit of any doubt. Naturally there will be some imposition, but it were better that a few guilty should escape exclusion than that one deserving person should be deprived. The dispensary patient who would deceive in this connection would equally find a way to evade payment of the physician's bill he is compelled to incur. From the practical standpoint the simplest solution of the problem would be to address to every applicant for dispensary treatment the question whether he is or is not able to pay a professional fee. If the answer is in the negative he should be received for treatment, if in the affirmative he should be referred to the physician of his selection.

DR. GEORGE ERETY SHOEMAKER: I have had more experience with this problem in connection with the indoor patient. The question of hospital abuse is complicated by the fact that hospitals have changed in scope, while their attitude toward the patients applying has not changed. No longer only the poor go to the hospitals but all classes. Some of the causes of abuse cannot be controlled; others can be corrected by the checking system. The remedy lies in frank recognition of the fact that hospitals are no longer public charitable institutions, but that all classes are seeking in them treatment; and, in having paid business officials, whose duty it shall be by investigation to weed out such persons as are of sufficiently good financial standing to pay. These individuals should be referred first to their own physicians and second to the younger men working in minor positions in the hospitals. There should be recognition on the part of all concerned that no one group of people is to blame, but that there are many causes at work. Physicians should not recommend for free beds persons whom they do not know. Often the families are able to pay but are not asked.

DR. J. M. BALDY: In from twenty to twenty-five years in dispensary work in Philadelphia it has been the exception in my experience to find people who were really well able to pay for medical treatment attempting to get something for nothing. A great deal of the dispensary abuse has been due to the physician himself, and to the fact that we live in a teaching center and must have material for teaching. The clinic that uses material in that way is paid in a measure for the so-called abuse. Better abuse than injustice; I would far rather treat a patient who I knew had abused my confidence, than turn away one poor person who needed treatment. The remedy lies with the individual physician. He can ascertain who are worthy without placing the applicants in humiliating positions. There is also a collective way by education of the public to the effect that it puts shame on persons to apply for free treatment if they are able to pay.

DR. JOSEPH D. FARRAR: The abuse of medical charitable service by institutions and the flagrant misuse of this charity for persons and for interests which can have no claim to our free service is such an insult to our self-respect and indignity to our intellect that we are in duty bound to resent it. A stipulated card ought to be filled out for each patient, a carbon copy to be retained by the dispensary, and the card itself sent on the same day to the office of the bureau of investigation, which should be established by the Charity Organization Society. The dispensary should provide itself with the means for the filing of the cards, but the cards themselves should be provided by the bureau of investigation. The original card should be filed with the bureau of investigation; the report of the bureau concerning each patient should be returned to the dispensary in convenient form for filing, with the card for that patient retained by the dispensary at the patient's first visit. Blanks should be filled out, giving name, age, occupation, residence, how long residing there, former address, place of employment, salary, how long in Philadelphia, family physician, physician last consulted. I believe that if we could raise a certain amount in Philadelphia, the Charity Organization Society would be only too glad to establish this bureau of investigation. Chicago is going ahead in this work by subscriptions furnished by physicians.

DR. G. M. ILLMAN: I think, as Dr. Baldy put it, that the trouble is due entirely to the physicians. This is true from many standpoints. Dispensaries are multiplied by the physicians themselves. A physician who has difficulty in getting his patients into the hospitals, becomes disgruntled and opens a house for the treatment of them, and this in time becomes a hospital. Dispensaries are started also by the state for the treatment of special diseases. I believe that the physician who pays state taxes is as much entitled to the facilities of the hospitals in his neighborhood as are the men connected with them. With this idea in mind, I have suggested that it is our duty to cooperate with every man wanting to use the wards of our hospital. In admitting patients for treatment we endeavor first to ascertain the name of their physician, and whether or not the patient is able to pay. We have gotten up a series of letters, one of which is sent to the family physician when the patient is admitted, and another when he is discharged. A similar method is employed in the dispensary. At the top of the dispensary card we have printed: "For the worthy poor." We have found these measures remedial in the question of pauperizing the public.

DR. JOSEPH PRICE: We should recognize the importance of scientific and not political care of worthy charities. Institutions of trust should be used wisely for their specific purposes. The tendency to multiplication of private institutions in the very teeth of old, large, and well-endowed charities emphasizes the fact that there is always something in public charity that snuffs out the scientific and humanitarian spirit and skill that the public demands. I have run a private hospital for more than a quarter of a century. One hundred of my colleagues and intimate friends have done precisely the same thing and attained skill and international prominence for their accomplishments and life-saving efforts. In this state, I have had the opposition of the great commonwealth. In other states such handicap does not prevail. Discrimination should be practiced in all institutions. The family and friends of all employed can easily pay hospital expenses. It would be difficult to determine just what is done with the endowment, the annual donation of the public and the maintenance from the state. One naturally asks what is done with such generous contributions. Private institutions have but one source of revenue and are excessively taxed and assessed.

DR. STEWART C. RUNKLE: There is no question of the existence of hospital dispensary abuse. I believe also that the hospitals and dispensaries are guilty of wrong. Patients are admitted without being asked whether or not they are able to pay. The people who have no business there are the very ones found there day after day, and no effort is made by the attendants to communicate with the family physicians. The little dispensaries, in my opinion, ought to be put out of existence entirely.

DR. HIRAM R. LOUX: Voluntarily, I do not believe that any patient who comes to the dispensary will tell his financial condition. He wants service free of charge if possible. There should be a general bureau of registration in large institutions from which the patients should be distributed to the various departments. No applicant should be treated free who is able to pay his family physician. Then, too, physicians drive patients to the dispensaries by long treatment without results. It is possible that the only effective way to overcome this evil would be through the appointment of a board of charity with sufficient remuneration to pay for the treatment of the poor in institutions.

MR. PORTER R. LEE, General Secretary, Society for Organizing Charity: The chief handicap which the abuse of the free dispensary privilege puts on the work of the Society for Organizing Charity follows from the habit of some of the sick poor going to several different dispensaries at the same time. So far as I have any suggestions to make to-night, I may summarize them as follows:

1. Overlapping in treatment ought to be and can be prevented, by the system of registration which we in cooperation with other city charities have adopted. Each society sends to a registration bureau at stated intervals, preferably every day, either by mail or telephone, a list of the persons who have applied for assistance. In response to this inquiry, the charitable society is given the names of such other charities as have already registered the same persons. The use of geographic areas is another available method of prevention.

2. Investigation of cases is desirable both to expose fraudulent applications and for the more important reason that only so can the dispensary treatment be definitely related to home, industrial and moral conditions which have a bearing.

3. When such investigations reveal conditions requiring relief and special kinds of service for which the hospitals and dispensaries are not equipped, the Society for Organizing Charity will be glad to cooperate in securing it.

4. Social service work as established by several of the Philadelphia hospitals and dispensaries for investigation and social treatment has proved to be a connecting link. The result has been a greatly increased efficiency from our point of view and we have received the testimony of medical men that it is true also from their point of view.

The solution of the problem of dispensary abuse must be largely in the hands of medical men, although it vitally affects the treatment of the poor by charitable societies. Any movement looking to the improvement of work in which we have a common interest will draw our hearty cooperation whenever physicians care to have it.

DR. R. OLIVER KEVIN related a number of incidents illustrative of the deception practiced by persons applying for free treatment at dispensaries. In one instance the patient after receiving treatment directed that a cab be called for her. Another instance was that of a person owning a large number of houses who described how cleverly she dressed up and went to the University of Pennsylvania where she received free treatment.

DR. E. J. G. BEARDSLEY: I have not heard of any hospital trying to stop this evil. I know of only four dispensaries that are actually trying to treat only people who deserve to be

treated in the institutions. One is the Henry Phipps dispensary. Before the physician ever sees the patient, the patient is asked what the income of the family is and it is at once decided whether or not the patient is acceptable for treatment. I never saw a patient admitted who seemed to be able to pay. All the dispensaries run by the State of Pennsylvania ask the same question and with the same results. In the Jefferson medical department we send away from fifty to 250 patients a month who are able to pay. The statements of the patients themselves prove that they are perfectly able to pay a physician. We ascertain the name, address and amount of income of the applicant. A large element of the trouble is the fact that many people outside are treated very badly. The patient receives no examination, no diagnosis is made and he is treated in a most indifferent way. Many of these patients tell, without inquiry, such tales that we treat them at once. In one instance a man with a failing heart was told that he needed *x*-ray treatment, and this was given him—at $5 a "throw." The problem is said to be a hard one. If this is true, it is made so by the physician, continued by the physician, and can be readily stopped by the physician. A hospital that accepts money from the state to take care of poor people should see that poor people are treated. I was interested and gratified in overhearing the remarks of two boys waiting in our dispensary. One had said he did not believe he could wait, when the other boy replied: "You will soon see the feathers and the furs come out."

DR. B. ALEXANDER RANDALL: The dispensary physician or surgeon has a multiple responsibility: his responsibility to the institution, to his fellow practitioners, to his students, to the public, and to the patient, both as a sick person and as a citizen. Many of the public still believe that the hospital and dispensary are provided by the state for the free use of all citizens, just as the public schools are open to all who are not too snobbish to use them, and that they as taxpayers have a right to the services of all medical men in the dispensaries. Mercenary men may strive to use dispensary positions to fill their own offices. Well-meaning physicians will bring to a dispensary surgeon patients for examination whom they state are to be placed in his care as pay-patients. My services having generally been used for teaching, I have made it a rule to examine each patient so as to meet any urgent needs, to use pointedly for teaching purposes the doubtful patients, and only after we had received that much *quid pro quo*, to register the findings and in especial relation to the address given make inquiry concerning the need of charity treatment. After having been given a realizing sense of what charitable treatment is likely to entail, most of the improper cases are ready to consult a physician in his office. One should never volunteer his own address to any but emergency cases requiring treatment between clinic days. While it is often best that the same worker should keep oversight of a patient at the return visits, the chief may discourage the doubtful patients, who wish to have in the clinic the skill of a certain man only, by assigning them to others. They will inquire the address of the man desired and voluntarily consult him.

DR. WILLIAM DUFFIELD ROBINSON: Of the number of people receiving free dispensary treatment fully 10 per cent. could pay the fee that the young doctor is accustomed to receive from people in moderate circumstances. In New York state it is now a statutory crime for one able to pay to take free dispensary treatment from hospitals receiving state aid.

DR. G. G. DAVIS: Among some of the causes of the abuse which exists are the facts that: 1. Physicians are saddled by the public with an unfair proportion of the charitable work in a community. This is shown by the character of the applicants for charitable medical services and by the disapproval which is likely to be visited on a medical officer who refuses applicants his medical services. 2. There is an absence, first, of any standard as to who are unworthy; and, second, of any means of enforcing a standard. 3. By the direct encouragement of the profession, largely due to the expense of apparatus and dressings and to not being qualified in the specialties.

The following remedies are offered: 1. The hospital should maintain an official whose duty it should be to decide as to the claims of the applicant for treatment. It is difficult for the physician in charge to do this. 2. The profession should cease to refer improper cases to the public institutions and should see that the patients have a proper opportunity of securing treatment elsewhere.

DR. JOHN B. ROBERTS: I am of the opinion that persons of moderate circumstances frequent the hospital dispensary: 1. Because many family practitioners are not well posted in modern methods of investigating and treating disease, or are too careless or too lazy to give their patients the benefits of scientific treatment. 2. Because those who are competent to treat the sick, particularly in the specialties, ask fees too high to be paid by patients of the middle class, such as artisans, and self-supporting women. I believe that a graduate, who has tact, energy and medical knowledge and who is willing to work hard and well for his patients, need not fear that mechanics and business people of moderate means will prefer the hospital to him as a medical attendant. The man who is treated for weeks for debility by a doctor who never examines his urine, or for bilious headache by one who never asks about his vision, is apt to obtain better treatment at the hospital dispensary than at the hands of an inefficient medical graduate.

DR. A. B. HIRSH: The statements made here to-night are repetitions of those made in Chicago. The managements of hospitals in Chicago, after acknowledging the abuses, refused to reform their methods. The general practitioners got together and the specialists began to take alarm at the thought of losing valuable consulting practice. The situation was controlled by the general profession paying the expenses of the United Charities in handling the subject. Each dispensary in that city sends each morning to the United Charities a typewritten list of the new patients with their addresses and that body, after going over the catalogue, sends in its report to the institution. We must do that in Philadelphia. Those who expect individual hospitals to do this will be deceived. It must be done by all the hospitals together with the entire medical profession backing up the movement.

DR. HOWARD S. ANDERS: Not many years ago there came to my intimate knowledge the experience of a chief of a medical dispensary who, feeling that loyalty to the profession at large was on a higher plane than loyalty to the institution itself, instructed the attendants to discriminate between those people able to pay and those who were not. After some time this came to the ears of those higher up and he was informed that he must discontinue such discrimination because it would lower the percentage of work done and interfere with a sufficiency of cases for demonstration. This he refused to do and resigned. This is illustrative of one aspect of the question within the medical profession itself and demonstrates institutional vanity for statistics and professorial avidity for cases.

Resolution Adopted

DR. HOWARD S. ANDERS offered the following resolution, which was seconded and carried:

WHEREAS, the results and trend of the symposium discussion on the topic "The Hospital Dispensary Abuse Problem in Philadelphia," indicate sufficiently its vital importance and general medico-sociologic significance as to call for further, broader, and yet more definite and responsible action; be it

Resolved, That a committee of five be appointed to devise ways and means of practically dealing with such abuses as are considered to exist; and to report conclusions and recommendations at the June business meeting of the society.

The following committee was appointed: Dr. Howard S. Anders, chairman; Dr. G. Morton Illman, Dr. Edward J. G. Beardsley, Dr. A. B. Hirsh, Dr. Joseph D. Farrar.

DR. J. CARDEEN COOPER: It does not seem to me that a learned profession should attempt to regulate this matter by appointing a committee. From the general practitioner's standpoint, the abuse does not exist with the hospitals so much as with the general profession. If the committee gives its attention alone to the hospitals the matter is one-sided. As Dr. Roberts has said, people go to hospitals because they receive better treatment, and in many instances they do. Therefore, the matter is in the hands of the general practitioners, and as soon as we become proficient and treat our own patients the hospitals will not make such great inroads on them.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

May

1 *Anatomic Explanation of the Paralysis of the Left Recurrent Laryngeal Nerve Found in Certain Cases of Mitral Stenosis. G. Fetterolf and G. W. Norris, Philadelphia.
2 *Arneth's Method of Blood Counting—Its Prognostic Value in Pulmonary Tuberculosis. C. L. Minor and P. H. Ringer, Asheville, N. C.
3 Experiences with the Einhorn Duodenal Bucket and a Modified Thread Test. W. G. Morgan, Washington, D. C.
4 Researches in Prophylactic and Anaphylactic Medicine. L. K. Hirshberg, Baltimore.
5 Vaccine Therapy of Pyorrhea Alveolaris. W. R. Williams, New York.
6 Medicinal Treatment in 1,106 Cases of Delirium Tremens. S. W. Ranson and G. D. Scott, Chicago.
7 Cause and Relief of Pain in Duodenal Ulcer. J. T. Pilcher, Brooklyn, N. Y.
8 *Complement-Fixation Test in Diagnosis of Gonococcic Infections. H. J. Schwartz, New York, and A. McNeil, Derby, Conn.
9 *Pulsations in the Peripheral Veins. H. C. Bailey, New York.
10 Diagnosis of Pellagra. H. F. Harris, Atlanta, Ga.
11 Vaccine Therapy and a Simplified Opsonic Index. A. W. Crane, Kalamazoo, Mich.

1. **Mitral Stenosis.**—It is the authors' conviction, based on careful study of the anatomic relations in hardened preparations, that the indirect mechanism may be a variable one, but that when compression is accountable for the recurrent paralysis it must always be caused by the nerve being squeezed between the left pulmonary artery and the aorta or the aortic ligament. Anything which will dilate or force upward the left auricle, the left upper pulmonary vein, or the left pulmonary artery would tend to cause the condition. The anatomic relations are such that direct pressure of any portion of a dilated left auricle on the aortic arch is impossible. Considering the softness of all the structures involved, and the fact that the nerve is normally flattened against the aorta, not rounded, it would seem that its function is abolished, not from actual destruction from pressure, but from a neuritis consequent on a degree of compression which could hardly be sufficient actually to destroy the vitality of the nerve.

2. **Arneth's Method of Blood Counting.**—The authors endorse Arneth's method as having a distinct value in enabling one to estimate the resisting power, and hence the likelihood of recovery and general prognostic outlook in cases of tuberculosis. Arneth considered that young white cells—those with one or two nuclei—are less resistant and less able to combat an infection than the older ones with more nuclei. Starting out with this assumption, he counted the number of nuclei in all the neutrophilic white cells, and divided them into five classes, according to the number of their nuclei. Placing these numbers in a horizontal row, beginning on the left with Class I, which contained one nucleus, and ending on the right with Class V, which contained five nuclei, he formed what he called the neutrophilic blood-picture. From a count of fifteen normal individuals he formed a normal picture. Studying the blood in pulmonary tuberculosis, he found, in consonance with his theory, that the normal percentage of nuclei in the different classes was lost, there being an increase of the younger cells of Classes I and II, and a lessening of the more mature ones in Classes III, IV and V, this being more marked in proportion to the severity of the trouble.

8. **Gonococcus Infections.**—The complement-fixation test as applied to the detection of gonorrhea by Schwartz and McNeil proved of great assistance. They found that the different strains of the gonococcus differ markedly one from another—so much so that the antibodies produced in the body by the toxin of one strain will in many instances not bind complement in the presence of an antigen prepared from another strain. Therefore, if only one strain is used in the preparation of the antigen, a great many negative results will be obtained in positive cases. An antigen prepared from many strains fixes complement whenever one of its component strains does so and, consequently, the necessity of testing a serum against a number of antigens separately is avoided. It is not to be denied that there probably are other strains of gonococci differing widely from any present in the polyvalent antigen, so that at times a negative result will be obtained in a positive case. They believe, however, that working with an antigen composed of many strains, one will obtain a positive reaction in the majority of cases of gonococcus infection, and the use of the polyvalent antigen simplifies the procedure so that it can be of practical value for diagnostic purposes. The facts seem to prove that a positive reaction is an indication of living gonococci somewhere in the body, and if found in men or women supposedly cured of gonorrheal infection in the genito-urinary tract, should be construed to mean that they are still capable of infecting others through sexual intercourse. The importance of this in connection with marriage is self-evident.

9. **Pulsations in the Peripheral Veins.**—That the right heart may produce a pulse wave in the veins of the extremities is shown by Bailey's observations. This pulse wave occurs considerably later than the arterial pulse. He suggests that incompetency of the tricuspid valve may be the cause of varicosities of the veins of the extremities.

New York Medical Journal

April 29

12 Therapeutics of Syphilis. V. C. Pedersen, New York.
13 Present Status of Salvarsan Therapeutics. A. G. Rytina, Baltimore.
14 Dangers and Contra-Indications of Salvarsan. F. Wise, New York.
15 A New Apparatus for Administering Salvarsan Intravenously. E. G. Ballenger, Atlanta, Ga.
16 The Intravenous Injection of Salvarsan. W. R. Thomson, Warsaw, N. Y.
17 Rabies. G. G. Rambaud, New York.
18 Treatment of Hiccup. H. D. King, New Orleans.
19 Uses of the "Cold Cautery," Especially in Dermatology. L. D. Frescoln, Philadelphia.
20 Is Antitetanic Serum a Factor in the Cure of Tetanus? J. C. Kennedy, Brooklyn, N. Y.

Bulletin of the Manila Medical Society

March

21 *Efficacy of the Ipecac Treatment of Dysentery. E. B. Vedder, U. S. Army.

21. **Ipecac Treatment of Dysentery.**—The results of bacteriologic experiments made by Vedder seem to show that 2 per cent. fluid extract of ipecac inhibits the growth of dysentery bacilli, although this is not a specific action, since ipecac also inhibits the growth of bacteria, and other drugs, such as hydrastis and digitalis are quite as powerful as ipecac in inhibiting dysentery bacilli. The *B. dysenteriæ* of the Shiga type that Vedder worked with appears to be more susceptible to the action of ipecac and other drugs than the Flexner strain. The treatment of bacillary dysentery by ipecac is not recommended by Vedder, because, he says, it has not been shown that ipecac possesses any greater activity against dysentery bacilli than many other drugs, and because it would probably be difficult, on account of dilution with intestinal contents, to give sufficient ipecac to make a solution in the intestine as strong as a 2 per cent. solution of the fluid extract, which was the strength used in these experiments. However, since ipecac has been shown to inhibit the growth of dysentery bacilli to some extent, it has probably done patients with bacillary dysentery no harm and, on the other hand, may possibly have accomplished some good, particularly if the dysentery were caused by the Shiga type of *B. dysenteriæ*.

The experiments showed that the action of ipecac on amebas is much more powerful. Amebas in a 5 per cent. bouillon culture were at all times killed by a fluid extract of ipecac in a dilution of 1/50,000, and sometimes killed by even higher dilutions such as 1/200,000. In these experiments two varieties of amebas were used, one isolated from tap water, and one isolated from the stool of a normal man. Vedder was unable positively to identify either culture, but is sure that neither of these varieties was either *Entameba coli* or *Entameba dysenteriæ*. Vedder holds that the ipecac treatment of dysentery caused by protozoa should not on light grounds be set aside in favor of any other, but that in using this treatment great care should be taken to make sure that the dysentery is truly caused by protozoa and is not bacillary, and also to obtain an ipecac that is shown by actual analysis

to contain its proper amount of emetin, and when this is not possible, to insist on obtaining the Brazil root.

Lancet-Clinic, Cincinnati

April 29

22 *Acute Abdominal Manifestations of Syphilis. L. A. Levison, Toledo, Ohio.
23 *A Study of the Tubercle Bacillus Cultivated from Nine Consecutive Cases of Primary Tuberculous Cervical Adenitis. W. Litterer, Nashville, Tenn.
24 The Thyroid Gland. S. P. Beebe, New York.

22. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

23. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1135.

Journal of the Arkansas Medical Society, Little Rock

April

25 *An Unusual Case of Appendicitis. C. G. Pettus, El Dorado.
26 Tonsillectomy—Its Indications and Methods. R. H. T. Mann, Texarkana.
27 Cooperation of the Physician and Surgeon in Treatment of Acute Intra-Abdominal Diseases Necessary to Obtain the Best Results. J. P. Runyan, Little Rock.
28 Publicity vs. Quackery and Other Frauds. J. D. Southard, Fort Smith.

25. **Appendicitis.**—In Pettus' case, one of typical appendicitis, a constant pyuria was found to be due to adhesion of the appendix to the ureter and communication between the two.

Virginia Medical Semi-Monthly, Richmond

April 21

29 Nine Cases of Pulmonary Tuberculosis Treated by Compression of the Lung. M. E. Lapham, Highlands, N. C.
30 The Roentgen Ray in Diagnosis of Urinary Calculi. A. L. Gray, Richmond.
31 Clinical Diagnosis of Early Tabes Dorsalis with Negative Wassermann Reaction. T. A. Williams, Washington, D. C.
32 Treatment of Gonorrhea in the Male. J. R. Littlefield, Cumberland, Md.
33 Diagnosis and Treatment of Abdominal Injuries. W. L. Powell, Roanoke.
34 *Medical Treatment of Ingrowing Toe-Nail. S. Harnsberger, Catlett.

34. **Treatment of Ingrowing Toe-Nail.**—Surgical intervention, which is surgical interference, is not considered a treatment for ingrowing toe-nail by Harnsberger. He believes in local treatment. He cleanses the unhealthy soft parts, using, if necessary, some reliable antiseptic solution or soap, with or without a brush, as the case may be. Then, after drying the cleansed parts thoroughly, he applies liquefied phenol (one drop usually) to the most sensitive point and as near the corner of the nail as he can get it. If the toe is well protected by clean gauze, the phenol is used once a day, with or without recleansing, until the soft parts are healed and hardened and the point of the nail is lifted out of the socket it has formed in the flesh. If the phenol does not seem to give satisfactory results, which will seldom happen, or, perhance, fails altogether, then Harnsberger uses the following powder:

℞	Gm. or c.c.	
Thymolis	66	gr. x
Mentholis	66	gr. x
Acidi boracici	4	ʒj
Aluminis q. s.	ad 15	ʒss

The alum should be pulverized finely and dried thoroughly; triturate all and apply freely. In mild cases the powder can be left on until the parts heal. In bad cases the applications may be renewed as thought best. A thin rubber cot should be worn on the affected toe to keep the remedy in place and to protect the parts from possible outside infection. Unless the secretions stain the powder, the applications need not be renewed every day. If it is necessary for the patient to go about, the affected part can be protected by properly applied pieces of thick felt kept in place by adhesive strips. Usually a piece applied to the inner side and top of the toe just back of the painful joint, gives ample protection; and, not only wards off painful pressure of the shoe, but hastens the healing process. Harnsberger has never seen a case so bad that it could not be cured by mild local means.

Philippine Journal of Science, Manila

November

35 Rabies in the Philippines. F. W. Dudley and E. R. Whitmore, Manila.
36 Researches on Acarids Among Lepers. M. Lefebvre, Manila.
37 Occurrence of an Accessory Nasofrontal Duct of the Frontal Sinus. E. Clark, Chicago.
38 Spontaneous Occurrence of Dysentery in Monkeys. F. B. Bowman, Manila.
39 Complement Fixation in Yaws. F. B. Bowman, Manila.
40 Pellagra: Report of a Probable Case in the Philippine Islands. D. G. Willets, Manila.
41 Examinations of Stools and Blood Among the Igorots at Baguio, Philippine Islands. W. P. Chamberlain, H. D. Bloomberger and E. D. Kilbourne, U. S. Army.
42 Unidentified Larvæ of Some Dipterous Insect Developing in the Deep Urethra and Bladder of Man, Producing Severe Abdominal Symptoms. G. P. Tribie, U. S. Navy.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

April

43 Carcinoma of the Breast. W. C. MacCarty and B. C. Willis, Rochester, Minn.
44 *Jaundice in Pernicious Anemia. D. Vanderhoof, Richmond.
45 *Sixty-Six Cases of Pellagra Occurring Outside of Institutions. B. R. Tucker, Richmond.
46 *Early Pulmonary Tuberculosis: Diagnosis without the Use of the Microscope or Stethoscope. N. T. Ennett, Richmond.
47 Pregnancy Following the Complete Removal of One Ovary, and at the Same Time the Major Portion of the Opposite One. J. E. Stokes, Salisbury, N. C.

44. **Jaundice in Pernicious Anemia.**—Vanderhoof reports a case of jaundice associated with weakness. There were no abdominal symptoms or evidence of obstructive lesion of the bile ducts. The blood-picture was typical of Addison's anemia. There was marked improvement of health and disappearance of jaundice under appropriate treatment with arsenic and the institution of proper hygienic measures.

45. **Pellagra.**—A very complete table of these sixty-six cases is offered by Tucker in his paper and also a very good question form which he got up for the Virginia State Board of Health for use in the study of pellagra. Forty-eight of the patients were females and eighteen were males. There were only ten negroes to fifty-six whites. In Tucker's opinion, negroes are less susceptible. Three of the ten negroes were reported to be mulattoes. The hygienic surroundings were poor in only sixteen cases. Ten patients rarely ate corn products and six never ate corn products or had not done so for years. This would seem to eliminate maize as the causative factor in pellagra. In only sixteen cases was the skin lesion the first manifestation. Seventeen patients died during the first attack; seven died the second year, one of these committed suicide. Five patients died after the second year; one died six years after diarrhea and two years after skin lesions. In three the course of the disease was unknown. Total deaths were thirty, a mortality of nearly 50 per cent. All deaths other than the suicide were attributable to the constitutional effects of the disease. Thirty-two of the living patients had one or more remissions. In three, the remission was thought to have lasted over one year. One case is in the first attack. Hexamethylenamin was the exclusive treatment given in fourteen cases in doses of from 20 to 45 grains a day. In seven, immediate improvement was noted, and the patients went into complete remission within four weeks and there was no return. In two, the same result took place, but no report has been received of their condition this year. In two, the hexamethylenamin was advised but the result has not been heard. One patient was given the drug for three days and committed suicide. One case of five years' standing cleared up with hexamethylenamin, except some nervous symptoms and the patient died several months afterward in convulsions but without gastro-intestinal or cutaneous symptoms. In one case hexamethylenamin was given to a patient in a moribund state. He died in a few days.

46. **Early Pulmonary Tuberculosis.**—For diagnostic purposes Ennett emphasizes the importance of the following: The tuberculous patient will usually come to his physician complaining of being "run down," and a careful history will usually reveal many of the following symptoms: He has little or no energy, becomes tired easily, spends restless nights, and may or may not have sweats, has some dyspeptic symptoms or complains of frequent "colds." These colds are usually described as "chest colds" instead of "head colds." He will probably have a slight but constant rise of temperature, usually in the afternoon, rapid pulse, even while at rest, chilly feelings, and possibly some loss of weight. Hypersensitiveness of the entire nervous system; hemoptysis; an occasional, non-productive, hacking cough, accompanied by a tickling sensation in the larynx, usually worse at night on retiring or in the morning on arising; hypersecretion of mucus in the respiratory tract; pain located anywhere in the chest,

but usually over the apices, and pleurisy are all significant and should be considered carefully.

New Mexico Medical Journal, Las Cruces

April

48 Climate of the Southwest in Relation to Tuberculosis. W. R. Saltzgaber, Alamogordo.
49 Etiology of Rheumatic Fever. W. G. Hope, Albuquerque.
50 Rheumatism. S. G. von Almen.

Pennsylvania Medical Journal, Athens

April

51 *A Plea for the More Intelligent Care of the Pregnant and Lying-In Woman. H. F. Tomb, Johnstown.
52 *The Results of Gall-Stones. J. A. McGlinn, Philadelphia.
53 *Clinical Studies in the Auscultatory Method of Determining Blood-Pressure. E. H. Goodman and A. A. Howell, Philadelphia.
54 *High Arterial Tension. A Clinical and Therapeutic Study. R. M. Goepp, Philadelphia.
55 Diagnosis and Treatment of Relaxed and Weak Feet. C. A. E. Codman, Philadelphia.
56 Recent Advances Made in Syphilis. A. A. Uhle, Philadelphia.
57 Early Ocular Signs of Syphilis. W. Reber, Philadelphia.
58 Ocular Affections in Congenital Syphilis. S. D. Risley, Philadelphia.
59 Aural Manifestations of Syphilis. S. McC. Smith, Philadelphia.
60 Syphilis of the Upper Respiratory Tract. G. C. Stout, Philadelphia.
61 Resection of Pendulous Fat from the Abdominal Wall in Connection with Laparotomy for Other Conditions. B. M. Anspach, Philadelphia.
62 Acute Mania: Its Diagnosis, Prognosis and Treatment. G. W. McCafferty, Philadelphia.

51, 52. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

53. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1581.

54. **High Arterial Tension.**—High arterial tension is not in itself regarded by Goepp as an indication for direct corrective treatment by drugs, but as a diagnostic sign of value in a number of morbid conditions characterized by the absorption of toxic substances, poisons or disease products, and in the early stages of chronic interstitial nephritis and general arteriosclerosis. Lowering an excessive blood-pressure below a certain point, which varies for each individual, may be harmful instead of beneficial. While excessive arterial tension (above 180 millimeters of mercury, systolic pressure) is unquestionably an unfavorable prognostic sign, it may be present for years, and is not incompatible with a fair degree of health.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

April

63 The Tuberculosis Sanatorium and What It Stands For. F. M. Pottenger, Monrovia, Cal.
64 High-Potential Electricity in Therapeutics. W. B. Snow, New York.
65 Study of the Backward Child. E. B. McCready, Pittsburg, Pa.
66 Suggestions for the Pharmacopeia. F. P. Morgan, Washington, D. C.
67 Maternal Responsibility and Infant Feeding. H. Lowenburg, Philadelphia.
68 Favus. L. D. Frescoln, Philadelphia.
69 Veratrum Viride in Lobar Pneumonia. T. G. Stephens, Sidney, Iowa.
70 Eligibility of Pension Claimants from the Standpoint of the Ophthalmic Expert. L. W. Fox, Philadelphia.
71 Iodin and Iodin Catgut in Surgery. J. A. McGlinn, Philadelphia.

Journal of Experimental Medicine, Lancaster, Pa.

May

72 Value of Hydrogen Peroxid in the Microchemical Determination of Iron. W. H. Brown, Madison, Wis.
73 *Vaccine Therapy in Prevention of Dysentery in Infants. W. P. Lucas and H. L. Amoss, Boston, Mass.
74 *Characteristics of Growth of Sarcoma and Carcinoma Cultivated in Vitro. R. A. Lambert and F. M. Hanes, New York.
75 *A Study of Cancer Immunity by the Method of Cultivating Tissues Outside the Body. R. A. Lambert and F. M. Hanes, New York.
76 *Studies on Immunity in Cancers of the White Rat. I. Levin and M. J. Sittenfield, New York.
77 Relation of Certain Bacteria to Non-Specific Reactions with the Complement-Fixation Test for Syphilis. C. F. Craig, Washington, D. C.
78 Occurrence of Grouped Isoagglutination in the Lower Animals. R. Ottenberg and S. S. Friedman, New York.
79 Tonicity in Isohemagglutination. M. H. Kahn and R. Ottenberg, New York.
80 Distribution of Solutions in Cardiectomized Frogs. S. J. Meltzer, New York.
81 *Influence of Distilled Water on the Healing of Skin Wounds in the Frog. E. S. Ruth, New York.
82 *The Physicochemical Regulation of the Growth of Tissues. A. Carrel and M. T. Burrows, New York.
83 *Cultivation in Vitro of Malignant Tumors. A. Carrel and M. T. Burrows, New York.
84 Behavior of Bacillus Lepræ in Cold-Blooded Animals. M. Couret, New Orleans.
85 Complementoid and the Resistance of the Mid-Piece of Complement. H. K. Marks, New York.

73. **Prevention of Dysentery in Infants.**—This investigation is very limited and the number of patients treated is few (ninety-five). The vaccine in no instance did harm, and the reactions in the majority were very mild and of short duration. Cases in which bacteriologically *B. dysenteriæ* were proved to be present, but in a clinically unrecognizable form, were not affected differently from those which were culturally negative. This may be due in part to the fact that this mode of vaccination produces an immediate passive immunity, while the bacterial vaccine is producing an active immunity. The work is of interest and holds out a possible means of preventing the great mortality from infantile dysentery during the summer months.

74. **Growth of Sarcoma and Carcinoma in Vitro.**—Lambert and Hanes report that in their experimental work, the transplantable sarcomata of rats and mice were found to grow very readily by the method of cultivating tissues *in vitro*. Sarcomatous tissue grows in conformity to a type which may be regarded as characteristic for tissues of mesenchymal origin. The growth of sarcoma cells *in vitro* consists in ameboid wandering into the surrounding plasma, karyokinetic proliferation, and evidences of active metabolism on the part of the cells. Mouse carcinomata can be cultivated *in vitro*. The outgrowth of carcinoma cells assumes a sheet-like form, only one cell in thickness. They migrate into the plasma by ameboid movement, the advancing edge showing numerous prolongations of the cytoplasm into pseudopods. Karyokinetic figures are frequently seen in growing carcinoma cells. The cells show evidence of active metabolism. Both sarcoma and carcinoma cells cultivated *in vitro* show active phagocytosis; carmin particles placed in the plasma are taken up rapidly by the growing cells.

75. **Cancer Immunity.**—It is said by Lambert and Hanes that sarcoma cultivated in plasma from immune animals grows quite as vigorously as in plasma from normal and tumor-bearing animals, thus affording further proof of the absence of specific cytolytic substances in the body fluids of animals immune to transplantable cancer. Animals may be successfully inoculated with sarcoma cultivated *in vitro*, although, in the case of rat sarcoma, there is evidence of diminished virulence. Subcultures of sarcoma cultivated *in vitro* may be made by transferring to fresh plasma the original piece of tissue, or a portion of the outgrowth. The duration of life of sarcoma cells under these conditions seems dependent only on a renewal of the medium.

76. **Immunity in Cancers of the White Rat.**—Indirect evidence is brought forward by Levin and Sittenfield through their investigation to show that immunity to cancer growth, but not to tumor grafting, is caused not by differences in intracellular nutrition, but by an active inhibitory influence of the organism of the host on the cancer cells. It appears from their experiments that a mouse tumor through a sojourn in the rat reacquires the characteristics of a spontaneous tumor; namely, it takes in a small percentage of inoculated animals, and this percentage increases in subsequent generations. But the diminution of the virulence of the tumor which takes place in the organism of the rat is due to congenital racial immunity of the latter. Furthermore, the immunity of the rat against mouse tumor is not due to conditions of nutrition, but is accompanied by an active noxious influence of the organism of the rat on the mouse tumor.

81. **Healing of Skin Wounds in the Frog.**—Ruth's experiments demonstrate the important point that the healing of epidermal wounds of the frog takes place in a practically identical manner in culture *in vitro* and in the body of the animal. They show further that the rate of growth of new epithelium which constitutes the process of cicatrization is accelerated by a diluted medium, both *in vitro* and *in vivo*. Thus, by increasing or diminishing the degree of dilution of the medium, or by injecting distilled water or hypertonic solutions into the animal, the rate of growth can, and will up to a certain point, be accelerated or retarded.

82. **Physicochemical Regulation of the Growth of Tissues.**—It is concluded by Carrel and Burrows that the degree of dilution of the culture medium has a marked influence on the rate of growth of splenic tissue. The maximum acceleration was obtained in a medium composed of three volumes of normal plasma and two volumes of distilled water. The growth in this hypotonic plasma was very much larger than in normal plasma. On the contrary, the growth of the spleen in hypertonic plasma was always less than in normal plasma. In other experiments, they found that in diluted plasma there was also an acceleration of the growth of the skin, the heart, and the liver of chickens. The skin of adult frogs also grew more actively in this plasma. The optimum degree of dilution varied according to the nature of the tissues and to the species of the animals. While the plasma containing two-fifths distilled water produced the largest growth of splenic tissue, a slightly less diluted medium was more favorable for the liver and the heart, and generally for the skin also.

83. **Cultivation in Vitro of Malignant Tumors.**—Experimental malignant tumors were found to grow *in vitro* extensively, and the cultivation of human tumors is also possible, although much more difficult on account of the liquefaction of the plasma.

Wisconsin Medical Journal, Milwaukee

April

86 *Prevention and Treatment of Septic Infections of the Extremities. E. H. Ochsner, Chicago.
87 Early Diagnosis of Cancer. F. G. Connell, Oshkosh.
88 Case of Lithopedion. M. M. Spitz, Milwaukee.
89 Diet and General Management of Typhoid. L. M. Warfield, Milwaukee.
90 *Traumatic Hernia. J. F. Pember and T. W. Nuzum, Janesville.

86. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1678.

90. Abstracted in THE JOURNAL, July 23, 1910, p. 344.

Military Surgeon, Washington, D. C.

May

91 An Outline of the Organization of the Medical Department of the Japanese Navy. E. S. Bogert, U. S. Navy.
92 Experience of the Army with Vaccination as a Prophylactic Against Small-Pox. J. V. Hoff, U. S. Army.
93 Natural Immunizations versus Artificial Vaccine Therapy. H. Shoemaker, N. G. Pennsylvania.
94 *Disappearance of Beriberi from the Philippine (Native) Scouts. W. P. Chamberlain, U. S. Army.
95 Service at Minnesota Forest Fires of 1910. H. L. Lamb, N. G. Minnesota.
96 *Protection from Typhoid by Inoculation. W. J. L. Lyster, U. S. Army.
97 Hospital Corps Instruction on Board Ship. W. S. Pugh, U. S. Navy.

94. **Disappearance of Beriberi from Philippine Scouts.**—Chamberlain shows that beriberi has disappeared from the Philippine (native) scout organizations during the last half of the year 1910. There have been no sanitary improvements to account for this, except the changes in diet, and there has been no corresponding decrease in the admission rate for diseases other than beriberi. There was no corresponding decrease in the incidence of beriberi in the general Filipino population or in the Philippine (native) constabulary. The decrease in admissions for beriberi among the scouts was clearly marked for four months before the use of undermilled rice began. The decrease in admissions was well under way before the mongos, camotes and ginger root of the new ration began to be issued. The decrease in the admissions for beriberi was due either to unknown causes acting coincidently with a reduction in the amount of rice used and the addition of a legumen, or was due directly to these dietetic changes. As no other reduction in admissions even approaching that of 1910 has occurred since the organization of the scouts in 1901, the authors do not believe that the present decrease is due to coincidence. The facts do not oppose the polished rice theory of beriberi production. On the contrary Chamberlain believes that they support it.

96. **Protection from Typhoid by Inoculation.**—Lyster details the experience of inoculating an entire regiment in order to prevent the spread of typhoid. After the completion of the inoculation of the regiment (376) and nearly seventy civilians at the post, including the teamsters, no new cases appeared. Later this regiment, except one troop, left post on a twenty-one day march, some 300 miles. On the return of the command, after spending twenty-one days in a country where typhoid is known practically throughout the year, and having lived under war conditions, the sick report is stated by the commanding officer to be *nil*. No subsequent cases of typhoid developed.

Ophthalmic Record, Chicago

April

98 Toxic Paralysis of Accommodation. H. F. Hansell, Philadelphia.
99 Ocular Affections in Congenital Syphilis. S. D. Risley, Philadelphia.

New Orleans Medical and Surgical Journal

May

100 *Malignancy in Tumors. F. B. Gurd, New Orleans.
101 Two Cases of Cirrhosis of the Liver Operated on by Narath's Procedure. E. D. Martin, New Orleans.
102 *Ingrown or Overgrown Toe-Nail. H. B. Gessner, New Orleans.
103 Tumors of the Lung. W. H. Harris, New Orleans.
104 Copper Salts and Ipecacuanha in Amebic Colitis. J. A. Storck, New Orleans.

100. **Malignancy in Tumors.**—Special emphasis is placed by Gurd on the relative malignancy in tumors, and the changes which take place in certain new growths of apparently benign type, but in which malignant characteristics develop. Such conditions, he says, are usually loosely and falsely grouped under the heading of malignant degenerations.

102. **Ingrown or Overgrown Toe-Nail.**—Gessner proposes a modification of the Van Meter incision, consisting in the substitution of a hexagon for the diamond excision. The edge of the nail is paralleled by a cut running its full length, about ¼ of an inch from it. From ¼ to ½ of an inch further from the nail another cut is made, parallel with the first and equally long. A V-shaped incision joins the first two cuts at each end and completes the hexagon. The removal of the skin and fascia between these lines of incision leaves a gap, suture of whose edges pulls the skin away from the nail edge evenly throughout its entire extent.

Detroit Medical Journal

April

105 Acute Postoperative Paresis. J. A. McMillan, Detroit.
106 Facial Paralysis. W. A. Potter, Detroit.

Medical Fortnightly, St. Louis

April 25

107 *Mattoids (Cranks). A. Macdonald, Washington, D. C.
108 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
109 In the Twilight. C. E. Warren, North Easton, Mass.

107. **Mattoids.**—This is the term which MacDonald proposes for the word "cranks." He says that the word crank has been so misused, if not abused, that the term "mattoid" is preferable. The mattoid, then, is an abnormal person, characterized by want of balance, eccentricity or egotism. He is uusally sincere and insists on his ideas, which are generally extreme and frequently absurd. He is generally sane, but may be semi-insane, and sometimes insane. He is usually above the average, sometimes showing talent, but rarely genius. He often has a distorted view of life, leading him into all kinds of uncertainties, inconsistencies and vagaries and he is frequently called odd, queer, strange, freakish and the like. Mattoids show defects and disproportion in character indicating as much talent in one direction as they do little in another. There is often a nervous element which gives force and energy. They may be gifted in speech, art and poetry, but deficient in judgment, showing no continuity and unity of direction in their lives. They often have altruistic but wild theories, utopian ideas or absurd projects, which they express in public speeches or books. But they are generally incapable of accomplishing anything. The mattoid may pass from one mental condition to another, and in the course of his life manifest all of the characteristics mentioned above. He is often on the borderline between sanity and insanity. He is more liable to get into trouble, commit crime or become insane than people in general.

American Medicine, New York

April

110 Selection of Patients for a Tuberculosis Sanatorium. C. B. Slade, New York.
111 Medicine and Character. S. H. Brown, Philadelphia.
112 Neurasthenia Gastrica (Nervous Dyspepsias of Loube). A. A. Robinson, Ogden, Utah.
113 Pathology of Anemia. W. H. Boese, New York.
114 Sir Walter Raleigh's Royal Cordial. J. Knott, Edinburgh, Scotland.
115 Twice Wounded by Rattlesnakes; Recovery. H. Crutcher, Roswell, N. M.

Boston Medical and Surgical Journal

May 4

116 School Inspection in Small Towns. A. T. Cabot, Boston.
117 *Difficulties and Limitations of Diagnosis in Advanced Cases of Renal Tuberculosis. H. Cabot, Boston.
118 An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.
119 Five Successive Cesarean Sections on the Same Woman, the Fifth on Twins. C. M. Green, Boston.
120 A Summer Service in the Weld Ward of the Massachusetts General Hospital. C. J. White, Boston.

117. **Renal Tuberculosis.**—In the light of recent experience with spinal anesthesia in cases of damaged kidneys, Cabot is inclined to regard this as the anesthesia of election, at least for the exploratory part of the operation. Anesthesia extending well up to the costal margin is readily obtained and is entirely satisfactory for the exposure and opening of the ureters. The urine can then be collected and conclusions drawn without subjecting the patient to the strain of general anesthesia. Should nephrectomy be decided on, it may either be done at once under a general anesthetic, or postponed to a future occasion. Cabot has not found spinal anesthesia satisfactory for nephrectomy and does not advise its use, but for the preliminary determination of the kidney function, he believes it will lower the mortality in properly selected cases.

Journal of Cutaneous Diseases, New York

May

121 Acrodermatitis Chronica Atrophicans and Diffuse Scleroderma with Associated Morphea Atrophica. K. Herxheimer and W. Schmidt.
122 Historical Sketch of Leprosy in the United States. S. Pollitzer, New York.
123 The Sociologic Aspects of Leprosy and the Question of Segregation. I. Dyer, New Orleans.
124 *Experimental Leprosy and Its Bearing on Serotherapy. C. W. Duval and F. B. Gurd, New Orleans.
125 Widespread Lupus Erythematosus with Associated Papulo-Necrotic Tuberculide (?). U. J. Wile, New York.

124. A similar article by the same authors was published in the *Archives of Internal Medicine*, February, 1911, and abstracted in THE JOURNAL, March 25, 1911, p. 925.

Archives of Ophthalmology, New Rochelle, N. Y.

May

126 Dacryocysto-Rhinostomia (Toti's Operation). E. Török, New York.
127 Indications for Operation in Heterophoria and Squint. A. Duane, New York.
128 A Case of Floating "Soemmering's Crystalline Mass" in the Vitreous. K. Wessely, Wuerzburg.
129 Action of Salvarsan on the Eye. F. J. Flemming, Berlin.
130 Salvarsan in Ophthalmology. O. Schnaudigel, Frankfort a.-M., Germany.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 22

1 The Kinks which Develop in Our Drainage System in Chronic Intestinal Stasis. W. A. Lane.
2 Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.
3 Arteriosclerosis and the Kidneys. Sir C. Allbutt.
4 Interdependence of the Circulatory and Respiratory Systems. I. McKenzie.
5 Hepatic Distomiasis (Sheep Rot) in Man. G. R. Ward.

Lancet, London

April 22

6 *Sensibility of the Alimentary Canal in Health and Disease. A. F. Hertz.
7 The Declining Birth-Rate. F. E. Fremantle.
8 *Railway Accidents with Special Reference to Cerebral Fat Embolism. R. J. Godlee and G. E. O. Williams.
9 Ocular and Visual Conditions in Medical Cases. J. Taylor.
10 *Direct Bronchoscopy. H. Tilley.
11 *Value of Ionization in Inflammatory Diseases of the Lower Bowel. J. C. Webb.
12 *Ascites Treated by Lymphangioplasty. R. A. Stoney and T. G. Moorhead.
13 Measles: Its Treatment and Prevention.
14 *Acute Hemorrhagic Pancreatitis; Operation; Recovery. E. Gillespie.
15 Case of Pericarditis (Tuberculous) with Effusion. J. Rae.

6. **The Alimentary Canal in Health and Disease.**—The results of his experiments, made to determine the sensibility of the esophagus, stomach and intestines to tactile, thermal and chemical stimulation, are detailed by Hertz. He says that the alimentary canal from the commencement of the esophagus to the junction of the rectum with the anal canal is completely insensitive to tactile stimulation. The introduction of ice-cold water or hot water at any temperature between 40 and 50 C. into a normal stomach produced no sensation of any sort. His observations show that 0.4 and 0.5 per cent. hydrochloric acid, introduced into the esophagus or the empty stomach of normal individuals through a tube, produces no sensation of any kind. The introduction of 0.5 per cent. hydrochloric acid through the gastrostomy wound into the stomach of patients with esophageal stenosis also produces no sensation. It is thus clear that the pain, which is often associated with excess of free hydrochloric acid in the stomach, cannot be due, as has generally been believed, to the excess of hydrochloric acid alone, as it is certain that as much as 0.5 per cent. free hydrochloric acid is never present in the stomach. Moreover, many cases in which excess of free and of active hydrochloric acid is discovered by chemical analysis are not associated with pain or other gastric symptoms, and the excess present in painful conditions may persist after the pain has been completely relieved by treatment. It may be concluded, therefore, that the presence of an excessive quantity of hydrochloric acid in the stomach is only one manifestation of a disease, in which pain is another, and that it is not the cause of the pain. In six cases of gastric ulcer, in all of which the diagnosis was confirmed by operation, 4 ounces of 0.5 per cent. hydrochloric acid introduced into the empty stomach by a tube produced no sensation whatever. The same result was obtained in another case in which a mixture of hydrochloric acid with pepsin was used. These observations show that, contrary to the common belief, contact with free hydrochloric acid is not the direct cause of the pain in gastric and duodenal ulcer. That the acid is, however, in some way connected with the production of the pain there can be no doubt, as rapid relief always follows the administration of an alkali.

Crême de menthe, introduced by a tube into the empty stomach, gives rise to a sensation of warmth which may occur immediately, but more frequently only develops in the course of a minute or two. A similar result was obtained with the 48 per cent. alcohol, but not with peppermint water, so that it is the alcohol and not the peppermint which produces the sensation after the liquor is introduced into the stomach. Crême de menthe also produces an immediate burning sensation in the epigastrium when poured through a tube into the lower end of the esophagus. This is a much stronger sensation than that produced in the stomach, but it is impossible to distinguish the locality of the two. The burning sensation in the esophagus is produced by the alcohol, as the 48 per cent. solution has the same effect, while the peppermint water, if warmed to the body temperature, produces no sensation. It may be concluded, therefore, that the immediate burning sensation produced by the liquor is in the esophagus, and that the subsequent feeling of warmth is in the stomach. Both are due to the alcohol alone. It was found that the lower end of the esophagus is so sensitive to alcohol that special precautions had to be taken in testing the sensibility of the stomach in order to prevent a few drops reaching it when the tube was withdrawn. Alcohol in a strength greater than 25 per cent. gives rise to a sensation of burning when applied to the mucous membrane of the anal canal, but when introduced into the pelvic colon through a sigmoidoscope or into the more proximal parts through a colostomy opening, a strength of 50 or even 90 per cent. is required. After a sensation of heat has been produced, the repetition of the experiment a few minutes later may have no effect, owing to the protection of the mucous membrane by mucus, which is secreted as a result of the irritation caused by the alcohol. Glycerin produces no

sensation when applied to the rectal mucous membrane; the characteristic sensation occurs only when it is applied to the anal canal. The sensation produced by a glycerin enema or suppository must, therefore, be due to a small quantity escaping from the rectum into the anal canal, and the defecation reflex to which it gives rise probably originates in the anal canal, and not, as formerly believed, in the rectum.

8. **Railway Accidents.**—Two cases of cerebral fat embolism are reported by Godlee and Williams. Both patients presented similar symptoms and signs. They both had fractures of the thigh, in one case a comparatively simple fracture, and in the other two simple fractures, together with some crushing of the bones about the knee-joint and a lacerated and contused wound of the foot. The patients were both given chloroform for the setting of the fractures. Within about twelve hours both went into a comatose state more or less suddenly, without any previous noticeable pulmonary distress, the temperature rose rapidly, the pulse was of low tension and rapid, and there were no localizing signs in the nervous system pointing to a lesion in any particular part of the brain. Both might have been thought to be cases of cerebral compression if it had not been for the character of the pulse. One patient was trephined over the right side because he had evidence of injury to the skull on that side. The authors do not believe that the operation hastened death, the only cause of which that could be demonstrated was fat embolism of the brain. The other patient recovered to a slight extent from what seemed to be an almost hopeless condition, and his death was no doubt partly due to a secondary bronchopneumonia; in this case also some of the typical signs of cerebral compression were absent.

Attention is called to three points of especial interest. 1. The difference in the extent of the original injury in the two cases. Whereas one might have expected fat embolism to occur in the case where there were several fractures, some of which were of a crushing nature, there was nothing about the simple fracture in the other case to suggest the likelihood of its occurrence, or at all events of its causing any grave symptoms. 2. The absence of dyspnea or other symptoms of pulmonary embolism in one case, and the fact that the other patient only complained that his bandages felt tight. 3. The resemblance superficially of the condition to that of cerebral compression; the characteristic pulse of compression was never observed. There were never any signs in the nervous system pointing to a localized injury to the brain.

10. **Direct Bronchoscopy.**—Two cases are cited by Tilley, indicating the value of this method for the detection and removal of foreign bodies impacted in the lower air passages.

11. **Ionization in Inflammatory Diseases of Lower Bowel.**—Webb details his results obtained in the treatment of colitis by the ionization of zinc salts in the bowel. Of fourteen patients so treated, only one was not cured or benefited.

12. **Ascites Treated by Lymphangioplasty.**—In the case reported by Stoney and Moorhead, the introduction of artificial silk lymphatics, according to the method suggested by Sampson Handley in 1910, was followed by disappearance of the ascitic fluid. The existence of chronic fibrous peritonitis with hepatic cirrhosis was demonstrated at the operation. The authors do not claim that the improvement which occurred is necessarily the result of the lymphangioplasty, as ascites of the type here presented may disappear spontaneously (as occurred for a time in this case during the first stay in the hospital), or may disappear after a simple laparotomy. The fact, however, that some fluid reaccumulated after the operation suggests that the mere laparotomy was not of itself the cause of the later improvement, but rather that the reaccumulation took place prior to the establishment of an efficient circulation via the silk lymphatics, and that once a sufficient circulation was attained no further transudation accumulated.

14. **Acute Hemorrhagic Pancreatitis.**—The case reported by Gillespie shows the features which have been well termed "an abdominal catastrophe." There was a confused picture of shock and of hemorrhage, so much so that but for the localization of the pain to the upper abdomen and the history of regular menstruation, the diagnosis would have been that of a ruptured extra-uterine pregnancy. Rigidity of the recti was present, but it was neither so marked as in cases of perforation, nor so well defined as has been insisted on by other observers. There was nothing which could be called distention, but it is of interest to note that diminution of liver dulness was present. The onset was definitely gradual; the pain increased in intensity until it was so severe as to attract attention. No light is thrown on the obscure question of causation. The abdomen was opened above the umbilicus by a vertical incision, and separation of the fibers of the left rectus. The lesser sac was at once seen to be filled with dark blood. No fat necrosis was observed. The gastrohepatic omentum was freely opened and the blood was evacuated. The peritoneum over the pancreas was freely torn and more blood removed. The lobules of the pancreas showed up a light yellow against the effused blood. The gall-bladder and the bile passages were palpated but nothing abnormal was found. The patient's condition was so serious that no further examination was attempted. Gauze was passed down to the pancreas and packed along it from tip to head. A rubber tube was also passed down beside the emerging piece of gauze. The abdomen was closed in a single layer.

Clinical Journal, London

April 19

16 Treatment of Nephritis. F. J. Smith.
17 Clinical History and Treatment of the Less Obvious Types of Gummata. H. Curtis.

British Journal of Children's Diseases, London

April

18 *The Oculo-Motor Type of Polioencephalitis. S. Stephenson.
19 Chronic Lung Affections in Children. J. E. H. Sawyer.
20 Hydatid Cysts of the Liver in a Boy; Operation. A. J. Cleveland and J. Burfield.

18. **Oculomotor Type of Polioencephalitis.**—For some years Stephenson has observed a group of cases in children, the chief characteristic of which is the sudden onset of strabismus at an age when ordinary squint is not altogether common. The cases are encountered in children often of tender age. The condition may arise without obvious cause. On the other hand, it may be observed after some childish ailment, as scarlet fever or measles, or an injury, a fright, or some trifling operation, as vaccination or circumcision. The child, often apparently in usual health, is put to bed, and on awakening next morning is found to present squint. Stephenson's observations lead him to conclude that the oculomotor symptoms in these cases depend on an acute focal encephalitis, quite analogous with the better-known forms of that disease. He has seen twenty-eight such cases, all the patients being under 6 years of age, and half of the number under 1 year. The condition was associated comparatively seldom with other symptoms indicative of a cerebral disorder. Zymotic diseases (measles, 2; scarlet fever, 1; influenza, 1; small-pox, 1; pertussis, 1) appeared to be important factors in its causation. Although the paralysis may affect any of the extrinsic muscles of the eyeball, yet in three-fourths of the cases, the external rectus muscle alone is involved. The extrinsic musculature of the eye is seldom attacked. Stephenson says that the common form of encephalic strabismus is very apt to be confused with ordinary concomitant convergent strabismus.

Medical Press and Circular, London

April 19

21 Etiology and Incidence of Heart Disease in Regard to Prognosis. W. E. Wynter.
22 Alcohol and Insanity. F. W. Mott.
23 Postyén, a Thermal Bath for Rheumatism and Gout. A. Erdos.
24 Tuberculous Meningitis in New-Born Infants—the Somnolent Form. M. Lafarcinade.

Archives des Maladies du Cœur, etc., Paris

April, IV, No. 4, pp. 209-272

25 The Heart Rhythm and Hyperpnea. (Pseudo-bradycardie hyperpnéique par rhythme couplé.) L. Gallavardin.
26 The Large Mononuclear Cells in the Blood. (Le grand mononucléaire du sang.) A. Coic.

Bulletin de l'Académie de Médecine, Paris

April 4, LXXV, No. 14, pp. 463-476

27 Curable Myocarditis. (Les myocardites atténuées et curables.) C. Fiessinger.

Presse Médicale, Paris

April 8, XIX, No. 28, pp. 277-292

28 *Treatment of Enlarged Tonsils. (Amygdalectomie.) G. Mahu.
29 *Acidosis and Diabetic Coma. M. Labbé and L. Violle.

April 12, No. 29, pp. 293-300

30 Hemolytic Jaundice. (L'ictère par hémolyse.) Debove.
31 Wire Netting to Strengthen Casts. (Emploi de la toile métallique moulée et enrobée dans l'exécution des appareils d'immobilisation.) R. Danis.

the organism with acids. None of the mineral acids induced with thirty-six illustrations.

29. **Acid Intoxication and Diabetes.**—Considerable experimental investigation by Labbé and Violle has led to results confirming the assumption of the acidosis as the main factor in diabetic coma, but the special toxicity of the acids in question evidently adds to the injurious effects of the flooding of the organism with acids. None of the mineral acids induced any tendency to coma in the animals, but the organic acids, such as butyric, lactic, propionic and beta-butyric acids all had marked though variable power to induce coma. The acids free from a secondary alcoholic action, such as butyric and propionic acids, displayed the most powerful coma-producing action. The research confirms the importance of alkaline treatment of diabetic coma and in prophylaxis.

Semaine Médicale, Paris

April 19, XXXI, No. 16, pp. 181-192

32 *Test of Kidney Functioning by Comparison of Urea Content of Blood and Urine. L. Ambard and O. Moreno.

32. **Test of Kidney Functioning by Comparison of Urea Content of Blood and Urine.**—Ambard and Moreno present a formula based on the proportion of urea in the blood, the proportion of urea eliminated in the urine, the body weight, and the concentration of the urine as an index of kidney sufficiency.

Archiv für Gynaekologie, Berlin

XCIII, No. 3, pp. 413-676. Last indexed April 22, p. 1231

33 *Operative Treatment of Inflammatory Disease of Ovaries, Tubes or Pelvic Connective Tissue. (Die entzündlichen Adnex- und Beckenbindegewebserkrankungen.) H. Thaler.
34 *Sarcoma of Female Urethra. O. Nebesky.
35 *Intermenstruation Colic. (Zur Pathologie und Therapie des sogen. Mittelschmerzes.) A. Theilhaber
36 *Experimental Research on Measures to Protect Against Peritoneal Infection. O. Hoehne.
37 Cysts in the Uterus. O. Frankl.
38 Adenomyoma of the Ligament of the Ovary. O. Frankl.

33. **Inflammatory Disease in the Pelvis.**—Thaler reviews the experiences at Schauta's clinic in Vienna with 6,000 cases of inflammatory processes around the uterus. Operative treatment is indicated, he says, only after failure of a course of conservative treatment, except where pus has to be let out. When operative measures become necessary, extirpation of the organ involved is necessary; palliative measures are useless. The appendix should be removed on suspicion of trouble or adhesion to the inflammatory process elsewhere. The radical operations alone result in permanent cures; whenever conditions require draining, any conservative operation, leaving the uterus, is distinctly contra-indicated, as also when there is a tendency to excessive genital hemorrhage. Over 93.5 per cent. of the 828 patients given radical operative treatment were permanently cured, and the symptoms of the premature menopause were annoying in only a few cases. The only exception to the rule for radical operative treatment is in case of tuberculosis of the genital organs. Only five of the sixteen patients with tuberculosis of an ovary or tube were permanently benefited by the radical operation and the post-operative mortality was 25 per cent. In the experience of the last sixteen years not a single case has been encountered of a primary ascending tuberculous process in the internal genitals. In 40 of the total 6,179 cases the inflammatory process in the adnexa was evidently secondary to an extra-uterine pregnancy.

34. **Sarcoma in Female Urethra.**—Nebesky adds another to the fourteen cases on record, and states that four of the total fifteen were free from recurrence at last accounts. The interval since the operation is nine years in his case; the patient is a farmer's wife, now 48 years old. In two cases an existing pregnancy was apparently not disturbed by the operation. Flatau provided for comparative continence of urine by suturing the neck of the bladder in the vagina which is kept packed with gauze. Nebesky sutured the stump of the urethra to the vulva.

35. **Menstrual Pains Between the Periods.**—Theilhaber ascribes the pains to spasmodic contraction of the musculature of the uterus, similar to spasm of the cardia and pylorus. Treatment on this basis has always proved effectual in his experience, that is, by enlarging the internal os. It is not enough merely to dilate it; a permanent cure is ensured only by slitting the os, or, better yet, resecting a small strip. He has done this in 100 cases of dysmenorrhea in the last twelve years and 66 per cent. of the patients were entirely cured and 14 per cent. were much improved. In the others who were not benefited, the trouble must have been more of a hysteric nature. Success was constant in the five intermenstrual colic cases in which he has applied this same measure.

36. **Protection of Peritoneum Against Infection.**—Hoehne reports experiments on four guinea-pigs and eighty-five rabbits which confirm the fact of a reactive inflammation in the peritoneum after injection of oil or other irritating substance. When this peritonitis is of only a few hours' standing, it favors absorption of germs by the peritoneum, but if it is of twenty-four hours' or a few days' standing it checks absorption from the abdominal cavity very materially or prevents it altogether for many days and weeks. Germs thus vegetating in the abdominal cavity and not able to pass thence into the general circulation, rapidly die off, even the most virulent, in the course of four days. The peritonitis once installed summons to the region such powerful bactericidal forces that the invading infectious germs are soon conquered. Small intraperitoneal injections of olive oil, sesame oil or camphorated oil, up to 10 c.c. proved entirely harmless for the rabbits, while larger amounts, 20, 50 or 100 c.c. sometimes induced fat embolism in the lungs or severe local or general injury.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 10, XLI, No. 11, pp. 385-416

39 *Injection and Infiltration Treatment of Sciatica. F. Barth.

39. **Sciatica.**—Barth reviews the modern methods of treating sciatica and their results, preferring, himself, a combination of the Hay and Alexander technics, that is, injection of 10 c.c. of physiologic salt solution in the nerve at a point between the tuberosity of the ischium and the greater trochanter, or at some point where the sciatic is most sensitive, supplementing this with bloodless stretching of the nerve. The main point is a correct diagnosis. Only with sciatica does pain occur as the patient strains the abdominal muscles; if there is pain in the calf or buttocks as the patient coughs or sneezes, sciatica may be regarded as certain. Another sign is a tendency to lordosis in the lumbar vertebræ as the trunk is bent forward, but no tendency to lordosis otherwise. The patient instinctively resists the tendency to straighten the spine as liable to induce pain. A still more important sign of sciatica is the loss of the Achilles reflex. The knee-jerk is not affected by sciatica.

Deutsche medizinische Wochenschrift, Berlin

April 13, XXXVII, No. 15, pp. 673-720

40 *Significance for Diagnosis and Prognosis of Leukocytosis with Inflammation. (Bedeutung der entzündlichen Leukozytose.) Sonnenberg, E. Grawitz and K. Franz.
41 Syphilis in Rabbits After Intracardial Inoculation. (Syphilitische Allgemeinerkrankung beim Kaninchen durch intrakardiale Kulturimpfung.) H. Sowade.
42 The So-Called Paradoxic Wassermann Reaction. C. Rasp and E. Sonntag.
43 Chemical Identity of Antibody Production with Cell Degeneration. (Chemische Identität der Antikörperbildung mit der Zelldegeneration.) R. Waldvogel.
44 Preventive Antiplague Vaccination. (Ueber die Bereitung von Impfstoff der "Deutschen Pestkommission 1899" zu Massenimpfungen bei Gefahr der Annäherung einer Lungenpestepidemie im Jahre 1911.) Martini.
45 *Salvarsan in Eye Disease. (Salvarsan bei Augenhintergrundleiden.) M. Falta.
46 Tin Poisoning. (Ueber Zinnvergiftung.) T. Günther.

40. **Leukocytosis in Diagnosis and Prognosis.**—Sonnenburg declares that physicians should adopt the leukocyte count as a routine measure. He applies to it what was said forty years ago in regard to the importance of taking the tempera-

ture, insisting that it is equally indispensable "because every phenomenon taking place in the diseased body should be studied; because it can be studied with a precision obtainable with few of the other phenomena; because it can be neither simulated nor concealed; because any deviation from normal findings indicates disturbance; because it reveals the success of therapeutic measures and warns of injurious influences, and is an index of the transition from one stage of the disease into another, and, finally, because it often announces the impossibility of recovery." These statements, made originally in regard to the clinical thermometer, are equally true, he says, of the leukocyte count and the neurophil blood-picture. It is a great advantage to know the leukocyte count; how the physician interprets the blood findings for diagnosis and prognosis in the individual case is his affair, but he should not neglect this valuable aid.

To show its importance, Sonnenburg reports ten typical cases of appendicitis, as the peritoneum reacts more readily and more intensely, perhaps, to inflammation than other organs. A leukocyte count of 20,000 and "Arneth" 20 per cent. in one case paralleled the acute appendicitis with gangrene, mild infection, good resisting powers and favorable prognosis, while in another case the leukocyte count of 15,000, Arneth 47 per cent., indicated severe infection, and the child died as the Arneth rose to 66 per cent. In another case the clinical picture was mild but the leukocyte count was 30,000, Arneth 6 per cent. Operation was done in this case on the leukocyte count alone, and the findings confirmed the grave danger of delay. In another case the clinical manifestations were serious but the leukocyte count was only 9,000 and the Arneth 12 per cent. The appendix had perforated, but the pus was completely encapsulated. [The Arneth formula has been described in THE JOURNAL, Dec. 25, 1909, page 2180, and an improved technic was given Jan. 8, 1910, page 124].

Grawitz' experimental research has confirmed the fact that muscular strain will raise the leukocyte count. This explains the leukocytosis of from 20,000 to 30,000 found sometimes with normal deliveries—the result merely of the violent muscular contractions of the uterus. The muscular effort in whooping-cough may also explain the leukocytosis in this disease. The rigid contraction of the abdominal musculature also plays a part in raising the leukocyte count with incipient peritonitis. These physiologic influences on the leukocyte count from digestion and muscular effort should be duly estimated in interpreting the leukocytosis of inflammation and febrile diseases, especially in differentiating typhoid, suppuration and pneumonia. The intensity of the leukocytosis corresponds in general to the severity of the infection; the most correct index of this, however, is the hemolytic action on the red corpuscles. He insists that the leukocyte reaction cannot be accepted under all circumstances as an index of the general vital energy of the organism.

Franz discusses the leukocyte count from the standpoint of the gynecologist and obstetrician, not ascribing much importance to it.

45. **Unfavorable Experiences with Salvarsan in Syphilis of the Eye.**—Falta warns that if the optic nerve is already diseased, salvarsan is liable to do harm. With syphilitic disturbance of the retina, chorioid and vitreous body, it is much safer to apply the ordinary mercury and iodid treatment, giving salvarsan only in case this fails. In his two cases as also in one of Finger's, the aggravation of the disturbances in the depths of the eye under salvarsan did not retrogress when mercury was given; under other conditions mercury generally promptly controls disturbances of this kind. The salvarsan seemed to have rendered them refractory to the ordinary measures. He warns that salvarsan should never be given without careful examination of the eye. He conferred with Ehrlich in regard to his first case, and Ehrlich advised a cautious repetition of the salvarsan injection, but as Falta had met with his second similar and severer case in the meantime, he did not dare to risk giving the salvarsan again. In the first case bilateral neuroretinitis had existed for a time and became aggravated under salvarsan but improved somewhat under mercury. In the other case an acute neurochorioretinitis increased under salvarsan, and it shows only slight improvement under mercury for nearly a month to date.

Medizinische Klinik, Berlin

April 16, VII, No. 16, pp. 597-640 and Supplement

47 *Septic Abortion. (Prophylaxe und Behandlung des septischen Abortes.) G. Winter.
48 Disease of Lower Intestines. (Diagnose und Therapie der Erkrankungen des unteren Darmabschnittes.) G. Singer.
49 *Revulsion in Modern Therapeutics. (Ueber "ableitende" Verfahren in moderner Beleuchtung.) B. Bloch.
50 *Injury of the Kidneys from Salvarsan. (Ueber Nierenschädigungen durch Salvarsan.) R. Mohr.
51 Antiferment Method of Treatment of Suppurative Processes. H. Bolt.
52 Climate from Therapeutic Standpoint. (Grundlagen und Methoden heilklimatischer Beobachtungen.) K. Dove.
53 Efficacy of Induced Pneumothorax in Treatment of Certain Forms of Pulmonary Tuberculosis. C. Saugman.

47. **Prophylaxis and Treatment of Septic Abortion.**—Winter states that the septic cases form fully 27 per cent. of all abortion cases at his clinic (Königsberg) and he here analyzes 100 cases. The mortality was 13 per cent.; only 54 per cent. had a normal course. Study of this material teaches four lessons: 1. The first task is diagnosis. A temperature in the axilla over 38 C. (100.4 F.) is pathologic but it must not be forgotten that spontaneous abortion may occur in the course of an infectious disease, or that an infectious disease may casually occur along with an abortion. 2. The second task is to determine the extent of the infection. If the infection has passed beyond the uterus, decomposition of the uterine content is of secondary importance. Any attempt to evacuate the uterus is liable to do more harm than good; many a septic abortion has terminated fatally on account of this alone. In general practice many errors have been committed in this line, either from disregard of the extra-uterine infectious conditions or from the mistaken view that removal of the primary focus will have a favorable influence on the secondary foci. Before attempting active treatment of the abortion, the fact that the infection is limited to the uterus must be demonstrated. 3. The septic abortion diagnosed and the vicinity of the uterus still free from infection, the further conduct of the case must depend on the bacteriologic findings except when hemorrhage forces immediate intervention. Bacteriologic examination of the secretions, taken from the depths of the vagina, may show the presence of hemolytic streptococci, and it is wise to wait even twenty-four hours for the results of this examination, as hemolytic streptococci reveal that the trouble is an acute infectious endometritis in connection with an abortion. Here the danger with active treatment is very great. No local measure should be attempted, but everything done to increase the resistance; ergot is useful by limiting absorption from the contracted uterus wall and promoting expulsion of the relics of the ovum. This expectant treatment is tedious but the advantages are very great. In five such cases in his experience, the hemolytic streptococci spontaneously disappeared by the end of 4, 7, 11 or 23 days; then the uterus was safely evacuated without harm. If bacteriologic examination shows only ordinary streptococci, staphylococci, colon bacilli or saphrophytes, the uterus can be evacuated at once. Serious consequences need not be anticipated. 4. In active treatment it is important to disinfect the vagina and uterus as thoroughly as possible, rinsing out the germs thoroughly by prolonged irrigation of the uterus, carefully refraining from anything that might injure the vitality of the tissues or open fresh wounds. Injury of the decidua is less harmful than injury of the musculature, but any erosion opens the portals for invasion by the germs. The use of the curette should not be permitted with septic abortion. Among other points which Winter emphasizes is that flowing blood is much less likely to become infected than stagnating blood and secretions. This should be borne in mind when considering tamponing of the vagina.

49. **Revulsion.**—Bloch explains by the light of allergy the success obtained by physicians of the olden times with revulsion measures. Their facts were sound, like those reported seven years ago by Brocq, showing the benefit of revulsion in certain conditions of chronic intoxication. Bloch reports a case in which a scalp disease developed into a deep parasitic sycosis. After weeks of ineffectual treatment of all kinds, the patient was inoculated on both forearms with a culture of *Achorion quinckeanum*, a fungus closely allied to the trichophyton fungus in question but notable for its power to induce intense allergy. The success surpassed anticipation, the inoc-

ulation evidently transforming conditions so that all the morbid processes retrogressed. The new infection allergized the organism, and enabled it to throw off both the old and the new infection.

50. **Injury of the Kidneys from Salvarsan.**—In this communication from the medical clinic at Leipsic in charge of von Strümpell, Mohr reports three cases of serious injury of the kidneys under salvarsan. In one case severe collapse and diarrhea followed intravenous infusion of the salvarsan, with other symptoms of arsenic intoxication and acute injury of the kidney. It was evidently an acute degeneration of the parenchyma, such as is found in injury of the kidney from corrosive sublimate. The changes had nothing in common with nephritis but were probably the same as those noticed in the sections of the kidney of a young man who died two months after salvarsan treatment (No. 5 of Ehrlich's compilation). The disturbances in Mohr's case rapidly subsided, confirming the reactive nature of the disturbances and the rapid elimination of the arsenic when the salvarsan is given by intravenous injection. The disturbances in the two other cases followed intramuscular injection of the salvarsan and they were evidently a true nephritis following on the toxic degeneration of the parenchyma. In the first case the severe hemorrhagic nephritis has grown constantly worse and a fatal termination is impending. This patient is a young woman and the urine was normal and there was no history of kidney trouble, but two months after the intramuscular injection of 0.5 gm. salvarsan the severe nephritis was in full development. In the third case polyneuritis developed with symptoms of nephritis in less than three weeks after the injection of 0.7 gm. of salvarsan. These cases seem to confirm the assumption that the salvarsan undergoes toxic transformation in the muscular deposits. They teach the necessity for watching over the kidneys after salvarsan treatment as trouble may manifest itself after a long period of latency. Mohr refers also to instances of injury of the kidney under salvarsan reported by Géronne, Jadassohn, Scholz and others, besides the case mentioned by Ehrlich.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

54 *The Roentgen Rays in Gynecology. A. Döderlein.
55 Prolapse of the Placenta. (Vorfall der Nachgeburt.) E. Basset.
56 Vaccine Therapy of Gonorrhea in Women. (Versuche zur Vaccinebehandlung der weiblichen Gonorrhoe.) F. Heinsius.
57 *Massage and Gymnastic Exercises During Pregnancy and the Puerperium. (Physikalische Therapie in Schwangerschaft und Wochenbett.) F. Kirchberg.
58 Puncture of Ovarian Cysts. A. Littauer.
59 *Operative Treatment of Cystocele. M. Brenner.
60 Camphorated Oil in Treatment of Unencapsulated Suppurative Peritonitis. A. Krecke.
61 The Vaginal Method in Gynecology. D. v. Ott.

54. **Roentgen-Ray Treatment in Gynecology.**—Döderlein says that he regards the use of the Roentgen rays in therapeutics as still an experiment, but that this method of treatment is giving fine results in certain cases, especially in climacteric hemorrhage for which neither palpation nor microscopic examination can discover whether the hemorrhage is the result of degeneration of the vessels in the uterus or of disease of the ovaries, myometrium or endometrium. All other methods of treatment generally fail unless the apparently sound internal genitals are removed when the hemorrhages are weakening the patient to such an extent that it is impossible to wait for the natural retrogression of the genitals with the approaching menopause. It is in this group of cases that the Roentgen rays show themselves supreme; in the simplest and most harmless manner the internal genitals are hastened into the menopause stage by exposures of the ovaries to the rays. They act in such an elective manner that the internal secretion of the ovaries does not seem to be affected. Döderlein has thus treated twelve women with an interval since of over six months. They were women between 40 and 50 with violent hemorrhages, the hemoglobin being reduced to only 30 per cent. in some, and the red count very low. A very few exposures sufficed to put an end to the ovarian functioning at fault and the general health promptly recuperated. The closer to the natural menopause, the more rapidly effectual the Roentgen rays. Reifferscheid has also reported similar gratifying results in this class of cases. In younger women this treatment has proved effectual in curing dysmenorrhea, but there is danger in the young of malformation of the embryo in conception later. Intense vulvar pruritus, rebellious to all other measures, subsided completely in Döderlein's two cases of this kind in women 29 and 56 years old. The danger of cancerous degeneration of myomas and of exacerbation of the hemorrhages from a myoma, close the door practically to Roentgen-ray treatment of myoma. Albers-Schönberg's fatalities with it teach that at least patients with 40 per cent. hemoglobin and great losses of blood from myomas must be excluded from this treatment.

57. **Massage and Gymnastic Exercises During Pregnancy and the Puerperium.**—Kirchberg does not hesitate to state that constipation yields invariably to a correct course of massage and exercises, including constipation in pregnancy and the puerperium. He describes a number of exercises and massage manipulations, the patient aiding by deep breathing in jerks, three pauses in each inspiration and expiration, drawing in the breath rapidly, holding it and then slowly expelling it. The staccato deep breathing and pauses exercise both diaphragm and abdominal muscles and promote the circulation, thus warding off varices. Among other useful exercises for the pregnant woman is to have her lie on her back, twist, bend and lift the legs. Twisting the legs from side to side with the knees bent, exercising against resistance, acts particularly on the abdominal muscles. He ascribes the development of the breasts to the condition of the pectoralis muscles, and deep breathing and other exercises to develop these muscles, he says, aid in developing the bust, which massage of the breasts alone is unable to accomplish. Frequent reclining with the pelvis raised will aid in curing a tendency to varices and hemorrhoids. Any rise in temperature, he says, directly contra-indicates massage under any conditions. With uncontrollable vomiting, massage and exercise are indispensable adjuvants.

59. **Treatment of Recurring Cystocele.**—Brenner raises the mouths of the ureters in the bladder, detaching them from their base in the wall, and then draws a catgut suture through the tissues beneath each, tying the ends to draw the tissues up into a stout fold below each ureter mouth. The catgut takes hold at the same time of the stout connective tissue between the ureters and part of the ligament, thus obtaining a firm hold. The operation is done by a laparotomy and proved successful in the case reported of inveterate recurring cystocele of obstetric origin.

Münchener medizinische Wochenschrift

April 11, LVIII, No. 15, pp. 777-832

62 *Immobilization of Lung by Rear Resection of Ribs. (Neue Methode zur Verengerung des Thorax bei Lungentuberkulose.) M. Wilms.
63 Radium Emanations in Therapeutics. J. Strasburger.
64 Bacteriologic Research in Puerperal Fever. (Ueber bakteriologische Untersuchungen und ihre Methoden bei Febris puerperalis. II.) H. Schottmüller.
65 *Estimation of the Pulse Values. (Die neuen Methoden der dynamischen Pulsdiagnostik, ohne Mathematik dargestellt.) T. Christen.
66 *The Phonendoscope for Testing the Hearing. (Einige akustiche Untersuchungen mit Hilfe des Endophonoskops.) H. Streit.
67 Technic of the Wassermann Reaction. P. Schmidt.
68 Spastic Dislocation of Hip Joint. (Ueber die "Spastische Hüftluxation" und die Veränderungen des Hüftgelenkes bei spastischen Zuständen der unteren Extremitäten.) H. Weber.
69 *Nephritis After Salvarsan Treatment of Syphilis. (Beobachtungen über Nephritis nach Salvarsanbehandlung.) F. Weiler.
70 *Salvarsan in Pneumonic Plague. O. Schreyer.
71 General Anesthesia by Intravenous Injection of Anesthetics. (Ueber intravenöse Narkose.) L. Burkhardt.

62. **Operative Compression of the Lung.**—Wilms found that the size of the half of the chest involved was materially reduced by resecting over an inch of the ribs close to their junction with the spine. This was easily done through three transverse incisions in the musculature of the back after a single lengthwise incision through the skin. The ribs not only slid backward after they were cut, but also slid downward, thus compressing the apex of the lung in particular. He has applied this measure in one case with excellent outcome. The patient was a young woman with tuberculosis of

the left upper lobe for fifteen years, recently showing signs of aggravation, with a tormenting cough, and 10 c.c. of sputum a day. Radioscopy showed a distinct cavity in this lobe, but the general condition was good. The patient ceased to cough by the end of the third week after the operation and there was no further expectoration. It had been intended to supplement this operation by dividing the ribs in front close to the sternum, but the desired result had been attained without this, so nothing further was attempted. Wilms reenforced the compression by strips of plaster, binding down a roll of gauze along the wound. The patient also lay on the affected side to enhance the compression of the chest. A compressive bandage might also be applied. He urges others to seek out the cases of chronic isolated indurated tuberculous processes liable to be benefited by immobilization of the lung and give this method a trial.

65. **Study of the Pulse.**—Christen declares that the old-fashioned method of palpation of the pulse is more reliable than the apparently more scientific method of sphymography. He has devised a method for registration of the features of the pulse which he claims presents with mathematical precision the volume of the blood and the force it displays in the pulse. The stasis curves thus obtained (*Stauungskurven*) take the place of palpation of the pulse, substituting an exact mathematical-physical method—energometry—which throws new light, he says, on the dynamic conditions in the circulation.

66. **Phonendoscope in Testing the Hearing.**—Streit stands the tuning fork on the base of the phonendoscope and then records the second when the patient, by raising his finger denotes that he has ceased to hear the tuning fork through the tube through which he is listening while the examiner is listening through the other tube. It is also possible to convey the sound through the Eustachian tube to the ear by this means, connecting the phonendoscope tube with a catheter.

69. **Injury of Kidneys from Salvarsan.**—The first of the three cases reported by Weiler is the same case of hemorrhagic nephritis described by Mohr and summarized above in abstract 50. Weiler's communication issues from the dermatologic clinic at Leipsic, in charge of Rille. The course of the nephritis in his three cases was more severe when the salvarsan had been given by intramuscular injection. He concludes with the remark that it is possible that the three individuals in question might have been especially predisposed to kidney trouble, but it is also possible that the kidneys in other patients may have suffered to a slight extent under the salvarsan treatment. Such injury may remain latent for a time and perhaps, if the salvarsan is given again or some other source of irritation develops, may manifest itself clinically later. He quotes Bornstein's finding of 0.0031 gm. arsenic trioxid in the kidneys and over twice this amount in the liver of a man dying two weeks after an intramuscular injection of salvarsan. Rille has also reported large amounts of arsenic demonstrable in the necrotic focus in the gluteal muscles at necropsy sixty-four days after an intramuscular injection of 0.7 gm. salvarsan. It is remarkable, he adds, that a few patients who developed albuminuria under mercury showed no signs of injury of the kidneys under salvarsan. Werther has reported a case in which a girl of 17 developed transient hemorrhagic nephritis after intravenous injection of 0.25 gm. salvarsan and it has recurred later in an acute transient form without further administration of salvarsan. Martius has reported an acute morbid process in a contracted kidney, the patient, a man of 39 with old changes in the kidney and arteriosclerosis, dying five hours after intravenous injection of 0.5 gm. salvarsan in 250 c.c. of fluid. In Treupel's experience, chronic nephritis on a syphilitic basis seemed to benefit by the salvarsan treatment, the albuminuria declining. He reports two cases in which traces of albuminuria developed after intravenous injection of the salvarsan, the only ones indicating possible injury of the kidney among his 250 cases. Sellei has reported two cases of latent nephritis aggravated by the salvarsan; in one of these there was albuminuria to six per thousand and hematuria the day after the intravenous injection of salvarsan, eight weeks after a subcutaneous injection of the same. The hematuria rapidly subsided but the albumin still amounted to two per thousand a week later.

70. **Salvarsan in Pneumonic Plague.**—Both of the two patients given salvarsan died, but one showed transient benefit.

Zeitschrift für Urologie, Berlin

April, V, No. 4, pp. 241-320

72 Means to Influence Infectious Processes in Urinary Passages. (Beinflussung der infektiösen Prozesse der Harnwege.) L. Casper and A. Citron.
73 Chromocystoscopy in Determination of Kidney Sufficiency. (Die Chromouteroskopie in der funktionellen Nierendiagnostik.) B. A. Thomas (Philadelphia).
74 Gunshot Injuries of the Kidneys. (Zur Geschichte der Nierenschüsse.) E. Küster.
75 *Cerebral Neurasthenia from Automobiling and Its Depressing Influence on the Sexual Sphere. (Automobil und Sexualvermögen.) A. v. Notthafft.
76 Sound for Urethral Massage. (Eine "Rosenkranzonde" für Urethralmassage.) W. Tittinger.

75. **Automobiling Speed Mania and Impotency.**—Notthafft reports four cases of sexual impotency in wealthy married men fond of automobile speeding and one in a chauffeur. He knows of similar cases in the experience of others. The sexual depression developed in from three months to three years after special devotion to the sport. He ascribes the impotency to a cerebral neurasthenia from the nervous strain of the speeding; this assumption is sustained by recovery of normal tone when the automobilist refrains from speeding and drives his machine with ordinary prudence. Notthafft cites statistics which show that 12.1 per cent. of the 49,941 motor vehicles in the German empire were responsible for some accident serious enough to be reported to the authorities during 1909, a total of 6,063 accidents, involving 225 drivers, 487 other occupants of the car and 2,333 outsiders. He calculates that the driver of the car was to blame in 86 per cent. of all the accidents. The danger of speeding is not only for the public; the driver knows that he is taking his life in his hand and that he has one foot in the courts, for he is never certain that he may not run into some one at any moment. The intense concentration of mind required in speeding, the anxiety and the jar of the car—all tend to induce neurasthenia. The laws to regulate speeding are consequently not only in the interest of the public but of the automobilists themselves. Notthafft remarks that the attempts to limit the speed to a certain number of miles an hour does not answer the purpose. It would be better to make the general rule "No fast driving" apply to automobiles as well as to other vehicles, instead of setting a special speed limit. It is so often impossible to prove when this limit has been exceeded even when all know that the machine was being driven too fast.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 1-2, pp. 1-188. Last indexed Feb. 4, p. 389, and May 6, p. 1371

77 Sphygmobolometry: Determination of the Energy of the Pulse. (Der weitere Ausbau der Sphygmobolometrie oder energetischen Pulsdiagnostik.) H. Sahli.
78 Fourteen Cases of Chronic Lymphatic and Myeloid Leukemia with Necropsy in Three. K. Ziegler.
79 Relations Between Excessive Functioning of Glands with an Internal Secretion and Their Constitution. (Wechselwirkung der Drüsen mit innerer Sekretion. IV.) W. Falta, L. H. Newburgh and E. Nobel.
80 *The Circulation and the Diaphragm. (Kreislauf und Zwerchfell.) H. Eppinger and L. Hofbauer.
81 Reinfection with Relapsing Fever and Its Influence on the Course of the Disease. (Reinfektion beim Rückfallfieber.) S. Jarussow.
82 Action of Acetylsalicylic Acid. (Anwendung und Wirkung der Azetylsalizylsäure beim Typhus abdominalis.) S. Bondi.
83 Idem. (Experimentelle Beiträge.) S. Bondi and H. Katz.

80. **Circulation and Diaphragm.**—Study of the pulse in patients whose diaphragm was unusually high or low showed that the circulation in the legs was better when the diaphragm was high, as the quadrate foramen was thus left open. When the diaphragm was low, this foramen is more squeezed together and the flow of blood up from the lower part of the body is thus impeded. At the same time, deep breathing pushes the diaphragm low down and it thus presses on the liver and liver veins and thus promotes the circulation in the region.

Zentralblatt für Chirurgie, Leipsic

April 15, XXXVIII, No. 15, pp. 531-564

84 *Continuous Suture for Entero-Anastomosis. (Zur Technik der Darmnaht; die fortlaufende Einstülpungsnaht bei der Enteroanastomose.) V. Schmieden.
85 Operative Cure of Congenital Atresia of the Small Intestine. P. Fockens.

84. **Suture for Entero-Anastomosis.**—Schmieden avoids the inconvenience of letting the mucosa get in the way in taking the sutures through the entire wall of the intestine, by passing the needle through the wall of the intestine from within outward, in a continuous suture, while the left hand draws the thread taut. He uses silk and an ordinary tailor's needle. The edges of the wound are drawn inward smoothly by this technic, the thread forming a zigzag line.

Zentralblatt für Gynäkologie, Leipsic

April 15, XXXV, No. 15, pp. 569-608

86 *Septic Abortion. G. Winter.
87 *Treatment of Dysmenorrhea. J. Novak.
88 Allowing Patients to Get Up Early After Delivery and Operations. (Das Frühaufstehen der Wöchnerinnen und Operierten und die hierbei beobachteten Todesfälle.) A. Scherer.

86. **Septic Abortion.**—This article is practically the same as that reviewed in abstract 47 above, Winter's aim being to convince the profession of the necessity for bacteriologic examination in septic abortion, and that the trouble in its severer forms must be regarded as a virulent infection *accompanying* the abortion, *not* caused by the presence of the embryo or embryonal membranes in the uterus (*—ein Infektionszustand bei Abort nicht durch den Abort*).

87. **Dysmenorrhea Result of Spasmodic Contraction.**—Novak noticed that his patients with puerperal bradycardia were very often those who had suffered from dysmenorrhea. This fact, in connection with Drenkhahn's success in treatment of dysmenorrhea with atropin injected into the uterine cervix, confirmed Novak's view that dysmenorrhea in many cases may be the result of spasmodic contraction of the uterus from abnormal irritability of the sympathetic nerve terminals in the uterus, the result being an abnormal exaggeration of the automatic movements of the uterus. This "cramp theory" harmonizes best to date with clinical experiences, and treatment on this basis is giving surprisingly favorable results, he says. In the five cases reported he prescribed two or three 0.0005 gm. pills of atropin, commencing a few hours before the anticipated onset of the dysmenorrhea. The patients were relieved of all tendency to dysmenorrhea, and no by-effects were observed except a slight dryness of the throat.

Zentralblatt für innere Medizin, Leipsic

April 15, XXXII, No. 15, pp. 369-392

89 Kala-azar in Greece. (Das Kala-azar auf Insel Hydra.) A. Aravandinos and N. Michallidis.

Riforma Medica, Naples

April 10, XXVII, No. 15, pp. 393-420

90 *False Mitral Stenosis. (Pseudo-stenosi mitralica.) J. Teissier.
91 Importance of Dosage of Fats in Stools as Sign of Occlusion of Pancreatic Duct. P. F. Zuccola.
92 Ovary Grafts. (Innesti ovarici.) A. Libroia.

90. **False Mitral Stenosis.**—Teissier reports experimental and clinical experiences to sustain the assumption of a possible pseudomitral stenosis in the anemic from excessive functioning of the heart, the signs and symptoms therefrom simulating those of true organic mitral stenosis. It is differentiated from the organic form by the variability in the symptoms, the coexistence of nervous disturbances and signs of anemia, the duration of the systolic sound and, above all, by the absence of any delay in the radial pulse and duplication of the second sound. Radioscopy will confirm the absence of the enlargement of the left auricle of organic mitral stenosis. The prognosis in these cases of pseudostenosis is favorable unless the patient has a tuberculous taint, in which case there is possibility of its transformation into the true organic form. This pseudostenosis explains the cases which have been reported as "spasmodic mitral stenosis." Tonics and sedatives with cautious hydrotherapy and other physical measures are indicated in treatment.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Part I, The Cultivation of the Bacillus of Leprosy and the Treatment of Cases by Means of a Vaccine Prepared from the Cultivations. By Major E. R. Rost, I.M.S. Part II, The Cultivation of the Leprosy Bacillus. By Captain T. S. B. Williams, M.B., I.M.S. Scientific Memoirs, No. 42, New Series. By Officers of the Medical and Sanitary Departments of the Government of India. (Edited by the Director-General, Indian Medical Service.) Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 8 annas. Pp. 23. Calcutta: Superintendent Government Printing, India, 1911.

A Text-Book of Medicine. For Students and Practitioners. By Dr. Adolf v. Strümpell, Professor of Special Pathology and Therapeutics at the University of Leipsic. Fourth American Edition. Translated by Permission from the Seventeenth Revised German Edition with Editorial Notes, Additional Chapters, and a Section on Mental Diseases, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University, and Philip Coombs Knapp, A.M., M.D., ex-President of the American Neurological Association. Cloth. In Two Volumes. Price, $12 net. Pp. 831 and 800, with 224 illustrations. New York: D. Appleton & Co., 1911.

General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University. Volume II, Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $2. Pp. 611, with 197 illustrations. Chicago: The Year-Book Publishers.

Clinical Symptomatology. With Special Reference to Life-Threatening Symptoms and Their Treatment. By Alois Pick, Professor of Medicine, University of Vienna, and Adolph Hecht, Pediatrician, St. Anne's Hospital, Vienna. An Authorized Translation Under the Editorial Supervision of Karl Konrad Koessler, M.D. (Univ. of Vienna), Instructor of Clinical Medicine, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Price, $6 net. Pp. 833. New York: D. Appleton & Co., 1911.

Quinin and Its Salts: Their Solubility and Absorbability. By Captain A. C. MacGilchrist, M.A., M.D., M.R.C.P. Scientific Memoirs, No. 41, New Series. By Officers of the Medical and Sanitary Departments of the Government of India. (Edited by the Director General, Indian Medical Service.) Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. Paper. Price, 9 annas. Pp. 46. Calcutta; Superintendent Government Printing, India, 1911.

Report of a Special Committee Appointed by the Washington Chamber of Commerce to Investigate the Milk Situation in the District of Columbia. Prepared by J. L. Willige. Presented by Mr. Gallinger. Document 863, Sixty-First Congress, Third Session. Paper. Pp. 437. Washington: Government Printing Office, 1911.

Proceedings of the Tenth Annual Conference of Sanitary Officers of the State of New York, Held at Y. M. C. A. Auditorium, Buffalo, Nov. 16-18, 1910. New York State Department of Health. Paper. Pp. 270. Albany: New York State Department of Health, Division of Publicity and Education.

The Medical Directory, 1911. Including the London Medical Directory, The Provincial Medical Directory, the Medical Directory for Wales, Scotland, Ireland, etc. Sixty-Seventh Annual Issue. Cloth. Price, 14 shillings net. Pp. 2128. London: J. & A. Churchill, 7 Great Marlborough Street.

A Manual of the Diseases of Infants and Children. By John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third Edition. Flexible leather. Price, $2.50 net. Pp. 534, with 173 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Meningitis, Sinus Thrombosis and Abscess of the Brain. With Appendixes on Lumbar Puncture and Its Uses and Diseases of the Nasal Accessory Sinuses. By John Wyllie, M.D., Author of "Tumors of the Cerebellum." Cloth. Price, $3 net. Pp. 258. New York: Paul B. Hoeber, 1911.

Sixth Annual Report of the Trustees of the State Sanatorium, at Wallum Lake. For the Year Ending Dec. 31, 1910. State of Rhode Island and Providence Plantations. Harry Lee Barnes, M.D., Superintendent, Wallum Lake, R. I. Paper. Pp. 94.

Sixty-Second Annual Report of the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane at Indianapolis, Ind. For the Fiscal Year Ending Sept. 30, 1910. To the Governor. Paper. Pp. 70. Hugh T. Miller, Secretary.

Report of the Department of Health of the City of Chicago. For the Years 1907, 1908, 1909, 1910. W. A. Evans, M.S., M.D., LL.D., Commissioner of Health. Cloth. Pp. 446. Chicago, 1911.

Chemistry of Food and Nutrition. By Henry C. Sherman, Ph.D., Professor in Columbia University. Cloth. Price, $1.50 net. Pp. 355. New York: The Macmillan Co., 1911.

What to Eat and Why. By G. Carroll Smith, M.D., Boston, Mass. Cloth. Price, $2.50 net. Pp. 310. Philadelphia: W. B. Saunders Co., 1911.

A Complete Exposé of the Doctor-Drumming Evil at Hot Springs, Ark. By Fred W. Vaughan, Hot Springs, Ark. Paper. Pp. 48. (1911).

Annual Register of the New Mexico School of Mines, Socorro, N. M., 1910-1911. With Announcements for 1911-12. Paper. Pp. 92.

The Los Angeles Session

(Concluded from page 1481)

HOTEL RATES AT LOS ANGELES

Following is a list of hotels and the rates as reported to the Los Angeles Convention League. There are 400 family and tourist hotels and apartments available which are not included in the list. Those wishing to reserve rooms should write direct to the hotels, or to the Committee on Arrangements.

The Hotel Alexandria will be General Headquarters.

RATES AT LOS ANGELES HOTELS

NAME OF HOTEL, PLAN*, AND NO. OF ROOMS	ONE PERSON		TWO PERSONS	
	Without Bath	With Bath	Without Bath	With Bath
Alvarado, A., 100.....	$2.50 up	$4.50 up	$4.50 up	$5.00 to $7.00
Alexandria, E., 700...	2.00 to 3.00	3.00 to 5.00	3.00 to $4.00	4.00 to 10.00
Angelus, E., 300.....	1.50 to 3.00	2.50 to 5.00	2.50 to 4.00	4.00 to 10.00
Astoria, E., 200.....	1.00	1.50	2.00	2.50
Auditorium, E., 150....	1.00 up	2.00 up	2.00 up	3.00 up
Broadway, E., 200.....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Fremont, A., 100.....	2.50 up	5.00 up	3.50 up	6.00 up
Hampden Arms, E., 60	1.00	1.50 to 2.00	1.50	2.00 to 2.50
Hayward, E., 300.....	1.50 up	2.00 up	2.00 up	3.00 up
Hollenbeck, E., 500...	1.00 up	1.50 up	2.00 up	3.00 up
Hollywood, A., 200....	2.00 up	4.00 up	2.50 up	6.00 up
Ingraham, A., 100.....	2.50 up	4.00 up	3.50 up	5.00 up
King Edward, E., 150.	1.00 up	1.50 up	1.50 to 3.00	2.00 to 3.00
Lankershim, E., 300..	1.50 up	2.00 up	2.50 up	3.00 up
Leighton, A., 125.....	3.00 up	3.50 up	5.00 up	6.00 to 10.00
Melrose, A., 200.....	2.50	4.00	3.50	5.00
Munn, E., 100.....	.75 to 1.00	1.00 to 1.50	1.25	1.50 to 2.00
Nadeau, E., 150.....	1.00 up	1.50 up	1.50 up	2.50 up
Natick, E., 160.....	.75 up	1.00 up	2.00 up	3.00 up
Occidental, E.. 200....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Percival, E., 250.....	.75 to 2.00	1.50 to 3.00	1.00 to 2.00	2.00 to 4.00
Rosslyn, E., 285.....	.75 up	1.00 up	1.50 up	2.50 to 4.00
Snow, E., 100.....	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 3.50
Trenton, E., 165.....	1.50 up	2.00 up	2.00 up	2.50 up
Van Nuys, E., 160.....	1.50 up	2.50 up	2.50 up	4.00 up
Victoria, E., 100.....	1.00 up	1.50 up	2.00 up	2.50 up
Watson, E., 100.....	1.00 up	1.50 up	1.50 up	2.00 up
Westminster, E., 250..	1.00 up	2.00 up	1.50 up	3.00 up
Woodward, A., 125....	2.00 up	3.50 up	2.50 up	4.00 up
Westmore, A., 100.....	2.00 up	2.50 up	4.00 up	5.00 up
Yorkshire, E., 100.....	1.00	1.50 up	1.50 up	2.00 up

* A, American plan; E, European plan.

Any who desire to stay either at the seashore or near the mountains will be given special rates at the Hotel Maryland at Pasadena, and the Hotel Virginia at Long Beach. (See the map on page 1481.)

The Maryland, at Pasadena, 9 miles from Los Angeles, is a first-class homelike place. Special rates include transportation both ways, via the electric lines. Trains run every ten minutes.

The Hotel Virginia is a fire-proof, first-class modern hotel, directly on the beach, and is reached by trains every twenty minutes. The run takes forty minutes.

Either of these cities will be found delightful places to stay, and with the excellent train service little inconvenience will be experienced in reaching the meetings. Accommodations should be arranged for in advance.

There are other first-class hotels at both of these places, and accommodations may be had at other seaside resorts also.

SECTION MEETING PLACES AND HOTEL HEADQUARTERS

The Committee on Arrangements has fixed the meeting places for each of the sections and designated hotels as headquarters, as given under the map on the next page.

It will be noted from the accompanying map that the arrangement of the halls is a very compact one, and that the hotels are very conveniently near. They are practically all included in an area bounded by First Street on the north, Ninth Street on the south, Main Street on the east, and Grand Avenue on the west, the Section on Stomatology being furthest away from the center, at the corner of East Fifth and Wall Streets, but not farther from the principal hotels than the others. The Committee on Halls has arranged to have every needed convenience to facilitate the work of the sections. Communications on this subject should be addressed to Dr. Albert Soiland, 916 Wright and Calender Building, Los Angeles.

RAILROAD RATES

Final Announcement of Rates by the Railroads

The rates to the Los Angeles meeting given by the railroads have been announced from time to time in previous issues and perhaps most members who will make the trip to the meeting have arranged for their transportation and the trains by which they will go, before this time; but, for the benefit of those who have not done so, a restatement of the rates may be made. All the roads in the Central, Eastern and New England Passenger Association territories have made a rate of one fare and a half for the round trip to Chicago, Pullman fares of course being extra.

The fare from Chicago to Los Angeles, going and returning by the same route or going one way and coming back another by any route as far north as San Francisco, is $62.50. From St. Louis, Memphis and New Orleans the rate is $57.50. Missouri River Gateways (Omaha to Kansas City inclusive), $50.00; St. Paul and Minneapolis, $63.50. Dates of sale are June 5 and 6 and June 10 to 22, both inclusive. The final return limit is September 15.

The fare either going or returning via one of the northern routes, that is, by the way of Portland, Tacoma, Seattle or Vancouver, will be $15.00 additional. But it should be noted that this rate is not available both going and returning by the northern route.

The Pullman rates from Chicago on the American Medical Special which runs by way of the Santa Fe road are: Upper berth, $12.80; lower berth, $16.00; compartment, $45.00; drawing-room, $56.00. These rates include the side trip to the Grand Canyon and also provide for the occupancy of the cars at the Grand Canyon, if so desired. The railroad fare for the Grand Canyon trip will be $6.50 additional.

Pullman rates from Chicago on the Burlington-Colorado Scenic Special described below are as follows: Lower berth, $15; upper, $12; section, $27; compartment, $42; drawing-room, $53. This allows for the occupancy of the car all night on the stopover at Colorado Springs.

The Pullman rates by the Chicago Medical Society Special which runs via the Chicago and Northwestern and the Salt Lake routes through Omaha and Salt Lake are: Lower berth, $13.00; upper berth, $10.40; compartment, $36.50; drawing-room, $46.00. Pullman rates from the east can be had on application from the railroads.

The attention of physicians in the central west, who expect to go via Missouri Valley Special from Kansas City, is called to the fact that there will be special Pullman cars from Omaha, St. Louis, Des Moines and St. Joseph, joining the Special at Kansas City. Pullman rates are: Lower berth, $14.00; upper berth, $11.20. This includes Omaha and all Missouri River points and includes also stop-over privileges at the Grand Canyon, where the cars may be occupied. Arrangements have been made for the party going via Missouri Valley Special to return by way of Vancouver and the Canadian Pacific, St. Paul and Minneapolis, and a rate of $71.75 from Missouri River points has been made for the round trip.

Attention is also called to the fact that round trip tickets must be purchased before starting and the route of return must be selected then, as no change can be made later without entailing extra expense.

For the convenience of members, we again publish a description of the various special trains and tours, together with information concerning return trips, previously published in the issue of March 25.

TRAINS TO LOS ANGELES

Details of Special Trains and Special Parties Arranged for the Trip to the Next Annual Session

Below are given in brief accounts of some of the special parties that are being arranged. But no one will depend alone on this description. Everyone who is thinking of going to Los Angeles should write for booklets and information to all whose addresses are given in the following itineraries. If these books are studied, one can obtain a general knowledge of the various attractions and then can decide which route is

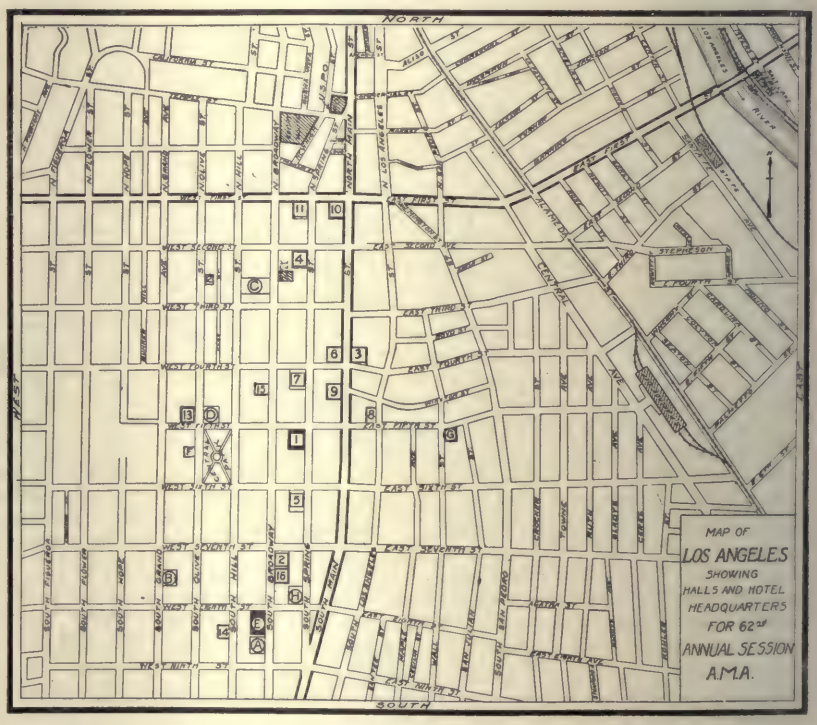
the most attractive. Some will want to see the Grand Canyon of the Arizona, a sight worth a trip across the country. Others will feel more favorable to the Pike's Peak country, Manitou, the Garden of the Gods and the various attractions of that part of the Rocky Mountains. Others will have a great desire to see the Yellowstone Park and its wonders. Still others will seek the northwestern part of the country—Oregon, Washington, etc., and the attractions of the Canadian Rockies on the Canadian Pacific. Not all of these can be seen on one trip, even on the round trip. Each individual should make up his mind what he is most anxious to see and then study the various itineraries and learn which one will best suit him.

The advantages of selecting one of the special trains, rather than to go by the regular trains, are the additional conveniences provided, the pleasure of traveling with friends and acquaintances, and the relief from the cares of looking after change of trains, hunting up conveyances for side trips, guides, etc., and the satisfaction of having everything provided in advance for comfort and for entertainment during the trip.

We mention below the special trains concerning which we have received information:

AMERICAN MEDICAL SPECIAL.—This luxurious Pullman train with full equipment will run from Chicago to Los Angeles via the Santa Fe and will leave Chicago at 8:00 p. m., Wednesday, June 21, reaching Kansas City at 9:00 a. m., Thursday, June 22, and running thence through New Mexico and Arizona to Los Angeles, which will be reached Monday, June 26, at 7:00 a. m. At Albuquerque the train will make a stop of an hour and a half to allow an inspection of the Fred Harvey collection of Indian handwork. Another stop will be made at Laguna, where an hour will be allowed to inspect the village of the Laguna Indians. The train will stop at the Grand Canyon for twenty-eight hours, giving opportunity to see the Grand Canyon of the Arizona. The desert of lower California will be crossed in the night. At San Bernardino the train will be divided—one section running through directly to Los Angeles, arriving at 7:00 a. m.—and the other going via Redlands and Riverside, stopping at each of these places to allow visits to points of interest. This section arrives at Los Angeles at 4:30 p. m., Monday. Special illustrated folders, reservations and full information may be obtained from G. T. Gunnip, General Agent, A. T. & S. F. Ry., 105 Adams Street, Chicago.

AMERICAN ACADEMY OF MEDICINE TOUR.—Another trip arranged from the east is that of the American Academy of Medicine, whose itineraries have been selected and arranged under the guidance of the passenger departments of the railroads to secure the most desirable trains and the best disposition of daylight sight seeing. Regular trains will be used. This party will leave New York over the Lehigh Valley railroad at 11:55 a. m., Monday, June 12, Philadelphia, at 12:30 p. m., and join the New York train at South Bethlehem at 2:12 p. m. and arrive at Buffalo over the Lehigh Valley at 10:27 p. m. The route will be thence over the Grand Trunk to Chicago, the Burlington to Denver and to Los Angeles over the Santa Fe. Interesting side trips and visits to the points of interest in Colorado and to the Grand Canyon will be provided for and Los Angeles will be reached Friday, June 23, in time for the sessions of the academy, which meets in advance of the American Medical Association. This party may be joined at various points along the route at a much later date, in case it is not desired to spend so much time on the going trip. Reservations for this party are to be made through the secretary, Dr. Charles McIntire, 52 North Fourth Street, Easton, Pa., from whom may be obtained the folder containing all details, both of the outgoing and of the return trip.



LIST OF SECTION MEETING PLACES AND HOTELS

Section, etc.		Name of Hall	Location of Hall		Hotel Headq'ters	Location of Hotel
General Hotel Headquarters		.....	.....		Alexandria	5th and Spring
Registration	E	Hamburger (4th floor)..	8th and Broadway...		.....	.....
House of Delegates	H	Armory.....	8th and Spring.....		.....	.....
Commercial Exhibit	E	Hamburger (4th floor)..	8th and Broadway...		.....	.....
President's Reception	I	Shrine Auditorium	655 W. Jefferson....		.....	.....
Smoker	E	Hamburger (roof garden)	8th and Broadway...		.....	.....
Scientific Exhibit	E	Hamburger (4th floor)..	8th and Broadway...		.....	.....
Information, P. O., etc.	E	Hamburger (4th floor)..	8th and Broadway...		.....	.....
Practice of Medicine	A	Majestic Theater	8th and Broadway.	2	Lankershim	7th and Broadway
Nervous and Mental Diseases	B	Walker (McKinley)	7th and Grand....	3	Westminster	4th and Main
Diseases of Children	B	Walker (Lincoln)	7th and Grand....	3	Westminster	4th and Main
Pathology and Physiology	C	Blanchard (Symphony)..	3d and Hill.....	4	Hollenbeck	2d and Spring
Surgery	D	Baptist Auditorium	5th and Olive.....	1	Alexandria	5th and Spring
Obstetrics	D	Baptist Aud. (Berean)..	5th and Olive.....	5	Hayward	6th and Spring
Preventive Med. and Pub. Health	E	Hamburger's	8th and Broadway.	1	Alexandria	5th and Spring
Pharmacology	B	Walker (Garfield)	7th and Grand....	2	Lankershim	7th and Broadway
Ophthalmology	F	Parish (2d floor).....	6th and Olive.....	6	Van Nuys	4th and Main
Laryngology and Otology	F	Parish (1st floor).....	6th and Olive.....	7	Angelus	4th and Spring
Stomatology	G	Dental College	5th and Wall.....	8	King Edward....	5th and Los. A.
General Session	D	Baptist Auditorium.....	5th and Olive.....		.....	.....

OTHER HOTELS ON THE MAP

9. Rosslyn. 10. Natick. 11. Nadeau. 12. Astoria. 13. Auditorium. 14. Percival Apts. 15. Broadway. 16. Yorkshire.

BURLINGTON-COLORADO SCENIC SPECIAL.—This special train from Chicago to Los Angeles, via the Burlington, Denver & Rio Grande and the Salt Lake Route, will have the finest equipment of the Burlington road. It leaves Chicago at 11:00 p. m., June 21, and reaches Denver at 7:00 a. m., June 23. The party will spend four hours in Denver and vicinity, leaving at 11:00 a. m., June 23, reaching Colorado Springs (Manitou) at 1:30 p. m. The train will be parked and will remain there all night. This will give an opportunity for the party to go up Pike's Peak, visit the Garden of the Gods, Cheyenne Canyon, the celebrated "High Drive," the famous Iron and Soda Springs, and other points. The train leaves Manitou at 4:30 a. m., June 24, and reaches the Royal Gorge at 7:30 a. m., giving a splendid opportunity to see this wonderful gorge. At Glenwood Springs, an hour and a half will be spent, and Salt Lake City will be reached at 8:30 a. m., June 25. Four hours will be spent in Salt Lake, leaving at 1:00 p. m., and Los Angeles will be reached at 12:00 o'clock noon on June 26. This train traverses the mining regions of Utah and Nevada, and Rainbow Canyon and the Canyon of the Mojave River before reaching the orange country of southern California. This train has been arranged at the request of many physicians (represented by Drs. Robert T. Gillmore, Sidney Kuh and Charles B. Reed), who want to go by the Manitou and Royal Gorge route. Full details and illustrated booklets may be obtained from A. J. Puhl, General Agent, C. B. & Q. Ry., Chicago.

CHICAGO MEDICAL SOCIETY SPECIAL.—The special train of the Chicago Medical Society will leave Chicago at 9:15 p. m., June 22, via the C. & N. W. Ry.; arrive in Omaha 9:15 a. m., June 23, leave Omaha 9:30 a. m., arrive in Salt Lake 1:30 p. m., June 24, spending the afternoon at Salt Lake, leaving at 5:30 p. m., June 24, via Salt Lake Route, arriving at Los Angeles at 4:30 p. m., June 25. This train will be provided with full Pullman equipment of the most complete and modern character. Meals in dining car will be served à la carte. At Salt Lake arrangements will be made for a special organ recital at the Mormon tabernacle, balance of the afternoon to be spent in sight-seeing. Leaving Salt Lake, the journey lies over the Salt Lake Route through Utah and Nevada, reaching the rich mining districts, passing through Caliente, where Rainbow Canyon is entered, with its great walls of rock of every shade; and Las Vegas. Entering California, the line traverses the canyon of the Mojave river and at San Bernardino reaches the famous Orange Belt of California. The train then runs through Riverside, Ontario and Pomona, cities situated in the fruit-growing section adjacent to Los Angeles. Arrangements have been made so that any physician anticipating telegrams en route will have same sent in care of this special train and be received promptly. Elaborate itinerary will be furnished on application to Dr. George F. Suker, Secretary, 103 State Street, Chicago.

GATES SPECIAL TRAIN.—A special itinerary is being arranged by the Gates Tours of Toledo, O., with several optional return schedules. A special train will leave Chicago, June 20, stopping enroute at the Grand Canyon, and returning, trains will leave Los Angeles July 1. Full details of the trips, including the return schedules which include Alaska, may be obtained of the Gates Tours, Toledo, O.

MISSOURI VALLEY SPECIAL.—This special train, under the auspices of the Medical Society of the Missouri Valley and the Medical Association of the Southwest, will accommodate members from the central west and southwest. It will leave Kansas City Thursday, June 22, via the Santa Fe, and will also stop over one day for the trip to the beautiful Grand Canyon. It will arrive at Los Angeles on Sunday, after the trip through the orange country. The tour will be personally conducted and a special interesting itinerary is planned for the return trip. Full particulars may be obtained, and hotel and Pullman accommodations arranged for, through Dr. Charles Wood Fassett, St. Joseph, Mo.

NEW YORK AND NEW ENGLAND SPECIAL.—This is another train which has been planned in care of McCann's Tours by Dr. Wisner R. Townsend, Secretary of the New York State Medical Society. This train, fully equipped with modern conveniences and comforts, will leave New York, via the New York Central Lines, at 6:30 p. m., Monday, June 19, connecting with trains leaving Boston at 2:00 p. m., Worcester at 3:11 p. m., Springfield 4:40 p. m., and Pittsfield 6:30 p. m. It leaves Albany at 9:55 p. m., Utica 11:55 p. m., Syracuse 1:08 a. m., June 20, Rochester 2:45 a. m., Buffalo 4:30 a. m. The train will run thence via Cleveland, Indianapolis and St. Louis, and from Kansas City via the Santa Fe through New Mexico and Arizona, reaching the Grand Canyon, Friday, June 23, where twenty-eight hours will be devoted to sight seeing in this marvelous natural chasm, one of the wonders of the world. Los Angeles will be reached at 9:00 p. m., June 25. Time will be allowed to visit the famous orange groves and to view the other points of interest at Riverside and Redlands, as has been described above concerning the other trains. The return trip is one of some length and will include many other parts of the beautiful west which are to be enjoyed at leisure. Information concerning this tour and the daily schedule of the train, including the various possibilities on the return trip, may be obtained through Dr. Wisner R. Townsend, 125 W. 58th Street, New York City.

PENNSYLVANIA SPECIAL.—From the east a personally conducted tour has been arranged under the direction of Dr. C. L. Stevens, Secretary of the Pennsylvania State Medical Society, Athens, Pa., in conjunction with McCann's Tours. The train will be of the highest grade Pullman equipment, including a gentlemen's club car and a ladies' club and observation car, with all the accessories and accommodations of the modern train *de luxe*. The special train will leave Jersey City Saturday, June 17, at 4:14 p. m., via the Lehigh Valley railroad, and may be joined at various points between there and Buffalo by passengers from New Jersey, eastern Pennsylvania and Maryland. The train will leave Buffalo via the Lake Shore at 4:30 a. m., June 18, running thence through Cleveland, Indianapolis, St. Louis, Kansas City, Santa Fe, and Albuquerque to the Grand Canyon, where a side trip of twenty-eight hours will be made. Thence the route will include the heart of the orange country in California, Riverside and Redlands, at both of which places time stops will be made. Los Angeles will be reached Friday, June 23, at 9:00 p. m. Full information concerning this tour is contained in a little booklet, which may be obtained from Secretary Stevens.

EASTERN STATES SPECIAL.—Pullman cars to be attached to American Medical Special at Chicago over Santa Fe in care of Beekman Tourist Company, arranged by Dr. E. R. Campbell, manager of A. M. A. Outing Club, will leave Boston via Boston & Maine and New York Central Lines Tuesday, June 20, at 12:30 p. m., arriving at Chicago at 5 p. m. Wednesday, leaving Chicago at 8 p. m., joining American Medical Special. Members and friends may join anywhere en route. Special circulars, reservations, etc., may be obtained from Dr. E. R. Campbell, Bellows Falls, Vt.

RETURN TRIPS

As will be noted, several of these tours provide for the return trip by different routes, with interesting side trips. Full information about them can be obtained from the railroads or from the parties named above. In the advertising pages of THE JOURNAL, now and in later issues, will be found announcements of many of these railroads and trips. Members are urged to secure the booklets and folders issued by the railroads concerning these trips and post themselves in order to secure the greatest advantages from the visit to the west.

There are numerous ways of returning from the meeting, all of which offer advantages that will appeal to the members and their friends. The return trip from Los Angeles may be made by boat to San Francisco, Portland and Seattle, or by the southern routes over the Southern Pacific, the Rock Island, the Santa Fe, the Salt Lake route or through San Francisco by way of the Southern Pacific and Union Pacific, which offers opportunity for a side trip to the Yellowstone Park and a visit to Salt Lake and all the points of interest in Colorado. Or the return trip may be made by the northern routes—the Northern Pacific, the Chicago, Milwaukee and St. Paul, the Great Northern or the Canadian Pacific—visiting the cities of the northwest and Yellowstone Park.

PERSONNEL OF HOUSE OF DELEGATES

Membership of the Legislative Body of the Association

Below is a list of the holdover delegates and of the newly elected members of the House of Delegates, who have been reported to THE JOURNAL up to the time of going to press. A complete list is impossible in this issue as a number of state societies have yet to hold their meetings at which delegates will be elected.

STATE DELEGATES

ALABAMA
Mack Rogers, Birmingham.
W. H. Sanders, Montgomery.

ARIZONA
Ancil Martin, Phoenix.

ARKANSAS
Joseph T. Clegg, Siloam Springs.

CALIFORNIA
Joseph L. Milton, Oakland.
O. D. Hamlin, Oakland.
Granville MacGowan, Los Angeles.

COLORADO
Hubert Work, Pueblo.
Edward Jackson, Denver.

CONNECTICUT
E. J. McKnight, Hartford.
D. Chester Brown, Danbury.

DELAWARE
James H. Wilson, Dover.

DIST. OF COLUMBIA.
Wm. C. Woodward, Washington.

FLORIDA
J. Harris Pierpont, Pensacola.

GEORGIA
W. H. Daughty, Jr., Augusta.
H. F. Harris, Atlanta.

ILLINOIS
W. F. Grinstead, Cairo.
E. W. Weis, Ottawa.
S. C. Glidden, Danville.
J. E. Allaben, Rockford.
A. L. Brittin, Athens.
J. L. Wiggins, E. St. Louis.

INDIANA
A. C. Kimberlin, Indianapolis.
C. H. McCully, Logansport.
Miles F. Porter, Ft. Wayne.
F. A. Tucker, Noblesville.

IOWA
D. S. Fairchild, Clinton.
D. C. Brockman, Ottumwa.

CANAL ZONE
W. C. Gorgas, Ancon.

KANSAS
O. P. Davis, Topeka.
M. Trueheart, Sterling.

KENTUCKY
B. F. Van Meter, Lexington.
W. W. Richmond, Clinton.
Curran Pope, Louisville.
A. T. McCormack, Bowling Green.

LOUISIANA
Chas. Chassaignac, New Orleans.

MAINE
Alfred D. Sawyer, Ft. Fairfield.

MARYLAND
Ridgely B. Warfield, Baltimore

MASSACHUSETTS
Horace D. Arnold, Boston.
Homer Gage, Worcester.
O. J. Brown, North Adams.
F. H. Thompson, Fitchburg.
F. G. Wheatley, N. Abington.
Hugh Cabot, Boston.

MICHIGAN
E. T. Abrams, Dollar Bay.
F. W. Robbins, Detroit.
R. R. Smith, Grand Rapids.

MINNESOTA
C. F. McComb, Duluth.
George D. Head, Minneapolis.

MISSISSIPPI
J. W. Young, Grenada.

MISSOURI
A. W. McAlester, Kansas City.
J. D. Brummall, Salisbury.
C. R. Woodson, St. Joseph.

MONTANA
T. D. Tuttle, Helena.

NEBRASKA
P. H. Salter, Norfolk.

NEVADA
J. E. Pickard, Reno.

NEW HAMPSHIRE
Ferdinand A. Stillings, Concord.

NEW JERSEY
C. R. P. Fisher, Bound Brook.
Alexander Marcy, Riverton.
E. L. B. Godfrey, Camden.

NEW MEXICO
L. L. Cahill, Springer.

NEW YORK
J. Riddle Goffe, New York City.
W. H. Thornton, Buffalo.
H. S. Houghton, New York City.
J. E. Weeks, New York City.
D. H. Murray, Syracuse.
A. T. Bristow, Brooklyn.
Edward E. Cornwall, Brooklyn.
Henry L. Elsner, Syracuse.
James W. Fleming, Brooklyn.
Wesley T. Mulligan, Rochester.
Edgar A. VanderVeer, Albany.

NORTH CAROLINA
J. Howell Way, Waynesville.
J. F. Highsmith, Fayetteville.

OHIO
B. R. McClellan, Xenia.
George M. Todd, Toledo.
B. H. Blair, Lebanon.
D. O. Weeks, Marion.

OREGON
C. J. Smith, Pendleton.

PENNSYLVANIA
Americus R. Allen, Carlisle.
Alex. R. Craig, Philadelphia.
Geo. W. Guthrie, Wilkes-Barre.
John B. Lowman, Johnstown.
H. G. McCormick, Williamsport.
Thomas D. Davis, Pittsburg.
Thos. S. Arbuthnot, Pittsburg.
Fremont W. Frankhauser, Reading.
Wm. T. Hamilton, Philadelphia.

PHILIPPINE ISLANDS
W. E. Musgrave, Manila.

RHODE ISLAND
John Champlin, Westerly.

SOUTH CAROLINA
John L. Dawson, Charleston.
E. A. Hines, Seneca.

SOUTH DAKOTA
T. B. Smiley, Mt. Vernon.

TENNESSEE
Jere L. Crook, Jackson.

TEXAS
W. B. Russ, San Antonio.

UTAH
Aug. C. Behle, Salt Lake City.

VERMONT
J. N. Jenne, Burlington.

VIRGINIA
W. E. Anderson, Farmville.

WASHINGTON
J. R. Yocum, Tacoma.
Wilson Johnston, Spokane.

WISCONSIN
L. F. Bennett, Beloit.
C. S. Sheldon, Madison.
A. H. Levings, Milwaukee.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE
J. A. Capps.....Chicago

SURGERY
A. F. Jonas.....Omaha

OBSTETRICS AND GYNECOLOGY
A. E. Benjamin.....Minneapolis

OPHTHALMOLOGY
John C. Bossidy.....Boston

LARYNGOLOGY AND OTOLOGY
H. W. Loeb.....St. Louis

DISEASES OF CHILDREN
A. C. Cotton.....Chicago

PHARMACOLOGY AND THERAPEUTICS
Reid Hunt.....Washington, D. C.

PATHOLOGY AND PHYSIOLOGY
Walter L. Bierring Iowa City, Ia.

STOMATOLOGY
G. V. I. Brown.....Milwaukee

NERVOUS AND MENTAL DISEASES
Theodore Diller.....Pittsburg, Pa.

DERMATOLOGY
J. A. Fordyce.....New York

PREVENTIVE MEDICINE AND PUBLIC HEALTH
J. N. Hurty.....Indianapolis

DELEGATES FROM GOVERNMENT SERVICES

Jefferson R. Kean.....United States Army
C. P. Bagg.....United States Navy
G. B. Young.....U. S. P. H. and M.-H. Service

THE GENERAL MEETING

Program of the Opeing Meeting on Tuesday Morning

The General Meeting will be held in the Baptist Auditorium, Fifth and Olive Streets, Tuesday, June 27, at 10:30 a. m. This is the formal opening of the scientific functions of the Association and the only time the whole convention will be assembled in one place. The program is as follows:

Music.
Call to order by PRESIDENT WILLIAM H. WELCH, Baltimore
Invocation by the RT. REV. JOSEPH H. JOHNSON, Los Angeles.
Addresses of Welcome.
DR. W. JARVIS BARLOW, President of the Los Angeles County Medical Association.
DR. THOMAS W. HUNTINGTON, San Francisco, President of the Medical Society of the State of California.
HON. H. W. JOHNSON, Governor of California.
HON. GEORGE ALEXANDER, Mayor of Los Angeles.
Introduction of foreign guests.
Report of Local Committee on Arrangements—Chairman, DR. H. BERT ELLIS, Los Angeles.
Introduction and Installation of the President-Elect—DR. JOHN B. MURPHY, Chicago.
Address by the President—DR. JOHN B. MURPHY.
Music.
Adjournment.

CLASS AND COLLEGE REUNIONS

Miscellaneous Information Concerning the Western Country and the Trip to Los Angeles. Entertainment En Route

As is usual at the annual meeting of the Association, there will be a number of class and college reunions. The times and places of holding these will be announced at Los Angeles.

The reunion of the alumni of Cook County Hospital will be held on the evening of Friday, June 30, at the Casa Verdugo, a resort in the foothills a short distance from Los Angeles, reached by a trolley line. An old-style Spanish dinner will be served under the pepper trees. The reunion is in charge of Dr. W. W. Richardson and Dr. Harvey L. Thorpe, Los

Angeles. Information concerning this dinner may also be had from Dr. William R. Cubbins, 29 West Madison Street, Chicago.

The annual woman's banquet will be given at the Hotel Westminster, Tuesday evening, June 27.

The local chapter of Alpha Epsilon Iota fraternity will give a dinner to visiting members at the Union League Club, Thursday evening, June 29.

Arrangements have been made by the King County Medical Society at Seattle, Wash., in connection with the Seattle Commercial Club, for a committee to entertain the members of the American Medical Association who may pass through Seattle on their way to attend the meeting or on their return.

The Riverside County Medical Society also invites all physicians to visit Riverside, take the 16-mile auto ride through the orange groves and enjoy the courtesies provided.

At Los Angeles the Chamber of Commerce maintains an interesting museum of the products of California and the West, both mineral and agricultural. Practically the whole state may be seen in picture form at these lectures.

OTHER MEETINGS

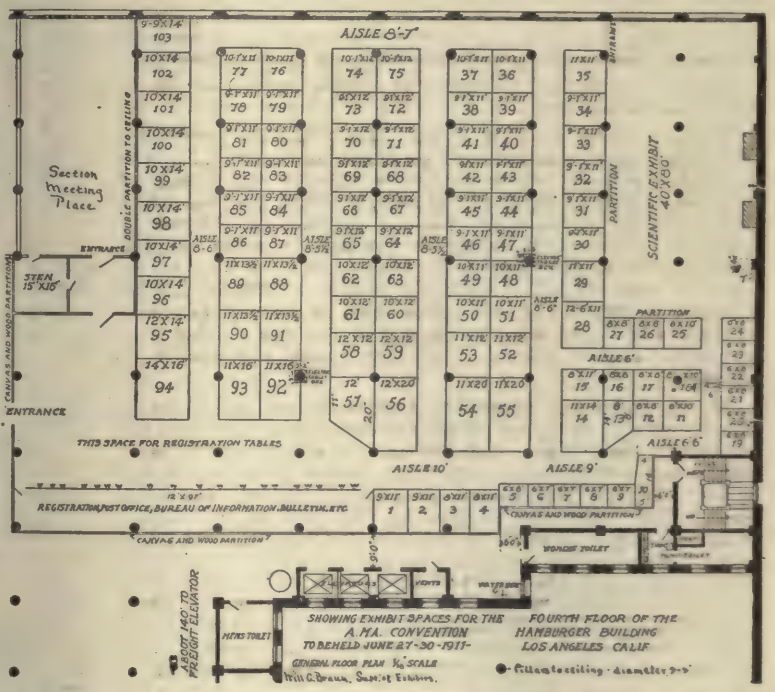
Among the other scientific meetings which may be attended by members and vistors to the Los Angeles meeting of the A. M. A. are the following:

The convention of the National Association for the Study and Prevention of Tuberculosis, which meets at Denver, June 20 and 21. Stopovers will be allowed at Denver, as well as at other points, on the going trip to Los Angeles, and the meeting of the Tuberculosis Congress may be attended, and then the special trains running through Denver may be joined for the remainder of the trip. Information may be had from Dr. Livingston Farrand, 105 East Twenty-Second Street, New York.

The American Academy of Medicine will hold its sessions in Los Angeles on Saturday and Monday preceding the meeting of the A. M. A. For full information address Dr. Charles McIntire, 52 N. Fourth Street, Easton, Pa.

The annual meeting of the American Medical Association Public Health Education Committee will be held in the Y. W. C. A. Building, 251 S. Hill Street, Los Angeles, Monday, June 26, at 5 p. m. Particulars and program may be obtained from Rosalie Slaughter Morton, M.D., Chairman, 701 Madison Avenue, New York.

The twelfth annual session of the American Association of Medical Examiners will be held at Los Angeles, June 26 and 27, 1911. Information may be obtained from Dr. Liston H. Montgomery, president, 108 North State Street, Chicago.



Floor plan of the Hamburger building, fourth floor, showing the location of the Registration Bureau, where each member should register as soon as he can name his hotel; also the Postoffice, Scientific Exhibit, Daily Bulletin office and the Commercial Exhibit. The accompanying list shows what firms will occupy the various numbered spaces.

THE COMMERCIAL EXHIBIT

Outlook for an Interesting Exhibit of Distinct Quality

The commercial exhibit at the Los Angeles meeting will be found in Hamburger's hall on the fourth floor of the Hamburger Building at Eighth Street and Broadway. In this commodious and well-lighted room will be found an exhibition of books, surgical instruments and appliances, *x*-ray and other electric apparatus, and of pharmaceutical preparations and foods, which, while it may not be as large as the exhibits at some of the eastern meetings of the Association, will be of high quality.

Efforts will be made by all of the exhibitors at this meeting to demonstrate their various exhibits rather from the scientific side than from the purely commercial aspect, and the demonstrators of the scientific apparatus, drugs, etc., will be men who are experts in their respective lines. The exhibit will, therefore, have a distinct educational value to physicians who will devote some time to it.

All correspondence with reference to reservations should be sent to Mr. Will C. Braun, superintendent of exhibits, 535 Dearborn Avenue, Chicago. Dr. W. H. Kiger, Consolidated Building, Los Angeles, is the chairman of the Los Angeles committee on commercial exhibits.

The accompanying diagram of the exhibit hall shows the locations of the booths. The following firms will be represented at this exposition. Other reservations have also been made by firms who have not submitted descriptions of their exhibits.

Publishers and Books

D. APPLETON & CO., NEW YORK, SPACE 2.—This exhibit will be under the direction of the manager of the San Francisco office and a competent corps of salesmen who will show the new editions. A work which will excite interest is their "Cross Section Anatomy," by Dr. Albert C. Eycleshymer of St. Louis. Other publications are Dieulafoy's "Practice of Medicine;" Pick and Hecht's "Clinical Symptomatology;" Kolle's "Plastic and Cosmetic Surgery;" Reik's "Diseases of the Ear, Nose and Throat," and a new edition of Pusey's "Dermatology." The above mentioned books have all been published since January 1, 1911. They will also show advance sheets of Guiteras' "Urology," and Kelly's "Diseases of the Kidneys."

AUSTIN'S STEREOSCOPIC *X*-RAY ANATOMY, SAN DIEGO. SPACE 11.—A collection of carefully selected life-size stereoscopic *x*-ray pictures, mounted on cards 12 by 17 inches, each of the pair being 8 by 10 inches, taken with the most modern of interrupterless machines, of all the normal joints, of the joints during development, of all the arteries injected, of the cavities, and parts of the intestines, being an anatomy at a glance for student and practitioner. Pictures are viewed through a prism stereoscope (making pictures of this size possible), mounted, so as to change without changing the focus.

P. BLAKISTON'S SON AND CO., PHILADELPHIA. SPACE 58.—Among the books of great interest and sound service at Blakiston's exhibit are: Hurry's "Vicious Circles," Collins and Mayou's "Pathology of the Eye," Eden's "Gynecology," the recent editions of Tyson's "Practice." Wilcox's "Treatment," "Practitioners' Medical Dictionary," J. J. Kyle's "Ear, Nose and Throat," Wiley's "Foods and Their Adulteration," Brophy's "Oral Surgery," Bransford Lewis and E. G. Marks' "Cystoscopy," and a translation of Curschmann's "Nervous Diseases," edited by Charles W. Burr. The splendid works by John B. Deaver should attract attention because of his recent recall to the professorship in the University of Pennsylvania.

J. B. LIPPINCOTT COMPANY, PHILADELPHIA. Space 88.—Promise something new in the way of a picture display this year. The secret has not yet been divulged, but those who come expectant will not be disappointed. The profession should also be interested in Volume 2 of Keibel and Mall's "Human Embryology," the work of the two most famous American and foreign embryologists; David Bovaird, Jr.'s, "Internal Medicine," for students and practitioners; and new editions of Lippincott's New Medical Dictionary, Ortner's "Treatment of Internal Diseases," based on the fifth German edition, Emerson's "Clinical Diagnosis," and "Essentials of Medicine," Cohnheim's "Diseases of the Digestive Canal," Schmidt's "Pain," based on the second German edition, Davis' "Mother and Child," and Noguchi's "Serum Diagnosis of Syphilis," etc.

C. V. MOSBY MEDICAL BOOK AND PUBLISHING COMPANY, ST. LOUIS. Space 18.—This firm will show the new edition of Crossen's "Diagnosis and Treatment of Diseases of Women," recognized as the leading text-book for the general practitioner; Cables' "Golden Rules of Diagnosis and Treatment of Diseases;" second edition of Zahorsky's "Golden Rules of Pediatrics;" new third edition of Munro's "Suggestive Therapeutics;" Beck's "Use of Bismuth Paste in Chronic Suppurations;" Longyear's "Nephrocoloptosis," and Dock-Bass' "Hookworm Disease;" advance sheets of Loeb's "Operative Surgery of the Nose, Throat and Ear;" the new edition of Kocher's "Operative Surgery" and Allbutt's "System of Medicine;" also a general line of new German and French books. Dr. L. A. Duck will be in charge.

REBMAN COMPANY, NEW YORK. Space 12.—An assortment of highly scientific books, many of which are illustrated by the four-color process, which renders a life-like appearance of diseases, especially those of the skin, possible, and the latest literature on "Salvarsan" will be found. Of interest is Whitby's "Makers of Man," a psychologic study of the individuality of the great men of the world. A book on an entirely new subject is Kilner's treatise, "Human Atmosphere." A long list of new publications by Rebman Company recently will be on view, which it will pay the visiting physician to enquire about. Their art prints are worthy of attention.

W. B. SAUNDERS COMPANY, PHILADELPHIA AND LONDON. SPACES 94 AND 95.—Just within the entrance and opposite the Bureau of Registration and Information and the Post Office, this house will exhibit Musser and Kelly's "Practical Treatment;" Cabot's "Differential Diagnosis;" Davis' "Operative Obstetrics;" "The 1910 Papers by the Staff of St. Mary's Hospital, Mayo Clinic;" Anders and Boston's "Medical Diagnosis;" Morrow's "Diagnostic and Therapeutic Technic;" Pilcher's "Practical Cystoscopy;" Buchanan's "Veterinary Bacteriology;" Keen's "Surgery;" Mumford's "Surgery;" Crandon's "Surgical After-Treatment;" Cotton's "Dislocations and Joint Fractures;" Sisson's "Veterinary Anatomy;" also advance sheets of Dr. Howard A. Kelly's "Cyclopedia of American Medical Biography."

WILLIAM WOOD & CO., NEW YORK. SPACES 3 AND 4.—Have spared no expense in exhibiting their high-class medical books. Noteworthy among these is the "American Practice of Surgery," which has just been completed. An epoch-making book is Steadman's Medical Dictionary. Witthaus' Manual of Toxicology has just issued from the press. Also, a revised edition of Walker's Introduction to Dermatology, containing forty-three colored plates, besides numerous engravings. "Joint-Tuberculosis," by Leonard W. Ely, will attract much attention. In addition to the above, one hundred new books by these publishers attest their continued activity and progressiveness.

Pharmaceuticals and Biologic Products

ABBOTT ALKALOIDAL COMPANY, CHICAGO. SPACES 56 AND 57.—The special features of the exhibit of this company will be the demonstration of the methods of manufacturing granules and tablets of the active-principle and similar remedies by skilled laboratory workers, illustrating both the hand and machine methods. In addition this company will present a large line of alkaloidal and active-principle remedies, as they extract them from the drugs and in finished forms. Their interesting line of Council-passed specialties will also be demonstrated.

ARLINGTON CHEMICAL COMPANY, YONKERS, N. Y. SPACE 1.—Will be occupied jointly by the Arlington Chemical Co. and the Palisade Manufacturing Co., makers of liquid and dry peptonoids and hemaboloids. In accordance with the well-known policy of these manufacturers there will be a display of interesting and instructive charts of food values, together with an exhibit of the various constituents of the preparations. Courteous and capable representatives will be ready to explain the preparations and answer any questions regarding them. A handsome souvenir is in preparation, which will be presented to every physician who visits the exhibit.

ARMOUR & CO., CHICAGO. SPACE 93.—Remarkable progress has been made in the last decade in the field of the ductless glands, which are gradually yielding their therapeutic secrets to the industry of the experimental biologist. Brilliant results are now obtained by pure suprarenal preparations and the purified thyroid proteids. Hypersecretion of the pituitary is definitely known to result in acromegaly and gigantism. Recently the thymus has been suggested for relief in inoperable cancer. Many lecithins and organ lipoids apparently play an important rôle in immunizing processes. The organotherapeutic exhibit of this firm will be demonstrated by scientific experts and should be of great interest.

EDWARD G. BINZ, LOS ANGELES. SPACE 22.—This display will consist of apparatus in full operation, showing the process of distilling and refining eucalyptus oil from the leaf to the finished oil. It will be a demonstration of the production of a superior pharmacopeial product and not of a proprietary article with a trade name.

BURROUGHS WELLCOME & CO., NEW YORK. SPACE 54.—This firm will display a selection of their products under "Tabloid," "Soloid," "Vaporole," "Enule," "Wellcome," and other of their well-known trade-marks, representing modern methods as applied to medicinal preparations. Also "Tabloid" brand compressed surgical dressings and bandages, including "Tabloid" brand bismuth gauze, a recent addition to the firm's list; medical equipments of extreme compactness and portability, ranging in size and scope from the equipment similar to that carried by many well-known explorers, to a physician's breast pocket case; "Tabloid" hypodermic and ophthalmic pocket cases, including the popular "Mussell Shell" hypodermic case, etc.

CUTTER LABORATORY, BERKELEY, CAL. SPACE 82.—Serum Antitoxin and Globulin Antitoxin will be displayed by this firm; also their syringe containers with flexible needle connection. An interesting demonstration showing the steps employed in the preparation and data respecting the administration of the various antitoxic products will make this exhibit of unusual scientific value.

FAIRCHILD BROS. & FOSTER. SPACE 98.—Will exhibit "ampoules" for hypodermatic injection, trypsin, pancreas extract (non-enzymic), lecithin; capsules especially designed for the administration of pancreas gland products; "Laibose," soluble wheat and whole milk in granular form; Fairchild's culture peptone from entire beef, especially prepared for bacteriologic work.

HOFFMANN-LA ROCHE CHEMICAL WORKS, New York (branch of F. Hoffmann-La Roche & Company, Basle, Switzerland, and Grenzach, Germany). SPACE 37.—This exhibit will repay careful inspection. A duplicate of the exhibit that was made at the St. Louis Convention, when it was declared one of the most "aristocratic" in the building. Here will be found such alkaloids as homatropin, eserin, pilocarpin, hyoscin and a host of others. The specialties, Digalen, Thiocol, Thigenol, Airol, Secacornin, etc., will be exhibited and their therapeutic qualities explained by competent representatives.

H. K. MULFORD COMPANY, PHILADELPHIA, SPACE 92.—Will exhibit five cases of biologic products containing, respectively, diphtheria antitoxin and serums, bacterial vaccines and tuberculins, diagnostic reagents, including serodiagnosis of typhoid fever and syphilis; rabies vaccine, and Neisser bacterin, mixed. The exhibition will also comprise working bulletins describing these products.

HENRY K. WAMPOLE & COMPANY, PHILADELPHIA. SPACE 76.—This company will make an exhibit of elegant pharmaceuticals, comprising pulverous pills, compressed tablets, fluid-extracts, elixirs, effervescent salts, capsules, etc., and direct especial attention to the new things brought out during the past year, and to its ability to produce efficient and elegant products for the physician.

Instruments and Furniture

W. D. ALLISON COMPANY, INDIANAPOLIS. SPACES 102 AND 103.—Have added several new and useful tables and cabinets to their line, and will have on display a new style, medium-priced table, two new and very attractive designs in instrument cabinets, and being now the owners of the patents on the Yale and Oxford chairs, these articles will be presented in connection with their high-grade automatic tables, medicine and instrument cabinets and specialities. All of these have

been proved indispensable appliances in the practice of medicine during the past twenty-five years.

FRANK S. BETZ CO., CHICAGO AND HAMMOND, IND. SPACES 62, 63, 64 AND 65.—This company will make an exhibition of a general line of surgical instruments, special razor-operating knives manufactured by experienced razor makers, nose and throat instruments imported from Vienna, also *x*-ray coils, electrical outfits for general and diagnostic purposes and a variety of artificial legs. The special feature of the exhibit will be the great variety of operating knives, among which will be shown the Mayo, Murphy, Cubbins, Weist and Old English models.

CAVASCOPE CO., ST. PAUL, MINN. SPACE 8.—This company will exhibit the Cavascope, which combines an auriscope, a nasal speculum and two styles of tongue-depresser. It is self-illuminated from a dry battery, which may be obtained anywhere, an effective one being the Tungsten battery, which will give 400 per cent. greater service than any other. The instrument is easily sterilized and may be carried in the pocket.

F. A. HARDY & COMPANY, CHICAGO. Space 89.—A complete line of eye, ear, nose and throat surgical instruments as well as a number of ophthalmologic specialties will be exhibited. The special features of this exhibit will be a number of hand-made instruments entirely new in design, surpassing anything ever shown heretofore. The special Los Angeles edition of the "Hardy Messenger" will illustrate each of the new designs and will be distributed at the exhibit.

KENISTON AND ROOT, LOS ANGELES. Spaces 90 and 91.—A general line of standard surgical instruments, physicians' office equipment and hospital supplies will be demonstrated and displayed by this firm. In this exhibit will be included that of the Kny-Scheerer Co., of New York City.

E. B. MEYROWITZ, NEW YORK. Spaces 48, 50 and 51.—Ophthalmologic apparatus, eye, ear, nose and throat instruments embracing many recent inventions, among which may be mentioned a new model of ophthalmometer, Yankauer's eustachian instruments, a full line of bronchoscopic instruments and illuminating apparatus will be found. This firm manufactures and will show the well known Marple electric ophthalmoscope, Coakley electric light stand and the Meyrowitz socket rheostat. The new Meyrowitz-McCaa unipulsator will be shown, a complete instrumentarium for *x*-ray and high-frequency work.

PACIFIC SURGICAL MANUFACTURING CO., LOS ANGELES, CAL. Space 19.—A complete line of physicians' apparatus and hospital equipment and supplies will be exhibited by this company.

Apparatus

ANATOMIK FOOTWEAR COMPANY, NEW YORK. SPACE 78.—An exhibit of men's, women's and children's Anatomik shoes for the relief of mild cases of flat foot and for the prevention of foot troubles. Anatomik shoes are made on a special last devised by Dr. Harlan P. Cole of New York. Mr. Alick Weir, in charge of the exhibit, will be glad to explain the features of the special shoes made by this company for bad cases of flat-foot and for various forms of talipes.

BAUSCH & LOMB OPTICAL CO., ROCHESTER, N. Y. Space 79.—They will show a line of their newest models of microscopes, microtomes, centrifuges and other laboratory apparatus and supplies for physicians' use. A new instrument, a convertible balopticon will be shown, which projects lantern slides, opaque illustrations and objects and microscopic objects; in fact it can be used for any known form of projection. It will be especially appreciated by those interested in the projection of microscopic objects.

DEVILBISS MANUFACTURING COMPANY, TOLEDO, O. SPACE 15.—The use of the atomizer in the treatment of nose and throat affections will be interestingly covered in the complete exhibit of the DeVilbiss Manufacturing Company of Toledo, O., who will have on display a full line of their well-known medicinal atomizers, nebulizers and powder blowers.

DUNTLEY MANUFACTURING CO., CHICAGO, SPACE 81.—This exhibit will consist of the Duntley pneumatic cleaner, and the new Duntley air cooler and purifier. The latter is a little device with a capacity of from 200 to 600 cubic feet of air per minute. The air passing through water, is cooled and purified, and all of the floating matter is removed—thus reducing the danger of infection in operating rooms and hospitals. The firm will exhibit two types of the air cooler and purifier. The exhibit will be in charge of Dr. Carl L. Barnes, who will gladly furnish laboratory reports and descriptive circulars to all physicians who may be interested.

ERNST LEITZ, NEW YORK CITY. SPACE 96.—Of particular interest will be the two new Leitz models of physicians' microscopes and their "dark field" illuminating outfit—so necessary with the Wassermann test. Their new form Edinger apparatus for the drawing and projection of microscopic and lantern slides—a universal apparatus, as it may also be used for micro-photography—is of especial scientific value. The large microphotographic apparatus will also be exhibited.

RANDALL-FAICHNEY CO., BOSTON. Spaces 27 and 28.—Standard clinical thermometers and original designs of hypodermic syringes will be exhibited by this firm. The careful methods pursued in testing and grading clinical thermometers will be demonstrated for the benefit of the visiting physicians.

TAYLOR INSTRUMENT COMPANIES, ROCHESTER, N. Y. SPACES 60 AND 61.—This exhibit will contain a comprehensive line of samples, covering particularly their Dr. Rogers' "Tycos" sphygmomanometer, their "Tycos" fever thermometers, urinalysis and urinary glass ware, etc. The exhibit will be in charge of representatives who are prepared to give demonstrations of readings of both diastolic and systolic blood-pressure with the "Tycos" sphygmomanometer. A new booklet on the Dr. Rogers' "Tycos" sphygmomanometer, giving some interesting data on the determination of blood-pressure, will be distributed.

WILMOT CASTLE COMPANY, ROCHESTER, N. Y. SPACE 6.—This company will exhibit a four-piece Rochester sterilizing outfit, "physician's" size, comprising an instrument sterilizer, a dressing sterilizer and hot and cold water sterilizers. Instruments are sterilized by boiling; dressings by circulating steam; also a three-piece outfit of a smaller size, called the "Specialist's," adapted for eye, ear, nose and throat work. A Castle pressure dressing sterilizer will show the separate generator, the complete surrounding of the sterilizing chamber (except in front) by a steam chamber, the single valve control, the production of a vacuum in the sterilizing chamber and the simplicity and effectiveness of its locking device.

Apparatus—Electric

ELECTRO-SURGICAL INSTRUMENT CO., ROCHESTER, N. Y. SPACE 5.—In addition to a complete line of all its well-known electrically lighted surgical instruments the company will exhibit a number of new instruments, representing the highest present development of electrically lighted surgical and diagnostic instruments, constructed after the designs of eminent specialists, who have taken particular interest in making suggestions for improvements based on their practical experience. Besides the instruments themselves the exhibit will include the latest forms of batteries, controllers and transformers.

KELLEY-KOETT MFG. CO., COVINGTON, KY. Spaces 68 and 69.—This company will make a demonstration of their *x*-ray appliances under the direct supervision of Mr. J. Robert Kelley, designer and senior member of the firm, who extends a cordial invitation to the profession, especially those of the Pacific Coast, and past patrons who may desire information relative to apparatus already in use.

ROCHESTER SURGICAL APPLIANCE COMPANY, ROCHESTER, N. Y. Space 17.—These makers of electrically lighted instruments, will exhibit their latest models for use as diagnostic aids in the examination of affections of the nose, throat, esophagus, urethra, etc. Instruments for transillumination tests, also electrical controllers, etc., will be other noteworthy features.

SCHEIDEL-WESTERN X-RAY COIL CO., CHICAGO. SPACES 29 AND 30.—Will have an unusual scientific display of advanced apparatus for making *x*-ray negatives and diagnoses by the most approved methods. The increased popularity of the *x*-ray for diagnosis and the attention given to improved technic has resulted in wonderful improvements. They will demonstrate the latest interrupterless machine with which the fastest negatives, showing detail, have ever been made, and in addition to this their small portable instrument. The former radiographic special will also be there, as well as a stereoscope, plate changer, *x*-ray protection tube-stand, etc.

VICTOR ELECTRIC COMPANY, CHICAGO. SPACES 32, 33, 34 AND 35.—This company will display between seventy-five and one hundred different pieces of electro-medical apparatus, which will be demonstrated by a corps of experts. The past year has brought out many new developments in physiologic therapeutics in the way of new machines, modernized methods, improved technic, etc. The Victor Electric Co. have had to increase their facilities recently by erecting a new building at Jackson Boulevard and Robey street, Chicago, which they are now occupying.

WAPPLER ELECTRIC MFG. COMPANY. Space 77.—In their display of electro-medical and surgical apparatus this company will show many new and radical features. Their cystoscopes have a new, brilliant lens system showing the right-sided and upright picture, a brighter field, and a 30 per cent. larger angle of vision than has ever been obtained before. This lens system is being adapted to all of their diagnostic instruments including the pharyngoscope. Also a new type of interrupterless *x*-ray and therapeutic apparatus, perfect for rapid *x*-ray and all kinds of high-frequency treatment, the Excell treatment machine, the Wappler wall plate with their perfect sinusoidal machine, etc.

Foods, Milk Preparations, Etc.

BASS ISLANDS' VINEYARDS CO., SANDUSKY, O. SPACE 13.—Visitors are invited to look up the exhibit of this Company, and try their Catawba "Bass Islands Grape Juice." This is an unfermented Grape Juice and a most pleasing beverage, recommended on the ground that Catawba grape juice is more beneficial than the juice of the dark Concord grape, because it contains less tannin.

BORDEN'S CONDENSED MILK CO., NEW YORK. SPACES 99, 100 AND 101.—Will exhibit their Malted Milk and call particular attention to the special process by which it is prepared and the predigestion of the casein of the milk due to this process, which is peculiar to the Borden Company. They also emphasize the palatability of the food, it being free from excessive sweetness. They point with pride to their record of fifty years' handling of milk products as a guarantee of the excellence of their goods. They will furnish analysis and comparative table of energy values to all physicians.

FRANCO-AMERICAN FOOD CO., JERSEY CITY. SPACE 36.—Franco-American broths for invalids will be shown as a useful necessity in the sick room diet, easily digested and very stimulating. The company calls attention to these broths as containing 33⅓ per cent. more food value than soups, purposely made without vegetables, spices or seasoning, and retained by the most delicate stomach. They are packed in half pint sanitary tins, so as to remain fresh as long as the tin is left unopened. A full line of these foods will be exhibited.

HAWAIIAN PINEAPPLE PRODUCTS CO., LTD., SAN JOSE, CAL. SPACES 23 and 24.—Physicians will be given an opportuntity to investigate the merits of Dole's Pure Hawaiian Pineapple Juice, which is pressed and bottled by this firm in Honolulu.

HORLICK'S MALTED MILK CO. SPACES 72, 73, 74 AND 75.—This firm will show Horlick's Malted Milk and urge its use as an easily digested food product in powder form, prepared from pure fresh cow's milk, combined with the extracts of malt, barley and wheat, the starch of which has all been converted by the action of the diastase of the malt, and ready for immediate use by simply dissolving in hot or cold water; uniform and reliable, manufactured under ideal sanitary conditions, with the experience, methods and apparatus evolved through work of over a century in this line.

MELLIN'S FOOD COMPANY, BOSTON. SPACE 14.—To the visiting physicians who so desire this company's representatives will be pleased to show analyses and food values of Mellin's Food itself, and as prepared with milk; also to explain its use in the modification of milk. They will also cheerfully answer questions regarding the variation of proportions of food constituents necessary to obtain the most satisfactory results in individual cases.

WELCH GRAPE JUICE COMPANY, WESTFIELD, N. Y. SPACES 66 and 67.—Will have an exhibit of their well-known product, as usual.

Artificial Limbs and Supportive Appliances

AMBULATORY PNEUMATIC SPLINT MANUFACTURING CO., CHICAGO. SPACE 10.—Makers of ambulatory pneumatic fracture splints, orthopedic appliances, artificial limbs, trusses, corsets, elastic hosiery and "Ambumatic" washable abdominal supporters. Under the direction of Mr. Sæmann the exhibit will consist of a scientific demonstration of the Ambulatory Pneumatic Splint, the application and use of these walking adjustable splints for the comfortable and successful treatment in bed or walking of fractures of the lower limbs, including those of hip and hip-joint disease. "Ambumatic" supporters for all kinds of abdominal or pelvic support will also be shown.

CARNES ARTIFICIAL LIMB COMPANY, KANSAS CITY, MO. SPACE 59.—Will exhibit an artificial arm and hand made of steel and fiber of such ingenious mechanical construction as to enable the wearer automatically to bend the elbow, bend and turn the wrist and open and close the fingers, and write; strong enough to pick up and carry a weight of fifty pounds with ease. Demonstrated by men wearing the arm for upper and lower amputations.

WM. JONES, DENVER, SPACE 9.—An automatic, adjustable truss will be demonstrated by this firm. This truss is said to have an automatically operating, even pressure, compensating movement that is governed by the motion of the body, so that it will yield reciprocally with easy, positive, variable and equal pressure action to the variable breathing and other natural movements of the body. There are many other practical features of this appliance that will be shown.

Mineral Waters

APOLLINARIS AGENCY COMPANY, NEW YORK. SPACE 7.—This company will exhibit Apollinaris Water as a mildly alkaline and naturally effervescent table water, bottled only at the Apollinaris Spring, Neuenahr, Germany, and only with its own natural gas, as stated on the label. The same company will also exhibit "Apenta," the Hungarian natural aperient water, calling attention to its reputation for its well proportioned content of magnesium sulphate and sodium sulphate.

NATIONAL WATER COMPANY, WAUKESHA, WIS. SPACE 38.—Will exhibit "White Rock," the natural water from the celebrated White Rock Spring, and "Still Rock" in the various sized bottles and will show a package that is unique among bottled waters. New bottles are used and are sterilized before filling. The newly patented sealing contrivance will prove interesting to the physician who wishes to have the water reach his patient in the same uncontaminated condition in which it exists as it flows from the spring. Mr. Edward Westveer and Mr. R. M. Heath will have charge of the exhibit.

Sanatoria

ALLIED SANITARIUMS OF CALIFORNIA, LOMA LINDA, CAL. SPACE 25.—This exhibit will be installed under the direction of the College of Medical Evangelists, whose representatives will explain the methods employed at their various institutions.

INDIANA SPRINGS CO., KRAMER, IND. SPACE 20.—For the benefit of physicians who have never visited Mudlavia this company will maintain an exhibit showing in pictorial detail their special therapeutic agent, the Mudlavia Bath. Beginning with a view of the mud deposit in the natural state, the various steps in the process to completion of the bath will be shown; likewise the buildings and grounds with their special equipment for maintaining a high-grade sanitarium.

POTTENGER SANATORIUM, MONROVIA, CAL. SPACE 25.—This institution, which is located but forty-five minutes by trolley ride from Los Angeles, and is conducted exclusively for the scientific treatment of tuberculosis, will display views and literature describing the methods employed and accommodations offered patrons of their sanitarium.

Et Cetera

AMERICAN CASE & REGISTER COMPANY, SALEM. SPACE 86.—Will exhibit a full line of their physicians' and surgeons' systems for account keeping and case recording. This exhibit will be in charge of competent men who have been trained especially in this line of work. They claim to be the pioneers in manufacturing complete physicians' and surgeons' systems, and they wish physicians to write now for all literature pertaining to their various systems so that they can study them up, and then see the real article in Booth 86.

DEIMEL LINEN-MESH SYSTEM CO., NEW YORK. SPACE 53.—According to their usual custom this company will show their goods at Los Angeles and have reserved space 53 for the purpose. The California headquarters of this concern is at 142 Sansome Street, San Francisco. The Dr. Deimel underwear (Linen-Mesh) hardly needs any introduction. This well-known underwear was first shown at the annual meeting held at Baltimore in 1895.

SPIRELLA COMPANY, MEADVILLE, PA. SPACE 85.—Corsets and belts filled with the "Spirella stay," a wire bent in serpentine form, will be shown as a valuable aid in caring for medical cases demanding support, such as floating kidney, some cases of hernia and pendulous abdomen. The firm states that the anatomic shaping of the corset, coupled with the flexible, resilient Spirella stay used therein, allows complete freedom of muscular action. The Surgical Belts are light, simple, practical, and are said to be valuable in postoperative cases.

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COOPERATION IN ESTABLISHING STANDARDS OF MEDICAL EDUCATION*

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We have cause for sincere congratulations in this meeting of representative members of all three of the great organizations which have for their object the elevation of the standards of medical education in this country. Indeed, it would be almost a crime to divide forces or influence when all share one great purpose. It would be unfortunate if any personal feelings or jealousy should exist or be tolerated when the welfare of mankind is at stake; for there is no higher or more sublime object in the field of human endeavor than the protection of the health and lives of our people.

The days of witchcraft and alchemy have passed and all isms and pathies will disappear before the ever-increasing and broadening influence of true science. There are always antagonistic forces present to obstruct every move for the betterment of our profession and to question the character and fitness of its members, which are strengthened and kept alive by internal dissensions or cross-purposes existing between either of the great bodies or their members interested in the work. Therefore, it is imperative that at least these three should get together on common ground, with singleness of purpose and unity of action, until those who select medicine as their life's work can get in any section of this country an education second to none in the world.

How easily this ideal can be realized when the Council on Medical Education of the American Medical Association, with sufficient funds for all legitimate uses available and the prestige of sixty thousand physicians, with that great medium of publicity, THE JOURNAL, to inform the profession of the progress made, has joined hands with this Association of Medical Colleges, the membership of which is composed of a majority of the best schools in the country! Nothing but good can result from such a union, so long as the portal of entrance is scrupulously guarded against all but those schools which live up to the requirements of the association, not simply because of their obligation to do so, but because they believe in them and stand ready, at all times, to advance to a higher and better standard, in keeping with the progress of the age and the demands of the ever-increasing and enlightening truths of medical science.

Now, when these two are so fortunate as to work in harmony and unity with the organized examining and licensing boards of the various states having the legal power to enforce all laws and regulations passed for the protection of the people, a trio of such strength has been formed that the day of reckoning for "diploma mills" and uneducated physicians, or quackery of all kinds, is not far distant.

Then only the schools doing honest work, with standard and acceptable courses of study, will exist throughout the entire country. Then, and not until then, will reciprocity be a reality. The improvement in medical schools, in equipment and standards in both entrance requirements and curriculum, in the last few years has revolutionized medical teaching. When we consider that only seven years since we had about 170 medical schools in this country, practically as many as those in the rest of the world, and that the awakening of professional and public sentiment, educated and guided by such organized efforts as those of our own association, and those meeting with us, has lessened the number by one-third, we have just cause for congratulations.

While I would not advise reckless or unjust condemnation of others, or such radical and rapid changes as would work a hardship on those schools struggling under great difficulties to meet the requirements of the times, I would insist that the entrance into this association of colleges be zealously guarded, and that no school be admitted to membership that does not fulfil every requirement, in both facilities and teaching ability, and in honestly upholding our standards as well.

No backward step must be taken, and very thorough investigation must be made before admittance. One unworthy school can so tarnish our reputation that it may take years to overcome the mistake. In my opinion it will be equally disastrous and hurtful to the cause of medical education if we should advance standards, especially entrance requirements, beyond what the existing conditions of preparatory education can stand. To explain: it would be folly for the state boards of medical examiners to expect higher entrance standards than the schools in the states are prepared to give, and it would be suicidal for the medical school in any state to fix the entrance requirements higher than its students have had an opportunity to receive. By so doing, the schools would entirely exclude good men who seek and deserve a thorough medical education, or drive them to accept the inevitable, and enter the low-grade schools.

While, of course, I accept as the minimum the present standard of a four-year high-school course, or its equivalent, and believe that nothing under this should be tolerated, in my opinion, in view of the fact that high-school courses vary greatly in the different sections of this country and are indefinite and without censorship, the fourteen-unit plan that has been suggested would be more uniform and acceptable. I doubt the wisdom of aspiring to a higher minimum standard at the present time, especially by these bodies, all three of which are

*Address of the president of the Association of American Medical Colleges, read before a joint session of that body with the Confederation of Examining Boards of the United States and the Council on Medical Education of the American Medical Association.

national, and must, therefore, consider the conditions of every section of the country. I have been convinced, after years of work and close study of these problems, that the cause of medical education in general will be injured in this country rather than helped by higher entrance requirements until the present movement, which is universal, shall have improved the system of preparatory and general education.

Of course, this will in no way prevent those schools which are fortunately located from demanding a standard much higher. While I am firmly convinced that our present entrance requirements and the four years of a strictly graded course are sufficient for the present, I would respectfully suggest that the trouble is not in either of these adopted standards, but in the loose way in which they are enforced.

If these three educational forces would see that every school conscientiously enforced to the letter its published requirements, without evasion or equivocation, and emphasize the fact that there is no difference between individual or personal morals and collective or school morals, they will have taught a great and much-needed lesson, placed medical education on a very much higher plane and sounded the death-knell of all pretenders and low-grade medical schools.

Improved facilities for teaching, in keeping with the necessities of an up-to-date course in modern medicine, the rapid progress of which is the wonder of the age, should be demanded. We must not only act together, but work separately, as each of the three bodies assembled here, with a common interest, has its distinctive field in which the others can be helpful only in an advisory way. The association of schools should first see that none but those doing high-class and honest teaching shall be members and that the equipment and facilities for both scientific and practical training shall be in every school.

I would emphasize the practical, as the tendency of the times seems to be to lose sight of the essential element in the preparation of a student for his life's work, viz., to combat and prevent disease, relieve suffering and save human life. While there is a place for men in the laboratories of experimentation and original investigation and research, the great majority will best serve and fulfil their mission in life by receiving a thorough training in medicine at the bedside, with a well-rounded course which will enable them to apply their laboratory training as an indispensable aid to thorough work. If the consensus of opinion, after thorough study of this great question of medical training, is in favor of an additional year, I am convinced that we would give to the world better doctors by adding a fifth year of clinical and bedside instruction rather than an extra year preparatory to the study of medicine. Facility in diagnosis and skill in the application of prophylaxis and treatment of disease can be acquired only by such a practical course of study.

With sufficient educational training to prepare the mind for the assimilation of medical teaching, a four-year course of study, as given in our best schools of to-day, with an additional year in hospital work, would, in my opinion, be an ideal preparation for one whose life-work is to prevent and combat disease. In making this statement I am not unmindful of the great advantage of a classical education in every avocation of life and I am in thorough sympathy with the improved laboratory training, without which no medical education is half complete; indeed, no doctor can practice modern medicine without the chemical and microscopic aids taught in the laboratory, for they are absolutely necessary.

The Council on Medical Education of the American Medical Association occupies a peculiar, but very important place in this work. It can exercise no authority; at the great bar of publicity its standing is conferred by the great prestige of a national association of the medical profession. While it has made mistakes, I, who have been a member since its organization, can truthfully say that, individually and collectively, as a body the Council has labored honestly and faithfully to better conditions and to elevate standards gradually, by selecting facts and giving to the profession statements of their findings in each state in the Union, thereby creating a healthy sentiment in favor of improvements in medical education as rapidly as the educational conditions would permit. Always mindful of the fact that it represented the entire country, in which standards differed widely, and which in some sections were distressingly low, by availing itself of the council and advice of all organizations laboring in the field as well as the opinion of educators all over the country, it has created a sentiment which has helped to better understanding and has made it plain that there is no longer in this country a place for the cheap and poorly-equipped medical school. It is with pleasure that I announce a recent action of the Council, inviting a delegate from the Association of American Medical Colleges to attend and take part in all of its private meetings.

The function of the Confederation of Medical Examiners is so necessary to the perfecting and enforcing all advances in medical education that it is especially fortunate that they have met with us this year. The examiners have great advantage of being on the ground, as it were, and understanding the local conditions. They can have a large influence in promoting better preparatory education, and, indeed, it would be impossible for them to exact entrance qualifications without seeing that the educational conditions of the state would justify them; in other words, they must insist on better facilities in public schools and preparatory schools in their respective states if they would insist, as they should do, that the present entrance requirements of this college association be the minimum for a college to be recognized. Again, they are indeed public benefactors when they protect their people from irregular and ignorant pretenders, as well as improve the moral and ethical relations both in the profession and with the public.

I would suggest that growth and importance bring increased responsibilities and obligations. This is true of our Association of Medical Colleges, on whose faculties are men of experience and ability, many of whom are leaders in the magnificent progress of medicine and surgery in the last few years; and I believe that if they would assist, with their combined wisdom and experience, the few hard workers in this association, our position would soon be the commanding one on all questions of medical teaching. Others interested in this work would yield to this association the right to fix all standards. For teachers, by right of their positions and experience, are the ones best prepared to suggest all advances and improved methods. They are, by virtue of their work, best equipped to inspect schools and pass on their laboratories, curriculum and teaching ability. For this purpose the president, secretary and chairman of the judicial council form what is known as a visitation committee, the duty of which is to investigate, not only applicants for membership, but the members, at least every five

years; and this requirement, if it were carried out strictly, especially the occasional inspection of our members, would at once strengthen and broaden the influence of this association and commend it to the state board of examiners, do much to quiet the present state of unrest and dissatisfaction existing in many medical schools and elevate medical teaching in the eyes of the public out of its present questionable status.

Standards acceptable to examining boards could be established and the variable demand of the different states be gradually molded into a universal and much-needed standard agreeable to all. The result would be better-prepared and more uniformly educated physicians, and more ethical relations between the profession and the people. The time is ripe for some organized body to assume command and restore confidence by combining the good accomplished by the several organizations laboring in the field. We should stand sponsor for as high standard of medical education as present conditions will permit, at the same time quieting the present feeling of uncertainty which is agitating the modern school-world with the assurance that the schools would be given time to establish and enforce the demands of to-day, and adjust themselves to the changes, at least before some other radical change is forced on them.

While I would not detract from the great advances made in the last few years—and every force deserves credit for honest and faithful service—the conditions mentioned above are the natural result of lack of concerted effort and unity of action, and but illustrate the necessity of uniform standards applicable to the whole country.

Now, I ask, what body is best equipped and qualified for this work, or into what hands can be placed the elevation and perfecting of medical teaching to properly meet the demands of the present, if not our own Association of Medical Colleges? Indeed, we shall be derelict if we do not assume this responsibility. If every school which is a member would live up to association standards and assume and perform its part willingly and enthusiastically, every worthy school would seek membership, and the vexed problem of standardizing medical teaching would be solved.

State laws can be made more uniform if the American Association of Medical Colleges and the Council on Medical Education of the American Medical Association join forces with state boards, and the unfortunate necessity for the present differences in grading schools will have passed; for there will be no excuse, even commercially, for the existence of low-grade schools, and the much-needed reciprocity between the United States and Canada will be assured, and with European countries as well.

In this short paper I have tried to point out some of the strong and important reasons for all three of the educational organizations meeting here at this time. I predict that their coming together in a bond of unity of purpose will, of necessity, vitally affect every side of this great question. The combination of our interests and energies for the future promises great things for the medical profession, and, through them, for the people of this country.

In closing I would make the following suggestions:

1. This association should adopt a uniform standard after consultation with all forces interested, and enforce this standard by frequent inspections of members.

2. Inspections of both applicants and members should be placed in the hands of a judicial council or a committee appointed for that purpose; at least two men should be required for the inspection of any school, and the report should be in writing for future reference.

3. The interests of the association demand that the work be divided up so as to utilize as many men and their influence as possible, if we would broaden our field of usefulness in both higher educational and moral or ethical standing sufficiently to make membership an honor so distinctive that all good schools will desire the connection.

4. At present the four-year high school, or the fourteen units for entrance and a four-year strictly graded course of study of 4,000 hours is as high as the conditions of education will permit.

5. If an additional year is wise, then a fifth year following the present four-year plan, which shall be strictly practical and bedside in hospital wards, is preferable; and this association should insist that a hospital controlled by the college is essential to thorough training.

If these suggestions are carried out then this association will be a great factor and the day will not be distant when the medical men of America will be recognized all over the world. Then and not until then will this association have fulfilled its true mission.

150 North Eighth Avenue.

THE POISONS OF THE TROPICAL TOAD, BUFO AGUA

A PRELIMINARY COMMUNICATION *

JOHN J. ABEL, M.D., AND DAVID I. MACHT, M.D.
BALTIMORE

Poisons of animal origin, using this term in its widest sense, have always been of interest to the student of medical science, and of late years they are beginning to be of actual value to the medical practitioner. Among poisons of animal origin[1] may be named the various snake venoms, the poisons of amphibia, of fishes (e. g., the fugu poison of Japan), of mussels (mytilotoxin), of scorpions, spiders, bees, ants, beetles (e. g., cantharidin), and other insects. Among poisons derived from the organs of mammals may be named those obtained from the thyroid and suprarenal glands as having a very high therapeutic value.

While continuing our studies, in the autumn of 1910, on the convulsant action of certain organic dyestuffs, acid fuchsin, betanaphthol, phenolsulphonaphthalein, and tropeolin, we had the opportunity of trying the effect of these substances on a tropical toad, *Bufo agua*. While engaged in this study our interest was aroused by the milky secretion which exudes from its "parotid" glands when the animal is greatly irritated. Scraping off some of the secretion with a knife, we were struck by the bluish-green discoloration which appeared on the blade soon after it had been used. This observation led us to test some of the diluted secretion with ferric chlorid. This reagent was found to develop the characteristic green color of the pyrocatechin reaction. As this reaction is given by the active principle of the suprarenal glands, further tests were at once undertaken with the object of identifying the substance in the toad's secretion which reacts with ferric chlorid as described. It was not a difficult task to demonstrate that we were here dealing with a substance which is identical with, or closely allied to, the suprarenal principle. Further work

* From the Pharmacological Laboratory of the Johns Hopkins University.

1. Faust, Edwin Stanton: Die thierischen Gifte, 1905.

on the secretion of the glands demonstrated the presence of a second body which, in respect to its pharmacologic action, is to be classed with substances belonging to the digitalis group of poisons.

The toad has been regarded from the earliest times as a venomous animal. In the Talmud[2] under the name of *tzab* (from the root meaning to swell or puff up) it is differentiated from the frog and is classed with animals whose touch contaminates. Various peoples have made medicinal use of the toad. The Chinese have long used as a remedy a preparation derived from toadskins which they call *senso*. According to a preliminary notice by Hyashi,[3] *senso* is an impure product similar in its action to digitalis, but fifty to one hundred times more powerful. Western nations also made use of the toad for medicinal purposes during several centuries and various European medical treatises and pharmacopeias of an earlier day give to the dried toad a prominent place among therapeutic agents. Thus, in the "Thesaurus Pharmakologicus" of Johannes Schröder, published in Leyden in 1672, and in the "Pharmacologia" of Samuel Dale, published in London in 1692, powdered toad is highly recommended for dropsy, bleeding of the nose and other ailments. In the "London Dispensatory" of 1702, edited by William Salmon, professor of physick, we read, "They (the toads) are hung up by the neck in the air till they are through dry, and then kept for use. Wierus saith that the poudre of a dry'd toad taken 3ss at a time or more, cures almost incurable dropsies, carrying away the water by urine. I suppose the ashes of them burned is better." In an abridged text[4] of some of the medical writings of Michael Etmüller (1644-83), professor of medicine at Leipsic, it is stated that "living toads aroused to the point of fury are venomous, but found dead they are entirely devoid of poison. Transfixed (alive) in the month of July, dried, powdered (the head and entrails being removed) and administered in doses of twelve grains on alternate days they furnish an excellent cure for dropsy. Others administer this remedy in burning fever at its height. Powdered toad is also an effective remedy against incontinence of urine, and is said to be efficacious because of its anodyne character, while its volatile, penetrating salt acts as a diuretic. From it an anodyne oil is also prepared with the aid of sea-salt and sweet almonds."

Toads as remedial agents are further mentioned in the "Pharmacopeia Universalis" of R. James, M.D., London, 1747, in the "English Dispensatory" of John Quincy, M.D., London, 1749, and as late as 1833, but here in a skeptical way only, by J. A. Paris in his "Pharmacologia."

Further testimony that very powerful principles are found in toads is seen in the fact that primitive peoples have made use of their skin secretion as arrow poisons. Thus, Pagenstecher writes:[5]

> According to reports made by the botanist André, which have been substantiated by Saffray, the Choco Indians of the primeval forests of the Sierra Templada of New Granada at elevations up to 2,000 meters employ for this purpose the secretion of a species of pelobates ("spade-footed" toad). The animal is placed in a tube of bamboo, the hands of the operator being protected with leaves, and when some of the poison is desired the tube containing the toad is suspended high over a fire. The toad soon becomes covered with a yellow juice which is allowed to drop into bowls from which it is transferred to small pots in which it gradually acquires the consistence of curari. A further supply of the poisons may later be obtained from the toads thus treated. The poison is smeared on to the tips of arrows which are shot into game from blowing tubes. A small stag is killed by a poisoned arrow in from two to four minutes, a jaguar in from four to eight minutes.

And in regard to the particular toad which is engaging our attention, Filho[6] makes the following statements:

> There exists, more particularly in the regions of the Amazon a species which is a veritable giant among toads and which Spix has described under the name of *Bufo agua*, whose venom it would be worth while to study. It is very probable that this is the species from which the aborigines of the Amazon derive the poison with which they smear the points of their arrows, in place of a sort of curara which certain other tribes use.

Further details in regard to the use of the poison of *Bufo agua* have not yet come to our knowledge, but our own experiments with it give abundant proof that it would be very deadly indeed when used as an arrow poison.

Bufo agua (horridus, maculiventris, marinus, humeralis, ornatus, ictericus, Lazarus, Rana marina, Bombinator horridus, Neotes, Pseudobufo and *Docidophryne agua*) is the largest of the *Anura*, or tailless amphibia, attaining a length of twenty or more centimeters and a breadth of twelve centimeters. It is found in all of the countries and most of the islands of South and Central America, and in the warmer parts of Mexico.[7]

The specimens examined by us were obtained from the neighborhood of Montego Bay, Jamaica, where they are popularly known as bullfrogs.[8] The general color of the animal is light to dark brown with sooty dark patches and its back is covered with warty protuberances. A striking feature is two large oval, so-called "parotid glands" behind each ear. It is from these "glands" that our poison is obtained. According to Seeck,[9] these structures consist of simple, elongated glands closely packed together, the whole bearing a resemblance to a honeycomb. When the glands are hardened in alcohol their lumen is filled with a brownish compact mass.

Bristol and Bartelmez, in a short note in *Science*,[10] say:

> The poison glands are found only on the upper surface of the body, while mucus glands are found all over the skin, and are crowded together in large parotoid "glands" behind each ear. They are much larger than the mucus glands and extend deep down into the compact corium layer. They are surrounded by a thin layer of loose connective tissue which contains nerve fibers and a dense net-work of capillaries. There is an almost continuous layer of smooth muscle fibers about the gland. The cells of the glandular epithelium develop to an enormous size, and when they mature they disintegrate, their entire plasm becoming the secretion, so that when a poison gland has reached its full development it is simply a reservoir of poison. When the poison is discharged the remains of the gland are resorbed, and at the same time one of the five or six undeveloped glands, grouped around the mouth of the functioning gland, grows down alongside the remains of the discharged gland, pushing it aside to occupy its former place.

When the animal is irritated as by the bite of a dog or by some other sufficiently powerful stimulus, mechan-

2. Hoffmann, D.: Das Buch Leviticus, Berlin, 1905, i, 342. Babylonian Talmud: Kethuboth 15 a; Mishna, Teharoth, v, 1.
3. Deutsch. med. Wchnschr., 1911, No. 13, p. 624.
4. Michaelis Etmulleri Opera in Compendium redacta, Londini, 1701, p. 147.
5. Pagenstecher: Allgemeine Zoologie, as cited by Kobert, Lehrbuch der Intoxikationen, Edition 2, 1906, ii, 470.
6. Filho, Lacerdo: Algumas Experiencias com o veneno do Bufo ictericus (Spix), Archivos do Mus. Nacion. do Rio Janeiro, 1878, iii, 33.
7. Brehm, A. C.: Thierleben, Allgemeine Kunde des Thierreichs, 1878, vii, 602; Waite, F. C.: Bufo Agua in the Bermudas, Science, 1901, xiii, 342. Gosse, P. H.: A Naturalist's Sojurn in Jamaica, London, 1851, p. 431.
8. We are indebted to Prof. E. A. Andrews of this university for much assistance in obtaining a sufficient supply of these animals.
9. Seeck, Oscar: Ueber die Hautdrüsen einiger Amphibien, Diss. Dorpat, 1891.
10. Bristol and Bartelmez: Science, 1908, xxvii, 455.

ical, chemical or electric, the parotid glands exude a large amount of a creamy secretion having a pungent aromatic odor. The glands are certainly under the control of the central nervous system, as their secretion is discharged in consequence of a peripheral irritation of sufficient strength. Budgett[11] states that "the enormous parotid glands are discharged like squirts when the creature is roughly handled." We have not ourselves observed anything of this kind, though we have repeatedly "milked" as many as sixty of the animals at a time. Under chemical and mechanical stimulation we have only noticed free exudation from the openings of the gland. We obtained the needful amounts of this secretion by the simple device of squeezing (or "milking") the parotid glands with a curved hysterectomy forceps, catching the secretion as it spurted out from the numerous orifices into a large glass bowl held inverted over the toad. The semifluid substance thus obtained quickly dries in the air to form hard, brittle scales of a yellow color, presenting much similarity in appearance to dried snake venom. When the air-dried scales are brought into contact with water they swell up to gelatinous masses, and in the presence of much water an opalescent, neutral foamy emulsion is obtained of a most nauseating bitter taste and pungent odor. In its physical properties, the secretion presents great similarity to some other animal poisons, such as the Habu snake venom described by Ishizaka.[12]

EXPERIMENTS MADE WITH THE CRUDE POISON

A little of the emulsified secretion, well diluted with 0.8 per cent. solution of sodium chlorid and instilled into the conjunctival sac of the dog or cat, will quickly cause an extreme constriction of its blood-vessels so that the conjunctiva becomes blanched. This action is due mainly to the epinephrin contained in the secretion, but in small part also to the digitalis-like body. When this latter substance, however, is applied to the eye in the form of a solution of the pure crystals it causes at first a momentary constriction of the smaller vessels of the conjunctiva, but this is soon followed by a marked dilatation, so that great injection and irritation result. No dilatation of the vessels of the eye is observed when only very dilute solutions of the crude poison are used, as in this case the action of the epinephrin preponderates.

A little of the emulsion injected into the abdominal lymph-sac of a pithed frog will soon cause slowing of the heart, with apparent prolongation of the diastolic pause and increase in the ventricular contractions. The final effect is complete stand-still of the heart in systole.

Little, if any, effect is noted when only a small quantity of the dried venom is given to an animal by mouth. Thus, a cat weighing 2.27 kg., received 0.035 gm. concealed in meat. Not the slightest objective symptom was noted during the afternoon on which the animal was under observation. In giving the last piece of meat with the venom concealed in it, however, a minute piece of the poison came into contact with the animal's mouth. The effect was remarkable in causing a profuse flow of foamy saliva. When the animal had ejected the last traces of the poison from its mouth, which was accomplished in a few minutes, it at once returned to its former state of quiet content. The absence of striking symptoms when even a considerable quantity of the crude venom is given by mouth is explicable when it is recalled that the digitalis-like substance of the venom is only slightly soluble in water. It will be shown later that this principle is highly toxic when injected by itself, either subcutaneously or intravenously, so small a quantity as 1.5 mg., nearly causing the death of a very large cat.

Injected intravenously into a large cat, a quantity of the emulsion containing less than 0.020 gm. of the crude dried venom induced a tremendous rise of blood-pressure followed immediately by a fall due to a sudden and complete stand-still of the heart.

When a large quantity of the crude venom is introduced into the stomach more marked symptoms are produced. Thus, 0.1 gm. of the poison enclosed in a capsule was given on an empty stomach to a dog weighing 5.8 kg. In ten minutes a clear bile-stained fluid containing most of the poison was ejected. This was followed by retching and repeated vomiting and profuse salivation, all of which continued at frequent intervals for twenty minutes. For an hour following, during which time the animal was kept under observation, it was much depressed. On the following morning it had quite recovered. In regard to this experiment we would say that the amount of epinephrin present in the venom given to this dog would alone suffice to induce vomiting if given on an empty stomach.

It may further be mentioned that an emulsion of the crude venom is a powerful and rapidly acting agglutinating agent for the red corpuscles of the rabbit, the only animal's blood tested in this connection.

THE PRESENCE OF EPINEPHRIN IN THE SECRETION OF THE POISON-GLANDS

INTRODUCTORY NOTE BY THE SENIOR AUTHOR (A.)

Fortune has thrown in our way an animal secretion which most unexpectedly is found to contain a principle which has hitherto appeared only in the suprarenal glands and in homologous chromaphil structures. In collaboration with A. C. Crawford, I isolated the active principle of the suprarenal glands of sheep and beeves in the form of physiologically active salts which I named salts of epinephrin, for example, epinephrin bisulphate, picrate, etc. The elementary composition of several compounds was established by analysis and for epinephrin bisulphate, for example, was found to be represented by the formula[13], $C_{17}H_{15}NO_4 . H_2SO_4$.

In all of my published papers[14] of that period (1897-1899) it was constantly emphasized by me that epinephrin is an unstable, basic substance, precipitable from solutions of its active salts by ammonia and capable of being separated from the other constituents of the suprarenal glands by the proper use of benzoyl chlorid.[15] And this at a time, I may perhaps be permitted to say, when von Fürth,[16] another investigator in this field, was upholding the supposition that epinephrin is either tetrahydrodioxypyridin, $C_5H_9NO_2$, or dihydrodioxypyridin, $C_5H_7NO_2$.

Later work[17] of mine showed that what I called epinephrin, and salts and compounds of epinephrin, had each and all retained one of the benzoyl radicles which I had purposely introduced into the molecule when I employed benzoyl chlorid as a precipitant. In consequence of the retention of a benzoyl radicle (an unusual circumstance in work of this kind) my salts showed a number of so-called alkaloidal reactions in addi-

11. Quart. Jour. Microsc. Sc., 1899, xlii, 305.
12. Ishizaka: Ztschr. f. exp. Path. u. Therapie, 1907, iv, 88.

13. Abel and Crawford: Bull. Johns Hopkins Hosp., 1897, viii, 151. Abel: Ibid, 1898, ix, 215; Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899, xxviii, 318; Bull. Johns Hopkins Hosp., 1901, xii, 339; Ibid, 1902, xiii, 31; Ber. d. deutsch. chem. Gesellsch., 1903, xxxvi, 1839; Ibid, 1904, xxxvii, 368; Am. Jour. Pharmacy, 1903, lxxv, 301; Contributions to Medical Research dedicated to V. C. Vaughan, 1903, pp. 128, 165; Jour. Biological Chemistry, 1905, i, 1.
14. References are given in my papers to the work of Oliver and Schäfer and Szymonowicz and Cybulski, who first noted the presence of a vasoconstrictor principle in the suprarenal glands, as also to the earlier papers dealing with the chemical constituents of the glands.
15. See Ztschr. f. physiol. Chem. (Hoppe-Seyler's), xxviii, 218.
16. Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1898, xxiv, 142; 1898-1899, xxvi, 15.
17. Abel: Bull. Johns Hopkins Hosp., 1901, xii, 339.

tion to those which belong to the entirely unaltered native compound and which were likewise given by my active salts.

Following this work came the next step, the preparation of an amorphous indigo-colored iron compound of the active principle by von Fürth,[18] for which, however, at this time no analytic data were given from which a molecular formula could be calculated. Very soon after came the work of Takamine[19] and Aldrich[20] who succeeded in precipitating the base from concentrated extracts of the gland by the use of ammonia without the assistance of such agents as benzoyl chlorid or chlorid of iron. The formula $C_9H_{13}NO_3$, first proposed by Aldrich, has proved to be the one which truly represents the composition of our substance, but, as that chemist has remarked, "it is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin—$C_{17}H_{15}NO_4$—we obtain a formula—$C_{10}H_{10}NO_3$—which is not far removed from that of adrenalin." Such a result is not due to chance and could have been obtained only from the study and analysis of chemical individuals.

Next came the brilliant researches of the chemists, Dakin, Jowett, Pauly, Friedmann, Stolz and Flächer which have finally culminated in the synthetic production, first of the racemic and now of the levogyrate form as produced by Nature herself. Thus by utilizing the combined labors of physiologists, pharmacologists, biologic chemists and organic chemists has science again unravelled one of Nature's secrets.

The Council on Pharmacy and Chemistry of the American Medical Association has lately adopted[21] the name epinephrin for the active principle of the suprarenal glands in preference to using a commercial or protected name and it is for this reason that I am using the word in this paper instead of epinephrin hydrate, a name which I have had to abandon and which I proposed with the idea of bringing the free base as isolated by Takamine and Aldrich into line with my monobenzoyl epinephrin.

As already indicated the fine green color produced by the addition of ferric chlorid to a solution of the crude poison of our toad together with the fact that such a solution finally turns pink when exposed to the air and that it exerts a powerful vasoconstricting action sufficed to show that we had discovered a substance closely allied to, if not identical with the epinephrin of the suprarenal glands. The results of additional tests made with solutions of the crude venom confirmed this conclusion. For example, the addition of ammonia or other alkali brought out a fine pink color which appeared instantly and was intensified by the addition of a trace of iodin or other oxidizing agent, and on boiling with Fehling's solution or with ammoniacal silver nitrate solution reduction of both solutions occurred promptly.

Two methods of isolating the newly found substance were employed, only one of which will here be outlined. From 6 to 15 gm. of the air-dried venom were rubbed up with water until a thin, foamy, opalescent solution, or rather emulsion, was obtained. This was repeatedly shaken with fresh quantities of a mixture of ether and chloroform (1 : 4) by which means the digitalis-like body was removed. The solution was then diluted with much water, whereon the mucoid and other contaminating substances were quickly removed by precipitation with basic lead acetate and the pinkish filtrate was immediately treated with hydrogen sulphid, freed from the precipitated sulphid of lead and concentrated to a small bulk under diminished pressure. The above operations from the moment of adding the solution of basic lead acetate to that of introducing the sulphuretted hydrogen must be carried on with great celerity, as otherwise there would be danger of injuring the epinephrin, since the filtrate unavoidably becomes slightly alkaline. Then too, the precipitation with basic lead acetate must be undertaken with highly dilute solutions of the venom only, as otherwise too large an amount of epinephrin will be retained in the precipitate of inert substances. When the filtrate, which has been freed from lead sulphid, has been sufficiently concentrated by distillation under diminished pressure it is only necessary to add ammonia to obtain the epinephrin in crystalline form. By dissolving in acetic acid, adding a small amount of sodium sulphite and again precipitating with ammonia, a very pure, ashless and almost colorless product is obtained.

The results of combustion analyses with products obtained in this way are as follows:

I	II	III
Product Analyzed After Second Precipitation; No Sulphite Used.	Product Analyzed After Third Precipitation; Sulphite Used.	Theoretical Requirements for Formula, $C_9H_{13}NO_3$
C = 58.02	C = 58.68	C = 59.02
H = 6.87	H = 7.56	H = 7.10
N = 7.88; 7.88		N = 7.65

It will be seen that the analytical results here given, especially those obtained with the more highly purified preparation, stand in good agreement with the theoretical requirements for the accepted formula and prove that the elementary composition of the epinephrin from the toad is identical with that found in the suprarenal glands of the higher animals.

Like the principle obtained from the suprarenal glands, *Bufo* epinephrin turns the plane of polarized light to the left. Epinephrin (0.078 gm.) obtained from our toads and three times crystallized, when dissolved in 8 c.c. of water acidulated with acetic acid containing a trace of sodium sulphite, gave a polarimetric reading of —1.00 degree in a two decimeter tube with sodium light, whence:

$$[\alpha]_D^{20^\circ} = -51.30^\circ, \text{ the specific rotation.}$$

This rotation is in perfect agreement with that obtained by Flächer[22] (—51.40°) with the highly purified natural product, and differs from that obtained by Abderhalden and Guggenheim[23] for the synthetic levoproduct by the error of the instrument only.

In regard to its physiologic activity—we need only state that the *rapid* injection of so small a quantity as 0.000004 gm. (1 c.c. of a 0.0004 per cent. solution) into the femoral vein of a dog weighing 6 kg. caused a rise of blood-pressure amounting to 20 mm. of mercury as measured in the femoral artery and that the injection of 0.000008 gm. (2 c.c. of a 0.0004 per cent. solution) caused a rise of 26 mm. The physiologic activity of the substance is seen, therefore, to equal that[24] of the purest specimens of epinephrin that have been hitherto isolated.

It may also be stated that this epinephrin acts promptly as a vasoconstrictor when applied to the blood-vessels of the toad from which it is derived. In other words, the animal has not acquired an immunity against this poison; small hemorrhages in this toad are as easily controlled by a local application as in other animals, and when a pithed toad is perfused with Locke's solution containing a small amount of the new epinephrin, its arterioles are found to be just as responsive to the drug as are those of the frog (*R. clamata* or *pipiens*). So,

18. Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899-1900, xxix, 105.
19. Takamine: Therap. Gaz., 1901, xxv, 221; Am. Jour. Pharm., 1901, lxxiii, 523.
20. Aldrich: Am. Jour. Physiol., 1901, v, 457.
21. Proprietary versus Unprotected Names, THE JOURNAL A. M. A., March 25, 1911, p. 910.
22. Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908-1909, lviii, 189.
23. Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908, lvii, 329.
24. Schultz, W. H.: Bulls. 55 and 61, U. S. Pub. Health and Marine-Hosp Service, Washington, D. C.

also, dilatation of the pupil is as easily produced in the excised eye of the toad as in that of the frog.

It is seen, therefore, that the results obtained by chemical analysis, by the use of the polarimeter, by quantitative and qualitative physiologic experiments have demonstrated conclusively that the substance isolated by us from the poison glands of *Bufo agua* is identical with that produced by the suprarenal glands of the higher animals.

PERCENTAGE OF EPINEPHRIN CONTAINED IN THE VENOM

It is of interest to learn how large an amount of epinephrin may be isolated from a certain weight of the crude venom. Thus, from 5.42 gm. of venom, weighed one hour after it was squeezed out of the glands, we obtained 0.243 gm. of crystalline epinephrin, a yield of 4.48 per cent. On the assumption that we obtain by this method only about two-thirds of the epinephrin actually present in the crude venom the true content of epinephrin would be nearly 7 per cent. (6.72 per cent.). Judging from other experiments in which the yield was somewhat smaller, we conclude that the secretion probably varies in its percentage of epinephrin with the season of the year and other circumstances. But as the method of isolation is not, strictly speaking, a quantitative one, exact statements as to the variability of the epinephrin content cannot be made.

If we assume that the venom as secreted by the animal contains from 20 to 30 per cent. of water there would still be present, in accordance with the above analysis, about 5 per cent. of epinephrin. In comparison with this we would recall that one[25] of us estimated that the amount found in the suprarenal glands of beeves is 0.3 per cent.

We would here state that we propose to examine the poison glands of this toad by histologic methods for the presence of the so-called chromaphil tissue, a tissue that has hitherto only been found in structures that elaborate epinephrin, and we hope also to examine the skin secretion of other species of toads for epinephrin, as we suspect that this principle is not confined to the poison glands of *B. agua*, but is probably to be found in the skin glands of other toads and perhaps also in those of other amphibia.

THE PRESENCE OF BUFAGIN IN THE SECRETION OF THE POISON-GLANDS

It has already been intimated that the venom of *B. agua* owes its efficacy as an arrow poison in a large degree to the presence of a digitalis-like substance, although the large amount of epinephrin present is an important auxiliary in this action. And it is to the former constituent or to substances closely allied to it, such as have been described by Faust,[26] that toadskins owe their efficacy as a cure for dropsy, a method of treatment which would perhaps still be in vogue had not William Withering, in 1775, introduced for this very purpose the foxglove, the active constituent of an old wives' remedy. Now that science has begun to study the ancient remedy, toadskin, we may confidently expect further discoveries in this field, possibly with results of value for practical medicine.

We have named the digitalis-like substance "bufagin" in order to have a short term sufficiently indicative of its origin.

25. Abel: Am. Jour. Pharm., 1903, lxxv, 301. See also Hunt, Reid: The Comparative Physiologic Activity of Some Commercial Suprarenal Preparations, THE JOURNAL A. M. A., Sept. 8, 1906, p. 790.

26. Arch. f. exper. Pathol. u. Pharmakol., 1902, xlvii, 278; 1903, xlix, 1.

AMOUNT OF BUFAGIN PRESENT IN THE VENOM

Quantitative experiments have shown us that 0.734 gm. of bufagin correspond to 0.1 gm. of epinephrin present in the venom, and that if the epinephrin content is 5 per cent. we may assume that the venom as secreted contains not far from 36 per cent. of bufagin.

METHOD OF ISOLATING BUFAGIN

It is not difficult to isolate bufagin from the crude venom. The poison is extracted from its solution in water by shaking with a mixture of ether and chloroform as already stated and the solvents are removed by distillation until only a small bulk of fluid remains. This is then poured into a large volume of petroleum ether which precipitates the bufagin as a white resin while holding the small amount of fatty substances in solution. The resinous precipitate is taken up in chloroform and again precipitated with much petroleum ether, whereon it may be crystallized from absolute alcohol. As bufagin is fairly soluble in this reagent crystallization can only be effected from hot concentrated solutions.

For purposes of obtaining an analytically pure product a slightly more elaborate method was employed, a description of which will be given later in the *Journal of Pharmacology and Experimental Therapeutics*. The product obtained by this method was recrystallized from alcohol and finally from hot water. Bufagin is but little soluble in water (0.0002 gm. to the c.c.), but by dissolving the substance in a small volume of alcohol and stirring this drop by drop into much hot water an aqueous (alcoholic) solution containing 1 gram or more in the liter may be obtained. From such solutions the poison crystallizes in glistening clusters of whetstone-shaped crystals and prisms which often attain a considerable size.

PROPERTIES OF BUFAGIN

As thus isolated, bufagin is found to contain no nitrogen and to consist only of the elements, carbon, hydrogen and oxygen. Its melting point is 188°C. The substance is easily soluble in chloroform and acetone, fairly soluble in absolute alcohol, but only very little soluble in petroleum ether and carbon tetrachlorid and also but little soluble in cold benzene. It is a "neutral" compound insoluble in alkalis or acids and in this respect, as in most of its solubilities, it resembles the bufonin which Faust has isolated from the skin of the common toad.

If a mere trace of concentrated sulphuric acid be added to acetic anhydrid containing a trace of bufagin, a fine pure blue color is at once developed. If the reaction is reversed so that a fragment of a crystal is dissolved in concentrated sulphuric acid and a mere trace of acetic anhydrid is then added a fine pink is obtained which soon passes into a plum color which persists for a long time. With iodin and concentrated sulphuric acid the crystals give a play of colors ranging from red through green to blue, as is seen when cholesterin is similarly treated.

If a dilute solution in chloroform is stratified over concentrated sulphuric acid, a pink to deep red zone develops at the border line between the fluids, and when they are well mixed and then allowed to separate, the chloroform solution gives up all of its color to the sulphuric acid which now shows a greenish-yellow fluorescence.

A preliminary observation shows that bufagin is dextrogyrate. Crystallized from water and dissolved in 8 c.c. of chloroform, 0.160 gm. gave a polarimetric reading

of +0.44 degrees in a two decimeter tube with sodium light from which it is seen that the specific rotatory power is

$$[\alpha]_D^{24^\circ} = +11^\circ$$

Combustion analyses[27] show that the elementary composition of bufagin can only be expressed in the formula, $C_9H_{12}O_2$, or in terms of a multiple of this formula, such as $C_{27}H_{36}O_6$. The following tables give some of our analytical results.

I	II
Obtained directly from venom, but crystallized from dilute solution in petrol ether + chloroform without any other process of purification.	Product obtained by crystallization from alcohol after a preliminary process of purification.
C = 70.74	C = 70.98
H = 8.67	H = 8.55

III	IV
Product same as in II, only was further purified by crystallization from water.	Theoretical requirements for the formula, $C_9H_{12}O_2$ or for $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$
C = 71.07 | 70.92	C = 71.01
H = 8.28 | 8.25	H = 7.95

It will be seen that our analytical results, especially those obtained with the pure product III, are in perfect agreement with the elementary formula, $C_9H_{12}O_2$ or with some multiple of it as $C_{27}H_{36}O_6$.

The results of a single molecular weight determination by the boiling point method kindly made for us by Dr. E. Emmet Reid in the laboratory of Physical Chemistry in this University, are in favor of the simple formula, $C_9H_{12}O_2$. The molecular weight as calculated from the rise of the boiling point of chloroform (0.144°C. with corrections) with bufagin in solution was 168, whereas that calculated for $C_9H_{12}O_2$ is 152. The determination was not thought to be entirely satisfactory because of the rather limited amount of pure substance (0.578 gm. bufagin in 87.2 gm. $CHCl_3$). Should molecular weight determinations in other solvents substantiate the value here given, it would appear that we are dealing not with an oxycholesterin as we at first surmised, but rather with an oxyproduct of a cholesterin nucleus, for certainly the chemical and physical properties of the substance point to an undoubted and intimate relationship with cholesterin from which there is no escape.

Cholesterin, $C_{27}H_{46}O$, is a monatomic alcohol found in all protoplasmic structures. It is a fairly large constituent of the nervous system, of sebum and other oily secretions of the skin, of bile and other fluids and tissues of the body. Of late years this substance has begun to play a large rôle in the studies on immunology and serology and the problem of unraveling its complex chemical constitution is now absorbing the attention of a number of organic chemists.

Our studies above outlined would lead one to surmise that bufagin is a depolymerized oxycholesterin. When the two molecular formulas, $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$, and $C_{27}H_{46}O$ (cholesterin), are compared it is seen that in the former five atoms of oxygen have taken the place of an equivalent ten atoms of hydrogen in the latter. So also a relationship is indicated between our substance and the saturated hydrocarbons α- and β-cholestan, $C_{27}H_{48}$, obtained from cholesterin by Diels and Linn.[28] We are not aware that the molecular weight of these cholestans has been determined, but if we assume for them the lowest possible molecular formula, C_9H_{16}, then here again we come to the formula for bufagin, $C_9H_{12}O_2$, if we substitute two atoms of oxygen for four hydrogen atoms.

27. Complete data for these analyses will be given in a later paper.
28. Ber. d. deutsch. chem. Gesellsch., xli, 544.

The substances bufonin, $C_{34}H_{54}O_2$, and bufotalin, $C_{34}H_{46}O_{10}$, which Faust has isolated from the skin of the common toad, are no doubt also cholesterin-like bodies, as that investigator has suggested, but their relationship to cholesterin is not so immediately apparent as in the case of bufagin, nor can it be expressed in terms of a quantitative replacement of one element by another.

PHARMACOLOGIC ACTION OF PURE BUFAGIN

As this communication has already exceeded the limits of an ordinary "preliminary" paper, we shall not here offer a detailed account of our numerous experiments on the pharmacologic action of this newest member of the "digitalis series", but will content ourselves with a bare statement of our work in this field. We have already said that the substance exerts a vasoconstrictor action when an aqueous solution is applied to the conjunctival sac. This action is also well demonstrated in perfusion experiments with the pithed frog or with the pithed toad, *Bufo agua*, only that in this case a large dose of bufagin is required since the toad shows a high degree of immunity towards its own poison. Injected intravenously into a decerebrate cat whose spinal cord is destroyed, a pronounced rise of the pressure is obtained.

The marked action of bufagin on the heart, its vasoconstrictor action and its powerfully stimulating action on the cardio-inhibitory centre (an action which is completely annulled by section of the vagi and by atropin) compel us to class this drug with the most effective members of the digitalis series. In two out of six experiments on dogs, in which large quantities of the drug were injected intravenously and in which heart standstill was induced, this organ was found on opening the chest, to be firmly contracted in systole. Stoppage of the heart in systole in mammals after bodies of the digitalis series is an uncommon experience in our observation except in experiments in which the organ is transfused by the Langendorff method,[29] and we make mention of the fact here as an evidence of the marked action of bufagin on the heart muscle. A more detailed comparison with other members of the digitalis group will be given later, as we propose to continue our chemical and pharmacologic studies with this drug.

29. Gottlieb and Magnus: Arch. f. exper. Pathol. p. Pharmakol., 1904, li, 30.

EQUIPMENT AND INSTRUCTION OF THE LABORATORY YEARS *

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Before attempting to discuss the subject set before us, it may be well if we agree as to the function of a medical school, and as to the aim of all of us who devote our lives to medical education. In an address last year, Dr. Welch[1] said that our object was "to make good doctors." Professor Minot,[2] in his Washington University commencement address, gives a more exact formulation in these words: "The chief function of a medical school is to produce practitioners." Whichever definition we prefer, we doubtless agree on the main idea; and I ask you, therefore, to bear in mind that our purpose is to make or produce something, and that something is a good physician or practitioner.

* Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

1. Proceedings of the Association of American Medical Colleges, 1910, p. 62.
2. THE JOURNAL A. M. A., 1909, liii, 502.

THE FIVE NECESSARY FACTORS

The making of something implies five factors: (1) raw material; (2) a model or pattern (which of course may be either substantial or existing as an ideal in the mind of the workman); (3) men to do the work; (4) a place to work in and tools to work with; (5) time to do the work. The results may be bad from failure in any of these points.

Our frequent considerations of entrance requirements and qualifications of students show our interest in raw material. Our time-consuming studies of curriculum and equipment give evidence that we are concerned with tools and place of work. Our occasional weak efforts to determine who are qualified instructors indicate our interest in workmen. Our discussions of four-year, five-year and six-year courses reveal our recognition of the time factor. While our very discordant ideas as to what constitutes a "good physician" show how little we have considered the model or pattern in our educational manufacturing establishment.

WHAT CONSTITUTES A GOOD PHYSICIAN?

What is a "good physician"? Is he that lovable figure of the "Bonnie Briar Bush," "Old Chester Stories" and other contemporaneous fiction? I am sure most of you would say "No." Is he the hermit of the test-tube, incubator and centrifuge? Being that kind of a hermit, I will save you the trouble by answering "No." Is he the physician (too often found in medical faculties) of extensive clinical training, who ridicules the laboratory and says the microscope has no place in medicine? Some of you will reply in the negative. Is he that combination of assumed dignity, bombast and hair who glances at your tongue, feels of your pulse, and remarks to himself "I've got this fellow bluffed to a standstill"? We are all agreed that it is not he. But we cannot agree exactly what a "good physician" is. Some will say "practical," some will say "scientific." Some will say "knowledge"; some will say "heart."

In proposing to discuss the topic assigned to me from the standpoint of the pattern or model, I shall not attempt, therefore, the task of formulating in words all the qualities of a "good physician." Some of them fortunately are on the surface and do not need a psychologist's analysis, or a philosopher's logic, or a novelist's rhetoric.

ACCURACY IN OBSERVATION

First, the "good physician" must be an accurate observer. His senses must be trained and alert. Eye, ear and finger must be sensitive and connected with a brain which is quick to recognize and discriminate. Dr. Minot, in the paper already quoted from, has discussed this matter fully and convincingly. He points out the difficulties and limitations of accurate observation; some of them connected with our imperfect sense organs; most of them, with our imperfect mental processes. I cannot go into detail here, but the upshot of the matter is that the good observer is partly born and partly made. The former moiety belongs to our raw material and need not be considered here. The latter is of immediate interest, for we know that the power of observation can be cultivated. It improves by practice. Next in importance is skilled direction or instruction.

All of the studies of the fundamental years are suited to develop observation. Anatomy more than the others is adapted to this end. In my judgment, its presence in the curriculum is chiefly justifiable on this account, rather than from its supposed practical value. Anatomy is concerned with a great variety of complex structures, whose materials, textures, forms, sizes and relationships constitute observational material of the most alluring variety and complexity. Moreover the student always feels that the subject is of practical importance, and this adds an element of interest on the part of the learner which gives to anatomy a value for the training of observation even greater than that afforded by its peculiar material and methods.

IMPORTANCE OF CROSS-SECTIONS

I feel that for the purpose we are discussing, namely, the developing of powers of accurate observation, the study of cross-sections of the body is of greater value than dissection. No doubt each supplements the other, but the study of structures from section to section with their variations, appearances, disappearances and relations must be of great influence in stimulating the power to visualize or, as some anatomist has put it, to see the body as if it were transparent, a power so necessary to the physician and surgeon and so impossible of acquisition except on the basis of accurate observation in the anatomic laboratory.

MICROSCOPIC ANATOMY

Like gross anatomy, microscopic anatomy in its various divisions, such as histology and embryology, is chiefly an observational science. Here we introduce the use of instruments of precision as an aid to observation The microscope is of the utmost importance, not on account of the immediate facts revealed, valuable though these are; nor on account of its use in diagnosis, indispensable though this should be; but chiefly because of the relation in which it places the observer with respect to the objective world. The space sensations connected with binocular vision and accommodation do not help him. The third dimension can only partially be supplied by focusing. If he is to get any idea of solidity and relationship, he must be able to visualize. He must add field to field and place section on section *in his mind*. If I may parody an old adage, he must mix his seeing with brains. Indeed the mental effort must here be inevitably the larger part of observation. Microscopic anatomy is justified on this basis if no other.

NOT TO KNOW MUCH, BUT TO KNOW A LITTLE WELL

If now it is true that anatomy is chiefly to be considered as an aid to the development of accurate observation, we immediately see the futility of hasty and careless dissection and of short perfunctory courses in histology. They defeat the very end for which these studies should be undertaken by substituting hazy impression for accurate observation; carelessness and error for thoroughness and truth.

What is true of anatomy in the above respect is true of every other science so far as the development of observational power is concerned. I think, therefore, that we have a scientific basis for the belief that it is not number of facts that we should attempt to demonstrate, but rather perfect observation and understanding of a few. Nor should we favor a multiplicity of short courses of study. Intensity and accuracy should be our watchwords, rather than breadth and general impression. If one is turned rapidly in a circle, a thousand images flash across the retina, yet one sees nothing. It is those images that are dwelt on and repeated and studied that remain and strengthen our powers and become a part of ourselves.

TEACHING AS A PROFESSION

If it be true that observing power is a chief characteristic of the "good physician," and if it be true that anatomy constitutes an excellent and probably the best training for acquiring this power, and if it be true that particular instruction and supervision are necessary, then it is perfectly evident that proper regard for the product of our educational establishment will make us provide expert workmen in gross and microscopic anatomy. If a man knows what to see in the human body, how to see it and how to bring others to see it, he has enough to keep him busy. He has no time to become competent in another trade or profession. He cannot drive a street car or conduct a real estate business or practice medicine. Hence, we have the argument, from the standpoint of a good "output," for the anatomist who shall give his whole time to the medical school.

ESSENTIAL EQUIPMENT

The same arguments that make necessary the professional anatomist make equally indispensable: (1) a proper place for him to work, which means not only teaching laboratories but also research rooms; (2) proper material for teaching and study, which means cadavers, microscopic preparations, embryos, animals, etc.; (3) proper equipment, which means microscopes, microtomes, models, photographic and projection apparatus, books, periodicals, etc.; (4) proper help, which means janitor service, technician, artist, etc. (on the universally acknowledged economic principle that it does not pay to have a high-priced man do low-class work).

We are driven by all the foregoing to conclude that an institution is failing in its regard for its "output"—for its "model," the "good physician"—when it fails properly to provide for the anatomic sciences.

KNOW HOW TO EXPERIMENT

Besides being an exact observer, the "good physician" must be, in my opinion, a trained experimenter. In regard to this statement there may be diversity of opinion. When I read it first to my wife, she said, "What I want is a doctor who *knows*. Let him experiment on other people. I want him to have his experimenting all done when he comes to me." Doubtless this expresses very well the general attitude of the lay mind; and this attitude may be responsible for the ultra conservatism of medicine. The doctor is afraid of being accused of experimenting with his patients. Nevertheless he is always doing so; and in the present lack of knowledge he must experiment, at least in treatment, whether he wishes to or not. I should perhaps add that by experiment I do not mean the use of some new drug or surgical procedure. If the physician tries the effect of rest, or baths, or gymnastics, or deprivation of coffee, it is just as truly an experiment as a first injection of "606."

The main difference between experimentation and ordinary observation is that in the former the observer controls and varies the conditions. The primary element of observation is just as important as ever, but the equally important element of controlled conditions is added. The mental process is by that addition made more complex. The results, moreover, are more fruitful than those of simple observation, since the experimenter can bring under observation conditions which Nature might never produce.

I said that "good physicians" must be trained experimenters. I believe few are such. Most physicians do not know how to experiment. Their methods are at fault; consequently their conclusions are of little value.

PRINCIPLES OF EXPERIMENTATION

The first principle of experimentation is to vary but one factor at a time. If the physiologist is studying the effect of load on muscular contraction, he does not, at the same time that he changes the load, also change the temperature and the stimulus and the speed of the recording apparatus. But I have seen a physician make all the following changes at one time: (a) put a patient in bed, (b) restrict his diet, (c) give a saline cathartic, (d) give some drug. Then he concludes that the patient's changed condition is due to the drug. This may be true, but the conclusion is not warranted from the experiment.

The second principle of experimentation is repetition. There may be an unrecognized factor. Therefore, no conclusion can be of general application unless the experiment is repeated many times with like results. Of course this is the method of inductive logic in general; but I have frequently heard physicians remark: "I never use so and so. I tried it once and it didn't give good results." This is absurd.

The third principle of experimentation is that the results to be of most value must be quantitative. The practicing physician has hardly made a beginning in the use of this principle.

THE EXPERIMENTAL SCIENCES

The sciences which are preeminently experimental are physics, chemistry, physiology, pharmacology and bacteriology. Each of these, like anatomy, has a large demand for pure observation and is valuable for developing that power. In addition, each asks for experiment. Their general principles are alike, but each has a technic of its own. Physics lends itself most easily to the quantitative method. Chemistry and bacteriology furnish valuable aids to diagnosis, but are distinctively *in vitro* as to method. Physiology and pharmacology, on account of their use of living material for experimental purposes, come especially close to medicine, not only in subject matter but also in method.

What I have said regarding observation and anatomy applies equally well to experimentation and to the sciences just mentioned. If the "good physician" should be an experimenter, surely as a student he must learn to experiment. Learning is by doing. He must learn under those who know how to experiment and how to teach that art. This argument leads inevitably to the professional bacteriologist, chemist, physiologist, pharmacologist. Only that man who is specially trained in one of these sciences, who has done and is doing research in it and who is devoting his whole time to it can teach it to the best advantage.

The same arguments as formerly made also apply regarding equipment and facilities. A chemical laboratory with a place and apparatus and material for each student and rooms and equipment for the staff; physiologic and pharmacologic equipment and laboratories for students and staff; an animal house and living material; technicians and janitors (again on the basis that an institution or factory or railroad is unwise which compels a five thousand dollar man to do the work which a five hundred dollar man can do as well or better); bacteriologic equipment including proper space, instruments and materials for the use of instructors and students; books and periodicals, and places to keep and use them—all these must be provided if the institution has a proper regard for its output, a "good physician."

A "GOOD PHYSICIAN" MUST REACH ACCURATE CONCLUSIONS

To the powers of observation and experimentation the "good physician" must add that of sound conclusion or correct interpretation or good judgment. This means the bringing of facts together and the determination of relationships. It means the recognition of cause and effect. Doubtless the psychologist would further subdivide the mental functions involved. But for our purpose the above will suffice.

Now, it is evident that you cannot make a sound conclusion without the facts, and these are gained by observation, with or without experiment. It is equally evident that an isolated fact is barren and dead. Facts are like the cells of a complex animal, all interrelated, mutually affecting and affected. The hormones or internal secretions constitute a fitting metaphor for those relationships which the power of correlation discovers between the isolated results of observation and experiment.

TRAINING VALUE OF PATHOLOGY

All scientific studies tend to develop this power of interpretative judgment, but not all to the same extent. The dynamic sciences, such as physiology, are more valuable than the static sciences such as anatomy. But perhaps the best for the purpose, at least so far as the making of physicians is concerned, is pathology. At any rate I have reserved this science to illustrate this phase of my thought.

Here we have a pathologic condition. The normal appearance, structure, relation, should be such and such. It should function so and so. How and why did this change come about, and what and how far-reaching may be its results? The entire keyboard of observational science, almost, may here be played on: physics, chemistry, zoology, botany, anatomy, histology, physiology, bacteriology. And just as in music the harmony or dissonance depends on how the notes are chosen and blended, so the soundness or unsoundness of conclusions depends on how well facts have been determined and how truthfully their relations have been perceived.

Wholly apart, then, from the significant facts which it presents—in other words, its subject-matter—pathology is justified in our curriculum on account of the training it affords in one of the indispensable mental qualities of the "good physician." The physician without sound judgment, which means without the power of scientific deduction, is indeed a very bad physician. You catch again the drift of my argument. We must supply a professional pathologist who shall devote his best efforts, in conjunction with those other scientists already mentioned, to building up the students' mental machinery for orderly and logical reasoning.

Just as in the former cases, here also, while the man is of first importance, he cannot do good work without proper surroundings and proper equipment. You must not only furnish the pathologic laboratory and library, but also, and more important, you must secure such hospital connections as will guarantee ample autopsies and supplies of material for gross and microscopic study. You must give the pathologist proper help for the best conduct of his department. You are not having proper regard for your "model" or your output, the "good physician," if you disregard these important matters.

FUNDAMENTAL SCIENCES SOURCES OF POWER

So far I have considered three traits of a properly trained medical practitioner, power of observation, ability to experiment, and sound judgment. I have attempted to prove that the fundamental sciences, wholly apart from their subject matter, are justified in the medical curriculum as sources of power. I have tried to show that they must be taught by professional scientists and not by practicing physicians. I have pointed out that proper laboratories and equipment must be provided, and that to curtail your departments in material and help is narrow business policy. There are a few practical conclusions from these premises which I wish now to present.

NEED OF THE RESEARCH PROFESSOR IN THE LABORATORY

If the sciences are to be taught for power rather than subject-matter, we have, as I have said, the unanswerable argument for the research professor in charge of each scientific department. He alone thoroughly understands the scientific method. How absurd, if this is true, is that frequent arrangement in which the professor lectures and the untrained or half-trained assistants conduct the laboratory work! Laboratory instruction conducted from the standpoint of scientific method is the most difficult form of teaching. Too often, as Dewey[3] well says, laboratory practice becomes purely ritualistic; such and such forms to go through; such and such demonstrations of manual dexterity to be secured. This degeneration of laboratory teaching is due largely to that laxity and short-sightedness which permit its being turned over to secondary instructors. Better by far, if either must be done, is to have the assistant give the lectures and the professor the laboratory instruction, rather than the reverse.

ESSENTIAL LABORATORIES

Secondly, I have spoken of student laboratories. A little reflection shows that these are of four kinds, each concerned with a different material and provided with a different type of equipment. The first is concerned with the human cadaver. The equipment is simple and for a variety of reasons the rooms must be restricted to the one use only. The second type of laboratory is adapted to chemical experimentation. The requirements of heat, water, numerous reagent bottles and considerable individual equipment, as well as the unavoidable fumes and waste products, make it inadvisable to use this laboratory for any other purpose than the teaching of chemistry. The third type of laboratory centers around the use of the microscope. Appropriate tables, abundant light, and individual microscopes are indispensable. The same room may serve for microscopic anatomy and pathology and, with some additional equipment, for bacteriology. The fourth type of laboratory is adapted to physiologic experimentation. It may also be used for pharmacology.

GOOD TEACHERS RATHER THAN FINE BUILDINGS

A medical school which has four good laboratories for students' use should spend its superfluous cash on men rather than buildings. I have no sympathy with that condition which I recently saw in one of our great medical schools where six magnificent laboratories are used only three mornings or three afternoons a week for four months of the year. I admit the advantages of good architecture and fire-proof construction and modern ventilation, but I contend that in some places departmental pride and too abundant funds have led to a multiplication of laboratories which is not justifiable. That all the ideas of industrial efficiency cannot properly be

3. Science, Jan. 28, 1910, xxxi, 121.

applied to universities is readily recognized, but every new building means more money for maintenance and less for men. In our line of business, to use a slang expression, the man is the "whole works," which is really but another way of saying "teacher at one end of a log and student at the other." One log will do for several teachers, if used at different times of the day or different days of the week or different months of the year.

Thirdly, regarding equipment, if proper instructors are secured, you can leave the details to them. You remember the advertisement of the house-furnishing concern, "You get the girl, we will do the rest." The medical school may well be advised to get the man and he will do the rest. Getting the man, too, is as serious a matter for the school as getting the bride is for the swain for whom the advertisement was originally intended.

It was once remarked that, if you give Jacques Loeb a collar-box and a piece of string, he will make a discovery. On the other hand, I know a man who three years ago could not do any work because his Edinger apparatus had not come; two years ago he was waiting for material from Java; last year he found he needed a dark-stage illuminator and a micropolariscope. Now he is waiting for a new laboratory building. These extremes illustrate the man and equipment proposition better than many paragraphs of theory.

TEACHERS MORE IMPORTANT THAN EQUIPMENT

For our friends the state boards we may respectfully suggest that they spend more time in trying to find out whether the medical schools are properly manned, and less in making lists of apparatus which may or may not be used. I once tramped to the top floor of our medical college in order to demonstrate to an inspector that we have a perimeter; and when I showed it to him in a case with other instruments, I am willing to take oath that he was either cross-eyed or else he looked at the wrong thing. This same man did not ask how many paid professors we have, nor what their training and experience have been, nor whether we are doing any original work, nor what the annual budget is. But he did inquire what we were doing with those dogs in a medical school. And he did naively remark when I showed him the pathologic outfit: "Ah, your chemist is in charge of this work?"

Most humiliating of all—but whether for me or him I know not—was his inquiry after consulting his typewritten list whether we had a "bakoscope." I took a glance at the list to make sure I had heard rightly. It was there, "BAKOSCOPE"; and unwilling to admit that I didn't know of such an instrument, I regretfully confessed that we did not have one. I think the investigator took some satisfaction in noting this fact on his report. It was not until some days later that it dawned on me that this probably should have read "phakoscope." But of course my native modesty, up to this time, has prevented my informing the gentleman of this supposition. For the information of certain captious individuals I should, perhaps, add that the inspector in question was not Mr. Flexner or Dr. Colwell.

THE PHYSICIAN'S INFLUENCE

Coming back now to my main theme, it seems to me that the qualities of accurate observation, correct experimentation and logical conclusion are the ones which the physician must depend on for success in the practical part of his profession. They are the attributes of a good technician. But the physician is more than a technician. He stands in the most intimate private relation to his patients. The nature of his work contributes to his influence on the social order. Other men in their professional and business life are apart from society. Only in their leisure hours are they affecting the life of other people, and then not intimately. The physician's influence is always being exerted, and is always direct and potent.

THE "GOOD PHYSICIAN" A MAN OF CHARACTER

Now, the psychologic qualities bearing on this side of the physician's life are many and varied. Professor Minot[2] considers that loyalty is the trait which is most essential. But I prefer to join all the qualities of loyalty, sympathy, promptness, honesty, discretion, firmness and many more into the one quality—character. We are agreed that the good physician must be a man of character. Now character, like everything else, seems partly hereditary and partly acquired. The hereditary element, as also the early acquired, concerns our raw material. We are justified in rejecting and must reject any applicants who give evidence of defective character. That is, however, a hard problem and not for discussion to-day. The question here is, what can we do for the upbuilding of character in the medical school? I take it that this is a most serious question. Under our control and direction come a multitude of young men, many of them just from their homes for the first time and all of them pointed toward a profession whose influence reaches the very fountains of human life. We cannot, if we would, avoid responsibility for the character of these men.

But how can we influence them? They are at that age when the unfettered soul dips into life in all directions; that age whose impelling powers determine lines of progress for a lifetime; that age which examines and tests and questions all things whether material or intellectual. You cannot do much with these men by talk. A preacher in a medical school would need the rarest tact not to be worse than useless. I take it that our young men are influenced most by those whom they admire. These they imitate unconsciously.

THE BEST TEACHER A MAN OF CHARACTER

The point I am driving at is that your medical teacher must be a man of character. He must be a man to whom young men will be attracted and whom they may safely imitate. The scientific attitude of mind with its rigid adherence to truth supplies a basic condition of character; and that is why professional scientists and the scientific atmosphere are especially influential on the character of medical students. But other things are necessary. I would not have a teacher who is habitually profane. Not merely because profanity is wicked, but because it does not conduce to the "good physician." I would not have a man whose lectures are chiefly or even partially made up of coarse stories. I would not have as an instructor in a medical school a physician who all the time emphasizes the financial aspects of his profession.

My thesis is that character is the *sine qua non* of the "good physician," and that the principal way we can influence the medical student, who is a physician in the making, is by surrounding him with characters worthy of imitation. Consequently, the character of a medical teacher is a matter for the gravest consideration. Unless you take cognizance of this you are not having regard for your output, a "good physician."

RECAPITULATION

To recapitulate, we as medical teachers are engaged in manufacturing. Our product is physicians, and they ought to be "good physicians." A "good physician" is a man of character, who possesses the technical qualifications for accurate observation, properly conducted experimentation and sound interpretation. For the acquisition of the traits mentioned no discipline is better than that furnished by the fundamental medical sciences. The sciences therefore should be taught as method rather than subject-matter.

We must furnish for this purpose skilled professionals; in other words, investigators. We must give them places for work; that is, laboratories. We must furnish equipment; that is, tools and books. We must select good raw material and leave it in the hands of the workmen long enough to enable them to produce good goods. If we do not do these things we are not conducting an honest business. Our product is a cheap and deceptive imitation. Our graduate is a counterfeit, and we have not even the counterfeiter's excuse that we need the money, for there is no longer any money to be made in medical education.

ENTRANCE EXAMINATIONS *

THOMAS S. FISKE, PH.D.

Secretary of the College Entrance Examination Board

NEW YORK

I consider it a great privilege to be permitted to attend this conference and to speak before it in connection with questions that are so important as the requirements for admission to the study of medicine or the methods of enforcing such requirements.

I shall endeavor to show you that the medical colleges of the United States may in a way derive much valuable assistance from an educational institution which within the last few years has begun to exercise an important influence on education in every part of the country; I mean the College Entrance Examination Board.

I will not advocate that everyone who wishes to study medicine should be made first to pass an examination. There are undoubtedly certain classes of men who may be admitted to the study of medicine with comparative safety on the basis of credentials or certificates.

ACCEPTABLE CREDENTIALS

Everyone will agree that a man who is a graduate of a good college and who can produce documentary evidence that, in addition to having acquired the fundamental elements of a liberal education, he has studied such necessary preliminaries as physics, chemistry and biology may be admitted without further formality to the study of medicine. Many will urge that a man who has completed only a part of a college course and who can show that he has pursued courses in such subjects as physics, chemistry, and biology should be admitted to a medical college without examination. Many others again believe that a candidate from an accredited high school who has completed a four-year high school course in which the subjects already mentioned have been included should be admitted without examination. The North Central Association of Colleges and Secondary Schools, the New England College Entrance Certificate Board and other similar organizations have prepared lists of accredited high schools whose credentials are accepted as a basis for admission by many colleges and universities.

CANDIDATES REQUIRING AN EXAMINATION

In addition to such candidates as those whom we have just considered, a very great number of young men every year demand the privilege of being admitted to the study of medicine. In this number will be:

(1) College men and high school graduates whose credentials do not cover all of the necessary preliminary subjects.

(2) Candidates from unaccredited institutions: that is from colleges or schools which for one reason or another have not been accorded the privilege of issuing acceptable certificates.

(3) Candidates of irregular preliminary training, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or who are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course, or whose work has not been sufficiently good to entitle them to certificates.

It follows that even though a medical college adopt the plan whereby credentials are regularly accepted as a basis for admission, it will have occasion to apply an examination test to a considerable proportion of its candidates for admission. In fact, I will go so far as to assert that no certificate system of admission can be administered efficiently unless it is associated with or supplemented by an examination system. A certificate should be given by a school only when the candidate is plainly entitled to it. In every case of doubt the candidate should be made to prove his worth by means of an examination.

WORK OF THE COLLEGE ENTRANCE EXAMINATION BOARD

An examination system of national scope, open to all, is provided by the College Entrance Examination Board. This board was organized in 1900 under the auspices of the Association of Colleges and Preparatory Schools of the Middle States and Maryland. In 1902 its membership was extended to New England under the auspices of the New England Association of Colleges and Preparatory schools, and in 1903 its membership was extended to colleges and secondary schools in all parts of the United States. In 1910, the tenth year of the board's existence, it conducted examinations in nearly 200 cities and examined almost 4,000 candidates for admission to seventy-one colleges and universities. It is of interest to note that more than one-half of the candidates examined sought admission to institutions which regularly admit students on the so-called certificate plan. These candidates, however, were unable to present certificates, or if they did, their certificates could not be accepted under the rules of the institutions concerned. In the list of institutions which for one reason or another last year required candidates to take examinations under the College Entrance Examination Board appear the names of several medical colleges. I may mention the Long Island Medical College, the Jefferson Medical College, the Cornell University Medical School, and the College of Physicians and Surgeons of Columbia University.

I cannot refrain from availing myself of the opportunity to set forth in a few words some of the fundamental principles which characterize the College Entrance Examination Board and its work.

* Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

COOPERATION BETWEEN SCHOOL AND COLLEGE

Standing at the point of contact between the secondary school and the college, the board recognizes as first in order of importance the principle of cooperation between school and college. The board represents a cooperation between the colleges on the one hand and the secondary schools on the other in respect to a matter of vital importance to both. Not only the colleges, but also the secondary schools should have, and do have, a voice both in framing and administering the policies of the board.

UNIFORM REQUIREMENTS

In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. Those definitions that have been adopted by the board have been drawn up and recommended by representative bodies of teachers recognized as having authority to speak for the subjects concerned. As a result, the requirements adopted by the board possess the two important characteristics of uniformity and stability. They can be altered only when the desirability of change has been approved by a properly representative body of teachers; and any change which is made applies equally to all institutions.

COLLEGE RETAINS ITS INDIVIDUALITY

In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificate. Each college determines for itself what subjects it will require for admission and what minimum rating it will accept as satisfactory.

SUMMARY OF ADVANTAGES

In conclusion, then, permit me to enumerate the following manifest advantages of the examinations held by the College Entrance Examination Board:

1. They are uniform in subject-matter. An examination in a given subject means exactly the same thing everywhere in the United States.
2. They are uniformly administered.
3. They are held at many points, to meet the convenience of students, at one and at the same time.
4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality.
5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both.
6. By reason of their uniformity they aid greatly the work of the secondary schools. If a class is studying a certain subject, it is no longer necessary to divide the class into groups according to the particular institutions for which the students are preparing.
7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

THE ST. LOUIS HOSPITAL

DOUGLASS W. MONTGOMERY, M. D.
SAN FRANCISCO

The St. Louis Hospital of Paris is one of the oldest seats of medical learning in the world, and it looks it. Most of the buildings are ancient and, as they lack any of the modern architectural improvements, they must be expensive to run. The food, for instance, is transported long distances in large brass kettles. This must be costly, and, besides, the victuals become cold and flavorless before they reach the patient.

As the old buildings fall out of repair, the economical procedure would be to replace them by new ones. The administration, however, does not seem inclined to pursue this course. A notable exception to this state of affairs, however, is the modern building and complete equipment for treating diseases of the skin in the service of Prof. L. Brocq. This is one of the best plants of its kind I have ever seen, and is run to the best advantage by its competent chief and his corps of assistants.

The amount of clinical material in the St. Louis Hospital is, however, immense, and the physicians handling it, especially those interested in diseases of the skin, are among the foremost men in the world. It is this material and these men that make the St. Louis Hospital what it is.

One of the most interesting clinics is that of Sabouraud for diseases of the scalp.

Sabouraud is perhaps best known by his introduction of the *x*-rays as a depilatory in the treatment of ringworm of the scalp in children. Previous to this innovation the disease formed a serious problem among the school children in Paris. Now there are so few cases that application has been made to allow those from the neighboring departments to come to the St. Louis Hospital for treatment. Ultimately Sabouraud expects ringworm to be reduced to a few sporadic cases. As he expressed it, this method of treatment will do for ringworm what vaccination has done for small-pox.

The first step in this method is to cut the hair with clippers. The scalp must not be shaved, as that would remove the hairs so closely that they could not be extracted by pincettes, a most important point, as will be seen presently. The *x*-rays are then applied until a full dose is given, as measured by the radiometer of Sabouraud and Noiré. The delicacy of this operation will be dwelt on later. After this the hair becomes loose, and can easily be pulled out. Just here is a matter of importance to be observed. The bald patch caused by exposure to the *x*-rays must be examined with the minutest care for any small hairs that may still remain in their follicles, as these may contain some of the fungus, and one hair containing viable spores or filaments is sufficient to cause a recurrence of the disease.

After this epilation the whole scalp is rubbed every evening with a salve composed of:

	Gm. or c.c.
Oil of cade	10
Yellow oxid of mercury	30
Petrolatum	
Hydrated wool fat	āā 25

This ointment is allowed to remain over night, and next morning is washed off with soap. Then a spot larger than the diseased area is painted with:

	c.c.
Tincture of iodin	10
Alcohol	90

A remarkable feature of this treatment is the complete omission of sulphur as a parasiticide; it is replaced by tincture of iodin diluted with alcohol.

Tincture of iodin is now a favorite antiseptic in a great many integumentary diseases, and is also frequently used to sterilize the skin in surgery. For instance, in L. Brocq's clinic, in giving an injection of salvarsan, the skin was first painted with tincture of iodin, and then the needle was inserted. The same procedure is adopted in incising a furuncle. In these cases the tincture of iodin is used pure. It is diluted in ringworm, because undiluted it would be too strong to be employed for several weeks daily, as is necessary in this disease.

The ointment of tar and yellow precipitate is not an essential part of the treatment, and if it irritates the scalp so as to render its employment distressing, it may be replaced by an oxid of zinc paste (5-30).

The soap may also act as an irritant, and should it do so, an egg shampoo may be substituted, as being more bland.

The absence of the use of sulphur has been mentioned as a peculiarity in this treatment. It may, however, be advantageously employed in suitable cases. For instance, if a folliculitis supervenes, the following sulphur lotion may be prescribed:

	Gm. or c.c.
Precipitated sulphur	
Alcohol	āā 10
Water	100

The alcohol is an important constituent of this prescription, as by first triturating the alcohol and sulphur together, and then adding the water, the sulphur is better distributed throughout the lotion, and can be more easily shaken up to form a milk of sulphur.

Frequently an ordinary pyogenic infection is associated with ringworm, and then *eau d'Alibour,* Alibour's lotion, is found to be an excellent remedy. I first became acquainted with the use of this lotion in reading Prof. L. Brocq's treatise on diseases of the skin. It is a fine antiseptic, and one long in use by French physicians. It is esteemed so highly, that on my evincing a special interest in it, Dr. H. Noiré, who had charge of the clinic, had the kindness to demonstrate its mode of preparation.

It is composed of:

	Gm. or c.c.
Sulphate of copper	2
Sulphate of zinc	7
Camphorated alcohol	20
Water	1000 to 2000

The sulphate of copper and the sulphate of zinc are first dissolved by trituration with a small quantity of water in a mortar. The camphorated alcohol is also added to a few grams of water and filtered and then poured over the above-mentioned solution of the copper and zinc salts. To this enough water is then added to measure up to either 1,000 or 2,000 gm., according as a stronger or weaker antiseptic is desired.

In former days saffron was also included in this prescription, and long boiling was necessary in order to extract the coloring matter from it. These were the days when the color of a therapeutic agent was supposed to play a great part in its efficacy. Ask almost any modern medical man about the doctrine of signatures, and if he does not happen to surmise you may be talking of some question in medical jurisprudence relating to the forging of bank-checks, he will answer by a blank stare. Yet the doctrine of signatures once played a great rôle in the practice of medicine. According to this doctrine it was thought that rhubarb acted beneficially on the liver because of its yellow color, resembling bile. It is needless to say that leaving out the saffron in the *eau d'Alibour* does not diminish its efficiency. The camphor, however, should not be omitted, as it acts suavely and beneficently on the skin.

The camphor in mass should not be added directly to the water, as it will float and refuse to dissolve, except under long trituration. If, however, it is added as camphorated alcohol, it readily associates with the water.

The *eau d'Alibour* is an excellent antistreptococcic as well as antistaphylococcic lotion, and may therefore be advantageously used in erysipelas and in panaritium.

If a treatment is strikingly efficacious it may also be depended on to have its disadvantages. The *x*-ray treatment for ringworm of the scalp is no exception to this rule. The difficulty of treating ringworm of the scalp by the ordinary methods lies in the thick coating of stout hair in which the fungus lodges. As the affected area is completely denuded of hair by the *x*-ray, the disease then becomes as easy to treat as if on the free surface of the skin. In order to secure this complete denudation, however, a heavy dose of the *x*-rays has to be given—usually about fourteen minutes at 20 cm. The risk of causing an *x*-ray burn is therefore imminent. When the pastilles of Sabouraud, which are placed midway between the target of the tube and the patient's scalp, change color, the current is shut off. These pastilles are made in Germany, England and France, and the delicacy of the operation may be judged by the fact that Noiré drew my attention to the fact that the control tints in the pastilles made in both England and Germany were wrong.

When I spoke to one of the most eminent specialists on diseases of the skin in the St. Louis Hospital of the denudation of the scalp by the *x*-rays, he shook his head and said, "That is a delicate matter." In Sabouraud's clinic they say they never have any unfortunate results with the *x*-ray, but other operators sometimes get permanent baldness. Then there may be burns, but it is not necessary to have a burn to have trouble. In Wickham's Clinic I saw a nevus-like dilatation of the small vessels of the skin that appeared several weeks after exposure to *x*-rays, where there had been no burn.

While in London I mentioned to a skin disease specialist, who used the Sabouraud treatment for ringworm of the scalp, what Noiré had told me of the incorrect control tints in the radiometer as made in England, and got the following interesting explanation: A practitioner caused an *x*-ray burn, and the patient sued for damages. The physician in his defense said that he was guided in his dosage by the tints on the radiometer, whereupon the patient entered suit against the manufacturer and won. As a consequence the manufacturer so changed the tints as to conform to a much smaller dose of the *x*-rays. That the dose as indicated is ineffective did not trouble him. In England just now there seems to be a mania for making any one who has any money responsible for anyone who has nothing. That line of conduct has its disadvantages, however, as above shown by the example of the radiometer.

In order to get a just idea of the enormous skin disease material passing through this hospital it is necessary to attend the general admission clinic. Here the patients, stripped to the waist, march in line up to the examining physicians. There is no attempt at history taking; the diagnoses are of the speediest; and the few words relating to treatment are given with equal haste. It is an embarrassment of riches, and amounts to a great evil, as it induces a habit of making snap diagnoses.

Two parasites play the leading rôles in this procession, the *Spirochæta pallida,* and the itch-mite. If the patient has syphilis, he is asked if he wishes to enter the hospital, and if he has scabies, the physician inquires if he is married or single. If the patient is married, he is advised to include his wife and family in the treatment. The necessary questions and commands are uttered with the automatism of a church service, and the whole affair passes along with cinematographic rapidity.

It is easy, however, to be a critic, especially an adverse critic. Every one should be judged by what he has accomplished, and undoubtedly the French are doing a good day's work in medicine, and especially in diseases of the skin.

It is interesting to watch these long lines of almost naked human beings advancing toward the physician, who is to order for one tar, for another mercury, for another resorcin, and for still another sulphur as an amelioration or a cure. In Genesis it is stated man is made of clay. Human beings are, therefore, according to this view, nothing but animated pottery, and on the surface of these stronger or weaker vessels one may see different designs; on one a patchy scaliness indicating psoriasis, and on another papules curiously formed and arranged, spelling out clearly the diagnosis syphilis; in yet another, lichen; and in still another, pediculosis. It must be said that these spots and splashes of color, and rococo outbuddings are more fantastic than artistic, but their correct interpretation becomes, after a time, as interesting as any game or employment in which the perceptive faculties are actively called into play.

The physicians here are the same as in other parts of the world, in that they do a great deal of good work gratuitously, but in following St. Paul's advice to distribute to the necessity of saints, they find that the comforted saints often exhibit a frail side. As an instance of this, I ran across a curious industry in the St. Louis Hospital. A patient would apply for treatment, and receive the appropriate medicine free of charge. Then he would promptly march off to a drug-store and sell it. Those suffering from syphilis are said to be particularly iniquitous, and the little proto-iodid of mercury pills are easily disposed of. It may be objected that these are not saints, but in truth they are, for repentance is of the very essence of sainthood, and fittingly to repent it is necessary first to accumulate a good stock of sin, together with a good admixture of misery. The well-fed, comfortable sinner, like the king in Hamlet, stops short of complete repentance, and therefore cannot attain the crown of sainthood. It is to these shattered hulks, dismasted and battered by the storms of life that Rabelais dedicates his great book. It was such as these that stirred the sympathies of the greatest Scotchman that ever lived, and inspired him to write the great poem, "The Jolly Beggars." Many of the patients in the clinic of the St. Louis Hospital looked as if they could eat a dinner, and without waiting for the recommendatory preface of a benediction either.

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Medical Inspection of Schools.—Medical inspection is becoming a vital part of every modern system of education. To obtain valuable results accurate data are necessary. It is essential that thorough supervision be made by a state medical inspector, who should be a medical man. A state association of medical inspectors should be formed. Permanent efficiency will require skilled workmen, careful administration and adequate remuneration. W. J. Lamson, in *Journal of the Medical Society of New Jersey.*

THE TEACHING OF VISCERAL ANATOMY, OR ORGANOLOGY

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Medicine as a science is yet in its infancy; its composite development, its evolution, forms a steadily increasing curve, but each of its component parts form irregular curves with frequent rises, falls and stationary levels, when historically considered. The close of the last century marked the completion of a period of rapid development in surgical science, during which it was, perhaps, eminently desirable that the medical student should view anatomy with exaggerated reference to its surgical importance.

The beginning of the present century offers promise of an equally important development on the side of internal medicine. The former necessity is now superseded by the latter, and for the internist an accurate and extensive familiarity with visceral anatomy is of fundamental importance.

If there was a time when students could be allowed to devote weeks to the careful dissection of an arm or a leg and then for want of time pass cursorily over the abdominal contents and perhaps fail entirely to open the thorax, cranium or spinal canal, that time is past: the demands of the internist in the present generation call not only for careful visceral work in the dissecting-room but for an amplification of that course by such methods as shall result in accurate conceptions of living structure, which in turn can result only from the familiarity obtained through extensive first-hand acquaintance with the tissues themselves. It is for the satisfaction of these demands that courses modeled along the lines which I am about to indicate must be offered to the medical student of to-day.

The form, position and external relations of the organs are best observed in the "fixed" material of the dissecting-room, and if only recently prepared or carefully preserved tissue is used, the conception in the mind of the student will be well formed. But it is essential that the tissue be perfectly preserved and that the dissection shall be so rapid and careful as to allow no opportunity for excessive evaporation with coincident changes of color, texture and size. Even at its best, preserved dissecting-room material will show considerable changes in color and some hardening of texture. Material which has lain for weeks on the table during the dissection of the limbs and body wall, unless it has received the best of care, is not entirely satisfactory for the proper study of the viscera. To obtain the best results from the standpoint of organology a body freshly prepared by injection should be brought directly from the preparation room, its paries at once opened, as at autopsy, and its viscera carefully surveyed, as rapidly as is consistent with thoroughness, first for their position and general relations and then for form and structure. Such organs as are not badly altered by disease should then be removed, their connections to paries and to adjacent organs and especially their vascular connections being carefully noted; then their surface markings are to be carefully observed and their architecture thoroughly studied. Even at the loss of some material the finer details of dissection involving the topographic anatomy of the organ will be better pursued on other material.

But even at its best, dissecting-room material only partially fulfils the requirements of an accurate concep-

tion of the living viscera. Accurate conceptions and exact knowledge of any matter are obtained only by intimate first-hand acquaintance with the material. Abundance of opportunity for handling anatomic material should be afforded the student; no source of supply should be neglected. A course in organology is therefore incomplete unless it utilizes an abundance of fresh tissue, which only the autopsy room can supply. Since the nearest approach to the actual living organs obtainable for anatomic study is found in the human tissues at autopsy, and in the fresh tissues of the lower animals, both of these sources should be extensively utilized for the purposes of organology.

The recently dead animal presents organs, to all intents and purposes, in a living condition. In certain cases their cells can be transplanted and caused to grow; indeed, they may even be cultivated extraneously as has been demonstrated by R. G. Harrison and others.

The fact that the lower mammalian organs differ anatomically from the human is not an objection to their utilization, for, indeed, the very differences may often be used to broaden the conception of human structure. The fact that the sheep's kidney is lobulated, or that the kidney of the horse or dog has but one pyramid does not detract from the value of either in demonstrating the structural relations and appearance of the living human kidney, and if properly utilized they respectively elucidate a logical conception of the markings on the surface and the contents of the sinus of the human organ. Again, the objective study of the surface markings of the adult human lung is difficult of interpretation without reference to the child, the infant, and the lower animals.

But while lower animal tissues may be of great value in the demonstration of certain structural features they cannot be relied on as material for any great portion of such a course as is under discussion. Human anatomy must be primarily taught from human material. The handling and study of unaltered human material from the autopsy room offers the most valuable instruction to the anatomic student.

The utilization of this source of material cannot be left till such time as the student may pursue his work in the autopsy room under the instruction of the pathologist, for there he will be concerned, not with anatomic details, but with pathologic lesions, and his facility in pathologic study will largely depend on the accuracy and fulness of his anatomic conceptions, and on his familiarity with the structure and appearance of the normal rather than diseased viscera.

The result of a pedagogic experience of some years has convinced me of the fundamental importance of anatomic instruction based on fresh human tissue. A student of anatomy cannot see too much material of this kind; he should use it for most careful study.

Much normal tissue is removed at autopsy by the pathologist; with proper cooperation it should find its way, while still fresh, to the department of anatomy. A course in organology based on such material, amplified by the use of lower mammalian and other animal tissues, by museum specimens carefully prepared to preserve form, color, and to show the vital appearance, as nearly as possible, of certain special features of anatomic structure, and the whole broadened by coincident demonstrations on dissecting-room material which has been carefully and freshly prepared with organs fixed *in situ*, offers to the student of anatomy a well-nigh ideal opportunity for developing an accurate conception of the human body as it actually exists in a functionally active condition.

That such a course is utopian is not true. The fact that just such a course has been offered for the past three sessions in the laboratories of the Cornell University Medical College demonstrates its feasibility. The essentials are some time and energy on the part of the corps of anatomic instruction, and a very little friendly cooperation on the part of the pathologists. The time demanded from the student is little, because what is consumed in actual work renders so rich a return in improved knowledge of structure and of general, fundamental, anatomic characters that the work of the dissecting-room, and especially of the microscopic laboratory may thereby be very materially abbreviated. For this reason such a course in organology is best taught in connection with microscopic anatomy and the work so correlated that the gross anatomy of the organ immediately precedes its histology.

The consideration of the value of a course in organology on the above lines directs attention at once to certain phases of the relative value of the didactic and laboratory types of instruction. The value of the former type depends on the assumption that known facts are more readily obtained by the novice through the recorded observations of his predecessors, while the laboratory type presupposes that an accurate and utilizable knowledge must result only from personal contact with the object of study.

For this last type of work a progressively increasing value is represented by the book, the model, and the actual material. Given unlimited time and unlimited material, a trained student has little need of other sources of information. But for the great bulk of medical students time in the laboratory is not unlimited; hence the intensity of the laboratory work is greatly enhanced if accompanied by ample opportunity for reading and reflection in study hours. In the course which I have hitherto offered, the work of the student is also greatly facilitated by the use of a brief syllabus which indicates the names of structures of anatomic interest, without comment or description, arranged in the order in which they are uncovered.

With such opportunity it is remarkable how rapidly an accurate systematic conception of an organ may be acquired. In the laboratories of the University of Chicago it has been found that the study of the human brain is not only simplified but accelerated by a preliminary examination of the less complex nervous system of the dogfish, and the course is therefore begun with the dissection of the selachian nervous system. A true conception of the general fundaments, the gross divisions of structure as it were, renders the more intricate and complicated system so much more readily mastered as to result in an actual saving of time to the student as well as in a more utilitarian knowledge of the subject.

Likewise, in my laboratory at the Cornell University Medical College the survey of the fundaments of structure represented by gross organology as outlined above rendered possible an actual shortening of the time allotted to microscopic anatomy, and, far more important, I believe that the student better appreciates the full structure of the organs so studied. It is a matter of observation that he turns from his anatomy to his physiology better prepared to apply his anatomic knowledge to the deduction and explanation of function than was possible under other conditions. When one has studied in the gross the bundle of His and its ramifications, seen it in the fresh tissue, as well as in the dissected specimen and the microscopic section, and all have been properly correlated by coincident study, he has a preparation for

the consideration of heart-block which cannot be obtained by the isolated work of the dissecting-room or the histologic laboratory. When those courses have been correlated by the study of the conduction system in fresh tissue and the transference of bits of known location to the stage of the microscope for verification of structure, the student thus prepared is in full possession of the anatomic mechanism, so far as it concerns the bundle in question, on which the phenomenon of heart-block largely depends.

A course in organology based on fresh material is, therefore, closely related to the work of the microscopic laboratory, and for him who pursues it the utmost of value is only obtainable when the facilities of the autopsy, the dissecting-room, and the microscopic laboratory have been coincidently placed at his disposal. With the organization of broad-minded departments of anatomy with gross and microscopic work provided for under the same head, an arrangement now generally adopted in leading medical schools at home and abroad, such correlation of work appears entirely feasible and eminently desirable.

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THE EDUCATIONAL FUNCTION OF HOSPITALS AND THE HOSPITAL YEAR*

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The central figure in every hospital is, or should be, the patient. Whatever use is made of the hospital as a means of education it should be self-understood that whenever the sick man enters it he has a right to expect and demand the most skilled treatment its staff can offer. We physicians believe that the best treatment will be in the hospital that clearly recognizes its educational function. But if the patient be utilized for the instruction of nurses, undergraduate or graduate medical students, or in the working out of some scientific problem, there must be assurance that his life is not endangered or his health impaired thereby. We may use him as "material," to employ the word that unfortunately has become fixed in our medical vernacular, but not as we use a Wheatstone bridge, a burette, a test-tube, a guinea-pig or a rabbit. We assert that it is our right and duty to experiment with inanimate apparatus, and—when we are humane—with the lower animate bodies, even though the test-tube break or the rabbit die. But a human being is neither a test-tube nor a guinea-pig. We may study his disease, even experimentally, but we must treat *him* as a fellow-man.

A modern hospital fully awake to its privileges and with the high aim to do the greatest possible amount of good will strive to educate: (1) undergraduates; (2) interns, graduate or undergraduate; (3) resident physicians and surgeons; (4) the attending staff; (5) nurses; (6) research workers; (7) the patient; (8) the public.

I. UNDERGRADUATE INSTRUCTION

Undergraduate medical instruction can best be carried on in a hospital founded primarily for educational purposes, and especially one under the immediate control of a medical school. The student's presence in the ward is not looked on as an intrusion or as due to favoring condescension on the part of the hospital authorities. He is there by right; he makes examinations, acts as clerk in recording changes in the patient from day to day, is laboratory assistant, etc. And yet he is without authority to prescribe for or to treat the patient. He makes no promiscuous examinations. He is watched and guided and does no harm. He follows the case during the course of the illness. A student carefully observing and studying even a small number of cases of illness, even though the maladies be simple, compelled to keep complete records that are scrutinized daily by his superior, has learned more of correct methods and of practice, perhaps more even of fact, than from hours and hours of lectures.

In the majority of our public hospitals the lax methods, the multitude of students, the prejudice against the use of the patient as "material," the politician's fear of criticism, the failure to provide capable and responsible supervision, make students' ward work very unsatisfactory or wholly impossible. Much is often accomplished by means of small-group clinics with the student at the bedside as the case is demonstrated, or by ward walks as in England. And much is done by the arena clinic, no longer popular as of old, but by no means entirely out of date, and still fulfilling a useful though subordinate purpose.

II. INSTRUCTION OF INTERNS

Of the value of an internship in a good hospital, where, in addition to the student's clerical and laboratory work, there is actual responsibility, usually a graded responsibility, i. e., one increasing with his length of service, there is no question. No one who has had the advantage of such a training doubts its value; no one who has not had it but regrets his inability to secure it. The eager competition among our raw graduates for these positions shows the estimate placed on them by our student body.

Sooner or later some period of training—say a year—in a hospital should be required of every student before he becomes a licentiate in medicine. If the time is ripe it should be demanded now. We must command the support of the public in this advance by making them see that if the young graduate does not gain his practical experience in a hospital under the guidance of older heads, and in an atmosphere redolent of traditional medical knowledge handed down from one generation of interns to another, and from one group of attending men to another—and this traditional knowledge is one of the most valuable assets of a hospital—if he does not get his training in this safe-guarded manner before he is a licensed practitioner, he is forced to get it in his private practice on your child or on mine and with no counseling voice of senior to keep him from sins of omission or commission.

The marvel is that so many men with utter lack of hospital training are able to go out and do so well—i. e., do so little harm. Native shrewdness, earnest endeavor, tact, ability to learn quickly from others and from their own mistakes, enable them to succeed in a wonderful manner. How many sad, even fatal, blunders are made through lack of proper practical training no one can tell—it is best not to tell. Even the celebrated Dr. San Grado wished Gil Blas to go about with him for a few days on his rounds of bleeding and drenching his patients with water before the said Gil Blas was to be permitted to practice as the representative of San Grado.

The difficulties in the way of a required fifth hospital year are not insurmountable. More internships must be available to accommodate our large annual output of

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doctors or the number of graduates must be lessened. Why not both? If the efforts made by this association are successful the number of graduates in medicine will be diminished. But the number of hospitals will increase; and many small hospitals now working without interns—and there are large ones, too, in this same condition—will see that it is impossible to get along satisfactorily without these assistants and so more places will be available. But there is another difficulty, and to my mind, by no means an insignificant one. How are these hospitals to be standardized? In general the work of the staff and of the interns, in a hospital with medical college affiliation, is up to the standard of the medical school itself, yet not always. The small medical school with the large hospital at its command can take care of its own graduates and place them as interns. But what about the large medical school with a small hospital? Its graduates must be placed in other, perhaps remote, hospitals. Now there will have to be a good deal of educating of some hospital boards of management and of many medical staffs, taking hospitals as they run, before we can declare that an internship in some of these hospitals meets anything like satisfactory requirements. Many small hospitals, and many large ones, with no medical school attachment would readily be conceded as up to grade. But in many hospitals, some small, some large, some in the small towns and some in the large cities, the intern does little more than give an anesthetic, dress and take the blame for the pus cases, and occasionally examine the urine or sputum. There are no histories, or none worthy the name, no laboratory tests, no thorough examination of a patient. The intern gains a certain amount of self-confidence, often an unwarranted amount which is largely absorbed from the staff, though there is seldom any appreciable loss at the source of supply, he learns not to faint at the sight of blood, learns the dose of a good many drugs, some of which he might well forget, and he learns that an easy, a lazy substitute for thinking is to do an exploratory laparotomy. Such training is superficial, incomplete and in many respects pernicious. The medical school with a high standard for both entrance and graduation must pause before committing itself to a policy of a compulsory hospital year until there is in sight a sufficient number of places in good hospitals where work will be up to grade and where by virtue of authority to inspect and supervise there may be a guaranty that it will be kept up to grade and satisfactory to the college and to the officials of the state. Before a compulsory fifth year is added to our college requirements for graduation a certain standard for hospitals must be fixed and means taken to sustain the same.

III. EDUCATING RESIDENT PHYSICIANS AND SURGEONS

The older I grow and the more I see of surgery, the more convinced I am that the mere holding of the degree M.D., as at present granted, ought not to entitle a man to do surgical operations, at least major operations. The lack of manual dexterity and celerity, the poor judgment as to how much can and ought to be attempted in a given case, the puttering and hesitating due to insufficient self-confidence and to a fear of supposed dangers, or the equally horrible condition of overconfidence and lack of dread, how keenly do all these shortcomings, the result of limited or no practical training, loom up before us when we contemplate an operation to be done on our friend or some member of our own family by one of these poorly qualified young graduates! No surgery, no major surgery at least, no special surgery, should be permitted to the graduate until he has tried it first on dogs; no surgery until as assistant, and perhaps resident, he has for a given time stood at the left and then at the right hand of the surgeon and has himself, with the help of this surgeon, done operations. When the good, honest family practitioner tells you that he is convinced that surgical treatment of appendicitis is wrong, because, in his operative cases, three out of four patients died, including clean cases in which the patients were operated on in the interval, and says that he shall return to the medical treatment which gave him better results, we agree that it is wise for *him* to treat appendicitis medically. But the smile that comes to our faces as we note the delicious humor of his innocent condemnation of self as a surgeon is turned to a sober frown as we realize the pathos and tragedy of the clean cases. Make surgery more of a specialty if you will; let there be fewer surgeons in a given area if necessary; divide the fee—openly—if necessary; but insure more expert work by requiring a special hospital training before the graver operations are attempted. Our hospitals can here do a splendid educational work by giving opportunities to residents and assistants working under the responsible guidance of the older man.

IV. EDUCATING THE ATTENDING STAFF

Of the value of the hospital experience to the member of the staff there is little need to speak. Every physician and surgeon admits freely that the faithful performance of his hospital duties makes him a broader, more careful, more skilful man. There is only one point in this connection that I would emphasize, and that is that those hospitals in which there is a distinct teaching feature will have the best service from the staff, especially in the case of the poorer and charity patients. Nothing so arouses the physician to do his best, to study his patient so thoroughly as the knowledge that that case of illness has to be demonstrated at short range to a class of keen-eyed students. A few bad blunders before a class are all that is necessary to make him more careful next time. And then the rubbing of elbows with our colleagues, the activating influence as the older man is inoculated with the enthusiasm of the young man of the staff, just back from Europe, perhaps—all this is helpful and educational.

V. EDUCATING NURSES

It is not my purpose to dwell on the function of the hospital as a training school for nurses. Its duty in this respect is becoming more generally recognized and the advantages that accrue to the hospital, the patient, the physician, the public, are too well known to be repeated here.

VI. EDUCATING RESEARCH WORKERS

The spirit of research has reached many of our hospitals. Some have been founded with the primary object of promoting research along medical lines. It is to be hoped that more will be liberally endowed so that this highest grade of work may be carried on with the closest possible union between laboratories, as they are commonly termed, and the wards that are also really laboratories. While it is not possible that all our hospitals should be, *sensu strictiori*, research hospitals, while it is not desirable that they should all be of this character, there should be more of the spirit of investigation and reaching out for new truth in our existing hospitals, even those that are utilized for the instruction of undergraduates, interns, residents and attending staff. Unless the spirit of research be in such a hospital and pervade

its various staffs, the educational function languishes and the hospital atmosphere is stale. To be progressive, research must be carried on. It may be in trying out methods advocated by others or devising new and better ones; it may be along lines of therapy, surgical or medical; it may be studying the refinements of diagnosis or the natural history of disease, or in the chemical, bacteriologic or anatomic questions concerned in disease; it may be searching for results that are of immediate practical application or working on problems in pure science where no practical bearing is in sight, but something of this sort must be carried on by the hospital workers or a hospital is not doing its duty in furthering knowledge. And I am of the opinion that our hospitals will be utilized more and more for research work in sociologic problems. There is a rich field for such investigation in many of our wards.

VII. EDUCATING THE PATIENTS

Much might be said of the help our hospitals may bring to their patients in teaching lessons of obedience to authority, consideration for and cooperation with one's neighbors, etc. Lessons of cleanliness and of hygiene are also taught, and surely certain lessons in morality are inculcated in ways as effective as any pulpit eloquence. But this is not the time or place for discussing this topic.

VIII. EDUCATING THE PUBLIC

Nor is this the place to speak of the opportunity many of our hospitals have of educating the public as to matters of personal and public health. By example, by class and lecture work, by literature, by letting the hospital light not be hidden under a bushel, such an institution may be a power for good in the community and be the means of combating the effects of many foolish or even harmful "isms" and "pathies" that are everywhere to be found.

SUMMARY

To summarize these points which have consciously been merely touched on and not dealt with exhaustively —an impossibility in a twenty-minute paper:

It is the privilege and duty of hospitals to extend their field of usefulness by opening their wards more freely to undergraduates in medicine, to elevate the standards of work done by nurses, interns, residents and attending staff, to foster research. By so doing they are not harming the patient, but are rather insuring him better and more skilled treatment. They are serving to enlighten and educate not only the individual, but the observing lay public as well, eager to learn and to be instructed in knowledge of medical matters.

And what concerns us as physicians looking to the elevation of the standards of medical education is that as soon as possible each medical school should have its own hospital in which the wards are freely utilizable for the instruction of undergradutes, in which a definite service in practical work in medicine and surgery shall be demanded as a prerequisite for graduation, in which assistants and residents may be in training for specialties in medicine and surgery and in which the spirit of investigation and research pervades every worker from the probationer nurse to the chief of the attending staff.

Until such medical-school hospitals are obtained the aim should be to secure similar privileges in other good hospitals, seeing to it that some authoritative supervisional check may be had on the character of work that is there done, before credit is given in the medical school for such undergraduate or intern work.

A TEACHING HOSPITAL

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A medical college without a hospital under its control, but relying on independent institutions, cannot supply ideal facilities for teaching medicine. The difficulties may be divided into two groups: (1) The arrangement is not satisfactory to the college authorities from the college standpoint; (2) the arrangement is equally unsatisfactory to the hospital authorities from the hospital standpoint.

I. DIFFICULTIES FROM THE COLLEGE POINT OF VIEW

In order that the arrangement may be satisfactory to the college, its teachers must be connected with the hospital. The professor of surgery must be, *de facto,* surgeon to the hospital. A change in the occupant of a chair in the college must mean that the new occupant acquires, by his election in the faculty, a position on the hospital staff. Only in this way can desirable men be drawn to the college, and the college be allowed the widest freedom in selecting its corps of teachers.

Again, the college must bring up clinical assistants, trained as teachers and as hospital workers; this can be done only where the two institutions are coordinated. The professor of surgery desires an assistant or a demonstrator; he wishes this man to work in the dispensaries of the hospital, to substitute in the wards, to assist at operations, etc. This rarely can be arranged unless the same governing body determines the concurrent election to the two places.

The pressure of medical teaching has reached a point at which adjustment of the curriculum is one of the most difficult problems encountered by a faculty. This obstacle is great enough when the faculty dictates the hours of hospital teaching and arranges the roster, but if the schedule must be made to conform to the convenience of a hospital over which the college authorities have no control, it becomes impossible properly to conserve the student's time. For example, in a certain Philadelphia college with a hospital attached, a professor of surgery may deliver a didactic lecture and immediately thereafter take classes in sections to the hospital; like facilities are extended to every clinical chair. Such arrangements could not be made with any detached hospital. The unity of the two institutions affords the fullest use of clinical material; this applies also to laboratories and post-mortem work, largely because the faculty can select hours for teaching. The board of trustees of the hospital being a sub-committee of the board of trustees of the college, the wishes of the college authorities are respected.

If the college desires to inaugurate some particular line of work as a part of the teaching course, the college hospital may be requisitioned for the necessary facilities, the unattached hospital practically never.

II. DIFFICULTIES FROM THE HOSPITAL POINT OF VIEW

The difficulties in affiliating an unattached or independent hospital with a college without its own hospital are even more trying to the hospital. Independent or unattached hospitals may have entirely capable visiting chiefs who either are not teachers or do not like teaching, or what is worse, may have incapable chiefs who desire teaching and consequently connive and "log-roll" for appointment in some medical college, keeping their hos-

pital positions for the purpose of forcing election to college positions.

A member of the staff of an unattached hospital wishes to bring up his own assistant and rarely chooses a man whose time is partly given to college work unless the chief himself is a professor.

The unattached hospital is wisely shy of college affiliation; its board of governors do not desire to be restricted in their selection of officers and often oppose professorial candidates because of the impression that college work demands too much of their time.

The hospital has another group of objections that are administrative and insuperable.

1. *Expense.*—The teaching hospital is the most expensive institution to maintain. For the adequate instruction of the medical student more than one way of doing many things must be taught. The operating-rooms of teaching hospitals must be equipped for the practical presentation of many and varied technics and modes of treatment. This detail involves the selection of catgut, needles, needle holders and many surgical instruments. Each teacher desires the widest latitude in his selection of means and methods, and in order that instruction of the student may not be narrow the teaching hospital must accede. One of the best and most economically administered hospitals in Philadelphia is unattached. It has one physician-in-chief and one surgeon-in-chief, and although some teaching is done in the surgical department, the expense of supplies is measurably less than in a small hospital in which there are several visiting chiefs, and in which instruction is given on a larger scale.

2. *Nursing.*—The nursing problem in a college hospital is different from that in an independent institution. The Jefferson Hospital has over one hundred nurses, while a neighboring institution, in which teaching is restricted to fixed clinics, cares for as many patients equally well, with a staff of eighty nurses. The college hospital should supply nurses for a number of operating-rooms, and a nurse for each chief in making rounds; at one time there are as many as eight to ten nurses accompanying chiefs in visits to patients. The nurses are better trained in teaching hospitals, but complain of the increased amount of work.

3. *Operations.*—Operating service in the Jefferson Hospital reserved for class teaching requires six operating-rooms, in addition to a private operating-room, and as all are frequently in use simultaneously, a detail of eighteen to twenty-five nurses is required. The operating-rooms must be furnished, equipped and maintained—a tremendous fixed charge.

4. *Regulations.*—The unattached hospital fixes the hours for serving food, for ward-cleaning, bed-making, dressing patients, and other administrative details, and would require the affiliated college to conform to the hospital regulations; the hospital forming an integral part of a college must, as far as possible, adapt these functions to the demands of the student.

5. *Attitude of Patients.*—The unattached hospital is usually sectarian or maintained at public expense; in either case patients may decline to be used for teaching purposes, and the hospital authorities must support such action. Patients admitted to teaching hospitals usually understand that cases will be studied by the professor and his assistants, and demonstrated to students. In the rarest instances only are objections made.

6. *Increased Work.*—The teaching hospital requires a large staff of interns because accurate records, including histories, diabetic charts, blood charts, temperature charts, blood-pressure charts, food charts, etc., must be prepared for presentation to sections or to the entire class. The work thus thrown on nurses and interns is far greater than in an independent hospital, even where as much is accomplished.

7. *Discipline of Students.*—Where the teaching hospital and college are under one control the student must conform to regulations. He may, as in Jefferson, be required to wear a uniform in his hospital service. If he fails to do so he is reported to the college authorities and disciplined. His ward and class duties and his deportment are subject to the supervision of teachers for whom he has the highest respect and to whom he is directly responsible—all of these making for better results.

8. *Special Branches.*—Few general unattached hospitals provide adequate facilities for teaching specialties. Teaching hospitals must be so organized that the special branches receive adequate representation. Special hospitals for these lines of work are rarely available for teaching purposes. Each of the colleges of Philadelphia maintains its maternity department, although there are in the city a large number of fully officered institutions devoted to obstetrics. For properly teaching this branch—indeed, any branch—the didactic and practical or clinical teaching must be correlated and the organization under one head.

The Philadelphia method, an Americanization of the Continental, has never been improved on. The modern hospital is a clinical laboratory; and such a laboratory cannot be under extramural direction any more than any other laboratory. The time has passed when even an Agnew or a Keen could teach anatomy to students of the University of Pennsylvania or Jefferson in a private school of anatomy, and it is high time that medical colleges provide clinical organization, which is as much an integral part of their teaching plants as laboratories of anatomy, physiology, chemistry or pathology.

THE MICROGRAPH: A PRELIMINARY REPORT

AN INSTRUMENT THAT RECORDS THE MICROSCOPIC MOVEMENTS OF A DIAPHRAGM BY MEANS OF LIGHT-INTERFERENCE

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AND
FRANK S. MEARA, M.D., PH.D.
NEW YORK

The following report describes an instrument which has many practical applications not only in physiology, but in physical science. Briefly stated the instrument magnifies the minute motions of a diaphragm similar to that of a telephone about 50,000 times and records these movements on a moving photographic film. It is well known that these movements are not perceptible to the unassisted eye, and they are so small that for a time it was supposed that there was no real motion of the diaphragm as a whole, but that the effect was molecular. A microscope which magnifies 2,000 times is considered a high-power microscope, but the magnification obtained in this instrument is twenty-five times this figure.

The word "micrograph," therefore, seems appropriate for this instrument, denoting something which records microscopic movements. The phenomena of the interference of light waves is made use of for the purpose of

obtaining not only the high magnifying power, but something which, by the use of photography, can be made to make its own record by means of the light on a photographic film.

The complete apparatus thus consists of two distinct parts, the instrument proper, and the additional portion required when photographs are to be taken.

The instrument may be applied to the study of any subject in which it is possible to communicate the phenomena to be studied to the diaphragm so as to induce in it a motion corresponding to that being studied. Some results are given in this paper which were obtained with a diaphragm to which the motion was communicated mechanically through the medium of the air. In this manner curves have been obtained not only showing the radial pulse, the beating of the apex of the heart, and the pulse in the jugular vein, but also waves of sound from the human voice.

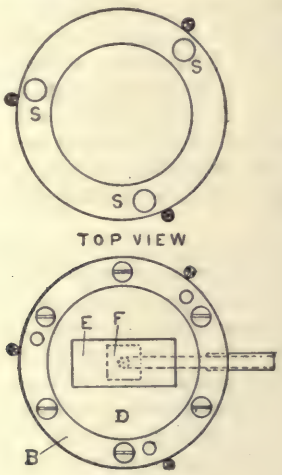


Fig. 1.—The instrument.

The form of instrument by which these records were secured is shown in Figure 1. In addition to the source of light, this instrument connected by a tube attached at the outlet, T, is all that is required for observing the motion of the diaphragm, D. An ordinary tambour is connected to the other end of the tube and placed on the patient, and the motion of the patient at the point where the tambour is applied is transmitted through the air to the diaphragm of the instrument and then, being magnified by the interference of light, becomes directly visible to the eye. Slow movements can readily be followed by the eye, but rapid vibrations require the use of photography.

In instruments heretofore in use the mass and inertia of the moving parts and the distance through which they are required to move have been considerable. Such instruments at the points of most rapid pressure-changes overshoot the mark on the upstroke and then again on the return because of the inertia. The important feature of the new instrument is that it reproduces faithfully all pressure-changes without the disturbing effect of inertia. The mass of the moving part is not only small, and the elastic force of the diaphragm large, but the distance through which it has to move is so small that it cannot be seen to move at all by the unaided eye.

INTERFERENCE METHOD

Carried at the center of the diaphragm, D, is a small reflector, E, which really forms a part of the diaphragm. Just above this and parallel to it without touching it is a cylindrical lens, L, with its plane surface nearest the reflector, E. The adjusting screws, S, are for the purpose of bringing the two surfaces into parallelism. If a

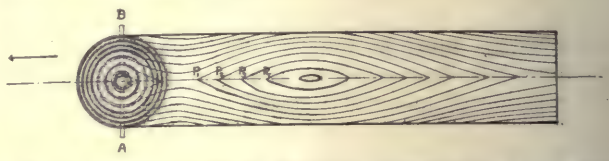


Fig. 2.—Image of circular bands and transverse slit AB, through which the light passes to make the tracings on the moving film. P, etc., are points on the plate marking the disappearance of the bands.

source of nearly monochromatic light is held above the instrument so that an observer sees it by reflection in the two surfaces of the reflector and of the lens, a series of beautiful interference bands will be seen covering the entire surface of the reflector. These bands usually form a series of concentric circles and an image of these is readily thrown by means of a lens on the ground glass of the camera. Figure 2 is an attempt to represent this image of concentric circles as it appears on the screen of ground glass.

If, then, a slit, AB, is placed in front of the photographic plate, so as to cut off all of the light of the image except that which passes through it to the plate, and at the same time the plate is moved transversely across the slit as indicated by the arrow, the several bright spots of

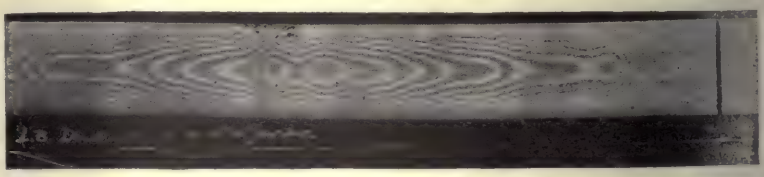


Fig. 3.—Moving bands from which the table of measurements is made and the curve in Figure 4 plotted.

light along the diameter of the image included by the slit would trace straight lines on the plate, and the developed negative would show a series of straight bands from end to end of the plate if the bands remained perfectly stationary. Any movement of the diaphragm, however, changes the distance apart of the two reflecting surfaces, and this has the effect of moving the interference bands forming the image. The bands always remain circles and the center of the concentric circles remains fixed, but the diameter of each circle changes. When the two interference plates approach each other owing to an increase of pressure of air in the instrument each circle contracts and the central circles contract to zero diameter and disappear one after another. Similarly a decrease of pressure separates the plates more and expands the diameter of each band, and bands appear at the center one after another and increase in size.

Hence a simultaneous movement of the diaphragm caused by a variable pressure and the uniform movement

of the photographic plate past the slit will produce a sinuous or wavy series of bands on the plate which might look like those of Figure 2. From this record an accurate curve can be drawn which shows the exact changes of pressure of the air within the chamber of the instrument which were taking place at the time the plate passed the slit. This is done as follows:

HOW TO DRAW A "PRESSURE-TIME CURVE" FROM THE NEGATIVE

When the bands are expanding there comes a time when a new band makes its appearance at the center of the system of circles and as soon as it appears it makes a record on the plate at points which are clearly seen, P_1, P_2, etc. We, therefore, have a succession of records at these points of the times when the diaphragm moves just one-half a wave-length of the particular kind of light used, for each succeeding circle appears only when the two interference plates have separated by exactly one-half wave-length. As the length of a wave of light is accurately known, it is evident that we have determined the time which the diaphragm required to move one-half wave-length, since the plate moves at a known uniform speed and distances along the plate are convertible

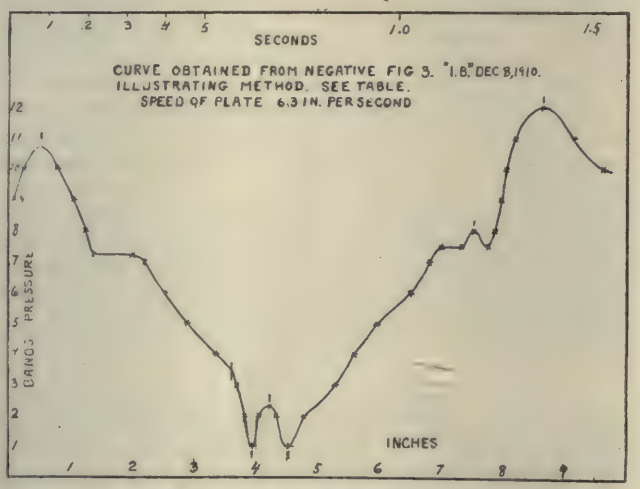


Fig. 4.—Curve plotted from Figure 3.

into time if we multiply by a constant factor. The process of forming the curve is then to measure the distances to where each band appears or disappears, the second column in the table, and place opposite to each the corresponding number of the band, numbering each band consecutively. The ordinates of the curve then represent distances, the unit being the wave-length of light, through which the diaphragm has moved in the time specified.

TABLE OF MEASUREMENTS ON NEGATIVE
"I. B., Dec. 8, 1910"
6.3" per sec.
See curve, Figure 4

Band	Inches		Band	Inches	
9	.08		2	4.32	
10	.22		1	4.52	Min.
	.52	Max.	2	4.78	
10	.79		3	5.29	
9	1.05		4	5.58	
8	1.24		5	5.95	
7.2	1.35	Level.	6	6.50	
7.2	2.00		7	6.80	
7	2.20		7.5	7.00	Level.
6	2.51		7.5	7.31	
5	2.89		8	7.52	Max.
4	3.34		7.5	7.76	Min.
	3.60	Sharp fall.	8	7.87	
3	3.70		9	7.96	
2	3.82		10	8.05	
1	3.94	Min.	11	8.20	
2	4.05		12	8.65	Max.
2.3	4.22	Max.	11	9.15	
			10	9.62	

To show that these ordinates are proportional to the pressure of the air in the chamber of the instrument we have only to ascertain the relation between the deflections of a diaphragm and the pressure to produce a given deflection. Measurements show that for small deflections such as a few wave-lengths of light, the deflection is strictly proportional to the pressure producing it. Hence

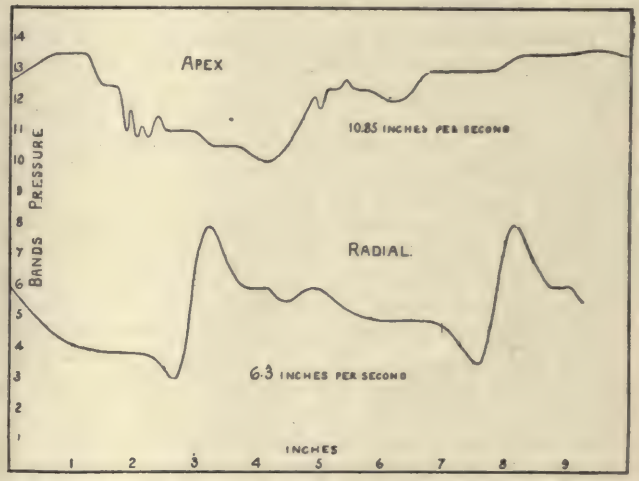


Fig. 5.—An apex and a radial tracing taken at different times on different patients.

the ordinates of our curve are strictly proportional to the pressure of the air within the chamber, and we have constructed a true pressure-time curve. If it were so desired it might be easily calibrated so that the ordinates represent pressures in millimeters of mercury, but this is usually not desired.

By the process indicated the curve in Figure 4 was obtained from the photograph Figure 3, the measurements being given in the table. With some experience, however, it is not necessary to construct such a curve, as it is not difficult to recognize the form of the curve by an inspection of the negative.

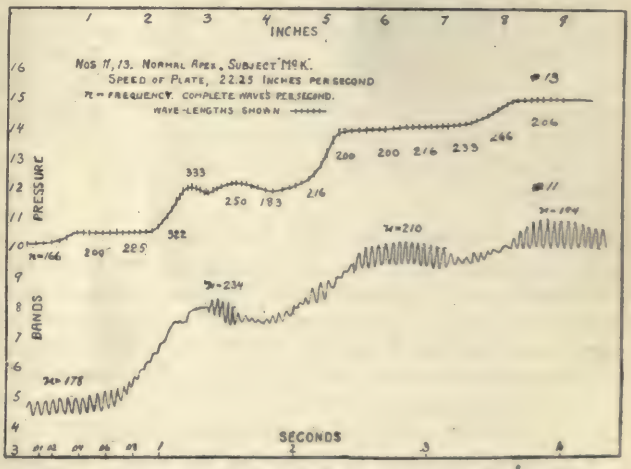


Fig. 6.—A portion of a cycle of an apex-beat. The small waves represent sound varying in both amplitude and frequency. In the upper curve the wave lengths only of the sounds are marked.

RECORDING SOUND WAVES

The highest speed of plate used in taking some of the records was 58 inches or nearly 5 feet per second. To work at these speeds requires an intense light, as the time of exposure is very short, and the negatives obtained grow less and less dense as the speed increases. There is reason to believe, however, that this speed can be more

than doubled and good negatives still be secured. The time of exposure is readily calculated when the width of slit and the speed of plate are known. In this case it was 0.00086 second.

Curves have been obtained by singing the vowels "E" and "O" on the key of G in the second octave below middle C.

THE APEX-BEAT AND THE RADIAL PULSE

The upper curve in Figure 5 shows a tracing of the apex-beat obtained by plotting from the negative as detailed above, and represents about one cardiac cycle, the speed of the moving plate being 10.85 inches per second. The lower curve shows a radial pulse obtained from another subject and shows nearly two cycles, the speed of plating being 6.3 inches per second.

We know of no curves from the lever that approach the details of the events of the cardiac cycle shown in these curves. Figure 6 shows a portion of an apex cycle starting at the lowest part of the upshoot of the upper curve of Figure 5 taken at a speed of plate sufficiently rapid, 22.5 inches per second, to reproduce the sound waves which are superposed on the curve of more slowly varying pressure. We have conclusive evidence that these waves really emanate from the patient and are not due to any instrumental or other outside influence. A vibration of one band or half-wave-length in amplitude is very easy to detect if it were present when the instrument is disconnected from the patient. The bands then appear to remain at rest, but when the tambour is placed on the apex the records show that the amplitude of the waves of sound in some parts of the cycle are as great as one band, and if these were due to other causes they would certainly be seen when the instrument is disconnected. That they are not in the instrument itself is clearly shown by the figure, since the sound wave is continuously changing its pitch or frequency from point to point of the cycle. If the natural period of the instrument itself intruded so as to disturb the record there would be a tendency to vibrate always at some one definite note or frequency.

The conclusive argument is that we get the same variations in the pitch of the sound in using instruments with different diaphragms, and they repeat themselves with remarkable regularity in the various tracings. The same results are obtained with instruments having diaphragms of widely varying thicknesses. The sensitivity of the instrument is changed by substituting a different diaphragm.

THE JUGULAR VEIN AND RESPIRATORY CURVES

In addition to those mentioned curves have been obtained from the jugular vein, and they are compared with those from the bared jugular of a dog. A respiratory curve has also been secured as illustrating the various ways in which the instrument may be applied.

400 West End Avenue.

Differential Diagnosis of Cancer of the Breast.—Hardness and fixity of the tumor in the breast may be caused by a non-malignant condition. Hardness of the breast tumor may be due to a tense collection of fluid; the hardest tumor may be a cyst. A cyst surrounded by mastitis can be as fixed as any cancerous growth. The presence of enlarged glands in the axilla is of little use as an aid in the diagnosis of breast cancer. Except in late cases, it may be quite impossible to feel glandular enlargements. The hardness of the individual gland, and absence of pain on pressure, are important points. Malignant glands are generally discrete and often not of great size.—H. M. Rigby, in the *Practitioner*.

PULSATING EXOPHTHALMOS DUE TO ANEURYSM OF THE INTERNAL CAROTID

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HARTFORD, CONN.

History.—The patient was P. V., aged 32, a Hungarian. His past history was unimportant. Eight months ago, while at work in a foundry, the machine at which he was working upset, striking him on the chin and throwing him violently backwards. He was unconscious for twenty-four hours. A compound, comminuted fracture of the lower jaw was produced. There was considerable hemorrhage from the mouth and nose, but none from the ears. His attending surgeon wired the fragments and the patient made a complete recovery. Three months later a slight exophthalmos developed, which grew steadily worse and was very marked when the patient was admitted in the eye service of St. Francis Hospital.

Examination.—Nose and accessory sinuses were found normal. The *x*-ray examination was negative. The ear examination was also negative.

Eye: Marked exophthalmos in both eyes, especially the right. A distinct pulsation, rhythmical with the pulse, could be both seen and felt on palpation, also more marked in the right eye. The conjunctiva was very edematous and the veins were markedly dilated. The movements of the eyes were normal in all directions. The visual fields for form were normal. It was impossible to obtain the color-fields.

Vision: O. D. 20/20—3. O. S. 20/30—3.

Pupil reaction normal. Consensual reaction normal.

Fundus: The retinal veins were dilated and tortuous. The nerve-margins were indistinct. The retina was edematous, but the media were clear.

Symptoms of Aneurysm.—The patient complained of a blowing to-and-fro sound in his head, which he could not locate accurately, but which began shortly after the original injury. During the past month it became so loud that it caused him great distress. Up to the present there had been no pain. On auscultation of his head a loud bruit could be heard. It became audible over the bifurcation of the right common carotid and reached its maximum intensity about 1 inch behind the external angular process of the right frontal bone. It could be distinctly heard over the left side also, but not so markedly, and was of a different character and of a higher pitch. By compressing the right common carotid the bruit and the pulsation of the eyes could be made to disappear completely. Compression of the left carotid had no effect on either condition.

Diagnosis.—Taking into consideration the nature of the injury and the subsequent train of events, a diagnosis was made of an intracranial aneurysm or rupture of the right internal carotid.

Operation.—Ligation of the right internal carotid was advised, but the patient refused operation. He was kept under observation for a week and the condition grew rapidly worse. Severe pain developed between the eyes, the exophthalmos increased, the retinal veins became more engorged and tortuous and an early choked disk appeared. The vision dropped to 20/50 in each eye. Operation was then permitted and was performed by Dr. J. B. Boucher.

Postoperative History.—There was immediate cessation of the bruit and pulsation of the eyes and neither has since recurred. In one week the engorgement of the retinal veins and choked disk disappeared and vision returned to normal. There is a very slight congestion of the conjunctiva and no edema. The exophthalmos is slightly reduced, but still marked. This is to be expected, as a passive hyperemia having existed in the orbital cavity for so long a time has probably produced a hypertrophy of the connective tissue there which may be permanent.

I think that, in all probability, a cure has been effected.

125 Trumbull Street.

THE EXCRETION OF SALICYLIC ACID AND HEXAMETHYLENAMIN IN THE SPUTUM *

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PHILADELPHIA

The finding of foreign substances in the expectoration is by no means a recent observation, since bile has been found in the sputum of icteric patients, urea in the expectoration of nephritics and in one case of diabetes, glucose has been demonstrated in the sputum. This very old observation received a new point of view when Falk and Tedesko[1] endeavored to utilize this knowledge as a diagnostic test between inflammations and exudations.

Their hypothesis, briefly stated, is that, if a substance be given by mouth, and if it be absorbed and circulate in the blood, then in those pulmonary conditions in which hemorrhagic exudates are the chief feature of the morbid process, the substance should be found in the sputum. They selected sodium salicylate as the drug to be tested, giving 2 gm. in capsules and collecting the sputum for from ten to fifteen hours. The total quantity of sputum was treated in a manner to be described later. Bronchitis, pneumonia and tuberculosis were the respiratory conditions studied.

In bronchitis, no salicylic acid was regained, while in pneumonia (two cases) it was found in considerable quantities. Salicylic acid was also excreted in the sputum of pulmonary tuberculosis, but not to such a great extent as in pneumonia. They conclude that the giving of sodium salicylate to patients may be of assistance in distinguishing bronchitis from pneumonia. Other substances—antipyrin, guaiacol, etc.—were given by mouth, and all were again found in the sputum—all, however, in much smaller quantities than sodium salicylate.

TECHNIC

The patients receive 2 gm. of sodium salicylate, and the sputum is collected for from ten to fifteen hours. The total quantity is made weakly acid and shaken with five times the amount of 96 per cent. alcohol. The albuminous and mucoid substances are precipitated and then filtered off. The clear filtrate is made weakly alkaline and evaporated on a water bath, the residue taken up in water and made faintly acid and precipitated with lead acetate. The solution is filtered, the acid filtrate shaken with water and an equal volume of ether. The ethereal extract is taken up in 10 c.c. of water and 1 c.c. of a 10 per cent. solution of ferric chlorid is added, when in the presence of salicylic acid a violet color is observed.

We have followed the method of Falk and Tedesko in nineteen patients, grouped as follows, and in no case was salicylic acid regained in the sputum.

Pneumonia	6 cases
Pulmonary tuberculosis (advanced)	7 cases
Angina pectoris	1 case
Carcinoma of the lung	1 case
Failing cardiac compensation	1 case
Bronchitis	1 case
Cardiorenal	1 case
Not diagnosed	1 case
	19 cases

Inasmuch as in many of these cases blood was present, macroscopically, we should have had the most favorable circumstances for the elimination of the drug, if Falk and Tedesko are correct in their hypothesis.

As a result of these studies, however, the conclusion was reached that salicylic acid was of no value as a test in pulmonary diseases, since, if excreted at all, it is eliminated in such small quantities as to make its detection impossible. Moreover, to be of service clinically, the technic of a method should endeavor to combine simplicity and ease of application with accuracy and expediency, and the technic as described by Falk and Tedesko lacks all four requisites. In the belief that, on hypothetical grounds at least, substances should be in part eliminated by the bronchial or pulmonary tissue when diseased, hexamethylenamin was selected as a drug which might be favorably tested.

According to Crowe[2] the drug was first prepared by Butlerow in 1860. It is readily broken up by boiling in an acid medium, liberating formaldehyd, which may be easily tested for. Crowe has found the drug in the bile and pancreatic juice, in the cerebrospinal fluid[3] and also in the milk and saliva. He found the drug to be absorbed rapidly and to remain in the circulating blood for hours.

The absolute safety of administration of hexamethylenamin, and also the ease of detection, were two factors in inducing us to attempt researches on its elimination in pulmonary conditions. Twenty-five grains a day were given and the sputum was collected in bottles for twenty-four hours.

The total amount was put in an Erlenmeyer flask, diluted with water, acidified with sulphuric acid, and distilled, the distillate being collected in water in a cooled Erlenmeyer flask. The distillate was then tested for hexamethylenamin by adding to it 4 to 6 drops of milk and 3 drops of a 3 per cent. ferric chlorid solution and stratifying the mixture after agitation on concentrated sulphuric acid. At the point of contact an amethyst color is observed.

The cases in which this method was tried were:

Pulmonary tuberculosis	9	Bronchitis	1
Pneumonia	1	Asthma	1

and in all of these formaldehyd was found in the sputum. In five of the nine tuberculous cases, the sputum collected after the termination of twenty-four hours contained no hexamethylenamin.

It appears then that a new portal of excretion of this widely used drug has been discovered, in addition to the bile, pancreatic juice, urine, cerebrospinal fluid, milk and saliva. The question whether it is by the last that the sputum becomes impregnated with hexamethylenamin, or whether of itself the sputum contains formaldehyd can be, we think, decided in favor of the latter. In comparison to the amount of saliva that is swallowed the quantity which becomes mixed with the sputum must be very small, and we believe this would not account for the intense color reaction obtained. No quantitative estimations were made of the amount excreted and control examinations showed no such color reaction in the sputum.

Nicolaier,[4] from whom it received the name of "urotropin," Richardson,[5] Churchman,[6] Crowe,[2] and others, have studied the action of the drug on bacteria and have found it of greatest use in genito-urinary and biliary infections. We have not had opportunity to study its

* From the Laboratory of Dr. John H. Musser.

1. Falk and Tedesko: Wien. klin. Wchnschr., 1909, p. 954.
2. Crowe: Bull. Johns Hopkins Hosp., 1908, p. 109.
3. Crowe: Bull. Johns Hopkins Hosp., 1909, p. 102.
4. Nicolaier: Centralbl. f. d. med. Wissensch., 1894, xxxii, 897; Deutsch. med. Wchnschr., 1895, p. 541.
5. Richardson: Jour. Exper. Med., 1899, iv, 19.
6. Churchman: Johns Hopkins Hosp. Rep., 1900, xiii, 189.

action on pulmonary conditions, but believe that it might be used to advantage in certain respiratory conditions.

CONCLUSIONS

As a result of our work we draw the following conclusions:

1. Salicylic acid is excreted, if at all, in the sputum in such small quantities as to make it useless in the diagnosis of pulmonary conditions.

2. Hexamethylenamin, when given by mouth, is excreted in the sputum of tuberculosis, pneumonia, bronchitis and asthma.

3. There seems to be no selective action in the excretion of the drug, and the detection of formaldehyd in the sputum cannot be used diagnostically.

Clinical material was secured from patients of Drs. S. Solis-Cohen, Riesman and Ashton of the Philadelphia General Hospital, Dr. Landis of the Phipps Institute, and Dr. Musser of the Presbyterian and University hospitals. To these gentlemen and to Drs. Rehfuss and Jackson, resident physicians in the University and Philadelphia hospitals respectively, we wish to express our thanks for cooperation in this work.

248 South Twenty-First Street.

AN OBSCURED ALCOHOLIC MULTIPLE NEURITIS IN A CASE APPARENTLY OF FRANK OPIUM ADDICTION

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History.—Nov. 20, 1910, Miss M., aged 32, was brought in an ambulance to the hospital for treatment for drug addiction —"the laudanum habit," she phrased it. She complained of nervousness, diarrhea and vomiting. The picture presented was emphatically that of the opium addict: the facies typical, narcomania pronounced, atrophy of breasts, cessation—for more than a year—of menstruation. There was no history of alcoholism.

Personal History.—The patient was one of a family of four children; family history negative except for alcoholism in the father. She appeared fairly well nourished and no organic lesion was evident. She could stand on her feet for but a few minutes at a time and was ataxic. She was unable to sleep and suffered with severe abdominal cramps, except when under the influence of the narcotic. She had a poor appetite, having been a small eater since using the drug in large amount. She seemed possessed of good intellect, but stated that she was in a continuous state of terror, agitation and foreboding. She expressed great remorse on account of her habit, but was afraid she would die if the drug were discontinued.

History of Drug Habit.—Fifteen years previously, on advice of a fellow sufferer from dysmenorrhea, the patient began the use of Squibb's Diarrhea Mixture. Thirty drops was the original dose, taken several times daily during the menstrual period. This was continued for one year. Then an increase of dosage ensued with a more or less continuous use of the mixture. A gradual increase in amount and decrease in intervals followed and during the previous six years the patient had been taking from 4 to 6 ounces of the preparation daily. She was getting the equivalent of from 3 to 4 grains of morphin every day.

Treatment.—A rapid withdrawal of the drug was indicated and was instituted the second day after admission. On the third day of treatment her narcotic, as well as the occasional substitution of morphin, was discontinued. Veronal was used during the following week, when sleep came naturally. Toward the end of the second week, the patient began to show considerable restlessness and complained of numbness and burning of hands and feet; gradual loss of power in both soon followed, with great tenderness over the nerve-trunks and muscles of the extremities. The diagnosis of multiple neuritis was now made; but just why it should have occurred was difficult to explain, until the large alcoholic content of the diarrhea mixture was recognized.

Squibb's Diarrhea Mixture[1] consists of the following:

Tr. opium	m. vi.	(content of alcohol, 91 per cent.)
Tr. capsicum	m. iii.	(content of alcohol, 48 per cent.)
Spts. camphor	m. vi.	(content of alcohol, 93 per cent.)
Chloroform	m. iiss.	(content of alcohol, 1 per cent.)
Alcohol	m. xivss.	(content of alcohol, 95 per cent.)

Total alcoholic content, 83.1 per cent.

In the mixture the patient had been getting, for six years, from 3 to 4 ounces of alcohol daily. The patient's inability to stand and her ataxia, mentioned in the history, now became significant as of alcoholic origin. These had been, in the first diagnosis, passed over as merely symptomatic of opium addiction, the case seemed to be so clearly one of that addiction alone. On closer investigation into the history of the case, the significant fact was now brought out that on the morning before admission the patient had been frightened into hurrying to the hospital, because on attempting to get out of bed her legs had refused to support her. This fact, had it been known, would have pointed to an oncoming neuritis, of probable alcoholic etiology. The seemingly well-nourished condition of this patient, unusual in an opium habitué with a habit of such long duration, seemed now attributable to the food value of the alcohol regularly consumed.

Outcome.—The neuritis progressed rapidly; complete paralysis of hands and feet, with characteristic hand- and wrist-drop, was present at the end of the third week. Muscular atrophy of the extremities became progressively more marked to the end of the third month. Most of the classic symptoms and signs of multiple neuritis, involving sensory, motor and trophic centers, appeared during the course of the disease. Mental symptoms were not present, nor did any joint adhesions occur. The patient slept well, ate heartily, and was cheerful. Two months after the onset, faint motor power became possible in the index-finger of the right hand. This inaugurated a gradual return of muscular ability, which has advanced steadily but slowly to the time of making this report —four and one-half months from time of the patient's entrance to the hospital. The ankle-drop was still complete, but on April 1, for the first time, the patient was able to stand, being partly supported by the nurse. The weight increased steadily during the previous six weeks, the muscles were regaining their former size, menstruation was reestablished five weeks after treatment began and recurred normally, and the breasts returned to more normal size. The original tremor of hands and tongue disappeared, but the deep reflexes (notably the plantar and patellar) were still completely absent. The urine on admission contained hyaline and granular casts (not in great numbers), acetone and albumin; on April 4 it was normal. The hemoglobin ranged between 80 and 85 per cent.

This has seemed to me to be an especially interesting case, owing to the etiologic factors which may have contributed to the inducement of the neuritis. The patient's anemia, produced by the opium, presented favorable soil for the development of neuritis; and in addition to the deleterious effects of this drug on metabolism, we must take into account the probable injury produced by the chloroform in the mixture. An amount of chloroform varying from 1 to 2 drams was ingested daily. Now, any substance which interferes with the oxygenizing processes of the blood, must lower resistance to other toxic substances such as alcohol. In the blood chloroform is carried, for the most part, by the red cells, and is said to retard the reduction of oxyhemoglobin (Cushny). It is well known that chloroform will produce fatty degenerative changes throughout the body, its effects on metabolism resembling closely those of phosphorus poisoning. It is to be noted, too, in connection with this case, that the effects of this drug are especially marked

1. Based on N. F. The formula differs slightly in Squibb's "Materia Medica."

when it is taken into the stomach because of the slower absorption and consequent more prolonged action. An additional reason for emphasizing the chloroform factor is the fact that it belongs to the same narcotic group as alcohol—the methane series—and produces similar effects.

116 Dithridge Street.

MYASTHENIA GRAVIS

FRANK W. ACKER, M.D.

DENVER

I am reporting this case because of the rarity of the disease and to assist the profession in the diagnosis, should they meet with this condition. Some text-books do not mention it.

It is, as the name implies, a grave asthenia or fatigue of the musculature of the body, due to an exhausted condition of the nervous system. In this case, I did not make the diagnosis, but thought it a case of bulbar paralysis, so I called several consultants to help me out; but none of them had ever heard of such a condition, until Dr. Hall was called. He immediately recognized it as myasthenia gravis.

ETIOLOGY AND PATHOLOGY

The etiology is obscure, but several theories are held. One theory is that it is produced by a toxin in the blood which causes the fatigue. Another theory is that it follows infections which cause a toxic neuritis. Link believes that it is due to lymphorrhagia into the muscles, interfering with the lymphatic circulation, thus preventing the removal of fatigue products; but the majority of men seem to support the toxic theory.

The pathologic changes are mainly in the muscles, the nervous system being apparently normal in most cases. There occurs between the muscle fibers a lymphorrhagia, consisting of small lymphoid cells about again as large as red blood-cells; occasionally cells of larger type are found.

REPORT OF CASE

Patient.—M., aged 16, white, was of negative family history. The patient was a well-built girl for her age, with good color, and a well-developed body. She had always had the best of health until March, 1910. At that time she attended a dance in a very light gown, came out into the cold air in a very heated condition and rode home several miles. Since that time the symptoms enumerated below appeared and grew rapidly worse.

Symptoms.—Diplopia, ptosis of upper lids, difficult swallowing and chewing, collection of food in the cheeks, inability to control movements, especially after any kind of exercise; difficult respiration and tachycardia; difficult speech and pronunciation; weakness of neck muscles, causing the patient to rest her head against something; inability to cross knees; a lack of ambition and complaint of becoming tired after any small amount of exercise.

Course of Disease.—The patient's muscles became stiff, and it became more difficult for her to perform any movement. She felt very much better in the morning after she had rested during the night. The urine was negative. The patient died from dyspnea and cardiac failure the same night that Dr. Hall was called in.

DIAGNOSIS, PROGNOSIS AND TREATMENT

I regarded the case as one of bulbar palsy, as it had so many of the symptoms of that condition; in fact, bulbar paralysis is a part of this disease. Besides the typical symptoms of this disease, in the diagnosis the myasthenic reaction can be used, which consists in the electrical examination of the muscles. If a rapidly intermittent current be applied to the affected muscles, they respond well at first, but rapidly the contractions become less, until there is no response; this according to the degree of asthenia in the affected muscles.

The prognosis in these cases is, as a general rule, unfavorable. From one year to two years is the usual length of time the patient lives. My patient, from the time of the first symptoms, lived nine months.

In the treatment of this condition the following points should be observed:

1. All infections and toxic agents should be removed. 2. The patient should take rest. 3. Special attention should be paid to elimination. 4. Tonics such as strychnin and arsenic should be administered. 5. The diet should be of the highest concentration and easy of mastication, as the patient cannot chew and swallow well.

St. Joseph's Hospital.

OPERATION FOR PEDUNCULATED EXOSTOSIS OF THE EXTERNAL AUDITORY MEATUS

S. B. MUNCASTER, M.D.

WASHINGTON, D. C.

Exostoses of the auditory canal are at times as hard as ivory; it is almost impossible to cut them with the sharpest instrument or to drill them with the keenest burr.

A simple and easy method is to make a notched tooth saw out of No. 1 snare wire, or No. 1 piano wire. A piece of such wire twelve inches long is placed on a hard board and nicked obliquely one inch in the center of it, about 100 times. For this purpose, a sharp, heavy knife is used, the blade of which is not brittle. This will make sharp teeth that will saw through the hardest bone.

An application of cocain, 4 per cent., and solution of epinephrin, 1 to 1,000, is made to contract the tissues and for local anesthesia. The canal is washed with solution of bichlorid of mercury, 1 to 5,000, using an ear syringe.

The wire tooth saw must be adjusted around the growth with an ear snare handle. After it is adjusted the assistant holds the wire in place while the operator withdraws the snare handle. The ends of the wire are then twisted around two pieces of wood—one and a half inches long and about one-fourth inch in diameter—for handles.

The base of the growth is then sawed through and removed with a pair of forceps. It is advisable to saw slowly to prevent heat and breaking of the wire. When the base is wider than the body of the growth this wire tooth saw will not be of any service.

If the patient is disposed to be nervous, an anesthetic should be administered.

907 Sixteenth Street.

Intracranial Complications of Middle Ear Disease.—A point of importance in diagnosis of intracranial complications secondary to middle ear disease, says W. Taylor in the *Practitioner*, is that when sinus infection is associated with any other intracranial complication, such as cerebral abscess, the phenomena of the sinus infection predominate, and signs characteristic of the other complaint will only manifest themselves after the sinus trouble has been removed by operation.

Therapeutics

ACUTE ENTERITIS OF ADULTS AND OLDER CHILDREN

There is perhaps danger of over-refinement in giving separate descriptions to disorders affecting different localities of the digestive tract. There are mentioned gastritis, duodenitis, jejunitis, ileitis, typhlitis, colitis, sigmoiditis, and proctitis, but three divisions are certainly convenient; gastritis, enteritis and colitis. While these are not mutually exclusive, the symptoms indicative of disorders of these three divisions of the alimentary canal are certainly distinctive. Duodenitis may be associated, and often is, with gastritis, and enteritis and colitis also are closely connected.

It may also seem an excess of refinement to give separate descriptions to enteritis as it occurs in individuals of different ages, but the disease as it affects infants is so different in its etiology, symptomatology and management from enteritis affecting older children and adults, that to discuss them separately is not only convenient, but practical.

The common causes of acute enteritis are the ingestion of an excessive amount of food, or of food which is not in proper condition to be eaten. In this latter class are included unripe fruit, over-ripe fruit, vegetables, meats and other articles which are not fresh or which may have already commenced to undergo decomposition. It may also be caused by a chilling of the surface of the body, such as becoming uncovered in bed at night when an open window allows the wind to blow on the body, or by chilling of the feet through dampness or through inadequate shoes and socks. Various forms of secondary enteritis, such as may be observed in typhoid fever, cholera, and tuberculosis, must be mentioned in order to make the account complete, but these secondary types will not be discussed in this connection.

The most common and the most important symptoms of acute enteritis are pain and diarrhea. Either of these symptoms may appear before the other, or they may appear coincidently. Other characteristic symptoms are tenderness over certain portions of the abdomen, distention of the intestines with gas, and rumbling noises or borborygmi caused by the movements of gas and fluid from one part of the intestines to another.

When a physician is called to a patient suffering with pain and diarrhea, the first question which arises in his mind is whether to relieve the pain at once by administering an anodyne, or to remove the cause of the trouble by administering a cathartic. If the disease is due to the eating of an excessive amount of food or to improper food and the diarrhea has not been so abundant as to render it probable that the original offending matter has been thoroughly removed from the intestine, and if the pain is not severe, it is certainly wise to commence treatment by the administration of a cathartic. The best of all drugs for this purpose is castor oil, which may be administered in a dose of 15 c.c. (½ an ounce, a tablespoonful) in black coffee or in lemon juice. If for any reason (as, for example, a great distaste of the patient for the drug) it seems better to give some other medicine, the sulphate of magnesium may be selected. This may be given in a dose of 15 grams (½ an ounce) with a little ginger and water, and should be repeated in three hours if in that time it has not acted thoroughly. A dose of calomel (2 or 3 grains) with bicarbonate of sodium (from 5 to 10 grains) may be given instead of the above, if deemed advisable, but for the condition described the castor oil, or Epsom salt, or Rochelle salt is better. After the intestine has been well emptied, or at the beginning of treatment, if the pain is excessive, morphin should be administered for the relief of the pain. If the pain was so great that it has seemed wise to give an anodyne before giving the cathartic, a hypodermatic injection of ¼ grain of sulphate of morphin and 1/150 of a grain of sulphate of atropin may be given to an adult. Another hypodermatic injection of morphin alone, ⅛ of a grain, should be given in an hour, if the pain is not entirely relieved. After the pain has been relieved and after the patient awakens from sleep, if this has followed the hypodermatic injection, the cathartic should be given in accordance with the principles already laid down.

If the pain is not severe, or if, for any reason, it seems unwise to give the patient morphin, other drugs may be employed. The spirit of chloroform is useful for this purpose. It may be combined with other carminatives and anodyne drugs, as, for instance, in the following prescription:

℞	Gm. or c.c.		
Spiritus chloroformi	5		fl. ʒiss
Tincturæ cardamomi comp.	25	or	fl. ʒi
Spiritus vini gallici	ad 100		ad fl. ʒiv

M. et Sig.: Two teaspoonfuls, in water, every hour.

While these medicines are being administered internally, or while they are acting, external applications should be made to the abdomen. Perhaps nothing is more useful than a mild mustard paste, made in the following way: Mix two tablespoonfuls of flour with sufficient hot water to make a paste, then mix thoroughly with this paste one tablespoonful of ground mustard. Spread this on a cloth and apply to the middle of the abdomen. After this has thoroughly reddened the skin, it may be removed and a hot flaxseed poultice may be substituted for it. If the severity of the symptoms is not sufficient to warrant the trouble involved in the preparation of this application, a rubber bag, partly filled with hot water, may be applied to the abdomen. If this is not at hand, several thicknesses of flannel, heated in the oven, may be applied.

Although all irritation and fermentation may cease after the clearing out of the bowels and the stopping of the peristaltic cramps, still it is generally wise to soothe the irritated membrane with bismuth, and stop fermentation with salol, as:

℞	Gm. or c.c.		
Bismuthi subcarbonatis	10		3iiss
Phenylis salicylatis	3	or	gr. xlv

M. et fac chartulas 10

Sig.: One powder every two hours.

In the after-treatment, the matter of food is of great importance. It is wise to withhold all solid food entirely for several hours after the attack and until the intestine has been thoroughly emptied and the pain has entirely ceased. At first only warm drinks should be given. A little warm water may be given at intervals of from one-half an hour to an hour, and a little later warm milk may be given at intervals of two hours. When the active symptoms have entirely subsided, solid food may be administered. This also should be given warm. One of the best forms of solid food for early administration is a soft boiled egg, or a coddled egg, prepared by cooking, after it has been opened, in hot water. Next to this is a small piece of fresh meat; a broiled lamb chop, a piece of broiled steak, a piece of rare roast beef, or roast

lamb may be given. A little later the patient may be allowed stale bread with a little butter, a small baked potato, or a little thoroughly boiled rice. Boiled or baked custard made with milk and eggs may also be allowed. These foods are almost entirely digested in the stomach, with the exception of the rice, bread and potato, and even these are partially digested in the stomach if they are thoroughly chewed. Articles of food which are not digested in the stomach should not be allowed until the patient has thoroughly recovered from the enteritis, and then they should be taken only gradually and in small amounts. Among these foods are included especially fruits and vegetables, which should be taken only after several days, and at first in small amounts and not frequently.

Persons who are susceptible to attacks of acute enteritis should be particular always to protect the body by suitable and adequate clothing. Warm stockings and heavy shoes should keep the feet from the cold and damp ground, and woolen underclothing should be used, except possibly in the very warmest weather in the middle of summer. Care should be taken to avoid unripe and overripe fruit and vegetables, meats and other articles of food which are not fresh. Excessive eating and too rapid eating should always be avoided. The individual who eats a moderate amount of food of good quality and avoids exposure to cold will rarely be troubled with acute enteritis.

WARTS—VERRUCA

A wart is an over-growth of a papilla of the corium of the skin. It consists of one or more vascular loops surrounded and held together by connective tissue which is covered by a layer of epithelial cells. It is common on the hands of young people and on the genital organs of young adults.

The cause of the abnormal growth has not been definitely established. In some instances it appears to be associated with some disturbance of the nervous system. At other times it would appear to be associated with auto-intoxication accompanying constipation. In still other cases, local irritation seems to give rise to it; and in the opinion of some writers it is due to the action of bacteria.

In the majority of persons the presence of a few warts gives rise to so little trouble that they will not devote the time and attention necessary to their successful treatment. In the occasional cases in which the patient really desires to get rid of the trouble, the treatment should be both general and local. If there are evidences of auto-intoxication, as indicated by intestinal fermentation and constipation, repeated small doses of sulphate of magnesium will often prove beneficial. The dose may range from 5 or 10 grains (0.30 or 0.60 gram) for a child to ½ dram or 1 dram (2 or 4 grams) for an adult, given dissolved in water, on an empty stomach, once, twice, or three times a day. If there are signs of intestinal putrefaction, as shown by indican in the urine, a saline alkaline cathartic should not be selected; as it tends to prolong rather than stay the condition. A castor oil purge, then vegetable laxatives should be selected.

In other cases, particularly if the patient is nervous and anemic, Fowler's solution of arsenic may be given in doses of 1 or 2 drops for a child, and 3 or 4 drops for an adult, given diluted in water, three times a day, after eating.

If there is indigestion, as indicated by flatulence and a coated tongue, without constipation, dilute hydrochloric acid, given in doses of from 5 to 10 drops, well diluted with water, after meals, may prove useful.

The external treatment generally proves more interesting to the patient. It is commonly observed that the warts frequently disappear without treatment, perhaps on account of some change in manner of life, or on account of increased cleanliness. One of the most satisfactory methods of treating small warts, when not very numerous, is by direct application, strictly limited to the wart itself, of glacial acetic acid. Sometimes bathing the warts with a strong solution of salicylic acid or of boric acid, or of resorcin, will result in their removal.

In many cases, however, the most satisfactory method is by removing them with a knife, curved scissors, or a curette. If such operative measure is undertaken, the wart and the surrounding skin should be carefully cleansed by means of a bichlorid of mercury solution. The wart may be anesthetized by a spray of ethyl chlorid. It is then seized with a pair of forceps and gently lifted up, when it may be cut off, either with a knife or a pair of curved scissors. It is generally well to curette the base of the wound after removal of the wart. If there is much hemorrhage, it can usually be stopped by pressure, or by the application of a solution of sulphate of iron. If the bleeding stops by pressure, the wound should be touched with phenol (carbolic acid) and dressed with a dry dusting powder, such as boric acid or 1 per cent. salicylic acid in talcum powder. The nitrate of silver stick (or a 25 per cent. solution) may be substituted for the phenol for treatment of the wound left after excision.

When the warts occur about the genital organs they are usually due to purulent discharges, or to excessive mucous or sebaceous secretions. In these cases great attention to cleanliness is always essential. Bathing with a strong bichlorid of mercury solution is useful, but it will frequently be necessary to excise them. An excellent dusting powder for use in these cases is composed of the following:

R	Gm.		
Zinci oxidi			
Acidi tannici			
Hydrargyri chloridi mitis	aa 5	or	ää 3i

M. et Sig.: Apply externally.

To prevent a return of these genital warts daily bathing with peroxid of hydrogen solution and the free use of talcum powder are generally efficient.

Operation and Sunshine in Treatment of Tuberculous Peritonitis.—The details of seventy-one operative cases are tabulated by Y. Takaki to emphasize the well-known advantages of a long median incision and exposure of the intestine and omentum to the sunlight for twenty minutes after evacuation of the ascites. The temperature may run up after operation for a few days but subsides harmlessly. He does not attempt to operate when the temperature is already high, but waits for it to subside, the final outcome being better. A second operation became necessary in two of his patients, and the nodules and adhesions found at the first operation had all vanished. His communication is published in the *Sei-i-kwai*, March 10, 1911, page 19. His youngest patient was 8 and the oldest 54 years old; in twenty-three of his sixty-seven cases the onset was sudden and stormy, suggesting acute appendicitis or peritonitis in some instances. There was complicating acute peritonitis in one case, extensive intestinal hemorrhage in two. Complicating pulmonary lesions were benefited by the operation in some cases. On the whole the outlook for the ascitic form is seen to be good, and fair for the fibrous form, while there is little hope in the ulcerative form.

STATE BOARD STATISTICS FOR 1910

THE ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1566 to 1575 will be found three tables, A, B and C, giving in detail the results of the various state medical license examinations held during 1910. Complete reports were received from all states.

Tables A and B have been arranged so that, read from left to right, they give the results by colleges, showing the number of graduates appearing for examination in each state, whether they passed or failed, the total number examined during the year, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of each school appeared for examination. Read from above downward, they give the results by states, showing the number registered and rejected from each college, the total number examined, the total number registered, the total number rejected and the percentage of rejections. The fact that the majority of graduates take the license examination in the state in which the college is located is shown by the dark diagonal zone made by the grouping of figures, passing from the upper left to the lower right corner of each table. This shows also that the states which harbor low-grade medical schools are themselves the recipients of the greater portion of the ill-trained output of such schools. These tables are worthy of much careful study, for many important deductions are possible.

Caution in Forming Conclusions

In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger the number of graduates examined, the more accurate is the finding. But other conditions are seldom equal. The number of states in which a school's graduates have been examined is important. The larger this number the more accurate will be the conclusions. Again, the character of the board making the examination and the methods employed are important factors to be considered, since some boards hold very careful examinations and include practical laboratory and clinical tests, or they may mark the papers more severely, while others, especially partisan boards, may be very lenient. In this connection it should be stated that although conditions are undergoing a steady improvement it is still true that the character of the license examination as usually conducted at the present time is such that graduates of colleges conducted largely by quiz-class methods may easily be successful in passing them. Therefore, the statistics herewith presented should be taken only as part of any investigation of medical schools, although it is an important part.

Graduates of All Years Examined in 1910.

Table A shows the results for all candidates who took examinations in 1910, regardless of the years in which they graduated. This shows that altogether 7,004 were examined last year, as compared with 7,287 in 1909; 7,770 in 1908, and 7,271 in 1907. Of those examined 18.4 per cent. failed, as compared with 19.6 per cent. in 1909; 21.7 per cent. in 1908, and 21.3 per cent. in 1907.

There were 121 medical colleges in the United States which still grant degrees and which had graduates examined. Foreign graduates were examined in 20 states, the total number being 108. The largest number of foreigners examined in any state was 41 in New York. Graduates of Canadian schools were examined in 25 states, more appearing naturally in the border-line states. The figures for the Canadian colleges are given separately in order to show the number of candidates coming from each as well as to show the successes of their graduates at the examinations. Altogether 112 candidates from Canadian colleges were examined, of which number 18, or 16.1 per cent. failed. Of all Canadian colleges, the University of Toronto had the largest number examined. Laval University has the highest percentage of failures. There were no failures recorded for graduates from McGill, or from the University of Manitoba.

Undergraduates Examined During 1910

Line 130 of Table A shows the number of non-graduates examined in four states during 1910. Altogether 353 non-graduates were examined, of which number 161 or 45.6 per cent. failed. North Carolina is required by an amendment to its practice act to register non-graduates, who are permitted to practice only in the sparsely settled mountain districts. The open door for these candidates still remains only in Massachusetts, Mississippi, Oregon and Tennessee, and the percentages of failures in these states this year for non-graduates were respectively, 87.3, 70.9, 0.0, and 15.0. The largest number registered was in Tennessee where, out of the 315 candidates registered during the year in that state, 142, or 45.1 per cent., were non-graduates.

Recent Graduates Examined During 1910

Table B gives the results for graduates of 1906 to 1910, inclusive, which were examined during 1910. This table is particularly important, since it deals with recent graduates and is, therefore, the fairest basis for comparison between colleges. The fairest estimate of a medical college from the standpoint of failures at state board examinations would be obtained from this table. Of all candidates examined in 1910, 5,678, or 80.7 per cent., were recent graduates, and of this number 14.9 per cent. failed, as compared with 18.4 per cent. for all candidates. The figures for medical schools which have ceased to exist either through merger or otherwise have been included in the line for miscellaneous colleges.

Old Practitioners Examined During 1910

Table C is so arranged as to show in comparison the results for graduates of all years (first column), for recent graduates (second column), the graduates of 1905 and previous years (third column), and the graduates of 1910 (fourth column). Of the graduates of 1905 and previous years, or "old practitioners," 973 were examined and of this number 283, or 29.1 per cent. failed, as compared with 14.9 per cent. of failures for recent graduates. This high percentage of failures is probably due chiefly to the long time these candidates have been out of college and to the fact that they are required to take the same examination as recent graduates. Justice to such candidates, most of whom have already been licensed, but who, for good reasons, may desire to change their locations, is the strongest argument for interstate reciprocity in medical licensure, or for special percentage allowances at the examinations for years of practice. The total number of these

TOTAL RESULTS
Comparison with Previous Years

Year.	Table A				B		C		A		K	
	Examined.	Total Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Pract. Examined.	Percentage Failed.	Non-Grads. Examined.	Percentage Failed.	Registd Without Written Examination.	Total Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352

candidates will naturally diminish each year as increased reciprocal relations are established, since, as a rule, the states which do not have reciprocal relations with other states (e. g., California, Florida, Washington, see Table L) examined the largest numbers of old practitioners.

TABLE D.—COLLEGES GROUPED BY STATES
Showing the Number Examined and Percentage of Failures

All Colleges of	Graduates.								State Rank According to the Number Examined.	Rank According to Successes at Examinations.
	Of 1910.		Of 1906 to 1910.		Of 1905 and Previous.		Of all years.			
	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.		
Alabama	56	26.8	81	25.9	2	50.0	83	26.5	20	27
Arkansas	36	33.3	44	34.1	....	....	44	34.1	25	30
California	43	9.3	76	14.5	11	36.3	87	17.2	16	20
Colorado	9	0.	14	0.	1	0.	15	0.	33	1
Connecticut	9	0.	24	4.2	4	0.	28	3.6	30	3
District of Columbia	25	4.0	97	21.6	13	7.7	110	20.0	15	23
Georgia	147	7.5	174	13.2	8	50.0	182	14.8	10	18
Illinois	539	8.7	722	12.5	104	21.2	826	13.6	1	17
Indiana	56	1.8	60	5.0	....	....	60	5.0	24	5
Iowa	87	2.3	103	4.9	17	23.5	120	7.5	13	10
Kansas	33	0.	37	2.7	3	66.7	40	7.5	26	10
Kentucky	199	19.6	229	23.1	13	38.4	242	24.0	8	26
Louisiana	101	6.9	116	6.9	10	0.	126	6.4	12	7
Maine	22	9.1	24	8.3	8	0.	32	6.7	29	8
Maryland	279	16.5	404	18.1	48	37.5	452	20.1	6	24
Massachusetts	133	9.0	240	15.8	30	20.0	270	16.3	7	19
Michigan	121	1.7	142	2.8	31	16.1	173	5.2	11	6
Minnesota	31	9.7	67	10.4	17	5.9	84	9.5	19	15
Mississippi	15	53.3	23	52.2	....	....	23	52.2	31	32
Missouri	360	8.9	461	17.6	49	42.9	510	20.6	4	25
Nebraska	68	1.5	79	2.5	7	28.6	86	4.7	17	4
New Hampshire	7	0.	21	4.8	1	100.0	22	9.1	32	14
New York	279	9.3	475	6.9	54	16.7	529	7.9	3	11
North Carolina	41	36.6	63	42.8	3	66.7	66	43.9	22	31
Ohio	168	8.3	188	10.1	24	37.5	212	13.2	9	16
Oklahoma	....	....	....	....	....	....	....	....	....	....
Oregon	16	12.5	32	15.6	1	100.0	33	18.2	28	21
Pennsylvania	459	5.1	591	6.9	80	10.0	671	7.3	2	9
South Carolina	41	29.3	58	27.6	3	33.3	61	27.9	23	28
Tennessee	285	23.2	410	28.0	56	42.9	466	29.8	5	29
Texas	78	0.	82	0.	3	33.3	85	1.2	18	2
Vermont	17	11.8	30	6.7	5	20.0	35	8.6	27	13
Virginia	74	4.1	101	7.9	11	9.1	112	8.0	14	12
Wisconsin	48	18.7	63	20.6	5	0.	68	19.1	21	22
Totals Examined in 1910	3875	10.7	5331	14.1	622	24.8	5953	15.3	....	....

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 529 graduates of various years were examined by state boards during 1910, of which number 7.9 per cent. failed. Of the 475 who graduated in recent years, however (1906 to 1910 inclusive), 6.9 per cent. failed, while of the 54 who graduated previous to 1906, 16.7 per cent. failed.

The ninth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 826 graduates examined by state boards during 1910, followed by Pennsylvania with 671, New York with 529, Missouri with 510 and Tennessee with 466.

The tenth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks seventeenth in the success of its graduates at examinations. While Pennsylvania ranks second as to the number examined, it ranks ninth in the success of its graduates at examinations and while Tennessee ranks fifth as to the number examined, it ranks twenty-ninth in the success of its graduates at examinations

GRADUATES OF 1910 EXAMINED DURING 1910

Table C also gives the results for the graduates of 1910 who were examined during the year by state boards, and shows that 3,976 or 56.5 per cent. of all candidates examined during the year graduated in 1910. Educational statistics show that the medical colleges of the United States graduated 4,440 students last year; therefore, about 90 per cent. of all graduates in 1910 took examinations for license during that year. In some of the states graduates in medicine are allowed to serve hospital internships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 10 per cent. Of those examined 432, or 10.9 per cent., failed.

Table C permits of an interesting study of medical schools from the standpoint of state board examinations. For some colleges, the percentages of failures are high for old practitioners but much less for recent graduates and for graduates of 1910. Other colleges, however, show no improvement either for recent graduates, or for graduates of 1910. In the latter instance a knowledge of these colleges, based on a careful study and which included inspections of the colleges, bears out what the figures of this table indicate, that some of these institutions are teaching medicine no better to-day than they did years ago.

RESULTS FOR LARGER COLLEGES
Comparison with Previous Years (Table E).

Year.	Colleges Represented.	Total Examined.	Per Cent. Failed.	Colleges, 100 or More Examined.	Total Examined.	Per Cent. Failed.	Colleges, 50 to 100 Examined.	Total Examined.	Per Cent. Failed.	Colleges, Less than 50 Examined.	Total Examined.	Per Cent. Failed.	Foreign and Non-grads. Examined.	Per Cent. Failed.
1904	149	6241	16.4	14	2271	11.7	28	1817	16.9	107	2153	21.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	37	2543	17.7	102	1518	28.9	750	51.1
1906	146	6938	17.3	16	2504	14.5	34	2381	16.9	96	2043	21.3	1097	42.5
1907	146	6207	13.8	12	1626	12.7	36	2578	14.7	98	2003	13.6	1064	55.5
1908	137	6491	17.2	19	2596	15.6	26	1825	15.5	92	2070	20.8	1270	14.6
1909	149	6341	16.2	17	2476	16.9	27	1920	12.3	90	1945	19.2	946	42.6
1910	121	5953	15.3	17	2379	13.3	25	1791	13.7	79	1783	19.3	573	37.9

STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages as compared with previous years is of interest. The total examined and the percentage of failures, shown in Table A, are the lowest since the compiling of these statistics was begun in 1904. The total examined in 1910 shows a decrease of 1,031 below 1906, when 8,035 candidates were examined.

Other deductions from the larger tables have been made and are presented in Tables D to M, which are worthy of careful study.

STUDY OF COLLEGES BY STATE GROUPS

Table D is based on the first four large tables and gives the results for the group of colleges located in each state. It shows what states are furnishing the largest numbers of physicians and the failure percentages indicate what kind of training these colleges are furnishing, so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures for graduates of recent years. Of the 34 states having medical colleges which grant degrees, 15 furnished 100 or more candidates examined. Of these 15 groups of colleges, 6 had failure percentages of less than 10 per cent.; 4 had failure percentages between 10 and 20, and 5

had over 20 per cent. of failures. The highest failure percentage was obtained by the Mississippi group. Of the states having 100 or more candidates examined, however, the highest failure percentage was obtained by the Tennessee group, which had 29.8 per cent., followed by the Kentucky group, with 24.0 per cent. Other deductions are given with the table.

STUDY OF LARGER COLLEGES

Table E is also based on the three large tables and gives the results of state board examinations as they affect the 42 largest medical colleges. Although these colleges represent less than one-third of the medical colleges in the United States, they furnish nearly two-thirds of all the candidates for license. This table shows that the graduation of large classes by a medical college does not prove excellence of teaching since several colleges having 100 or more examined have very high failure percentages and this holds true even for the graduates of 1910. In fact, the larger the college from the standpoint of the number of students and graduates the more serious is inferior teaching ability, indicated by a high failure percentage. In fairness to the medical student, and in the interests of the public, such schools should greatly strengthen their teaching facilities or reduce the size of their classes.

Altogether for these schools 563, or 13.4 per cent., failed, as compared with 19.2 per cent. of failures for the 1783 candidates from the 79 colleges having less than 50 each examined.

Besides the graduates of the medical colleges of the United States, 1,051 candidates were examined, made up of 112 graduates of Canadian colleges, 108 foreign college graduates, 478 graduates of miscellaneous colleges and 353 non-graduates. Of these 1,051 candidates, 384, or 36.5 per cent., failed.

RESULTS IN HOME STATES AND ELSEWHERE

Table F is of much interest, because it shows for each college the results of examinations in the state where the college is located, as compared with the results of examinations in other states, where there is no possibility of local influence. Of all recent graduates examined in 1910, 3,191, or about 60

TABLE E.—COLLEGES HAVING FIFTY OR MORE EXAMINED

TABLE SHOWS TOTAL NUMBER EXAMINED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

College.	Graduates, All Years.			Graduates of 1906-1910.			Graduates, 1905 and previous.			Graduates of 1910.			Margin Number.
	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	
University of Louisville, Medical Department	236	22.5	27	223	21.5	24	13	38.4	11	194	18.0	19	40
Northwestern University Medical School	206	5.3	20	185	4.9	17	21	9.5	11	136	2.2	11	30
University of Pennsylvania, Department of Medicine	196	2.6	29	164	2.4	25	32	3.1	15	124	1.6	16	100
College of Physicians and Surgeons, Chicago	185	14.1	24	154	14.3	20	31	12.9	15	120	3.3	15	25
Jefferson Medical College	174	4.6	33	149	2.7	31	25	16.0	13	105	0.	20	97
Memphis Hospital Medical College	135	31.1	13	118	30.5	10	17	35.3	9	99	26.3	8	106
Chicago College of Medicine and Surgery	133	12.0	18	131	11.5	17	2	50.0	2	108	8.3	11	23
Rush Medical College	130	7.7	21	90	0.	16	40	25.0	15	65	0.	9	32
Tulane University of Louisiana, Medical Department	120	5.0	16	110	5.5	13	10	0.	8	97	5.2	10	42
University of Maryland, School of Medicine	116	20.7	21	107	20.6	18	9	22.2	6	85	20.0	13	48
Columbia University, College of Physicians and Surgeons	116	0.9	20	100	1.0	16	16	0.	10	43	2.3	7	74
St. Louis University, School of Medicine.—R	109	4.6	14	106	2.8	13	3	66.7	2	90	0.	8	65
Universities of Nashville and Tennessee, Medical Department	109	22.9	21	90	16.7	16	19	52.6	12	53	11.3	10	109
Baltimore Medical Department	108	24.1	25	95	20.0	22	13	53.8	8	57	10.5	11	44
Meharry Medical College	103	42.7	17	99	42.4	17	4	50.0	4	65	36.9	15	107
Tufts College Medical School	102	9.8	10	96	9.4	8	6	16.7	4	61	8.2	5	52
University of Michigan, Department of Medicine and Surgery	101	5.9	16	80	1.2	11	21	23.8	11	67	0.	7	55
Harvard Medical School	99	5.1	25	84	3.6	22	15	13.3	11	43	0.	9	51
Washington University, Medical School	95	3.2	8	92	3.3	8	3	0.	3	88	3.4	5	68
Barnes Medical College	90	31.1	18	77	28.6	17	13	46.2	8	60	25.0	13	61
Medico-Chirurgical College of Philadelphia	87	13.8	16	75	13.3	10	12	16.7	10	69	11.6	7	98
College of Physicians and Surgeons, Baltimore	85	15.3	20	75	12.0	17	10	40.0	8	59	13.6	16	45
Johns Hopkins University, Medical Department	84	1.2	24	74	0.	22	10	10.0	7	44	0.	16	46
University and Bellevue Hospital Medical College	84	6.0	14	77	2.6	8	7	42.9	7	43	2.3	4	82
Atlanta College of Physicians and Surgeons	81	11.1	6	78	10.7	5	3	33.3	3	69	5.8	5	17
Long Island College Hospital	80	13.7	8	76	14.5	4	4	0.	4	41	14.6	3	78
State University of Iowa, College of Medicine	78	7.7	10	67	5.9	9	11	18.1	6	54	3.7	4	35
Cornell University Medical College	76	0.	13	72	0.	9	4	0.	4	50	0.	3	75
University of Pittsburgh, Medical Department	75	12.0	3	75	12.0	3	..	....	..	60	8.3	2	101
St. Louis College of Physicians and Surgeons	67	41.8	18	56	48.2	14	11	9.1	8	19	15.8	5	66
University Medical College, Kansas City	67	17.9	14	56	12.5	8	11	45.5	9	51	7.8	7	67
University of Minnesota, College of Medicine and Surgery	65	7.7	9	50	8.0	9	15	6.7	7	30	10.0	3	57
Hahnemann Medical College and Hospital, Philadelphia	63	14.3	15	56	14.3	13	7	14.3	6	39	12.8	7	96
Medical College of the State of South Carolina	61	27.9	6	58	27.6	6	3	33.3	3	41	29.3	6	103
Milwaukee Medical College, Dept. of Medicine of Marquette University	61	21.3	6	56	23.2	5	5	0.	3	44	20.5	5	120
Indiana University School of Medicine	60	5.0	7	60	5.0	7	..	....	..	56	1.8	6	33
Atlanta School of Medicine	59	17.0	8	59	17.0	9	..	....	..	50	12.0	8	18
Maryland Medical College	59	45.8	13	53	43.4	10	6	66.7	5	34	44.1	9	47
Hahnemann Medical College and Hospital, Chicago	57	17.5	19	49	14.3	16	8	37.5	6	28	7.1	5	26
Vanderbilt University, Medical Department	55	9.1	19	45	6.7	17	10	20.0	8	26	7.7	12	111
John A. Creighton Medical College	53	1.9	8	50	2.0	8	3	0.	2	42	2.4	3	69
Albany Medical College	50	6.0	8	42	7.1	2	8	0.	6	26	11.5	1	73
Totals	4170	13.4	..	3709	12.5	..	461	19.1	..	2735	10.0	..	...

This table is especially interesting, since it gives data relating to the 42 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size. This time as in 1909 the University of Louisville Medical Department had the largest number examined, which place was held in 1908 by Jefferson Medical College and in the three previous years by the College of Physicians and Surgeons of Chicago.

Of the 17 colleges having 100 or more examined, 9 have failure percentages of less than 10, while 6 stand out prominently with large failure percentages of 20.7, 22.5, 22.9, 24.1, 31.1 and 42.7. This marked difference holds even in respect to recent graduates (of 1906 to 1910, inclusive).

Of the 25 colleges having between 50 and 100 graduates examined, 11 had failure percentages of less than 10; 9 had failure percentages between 10 and 20 and 5 had failure percentages above 20, the 3 highest having 31.1, 41.8 and 45.8 per cent.

The average percentage of failures for these larger colleges for graduates of 1905 and previous years, was 19.1; for graduates of 1906 to 1910 inclusive (recent graduates), 12.5; for graduates of 1910, 10.0 and for graduates of all years, was 13.4. Of the 42 colleges, 23 obtained failure percentages below the average. Of the 6,431 college graduates examined by state boards in 1910, these larger schools furnished 4,170, or 64.8 per cent.

TABLE F.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE B.

College.	Total Examined.	Results in Home State. Passed.	Failed.	Per Cent. Failed.	Results in Other States. Passed.	Failed.	Per Cent. Failed.
ALABAMA..... —17.9	81	45	19	29.7	15	2	11.8
Birmingham Medical College	35	22	9	29.0	3	1	25.0
University of Alabama	46	23	10	30.3	12	1	7.7
ARKANSAS..... + 9.0	44	20	9	31.0	9	6	40.0
College of Physicians and Surgeons	21	5	6	54.5	6	4	40.0
University of Arkansas	23	15	3	16.7	3	2	40.0
CALIFORNIA..... —16.2	76	57	11	16.2	8	0	0.
California Eclectic Medical College	3	2	1	33.3	.....	.....	.....
College of P. and S., Los Angeles	16	11	2	15.4	3	0	0.
College of P. and S., San Francisco	18	11	5	31.3	2	0	0.
Cooper Medical College	21	16	2	11.1	3	0	0.
Hahnemann Medical Coll. of the Pacific	5	4	1	20.0	.....	.....	.....
Oakland Coll. of Medicine and Surgery	3	3	0	0.	.....	.....	.....
University of California	10	10	0	0.	.....	.....	.....
COLORADO..... —	14	12	0	0.	2	0	0.
University of Colorado	14	12	0	0.	2	0	0.
CONNECTICUT..... + 8.3	24	12	0	0.	11	1	8.3
Yale Medical School	24	12	0	0.	11	1	8.3
DISTRICT OF COLUMBIA..... — 7.5	97	25	9	26.5	51	12	19.0
George Washington University	33	15	2	11.8	14	2	12.5
Georgetown University	25	6	2	25.0	16	1	5.9
Howard University	39	4	5	55.6	21	9	30.0
GEORGIA..... +31.5	174	101	0	0.	50	23	31.5
Atlanta College of Phys. and Surgs.	78	53	0	0.	17	8	32.0
Atlanta School of Medicine	59	35	0	0.	14	10	41.7
Georgia College of Eclectic M. & S.	5	.....	.....	.....	5	0	0.
Hospital Medical College, Atlanta	7	.....	.....	.....	7	0	0.
Medical College of Georgia	25	13	0	0.	7	5	41.7
ILLINOIS..... + 3.6	722	445	57	11.4	187	33	15.0
Bennett Medical College	45	23	8	25.8	9	5	35.7
Chicago College of Med. and Surg.	131	91	9	9.0	25	6	19.4
College of Medicine and Surg., Ph.M.	21	8	8	50.0	4	1	20.0
College of Phys. and Surgs., Chicago	154	94	13	12.1	38	9	19.1
Hahnemann Med. College and Hospital	49	25	4	13.8	17	3	15.0
Hering Medical College	10	3	2	40.0	4	1	20.0
Jenner Medical College	20	15	4	21.1	1	0	0.
National Medical University	6	1	5	83.3	.....	.....	.....
Northwestern University Medical School	185	119	1	0.8	57	8	12.3
Reliance Medical College	11	7	3	30.0	1	0	0.
Rush Medical College	90	59	0	0.	31	0	0.
INDIANA..... +31.4	80	53	1	1.9	4	2	33.3
Indiana Univ., School of Medicine	60	53	1	1.9	4	2	33.3
IOWA..... +16.8	103	82	1	1.2	16	4	20.0
Drake University, College of Medicine	25	23	0	0.	1	1	50.0
State Univ. of Iowa, Coll. of Medicine	67	50	1	2.0	13	3	18.7
State Univ. of Iowa, Homeopathic Dept.	11	9	0	0.	2	0	0.
KANSAS..... +14.3	37	30	0	0.	6	1	14.3
Kansas Medical College	14	12	0	0.	2	0	0.
Univ. of Kansas, School of Medicine	23	18	0	0.	4	1	20.0
KENTUCKY..... +10.9	229	90	19	17.4	86	34	28.3
Louisville National Medical College	6	0	1	100	1	4	80.0
University of Louisville, Med. Dept.	223	90	18	16.7	85	30	26.1
LOUISIANA..... + 2.3	116	63	4	5.9	45	4	8.2
Flint Medical College	6	1	2	66.7	3	0	0.
Tulane University Medical Department	110	62	2	3.1	42	4	8.7
MAINE..... +50.0	24	20	0	0.	2	2	50.0
Medical School of Maine	24	20	0	0.	2	2	50.0
MARYLAND..... — 0.5	404	93	21	18.4	238	52	17.9
Baltimore Medical College	95	21	2	8.7	55	17	23.6
College of Physicians and Surgeons	75	11	1	8.3	55	8	12.7
Johns Hopkins University	74	20	0	0.	54	0	0.
Maryland Medical College	53	5	8	61.5	25	15	37.5
University of Maryland	107	36	10	21.7	49	12	19.7
MASSACHUSETTS..... — 5.8	240	123	27	18.0	79	11	12.2
Boston University	24	13	0	0.	10	1	9.1
College of Physicians and Surgeons	36	6	18	75.0	5	7	58.3
Harvard Medical School	84	42	2	4.5	39	1	2.5
Tufts College Medical School	96	62	7	10.1	25	2	7.5
MICHIGAN..... + 0.7	142	110	3	2.7	28	1	3.4
Detroit College of Medicine	35	33	1	2.9	1	0	0.
Detroit Homeopathic College	6	4	2	33.3	.....	.....	.....
Univ. of Michigan, Dept. of M. & S.	80	60	0	0.	19	1	5.0
Univ. of Michigan, Homeopathic College	21	13	0	0.	8	0	0.
MINNESOTA..... — 5.0	67	35	5	12.5	25	2	7.5
Univ. of Minnesota, Coll. of M. & S.	50	31	4	11.4	15	0	0.
Hamline University	17	4	1	20.0	10	2	16.7
MISSISSIPPI..... —32.9	23	8	11	57.9	3	1	25.0
Mississippi Medical College	23	8	11	57.9	3	1	25.0
MISSOURI..... +11.2	461	146	18	11.0	231	66	22.2
American Medical College	6	3	2	40.0	1	0	0.
Barnes Medical College	77	15	5	25.0	40	17	29.8
Eclectic Medical University, Kansas City	9	.....	.....	.....	6	3	33.3
Ensworth Medical College	31	7	3	30.0	12	9	42.9
Kansas City Hahnemann Medical Coll.	28	4	0	0.	19	5	20.8
St. Louis University	106	42	0	0.	61	3	4.7
St. Louis Coll. of Physicians and Surgs.	56	11	5	31.3	18	22	55.0
University Medical College, Kansas City	56	16	3	15.8	33	4	10.8
Washington University	92	48	0	0.	41	3	6.8
NEBRASKA..... +13.3	79	64	0	0.	13	2	13.3
John A. Creighton Medical College	50	39	0	0.	10	1	9.1
Lincoln Medical College	15	11	0	0.	3	1	25.0
University of Nebraska	14	14	0	0.	0	0	.....
NEW HAMPSHIRE..... + 7.2	21	7	0	0.	13	1	7.2
Dartmouth Medical School	21	7	0	0.	13	1	7.2
NEW YORK..... — 3.2	475	373	30	7.4	69	3	4.2
Albany Medical College	42	38	3	7.3	1	0	0.
Columbia Univ. Coll. of P. & S.	100	65	1	1.5	34	0	0.
Cornell University Medical School	72	64	0	0.	8	0	0.
Eclectic Medical College, New York	12	8	4	40.0	2	0	0.
Fordham University	2	2	0	0.	0	0	0.
Long Island College Hospital	76	60	9	13.0	5	2	28.6
N. Y. Homeopathic Med. Coll. & Hosp.	25	17	4	19.0	4	0	0.
N. Y. Med. Coll. & Hosp. for Women	2	0	2	100	0	0	0.
Syracuse University	27	21	3	12.5	3	0	0.
University and Bellevue Hospital	77	65	1	1.5	10	1	9.1
University of Buffalo	40	35	3	7.9	2	0	0.
NORTH CAROLINA..... +26.2	63	15	5	25.0	21	22	51.2
Leonard School of Medicine	45	5	3	37.5	17	20	54.0
North Carolina Medical College	18	10	2	16.7	4	2	33.3
OHIO..... +22.1	188	140	8	5.4	39	11	27.5
Cleveland College of Phys. and Surgs.	20	19	0	0.	1	0	0.
Cleveland Homeo. Medical College	9	4	1	20.0	4	0	0.
Eclectic Medical College	30	7	2	22.2	10	11	52.4
Ohio-Miami Medical College	44	35	4	10.3	5	0	0.
Pulte Medical College	5	3	0	0.	2	0	0.
Starling-Ohio Medical College	45	42	1	2.3	2	0	0.
Toledo Medical College	9	9	0	0.	0	0	0.
Western Reserve University	26	21	0	0.	5	0	0.
OREGON..... —21.8	32	18	5	21.8	9	0	0.
Willamette University	11	7	1	12.5	3	0	0.
University of Oregon	21	11	4	26.7	6	0	0.
PENNSYLVANIA..... + 3.7	591	336	23	4.1	214	18	7.8
Hahnemann Medical College and Hosp.	56	27	4	12.9	21	4	16.0
Jefferson Medical College	149	59	0	0.	86	4	4.4
Medico-Chirurgical College of Phila.	75	56	8	12.5	9	2	18.1
Temple University	35	32	3	8.6	.....	.....	.....
University of Pennsylvania	164	87	2	2.2	73	2	2.7
University of Pittsburgh	75	59	6	9.2	7	3	30.0
Woman's Med. Coll. of Pennsylvania	37	16	0	0.	18	3	14.3
SOUTH CAROLINA..... + 7.2	58	34	12	26.1	8	4	33.3
Med. Coll. of the State of So. Carolina	58	34	12	26.1	8	4	33.3
TENNESSEE..... +22.8	410	117	17	12.7	178	98	35.5
Coll. of Physicians and Surgs., Memphis	21	8	2	25.0	8	5	38.4
Knoxville Medical College	4	1	0	0.	0	3	100
Memphis Hospital Medical College	118	33	2	5.7	49	34	41.0
Meharry Medical College	99	17	7	29.2	40	35	46.7
Tennessee Medical College	24	19	1	5.0	1	3	75.0
Univ. of Nashville and Tennessee	90	29	4	12.1	46	11	19.3
University of West Tennessee	9	2	1	33.3	2	4	66.7
Vanderbilt University	45	10	0	0.	32	3	8.6
TEXAS..... —	82	72	0	0.	10	0	0.
Baylor University	9	8	0	0.	1	0	0.
Forth Worth University	21	19	0	0.	2	0	0.
Southwestern University Medical College	16	11	0	0.	5	0	0.
University of Texas	36	34	0	0.	2	0	0.
VERMONT..... + 0.9	30	15	1	6.3	13	1	7.2
University of Vermont	30	15	1	6.3	13	1	7.2
VIRGINIA..... +16.4	101	61	1	1.6	27	7	13.0
Medical College of Virginia	39	28	0	0.	11	0	0.
University of Virginia	31	20	0	0.	11	0	0.
University College of Medicine	31	13	1	7.2	10	7	41.2
WISCONSIN..... +41.0	63	45	7	13.5	5	6	54.5
Marquette University	56	39	7	15.2	4	6	60.0
Wisconsin Coll. of Phys. and Surgeons	7	6	0	0.	1	0	0.
Totals..... + 9.9	5331	2867	324	10.2	1710	430	20.1

In this table the number of graduates examined in the state in which the college is located are grouped in one column, while graduates of that college examined in other states are in another column. For example, under Maryland, this table shows that, of the 95 graduates of Baltimore Medical College examined by State Boards during 1910, 23 were examined in Maryland of which number 21 passed and 2, or 8.7 per cent. failed, while 72 were examined in other states of which number 55 passed and 17, or 23.6 per cent. failed. This table shows that the graduates have better chances of passing examinations in the state in which their colleges are located than they have elsewhere. This should always be considered in making comparisons between colleges. A college having a low standard, by having all its graduates examined in the home state, may sometimes show a lower percentage of failures than a college of much higher grade which has graduates examined by several states.

The heavy-faced figures give the results by states. The first column of heavy-faced figures shows the differences between the percentages of examinations in the home state and the examinations elsewhere. The plus sign indicates that graduates have better chances of success in the state where the colleges from which they graduated are located; the minus sign indicates that the chances are better elsewhere. The most marked variations in 1910 were in the examination of the graduates of the colleges of Maine, 50.0 per cent., of Wisconsin, 41.0 per cent., of Georgia, 31.5 per cent. and of Indiana, 31.4 per cent., in all of which the chances of the graduates were better in the home state. The marked variations where the graduate's chances were better elsewhere were in Mississippi, 32.9 per cent., Oregon, 21.8 per cent., and in California, 16.2 per cent. The totals show that on the average the chances of success were 9.9 per cent. better if the graduate took the examination in the state where his college was located.

per cent., took their license examinations in the state where the colleges from which they graduated were located. Of this number only 10.2 per cent. failed on the average, whereas, of the 2,140 candidates examined in other states, 20.1 per cent. failed. This would indicate that as a rule the student's chances of passing the license examination are better if he stays in the college's home state. In this connection it is interesting to note that not a single graduate of any one of the Nebraska colleges failed in the Nebraska examinations, although of the graduates of these colleges who were examined in other states, 13.3 per cent. failed. The student's chances for success at home and elsewhere were equal or nearly so in 5 instances; they were better in the home state in 21 instances, while in only 8 instances the student's chances were better if he went to some other state.

TOTAL RESULTS FOR FIVE YEARS

Table G shows, so far as reports were obtainable, the number registered and the number rejected in each state for each of the past five years. A comparison of this table with the statistics in the last educational number of THE JOURNAL (Aug. 20, 1910, p. 682), shows what would be expected, that the states having the largest number of medical graduates examine the largest numbers of physicians. In 1906 several states registered all of the majority of their applicants on the presentation of satisfactory credentials without written examinations. Now, only one state, New Mexico, will register candidates on presentation of a diploma, without examination. This table shows only those registered by examination. Another table (K) shows the total registration by all methods.

CLASSIFICATION OF COLLEGES

Tables H, I and J give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based on the examination of *recent graduates*, as shown in Table B. In forming conclusions, the caution already given should be observed, of noting the number examined, the number of states in which representatives appeared, the character of the board making the examination and the character of the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years. Careful investigation shows that a college cannot be considered a high-grade medical school merely because its graduates occasionally show a low percentage of failures at state board examinations. The fact is, several poorly equipped and low-standard colleges appear in the first list. On the other hand, some good schools appear in the second list. For the majority of colleges, however, the classification is fairly accurate. A comparison of this classification with that based on the actual inspection of the colleges by the Council on Medical Education will be of interest (see THE JOURNAL A. M. A., June 18, 1910, p. 2062).

Table H gives a list of 57 colleges which obtained failure percentages below 10 per cent., 24 of which had no failures whatsoever and 42 had only 5 per cent. or less. The failure percentage for the entire group was 3.5. Table I shows 22 colleges whose failure percentages were between 10 and 20 per cent., of which number 11 had percentages below that for the group, which was 13.7. Table J includes 42 colleges having failure percentages of 20 per cent., or above, of which number 25 had above 30 per cent., 14 had above 40 per cent. and 8 had percentages of 50 per cent., or higher. The average percentage for all candidates from this group of colleges was 31.9.

A comparison of the classification this year with those of previous years shows an increase in the number of colleges having above 20 per cent. of failures and a decrease in those having between 10 and 20 per cent. It will be interesting to note the changes in these totals hereafter as state boards more generally adopt the use of practical examinations.

CLASSIFICATION OF COLLEGES
Comparison with Previous Years (Tables H, I, J).

	Colleges Having Less than 10 Per Cent.	Colleges Having 10 to 20 Per Cent.	Colleges Having Above 20 Per Cent.	Unclassified Colleges.	Total Colleges.
1904	47	27	38	37	149
1905	45	22	40	46	153
1906	62	24	43	20	149
1907	64	27	39	18	148
1908	48	29	46	15	138
1909	58	31	38	7	134
1910	57	22	42	0	121

TABLE G.—PHYSICIANS EXAMINED BY STATE BOARDS, 1906 TO 1910, INCLUSIVE

State.	1906		1907		1908		1909		1910		Totals.			
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Examined.	Rejected.	Registered.	Percentage Rejected.
Alabama	138	22	142	38	66	66	7	20	94	64	657	447	210	32.0
Arizona	35	4	29	2	36	4	19	6	15	9	159	134	25	15.7
Arkansas	152	73	72	106	120	85	111	131	96	28	974	551	423	43.4
California	190	44	118	84	145	96	184	73	204	47	1,185	841	344	29.0
Colorado	...	...	50	6	52	14	36	15	48	5	226	186	40	17.7
Connecticut	84	28	64	17	67	16	52	13	69	18	428	336	92	21.5
Delaware	11	1	4	2	11	0	19	2	21	2	73	66	7	9.6
Dist. of Col.	63	34	59	37	53	36	46	21	32	13	394	253	141	35.8
Florida	66	7	72	8	79	10	70	12	102	15	441	389	52	11.8
Georgia	164	5	139	22	150	14	143	28	148	9	822	744	78	9.5
Idaho	42	12	38	7	52	16	54	23	47	24	315	233	82	26.0
Illinois	748	69	580	52	646	96	645	117	631	100	3,684	2,250	434	11.8
Indiana	228	12	172	17	172	7	102	3	97	9	819	771	48	5.9
Iowa	166	29	146	26	139	43	98	14	113	4	778	662	116	15.0
Kansas	180	27	125	14	116	18	121	20	66	25	712	608	104	14.6
Kentucky	52	13	48	19	107	61	120	18	119	35	592	446	146	24.7
Louisiana	133	14	153	7	145	29	121	33	104	34	773	656	117	15.1
Maine	80	8	74	4	92	11	55	10	73	5	412	374	38	9.2
Maryland	112	44	139	41	132	71	130	33	131	32	865	644	221	25.6
Massachusetts*	270	120	226	118	238	108	213	95	197	100	1,685	1,144	541	32.1
Michigan	162	6	150	8	113	6	140	2	131	3	721	696	25	3.5
Minnesota	104	31	80	35	76	25	90	25	76	22	564	426	138	24.4
Mississippi*	156	144	157	191	138	184	130	154	84	150	1,488	665	823	55.3
Missouri	249	193	186	86	181	50	212	70	181	23	1,431	1,009	422	29.5
Montana	24	25	34	14	51	27	68	23	73	24	363	250	113	31.1
Nebraska	58	25	68	14	108	16	74	8	80	0	446	383	63	14.1
Nevada	2	0	10	1	17	0	9	0	12	1	52	50	2	3.8
New Hampshire	34	17	19	11	37	16	20	10	34	8	206	144	62	30.1
New Jersey	80	13	73	15	89	17	76	12	63	17	455	381	74	16.3
New Mexico	...	...	5	3	30	2	11	4	6	1	62	52	10	16.1
New York	629	56	691	54	679	73	566	72	515	72	3,407	3,080	327	9.6
North Carolina	87	41	111	20	95	26	111	18	79	15	603	483	120	19.9
North Dakota	60	10	49	4	52	10	41	6	42	5	279	244	35	12.6
Ohio	222	16	179	9	182	6	192	13	172	10	1,001	947	54	5.3
Oklahoma	95	28	...	...	34	10	92	44	100	42	445	321	124	27.9
Oregon*	65	56	62	56	43	63	95	50	93	55	638	358	280	43.9
Pennsylvania	519	73	465	54	485	49	474	27	451	52	2,649	2,394	255	9.6
Rhode Island	54	30	36	23	29	17	23	10	23	10	255	165	90	35.3
South Carolina	39	13	41	17	47	21	46	33	61	44	362	234	128	35.4
South Dakota	26	11	23	5	58	6	60	21	52	9	271	219	52	19.2
Tennessee*	150	96	133	140	213	87	277	4	315	52	1,467	1,088	379	25.8
Texas	159	53	187	64	143	23	181	19	162	5	996	832	164	16.5
Utah	37	7	26	0	27	5	28	4	34	4	172	152	20	11.6
Vermont	35	0	40	7	45	6	38	2	21	1	195	179	16	8.2
Virginia	123	35	124	33	128	53	136	40	122	14	808	633	175	21.7
Washington	137	45	163	38	182	60	148	49	154	43	1,019	784	235	23.1
West Virginia	84	72	92	9	102	18	105	10	88	25	605	471	134	22.3
Wisconsin	52	2	62	5	80	7	56	13	71	7	355	321	34	9.6
Wyoming	12	3	7	5	7	2	12	0	10	0	58	48	10	17.1
Totals	8,035		7,271		7,770		7,287		7,004		37,367			
Registered	6,368		5,723		6,084		5,857		5,712		29,744			
Rejected	1,667		1,548		1,686		1,430		1,292		7,623			
Per Cent. Rej.	20.7		21.3		21.7		19.6		18.4		20.4			

This table gives the number of candidates registered by examination by each state during each of the last five years, as well as the number rejected. The last four columns give the totals for the five years and the percentage rejected by each state.

Six states registered over 1,000 candidates by examination, these being Illinois, Massachusetts, Missouri, New York, Pennsylvania and Tennessee. Over 3,000 were registered in Illinois and New York. Of the 1,088 candidates registered in Tennessee in the last five years, 322, or 29.6 per cent., were non-graduates.

The highest percentage of rejections was 55.3 in Mississippi, followed by Oregon, Arkansas and District of Columbia, with 43.9, 43.4, and 35.8, respectively. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would be expected to have higher percentages rejected.

The lowest failure percentages were in Michigan, 3.5; Nevada, 3.8; Ohio, 5.3, and Vermont, 8.2.

TABLE H.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
Cooper Medical College	21	19	2	9.5	3
Oakland College of Medicine and Surgery	3	3	0	0.	1
University of California, Medical Dept.	10	10	0	0.	1
COLORADO					
University of Colorado, Medical Department	14	14	0	0.	3
CONNECTICUT					
Yale Medical School	24	23	1	4.2	6
GEORGIA					
Georgia Coll. of Eclectic Medicine and Surg.	5	5	0	0.	2
Hospital Medical College, Atlanta	7	7	0	0.	1
ILLINOIS					
Northwestern University, Medical School	185	176	9	4.9	17
Rush Medical College	90	90	0	0.	16
INDIANA					
Indiana University, School of Medicine	60	57	3	5.0	7
IOWA					
Drake University, College of Medicine	25	24	1	4.0	3
State University of Iowa, Coll. of Medicine	67	63	4	5.9	9
State University of Iowa, Homeopathic Dept.	11	11	0	0.	3
KANSAS					
Kansas Medical College	14	14	0	0.	3
University of Kansas, School of Medicine	23	22	1	4.4	3
LOUISIANA					
Tulane University, Medical Department	110	104	6	5.5	13
MAINE					
Medical School of Maine	24	22	2	8.3	4
MARYLAND					
Johns Hopkins University, Medical Dept.	74	74	0	0.	22
MASSACHUSETTS					
Boston University School of Medicine	24	23	1	4.2	7
Harvard Medical School	84	81	3	3.6	22
Tufts College Medical School	96	87	9	9.4	8
MICHIGAN					
Detroit College of Medicine	35	34	1	2.9	2
University of Michigan, Dept. of Med. and S.	80	79	1	1.2	11
University of Michigan, Homeopathic Coll.	21	21	0	0.	7
MINNESOTA					
University of Minnesota, Coll. of Med. and S.	50	46	4	8.0	9
MISSOURI					
St. Louis University, School of Medicine	106	103	3	2.8	13
Washington University, Medical Department	92	89	3	3.5	8
NEBRASKA					
John A. Creighton Medical College	50	49	1	2.0	8
Lincoln Medical College	15	14	1	6.7	4
University of Nebraska, College of Medicine	14	14	0	0.	1
NEW HAMPSHIRE					
Dartmouth Medical School	21	20	1	4.8	5
NEW YORK					
Albany Medical College	42	39	3	7.1	2
Columbia Univ., Coll. of Phys. and Surgs.	100	99	1	1.0	16
Cornell University Medical College	72	72	0	0.	9
Fordham University, School of Medicine	2	2	0	0.	1
Univ. and Bellevue Hosp. Medical College	77	75	2	2.6	8
University of Buffalo, Medical Department	40	37	3	7.5	3
OHIO					
Cleveland Coll. of Physicians and Surgeons	20	20	0	0.	2
Ohio-Miami Medical College	44	40	4	9.1	4
Pulte Medical College	5	5	0	0.	3
Starling-Ohio Medical College	45	44	1	2.2	3
Toledo Medical College	9	9	0	0.	1
Western Reserve University, Medical Dept.	26	26	0	0.	6
OREGON					
Willamette University, Medical Department	11	10	1	9.1	3
PENNSYLVANIA					
Jefferson Medical College	149	145	4	2.7	31
Temple University, Medical Department	35	32	3	8.6	1
University of Pennsylvania, Dept. of Med.	164	160	4	2.4	25
Woman's Medical College of Pennsylvania	37	34	3	8.1	13
TENNESSEE					
Vanderbilt University, Medical Department	45	42	3	6.7	17
TEXAS					
Baylor University, College of Medicine	9	9	0	0.	2
Fort Worth University, Medical Department	21	21	0	0.	2
Southwestern University Medical College	16	16	0	0.	3
University of Texas, Dept. of Medicine	36	36	0	0.	3
VERMONT					
University of Vermont, College of Medicine	30	28	2	6.7	9
VIRGINIA					
Medical College of Virginia	39	39	0	0.	7
University of Virginia, Dept. of Medicine	31	31	0	0.	9
WISCONSIN					
Wisconsin Coll. of Physicians and Surgeons	7	7	0	0.	2
Totals	2567	2476	91	3.5	..

TOTAL REGISTRATION IN 1910

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table K, however, shows the total number who received licenses in each state, including those registered by examination, by reciprocity, and under various exemption clauses. Above 100 were registered in 28 different states, above 200 in 10, above 300 in 5 and above 400 in 3, the largest numbers being registered in Illinois with 675, in New York with 592, in Pennsylvania with 451, in Texas with 341 and in Tennessee with 330. Non-graduates were registered in 4 states, there being 142 registered in Tennessee, 39 in Mississippi, 6 in Massachusetts and 5 in Oregon. Altogether 7,352 physicians were licensed during 1910.

Table L gives those registered without examination on presentation of satisfactory credentials, which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since some state boards consider it more fair to the physician to accept his credentials, if satisfactory, whether the state board issuing the original license returns the favor or not. Had not reciprocal relations been established by the 34 states shown in the table, 1,502 physicians, the majority of whom have been in practice for many years, would have been compelled to undergo the ordeal of a second trying examination.

TABLE I.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
College of Phys. and Surgs., Los Angeles	16	14	2	12.5	3
DISTRICT OF COLUMBIA					
George Washington Univ., Dept. of Medicine	33	29	4	12.1	14
Georgetown University, School of Medicine	25	22	3	12.0	10
GEORGIA					
Atlanta College of Physicians and Surgeons	78	70	8	10.7	5
Atlanta School of Medicine	59	49	10	17.0	9
ILLINOIS					
Chicago College of Medicine and Surgery	131	116	15	11.5	17
College of Physicians and Surgeons	154	132	22	14.3	20
Hahnemann Med. Coll. and Hosp., Chicago	49	42	7	14.3	16
MARYLAND					
College of Physicians and Surgeons	75	66	9	12.0	17
MINNESOTA					
Hamline University, Medical Department	17	14	3	17.7	8
MISSOURI					
Kansas City Hahnemann Medical College	28	23	5	17.9	7
University Medical College, Kansas City	56	49	7	12.5	8
NEW YORK					
Long Island College Hospital	76	65	11	14.5	4
New York Homeopathic Medical College	25	21	4	16.0	3
Syracuse University, College of Medicine	27	24	3	11.1	4
OHIO					
Cleveland Homeopathic Medical College	9	8	1	11.1	5
OREGON					
University of Oregon, Medical Department	21	17	4	19.0	3
PENNSYLVANIA					
Hahnemann Medical College and Hospital	56	48	8	14.3	13
Medico-Chirurgical College of Philadelphia	75	65	10	13.3	10
University of Pittsburgh, School of Medicine	75	66	9	12.0	3
TENNESSEE					
Tennessee Medical College	24	20	4	16.7	3
Univ. of Nashville and Tenn., Med. Dept.	90	75	15	16.7	16
Totals	1199	1035	164	13.7	..

RECIPROCITY AND EDUCATIONAL STANDARDS

As at present administered, reciprocal relations between some states are tending to lower rather than to elevate educational standards. A study of these statistics will show that in several instances such relations exist between states differing widely in their standards of education and in the methods and severity of their examinations. It can be seen, therefore, that a loosely administered provision for reciprocity

provides a wide-open door through which unqualified candidates can obtain registration. There are some boards, however, which wisely reserve and exercise the right to reject any candidate who does not possess satisfactory credentials even though he is licensed in a state with which it has reciprocal relations. Some boards also wisely require that the applicant, before he is eligible to registration through reciprocity, must have been engaged in the actual and reputable practice of his profession for at least a year, in the state where the original license was granted. Without this provision a candidate may be tempted to obtain his original license in the state giving the easiest examination and, on the other hand, a state board may be tempted to make its examination less severe for the sake of obtaining additional fees. Hence, without the one-year-residence clause, standards of examination are apt to be lowered. In the establishing of reciprocal relations, therefore, the state board should reserve and exercise the discretionary power to refuse to register any candidate who could not originally have registered in that state and secondly, the board should require that the applicant shall have been in the actual practice of medicine for at least a year before he is eligible to registration under the reciprocity provision.

In the light of the above statement in regard to reciprocity, it will be interesting to study Table M which shows in what states the original licenses were granted of those who were registered elsewhere under the reciprocity provision during the last four years.

TABLE J.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No. of States.
ALABAMA					
Birmingham Medical College	35	25	10	28.6	4
University of Alabama, Medical Department	46	35	11	23.9	6
ARKANSAS					
College of Physicians and Surgeons	21	11	10	47.6	3
University of Arkansas, Medical Department	23	18	5	21.8	6
CALIFORNIA					
California Eclectic Medical College	3	2	1	33.3	1
Coll. of Phys. and Surgs., San Francisco	18	13	5	27.8	3
Hahnemann Medical College of the Pacific	5	4	1	20.0	1
DISTRICT OF COLUMBIA					
Howard University, Medical Department	39	25	14	35.9	19
GEORGIA					
Medical College of Georgia	25	20	5	20.0	6
ILLINOIS					
Bennett Medical College	45	32	13	28.9	11
College of Medicine and Surgery, Ph.M.	21	12	9	42.9	6
Hering Medical College	10	7	3	30.0	6
Jenner Medical College	20	16	4	20.0	2
National Medical University	6	1	5	83.3	1
Reliance Medical College	11	8	3	27.3	2
KENTUCKY					
Louisville National Medical College	6	1	5	83.3	5
University of Louisville, Medical Department	223	175	48	21.5	24
LOUISIANA					
Flint Medical College	6	4	2	33.3	3
MARYLAND					
Baltimore Medical College	95	76	19	20.0	22
Maryland Medical College	53	30	23	43.4	10
University of Maryland, School of Medicine	107	85	22	20.6	18
MASSACHUSETTS					
College of Physicians and Surgeons	36	11	25	69.4	5
MICHIGAN					
Detroit Homeopathic College	6	4	2	33.3	1
MISSISSIPPI					
Mississippi Medical College	23	11	12	52.2	2
MISSOURI					
American Medical College	6	4	2	33.3	2
Barnes Medical College	77	55	22	28.6	17
Ensworth Medical College	31	19	12	38.7	7
St. Louis College of Physicians and Surgs	56	29	27	48.2	14
Eclectic Medical University, Kansas City	9	6	3	33.3	4
NEW YORK					
Eclectic Med. Coll. of the City of New York	12	8	4	33.3	2
N. Y. Med. Coll. and Hospital for Women	2	0	2	100.	1
NORTH CAROLINA					
Leonard School of Medicine	45	22	23	51.1	11
North Carolina Medical College	18	14	4	22.2	6
OHIO					
Eclectic Medical College	30	17	13	43.3	11
SOUTH CAROLINA					
Medical Coll. of the State of So. Carolina	58	42	16	27.6	6
TENNESSEE					
College of Phys. and Surgeons, Memphis	21	14	7	33.3	6
Knoxville Medical College	4	1	3	75.0	3
Memphis Hospital Medical College	118	82	36	30.5	10
Meharry Medical College	99	57	42	42.4	17
University of West Tennessee, Med. Dept.	9	4	5	55.6	5
VIRGINIA					
University College of Medicine	31	23	8	25.8	10
WISCONSIN					
Marquette University, Medical Department	56	43	13	23.2	5
Totals	1565	1066	499	31.9	..

IN CONCLUSION

In the publication of these statistics, our endeavor has been to give an absolutely fair presentation of facts, a knowledge of which is always beneficial. Without question this annual presentation of the results of state licensing examinations has had a most helpful influence on medical education and medical licensure in this country. We reiterate our acknowledgments to the state licensing boards, whose ready cooperation and complete reports have made the publication of these data possible.

TABLE K.—REGISTRATIONS BY STATE BOARDS DURING 1910

States.	By Examination.			By Reciprocity.	Without Written Exam. or Under Exemption.	Total Registered.
	Graduates, 1906-1910.	Graduates, 1905 and Previous.	Non-graduates.			
Alabama	88	6	.....	.....	.....	94
Arizona	10	5	.....	.....	.....	15
Arkansas	85	11	.....	36	.....	132
California	125	79	.....	.....	.....	204
Colorado	45	3	.....	121	.....	169
Connecticut	57	12	.....	2	.....	71
Delaware	19	2	.....	.....	.....	21
District of Columbia	29	3	.....	7	.....	39
Florida	69	33	.....	.....	.....	102
Georgia	145	3	.....	29	1	178
Idaho	29	18	.....	.....	.....	47
Illinois	604	27	.....	44	.....	675
Indiana	93	4	.....	35	.....	132
Iowa	111	2	.....	48	.....	161
Kansas	63	3	.....	61	.....	127
Kentucky	110	9	.....	17	3	139
Louisiana	96	8	.....	6	.....	110
Maine	62	11	.....	5	.....	78
Maryland	126	5	.....	12	.....	143
Massachusetts	170	21	6	.....	.....	197
Michigan	123	8	.....	40	.....	171
Minnesota	62	14	.....	50	.....	126
Mississippi	39	6	39	.....	.....	84
Missouri	174	7	.....	57	7	245
Montana	47	26	.....	.....	.....	73
Nebraska	78	2	.....	63	.....	143
Nevada	3	9	.....	11	.....	23
New Hampshire	30	4	.....	2	.....	36
New Jersey	51	12	.....	218	.....	281
New Mexico	3	3	.....	.....	90	96
New York	468	47	.....	42	35	592
North Carolina	76	3	.....	17	.....	96
North Dakota	31	11	.....	28	.....	70
Ohio	162	10	.....	49	.....	221
Oklahoma	67	33	.....	148	.....	248
Oregon	50	38	5	.....	.....	93
Pennsylvania	437	14	.....	.....	.....	451
Rhode Island	18	5	.....	.....	.....	23
South Carolina	58	3	.....	1	.....	62
South Dakota	36	16	.....	.....	.....	52
Tennessee	159	14	142	15	.....	330
Texas	130	32	.....	179	.....	341
Utah	33	1	.....	14	.....	48
Vermont	19	2	.....	7	.....	28
Virginia	108	14	.....	16	.....	138
Washington	79	75	.....	.....	.....	154
West Virginia	84	4	.....	24	.....	112
Wisconsin	61	10	.....	82	2	155
Wyoming	8	2	.....	16	.....	26
Totals	4830	690	192	1502	138	7352

This table shows the total number registered during 1910 in each state by the various methods. The first column shows the recent graduates registered, the second column, the old practitioners (graduates of 1905 and previous years), the third column the non-graduates, and the fourth column shows the number licensed through reciprocity. It is interesting to note that states which have registered large numbers through reciprocity have examined very few old practitioners. The chief exception is New York, which has arranged reciprocal relations with only seven other states. The fifth column shows those registered without written examination under various exemption clauses. The last column shows the total number of physicians registered in each state during the year.

TABLE L.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1910.

State Board of	Total Reg. through Reciprocity, Ea. State.	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. of Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	N. Carolina	N. Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	S. Carolina	S. Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	W. Virginia	Wisconsin	Wyoming	U. S. Pub. Health and Marine Hosp. Service.	Canada
Arkansas	36	..	..	..	..	..	..	..	..	..	..	..	4	2	..	1	5	7	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..
Colorado	121	..	..	..	2	..	..	..	..	..	..	..	17	2	15	10	3	1	..	1	..	2	1	1	14	2	4	..	..	1	..	6	..	..	5	..	20	..	..	..	2	2	..	1	..	2	3	3	1	..	..
Connecticut	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dist. of Col.	7	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	..	..	..	..	..	..
Georgia	29	..	..	..	..	..	..	..	1	..	..	..	1	1	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	8	..	..	..	..	..	10	..	..	3	..	..	1	..	..	..
Illinois	44	..	..	..	..	..	..	..	..	..	..	..	4	6	4	3	..	1	3	..	5	1	..	..	..	2	1	..	1	..	..	..	..	2	2	1	..	..	..	..	..	..	1	..	..	4	3	..	..	..	..
Indiana	35	..	..	..	..	1	..	..	..	..	..	..	11	..	2	2	8	..	..	..	..	4	1	..	1	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Iowa	48	..	..	..	..	1	..	..	..	..	..	..	27	1	..	4	..	..	..	..	..	3	..	..	3	..	7	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Kansas	61	..	..	8	..	..	..	..	..	..	..	..	10	2	10	..	6	..	..	..	..	..	..	..	6	..	4	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	1	1	..	..	7	1	..	..	1
Kentucky	17	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	..	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	8	..	..	1	..	..	..	..	..	..
Louisiana	11	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Maine	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..
Maryland	12	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	1	..	2	..	1	..	..	..
Michigan	40	..	..	..	..	1	..	..	..	1	..	..	12	2	2	..	1	..	..	2	..	..	..	..	1	..	1	..	..	1	..	2	1	..	6	1	..	..	..	..	..	..	..	..	..	1	..	2	3	..	..
Minnesota	50	..	..	..	..	..	..	1	..	..	..	..	25	..	7	1	..	..	2	1	..	2	..	..	1	..	1	..	..	1	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..
Missouri	57	..	..	1	..	3	..	..	..	..	..	..	12	3	13	4	5	..	..	5	..	1	1	..	..	..	3	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	3	..	..	..	..	..	..	..	..	..
Nebraska	63	..	..	1	..	2	..	..	..	..	..	..	16	1	14	7	1	..	1	..	..	2	1	..	9	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1	..	2	3	..	..	..
Nevada	11	..	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	1	..	1	1	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Hampshire	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
New Jersey	218	..	..	..	..	..	..	3	..	..	..	..	2	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	206	..	..	..	..	1	..	..	..	..	..	2	..	1	..	..	..	..	..
New York	42	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	11	..	..	..	..	..	..	..	9	..	..	..	..	3	..	..	..	..	..	..	..	..	..	15	..	..	2	..	..	..	1
No. Carolina	17	..	..	..	..	..	..	1	..	..	..	..	3	..	..	..	1	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	2	..
No. Dakota	28	..	..	..	..	..	..	..	..	..	..	..	13	..	..	..	..	..	..	..	..	1	10	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..
Ohio	49	..	..	..	..	..	..	..	1	..	..	..	10	9	..	1	..	..	3	3	..	10	..	..	..	..	..	..	..	1	..	..	4	..	..	..	..	..	..	..	..	..	1	..	1	..	5	..	..	..	..
Oklahoma	148	..	3	..	..	..	..	..	..	8	..	..	35	5	..	23	15	..	..	..	..	1	1	..	24	1	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	21	..	..	5	..	1	1	..	..
So. Carolina	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Tennessee	15	..	..	..	..	..	..	..	..	4	..	..	..	3	..	..	3	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..
Texas	179	..	37	..	..	..	..	3	..	..	..	..	34	6	4	6	13	..	1	4	..	5	3	..	16	..	11	1	..	1	..	..	..	3	12	..	..	..	..	..	..	..	..	..	1	4	..	13	1	..	..
Utah	14	..	..	..	1	..	..	..	..	..	..	..	7	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vermont	7	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	16	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	1	1	..	2	..	..	..	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	3	1	..	..	..
Wyoming	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	11	..	..	2	..	..	..	..	..
W. Virginia	82	..	..	..	3	..	..	..	..	..	..	..	40	4	6	..	1	..	..	8	..	1	7	..	3	..	1	1	..	..	..	..	2	..	..	2	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..
Wisconsin	16	..	..	..	..	..	..	..	1	..	..	..	3	1	4	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..
*Total	1502	0	0	52	2	13	0	6	11	1	14	0	286	50	84	63	74	9	15	41	0	51	31	1	91	3	42	3	1	16	1	224	7	8	45	21	0	21	0	5	0	45	23	1	27	31	2	45	31	1	2	2

*Total received from each state through reciprocity.

This table shows the number of physicians registered by each state through reciprocity during 1910. "Reciprocity" is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including licenses, regardless as to whether the state issuing the original license reciprocates with those or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 42 applicants through reciprocity during 1910, of which number 1 came from Indiana, 11 from Michigan, 9 from New Jersey, 3 from Ohio, 15 from Vermont, 2 from Wisconsin and 1 from Canada. Reading from above downward, the table shows that 224 physicians left New York during 1910 and registered in other states under the reciprocity provision, of which number 6 registered in Colorado, 1 in Connecticut, 1 in Georgia, 2 in Michigan, 206 in New Jersey, 4 in Ohio, 2 in Utah and 2 in Wisconsin. New Jersey leads, having registered 216 physicians through reciprocity, followed by Texas which registered 179, Oklahoma with 148, Colorado with 121 and Wisconsin with 82. It is interesting to note in what states the original licenses were issued. The table shows that of the 1,502 applicants registered through reciprocity, 286, or 19 per cent. obtained their original licenses in Illinois and 224, or 15 per cent. were first registered in New York, but 206 of the latter were registered in New Jersey. The states which furnished the three next highest numbers were Missouri with 91, Iowa with 84, and Kentucky with 74.

Altogether 1,502 licenses were issued through reciprocity in 1910, an increase of 335 over 1909, 410 over 1908, 513 over 1907 and 817 over 1906.

TABLE M.—RECIPROCAL REGISTRATIONS IN FOUR YEARS
Showing what states issued the original licenses

State	Physicians Going from States Named During 1907	1908	1909	1910	Totals	State	Physicians Going from States Named During 1907	1908	1909	1910	Totals
Alabama*	2	4	2	..	8	New Jersey	27	46	29	16	118
Arizona*	..	1	2	..	3	New Mexico*	..	1	7	1	9
Arkansas	1	..	1	52	54	New York	79	100	59	224	462
California*	2	2	1	2	7	North Carolina	1	4	7	7	19
Colorado	5	10	12	13	40	North Dakota	3	6	[illegible]	8	22
Connecticut*	..	2	2	..	4	Ohio	39	35	47	45	166
Delaware	1	2	1	6	10	Oklahoma	4	3	5	21	33
District of Columbia	15	14	13	11	53	Oregon*	..	1	..	..	1
Florida*	..	..	1	1	2	Pennsylvania*	15	15	7.	21	58
Georgia	10	18	10	14	52	Rhode Island*	..	1	1	..	2
Idaho*	..	1	1	..	2	South Carolina	2	4	7	5	18
Illinois	240	225	320	286	1,071	South Dakota*	4	1	1	..	6
Indiana	30	33	46	50	159	Tennessee	5	14	21	45	85
Iowa	126	94	77	84	381	Texas	12	10	4	23	49
Kansas	33	32	41	63	169	Utah	1	3	4	1	9
Kentucky	21	53	30	74	178	Vermont	12	20	24	27	83
Louisiana	3	..	2	9	14	Virginia	11	15	26	31	83
Maine	16	24	18	15	73	Washington*	..	..	..	2	2
Maryland	25	30	25	41	121	West Virginia	6	21	36	45	108
Massachusetts*	6	3	3	..	12	Wisconsin	27	42	46	31	146
Michigan	62	63	51	51	227	Wyoming	1	..	2	1	4
Minnesota	29	23	35	31	118	U. S. Army	..	..	3	..	3
Mississippi*	1	1	1	1	4	U. S. P. H. & M. Hosp. Serv.	..	..	..	2	2
Missouri	79	61	58	91	289	Canada	..	..	..	2	2
Montana*	..	..	..	3	3	Foreign and Miscellaneous	..	..	10	..	4
Nebraska	30	47	53	42	172						
Nevada	2	4	2	3	11	Totals	989	1,091	1,167	1,502	4,749
New Hampshire	1	2	8	1	12						

This table shows that 4,749 candidates were registered through reciprocity during the last four years and that there was a positive increase each year over the registration of the previous year. A study of the totals for the different states shows that of the 4,749 registered during the four years 1,071 or 22.6 per cent. obtained their original licenses in Illinois. This is more than twice the number coming from any other state. The states furnishing the next highest numbers are New York, with 462, Iowa with 381, and Missouri with 289. The states marked with an asterik (*) do not have reciprocal relations and would not appear in this table except for the fact that some states, like Colorado, and New Jersey, will accept a physician's credentials if satisfactory, whether the state issuing his original license returns the favor or not.

NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
ALABAMA																																											
Birmingham Medical College.—R	22	9																	2	0													1	0											1
University of Alabama, Med. Dept.—R	23	10	1	0													6	0															3	1											2
ARKANSAS																																											
College of Physicians and Surg.—R					5	6																											1	1											3
Univ. of Arkansas, Med. Dept.—R					15	3	1	0									1	0					0	1									0	1											4
CALIFORNIA																																											
California Eclectic Med. College.—E							3	2																																			5
College of P. and S., Los Angeles.—R			2	0			11	2																																			6
Coll. of P. and S., San Francisco.—R							12	6																																			7
Cooper Medical College.—R							16	2																																			8
Hahnemann Medical College of Pacific.—H							4	1																																			9
Oakland College of Med. and Surg.—R							3	0																																			10
Univ. of California, Med. Dept.—R							10	0																																			11
COLORADO																																											
Univ. of Colorado, Med. Dept.—R							1	0	12	0																																	12
CONNECTICUT																																											
Yale Medical School							1	0			12	0																																	13
DISTRICT OF COLUMBIA																																											
George Washington University.—R							1	1							15	2			1	0	1	0	1	0													2	0					14
Georgetown Univ., School of Med.—R			1	0							4	0			6	2							1	0															1	1			15
Howard University, Med. Dept.—R											0	1	1	0	4	5	2	0	3	0			2	0					1	0	1	0					2	1	1	2			16
GEORGIA																																											
Atlanta College of Physicians and Surg.—R	1	5					1	0									11	3	53	0																							17
Atlanta School of Medicine.—R	3	6															4	1	35	0																	1	0					18
Georgia College of Eclectic M. and S.—E																	4	1																									19
Hospital Medical College, Atlanta.—E																	7	0																									20
Medical College of Georgia.—R	1	0															3	1	13	0																	0	1	0	2			21
ILLINOIS																																											
Bennett Medical College.—R									1	0											0	1	23	8	1	0			0	1													22
Chicago Coll. of Med. and Surg.—R							0	1													1	1	91	9	6	0	1	0			1	0											23
College of Med. and Surg.—Ph.M																							8	8	1	0	1	0			1	0											24
College of Physicians and Surg.—R	1	1	0	1			10	0			0	1									2	2	94	13	1	0	1	0			1	1					1	0					25
Hahnemann Medical College and Hosp.—H			2	0			1	1			2	0									1	0	25	4	1	1	3	0											1	0			26
Hering Medical College.—H									1	0													3	2	1	0	1	0															27
Jenner Medical College.—R																							15	4	1	0																	28
National Medical University.—P																							1	5																			29
Northwestern Univ. Med. School.—R			1	0			5	0									3	0			8	2	121	1	2	0	1	0	2	0			1	0					1	0			30
Reliance Medical College.—R																							7	3																			31
Rush Medical College.—R					1	0	6	3	3	0							2	0			1	1	63	0			1	0															32
INDIANA																																											
Indiana Univ., School of Med.—R																							1	0	53	1													0	1			33
IOWA																																											
Drake University, College of Medicine.—R							0	1													0	1					23	0															34
State University of Iowa, College of Med.—R							5	0							1	0					0	2					50	1															35
State University of Iowa, Homeo. Dept.—H									1	0							1	0			1	0					9	0															36
KANSAS																																											
Kansas Medical College.—R																													12	1													37
Univ. of Kansas, School of Med.—R																													18	0													38
KENTUCKY																																											
Louisville National Medical College.—R																	1	0													0	1					0	1					39
Univ. of Louisville, Med. Dept.—R	5	1	1	2	0	1	1	1	1												1	0	13	0	9	0			1	1	92	18	3	2					1	0			40
LOUISIANA																																											
Flint Medical College.—R																			1	0													1	2									41
Tulane University, Med. Dept.—R	3	1	1	0	11	0	2	1									6	0	3	0			1	0									65	2					1	0			42
MAINE																																											
Medical School of Maine.—R							1	0			1	0					1	0																	20	0			4	1			43
MARYLAND																																											
Baltimore Medical College.—R			1	0			1	0			7	5									1	0	1	0	1	0							1	1	3	0	21	4	5	2			44
College of Physicians and Surg.—R							0	1			2	2	2	0																							12	1	3	0			45
Johns Hopkins Univ., Med. Dept.—R	3	0					5	0			4	0													1	0			1	0	1	0					22	0	3	0			46
Maryland Medical College.—R	1	0									0	2																					0	1	2	0	5	9	2	4			47
Univ. of Maryland, School of Med.—R							2	1			0	2	1	1			3	0	1	0	1	0	1	0													36	11	6	1			48
MASSACHUSETTS																																											
Boston University School of Medicine.—H											4	1											1	0											4	0			13	0			49
College of Physicians and Surgeons.—R											1	1																							4	2			6	18			50
Harvard Medical School.—R					1	0	3	0	2	0	3	0					2	0					1	0	1	0									9	0	1	0	42	2	2	0	51
Tufts College Medical School.—R							1	0			1	0																							10	1			62	7	1	0	52
MICHIGAN																																											
Detroit College of Medicine.—R							2	0															2	0																	34	1			53
Detroit Homeopathic College.—R																																									4	2			54
Univ. of Mich., Dept. of M. and S.—R					1	0	6	0									1	0					3	0			2	0									1	0			61	0			55
University of Mich., Homeo. College.—H																							1	0	1	0					1	0							1	0	13	0			56
MINNESOTA																																											
Univ. of Minn., College of M. and S.—R							2	0													1	0																					57
Hamline University, Med. Dept.—R							1	1													1	0																					58
MISSISSIPPI																																											
Mississippi Medical College.—R																																											59
MISSOURI																																											
American Medical College							0	1																																				60
Barnes Medical College.—R	0	1			1	1			0	1							3	0			3	0	20	11			2	0	3	0													61
Eclectic Medical University, Kansas City					4	0															0	1							1	3													62
Ensworth Medical College.—R					0	1			0	1											1	1					2	1	1	6			0	1									63
Kansas City Hahnemann Med. College.—H					10	0																							3	2													64
St. Louis University, School of Medicine.—R			1	0			2	0									2	1	45	1	1	0					2	2	1	0													65
St. Louis College of Phys. and Surgs.—R					2	5			0	1							1	0	8	10	0	1	1	0	1	1	1	0															66
University Medical College, Kansas City.—R			1	0	6	0	1	1																			5	1	13	3													67
Washington University, Med. Dept.—R					1	0																	36	1					1	0													68
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Pandpathic.

| Marginal Number | 22 | | 23 | | 24 | | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | | 38 | | 39 | | 40 | | 41 | | 42 | | 43 | | 44 | | 45 | | 46 | | 47 | | 48 | | 49 | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. In |
|---|---|---

NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
NEBRASKA																																											
John A. Creighton Medical College.—R							2	0									0	1																									69
Lincoln Medical College.—E																					0	1							1	0													70
University of Nebraska, College of Med.—R																	1	0			1	1																					71
NEW HAMPSHIRE																																										
Dartmouth Medical School.—R											2	0																							1	0		9	1				72
NEW YORK																																										
Albany Medical College.—R																	2	0	1	0																							73
Columbia University, Coll. of P. and S.—H	1	0					7	0			2	0					1	0	1	0			1	0					3	0					3	0	1	0	3	0			74
Cornell University Medical College.—R	1	0									1	0											1	0			1	0					1	0	1	0			1	0			75
Eclectic Med. Coll., of City of New York.—E																																										76
Fordham University, School of Medicine.—R																																										77
Long Island College Hospital.—R							1	0			2	0																															78
New York Homeo. Med. Coll. and Hosp.—H							1	0			1	0																															79
N. Y. Med. Coll. and Hosp. for Women.—H							1	0																																			80
Syracuse University, College of Medicine.—R							1	2																																			81
Univ. and Bellevue Hosp. and Med. Coll.—R	1	0					2	0			2	0			1	0							1	0	1	0			0	1													82
University of Buffalo, Medical Dept.—R							1	0													1	0	1	0							1	0							1	0			83
NORTH CAROLINA																																										
Leonard School of Medicine.—R	2	7													1	0	1	0	5	2															0	1	0	1					84
North Carolina Medical College																	1	0																									85
OHIO																																										
Cleveland College of P. and S.—R							1	1																																			86
Cleveland Homeo. Medical College.—H					1	0	1	2																																			87
Eclectic Medical College.—E					0	1	0	1	0	1													2	1	1	1			0	1	2	1							0	1			88
Ohio-Miami Medical College.—R									1	0																					3	0											89
Pulte Medical College.—H							1	1																	1	0																	90
Starling-Ohio Medical College.—R							1	0													1	0																					91
Toledo Medical College.—R																																											92
Western Reserve University, Medical Dept.—R							1	1																					1	0													93
OREGON																																										
Willamette University, Medical Dept.—R																					1	0																					94
University of Oregon, Medical Dept.—R							1	0																																			95
PENNSYLVANIA																																										
Hahnemann Med. College and Hospital.—H							3	1			4	0											1	0	1	0					1	0			2	1			1	0			96
Jefferson Medical College.—R	2	0			3	0	4	1	1	0	4	0	4	0	0	1	2	0			2	0	5	0			5	0							3	0	2	0	1	0			97
Medico-Chirurgical College of Philadelphia.—R			1	0									2	0			1	0			2	0			0	1									1	0							98
Temple University, Medical Department.—R																																											99
Univ. of Pennsylvania, Dept. of Med.—R	2	0	1	0			1	0			1	0	3	0			5	0			1	0	2	0	3	0	2	0					5	0	14	0	5	0					100
Univ. of Pittsburgh, School of Medicine.—R																																											101
Womans Med. Coll. of Pennsylvania.—R									1	0			1	0	0	1									1	0											1	0					102
SOUTH CAROLINA																																										
Med. Coll. of the State of So. Carolina.—R			0	2			2	0									5	2	2	0																							103
TENNESSEE																																											
College of Physicians and Surgs., Memphis.—R					2	2																											1	0									104
Knoxville Medical College.—R	0	1																	0	1																							105
Memphis Hospital Medical College.—R	2	4	1	0	13	3											2	0			0	2											13	12									106
Meharry Medical College.—R	0	6			4	3											3	1	15	4			2	4							2	4	1	3									107
Tennessee Medical College.—R																																												108
Univs. of Nashville and Tenn., Med. Dept.—R	10	5	0	1	5	0	0	1									3	1	3	0	1	2	1	0							2	0	7	0									109
University of West Tennessee, Med. Dept.—R																																												110
Vanderbilt University, Med. Dept.—R	4	0			1	1	4	0	2	0							3	0	1	0			3	0							2	0	2	0									111
TEXAS																																												
Baylor University, College of Medicine.—R					1	0																											0	1									112
Fort Worth University, Medical Dept.—R																																											113
Southwestern University Medical College.—R					4	0																																					114
University of Texas, Dept. of Medicine.—R																																												115
VERMONT																																											
University of Vermont, College of Med.—R							1	0			3	1					1	0																	1	0			3	0			116
VIRGINIA																																											
Medical College of Virginia.—R																	1	0	1	0			1	0																			117
University of Virginia, Dept. of Med.—R	2	0									1	0	1	0	2	1																			2	0							118
University College of Medicine.—R											1	0					1	0																			0	1	0	2			119
WISCONSIN																																											
Marquette University, Medical Dept.—R																			1	0																							120
Wisconsin Coll. of Phys. and Surgs.—R																																											121
CANADIAN																																											
Laval University, Medical Dept							2	0																											4	1		0	3				122
Manitoba Medical College																																											123
McGill University, Medical Faculty							2	0													1	0	2	0											2	0			4	0			124
Queens University, Medical Faculty					1	0					1	0													1	0	1	0									1	0					125
University of Toronto, Faculty of Med							1	1													1	0													1	0							126
Western University, Medical Dept							1	0																																			127
Foreign Colleges	2	0					6	1					1	1	1	1	2	1					6	2	0	1									1	0	6	4	1	0			128
Miscellaneous Medical Colleges	2	7	0	3	3	1	34	7	22	0	3	2	5	0	1	0	6	3	6	2	4	5	16	12	5	3	2	1	2	3	6	10	3	6	1	0	4	2	3	6	13	0	129
Undergraduates																																							6	41				130
Totals by States	158		24		124		251		53		87		23		45		117		157		71		731		106		117		91		154		138		78		163		297		134		
Totals—Examined—Passed	94		15		96		204		48		69		21		32		102		148		47		631		97		113		66		119		104		73		131		197		131		
Totals—Examined—Failed	64		9		28		47		5		18		2		13		15		9		24		100		9		4		25		35		34		5		32		100		3		
Percentage of Failures	40.5		37.5		22.6		18.7		9.4		20.7		8.7		28.9		12.8		5.7		33.8		13.7		8.5		3.4		27.5		22.7		24.6		6.4		19.6		33.6		2.2		
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	Totals:	Examined—Passed	Examined—Failed	Percentage of Failures
	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming				
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F				
69				3 0	39 0										3 0				2 0						1 0		2 0	53	52	1	1.9
70					11 0																						2 0	15	14	1	6.7
71					14 0										0 1													18	16	2	11.1
72							7 1										1 0											22	20	2	9.1
73		1 0		1 0						38 3						1 0	1 0							2 0				50	47	3	6.0
74	2 0		2 0	2 0				5 0		67 1				1 0	2 0	5 0	2 0							4 0				116	115	1	0.9
75	1 0			1 0			1 0	1 0		64 0															1 0			76	76	0	0.
76								2 0		8 4																		12	8	4	33.3
77										2 0																		2	2	0	0.
78	1 0							2 2		60 9								1 0				1 0		1 0				80	69	11	13.7
79								3 0		18 5																		28	23	5	17.9
80										0 2																		3	1	2	66.7
81	1 0									21 3						1 0			1 0									30	25	5	16.7
82				1 0				3 0		65 2				1 0	0 1				0 1		1 0							84	79	5	6.0
83										35 4				0 1										1 1		1 0		48	42	6	12.5
84											5 3			1 1		0 1		0 5		1 0				7 4				48	23	25	52.1
85									1 0		10 2							0 2			1 0					1 0		18	14	4	22.2
86													20 0			1 0												23	22	1	4.4
87				1 0						1 0			4 1	3 2		1 0						1 0						18	13	5	27.8
88													7 2	1 0	0 1	2 0			2 0							2 4		35	20	15	42.9
89				1 0									35 4															44	40	4	9.1
90													3 0			1 0												7	6	1	14.3
91			1 0										43 1			1 0												48	47	1	2.1
92													9 0															9	9	0	0.
93													21 0		1 0							1 0			2 0			28	27	1	3.6
94															7 2										2 0			12	10	2	16.7
95															11 4										5 0			21	17	4	19.0
96	3 1							3 1		2 0			2 0	1 0		28 4								1 1		1 0		63	54	9	14.3
97	3 2	1 0		2 0		1 0		12 1		6 0	11	1 0	3 0	2 1	3 1	61 0	2 0	1 0		2 0	6 0			5 1	5 0	1 0		174	166	8	4.6
98								2 2		2 0	1 0		1 0	1 0	1 0	57 8				1 0	1 1			1 0				87	75	12	13.8
99																32 3												35	32	3	8.6
100	3 0	1 0						14 0		11 1	5 0		3 0	1 0	0 1	90 2				1 0	2 0	2 0		0 0	4 1	2 0	1 0		196	191	5	2.6
101															2 2	59 5										5 1		75	66	9	12.0
102				1 0	1 0			3 0		6 2					1 0	16 0					3 0	1 0				2 0		41	38	3	7.3
103																		34 13						1 0				61	44	17	27.9
104		3 3												1 0						6 2	1 0			1 0				135	93	42	31.1
105		0 1									0 1									1 0								5	1	4	80.0
106	17	10		1 1					1 0						0 1					35 2	14 0			1 0				135	93	42	31.1
107		1 2	2 1							1 0			1 0	3 3		0 2		0 2		18 7	5 0				1 2			103	59	44	42.7
108										1 2					0 2					21 1								29	22	7	24.1
109		6 0	1 0	0 1					1 1	1 0				3 1		2 0		1 0		30 5	7 0				0 1			109	84	25	22.9
110											1 0			1 2				0 1		2 1				0 1				9	4	5	55.6
111		3 0	1 1	1 0							1 0			2 1				1 2		11 0	6 0			1 0	1 0			55	50	5	9.1
112																					9 0							11	10	1	9.1
113														2 0							19 0							21	21	0	0.
114														1 0							11 0							16	16	0	0.
115			1 0							2 0											34 0							37	37	0	0.
116							4 0									1 0	2 1						15 1		1 0			35	32	3	8.6
117		1 0								1 0	2 0					1 0		1 0						29 0		5 0		43	43	0	0.
118		1 0												1 0						3 0				21 0		2 0		37	36	1	2.7
119								2 1		0 1	5 1			1 0			0 1							13 1		1 0		32	24	8	25.0
120	1 4			1 0								3 0													0 2		42 7	61	48	13	21.3
121												1 0															6 0	7	7	0	0.
122	0 2						3 2					1 0			0 1		0 2						1 0					22	11	11	50.0
123	1 0																							2 0				3	3	0	0.
124	3 0			1 0			1 0			4 0		2 0		1 0	1 0	1 0			1 0					1 0		1 0		28	28	0	0.
125				1 0				0 1		8 0		1 1	1 0			1 0			1 0									20	18	2	10.0
126	3 0			3 0						4 1		5 0	1 0		1 0	2 1								5 1				31	27	4	12.9
127												1 0	2 0		2 1									1 0				8	7	1	12.5
128	3 0			2 0		3 0		1 5		20 21	1 0		5 0		1 1	2 0					1 0	1 0	1 0	1 0		2 0		108	70	38	35.2
129	0 1	1 6	2 1	5 6		1 1		0 1	3 0	6 1	14 5	1 1	6 2	23 12	8 15	11 4	0 1	3 3	8 3	23 7	11 2	1 2		7 3	8 13	7 4		1 0	478	311	167	34.9
130		39 9													5 0					142 25								353	192	161	45.6
	98	234	204	97	80	13	42	80	7	587	94	47	182	142	148	503	33	105	61	367	167	58	23	138	197	113	78	10	7004			
	76	84	181	73	80	12	34	63	6	515	79	42	172	100	93	451	23	61	52	315	162	34	21	123	154	88	71	10	5712			
	22	150	23	24	0	1	8	17	1	72	15	5	10	42	55	52	10	14	9	52	5	4	1	14	43	25	7	0			1292	
	22.4	64.1	11.3	24.7	0.	7.7	19.0	21.2	14.3	12.3	16.0	10.6	5.5	29.6	37.2	10.3	30.3	41.9	14.8	14.2	3.0	10.5	45	10.8	21.8	22.1	6.4	0				18.4
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49				

TABLE B.—GRADUATES OF 1906 TO 1910 INCLUSIVE,

NAME OF COLLEGE	1. Alabama P	F	2. Arizona P	F	3. Arkansas P	F	4. California P	F	5. Colorado P	F	6. Connecticut P	F	7. Delaware P	F	8. District of Columbia P	F	9. Florida P	F	10. Georgia P	F	11. Idaho P	F	12. Illinois P	F	13. Indiana P	F	14. Iowa P	F	15. Kansas P	F	16. Kentucky P	F	17. Louisiana P	F	18. Maine P	F	19. Maryland P	F	20. Massachusetts P	F	21. Michigan P	F	Marginal Number
ALABAMA																																										
Birmingham Medical College.—R.	22	4																	2	0													1	0									1
University of Alabama, Med. Dept.—R.	23	10	1	0													6	0															3	1									2
ARKANSAS																																										
College of Physicians and Surgs.—R.					5	6																											1	1									3
Univ. of Arkansas, Med. Dept.—R.					15	3	1	0									1	0					0	1									0	1									4
CALIFORNIA																																										
California Eclectic Med. College.—E.							2	1																																	5
College of P. and S., Los Angeles.—R.			2	0			11	2																																	6
Coll. of P. and S., San Francisco							11	5																																	7
Cooper Medical College.—R.							16	2																																	8
Hahnemann Medical College of Pacific.—H.							4	1																																	9
Oakland College of Med. and Surg.—R.							3	0																																	10
Univ. of California, Med. Dept.—R.							10	0																																	11
COLORADO																																										
Univ. of Colorado, Med. Dept.—R.									12	0																																	12
CONNECTICUT																																										
Yale Medical School											12	0																															13
DISTRICT OF COLUMBIA																																										
George Washington University.—R.							1	1							15	2			1	0	1	0	1	0													2	0					14
Georgetown Univ., School of Med.—R.			1	0							4	0			6	2							1	0													1	1					15
Howard University, Med. Dept.—R.											0	1	1	0	4	5	2	0	3	0			2	0					1	0					2	1	0	2			16
GEORGIA																																										
Atlanta College of Physicians and Surgs.—R.	1	5															11	2	53	0																							17
Atlanta School of Medicine.—R.	3	6															4	1	35	0																	1	0					18
Georgia College of Eclectic M. and S.—E.																	4	0																									19
Hospital Medical College, Atlanta.—E.																	7	0																									20
Medical College of Georgia.—R.	1	0															1	1	13	0																	0	1					21
ILLINOIS																																										
Bennett Medical College.—R.									1	0													0	1	23	8	1	0		0	1											22
Chicago Coll. of Med. and Surg.—R.							0	1															1	1	91	9	6	0	1	0			1	0									23
College of Med. and Surg.—Ph.M.							4	0															1	2	8	8	1	0	1	0			1	0									24
College of Physicians and Surgs.—R.																							1	2	94	13	1	0	1	0			0	1			1	0					25
Hahnemann Medical College and Hosp.—H.			2	0			1	0			2	0											1	0	25	4	1	1	2	0							1	0					26
Hering Medical College.—H.									1	0															3	2	1	0	1	0													27
Jenner Medical College.—R.																									15	4	1	0															28
National Medical University.—P.																									1	5																	29
Northwestern Univ. Med. School.—R.			1	0			4	0															5	2	119	1	2	0	1	0	2	0					1	0					30
Reliance Medical College.—R.																									7	3																	31
Rush Medical College.—R.							3	0	2	0													1	0	59	0			1	0													32
INDIANA																																										
Indiana Univ., School of Med.—R.																									1	0	53	1											0	1			33
IOWA																							0	1					23	0													34
Drake Univ., College of Medicine.—R.																							0	1					50	1													35
State Univ. of Iowa, Coll. of Med.—R.							3	0							1	0							1	0					9	0													36
State Univ. of Iowa, Homeo. Dept.—H.									1	0																																	37
KANSAS																															12	0											38
Kansas Medical College.—R.																															13	0											39
Univ. of Kansas, School of Med.—R.																																	0	1					0	1			40
KENTUCKY																	1	0																									41
Louisville, National Medical College.—R.																															1	1	90	18	3	2							42
Univ. of Louisville, Med. Dept.—R.	5	1	1	2	0	1			1	0													1	0	12	0	0	0															43
LOUISIANA																					1	0											1	2									44
Flint Medical College.—R.																																	62	2					1	0			45
Tulane University, Med. Dept.R.	3	1			10	0	1	1									6	0	3	0																					46
MAINE																																			20	0			1	1			47
Medical School of Maine.—R.																																										48
MARYLAND																																										
Baltimore Medical College.—R.			1	0			1	0			7	5											1	0	1	0	1	0					1	1	2	0	21	2	5	2			49
College of Physicians and Surgs.—R.											2	1	2	0																							11	1	3	0			50
Johns Hopkins Univ., Med. Dept.—R.	3	0					5	0			3	0															1	0			1	0					20	0	3	0			51
Maryland Medical College.—R.	1	0									0	2																					0	1	2	0	5	8	1	4			52
Univ. of Maryland, School of Med.—R.											0	2	1	1			3	0	1	0			1	0													36	10	4	1			53
MASSACHUSETTS																																										
Boston Univ. School of Medicine.—H.											2	0											1	0											3	0			13	0			54
College of Physicians and Surgeons.—R.											1	1																							4	2			6	18			55
Harvard Medical School.—R.					1	0	3	0	2	0	2	0					1	0					1	0	1	0									7	0	1	0	42	2	1	0	56
Tufts College Medical School.—R.											1	0																							10	1			62	7	1	0	57
MICHIGAN																																										
Detroit College of Medicine.—R.																																							33	1			58
Detroit Homeopathic College.—H.																																							4	2			59
Univ. of Mich., Dept. of M. and S.—R.							1	0									1	0									2	0											60	0			60
University of Mich., Homeo. College.—H.																							1	0	1	0					1	0							13	0			61
MINNESOTA																																										
Univ. of Minn., Coll. of M. and S.—R.							1	0													1	0																			62
Hamline University, Med. Dept.—R.							1	1													1	0																			63
MISSISSIPPI																																										
Mississippi Medical College.—R.																																									64
MISSOURI																																										
American Medical College.—																																									65
Barnes Medical College.—	0	1			1	1			0	1							1	0			3	0	20	9			2	0	2	0											66
Eclectic Medical University, Kansas City					4	0															0	1							1	2											67
Ensworth Medical College.—R.					0	1			0	1											1	1					2	1	1	5											68
Kansas City Hahnemann Medical College.H.					10	0																							3	2											69
St. Louis University, School of Medicine.—R.			1	0			2	0													1	0	45	1	1	0			2	2	1	0									70
St. Louis College of Phys. and Surgs.—R.					1	5			0	1													8	10	0	1	1	0	1	1											71
University Medical College, Kansas City.—R.					6	0																					3	1	13	3											72
Washington University, Med. Dept.—R.					1	0																	35	1					1	0											73
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	Totals:	Examined—Passed	Examined—Failed	Percentage of
	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming				
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F				
1														0 1															35	25	10	28.
2		1 0																			1 0								46	35	11	23.
3														5 3															21	11	10	47.
4														1 0															23	18	5	21.
5																													3	2	1	33.
6																									1 0				16	14	2	12.
7								1 0																	1 0				18	13	5	27.
8						2 0									1 0														21	19	2	9.
9																													5	4	1	20.
10																													3	3	0	0.
11																													10	10	0	0.
12														1 0		1 0													14	14	0	0.
13			1 0							5 1					1 0		3 0				1 0								24	23	1	4.
14								1 0		2 0		1 0			1 0			0 1	1 0					1 0		1 0			33	29	4	12.
15										3 0						3 0					1 0			1 0		1 0			25	22	3	12.
16		0 1	1 0								2 0		1 0	1 0		2 2		0 2						1 0	1 0	1 0			39	25	14	35.
17																		4 1			1 0								78	70	8	10.
18		0 1									1 0					1 1		3 1										1 0	59	49	10	17.
19																1 0													5	5	0	0.
20																													7	7	0	0.
21																		4 3							1 0				25	20	5	20.
22				1 0	1 0									0 1		2 0			2 1						0 1				45	32	13	28.
23	1 1		1 0	1 1							1 0	3 0		1 1	1 0	4 1						1 0			1 0		1 0		131	116	15	11.
24												0 1									1 0								21	12	9	42.
25	1 0		1 0	6 1	1 0							1 0			0 3				8 0		1 0	1 0		1 0	5 1	1 1	3 2		154	132	22	14.
26										0 1					2 0	0 1					1 0	1 0		1 0	1 0		1 0		49	42	7	14.
27					1 0										0 1														10	7	3	30.
28																													20	16	4	20.
29																													6	1	5	83.
30	4 4		1 0	4 2								3 0			1 0				0 0			5 0			12 0		5 0		185	176	9	4.
31																1 0													11	8	3	27.
32	3 0		1 0	4 0								1 0	1 0		3 0				2 0	1 0		4 0			3 0			1 0	90	90	0	0.
33				1 0								0 1	1 0			1 0													60	57	3	5.
34			1 0																										25	24	1	4.
35				0 1											2 0				2 1						4 0			1 0	67	63	4	5.
36																													11	11	0	0.
37			1 0																						1 0				14	14	0	0.
38			3 0	1 1																									23	22	1	4.
39		0 2												0 1															6	1	5	83.
40		1 1	6 2	2 0			1 0							4 2	0 3	2 1		1 3		10 1	3 1	1 1	0	6 0		14 9		1 0	223	175	48	21.
41														2 0															6	4	2	33.
42		4 2									1 0			4 0				2 0		1 0	6 0								110	104	6	5.
43							1 0																		0 1				24	22	2	8.
44				1 0			2 1	1 1		11 0						8 4	0 2	2 0		1 0			2 0	4 0	5 1	3 0			95	76	19	20.
45	1 0			1 0				2 0		3 1	1 1			1 0		12 1	4 0	0 1			1 0	1 0		1 0		20 3			75	66	9	12.
46		2 0	1 0		1 0			3 0		13 0	1 0		1 0	2 0		7 0	1 0	1 0						2 0	1 0	1 0			74	74	0	0.
47										2 0						10 5								6 2		3 1			53	30	23	43.
48	1 0							1 1		1 0	12 0				1 0	12 4	0 1	1 2		1 0				4 0		5 0			107	85	22	20.
49							1 0			2 1															1 0				24	23	1	4.
50							0 3																	0 1					36	11	25	69.
51			1 0				2 0	1 0		5 1	1 0		1 0	2 0			2 0					1 0	1 0		2 0				84	81	3	3.
52							8 1			2 0							2 0								1 0				96	87	9	9.
53																1 0													35	34	1	2.
54																													6	4	2	33.
55	1 0			2 0								1 0			1 0					2 0		1 0		7 1					80	79	1	1.
56										3 0						1 0													21	21	0	0.
57	31 4			1 0								3 0		7	1 0				3 0					4 0		1 0			50	46	4	8.
58	4 1			0 1								5 0			1 0				1 0							1 0			17	14	3	17.
59		8 11																		3 1									23	11	12	52.
60			3 2																		1 0								6	4	2	33.
61			15 5	0 1	1 0									4 1	1 2				2 0		1 0				1 1	1 0			77	55	22	28.
62																1 0													9	6	3	33.
63			7 3		8 0																								31	19	12	38.
64			4 0	2 1										2 1							1 0				1 1				28	23	5	17.
65	1 0		42 0	1 0										3 0	1 0							2 0							106	103	3	2.
66		0 1	11 5											1 0	0 1	1 0					3 1	1 1			1 0				56	29	27	48.
67			16 3	1 0	1 0									6 0		1 0													56	49	7	12.
68			48 0		1 0									2 1	0 1										1 0				92	89	3	3.
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49				

NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
NEBRASKA																																									
John A. Creighton, Medical College.—R.							1	0									0	1																									69
Lincoln Medical College.—E.																					0	1																					70
University of Nebraska, College of Med.—R.																																										71
NEW HAMPSHIRE																																									
Dartmouth Medical School.—R.											2	0																							1	0		9	1				72
NEW YORK																																									
Albany Medical College.—R.																																									73
Columbia Univ. Coll. of Phys. and Surgs.—R.	1	0					4	0			1	0							1	0									3	0					1	0	3	0			74
Cornell University Medical College.—R.	1	0																					1	0		1	0						1	0	1	0		1	0			75
Eclectic Med. Coll., of City of New York.—E.																																									76
Fordham University, School of Medicine.—R.																																									77
Long Island College Hospital.—R.											2	0																													78
New York Homeo. Med. Coll. and Hosp.—H.							1	0																																	79
N. Y. Med. Coll. and Hosp. for Women.—E.																																									80
Syracuse University, College of Medicine.R.																																										81
University and Bellevue Hosp. and Med. Coll.—R.							2	0			2	0			1	0									1	0																	82
University of Buffalo, Medical Dept.—R.																															1	0							1	0			83
NORTH CAROLINA																																										
Leonard School of Medicine.—R.	2	7															1	0	5	1																	0	1	0	1			84
North Carolina Medical College.																	1	0																									85
OHIO																																										
Cleveland, Ohio, College P. and S.—R.																																										86
Cleveland Homeo. Medical College.—H.																																									87
Eclectic Medical College.—E.					0	1			0	1													2	1	1	1			0	1	2	1									88
Ohio-Miami Medical College.—R.									1	0																					3	0									89
Pulte Medical College.—H.																									1	0															90
Starling-Ohio Medical College.—R.																					1	0																			91
Toledo Medical College.—R.																																										92
Western Reserve University, Medical Dept.—R.							1	0																			1	0													93
OREGON																																										
Willamette University, Medical Dept.—R.																					1	0																			94
University of Oregon, Medical Dept.—R.							1	0																																	95
PENNSYLVANIA																																										
Hahnemann Med. College and Hospital.—H.							2	1			4	0													1	0					1	0			2	1		1	0			96
Jefferson Medical College.—R.	2	0			2	0	1	0	1	0	3	0	4	0	0	1	1	0			2	0	5	0		5	0									3	0		1	0	97
Medico-Chirurgical Coll. of Philadelphia.—R.													2	0							1	0			0	1											1	0			98
Temple University, Medical Department.—R.																																										99
Univ. of Pennsylvania, Dept. of Med.—R.	2	0									1	0	2	0			1	0			1	0			3	0	1	0							5	0	14	0	4	0		100
Univ. of Pittsburgh, School of Medicine.—R.																																										101
Woman's Med. Coll. of Pennsylvania.—R.									1	0			1	0	0	1																							1	0			102
SOUTH CAROLINA																																										
Med. Coll. of the State of So. Carolina.—R.			0	2			1	0									4	2	2	0																							103
TENNESSEE																																										
College of Physicians and Surgs., Memphis.—R.					2	2																									1	0									104
Knoxville Medical College.—R.	0	1																	0	1																							105
Memphis Hospital Medical College.—H.	2	4			12	2											2	0													12	11									106
Meharry Medical College.—R.	0	5			4	3											2	1	15	4			2	4					2	4	1	3									107
Tennessee Medical College.—R.																																											108
Universities of Nashville and Tenn., Med. Dept.—R.	9	5			4	0											3	1	3	0			1	0							2	0	7	0							109
University of West Tennessee, Med. Dept.—R.																																											110
Vanderbilt University, Medical Department.—R.	3	0					4	0	2	0							1	0	1	0			3	0							1	9	2	0							111
TEXAS																																											
Baylor University, College of Medicine.—R.					1	0																																			112
Fort Worth University, Medical Dept.—R.																																										113
Southwestern University Medical College.—R.					4	0																																			114
University of Texas, Dept. of Medicine.—R.																																											115
VERMONT																																										
University of Vermont, College of Medicine.—R.							1	0			1	0																							1	0		2	0			116
VIRGINIA																																										
Medical College of Virginia.—R.																	1	0					1	0																			117
University of Virginia, Dept. of Medicine.—R.	2	0									1	0	1	0	1	0																					2	0					118
University College of Medicine.—R.																	1	0																			0	1	0	2			119
WISCONSIN																																											
Marquette University, Medical Dept.—R.																			1	0																							120
Wisconsin College of phys. and Surgs.—R.																																										121
CANADIAN																																										
Laval University, Medical Dept.																																			2	1		0	1			122
Manitoba Medical College.																																											123
McGill University, Medical Faculty.							1	0															2	0											2	0		3	0			124
Queen's University, Medical Faculty.					1	0					1	0													1	0	1	0									1	0					125
University of Toronto, Faculty of Medicine.							1	0																																	126
Western University, Medical Dept.							1	0																																	127
Foreign Colleges.							3	1							1	1	1	1																			0	3			128
Miscellaneous Medical Colleges.	2	7			1	0	11	2	20	0	3	1	5	0			1	2	5	1	3	1	12	10	2	1	2	0			4	7	0	2			4	2	1	3	9	0	129
Total by States.	150		14		110		144		49		70		20		41		81		152		41		698		99		114		81		142		123		67		154		220		126	
Totals—Examined—Passed.	88		10		85		125		45		57		19		29		69		145		29		604		93		111		63		110		96		62		126		170		123	
Totals—Examined—Failed.	62		4		25		19		4		13		1		12		12		7		12		94		6		3		18		32		27		5		28		50		3	
Percentage of Failures.	41.3		28.6		22.7		13.2		8.2		18.6		5.0		29.3		14.8		4.6		29.3		13.5		6.1		2.6		22.2		22.5		22.0		7.5		18.2		22.8		2.4	
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	22 Minnesota		23 Mississippi		24 Missouri		25 Montana		26 Nebraska		27 Nevada		28 New Hampshire		29 New Jersey		30 New Mexico		31 New York		32 North Carolina		33 North Dakota		34 Ohio		35 Oklahoma		36 Oregon		37 Pennsylvania		38 Rhode Island		39 South Carolina		40 South Dakota		41 Tennessee		42 Texas		43 Utah		44 Vermont		45 Virginia		46 Washington		47 West Virginia		48 Wisconsin		49 Wyoming		Totals: Examined	Passed
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F		
69							3	0	39	0																																					2	0	50	49
70									11	0																											2	0									2	0	15	14
71									14	0																																							14	14
72													7	0																	1	0																			21	20
73							1	0											38	3																													42	39
74	2	0			2	0	2	0							4	0			65	1					1	0			5	0	1	0													3	0					100	94
75													1	0	1	0			64	0																													73	72
76															2	0			6	4																													12	8
77																			2	0																													2	2
78															2	2			60	9																					1	0							76	65
79															3	0			17	4																													25	21
80																			0	2																													2	0
81	1	0																	21	3									1	0							1	0											27	24
82															2	0			65	1					1	0	0	1																					77	75
83																			35	3																													40	37
84																					5	3			1	1			0	1			0	4			1	0									45	22
85																	1	0			10	2											0	2					1	0							18	14
86																									19	0			1	0																			20	20
87							1	0											1	0					4	1	1	0			1	0																	9	8
88																									7	2			0	1	2	0					1	0									2	4	30	17
89							1	0																	35	4																							44	40
90																									3	0					1	0																	5	5
91																									42	1					1	0																	45	44
92																									9	0																							9	9
93																									21	0			1	0									1	0									26	26
94																													7	1															2	0			11	10
95																													11	4															5	0			21	17
96	2	1													3	1			2	0					1	0	1	0			27	4																1	0	56	48
97	3	2	1	0			2	0							9	0			4	0	11	0	1	0	3	0	1	0	2	1	59	0	2	0	1	0					1	0	6	0					3	0	5	0	1	0			149	145
98															1	0			1	0							1	0			56	8									1	0	1	1									75	65
99																															32	3																			35	32
100	1	0	1	0											8	0			8	0	5	0			3	0	1	0	0	1	87	2							1	0	1	0	2	0			5	0	1	1	2	0			164	160
101																													2	2	59	6															5	1			75	66
102					1	0	1	0							3	0			5	2									1	0	16	0									1	0	1	0					2	0			37	34
103																																			34	12									1	0					58	42
104			3	3																					1	0											6	2	1	0									21	14
105			0	1																																	1	0											4	1
106			10	1			0	1																			0	1									33	2	10	0					1	0					118	82
107			1	2	2	1															1	0			3	3			0	1			0	2	17	7	5	0							1	2			99	57
108																					1	1					0	2							19	1													24	20
109			5	4			0	1									1	0	1	0					2	0			2	0			1	0	29	4	5	0											90	75
110																					1	0			1	2							0	1	2	1							0	1					9	4
111			3	0	1	1	1	0													1	0			2	0							1	2	10	0	5	0					1	0					45	42
112																																					8	0											9	9
113																									2	0											19	0											21	21
114																									1	0											11	0											16	16
115					1	0													1	0																	34	0											36	36
116													4	0																	1	0	2	1							15	1			1	0					30	28
117																					2	0									1	0			1	0							28	0			5	0			39	39
118																									1	0											1	0							20	0			2	0			31	31
119															2	1			0	1	5	1			1	0							0	1									13	1			1	0			31	28
120	1	4																					2	0																							39	7			56	43
121																							1	0																							6	0			7	7
122	0	1											2	2									1	0									0	1															11	5
123																																																				
124	2	0											1	0					3	0			1	0			1	0	1	0																	1	0			1	0	19	19
125															0	1			6	0			1	1	1	0			1	0					1	0															16	15
126	2	0					3	0											3	1			4	0	1	0			1	0																	1	0			18	17
127																							1	0	2	0			1	0																	1	0			5	6
128							1	0							0	1			7	4					2	0			1	0																			30	19
129	0	1	0	1	1	1	1	3			0	1			0	1	1	0	1	0	14	3	1	0	3	1	5	2	2	4	9	1	0	1	2	3	4	1	20	5	4	0	1	0			5	2	7	3	7	2			247	172
	81		84		197		61		78		• 4		37		60		3		511		87		33		171		87		79		483		25		98		39		183		132		35		20		119		92		107		68		8		5678	
	62		39		174		47		78		3		30		51		3		468		76		31		162		67		50		437		18		58		36		159		130		33		19		108		79		84		61		8		4830	
	19		45		23		14		0		1		7		9		0		43		11		2		9		20		29		46		7		40		3		24		2		2		1		11		13		23		7		0		848	
	23.4		53.6		11.7		22.9		0.		25.0		18.9		15.0		0.		8.4		12.6		6.1		5.3		2.30		36.7		9.5		28.0		40.8		7.7		13.1		1.5		5.7		5.0		9.2		14.1		21.5		10.3		0.			
	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49			

TABLE C.—GRADUATES EXAMINED

NAME OF COLLEGE	Graduates of All Years.					Graduates of 1906-1910.					Graduates of 1905 and Previous.					Graduates of 1910.					Marginal Number
	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
ALABAMA																					
Birmingham Medical College.—R.	35	25	10	28.6	4	35	25	10	28.6	4	....	....	....	....	....	22	14	8	36.4	3	1
University of Alabama, Medical Department.—R.	48	36	12	25.0	7	46	35	11	23.9	6	2	1	1	50.0	2	34	27	7	20.6	6	2
ARKANSAS																					
College of Physicians and Surgeons.—R.	21	11	10	47.6	3	21	11	10	47.6	3	....	....	....	....	....	18	9	9	50.0	3	3
University of Arkansas, Medical Dept.—R.	23	18	5	21.8	6	23	18	5	21.8	6	....	....	....	....	....	18	15	3	16.7	2	4
CALIFORNIA																					
California Eclectic Medical College.—E.	5	3	2	40.0	1	3	2	1	33.3	1	2	1	1	50.0	1	2	1	1	50.0	1	5
College of P. and S., Los Angeles.—R.	16	14	2	12.5	3	16	14	2	12.5	3	....	....	....	....	....	10	10	0	0.	2	6
College of P. and S., San Francisco.—R.	22	15	7	31.8	5	18	13	5	27.8	3	4	2	2	50.0	3	4	3	1	25.0	1	7
Cooper Medical College.—R.	24	22	2	8.3	4	21	19	2	9.5	3	3	3	0	0.	3	16	14	2	12.5	2	8
Hahnemann Medical College of the Pacific.—H.	6	5	1	16.7	2	5	4	1	20.0	1	1	1	0	0.	1	1	1	0	0.	1	9
Oakland College of Medicine and Surgery.—R.	3	3	0	0.	1	3	3	0	0.	1	....	....	....	....	....	3	3	0	0.	1	10
University of California, Medical Dept.—R.	11	10	1	9.1	2	10	10	0	0.	1	1	0	1	100.0	1	7	7	0	0.	1	11
COLORADO																					
University of Colorado, Medical Dept.—R.	15	15	0	0.	4	14	14	0	0.	3	1	1	0	0.	1	9	9	0	0.	2	12
CONNECTICUT																					
Yale Medical School	28	27	1	3.6	8	24	23	1	4.2	6	4	4	0	0.	3	9	9	0	0.	2	13
DISTRICT OF COLUMBIA																					
George Washington University.—R.	38	34	4	10.5	15	33	29	4	12.1	14	5	5	0	0.	4	10	10	0	0.	4	14
Georgetown University, School of Medicine.—R.	28	24	4	14.3	12	25	22	3	12.0	10	3	2	1	33.3	3	7	7	0	0.	4	15
Howard University, Medical Department.—R.	44	30	14	31.8	20	39	25	14	35.9	19	5	5	0	0.	5	8	7	1	12.5	8	16
GEORGIA																					
Atlanta College of Phys. and Surgs.—R.	81	72	9	11.1	6	78	70	8	10.7	5	3	2	1	33.3	3	69	65	4	5.8	5	17
Atlanta School of Medicine.—R.	59	49	10	17.0	8	59	49	10	17.0	9	....	....	....	....	....	50	44	6	12.0	8	18
Georgia College of Eclectic M. and S.—E.	6	5	1	16.7	2	5	5	0	0.	2	1	0	1	100.0	1	5	5	0	0.	2	19
Hospital Medical College, Atlanta.—E.	7	7	0	0.	1	7	7	0	0.	1	....	....	....	....	....	6	6	0	0.	1	20
Medical College of Georgia.—R.	29	22	7	24.1	7	25	20	5	20.0	6	4	2	2	50.0	2	17	16	1	5.9	2	21
ILLINOIS																					
Bennett Medical College.—R.	47	32	15	31.9	12	45	32	13	28.9	11	2	0	2	100.0	2	33	26	7	21.2	6	22
Chicago College of Medicine and Surgery.—R.	133	117	16	12.0	18	131	116	15	11.5	17	2	1	1	50.0	2	108	99	9	8.3	11	23
College of Medicine and Surgery.—Ph.M.	21	12	9	42.9	6	21	12	9	42.9	6	....	....	....	....	....	13	9	4	30.8	3	24
College of Physicians and Surgeons.—R.	185	159	26	14.1	24	154	132	22	14.3	20	31	27	4	12.9	15	120	104	16	3.3	15	25
Hahnemann Medical College and Hospital.—H.	57	47	10	17.5	19	49	42	7	14.3	16	8	5	3	37.5	6	28	26	2	7.1	5	26
Hering Medical College.—H.	10	7	3	30.0	6	10	7	3	30.0	6	....	....	....	....	....	9	7	2	22.2	5	27
Jenner Medical College.—R.	20	16	4	20.0	2	20	16	4	20.0	2	....	....	....	....	....	19	15	4	21.1	1	28
National Medical University.—P.	6	1	5	83.3	1	6	1	5	83.3	1	....	....	....	....	....	....	....	....	....	....	29
Northwestern University Medical School.—R.	206	195	11	5.3	20	185	176	9	4.9	17	21	19	2	9.5	11	136	133	3	2.2	11	30
Reliance Medical College.—R.	11	8	3	27.3	2	11	8	3	27.3	2	....	....	....	....	....	8	8	0	0.	2	31
Rush Medical College.—R.	130	120	10	7.7	21	90	90	0	0.	16	40	30	10	25.0	15	65	65	0	0.	9	32
INDIANA																					
Indiana University, School of Medicine.—R.	60	57	3	5.0	7	60	57	3	5.0	7	....	....	....	....	....	56	55	1	1.8	6	33
IOWA																					
Drake University, College of Medicine.—R.	27	24	3	11.1	5	25	24	1	4.0	3	2	0	2	100.0	2	23	23	0	0.	2	34
State University of Iowa, College of Med.—R.	78	72	6	7.7	10	67	63	4	5.9	9	11	9	2	18.1	6	54	52	2	3.7	4	35
State Univ. of Iowa, Homeopathic Dept.—H.	15	15	0	0.	6	11	11	0	0.	3	4	4	0	0.	3	10	10	0	0.	2	36
KANSAS																					
Kansas Medical College.—R.	17	15	2	11.8	3	14	14	0	0.	3	3	1	2	66.7	3	12	12	0	0.	1	37
University of Kansas, School of Medicine.—R.	23	22	1	4.4	3	23	22	1	4.4	3	....	....	....	....	....	21	21	0	0.	2	38
KENTUCKY																					
Louisville National Medical College.—R.	6	1	5	16.7	5	6	1	5	83.3	5	....	....	....	....	....	5	1	4	80.0	4	39
University of Louisville, Medical Dept.—R.	236	183	53	22.5	27	223	175	48	21.5	24	13	8	5	38.4	11	194	159	35	18.0	19	40
LOUISIANA																					
Flint Medical College—R.	6	4	2	33.3	3	6	4	2	33.3	3	....	....	....	....	....	4	2	2	50.0	3	41
Tulane University, Medical Department.—R.	120	114	6	5.0	16	110	104	6	5.5	13	10	10	0	0.	8	97	92	5	5.2	10	42
MAINE																					
Medical School of Maine.—R.	32	30	2	6.7	9	24	22	2	8.3	4	8	8	0	0.	6	22	20	2	9.1	3	43
MARYLAND																					
Baltimore Medical College.—R.	108	82	26	24.1	25	95	76	19	20.0	22	13	6	7	53.8	8	57	51	6	10.5	11	44
College of Physicians and Surgeons.—R.	85	72	13	15.3	20	75	66	9	12.0	17	10	6	4	40.0	8	59	51	8	13.6	16	45
Johns Hopkins University, Medical Dept.—R.	84	83	1	1.2	24	74	74	0	0.	22	10	9	1	10.0	7	44	44	0	0.	16	46
Maryland Medical College.—R.	59	32	27	45.8	13	53	30	23	43.4	10	6	2	4	66.7	5	34	19	15	44.1	9	47
University of Maryland, School of Medicine.—R.	116	92	24	20.7	21	107	85	22	20.6	18	9	7	2	22.2	6	85	68	17	20.0	13	48
MASSACHUSETTS																					
Boston University School of Medicine.—H.	33	29	4	12.1	8	24	23	1	4.2	7	9	6	3	33.3	5	15	15	0	0.	4	49
College of Physicians and Surgeons.—R.	36	11	25	69.4	5	36	11	25	69.4	5	....	....	....	....	....	14	7	7	50.0	3	50
Harvard Medical School.—R.	99	94	5	5.1	25	84	81	3	3.6	22	15	13	2	13.3	11	43	43	0	0.	9	51
Tufts College Medical School.—R.	102	92	10	9.8	10	96	87	9	9.4	8	6	5	1	16.7	4	61	56	5	8.2	5	52
MICHIGAN																					
Detroit College of Medicine.—R.	45	44	1	2.2	8	35	34	1	2.9	2	10	10	0	0.	7	34	33	1	2.9	2	53
Detroit Homeopathic College.—H.	6	4	2	33.3	1	6	4	2	33.3	1	....	....	....	....	....	5	4	1	20.0	1	54
Univ. of Mich., Dept. of Med. and Surg.—R.	101	95	6	5.9	16	80	79	1	1.2	11	21	16	5	23.8	11	67	67	0	0.	7	55
Univ. of Michigan, Homeopathic College.—H.	21	21	0	0.	7	21	21	0	0.	7	....	....	....	....	....	15	15	0	0.	3	56
MINNESOTA																					
Univ. of Minn., Coll. of Medicine and Surg.—R.	65	60	5	7.7	9	50	46	4	8.0	8	15	14	1	6.7	7	30	27	3	10.0	3	57
Hamline University, Medical Department.—R.	19	16	3	15.8	9	17	14	3	17.7	8	2	2	0	0.	2	1	1	0	0.	1	58
MISSISSIPPI																					
Mississippi Medical College.—R.	23	11	12	52.2	2	23	11	12	52.2	2	....	....	....	....	....	15	7	8	53.3	2	59
MISSOURI																					
American Medical College.—E.	8	4	4	50.0	4	6	4	2	33.3	2	2	0	2	100.0	2	5	4	1	20.0	2	60
Barnes Medical College.—R.	90	62	28	31.1	18	77	55	22	28.6	17	13	7	6	46.2	8	60	45	15	25.0	13	61
Eclectic Medical University, Kansas City.	10	6	4	40.0	4	9	6	3	33.3	4	1	0	1	100.0	1	8	6	2	25.0	3	62
Ensworth Medical College.—R.	35	20	15	42.9	10	31	19	12	38.7	7	4	1	3	75.0	4	20	16	4	20.0	3	63
Kansas City Hahnemann Medical College.—H.	29	23	6	20.7	8	28	23	5	17.9	7	1	0	1	100.0	1	19	19	0	0.	6	64
St. Louis University, School of Med.—R.	109	104	5	4.6	14	106	103	3	2.8	12	3	1	2	66.7	2	90	90	0	0.	8	65
St. Louis College of Phys. and Surgs.—R.	67	39	28	41.8	18	56	29	27	48.2	14	11	10	1	9.1	8	19	16	3	15.8	5	66
University Medical College, Kansas City.—R.	67	55	12	17.9	14	56	49	7	12.5	8	11	6	5	45.5	9	51	47	4	7.8	7	67
Washington University, Medical Dept.—R.	95	92	3	3.2	8	92	89	3	3.3	8	3	3	0	0.	3	88	85	3	3.4	5	68

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	NAME OF COLLEGE	Graduates of All Years.					Graduates of 1906-1910.					Graduates of 1905 and Previous.					Graduates of 191			
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed
	NEBRASKA																			
69	John A. Creighton Medical College.—R	53	52	1	1.9	8	50	49	1	2.0	8	3	3	0	0.	2	42	41	1	2.4
70	Lincoln Medical College.—E	15	14	1	6.7	4	15	14	1	6.7	4						12	12	0	0.
71	University of Nebraska, College of Med.—R	18	16	2	11.1	4	14	14	0	0.	1	4	2	2	50.0	3	14	14	0	0.
	NEW HAMPSHIRE																			
72	Dartmouth Medical School.—R	22	20	2	9.1	5	21	20	1	4.8	5	1	0	1	100.0	1	7	7	0	0.
	NEW YORK																			
73	Albany Medical College.—R	50	47	3	6.0	8	42	39	3	7.1	2	8	8	0	0.	6	26	23	3	11.5
74	Columbia Univ. Coll. of Phys. and Surgs.—R	116	115	1	0.9	20	100	99	1	1.0	16	16	16	0	0.	10	43	42	1	2.3
75	Cornell University Medical College.—R	76	76	0	0.	13	72	72	0	0.	9	4	4	0	0.	4	50	50	0	0.
76	Eclectic Medical College of City of N. Y.—E	12	8	4	33.3	2	12	8	4	33.3	2						10	6	4	40.0
77	Fordham University, School of Medicine.—R	2	2	0	0.	1	2	2	0	0.	1						2	2	0	0.
78	Long Island College Hospital.—R	80	69	11	13.7	8	76	65	11	14.5	4	4	4	0	0.	4	41	35	6	14.6
79	New York Homeopathic Med. Coll. and Hosp.—H	28	23	5	17.9	4	25	21	4	16.0	3	3	2	1	33.3	2	16	13	3	18.7
80	N. Y. Med. Coll. and Hospital for Women.—H	3	1	2	66.7	2	2	0	2	100.0	1	1	1	0	0.	1	2	0	2	100.0
81	Syracuse University, College of Medicine.—R	30	25	5	16.7	5	27	24	3	11.1	4	3	1	2	66.7	1	21	18	3	14.3
82	University and Bellevue Hospital Med. Coll.—R	84	79	5	6.0	14	77	75	2	2.6	8	7	4	3	42.9	7	43	42	1	2.3
83	University of Buffalo, Medical Dept.—R	48	42	6	12.5	9	40	37	3	7.5	3	8	5	3	37.5	7	25	22	3	12.0
	NORTH CAROLINA																			
84	Leonard School of Medicine.—R	48	23	25	52.1	12	45	22	23	51.1	11	3	1	2	66.7	3	28	16	12	42.9
85	North Carolina Medical College	18	14	4	22.2	6	18	14	4	22.2	6						13	10	3	23.1
	OHIO																			
86	Cleveland College of Phys. and Surgs.—R	23	22	1	4.4	3	20	20	0	0.	2	3	2	1	33.3	2	20	20	0	0.
87	Cleveland Homeo. Medical College.—H	18	13	5	27.8	8	9	8	1	11.1	5	9	5	4	44.4	4	5	4	1	20.0
88	Eclectic Medical College.—E	35	20	15	42.9	15	30	17	13	43.3	11	5	3	2	40.0	5	22	13	9	40.9
89	Ohio-Miami Medical College.—R	44	40	4	9.1	4	44	40	4	9.1	4						43	39	4	9.3
90	Pulte Medical College.—H	7	6	1	14.3	4	5	5	0	0.	3	2	1	1	50.0	1	5	5	0	0.
91	Starling-Ohio Medical College.—R	48	47	1	2.1	5	45	44	1	2.2	3	3	3	0	0.	3	42	42	0	0.
92	Toledo Medical College.—R	9	9	0	0.	1	9	9	0	0.	1						9	9	0	0.
93	Western Reserve University, Medical Dept.—R	28	27	1	3.6	6	26	26	0	0.	6	2	1	1	50.0	2	22	22	0	0.
	OREGON																			
94	Willamette University, Medical Dept.—R	12	10	2	16.7	3	11	10	1	9.1	3	1	0	1	100.0	1	4	4	0	0.
95	University of Oregon, Medical Dept.—R	21	17	4	19.0	3	21	17	4	19.0	3						12	10	2	16.7
	PENNSYLVANIA																			
96	Hahnemann Medical College and Hosp.—H	63	54	9	14.3	15	56	48	8	14.3	13	7	6	1	14.3	6	39	34	5	12.8
97	Jefferson Medical College.—R	174	166	8	4.6	33	149	145	4	2.7	31	25	21	4	16.0	13	105	105	0	0.
98	Medico-Chirurgical College of Philadelphia.—R	87	75	12	13.8	16	75	65	10	13.3	10	12	10	2	16.7	10	69	61	8	11.6
99	Temple University, Medical Dept.—R	35	32	3	8.6	1	35	32	3	8.6	1						35	32	3	8.6
100	University of Pennsylvania, Dept. of Medicine.—R	196	191	5	2.6	29	164	160	4	2.4	25	32	31	1	3.1	15	124	122	2	1.6
101	University of Pittsburgh, School of Med.—R	75	66	9	12.0	3	75	66	9	12.0	3						60	55	5	8.3
102	Woman's Med. Coll. of Pennsylvania.—R	41	38	3	7.3	14	37	34	3	8.1	13	4	4	0	0.	3	20	20	0	0.
	SOUTH CAROLINA																			
103	Med. Coll. of the State of South Carolina.—R	61	44	17	27.9	6	58	42	16	27.6	6	3	2	1	33.3	3	41	29	12	29.3
	TENNESSEE																			
104	College of Physicians and Surgs., Memphis.—R	21	14	7	33.3	6	21	14	7	33.3	6						15	11	4	26.7
105	Knoxville Medical College.—R	5	1	4	80.0	5	4	1	3	75.0	3	1	0	1	100.0	1	1	1	0	0.
106	Memphis Hospital Medical College.—R	135	93	42	31.1	13	118	82	36	30.5	10	17	11	6	35.3	9	99	73	26	26.3
107	Meharry Medical College.—R	103	59	44	42.7	17	99	57	42	42.4	17	4	2	2	50.0	4	65	41	24	36.9
108	Tennessee Medical College.—R	29	22	7	24.1	4	24	20	4	16.7	3	5	2	3	60.0	3	19	19	0	0.
109	Univ. of Nashville and Tennessee Med. Dept.—R	109	84	25	22.9	21	90	75	15	16.7	16	19	9	10	52.6	12	53	47	6	11.3
110	University of West Tennessee, Med. Dept.—R	9	4	5	55.6	5	9	4	5	55.6	5						7	3	4	57.1
111	Vanderbilt University, Medical Dept.—R	55	50	5	9.1	19	45	42	3	6.7	17	10	8	2	20.0	8	26	24	2	7.7
	TEXAS																			
112	Baylor University, College of Medicine.—R	11	10	1	9.1	3	9	9	0	0.	2	2	1	1	50.0	2	9	9	0	0.
113	Fort Worth University, Medical Dept.—R	21	21	0	0.	2	21	21	0	0.	2						21	21	0	0.
114	Southwestern University Medical College.—R	16	16	0	0.	3	16	16	0	0.	3						16	16	0	0.
115	University of Texas, Dept. of Medicine.—R	37	37	0	0.	3	36	36	0	0.	3	1	1	0	0.	1	32	32	0	0.
	VERMONT																			
116	University of Vermont, College of Med.—R	35	32	3	8.6	10	30	28	2	6.7	9	5	4	1	20.0	3	17	15	2	11.8
	VIRGINIA																			
117	Medical College of Virginia.—R	43	43	0	0.	10	39	39	0	0.	7	4	4	0	0.	4	33	33	0	0.
118	University of Virginia, Dept. of Med.—R	37	36	1	2.7	10	31	31	0	0.	9	6	5	1	16.7	4	19	19	0	0.
119	University College of Medicine.—R	32	24	8	25.0	11	31	23	8	25.8	10	1	1	0	0.	1	22	19	3	13.6
	WISCONSIN																			
120	Marquette University, Medical Dept.—R	61	48	13	21.3	6	56	43	13	23.2	5	5	5	0	0.	3	44	35	9	20.5
121	Wisconsin College of Physicians and Surgs.—R	7	7	0	0.	2	7	7	0	0.	2						4	4	0	0.
	CANADIAN																			
122	Laval University, Medical Dept	22	11	11	50.0	9	11	5	6	54.5	6	11	6	5	45.5	8	1	0	1	100.0
123	Manitoba Medical College	3	3	0	0.	2						3	3	0	0.	2				
124	McGill University, Medical Faculty	28	28	0	0.	16	19	19	0	0.	12	9	9	0	0.	9	7	7	0	0.
125	Queen's University, Medical Faculty	20	18	2	10.0	12	16	15	1	6.3	11	4	3	1	25.0	3	2	2	0	0.
126	University of Toronto, Faculty of Medicine	31	27	4	12.9	11	18	17	1	5.6	9	13	10	3	23.1	8	1	1	0	0.
127	Western University, Medical Dept	8	7	1	12.5	5	6	6	0	0.	5	2	1	1	50.0	1	3	3	0	0.
128	Foreign Colleges	108	70	38	35.2	24	30	19	11	36.7	12	78	51	27	34.6	21	3	3	0	0.
129	Miscellaneous Medical Colleges	478	311	167	34.9	45	247	172	75	30.4	40	231	139	92	40.0	39	84	70	14	16.7
130	Undergraduates	353	192	161	45.6	4														
	Totals	7004	5712	1292	18.4		5678	4830	848	14.9		973	690	283	29.1		3976	3544	432	10.8

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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[*For other information see second page following reading matter*]

SATURDAY, MAY 27, 1911

VALUE OF STATE BOARD STATISTICS

For the eighth consecutive year we present this week tabulated statistics based on the examinations conducted by state medical examining and licensing boards. With the exception of one or two of the minor sectarian boards, our returns for the year 1910, published in this issue, are complete; in fact we have not heretofore had such ready and complete cooperation on the part of the state licensing boards. This is in marked contrast with the conditions in 1903, when reports from a large number of boards could not be obtained for the simple reason that no records whatever were kept by them.

As the first essential of any progressive business enterprise is a system of records by which it may be known just how much is being accomplished each day as compared with the same day of the previous week, month or year, so in the effort to improve the training of physicians and to safeguard better the public against incompetence, the collection and publication of accurate statistics based on the examinations of state licensing boards are extremely important and helpful.

These statistics, which appear on pages 1558 to 1575, are worthy of careful study. As will be noted (Table A), they show for each state the medical college at which each applicant obtained his degree, the total number of applicants examined, the number registered, the number rejected and the percentage rejected. They show the number of non-graduates examined and (Table K) the number registered under exemption clauses or through interstate reciprocity. They also allow of comparisons of the results in any one state with the results in other states. Occasionally it is seen that a state board registers every applicant who applies; and again a board may appear to be very lenient with graduates of medical schools located in its own state (Table F), although the graduates of those schools may receive high failure percentages elsewhere.

For each medical college, these statistics show (Tables A and B) in what states its graduates appeared for examination, the number who passed and failed in each state, the total examined in all states, the number who passed, the number who failed and the percentage of failures. They permit a comparative study of medical colleges and furnish an important side-light on any investigation of medical colleges which may be undertaken.

These statistics also show the number of candidates coming from Canadian and other foreign medical colleges. In short, they give an accurate record of the number and source of those who are entering the practice of medicine each year in this country—information which was not available prior to 1904 when THE JOURNAL began the publication of these statistics.

Without the data published this week, it could not be known that 7,352 physicians were licensed in this country during 1910, and that this included 5,712 who were registered by examination, 138 who were registered under the various exemption clauses and 1,502, mostly old practitioners, who were registered under the provision for reciprocity.

But these statistics have been much more than a mere numerical record of the physicians examined and licensed. They have exerted and are exerting a tremendous influence toward the betterment of conditions underlying the education and the licensing of physicians. Probably no one has recognized the value of these statistics more than have the state licensing boards themselves. As a result, in many states splendid systems of record-keeping are now to be found where formerly, in several states at least, no records whatever were kept, and in many others the systems were far from perfect. Again, there has been a marked progress in the methods of conducting examinations and in the character of those examinations.

The publication of these statistics showing the failures of college graduates at the state license examinations has also stimulated the colleges to make improvements in their equipment, to secure better teachers and to adopt better methods of teaching.

It should be stated that from the official data in the possession of the Council on Medical Education, which has in charge the collection and tabulation of these statistics, a check is now provided for every report whereby duplications are avoided, errors are corrected and the statistics are rendered accurate and reliable. We again express our acknowledgments not only to the officers of the state licensing boards whose carefully prepared reports have made the publication of these statistics possible, but also to the medical colleges whose earnest cooperation in sending complete lists of their graduates has aided in making these statistics accurate.

The colleges and the state boards have reason to feel gratified, therefore, not only because of the direct aid which these statistics are capable of furnishing, but also because the publication of this valuable information, made possible by their carefully prepared reports, is doing much to unify and to better the conditions underlying the training and the licensing of physicians in this country.

PROTECTIVE INOCULATION AGAINST DYSENTERY

In this country bacillary dysentery occurs under two special conditions, namely, as a variety of summer diarrhea in infants and as an institutional disease, especially in hospitals for the insane, the so-called institutional dysentery. In both cases there is need of effective prevention. Protective inoculation does not appear to have given satisfactory results heretofore. Inoculation or active immunization against bacillary dysentery was introduced by Shiga[1] in 1898; he inoculated himself, but concluded that the method would not be generally applicable because of the rather severe local and general reactions, and this conclusion seems to coincide with those reached by others. Shiga, as well as Dopter and others, consequently tried a mixed, active and passive, immunization, using heat-killed bacilli in suspension and mixed with specific immune serum. With this method Shiga (1898-1900) inoculated about 10,000 men in certain parts of Japan where dysentery was epidemic, and while he did not seem to secure any evident protective effect, yet the mortality, which had been 20 per cent. to 30 per cent., was reduced to nearly zero.

Unfortunately the dosage used by Shiga and others in their injections of vaccines and serum is rather indefinite, the bacillary suspension not being standardized, and for this and other reasons, protective inoculation against bacillary dysentery would seem to merit further study by newer and more discriminating methods. It having been found in previous studies[2] that the commonest cause of infantile dysentery as seen in the outpatient department of the Infants' Hospital in Boston is the dysentery bacillus (Flexner type), Lucas and Amos[3] last summer inoculated a series of children living under conditions in which they were likely to acquire infection with dysentery bacilli. They inoculated ninety-five children, all under two years of age, giving one or two injections of 50,000,000 heat-killed bacilli with one cubic centimeter of antidysenteric serum. The exact nature and virtues of this serum they do not state. In no case did the injection do harm, the reactions being mostly mild and brief. Of the ninety-five children, two died of acute infectious diarrhea within a few weeks after the inoculation, while of ninety-seven children observed as controls at the same time, three died of the same cause. The results consequently simply indicate that the inoculation probably did no harm; much more work must be done before we can learn definitely whether the method used by the Boston workers is an effective method for preventing infection with dysentery bacilli in young children. The method might be expected to be effective — unless perchance the dose given of killed bacilli is too large—and possibly the fact that in six of the inoculated children the stools were found to harbor dysentery bacilli while no symptoms of any active infection developed should be regarded as evidence of active protection. Further evidence is needed to establish definite conclusions.

In the case of institutional dysentery it is perhaps easier to obtain conditions that are more favorable for securing decisive results, as shown by the recent work of Dick,[4] who found that the dysentery in the insane asylum and poorhouse of Cook County (Chicago), Illinois, which as a rule flares up each summer, is of bacillary nature, the Shiga bacillus predominating. Apparently the transmission and spread may be attributed to contact and transfer by flies, the infection being maintained from season to season, probably by carriers. On the basis of the results of animal experiments Dick prepared a vaccine of standardized suspension of twenty-four-hour growths of different strains of bacilli, sterilized by heating for an hour and a half at 60 C. At first two doses were given, the first being 10,000,000 bacilli and the second, one week later, 15,000,000. It should be noted that in these experiments comparatively small doses were used. The patients in certain wards were divided so that sixty-two received the injections while the other sixty-two served as controls. Of the latter, four developed dysentery, while of the inoculated, only one developed a dysenteric attack; this attack began on the second day and ran its course in forty-eight hours. There were in some of these cases rather severe local reactions, especially after the second injection, and there occurred a marked rise in specific opsonins and other antibodies. In the second series only one dose of 15,000,000 bacilli was given. This series comprised seventy cases in all; in the control cases three developed dysentery while of the inoculated all remained free. Incidentally it may be noted that Dick also obtained indications that the dysenteric vaccine may be of curative value and that he found the opsonic index to be of greater aid in reaching a diagnosis than the agglutination test. In view of these results it would seem advisable to practice inoculation according to Dick's plan in order to prevent dysentery, especially in institutions in which the opportunities are so favorable for contact infection. It would seem to be indicated also that in the case of children new experiments should be made with small doses.

1. See his article in Modern Medicine, 1907, ii, 781.
2. Lucas, W. P., Fitzgerald, J. G., and Schorer, E. H.: Methods of Serum Diagnosis in Bacillary Dysentery (Infectious Diarrhea) in Infants, THE JOURNAL A. M. A., Feb. 5, 1910, p. 441.
3. Jour. Exper. Med., 1911, xiii, 486.

THE OPIUM PROBLEM, ORIENTAL AND OCCIDENTAL

The announcement by President Taft of the names of the American delegates to the approaching International Opium Conference to be held at the Hague calls attention once more to the opium problem. When the International Opium Conference met at Shanghai in 1909, the American Bishop Brent of the Philippine Islands was made the presiding officer, and Americans were prominent in its organization. After the close of the meeting Dr. Hamilton Wright of Maine, who had been active in its proceedings, was commissioned by our Sec-

4. Jour. Infect. Dis., 1911, viii, 386.

retary of State, Mr. Knox, to gather materials for the better knowledge of the situation with respect to the opium and other habit-forming drugs. His investigations have brought to light rather startling facts. The International Opium Conference was originally arranged for in order to prevent the exploitation of the Oriental peoples, and especially to protect the Chinese and the Filipinos from those who are willing to make money out of them by the sale of habit-forming drugs regardless of their evil effects. There is no doubt that the meetings will accomplish much good for these purposes, but just at present the investigations for which they were the incentive, have produced quite another and no less interesting result.

Dr. Wright has found that we in the United States are consuming as large an amount of habit-forming drugs per capita as is consumed in the Chinese Empire. Our consumption of opium is nearly 500,000 pounds, while it is calculated that less than one-seventh that amount would surely suffice for all the medical needs of the people of this country. Besides it is alleged that we are using nearly 200,000 ounces of cocain, although less than one-twelfth of that amount should supply every legitimate medical need. While we are deeply intent on saving the Orientals from exploitation by greedy and conscienceless Occidentals, let us not forget that we have the same problem at home. It has developed within a comparatively short time. It is probable that our overindulgence in opium is at the present time actually doing more harm than the same habit is doing in China, where, as pointed out by Dr. Archdall Reid some time ago, the people are growing accustomed to it and are not so much injured by it as they were at the beginning.

Opium and many other toxic substances seem to follow the same rule as the infectious diseases. When a race has been exposed to the action of such harmful agents for some time, it becomes more or less immune to their effect. This immunity is acquired through the gradual elimination of those whose characters are so weak that they are unable to resist the craving. This is illustrated very well by the fact that the nations that have been longest subjected to the temptations and the dangers of alcoholic liquors are those which now suffer least from them, while nations newly exposed, such as savages, suffer as severely from them as they do from the infectious diseases when newly introduced. This acquired immunity is very costly, however, and is not the ideal mode of protection. It would be much better if we could by moral means lessen the dangers. While we are planning to apply these means to the East, we must remember that charity begins at home and secure their application as far as possible in our own country. For this the first important step is knowledge of conditions as they actually are and that seems to have been brought to us by the recent investigation.

THE PLAGUE

The great epidemic of plague which has been sweeping through a number of the provinces of China has developed a rather curious situation, referred to in this week's letter from our Manila correspondent, which does not augur well for the permanent suppression of the plague in that country, or for the early effective development of a correct public attitude toward epidemic diseases or public sanitary measures.

This epidemic originated in the north, in that part of Manchuria over which Russia and Japan have control. It seems that both of these countries, having in view chiefly commercial and territorial advantage, did not take sufficient precautions to prevent the spread of an outbreak in that section along the lines of their railroads, and last fall the annual migration of coolies to the south carried the plague with it. Thus the great epidemic started.

It is charged that both Russia and Japan should have taken more stringent precautions against allowing this spread of the disease to occur. Japan, by applying her experience in the sanitation of large bodies of troops in the Russo-Japanese War and her recognized efficiency in sanitary matters, should have been able to check the situation in its incipiency. Both of these nations, it would seem, devoted more energy to developing their strategic and military power in the north than to subduing the epidemic, with the result that the plague gained a strong foothold in China.

The Chinese government, however, in pursuance of its recent policy of adoption of western modern methods in government and in all that pertains thereto, on the outbreak of the plague called together a plague commission, similar, perhaps, to other medical commissions of recent times, composed of representatives of the principal governments of the world, for the purpose of studying the plague situation and devising means for its control. Two representatives of the United States government from the medical service in Manila are now in China with a well-equipped laboratory and are studying the plague situation. Already results in its suppression have been accomplished in communities where proper measures could be instituted and carried out. The Chinese government has liberally financed the commission and seems to be in earnest in accomplishing something in the way of eradicating the plague from her dominions.

The attitude of the people in some of the provinces toward the plague and other epidemics—curious enough in Western eyes—is to be reckoned with if wide-spread results in the control of plague and other epidemics are to be attained. Our correspondent relates a conversation with a Chinese acquaintance. In reply to a representation of the necessity of acting quickly in case the disease should appear in the community and of suppressing it at once, the native said that the spread of the

plague would be a good thing since it would give better opportunity for the people who remained. He believed that epidemics were necessary from time to time, as otherwise the country would be largely overpopulated, rendering subsistence almost impossible. Our correspondent cites another instance in which the people of a province even rejoiced because a famine had resulted in the death of thousands of people. They pointed to the fact that the province was now prosperous and happy; that the people had plenty of work and plenty to eat.

Though China as a whole is not overpopulated, many provinces under present methods of cultivation of the soil are subject to famine at almost any time and, with the rapid multiplication of the population in the fat years, much of the country might speedily be populated beyond the subsistence line. We of the West cannot learn to recognize the plague as a blessing; but we must recognize that the hard conditions of existence perpetually on the brink of famine complicate immensely the problem of dealing with epidemics.

TO SAVE THE BABIES

The death-rate among infants and young children has been one of the crying disgraces of civilization. Herod's slaughter of the innocents, the story of which has served to horrify the world for twenty centuries, merely hastened the death of many of these babies, as probably the greater part of those whom his ruthless order condemned would have died within a few years from infantile ailments and zymotic diseases. Through the middle ages and up to the present day, the death-rate of infants has had an unknown, but undoubtedly an enormous influence in keeping down the average, while the infant mortality among savages and barbarous nations is too dreadful to contemplate. It has remained for the present generation to realize that "race suicide" as a national peril is not to be compared to "child murder" by removable social and economic causes.

One of the most important problems confronting us is that of child conservation. A movement for the salvation of the child is of far greater importance than the efforts to save our forests, rivers and mineral deposits from spoliation. This is so evident that it is necessary only to demonstrate the facts to secure instant public response. Learning from previous efforts that public education and the arousing of popular interest must precede all attempts to improve conditions, those behind this most important crusade have wisely inaugurated a system of public exhibits in the larger cities.

The Child Welfare Exhibit held in New York was open to the public for a month and was visited by a quarter of a million people, an average of 8,000 per day. The second Child Welfare Exhibit, just held in Chicago, was viewed, during the first ten days in which it was open, by over 265,000 people, or about 26,000 per day. This enormous attendance is attributed by the local papers to the energy of the Chicago managers and to the activity of school teachers and others in spreading the news of the exhibit throughout the entire city. Yet these methods would have been futile had it not been that the public was ready to take an interest in the subject. In no other way is it possible to account for the spontaneous outpouring of people of all classes.

An account of some of the more striking features of the exhibit appeared in THE JOURNAL last week. It is difficult, however, to convey an adequate idea of the graphic character of this exposition, while it is impossible for any description to do justice to the crowds of eager people who poured through the Coliseum which contained the exhibit. Mothers from the slums with babies in their arms and with numerous offspring trailing behind, wealthy women of well-known families, eager to acquire information, business men, workingmen, physicians, scientists, politicians, clergymen, trained nurses — all visited the exhibit and all came away impressed with the enormous and unpardonable waste of child life and with the crying need for better methods of prevention. It is impossible to overestimate the value of such educational exhibits. Steps should be taken to render such collections permanent for use in other cities, or at least to utilize some of the valuable material for further education. Since the one educational shortcoming of such an exposition—if the paradox may be pardoned—is that it is too vast and complex to be readily grasped and understood in all its parts, it would be of great value if single features could be placed on display so as to enforce a single lesson at a time. If these special exhibits were shown in much-frequented places, such as public libraries, the waiting-rooms of railway stations and the rest-rooms of department stores, they would be viewed by thousands who never enter a museum or exposition. The presentation of the Child Welfare Exhibit, admirable as it is in itself, should be regarded merely as a starting-point in the education of the public along these lines.

Current Comment

A PRELIMINARY EDUCATION IN PHYSICS, CHEMISTRY, BIOLOGY AND MODERN LANGUAGES

As a part of the education which should be preliminary to the study of medicine, courses in physics, chemistry, biology and modern languages have been especially urged during the last several years by the Council on Medical Education. The importance of the sciences named does not depend so much on the bare knowledge obtained from them as on the training the student receives. In the work in these sciences, and particularly in the laboratory work, the student, under able instructors, acquires the ability to think for himself; he develops the scientific spirit; he learns the use of the microscope and becomes acquainted with the methods and value of experimentation. A reading knowledge of French and German is an invaluable aid to the medical student since it furnishes access to all of the world's recent medical knowledge, a large portion of which

appears in the languages named. That is the minimum preliminary education which should be insisted on in this country, not because it is the minimum requirement in every other civilized nation, which is a fact, but because the student really needs that training in order to master the complex courses in the modern medical curriculum and to do his part in solving the intricate problems which now confront the medical world. In the medical course of to-day the ability of the student to think, to observe and to do research work is very essential. This was not so necessary twenty-five or thirty years ago. Experience has shown that the needed qualifications are best developed by thorough courses, under expert teachers, in physics, chemistry, biology and modern languages. These are the reasons for urging those courses as a part of the minimum requirement for admission to medical schools in this country.

NOSTRUM-PROMOTING AS SHORT-STORY MATERIAL

The character and schemes of the patent-medicine faker and the weaknesses of human nature which enable him to take advantage of the public make splendid material for the short-story writer. In a tale of this sort which appeared in the March *Red Book Magazine*, one of a pair of bunco men of the J. Rufus Wallingford type grew a beard, physician style, and acquired a medical vocabulary by reading up in second-hand medical books. Arriving in the town which was to be exploited, he hired the best suite at the hotel and gave out an interview to the local paper which informed the wondering community that "Hank Dusenberry's clay-hole up in the foothills is nearly as good as a diamond-mine. . . . After long and secret experimentation, Dr. Henry Hicks Hudson, the eminent eastern expert, who arrived here yesterday . . . has disclosed to the reporter of the *Weekly Independent* that the discovery of the clay marks one of the epochs in the progress of medical science, second in greatness perhaps only to Koch's discovery of the cholera bacillus. Dr. Hudson's name will rank with those of Lister and Pasteur." The modest scientist reluctantly admitted to the "representatives of the mighty press" that he had used the mud, "which we scientists call Antispasmodyne," with magical results in the most hopeless and stubborn cases of locomotor ataxia, rheumatism, lumbago and even Bright's disease. He also announced his intention of giving to the local merchants the entire lucrative trade of the immense sanitarium which he proposed to erect—on the very reasonable condition, as was soon evident, of their taking stock in the new enterprise. The distinguished scientist's business partner, meanwhile, was recruiting from the cheap lodging-houses of the nearest large city patients, who, by the time they arrived at the sanitarium, had been transformed into millionaires afflicted with sciatica, appendicitis, etc. The "suckers" bit; the stock was sold; but the fake patients struck for more money and made trouble which brought the story to a humorous close. It is worth reading. The magazines seem more willing to print such stories of late, even though there is a possibility that their advertising receipts may be affected. Probably this is because of the fact that the public is becoming interested in the exposures of nostrums and quackery.

MUD THERAPY

By an interesting coincidence, just after the preceding was written, there arrived in the mail a letter originally sent to a physician, reading, in part, as follows:

> The management of the ——— Moor Bath Co., of ———, desires to call the attention of the public at large, and especially those suffering from Rheumatism, Gout, Lumbago, Neuralgia, Kidney and Liver Diseases, Grippe, Nervous Exhaustion, Eczema and Skin Diseases of all kinds, and also those who need rest and quiet, to the cures and beneficial results attained through the use of Moor Baths, such as given by the ——— Moor Bath Co.
>
> We are aware of the fact that the Moor Baths have become famous on account of their pleasing results. We also know that thousands have been cured of Rheumatism and its kindred diseases by the use of Moor Baths after all else had failed them.
>
> The Moor Baths are reconstructive, dissolve and draw all impurities out of the body. Pure air, pure water, pure food and quiet life will do the rest. This natural combination of remedial agents as found at ——— cannot be duplicated elsewhere. ———, one of the foremost health resorts, as such, needs no introduction. Its pleasing climate, beautiful surroundings, its sparkling mineral waters and clean government are known the world over and make it an ideal spot for an institution of this kind.

By the time one has read thus far, one is convinced that there is nothing left to do but to pack up at once and go to the Moor Baths. Reading on, one finds the phrases "most desirable," "one of the grandest views imaginable," "most modern in the world, absolutely fireproof," etc. A remarkable parallel with the plot of the short story referred to in the preceding comment is found in the following paragraph:

> The original discovery of this Moor bed at ——— is due to a prominent doctor, for many years an assistant at the European Moor Baths, who pronounced the same to be of great medicinal value, a claim which has since then been fully substantiated by some of our foremost chemists by careful analyzation.

In making these quotations, of course, we do not intend to suggest that the Moor Baths are not all that they are said to be. By no means. They may be even more wonderful. We merely quote from this letter because it is interesting and instructive.

PROGRESSIVE MEDICAL LEGISLATION

During the session of legislative activity now nearly over, much has been accomplished for medical education. Not only has legislation establishing higher standards of preliminary education and providing increased appropriations for medical education been adopted, but also legislation tending to lower educational standards, in at least one instance, has been defeated. In Utah and in North Dakota amendments to the practice act have just been secured, providing respectively for one and two years in a college of liberal arts, or its equivalent, in addition to a standard four-year high-school education as their minimum requirement of preliminary education, making nine states which now have adopted these higher standards. In Minnesota, on the other hand, legislation which would have lowered the excellent standard fixed by the licensing board of that state encountered signal defeat. Reports also have been received of the defeat of other vicious legislation such

as bills providing for separate boards and special standards for osteopaths, chiropractics and optometrists. These results are most encouraging and are a sure indication that more reasonable standards of medical education are to be generally adopted in the near future. The facts that the legislatures of Alabama and Nebraska each appropriated $100,000 for the development of their state university medical schools and that North Carolina and Oregon appropriated respectively $40,000 and $30,000 for a similar purpose, constitute an assurance that our state legislatures are going to assume a larger share of the responsibility of providing a suitable training for those who are to care for the sick and injured.

THE EDUCATIONAL FUNCTION OF HOSPITALS

Many of those who are in control of our large hospitals do not seem to have realized that, to do the most good in any community, a hospital should exercise a dual function. First, it should take the best possible care of the patients who come under its roof and, second, it should act as an educational agency, by which doctors, students, interns and research workers are made more familiar with the nature and symptoms of diseases, the methods of diagnosis and the means of preventing or curing them; by which nurses are educated in the latest routine care of the sick, and by which the patients themselves and indirectly the general public are led to recognize the importance of dieting, rest and quiet, and the value of aseptic or antiseptic methods and the other practices of the hospital routine. The patient undoubtedly receives a better treatment in a hospital where the attending staff is composed of physicians acquainted with the latest and best methods of diagnosis and treatment; and this is more apt to be the case in the hospital in which teaching and research are being done. The same is true to a certain extent where interns and nurses are in attendance. It is doubtless a fact that the two chief functions of a hospital are interdependent, and that each is best performed only where both functions are fulfilled. It is to be hoped, therefore, that a careful reading of the important article on this subject in this week's issue, by Dr. James B. Herrick, will convince those who are in control of our large hospitals of the increased usefulness which those institutions can render the community if they are fully exercising their educational function.

S. WEIR MITCHELL

There are comparatively few literary records comparable to that of Dr. S. Weir Mitchell, who, now in his eighty-third year, has just published his latest novel, "John Sherwood, Ironmaster," which shows no falling off in his power of writing and of holding his reader. When it is remembered that he has been easily among the first of American neurologists in a specialty which is more comprehensive perhaps than any other and requires immense professional industry of the man who maintains himself in it as Dr. Mitchell has done, his literary ability and activity are notable phenomena. He is probably one of the oldest, if not the oldest, of living productive literary men; and this fact, to say nothing of the professional activities he may still keep up, makes his latest achievement the more remarkable. Everything he does is done well.

A GOOD DOCTOR

Statements are commonly heard that the function of a medical school is "to make good doctors," or to produce "well-trained practitioners"; or other general expressions have been used which have still left it with the hearer to form his own conception of what was meant by the expressions used. The article by Dr. E. P. Lyon which appears in this issue of THE JOURNAL, however, sets forth so clearly and logically the essential qualifications of "the good physician," as to leave the reader no possible ground for misunderstanding. Dr. Lyon shows that the "good physician" must have accurate powers of observation, must "mix his seeing with brains," must know how to conduct experiments, must be able to form accurate conclusions and must be a man of character. The article explains also what the medical school must have in the way of courses, equipment and teachers in order to develop these qualities in its students. Furthermore, this paper clearly demonstrates why higher entrance standards are needed; why it is essential for a college to have full-time, expert teachers; why well-equipped laboratories should be provided and why some research is valuable in the undergraduate course of the medical school. In short, the article shows that the medical course to-day should be in accord with the abundance of known facts in modern medicine.

Medical News

CALIFORNIA

Change in Meeting Place.—The Los Angeles County Medical Association now meets in the cafeteria rooms on the fourth floor of the Hamburger Building.

Personal.—Dr. and Mrs. J. Edson Kelsey and family, Berkeley, sailed for the Orient, May 24.—Dr. Ernest B. Hoag, for two years medical director of the Berkeley schools, has resigned, to take effect at the end of the school year.——Dr. Charles Hamilton English, San Francisco, who was stricken with cerebral hemorrhage, May 8, is reported to be improving.

ILLINOIS

Personal.—Dr. Henry T. Godfrey, Galena, has announced his approaching retirement from practice.——Dr. George H. Hunt, Paris, was painfully injured in an automobile accident in Chicago, May 18.

Result of Intern Examination.—Of the 145 who took the recent examination for positions as interns in the Cook County Institutions, a woman graduate of Rush Medical College is said to have obtained the highest standing, 93.40 per cent. Of the 40 who received appointments, 15 were graduates of Northwestern University Medical School, 10 each of Rush Medical College and the College of Physicians and Surgeons, 4 of Loyola University, and 1 was an aluminus of the Chicago College of Medicine.

State Society Election.—At the sixty-first annual meeting of the Illinois State Medical Society, in Aurora, May 16-18, these officers were elected: president, Dr. L. H. A. Nickerson, Quincy; vice-presidents, Drs. J. W. MacDonald, Aurora, and J. E. Miller, Danville; secretary, Dr. Edmund W. Weis, Ottawa (reelected); treasurer, Dr. Everett J. Brown, Decatur (reelected); councilors, Drs. Jeremiah H. Stealy, Freeport; James W. Pettit, Ottawa, and Elmer B. Cooley, Danville; delegates to the American Medical Association, Dr. Alexander H. Fer-

guson and Hugh T. Patrick, Chicago, and Everett J. Brown, Decatur, and alternates, Drs. Clifford U. Collins, Peoria; Samuel C. Stremmel, Macomb, and George S. Rainey, Salem. Springfield was selected as the place of meeting for 1912, and a resolution was adopted asking the state legislature to make a fixed annual appropriation of $100,000 for the maintenance of the medical department of the state university.

Chicago

Small-Pox in Hospital.—Three cases of small-pox, in an intern, a nurse and a patient, respectively, have been discovered in St. Bernard's Hospital, and the patients have been removed to the Isolation Hospital. All the inmates, physicians, nurses and help at the hospital have been vaccinated.

Annual Meeting of Pathologic Society.—The annual meeting of the Chicago Pathologic Society was held May 8 and the following officers were elected: president, Dr. Alice Hamilton; vice-president, Dr. Edward C. Rosenow; secretary, Dr. George H. Weaver (reelected); treasurer, Dr. Alexander A. Goldsmith; censors, Drs. Emil Ries, H. Gideon Wells and Lorenzo N. Grosvenor, and publication committee, Drs. Ludvig Hektoen, F. Robert Zeit and H. Gideon Wells.

Personal.—Dr. William A. Evans, health commissioner, retired May 20 and Dr. Gottfried Koehler, assistant commissioner of health, has been placed in temporary charge of the health department.——Dr. Joseph E. Raycroft has accepted the professorship of physical education at Princeton University.——Dr. B. Brindley Eads was seriously injured in a collision between his automobile and a street car, May 18.——Dr. B. Barker Beeson sailed from New York for London, May 20.

INDIANA

District Meeting.—The Ninth Councilor District Society held its annual meeting in Kokomo, May 19. The following officers were elected: president, Dr. Edgar Cox, Kokomo; vice-presidents, Drs. Wm. J. Fernald, Frankfort, and Kenton C. Hershey, Carmel; secretary and treasurer, Dr. Paul J. Barcus, Crawfordsville, and assistant secretary, Dr. George T. Williams, Crawfordsville.

Personal.—Dr. Geo. W. Miller, Covington, has been admitted to the practice of law in the state of Indiana. He does not intend to give up the practice of medicine at present, but eventually intends to take up legal medicine as a specialty. ——Dr. William H. Johnson, a member of the city council of Indianapolis, who has been seriously ill at his home, is reported to be improving.——Dr. Eric A. Crull has resigned as president of the Fort Wayne Antituberculosis Society.

Hospital News.—A new free colored hospital will be opened in Indianapolis, June 1. At the eighth annual convention of the State Sisters of Charity (colored), which met in Indianapolis, May 15 and 16, $500 was subscribed toward the hospital fund.——A contract for the new addition to the Methodist Episcopal Hospital, Indianapolis, has been let for $67,676. The total cost will approximate $125,000. During the past week more than $80,000 has been subscribed in Indianapolis for this institution.

IOWA

Medical Women Elect Officers.—At the annual meeting of the Iowa Society of Medical Women in Des Moines, May 17, the following officers were elected: president, Dr. Jennie G. Ghrist, Ames; vice-presidents, Drs. Georgia Stewart, Des Moines, and Jessie B. Hudson, Iowa City; secretary, Dr. Lena A. Beach, Cherokee, and treasurer, Dr. Grace Jerger, Waterloo.

Personal.—Dr. George E. Decker, Davenport, has resigned as a member of the State Board of Health, giving as his reason "the inadequate appropriations made by the state for the work of the board" and "the ill-advised and carelessly drawn, if not absolutely vicious, health legislation of the last two general assemblies."——Dr. Albert C. Moerke, Burlington, president of the State Board of Health, has resigned, giving as his reason the failure of the recent legislature to provide a sufficient appropriation for carrying on the work of the board.——Dr. Gardner A. Huntoon, Des Moines, has been appointed a member of the State Board of Health, vice Dr. Alfred P. Hanchett, Council Bluffs, term expired.

KANSAS

State Society Meeting.—The forty-ninth annual meeting of the Kansas Medical Society was held in Kansas City, May 3-5. The following officers were elected: president, Dr. John T. Axtell, Newton; vice-presidents, Drs. George M. Gray, Kansas City; Horace G. Welch, Hutchinson, and Anderson Lincoln, Kansas City; secretary, Dr. Charles S. Huffman, Columbus, and treasurer, Dr. Lewis H. Munn, Topeka.

Personal.—Dr. Andrew H. Fabrique, Wichita, was made a life member of the Sedgwick County Medical Society at its meeting, April 11.——Dr. Francis H. Slack of the University of Kansas, Lawrence, formerly director of the Boston Bacteriologic Laboratory, has been offered the secretaryship of the Boston Board of Health.——Dr. Louis O. Nordstrom, Salina, has been elected president, and Dr. J. Albert Fulton, Kansas City, secretary and treasurer of the Alumni Association of the Medical Department of the Kansas State University.

MARYLAND

Personal.—Dr. Luther H. Keller, Hagerstown, has been elected vice-president of the Washington County Confederate Memorial Association.——Dr. Thomas C. Bussey, Texas, is reported to be seriously ill as the result of cerebral hemorrhage.——Dr. Lewis K. Woodward has been elected a member of the common council and treasurer of Westminster.——Dr. Frederick W. Steiner has been elected a member of the Board of Health of Havre-de-Grace.

Baltimore

Scotch Gynecologists in Baltimore.—Dr. Munro Kerr of the University of Glasgow was the guest of Dr. Howard A. Kelly last week. He was entertained by Dr. Kelly at a dinner at the Maryland Club.

Commencements.—The commencement exercises of the various medical colleges in Baltimore will be held as follows: University of Maryland and Baltimore Medical College, June 1; College of Physicians and Surgeons, June 6, and Johns Hopkins University, June 13.

Bust to be Unveiled.—At the commencement exercises of the University of Maryland, a bronze bust of the late Dr. James Harris, founder of the department of dentistry, and given to the university by the senior dental class, will be unveiled. The presentation will be made by Prof. John C. Hemmeter and a brief address will follow by Professor Heatwole.

Personal.—Dr. Robert L. Mitchell is reported to be ill with scarlet fever at Sydenham Hospital.——Dr. Delano Fitzgerald has returned home after six months in Egypt.——Dr. Duncan McCalman was thrown from his automobile recently, fracturing his clavicle.——Dr. John C. Hemmeter has been detailed to do original investigation for the government at the marine biologic laboratory, Wood's Hole, Mass.

MASSACHUSETTS

Sanitarian Appointed Professor.—George Chandler Whipple, New York City, of wide repute as a lecturer and author on technical subjects, has accepted an appointment as professor of sanitary engineering at Harvard University and will begin his duties with the coming academic year.

Personal.—Dr. Herbert G. Leslie has been elected school physician of Amesbury.——Dr. Edward J. Brearton has been appointed assistant examining physician in the department of public works of Dorchester.——Dr. William J. Teahan has been appointed medical examiner for Holyoke, vice Dr. Frank Holyoke, retired.

State Society to Meet.—The Massachusetts Medical Society will hold its one hundred and thirtieth anniversary meeting June 13-14, under the presidency of Dr. George B. Shattuck, Boston, at Harvard Medical School. The Shattuck lecture will be given on the evening of June 13 in the Boston Medical Library by Dr. Richard C. Cabot, Boston, on "Observations Regarding the Relative Frequency of the Different Diseases Prevalent in Boston and Vicinity."

MISSOURI

State Medical Association Meeting.—At the annual meeting of the Missouri State Medical Association, held in Kansas City, May 16-18, Sedalia was selected as the next place of meeting. The following officers were elected: president, Dr. Robert H. Goodier, Hannibal; vice-presidents, Dr. Wilson J. Ferguson, Sedalia; J. Henry Amerland, St. Louis; Charles H. Lester, Kansas City; George W. Vinyard, Jackson, and John M. Stone, Laredo; secretary, Dr. Edward J. Goodwin, St. Louis (reelected), and treasurer, Dr. J. Franklin Welch, Salisbury.

MONTANA

Tuberculosis Exhibit Opens.—The exposition under the auspices of the National Association for the Study and Prevention of Tuberculosis opened in Butte, May 9. Dr. Isadore D. Freund presided at the opening meeting.

Red Cross Society Formed.—The Montana State Board of the American Red Cross has been organized with Governor Norris as president. The board will serve as a standing committee on finance for the Red Cross and will receive contributions for relief purposes.

County Society Meetings.—The annual meeting of the Lewis and Clark County Medical Association was held in Helena, April 27. Dr. Maria M. Dean was elected president; Dr. Sidney A. Cooney, vice-president; Dr. Barnard V. McCabe, secretary; Dr. George W. King, treasurer, and Dr. Ben C. Brooke, delegate to the state association, all of Helena.——Fergus County Medical Association, at its annual meeting held in Lewistown, elected the following officers: president, Dr. Charles C. Wallin, Lewistown; vice-presidents, Drs. C. E. Hagen, Hedgesville, and Arthur E. Myrick, Stanford; secretary and treasurer, Dr. John T. Foley, Lewistown; delegates to the state association, Drs. Abraham Poska, Philbrook, and Willard A. Long, Lewistown, and alternates, Drs. C. E. Hagen, Hedgesville, and S. Sheridan Owen, Moore.

NEW JERSEY

Readjustment of Medical Staff.—An entire change in the classification of assistant physicians at the New Jersey State Hospital for the Insane, Morris Plains, is to be made to go into effect June 1. The medical staff was formerly composed of the medical director and a staff known as first to sixth assistant physicians. Under the new classification the medical director will be chief of staff as before, Dr. Britten B. Evans, Morris Plains. Drs. E. Moore Fisher, Morris Plains, and Louis K. Henschel, N. Y. City, will be known as senior assistants and the remaining three members of the staff, Drs. George A. Anderson, Marcus A. Curry and George B. Hampton, are to be known as junior assistants. Three more junior assistants are required on the medical staff and a competitive examination is to be held June 1 to determine the names to be submitted to the board of managers at its next meeting.

NEW YORK

Tuberculosis Commission Bill.—The assembly has passed the Goodwin Bill creating a commission to consist of three members to be appointed by the governor of the state, the State Commissioner of Health, a physician, a state senator and three assemblymen, to investigate generally the prevalence of tuberculosis in the state with special reference to methods of prevention.

Cancer Hospital Assured.—Governor Dix has signed the bill appropriating $65,000 to establish in Buffalo a hospital to investigate the cause, nature, treatment, prevention and cure of cancer and allied diseases. The management is to be by a board of seven trustees, including the state commissioner of health, Drs. Roswell Park, Charles Cary and William H. Gratwick, Buffalo; Frederick C. Stevens, Attica; John G. Milburn and Charles S. Fairchilds, New York City.

Personal.—Dr. Elbert M. Somers of the St. Lawrence State Hospital, Ogdensburg, has been appointed by the State Lunacy Commission as medical inspector for the commission to succeed Dr. Robert Doran who was recently appointed superintendent of the Long Island State Hospital.——Dr. Julius A. Klaks, Buffalo, has been elected health officer of Depew.——Dr. Nathan William Soble, Rochester, chairman of the tuberculosis committee of the public health association of Rochester, has been elected vice-president.

Urge Further Antituberculosis War.—Joseph H. Choate in a letter to the State Charities Aid Association declares that the "no uncared for tuberculosis in 1915" movement will be accomplished if the present rate of progress is maintained. The number of county hospitals authorized to do this work has increased during the past year from eight to sixteen, of dispensaries from fifteen to twenty-five, of visiting nurses from thirty-two to thirty-nine and of localities providing special relief from eight to fifteen. The letter has been sent to 1,500 officers of antituberculosis committees and calls on them to prosecute the work with vigor in the assurance of success in view of the progress already made.

New York City

Sanitary Object Lessons.—A department of public health has been established in connection with the American Museum of Natural History. The formal inauguration of this new feature of public education took place, May 22.

For Conservation of Vision.—The American Association for the Conservation of Vision has received a certificate of incorporation from the Supreme Court. This association proposes to investigate all the conditions and causes which result in blindness and impaired vision, the relation of impaired vision to general health and the means of prevention of blindness.

Personal.—Dr. and Mrs. Leonard Weber sailed for Europe, May 13.——Dr. Justin Herold was operated on, May 5, and is progressing satisfactorily.——Dr. Minas S. Gregory fell down-stairs in Bellevue Hospital on May 16, injuring his spine and breaking two ribs.——Dr. Edward Quintard has received a bequest of $5,000 under the will of the late John Henry Flagg in recognition of his "skilful and untiring services" to the deceased.——Dr. Aurelio A. Dubari has returned from Europe.

NORTH CAROLINA

News Notes of Hospitals.—An anonymous donor has presented Rex Hospital, Raleigh, with an *x*-ray outfit valued at $1,500.——The new City Hospital at Goldsboro is nearly completed.——Drs. John L., Benjamin F. and Robert C. McMillan have opened the McMillan Hospital at Red Springs.——Dr. Frank T. Merriwether, Asheville, tendered the members of the Buncombe County Medical Society a reception at the opening of the new operating rooms recently added to the Merriwether Hospital.

Health Officers Appointed.—Dr. James P. Battle, Nashville, has been elected health officer and quarantine officer of Nash County.——Dr. John Bynum, Winston-Salem, has been elected superintendent of health of Forsyth County.——Dr. Edwin M. Brown, Washington, has succeeded Dr. Plummer A. Nicholson as superintendent of Beaufort County Board of Health.——Dr. Marvin L. Smoot, Salisbury, has been elected superintendent of health and quarantine for Rowan County.——Dr. Henry D. Stewart, Monroe, has been reelected superintendent of health of Union County.——Dr. R. Morrison King, Concord, has been elected health officer of Cabarrus County.——Dr. James M. Covington, Jr., Wadesboro, has been appointed quarantine officer for Anson County.

PENNSYLVANIA

Appropriation for State Charitable Institutions.—The state, semi-state and charitable institutions of Pennsylvania appealed to the legislature for appropriations amounting to nearly $115,000,000, but the bill passed by the house committee carried an appropriation of less than one-fourth of that amount, or about $26,000,000.

Results of Free Antitoxin.—A remarkable saving of child life is shown by the latest figures tabulated by State Health Commissioner Dixon as to the free distribution of diphtheria antitoxin among the poor. A year ago he decided to distribute and urge the use of 5,000-unit initial doses of antitoxin. The death-rate at that time among the little children of the poor stricken with diphtheria and who were being treated with 3,000-unit doses of antitoxin was about 8 per cent. That meant a most gratifying saving of life for instead of 42 per cent. of death as is the case in diphtheria without the use of antitoxin, it meant that only 8 per cent. proved fatal. But now out of 1,225 cases of diphtheria treated with the 5,000-unit doses distributed by the State Health Department, there were only eighty-one deaths, or 6.61 per cent., the lowest death-rate in the record of the department's work.

Philadelphia

Willard Memorial Service.—Services in memory of Dr. De Forrest Willard, who occupied the chair of orthopedics in the University of Pennsylvania, were held at the Second Presbyterian Church on May 8, members of the medical profession and university students participating.

Addition to Woman's Hospital.—The Woman's Hospital of Philadelphia, is now celebrating its fiftieth anniversary by placing a roof garden on the building. This will contain public and private wards, with sun parlor, sheltered walk, diet kitchen and a fire tower. The partitions will all be of glass.

Steamer Detained at Quarantine.—The Italian steamer *Verona* from Genoa for Philadelphia, via New York, was detained several hours at the state quarantine, Marcus Hook, May 10, on account of the discovery of a suspicious rash on two children of the steerage. After observation, it was reported that the children were suffering from chicken-pox and the steamer was released.

Personal.—Dr. Allen J. Smith, dean of the medical school of the University of Pennsylvania, has been appointed professor of pathology, vice Dr. Richard M. Pearce, who will take the chair of research medicine.——Dr. Wendell Reber has been appointed visiting ophthalmologist to the Philadelphia General Hospital, vice Dr. Charles A. Oliver, deceased.——Dr. H.

Maxwell Langdon has been appointed one of the chiefs of the eye dispensary of the Presbyterian Hospital.

Eligible List for Blockley.—Of the 143 young physicians examined by the Civil Service Commission for the 28 positions as interns in the Philadelphia General Hospital, only 3 failed to obtain the required average of 70 per cent. The general average obtained by the successful applicants was 80.6 per cent. Of those who successfully passed the examination, 73 are graduates of Jefferson Medical College; 29 of the Medico-Chirurgical College, 28 of the University of Pennsylvania, 9 of Temple University and 4 of the Woman's Medical College.

Milk Show Opens.—The first Philadelphia Milk Show opened May 20, at 10 o'clock; about 700 people visited the rooms before noon. The thing that most pleased the sanitation and health experts was the keen interest exhibited by all and the careful attention given to the impromptu lectures on the various exhibits. At 12:20, Dr. H. Brooks Mills, by means of motion pictures, demonstrated in the lecture hall, adjoining the exhibition rooms, the evils of the ordinary housefly. At 3 p. m., the mayor delivered the address of welcome and addresses were made by Dr. Joseph S. Neff, director of public health and charities; Dr. Samuel McC. Hamil, chairman of the Philadelphia Pediatric Society Milk Commission, and Dr. Charles J. Hatfield, vice-chairman of the executive committee of the milk show presided. In the evening, addresses were made by Drs. Lawrence F. Flick, Randle C. Rosenberger and John C. Gittings. The show was open all the following week and a feature of Monday, May 22, was that all lectures and demonstrations were given in Yiddish.

Open-Air School Opens.—The open-air school for tuberculous children on the roof of the College Settlement Building was opened May 16. It is conducted under the auspices of the Board of Public Education, the Phipps Institute and the College Settlement. The Phipps Institute supplies the management of the school, the nurse and the food; the Board of Education furnishes the teacher, text-books, desks and the pupils, who are transferred from various schools, and the College Settlement gives the use of the roof, shelter, playgrounds, bathing and cooking facilities. The class is to be made up of twenty pupils, gathered from schools in walking distance from the College Settlement and will continue through the summer. Ten pupils reported the first day and were each given a tooth brush, tooth powder, mouth wash, wash rag, brush and comb and nail brush and instruction in the use of these articles was the first lesson given. The school will open at 8 o'clock each morning, which is the hour for the bath. At 8:30, breakfast is served and at 9, lessons begin in the open air and continue until 10:30. From 10:30 to 11, there will be games, followed by a wash and rest until noon when a hot dinner will be served in the dining room of the Settlement Building. From 1 to 3, complete relaxation and rest, the children lying extended; from 3 to 4:30 lessons and games and then rest until 5:30, when the children are sent home after indulging in a good wash. Dr. Frank Craig is in direct charge of the work. The Phipps Institute plans to erect a large new school at Seventh and Lombard Streets, to which on completion, this class will be moved and as many more like it established as funds will permit.

GENERAL

Clinical Investigators Elect.—At the annual meeting of the American Society for Advancement of Clinical Investigation, held in Atlantic City, May 8, Dr. Theodore C. Janeway, New York City, was elected president; Dr. Joseph Sailer, Philadelphia, vice-president; Dr. Wilder Tileston, New Haven, Conn., secretary, and Dr. George Blumer, New Haven, Conn., treasurer.

Therapeutic Society Meets.—At the twelfth annual meeting of the American Therapeutic Society, held in Boston, May 13, the following officers were elected: president, Dr. Alexander D. Blackader, Montreal, Que.; vice-presidents, Drs. Howard Van Rensselaer, Albany, N. Y.; Robert T. Morris, New York City, and Clarence J. Blake, Boston; secretary, Dr. Noble P. Barnes, Washington, D. C., and treasurer, Dr. A. Ernest Gallant, New York City.

The Care of Epileptics.—The National Association for the Study of Epilepsy and Care and Treatment of Epileptics will hold its tenth annual meeting in St. Louis, June 16, under the auspices of the St. Louis Medical Society. The date set for this meeting will allow the members to attend the meeting of the American Medico-Psychological Society in Denver and will not interfere with their attendance at the American Medical Association at Los Angeles.

Medical Library Association Meeting.—The fourteenth annual meeting of the Medical Library Association was held May 9-10 in Atlantic City. On the first day the president's address was delivered by Dr. John H. Musser, Philadelphia, and papers were read on "Hospital Records in Relation to the Hospital Library," by Mrs. Grace W. Myers, Boston; on the "Establishment of Medical Libraries in County Medical Societies," by Dr. Carl Black, Jacksonville, Ill., and on "The Changes in Medical Periodical Literature Since January, 1909," by C. Perry Fisher, Baltimore.

Warning Concerning Subscription Company.—Correspondents at various points in the northwest write that they paid subscriptions to THE JOURNAL to "A. S. Brown," who claimed to represent the Seattle Subscription Company, of Seattle, Wash. These letters have come from Montana, Dakota and Oregon. One physician writes:

> "A short time ago I was 'stung' by a medical magazine canvasser. . . . He was a well-dressed young fellow . . . offered any of the medical magazines at a reduction in the regular cost. . . . I had been intending to subscribe for . . . and I gave him an order and paid $4.20 (regular price $5.00). He had a small, black, leather-covered handbook that was pretty well worn and contained a list of all medical magazines, the regular price of each, the price this company was making and the price he would make if more than one was taken."

THE JOURNAL has repeatedly called attention to the danger of paying money to unknown persons. The more flattering the offer the more suspicious one should be. In this instance, it seems that there is no such concern as the Seattle Subscription Company; at least several of those who have written say that the postoffice returned their letters with the information that this company could not be found.

The Plague.—The international plague conference which met last month at Mukden apparently did not accomplish much; but it was an epoch-marking event in that it showed how China has cast off its ancient medicine and turned to the West for aid in warding off the threatened epidemic. This conference and also the general subject of plague are discussed by our Manila correspondent in this issue. The disease seems to have been stamped out in Manchuria, after causing 31,450 deaths according to the official records, and it has subsided in northern China, but our British exchanges state that in India there were 166,135 deaths from the plague during March, a total of 332,554 during the first three months of the year. March and April have shown the maximal mortality each year during the present siege of plague in India. Egypt still has a few scattered cases of the plague as also the western South American countries and southern Russia.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, April 4, 1911.

The Alleged Economic Value of Plague and Other Scourges

Some weeks ago I reported to THE JOURNAL some phases of the plague situation and scare in Shanghai, China. After many deaths among the Chinese and several among the Europeans, the pestilence seems to have been got rid of. Among the results other than the loss of life, are to be counted more or less political wrangle and a furtherance of sanitary measures and of medical education in this part of China. The medical missionaries, the few hospitals and the Chinese may be said to be cooperating more closely, and a new medical school, based on Western principles, is almost in view. Before the Shanghai pestilence was eradicated, another more serious epidemic of plague broke out in Manchuria. The epidemic in Manchuria has been decidedly more extensive and severe, and conditions at times have been alarming. The cities of Mukden and Harbin have been the principal sufferers. The reported conditions at Mukden remind one of the great plague year in London, so well described by DeFoe. At one time the spread of the disease was becoming so extensive that the foreign legations at Peking threatened to be abandoned entirely. It is interesting to note that the spread of the contagion was limited almost entirely to the regions supplied by the railroads, and Russia and Japan have been severely criticized in this regard.

The Manchurian epidemic of plague is not the bubonic form which is so prevalent in southern China and India. It is the so-called pneumonic plague, the etiology and distributing agent of which is practically unknown. It is interesting and gratifying to note with what promptness and foresight the Chinese government has risen to the occasion and is attempting the eradication of the epidemic. Aside from strict quarantine measures, the government has asked all the great

powers to send delegates to an international plague commission for the study and prevention of this particular plague. The Chinese themselves are supplying ample funds for the commission and are placing every facility at their disposal.

Dr. Richard Pearson Strong, chief of the Biological Laboratory, Bureau of Science, Manila, and Dr. Oscar Teague of the same laboratory are representing the United States government on the commission. They left for Manchuria in February and took with them a large supply of laboratory apparatus and chemicals. We have as yet no report of their work, further than that they have their laboratory established and are finding conditions fairly favorable for investigation.

As is usually the case when there is any extensive disturbance in China, the foreign nations are accused (and perhaps rightly so in the majority of cases) of using it each to further individual ends, so Russia and Japan each and jointly have been facing serious indictments during the present epidemic. At any rate Russia seems unduly active on the western frontier and Japan, although the Mikado is reported to have given a half million yen ($250,000) toward the eradication of the plague, seems to have urgent need for an increase in her military strength on the Korean border and in Manchuria. Some of the Japanese papers which are supposed to reflect much of the sentiment of the government are maintaining that it is time for Japan to take the plague situation in hand. The following regarding the plague situation in Manchuria forms part of the report of an inquiry made by the *National Review* of Shanghai: "Other features of the situation are commented on in the same interviews, and we gather that Japan, in spite of her vaunted medical advances and her superior civilization, is in very large measure responsible for the spread of the pestilence to the south. In November and December the railway authorities knew that there was plague in the north, and they also knew that with the approach of Chinese New Year thousands of coolies would be returning to their homes. They would very probably carry the plague with them, but in spite of this knowledge the railways carried trainload on trainload of these coolies. Then one day two deaths took place among the coolies who were traveling from Mukden to Shanhaikwan on the Chinese railroad. Plague was discovered and the whole trainload was sent back to Mukden. Only then did the other railroads take steps which should have been taken months before and which would have prevented the spread of the disease to China proper. This, dear readers, is Russo-Japanese efficiency, of which we have further examples reported from Mukden and Harbin by the Peking *Daily News*, in which a telegram states that these two governments are putting hindrances in the way of the Chinese authorities in their battle with the plague. Hence the responsibility for the spread of the disease from the area in which it originally occurred rests almost entirely with the Russo-Japanese agreement. Responsibilities generally carry with them opportunities, and so on the present occasion we learn that the two powers are strengthening their forces in Manchuria.

"It is pleasant to turn from this side of the question to what the Chinese government is doing. The cooperation of foreigners is everywhere being sought; funds are being provided without stint, as in Harbin, where the Manchurian viceroy has appropriated 150,000 taels for the work of prevention; there is ready acquiescence in the proposals of competent medical men in every one of the large centers where the pest is being fought; the Chinese government is sending its available men from every quarter; the senior students of the medical schools in Peking are being drafted to the work for inspection purposes; materials and prophylactics are being hurried from Europe; and, generally, it may be said that every effort of which any government under the circumstances would be capable is being put forth by the Chinese government. Observers on the spot testify to these things universally, and the result is that during the last two or three days the news from every point has been more satisfactory. The actual number of cases is less, the fatalities are fewer, the arrangements are being rapidly perfected, and if the present resistance to the spread of the epidemic can be maintained there is some hope of seeing its extinction at a not distant date. The strict quarantine that is being enforced at all ports regarding vessels from the infected area may cause temporary inconvenience, but it will undoubtedly prove an effective barrier to the further march of the pestilence, and the fact that there has been a fall of two feet of snow will naturally impede travel on foot and thus hinder the spread of the disease."

BLESSED BE THE PLAGUE!

The foregoing cannot, however, be taken to reflect the attitude of more than the Chinese government, and a limited number of the more highly educated (as viewed by western standards). The average Chinaman more probably holds views more like this. I was talking recently with a native friend about the possibility of Hankow's receiving a visit from the plague scourge. Being anxious to impress him with a sense of the gravity of the situation, I laid on the color with a big brush. "Supposing," I said, "just one man were to arrive here with the seeds of the disease and were to take up his abode in one of the crowded inns, it is so contagious that probably all the people in the inn would get infected, and every one of them would ultimately die. Before that, most of them would have gone away, as it takes from three to five days from the infection till the sickness sets in, and wherever they went they would infect others in the same way, till the people would soon be dying in hundreds and thousands. If it started among the poor people in the mat huts, it would simply clean them out. Sometimes whole regions are depopulated. Once, twenty years ago, on the Canton border in south Huan, we went through a district where, for a whole day's journey, there was not an inhabitant left. Some kind of plague had killed most of them and the rest had run away. The houses were well built and the fields were fertile, but except a few dogs there was no one about, and whoever wished was quite welcome to take possession."

At this point my native friend broke in with his views. To my amazement he declared that that was splendid, and just the very thing which Hupeh wanted. He said that there were far too many people in the province, and that there were not fields enough for all of them to till, nor rice enough to fill their mouths. Every year they were increasing, as all the young people married and had big families. Because of this China was weak. If you put too many goldfish in the globe they will die, and if you sow your vegetables and flowers too thick they will not come to anything. It was just the same with people. And unless something happened to reduce their numbers they would be in time compelled to eat each other, which would be a worse state of affairs than the plague. What answer to make to this I did not know, and do not know yet.

A friend of mine was recently traveling through the districts in Kiangsu where the famine raged so frightfully in 1907, and he was similarly nonplussed when he found the people everywhere speaking of the famine as a great blessing, because ever since then there had been food and to spare for all, and plenty of work for those who wished to labor. The question of the rapid multiplication of Oriental people, in connection with the present advance of Christianity and civilization, is one which in a few generations will become serious. It is estimated that, given peaceful times and prosperous years, the population of this empire could be doubled in a generation. There are 400,000,000 now. Supposing that, by the end of a century, this number is doubled three times, we then arrive at the appalling total of 3,200,000,000 of people. Hitherto the increase has been held in check by the constantly recurring calamities of war, famine and pestilence. It is estimated that the Taiping, the Yunnan and the Kansuh Muhamadan rebellions resulted in the destruction of fifty millions of lives. The Shansi and Shantung famine of 1878 is said to have swept away from nine and a half to thirteen millions. This is within comparatively recent times, and never a year passes without similar disasters on a smaller scale. But we are looking forward to a period when, through the increase in knowledge, the prevalence of higher principles, and the advance in the organization the above-mentioned trinity of evil will be shorn of its strength; and what then? The answer is not easy. Meanwhile it may be asserted that China as a whole is not overpopulated. Science may yet teach us how to increase vastly the fruitfulness of the earth. Our hope is that the same advance in knowledge and better principles which create the difficulty will also provide the cure.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 12, 1911.

Inspection of the Stomach

At the Royal Society of Medicine Dr. William Hill, laryngologist, and Dr. Herschell, gastrologist, demonstrated a new form of gastroscope. The principle is to pass under cocain anesthesia an open endoscope of Killian's pattern through the mouth, pharynx and esophagus, under direct vision throughout, into the stomach. A cap with a tap for inflation at its side and a round aperture in its upper surface is then attached by means of a bayonet joint to the proximal extrem-

ity of the tube. Through the round aperture, which has a rubber lining, an indirect periscopic tube, which accurately fits the aperture, with a terminal lamp on the cystoscopic principle, is passed into the stomach through the lumen of the direct vision outer tube. Inflation is commenced before the inner optical tube reaches the stomach. The upper part of the pyloric antrum, the pyloric orifice, and the adjacent portion of the lesser curvature, all in the field at the same time, were shown to the members of the society. Examination of the cardiac orifice is best done with the outer inflating portion of the apparatus, which has a plane glass window at the proximal end to prevent the escape of air when inflating. The rest of the stomach, especially the pyloric vestibule and lesser curvature, the most frequent sites of election of morbid lesions, are more efficiently examined on the cystoscopic principle by the indirect vision periscope inserted through the outer tube. The essence of the method is that the gastroscope is not, as in previous methods, passed into the stomach blindly. In previous methods this was done and resulted in casualties which discredited the method. Drs. Hill and Herschell are now studying the normal appearances of the interior of the stomach. They have not yet begun to use the instrument for diagnosis in the pyloric region. In acute ulcer and hemorrhage they would hesitate to use the instrument, but they think that it will prove useful in the diagnosis of chronic ulcer from malignant disease.

The British Medical Association and the Metric System

In pursuance of the instruction of the annual representative meeting, the council of the British Medical Association has considered the question how the metric system can be adopted with the least inconvenience for prescribing and dispensing. The council recognizes that the full adoption of the system depends on its being made the method according to which students are trained, so that they will learn to think of quantities primarily in grams, centimeters, etc., instead of, as at present, in grains and minims, etc. It therefore recommends that the teaching of pharmacology, both theoretical and practical, shall henceforth be according to the metric system. The advantages of the system, in addition to the simplification of calculations, are (1) the assimilation of the measures used in the laboratory to those adopted in practice, which will make the reports of the investigator more readily intelligible to the doctor and tend to keep him in closer touch with science, and (2) the gain to the work of all nations by being stated in terms mutually intelligible. But the difficulties of introducing the system at present are considerable, as almost all doctors are trained only in the English system and find it hard to adapt themselves to the new system, even when they dispense their own medicines. When they do not dispense there is a difficulty in bringing about cooperation between physician and pharmacists. For doctors trained in the present system the council recommends the adoption of a transitional procedure which would enable them at once to adapt their prescriptions to the metric system and so avoid the drawbacks of a divergence between junior and senior practitioners. The difficulty of the doctor trained to think in terms of grains and minims is to translate his terms into grams and cubic centimeters. If absolute exactitude were necessary he would require the constant use of tables of equivalents. But it is not, as the common mode of administering drugs by spoonfuls shows. The council therefore has recommended the adoption of an ingenious suggestion made by Dr. R. C. Buist, by which a prescription according to the present system may be automatically converted into the metric system. This is done by taking the figure 16 as the factor for converting grams into grains and cubic centimeters into minims. The error is not great, as the exact factors are respectively 15.4324 and 16.906. Now in ordinary prescribing sixteen doses are usually ordered in a mixture, as represented by tablespoonful doses of an 8-ounce mixture. If therefore as many grams or cubic centimeters are dispensed in the whole mixture as grains are ordered for a single dose according to the old system a closely approximate result will be produced. Thus all the doctor need to do is to write a single dose according to the old system, omitting the symbols, and the dispenser may be instructed in such case to follow the metric system. Obviously a similar plan can be adopted for mixtures in which the dose is in teaspoonfuls, that is, ounce or 2-ounce mixtures, the only requisite being that there should be sixteen doses in the mixture. In ordering pills or powders a different procedure must be adopted. In the old system fractions or small multiples of a grain are used. The prescriber must therefore become familiar with the fact that 1 grain = 0.06 gm., which is near enough for practical purposes. To facilitate the work of the dispenser the number of pills or powders ordered should be a multiple of ten.

Felt Manufacture and Anthrax

An important government report on this subject by Mr. H. Verney, an inspector of factories, has been issued. He discusses the preliminary processes in the manufacture of felt and the possibility of eliminating blood-stained material. The raw materials are chiefly East Indian wool, jute, and wool waste. The various ingredients are mixed and placed in superimposed layers. The wool is tightly compressed and has to be pulled apart with considerable force. In doing this some of the dust escapes which may contain the spores of anthrax. A machine called the "willow" is used to tear the fibers apart and in this process a cloud of dust is driven into the face of the attendant. What is required is a willow with an automatic feed and delivery. The material then goes through further teasing in a machine called a "devil" and is then carded, which straightens out and cleans the fibers. In the latter process dust and short dusty fibers are produced. To make the process safer an improved type of willow and the provision of overalls and respirators are considered necessary. It appears almost impossible to eliminate blood-stained material from the wool.

Accidents and the Negligence of the Public

A curious question has engaged the attention of the court of appeal. A man after descending the stairs of a railway station slipped on a piece of banana-skin on the platform, fell against a wall, and sustained a compound fracture of the right arm. He sued the railway company for negligence on the grounds that it was the company's duty to remove dangerous things from their passages. The jury decided in his favor and awarded him $2,500. The company appealed, showing that its servants had orders to sweep their premises twice a day and to remove dangerous matter. There was no evidence as to how the banana-skin came to be on the platform or that any opportunity to remove it had been neglected. The verdict of the lower court was set aside, the presiding judge in the higher court, Lord Justice Williams, pointing out that the onus was on the plaintiff to show that the accident was due to want of reasonable care on the part of the defendants. There was no evidence to show when the banana-skin had been thrown down. It might have been dropped within a second of the accident.

The Crusade Against Tuberculosis

The campaign against tuberculosis continues to develop throughout the country. Of the thirty-five large cities other than London, thirty-three have made arrangements for the bacteriologic examination of the sputum of suspected persons; twenty-one have by-laws against spitting; nine use their isolation hospitals for the reception of patients; three use the workhouse, and two are building sanatoriums for themselves. With regard to notification some difference of opinion and practice exists. The advantages are obvious, but the difficulty is that the subjects of tuberculosis are often shunned as if they were lepers. Of the large cities only four have made notification compulsory but in most of them voluntary notification exists. In London notification of all pauper cases is compulsory. The rooms occupied by a consumptive are disinfected and in some cases this is done weekly. Numerous voluntary agencies engage in the struggle against tuberculosis, in cooperation with the sanitary authorities. They visit the patients and provide clothing, food and other necessaries. In London there are three tuberculosis dispensaries at work and five others are being established. These are all supported by voluntary contributions, though they work in connection with the sanitary authorities. The after-care of patients discharged from sanatoriums is receiving attention. At Bradford there is a Civic Guild of Help which sees that the patient lives, as far as possible, under the same conditions as at the sanatorium.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 5, 1911.

The Effect of Altitude on Aviators

On April 24, Dr. René Cruchet, *agrégé* professor of the Faculté de médecine de Bordeaux, reported before the Académie des Sciences the result of studies that he, with Dr. Moulinier, professor at the Ecole de santé navale de Bordeaux, had made on a number of aviators. The physiologic troubles felt in an aeroplane ascent are very similar to those which are felt in mountain-climbing, but are felt at a much lower

altitude, that is, between 800 and 1,200 meters (about 2,600 to 3,900 feet). Above 1,500 meters (about 5,000 feet) the cold becomes extremely painful and hinders the movements of the aviator very much. The cold on mountains does not become troublesome until a much higher altitude is reached. In the aeroplane ascent the respiration becomes shorter, the heart beats more rapidly; soon headache encircles the temples and a kind of malaise, sometimes affecting the stomach, is soon felt. Humming, whistling or ringing is heard in the ears and hypo-acusia appears. Finally, a violent desire to urinate appears, growing more and more imperative. All the preceding troubles are intensified in the descent; and in addition a burning sensation is felt over the face, which is red and congested; then a headache much more intense than in the ascent, and an invincible desire to sleep. This phenomenon corresponds with what occurs daily in the descent of high mountains by cable road, the Jungfrau, for instance. These disturbances become accentuated on the aviator's landing and even persist several hours afterward, the headache being sometimes accompanied by vertigo. After measuring the blood-pressure before the ascent and at the minute of landing, Drs. Cruchet and Moulinier ascertained that there was at the latter moment a hypertension, both minimum and maximum, shown by differences of from 0.5 to 0.3 cm. of mercury according to the altitude attained. This is one of the most remarkable facts ascertained, in view of the fact that free circulation of air, as well as fatigue, brings about a lowering of blood-pressure. The phenomena of hypertension, of headache, of auditory troubles and of sleepiness increasing during the rapid descent and persisting after landing are due, essentially, to the swiftness with which aviators after reaching a high altitude return to the ground. After taking thirty, thirty-five or forty minutes to reach a height of 2,000 or 3,000 meters, they descend in from five to seven minutes, that is to say, at the rate of 300 to 400, or even 500, meters per minute. Our organism, and specially our circulatory system, is not made to adapt itself to the different atmospheric pressure which the aeroplane attains in so short a space of time. These facts, therefore, not only have a scientific interest, but show that aviators should descend much more slowly than they do at present.

Superintensive and Intermittent Treatment of Syphilis with Mercury in Several Forms

On May 2, Dr. L. Jacquet, physician of the hospitals of Paris, read before the Académie de médecine a paper insisting on the fact that salvarsan, whatever its merits, ought not to cause mercury to be forgotten. Dr. Jacquet declares that the full potentialities of mercury have not yet been demanded from it, and he claims to have a method of administering mercury superior in certain respects to the usual methods. He administers simultaneously, for short periods, lasting from one to five days (1) two pills, each 5 cg. of proto-iodid of mercury, during each of the principal meals; (2) a wash of 20 gm. of Van Swieten's liquor (a solution of 1 part of mercuric chlorid in 100 parts of alcohol and 900 parts of water) in 100 gm. of warm water, to which is added a little laudanum; (3) friction with 2 gm. of mercurial ointment (50 per cent. mercury); (4) an injection of 1 cg. of biniodid of mercury. Then there is a complete pause for five, ten or fifteen days; after this pause, a resumption of the same doses, and so on for three, four or five consecutive periods.

Not counting the gram of mercury incorporated in the ointment, of which the absorbed portion cannot be estimated, though it must be considerable, as has been shown by the well-known curative effect of the rubs, the total of 8 cg. of pure mercury daily absorbed is arrived at. But this superintensive treatment makes use of all the channels of penetration by which medicine can be absorbed, and that without irritation, since, while the total mass of mercury absorbed is enormous, the effort demanded of each channel of absorption is moderate. Moreover, the treatment is discontinuous, that is to say, by successive mercurial attacks, sufficiently distant from each other so that elimination may occur.

Dr. Jacquet has treated about eighty patients in this way. During the first stage, the chancre has visibly retrogressed and so has the adenitis and the duration seems to have been considerably shortened. During the second period, action is rapid on the roseola and on the greater number of the cutaneous syphilids. There is very weak action or none at all on the mucous tracts, as is usual in the classic treatment. Here, without doubt, salvarsan is greatly superior. On the other hand, a remarkable action has been observed on the general phenomena and on the nervous reactions of the period. During the tertiary period, Dr. Jacquet expects only success, and has obtained results as remarkable as with salvarsan. The superintensive treatment is indicated in all cases in which one wishes to act quickly and forcibly and in which one cannot or does not wish to employ salvarsan. It ought to be instituted only on patients daily and minutely observed, and only after the mouth and the teeth have been put in perfect order, and it has been ascertained that the kidney and the renal functions are intact. At the first untoward sign the treatment ought to be suspended.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 5, 1911.

Personal

Professor Gerhardt, director of the medical clinic at Basel and son of the renowned clinician, has been called to Würzburg as successor of Prof. v. Leube.

At the end of the summer semester Professor Trendelenburg, the prominent Leipsic surgeon, will resign his teaching position, although he is only 67.

Professor Eversbusch, director of the Munich eye clinic, celebrated his twenty-five year jubilee as professor.

Privy councilor Professor Lent recently died at the age of 79. Lent has rendered great service in the field of public sanitation and in working for the professional interests of German physicians. He was one of the founders of the German medical league (*Aerztevereinsbund*), and for a long time its second chairman, and the chairman of the executive committee of the Prussian Medical Chamber (*Aerztekammer*).

Annual Meeting of the German Surgical Society

In the latter part of April the *Chirurgen-Kongress* was held as usual in Berlin. The attendance at the meeting is increasing from year to year; this year there were quite 900 surgeons present. The first session was opened by the president, Professor Rehn, of Frankfort, with a memorial address on von Langenbeck whose hundredth birthday was celebrated November 9 of last year. Of the numerous subjects treated at least the most important may be mentioned.

DISINFECTION OF HANDS AND FIELD OF OPERATION

Küttner of Breslau discussed disinfection of the hands and field. Among chemical disinfectants the phenol preparations have constantly gained more adherents. Alcohol has established its power of fixing germs, but the views regarding its practical application are still at variance. Tincture of soap is not as reliable in its action as was formerly assumed. Heusner's method with iodobenzin has an established position; rubber gloves are used at septic operations by almost all operators, but not by so many in aseptic operations. The use of tincture of iodin for the rapid disinfection of the operation field is continually gaining more adherents, although Kocher of Bern holds that evidence has not yet been produced for its superior efficacy.

EXOPHTHALMIC GOITER

Kocher reported on hyperthyroidism and its treatment. In all cases of this disease he has found pathologic changes in the thyroid gland with increase of its secretion and increase in the iodin content of the secreted fluid. Experimentally the disease can be produced by injection of the expressed juice of the thyroid gland, or by the substance of the gland, or by iodin and the thyroid juice. Undesignedly the symptom-complex of exophthalmic goiter has been aggravated in man by the action of these medicaments. A change in the blood picture occurs as a result of the internal secretion of the thyroid gland. On the basis of this blood finding the diagnosis may be made of excessive secretion in the thyroid gland. There are, however, clinical pictures that vary from the genuine hyperthyroidism which are to be explained by the supposition that the juice of the thyroid acts on different nerves. As causes of the disease, severe psychic shock, the use of iodin in diseases of the thyroid, and infectious diseases must be considered. The phenomena are increased at the time of certain physical changes in women. As the entire disease depends on an excessive increase of the glandular function, improvement can be effected only by surgical measures; that is, by removal of part of the diseased gland. Failures occur only from the removal of too little of the thyroid. The mortality of his 535 operations on the thyroid has been 3.1 per cent. The best remedy is early operation at the beginning of the disease. Klose of Frankfort has produced the disease experimentally by injection of the expressed juice of the diseased human gland; he regards this affection as an iodin poisoning. Garrè of Bonn has seen marked improvement in the heart symptoms of exophthalmic goiter after removal of the thymus. In

his opinion, there are cases which are produced by a disease of the thymus gland. Halsted of Baltimore discussed the danger of tetany from the removal of small glandular formations lying by the side of the thyroid gland. This may be avoided by careful operation and by the administration of chemical remedies. Dollinger of Budapest recommended partial removal of the outer wall of the orbit in extreme exophthalmos to prevent changes in the cornea and pain. Eiselsberg of Vienna also regards this disease as an affection of the thyroid and internal treatment as unsuccessful. The operation is more dangerous than other thyroid operations because, as a rule, the patients come too late and as a consequence much greater heart changes have occurred. He has had six deaths among seventy-one operative cases, which is chiefly to be explained by the fact that the patients came to operation too late. His curative results have been brilliant. He is very enthusiastic for early operation. Küttner of Breslau has investigated cases of severe and long-continued disease, and has found that patients treated with internal remedies have all remained uncured. Of the others over 69 per cent. were cured or materially benefited. Schultze of Berlin found among twenty cases eighteen in which the thymus was demonstrable by fluoroscopy, and in eight of nine fatal cases he found the thymus enlarged. This confirms the experience of Garrè regarding the influence of the thymus in the origin of exophthalmic goiter. Rehn of Frankfort obtained a marked improvement by operation in a case of severe psychic affection. Kocher of Bern has frequently seen psychic symptoms without operation, but he has been unable to find any case of an unfavorable effect of the operation.

TRANSPLANTATION OF TISSUES AND PARTS OF LIMBS

Lexer of Jena made an extensive report on the transplanting of skin, mucous membrane, fatty tissues, nerves, blood-vessels, tendons and periosteum. In the transplantation of tendons the favorable action of a functional stimulus is especially important. The periosteum is well suited for free transplantation both in the same organism and in other individuals. Cartilaginous tissue, on account of the easily accessible sources from which it can be taken, is especially suitable for transplantation in the same individual. From these two peculiarities of bone and cartilage, results the possibility of transplantation of entire joints which has been executed with success by the author. The transplantation of entire limbs has given no utilizable results from experimental work. Our surgical technic justifies us in the hope that a nearer approach to the solution of all these questions will be made. König, of Greifswald, has made attempt to close open wounds of the mucous membrane by free transplantation. This has been successful even with large openings in the stomach and intestine. The method has the disadvantage that it gives ready opportunity for broad adhesions. In closure of openings of the bladder and rectum, the results were good. Hohmeier, of Greifswald, has further tested the above question by experiment, especially in closing wounds of the air passages. Schöne, of Marburg, discussed the possibility of transplanting tissues from a foreign species. The difficulty of securing healing depends on the peculiarity of the metabolism. Landois, of Breslau, introduced parathyroids into the circulation but the transference was not successful. According to Rehn, transplantation of fatty tissue does well in the same individual but badly in a foreign organism. For bridging gaps in bone as well as in bone operations in general, the horn of animals is very suitable. Küttner made a further report on a patient in whom the head of the femur had been removed and was replaced by the corresponding part of the femur of a cadaver. As the patient had died later of a new tumor formation, preparation of the transplanted part could be shown, and a completely solid union of the two parts was evident. In addition a second patient was shown who had been operated on in a similar way, nine months before, and in whom various subsequent operations had not endangered the union of the implanted part of the cadaver; also Roentgen pictures of a third patient were shown. The method of Lexer thus makes it possible with the parts of a cadaver to realize a temporary and probably a permanently successful transplantation of a joint. Tilmann, of Cologne, replaced the loss of a lower jaw by bone from the tibia, but the bone later was thrown off. Goebell, of Kiel, cured a dislocation of a patella by transplantation of tendons and he has successfully sutured bone with strips of periosteum. Baum, of Kiel, tried to cure pseudarthrosis by transplantation of bone but without success. Eiselsberg, of Vienna, replaced parts of the urethra by blood-vessels, and Streissler, of Graz, by the vermiform appendix. Friedrich, of Marburg, warned against too extensive resection and transplantation in malignant tumors of the bone because new tumors very easily arise in such cases. Müller, of Rostock, warned against too great expectations from the transplantation of bones from the cadaver. Bramann, of Halle, has closed defects in the dura mater with fat, and König, of Greifswald, has replaced the lacking lower jaw with ivory. Lexer, of Jena, presented a patient who had suffered an extensive ulceration and constriction of the esophagus from drinking sulphuric acid. Lexer made a new esophagus, from the stomach to the neck, out of a strip of intestine and the skin, with excellent functional results. The patient was presented and ate and drank solid and liquid substances, and the passage of food into the stomach could be observed.

MALIGNANT TUMORS

Werner, of Heidelberg, stated that he had not seen much good result from the injection of serum for the cure of malignant tumors. Moreover, no marked success has been achieved by other remedies, such as the *x*-ray and radium. He recommended open treatment of the wound and its subsequent treatment with *x*-ray in case of very advanced, scarcely operable tumors. In other respects, he regards operation as the most effective means for the treatment of malignant growths. Bier, of Berlin, showed a patient who had been cured of a very extensive inoperable cancer by an incomplete operation and subsequent treatment with boric acid-gelatin. Dreyer, of Breslau, has used salvarsan in a case of malignant adenomas with good results.

OPERATIONS ON HEART AND LUNGS

Hesse, of Dresden, reported seven cases of wounds of the heart, with six operative cures, and he gave in conclusion some hints on the operative technic and after-treatment of such patients. E. Hesse, of St. Petersburg, reported twenty-one wounds of the heart which he had operated on in the last seven years, curing six of the patients. All those in whom the auricle was injured, died. It is of very great importance that the patient come to operation very early. Fuchsig, of Schärding, operated with success on a wound of the heart complicated by a wound of the diaphragm. Wilms, of Heidelberg, recommended an intercostal incision in order to expose the heart; he has performed four operations on the heart, with the loss of two patients. Schumacher, of Zurich, called attention to the possibility of securing the atrophy of a certain part of the lung and thereby curing an inflammatory process in it. Two operations of this sort have already been made. A careful study of the anatomic distribution of the vessels will facilitate operations of this kind. Müller reported the operative removal of a tuberculous lobe of the lung. Kümmell, of Hamburg, removed an entire lung on account of a tumor formation but the patient died later as the result of purulent inflammation of the bronchi. Körte, of Berlin, and Friedrich reported a large number of operations on account of tuberculosis. Wullstein, of Halle, suggested that the lung might atrophy after ligation of the bronchi.

MOVABLE CECUM

Wilms discussed movable cecum and chronic typhlitis. The attacks of pain which formerly were ascribed to typhlitis may be occasioned by adhesions in the region of the appendix and cecum or ascending colon, so that dragging takes place when the intestine becomes full, or by kinks or torsion of the colon at the hepatic flexure or the attachment of the cecum, temporarily occluding the intestine. Wilms described still another clinical picture which has nothing to do with the above-mentioned lesions, but is the result of stagnation of the intestinal contents in the cecum. The contents may remain in the cecum for twenty-four hours or more, as can be shown by the Roentgen pictures. It becomes inspissated there, so that the other parts of the large intestine are subjected to increased labor in driving on the stool. Such patients generally suffer from a chronic constipation. The cause for the long stay of the intestinal contents in the cecum must be a reversed peristalsis in the ascending colon. This, in connection with the pathologic contraction produced by inflammatory irritation, explains the attacks of pain. These spastic contractions of the cecum and colon, which are secondarily stretched unduly long, cause dragging of the movable cecum on its mesentery. The pains with this chronic typhlitis are dragging pains, aggravated by a slight inflammatory condition in the region of the mesenteric nerves. For the recognition of this condition, in addition to palpation, by which a gurgling tumor is recognizable, the Roentgen picture is unconditionally essential. The successes achieved by Wilms by fastening up the cecum indicate that not only can the pains be relieved but that the chronic constipation

may be permanently cured. Not less than 75 per cent. of the patients operated on had normal stools after the operation without further treatment, while previously a stool could be secured only by the use of laxatives. In case of an unusually large cecum, Wilms recommends the exclusion of the cecum by direct union of the lowest part of the small intestine, next the cecum, with the transverse colon. An operation should be undertaken if the internal treatment of the constipation is difficult on account of social reasons or has been unsuccessful. De Quervain, of Basel, discussed the question how far we are justified in treating chronic disease of the colon by operative measures. The exclusion of the greater part of the large intestine, recommended by some, has rightly been condemned, as a vegetable diet is not tolerated in such cases. He recommends merely the implanting of the cecum into the transverse colon. Sonnenburg, of Berlin, could not agree with Wilms, since the cecum when it is movable causes symptoms only if inflammatory conditions are present. The Roentgen picture is unreliable. According to his experience, he would warn against too hasty resort to operation. Even cecopexy frequently has not the desired result. Stierlin, of Basel, reported three cases of severe obstipation operated on with success. The results achieved were demonstrated by the *x*-ray. Klose, of Frankfort, holds torsion of the cecum to be the cause of the disturbances, and also frequently the cause of acute appendicitis. Dreyer, of Breslau, found a movable cecum in 67 per cent. of his necropsy investigations and considers this anomaly, therefore, not the cause of the symptoms. Wilms' method of fastening up the cecum does not correspond to the physiologic requirements. Fromme, of Berlin, regards a certain mobility of the cecum in women as necessary. Körte, of Berlin, is accustomed to operate only with a view of preventing an acute attack in case of chronic lesions of the appendix. Sprengel, of Braunschweig, takes a similar view. Rehn, of Frankfort, supported the view of Wilms.

Association News

THE LOS ANGELES SESSION

Additional Data About Railroad Trains and Reunions at the Annual Session

THE JOURNAL contained last week an illustrated article on Los Angeles, the programs of the sections, the lists of hotels, trains, routes, entertainments, etc. Twenty-seven pages were devoted to the coming meeting at Los Angeles, June 27 to 30. Much of this matter had previously been published in THE JOURNAL. The following are additional items which have been received since.

HARVARD MEDICAL ALUMNI REUNION

A reunion and dinner of graduates of the Harvard Medical School who are attending the session of the American Medical Association at Los Angeles will be held Tuesday evening, June 27, at the University Club. All Harvard men are cordially urged to attend and to send word of their intention to Dr. Elliott Alden, 609 Exchange Building, Los Angeles, or to communicate with him at Registration Headquarters on their arrival in Los Angeles. DAVID CHEEVER, M.D., Secretary.
20 Hereford Street, Boston.

SPECIAL TRAIN FROM TEXAS

Texas members have arranged to run a special train to the Los Angeles session over the Fort Worth and Denver City Railway. The train will leave Fort Worth at about 11 p. m., June 21, and will reach the official route of the American Medical Special at Trinidad, Colo., some three hours ahead of that special. It is anticipated that enough will go in this party to fill one good-sized train. Further particulars may be had from Dr. Holman Taylor, Fort Worth, secretary of the State Medical Association of Texas.

A KENTUCKY TRAIN

Dr. A. T. McCormack, Bowling Green, Ky., announces that the Kentucky party will leave Louisville for Chicago, over the Monon Route, at 8:06 a. m., Wednesday, June 21. From Chicago the route will be over the Santa Fe. Pullman reservations for the trip may be made through Mr. E. H. Bacon, of the Passenger Department of the Monon, in Louisville. The entire expense of the trip should not exceed $150 for each person, including hotel bills and everything. At an additional expense of about $55.50 the trip through the Yellowstone Park may be made.

A CAR FROM OKLAHOMA

Members of the Southwest Medical Association and their friends are invited by the officers of that body to join the A. M. A. special. A special Pullman will leave Oklahoma City, Okla., via A. T. & S. F. and will be attached to the A. M. A. special at Newton, Kansas. For reservation or further particulars address the ticket agent of the A. T. & S. F. R. R., Oklahoma City, Okla.

SPECIAL PARTY RETURNING

A party will leave Los Angeles, Sunday, July 2, stopping at Santa Barbara, San Francisco, Portland, Tacoma and Seattle, with a daylight boat ride across the sound to Vancouver. From this point the homeward trip will be through the gorgeous scenery of the Canadian Pacific railway, with stopovers at Banff and other points and at Rochester, Minn. Round trip tickets must be purchased before starting, and should specify this route. For full information and itinerary, address Dr. Charles Wood Fassett, secretary, Medical Society of the Missouri Valley, St. Joseph, Mo.

RATES IN THE FAR WEST

The Southern Pacific has made a rate of one and one-third fare for the round trip in California, Nevada and Oregon. This is on the certificate plan. Arrangements will be made for the signing of the certificates at Los Angeles at or near the Registration Department in the Hamburger Building.

ANOTHER ROUTE FROM CHICAGO

Dr. Liston H. Montgomery, president of the American Association of Medical Examiners, has submitted the following itinerary and general information and invites readers of THE JOURNAL and their friends to consider its advantages. Leave Chicago 10:45 p. m., Wednesday, June 21, by the C. & N. W. Ry., in special Pullman cars running to Los Angeles without change. This train will arrive at Denver June 23, 7:30 a. m., and cross the Rockies on the Denver and Rio Grande by way of the famous Tennessee Pass, Grand Cañon of the Arkansas and the Royal Gorge of the Grand River, the mightiest chasm in the universe traversed by steel rails. At Salt Lake City there will be a stop-over of three hours with a complimentary organ recital in the Mormon Temple. Los Angeles is reached at 4:30 p. m., Sunday, June 25. The cost per capita for twenty-one days' outing from Chicago to Los Angeles, San Francisco, and return is, approximately, $160, a liberal estimate. As described in THE JOURNAL last week, for a little additional cost one may return by the northern routes through the great northwest and Puget Sound region and the beauties of the Canadian Pacific.

THE BURLINGTON TRAIN

The large number of prominent Chicago and eastern physicians who have made reservations for space on the Scenic Colorado Special organized by a committee consisting of Drs. Robert T. Gillmore, Charles B. Reed and Sydney Kuh, plainly indicates that this cool and attractive route, coupled with the desirable stop-over and side-trip features which have been arranged, is a favorite. This train will leave the Union Depot, Chicago, at 11 p. m., Wednesday, June 21, via the Burlington Route and will run through the heart of delightful Colorado via the scenic line of the Denver & Rio Grande R. R. to Salt Lake City, thence via the San Pedro, Los Angeles & Salt Lake R. R. (Salt Lake Route) direct to Los Angeles, arriving at noon, Monday, June 26. Among the desirable features of this route are visits to Denver, "Queen City of the Plains," Colorado Springs and Manitou, "The Saratoga of the West"; a trip to the summit of Pike's Peak, a trip through the famous Royal Gorge; miles of grand mountain scenery; a plunge in Glenwood's great, open-air swimming pool and a special recital on the organ in the tabernacle of the Mormons. Officials of the Burlington declare that this special train de luxe will be one of the finest trains that ever left Chicago and suggest that those who have not done so should make their reservations without delay through Dr. Robert T. Gillmore, 31 North State Street, or Mr. A. J. Puhl, General Agent, Passenger Department of the Burlington Route, 141 South Clark Street, Chicago.

Marriages

ANNA FRANCIS RIES, M.D., Ogden, Utah, and Maurice Foster Finley of Bishop, Cal., at Salt Lake City, Utah, May 12.

WALLACE JOSEPH CHARLES AUBRY, M.D., Champlain, N. Y., to Miss Dora Thomas of Granville, N. Y., May 10.

EDGAR LEE WHITE, M.D., Lewiston, Ida., to Miss Catherine Leyden Rouse of Spokane, Wash., April 7.

HARVEY M. RAUCH, M.D., Pittsburg, Pa., to Miss Laredo Shafer of Somerset, Pa., May 10.

STILLWELL CORSON BURNS, M.D., to Miss Reba Faunce Eyre, both of Philadelphia, May 10.

SAMUEL WILCOX FORNEY, Chicago, to Miss Vera J. Aldrich of Petoskey, Mich., March 22.

JAY L. ARMSTRONG, M.D., to Miss Katherine A. Stevens, both of Chicago, May 14.

Deaths

Andrew Marcus Trawick, M.D. Vanderbilt University, Nashville, Tenn., 1881; a member of the American Medical Association; formerly president of the Nashville Academy of Medicine; a Confederate veteran; formerly a clergyman of the Methodist and Cumberland Presbyterian churches; died at his home in Nashville, May 8, from septicemia following an operation for facial neuralgia, seven weeks before, aged 64.

William Henry Bell, M.D. Toronto School of Medicine, 1864; a member of the Indiana State Medical Society and its president in 1883; formerly a member of the American Medical Association; from 1865 to 1868 attending physician in the Southern Ohio Hospital for the Insane, Dayton; for twenty years local surgeon of the Wabash System; died at his home in Logansport, May 3, from cerebral hemorrhage, aged 71.

James W. Morgan, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; assistant surgeon of the Fortieth Iowa Volunteer Infantry during the Civil War; a practitioner since 1859; a member of the staff of the Moline Public Hospital and St. Anthony's Hospital, Rock Island, Ill.; chief examiner and medical director of the Home Forum; died at his home in Moline, May 11, from heart disease, aged 73.

Elisha Leach, M.D. University of Michigan, Ann Arbor, 1854; city physician of Detroit in 1870 and a member of the health board in 1887; for twenty years a practitioner of that city and later a resident of Galveston and Corpus Christi, Tex.; for many years a member of the American Medical Association; died in the Spohn Sanitarium, Corpus Christi, Dec. 2, 1910, from acute dysentery, aged 80.

Daniel J. Langton, M.D. Jefferson Medical College, 1880; of Shenandoah, Pa.; a member of the American Medical Association; a trustee of the State Hospital for Injured Persons of the Anthracite Coal Regions of Pennsylvania, Fountain Springs; coroner of Schuylkill County in 1880; a member of the board of health of Shenandoah; died in Atlantic City, N. J., May 13, from pneumonia, aged 53.

William Chalmers Baird, M.D. Medico-Chirurgical College of Philadelphia, 1896; a member of the American Medical Association and American Association of Life Insurance Examining Surgeons; formerly of McKeesport, Pa., but forced in 1905 to go to Colorado on account of tuberculosis; died at his home in Colorado Springs, May 8, two days after an operation for disease of the bladder, aged 39.

William Richard Cunningham Latson, M.D. Eclectic Medical College of the city of New York, 1904; of New York City; editor of a magazine known as *Health Culture*; was found dead in his apartment in New York City, May 11, from the effects of a gunshot wound of the head, believed to have been self-inflicted in accordance with a suicide pact, aged 40.

Benjamin F. Keables, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1852; a member of the Iowa State Medical Society; surgeon of the Third Iowa Volunteer Infantry during the Civil War; representative in the state legislature in 1872 to 1874; for fifty-eight years a practitioner of Pella; died at his home, May 9, from cystitis, aged 82.

Henry Clay Hendrick, M.D. University of Michigan, Ann Arbor, 1853; a member of the American Medical Association; surgeon of the 157th New York Volunteer Infantry and later division surgeon during the Civil War; a member of the Cortland County (N. Y.) Board of Pensions; died at his home in McGraw, May 5, aged 83.

Cumberland George Herndon, M.D. University of Virginia, Charlottesville, 1873; Medical Inspector U. S. Navy, retired in 1905 for incapacity resulting from an incident of service, after thirteen years and four months sea service, and fifteen years and ten months shore duty; died at his home in Washington, D. C., May 6, aged 60.

William Henry Harrison, M.D., New York University, New York City, 1885; formerly of Easton, Pa.; professor of materia medica and obstetrics, and instructor in diseases of the mind and nervous system in Flint Medical College, New Orleans; died in that city, May 8, aged 58.

Robert Harris Hargrove, M.D. Vanderbilt University, Nashville, 1881; Bellevue Hospital Medical School, 1882; of Alpine; a member of the Medical Association of the State of Alabama; died at the home of his sister near West Harpeth, Tenn., May 8, from cerebral hemorrhage, aged 50.

William Russell Dunham, M.D. Harvard Medical School, 1865; a member of the Cheshire County (N. H.) Medical Society, Connecticut River Medical Society and New Hampshire Association of Military Surgeons; died at his home in Keene, May 8, from heart disease, aged 77.

Samuel Stuart Hackwell, M.D. Detroit College of Medicine, 1905; of Blaney, Mich.; a member of the Michigan State Medical Society; school examiner of Schoolcraft County for several years; died at the University Hospital, Chicago, May 1, from tumor of the brain, aged 32.

Alexander Miller Stout, M.D. Georgetown University, Washington, D. C., 1880; a member of the American Medical Association and superintendent of the Chicago City Hospital for Contagious Diseases; died in that institution, May 20, from cerebral hemorrhage, aged 57.

Norman F. Hill, M.D. University of Maryland, Baltimore, 1882; of Baltimore; surgeon-in-chief of the Baltimore City Passenger Railway Company for twenty-seven years; died in Mercy Hospital in that city, May 12, after an operation for cholelithiasis, aged 63.

Edwin Neville Dougherty, M.D. New York University, New York City, 1896; for several years tenement house inspector under the department of health of New York City; died at his home at Waterbury, Conn., May 8, from nephritis, aged 38.

Lester Bomar Bell, M.D. Rush Medical College, 1906; health officer of Cushing, Wis., and proprietor of a private hospital in that place; died at his home, May 10, from injuries received in an automobile accident twelve hours before, aged 27.

Lester Augustus Elster, M.D. Bellevue Hospital Medical College, 1867; a veteran of the Civil War; for thirteen years chief of staff of the Mendocino State Hospital, Eureka, Cal.; died at his home in Alameda, Cal., May 1, aged 68.

William C. Coburn, M.D. Philadelphia University of Medicine and Surgery, 1886; for many years a practitioner of Washburn, Wis.; died at his home at Diamond Lake, April 28, from cerebral hemorrhage, aged about 70.

Reuben Alexander Wall, M.D. University of Maryland, Baltimore, 1904; for several years medical examiner for the Baltimore and Ohio Railroad at Fremont, W. Va.; died at his home in Baltimore, May 4, aged 34.

John Quarles Sutton, M.D. Vanderbilt University, Nashville, Tenn., 1887; a member of the Tennessee State Medical Association; died at his home in Chattanooga, May 12, from carcinoma of the stomach, aged 48.

Paul DeWitt Hale, M.D. Medical College of Ohio, Cincinnati, 1901; was found unconscious in his office in Dayton, O., May 9, and died from heart disease, a few moments later in the Miami Valley Hospital, aged 33.

Coleman E. Riggan, M.D. Memphis (Tenn.) Hospital Medical College, 1896; a member of the American Medical Association; died at his home in Monroe, Okla., April 17, from lobar pneumonia, aged 57.

Otero Crandall Reynolds, M.D. University of Louisville (Ky.), 1878; a member of the Nebraska State Medical Association; died at his home in Lincoln, May 16, from cerebral hemorrhage, aged 53.

Edward Haddock Pollack, Jr., M.D., New York University, New York City, 1897; a member of the Medical Society of the County of Kings; died at his home in Brooklyn, Jan. 17, aged 35.

Morris Beckstead, M.D. McGill University, Montreal, 1878; for twenty-five years a practitioner of Lisbon, N. Y.; died at his home in that place, May 7, from nervous breakdown, aged 56.

Wilson Levi Hawkes, M.D. Medical School of Maine, Brunswick, 1872; a member of the Maine Medical Association; died at his home in York Harbor, May 4, from nephritis, aged 63.

Austin D. Roth, M.D., Drake University, Des Moines, Ia., 1908; of Marshalltown, Ia.; died at St. Thomas' Hospital, Marshalltown, May 8, from tuberculous meningitis, aged 33.

Emery Miller, M.D. Jefferson Medical College, 1894; a member of the Altoona (Pa.) Medical Society; died at his home in Duncansville, May 10, from acute pancreatitis, aged 41.

Aaron Busby (license, Ohio, years of practice, 1896); for twenty-five years a practitioner of Stark County, O.; died at his home in Osnaburg, May 9, of tuberculosis, aged 67.

John Ross Trott, M.D. Missouri Medical College, St. Louis, 1857; for many years a resident of Virden, Ill.; died in San Diego, Cal., from cerebral hemorrhage, May 3.

Leonidas C. Taylor, M.D. Jefferson Medical College, 1848; died at the home of his son in Oxford, N. C., April 23, from the effects of a fall two days before, aged 87.

Andreas Quisling, M.D., State University of Iowa, College of Homeopathic Medicine, Iowa City, 1893; died at his home in Madison, Wis., May 6, aged 52.

Adam Lutheran Jackson, M.D. Columbus (O.) Medical College, 1878; died at his home in Columbus, May 7, from cerebral hemorrhage, aged 61.

Herbert Stanton Darling, M.D. Jefferson Medical College, 1883; died at his home in Fredericktown, O., March 16, from cardiac asthma, aged 49.

Henry A. Jones, M.D. Hospital College of Medicine, Louisville, Ky., 1903; died at his home in Louisville, May 10, from pneumonia, aged 31.

Jacob W. Myers, M.D. Bennett Medical College, Chicago, 1881; died at his home in Goshen, Ind., May 6, from nephritis, aged 70.

Andrew J. Bevan, M.D. University of Pennsylvania, Philadelphia, 1886; died at his home in Bryn Mawr, Pa., May 9, aged 62.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CHICHESTER'S DIAMOND BRAND PILLS

W. A. Puckner and L. E. Warren

A preparation known as "Chichester's Diamond Brand Pills" is, and has been for years, extensively advertised in newspapers, drug journals, etc. While in these advertisements nothing is said regarding the therapeutic uses of the preparation, the public to a large extent, knows it and buys it as an abortifacient remedy. This is shown by letters which THE JOURNAL receives of which the following is an example:

If it is possible would you kindly give me the ingredients of Chichester's Diamond Brand Pills? They are sold to produce abortion and are guaranteed under the Food and Drugs Act, the serial number being 1867.

A trade package, "large size," of Chichester's Diamond Brand Pills was purchased on the open market and examined with especial reference to the presence of commonly reputed abortifacient drugs. The pills were put up in a small tin box, "elegantly and artistically decorated in red, black and gold,"—"air, dust and moisture-proof, with hinged lid," on which is printed:

"Distributed by Chichester Chemical Co."

The package contained twenty pills and considerable advertising matter, wrappings, etc. Attention is called to some of the statements in a booklet contained in the package entitled:

"Relief for Ladies. Directions for Use of Chichester's Diamond Brand Pills."
"To Our Old Customers,
"Change of Name.

"Our Remedy was formerly called 'Chichester's English Pennyroyal Pills,' but on account of unscrupulous imitations offered under the name of 'pennyroyal' our remedy will hereafter be known only as 'Chichester's Diamond Brand Pills.'"

"Treatment may be begun at any time, although in some instances the pills are more effective if taken about the regular time for the menstrual flow. As a rule, however, it is found that more satisfactory results are secured by beginning treatment at once and continuing it until the pills give relief."

Only one small page each is devoted to "Amenorrhea," "Dysmenorrhea" and "Directions," the remainder is taken up with testimonials, cautions to "Take no other," "Refuse all others," "Beware of imitations," etc.

EXAMINATION

The aggregate weight of the pills contained in the package amounted to 8.7963 gm., or about 0.44 gm. for each pill. The pills, when deprived of their coatings, weigh about 0.2600 gm. (4 grains) each, the coating constituting more than half their original weight. The coatings consist essentially of calcium carbonate, although a small quantity of sugar is present.

By the usual tests the presence of some preparation of aloes and of ferrous sulphate was demonstrated. Tests for the presence of black hellebore, tansy, pennyroyal, savin and certain other reputed abortifacients resulted, in each case, negatively. Ergot or its preparations could not be detected.



BEFORE AFTER

Photographic reproductions (reduced) of advertisements of Chichester Pills before and after the passage of the Food and Drugs Act. The Association chemists found no pennyroyal in these pills and under the pure food law it would be illegal to call them "Pennyroyal Pills." Was this responsible for the change in name?

While the identification of mixed plant extracts, especially those which contain constituents not readily isolated, is a matter of great difficulty and is often impossible, it would appear, from the examination, that the chief medicinal constituents of the pills are aloes and iron sulphate, the latter ingredient being present to the extent of about ½ grain to each pill. The statement of the manufacturer that the pills are sugar coated is scarcely warranted by the facts. The change of name from "Chichester's English Pennyroyal Pills" to one in which the word "*Pennyroyal*" does not occur is significant in view of the fact that no pennyroyal could be found in the pills. Under the Food and Drugs Act it would be illegal to sell as "Pennyroyal Pills," pills that did not contain that constituent.

A package of these pills retails for $2, or at the rate of 10 cents for each pill. An examination of the price lists of several large manufacturers of pharmaceuticals reveals that pills very nearly corresponding to the above may be bought in quantities for about 22 cents a hundred. The profits in retailing at $10 per hundred ought to be satisfying even to the most avaricious.

EDITORIAL NOTE: The above calls attention to a vicious state of affairs—the selling to the public of drugs of reputed abortifacient properties. We believe there is not a state in the Union which has not adopted laws against it, but in spite of this, these preparations, in thin disguises, are shamelessly advertised in newspapers and as shamelessly and boldly sold over the counters of many drug stores. While it is true that many of

these nostrums are merely fraudulent, rather than dangerous, yet not a few contain potent and—for the purpose for which sold—villainous drugs.

As shown by our chemists, Chichester's Diamond Brand Pills seem to be simply the old aloes and sulphate of iron pills with slight modification. While these pills were sold originally as "pennyroyal" pills, the Food and Drugs Act, which forbids lying on labels, has apparently compelled the manufacturers to omit the word "pennyroyal."

Since it is well known that there is no drug or combination of drugs which, taken by the mouth, will with certainty produce abortion, it is not probable, to judge from the constituents found in these pills, that they would produce the result desired by the purchaser. Nevertheless, the use of this nostrum is pernicious and in the interest of public health and public morals its sale, and the sale of similar nostrums, should be prohibited.

THE LIMITATIONS OF TABLET-MAKING

To the Editor:—From time to time I notice in the columns of THE JOURNAL, assays of the tablet and pill products of different manufacturers and as a rule they are found wanting in label-stated quantity of ingredients; I think that I am in a position to throw some light on this subject and to relieve some of our reputable manufacturers from the suspicion of intentional fraud. In the first place, let me say that many substances are put in tablet and pill form which never should be exhibited in this manner as they are of a volatile nature and are bound to deteriorate.

A number of years ago, I was foreman of manufacturing in the pill and allied departments of Parke, Davis & Co. and when I was given charge, I was instructed to spare no expense nor trouble to make each preparation which left my department, the best of its kind, both in the exactness of its compounding and in pharmaceutical elegance. Shortly after assuming charge I was "called on the carpet" and the "riot act" was read to me in very plain and unmistakable tones; someone had made a comparative analysis of some of the products of a number of leading manufacturers and ours was away down the list. I did not have much to say but went back to my office to think.

Up to that time, no book account had been kept with each formula as issued; a formula was written for a certain number of pills and the ingredients were most carefully weighed and the weights checked. The ingredients were then carefully mixed and the total mass was made up to a certain specified weight and this was divided into a specified number of pills each having a specified weight. If a pound, or 7,000 grs., of pill mass was to be cut into ¼ gr. pills, manifestly, there would be 28,000 pills as the result and it seems that it had always been assumed as an established fact that it must be so. In cutting these pills sixteen of them should weigh 4 grains (a large number being taken to obviate individual variation) and at frequent intervals the forewoman would go from table to table making these weights and I may say that the perfect exactness of division was often a wonder to me.

After I had thought over my troubles a while, I asked myself whether this thing really worked out in practice as well as in theory; so I went to the dry-room and called out a formula of ¼ gr. morphin sulphate pills which had just been cut and which should number 70,000. On counting an ounce and weighing the remainder, I found that instead of 70,000, I had 110,000. Investigation of other formulas showed a like result, the variation being greater in the smaller pills; analyses of goods on hand showed them all deficient and, worst of all, no one could even suggest an explanation.

I immediately made up one pound of "dummy" mass and gave to our most expert girl to cut into ¼ gr. pills; I watched every move, myself, and weighed repeated lots of thirty-two pills each to be certain that each weighed exactly ¼ gr.; when the result was weighed and counted, I had some 34,000 instead of 28,000 pills. This thing went on day after day until the entire department was upset; finally, after studying this matter for days, I was sitting by one of the tables watching the girl work and I noticed that from time to time she would pick up a small camel's-hair brush and dipping it in a pile of terra alba on her table would, very lightly, brush over the strips and partly cut pills; I at once asked her how much of this material was required to cut a pound of mass; she replied, "hardly any." By weighing the supply before using and again after a pound had been cut, it was found that ½ ounce of this powder was consumed in cutting 1 pound of mass into ¼ gr. pills. This meant 218 grains, which divided into ¼ gr. pills, made an addition to the written formula of 872 pills and we had found the leak which had been going on for years. After this, each formula for small pills was made up ½ ounce short to the pound and an allowance of dusting powder of an equal amount was made for each pound and we found that our formulas came out within a very few pills of the calculated amount. The wider variations which had been discovered we found to be due to the careless use of powder by some of the girls, who would use their dusting powder in a very lavish manner.

I have explained this incident at length as illustrative of the troubles against which the most honest manufacturers will occasionally run and let me say, to the credit of the firm mentioned, that, instantly, on the discovery of this fault in their goods, all orders for small pills were cancelled until such a time as they could be filled with genuine goods and that all the goods on hand were thrown out and as much as possible of outstanding stock in the hands of wholesale houses was called in.

I notice in a recent issue of THE JOURNAL an account[1] of analysis of tablets containing phenol and that all were deficient—and why should they not be? It is not good sense to put volatile substances into pills and tablets and expect the full amount to remain, especially in pills, which have to be dried, somewhat, before coating and must of necessity lose a great part of all volatile ingredients before being coated.

E. B. PATTERSON, M.D., Sandpoint, Ida.

EDITORIAL NOTE: Dr. Patterson's letter will be read with interest by all who believe in scientific prescribing. It bears out exactly what has been said several times in THE JOURNAL. We have never accused "reputable manufacturers" of intentionally defrauding their customers by failing to put into their tablets the advertised ingredients. We have more than once stated that the discrepancies which have been found between the real composition of tablets and their advertised composition is due to attempts to achieve what is pharmaceutically impossible rather than to any studied attempt to defraud. Dr. Patterson says: "Many substances are put in tablet and pill form which never should be exhibited in this manner;" in expressing an opinion on the same point THE JOURNAL stated editorially as recently as May 6 of this year: "It is pharmaceutically impossible—or at least commercially impracticable—to manufacture, in tablet form, some of the combinations that are listed in the manufacturer's catalogues." The criticism that THE JOURNAL makes against manufacturers in this matter is, that in spite of the fact that the Association chemists have repeatedly shown that it is impossible to put up certain drug combinations in tablet form, the manufacturers persist in marketing such tablets. Dr. Patterson is eminently correct when he says: "It is not good sense to put volatile substances into pills and tablets and expect the full amount to remain." Yet this lack of sense is shown by most of the large pharmaceutical houses.

It is pleasing to learn that the firm for which Dr. Patterson worked cancelled its orders and called in out-standing stock as soon as it discovered that its tablets were not true to label. This, as our correspondent says, was some years ago. Apparently a different attitude is taken to-day. This same firm—with several others—when shown over two years ago that its bismuth, opium and phenol tablets were not what they were claimed to be, made no effort, apparently, either to withdraw its product, cease manufacturing it, or even modify the labels to conform to the facts. It was for this reason that this manufacturer—with others—was criticized by THE JOURNAL.

In thinking over the details of tablet making, described by Dr. Patterson, one is led far afield. Many of the complex tablet mixtures on the market to-day put out by various firms have but a small sale. They are only made to meet competition between manufacturers. In the hundreds of combinations that exist, one wonders how many really contain the true proportions of the drugs ascribed to them and can therefore be prescribed with any degree of scientific accuracy. All of which leads back to the proposition repeatedly advanced in these pages: Simplicity in prescribing is essential to scientific accuracy.

1. Puckner, W. A., and Hilpert, W. S.: Tablets of Bismuth, Opium and Phenol, THE JOURNAL A. M. A., May 6, 1911.

Correspondence

Reprints and Journals Wanted

To the Editor:—The Medical Library Association is particularly anxious to find the following reprints and journals:

Any numbers of the *American Journal of Medical Sciences* previous to 1882 and after 1899.
Medical and Surgical Reports of the Boston City Hospital, Vols. VII, VIII, XVI and later.
Proceedings of the Philadelphia Pathological Society, Vol. XII, except Nos. 1 and 3, Vol. XIII, except Nos. 2 and 4.
Pearce, R. M.: The General Infections and Complications and Scarlet Fever, 1898.
Harrington, Charles, and Pearce, R. M.: Formaldehyd as a Practical Disinfectant and an Aid in the Practice of Surgery, 1898.
Pearce, R. M.: Scarlet Fever, Its Bacteriology, Gross and Minute Anatomy, 1899.
Harrington, Charles, and Pearce, R. M.: Proprietary Domestic Disinfectants, a Bacteriological Study, 1899.
Councilman, W. T., Mallory, F. B., and Pearce, R. M.: A Study of the Bacteriology and Pathology of 220 Fatal Cases of Diphtheria, 1900.
Musser, J. H., Gwyn, N., and Pearce, R. M.: Abscess of the Brain Due to a Streptothrix.

JOHN RUHRÄH, Treasurer, Medical Library Association.
1211 Cathedral Street, Baltimore.

The Contaminated Fly

To the Editor:—While we all realize the part played by common house-flies in carrying infection, perhaps we have not fully understood their capacity to act as incubators and storehouses for specific bacilli. I practice in a healthy town of 3,000 inhabitants where cases of typhoid are not numerous; they always appear sporadically—never to the extent of an epidemic. These cases usually appear in neighborhoods in which the drinking-water is obtained from rather shallow wells, and for this reason the appearance of an occasional case of typhoid fever has always been attributed to a contaminated water-supply. These neighborhoods usually have many flies, and no systematic effort is made to exclude them from the houses. During the latter part of the summer of 1910 a man died from typhoid fever in one of the localities I speak of. A visitor, who called to see the sick man before he died, afterward told me that she saw a bed-pan containing one of the patient's typhoid stools in the back yard with hundreds of flies about it. Every one of those flies would probably go away loaded with typhoid bacilli. There are always enough flies that find some warm crack or crevice in which to hibernate through the winter to renew the supply the next spring. Many of them must go into winter quarters loaded with bacilli; and the favorable surroundings that would enable the fly to live over winter would enable the bacilli to retain their vitality also. In communities like ours where health conditions are usually good my observations have made me believe that the fly is to be regarded with far more suspicion than the water-supply.

WILLIAM M. GREGORY, Berea, Ohio.

Magnesium Sulphate Treatment of Dysentery

To the Editor:—On the first appearance of mucus and blood in the stools the patient with dysentery should be put to bed and kept there till the stools are free from blood and mucus and the patient free from pain. Liquid diet should be given and the patient should not be allowed to sit up. When the patent is first put to bed he should be given an enema of a quart of warm water that has been boiled, to which two heaping tablespoonfuls of magnesium sulphate have been added and thoroughly dissolved. This should be introduced into the lower colon by means of a fountain syringe with the regular hard rubber rectal tip that comes with the syringe; a rectal or colon tube should never be used, for it wounds the inflamed surfaces. The enema should be repeated every four hours until the actions are free from blood and mucus and the patient free from pain. The patient should be urged to retain the enema each time as long as possible before expelling it, for the longer it is retained the better, as it reduces pain and inflammation. In addition the patient should take the following:

℞	gm. or c.c.		
Magnesium sulphate	45	or	ʒiss
Aromatic sulphuric acid	15		ʒss
Deodorized tincture of opium	8		ʒii
Distilled water to make	180		ʒvi

M. Shake and take two teaspoonfuls in water every two hours till actions are free from blood and mucus and patient free from pain, then less frequently, as indicated; but give an occasional dose for twenty-four to forty-eight hours.

For children the enema should be the same as for adults and the syringe and tip the same. The child should be placed on its back in its mother's or a nurse's lap with newspapers under it so that the water will flow into a basin when the bowel gets full. The tip should not be removed, but the water should be allowed to pass out by it when the child strains, the water flowing into the colon all the while till all the quart is used, and then repeated as in the adult. A child two or three years old should be given 10 or 15 grains of magnesium sulphate, half a drop to two drops tincture opium and two or three drops aromatic sulphuric acid every two hours till feces are free from blood and mucus and the child free from pain.

Patients should never be allowed to sit up until all symptoms have disappeared.

This treatment has given me good and prompt results.

A. A. BARGE, M.D., Newnan, Ga.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SULPHUR REACTION IN THE URINE OF CANCER PATIENTS

To the Editor:—In THE JOURNAL, May 6, page 1371, is an abstract of an article by Salomon and Saxl in the *Wiener klinische Wochenschrift,* 1911, No. 13, page 449. Please give me the technic of this sulphur reaction in the urine of cancer patients.

W. D. ROBBINS, Chicago Heights, Ill.

ANSWER.—For this reaction, dilute 150 c.c. of urine with 100 c.c. distilled water (albuminous urine must first be boiled, treated with a small quantity of acetic acid and carefully filtered); then add 150 c.c. Salkowsky's barium solution (a mixture of 2 parts barium hydroxid solution, saturated at room temperature, with 1 part barium chlorid solution saturated at room temperature). Filter and to the clear filtrate add more reagent to insure complete precipitation. Then the ethereal sulphates are removed from the entire filtrate, by adding 30 c.c. hydrochloric acid (sp. gr. 1.12), transferring to a 500 c.c. flask, covering with a small funnel and heated to boiling on an asbestos mat, with a small flame for an hour. The flask is then covered with a beaker and allowed to stand on a water bath till the supernatant liquid is clear (requiring from four to twenty-four hours). Now filter twice through a double "barium filter," small; wash the flask with sodium hydroxid solution and distilled water; boil again, using same precautions as above, and filter through a double "barium filter." (If there is still more precipitate formed, place the flask on the water bath again.) Now treat 200 c.c. of the filtrate with 3 c.c. strong hydrogen peroxid solution (perhydrol Merck) and boil fifteen minutes, covering again with the funnel, in the same flask. Now the liquid is poured into a sedimentation glass and then observed in from one-half to four hours. In cases of carcinoma a decided sediment will be observed while a normal urine may show a trace of such a sediment; as a rule normal urine does not show a sediment in four hours—but some time later a trace of ethereal sulphate not properly removed as above may show. The sediment obtained in case of carcinoma is usually somewhat colored, but this color can be removed by alcohol-ether.

LITERATURE ON RATTLESNAKE POISONING

To the Editor:—Please give me literature on rattlesnake poisoning, particularly on the pathology and treatment.

J. M. WALSH, Fort Pierre, S. D.

ANSWER.—The following references may be consulted:

Rogers, L.: Snake Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in THE JOURNAL, Dec. 9, 1905, p. 1830.
Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake Bite, *Texas Med. News*, November, 1906.
Haw, W. H.: Two Cases of Snake-Bite with Suggestion for Treatment, *Lancet*, London, April 27, 1907; abstr. in THE JOURNAL, May 25, 1907, p. 1819.
Baier, F. C.: Rattlesnake Bite, with Recovery, *Northwest Lancet*, June 15, 1907.
Braddock, C. S.: Treatment of Snake Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in THE JOURNAL, Nov. 23, 1907, p. 1803.

Willson, P.: Snake Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in THE JOURNAL, July 11, 1908, p. 132.
White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, THE JOURNAL, May 8, 1909.
Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, October, 1910.

AVERAGE NUMBER OF TUBERCLE BACILLI DISCHARGED

To the Editor:—What is the number of tubercle bacilli which the average patient with a well-developed tuberculosis is supposed to discharge during the twenty-four hours? Please refer me to the original articles from which you have secured these figures.
D. V. S.

ANSWER.—Nuttall (in the *Bulletin of the Johns Hopkins Hospital*, May-June, 1891) estimated the number of tubercle bacilli in the sputum of three patients in the moderately advanced stage by a special technic fully described. He counted the number of tubercle bacilli in a drop obtained from sputum which had been homogenized. In the first case sixteen counts were made from January 10 to March 1; the quantity of sputum varied from 43 c.c. to 73 c.c., the number of bacilli present varying from 4,312,581,000 down to 1,695,184,000. In the second case, in which the sputum was very much less, varying in quantity from 1 to 10 c.c., the number of bacilli varied from 275,000 to 283,457,000. In the third case, the quantity of sputum varied from 10 to 60 c.c. and the number of bacilli varied from 12,996,000 to 70,474,000. During the observations the patients improved and it is interesting to note that the number of tubercle bacilli decreased. Many of the bacilli were unquestionably dead.

ANAPHYLAXIS AND SERUM TREATMENT

To the Editor:—Please answer the following questions:
1. May a person in whom horse-serum has been used develop symptoms of anaphylaxis if he is injected with the serum of an animal of a different species?
2. Can antitoxic globulin (antidiphtheric globulin) be used without fear of anaphylaxis?
E. WISLOCKI, San José, Cal.

ANSWER.—1. No. The substance producing the symptoms of anaphylaxis has been shown to be specific and therefore will not cause the reaction if an albumin, different from that originally used, is injected.

2. Anaphylactic symptoms are not so likely to develop after the use of antidiphtheric globulin, because less protein is used. So far as we know, however, there is no reason to suppose that anaphylaxis may not occur.

SOURCES OF WATER-SUPPLIES

To the Editor:—Please tell me if you know of any list published that gives the sources of the water-supplies of the principal cities and towns of the United States and Canada.
MORGAN WALCOTT, Tompkinsville, N. Y.

ANSWER.—You will find much information in "Clean Water and How to Get It," by Allen Hazen, published by John Wiley and Son. So far as we are aware, no complete list has been published. The purification of water for domestic use in America was discussed in the *Transactions of the American Society of Civil Engineers*, 1905, liv, Part D.

MEDICOLEGAL ASPECTS OF A FATAL GUNSHOT WOUND

To the Editor:—As a matter of interest from its medicolegal aspect, I would invite an expression of opinion on the following case of homicide by gunshot:

I was called to examine the body of a miner found dead in his cabin, and found the following external injuries: a bullet wound an inch from the right scapular border, at the level of the fourth rib, and another at the lower angle of the left anterior lumbar area. Both had the appearance of entrance wounds and were clean cut without eversion of tissue. There was no indication of scorching, nor were powder grains found on the clothing over the wounds after careful examination. The body was found lying on the back, crosswise of a bed, and underneath it, near the wound in the back, was found a 32-caliber revolver bullet, later identified as being from the gun proved to have been used in the case. Autopsy findings showed the course of the bullet to be as follows: the lower border of the fourth rib was struck, showing inversion of fragments; the bullet then punctured the upper lobe of right lung and passed through the lower lobe of the left lung and the small intestine at its upper portion. Death was due to excessive pulmonary hemorrhage.

Evidence at the coroner's inquest showed only one shot to have been fired, which was heard by several people. I testified that in my opinion the bullet entered the back and could have taken the course described, by its deflection downward from contact with the lower border of the fourth rib, and emerged low down in the abdominal wall on the left side. The guilty person later, after being arrested, confessed to having fired the shot, but made a plea of self-defense on the grounds that the deceased had him "down on his back and was going after a knife," and that he (the accused) "shot him in the belly."

The point in question is that the plea of self-defense hinges on my testimony that the entrance wound was at the back, and that the course of the bullet, as shown at autopsy, was not possible if fired from in front
H. C. M.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 20, 1911.

Beatty, Theodore B., C.S., entered into contract for duty at Fort Douglas, Utah.

Bushnell, George E., lieut.-col., detailed to represent the Army at the seventh international congress against tuberculosis, to be held at Rome, Italy, September 24 to 30, 1911.

Hill, Eben C., lieut., granted six months' leave of absence on account of sickness.

Reynolds, F. P., Straub, Paul F., Munson, Edward L., majors, and Thomason, Henry D., captain, are detailed as instructors at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Reynolds, Charles R., major, is detailed for duty at the encampment, Ohio National Guard, Coshocton, in the event that Major Straub shall not return to this city prior to June 24, 1911.

Graham, George D., D.S., orders relieving him from duty at Fort Shafter, H. T., and directing him to proceed to the Philippine Islands, is revoked.

Wolven, F. H., D.S., left Vancouver Barracks, Wash., for duty at posts in Alaska.

Maus, Louis M., colonel, left headquarters, department of the lakes, Chicago, Ill., on twelve days' leave of absence.

Purnell, Harry S., captain, granted ten days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended May 20, 1911.

Boyd, J. C., medical director, detached from duty as a member of the naval retiring board, Washington, D. C., and ordered home.

Heneberger, L. G., medical director, detached from command of the Naval Medical School Hospital, Washington, D. C., and ordered to duty as a member of the naval retiring board, Washington, D. C.

Bertolette, D. N., medical director, detached from duty as president of the naval examining board and board of medical examiners and ordered to command the Naval Medical School Hospital, Washington, D. C.

Gardner, J. E., medical inspector, detached from the marine recruiting station, Boston, and ordered to duty as member of the naval examining board and board of medical examiners, Washington, D. C.

Payne, J. H., A. A. surgeon, ordered to the marine recruiting station, Boston.

Devalin, C. M., surgeon, detached from the Navy recruiting station, Detroit, and ordered to the navy recruiting station, New York.

Thompson, E., surgeon, detached from the Navy yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Maine* and to duty on board that vessel when placed in commission.

Koltes, F. X., P. A. surgeon, ordered to the Navy recruiting station, Detroit.

Stuart, M. A., P. A. surgeon, detached from duty in the Panama Canal Zone and ordered to the Navy yard, Charleston, S. C.

Rossiter, P. S., P. A. surgeon, detached from the *Independence* and ordered to command the naval hospital, Mare Island, Cal.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 17, 1911.

Brooks, S. D., surgeon, granted seven days' leave of absence from May 17, 1911.

White, J. H., surgeon, detailed to represent the service at the annual meeting of the American Society of Tropical Medicine to be held at New Orleans, May 18-19, 1911.

Wertenbaker, C. P., surgeon, detailed to represent the service at the annual meeting of the Association of Surgeons of the Southern Railway Company to be held at Charlotte, N. C., May 29-31, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from April 24, 1911, on account of sickness.

Lavinder, C. H., P. A. surgeon, relieved from duty at the hygienic laboratory and directed to proceed to Savannah, Ga., and assume command of the service.

McMullan, John, P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Baltimore and report to Surgeon W. P. McIntosh for duty in the medical examination of arriving aliens. Granted twenty-one days' leave of absence from May 9, 1911, on account of sickness.

Willie, C. W., P. A. surgeon, detailed to attend meeting of the National Dental Association at Cleveland, Ohio, May 10, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to Missoula, Mont., via Helena, for the investigation of Rocky Mountain fever.

Creel, R. H., P. A. surgeon, granted thirty days' leave of absence from June 1, 1911.

Jackson, J. M., Jr., A. A. surgeon, granted ten days' leave of absence from May 12, 1911.

Miranda, R. U. Lange, A. A. surgeon, granted six months' leave of absence from June 3, 1911, without pay.

Ransom, Stacey A., A. A. surgeon, granted thirty days' leave of absence from April 1, 1911, with pay, and six months, without pay, from May 1, 1911.

Robinson, H. D., A. A. surgeon, granted nine days' leave of absence from May 17, 1911.

Board of medical officers convened to meet at Stapleton, N. Y., May 17, 1911, for the examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant-Surgeon W. A. Korn, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

DIVISION OF FEES

Report of the Committee of the Columbus Academy of Medicine

The committee appointed by the Academy of Medicine to investigate the matter of alleged division of fees between physicians and specialists, reports as follows:

1. Careful investigation shows conclusively that there has been relatively very little of this division of fees in Columbus, and that the accounts of such division have been grossly exaggerated in the public prints. We realize, however, that such a practice, even by a small minority, may in time corrupt the whole body of the profession. The truth does not justify the wide aspersion which has been cast on the profession of this city.

2. Secret division of fees between specialists and general practitioners constitutes clearly a grave breach of the ethics of our profession. Its inevitable tendency is to lead thoughtless or unscrupulous physicians to refer their patients to specialists who offer the largest commission, rather than to those who render the best service. Such practice is admittedly unprofessional, and should be condemned in the strongest terms.

3. The causes of this condition are to be found largely in the great overcrowding of the profession, and in the multiplicity of specialists, and the remedy to reach this part of the evil is to diminish largely the number of physicians by increasing the requirements for admission to the profession, and to reduce the number of specialists by such legislation as will require a specialist, before posing as such, to pass special examinations to demonstrate his fitness and qualifications for the specialty which he proposes to enter. In the meantime, and while these reforms are pending, the evil must be firmly met by exposure of those who resort to these dishonest practices, by their expulsion from college organizations and from our medical societies, and by their exclusion from our hospitals.

4. The general practitioner has for several generations been in the habit of charging per visit instead of for services rendered. The profession of medicine is by its nature a conservative one, and changes its methods slowly. As one of the results, our system of charging has remained substantially the same; but this system is clearly unjust both to the physician and to his patients, and is a potent factor in the production of the division of fees. This also accounts very largely for the low estimate which the physician has seemed to place on the value of his services, and their estimate in the eyes of the laity. The patient has thus failed entirely to appreciate the particular service which his physician renders him in furnishing the specialist with the history and symptoms of the case, and he is therefore not prepared to receive a separate and appropriate charge for that service.

It is the duty of the Academy of Medicine to educate the unthinking public to appreciation of the fact that it takes, for illustration, more skill and a finer quality of judgment to carry a patient through months of critical expectancy to a successful accouchement than to amputate a leg, and that the physician should be paid accordingly. Until physicians demand fees in some proportion to services rendered, and without fixed rates, they will never be paid for what they do. "The dead-level fee—the same charge for everybody, for all kinds of cases—should have no place in medicine."

5. Until the public is so educated, however, we recommend as wise and proper in many instances, and most satisfactory to all concerned, the joint rendering of bills by each consultant in cases in which joint services have been rendered by the attending physician and specialist, with the distinct understanding that the factor of the former in these joint bills does not constitute a part of his regular family attendance, but is to be settled as a special service, so that both he and the specialist will be fairly and honorably remunerated for the value of services rendered. "The laborer is worthy of his hire," and should ask and receive neither more nor less than he has justly earned.

6. We commend the attitude taken by the Starling-Ohio Medical College in this matter, and we recommend the adoption of such by-laws by this academy as will render secret fee-splitting, no matter by what subterfuge, a cause for expulsion. We also recommend that officials in charge of our local hospitals adopt such rules as will debar from attendance at their hospitals, any physician or specialist found guilty of this offence.

HEALTH LEGISLATION IN ARKANSAS

The public health bill prepared by the Arkansas Medical Society has passed both houses of the legislature and is ready for the signature of the governor. This bill creates a department of health consisting of an advisory board of seven members and a commissioner of health appointed by the board. The members of the advisory board are to be appointed from the three schools of medicine. The commissioner is to receive a salary of $2,500 per annum. Members of the board are to receive a per-diem allowance of $5.00 and actual traveling expenses.

The board is given the power to make all necessary rules and regulations for the protection of the health of the people, which rules and regulations when promulgated are to have the force of statutory enactments. A hygienic laboratory and a bureau of vital statistics are also provided for. The model vital statistics bill of the American Medical Association is incorporated in the bill.

A bill has also passed both houses, authorizing the state to take over the two medical schools in Little Rock, namely, the Medical College of the University of Arkansas and the College of Physicians and Surgeons. These schools have agreed to turn over to the board of trustees of the State University all of their assets. The trustees of the State University will select a new faculty.

The passage of these two bills insures a single medical school of high grade for Arkansas and also establishes a health department capable of great service to the people. The adoption of the model bill for vital statistics as a part of the public health bill gives Arkansas the honor of being the first southern state to make adequate provision for the collection and recording of vital statistics. The people of the state are to be congratulated on having a legislature which is sufficiently broad-minded and progressive to enact such laws.

Qualifications of Native Chinese Physicians.—The following interesting quotation regarding Chinese physicians is taken from Jefferys and Maxwell's book, "Diseases of China":

"To become a physician a Chinese states to his friends and neighbors, 'I am a physician.' This is the limit of required preparation, although it is usually a development from a former apprenticeship. His diploma is the more or less handsome signboard which announces his determination to the neighborhood. The man whose father or uncle was a physician before him has the supposed advantage of inherited recipes and secret family remedies, and the farther back the medical ancestry the better. Main of Hongchow says: 'Native doctors do not know much and have forgotten much of the little they ever knew, and they are forever pouring drugs, of which they know little, into bodies of which they know less, and think nothing of putting a rusty needle into a patient's abdomen or clipping off an old-standing opacity of the cornea and sticking a dirty needle into an opaque lens in order to improve the sight!' The Chinese physician is usually a middle-aged man of dignified bearing, and his personality has much to do with his success. In the matter of ethics he has not much to boast of. He never does any earthly thing for anybody unless there is money in it, and he makes his deal in advance—so much down and so much guaranteed in case of cure. If he ever comes across a happy discovery, he buries it deep in his heart, strictly for personal private use. . . . He places the patient opposite his august self and begins and ends by feeling his various pulses two at a time. On the condition of the pulses depends much. It is customary to ask a few questions and listen to the patient's own story. He then writes a prescription for first, second or third rate medicine, according to the ability of the buyer. It is probable that a medical visitation is never completed without the administration of one or more drugs. No patient would be satisfied without them."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

IOWA: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

KANSAS: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MICHIGAN: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH CAROLINA: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WYOMING: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Arizona January Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, January 3-4, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 9, of whom 5 passed and 4 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Southern California	(1909)	83.4
Northwestern University Med. School	(1901) 75; (1902)	79.6
University and Bellevue Hospital Medical College	(1910)	84.4
Starling Medical College	(1905)	77.5
FAILED		
State University of Iowa, College of Medicine	(1910)	73.1
College of Physicians and Surgeons, Keokuk	(1900)	72
Michigan College of Medicine and Surgery	(1902)	60.3
Washington University, St. Louis	(1903)	71

Colorado April Report

Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, April 4, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Ten candidates were examined, of whom 7 passed, including one osteopath, and 3 failed. Thirty-one candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	90.7
University of Colorado (1911)*	84.2, 85, 85.2.	
Kansas City Hahnemann Medical College	(1910)	75.2
University of Toronto, Ontario	(1909)	78.2
FAILED		
Kentucky School of Medicine	(1898)	56.5
Barnes Medical College	(1907)	65.5
Medico-Chirurgical College of Kansas City	(1901)	62.6

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
University of Southern California	(1909)	California
George Washington University	(1905)	(1906) Dist. Colum.
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Rush Medical College	(1886)	S. Dakota
Chicago Homeopathic College	(1895)	Wisconsin
Hahnemann Med. College and Hospital, Chicago	(1885)	Iowa
Northwestern University Medical School	(1903)	Iowa
Chicago Medical College	(1875)	Kansas
University of Iowa, College of Medicine	(1897)	Wisconsin
University of Iowa, College of Homeo. Medicine	(1893)	Michigan
University of Louisville	(1883) Oklahoma; (1904)	Kentucky
Tulane University of Louisiana	(1907)	Mississippi
College of Physicians and Surgeons, Baltimore	(1904)	W. Virginia
University of Maryland	(1903)	Nevada
Harvard University Medical School	(1895)	Wisconsin
Missouri Medical College	(1878) Illinois; (1895)	Kansas
American Medical College, St. Louis	(1905)	Missouri
Homeopathic Medical College of Missouri	(1908)	Missouri
Long Island College Hospital	(1899)	New York
Albany Medical College	(1861) Mississippi; (1891)	New York
University and Bellevue Hospital Med. College	(2, 1906)	New York
Western Pennsylvania Medical College	(1888)	Penna.
Meharry Medical College	(1904)	Oklahoma
University of Texas	(1905)	Texas
University of Vermont	(1880)	Vermont
Queen's University, Kingston, Ontario	(1893)	Indiana

* These three applicants will be graduated in June, but took examinations in April. Licenses will not be issued until July meeting.

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 4, of whom 2 passed and 2 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Harvard University Medical School	(1910)	87.5
University of Michigan, Dept. of Med. and Surg.	(1907)	87.7
FAILED		
Baltimore Medical College	(1909)	76.5
University of Vermont	(1910)	72

West Virginia April Report

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Huntington, April 10-12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 24, of whom 17 passed and 7 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1909) 82; (1910) 81	92
George Washington University	(1909)	80
University of Louisville	(1887)	80
Baltimore Medical College	(1894)	82
College of Physicians and Surgeons, Baltimore	(1910)	84
University of Michigan, Dept. of Med. and Surg.	(1900)	87
Western Pennsylvania Medical College	(1896)	83
University of Pennsylvania	(1908) 91; (1909) 87; (1910)	83
University College of Med., Richmond	(1901) 86; (1909)	86
University of Virginia	(1904)	87
Meharry Medical College	(1908)	82
University of Toronto, Ontario	(1910)	86
FAILED		
University of Louisville	(1910)*	
College of Physicians and Surgeons, Baltimore	(1910) 69	75
Detroit Homeopathic College	(1911)	76
Eclectic Medical College, Cincinnati	(1910) 76	77
Chattanooga Medical College	(1910)	78

* Withdrew after having taken two branches.

The following questions were asked:

ANATOMY AND EMBRYOLOGY

1. Name the bones of the head. Mention the coverings of the brain. 2. Give the branches of the common iliac artery. 3. Give the boundaries of Scarpa's triangle. 4. Give the blood and nerve supply of the stomach. 5. Describe the jugular vein and mention its surgical significance. 6. Give the origin and insertion of the sartorius muscle. 7. Name the divisions of the alimentary tract. 8. Name the ligaments of the knee-joint. 9. Describe the cervical plexus of nerves. 10. What is the vitelline membrane?

PHYSIOLOGY AND HISTOLOGY

1. Large intestine: describe it and give function. 2. Heart sounds: describe them and give causes. 3. Animal heat: how produced and how regulated? 4. Glycogen: where produced? and give its use. 5. Seventh or facial nerve: give origin, distribution and function. 6. Pancreas: describe it and give function. 7. White blood-corpuscles: describe them and give function. 8. What does the presence of indican in the urine indicate? 9. Give histology of a human tooth. 10. Describe histology of kidney.

BACTERIOLOGY AND HYGIENE

1. What is the difference between an antiseptic and a disinfectant? 2. Give reasons for and against vaccination. 3. Name five contagious diseases; name three infectious diseases. 4. Give four modes of administering antitetanic serum. 5. What is tuberculin? What is its use? 6. What is a fair average death-rate in the country; in towns of 5,000 to 20,000; in large cities? 7. What diseases are propagated by drinking water? 8. Name six preventable diseases. 9. How can malarial districts be made healthy? 10. How long does vaccination last?

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Explain the following terms: acid, base, salt, efflorescence and deliquescence. 2. Name three compounds of mercury and give their formulas and uses. 3. What is the chemical name for each of the following: oil of vitriol, sugar of lead, copperas, saltpeter, bluestone, lunar caustic and common salt? 4. Name four gases which are poisonous and four gases which are not poisonous. 5. What are the proteids, the carbodydrates, and fats? Give examples of foods which are rich in each of these constituents. 6. What is the composition of milk? Give its specific gravity. 7. Give tests for sugar and albumin in urine. 8. Differentiate death from carbon monoxid gas and potassium cyanid. 9. What qualifications are required for the legal practice of medicine in West Virginia? 10. Give your views as to capital punishment, methods, etc.

PRACTICE OF MEDICINE AND PEDIATRICS

1. Name possible causes of dropsical conditions of the abdomen and lower extremities. 2. Differentiate renal and hepatic colic. 3. Give the character of the fever course in chronic tuberculosis. 4. What is an exanthematous fever? 5. Give the outlines of the liver as revealed by percussion when the patient is in the recumbent position. 6. Diagnose and treat gastric ulcer. 7. Describe and give treatment of cancer of the stomach. 8. Intestinal worms, their varieties, symptoms and treatment. 9. What is modified milk, how prepared, indications for use? 10. Diagnose and treat cholera infantum.

SURGERY

1. Describe the clinical manifestations of carcinoma of the breast in the early stages. 2. Describe the clinical symptoms of rupture of a middle meningeal artery due to trauma without an external wound. 3. Describe the common forms of anal fistula and their treatment. 4. Give the pathology, symptoms and treatment of a felon. 5. Given a wound of the scalp, what investigation of the wound is necessary? Describe in detail the surgical treatment. 6. What are the symptoms and treatment of a gunshot wound of the kidney? 7. Give and explain the symptoms of a strangulated inguinal hernia. 8. How would you differentiate between a fracture at the neck of the femur without impaction and a dislocation? Give Bryant's and Nelaton's lines for making the measurements. 9. Describe the different avenues through which the urinary bladder in the male may be emptied surgically. 10. What are hemorrhoids, what causes them and how treated? Give palliative treatment and treatment for radical cure.

SPECIAL MEDICINE

1. Define vocal fremitus. Name conditions that increase and diminish this sign. 2. Describe physical signs and make diagnosis of mitral incompetency. 3. Diagnose sudden loss of vision. 4. Diagnose and treat infected wounds of the eye. 5. Describe fully technic of nasal examination. 6. How may the exanthemata affect the nasal mucosa? 7. Discuss the importance of acute laryngitis in constitutional diseases. 8. Name the indications for tracheotomy. Describe operation. 9. Describe technic and give diagnostic value of lumbar puncture. 10. Describe loss of tendon reflexes, exaggeration of same, pathology and diagnostic value.

MATERIA MEDICA AND THERAPEUTICS

1. How do the simple bitters aid digestion? Name one of the most common 2. Purgatives: name two saline, two drastic and two cholagogue, with dose of each. 3. Give mode of applying heat as a remedy, physiologic actions and therapy. 4. Define massage. Give method, physiologic effect and therapy. 5. What are cerebral sedatives? Name four, with indications for use. 6. Pilocarpus: physiologic action and therapy, with dose. 7. Anthelmintics: name four. Dose of each for 6-year-old child. 8. Name three new remedies with use and dose of each. 9. Poultices: how and of what made? Action and uses. 10. Write prescription for diarrhea in adult.

OBSTETRICS AND GYNECOLOGY

1. When would you use forceps, and how? 2. Give the indications for version and detail the operation. 3. What symptoms would lead you to suspect a threatened miscarriage. 4. Name the principal diseases and conditions during pregnancy, said to be caused by that condition. 5. How and how long would you treat a babe apparently dead when born? 6. Describe varicose veins of pregnancy. Give dangers of same. Give treatment. 7. Give the cause, prognosis and treatment of pernicious vomiting of pregnancy. 8. Patient 54 years old—give symptoms of malignancy of the uterus. 9. Define ectopic gestation, name varieties, give diagnosis, prognosis and treatment. 10. Define leukorrhea and give three causes.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is a medicine? How are homeopathic medicines prepared? 2. Name four medicines whose effects are general on the human organism and give their action. 3. Give examples of four drugs whose effects are comparatively local or single. 4. Mention three or four drugs whose action is chiefly on the brain and spinal marrow. Describe their effects. 5. Name four drugs whose effects are chiefly on the digestive tract and give symptoms. 6. What symptoms are of most importance in making a prescription? 7. differentiate between uranium nitrate and phosphoric acid in diabetes. 8. What symptoms would lead you to prescribe merc. biniod, and in what diseases would you think of it? 9. What are the throat symptoms of apis mel, lachesis and phytolacca? 10. Give the headache of cannabis indica.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Dysentery: etiology, complications and sequelæ; treat. 2. Cirrhosis of liver: etiology, symptoms and treatment. 3. Etiology and treatment of hemoptysis. 4. Rheumatism: give different forms: treat. 5. Intussusception: define, diagnose and treat. 6. Tonsillitis: differentiate from diphtheria; symptoms and treatment. 7. What diseases does meningitis complicate in children? 8. Intestinal catarrh of children: symptoms and treatment. 9. Describe the lumbricoides and give origin, symptoms and treatment. 10. Endocarditis in children: etiology, symptoms and treatment.

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Give etiology, symptoms, diagnosis and treatment of chorea. 2. Define empyema; diagnose and treat. 3. Give etiology, diagnose and treat scoliosis. 4. Diagnose and treat incipient pulmonary tuberculosis. 5. Define tetanus; give the etiology, symptoms and treatment. 6. What symptoms would lead you to suspect malignant disease of the stomach. 7. Describe symptoms, diagnose and treat infantile spinal paralysis. 8. Discuss meningitis; make diagnosis and give treatment. 9. Describe management of "summer diarrheas" of children. 10. Discuss convulsions in children; give treatment.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Give properties, therapeutic indications and dose of specific gelsemium veratrum. 2. Give the indications for aconite, belladonna, arsenic, nux vomica. 3. Define anodyne, anthelmintic, cholagogue, emmenagogue. Name two drugs of each class, giving dose. 4. Give properties, dose and therapeutic indications for potassium acetate, sodium sulphate, echinacea, bryonia. 5. Discuss physiologic action and therapeutic application of the nitrites. 6. Write a prescription for a stimulating expectorant. 7. Describe the physiologic action and therapeutic use of digitalis. 8. What remedies are usually indicated in acute catarrhal affections of the respiratory tract? 9. Define hemoptysis. How treat? 10. What remedies are commonly indicated in catarrh of the bile passages?

Wisconsin January Report

Dr. John M. Beffel, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 10-12, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 21, of whom 18 passed, including 2 osteopaths, and 3 failed, including 1 osteopath. Twenty-three candidates were licensed through reciprocity, including one osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1872) 83; (1896) 86; (1910)	87
Bennett Medical College	(1911)	82
College of Physicians and Surgeons, Chicago	(1910)	85
Northwestern University Medical School	(1881) 83; (1898)	89
Chicago College of Medicine and Surgery	(1910)	76
University of Michigan, Dept. of Med. and Surg	(1910)	84
St. Louis University	(1910)	79
University of Pennsylvania	(1908)	87
Marquette University (1910) 75, 76, 80, 80.		
Wisconsin College of Physicians and Surgeons	(1906)	83

FAILED

Marquette University	(1910)	69	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bennett Medical College	(1894)	Iowa
Rush Medical College	(1882) Minnesota; (1902)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Illinois Medical College	(1908)	Illinois
College of Physicians and Surgeons, Chicago (1894) Indiana; (1908) Illinois.		
Hahnemann Medical College and Hospital, Chicago (1901) Iowa; (1907) Illinois; (1907) Minnesota.		
Northwestern University Medical School	(1908)	Illinois
Kansas Medical College	(1909)	Kansas
University of Michigan, Homeopathic College	(1907)	Indiana
Johns Hopkins University (1901) Missouri;	(1909)	Maryland
College of Physicians and Surgeons, Baltimore	(1901)	Maryland
University of Minnesota, College of Medicine	(1895)	Minnesota
St. Louis University	(1909)	Illinois
University of the City of New York	(1889)	N. Dakota
University of Nashville	(1909)	Illinois
Trinity Medical College, Ontario	(1897)	Kansas
University of Leipsig, Germany	(1889)	Iowa

Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 14-15, 1911. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 19, of whom 15 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine	(1909)	89
Baltimore Medical College	(1906) 88; (1910) 78	85
Harvard University Medical School	(1902)	91
College of Phys. and Surgs., Boston	(1909) 75.5; (1910)	78
Boston University	(1901)	80
Ensworth Medical College	(1903)	76
Dartmouth Medical School	(1890) 79; (1910)	90
Long Island College Hospital	(1910)	83
Bellevue Hospital Medical College	(1885)	78
Medico-Chirurgical College, Philadelphia	(1908)	90
Jefferson Medical College	(1910)	80

FAILED

Hahnemann Medical College and Hospital, Chicago	(1909)	67
University of Maryland	(1910)	74
College of Phys. and Surgs., Boston	(1908) 78,* (1909)	76 †

* Fell below 60 in anatomy.
† Fell below 60 in pathology.

Book Notices

ATLAS OF MICROSCOPIC DIAGNOSIS IN GYNECOLOGY. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynecologic Clinic, University of Berlin. Only authorized English Translation by P. W. Shedd, M.D., New York. Cloth. Price, $5.50. Pp. 192, with 54 illustrations. New York: Rebman Co., (1911).

An English translation of Dr. Jolly's work on microscopic diagnosis in gynecology is here presented. It will prove valuable to physicians in general and in particular to those who make their own microscopic examinations without the facilities afforded by well-equipped laboratories. Jolly has confined himself almost exclusively to those specimens which can readily be obtained from curettments, and sections which are accessible to the average physician in order to enable him to make a scientific diagnosis. The plates have lost none of the clearness of outline and coloring that were of such special value in the original work. The clearly defined description in the English text, differentiating between the normal menstrual and premenstrual mucosa, the decidua menstrualis, and the decidua of endometritis, is of much worth to the diagnostician. The exceptional accuracy with which Jolly calls attention to the recognition of early malignancy and the differentiation between benign and malignant growths makes the book valuable to the student and general practitioner.

REPORT OF THE DEPARTMENT OF HEALTH OF THE CITY OF CHICAGO. For the Years 1907, 1908, 1909, 1910. W. A. Evans, M.S., M.D., LL.D., Commissioner of Health. Cloth. Pp. 446. Chicago, 1911.

In his quadrennial report, Dr. William A. Evans, Commissioner of Health of Chicago, submits a summary of the activities of the department with explanatory statements, setting forth the details of the administration of the department, accompanied by articles on the various phases of public health work and suggestions as to the handling of public health problems. With the report are incorporated the reports of the School of Sanitary Instruction, which was incorporated in 1909 and has issued a series of weekly bulletins since that time; the Bureau of Contagious Diseases, the Infant Welfare Service, the Division of Hospital Control, Bureau of Sanitation (which includes the public baths and municipal lodging houses), the Municipal Laboratory, and the Bureau of Food Inspection and Vital Statistics. To this are appended the detailed mortality statistics of Chicago from 1907 to 1909 and a summary for 1910, a chronologic summary of the principal causes of mortality for the forty years from 1871 to 1910, and meteorologic data of Chicago, covering the same period, together with financial statements and departmental rules.

OUTLINES OF PSYCHIATRY. By William A. White, M.D., Washington, D.C. Nervous and Mental Disease Monograph Series No. 1. Third Edition. Paper. Price, $2.50. Pp. 272, with illustrations. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

The author modestly calls his production "outlines" of psychiatry, though it deserves the name of text-book. With an easy and attractive style he has succeeded in crowding the substance of modern psychiatry into the insignificant space of 272 pages. We know of no other book of similar size on this subject which is so free from errors of style, etc., and yet so comprehensive in scope. Though it is primarily written for students, the general practitioner also will find its perusal advantageous. The Kraepelinian tendency prevails throughout the book. Nevertheless, theories emanating from other sources are discussed without partiality; consequently the subjects of psycho-analysis and the new psychotherapy are given adequate expression. Of the many excellent chapters the one on "Methods of Examination" deserves particular commendation. In addition, the type is clear, the paper good and the price moderate.

EIGHTH AND NINTH ANNUAL REPORTS OF THE BUREAU OF SCIENCE [MANILA] TO THE HONORABLE, THE SECRETARY OF THE INTERIOR. By Richard P. Strong. For the Years Ending Aug. 1, 1909 and 1910, respectively. Paper. Pp. 62 and 70, respectively. Manila, 1910 and 1911.

These annual reports cover the work of the Bureau of Science of the Philippine Islands from August, 1908, to August, 1910. The report for 1908-09 presents the work of the biologic laboratory in the study of various tropical diseases in Manila and the provinces, among them being dysentery, leprosy, cholera and diphtheria; and the investigations of intestinal parasites and certain diseases in animals. The report also contains other matter not directly connected with zoology or medicine. The report for 1909-10 gives account of the further investigations concerning the diseases above mentioned. It has been the custom of the Bureau of Science in the Philippines to send parties of investigators into one of the provinces and study the diseases and parasites indigenous to that region in a rather intensive manner. This has led to important results and the reports of the work are of great interest.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Fiscal Year 1910. Cloth. Pp. 256. Washington: Government Printing Office, 1911.

The report of the Surgeon-General of the Public Health and Marine-Hospital Service for 1910 recounts the work of the bureau with especial reference to scientific research and sanitation; the supervision of viruses, serums, toxins and analogous products, including a list of establishments holding licenses for the manufacture, sale and barter of these products; investigations into certain epidemic diseases; studies of disinfectants; relations of the bureau to the pharmacopeia; the compilation of national, state and territorial health laws; and many other of the multifarious duties which are included in the work of the public health service. During the year fifty-one special articles appeared in the weekly *Public Health Report* and 364,306 copies of the various service publications were distributed. The surgeon-general invites attention to certain needs of the service: namely, the necessity of a larger appropriation for printing, additions to the office force, and the passage of a bill containing provisions for the increase of the compensations of the commissioned medical corps and, especially, for officers below the grade of assistant surgeon-general.

HOOKWORM DISEASE. A Handbook of Information for All Who Are Interested. Prepared Under the Direction of the State Board of Health of Florida, by Dr. Hiram Byrd, Assistant State Health Officer. Publication 79. October, 1910. Paper. Pp. 70, with 13 illustrations.

Florida was a pioneer state in the work of ameliorating conditions due to hookworm. For at least seven years systematic work to this end has been conducted by the state on its own hook (no pun), and at present it is not one of the states receiving assistance from the Rockefeller fund. In this brochure (Publication 79) a history of the work in the state is given, together with a description of the worm, its distribution, life cycle, the symptoms of uncinariasis, diagnosis and treatment, and some interesting reflections on the possibility of finally eradicating it, which, according to Health Officer Byrd, is remote. There is also a note on the Rockefeller Commission, and an interesting section on the influence of hookworm on racial development. The pamphlet is an interesting one on a large and important subject.

DISEASES OF CHILDREN FOR NURSES. Including Infant-Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second Edition. Cloth. Price, $2 net. Pp. 470, with 118 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This book, in addition to giving some anatomy and pathology, briefly describes many of the diseases of children so that the nurse may have a sufficient acquaintance with them and the measures employed in treating them to be able to watch intelligently for important symptoms, to take necessary steps in emergencies, and to carry out efficiently the directions of the physician. The book is an elaboration of a course of lectures to nurses. It contains tables of weights and measures, a list of the pharmacopeial preparations commonly used, a list of abbreviations, a glossary of medical terms and an index. It is a clear, simple and well-written book for the nurse, much of whose work is among children.

DISEASES OF THE JOINTS AND SPINE. By Howard Marsh, M.A., M.C., Cantab., F.R.C.S., Master of Downing College and Professor of Surgery in the University of Cambridge. New and Enlarged Edition Thoroughly Revised by the Author and by C. Gordon Wat-

son, F.R.C.S., Surgeon to the Metropolitan Hospital. Price, $3. Cloth. Pp. 632, with 100 illustrations. Chicago: Chicago Medical Book Co., 1910.

This book, originally published in 1886, has been enlarged and largely rewritten. It contains much which is of interest, but not easily accessible to the general practitioner. The chapter on arthritis treats not only of tuberculosis, but also of syphilitic, gonorrheal, septic, rheumatic and gouty arthritis deformans, Charcot's disease of the joints, and many other joint diseases and disabilities. While the book is written from the standpoint of the general surgeon, by a man of experience, and is of positive value, it contains little or nothing of value on the mechanical treatment of joint diseases.

PERSONAL HYGIENE AND PHYSICAL TRAINING FOR WOMEN. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with illustrations.

This book meets an evident need, for it is complete without being ultrascientific, and, while dealing with the complex relations of women to the demands of modern life, it is free from fads and unsound theories. The aim of the author has been to present the fundamental physiologic laws of personal hygiene as well as practical detailed directions for the proper development and care of the body. The book can be safely recommended to physicians who desire something of this sort to put into the hands of their women patients. It will also be of value to teachers.

WHO'S WHO. 1911. [BRITISH.] An Annual Biographic Dictionary. Sixty-Third Year of Issue. Cloth. Price, $2.50 net. Pp. 2246. New York: The Macmillan Co., 1911.

This carefully prepared and relatively complete biographic dictionary of the living deserves much praise. Only those who have had to compile biographies appreciate the difficulties of such work. Modesty, fear, or carelessness causes many men whose names should appear in a work of this kind, and who have been asked for information, to refrain from furnishing it, and, of course, for all such omissions, not the individual, but the compiler or publisher must bear the undeserved blame.

THE MEDICAL DIRECTORY, 1911. Including the London Medical Directory, The Provincial Medical Directory, the Medical Directory for Wales, Scotland, Ireland, etc. Sixty-Seventh Annual Issue. Cloth. Price, 14 shillings net. Pp. 2128. London: J. & A. Churchill, 7 Great Marlborough Street.

The British medical directory for 1911 contains the names of 40,642 physicians, an increase for the year of 173. These are distributed as follows: London, 6,415; the provinces, 17,721; Wales, 1,336; Scotland, 3,958; Ireland, 2,724; abroad, 5,188, and in the United Services, 3,300. The directory has been prepared in the usual painstaking and exact way, but would, it is believed, be made of much more practical value if a general alphabetical index were added.

THE PRESERVATION OF SEWAGE BY THE AID OF CHLOROFORM AND COLD STORAGE. Dr. Arthur Lederer and Harry B. Hommon. Paper. Pp. 16. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The authors advocate the addition of 10 c.c. of chloroform to 4 liters of sewage, followed by storage at 10° C., as the most effective method yet devised for checking the chemical changes which take place after collecting a sample of sewage. Cold storage alone is shown to be reasonably good, but higher temperatures, even when chloroform is used, are ineffective.

TEXT-BOOK OF MASSAGE. By L. L. Despard, Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.

In this book the anatomy and principles of elementary physiology are well discussed, about half of the book being devoted to this phase of the subject. The various diseases and the movements indicated are described from the point of view of one who desires to cooperate with the attending physician. This is a good text-book for teaching scientific massage.

MEMORANDA ON POISONS. By Thomas Hawkes Tanner, M.D., F.L.S. Eleventh Edition. By Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Price, 75 cents net. Pp. 167. Philadelphia: P. Blakiston's Son & Co., 1911.

Some modifications have been made in this little manual and some additions made, such as the synthetic substitutes for morphin, and information concerning food-poisoning.

A MANUAL OF PHYSICAL DIAGNOSIS. By Brefney Ralph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This brief book covers in a systematic way the cardinal points in the examination of a patient, not attempting to enter into details minutely. It sets forth a comprehensive scheme for the examination of the patient, and in describing the different diagnostic procedures, is careful always to point out the significance and practical application of the findings. In an appendix are contained laboratory methods for examining the different secretions and excretions, etc., but, except in the case of the urine, which is rather fully treated, and the blood, to which fairly satisfactory consideration is given, the methods are given so briefly as perhaps to be of little practical value. The book is well illustrated and is a good brief work for the student or practitioner.

Medicolegal

Justifiable Prosecution for Illegally Practicing Medicine

The First Appellate Division of the Supreme Court of New York, in Schmidt vs. Medical Society of New York County (127 N. Y. S. 365), an action brought to recover damages for alleged malicious prosecution, reverses a judgment obtained by the plaintiff, and orders a new trial. The court says that it does not see how any person of ordinary intelligence would not have probable cause for believing that the plaintiff was engaged in the practice of medicine when the receipt of letters from the "Department of Glanderine," offering to cure of glanders a certain person in a hospital, the plaintiff's subsequent visits to the hospital, his conduct there, leaving medicine with directions as to its use, and permitting himself to be called a doctor, were considered. These facts, being uncontradicted and unexplained, justified the defendant in instigating his arrest on a charge of practicing medicine without being legally authorized to do so. The trial court should have so held and dismissed the complaint at the close of the plaintiff's case, and, having failed to do so, should have directed a verdict for the defendant at the conclusion of the whole case.

Before the plaintiff could succeed in this case, he had to establish by a fair preponderance of evidence that his prosecution was malicious, in other words, was without probable cause, and that he was acquitted. The trial court in this case was apparently of the opinion that actual guilt and probable cause must concur in order to constitute a defense. This is not the law; probable cause alone being a complete defense. It is not necessary that the accused, in order to justify a prosecution, should appear to be guilty beyond all reasonable doubt. The test as to whether reasonable or not must be applied at the time when the prosecution was commenced.

After a careful consideration of all the evidence adduced at the trial and giving the plaintiff the benefit of every disputed question of fact, the court is of the opinion that he not only failed to prove want of probable cause for the prosecution instigated by the defendant, but, on the contrary, the existence of probable cause was conclusively shown. There was nothing to indicate that the defendant was actuated by malice, or that it had any desire to do otherwise than carry out one of the objects of its incorporation, which was to prevent persons practicing medicine without being authorized to do so by the statutes of the state. It is unnecessary to determine whether the plaintiff was actually engaged in the practice of medicine within the meaning of the statute; it being sufficient for the purposes of this appeal that there was at least probable cause for the defendant's believing that he was doing so.

Manner and Time of Presenting Claim for Services Rendered Poor Person

The Supreme Court of Iowa, in Case vs. Davis County (129 N. W. R. 804) reverses a judgment obtained for medical and surgical services rendered to an alleged poor person, or pauper. As abstract propositions of law, the court says that it thinks

that it may be conceded: (1) That in this proceeding the county could not be heard to question the legal residence of the patient in the county, or to deny his necessitous condition at the time the services were rendered; (2) that the plaintiff was not precluded by his act in filing a claim against the estate of the patient, or by the fact that his bill so filed was for a much less amount than was stated in his claim against the county; (3) that, even if the services were originally rendered without the order or sanction of the township trustees, its subsequent certification and approval by those officers cured the defect. But the court does not agree with the view that the presentation of the claim to the trustees and its rejection by them in 1905 were not a bar to its presentation and allowance by their successors in 1908.

The trustees who authorize the service, or have jurisdiction in matters of poor relief at the time the services are rendered and bill presented, constitute a quasi or sort of judicial body for the consideration and allowance or rejection of the claim. Having once acted, if the claimant is not satisfied with the finding, his remedy, as the court views it, is and ought to be by resort to the courts or by direct application to the board of supervisors. To say that, when his claim is rejected, he may await any number of years short of the statutory period of limitations when other trustees who may have no knowledge of the merits of the case have succeeded to the office, and then renew his claim and secure its allowance, would be to open the door to many abuses. The court does not mean by this to say that a board of trustees having once rejected a claim may not within a reasonable time reopen its consideration, and, if so convinced, reach an opposite conclusion.

Then, while the previous order or request of the trustees may not always be necessary as the foundation of a claim against the county for relief furnished the poor, and while the decision of the trustees, acting in good faith, that a person is a proper subject for public aid is not ordinarily reviewable by the board of supervisors, it has never been held, and it would be a most mischevious rule to establish, that a physician, merchant, or other person may, by securing a certificate from a complaisant board of township trustees, make the county his debtor for an uncollectable bill contracted by an impecunious customer or patient. Yet this was substantially what was alleged was done in this case, and, if the proof should bear out the allegation, it ought to be, and the court holds would be, a good defense. To hold otherwise would be to say that the county is helpless to protect itself against gross imposition.

Operating to Recover False Teeth Without Sufficient Justification—X-Ray Experiment Evidence

The Supreme Court of Kansas holds that, in the case of Wingfield vs. McClintock and others (113 Pac. 394), as to two of the defendants, who may be designated as Drs. M. and K., there was evidence that should have been submitted to the determination of the jury, so that a judgment rendered in their favor, on a demurrer to the plaintiff's evidence, is reversed. The action was brought by the plaintiff to recover damages for alleged negligence and unskilfulness of said defendants in performing a surgical operation on her husband, which resulted in his death. He was a farmer who went to bed one night to some extent under the influence of intoxicating liquor, awoke after midnight, and, missing his upper set of false teeth, declared that he had swallowed them. Dr. K. was sent for, examined the throat by inserting his finger and said that he felt the teeth, but that they were in a position that he could not get them. The physician returned to the city; the man and daughter followed him. In the evening an examination was made with an *x*-ray machine, Dr. K. reporting that he saw the teeth, and that the best thing to do would be to go to a hospital at Topeka, where Dr. M. had *x*-ray things in his office, the best in Kansas. The trip was taken, and, without further *x*-ray examination, after Dr. M. declared that he could not feel the teeth with a probe, the surgeons cut into the neck and through the esophagus, and afterward into the stomach, when Dr. M. said, "The teeth are not here. If you will look in the room where he slept last night, you will find them." There was a question for the determination of the jury as to whether the misapprehension of the patient or the failure to exercise care on the part of the surgeons, if there was such failure, was the proximate cause of the operations on the patient.

The court does not consider it necessary to discuss the degree of care and skill legally required of physicians and surgeons, because, if the evidence of the plaintiff be taken as true, as it must be as against a demurrer thereto, the surgeons proceeded to operate on the neck of the patient after they had demonstrated that the teeth were not in the esophagus, and on the stomach, without investigation, when they could have definitely determined whether or not the teeth were there, and without an operation.

Complaint was made that evidence of an *x*-ray shadow picture taken by placing under a dead body a set of false teeth composed of porcelain teeth set in gutta percha, being a view taken from the opposite side of the body, was rejected as evidence in illustration of what might have been disclosed by an *x*-ray examination on the living patient. Evidence of experiments offered as an illustration of a fact in issue, which experiments are taken under widely differing conditions from the facts sought to be illustrated, are not admissible in evidence. It is a matter of common knowledge that the presence of an opaque object in the human body may be discovered by the *x*-ray process, if no other opaque substance intervenes; yet, as the shadow picture may be greatly changed by different positions of the body with reference to the instrument and by other conditions, the introduction should be allowed of such experiment evidence only as clearly appears to be an aid to the jury in determining the fact in issue.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

OHIO STATE MEDICAL ASSOCIATION

Annual Meeting, held at Cleveland, May 9-11, 1911

The President, DR. R. E. SKEEL, Cleveland, in the Chair

The list of officers elected was published in THE JOURNAL, May 20, page 1489.

The Commercial Exhibit, in charge of Dr. F. C. Herrick, was restricted, as to proprietaries, to those mentioned in New and Nonofficial Remedies, the book published by the Council on Pharmacy and Chemistry of the American Medical Association. This procedure met with much favorable comment.

The Practice of Medicine

DR. ROBERT E. SKEEL, Cleveland: It is an unfortunate thing that the practice of medicine has never been satisfactorily defined legally, and, therefore, hundreds of individuals are doing those things which medical men recognize as violations of the law, but which the lay mind fails so to discern. To the latter, the practice of medicine is, in a large sense, taken to mean the administration of drugs and the performance of operations, and anything which does not include one of these

two acts is regarded as an entirely extra-professional affair. To the medical mind, the practice of medicine means the application of any and all methods which may prevent, alleviate or cure disease, regardless of the means employed; and the profession insists that if the law as it stands be applied to its members, it ought likewise be applied to all others who, under whatever name, are using means to accomplish the same end. General medical education is necessary in order to diagnose disease, to understand its natural evolution and life history and prevent the dissemination of communicable disease in the community. At every session of the legislature, bills are introduced looking to the licensing of individuals practicing on certain portions of the body and permitting them so to practice with lesser qualifications than those demanded of the medical practitioner, while other bills are from time to time introduced providing that certain methods of treatment of the entire body be exempted from the operation of the law. As an example of the first class there is the optometry bill and of the second the prayer cure. Carried out to its logical conclusion, the first would soon split the body into a number of organs, each under the care of an individual who knows little of it and nothing of any other; while the second would place the health of the entire state in the hands of a coterie of sublime egotists, who claim that they and they only have access direct to the Almighty—for a consideration.

It should lie with the authorities to see that each individual practicing is doing so legally. If licensed physicians would announce themselves as such, demanding of the state that it protect the name of physician or doctor from being used by any other than those so licensed, it would put the entire matter up to the people themselves and if they then choose an unlicensed practitioner it would be with their eyes open. Nothing would more quickly cure them of their dislike for expert opinion and sane leadership in sanitary and medical matters than would the undoubtedly disastrous result of a spread of contagion following the mutilation and non-enforcement of present sanitary laws. The average individual to-day has more respect for his own physician and less for the profession as a whole than ever before, for the reason that he knows his physician and what he stands for while he knows nothing of the medical profession and what it stands for. To-day a smattering of medical education is possessed by all but the absolutely ignorant, and medical science has reached a sufficient degree of accuracy so that a frank and open statement of a case is the best policy in private practice, and a similarly frank and free discussion of medical topics is the best public policy. Medical, not general, ignorance is responsible for the flourishing condition of the pathies, cults and crazes of all kinds. Physicians should never hesitate to appear before clubs of all kinds with well-prepared talks on popular medical subjects, where the hearers should be set right on the whole subject of medicine and its activities. While the intelligent portion of the public has a smattering of medical knowledge it is absolutely ignorant of the fundamental principles underlying medical science.

Medical Inspection of Public Schools

DR. M. COPLAN, Cleveland: From an economic and humanitarian point of view, there can be no more valuable service rendered to humanity than in the preservation of the health of the children, and this can be accomplished only through medical inspection in the public schools. Medical inspection should be an important branch of the educational system. In medical inspection the nurse is an important adjunct to the school inspector and to the defective children. It is the practical work of the nurse that has drawn public interest to the medical work in the school and vitalized the hitherto perfunctory routine of medical inspection. School instruction in sex hygiene, if done properly and systematically, is the only remedy and prophylaxis for the existing conditions as regards venereal diseases and the code of morals among classes of society. Children should be taught as carefully in matters pertaining to sex hygiene as in deportment and other branches of elementary and academic studies. The medical inspector and the school nurse can best impart this knowledge and picture the penalties of vice and transgression.

DR. A. M. CRANE, Marion: Sex hygiene should be taught in the schools in separate classes, and by a physician who is capable of approaching these topics in such a manner and using such language as will be understood by boys and girls. Object lessons should be employed, such as lantern slides and microscopic examinations that will demonstrate the evils to be incurred.

DR. J. M. RECTOR, Columbus: I wish to advocate instruction in preventive measures, such as are being carried out by the army and the navy and which have here greatly reduced the prevalence of venereal diseases.

Abdominal Pain

DR. R. H. GRUBE, Xenia: If Lennander's theory is true, and its corollary, that adhesions are chiefly the result of infantile colitis, the great necessity of preventing and of quickly curing bowel trouble in infants is apparent. While these almost startling views of Lennander have not been unqualifiedly received by the profession, they form a good working hypothesis for the interpretation of abdominal pain.

DISCUSSION

DR. G. F. ZINNINGER, Canton: The pain symptom is of great importance, as it is this that most frequently sends the patient to the physician, and without it patients would drift into much more serious stages of disease. No doubt better diagnosis can be secured by carefully analyzing the symptom of pain as it presents itself. I cannot accept the theory of Lennander in its entirety, but it is helpful in correcting some erroneous ideas. The end organs of the abdominal viscera may be different than those on the surface of the body, and we are told that the organs are insensitive to cutting, tearing or burning, but that a ligature around the appendix affords great pain. Cognizance should be taken of conditions in which pain is absent (as in tabes); also in which pain exists in the abdominal cavity while the disease is in some other part of the body, as the abdominal pain in pneumonia. The physical condition of the patient, the history and the symptom of pain should all be considered in forming a diagnosis.

DR. C. F. KLINE, Portsmouth: There is generally an absence of pain where the vagus nerve alone supplies, and it is supposed to not have many sensory fibers, but it is known that there are certain pains produced in the heart.

DR. R. K. UPDEGRAFF, Cleveland: What is green apple colic, or calomel colic, both of which are terminated by belladonna?

DR. R. H. GRUBE, Xenia: In people who are subject to these sharp attacks of colic, there are adhesions that have existed from infancy, and only when the intestine is drawn into increased activity by some agent such as calomel, is the pain elicited. Statistics give as high as 30 per cent. of all persons going to autopsy as having these adhesions.

Cardiac Syphilis

DR. ALFRED S. WARTHIN, Ann Arbor, Mich.: Cardiac syphilis must be regarded at present as the most important factor in the production of heart disease. In the children's department at Ann Arbor, twelve young people died suddenly with symptoms of cardiac insufficiency and without any suspicion of congenital syphilis. These children at autopsy showed nothing that would be attributed by the pathologist to syphilis; but on examination according to the method of Levaditi certain changes were found that have led me to believe that certain forms of myocarditis are always syphilitic. In going over thirty-five cases of acquired syphilis and staining the tissues that could still be prepared by the Levaditi method, the same form has been found associated with spirochetes. The majority of these were men who had been successfully treated seven to twenty years previously, and not even the attending physician associated the present condition with syphilis. The characteristic is the presence in the muscular fibers of light staining surfaces. There are peculiar fibroblastic cells that follow the course of the smaller vessels. The tissue retains an embryonic type. These characteristics might be interpreted as an edema at first sight. The muscle always shows a peculiar degeneration, and the characteristic appearance is

that it fades away, without showing a marked contrast, but the paleness runs into the other fibers. In older hearts, fatty degeneration is very common. The tissue is full of spirochetes. The heart muscle is atrophic and the fibers smaller. The epicardium may show a few cells and there is a localization of the spirochetes, the same condition showing in the endocardium. No part of the heart is free from this. In one case, that of a child 2½ months dying suddenly, the heart alone contained these spirochetes. This localization of spirochetes is the important point. It is found many times after a man has no symptoms elsewhere in the body, and associated with weakness of the heart, likewise with sudden death.

DISCUSSION

DR. JOHN E. GREIWE, Cincinnati: Literature on the subject teaches that syphilis has a very definite area in the heart, i. e., very close to the aortic rings and aortic valves, but the case is now made out beyond the question of a doubt that every process of the myocardium is to be dealt with. These cases which have been looked on as edema of the muscular tissues occurring shortly before death, have been absolutely proved to be of syphilitic origin.

DR. J. M. RECTOR, Columbus: Have you used salvarsan in any of these cases and with what result?

DR. G. F. ZINNINGER, Canton: Are there any criteria for diagnosing these cases on clinical grounds ante mortem?

DR. KENNON DUNHAM, Cincinnati: Has a similar condition been found in the lungs?

DR. C. E. NORRIS, Akron: Can any reason be given as to why the spirochete of syphilis localizes in the heart tissues?

DR. A. S. WARTHIN, Ann Arbor, Mich.: I have not had any opportunity to make an autopsy on cases in which salvarsan has been used, nor do I know why the heart is a place of selection for the spirochete, but when there are none elsewhere the heart will show great numbers of them. A large number of these cases show the typical syphilitic aortitis. I have not found in these cases either lesions or spriochetes in the lungs. The important thing is that enormous masses of these occur in a certain place and not in others, and why drugs and treatment will not affect them will have to be worked out afterward. I do not believe that a clinical diagnosis can be made. The diagnosticians have not suspected syphilis in a great many cases until the heart was examined. Just now the case is one for pathologists, but one must, in cases of sudden death, think of cardiac syphilis and look to the laboratory demonstration for the cause.

(*To be continued*)

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Second Annual Session, held at Rome, April 19-21, 1911

The President, DR. E. C. DAVIS, Atlanta, in the Chair

The officers elected were named in THE JOURNAL, April 29, page 1270.

Addresses of welcome were made by Judge Moses R. Wright of Rome and by Dr. W. W. Mangum on behalf of the local profession. Dr. Dunbar, Atlanta, responded in behalf of the association.

The Association of Uncinariasis in Cataracts

DR. F. P. CALHOUN, Atlanta: Some months after Harris announced the prevalence of hookworm in the South, there was found in an eye clinic in Atlanta a case in which there were mature cataracts. Examination of the feces confirmed the diagnosis of hookworm. This case and others subsequently found were reported by my father, and, with a number that have come under my own observation, lead me to believe that the anemia of hookworm can cause cataract. All these patients state that at one time they had good vision; there was sickness which developed after having the ground-itch (meaning anemia and its results), then occurred the gradual loss of sight and finally partial or total blindness. In all of these patients the age at which the sight commenced to fail is unusual for the development of cataract.

DISCUSSION

DR. W. E. TAYLOR, Atlanta: All sorts of general diseases affect the eye and therefore the examination of the eyes should be undertaken only by men who have had experience in this line of work.

DR. R. P. COX, Rome: Seven or eight years ago I made an examination of school children and found that 56 per cent. of the pupils had the disease in one way or another.

DR. A. G. FORT, Lumpkin: In an examination of individuals almost if not completely blind, a large percentage will be found infected with hookworm disease. I do not believe that hookworm itself will produce blindness, but that there is some relationship between the hookworm toxemia and defective vision.

DR. F. P. CALHOUN, Atlanta: I am unable to say how cataracts are produced by hookworm, but it is often found that lens shows beginning cataract and this is excited to growth by the hookworm.

Treatment of Digestive Disturbances by the Surgeon

DR. R. P. GLENN, Columbus, Ohio: Some of the conditions best treated by surgical measures are: 1. Gastric and duodenal ulcer with its proneness to become malignant will often yield to no measures with such promptness and satisfaction as to an operation. This is to be resorted to only after a reasonable time has been devoted to medical treatment. 2. Patients suffering from chronic cholecystitis or cholelithiasis, if not relieved by hexamethylenamin, olive oil and sodium phosphate are fit subjects for the surgeon. 3. The gall-bladder and appendix are responsible for a large majority of cases of so-called indigestion and when this is the case their drainage or removal is the only way to secure satisfactory results. 4. All physicians are familiar with the nervous and digestive symptoms which accompany gynecologic cases and how quickly they disappear when the cause is removed.

Psychotherapy in Habitual Constipation

DR. E. T. GIBBS, Gainesville: In reporting this series of 106 cases of habitual constipation cured by psychotherapy, no originality is claimed for the idea, as it was obtained from Dubois of Berne, who has used the method for over thirty years. In the series were a number of cases of dilatation of the colon, with such symptoms as headache, vertigo, nausea, gaseous eructations, slight dyspnea, pains in the back, and, at times, various nervous symptoms. It seems to me that the establishment of regular peristaltic action, a proper diet and a reeducation of the patients' ideas concerning themselves has largely to do with their future well-being. In these cases an effort has been made to use only rational persuasion. Particular pains are taken to make no statement that is not what I believe to be absolutely true. Then it will become possible to persuade the patient of the logic of such a statement step by step. In a general conversation the patient's ideas are studied and we find the obstacles which our conversation is to overcome. The influence of habit is emphasized and a few examples suitable for the individual patient are cited. It will be easy for the patient to recognize that if the regular retiring hour is ten o'clock the eyelids will become heavy at that hour. The patient may not have analyzed these facts and applied the comparisons which we suggest. We can show him that when he is constantly devising means for the operation of his bowels they become accustomed to the aid and wait for it. The functions of digestion are gone over in a simple way and special stress is laid on peristalsis, mastication, deglutition, etc. No directions much out of the ordinary are given. Emphasis is placed in the successive invitations given by getting out of bed, dressing, taking a glass of cold water, then breakfast and then going to the toilet. Coffee, dry toast and crisp bacon may be ordered for breakfast. Directions are given as to the use and abuse of the abdominal muscles and the will power. An enema may be given the third or fourth day, but do not tell the patient this until the time arrives. Much depends on getting the confidence of the patient. A certain amount of enthusiasm, together with sincerity in expectation of outcome, is a valuable, if not a necessary, adjunct to the physician

giving the direction. Both highly intelligent and ignorant persons have alike responded to the treatment. The time of recovery in all cases was within six days. A liberal diet, especially of vegetables and fruits, free drinking of water and regularity of the chosen hour are all important.

Penetrating Wounds of the Abdomen

DR. J. R. B. BRANCH, Macon: I have collected fifty cases from the Macon Hospital records, showing a mortality of 52 per cent. These patients were operated on by six different surgeons and we have reached the following conclusions: 1. In all penetrating wounds of the abdomen seen within twelve hours from the time of the injury, operation should be done as promptly as is consistent with good technic and skilful work. 2. The incision should be made large enough to insure a good survey of the abdominal viscera without unduly exposing them. 3. Extensive evisceration is unnecessary and unjustifiable, greatly increasing the mortality. 4. Unless the peritoneum is extensively soiled, intestinal content should be wiped away with salt gauze sponges; irrigation does more harm than good. 5. If the closure of the perforation, or destruction of the blood-supply threaten seriously the usefulness of a portion of the bowel, resection should be done. 6. If the peritoneal cavity is soiled extensively drainage is safer; otherwise the incision may be closed. 7. Post-operative treatment is very important. Fowler's position should be maintained.

DISCUSSION

DR. W. P. HARBIN, Rome: The great fault lies in waiting for symptoms which indicate perforation of the intestines. To follow such a policy is fatal in many instances. In any case of doubt regarding the perforation of the intestines it is better to open the abdomen at once. In many instances it is a long and tedious process to find a small perforation. I have a case in which failure to find an abrasion of the intestine led to the development of a fecal fistula three weeks after the operation.

Fifty-Seven Consecutive Operations for Fibroid Tumors of the Uterus

DR. EDWARD G. JONES, Atlanta: The operations analyzed represent my own individual work. They are consecutive and comprise fifty-one abdominal hysterectomies, two abdominal myomectomies, three vaginal myomectomies and one celiotomy without removal of the tumor. The youngest patient was 21 years of age and the oldest 54. In regard to prior symptoms, forty complained of pelvic pain, six did not so complain, four had pain irregularly, and in seven cases no record was made. In regard to hemorrhage, no record was made in eight cases; in nineteen, hemorrhage was irregular and profuse; in fifteen neither irregular nor profuse; irregular in seven, and profuse in eight. Leukorrhea was profuse in thirty-three, slight in four, absent in twelve, and there was no record in eight cases. There was troublesome vesical irritation in thirty-three cases, no irritability in sixteen and no record in eight. Data in regard to childbearing in thirty-nine of these women showed that thirty-six had borne a total of sixty children. Of the thirty-six, thirteen had never been pregnant. There was a total of fifty abortions or miscarriages. As to postoperative history, forty-nine have reported the general health satisfactorily improved since the operation. No hernia has developed in any instance, and all have reported but seven. Of forty-four patients on whom hysteromyomectomy was done, a bloody discharge simulating menstruation is reported as occurring a few times in nine patients; in thirty-five there was none. In some of the cases the leukorrhea continued about as before the operation and in some it was less troublesome. Nine patients complain of slight bladder irritation since operation, but none of severe irritation. Such information as I have been able to secure indicates that when the menopause is brought on artificially by removing both ovaries, the symptoms experienced are less severe than with the natural menopause. No patient has developed serious mental disturbance. A few patients complain of the persistence of vague pain, but a number in whom such pain was to be expected because of extensive adhesions seemed to be surprisingly clear of it. Experience has taught me to be more and more careful to suspend the cervical stump, if left, by the round ligament or by the gathered peritoneum of the broad ligament. In none of these cases have gall-stones been discovered, though they were always sought by palpation. There were four deaths in this series of cases, but only one in the last thirty-seven.

DISCUSSION

DR. S. T. BARNETT, Atlanta: In making the amputation was the cervix included? I had the misfortune to lose two patients, owing, I believe, to the fact that the blood was impoverished; the hemoglobin percentage was so low that the women had no chance to survive the operation. They should have been given the opportunity to have the hemoglobin percentage brought up.

DR. J. L. CAMPBELL, Atlanta: I consider the care of the ureters as very important in these operations. I have found that giving methylene-blue twenty-four hours prior to the operation will stain the ureters a deep blue; since using this method I have never cut or tied the ureters. This method is valuable in operating on intraligamentous tumors where the tumor is between the broad ligament and the ureter. The patients on whom I have operated have experienced considerable trouble after their periods. I believe in leaving all the ovarian substance possible.

DR. FLOYD W. MCRAE, Atlanta: There is no danger to the ureters if one keeps close to the tumor he is removing. A careful surgeon never cuts or ties a ureter. I am interested in the way Dr. Jones has followed up the histories of his cases. We do not want to know merely whether the patient survived the operation, but we do want to know what the condition is three, four or five years afterward. I, too, wish to emphasize that we should leave as much of the ovarian tissue as possible.

DR. E. G. JONES, Atlanta: Supravaginal amputation has been the operation of choice; I do not think that the mere fact that a woman has a cervix calls for its removal in these cases. In dealing with the ovaries as much of them should be left as possible; but, as a matter of fact, if one or both ovaries suffer from a surgical lesion and are left it shows bad surgery on the part of the operator.

Nausea and Vomiting; Their Clinical Significance

DR. W. W. JARRELL, Thomasville: Nausea is an initial symptom of a condition of which vomiting is a later manifestation. This proposition, however, must be modified somewhat for we may find nausea without vomiting and vomiting without nausea. Nausea is classed with pain, hunger and thirst, all sensations which cannot be referred to any nerve center. Nausea may result from the stimulation of any of the senses, and it may attend certain intellectual processes; it is also a symptom of organic disease and the presence of toxins in the system. The non-toxic group comprehends such causes as repulsive sights, nauseous odors, suffocating heat, disgusting tastes and profound nervous shocks, either through the channels of sensation or through the intellectual faculties. The toxic group should be divided into organic and non-organic causes. The organic causes include diseased or changed conditions of the various viscera whereby their normal relations are disturbed or their normal functions become morbid. The non-organic class embraces those substances which through their chemical or physical characteristics, by their local or general action produce this sensation. In this group naturally fall foreign substances, be they indigestible foodstuffs or chemical poisons. These non-organic causes, even though they may occasion sudden death, are not, generally speaking, so insidious or dangerous as the organic type, and they are far more amenable to treatment. Nausea of the organic type is often very obscure in origin and its true significance may not be recognized till the condition is irremediable. Every viscus of the body may evince nausea as a symptom of derangement. The causes of vomiting, like those of nausea, may be classified as non-organic and organic, the terms having the same significance as in the classification of nausea. It is the organic type of vomiting with its com-

plexity of causation that requires the exercise of one's keenest faculties to save him from false conclusions and serious mistakes. Nausea and vomiting are common to a multitude of conditions, varying from simple mechanical distention of the stomach to intestinal obstruction, from functional derangements to malignant diseases, from hysteria to morbid changes in the brain and cord. They are symptoms which should not be overlooked.

The Treatment of Fractures

DR. T. J. CHARLTON, Savannah: One of the surprises that the Roentgen-ray has revealed is that the much-dwelt-on perfect apposition of the fragments is practically never obtained, and this regardless of the method of treatment. Return to function is the chief factor in the treatment of fractures, though to obtain this we have to accept a certain amount of deformity. There are three methods of treatment that have attracted much attention and are destined to influence all future treatment. First is the open treatment, of which Lane is the chief exponent. The second method is that of Bardenheuer of Cologne and consists of a more or less complicated system of extension and counter extension. The third method was introduced by Lucas-Championnière of Paris and consists of massage and movements, both active and passive, applied from the beginning of treatment and continued until the parts are restored to function. To secure the best results we must keep in mind that by the end of the second week the set of the fracture is fixed and that the early work determines the result. One must keep in mind the causes acting to displace the fragments, retraction of the muscles, hemorrhage into the tissues, and inflammatory edema. In all recent fractures plaster of Paris should be used with the utmost caution. It is always best to put up a fracture as soon after injury as you can and to use the simplest splint that will retain it in place; it takes only a little mechanical skill and special splints are not required. I consider the daily adjustment of splints for the first two weeks of the utmost importance. Only in this way can one be certain to balance the disturbing elements of muscle retraction, hemorrhage and inflammatory edema. Massage and movement is a great aid; it adds to the comfort of the patient and hastens recovery. This is combined with passive movements of the nearby joints and it is not necessary to put the joint through its full limit of motion. Slight movement of the fragments during massage is unimportant and will not delay union, but rather quicken it. The physician should always perform this massage himself. When the union becomes fixed, the patient may move the joint himself, thus supplementing the passive movements, but always with the same care and gentleness, supporting the fracture with the hand as a splint. In the fractures of children, massage and movement are not so important.

Surgical Deliberation

DR. FLOYD W. MCRAE, Atlanta: As I grow older in surgery I am more impressed with the importance of surgical deliberation. I have seen many incomplete or misdirected operations followed by unsatisfactory results which were later cured by complete, properly directed, well-executed operations. I have known many cases of overlooked conditions, as a pus tube or ovarian cyst left and the appendix removed; pelvic surgery done completely and well, but a gall-bladder full of death-dealing stones; or a gastric or duodenal ulcer overlooked; the appendix removed to be followed by identical postoperative attacks of mucous colitis. The colitis could have been diagnosed by careful observation. On the other hand, many cases of gall-stones, cholecystitis, gastric ulcer, duodenal ulcer and chronic fibroid appendicitis are being mistreated and misnamed indigestion, hypo-acidity or hyperacidity, etc. Surgery and surgeons are thus brought into disrepute. How often has careful investigation with laboratory aids stayed the too ready surgical hand? We need specialists but not the "made in six weeks type" who assume the whole human organism to be a thing revolving around their little specialty. We need men fair enough to realize the worth of their fellow workers and to give those who appeal to them for aid a square deal. I find myself every year more and more indebted to the laboratory, but we must not allow ourselves to become too dependent on this help. Every surgeon should so perfect himself in diagnosis that he will have fewer and fewer occasions to correct himself on the operating table. There should be more cooperation between specialists and general practitioners, and the surgeon should recognize that after operation the patient has need of the care of his family physician.

DISCUSSION

DR. E. G. JONES, Atlanta: It is wonderful how much important information can be elicited in taking a careful history, but much patience is required on the part of the examiner. Two or three days' observation is too short a time in these cases and is only called for in emergencies. These patients should be brought back to the physician again and again if he is to make an accurate diagnosis.

DR. FENTON B. TURCK, Chicago: Dr. McRae's paper calls for the better education of medical men throughout the country, and presents the importance of more study, especially as it refers to the laboratories. To establish laboratories in smaller towns would not cost a great deal. The close contact among men in these laboratories would be of value.

(To be continued)

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

The President, DR. F. FORCHHEIMER, Cincinnati, in the Chair

A list of officers elected was published in THE JOURNAL, May 20, p. 1490.

The General Practitioner

DR. F. FORCHHEIMER, Cincinnati: The general practitioner is still the backbone of the medical profession. His development implies so much attrition, so much knowledge, so much resourcefulness, so much character and so much humanity that when the general practitioner has attained his full growth he is easily among the first citizens of his community. Nowhere does weeding out go on more rapidly than in the medical profession. Those who are eliminated first are the ones who have failed on account of adverse external conditions such as poverty and professional competition. Hartman accepts three kinds of nobility, namely, of birth, of mind and of finance, and places physicians in the second class. Premedical education is in a chaotic condition. According to the higher demands of certain states and certain schools so much time is required for premedical education that the student gets through his medical course at too advanced an age. The remedy for this lies in making a change in the curriculum of the primary and the secondary school.

A Clinical Study of Ascites

DR. R. C. CABOT, Boston: I have tabulated the autopsy and operation records of the Massachusetts General Hospital for the past forty years to show the relation these figures bear to the clinical diagnosis of ascites. The bulk of the cases were found to be due to one of five causes: cardiac weakness, nephritis, abdominal neoplasms, cirrhotic liver or tuberculous peritonitis. Among the possible causes of extensive ascites we must not lose sight of the small solid tumors of the ovary. Pleural effusion may be produced by an extensive ascitic accumulation. This association may lead to a false diagnosis of pleural and peritoneal tuberculosis. The cure of both pleural and peritoneal effusions may result from excising a benign ovarian tumor. Among all causes of ascites, tuberculous peritonitis may sometimes be recognized by the greater slowness of its accumulation of fluid.

DISCUSSION

DR. LEWIS A. CONNER, New York: Did Dr. Cabot make a study of the fluid itself to aid him in his diagnosis in ascites? It seems to me sometimes that is of considerable value, just as it is in pleural fluid.

DR. R. C. CABOT, Boston: We worked with the fluids in every case, and I was impressed with the fallibility of this test when one came to really doubtful cases. Of course, in cardiac or renal cases one got low gravity fluids, but when one came to tuberculous peritonitis, cirrhosis of the liver and ovarian ascites, the three in which there is real difficulty in diagnosing, at times the characteristic fluid was present, but as a rule, nothing of importance; the albumin and specificity were no guide in these cases.

The Present Status of the Tuberculin Test

DR. LAWRASON BROWN, Saranac, N. Y.; Among laboratory animals only those which are tuberculous react to tuberculin. Normal animals have tuberculin tolerance but no tuberculin anaphylaxis. Many autopsy reports throw grave doubts on and, I believe, disprove all published statistics which show that other diseases react specifically to tuberculin. Such cases are in reality double infections. A slight tuberculous infection may be sufficient to cause a reaction for a time and yet leave no permanent pathologic change visible to the naked eye. The conjunctival test has produced a number of unfortunate accidents, but by excluding all patients who have ever had trouble with their eyes, and using only 1 to 5 per cent. solutions of the old tuberculin, the test seems comparatively safe. There is some danger in the cutaneous test, but it is so slight that it may be disregarded, except in scrofulous children. The tuberculin test sometimes results positively in healthy men, a circumstance which warns us not to depend too much on it. Also failure to react to 10 mg. of old tuberculin, given subcutaneously, does not exclude clinical tuberculosis. However, in the presence of indefinite symptoms such patients do not require treatment. A negative subcutaneous test in a tuberculous person may indicate either the absence of receptors at the site of the lesion or the presence of free antibodies in the blood. If we except, for the time being, leprosy, tuberculin is a specific test for the detection of tuberculous infection. In practice, exposure to infection, characteristic symptoms, such as hemoptysis, pleurisy with effusion or dry pleurisy on both sides, and localized persistent physical signs at one apex are diagnostic data of far more importance in clinical tuberculosis than that derived from the tuberculin tests. The subcutaneous test is still the most reliable of the tuberculin tests.

DISCUSSION

DR. FREDERICK C. SHATTUCK, Boston: I wish to corroborate Dr. Brown's statement that the subcutaneous test is the most reliable. I have used it for many years with the utmost freedom. I have never seen any untoward result beyond a disturbance of two or three days, except in one case of Addison's disease. Two days after the injection the patient was dead.

DR. THEODORE C. JANEWAY, New York: I want to corroborate Dr. Shattuck's experience of rapid fatal issue in Addison's disease following injection of tuberculin for diagnostic purpose.

DR. HENRY KOPLIK, New York: I make use of the von Pirquet test in children almost as a routine. In some cases in older children, wishing to confirm the diagnosis of tuberculosis, where there were other conditions present, such as pleurisy with effusion, after the patient has improved and the temperature dropped and the patient has been well for a little while, I have had some very unpleasant experience in trying to confirm the test of von Pirquet in making injections of old tuberculin. The temperature rose, the effusion increased and the little patients were quite ill. This is a very unpleasant thing to happen to a clinician after his patient has been apparently on the road to recovery.

DR. I. ADLER, New York: I have had under observation now for two years a mild case of undoubted Addison's disease; the patient has been exclusively and continuously treated with tuberculin injections, beginning with very small doses, and now she is taking very large doses and has been perfectly well and has been bettered by it.

DR. JOSEPH L. MILLER, Chicago: I believe the very conservative stand by Brown is to be very highly commended. Since the introduction of the simpler tuberculin tests, like the von Pirquet, I believe there has been a great deal of harm and injustice done the patients by assuming that inasmuch as they gave a positive von Pirquet, it was necessary that they be sent away from home and be treated as patients suffering with the severe form of tuberculosis, whereas, as a matter of fact, there was no clinical evidence that these cases were tuberculous.

Quinin and Urea Hydrochlorid Hypodermically in Acute Pneumonia

DR. S. SOLIS-COHEN, Philadelphia: There is a tradition that quinin given early will abort an attack of lobar pneumonia. In an early experience of mine, 60 grains of quinin sulphate, given in error in a period of six hours, beginning two hours after the initial chill, apparently acted in this manner. The revival of the quinin treatment of pneumonia by Galbraith in 1904 led me to employ the double hydrochlorid of quinin and urea. From 6 to 10 grams, according to effect, are given in from 48 to 72 hours. Cinchonism does not develop. Temperature and pulse fall gradually and proportionately, and respiration more rapidly—with a tendency to restoration of the normal pulse-respiration ratio. Blood-pressure remains stationary or increases; cough diminishes; breathing becomes relatively easy; delirium abates or disappears. Crisis does not occur. Termination is by lysis at about the ordinary time, five to eleven days. Percussion and auscultation signs are uninfluenced. Involvement of new areas may take place during treatment, with return of symptoms, necessitating new injections. Pneumococcic empyema has occurred. The pathologic processes in the lung would thus appear to evolve in the customary manner, unmodified by the treatment, which is apparently not germicidal and is without effect on tissue changes, but is chemical and antitoxic. Fresh air, water, saline infusions, and symptomatic medication when needed, were associated with the quinin treatment.

DISCUSSION

DR. F. P. HENRY, Philadelphia: Two years prior to the time at which Dr. Cohen claims to have instituted the use of quinin in the treatment of pneumonia I was led to its use through an article by Petzold. I used the hydro-chloro-sulphate of quinin. I can corroborate all that Dr. Cohen says in favor of the method.

DR. A. JACOBI, New York: I have used the double hydrochlorid of quinin and urea a great deal, but have found that it frequently produced gangrene of the skin.

A Pneumatographic Study of the Respiratory Irregularities in Meningitis

DR. LEWIS A. CONNER and DR. RALPH G. STILLMAN, New York City: Forty-one cases of meningitis were studied graphically by means of the Marcy spinal spring type of pneumatograph; one tube being placed about the upper part of the chest to record the thoracic movements, and a second about the abdomen at a point midway between the ensiform cartilage and the umbilicus to register the movements of the diaphragm. In thirty cases of tuberculous meningitis respiratory disturbances occurred during some part of the illness and usually throughout the greater part of it. Among eleven non-tuberculous cases alterations in the respiratory rhythm were observed in all but two cases. The disturbances of respiratory rhythm in meningitis can be divided into three fairly distinct groups: 1. Type of Cheyne-Stokes. 2. Biot's "meningitis rhythm." 3. An undulatory type. The Cheyne-Stokes type seen in infants and children with meningitis shows certain differences from that ordinarily seen in adults. Biot's type of breathing is characterized by constant irregularities in rate and force, by frequent occurrence of deep sighs and by apneic pauses varying in length and occurring at irregular intervals. In the undulatory type there is a rhythmical variation in the force of the respirations, or in the tone of the respiratory muscles or in both of these together without any periods of

apnea. This undulatory type was observed at some time in almost every case. In twelve out of forty-one cases it was the only type of disturbance noticed. In twenty-three cases (56 per cent.) Cheyne-Stokes breathing was observed. In ten cases (25 per cent.) Biot's type was noticed at some time. In six cases both the Cheyne-Stokes and the Biot types were seen at different times. Because of its occurrence in almost every case of meningitis and because it is often observed early in the disease, this symptom of disturbed respiratory rhythm is of very considerable diagnostic importance, especially in meningitis of the tuberculous type in which the onset is often slow and insidious.

DISCUSSION

DR. HENRY SEWALL, Denver, Colo.: Are you sure enough of your apparatus to make it quantitatively reliable?

DR. S. J. MELTZER, New York: Was there any difference between the diaphragmatic and abdominal breathing?

DR. J. H. MUSSER, Philadelphia: Were there any controls in the experiments of breathing children? We all know the remarkable tricks they play with their breathing apparatus when asleep and when awake.

DR. L. A. CONNER, New York City: While all these instruments are not mathematically accurate, they are very accurate in a general way. They show the same thing in case after case. By heightening or loosening the tension of the pneumatograph we can make some difference. By relaxing sufficiently one can understand that we could get no abdominal tracing at all, but when one gets familiar with the tension to be used, one can get in the same case at different times and under different conditions usually just about the same size tracing. We used a great many controls in our work with children.

Abdominal Tenderness with Pain Due to Thoracic Lesions

DR. ARTHUR R. EDWARDS, Chicago: I had two cases of severe, diffuse abdominal symptoms in pneumonia and in pericarditis, which completely simulated abdominal perforation or peritonitis, and in which operation disclosed no peritoneal lesion. In neither case was there the slightest symptom or sign of thoracic disease at the time of invasion. The pain was severe, early and diffuse; the tenderness was as marked on deep as on superficial palpation; and the abdominal rigidity was extreme. The usually available differential points were not helpful; the general symptoms, which generally indicate a systemic infection rather than a local condition, were absent. In this thoracic pseudo-peritonitic or pseudo-perforative symptom-complex, the abdominal muscles may be spastic, the legs drawn up, the body rigid, and collapse may intervene. The invasion symptoms indicate operation and no certain criterion exists at the onset. The majority of patients operated on recover. [This paper will appear in THE JOURNAL.]

DISCUSSION

DR. J. P. C. GRIFFITH, Philadelphia: It has been my fortune to see a good many of these cases. I have reported five cases and have one unreported case. I agree with Dr. Edwards that the diagnostic signs are not to be depended on. I have seen cases which I had no doubt were pelvic, but they turned out to be thoracic. The only thing to do is to make pretty sure before doing operation.

DR. F. P. KINNICUTT, New York: Dr. Edwards has drawn attention to an important fact that we should all consider. We are familiar with the mistakes of our surgical colleagues in cases of this kind. If we can wait, if the surgeon is not too insistent for immediate operation, we may obtain some information from examination of the blood. But often the symptoms are so impressive that the surgeon says we must operate at once.

DR. H. U. WILLIAMS, Buffalo, N. Y.: I would like to suggest the importance of fluoroscopic examination of the chest, because you get signs of pneumonia which are perfectly evident with the fluoroscope before you get any physical signs.

DR. M. H. FUSSELL, Philadelphia: No one believes more thoroughly than I in the grave importance, the absolute necessity of an early operation in abdominal cases of the character simulated by all these cases of Dr. Edwards, and yet I never approach a case which appears to be abdominal without the greatest trepidation because of the mistakes I have made myself and because of the mistakes I know others have made. There is no one symptom or set of symptoms which will enable us to make a diagnosis; it is the ensemble by which we come to our conclusion.

DR. JAMES TYSON, Philadelphia: I wish to come to the defense of the surgeon under the circumstances. In my early experiences it was the surgeon who suggested delay, and because of the well-known occurrence of such symptoms when there was no necessity for operation. Most of these cases occur in children. Operation was deferred and the child apparently recovered, but some months later the child was operated on for appendicitis and appendicitis was found, so that you can have the rule working both ways.

DR. A. JACOBI, New York: The surface abdominal pain is easily explained in such cases by the extensive connection of the pneumogastric nerve. Is there an anatomic connection which explains the intense visceral pain dependent on thoracic diseases?

DR. J. A. CAPPS, Chicago: I would like to ask Dr. Edwards whether he found any sign of involvement of the diaphragm. I think there is evidence that the diaphragmatic pleura in these cases is involved.

DR. S. J. MELTZER, New York: I have seen a man dying of angina pectoris who had been treated by one of the best men in New York for gastric catarrh and gall-stones. I have seen one patient who had been operated on and who had had pneumonia which it did not take a very careful examination to discover and he was in the hands of an excellent surgeon.

DR. HENRY SEWALL, Denver: Is abdominal pain ever noticed when the lesion is in the left lung?

DR. S. SOLIS-COHEN, Philadelphia: I wish to call attention to a case of pneumonia of the left lower lobe which had been mistaken for gastric ulcer because of vomiting of blood-streaked mucus, together with epigastric pain and tenderness. I first saw the patient after three days illness, and at this time there was no doubt of the diagnosis of pneumonia. Recently I have had three cases of pneumonia referred from the surgical to the medical ward, the patients having been sent to the surgical ward with the diagnosis of abdominal disease. The correct diagnosis of pneumonia was made by the surgeons and the patients transferred.

DR. E. LIBMAN, New York: I would be in favor of having a fluoroscopic examination made before proceeding to operation in these doubtful cases.

DR. J. C. WILSON, Philadelphia: It must be borne in mind that the early signs of croupous pneumonia consist in impaired vesicular murmur and slightly tympanitic percussion resonance.

DR. A. R. EDWARDS, Chicago There was no diaphragmatic sign. Abdominal pain may be caused by lower lobe pneumonia on either side.

(To be continued)

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

Fourteenth Annual Meeting, held at Philadelphia, April 19-20, 1911

The President, DR. W. B. CANNON, in the Chair

Officers Elected

DR. WALTER B. CANNON, Boston, was reelected president, and Dr. F. W. WHITE, Boston, was elected secretary-treasurer.

The Importance of Tonus in the Mechanical Activities of the Alimentary Canal

DR. WALTER B. CANNON, Boston: The view that tonicity of the neuromusculature of the alimentary canal is a fundamental necessity in the appearance of rhythmic movements gives an explanation of many features regarding digestion and harmonizes many diverse observations. It gives a reasonable explanation of the existence and importance of extrinsic

motor nerves; it indicates the function of inhibitory nerves in the reduction or abolition of the tone; it accounts for the failure of efficient motility in atonic states of the stomach and intestines; it is in agreement with the observation that tonic contraction and rhythmic peristalsis reappear later in cases of general body-weakness; it fits admirably with the fact that the stomach of hungry animals is strongly contracted, for then the tonic state makes the organ ready for instant action on swallowing food. Indeed, I believe that the sensation of hunger results from tonic contraction of the empty stomach.

Stretching of the Pylorus in Benign Stenosis

DR. MAX EINHORN, New York City: I should like to speak of stretching of the pylorus in children by means of an instrument called the infantile pyloric dilating catheter. This is a flexible tube with an inflatable rubber balloon at its end. In order to introduce it beyond the pylorus, the infant must first swallow either a small duodenal bucket or a metal olive attached to a silk string. After having ascertained that this has wandered beyond the pylorus, the dilating catheter is pushed along the silk thread into the duodenum, the balloon inflated and the instrument withdrawn. I have used this method in two cases. One infant got entirely well and remained so. The other was not benefited.

For stretching the pylorus in adults, I use a new instrument called the pyloric dilator and diaphane, which consists of a pyloric dilator with a tantalum (cold) lamp at its end. The advantage of this instrument consists in the fact that it is possible by means of internal illumination to ascertain whether the end is in the stomach or in the duodenum. I have treated in this way three cases of real benign stenosis of the pylorus, with very beneficial results. In order to insure success, there must be no active ulceration in or near the pylorus, nor must the stricture be too far advanced.

DISCUSSION

DR. MORRIS GROSS, New York City: I do not think it possible to pass a tube like this through a stenotic pylorus. If Dr. Einhorn does succeed in doing so, we must infer that stenosis did not exist at the pylorus at all, or only to such an extent that stretching was not called for.

DR. A. L. BENEDICT, Buffalo, N. Y.: I cannot, as a rule, get a tube down through the pylorus. Bile on the end of a thread does not necessarily mean that the tube has entered the duodenum. A little medication will usually overcome the condition in a case of spasm.

DR. S. J. MELTZER, New York City: It does not sound very plausible that a single passage of the instrument could have been sufficient to reestablish function. In cardiospasm nobody has succeeded in stretching the cardia in so short a time, and pylorospasm is much harder to reach.

DR. C. D. AARON, Detroit, Mich.: I have dilated the pylorus in a patient sent to me by Dr. Einhorn. She has gained 8 pounds, and is increasing in weight.

DR. JESSE S. MYER, St. Louis, Mo.: Dr. Einhorn's experience proves that pylorospasm does exist. Cardiospasm can be cured by stretching. It is evident that it will stand as a curative measure in a certain number of cases.

DR. W. G. MORGAN, Washington, D. C.: In a case with symptoms of pylorospasm I passed the dilator, and the next morning was able to withdraw it at 40. That night the patient had no symptoms, but the next night they recurred. The surgeon said that on account of the nature of the scar he found, no stretching would probably have been effective. The reason the patient had no symptoms the first night after the passing of the dilator was probably the psychic effect produced on her mind by that procedure.

DR. MAX EINHORN, New York City: It is only beginning strictures that can be benefited by this method. The pylorus can close on account of the presence of a foreign body near it in the duodenum; but if, at first, there is resistance on attempting to withdraw the bulb, and later there is none, unless the diameter is greatly increased, we may conclude that there has been a real stricture.

Operative Treatment of Impermeable Cardiospasm

DR. WILLY MEYER, New York City: The cure of impermeable cardiospasm by means of dilatation is difficult or impossible. Therefore, operative measures will often be required. Von Mikulicz and Wendel attacked the cardia from the abdomen. It is said that the trouble can also be cured successfully and permanently by way of the thorax. In support of this view, I will mention a case in which a cure was obtained by means of thoracotomy, tearing the nerve filaments that enter the esophagus on each side from the pneumogastrics, and reducing the large esophageal pouch above the diaphragm with the help of a double plication.

Cardiospasm in Infants

DR. W. G. MORGAN, Washington, D. C.: I had a case of cardiospasm with dilatation of the esophagus occurring in an infant under one year of age, which was treated by Dr. Einhorn's method; and I have also had a case of cardiospasm in an adult, which had been treated by gradual dilatation with bougies, the patient failing all the time. I stretched the cardia with Einhorn's forcible cardia dilator. This patient is now eating everything, and has gained 19 pounds in weight.

Cardiospasm

DR. S. J. MELTZER, New York City: The evidence of gain in weight in the patient does not prove the correctness of the diagnosis. Twenty years ago, I described a case of cardiospasm under the term "dysphagia," giving the entire clinical course, and predicting what would be found after death. The patient died, five years later, and a partial autopsy was made, confirming my diagnosis. If you hear the esophageal sound down to the tenth or eleventh vertebra, yet find the deglutition sound in the stomach always absent, you can be sure that there is an elastic stenosis. Every time an eructation takes place, you can also hear a definite sound in the region of the cardia. In patients with cardiospasm, you do not hear this sound.

DISCUSSION

DR. J. C. HEMMETER, Baltimore, Md.: I have had very severe cases of cardiospasm in which the esophagoscope went in; but when the patient swallowed, there came a spasm, and nothing would go through. I have had only very temporary success in dilating the cardia with mechanical methods.

DR. J. KAUFMANN, New York City: Among my patients there were a surprisingly large number that dated their first attack of cardiospasm to a hot day when they had taken ice-cold soda water. Probably the first spastic contractions led to the development of erosions, which afterward kept up the irritation. Another cause for the development of erosions is hyperacidity. One should be careful not to be too ready to attribute it to a psychic basis.

DR. L. KAST, New York City: Cardiospasm is not a correct term, and should be dropped in favor of one that would indicate the function of the cardia with relation to the parts above and below. In examining a patient suffering with regurgitation of food by the fluoroscopic method, it was found that it was the contraction of the stomach that pushed the food through the whole esophagus and into the mouth.

DR. JESSE S. MYER, St. Louis: I do not quite see why, in the case mentioned by Dr. Willy Meyer, gastrostomy with forcible stretching of the cardiospasm was not tried. I do not think that the size of the pouch would constitute any contraindication to this.

DR. J. C. JOHNSON, Atlanta, Ga.: There come times, in cases of esophageal obstruction from any cause, when even an operation cannot be considered. I had such a case. Not even the smallest bougie would pass. We finally succeeded in getting a very small wire probe into the stomach. We then used an instrument to the end of which an electrode could be connected, and placed the other electrode at the back of the man's neck, turning on the galvanic current. We had an olive on the wire, and insulated to that point. In a quarter of a minute, the olive, following the probe, began to descend.

It descended a short distance at each treatment. We continued these treatments every day for two or three weeks. We had to turn on the current when we wished to draw the olive back again. The man has gained 20 pounds, and is attending to his business and there is hope of his becoming practically well.

DR. ROBERT T. MORRIS, New York City: In a case of cardiospasm, we should have a report showing that a competent ophthalmologist has eliminated the question of irritation of the vagus at the base of the brain from eye-strain; also reports that he has no loose kidney or adhesions in the bile-tract region, that he has no evidence of a neurotic temperament, and that there are no stigmata of decadence.

DR. MAX EINHORN, New York City: In order to make a diagnosis in cases of partial cardiospasm with dilatation of the esophagus, it is important to ascertain that there is absence of the swallowing sound, that no fluid enters the stomach, and that we cannot pass a probe into that organ. Patients treated by stretching the cardia eat well, do not vomit, and increase in weight; and the swallowing sound is present. Anybody who has seen a case of cardiospasm will have no difficulty in making the differential diagnosis from cancer.

DR. WILLY MEYER, New York City: My patient was too weak for an abdominal operation. It would be better for her to make sure that there was no malignant tumor at the cardia than to separate the nerves and make the double plication. I am not sure, however, whether this double plication was a necessary addition to the technic or not.

(To be continued)

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Thirteenth Annual Meeting, held at Baltimore, April 25-27, 1911

(Concluded from page 1502)

Salvarsan in Relation to Diseases of the Eye

DR. HARRY FRIEDENWALD, Baltimore: The results of the salvarsan treatment are distinctly less favorable in ocular discases than in general. Plaut's general statistics show failure in only 23 per cent. of cases. In interstitial keratitis failure occurs in 70 per cent., in neuritis 30 per cent., in optic neuritis 20 per cent., in paralysis of the ocular muscles 66 per cent. There is only a doubtful effect, if any, in atrophy of the optic nerves. On the other hand, the improvement when the remedy is effective is usually much more rapid than in general conditions, and the treatment is of shorter duration.

DISCUSSION

DR. A. G. RYTINA, Baltimore: We have treated over 100 patients with salvarsan at the Mercy Hospital, and as yet have had no deaths nor eye and ear complications. I believe that this is because we employ the intravenous method of administration.

DR. W. T. WATSON, Baltimore: Salvarsan has been effective in all the cases which I have observed, with one exception, that of a child with interstitial keratitis. The salvarsan was given in this case by the intramuscular method, on account of the patient's age. The child's condition became much worse. Later treatment by mercury and iodid brought about considerable improvement.

Certain Gynecologic Aspects of Neurasthenia and Hysteria

DR. EMIL NOVAK, Baltimore: The ordinary gynecologic patient is more urgently in need of a broad-minded specialism than almost any other type of patient. Physiologically and symptomatically, the reproductive organs are in the most intimate relationship with other parts of the body, partly through the agency of the various internal secretions and partly through the medium of the nervous system. Of the two conditions, neurasthenia and hysteria, it is probable that the latter is the less important from a gynecologic standpoint. Any unnecessary surgical interference in the ordinary case of hysteria—and such interference is usually unnecessary—is little short of criminal. Surgical treatment is called for only in the presence of well-defined and unmistakable pelvic disease, and even then in the majority of cases only when associated with distinctly localizing symptoms. Both primary and secondary neurasthenia are of interest to the gynecologist. How is one to tell, if both neurasthenia and pelvic disease coexist, in which cases the neurasthenia is primary and in which it is secondary to the pelvic condition? Principally by a conscientious study of the patient's history. The form of pelvic disease most apt to be complicated with neurasthenia is that which is associated with persistent attacks of pain. If operation be resorted to before very marked deterioration of the nervous system has occurred, the removal of the cause will usually be followed by a much more rapid and striking recovery, with a correspondingly rapid restoration of the nervous equilibrium. If the pelvic organs of the neurasthenic woman are found to be normal, even in the presence of pelvic symptoms, the treatment is not gynecologic, but is that of the underlying neurasthenia.

DR. W. T. WATSON, Baltimore: It is encouraging to see that gynecologists are now taking a broad-minded view of these matters, for this was not always so. Even now conditions are not ideal, for I have seen a good many cases in which women have been made nervous wrecks by ill-advised operations.

DR. E. B. CLAYBROOK, Cumberland: The recent advances in surgery have more or less spoiled the public, for people have come to look on operation as a cure-all. They do not realize that it must be combined with proper and often intelligent after-treatment.

The Typhoid Situation in Baltimore

DR. W. W. FORD, Baltimore: One of the most serious problems in public health in the city of Baltimore is typhoid. From Jan. 1, 1910, to Jan. 1, 1911, 235 deaths from this disease were reported to the Board of Health, while for the same time the total number of cases was 1,890. The majority of cases developed during the summer and autumn months. Typhoid has always existed in the city of Baltimore. The records indicate that there has been a gradual diminution of this disease in the city, as compared with the increasing population. In 1890 there were 247 deaths in an estimated population of 413,000, in 1909 only 136 in an estimated population of 580,000. The ten possible sources of the disease, as compiled by Assistant Health Commissioner Jones, are bathing in polluted water, raw foods, privy wells, flies, importation, contact, hydrants in yards, water wells, milk and drinking-water. Five of these have been eliminated, viz., bathing in polluted waters, water wells, hydrants in yards, importation and privy vaults. Raw foods and contact also are probably not important. A great deal of knowledge concerning the life history of flies is necessary before we can incriminate these pests. Two other sources remain to be considered—milk and water. From the uniformity of the distribution of the disease and other considerations, we do not believe that the milk-supply is at present its sole source, or even so important an element as the water-supply. As regards the possibility of a polluted water-supply being responsible for our typhoid, one fact which our investigations have brought out with great clearness is that the pollution or the concentration of the sewage takes place at the same time (it certainly did this year) that we have the largest number of cases of typhoid. Unless we adopt various preventive measures which have proved successful in other cities, we may confidently look forward to a repetition of the conditions which made the summer of 1910 a dreadful typhoid season.

The Whitehead Operation for Hemorrhoids

DR. ALEXIUS MCGLANNAN, Baltimore: The Whitehead method of excision for hemorrhoids seems to meet all the requirements better than any other method. Our results are based on an analysis of twenty-five cases operated on in the past four and one-half years by Dr. Bloodgood, myself or the resident surgeons. We have had no recurrences and no strictures. In only two cases was there a failure of primary union, both in old people, with markedly sclerosed arteries. Two patients had fecal incontinence lasting six and fourteen days, respectively. At the present time both have perfect control. There has

been no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases. Four patients were catheterized but once, the longest time that this assistance was required being seven times in four days. The average was three times in twenty-four hours, patients voiding voluntarily thereafter. For comparison, the postoperative record of five patients, operated on by clamp and cautery (3) and by ligature (2), shows that four of these five required catheterization, the longest time being three days, with an average practically the same as that given above. As an index of the postoperative discomfort, it is found that the amount of morphin or other anodyne given was less after the Whitehead than after the other operations.

DISCUSSION

DR. J. H. BRANHAM, Baltimore: The modern tendency seems to be away from the Whitehead operation, but there appears to be no good reason for this. Occasionally loss of control occurs from too long dilatation of the sphincter. The great advantage of the operation is that the whole field of work is under view.

DR. ARTHUR HEBB, Baltimore: The method I use is to excise the hemorrhoids in the long axis of the bowel, suture the mucous membrane, dissect out the external veins, and put no sutures in the skin, allowing it to retract. No anodyne is necessary; the patient is up on the second day and the bowels are moved on the third. General anesthesia is frequently not necessary. No plugs should be used in the rectum, and there should be no forcible dilatation of the sphincter.

DR. A. MCGLANNAN, Baltimore: The Whitehead operation is simple, requiring usually only about fifteen minutes. Little blood is lost. The patient should not be allowed to get up too soon on account of the danger of embolus.

The Action of Certain Intestinal Antiseptics on Gastric Digestion

DRS. JULIUS FRIEDENWALD and T. F. LEITZ, Baltimore: Marked intestinal fermentation is not an uncommon accompaniment of certain gastric affections. Intestinal antiseptics are ordinarily employed to inhibit the growth of the intestinal flora to which this abnormal fermentation is due. It is, therefore, most important to determine whether by disturbing the gastric digestion certain antiseptics are not more apt to increase the fermentation than to lessen it. In these studies the gastric secretion of an individual with normal acidity, one with a hyperacidity, one with a subacidity, and one with a marked motor disturbance were investigated. The patient was given an Ewald test breakfast, the stomach was emptied as completely as possible and then washed with a definite quantity of water. In this way the total amount of contents remaining in the stomach can easily be ascertained, from which a fairly clear conception of the motor activity can be obtained. The gastric contents were then examined for the total acidity and the percentage of free hydrochloric acid. In order to make the result as accurate as possible, a number of examinations were made under uniform conditions and the results averaged. In each set of experiments the patient was first examined under normal conditions and then again after having taken the special intestinal antiseptic for a definite period of time (eight or ten days). The antiseptic was again given with the test breakfast. The following intestinal antiseptics were administered: salol, betanaphthol, bismuth salicylate, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote.

The following conclusions were arrived at: 1. Most intestinal antiseptics markedly interfere with gastric digestion. 2. This disturbance varies greatly with the nature of the gastric secretion and the motility of the stomach. 3. Salol and salicylate of bismuth are the least harmful to gastric digestion; betanaphthol, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote are more apt to interfere with gastric digestion.

Why Do We Get Our Cancer Cases Late?

DR. E. B. CLAYBROOK, Cumberland: It is still true that in many cases the practitioner, whether through a false ambition or through a foolish pride in wishing to make the diagnosis himself, dillydallies with the patient until the time passes for a radical operation with any hope for cure. A great step will have been taken when we learn to operate for purposes of diagnosis rather than for mere treatment alone.

DISCUSSION

DR. L. J. ROSENTHAL, Baltimore: I do not believe that the physician is so negligent as he is sometimes accused of being. If a patient, for instance, has gastric symptoms, with coffee-ground vomit, etc., he is pretty apt to be turned over to the surgeon without much delay.

DR. EMIL NOVAK, Baltimore: Three stages may be described in the life history of cancer. The first, from the actual inception of the tumor to its recognition by the patient, we can hope to influence only by teaching patients to be on the lookout for certain suggestive symptoms; the second dates from this time to the period at which the patient seeks the advice of the physician, and it is in this stage that we can hope to accomplish most by popular education. The third stage lies between the recognition of the condition by the general practitioner and the surgical treatment which may be indicated. While education within the profession is of much importance, it can scarcely be said to be as vitally essential as education of the people.

Other Papers Read

The last session, on Thursday morning, April 27, was a joint meeting with the Baltimore Branch, American Pharmaceutical Association. An introductory address was delivered by Dr. William H. Welch, who reviewed the work of the Council on Chemistry and Pharmacy of the American Medical Association and other matters of joint interest to physicians and pharmacists. Dr. Samuel T. Earle, ex-president of the faculty, discussed the question of the professional relations existing between physicians and druggists. The workings of the Maryland Pure Food and Drug Law were discussed by Dr. Charles Caspari, Jr., the State Pure Food Commissioner. The defectiveness of the antinarcotic laws of the state was discussed by Mr. J. B. Thomas of the Pharmaceutical Association.

The following papers were also read: "Personal Experience with the Salvarsan Treatment of Syphilis," by Drs. A. Keidel and J. T. Geraghty; "Modern Otology and the Steadily Improving Prognosis in All Diseases of the Ear," by Dr. H. O. Reik; "Reversal of the Circulation as a Treatment for Raynaud's Disease and Senile Gangrene," by Dr. B. M. Bernheim; "Report of Case of Resection for the Cure of Ptosis of the Stomach and Colon," by Drs. J. C. Bloodgood and J. A. Chatard; "Clinical Use of Scarlet Red and Its Components in Stimulating the Epitheliation of Granulating Surfaces," by Dr. J. S. Davis.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911

(Concluded from page 1504)

Acute Hydramnios Complicated with Ascites

DR. F. J. UNDERWOOD, Nettleton: This patient suffered from depression, dyspnea, etc. At five and a half months she was as large as if at term. Symptoms becoming grave, she was aborted and half a gallon of fluid removed. Recovery was complete. The cause is supposed to be an inflammation of the amnion, due to trauma, the patient's husband having kicked her in the abdomen two weeks prior to the trouble.

Uncinariasis a Factor in Puerperal Eclampsia

DR. W. H. ROWAN, Wiggins: In a series of cases of eclampsia a number of patients were diagnosed as hookworm subjects. All were young women subject to ground-itch. A number who were treated for hookworm nad no further trouble in subsequent pregnancies. South Mississippi is a highly infected district and the native women of that locality are peculiarly subject to toxemias and eclampsia. These cases usually occur in the country. Malaria as a factor is eliminated on account of its rare occurrence in this particular section.

DISCUSSION

DR. J. R. KITRELL, Laurel: I know of several cases of uncinariasis in which the patient died of puerperal convulsions. Just how the anemia produces these convulsions would be interesting information.

DR. I. E. EDWARDS, Canton. Does Dr. Rowan mean to condemn morphin altogether? My experience has been that that is the treatment *par excellence*. I should feel at a loss without morphin. I think if there is any one drug which should stand at the head of the list it is morphin sulphate. Of course, the thing to do is to empty the uterus thoroughly. In regard to hookworm, it may be that the parasite comes in as a secondary matter only.

DR. L. D. DICKERSON, McComb City: I think that we should all give morphin. The convulsions must be controlled, and I do not see how we can omit the use of morphin.

DR. P. R. BROWN, West Point: Those of us who have been in the practice of medicine a few years appreciate the fact that a large percentage of cases of eclampsia are due to anemia. It is quite possible that hookworm disease is a cause. I chloroform the patient and empty the uterus. The thing to do is to control the convulsions.

DR. S. E. EASON, New Albany: Hookworm disease is a reality. Many of the malarial diseases will be shown to be caused by hookworm. In so far as I have been able to discover the cause of puerperal eclampsia, it is overburdened kidney and liver.

DR. B. H. BOOTH, Drew: If these patients are under the influence of morphin it is harder to empty the uterus. The only deaths I have seen from puerperal eclampsia were in cases in which morphin was used.

DR. J. T. MEEK, Courtland: I give a good dose of calomel and sometimes use morphin. I should like to hear something about the use of tincture of veratrum.

DR. B. F. MCNEAL, Ezra: In my practice morphin has not always failed. I have used it with success, and I would not condemn it absolutely.

DR. W. H. ROWAN, Wiggins: I wished to call the attention of this society to hookworm as a factor in eclampsia. As to the treatment of eclampsia, tincture of veratrum hypodermatically, in 30-drop doses, will control the convulsions. The objection to morphin is plain when we think of what is taking place in the system. By the use of morphin we merely delay the trouble; delivery has to be considered. It has been proved that chloroform is dangerous. I do not see why we should try to hasten the delivery.

Malaria as a Difficulty in Diseases of Children—A Plea for Its Eradication

DR. S. S. CAROTHERS, Duck Hill, discussed malaria as a difficulty in children's diseases and contended that we all are prone to consider malaria as an underlying element in febrile disorders in children and to give quinin, thereby causing additional disturbances. He condemned the indiscriminate use of quinin.

DISCUSSION

DR. J. W. BARKSDALE, Winona: In my opinion, the practice of giving quinin indiscriminately is a most pernicious one. We should realize the importance of making more careful diagnoses. Use the microscope if it will be of use. We are not justified in giving quinin simply because the patient has malarial complications.

DR. L. KOHLHEIM, Guntown: I come from a section of the state where there is much malaria. It requires several months to effect a cure; it is necessary to continue the use of quinin for from two to four months. It is hard to conceive how small doses can have a very harmful effect and it is also hard to see how the quinin can do much more harm than the disease.

DR. H. L. SUTHERLAND, Rosedale: I do not think that malaria is so prevalent as is believed. I am not a strong believer in malaria in spring in the Mississippi Delta. Because we want immigrants I think it wrong to say that we have malaria all through the winter. I make blood examination and if I do not find the parasite I do not give quinin and the patient will recover as well without as with it. It was once believed that malaria was a complication of typhoid but that idea has been practically disearded. Malaria is very rarely a complication of typhoid, and I think even less frequently is it seen in the pneumonia of children.

DR. J. A. MCCOY, Picayune: Dr. Carothers' idea is utopian We must accept conditions as they are, not as they should be. I am afraid that quinin is a sort of red rag in Mississippi, and suggest that he modify his view a little in that way.

DR. S. S. CAROTHERS, Duck Hill: It was not my intention to advocate the elimination of quinin. I do not believe it possible to get rid of malaria without quinin but I do not think that quinin is the whole treatment. I believe that quinin in small doses is valueless in malaria. The constant administration of small doses merely serves to render the patient immune to its effects. We ought to have in this association a free discussion of means to eradicate malaria so that we may gather strength for the fight. We need it. In my paper I wanted to emphasize the idea that to get rid of malaria it will require concerted action. Two years of fighting by the physicians of the state would be required to get rid of it.

Surgical Aspects of Pyosalpinx

DR. W. B. JOHNSON, Greenville: Pelvic diseases call for more surgical aid than the diseases of any other space in the body. The peculiar relationship of the tubes to the outer world accounts for much infection. There are two routes by which pus in the tube may be liberated. The vaginal is preferable in most cases.

DISCUSSION

DR. J. G. GAITHER, Oxford: One point that was not emphasized was the time at which to do this operation. It should not be done till the pus in the tube has become sterile. The iodin douche has proved of value. In my brief surgical career I have seen both the abdominal and vaginal routes used. I think I shall never use the vaginal route again. One cannot get complete drainage through the vagina with a large drainage tube, and I believe that the abdominal route is preferable.

DR. I. E. EDWARDS, Canton: My experience would lead me to believe that dressing forceps would be better used in these cases.

DR. W. B. JOHNSON, Greenville: The iodin douche is very valuable in this treatment, but it cannot be used if we use the tampon.

Six Cases of Mechanical Ileus

DR. H. R. SHANDS, Jackson, reported six cases of mechanical ileus due to volvulus of ileum around a peritoneal band following a suppurative appendicitis in one case; to intussusception in two cases; to internal hernia and volvulus through omental rent in one case; to sponge left in abdomen at a former operation in one case; to adhesion of omentum to ulcerating tuberculous lymph nodes in lower lumbar region in one case. He suggested the prevention of a recurrence of intussusception by anchoring the cecum by its appendix, using the appendicostomy operation having done this with good success in one of his cases.

Surgery of the Mastoid

DR. L. C. FEEMSTER, Nettleton: Nothing offers relief or hope of permanent cure in chronic suppurations of the middle-ear but free incision and removal of the offending source. In operating there are two "touch-me-nots," the facial nerve and the lateral sinus. Patients frequently object to operation, not realizing the necessity, hence the surgeon should be very plain with them and explain the situation carefully and fully.

Cancer of the Uterus

DR. J. H. JOHNSON, Brookhaven: We are too prone to wait until the diagnosis makes itself. More than 50 per cent. of uterine cancers reach the surgeon too late for operation. The solution of the whole problem rests in early diagnosis.

DISCUSSION

DR. J. S. ULLMAN, Natchez: I believe in an early diagnosis and operation.

DR. A. G. HENDON, Louisville, Ky.: This is a matter of great importance and is becoming more and more important. The methods of dealing with it are rapidly improving. Any discharge, whether it is bloody or not, from a woman past the menopause deserves a thorough investigation, and by that I mean a microscopic examination.

DR. M. HOLDER, Memphis, Tenn.: There are five symptoms, pain, hemorrhage, offensive discharge, emaciation, anemia. If we wait for the five we will probably diagnose at a stage where it will be of no use. I think it is time that an educational crusade should be begun. Women do not know that between the ages of forty and fifty there is great danger of cancer. We cannot do anything beyond a radical operation. The most radical operation that has ever been done will not effect a cure in these advanced cases of cancer. The only thing left to us is an early diagnosis. We must educate the public, but how are we going to do it? We cannot tell each individual woman. The symptoms that we know are worthless. Any irregularity in the menstrual flow, even before menopause, should be looked into. Do not be deceived by the youth of the patient, though this is a middle-age disease.

DR. J. B. BULLITT, Oxford: I wish to speak of the "patent-medicine" advertisements which are the cause of many women's deaths. We have allowed the public to go along in ignorance of these matters. There ought to be a regular campaign in the public press—a campaign of education. I think we ought to take up these matters and without prudery, and as soon as we can do so.

DR. A. G. PAYNE, Greenville: Over a year ago I wrote to an editor of a paper in this state, a paper of large circulation—the *Issue*. In looking over this paper I cut out twelve advertisements for cancer cure, etc. I wrote the editor of the wrong he was doing in publishing these advertisements. I had a letter from him saying that he did not believe that all "patent-medicines" were good, but that a paper had to depend largely on the advertisements for its support. He said he had as much confidence in some of these as in some of the "M.D.'s," whose cards he published. We are being hampered by the press, and even by the religious press.

DR. B. L. CULLY, Jackson: I have recently had two cases which have forcibly impressed on me the fact that there is another great source of trouble along this line—I refer to the Christian Science cult.

Inguinal Hernia

DR. JOHN DARRINGTON, Yazoo City, described various operations for inguinal hernia and advocated early interference. He illustrated the steps in the various operations by charts.

DISCUSSION

DR. R. E. HOWARD, Durant: I have used ether in some of these cases.

DR. H. M. FOLKES, Biloxi: I should like to emphasize the importance of not pushing the intestine but rather pulling it. I have used hot applications successfully in cases in which cold applications failed.

DR. M. HOLDER, Memphis, Tenn.: In strangulated hernia, even after six hours, the intestine has been known to become gangrenous. Taxis is a dangerous thing and particularly in strangulated hernia. It has been found that hernia is not a thing of to-day; it may have been developing for years, and on sudden exertion a sharp pain is felt and the protrusion is noticed. The introduction of catgut sutures has helped a great deal. It has been a wonder to me that not every man of 50 or 60 has had hernia. Straining at stool is a very important factor in developing hernia.

DR. JOHN DARRINGTON, Yazoo City: The point made by Dr. Howard is an excellent one. Someone has properly said that you must get rid of the sac. There must be no depression left. Dr. Holder is right in his reference to taxis. I believe that whenever a man dies of strangulation some physician is responsible for his death. We should explain to and impress on the patient the danger of strangulation.

Acute Dilatation of the Stomach

DR. J. A. CRISLER, Memphis, Tenn., reported a case of acute dilatation of the stomach following operation and made some pertinent comments on this condition.

DISCUSSION

DR. R. D. SESSIONS, Natchez: I believe that we shall accomplish a great deal of good if we wash the stomach immediately before the patient is taken off the operating table.

Conservative Treatment in Advanced Cases of Carcinoma of the Uterus

DR. J. W. BARKSDALE, Winona, advocated the use of the cautery in advanced cases of carcinoma of the cervix. He has operated on five patients in this way, giving them great relief.

DISCUSSION

DR. N. A. MCLEOD, Brookhaven: I have used the method suggested and probably prolonged life for a year or more. I have been so gratified by the good results that I expect to use the method again.

DR. M. HOLDER, Memphis, Tenn.: The doctor does not propose to cure but only to prolong life and to make life more endurable. Cancers of the cervix are much more frequent than cancers of the fundus. Cancers of the fundus are followed by cures much more frequently than are cancers of the cervix. There are several reasons why cancers are not diagnosed. Some of this blame falls on the profession and some on the laity. The time will come when women will know all about cancer of the uterus and that is what we want as guardians of the health of the people. Ignorance on the part of the laity and modesty are some of the causes of the late diagnosis. Not only this, but the saying has gone about that cancer is incurable and that causes trouble. Some people want to be kept in ignorance of cancer. But we know that some patients are curable. Any deviation from the normal menstrual flow during the cancer age should be looked into; any change in the character of the flow should be looked into; any discharge coming on after the menopause; any pain in the pelvis; these are the symptoms. Pain in the pelvis is a rare symptom, I admit.

DR. S. W. JOHNSTON, Vicksburg, said that he knew of cases of cancer not confined to the cancer age.

DR. J. W. BARKSDALE, Winona: I did not propose to convey the idea that any of these patients could be cured by a palliative operation but only that some comfort can be given. Frequently the patients have very great pain and foul discharges. Operation certainly does relieve this condition. I have seen cases in which if I had operated I could have prolonged life for some time.

Diagnosis of Some Common Diseases of the Hip

DR. W. C. CAMPBELL, Memphis, Tenn: We are too prone to diagnose a case as rheumatism. Pain in the knee is always very suspicious of tuberculosis of the hip. In these cases the treatment should be kept up for a long time, at least three years. He reported some illustrative cases.

The Duty of the State in the Conservation of Human Life and Energy

DR. H. L. SUTHERLAND, Rosedale: It is a difficult matter for our statesmen to understand that public health means public wealth. The medical association failed to get the last legislature to make an adequate appropriation for the prevention of disease in Mississippi, but the live-stock people got $40,000 to eradicate the cattle tick. This should be a consolation since it shows that the legislature is at last interested in some sort of conservation of health. A discussion of one great preventable and eradicable disease, tuberculosis,

then followed. As a business proposition, tuberculosis ought to be wiped out.

DISCUSSION

DR. C. KENDRICK, Kendrick: It has been the rule of Dr. Sutherland's life to uplift humanity. We should get to work. The way we shall have to work to get results is to work on the candidates for the legislature this summer. When we had yellow fever, a long time ago, physicians got together and worked on the candidates and were successful in getting what they wanted. The legislature appropriated money then because the people were stirred up. The state of Mississippi formerly appropriated $40,000. Now it should appropriate $100,000. Let us get to work for results.

Other discussion to the desirability of giving this paper to the press followed. The editor of the Jackson *News* requested it and offered the association 10,000 copies for educational campaign purposes. The offer was accepted and the paper ordered published.

Symposium on Malaria and Allied Conditions

DR. B. F. MCNEAL, Ezra, reported cases of urticaria, muscular cramping and rigidity and "morning sickness" in a male, due to malaria and yielding to quinin.

DR. B. H. BOOTH, Drew, gave the differential points between comatose malaria and heat-stroke, and reported several cases.

DISCUSSION ON MALARIA

DR. J. D. GILLEYLEN, Jackson: We accuse malaria too much. Clean the people out and let them alone and they will be all right. We ought to use quinin as a stimulant.

DR. B. H. BOOTH, Drew: I merely tried to show that we sometimes run across malaria which resembles heat-stroke.

DR. J. D. GILLEYLEN, Jackson, in reply to a question as to how many people in the malarial districts do not have malaria, said: We have much malaria, I know. We shall continue to have it. But we shall find by the use of the microscope that many cases are not really malaria. I do not question the use of quinin in case of malaria.

Treatment of Uncinariasis

DR. J. C. CULLEY, Columbia, described the method of using thymol in this condition.

DISCUSSION

DR. C. C. BASS, New Orleans: I want to emphasize the importance of the treatment of ground-itch. Those engaged in the health campaign are in a position to distribute information and this is more important than the actual treatment of patients. People must be educated. Tell them that hookworm disease means ground-itch and ground-itch means hookworm disease. They know what ground-itch is and where they get it. Another thing worthy of emphasis is the importance of instructing the patients how to avoid hookworm disease after they have got ground-itch. If the patients are instructed not to swallow the material they are inclined to cough up they will not be so heavily infected. In 1904 I read a paper before this body wherein I made the statement that 50 per cent. of the rural inhabitants of the state were infected with uncinariasis, and now I see that the statement was a conservative estimate.

DR. J. C. CULLEY, Columbia: The thing to do is to educate the children in the schools. We are treating a large number of patients now, but we must prevent more people from contracting the disease.

Other Papers Read

The following papers were also read: "Changes Undergone by the Brain as a Result of an Average Day's Work and in Consequence of Poisoning by Tetanus, Rabies and Such Gases as Carbon Disulphid," by Dr. Gustav Mann, New Orleans; "Normal and Abnormal Dentition," by Dr. S. A. Majure, Dixon; "Puerperal Infection," by Dr. O. N. Arrington, Brookhaven; "Twelve Months' Work in Obstetrics," by Dr. B. L. Culley, Jackson; "Gunshot Wound of the Abdomen, Amputation of Penis and Scrotum," by Dr. Julius Crisler, Jackson; "Complications of Lobar Pneumonia," by Dr. T. B. Holloman, Ittabena.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of the Johns Hopkins Hospital, Baltimore

May

1 Sir Richard Owen: His Life and Works. C. W. G. Rohrer, Baltimore.
2 A Florentine Anatomist (Leonardo da Vinci). P. Bailey, New York.
3 Embryology and Obstetrics in Ancient Hebrew Literature. D. I. Macht, Baltimore.
4 *Disseminated Caseating Tuberculosis of the Liver. W. S. Thayer, Baltimore.
5 A Peptid-Splitting Ferment in the Saliva. L. M. Warfield, Milwaukee, Wis.
6 Relationship Between the Normal and Pathologic Thyroid of Fish. J. F. Gudernatsch, New York.
7 *Tuberculous Bursitis. S. M. Cone, Baltimore.
8 *A Device to Aid in Keeping the Patient Dry After a Suprapubic Cystostomy. G. Walker, Baltimore.

4. **Tuberculosis of the Liver.**—In Thayer's case, the patient was a colored woman of 49, with a record of rather indefinite abdominal pain of a year's duration and almost continuous remittent or intermittent fever of a moderate degree, with sweating at night and progressive emaciation. Examination of the thorax showed little beyond the appearance toward the end, of rather diffuse râles throughout the lungs. During the last eight months of the patient's life there was a steady enlargement of the liver, which finally extended to a point 10 cm. below the costal margin in the right mammillary line. It was somewhat tender and very firm, and, on one occasion, slight irregularities of the surface were noted. The border which was distinct, seemed a little blunter in the right mammillary line. There was considerable anemia of a secondary type, but without leukocytosis, a persistent albuminuria and cylindruria without polyuria but with a rather low specific gravity, and, in the end, diarrhea with mucus and occult blood in the stools.

The progressively enlarging liver, the age of the patient, the anemia, the fever, which, after all, is common in hepatic neoplasms, all led toward this as a possible diagnosis, despite the fact that beyond the diarrhea with occult blood in the stools no suggestion as to the seat of a primary lesion was to be made out. The indefinite abdominal pain, tenderness and fever, together with the diarrhea occurring in a colored woman were strongly suggestive of peritoneal tuberculosis to Thayer, despite the absence of definite pulmonary signs, but the progressively and apparently great enlargement of the liver did not appear to him to depend on tuberculosis alone. He thought that a rolled up omentum might be adherent to the liver, thus increasing its apparent size, but the sharp border of the liver was against this. Syphilis was ruled out by the absence of a Wassermann reaction and by the fact that antiluetic treatment had been without result. The main possibilities as to diagnosis were hepatic neoplasm; amebic abscess of the liver; peritoneal and intestinal tuberculosis with a rolled up omentum adherent to the liver in such manner as to exaggerate its apparent size. At necropsy there was found a disseminated, caseating tuberculosis of the liver. The feature of the case, which is of special importance, is that such disseminated caseous tuberculosis of the liver should have given rise to a tumor sufficient to constitute the central figure in the clinical picture. It is also important to note that for a week at least during the course of this case there was jaundice, a rare manifestation in hepatic tuberculosis.

7. **Tuberculous Bursitis.**—The main interest in Cone's cases centers about their pathology—one representing the type of rice-body formation in a tuberculous bursa, the other a chronic sclerosing tuberculous process.

8. **A Device to Aid in Keeping the Patient Dry After Suprapubic Cystostomy.**—This device consists of a pure gum rubber sheet, one yard square, with a round hole in the center of from six to eight inches in diameter. The sheet is laid on the patient, next to the skin, so that the opening falls over the suprapubic wound. The usual amount of absorbent gauze is then laid on the wound, and the borders of the sheet are folded in, covering the gauze completely. The sheet with the

enclosed gauze is held in place by an ordinary abdominal binder or Scultetus bandage. By this arrangement whenever the gauze becomes saturated the fluid drains into the dependent portion of the sheet, where it collects and allows almost no leakage for several hours, during which time the patient's bed and clothing are kept dry.

Journal of the Oklahoma State Medical Association, Muskogee

May

9 Fractures of the Elbow. C. Blickensderfer, Shawnee.
10 Germophobia. A. K. West, Oklahoma City.
11 Diagnosis of Diseases of the Tongue. W. C. Cummings, Oklahoma City.
12 Treatment of Certain Infections of the Skin with Vaccine. W. H. Mook, St. Louis, Mo.
13 The Metric System Simplified. C. T. Scott, Oklahoma City.
14 Symptomatology and Diagnosis of Infantile Paralysis. L. J. Moorman, Oklahoma City.

Journal of the Medical Society of New Jersey, Orange

May

15 The Finished Operation with Respect to Those Done Below the Waist Line and within the Abdominal Cavity or Its Outlets. S. Chandler, Philadelphia.
16 Vaso-Repair. S. A. Cosgrove, Jersey City.
17 *Tuberculosis as It Concerns the Physician. L. F. Flick, Philadelphia.
18 Lesions of the Alimentary Tract. J. T. Pilcher, Brooklyn, N. Y.
19 *Recent Medical Advances, with Suggestions for Improvement of County and State Society Meetings. J. B. Wintersteen, Moorestown.
20 The Backward Child. C. H. Francis, Camden.

17. **Tuberculosis and the Physician.**—It is emphasized by Flick that to make a consumptive non-contagious is simple enough to the man who fully understands the subject and who is willing to direct his patient intelligently. Inasmuch as the contagion of tuberculosis is restricted to the broken down tissue which is given off and, perhaps, in some degree to the excreta, and, inasmuch as these are gross objects which can easily be seen, handled and controlled, all that is necessary is to devitalize them when they are given off without contaminating the individual who gives them off or the environment in which he lives, or at least to dispose of them in such a way that they cannot contaminate anything and cannot be brought back by any force in Nature to a person who might become infected. The only excreta which are at all likely to contain tubercle bacilli are urine and feces, and these are ordinarily deposited where the fermentation that is going on will sterilize them before they can be brought back to either human beings or animals. Practically, there is probably no danger whatever of new implantations in either human beings or animals from these sources. The chief seed supply for new implantations of tuberculosis, undoubtedly, is the sputum given off by people who have tuberculosis of the lungs, and it is this which needs to be looked after above all others.

19. **Recent Medical Advances.**—It is suggested by Wintersteen that one of the meetings of the county society be devoted to medical economics, and that another meeting be open to the public. Only when the public, which is dependent on physicians for protection from disease, is shown their disinterested motives, can physicians hope to gain the influence which is properly theirs. Also, as a means of securing favorable legislation and appropriations for sanitary purposes, such meetings would be invaluable. Finally, the importance of the education of the public school teachers on sanitation and hygiene should be urged on the proper authorities, the appointment of a member of the county society to deliver such lectures to the teachers at their county institutes should be suggested to them. This suggestion is both practical and valuable, as such an arrangement would undoubtedly be gladly welcomed and its good effects on both teachers and pupils cannot be overestimated.

Journal of the South Carolina Medical Association, Charleston

April

21 Importance of Maternal Nursing. W. F. Ashmore, Charleston.
22 Infant Feeding. J. C. Hill, Abbeville.
23 Surgical Interference and Irrigation of Colon in Pellagra. A. D. Cudd, Spartanburg.

West Virginia Medical Journal, Wheeling

May

24 Modern Surgery of the Kidney. J. Ransohoff, Cincinnati.
25 Is Anything the Matter with the Doctors? W. J. Robinson, New York.
26 Extra-Uterine Pregnancy. A. J. Kemper, West Milford.
27 *A New Sign of Tubal Pregnancy. W. W. Golden, Elkins.
28 *An Unusual Case of Superfetation (?). F. T. Ridley, Bluefield.

27. **A New Sign of Tubal Pregnancy.**—The sign found by Golden is this: A more or less striking paleness of the cervix. The absence of this paleness does not, he says, exclude tubal pregnancy, but its presence, when not due to obvious other causes, is almost pathognomonic. It is only present, however, in those cases of tubal gestation in which there is bleeding from the uterus, and only while this bleeding is actively going on. This sign, therefore, Golden considers as of value principally in the differential diagnosis from threatened or incomplete uterine abortion, but it is right here that the practitioner is in the greatest need of help.

28. **An Unusual Case of Superfetation.**—A woman, aged 28, has been married nine years and has two other children. She had a miscarriage in the latter part of 1909, and was curetted. Personal and family history was negative. When Ridley saw her, he noticed that she was badly jaundiced, and inquired as to her condition during the few weeks preceding. She said she had been feeling very well, with the exception of a decided feeling of lassitude, which she had never experienced before. Shortly before 5 a. m. he delivered her of a fine seven-pound girl baby, the placenta and membranes coming away in their entirety about half an hour later. He left the patient fairly comfortable, and when he saw her again about 11 o'clock, he directed treatment to relieve the jaundice. On Friday and Saturday, she complained of a bad odor about the bed, and also said she had not "felt her womb slip back into place." On Sunday evening, about 8 o'clock she was taken with severe labor pains, and passed a fetus and a placenta of about three months' development, in a fearful state of decomposition. After that, with appropriate treatment, she made an uneventful recovery.

Journal of the Michigan State Medical Society, Battle Creek

May

29 Surgical After-Treatment. A. W. Blain, Detroit.
30 Diagnosis of Gastric Ulcer. J. T. Watkins, Detroit.
31 Salvarsan. A. P. Biddle and R. A. C. Wollenberg, Detroit.
32 Diseases of the Thyroid. H. E. Randall, Flint.
33 *Stomach Disorders Requiring Intervention from the View-Point of an Internist. C. D. Aaron, Detroit.
34 Galvanism in Gynecology. E. Miller, Battle Creek.
35 Newer Methods for the Detection of Tubercle Bacilli, with Special Reference to the So-Called Antiformin Method. S. Ide and F. Smithies, Ann Arbor.

33. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1673.

Medical Record, New York

May 6

36 *Vaccine Therapy of Typhoid. W. H. Watters and C. A. Eaton, Boston.
37 Fibrillation of the Auricle. L. F. Bishop, New York.
38 Intravesical Irrigation in Acute Gonorrhea. M. Hünner, New York.
39 Perforating Wounds of Uterus. E. Lanphear, St. Louis.
40 The A-B-C of Ether Administration. P. J. Flagg, Yonkers, N. Y.
41 Value of Salvarsan. W. B. Trimble, New York.
42 *An Unusual Case of Placenta Prævia. Jacob Ohlbaum, New York.

36. **Vaccine Therapy of Typhoid.**—The authors refer to a report made to the hospital board on 140 typhoid patients. Some of these received vaccines sporadically, late in the course of the disease, in a relapse, or for some reason or other the treatment has not been given regularly. Excluding such there have been thirty-six persons who received the regular vaccine treatment in addition to the routine methods. At the same time seventy-one did not receive it. A study of these resulted in the following figures: Average duration of fever: untreated, 25.3 days; treated, 15.5 days. Average residence in hospital: untreated, 57 days; treated, 39 days. Percentage of reinfections: untreated, 25; treated, 9.1. Average gain by those treated: in duration of fever, 9 days; in residence in hospital, 18 days; in relapses, 15.9 per cent.

In the present paper they report their results during a more recent period with the intention of endeavoring to demonstrate the validity of their earlier claim that not only are vaccines innocuous, when properly used, but that their use confers distinct benefit on the patients, reducing the mortality, shortening the duration of the disease, and rendering relapse less liable. In all, thirty-five cases are reported. No aggravation or injury of any kind was demonstrable as a result of any inoculation. There has been a tendency to decrease the size of the dosage rather than to increase it, particularly in making the second and subsequent inoculations somewhat smaller than the first. The more serious the clinical conditions of the patient, the smaller the dose employed. This was apparently well borne out in one case that was considered to be all but hopeless. Here daily doses of one or two million bacilli were followed by gradual change for the better in the clinical symptoms.

42. **An Unusual Case of Placenta Prævia.**—In this case hemorrhages occurred at the seventh and eighth months of pregnancy. The patient was delivered by version after tamponade. Twenty-four hours later she had a chill and an abscess formed in the lower right portion of the abdomen; this abscess proved to be a gonorrheal salpingitis. After incision and drainage at McBurney's point the patient recovered.

California State Medical Journal, San Francisco

May

43 Management of Labor in Contracted Pelvis. H. J. Kreutzmann, San Francisco.
44 Cause and Treatment of Retrodisplacement of the Uterus. D. Hadden, Oakland.
45 Tuberculous Ulceration of the Rectum. W. H. Kiger, Los Angeles.
46 Rupture of the Liver. H. M. Sherman, San Francisco.
47 Skeletal Alignment and Muscular Balance in Their Relation to Pain, Function and Deformities. S. J. Hunkin, San Francisco.
48 Abdominal Myomectomy During Pregnancy. C. A. von Hoffman, San Francisco.
49 A Simple Tonsil Dissector. P. Sumner, San Francisco.
50 A Case of Thrombosis of the Central Retinal Vein. E. W. Alexander, San Francisco.
51 Xanthelasma. D. Friedlander and G. H. Mize, San Francisco.
52 Medical Notes Taken in South Africa. D. W. Montgomery, San Francisco.

Cleveland Medical Journal

April

53 *The Cardiovascular States and Treatment of the Failing Heart. L. F. Barker, Baltimore.
54 *Clinical Value of the Wassermann Reaction. R. Dexter and C. L. Cummer, Cleveland
56 *Id. W. C. Stoner, Cleveland.
57 *Value of the Wassermann Reaction from the Viewpoint of the General Practitioner. W. O. Osborn, Cleveland.
58 A Case of Ruptured Extra-Uterine Pregnancy; Streptococcus Infection of the Pelvic Cavity and the Ectopic Sac: Recovery. H. Robb, Cleveland.
59 *Four Cases of Sarcoma of the Nose and Throat Treated with Coley's Toxins. S. H. Large, Cleveland.

53. **Cardiovascular States.**—It is pointed out by Barker that any routine or schematic method of treating cardiac cases will, in many instances, be doomed to failure. In the therapy of cardiovascular disease, as in all other therapy, individualization must be the watchword, and the condition of the patient as the whole, not simply that of his heart and blood-vessels, must be studied carefully and the interrelation of the different organs kept in mind.

54. **The Wassermann Reaction.**—This report is a study of the results of 773 reactions made on 646 patients. A number of reactions have been repeated, a fact which should add value to the study. The authors examined seventeen individuals in perfect health in whom there was no suspicion of syphilis. All gave negative results. Furthermore, they had 163 persons suffering with diseases other than syphilis, in which syphilis could be excluded with reasonable certainty. All were negative, except one case of scarlet fever. This was examined during the acute stage, and was positive. The reaction became negative at a later period in the disease. Of nineteen cases of primary syphilis, sixteen were positive; three were negative, but later became positive. In the secondary stage, the proportion of positive reactions reached from 95 to 100 per cent. With tertiary syphilis, positive reactions were secured in 90 per cent. of cases examined. So far as latent syphilis is concerned, the authors believe that in approximately 50 per cent. of the cases of syphilis considered cured, the infection is in temporary abeyance only, and may become active at any time. In a case of congenital syphilis, where the family history was absolutely negative, the reaction checked the clinical findings in spite of the history.

The authors would not regard the reaction as specific in the ordinary accepted sense of the term, as it depends on biochemical phenomena as yet not understood. In this climate, a positive reaction is a specific sign of syphilis in at least 99 out of 100 cases. In the residue, syphilis usually is not to be completely excluded. In other words, a positive reaction is a definite symptom, more definite than any previously at hand. A negative reaction carries much less weight. A single negative reaction cannot be taken as positive evidence against existing syphilis. With certain limitations, the more active the disease, the more likely is the reaction to be positive. The results of the reaction are of great assistance in treating syphilis but should be interpreted by one of experience with both the clinical and the serologic side of the question. The test can never supplant competent and exhaustive clinical observation but can aid it greatly,

56. **Clinical Value of the Wassermann Reaction.**—During a period of ten months, Stoner has tested 450 cases, making at least 800 tests. He has not found a positive reaction in every patient who gave a history of lues, but in every one in whom active manifestations were present a positive reaction has been found in the absence of recent therapy. On the other hand, he has not had a positive reaction in a single non-syphilitic condition. A constancy of the reaction has been found in cases in which observations have been made at different times. Positive findings have remained positive unless therapy was instituted, and negative findings have remained negative unless made negative by therapy, in which case they would become positive after the discontinuance of the therapy. Positive reactions have been found in a few obscure conditions in which a definite history of lues was not obtainable. In individuals treated over an extended period of time with protoiodid of mercury by mouth the reaction became negative after a course of treatment, but when therapy was discontinued for a month or two the reaction again became positive before clinical manifestations developed. Observations made in twenty-five cases classed as suspected lues, clinically diagnosed lues and non-luetic conditions showed 30 per cent. of positive reactions. Ten of these were clinically diagnosed lues with secondary and tertiary manifestations. Seven, with and without treatment, were found positive. In three, found negative, specific treatment was being carried out. One case clinically diagnosed chancroid was found positive. One individual being treated for supposed varicose ulcers had a few old scars on the face and arm but denied infection. A positive reaction was obtained and the headaches and body pains improved under iodid of potash and mercury. In a series of fifteen cases clinically diagnosed tabes and pseudotabes, 50 per cent. were found positive. Of 125 cases clinically diagnosed as primary, secondary and tertiary lues, tabes, paresis, progressive muscular atrophy, cerebrospinal lues, brain tumor, neurasthenia with indefinite history of soft chancre, paraplegia, hemiplegia, Hodgkin's disease, nephritis, arteriosclerosis, aneurysm, typhoid, pneumonia, pleurisy, cases of questionable diagnosis and normal cases, 24 per cent. were found positive. Positive reactions were not found in a single condition in which syphilis could be excluded. Ten selected cases of scarlatina in the second to the fifth week of the disease were found negative. Ten cases of diabetes mellitus were found negative. Observations made on thirty selected cases of incipient pulmonary tuberculosis were negative. Four cases of incipient pulmonary tuberculosis were found positive, two of which had clinical manifestations in the way of congenital earmarks and mucous patches in the throat that earlier were thought to be tuberculous. In twelve ward cases with various clinical diagnoses, two positive reactions were obtained, one of which proved to be cerebrospinal lues, and the other an obscure condition in

which lues could not be excluded. Thirty-five cases of idiopathic epilepsy, fifteen cases of dementia præcox, five cases of alcoholic insanity, manic depressive insanity and organic brain disease were found negative. In seventy-five cases of idio-imbecility; cretinism; Mongolian idiocy; microcephalic and macrocephalic idiocy; and feeblemindedness, in none of which was a history of lues obtainable, ten gave positive reactions: of these one patient was an idio-imbecile with congenital earmarks; eight others were imbeciles without luetic manifestations and one was a microcephalic idiot. In a series of eighty-one cases of general paralysis of the insane, 81 per cent. were found positive either with the blood-serum, cerebrospinal fluid or both. A positive Noguchi and Ross Jones globulin test was found in forty of the forty-five cases analyzed. Of the forty cases all gave a positive Wassermann and an average lymphocyte count of 35 per c.mm. Of the five cases found negative with the Ross, Jones and Noguchi tests a negative Wassermann was also found and the lymphocyte count gave an average of 10 cells per c.mm.

57. **The Wassermann Reaction.**—It is pointed out by Osborn that use should be made of the cerebrospinal fluid also in cases with nervous symptoms before resting reassured after a negative Wassermann with the blood-serum alone, for while an increased cellular content of the spinal fluid is, in certain cases, almost pathognomonic of a previous syphilis, if a positive Wassermann reaction with this fluid accompanies the lymphocyte increase it adds the finishing diagnostic touch.

59. **Coley's Toxins in Sarcoma of the Nose and Throat.**—In one of the four cases reported by Large, good results were obtained from the use of the toxins, the patient being alive three years after treatment. The original tumor was situated in the postnasal region, practically filling its left space. It had its origin from the periosteum covering the basilar process of the occipital bone. On microscopic examination, the tumor proved to be a round-cell sarcoma. In three months there was a recurrence; this time the growth was larger than ever, as it had now invaded the soft tissues of the nose. Practically the same operation, only more extensive than at first, was performed. Two weeks later (Jan. 12, 1908) injections of Coley's toxins were begun. Two months after the operation, a small growth, the size of a marble, was noticed in the old pharyngeal scar. The toxins were then injected directly into this growth every third day, with the result that the tumor entirely disappeared. On June 9, 1910, a small growth was found on the lateral wall of the pharynx. This was removed and proved to be a sarcoma. Injections were continued as before, and kept up until Dec. 3, 1910, when they were discontinued as there was no evidence of any return of the growth.

Illinois Medical Journal, Springfield

May

60 *End-to-End Anastomosis of the Abdominal Aorta, Using Absorbable Magnesium Rings. V. D. Lespinasse, G. C. Fisher and J. Violet, Chicago.
61 Treatment of Suppurative Infections of the Pleura and Lungs. C. J. Whalen, Chicago.
62 Diverticula of the Intestine. W. Cuthbertson, Chicago.
63 Salvarsan. C. Wagner, Chicago.
64 Mixed Phase of Manic-Depressive Insanity. W. L. Treadway, Jacksonville.
65 Inherited Syphilis. L. C. Pardee, Chicago.
66 Diphtheria. A. J. Butner, Harrisburg.
67 Removal of Appendix During Laparotomy for Other Conditions. A. Goldspohn, Chicago.
68 Are Reforms Necessary in the A. M. A. and Its Constituent Bodies? G. F. Lydston, Chicago.

60. A similar article appeared in THE JOURNAL, Nov. 19, 1910, p. 1785.

Kentucky Medical Journal, Bowling Green

May 1

69 Medical Ethics and Organization. W. R. Burr, Auburn.
70 Ptomain Poisoning. H. D. Rodman, Bardstown.
71 The Salicylates. T. J. Marshall, Bardwell.
72 *Diphtheria in an Institution. W. J. Thomasson, Newport.
73 Madstone. W. Blair, Glen's Park.
74 Erysipelas. W. A. Lackey, Hopkinsville.
75 Prostatitis. J. A. O. Brennan, Louisville.
76 Scarlet Fever. O. E. Senour, Union.
77 Management of Normal Labor. J. J. Adams, Munfordsville.
78 What Shall We Do with the Housefly? D. W. Gaddie, Hodgensville.
79 Significance of Albuminuria. W. F. Blackford, Louisville.
80 Treatment of Bronchopneumonia of Children. W. P. Drake, Rockfield.
81 Extra-Uterine Pregnancy. E. A. Harthill, Pewee Valley.
82 Abortion. W. W. Lasley, Lewisburg.
83 Indication and Contra-Indication for Chloroform and Ether. T. O. Helm, Bowling Green.

72. **Diphtheria in an Institution.**—The first case of diphtheria in this epidemic developed in less than forty-eight hours after a public gathering. Among the guests were people from a locality where diphtheria had been and was prevalent at the time. The health of the institution had been good and Thomasson was unable to trace the infection in any other way than by the contact of the visitors with the inmates. In sixty hours after the second case was discovered, every child (seventy-five) in the institution had an immunizing dose of 1,000 units. He used 85,000 units as single doses. Five adults had 2,000 units, this included the physicians. One child had 2,000 units, and five adults had 1,000 units. After the immunizing dose of 1,000 units no further cases occurred till the twelfth day, when a girl 21 years of age went down with the disease. This girl had not been exposed after receiving her immunizing dose of 1,000 units till on the eighth or ninth day after receiving the antitoxin. On this day she dressed a child after death (the only one in the series) and on the twelfth day after the protective dose developed the disease.

Ohio State Medical Journal, Columbus

May

84 Medical Ethics from the Viewpoint of a Layman. W. O. Thompson, Columbus.
85 Ten Cases of Rupture and Gangrene of the Gall-Bladder as an Emergency Condition. H. J. Whitacre, Cincinnati.
86 Cystitis in the Female. H. A. Baldwin, Columbus.
87 Test of Insanity in the Criminal Courts. W. A. Carey, Cleveland.
88 Indications for Operating in Cancer. G. M. Todd, Toledo.
89 Infant Mortality; Its Principal Causes; Prophylaxis. A. F. Furrer, Cleveland.
90 Medical Evolution; an Interpretation. D. S. Gardner, Massillon.
91 A Case of Bilateral Ophthalmoplegia Externa with Bulbar Symptoms. F. W. Alter, Toledo.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

May

92 *Test of Labor in General and Hospital Practice. R. Peterson, Ann Arbor, Mich.
93 *Menstrual Disorders of Obscure Origin. H. C. Coe, New York.
94 Twenty-Five Cesarean Sections with no Fetal or Maternal Mortality. O. P. Humpstone, Brooklyn, N. Y.
95 A Case of Primary Ovarian Pregnancy. I. C. Rubin, New York.
96 The Chamberlens and the Obstetric Forceps. C. B. Ingraham, Denver.
97 Case of Torsion of the Normal Uterine Appendages. C. C. Norris, Philadelphia.
98 Pulmonary Embolism and Thrombosis from the Obstetric Standpoint. C. Foulkrod, Philadelphia.
99 Fibroids of the Uterus Complicating Pregnancy, Labor and the Puerperium. J. F. Moran, Washington, D. C.
100 The Present Status of the Midwife. T. Darlington, New York.
101 Influence of the Midwife on Infant and Maternal Morbidity and Mortality. R. W. Lobenstine, New York.
102 *The Remedy for the Midwife Problem. J. C. Edgar, New York.
103 Gynecology and the Country Doctor. B. R. McClellan, Xenia, Ohio.
104 Delinquent Children from a Medical Standpoint. S. Block, Brooklyn, N. Y.
105 Atypical Aberrated Children. E. H. Bartley, Brooklyn, N. Y.
106 Abdominal Rheumatism. LeG. Kerr, New York.
107 A Study of Infant Mortality. I. J. Hill, New York.

92. **Labor in General and Hospital Practice.**—Peterson points out that it will make considerable difference in the practical application of the test of labor whether the patient be at home or in a well-appointed maternity. If in the latter, one need not wait so long, for operative treatment by skilled hands, when vaginal examinations have been reduced to a minimum and made under the strictest aseptic precautions, is a far different procedure as regards mortality and morbidity, than when similar surgery is performed in private residences. In the border-line cases of pelvic contraction the patient should be given every chance for spontaneous delivery before operative interference is instituted. Forceps should then be gently applied. In case of failure and in the presence of possible sepsis, it is far better to perforate the child rather than to attempt abdominal Cesarean section. In this way the chances are in favor of saving one patient. The abdominal operation, he asserts, means the loss of both in a large percentage of cases.

93. **Menstrual Disorders of Obscure Origin.**—Inasmuch as in many cases of painful menstruation, the dysmenorrhea is not due to minor palpable changes in the uterus or ovaries, as is proved by the fact that they are not permanently relieved by operation, Coe feels that the conclusion is forced on us that such cases belong to the neurologist rather than to the gynecologist. Hence the propriety of careful observation of the patient, a guarded prognosis, and less frequent resort to operation before fair trial has been made of local and general treatment.

102. **Remedy of the Midwife Problem.**—A general outline of the plan suggested by Edgar would include the following propositions:

1. The establishment of schools for midwives in such existing out-door maternity services as shall elect to do so.
2. The establishment of out-door maternity services, in connection with existing maternity hospitals which do not already possess them, for use as schools for midwives.
3. In each maternity service teaching midwives, the establishment of a school for midwives, with teachers appointed especially for the teaching of this class of pupil.
4. Rooms should be set aside for lectures, recitations, demonstrations, and drilling in asepsis and the examination of pregnancy. For this last patients applying for care during confinement should be utilized.
5. Time not occupied in attending cases of confinement in their own homes, or in lectures, demonstrating, and so on, could be used in witnessing operations and confinements in the delivery-room of the hospital proper.
6. The bulk of the instruction should be given by paid instructors in the patient's own home. Eventually the more intelligent of the graduate midwives of various nationalities could, with advantage, be appointed as instructors in the schools for midwives.
7. Text-books for the instruction and use of the midwives would naturally appear as the result of such teaching as has occurred on the continent of Europe.

Lancet-Clinic, Cincinnati

May 6

108 *Standardization of Bacterins. R. T. Pettit, Chicago.
109 Surgical Contra-Indications. B. M. Ricketts, Cincinnati.
110 The Research of the Practitioner. H. R. Alburger, Bloomington, Ind.

108. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

Yale Medical Journal, New Haven, Conn.

March

111 *Use of Silver Wire for Fractures of the Patella. J. E. Root, Hartford, Conn.

111. **Silver Wire for Fractures of the Patella.**—Root is a firm believer in the operative form of treatment for fracture of the patella. Of the forty-three cases reported, he wired thirty-nine by the open method and four were treated by the ordinary means of external strapping and bandage. The result in all operative cases was early union and function. In the patients not operated on, the result was good functional recovery. There were no deaths in this series; no case of infection; and no case of removal of wire. Root emphasizes that fractures of the patella, in which the capsule and lateral ligaments are intact and fragments are not separated, can be successfully treated without operation. Fractures of the patella with wide separation of fragments, he would treat by the open method. Root uses silver wire of No. 16 caliber passed through the anterior two-thirds of fragments.

St. Paul Medical Journal

May

112 *Feeding in Typhoid. E. J. Abbott, St. Paul.
113 Present Status of Functional Kidney Tests. P. B. Cook, St. Paul.
114 Gall-Stones. T. Mann, Minneapolis.

112. **Feeding in Typhoid.**—Abbott advocates a more liberal diet and longer intervals between feedings.

Interstate Medical Journal, St. Louis

May

115 Treatment of Club-Foot in Infancy. D. Silver, Pittsburg, Pa.
116 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.
117 *Chronic Hypersecretion. J. A. Storck, New Orleans.
118 Perineal Prostatectomy: Its Preliminary Treatment and After-Care. J. R. Caulk, St. Louis.
119 Subconscious Phenomena. S. P. Goodhart, New York.
120 *Later Views on Pellagra. F. Eskridge, Atlanta, Ga.

116. This article was also published in the *Bulletin of the Medical and Chirurgical Faculty of Maryland*, March, 1911, and was abstracted in THE JOURNAL, March 18, 1911, p. 850.

117. **Chronic Hypersecretion.**—The necessity of viewing every patient with chronic hypersecretion as an initial case of gastrectasis, is emphasized by Storck, as also, the fact that the primary cause of the hypersecretion should be carefully looked for with the object of instituting early and proper treatment. In a patient under treatment, Storck interdicted smoking. Rest and quiet are advised. Methodical lavage with a quart of warm water containing a teaspoonful of bicarbonate of soda was suggested before retiring, if nocturnal pain and vomiting should recur; otherwise the lavage was to be practiced in the morning before breakfast. The following prescription was ordered to be taken after meals:

℞	gm.	or c.c.	
Pulveris radicis rhei	1	33	3i
Sodii bicarbonatis	8	or	3ii
Magnesia usta	14		ʒiiiss

M. et fiat. pulvis.
Sig.—Half teaspoonful in water after meals.

For the pain, menthol and spirits of chloroform were prescribed. The diet advised for the present is to consist chiefly of whites of eggs, cream, olive oil and salt-free butter. If the condition continues to improve, the diet is to be made more liberal; but should food stagnation prove troublesome, a competent surgeon is to be consulted.

120. **Pellagra.**—Eskridge believes that pellagra is not essentially a corn disease and that it may be found under conditions that absolutely eliminate corn from the possible causes.

Memphis Medical Monthly

March

121 *Diagnosis and Treatment of Kidney Stones. W. S. Anderson, Memphis.
122 Aids in the Diagnosis of Nervous Diseases, with Special Reference to the Reflexes. W. G. Somerville, Memphis.
123 Aneurysms of the Abdominal Aorta. W. T. Pride, Memphis.
124 *Benign Tumors of the Uterus. E. M. Holder, Memphis.
125 Use of Quinin and Urea Hydrochlorate as a Local Analgesic. A. E. Cox, Helena, Ark.

Dominion Medical Monthly, Toronto

May

126 *An Unusual Complication of Small Ovarian Cysts. J. F. W. Ross and A. C. Hendrick, Toronto.
127 *A Skin Eruption in Six Consecutive Cases of Poliomyelitis. A. G. Brown, Toronto.
128 Salvarsan. G. Chambers, Toronto.
129 Membranous Pericolitis. J. P. Kennedy, Wingham, Ont.

121 and 124. Abstracted in THE JOURNAL, Dec. 10, 1910, pp. 2090 and 2091.

126. **Complication of Small Ovarian Cysts.**—In this case a subligamentous ovarian cyst was tightly bound down to the rectum and lateral pelvic wall by rather dense adhesions, compressing the iliac veins, both internal and external. The left leg was enormously congested and almost one-third larger than the right. The swelling extended from the toes to the groin. The interesting feature in the case is that an ovarian cyst about the size of an orange could cause so much obstruction, especially when one remembers how fluctuating a cyst of that size usually is. The explanation is purely mechanical, and the symptoms were due to the cyst being bound down in a most unusual manner by adhesions to the wall of the true pelvis.

127. **Skin Eruption in Poliomyelitis.**—The skin eruption described by Brown appeared in six consecutive cases and followed the same course in each case. In each of the six cases a vesicular eruption was present when the patient was first seen. The rash was typical, being present more or less all over the body, papular and vesicular, more especially on the lower extremities, anterior and posterior surfaces, and on the dorsum of the feet. The lumbar punctures, smears and cultures from the serum of the vesicles have shown no uniform results, while sections through the vesicles show the latter not to be deep-seated, as one would imagine on palpating them, but on the contrary, to be only superficial, i. e., between the malpighian and corneous layers of the skin; and apart from a little perivascular infiltration no other pathologic change could be found.

Mississippi Medical Monthly, Vicksburg

May

130 Apomorphin Hydrochlorate as an Antispasmodic. L. D. Harrison, Clarksdale.

American Journal of Surgery, New York

May

131 Stricture of Urethra; Why Stricture Is Less Prevalent than Formerly; Errors in Diagnosis. G. K. Swinburne, New York.
132 Dilatation of the Male Urethra, with Especial Reference to Mechanical Dilators. C. W. Bethune, Buffalo, N. Y.
133 Sterilization of Woven Catheters and Their Aseptic Conservation. M. W. Ware, New York.
134 Hydrocele. J. R. Alvarez, New York.
135 A Criticism of Bevan's Ligation of the Cord for Undescended Testicle. E. H. Eising, New York.
136 Case of Inguinal Ectopia Testicle Operated on After the Method of Bevan. L. W. Allen, San Francisco.
137 Clinical Peculiarities of Gonorrhea in Child-Bearing Women. B. C. Hirst, Philadelphia.
138 Supravaginal Hysterectomy in Double Gonorrheal Salpingitis. C. R. Hyde, Brooklyn, N. Y.
139 Criticism of the Technic of Ureteral Catheterization of Dr. Howard Kelly. A. H. O'Neal, Wayne, Pa.
140 *Two Cases of Extraperitoneal Transplantation of Ureters Into the Rectum for Extroversion of the Bladder. J. V. Arumugum, Bangalore, India.

140. **Transplantation of Ureters.**—Aug. 20, 1906, a boy, aged 18, was operated on for extroversion of the bladder and the ureters were transplanted into the rectum, according to the method advised by Peters, of Jaranto. The patient was discharged from the hospital fifty-eight days after the operation. At the time he left the hospital he was able to retain urine in the rectum for about four hours during the day and for nearly nine hours at night. April 15, 1907, a boy, aged 13, had the ureters transplanted into the rectum for extroversion of the bladder and was discharged from the hospital three months after the operation. This patient was able to retain urine in the rectum for about four hours during the day and for nearly five hours at night at the time of his discharge. Feb. 16, 1911, the second patient was able to retain urine in the rectum for nearly six hours during the day, and was at times disturbed at night only once between 9 p. m. and 6 a. m. The first case of extroversion of bladder was last seen by Arumugum about three months ago, when the patient was able to retain urine in the rectum for from five to six hours during the day and for nearly eight hours at night.

Maryland Medical Journal, Baltimore

May

141 The Profession of Medicine and Its Relation to the State. F. B. Smith, Baltimore.
142 Financing of State Board Work. H. Harlan, Baltimore.
143 The Medical Fathers of Baltimore County, Maryland. W. J. Todd, Mt. Washington.
144 Bacterial Vaccines in Staphylococcus Infections. H. W. Stoner, Baltimore.

St. Louis Medical Review

April

145 *Cervical Ribs. R. E. Schlueter and A. F. Henke, St. Louis.
146 Progress of Genito-Urinary Surgery in the Last Twenty-Five Years. F. Kreissl, Chicago.
147 Treat Only After Making Your Diagnosis. F. R. Burdeno, Garrett, Ind.
148 Conjunctivitis (Ophthalmia) Neonatorum. S. H. Brown, Philadelphia.
149 Simplest and Best Treatment for Fracture of the Femur. R. Peter, Chicago.
150 Puerperal Sepsis or Mastitis. J. E. Dale, Fort Collins, Colo.
151 Case of Colon Necrosis. E. A. Babler and L. S. Luton, St. Louis.
152 Tabes Dorsalis and Excessive Venery. L. H. Mettler, Chicago.

145. **Cervical Ribs.**—In this case, the pressure of the supernumerary rib on the subclavian artery encumbered the heart in a somewhat similar manner as does an aortic stenosis, though to a much milder degree. And, although the difference in the radial arteries amounted to but 15 c.mm. of mercury, it produced an appreciable effect on a heart that had already to contend with another lesion.

Atlanta Journal-Record of Medicine, Georgia

April

153 Mayfield-Tyzzer Hospital for Men at Laichon Fu, China. J. M. Gaston, Laichon Fu, China.
154 The Social Evil: Its Prevalence and Results. R. R. Kime, Atlanta.
155 Obligations of the Medical Profession. F. Bradley, Atlanta.
156 Treatment of Anterior Poliomyelitis. T. Toepel, Atlanta.

New York Medical Journal

May 6

157 Analysis of Results Obtained in the Treatment of Syphilis with Salvarsan. J. A. Fordyce, New York.
158 Therapeutics of Syphilis. V. C. Pedersen, New York.
159 *Typhoid Cholecystitis. J. E. Summers, Omaha, Neb.
160 *Fatal Case of Hemorrhagic and Gangrenous Varicella. F. C. Knowles, Philadelphia.
161 *An Important Factor in Circulation. A. Rose, New York.
162 Cinematographic Demonstration of Normal Gastric Peristalsis and Its Importance in Diagnosis of Carcinoma of the Stomach. G. E. Pfahler, Philadelphia.
163 *Test Breakfast versus Fasting Stomach Contents. A. Goldman, New York.
164 A Possible Source of Error in Gastric Analysis. C. S. Fischer, New York.
165 Quinin and Urea Hydrochlorid as a Local Anesthetic. W. Green, Louisville.

May 13

166 *Universal Congenital Asthenia. C. L. Greene, St. Paul, Minn.
167 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
168 *Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
169 A Case of Typhoid Osteomyelitis Successfully Treated with a Vaccine. R. C. Rosenberger, Philadelphia.
170 Pupillary Disturbances in the Alcoholic Psychoses. F. M. Barnes, Washington, D. C.
171 Salvarsan in Syphilis. V. C. Pedersen, New York.
172 *A Bacteriologic Study of the Human Bile. P. F. Williams, Philadelphia.
173 *Visceroptosis, an Improved Abdominal Binder. H. Weinstein, New York.
174 Open Treatment of Fractures. W. H. Taylor, Port Arthur, Ont.

159. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 299.

160. **Hemorrhagic and Gangrenous Varicella.**—The case reported by Knowles shows that there is probably a true form of hemorrhagic varicella, starting with the usual type of vesicles with clear contents, which some hours after their formation become filled with blood. However, it is a rare complication of varicella. The latter hemorrhagic vesicles may lead to the formation of gangrenous areas. The case of the author comes under this heading. The virulence of the infection and the resistance of the individual govern the hemorrhagic and gangrenous tendency. There is also a true form of varicella, in which the contents of the vesicles become purulent and may lead to gangrenous areas, but usually to the ecthymatous or impetigenous types. The term varicella gangrenosa should be applied only to cases of gangrene directly caused by varicella. The term dermatitis gangrenosa infantum should be applied to cases of gangrene in children, whether associated with varicella or not, if not directly dependent on that condition.

161. **An Important Factor in Circulation.**—Rose cites the case of an elderly gentleman suffering for several years from attacks of vertigo and unconsciousness. Almost daily, sometimes hourly, and even at shorter intervals, the alarming symptoms appeared. The frequency of the pulse was from 27 to 31 beats in the minute; only every second contraction of the heart caused pulsation. All the physicians who saw the case diagnosticated, quite correctly, myocarditic affection and treated him accordingly, but without success. The enormously distended abdomen of the patient had at first not been taken into consideration. The reduction of its size, although it did not cure the diseased myocardium, was followed by cessation of the attacks of vertigo and unconsciousness. The size and the weight of the abdomen having been reduced, the work of the heart was materially relieved to such an extent that even the imperfect contractions were sufficient to fill the brain with the necessary amount of blood. Rose urges that in cases of dyspnea and pulmonary hemorrhage caused by heart affection, one should apply the abdominal belt.

163. **Test Breakfast vs. Fasting Stomach Contents.**—While Goldman does not object to the test breakfast, he found that for diagnostic purposes in routine work, not only is pumping of the fasting stomach more convenient, but it is of much more value, even for absolute diagnosis, in some cases. The test breakfast in all the cases examined by Goldman was of no value at all, except where no free hydrochloric acid was found in the fasting stomach contents, and when the breakfast was given, it served only to substantiate the diagnosis previously made from the fasting stomach contents. In cases in which the breakfast was given and a diagnosis made on

that alone, after the fasting stomach was pumped, it had to be changed in many cases; while, if fasting stomach contents were obtained, the diagnosis was, as a rule, not changed after the test breakfast was given.

166. **Universal Congenital Asthenia.**—The clinical history of this condition is reviewed by Greene. Greene says that assuming with Stiller, who was the first to call attention to it, that a large number of persons are born asthenic and that this defect involves every structure and function of the body, one can readily follow his argument, which brings into one pathologic circuit a multitude of ailments hitherto regarded and treated as separate and distinct conditions. Among these are the so-called phthisical habitus, neurasthenia of the commoner type, certain apparent renal inadequacies, functional albuminurias, nephroptosis, enteroptosis, and that enormously predominant group of dyspepsia, known as the gastric neuroses. Stiller insists that an abnormally fluctuating or actually floating tenth rib (*costa decima fluctuans*) is almost pathognomonic of this condition, and this Greene believes to be true, though to him the general structural stigmata are even more interesting. There is absolutely no limit to the pain manifestations of asthenia. These may be such as to point to relaxation of the sacro-iliac ligaments, to chronic neuralgias, trifacial, sciatica, or what not, to uterine disease, gastric or duodenal ulcer, gall-stones, or derangements of almost any organ of the body, yet whatever the location and how great the intensity, they disappear like magic under rest and proper nutrition.

168. **Nervous Affections and Adjustments of the Eyes.**—In this paper Stevens considers facial expression as influenced by the adjustments of the eyes and as elements in the etiology of certain important nervous disturbances.

172. **The Human Bile.**—One hundred and one specimens of bile were studied by Williams, and, in addition, twelve calculi were examined. Of this number, organisms were recovered in eight cases, and from the calculi organisms were recovered in six instances. The organisms that were observed most frequently were those of the colon type. In thirty-seven, pure cultures of the colon bacillus were present, and, in association with other organisms, *Bacillus coli* was observed thirty-five times. The typhoid bacillus was recovered in two instances: one, in which typhoid fever had existed thirteen years previously, and in the second instance, from a person dying as a result of typhoid perforation. A very interesting observation was made regarding the presence of a large Gram-positive bacillus which was found in twenty-six cases. This organism was morphologically and tinctorially identical with the *Bacillus aeorgenes capsulatus*. This organism developed abundantly in the bouillon cultures where colon and other organisms developed, and in a number of instances anaerobic cultures.

173. **An Improved Abdominal Binder.**—This binder is built on the same principle as all the others having, however, as an extra enforcement six elastic straps, three of which arise from each side of the body of the binder. These straps cross posteriorly and when brought around to the front are buckled, thus affording additional support to the bandage. The tighter the straps are drawn the more snugly does the bandage hug the abdomen and there is no possibility of its loosening. The four lower straps push the abdominal wall upward and backward and retain it in that position. The upper two straps are made use of in stout individuals only.

Texas State Journal of Medicine, Fort Worth

May

175 Case of Increased Intraventricular Tension; Operation and Recovery. C. Venable, San Antonio.
176 Growing Disuse of Alcohol in Therapeutics. M. J. Bliem, San Antonio.
177 How the Roentgen Ray Aids Nature in the Cure of Intractable Skin Diseases. G. D. Bond, Fort Worth.
178 Case of Hereditary Ataxia or Family Ataxia. J. S. Turner, Dallas.
179 Posttyphoid Necrosis of the Thyroid and Arytenoid Cartilages. Microtia. S. M. Morris, Galveston.
180 Case of Syringomyelia. L. B. Jackson, San Antonio.
181. What the General Practician Should Know About the Eye. D. T. Atkinson, Dallas.
182 Indications and Contra-Indications for Curettage. C. M. Yater, Roswell, N. M.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 29

1 Persistence of Disease Germs in the Human Body. Sir H. C. Cameron.
2 *Salvarsan and Arsenic Cancer. Sir J. Hutchinson.
3 *The Place of the Hospital in a Civilized Community. L. E. Shaw.
4 *The Syphilitic Factor in the Hemiplegias and Diplegias of Infancy and Childhood. C. R. Box.
5 Roentgen-Ray Therapy. J. R. Riddle.
6 Extensive Venous Infection Complicating Middle-Ear Disease: Thoracic Empyema: Recovery. N. Patterson.
7 Three Cases of Malignant Disease of the Spine. T. D. Luke.
8 Cases Under the Workmen's Compensation Act, and Others of Medicolegal Interest. L. A. Parry.
9 Radium Water Therapy. W. Armstrong.

2. **Salvarsan and Arsenic Cancer.**—On the basis of a long experience with arsenic, Hutchinson believes himself justified in stating that it is proved that the use of arsenic may create a proclivity toward malignant forms of growth. These are not by any means always the same; most conspicuous and frequent are epitheliomata, but they are not the only ones, for various forms of sarcomata and probably endotheliomata occur in the same connection, and possibly in the same individual. Since he became aware that arsenic gives proclivity to cancer, he has almost abstained from its employment, and would now advocate its use only in cases which very specially demand it. Hutchinson calls special attention to salvarsan in this connection.

3. **Place of the Hospital in a Civilized Community.**—Shaw's paper is based on four propositions: 1. That no community can regard itself as civilized which does not recognize a common duty to render medical assistance to those of its members whose conditions of health make such assistance necessary, and whose economic position does not enable them to secure it. 2. That it is undesirable for any civilized community, as at present organized, to provide without cost medical assistance for all its members regardless of their economic position. 3. That every civilized community should encourage its members to make provision by some method of mutual insurance against those insurable risks which without such assistance they are unable to meet. 4. That in every civilized community specialization of effort is essential to effective performance.

4. **Syphilitic Factor in Infantile Hemiplegia.**—The general consensus of opinion is that syphilis is not a general factor in the upper neurone paralysis of childhood, and this opinion appears to be based on very good grounds. Nevertheless, Box points out that a reconsideration of the part syphilis plays may be instructive and appears to be desirable for two reasons: First, because, in some cases at least, a permanent and crippling disability of both body and mind may be prevented by an intelligent anticipation of events; and, secondly, because, thanks to the methods of diagnosis perfected of late years, it may yet turn out that syphilis is a more important factor in the production of these paralyses than many have suspected. He refers to a considerable number of cases which he thinks are proof in favor of his views.

Lancet, London

April 29

10 Plague. Wu Lien-Teh (G. L. Tuck).
11 *Sensibility of the Gastro-Intestinal Tract in Health and Disease. A. F. Hertz.
12 The Microbic Factor in Gastro-Intestinal Disease and Its Treatment. B. Dawson.
13 *Cases of Advanced Tuberculous Joints Treated by Ileocolostomy. H. Chapple.
14 A Case of Lymphadenoma in a Woman Aged Sixty-Three. E. P. Stratford.
15 Two Cases of Acute Intussusception and Appendicitis. L. C. Martin.
16 The Septicemic and Pneumonic Plague Outbreak in Manchuria and North China. G. D. Gray.

11. **The Gastro-Intestinal Tract in Health and Disease.**—The experimental and clinical investigations of Hertz lead him to the conclusion that the view held by Ross is correct, and that disease of the alimentary canal may cause true visceral pain, which is often present alone, but may be associated with pain which is referred to the skin, muscles and connective tissue connected with the same spinal segments. In drawing

the conclusion that the viscera are insensitive, he says that Lennander and Mackenzie did not take into consideration the fact that a nerve-ending may be sensitive to one form of stimulation—the adequate stimulus—but insensitive to all others. Thus the adequate stimulus for the eye is light, for the ear sound, and so on, although in some cases there may be several varieties of adequate stimulus. All that was proved by Lennander and Mackenzie was that the viscera are insensitive to the particular stimuli which they employed. These stimuli were cutting, pinching and pricking, none of which occur under natural conditions. It still remained possible that the viscera would be found sensitive were the adequate stimulus employed. From a consideration of the common causes of visceral pain, it might be expected that tension on the fibers of the muscular coat would prove to be the adequate stimulus, and the observations which Hertz records confirm this view. A certain degree of distension leads to the sensation of fulness if the internal pressure is slowly raised; the same distension rapidly produced leads to the sensation of pain. Hertz believes that tension is the only cause of true visceral pain. Disease in the alimentary canal is often accompanied by pain due to its extension to the parietal peritoneum and sensitive subperitoneal tissue, to drag on its peritoneal attachments, as suggested by Lennander, and to reference to peripheral structures, in accordance with the views of Hilton, Lange, Ross, Head and Mackenzie. On the other hand, referred pain, which is the result of the arrival in the spinal cord of impulses from an internal organ, is comparatively rarely present alone, as the impulses from the internal organ generally themselves give rise to visceral pain. Lastly, pain originating in the peritoneum in connection with diseases of the alimentary canal is not uncommon in the absence of visceral pain.

13. **Tuberculous Joints Treated by Ileocolostomy.**—Following out Lane's suggestion and procedure, Chapple has done an ileocolostomy on patients suffering from advanced tuberculous joints, who showed the signs of intestinal auto-intoxication. In each case, the patient has gained in weight, and the tuberculous lesion has most definitely improved. He believes that these cases apparently prove the hypothesis that the route of infection of the tuberculous virus is via the intestine; that a tuberculous infection is only curable when reinoculation is prevented, and that advanced tuberculous lesions can be cured if the disposing cause is removed.

Australasian Medical Gazette, Sydney

March

17 Epilepsy. J. Bentley.
18 Rôle of the Bacillus Typhosus in the Etiology of Typhoid. J. B. Cleland.
19 Ulcerative Granuloma. E. S. Jackson.
20 Infective Granuloma. J. B. McLean.
21 Melena Neonatorum. G. H. Evans.
22 A Case of Intussusception Successfully Treated by Resection. B. Smeaton.
23 Glycosuria in Head Injuries. C. Douglas.
24 Salvarsan in Syphilis. A. E. Finckh and R. J. Millard.
25 A Handy Apparatus for Injection of Salvarsan. J. F. Flashman.
26 Two Cases of Infection by the Micrococcus Catarrhalis. J. W. B. Bean.

Indian Medical Gazette, Calcutta

April

27 Malarial Cachexia and Value of Arylarsonates in Treatment. H. W. Pierpont and H. W. Acton.
28 *Three Cases of Pseudomuscular Hypertrophy in One Family. R. H. Castor.
29 Jail Dysentery. W. Gillitt.
30 Bismuth Paste in Diagnosis and Treatment of Chronic Suppurations. F. P. Maynard.
31 Examination of the Feces for Ova of Intestinal Parasites. J. Taylor.

28. **Three Cases of Pseudomuscular Hypertrophy in One Family.**—The father and mother of the family and their ancestors were apparently healthy. The three children affected out of a family of ten, were the eldest boy, now 13 years old; a boy 5 years old, and another boy 17 months old. The poorly developed external genital organ was noticed in all the cases, especially in the eldest boy. The knee-jerks, especially in the second case, were slightly exaggerated. The superficial reflexes in all were normal and so were the sensory functions and sphincters. The pain on deep pressure was complained of in all the cases. The keloid character of the vaccination marks is a point to be noticed. The fifth, ninth and tenth children were affected. The father positively states that the other children, except the sixth and eighth, also showed signs of enlargement of their muscles when they were young, but this disappeared in two years. None of the children were mentally deficient, neither was there any indication of stammering in speech.

Australian Medical Journal, Melbourne

March

32 Vaccine Therapy. J. Smith.
33 Results of Vaccine Therapy. W. H. Summons.
34 Nature and Diagnosis of Sore Throat. S. V. Scholes.
35 Treatment of Sore Throat, with Special Reference to Diphtheria. C. V. Mackay.
36 Anteflexion and Uterine Hypoplasia. F. Meyer.
37 Action of Eserin on the Eye. J. W. Barrett and W. F. Orr.
38 Cases of Hydatid of the Lung Treated at the Children's Hospital from 1904-1910. R. M. Downes.

Journal of Tropical Medicine and Hygiene, London

April 15

39 Rôle of the Infective Granule in Certain Protozoal Infections as Illustrated by the Spirochetosis of Sudanese Fowls. A. Balfour.
40 *Three Unusual Necropsy Reports from British Guiana. E. P. Minett.
41 Occurrence of Esophagostomum Apiostomum as an Intestinal Parasite of Man in Nigeria. R. T. Leiper.

40. **Three Unusual Necropsy Reports.**—These cases were (1) hydatid disease of the kidney; (2) gumma of the spleen and (3) abscess of the spleen.

Annales de Médecine et Chirurgie Infantiles, Paris

April 15, XV, No. 8, pp. 241-272

42 *Epidemic Cerebrospinal Meningitis. R. Debré.
43 Rebellious Multiple Bone Lesions from Inherited Syphilis Cured by Single Injection of Salvarsan. M. Savariaud.

42. **Epidemic Cerebrospinal Meningitis.**—Debré has already published fourteen articles bearing on this disease, and he here reviews what is known in regard to prophylaxis. His research and what others have published show, he says, that fully 25 per cent. of the persons in the environment of a case of epidemic meningitis carry the germs without presenting signs of illness. In a schoolroom, for instance, where one of the children has had meningitis, a fourth of the children will be found to shelter the meningococcus in the nasopharynx. The diffusion of the germs is more marked the lower the hygienic level of the environment; in hospitals the carriers are very rare. The virulence and the distribution of the germs parallel each other. The meningitis may commence with a slight coryza and a coryza may develop after the disease. To date no measures are known which will effectually clear the air passages of the germs. Epidemic cerebrospinal meningitis is comparatively frequent, he says, in infants and is peculiarly difficult to diagnose in them as the onset is usually very insidious, commencing merely with torpor and symptoms of indigestion. This first phase is followed by a stage with a suggestion of meningitic symptoms, disturbances in pulse and respiration, tension of the fontanelles and a hint of rigidity of the back of the neck. This phase of half-suggested symptoms may last for a week or more, with intermissions and exacerbations, but then the complete clinical picture follows. If the infant recovers he is liable to develop normally thereafter, but incurable deafness or blindness may appear even during the course of the disease. Lumbar puncture is an important aid in differential diagnosis, but the prognosis is generally grave even under serotherapy. There may be evidences of ordinary serum sickness with intraspinal injection of the serum, and the meningitic symptoms may flare up again—special caution is necessary if there is anything to suggest anaphylaxis.

Bulletin de l'Académie de Médecine, Paris

April 11, LXXV, No. 15, pp. 477-493

44 *Albumin Reaction in Sputum. H. Roger.
45 *The Wassermann Reaction in Latent Syphilis. M. Letulle.

April 18, No. 16, pp. 494-521

46 Medical Affairs in French Indo-China. (Assistance, Hygiène, Epidémiologie en Indo-Chine, en 1909). Kermorgant.

44. **Albumin Reaction in Sputum.**—Roger has compiled from the literature and his own experience 1,638 cases in which the sputum has been tested for albumin, including 890 cases

of tuberculosis in the second or third stage, with negative findings in only one case, and certain features of the bacteriologic findings in this single case suggest the possibility of pseudotuberculosis. In 280 tuberculous patients in the first stage there were only two giving a negative reaction among those properly tested, and the diagnosis was made with some reserve in these. In 284 patients with non-tuberculous pulmonary or bronchial lesions a positive reaction was obtained in 144. The reaction is thus seen to be an important accompaniment to tuberculosis, its absence excluding tuberculosis with practical certainty, while its presence is not pathognomonic of this infection. All that is necessary for the test is to dissolve the sputum in water, coagulate out the mucus by adding a few drops of acetic acid, and then examine the resulting clear fluid for albumin by the usual procedures; the simplest, perhaps, is to heat the fluid after adding sodium chlorid. Examining the sputum for albumin is as simple and easy as testing for albuminuria, and the findings, Roger says, have equal diagnostic importance. Negative findings confirm the healing of old lesions and return of positive findings warns in time of a flaring up of an old tuberculous process. His experience has shown that when it is practicable to examine the elements of the albumin and determine the proportionate amounts of globulin and serin, this throws light on the prognosis, excess of the former being a favorable sign and preponderance of the serin unfavorable.

45. **The Wassermann Reaction in Latent Syphilis.**—Letulle made a practice last year of applying the Wassermann test in every obscure case whether there was suspicion of syphilis or not. The results brought many surprises, showing, for instance, that 25 per cent. of his patients with chronic nephritis were unsuspected syphilitics; also that unsuspected syphilis had evidently laid the foundation for cancer in three cases and for hemiplegia and paralysis, ophthalmoplegia, etc. In one case of a large cavity in one lung in an elderly woman, no tubercle bacilli could be discovered in the fetid sputum and the Wassermann reaction was positive. The findings were positive in 43 per cent. of the total ninety patients with chronic affections tested. Even without the test, syphilis was presumable in the patients with aneurysm, aortitis, tabes and paraplegia, but it threw unexpected light on many cases of hemiplegia, nephritis and cancer. A negative reaction has little significance but we can place almost absolute confidence, Letulle declares in conclusion, on positive findings. Reynier reports the case of a woman of 42, mother of two healthy children, who had been having stomach disturbances for a year, vomiting everything except milk; the liver was much enlarged and there was dulness below it. A cyst in the liver or cancer at the pylorus had been assumed, but before operating the Wassermann test was applied with positive findings and under mercurial treatment complete recovery soon followed. The Wassermann reaction also pointed the way to successful treatment of hemiplegia in the case of a woman of 45 with a healthy child and suspicion of inherited syphilis in the husband.

Bulletins de la Société de Pédiatrie, Paris

March, XIII, No. 3, pp. 105-151

47 Emotional Jaundice. (Cas d'ictère émotif prolongé chez un garçon de onze ans.) P. Nobécourt.
48 *Lymphocytosis in Cerebrospinal Fluid in Chorea in Children. Richardière, J. Lemaire and M. Sourdel.
49 *Constant Motor Symptom of Chorea: Dysdiadokokinesia. A. B. Marfan.
50 *Bronchial Glands and the Thymus. (Adénopathie trachéo-bronchique et hypertrophie du thymus.) E. C. Aviragnet.
51 *Thymectomy: Ten Cases. V. Veau.
52 *Bronchoscopy and Stenosis of the Trachea. G. Guisez.

48 and 49. **Organic Basis for Chorea.**—Richardière and Lemaire remark that the conflicting findings in the cerebrospinal fluid reported by various investigators may be explained by differences in technic. They found lymphocytosis constantly in the cerebrospinal fluid in five boys and ten girls between the ages of 5 and 14, all with typical chorea. In the one negative case in their experience, the choreiform disturbances finally proved to be a special neurosis in the young child of a mother who had had severe eclampsia at its birth. The lumbar puncture seemed to have a distinctly beneficial effect in some of the cases. The findings reported sustain the assumption of an organic basis for chorea in general. This applies also to the disturbance in the function permitting rapid alternation of movements as, for instance, alternating pronation and supination of the hand. Babinski calls this function diadokokinesia. Marfan states that it is constantly affected in chorea, and that even after apparent recovery persisting impairment of this function warns of impending recurrence.

50. **Enlargement of Bronchial Glands and Large Thymus.**—Aviragnet thinks that the symptoms attributed to hypertrophy of the thymus are in many cases merely the result of disease of the tracheobronchial glands compressing the nerves and entailing spasmodic phenomena without direct compression of the air passages. He gives an illustrated description of one such case in an infant of 16 months with stridor during inspiration, dulness over the upper part of the sternum, a retrosternal tumor perceptible during expiration, a radiographic shadow at the upper sternal region, and dyspnea only partially relieved by intubation even with a long tube—all pointing as supposed to hypertrophy of the thymus. Thymectomy was done, but the thymus was found small and intubation was necessary afterward as before. The child died in less than two weeks from suffocation after he had coughed up the tube. When the disturbance in breathing comes on after a bronchopneumonia or whooping-cough, disease of the glands is more likely to be responsible for the stridor than enlargement of the thymus, but with congenital stridor there is greater probability of the thymus being at fault. Marfan groups the cases of chronic dyspnea with stridor or wheezing in three classes: (1) stridor exclusively during inspiration, due either to congenital vestibulolaryngeal trouble or to paralysis of the dilators of the glottis; (2) stridor during both inspiration and expiration, predominating during inspiration—this is generally due to compression of the trachea by an enlarged thymus; (3) stridor exclusively or predominantly during expiration, the result of compression of the trachea or bronchi by enlarged glands. The sensation of a tumor when the finger is worked into the presternal notch may be due merely to glandular enlargement with a small thymus.

51. **Ten Thymectomies.**—Veau was able to cure four children with dyspnea from an enlarged thymus and more or less stridor, but in a case of congenital stridor a double operation on the thymus had no effect on the stridor while it cured it completely in another case. He operates only when dyspnea or suffocation seem to necessitate it, and even then he does not promise to cure the stridor by the thymectomy. In a case of recurring spasm of the glottis there were no further attacks for a month after the operation, but then they returned, very much less severe and they have gradually subsided entirely. He lost another little patient from spasm of the glottis, no operation having been attempted. He suggests the possibility that the parathyroids may perform the function of destroying a poison generated by the thymus—he knows of an instance in which a very large thymus was found in a child succumbing to spasm of the glottis. The principal source of error in regard to the thymus is the mistaking of enlarged tracheobronchial glands for the enlarged thymus. He had this experience in three cases, removing the thymus for compression of the air passages when this proved to have been the work of enlarged glands. Even when the glandular affection is suspected, if there is no involvement of the lung he would operate on the thymus to relieve dyspnea, but tuberculous pulmonary lesions, he reiterates, forbid an operation of the kind as it is liable to generalize the infection. This happened in one of his cases. Thymectomy has more than realized all expectations, he adds, when the patients are strong and otherwise well, with persisting dyspnea, with or without attacks of suffocation, and radioscopy confirms the assumption of an abnormally large thymus.

52. **Tracheobronchoscopy and Stenosis of the Trachea.**—Guisez' little patient was a child of 4 suffocating from compression of the lower third of the trachea by an enlarged gland; tracheobronchoscopy permitted effectual treatment.

Presse Médicale, Paris

April 15, XIX, No. 30, pp. 301-308

53 *Colpotomy. J. L. Faure.
54 *Hemolytic Streptococci in Puerperal Infection. D. Metzger.

April 19, No. 31, pp. 309-316

55 *Albumin Reaction in Sputum in Early Diagnosis of Tuberculosis. C. Ferreira.
56 Electro-Ionization in Chronic Gonorrheal Urethritis. R. Dupuy.
57 *Rôle of Hypophysis Cerebri in Nutrition. F. Dunan.

53. **Colpotomy.**—Faure reviews the various indications for incision of the vagina, with illustrations of the technic.

54. **Hemolytic Streptococci in Puerperal Infection.**—Metzger accepts the theory that streptococci rapidly inducing hemolysis on blood-agar are generally virulent, but that the non-hemolytic streptococci may also become virulent. When normal parturients have hemolytic streptococci in the lochia they should be kept under supervision and possibly isolated. The presence of hemolytic streptococci in the blood is almost invariably a bad omen.

55. **Albumin Reaction in the Sputum.**—Ferreira's experience with the albumino-reaction in the sputum confirms the general verdict in regard to it, namely, that negative findings exclude tuberculosis but that positive findings may be encountered occasionally in other conditions besides tuberculosis. (See Abstract 44, above.)

57. **The Hypophysis Cerebri in Relation to Nutrition.**—Dunan has been making an experimental study of the influence of hypophysis extract on the metabolism, weight, temperature, respiration, blood-pressure, toxicity of the urine and glycosuria. The extract was from horse hypophysis and rabbits were used for the experiments. The principal effect observed was a constant glycosuria, lasting for three or four days. The toxicity of the urine was also enhanced, the elimination of nitrogen diminished, and the animals all had diarrhea.

Berliner klinische Wochenschrift

April 17, XLVIII, No. 16, pp. 697-740

58 *The Curative Action and By-Effects of Salvarsan on the Ear. Heilwirkungen und Nebenwirkungen des Salvarsans auf das Ohr.) Haike and Wechselmann.
59 The Wassermann Reaction and Stern's Modification. M. Weichert.
60 The Wassermann Reaction and von Dungern's Modification. J. Kahn.
61 *Unreliability of Tryptophan Reaction in Stomach Content in Cancer. (Das peptidspaltende Vermögen des Mageninhalts.) L. Ehrenberg.
62 *Pathogenesis and Treatment of Cholelithiasis. P. Mayer.
63 Acute Perforative Appendicitis in Incarcerated Inguinal Hernia. L. Meyer.
64 Negative Experiences with Nucleic Acid in Treatment of General Paralysis. J. Loewenstein.
65 Improved Cystoscope. (Ein Cystoskop für Ureterenkatheter mit grossem Durchmesser.) E. Garceau.
66 Acoustic Test for Stomach Acidity. (Die akustische Salzsäureprobe mittels Natron und ihr Verhältnis zu der Brauseprobe von A. L. Benedict, Buffalo.) F. Fuld.
67 Resection of the Stomach. (Kritische Bemerkungen zu dem Artikel des Herrn Pochhammer: Beiträge zur Magenresection.) I. Boas, C. Pochhammer.

58. **Action of Salvarsan on the Ear.**—Haike and Wechselmann report the combined study of this subject by an internist and ear specialist, reviewing what has been written to date in respect to the action of salvarsan on the ear. The conclusions from their experience and those reported in the literature are that syphilitic disease of the ear is amenable to salvarsan in all its stages and in the inherited form. The salvarsan may benefit when the ear trouble has resisted mercury but it may likewise fail. The details of six cases are given, including a case of severe syphilis of the auditory nerve entailing deafness for two weeks, completely cured by the eighteenth day after salvarsan. Their experience has further shown that auditory disturbances may develop without salvarsan similar in every respect to those that have been noted after salvarsan treatment. It seems evident however, they say, that salvarsan modifies conditions so that manifestations of the syphilis usually restricted to the third phase may develop very early in the disease. Everything points to the assumption that the auditory disturbances observed under salvarsan are caused indirectly by the drug, at the point where the spirochetes are ensconced. Without the stimulation of the salvarsan, the spirochetes at these points probably would not have made their presence felt until a much later period. It is certainly an advantage, they declare, to be able to root out the spirochetes early in the disease instead of letting them lie latent for a long time and possibly do irreparable damage. Reports of seven cases of these by-effects on the ear after injection of salvarsan are appended. In five of the cases the auditory disturbances were cured by repeating the injection of salvarsan; in the others they subsided under mercury.

61. **Glycyl Tryptophan Test for Gastric Cancer.**—Ehrenberg reports research which seems to speak against the reliability of the peptid-splitting test, the findings varying from positive to negative in the same patient at different times in some cases and being negative in others with unmistakable gastric cancer and positive in simple anemia with cancer of other organs. He explains the reaction as due to the presence or lack of the normal acid secretion; acid checks the reaction.

62. **Gall-Stone Disease.**—Mayer advocates copious drinking of hot water to dilute the bile, with administration of sodium salicylate internally to act on the local inflammation, deep breathing to promote circulation of bile and bed rest as long as there is a trace of inflammation. Another important measure is to act on the sphincter between the common bile duct and the duodenum, coaxing it to open often and thus facilitate passage of bile into the intestine. This is accomplished by keeping the stomach often at work. When the chyme passes out of the stomach the sphincter opens to correspond; when the stomach is empty, bile ceases to pass into the intestine. This is the reason why frequent meals are better in gall-stone disease; at the same time it is important to refrain from overloading the stomach. There should be at least five meals a day, he declares, indigestible foods and those which putrefy and ferment easily being carefully avoided, as these, by irritating the stomach and compelling it to work too hard, induce reflex contraction of the gall-bladder and thus may start colic. Another reason for light meals is that the stomach is very often sympathetically affected in cholelithiasis. Very cold and very hot articles of food should be avoided for the same reason, but otherwise there is no special diet for gall-stone disease. Drugs to increase secretion of bile are not liable to be useful but rather to increase the trouble from pressure; dilution of the bile is much more rational. For this he recommends a glass or two of hot water an hour before breakfast and before retiring, with small amounts frequently during the day.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 20, XLI, No. 12, pp. 417-448

68 *Functional Tests of the Heart. (Funktionsprüfung des Herzens.) R. Staehelin.

68. **Tests of the Functioning of the Cardiovascular System.**—Staehelin concludes this long review of the various methods of estimating the sufficiency of the heart and vessels with the statement that the pulse-rate after graduated muscular exertion is the only practicable method yet at our disposal for estimating the functional capacity of the heart. Even this does not show whether the disturbance is in the heart or in the vessels. To date, he says, there is no means for estimating the functioning of the arteries. If the efforts in this line so far have given no tangible results, yet they have thrown much light on the mechanism of the circulation.

Deutsche medizinische Wochenschrift, Berlin

April 20, XXXVII, No. 16, pp. 721-768

69 *Treatment of Frontal, Maxillary and Sphenoidal Sinusitis. (Behandlung der entzündlichen Erkrankungen der Nasennebenhöhlen.) G. Killian.
70 *Electric Investigation in Vertigo from Disease of the Internal Ear. (Untersuchungen über den Labyrinthschwindel und die elektrische Reizung des N. vestibularis.) F. Dyrenfurth.
71 Experimental Tuberculosis of the Iris and Choroid in Rabbits. F. Schieck.
72 Gunshot Injuries from Medicolegal Standpoint. (Beiträge zur gerichtsärztlichen Beurteilung von Schussverletzungen.) G. Puppe.
73 *Characteristic Painful Point in Abdomen with Sciatica. (Ein Abdominaldrucksymptom der Ischias.) S. Gara.
74 Incision for Appendectomy. (Bauchdeckenschnitt bei Blinddarmoperationen.) Hackenbruch.
75 Complications Liable to Occur with Torsion of Pedicle of Ovarian Tumors. F. Gronarz.
76 *Successful Roentgen-Ray Treatment of Genital Tuberculosis. F. Spaeth.
77 *Alternating Treatment of Leg Ulcer. Althoff.
78 Case of Purgen Poisoning. E. Zabel.

69. **Sinusitis.**—Killian gives an illustrated description of the electric light bath for the head which he has found extremely useful in treating acute inflammations of the frontal, sphenoidal and maxillary sinuses. The four incandescent lights in the box shine directly on the face, the eyes being protected by a leather bandage. The patient breathes comfortably through a tube in his mouth; by a special contrivance the air is impregnated with moisture before it is breathed. The action of the active hyperemia thus induced is enhanced by small doses of sodium or potassium iodid, bed rest, and 0.5 or 1 gm. acetyl salicylic acid (aspirin) half an hour before the electric bath to promote sweating. He states that his experience with this method of treatment has been so extensive and so favorable that he regards it as far superior to any other. Recovery is complete under it in a week or two unless there is some obstacle in the nose to evacuation of the sinus. He warns against operative measures during the height of the inflammation. Only when the acute phase is past and the affection is becoming chronic is it safe to venture to resect the lower end of the middle turbinate. If the frontal sinus has to be opened it should be done from without. Radical operations should be reserved for old chronic cases and success depends on careful individualization and skill; great harm may easily result from the lack of either.

70. **Labyrinthine Vertigo and Electric Stimulation of the Vestibular Nerve.**—Dyrenfurth has the patient close his eyes and stand on one foot with the other knee bent at a right angle, supporting himself merely by the tip of a finger resting on the back of a chair, this position having been found a great improvement in the technic for electric tests of the auditory nerve. One electrode is held in the hand while the other pole is connected with a double electrode fitting over both mastoid processes. By this means an even current is passed from both sides through the region of the vestibular nerves, and the slightest tendency to loss of balance becomes at once apparent. Neurasthenic patients and those who have suffered from a traumatic shock to the brain (commotio cerebri) are most sensitive. Patients with unilateral labyrinthine disease fall toward the diseased side when the trouble is irritative, while they fall toward the opposite side in case of a tendency to atrophy of the nerve when stimulated with the anode, while the tendency to fall in these directions is reversed when the cathode is substituted. He gives the details of ten cases and reports further experiments on healthy subjects.

73. **Abdominal Tender Point as Symptom of Sciatica.**—Gara has found constantly in 118 cases of sciatica a certain symptom, which, he says, throws light on the etiology of the affection and explains the failure of treatment hitherto in many cases. The symptom was lacking in only 6 of his 124 patients with sciatica. It is an extremely painful point found by pressing the finger into the abdomen over the spinous process of the last lumbar vertebra, thus pressing on the nerve roots and the sacral plexus. Moderate pressure elicits severe pain on the side affected, while pressure at this point is not painful on the sound side and in the healthy. He locates the point a fingerbreadth below the umbilicus and two fingerbreadths to the side of the median line, pressing perpendicularly to the spine. The remarkable feature of this symptom is that, notwithstanding the sensitiveness of this point, the patients are not aware that anything is wrong there, never experience local pain at this point and never complain of abdominal pain except with much constipation, when feces accumulate and stagnate. A purgative will therefore aid in relieving pain from pressure of the distended large intestine on the sacral plexus, when the sciatica is on the left side; there is no opportunity for such pressure on the right side. Pregnancy may also lead to compression of the plexus. The pain from its compression is rarely felt at the point; it radiates down the sciatic nerve. This tender point in the abdomen indicates the methods of treatment from which we may anticipate good results.

76. **Tuberculosis of Uterus Cured by Roentgen-Ray Treatment.**—In the case reported by Spaeth a young woman had a severe tuberculous process in the internal genitalia which proved rebellious to repeated operative measures even after the lesion had been opened up and the region sutured to the skin. The hectic fever was continuous, the patient being reduced to a skeleton and unable to sit up in bed. As a last resort Roentgen-ray treatment was applied; it induced an intense local reaction, copious secretion, with reopening of the intestinal fistulas and the temperature rose still higher. He did not have courage to repeat the exposure until two weeks later and then continued the treatment with progressive benefit, until there had been eighteen exposures and a total of sixty-three minutes' exposure in five months; the patient returned in apparently perfect health after a summer in the country.

77. **Alternating Treatment of Leg Ulcer.**—Althoff has had far better results since he has introduced a system of alternately dressing the ulcer during the day with a salve containing 2.5 parts Peruvian balsam and 0.75 parts silver nitrate with 50 parts petrolatum, and then at night dressing the ulcer with a compress dipped in a 1 per 1,000 solution of bichlorid of mercury, not extending more than half an inch beyond the lesion, the whole being covered with a waterproof bandage. The ulcer is thus dressed twice a day by the patient; the whole leg is soaked in warm water for four or five minutes each time the dressing is changed. He cites a few cases to illustrate the efficacy of this alternating method, each of the applications supplementing the other and warding off possible injury.

Münchener medizinische Wochenschrift

April 18, LVIII, No. 16, pp. 833-880

79 *Exophthalmic Goiter. (Ueber den Morbus Basedowii.) A. Saenger.
80 Advantages of Early Operative Treatment in Exophthalmic Goiter: Thirty-Four Cases. P. Sudeck.
81 Hypersusceptibility in Relation to Infection and Immunity. (Rolle der Ueberempfindlichkeit bei der Infektion und Immunität.) A. Schittenhelm and W. Weichardt.
82 The Aphasia Question. (50 Jahre Aphasieforschung.—1861, 18. April—1911.) K. Heilbronner.
83 *Salvarsan in Syphilis. T. Schmidt.
84 *Clinical and Experimental Evidence that Salvarsan Does Not Act on the Cornea. (Klinische und experimentelle Beobachtungen über das Verhalten des Salvarsan zur Hornhaut.) W. Löhlein.
85 Butenko's Urine Reaction not Specific for Progressive Paralysis. H. M. Stucken.
86 *Superheated Air in Skin Diseases. (Heissluftbehandlung bei Dermatosen.) P. Esau.
87 Clinical Picture of the Plague by Lucretius and Livy. Schroeder and F. Kanngiesser.

79. **Exophthalmic Goiter.**—Saenger formerly explained this disease as a neurosis but has been converted to regard it as the result of perverted functioning of the thyroid. He is sustained in this view by the benefits from surgical treatment, by the development of exophthalmic goiter in consequence of acute inflammation of the thyroid, an occurrence which he has witnessed himself several times, by the manifestations of the so-called secondary Basedow syndrome, and lastly, by the fact that recurrence of the goiter is accompanied by return of the Basedow symptoms. The importance of acute infections in the etiology of exophthalmic goiter is often overlooked. Palpitations of the heart are usually the first symptom, the thyroid not becoming enlarged until later. The exophthalmos is generally bilateral. In his ninety-seven cases six of the patients have died, two after thyroidectomy, the four others from the heart disturbances and weakness. The first measure in treatment is change of scene and if possible of occupation. A course of rest and forced feeding alone may restore the earning capacity. The symptoms became aggravated under thyroidin treatment in his experience. In two cases improvement followed Roentgen-ray treatment, but there was no benefit in another case. He advises a course of internal treatment at first; if after a reasonable time the earning capacity is not restored, he calls in the surgeon. If the condition grows bad again in the years after an operation, instead of ascribing the aggravation to the operative measures, he orders still more of the thyroid to be removed. Operative treatment is especially indicated for working people as the earning capacity is more promptly restored.

83. **Salvarsan in Syphilis.**—Schmidt reports a few unfavorable experiences in the course of salvarsan treatment of 250

syphilitics. In one tabetic, progressive paralysis developed four days after the injection, the entire domain of the sciatic nerve being paralyzed for a time, but at present a peroneus paralysis is all that is left of the trouble. Peroneus paralysis also developed after injection of salvarsan in the early stage of syphilis in another case, the paralysis having been preceded by two weeks of severe pain in the whole leg. Two of his patients have since died, one from cancer metastasis in the brain; the other, a tabetic, died three weeks after the injection which had been borne without disturbance. In neither case, he states, could the salvarsan be incriminated in the fatality.

84. **Inefficacy of Salvarsan in Syphilitic Keratitis.**—Löhlein reports that no benefit was apparent in the nine cases of syphilitic parenchymatous keratitis in which he applied salvarsan; the involvement of the other eye was not prevented. Even supplementary threefold subconjunctival injection of 0.01 gm. salvarsan failed to arrest the corneal lesion. The failure of the drug in these cases cannot be ascribed to nonpenetration of the drug into the cornea as he demonstrated by experiments on rabbits with both subcutaneous and intravenous injection of the drug.

86. **Superheated Air in Treatment of Skin Diseases.**—Esau urges the more general application of superheated air in treatment of dermatoses, declaring that it should at least be given a fair trial before starting a tedious, complicated course of treatment. The way it stops the itching is its most grateful effect while in treatment of weeping and scaling skin affections, he says that it is at least as effectual as other measures at our command. He uses the hot-air box, with the hot-air douche only when it is impossible to apply the hot-air box to the region. One specially interesting feature of the treatment is the way in which, when one patch is exposed, other patches seem to feel the benefit, too, and display an evident, though milder, reaction.

Wiener klinische Wochenschrift, Vienna

April 13, XXIV, No. 15, pp. 519-554

88 Protecting Powers of the Cells. (Die Schutzkräfte der Zellen.) E. Pribram.
89 Further Experimental Research on Anaphylaxis. (Ueber die Zuverlässigkeit des Peptonnachweises als Abbaureaktion bei der Anaphylaxie.) F. Schenk.
90 *Case of Extensive Tuberculosis of Mediastinal Glands. (Beziehungen der Lymphdrüsentuberkulose zur Hodgkinschen Krankheit.) O. M. Chiari.
91 *Diagnostic Importance of Tubercle Bacilli in Stools. (Diagnostische Verwertbarkeit des Tuberkelbacillennachweises in den Fäzes.) F. Rittel-Wilenko.
92 *Treatment of Writer's and Player's Cramp, etc. (Zur Therapie der koordinatorischen Beschäftigungsneurosen und über Autogymnastik in chronischen Fällen derselben.) M. Benedikt.
93 Isolated Fracture of the Carpal Bones. (Isolierte Karpalknochenfrakturen.) A. v. Posch.
94 Syphilis of the Ear. (Zur Frage der Erkrankungen des Akustikus und des Labyrinthes bei erworbener Lues.) O. Mayer.

April 20, No. 16, pp. 555-582

95 Action of Ultraviolet Rays on Albumin Antigen and Its Antibody. (Wirkung des ultravioletten Lichtes auf das Eiweissantigen und seinen Antikörper.) R. Doerr and J. Moldovan.
96 *Presence of Cholesterin in the Blood of Pregnant Women. (Cholesterinesteremia.) L. Aschoff.
97 Comparative Serologic Tests in Tuberculosis, Syphilis and Leprosy. (Peptone Reaction.) (Peptonreaktion bei Tuberkulose, Lues und Lepra.) R. Müller and E. Suess.
98 Atoxyl in Tuberculosis. (Einige Fälle von Atoxylbehandlung der Tuberkulose.) B. Knothe.
99 Toxic Action of Typhoid Effusion on the Circulation. (Untersuchungen über die Giftwirkung von Typhusexsudaten auf den Kreislauf.) E. Hoke.
100 *Insurance Statistics an Unreliable Basis for Study of General Public Health Conditions. (Die Schwierigkeiten bei der Verwertung der Krankenkassenstatistik.) L. Teleky.

90. **Connection Between Glandular Tuberculosis and Pseudoleukemia.**—In the case reported the presumptive diagnosis had been primary carcinoma of the right bronchus with a metastatic tumor in the glands. Necropsy disclosed that the trouble was a tuberculous tumor involving the glands, compressing the bronchi and involving their walls and the pleura, plus caries of ribs and extensive tuberculosis of the lymph glands—the whole picture suggested Hodgkin's disease. The resemblance was the more striking on account of the way in which the tuberculous processes had invaded adjacent organs, as in malignant disease.

91. **Tubercle Bacilli in the Stools.**—Wilenko has examined recently the stools in every case of tuberculosis and tabulates the clinical and necropsy findings in fifty-four cases. They show that tuberculous processes may exist in the intestines without any manifest symptoms; whenever tubercle bacilli were found in the stool, tuberculous lesions were evident in the intestines at necropsy. Intestinal lesions proved to be far more common than was surmised from the course of the cases. Two patients had no tubercle bacilli in the stools on repeated examination, notwithstanding extensive pulmonary lesions, and the intestines were found intact in these cases.

92. **Treatment of Occupational and Other Coordination Neuroses.**—Benedikt comments on the great curative value of local injection of a 2 per cent. solution of phenol in treatment of writer's cramp and other occupational neuroses. No one else, he says, seems to have realized the importance of this simple measure, although he has advocated and practiced it for years, and he has never known it to fail, even in old chronic cases. Tender points can always be found in the tendons of the wrist or hand, or in the heads of the tendons in the elbow or shoulder in these cases of occupational coordination neuroses, and injection of the weak phenol solution at the tender points speedily restores conditions to normal. He explains the trouble as a central coordination neurosis, a reflex affection which can be checked and cured by curing the original source in the tendons and muscles which sets up the mischief. These neuroses are particularly common among piano students and professional players and they put an end to all instrumental playing for the time; a few injections at the tender points, however, cure the underlying disturbance and with it the neurosis vanishes. In one recent case of the kind, the tender point was found in the bend of the elbow. Injection here caused a slight anesthesia in the domain of the ulnar nerve, but it restored the use of the hand so the patient was able to give a concert the week after. In the chronic cases, massage of the nerve may be useful, and he has obtained good results with massage applied crosswise to the nerve, as a guitar string is played.

96. **Cholesterinemia in Pregnant Women.**—Aschoff reviews recent research which has thrown light on the formation of cholesterin stones. It seems that cholesterin is liable to be deposited whenever there is obstruction to the free flow of bile. Any stagnation of bile is thus liable to entail formation of a cholesterin stone, and conditions during a pregnancy almost inevitably interfere more or less with the free outflow of bile. This explains the "cholesterinesteremia" in the pregnant woman to which Neumann and Herrmann among others have recently called attention. It also suggests that the seed for cholelithiasis is planted in many cases during a pregnancy, the primary cholesterin stone growing by concretion and the irritation from it later leading to infection and the whole train of gall-stone disease. Aschoff is inclined to believe that there is increased production of cholesterin esters under the influence of the pregnancy and that they accumulate at various points, an actual cholesterin-steatosis.

100. **Difficulties in Drawing General Conclusions from Statistics.**—Teleky calls attention to the report recently published by the Leipsic sickness insurance company, the data in which cover 1,284,676 persons under observation during one year, with tabulation of the details in respect to sex, age, occupation, sickness, etc. Over $80,000 was appropriated by the Reichstag in 1903 for the work, the Leipsic *Krankenkasse* being the only one that had kept its books with sufficient detail for the purpose. Teleky warns that while this work will supply a basis for further research in many directions, general conclusions based on the statistics are almost certain to be fallacious as so many factors have to be taken into account. He shows the danger of this by a number of concrete examples.

Zentralblatt für Chirurgie, Leipsic

April 22, XXXVIII, No. 16, pp. 565-596

101 Operative Treatment of Aneurysm of the Carotid Artery. F. Weber.
102 *Convulsions After Orthopedic Operations. (Krampfanfälle nach orthopädischen Operationen.) K. Gaugele.

102. **Convulsions After Orthopedic Operations.**—Gaugele has had two cases of this kind similar to the ten reported by

Schanz, summarized in THE JOURNAL, Feb. 12, 1910, page 576. Schanz explains the convulsions as due to fat embolism, but Gaugele says that the symptoms are by no means those of fat embolism and Codivilla, whose article was summarized in THE JOURNAL, Dec. 4, 1910, page 2277, also rejects the assumption of fat embolism as the cause of the convulsions after orthopedic operations. In Gaugele's two cases the convulsions developed four or five days after reduction of congenital dislocation of the hip joint in children of 7 and 9. The convulsions kept up for a day or two; the pupils were rigid but there was no fever and both patients recovered. The children seemed to be doing well until the rest of the family came to see them, the visit being full of excitement and weeping and the family staying three hours, long past the allowed time. The epileptiform convulsions developed almost at once after the excitement of the visit, and since then Gaugele refuses to allow any visits from friends until two weeks after the operation and he has had no further disturbances of the kind, not even in the severest cases, with children up to 10 or 15 years old. Schanz ascribes a great curative effect to saline infusion, and Gaugele found it beneficial, although he does not accept Schanz' explanation for this. In another case the symptoms indicated actual fat embolism; soon after the operation (correction of paralytic club-foot), there were intense pains in the abdomen and heart region with vomiting, irregular and rapid pulse, pallor and a distressed expression, although the patient was tranquil. After subcutaneous injection of 200 c.c. of salt solution, the symptoms subsided and by the end of two hours the condition was normal.

Zentralblatt für Gynäkologie, Leipsic

April 22, XXXV, No. 16, pp. 609-640

103 Improved Technic for Cesarean Section. (Zur weiteren Verbesserung der Kaiserschnittstechnik.) J. Veit.
104 Progress Forward or Backward? (Neuerung oder Fortschritt?) M. Hofmeier.
105 *Hypnosis. (Nochmals die Hypnose.) J. Kocks.

105. **Hypnosis.**—Kocks presents further arguments to sustain his assumption that hypnotic seances have never been genuinely scientific.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 6, XXXII, No. 42, pp. 443-450

106 Origin of Ossifying Myositis. U. Fabris.

April 9, No. 43, pp. 451-466

107 Exogenous and Endogenous Metabolism. F. Bottazzi. Commenced in No. 40.
108 *Alcoholism and Tuberculous Peritonitis. P. F. Arullani.
109 Pathologic Anatomy of the Beard. (Alcune anomalie dei peli del mento.) S. Giovannini.

April 13, No. 45, pp. 475-482

110 Autoserotherapy. C. Garmagnano.

108. **Alcoholism and Tuberculous Peritonitis.**—Arullani practices in a vine-growing region in Italy where the inhabitants drink wine almost exclusively, the alcohol content ranging from 13 to 15 per cent. Notwithstanding the pure air, robust constitutions and absence of poverty in the region, cirrhosis of the liver and all forms of tuberculosis are remarkably prevalent. He thinks that few regions can show so emphatically the close connection between alcoholism and tuberculosis. In a case described in detail, fatal ileus developed in the course of chronic afebrile tuberculous peritonitis in a man of 35.

Policlinico, Rome

April 9, XVIII, No. 15, pp. 453-484

111 Vitality of Cholera Vibriones in Water. F. Piccininni.
112 Dry Sterilization of Catgut. E. Lay and G. de Pascalis.

April, Medical Section No. 4, pp. 145-192

113 Congenital Malaria. P. Sabella.
114 Spontaneous Typhoid in Goats. (L'infezione spontanea nelle capre da bacillo di Eberth.) F. Scordo.
115 Experimental Paratyphoid Infection in Goats. (L'infezione sperimentale da paratifo B nelle capre.) F. Scordo.
116 Metabolism of Nitrogen and Urea in Gout. (Contributo sperimentale alla conoscenza del ricambio azotato ed urico nella gotta.) T. Pontano. Commenced in No. 2.

Ugeskrift for Læger, Copenhagen

April 13, LXXIII, No. 15, pp. 511-544

119 Campaign Against Tuberculosis in Denmark During the Last Ten Years. H. Rørdam.
120 Nature of Cancer and Vaccine Therapy. (Kræftens Natur og Behandling.) C. Otto.

Hygiea, Stockholm

March, LXXIII, No. 3, pp. 257-384

117 Cesarean Section. '(Några ord i kejsarsnittsfrågan.) O. Lundblad.
118 *Gastric Endothelioma. (Till ventrikelendoteliomernas kasuistik.) V. B. Jörgensen.

118. **Gastric Endothelioma.**—Jörgensen reviews four cases—all he has been able to find in the literature, and then reports a fifth. His patient was a woman of 56 and she is in good health to date, ten months after resection of nearly half of the stomach. The tumor projected fully 4 cm. into the stomach and around the base measured 19 cm. Diarrhea had been the first symptom a year before the operation. Oppression and pain in the stomach had been noted for two or three months.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. STUDIES ON PLAGUE IN GROUND-SQUIRRELS (IN FOUR PARTS). Part I. Pathology and bacteriology of plague in ground-squirrels. Part II. Notes on induced plague in ground-squirrels. Part III. Immunity of certain squirrels to plague infection. Part IV. Insect transmission in relation to plague among ground-squirrels. 2. A PLAGUE-LIKE DISEASE OF RODENTS. By George W. McCoy, Passed Assistant Surgeon. Hyg. Lab. Bull. 43, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 75, with illustrations. Washington: Government Printing Office, 1911.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT IT. Seventh American Edition. Prize Essay by S. Adolphus Knopf, M.D., New York, Professor of Phthisio-Therapy at the New York Post-Graduate Medical School and Hospital. (International Prize Awarded by Committee of the International Congress to Combat Tuberculosis as a Disease of the Masses, at Berlin, July 31, 1900.) Paper. Price, 25 cents. Cloth. Price, 50 cents. Pp. 122, with 64 illustrations. New York: The Survey, 105 E. Twenty-Second Street (1911).

LEHRBUCH DER KINDERHEILKUNDE. Bearbeitet von Prof. Dr. Feer, Heidelberg; Prof. Dr. Finkelstein, Berlin; Priv.-Doz. Dr. Ibrahim, München; Dr. L. F. Meyer, Berlin; Prof. Dr. Moro, München; Prof. Dr. Von Pirquet, Breslau; Prof. Dr. Pfaundler, München; Prof. Dr. Thiemich, Magdeburg; Priv.-Doz. Dr. Tobler, Heidelberg. Herausgegeben von Prof. Dr. E. Feer, Direktor der Univ.-Kinderklinik in Heidelberg. Paper. Price, 11.50 marks. Pp. 734, with 162 illustrations. Vienna: Gustav Fischer, 1911.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE AND TOXICOLOGY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Toxicology and Medical Jurisprudence in Cornell University, and Tracy C. Becker, A.B., LL.B., Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the Collaboration of Various Authors. Second Edition. Volume 4. Cloth. Price, $7. Pp. 1261. New York: William Wood & Co., 1911.

DIGEST OF COMMENTS ON THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA (EIGHTH DECENNIAL REVISION) AND THE NATIONAL FORMULARY (THIRD EDITION) FOR THE CALENDAR YEAR ENDING DEC. 31, 1908. By Murray Galt Motter and Martin I. Wilbert. Hyg. Lab. Bull. 75, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 564. Washington: Government Printing Office, 1911.

A TUBERCULOSIS SERMON. By S. Adolphus Knopf, M.D., Professor of Phthisio-Therapy at the New York Post-Graduate Medical School and Hospital. With a Foreword by the Rev. John Haynes Holmes, Minister of the Church of the Messiah. September, 1910. Paper. Pp. 16. New York: The Church of the Messiah, Park Avenue and Thirty-Fourth Street.

SCHUTZPOCKENIMPFUNG UND IMPFGESETZ. Unter Benutzung amtlicher Quellen bearbeitet von Prof. Dr. Martin Kirchner, Geheimem Obermedizinalrat und vortragendem Rat im Ministerium des Innern. Paper. Price, 1 mark. Pp. 158, with 18 illustrations. Berlin: Richard Schoetz, 1911.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twenty-Second Session Held at the New Willard Hotel, Washington, D. C., May 3, 4 and 5, 1910. Edited by Linnaeus Edford La Fétra, M.D. Volume XXII. Cloth. Pp. 377, with illustrations. New York: E. B. Treat & Co., 1911.

REPORT FROM THE PATHOLOGICAL DEPARTMENT CENTRAL INDIANA HOSPITAL FOR INSANE. 1906-07, 1907-08. Cloth. Pp. 104. Vols. I and II. Same for 1908-1909. Vol. III. Pp. 224. George F. Edenharter, M.D., Superintendent, Indianapolis.

OFFICIAL PROCEEDINGS OF THE FIRST ANNUAL SESSION OF THE PAN-PACIFIC CONGRESS. Held at Honolulu, Hawaii, Feb. 20-28, 1911. H. P. Wood, Secretary, Honolulu, Hawaii. Paper. Pp. 47.

HEALTH HINTS AND HEALTH TALKS. By E. R. Pritchard, Secretary of the Chicago Department of Health. Cloth. Price, 50 cents net. Pp. 153. Chicago: The Reilly & Britton Co.

DIE HODGKINSCHE KRANKHEIT. Von Dr. Kurt Ziegler, Privatdozent in Breslau. Paper. Price, 9 marks. Pp. 204, with illustrations. Vienna: Gustav Fischer, 1911.

THIRTY-FIRST ANNUAL REPORT OF CREIGHTON MEMORIAL ST. JOSEPH'S HOSPITAL, OMAHA, NEB. For the Year Ending Dec. 31, 1910. Paper. Pp. 34.

TWENTY-SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA, 1910. Joseph Y. Porter, Secretary, Jacksonville. Paper. Pp. 171

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SOME PROBLEMS IN GASTRO-INTESTINAL SURGERY *

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BALTIMORE

The title chosen for this paper may seem, perhaps, a trifle ambitious when one considers the short time at my disposal; therefore let me hasten to state that I shall attempt to consider but a few of the problems presented in the surgery of the gastro-intestinal tract, and even these I shall discuss only in a very desultory manner. It will be my aim to give expression to some observations of my own, and to personal impressions and ideas deduced therefrom, rather than to present an exhaustive study of the voluminous literature on the subject.

That the gastro-intestinal tract does present many most interesting and intricate problems will be readily admitted, I am sure, by every one who has had any considerable experience in this branch of surgery. Happily, owing to much careful observation and thoughtful consideration, combined with technical skill, scientific accuracy and painstaking effort on the part of many laborers in this field, problems which have for a long time baffled the best minds in the profession are one after another nearing solution. Indeed, it is not too much to say that already some of them have been solved, while undoubtedly the near future will witness the solution of others which now appear well-nigh hopeless.

It is certainly most encouraging if we for a moment look back on what has been accomplished during the surgical lifetime of many of those present. Let us take, for example, the operation of gastro-enterostomy. It has been a matter of only a very few years since after every gastro-enterostomy, the possibility of the vicious circle (now little more than an unpleasant memory), stared the surgeon in the face. The anxious questionings of former days as to the use of the long loop or the short loop, anterior fixation or posterior fixation, spur formation, closure of the pylorus, the particular method of suture or kind of suture material, are little understood by the younger generation of surgeons. To-day the operation of gastro-enterostomy is undertaken with as much assurance of success on the part of the surgeon, and almost as little fear on the part of the patient, as an interval operation for appendicitis.

Let us for a moment look the facts as regards this particular operation squarely in the face. Theoretically and physiologically it is all wrong, but practically, when performed under proper conditions and for definite indications, and in competent hands, it is followed, as a rule, by most satisfactory results. And why? Is the improvement in the symptoms the result of better drainage, as some would have us believe, or is it due to the neutralization of the over-acid contents of the stomach, a chemical process, pure and simple, as claimed by others? And why does an operation which is capable of producing such satisfactory results in one case fail utterly or even make matters worse in another presenting similar clinical phenomena? These are hard questions to answer.

The technic of this operation has been worked out so satisfactorily that its principles are no longer subjects for discussion. Unimportant details alone remain unsettled, such, for instance, as to whether in making the anastomosis the jejunum should point toward the right or toward the left, following respectively the method of Mayo or of Moynihan. I may add, by way of parenthesis, that in this particular controversy it appears to me that it matters little whether the jejunum points to the left or to the right, so long as the loop of jejunum is not rotated on its long axis at the point of union with the stomach wall, for if it is so rotated a valve formation with obstruction is very likely to be produced thereby.

In the hands of masters, such as the two whose names have just been mentioned, little concerning this operation is left to be desired; but, unfortunately, in the hands of ordinary surgeons, not especially skilled in abdominal surgery, the results at times are, to say the least, disappointing. Pain, troublesome indigestion, regurgitation of food, bilious vomiting, anorexia and loss of weight are some of the unpleasant symptoms occasionally observed. If these unsatisfactory results are carefully analyzed it will generally be found that in the beginning the indications for the operation had not been sufficiently definite; in other words, an unnecessary and ill-advised operation had been done, or that it had been hurriedly or unskilfully performed.

It can be said of this operation, I think, as truthfully as of almost any other, that its indications are known and its limitations at least fairly well determined. What is true of the operation of gastro-enterostomy is in varying degrees true of other operative procedures that have to do with the stomach and intestinal tract throughout.

In reviewing our experiences in this particular line of surgery, what has given rise to the gravest doubts? What to the greatest difficulties? Have they been problems of diagnosis or have they been technical problems of execution? While each undoubtedly possesses its own peculiar vexations, still I fancy that the most of you have had a like experience to my own, namely, that the difficulties of diagnosis have, on the whole, far outweighed those of execution. I am not as yet prepared to go quite so far as a well-known English surgeon who, in the course of conversation with me on this subject

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while I was on a visit to his clinic during the past summer, remarked: "It has come to this in abdominal surgery, that none but problems of diagnosis any longer excite interest. Since operative surgery has developed into so exact a science it has become little more than one of the mechanical arts, and hence too easy." I envy anyone this happy frame of mind, but the memories of certain situations fraught with danger and full of difficulty and anxious doubt, which, unexpectedly or not, developed after having opened an abdomen, are as yet too vivid to allow me to indulge myself in any such alluring fancies.

There is, however, an element of truth in what the eminent surgeon just quoted has said, and right here lurks a danger and a real one, too. Because, on the one hand, diagnosis is admittedly so difficult in many cases, and the more recent special tests demand of the examining physician special training in their making, and superior knowledge in their proper interpretation, while, on the other, operation has become so much more safe and exact, the temptation on the part of some to curtail a history or to slur over an examination and to rely on an exploratory incision because it is so easy, becomes increasingly more difficult to resist.

In order to avoid the performance of an unnecessary operation, which is always a reproach to surgery, or to prevent unpleasant results, at least four things should be borne in mind: (1) A correct diagnosis should be made; (2) every care and detail should be observed in order to make the operation technically perfect; (3) existing conditions should be accurately observed and properly interpreted; (4) the results of operative procedures should be carefully watched and recorded in sufficient numbers and covering long enough periods of time to enable one to judge of the end-results of given lines of treatment.

While hitherto it must be admitted, I think, by a candid observer, that in this particular field of surgery the physician, by his acts of omission in not promptly calling in the aid of the surgeon, has been the greater sinner, still this does not absolve the surgeon from the sins of commission just referred to. In arriving at a diagnosis too much care and thought cannot be exercised in the study of all the phenomena presented by the individual case, nor can too great scrutiny be imposed on a patient before submitting him to a surgical operation. If the surgeon oftener accompanied the physician through his wards or to his laboratory, or if the physician oftener followed his patient into the operating-room and saw what the surgeon sees, there would be far less point to these remarks. Fortunately this happy cooperation already exists in a number of clinics in this country, and the productive activity of these centers bears eloquent tribute to its effectiveness.

As stated above, while many of the problems in execution and some in diagnosis as well are nearing solution, a goodly number are still far removed from it. Let me report a case which well illustrates several points to which I wish to direct attention.

CASE 1.—*Patient.*—Miss S. S., aged 27, native of Pennsylvania, no occupation, was referred to me by Professor Barker, from the medical side of the Johns Hopkins Hospital, June 9, 1910.

Complaint.—General nervousness and stomach trouble.

History.—Patient comes from a long-lived, healthy family. As a child, she enjoyed good health. She had had the usual children's diseases, except scarlet fever and diphtheria. She had had a mild case of what was diagnosed as typhoid fever. Menstruation began at 17 and has always been painful; she has usually had to remain in bed for several days. During these periods she was very nervous with occasional hysterical manifestations, crying, laughing, etc. She has had more or less local treatment for this condition by specialists, from which she derived little benefit. She was operated on in a neighboring city five years ago for retroversion of the uterus, with little or no relief. A year later, another operation was performed, the exact nature of which she did not know, and as a result of which she thinks she grew worse instead of better. Three years ago, at a third operation, the appendix was removed, and at the same time a fixation of the uterus was performed. After this, she was improved for a while. One benefit she noted was that she did not have to remain in bed during the menstrual periods. All this time she has been very nervous and has had much trouble with digestion. Examination of the eyes, ears, nose and throat was negative. There were neither cough, dyspnea nor night sweats. There were no cardiac symptoms except nervous palpitation at times. There was no swelling of ankles. Stomach never pained, but food seemed to remain in it for a long time. She was never comfortable except when the stomach was empty. There were nausea and vomiting when food was forced, and she vomited after almost every meal. The vomitus was not sour, no blood. She was of constipated habit, but lately bowels had been more normal. She had no diarrhea, no blood, no urinary symptoms. She worried much about herself. For the past three years, her ill health had prevented her marriage, and she had become much discouraged. She complained especially of a heavy feeling in the stomach after eating, with nausea and vomiting, and often went a whole day without food in order that she might feel well enough to go to the theater at night. She had frequent and severe headaches.

Examination.—Blood showed: Reds, 5,000,000; white, 7,400; hemoglobin, 75 per cent.

Stomach Examination: This showed moderate increase of mucus, no free hydrochloric acid. Total acidity 7.5 per cent. Rennin and pepsin present in good amounts. No occult blood.

The patient had been kept on the medical side for some weeks under the care of Dr. Barker on rest and forced diet. She complained generally of gastric fulness, insomnia and depression. She appeared very excitable, buoyant at times, then much depressed, weeping, etc. She was very restless.

Further History.—During the time she was under observation on the medical side, the symptoms described continued with slight variation. Repeated examinations of stomach contents showed practically the same condition except that the free hydrochloric reappeared in small quantity. The vomitus had changed a little in character, becoming sour and irritating her throat. Pain also became something of a feature, associated with attacks of vomiting. The pain was described as epigastric in character, radiating to the left shoulder and between the scapulæ and back. Not having received any material benefit from the forced feeding and rest, she was transferred by Dr. Barker to the surgical side, and on June 10, 1910, I operated on her through a right rectus incision.

Operation.—On opening the abdomen, a marked general enteroptosis was revealed. The stomach was enlarged, its walls being pale, thin and flabby. The pylorus was wide open and twice its usual diameter, the first portion of the duodenum was dilated to a diameter of about 5 cm., its walls were thin and pale. The cecum was distended and displaced well down into the pelvis, the transverse colon apparently filling up the whole lower portion of the abdomen with several extra folds. The walls were thin and pale and the diameter about twice the usual size. The descending colon and sigmoid showed a similar condition. The whole lower portion of the abdomen seemed full of large intestine, behind which the coils of small intestine were collapsed and ribbon-like. The gall-bladder and ducts were normal. The uterus was adherent to the anterior abdominal wall. Tubes and ovaries were apparently normal. Solid viscera, liver, spleen, kidneys were normal but sharing in the general prolapse. It was thought best to excise the transverse colon and the two flexures, hepatic and splenic, as this portion of the colon seemed to be the seat of the principal abnormality. This was done between two clamps, the free ends were ligated and the stumps inverted as in an appendectomy. The bowel was divided with the actual cautery. A

lateral anastomosis was made between the two segments of the colon. It was then decided, owing to the marked dilatation of the upper portion of the duodenum, to anastomose this portion of the intestine with the jejunum. A lateral duodeno-jejunostomy was, therefore, performed. This was rendered easy by the previous division of the mesentery of the transverse colon which had been made. In this way, it was hoped to obviate the possibility of an obstruction to the passage of food through the duodenum by the mesenteric vessels, the so-called gastromesenteric ileus. So far as I know, this is the first time that this operation has been combined with that of resection of the colon.

Post-Operative History.—The time of operation was a little over an hour. The patient stood it well, and returned to the ward in excellent condition. There was considerable pain for the first forty-eight hours, which was easily controlled by small doses of morphin. Nausea and vomiting were also present for the first few hours, the nausea continuing for three days. In other respects, she made an uneventful convalescence. A marked improvement in the mental condition was early noted. The patient left the hospital on July 2, 1910, very much improved in every way. I have heard from her recently, and this improvement was continued unabated up to the time of the last communication.

CASE 2.—*Patient.*—Mrs. E. O. P., aged 46.

Complaint.—(1) Pain in right side, running down leg into calf regarded as sciatic rheumatism; began twenty-five years ago. (2) Pain in right lower abdomen, localized; onset five years ago, was regarded as gall-bladder trouble. (3) Persistent constipation for past ten years; mucous colitis for several years.

History.—Exploratory laparotomy was done three years ago. Adhesions were found around gall-bladder, appendix, etc. The appendix was removed. She had right floating kidney. Exploratory laminectomy was done three months ago. No spinal cord tumor or other lesion was found to account for pain under the shoulder and spasms in right leg, etc. (sensory disturbances). Wassermann reaction was negative; stool examination was negative, abdomen was also negative on examination. *X*-ray plates showed, however, redundant colon.

Operation.—Dec. 22, 1910. Cecum and colon were excised as far as the splenic flexure. Lateral anastomosis was done, as in previous case. Recovery was uninterrupted. Patient was discharged Jan. 29, 1910, markedly improved.

CASE 3.—*Patient.*—Miss H., aged 33.

Complaint.—Constant dull headache, occipital in character. Pain in neck and down spine. Nausea and vomiting. Numbness of the left leg and hand.

Family History.—This was unimportant.

Personal History.—Patient was always a delicate child, and had suffered from stomach trouble for many years. Appetite had been rather poor. Digestion had never been good. Bowels have always been constipated. She had suffered a great deal from abdominal discomfort and six years ago the appendix was removed and the right kidney suspended.

Present Illness.—In September, 1908, she was admitted to the Johns Hopkins Hospital with general nervous breakdown, severe headache and chronic constipation. She remained there three months at the end of which time she was discharged somewhat improved. Three weeks after she left, however, the old symptoms reappeared. In March, 1909, she had another nervous breakdown with great weakness, headache and nausea and vomiting; she was in bed six weeks. She was then operated on for the relief of postoperative adhesions supposed to be due to the previous appendix operation. Four weeks after this operation, she had an attack which was supposed to be meningitis. In January, 1910, she had another spell of illness lasting six or seven weeks; she was in bed with weakness, headache, loss of appetite, insomnia and some nausea and vomiting. Since that time she has not been at all well. Her chief complaint has been obstinate constipation, abdominal distress and a general feeling of lassitude and disinclination to exertion of any sort. An exploratory incision was advised with the idea of resecting a portion of the colon, if conditions justified it.

Operation.—On Jan. 27, 1911, the abdomen was opened through a right rectus incision. The cecum was found to be very much distended, its walls thin and flabby. The ascending portion of the colon, the hepatic flexure and the transverse colon were all involved in this process. It was thought best to excise the distended and redundant portion of the colon which was done. The ileum was divided about two inches above the ileocecal valve and the transverse colon just in front of the sigmoid flexure. This portion of the colon was excised and a lateral anastomosis made between the ileum and sigmoid flexure.

The patient made an uninterrupted recovery and when last seen about three and one-half months after the operation, she expressed herself as perfectly well, not having had to use a cathartic since the operation, and having gained about 25 pounds.

These are the histories of typical gastro-intestinal neurasthenics, a type of case with which, I am sure, all physicians, to their sorrow, are familiar. Fortunately for the profession, and greatly to its credit, the diagnosis of neurasthenia is to-day becoming more and more infrequent and, when made, at once lays its author open to at least a suspicion of using this term as a cloak to hide ignorance or lack of skill.

It was perfectly evident that there was something radically wrong with the first patient, both physically and mentally, but without an incision we were unable to make an accurate diagnosis of her condition. The operation revealed a state of affairs which, from experience with other cases of this particular class, we had been led to expect with some degree of probability. Beyond this we were unable to go. Of course, it was possible, with a reasonable amount of certainty, to exclude many conditions, but to tell beforehand just what pathologic process would be found, or to explain satisfactorily the manner of its production, was beyond our diagnostic ability. But here is food for reflection: Two pathologic conditions revealed by the operation, to which I wish to call especial attention, were: (1) the great dilatation of the upper portion of the duodenum, with the wide open pylorus, and (2) the great redundancy of the colon, particularly of the transverse portion, together with its malposition. This condition of the duodenum first attracted my attention about fifteen years ago, and so far as I know was first described by me, although it had been observed over fifty years ago by Peebles and later by Robinson. I was at that time unable to explain it. After a good deal of thought and many subsequent observations I am still unable to explain it. I do not believe that the explanation of those who would ascribe it to a chronic gastromesenteric ileus will account for all the cases. Possibly some may be due to this cause. Still more unsatisfactory is Ochsner's idea of the circular muscle fibers in the duodenum, with their sphincteric action.

Associated with this condition are almost invariably to be found changes in the external appearance and feel of the pancreas, sometimes changes similar to those which have been characterized by Mayo Robson as "chronic pancreatitis"; at others an apparent atrophy of the gland is observed. I cannot but feel that in some way or other changes in the structure or function of the pancreas are more or less intimately concerned in the production of this condition of the duodenum, and are, perhaps, the chief factors. In just what way I am unable to say.

In this connection the interesting investigations of Weinland are worthy of note. Always one finds that the walls of the duodenum are thinned, and that the mucous membrane is atrophied, and that the normal folds have become obliterated. Codman, Stavely and

others would have us believe that many of these cases are due to the taut mesenteric vessels compressing the duodenum against the bodies of the vertebræ—a chronic gastromesenteric ileus. It is conceivable that this cause may be active in a certain percentage of cases, but after careful and systematic examination of a large number of patients on the operating table I have been unable to demonstrate it to my own satisfaction, or that of spectators or assistants, more than once or twice. Then, too, if this compression were the real cause of the trouble, it would furnish an almost ideal indication for a gastro-enterostomy, and complete relief ought to follow this operation. On the contrary, however, this is not the case. The usual operative methods have, in my experience, failed utterly to relieve the trouble, and until quite recently, when this condition has been found at operation, I have at once admitted my inability to cope with it, and have closed the abdomen without further effort. It is to be hoped that the operation of duodenojejunostomy, either alone or combined with resection of the colon, as by the method just described, may be developed sufficiently to furnish the desired relief.

It was early noted that associated with this condition one very frequently, although not invariably, would find marked changes in the size, position and length of the large intestine. The anatomic and physiologic studies of Glenard, Treves, Huntington, Mall, Metchnikoff, Dwight, Clark, Lane, Cannon and a host of others have from time to time directed attention to the important part played in the physical economy by the large intestine, until now members of the profession are becoming aroused to the possibilities for evil contained in this organ, and are beginning to study seriously the best measures for relief therefrom. Medical literature is becoming steadily enriched by reports of greater or less merit bearing on this subject. It is quite likely that in the near future definite lines of action will be laid down in this branch of surgery, just as they have been in the case of the stomach. The work of such enthusiasts as Metchnikoff and Lane is bound to bear fruit through the more sober judgment and conservative action of less radical members of the profesion. Personally I cannot explain to my own satisfaction, on anatomic grounds alone, the phenomena which result from this redundant condition of the colon. Unquestionably, embryologic and developmental defects do play a part, probably an important one, in the production of this condition. Nor does it seem possible, as Lane and others would have us believe, that acquired defects, such as adhesions to neighboring structures, peritoneal hypertrophies and bands resulting from abnormal strain, and giving rise to kinks and stenoses of the ileum, colon or appendix, as the case may be, can account for all the conditions found. These in all probability play their part, but only a part. The "cesspool" idea of Metchnikoff cannot be disregarded. Indeed, I am inclined to think that, after all, the chief cause of the phenomena exhibited by these cases is going to find its ultimate explanation in the absorption from the colon of the chemical products of bacterial activity. The problem, to my mind, is one of chemistry rather than mechanics. Faulty mechanical conditions, whether congenital or acquired, are undoubtedly a contributing cause through their increasing bacterial activity and virulence by bringing about more or less complete stasis of the intestinal contents.

But if this were the sole factor, how can we explain the absence of symptoms in that large class of cases in which redundance and ptosis of the colon are present, to a marked degree, while the patient may be in the enjoyment of the best of health? I am the more convinced of the correctness of this position from an experience with the operations of appendicostomy and cecostomy in a series of fifteen cases in which one or other of these operations had been performed. These operations were done for a variety of conditions, chronic infections of the colon of one kind or another (not including amebic dysentery), and cases of simple ptosis of a redundant colon, associated with mucous colitis. All the patients presented in a more or less marked degree evidences of intoxication, together with pronounced neurotic tendencies. In every case but one of the series marked improvement followed irrigation with first normal salt solution, and then solutions of permanganate of potash, beginning with a strength of 1 to 10,000 and gradually increasing up to 1 to 1,000. The more marked the evidence of the absorption of the products of bacterial infection, the more pronounced was the beneficial effect of the irrigation. Where evidences of bacterial activity were but slight, relief was correspondingly slight. In two cases of this series in which the infection was of an intense character, as evidenced by frequent discharges of foul-smelling feces, mixed with large quantities of mucopus, frequently blood-streaked, the improvement was phenomenal.

The difficulty in making a positive diagnosis in any given case of stomach trouble is that one has to consider the possibility of the existence of one or possibly more of a long list of abdominal affections, as well as not a few extra-abdominal diseases. In an earlier paper I called attention to this fact at some length.

Every case of stomach trouble becomes at once a problem calling for most careful investigation. The difficulty of solution of this problem will depend on whether the cause lies primarily in the stomach itself or remote from it. Every one knows with what great frequency the stomach is the first to give warning of the existence of disturbances arising, not only within itself, but even in remote portions of the body. Think, for example, of the exanthemata, gall-stones, cirrhosis of the liver, brain tumor, tuberculosis, angina pectoris, eyestrain, appendicitis, diseases of the uterus and adnexa, etc. I am sure every one can recall instances in which attention has been diverted and he has been led away, for a time at least, from the true site of the disease, by more or less marked gastric disturbances. It seems trite to state that one cannot be too careful in forming good habits of making a thorough routine examination in every case, however simple it may appear at first. Then, too, one is so often misled by misinterpretation of phenomena common to certain well-recognized pathologic lesions. Take, for instance, the question of the appearance of blood, whether occult or visible, in the vomitus and in the stools. Its presence is generally interpreted to mean an injury to or loss of substance of the mucous membrane somewhere along the gastro-intestinal canal. Usually, of course, if cirrhosis of the liver and the grave primary anemias can be excluded, it means gastric or duodenal ulcer, or carcinoma. Recently I have operated on three such patients, one physician and two business men, in whom repeated and severe hemorrhages from the stomach had been the chief feature in a rather long history of gastro-intestinal disturbances. All three cases had been diagnosed by competent physicians as probable gastric ulcer. In no case, after careful search of the stomach and intestinal tract, could the slightest evidence of a break in the mucous membrane be demonstrated. In three other cases exhibiting pronounced gastro-intestinal symptoms, persistence of occult blood

in the stools, cancer having been practically excluded, led to the probable diagnosis of duodenal ulcer. Operation showed no gastric or duodenal ulcer and no other explanation of the blood in the stools, save gall-stones in the gallbladder and cystic ducts, without any clinical manifestations of their presence. Instances of this sort could be multiplied in other directions, but their enumeration would lead us too far afield.

The point I wish to make is simply this: gastrointestinal symptoms may be extremely difficult to interpret promptly, at times may be most misleading, and in no department of medicine or surgery with which I am familiar is the truth of the Hippocratic aphorism as to the difficulty of judgment or the fallaciousness of experience more strikingly demonstrated.

In the matter of interpretation of the findings at operation great latitude will be observed. In the present imperfect state of our knowledge speculation must, of necessity, play a great part in accounting for the various phenomena that are presented on the operating table. What may be considered by one person to be cause will just as surely be believed by another, just as competent, to be effect. Each will have his arguments and explanations, satisfactory to himself and possibly to some others, but not universally acceptable. Take the matter of the sagging of the colon—some explain it on anatomic grounds, a congenital defect; others think it is acquired, and when so acquired no two observers will explain in the same manner the process by which it has been acquired. Take also the matter of adhesions. Their frequency is admitted by every one, but the method of their formation is debatable ground. Again, take the matter of the relationship which a chronic adherent appendix bears to the various gastrointestinal disturbances which are grouped under the general heading of neuroses. Everyone, I am sure, will admit that there is a definite relationship between these conditions, but as to just how far the one is really dependent on the other a great diversity of opinion will be found to exist.

The following cases will illustrate my point:

CASE 4.—*Patient.*—E. T., aged 32, entered Johns Hopkins Hospital April, 1910.

Complaint.—Flatulency and indigestion.

History.—Family and past history unimportant, except that he has had indigestion for years, evidenced by flatulence and abdominal discomfort. There had been jaundice, no blood in stools, no vomiting until onset of present illness, which began six years ago, with a sudden faint feeling following slight "dyspepsia." He fainted twice, and soon afterward vomited a large amount of bright red blood. He was treated in the hospital for several weeks. He had no more bleeding, but hemoglobin was low and he felt weak. He has vomited blood once, about half an ounce; he has had symptoms of hemorrhage, however, on several occasions, *i. e.*, faintness, greatly increased flatulence, and tarry stools. Blood count has been as low as 2,500,000 and hemoglobin 40 per cent. He complained of no abdominal pain except that referable to flatulence, usually under right or left costal margin, and disappearing when gas was expelled. He improved up to December, 1909. Since then has had increasing anemia, some tarry stools and some "faint spells."

Examination.—Patient was anemic looking, but fairly well-nourished. Lungs were clear; heart was clear, except for soft systolic blow at apex. Abdomen showed marked general distention; no tenderness anywhere, no visible peristalsis. Liver flatness was entirely obliterated. There was constant eructation of gas and occasional audible gurgling in intestines.

Blood: Reds, 3,400,000; hemoglobin, 45 per cent.

Operation.—April 8, 1910. This revealed (1) Marked distention of small bowel throughout its entire extent; the large intestine shared in the general distention, but not to the same extent as the small bowel; it appeared relatively normal. (2) No sign of ulcer or pyloric obstruction. (3) No cause for distention. (4) Appendix definitely thickened and inflamed. It was removed. (5) No evidence of cirrhosis of liver. Spleen normal. Pancreas normal. (6) No obstruction by the mesenteric vessels (gastromesenteric ileus). (7) Walls of stomach and small intestine pale, thin and flabby. Appendectomy was the only surgical procedure that appeared to me to be justified or indicated.

Result.—The intestinal coils were so distended that the abdominal wound was closed with great difficulty. Healing was delayed by the subsequent breaking open of the lower third of the incision with the escape of several coils of small bowel. These were replaced and the wound healed slowly by granulation. No weak spot has so far developed.

I have received a letter from him recently in which he states that he has gained in weight, and in every way has greatly improved since operation, although not yet quite free from flatulence.

CASE 5.—*Patient.*—P. M., aged 47, admitted to Union Protestant Infirmary November, 1910, complained of stomach trouble.

History.—Family history and past history were negative, except that when a boy of 15 he had hip disease. He was under treatment for a long time, and the disease has left him an ankylosed joint with the thigh flexed at an angle of 45 degrees, producing an associated lordosis of the spine of well-pronounced type. He has had no trouble whatever from his hip since it has been healed, and no other manifestations of tuberculosis, past or present. Appetite and digestion were good; color was sallow. He had lost about twenty pounds during his illness, which dated from about two years previous. At this time, he had a well-pronounced attack of what was diagnosed as indigestion and which yielded to treatment and disappeared, after about three months. About one year ago, he had a return of his former digestive disturbances. He first noted that about three hours after eating he became uncomfortable, felt bloated and there was unusual and intense thirst. After drinking water, he would either vomit it almost immediately, or become more uncomfortable. In September, 1910, he vomited blood and thinks he had tarry stools at this time. He has had no pain of consequence, but has felt very uncomfortable, especially when hungry. This discomfort was relieved almost invariably by eating. The chief feature for the last few weeks was vomiting, which took place almost immediately after every meal, or even after taking a drink of water. The vomitus usually contained the food previously eaten. There seemed to be no special retention. The vomiting was painless. Bowels have been constipated. Relief from constipation seemed to lessen his symptoms, to a certain extent. Examination revealed nothing except a moderately distended stomach, in which splashing sounds were readily obtained. There seemed to be a moderate degree of general enteroptosis. The examination of the stomach contents showed rather low acidity, otherwise negative. Urine was normal. A definite diagnosis did not seem to be warranted from the history and findings but the discomfort had been so great, that an exploratory incision appeared to be indicated. The most probable condition seemed to be gall-stones or duodenal ulcer.

Operation.—Operation showed a marked degree of general enteroptosis. The stomach was considerably dilated, the walls being thin and flabby. The pylorus readily admitted the end of my thumb. The duodenum, except for a few slight adhesions, appeared normal, being only slightly distended. There was no evidence of thickening, induration or ulcer formation, in any part of the stomach or duodenum. The gall-bladder and ducts were normal, with no evidence of gall-stones. Pancreas was normal. Owing to the prominence of the bodies of the vertebræ due to the lordosis referred to above, the mesenteric vessels seemed to be rather tightly stretched across the duodenum. On hooking my finger under them and attempting to lift them up, it took considerable force to lift the coils of small intestines out of the pelvis, which they occupied. The upper portion of the duodenum, however, did not appear collapsed, but

contained a moderate amount of gas, as did the duodenum above the obstruction. On relieving the pressure from the vessels by lifting, an appreciable amount of gas was observed to pass from the duodenum into the jejunum. The appendix was found adherent, kinked on itself and its walls chronically thickened; it was removed. The large intestine appeared abnormal, elongated and thrown into folds. The sigmoid was somewhat distended but contained no fecal matter. The transverse colon had sagged well down into the pelvis. The descending colon and sigmoid appeared fairly normal, but redundant. The walls of the colon througnout were thin and pale. The solid viscera appeared normal, but were involved in the general ptosis.

Remarks.—What gave rise to the symptoms the man complained of, I was unable to determine. There was no obstruction to the pylorus; there was a suggestion of obstruction of the duodenum by the iliac vessels, no evidence of induration of the gastric or duodenal walls; certainly no new growth. The colon was abnormally long and thrown into folds, but I did not feel justified in employing any radical measures therefor. After removing the appendix, the abdomen was closed. The operation has been done so recently that it is too early to tell anything as to the ultimate result, but the man has not vomited since, after having vomited regularly after each meal for the past eighteen months, and is gaining steadily in weight. He has resumed business and considers himself well.

Two competent observers, Professors von Eiselsberg, of Vienna, and Halsted, who happened to be present at the operation on the first of these two patients, expressed the opinion that the appendix was sufficient to account for the conditions found. Personally, in spite of the relief which has followed the removal of the appendix, it is hard to believe that that alone was responsible for all the pathologic processes present.

The third case, as well as the one first reported, would be considered by some, I am sure, as instances of chronic gastro-mesenteric ileus. That there is such a thing as an acute process associated with an immensely dilated stomach must certainly be admitted; many cases have been reported by different observers. I have observed and reported a number of such cases, but it is difficult even here to distinguish cause from effect. Which is the antecedent condition, the dilated stomach or the taut vessels? In other words, which is the cause and which the effect? In the production of similar conditions is the same cause always active? It is impossible at present to answer these questions satisfactorily.

What is the cause of the dilated duodenum with the wide-open pylorus to which I have referred? Why are its walls always so thin, pale and flabby? A number of possible explanations suggest themselves at once, but when one comes to demonstrate the constant presence and activity of any one of these causes at once he is confronted with a difficult, indeed at the present time, an almost impossible problem.

To me this whole group of gastric neuroses, so called, presents a most interesting and fascinating field for study, but one of such complexity that it is difficult to unravel its mysteries. One great difficulty which has retarded somewhat, I think, the progress toward solution of some of the problems has been too great a tendency on the part of certain writers to dogmatize on too little evidence. Dogma has little field in medicine, especially in this particular department. What is needed rather is a long series of carefully reported cases in which the clinical histories have been accurately recorded, the findings on the operating table confined to facts observed, rather than to fanciful theories and explanations to bolster up preconceived ideas as to pathology. Wherever this has been done real progress has been made, and real addition to our knowledge of the subject achieved.

The trouble with our operations for neurasthenia is a fundamental one. We generalize too much. Instead of careful painstaking study of the etiology of each individual case, we are prone to group them, often erroneously, into certain general classes and subject the individuals of each class to the same treatment. Not infrequently, we do grave injustice to certain patients by, on the one hand, subjecting to the dangers and distress of a surgical operation individuals who are not proper subjects for it and who are frequently made worse thereby, while, on the other hand, we withhold from others the benefits which would accrue from a properly carried out surgical procedure. In this connection, as pointed out by Reynolds, so far as surgery is concerned: "The attainment of satisfactory end effects on the neurasthenic state itself depends first and primarily on the selection for operation of cases in which the neurasthenia is the result of local suffering, due to local lesions, and the exclusion from operation of all other cases; secondly, on the termination of local suffering by successful end results in the operation itself." Otherwise, the neurasthenia is invariably made worse.

Problems of embryology, anatomy, physiology, chemistry, pathology, medicine and surgery are apparently so inextricably interwoven in the etiology of these gastric and intestinal neurasthenic states, that the only hope for a satisfactory solution of the questions involved lies along broad lines of investigation. My own impression is that the particular dilatation of the duodenum and colon to which attention has been called, together with the thinning of their walls will be found to be largely a problem of physiologic chemistry.

I am only too well aware that in this rather fragmentary and disconnected paper, I have contributed little that is new to the subject, but if by what I have stated I may have succeeded in stimulating a discussion of the problems involved, in a more scientific frame of mind than has at times prevailed, I will feel that my object has been accomplished.

SUMMARY

1. Problems of diagnosis present greater difficulties and are further from solution than those of treatment.

2. Certain operative procedures, gastro-enterostomy, e. g., have reached such a state of perfection that the ease of performance renders them a possible menace and calls for greater care in the proper selection of cases.

3. The tendency to dogmatize on too little evidence in matters pertaining to the causation and treatment of the so-called functional intestinal neuroses should be discouraged and a more scientific observation, interpretation, collection and record of established facts substituted therefor.

4. As a result of the knowledge gained by such comprehensive and exhaustive study of the intricate problems involved, it is not unreasonable to hope that ultimately in carefully selected cases surgery may offer relief to this unfortunate group of gastro-intestinal neurasthenics.

1300 Eutaw Place.

Treatment of Severe Anemia with Injections of Blood.—G. Mann reports from Triest three additional cases in which apparently moribund patients were saved by the stimulus from injection of 20 or 25 c.c. of whole blood supplementary to the ordinary measures.—*Wiener med. Wochenschrift*, 1911, lxi, 579.

THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS*

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It has been variously estimated from autopsy findings that from 30 to 100 per cent. of all adult persons have, or have had, tuberculosis. The cutaneous and subcutaneous tuberculin tests on the living confirm the deductions from autopsy statistics. From 10 to 14 per cent. of the mortality from all causes is due to tuberculosis, a higher percentage than is attributable to any other disease. If we accept the estimate of infection given by Harbitz,[1] 50 to 70 per cent. for all ages, we may say that in about one out of every five persons infected the disease, under present conditions, will progress to a fatal termination. It is practically certain, then, that at least one out of every ten of our patients will die from tuberculosis, if we do not discover the disease early and advise proper measures to combat it.

That the failure to diagnose pulmonary tuberculosis in the early stages is a widely spread evil is abundantly proved by the army, navy, and life insurance statistics, which show that a large percentage of deaths from tuberculosis occurs during the first two years after enlistment or after policies have been issued. Greene[2] says: "It is evident that life-insurance companies are constantly accepting men in the active stage of tuberculosis." In the annual reports of the Surgeons-General, U. S. Army and Navy for 1910, it is shown that 10 and 14 per cent., respectively, of deaths in the army and navy for the year 1909 were due to tuberculosis, and that the disease is particularly associated with the first half of the first enlistment. Yet the services and the insurance companies represent picked men selected by a picked group of physicians. Furthermore, everyone who has paid special attention to the diagnosis of tuberculosis is constantly seeing advanced, but previously undiagnosed, cases that have been under the care of one or more physicians. Girdwood[3] states that in Maryland, where registration of tuberculous cases has been enacted into law, only 595 out of 2,200 physicians in the state reported cases to the State Board of Health. He says, "Assuming that there are 1,600 physicians in active practice in this state (Maryland), who see cases of tuberculosis, but 595, or about 37.5 per cent., are fulfilling the requirements of the law." Of all the cases reported "the Phipps Dispensary alone reported 33 per cent." Girdwood thinks that he is conservative in estimating that 90 per cent. of all the cases reported were in the second or third stage of the disease.

The conclusion is unavoidable that the mass of the medical profession is failing to utilize opportunities for early diagnosis, and avoiding the disagreeable and, at present, thankless task of telling men that they have tuberculosis. It is certain that the highest degree of "education of the public" against "the great white plague" will avail but little unless the medical profession educates itself in the diagnosis of early tuberculosis, and unless the medical schools send out their graduates more thoroughly drilled in the recognition of the early manifestations of the disease, and imbued with the idea of the importance of such recognition, and of the responsibility that rests on each member of the profession.

The responsibility does rest on us, and we must accept it. The real issue cannot be obscured by philanthropic displays, by contributions of large sums of money, by popular articles, exhibits, Red Cross seals, etc. These measures are useful in a limited way, but the philanthropy most needed is the self-education of physicians, and the public must be taught to accept without resentment an early diagnosis of tuberculosis, and to hearken to the warning while yet there is time.

It is probable that almost all patients with advanced tuberculosis have consulted physicians early in the disease, and that the majority of the infections could have been arrested if the diagnosis had been made at the proper time; that the majority of the lesions would have remained closed lesions with proper treatment; and that but a limited number of the patients would have become foci of infection through the expectoration of tubercle bacilli.

Such early recognition is nearly always possible, so frequently possible, indeed, that a physician should feel keen remorse when he has seen a patient and has failed to take advantage of the opportunity to diagnose the disease before tubercle bacilli appeared in the sputum. Lawrason Brown[4] states that a patient's chances of recovery are at least twice as good, and on the whole seem many times better, when the diagnosis is made before the appearance of tubercle bacilli. That the diagnosis can be, and is, so made by men who have trained themselves in the subject, is well known. For instance Nagel[5] was able to find bacilli in the sputum of only 1.4 per cent. of incipient cases.

EARLY SYMPTOMS

It is not within the scope of this paper to discuss symptoms that obviously point to the possibility of tuberculosis, such as persistent cough, repeated colds, hemoptysis, pleurisy, chronic laryngitis, etc. But there is a large group of early sufferers, the members of which appear to be mild neurasthenics, and this group is deserving of especial mention. There is no disease in which "neurasthenia" is as common as in tuberculosis. The tuberculous poison has a powerful action on the nervous system, and every variety of functional nervous symptom may result from it.

In the beginning the patients of this group may complain only of feeling "run down;" fatiguability, a cardinal symptom of neurasthenia, is one of the earliest symptoms of tuberculosis; insomnia, likewise, is common to both; also "nervousness," irritability, depression and gastric disturbances. If there is no cough (and even a cough is sometimes attributed to nervousness), these patients usually are not given a careful physical examination, nor is a careful record of temperature taken. Slight abnormal physical signs can be found frequently in them, however, and a daily record of temperature will often show a regular rise to 98.8 to 99.5 F. I cannot consent to the interpretation that this may be a normal afternoon temperature. With the patient relatively at rest, such a daily rise of temperature constitutes fever and furnishes strong evidence, taken with other phenomena, of tuberculosis. "Neurasthenics," therefore, should never be classed as such without careful physical examination and a daily temperature record, and, if these results are at all suspicious, a tuberculin test.

*Read at the meeting of the Medical Society of the Isthmian Canal Zone, Jan. 18, 1911.

1. Cited by Baldwin: Osler's Modern Medicine, iii, 198.
2. Greene, C. L.: Osler's Modern Medicine, vi, 761.
3. Girdwood, John: The Responsibility of the Physician in the Campaign Against Tuberculosis, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1881.
4. Brown, L.: Osler's Modern Medicine, iii, 338.
5. Cited by Brown: Osler's Modern Medicine, iii, 334.

THE NORMAL CHEST

The great prerequisite in the examination for early signs of pulmonary tuberculosis is a thorough knowledge of the normal chest, with its variations in different persons of different sexes, ages, size, weight, etc., and with its topographic differences between the two sides and between different areas of the same side in the same individual. Though this statement may seem to be a truism, it is not an idle repetition, for the possession of such a knowledge is not easily acquired, and the close observation and training necessary to gain it are sadly neglected. There are a few less well-known topographic differences normally in the same chest that it may be worth while to mention.

Cabot[6] has recently called attention to the frequent occurrence of louder, harsher breath sounds at the left base posteriorly than at the right base. He found this difference in 67 per cent. of patients examined. This difference must, therefore, be taken into account in comparing the two sides.

Another phenomenon worth noting is that here and there over the lung one not infrequently strikes a small area where the breath sounds are harsh or even bronchovesicular, with intensified voice and whispered sounds, but without râles or dulness. The most frequent sites of these areas are near the angle of the scapula, in the upper axillary space, and near the mid-clavicular line below the nipple. I have been in the habit of looking on the phenomena as due to relatively large bronchi approaching the surface of the lung, together with the fact that in the areas noted the muscle-covering is thinnest.

Under percussion it may be mentioned that the note becomes shortened and less resonant over those portions of the chest where the ribs make their greatest curves. The thoracic wall at these places is not so easily set into vibration. In percussing the outlines of the apices, I have found that the breadth of resonance on the right is often slightly less than on the left.

LOCATION OF LESIONS

The location of progressive tuberculous lesions is generally in or near an apex. According to Tendeloo,[7] the most frequent site is in the "paravertebral cranial" portion of the lung, that is, in the upper portion of the upper lobe posteriorly, corresponding to the upper part of the interscapular region; the apex itself is next in frequency of involvement, then the anterior upper portion of the lobe.

In 287 bodies that I studied with reference to tuberculosis, I found the active progressive lesions usually in or near the apex, but I found many old pleuropulmonary tubercles in the lower lobe. These foci were characterized by a decided tendency to become encapsulated or calcified. I feel, however, that they may account for many instances of so-called atelectatic râles near the bases associated with "soreness in the side," "intercostal neuralgia," etc. But owing to the majority of progressive lesions being near the top of the lungs, it naturally follows that the earliest signs are most frequently found in the upper thorax. The lower lesions should not be ignored, however, for secondary infection of the peribronchial glands is likely to occur, and afterward the apices may become involved.

6. Cabot, R. C.: Am. Jour. Med. Sc., 1909, cxxxviii, 813.
7. Tendeloo: Sixth Internat. Cong. Tuberc., 1908, vol. 1 part 1, p. 86

EARLY PHYSICAL SIGNS

One may see at an early stage a slight drooping of one shoulder, with slight wasting of the muscles of the shoulder-girdle, and there may be a little lagging behind during inspiration of the chest wall on the affected side, or a slight sinking in of one of the clavicular fossæ. Inspection in the early stages rarely reveals more, and the signs are not clearly distinguishable from frequent asymmetries due to other causes. The wasting of the shoulder-girdle muscles is more significant if it is on the right side in right-handed persons, and on the left in the left-handed.

PALPATION

Changes in tactile fremitus are not produced early, but palpation aids in determining slight differences in expansion and in wasting of muscles. Pressure on the muscles, especially the trapezius, and on the ligaments about the shoulder-joints, will often demonstrate tenderness, which may be associated with an aching sensation in the joint. There is not infrequently a hyperesthesia of the skin over affected areas and gentle pinching will elicit it. Pottenger's sign,[8] which consists in muscle spasm (?), detected by light palpation over areas of involvement, is worthy of study. In apical involvement the sternocleidomastoid and scaleni muscles on the affected side stand out distinctly and feel tense on light palpation.

PERCUSSION

One of the earliest changes in tuberculosis is a tendency to shrinkage of the lung, evidenced by a narrowing of the apical outlines, sometimes called Kroenig's sign. Minor,[9] who has well presented the sign, says of it:

> Taught and practiced for years by careful clinicians in Germany, dwelt on by von Ziemssen in his small but classical article "On the Diagnosis of Tuberculosis," and by Kroenig with even more emphasis, in his well-known article, it is yet undeniable that few American practitioners have given it any attention, or used it systematically in their routine work.

It consists in determining the inner and outer borders of apical resonance both in front and behind, and measuring the width of the isthmus found by the junction of the lines above at the border of the trapezius muscles. Very gentle percussion must be used, and the patient's head must be kept in the mid-line in the anteroposterior position. Definite narrowing of the isthmus, either by a moving outward of the inner border or inward of the outer border, or both, means retraction of the lung, which is very suggestive of tuberculosis. It occurs before dulness can be elicited and is a very valuable sign.

Another procedure that I have found useful is one shown me by Dr. Lawrason Brown of Saranac Lake. Standing behind the patient, one grasps firmly the apex of the lung, as it were, with his whole hand, his fingertips being in the supraclavicular fossa just above the clavicle. He then percusses, with gentle taps and with a downward and backward stroke, the fingers in the fossa. First one apex and then the other is percussed. Dulness can sometimes be brought out in this way when none can be demonstrated otherwise. Incidentally, the degree of wasting of the trapezius muscle is very noticeable when the muscle is grasped in this way.

In the examination for tuberculosis one should never neglect to percuss out the lower borders of the lungs during forced expiration and then during forced inspiration, thus determining the excursion of the diaphragm

8. Pottenger: Med. Rec., Oct. 23, 1909, p. 685.
9. Minor, C. L.: Am. Jour. Med. Sc., October, 1906, cxxxii, 522.

on each side. The excursion may be limited on the affected side early in tuberculosis. Small pleural effusions will frequently be found if this is practiced as a routine procedure.

Goldscheider[10] has recently written a monograph on the subject of "Early Physical Diagnosis of Pulmonary Tuberculosis," in which he strongly advocates extremely delicate percussion. He compared the findings by his method with the findings by ordinary percussion and skiascopy. The results by his method and by skiascopy were practically identical, while ordinary percussion proved to be far inferior. The delicate percussion will reveal minimal dulness, the signs of which may vanish if the force of the stroke is increased.

Waller,[11] of Sweden, has proposed a plan for the classification of different degrees of dulness in order that accurate comparisons may be made by different observers, and in order to judge with greater accuracy the changes in dulness during healing or progress of lesions. He insists that the "symmetrical-comparative" procedure in percussing has been overemphasized and should be relegated to a subordinate place. He thinks that the percussion note should be judged by comparing it with a point of known normal vesicular resonance, such as is usually obtained in the lateral part of the infraclavicular fossa, rather than by comparison with a symmetrical point on the opposite side, which may be itself the seat of disease. Waller considers that there are five degrees of dulness, D^1, D^2, D^3, D^4 and D^5, followed by absolute dulness or flatness. D^1 and D^2 represent slight dulness, D^3 moderate dulness, D^4 and D^5 high degrees of dulness. Waller calls the normal percussion note the non-tympanitic sound; and dulness is the shortening and commingling of this sound with the tympanitic sound characteristic of relaxed lung tissue. His method is distinguished from the old method mainly by the fact that the degree of dulness is not judged by the percussion sound as a whole, but only by a certain part of it, the non-tympanitic sound. He summarizes briefly his method as follows:

1. *Weak Percussion.*—A. The non-tympanitic sound is heard throughout the respiration, though somewhat, or distinctly, short: first degree of dulness; sign, D^1. B. The non-tympanitic sound is heard only during a part of the respiration, when the breathing is ordinary or forced: second degree of dulness; sign, D^2. C. The non-tympanitic sound is quite inaudible. The strength of percussion is increased:

2. *Medium Percussion.* — A. The non-tympanitic sound is heard: third degree of dulness; sign, D^3. B. The non-tympanitic sound is not heard. The strength of percussion is increased:

3. *Strong Percussion.*—A. The non-tympanitic sound is heard: fourth degree of dulness; sign, D^4. B. The non-tympanitic sound is not heard: fifth degree of dulness; sign, D^5.

Waller's method of percussion is attractive and should be extremely useful in classification and early diagnosis if it can be proved practicable. But one must require careful practice and a nice ear for analysis of sounds to become proficient in it. I have not yet succeeded in training myself in its use. If practicable, it should mark a distinct advance in the art of percussion.

AUSCULTATION

A most important prerequisite in auscultation is to get the patient to breathe properly. Many persons seem to have no voluntary control of the muscles of respiration, and it often requires patience and repeated examinations in order to develop in the patient satisfactory powers of breathing. Especially is this true in auscultating the lower portions of the lungs when abdominal breathing is desirable. A "deep breath" usually means to a patient expansion of the chest and a retraction of the abdomen, in which case there is but slight contraction of the diaphragm. A distention of the abdomen with inspiration of course means contraction of the diaphragm, and when it is difficult for patients to breathe deeply in this way, I have sometimes found it useful to place a hand on the abdomen to give the respiratory rhythm which can sometimes be kept up. With a little practice, most patients can soon control the muscles.

Regarding the well-known changes in the respiratory murmurs in early tuberculosis, little need be said. The important desideratum is that care and patience shall be exercised in bringing out the changes and that the examiner shall know where and how to look for them. They consist of slight loudness or harshness of the respiratory murmurs, slight prolongation and accentuation of the expiratory murmur, a wavy inspiratory murmur, and fine râles heard usually at the end of forced inspiration, but sometimes at the beginning of expiration. One or more of these changes may be present. Râles not elicited otherwise may sometimes be brought out by forced expiration, a quick cough, with as little noise as possible, and then a forced inspiration. The râles may be heard with the cough, at the beginning of inspiration, or at the end. This is an important procedure and no examination should be pronounced negative without it.

It is generally stated that fine râles may be heard frequently over the bases at the end of deep inspiration in normal lungs, the so-called atelectatic râles which clear up after a few deep breaths. No special importance should be attached to these râles, but if the area over which they can be heard is large and extends upward some distance, if the râles persist after a few deep inspirations, or if there is slight soreness, tenderness on pressure, or a little hyperesthesia of the skin over the areas, I believe that considerable significance should be attached to them. I have said that in autopsies I frequently found pleuropulmonary tubercles in the lower lobes, usually in the lateral and anterior portions, and I believe that these lesions are responsible for many instances of so-called atelectatic râles.

SPUTUM EXAMINATIONS

Though the presence of tubercle bacilli in the sputum usually marks a late stage, still at times a small lesion that produces no physical signs may soften and rupture into a small bronchus, and bacilli appear in the sputum before signs or perhaps even symptoms occur. In every suspicious case, therefore, and in every patient with sputum a careful examination for tubercle bacilli should be made. They have been found in many instances after numerous negative examinations. One of the methods of digesting the sputum or of concentration, of which there are many in use, should be tried.

We use at Colon Hospital a modification of antiformin recommended by Uhlenhuth.[12] Antiformin was recently described in THE JOURNAL (Jan. 7, 1911, p. 43). It is a mixture of equal parts of sodium hypochlorite (Labarraque's solution) and 15 per cent. sodium hydroxid. Potassium hypochlorite (Javelle water) may be substituted for sodium hypochlorite, and this is the formula that we have used at Colon Hospital. Anti-

10. Ztschr. f. Klin. Med., Berlin, lxix, No. 3; abstr. in THE JOURNAL A. M. A., 1910, liv, 662.
11. Waller: Am. Jour. Med. Sc., 1909, cxxxvii, 526.
12. Uhlenhuth: Med. Klin., Berl, 1909, v. 129.

formin, 1 part, is added to about 4 parts of sputum, or of diluted sputum, and the mixture is incubated for from four to twenty-four hours, the sediment is washed and centrifugalized one or more times, and smears made and stained in the usual way. Most of the solid material of the sputum is dissolved and all bacteria except those of the acid-fast group. Antiformin does not affect the staining properties or even the viability, within a limited time, of tubercle bacilli. Pure cultures of the tubercle bacillus may be obtained from the sputum by treating it with antiformin, washing the residue with sterile salt solution, and transplanting on suitable media. Brown[13] has recently reported the result of examinations of fifty specimens of sputum by this method; thirty-five specimens showed tubercle bacilli, and cultures were obtained from thirty-three, or 97 per cent.; in fifteen specimens no tubercle bacilli could be found microscopically, but cultures were obtained from four, or 27 per cent. I have found it useful as a method of concentration, and have been able to find bacilli in specimens negative by the ordinary technic.

TUBERCULIN TESTS

Regarding the cutaneous and conjunctival tuberculin tests, my experience agrees with that of Hamman and Wolman,[14] who have recently published the results of 1,500 simultaneous cutaneous (with 20 and 100 per cent. O. T.) and conjunctival (with 1 and 5 per cent. O. T.) tests made in the Phipps Dispensary, Baltimore, by a uniform method. They found that of clinically non-tuberculous patients only 1.6 per cent. reacted to the conjunctival test with 1 per cent. Old Tuberculin, and of the certainly tuberculous in all stages, about 70 per cent. reacted. The number of reactions to the cutaneous test with 20 and 100 per cent. Old Tuberculin in the group of clinically non-tuberculous was so great as to render valueless the test as a positive diagnostic measure, although when the test is negative it almost excludes tuberculosis. They conclude that the conjunctival test with 1 per cent. Old Tuberculin is without danger when proper care is exercised; that when the test is positive and there are suspicious symptoms or signs the patient should be treated for tuberculosis; that when it is positive without symptoms or signs, the patient should be kept under close medical supervision; that when the test is negative the result is not of great significance. If the conjunctival test is negative then the cutaneous test may be tried. If the latter is positive, the two tests yield no significant information; if negative, however, the chances are tremendously against tuberculosis. They did not find that the cutaneous test with 1 and 5 per cent. Old Tuberculin yielded significant diagnostic information.

My experience with the cutaneous (strong tuberculin) and conjunctival tests coincides with the above conclusions. I have not had a sufficiently extensive experience with weak dilutions in the cutaneous test to draw conclusions from, but Baldwin,[15] of Saranac Lake, thinks that with weak dilutions as much information can be obtained from it as from the conjunctival test, the use of which he had abandoned in the summer of 1909.

The percentage of positive reactions from the conjunctival test in the clinically non-tuberculous obtained by Hamman and Wolman is very low compared with the percentage obtained by other investigators, 18 to 25 per cent. This may be due to the fact that they used 1 per cent. Old Tuberculin instead of the precipitated tuberculin, which is stronger, and possibly they were more stringent in ruling out suspicious cases, for other large series reported have usually been compilations.

13. Brown, L.: Jour. Med. Research, 1910, xxii, 517.
14. Hamman and Wolman: Arch. Int. Med., 1910, vi, 690.
15. Personal communication.

RADIOGRAPHY

In the hands of an expert, radiography is conceded to be a valuable procedure for early diagnosis, especially in determining the extent of disease. It cannot supplant the other measures, however, and its results are of significance only when they confirm the findings of other careful examinations. It is useful in determining the extent of the lesions, and it may be especially helpful in revealing diseased peribronchial glands.[16] It is most helpful, however, since confirmation of diagnosis by it establishes confidence in the interpretation of early signs.

DIAGNOSIS

In a short treatise on a disease with such numbers of variable symptoms and signs it is impossible to discuss in detail the combinations that justify a diagnosis, or that should excite a strong suspicion of active early tuberculosis. I shall mention, then, only the combinations that in my experience have been most common.

First, a persistent slight cough, with or without a little morning mucopurulent expectoration, and with an afternoon temperature of 99 to 99.5 F. Rest in the hospital usually causes the slight fever to subside within a week, but occasionally it persists for several weeks. On examination there is usually found a slightly shortened, high-pitched percussion note in the supraclavicular, infraclavicular or upper interscapular regions, and the apical outline is a little narrowed on the affected side. The breath sounds may be normal or harsh with prolonged expiration, but a few fine râles are heard at the end of deep inspiration. A positive ophthalmic test with 1 per cent. Old Tuberculin strengthens the diagnosis, but a negative test has little value. The case remains suspicious even if the cutaneous tuberculin test is negative with 100 per cent. Old Tuberculin. The diagnosis is positive if the conjunctival test is negative and the cutaneous test is positive. Tubercle bacilli are not often found, but in a few cases repeated search may demonstrate them, or they may be found by the antiformin concentration method.

A second group of patients complain of feeling "run down," their appetite has fallen off, they have indigestion, are "nervous," and sleep badly. They may have no cough or expectoration, and no fever, but usually they have lost a little weight. The physical signs are generally like those of the first group. Sometimes the apices are normal, but persistent râles on abdominal breathing are present in the fifth or sixth interspace below the nipple or in the infra-axillary space, and a wavy inspiratory murmur may be present. There is usually tenderness on pressure in the interspaces. The tuberculin tests have the same value as in the first group.

In a third group the onset is with a pleurisy, which may be dry or associated with an effusion. Fever is usually present, but may be absent, and cough may or may not be present. The majority of these patients react to the conjunctival tuberculin test. It is now generally conceded that the spontaneous pleurisies are of tuberculous origin in the vast majority of cases.

These three groups include the majority of early cases in my experience. There may be, of course, an infinite variety of combinations in which symptoms and signs are so numerous and variable, but other combinations are usually made by striking symptoms, such as hemop-

16. Stoll: Am. Jour. Med. Sc., 1911, cxli, 83.

tysis, laryngitis, etc., added to the above combinations as bases. In fact, the groups outlined might well be called basic groups.

The two conditions that most frequently cause confusion, and that really offer the only serious difficulty, are influenza and neurasthenia, the former by reason of symptoms, and sometimes signs, the latter by symptoms. Influenza may produce râles limited to the apices and harsh breathing, and it is possible that these may sometimes be unilateral. But I have never seen other changes produced by it except in severe acute infections with bronchopneumonia, and in bronchiectasis. In these cases the absence of tubercle bacilli, the character of the sputum, the presence of influenza bacilli, and the negative conjunctival tuberculin test should clear up the diagnosis. Neurasthenia should never be diagnosed without the careful exclusion of physical signs of tuberculosis and a negative conjunctival tuberculin test with 1 per cent. Old Tuberculin.

CONCLUSION

Tuberculosis is the most common of all diseases and causes a greater number of deaths than any other. Failure to diagnose it early is disastrous and reprehensible. Physicians should have a more thorough knowledge of it than of any other disease, and they should be trained in the highest degree in the methods used for its diagnosis in the early stage.

The greatest hope for the ultimate control of tuberculosis lies in the education of physicians in its early diagnosis, and, what will follow, the education of the public in accepting and not resenting or feeling disgraced by such a diagnosis. The public must be taught that the outlook is more hopeful the earlier the disease is recognized; the old terror that grew up from familiarity with the disease when it was diagnosed only in the hopeless, pitiable and repulsive stage must be dispelled.

I wish to thank Colonel William C. Gorgas, Chief Sanitary Officer, for permission to publish this paper.

NOTE.—Since this paper was written there has been published "A Report of the Tuberculosis Situation in Pennsylvania in 1909," by J. Byron Deacon (THE JOURNAL A. M. A., Feb. 4, 1911, p. 339). Deacon points out that in 1907, the latest year for which morbidity statistics have been issued, there were only 6,109 living tuberculous patients reported, while the deaths numbered 4,700 more, or 10,809. "On the commonly accepted supposition that for each death from tuberculosis there are at least three other persons sick from the disease, there were probably no less than 40,000 cases in Pennsylvania last year." Deducting the 10,809 deaths, there are left approximately 30,000 living patients, only about 6,000 of whose cases, or 1 in 5, were reported. But these figures may be misleading, for the 40,000 cases probably include many old cases that may have already been reported in previous years. I do not suppose that the law requires a new report of the old cases to be made each year. A more accurate way of estimating the number of unreported cases would be, then, to estimate the number of new cases and to deduct the 6,109 reported cases. It seems fair to assume that the average number of cases in Pennsylvania remains approximately the same from year to year, that is, that a sufficient number of new cases develop to replace those lost by deaths and recoveries. There were 10,809 cases eliminated by death in 1907. It is probable that at least half as many patients with demonstrable signs recovered. To replace these there must have developed approximately 16,000 new cases, of which only 6,109 were reported. Is one to suppose that the 24,000 or 10,000 cases were undiagnosed, or that they were diagnosed and not reported, in utter disregard of the law? The most charitable assumption is the former, but in either case the figures are a sad commentary on the condition of affairs in the relatively enlightened medical center, the State of Pennsylvania.

THE NEED OF THE EARLY DIAGNOSIS OF TUBERCULOSIS FROM THE PUBLIC HEALTH AND PROGNOSTIC POINTS OF VIEW*

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The title under which I have elected to participate in this consideration of tuberculosis in a sense removes the subject from the realm of broad popular discussion and restricts it to professional discussion, as bearing on the responsibility of the physician in the campaign which has awakened such world-wide interest among the laity. The speculations which claim our attention belong to the profession and do not directly concern the laity, yet it is impossible absolutely to separate from the field of legitimate public interest any of our conclusions or acts with regard to the prevention or cure of this disease. As a matter of fact, we have progressed too far in the study of disease and in the accumulation of exact information to be able to carry out the dictates of our knowledge single-handed. We have long recognized the necessity of taking the public into our confidence and asking its cooperation in accomplishing the great task of advancing human welfare along the many lines which so clearly lie before us. "With the progress of thought there has come a growing curiosity on the part of the layman to know more of the physiology and pathology of life," and we find a public which is only too glad to "learn more of what medical science can teach of everyday life in so far as it can tell how best to avoid and so prevent" disease processes which, when once established, prove themselves to be intractable or irremediable at the hands of medicine. Nobody will presume to gainsay the availability of such assistance in what should really be, in the first instance, our endeavor and not theirs. The question is, Are we doing our full share in the work which has been initiated, and are we deserving of the support in money and willing hands which is being offered on all sides? I am most emphatically of the opinion that we are not, and there is abundant evidence, which "he who runs may read," that we are not only not taking our proper group place in the vanguard— not even doing our share (irrespective of relative qualifications as between the profession and the lay public)—but are actually, by the repeated individual neglect of a plain duty, constituting ourselves a drag on the movement to emancipate the world from this insidious foe, very aptly characterized "the great white plague." It is time for us to obey the behests of those who, like Girdwood,[1] realize what the public has a right to expect of the profession, and the physician's responsibility to patient and to society.

We have been, perhaps, a little overdone, a little dazed of late years by the spectacle of what might not immoderately be termed a wild crusade against consumption and other insidious enemies of health. We have been blinded by a blaze of brilliant display, and we have been deafened to reason by a blare of revivalistic appeal. We have lost our sense of proportion—our perspective—our power of introspection. It is time to pause in the flight for striking effect and do a little of that drudgery in first principles that will place us on solid ground in respect to the real part we, as members of the medical profession, are to play in the tuberculosis problem.

* Read at the meeting of the Medical Society of the Isthmian Canal Zone, January, 1911.

1. Girdwood, John: Responsibility of the Physician in the Campaign Against Tuberculosis, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1881.

The first thing required of us is that we shall present a united front, based on the pathology of the disease, as to the most economical and best method for its prevention and the surest means for its control; and, then, that we shall work together conscientiously in an earnest, intelligent effort to stamp it out of existence as a universal plague. Let the philanthropic layman, the educator, the social worker, the hygienist, and the sanitarian, exert their energies under scientific advice toward ordering the lives and habits and surroundings of the people; for the physician there is the primary duty of making a diagnosis, and that an early diagnosis. This is the most efficient weapon at his command in leading the great undertaking and in discharging his obligation, both in the interest of public health and a good prognosis for his patient. It is a weapon which must be used fearlessly, for in it alone do we find the backbone of a practical campaign.

It is the one means of robbing the disease of its terror, and of quieting the panic which the mere mention of the word tuberculosis has always excited. To have, or to have had, tuberculosis has been in the past, and is now, regarded as a stigma, which has been a potent influence in the development of a disposition to conceal the disease. And the large majority of physicians have humored the people in this erroneous idea and all too willingly lent themselves to the deception. It is a false kindness to doubt and ignore or conceal the facts to which the findings in a physical examination clearly point. If the symptom-complex of tuberculosis is sufficiently complete to warrant a reasonable suspicion of the disease, far better to tell the whole truth and make a confidant of your patient in the hope—nay, certainty, of enlisting his help—than cheerfully to disarm the finding of anything suggestive simply because the picture seems incomplete by the absence of microscopic proof. There are comparatively few advanced spirits who have the courage of their convictions in this direction and are willing to be dubbed as "hipped" on the subject—the victims of "tuberculophobia," as they often are, because bacilli are not found in the sputum, or the subject of their diagnosis is not in a hopeless condition of advanced disease, or because their patients return to active life, rosy and fat and nervously stable, after only a few months under that therapeutic triad—rest, fresh air, and good nourishing food. These men may be ridiculed, but, mark my word, they are the ones who are training the public to regard tuberculosis from a sane point of view; they are the pioneers and founders of the real campaign against tuberculosis; they are the ones who, though perhaps occasionally erring on the right side, are bringing about a decreasing percentage in the mortality statistics.

I am conscious of the fact that I am setting down some very old and familiar truths, albeit in a new form, perhaps, but I think the circumstances and conditions we are facing warrant their reiteration with emphasis as often as may be required to awaken us to a realization of our shortcomings in respect to our duty, and to the end that we may not do less well than we may, or less well than may be reasonably expected of us by our patients and by society.

I shall not discuss the symptoms and signs which constitute a sufficient picture for the early diagnosis of tuberculosis. Suffice it to say that "the presence of tubercle bacilli in the sputum can only confirm that which should have been discovered in all probability months before by careful and systematic physical examination. . . . If we wait for microscopic demonstration of tubercle bacilli in the sputum, in order to make a diagnosis in suspected cases of this disease, our patients in the vast majority of instances will be so far advanced as to almost preclude the possibility of a permanent cure."[2]

It is, however, within my province to ask wherein we have failed to prepare our minds, to train our abilities, and to take advantage of facilities favorable to an early diagnosis. I have already touched on the first factor of this inquiry, but I think it will bear the further remark that far too often has our fear of losing a case influenced us to close our eyes to the meaning of facts we have discovered. We hesitate to stigmatize a patient by the pronouncement that he is the subject of tuberculosis. We even delay submitting ourselves to an examination, if there is a suspicion of tuberculosis, in the unreasonable and cowardly fear that the suspicion will be verified, when, as a matter of fact, the stigma involved is that which rests on the physician who fails to make an early diagnosis, and the only need of fear is that a patient may be permitted, in the absence of a timely warning, to progress so far in the disease that he is denied that fair chance to regain health to which he is entitled. If it is fear of alarming our patients which makes us hesitate to tell the truth, I think we can put our minds at rest. "It will not be so great a shock if we are able to say that the disease is in its early stages, and that proper treatment, adopted at once, will restore him to health."[1] With the present tendency to be overcautious in making a diagnosis of incipient tuberculosis, there is no danger of magnifying the import of symptoms and signs. There is little or no harm done by the occasional mistake in this direction, but there is infinite harm done by the delay incident to a dependence on that evidence which may develop late and which, while constituting conclusive proof of the disease, is also often the symbol of an approaching end, or, at least, prolonged invalidism. The very first step toward paving the way for an effective general campaign must be taken by us, for it is the patient with the advanced case with the bacilli in his sputum who is a menace to the community. The prerequisite in fulfilling our duty to the patient and the public is a willingness to make an early diagnosis, and not only that, but fearlessly to state our convictions in accordance with the highest ideals of professional altruism as against the commercial spirit that is animating so many. It is high time to rid ourselves of false notions and selfish impulses—to clear our vision—and unite in a right-minded attitude in this matter.

And now as to our ability to measure up to any standard of harmonious action along the above-mentioned lines, which we may see fit to agree on. "Of all the means to the early detection of pulmonary tuberculosis, the art of physical diagnosis (together with an eye for early symptoms) is preeminently the foundation on which a diagnosis depends."[2] This cannot be too strongly insisted on, and any neglect of it in dealing with this disease is a most unpardonable form of malpractice.

Greater experience with the *x*-ray, with Calmette's ophthalmic reaction, with von Pirquet's skin reaction, and with the subcutaneous use of tuberculin has given them only an associated importance and corroborative value as diagnostic agents in the early stages of tuberculosis. Yet these and the microscope are too often employed as excuses to evade the older and more arduous task of eliciting the evidence appreciable by our senses in palpation, percussion and auscultation.

2. Wright, B. L.: A Plea for the Early Diagnosis of Pulmonary Tuberculosis, Mil. Surgeon, xxiv, 75.

Taking it as an accepted fact that the above laboratory procedures are mere aids, the early diagnosis of pulmonary tuberculosis must rest on the careful and thorough physical examination of the suspect (it may have to be repeated several times before definite lesions can be detected); and, in turn, our ability to make an early diagnosis of pulmonary tuberculosis is conditional on our familiarity, first, with the signs of the normal chest —the music of the chest, as it has been poetically styled —and then, with the many types and degrees of variation from the normal signs attendant on disease. This being the case, it is remarkable that the art of physical diagnosis is given such scant attention in our medical schools and that the meager training with which we are equipped when launched in the midst of an unsuspecting public is so neglected by members of the profession, in both civil and military life. There is, indeed, a woful ignorance of those essentials to be practiced at the bedside; "an inability properly to make a physical examination, or to correctly interpret the physical signs obtained by such examination; and, I regret to say, the normal physical signs (particularly in the region of the chest) as elicited by the various methods employed in physical diagnosis."[2] are a closed book, as far as any practical advantage is concerned, to a shockingly large number of practicing physicians. This statement might strike any group of offenders as an insulting exaggeration, but resentment is only an admission of the lack of an active appreciation of the value of high development along these lines. Such physicians probably do know the appearance, the touch sensations, and the sounds to the extent of being able to detect gross variations from the normal, but in most diseases, as in tuberculosis, it is the fine variations which are of importance and the ones which offer us timely information. It is just here, I repeat, that most physicians fall short in training and capability to deserve the confidence of their patients. This conclusion becomes inevitable when we investigate "the statistics of the civil hospitals and sanitariums throughout this country, if not throughout the world, which receive this class of patients," and of the different insurance companies,[3] all indicating that large numbers of individuals have been accepted for admission or protection in advanced stages of the disease. Post-mortem records point in the same general direction. "That it is true of the military services, as well, is a most lamentable fact that cannot, I believe, be disputed"[2]—certainly not by our Navy. It was, for example, reported by Wright in January, 1909, that " in only four or five instances out of the ninety-nine patients admitted" to the U. S. Naval Sanitarium at Las Animas, Colorado, from the time of its establishment to that date, did the medical officers transferring them give any evidence of having attempted to localize the diseased areas. Of the remaining ninety-five or ninety-six cases the information furnished was of the most meager character, the diagnosis apparently having "awaited the microscopic findings," and having been determined much too late to offer any hope of recovery, or, "in many cases, the prolongation of life beyond a period of months." I may say that following the publication of these facts, together with an appeal for the early diagnosis of pulmonary tuberculosis, new interest in the disease was awakened throughout the Medical Corps of the Navy, and I believe that records will show that an improvement is being realized.

While such apathy, indifference and even hostility, as above indicated, are displayed by so many physicians in civil and military circles, the number of victims to tuberculosis will show little decrease, and, what is more to the point, "until such time as the diagnosis is made by the early [symptoms and] physical signs and the admission ticket bears the phrase 'Sputum negative for T. B.,' instead of that (usually) deadly sentence, 'Tubercle bacilli have been found in the sputum,'" society will continue needlessly burdened with the care and support of those, who, had an early diagnosis been made, might have been cured by the arrest of the disease, and saved to the world as "useful citizens in their various walks of life." The expense and loss of time to the individual, the family and the state incident to a tardy diagnosis represents a criminal waste which complicates the already serious economic problems of the age. There is a business principle involved as well as a humane dictate. The relief which is demanded is within our power to give. The public has a right to expect it of us individually and collectively, and by recognizing our plain duty we shall be removing one of the greatest obstacles to the successful prosecution of the fight against the most devastating enemy of the human race.

The third inquiry which I wish to bring home to you concerns the secondary or collateral measures for diagnosis. Are we, in the presence of inconclusive physical data, availing ourselves of every facility placed within reach by the health departments of cities or by institutions to verify or allay suspicion?

In previous references to the examination of sputum I may have seemed to underrate it as a proper measure in early diagnosis. This I had no intention of doing except by way of more effectively emphasizing the importance of a greater dependence on observed early symptoms and early physical signs. Although tubercle bacilli are not to be expected in the sputum until there has been some destruction of lung tissue, they are sometimes found very early in the disease and should, therefore, be invariably sought as a positive proof of the existence of the disease. It is to be kept in mind, however, that failure to find tubercle bacilli in the sputum does not exclude the possibility of the disease, as they may be absent from the sputum, or they may not be found microscopically. Reward in the search for positive proof, which so many of us unfortunately wait on, may be forthcoming only after repeated examination, yet the large number of physicians who entirely neglect this measure of diagnostic precision provided by the city laboratory, or who practically do so by resting content and pluming themselves that they have done their duty in requesting the examination of a single specimen is very clearly shown in the figures gathered by Girdwood.[1] In the course of his paper, after allowing for errors in calculation, he says, "I think it may be safely estimated that 50 per cent. of practitioners do not avail themselves of this privilege." If the neglect of this long-known measure is so prevalent, how certain we can be that the tuberculin, ophthalmic, and skin tests, one being corroborative of the other, and all being valuable as mile-stones along the route to an early diagnosis, are also neglected.

I repeat, therefore, that the profession is, broadly speaking, guilty of at least three offenses in relation to a timely diagnosis of tuberculosis, and to the rôle which we must play in the campaign against the disease, if success is to follow the movement. To summarize:

1. The profession is not educated to the point of a right-minded, morally fearless and pecuniarily unselfish attitude toward the early diagnosis of pulmonary tuberculosis.

3. Greene, C. L.: Medical Aspects of Life Insurance, Osler's Modern Medicine, Vol. vi, Part vi, p. 760.

2. The profession does not, or will not, fully realize the importance of the information to be gained by giving careful attention to early symptoms, and is, with inexcusable carelessness, not taking advantage, or has not trained itself to take advantage of the valuable signs to be elicited by the art of physical diagnosis as constituting the real basis on which a timely diagnosis is to be made.

3. The profession is not availing itself of those valuable corroborative tests which science has placed at our disposal as aids to the early diagnosis of tuberculosis and which should be generally adopted.

The insurgent movement in professional circles which has been inaugurated in support of reforms along these lines must win recruits and gain in force if we are to live with our heads up straight and our hands clean.

THE FOLLY OF SENDING TUBERCULOUS PATIENTS AWAY FROM MEDICAL SUPERVISION *

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PHILADELPHIA

CASE 1.—Mrs. N., aged 44, in well-to-do circumstances, came to my office Oct. 14, 1907. She had been perfectly well until four months previously, when she developed symptoms of cough, expectoration, etc., and her physician told her that she had tuberculosis of the lungs and that she should go to the country. This was the complete advice he gave her, telling her neither where to go nor what to do. Being a woman of intelligence, she made inquiries among lay people and heard, among other places, of a town in a neighboring state in which there is a large sanatorium for tuberculous patients. She went to this town, which contains a number of physicians experienced in the treatment of tuberculosis, but having been given no advice about what to do and no directions about seeing a physician, she thought it was necessary only to remain in the town until she got well. She remained four months, and, finding that she had not improved, she consulted a physician connected with the sanatorium who told her her exact condition and described what she ought to have been doing, but had not been doing during the past four months.

The patient had moderately advanced tuberculosis and I have no doubt, especially in the light of subsequent events, that if she had been under the care of this physician during these four months she would have recovered, but after finding that she had wasted four months she became so disheartened and so homesick that she felt obliged to come home for a while, even though, as she said, it might be attended by serious consequences.

She asked now if she might not be treated at home, assuring me that if she did not do well she would be willing to go to a sanatorium. She was not only a woman of intelligence, but of perseverance, and in six months the disease was "arrested," the cough and expectoration practically stopped, and she had advanced in weight from 118 pounds to 137. She has remained in this apparently cured condition for the past three years.

CASE 2.—T. M., a single man, aged 23, medical student, first consulted me Sept. 13, 1906. He said that the previous December he had been advised by an eminent physician to go west and keep in the open air, and to exercise. He was a strong, characterful young man and followed directions implicitly, riding horse-back and walking continuously, only to find at the end of five months that he was distinctly worse. On consultation with a physician in Texas, who knew something about tuberculosis, he was told that he should have been on rest the whole period. Discouraged and disheartened he came east, but his five months' definitely improper régime and the trips west and east had done their work. He was in a critical condition when I saw him and rapidly deteriorated till he died.

CASE 3.—F. G., a man aged 40, married, machinist, went to the White Haven Sanatorium, March, 1910, with advanced tuberculosis of both lungs. None of his friends expected him to recover. He was so well four months later, namely, in July, that he insisted on going home for a few days. His friends were surprised at his splendid condition and realizing now his capability of recovery thought they would clinch the matter by sending him west. Though he was a poor man, these friends made up a purse of $800 and sent him west. Three months later he returned east in the hope of being able to enter the White Haven Sanatorium again, but he was so ill on arrival at his home that he could not be moved and he died several weeks later. The patient himself stated in regard to his retrogression, that the trip west on the train started it. He did not know what to do when he arrived there, fell into the hands of a physician who knew no more about tuberculosis than himself, and finally after spending his $800 in three months he came east and the trip eastward finished him.

The result in the first case shows that there was no necessity for the patient leaving home; in the last case the patient was in the proper place and was advised away from it, and all three cases are typical of the folly of sending patients away from continuous medical supervision. Every physician who sees many tuberculous patients has numerous similar histories of patients who die, not on account of susceptibility, but on account of improper or insufficient direction.

To recover from a tuberculous condition which is manifesting symptoms sufficient to bring the patient to a physician requires at the least months of a careful régime, which changes with the improvement or retrogression in the disease and with the occurrence of complications like a cold. Not one patient in a hundred can be directed at the beginning along a course that will not require modification, and modification sufficient to make the difference between life and death if it is not followed out.

Two of these three patients went to country hotels. I know of no course worse than to send a patient to a country hotel or farmhouse away from direct medical supervision. In the farmhouse or in the hotel it is usually necessary for the patient to conceal his condition. He is, therefore, prevented from using sputum cups, uses instead his handkerchief and sometimes even is obliged to swallow his sputum, thereby putting himself in the danger of continual reinfection. In addition he is even afraid to carry out in their entirety the precepts that he himself understands, fearing, on account of the general knowledge of tuberculosis, that those around him will recognize his condition. At home or in a sanatorium the people about the patient are not only desirous of seeing him get well, but, understanding his condition, help him to carry out the régime. At the farmhouse or country hotel he is so anxious to conceal his condition that he is encouraged in just the opposite direction.

Moreover, to send a patient to a farmhouse in which the family is willing to take a case of tuberculosis has no further advantages. In this case the people have usually had tuberculous patients previously, and have some ideas relative to the disease. These ideas are frequently wrong, yet wishing the patient well they endeavor to instruct him. Any sick individual is more or less at the mercy of the well people about him; if they insist on certain things he has not the will-power to resist. Unless the physician, therefore, is paying very close attention, the patient will be following these other directions. Some patients have so much recuperative power that despite the disadvantages of the farmhouse

* Read before the Philadelphia County Medical Society, April 12, 1911

they improve, but the number of these is small compared with the number of patients who fail to improve in the farmhouse, and yet on being sent to a sanatorium get promptly well.

My experience is that patients capable of recovery and possessing the proper character to make them persevere in treatment are capable under supervision of getting well anywhere. Patients whose personal will-power is not strong or who on account of circumstances, like business worries or family troubles, are not capable of taking care of themselves at home, should be sent to a sanatorium.

The advantages of a sanatorium do not lie in its situation, but in the ease with which the proper régime is followed in it. In the home or farmhouse or country hotel, the people are going to bed at the time suitable for well people; they are, if the weather is cool, living in confined rooms; they are amusing themselves by indoor occupations and they are eating meals suitable for active laborers. In order to follow out a régime in which rest, fresh air and special food are the important factors, the patient is obliged practically to separate himself entirely from the family, and on his own initiative retire while the others are amusing themselves, sit out alone while others are experiencing the comfort of indoors, and refuse dainties which he sees others enjoying; all this requires an amount of character that few people, especially sick people, possess. In a sanatorium everyone about the patient is doing just what is proper for the disease; all are retiring at a proper hour, the daily amusements are outside, the meals are specially regulated to requirements so that there is no inducement to remain up late or to stay indoors, or to eat unsuitable articles of food. To do what is wrong at home is very easy; to do what is right requires special initiative on the part of the patient; while the opposite is true in the sanatorium; in fact to do what is wrong in a sanatorium almost requires special malice against oneself.

I believe, therefore, that there are only three things for a physician to do with a tuberculous patient, namely, treat the patient himself, send the patient to another physician or send the patient to a sanatorium; and that the sending of a patient to a farmhouse or country hotel away from supervision is an unjustifiable evasion of the physician's responsibility.

732 Pine Street.

REPORT OF A CASE OF TERTIAN MALARIA, SIMULATING APPENDICITIS

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My purpose in reporting the following case is to urge on all practitioners in malarious districts the necessity for the examination of the blood for the malarial parasite, and the value of the procedure as a routine measure. The process of taking a smear, staining, and mounting is a simple matter occupying a very short time. Very often, as in the following case, but a few minutes' examination under the microscope is sufficient to reveal the parasite, where very possibly its existence was considered unlikely. Following such a finding, consideration can then be given the significance of the presence of the parasites, and whether or not they are responsible for the clinical symptoms, not forgetting that in all malarious sections the parasites may be but coincident with other pathologic conditions.

P. L., white, aged 34, a carpenter, unmarried, was suddenly seized with a severe pain in the abdomen at 6 p. m. March 15. I reached his bedside three hours later. He gave no history of having had previous attacks. He was in intense agony; the right abdominal wall was rigid, the right thigh flexed at right angles to his body. He had vomited twice previous to my arrival; there was no chill. Light pressure over the appendix elicited intense pain, and any attempt at deep palpation produced great agony. The temperature was 99.2 F., pulse 90. A tentative diagnosis of appendicular colic was made, half a grain of morphin sulphate administered hypodermatically, 5 grains of calomel administered, all nourishment withheld and a saline ordered for the following morning. The next day, fifteen hours after the initial symptoms, the patient was resting comfortably, but the right rectus remained rigid, and considerable pain was elicited by deep pressure over the appendix. His bowels had been thoroughly moved and his temperature was normal. The patient was warned to remain in bed, to limit his diet to liquids, and, owing to the distance at which he was situated and the time involved in a visit, to advise me if further symptoms developed. The evening of March 17 I was hurriedly sent for, but being absent did not reach his bedside for some hours. An attendant advised me that he had in the morning, become perfectly comfortable, had dressed that afternoon, and left his home. At six that evening, a few hours after leaving home, and just forty-eight hours after the initial attack, he was again seized with intense abdominal pain, accompanied by a severe chill. An hour later his temperature had reached 106 F., and he was semicomatose. I found him some hours later with the abdominal symptoms intensified over those prevailing two days previous. The temperature had by this time fallen to 101, the mental condition was again clear. While all the subjective symptoms pointed to an appendicitis, the temperature curve was not in accord with such a diagnosis. A blood-smear was taken which at daylight I treated with Wright's stain. The first field examined under a 1/12-inch oil immersion lens showed a well-developed hyaline ring form of the tertian type; other fields showed numerous tertian parasites in various stages of development. Ten grains of the quinin sulphate with dilute hydrochloric acid were ordered given three times daily. With the second dose an amelioration of the abdominal symptoms occurred, and in twenty-four hours they had entirely disappeared. The patient recovered rapidly under a continuation of the treatment outlined.

THE DIAGNOSIS OF TUMOR OR ABSCESS FORMATION IN THE TEMPORO-SPHENOIDAL LOBES

WITH A REPORT OF A CASE, WITH OPERATION *

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This subject is of interest to neurologists and psychiatrists alike; to the former on account of the difficulties with which the diagnosis of lesions of the temporosphenoidal lobes have been associated, and to the latter because of the curious mental states which are very usually engendered.

An examination of pertinent literature shows that a large number of cases of tumor growth in these regions has been recorded, but the diagnosis has been made in only too many instances after the death of the patient, and a man of such wide experience as Byrom Bramwell has put on record his opinion that tumors in these areas are the most difficult of all cerebral growths to localize with accuracy.

* Read before the New York Neurological Society, March, 1911

This difficulty had its origin in two factors—the rarity of the disease and the comparative latency of the region affected. The last mentioned condition is one which should stimulate us to examine minutely the signs and symptoms of such cases as come under our observation, in order accurately to define a clinical picture whereby to facilitate future diagnosis, and for this reason: The fewer important centers there are in any given brain area, the more likely are surgical procedures to meet with success in that area. The *succès d'estime* associated with the removal of subcortical Rolandic tumors is occasionally chastened by the reduction of the status of the patient to a quite incompetent intellectual and physical condition; but the fact that large neoplasms have been removed from the substance of the right temporosphenoidal lobe with the abolition of all previous symptoms, and the addition of no new ones, makes one insistent that we all—neurologists, psychiatrists—and aurists—conduct our examinations of cases of cerebral disease in such a manner as to preclude the possibility of allowing a single instance of this disease to slip through our diagnostic fingers.

CASE REPORT

Patient.—M. P., a woman, aged 51, was admitted in November to the second medical division of Bellevue Hospital. I am much indebted to Dr. Coleman for permission to report the notes of the case. The patient had been married twenty-three years, and had had eight children, of whom six died young. They were all full-term children; she had had no miscarriages; her previous health had been good. Her intelligence was excellent.

History.—In early June, 1910, when in good health, she went to bed as usual and during sleep had a slight generalized convulsion. She had another similar attack a few hours later. Of neither seizure was there any warning. There was complete loss of consciousness. She was sent to the Lincoln Hospital while still unconscious.

On coming to herself, she had severe left occipital headache. She vomited for some time, but there was no weakness of any of her limbs. She remained in the hospital for three weeks. There were no special phenomena; beyond occasional severe headache, she remained well for three weeks after leaving the hospital. In the middle of July, six weeks after her first attack, she had another generalized fit of greater severity than before. She was taken to the Jersey City Hospital and unconsciousness is alleged to have obtained for three or four days. There were no sequelæ beyond vomiting and headache as before. Two weeks later, she left the hospital apparently well and remained so for six weeks more. In the end of August, when standing in her house, she suddenly felt terribly frightened—"frightened in the stomach"; became dizzy; "everything seemed to turn"; she sat down on the bed, and in a few minutes felt pins and needles in the left fingers, then in the left forearm, then in the arm and shoulders; the tingling was next felt in the left leg also, after which the fingers of the left hand curled up and began to twitch; then the twitching spread to the arm, and subsequently the wrist, and the left elbow was bent and the hand was drawn up. The left leg followed suit, and last of all, she felt the left side of her face twisting and jerking. There was no loss of consciousness. "I could speak if I held my mouth. I kept spitting all the time." The attack lasted perhaps ten minutes. There was weakness in the left arm after the fit was over. In the latter part of the attack she noticed an "awful bad smell like rotten weeds." This lasted a minute or two and was followed, when the fit was over, by vomiting. After the vomiting attack had passed (half an hour after the fit) the smell came again, and at the same time "I felt queer; everything seemed funny and different." Again there was no loss of consciousness. "Then I distinctly saw a woman standing near me to my left. I was afraid of her. I did not know her. She was dressed in blue. She moved and made motions as if she was talking, but I could not hear anything." The queer feeling lasted perhaps twenty-five minutes, but only for a few of these was the woman seen by the patient.

The patient was taken to Long Island College Hospital and remained there for a week, during which time she vomited much and had a great deal of severe headache, which was usually on the left side. She had one fit while there, when in her bath. "Suddenly felt frightened at the heart." Pins and needles were felt in the fingers, forearm, arm and leg; then twitching in the same order. The mouth did not twitch. There was no spitting. The evil smell followed the attack as before. Later, there was profuse vomiting. Duration, ten minutes, with consciousness retained for the whole period. She limped in the left leg on leaving the bath-room and both the left arm and leg felt very weak.

During the weeks following her stay in the Long Island Hospital, the patient had frequent subjective sensations of an offensive odor as before. The woman always appeared to her left, always in blue, and always frightened her. "I always felt queer before I saw her. The queer feeling usually lasted perhaps a quarter of an hour." There were no motor fits then, but headaches became severe. "The smell came often and was disgusting." (She used to wipe her mouth with a handkerchief to get rid of it.) "I do not know whether it was in the mouth or in the nose."

The left arm and left leg gradually became weaker and in October the patient began to have burning pain in the left arm and hand and, to a less extent, in the left trunk and the left leg. "If I put my left hand in hot or cold water the pain was terrible!"

At this time, she began to keep a shawl wrapped round the left arm to obviate the pain produced by cold draughts of air on the arm. In the middle of October she had another left-sided focal fit, followed by the evil smell and apparition. After this attack, the arm and leg were definitely weaker. "I could hardly walk at all." About the same time, she noticed a "crawling sort of movement" in the left fingers which was present apart from the attacks. Headaches became more severe and the burning pain in the left side of the body became worse. The patient had no fits or subjective sensations of smell or sight when under observation in Bellevue Hospital.

The synopsis of the neurologic examination is as follows:

Examination.—The patient's intelligence was acute; there was no speech defect of any kind whatsoever.

Special Senses: Taste and hearing and acuity of vision were normal. The patient was able to distinguish odors but could not name them, this possibly being due to a general depression of the olfactory centers. There were no changes at any time in the optic disks. There was left hemianopia, which was complete up to fixation point. Beyond inequality of the pupils, there were no other eye abnormalities.

The left side of the face showed considerable weakness, chiefly confined to the lower part of the face, and with no alteration in the electrical reactions in the muscles.

There were no abnormalities in the limbs of the right side.

The left upper extremity was very spastic and profoundly weak and the fingers and hand of that arm showed typical athetotic movement.

In the same arm there was profound sensory ataxia.

The left leg also was very weak and spastic but showed no athetosis.

The patient could not walk alone and disliked putting the left foot on the ground because of the increase of pain in the foot induced thereby.

Sensory examination showed complete lack of appreciation of light pin-prick and cotton-wool touch on the left side of the trunk, the left side of the face and the left arm and leg. The patient was unable to appreciate temperature on the left side of the body, but cold was instantly productive of motor reflexes and intense diffuse pain all over the left side, this being most marked in the left upper extremity. A cloth wrung out of cold water laid anywhere on her left side hurt her intensely. There was complete loss of sense of position in all the joints of the left upper extremity and in the toes of the left foot. Gentle kneading of the muscles of the left side was resented because of the "burning" pain induced.

Reflexes, upper extremity: Those on the left greater than on right; abdominal reflexes absent on both sides. Patient is

fat and abdominal wall is flabby. Knee-jerks: right equal to the left. Ankle-jerks: only occasionally present. Plantars: right of flexor type, left of extensor type. She had no sphincter trouble.

Circulatory, pulmonary and alimentary systems were normal.

The progress of the case in the hospital was uneventful. No attacks took place; left-sided weakness, athetosis, and pain became more and more marked; headache and nausea increased; no pathologic change occurred in the optic disks.

Operation and Results.—The patient's objections to operation were at last overcome, and Dr. Hartwell made a large osteoplastic flap over the posterior part of the right temporosphenoidal lobe. At the first stage of the operation, the dura was not opened, but the finger was able to detect on the under surface of the dura a large lobulated mass of distinctly pathologic consistency. A week later the wound was reopened and the dura incised. The posterior parts of the upper and middle temporal gyri were found to be the seat of a knobby growth of great hardness which was so intimately connected with the dura that this membrane had to be removed entirely in the neighborhood of the neoplasm, which was itself completely taken away.

Immediate results were excellent; athetosis disappeared and subjective pain in the left arm and leg became much diminished. Headache had been relieved from the date of the first stage of the operation.

Two days after the second stage, the patient had a severe Jacksonian fit on the left side, and this was repeated perhaps eight or ten times in the succeeding three weeks; in none of these was postepileptic weakness at all marked in the affected limbs. These attacks were looked on as resulting from a transient edema of the exposed convolutions and the annectent gyri and were not therefore regarded as being of serious prognostic import. She was discharged from the hospital some six weeks after the removal of the growth, without headache and with power and sensation almost completely restored to the left arm and leg.

The diagnosis in this case was, of course, exceedingly easy; it is seldom that in one individual one finds collected together nearly all the signs on which one must rely, but just for this reason the case has seemed to me to be a proper one with which to open a discussion on the symptomatology of gross lesions of the temporal lobes.

The convulsive seizures were in this case particularly characteristic, and the sequence of the various centers attacked was so anatomically and physiologically exact as to make very clear the localization of the primary epileptogenetic center. These attacks began, as you will have noticed, with an aura of fear—referred more especially to the epigastrium—then "spread" took place upward and forward, producing first a sensory and later a motor focal epileptic attack by means of irritation of the postcentral and of the precentral gyri. In the meantime spread of the stimulus was occurring in a directly forward direction, and by the time the motor fit had almost exhausted itself, there was produced a true uncinate fit—a subjective sensation of a foul odor—"like rotten weeds"—which was so intense as to produce intense nausea and vomiting. In many of the attacks, there was associated with this phenomenon that most curious of psychic conditions, a true dreamy state in which consciousness, though retained, is strangely transformed, and in which the relationship between the individual and the external world becomes apparently altered in a manner too subtle for concrete description.

In this respect, my patient contented herself by saying that she "felt queer," that "everything seemed funny and different," but this failure to portray her defective objective consciousness was almost made up for by her clear-cut description of the result of her increased subjective consciousness, namely, the projection of her submerged memory of a woman dressed in blue, who caused her fear.

Doubtless these "voluminous mental states," as they were named by Dr. Hughlings Jackson, frequently accompany so-called idiopathic epilepsy, but it is noteworthy that when incoordinated sensory resuscitations of this nature have occurred, and organic intracranial disease has later been found to have been present, the lesion has invariably been found to have been situated in the temporal lobe; in a series of nine proved cases of tumor of the temporosphenoidal lobe of one or other side, I obtained a clear history of the incidence of dreamy states in seven and of subjective sensations of special sense in eight, and the entire nine patients had had at some period of their histories one or other type of phenomenon.

Owing to the fact that the temporal lobes are vast and uncharted regions containing only one known bilateral center, that of smell and taste, and one unilateral center for the storage of auditory memories in the transverse gyri of Heschl, we are forced in many instances to look for exact localizing signs to the pressure effects of temporal tumors on neighboring structures. In this respect the present case was particularly rich: there were, as you will have observed, well-marked signs of pressure on the pyramidal tract, taking origin in the right cortex, and moreover, the signs of pressure inwards on the right optic thalamus were more marked than I have ever before known to occur.

Many years ago Nothnagel and Bechterew showed the optic thalamus to be an important reflex center for emotional expression and in cases of tumor or abscess of one temporosphenoidal lobe, it is common to find the effect of depression of function of the homolateral thalamus in an abolition or marked diminution of emotional expression in the opposite side of the face, and I have learned to look for such a depression of function in these cases as being of the utmost aid in diagnosis.

There was, however, in the patient under discussion, an almost perfect thalamic syndrome in addition to unequivocal temporosphenoidal signs; there was pyramidal involvement with well-marked athetosis, together with a signal inability to appreciate touch on the affected side, combined with explosive sensibility as regards superficial and deep pain and temperature, and much subjective burning pain of a characteristic nature in the same parts of the body. The lesion in this case was situated much more posteriorly than in any of my nine cases to which I have already referred, and this fact may, to some extent, account for this greater incidence of pressure on the thalamus, as it undoubtedly does for the fact that this was the only case in which hemianopic defect was observed in the contralateral visual field. I would put the significance of hemianopia in this connection according to my own experience as follows: its absence, in the presence of other signs indicative of the temporal lobe, is no reason to waver in this diagnosis, while its presence is amply confirmatory of one's position.

The question of the speech defects in these conditions now requires consideration: for this purpose, our present case is of no value, in that the disease was localized to the right side of the brain. The patient was a right-handed woman, and consequently at no time had she any difficulty in expression. The effects of gradually expanding cerebral lesions on the various centers concerned in our communication with the external world are widely different from those resulting from sudden vascular lesions produced either experimentally or in the

course of nature—in these latter, the damaged area is sharply delimited, and within its boundaries, destruction is usually rapid and decisive; in the former, a gradual deterioration of function takes place, producing pathologic speech conditions less obvious, but equally informing.

I lay stress on these facts because in the books it is usual to find the statement that word-deafness is to be expected in cases of tumor or abscess formation in the left temporosphenoidal lobe. This assertion is entirely misleading, in that such a condition can only be brought about by destruction of the transverse gyri of Heschl and the posterior three-fifths of the inferior temporosphenoidal convolution, and such destruction practically never occurs except in the terminal stage when exact diagnosis is useless and unnecessary.

Differences in size, situation and speed of spread of temporal lobe tumors will, of course, produce differences in speech affection, but one feature is constant: a depression of the power to recollect names, especially those of persons, places and things, this discrimination being accounted for by the fact that our conceptions of persons and things are less closely connected with their names than are the abstractions of their circumstances and properties; thus, one patient when shown a familiar gold coin, recognized it as "money—good to have," while an envelope was called by another patient "something to put a letter in."

In these, as in most other cases, there was no real loss of word memory; the memories were intact, but in a degree submerged and capable of being brought up to consciousness only by a great effort of volition or by the aid of an additional cognate auditory or visual stimulus.

Often such a patient has no speech defect in the course of ordinary conversation, but makes frequent mistakes when asked to name familiar objects shown to him; a condition perhaps the most characteristic of all the temporosphenoidal speech defects and dependent on a degradation of function in the association tracts uniting the visual and auditory centers. These naming errors are instantly perceived by the patient and annoy him. The right word is recognized as soon as it is heard, and so far are these people from being word-deaf that an inaccurate prompting is invariably rejected.

I would summarize the outstanding features of this case and of the other nine of which I have spoken, as follows:

SUMMARY

Symptom-Complex of Tumor in the Right Temporosphenoidal Lobe in a Right-Handed Person.—Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathologic psychic conditions; crude subjective sensations of smell or taste with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the left lower facial muscles, usually most evident on emotional expression; less often the left arm and leg temporarily paretic; left abdominal reflexes diminished or absent, deep, increased; the left plantar reflex may be of extensor, and the right of flexor type.

Bilateral papilledema usually of greater intensity on the right side. Reflex change and motor symptoms on the left side, at first merely postepileptic, but later become persistent phenomena.

No word-forgetfulness after major attacks or at other times. No speech defect whatsoever.

Symptom-Complex of Tumor in the Left Temporosphenoidal Lobe, in a Right-Handed Person.—Difficulty in naming objects seen and recognized; later, word forgetfulness in conversation; later, inapposite words and phrases, with instant recognition of mistake when made, but inability to prevent perseveration of verbal errors.

Reading aloud and writing to dictation are well performed; spontaneous writing poor.

Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathologic psychic conditions; crude subjective sensations of smell or taste, with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the right lower facial muscles, usually most evident on emotional expression; less often, the right arm and leg temporarily paretic; right abdominal reflexes diminished or absent; deep, increased; the right plantar reflex may be of extensor and the left of flexor type.

Bilateral papilledema, usually of greater intensity on the left side. Reflex change and motor symptoms on the right side at first are merely postepileptic, but later become persistent phenomena.

The existence of hemianopia would, of course, indicate precisely the side of the lesion.

The case I have described shows in a peculiarly striking manner the methods by which exact diagnosis may be arrived at—not that we may hope to see many cases with finger-posts so generously exhibited, but rather that the signs here so dramatically obvious may in other cases stimulate our inquiry and research along paths, which, at first, apparently vague and rambling, open out eventually to the destined goal.

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SIMPLICITY OF LIVING AND THE STUDY OF THE NORMAL IN MEDICINE*

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If you ask a man to-day why he consults a physician, he will probably reply, "In order to get well." In the next twenty-five years, he will answer, "To avoid getting sick." This growing need for preventive measures in medicine is due in part to the increased knowledge of the laity regarding medical problems. They realize the importance of saving the decay of a vital organ by preventive measures, as they have done for many years in regard to their teeth, their clothes, their houses and property in general. It is also due, however, to the growing complexity of living, which compels us in self defense to study the measures and methods by which we can save ourselves physical and mental strain, relief from fatigue and weariness, both of mind and body.

The present age, fundamentally, does not differ so greatly in many ways from past centuries, except in the scale on which things are thought out and done. We know countries intimately to-day, while our forefathers knew only the towns in which they lived. We know international conditions as well as they knew family conditions. Where they studied one problem, we study a hundred. Where they knew of one disease, we know of fifty, and this applies to the things of every-day observation—the flowers, the birds, the houses, the streets, the food we eat, the different persons we meet, etc.

* Read before the Baltimore City Medical Society, joint meeting of Section on Clinical Medicine and Surgery and Medical Examiners' Section, March 17, 1911.

The chief difficulty with modern life is its complexity, and it is this complexity which stamps our present civilization as unique and different from that which has gone before. Complexity of surroundings, fortunately, does not engender, always, complexity of thinking. The simple life is inward as well as outward, and can be lived under the most complex circumstances, just as the most complex and confused lives can be led by persons very obscure, who are existing under the poorest conditions.

There is, however, a happy medium of living, in which both body and mind can work in harmony and to the best advantage of both. In finding this lies the great problem for the coming generations of medical men. An older physician, asked by a patient what he meant by "modern medicine," replied: "My son, it is only old ideas better presented and dressed in a more attractive garb." Who can deny the facts of history, that psychotherapy and the various forms of suggestive therapeutics, dream-interpretation, etc., were practiced in the most remote ages, and often very successfully? Dr. Paul Haupt read to me from original Egyptian sources the treatment of a neurasthenic, or hysterical patient, by methods which would parallel our best treatment of to-day. Everyone knows how the ancient Greeks and other races excelled in athletics and physical development.

I believe, however, that it is left to the human intelligence of the present time to work out the correlation between physical and mental states, and to show what development of each contributes best to the withstanding of the strain of our complex civilization and the furthering of the human race. In another article[1] I have discussed a class which I called the "mind-weary"—people who had lost the faculty of thinking for themselves, or the desire to do so, and who were looking about for some easy solution of, or escape from, modern life's complex problems, and that exhaustion of the mind which leads to mental confusion. Such people are, alas, the dupes of mind-healers and quack methods which promise everything and lull into just a temporary freedom from worry—merely a resting stage of the mind—but like the spore of a plant, liable to burst forth into greater discord and confusion when brought under fresh strain, poor environment or the cruel circumstance, which is the chance in every human existence.

I tried to emphasize in this former paper, as I wish to do here, the importance of giving such patients something which is lasting, like a healthy normal physical body, which will yet survive when they are outside the domain of our influence, or perhaps when we ourselves are forgotten. The duty of a physician to-day does not end with the simple cure of a malady. It is necessary for us in most cases to lead our patients back to the very environment in which they broke down and yet enable them to work again healthfully and hopefully. Few can afford to give up their work, their ambitions and their responsibilities for long periods. It is useless to expect them to do so, or to ask it.

A patient some years ago came to me from an eminent specialist of another city. She had a beginning tuberculous peritonitis, was poor, very young and of a shrinking and most pathetic personality. In addition she was a nervous wreck from worry and pain. The specialist without considering her youth, her temperament, or the fact that she had no friends in the West, ordered her most peremptorily to "the acrid plains of Arizona." He waived aside her feeble protests and held out a most gloomy outlook, if his orders were not instantly obeyed. What the acrid plains of Arizona had to do with her case, is too much for the imagination of anyone to comprehend. Our eminent friend was certainly a victim of mental confusion.

When we consider the volume of misinformation offered to the world, the deluge of unorganized material handed to us daily, the esoteric philosophy, the social problems, the complicated studies given even to our children, or men and women with minds little above them, who can wonder at the existence of mental confusion or mind-weariness? Who can blame persons for taking up Christian Science or any other easy-going solution of the vexatious problems of life—a solution which eliminates all responsibility and even allows a mother to sleep all night without fear, while her child is moaning with pain by her side.

Many of us are bewildered by the numerous vistas open before us. We wish to understand all the sciences, all religions, to sacrifice to all idols, to try all sensations; with what success can well be imagined. The remedy for this mental confusion, or rather the way to prevent it, is for one to select only the work suitable for one's understanding and leave much outside of this undone. It is more what we should forget than what we should learn; and, after all, one idea worked out alone to its fulfilment brings more mental satisfaction than a hundred never completed. The realization of what we are meant to do, and the doing of it, protects us from the clamor of the multitude and the tempting invitations to dive into waters too deep for us to rise out of.

And now to turn from the class called the "mind-weary" and the remedies for mind-weariness to another class, often associated with them, but occasionally found alone, and whom I shall call the "body-weary." I believe, and my experience confirms me in this belief, that most cases of faulty muscular development (outside of accidents, at birth, etc.) arise from methods adopted by a generally weary body to avoid physical fatigue, in the accomplishment of certain work. The round-shouldered schoolboy with the thin chest, weak back muscles and strong pectorals and forearm has acquired this condition from an effort to hold a heavy book for hours in the most comfortable position possible. Similar statements may be made of endless occupations; they are true of the tailor, the cobbler, the factory girl, etc., and of the luxurious class, often obese, with flabby muscles and tired organs, tired of eliminating excess of food; alcoholics; tired of heated rooms and late hours; and last, the trained college athlete; trained to fall almost dead over the tape at the end of a sprint; trained to break records and health together. He is, in fact, the worst-trained individual we can really mention, who develops in one direction to accomplish only what he is called on to do.

While complex conditions generally have a tendency to overwork the mind, they have also a tendency to prevent muscular development, or, at best, to develop special muscles at the expense of others. Means of conveyance keep us from walking, while machinery has taken the place of skilful hands and arms. Long hours of work and dissipation curtail our games and pastimes, which, indeed, especially the outdoor games, are to-day the salvation of the race. Indolent habits thus acquired destroy the desire for all healthful recreations; so if we must work or play, we only care to use the muscles already developed and do that which comes easiest for us to do, without thought of any symmetry.

With all our vaunted modernism, is not our manner of living absurd? The slaves of convention and prejudice, we eat irrationally and without desire, yet know

1. New York Med. Jour., Jan. 18, 1908.

that avidity for food is as important as the food itself. We drink freely any poison handed to us, especially if we do not pay for it (I mean in money; we generally do in other ways). We turn night into day and live in superheated atmospheres, often substituting artificial light for the all-important rays of the sun. We cover our bodies with clothing which is of such nature that it excludes the air, although the therapeutic value of the air bath to the skin is well known. We confine the vital organs and distort the most beautiful form in the world, that of a naturally developed human being, now only found in the ancient records or in certain remote portions of the world, like the Samoan Islands. Where is it possible in civilized countries to find a perfect adult foot, now practically obsolete? That all-round symmetrical development is incompatible with mental development is an absolutely false belief. Such a belief is only another admission of weakness, and significant of the yielding, which is so universal, to the swift current of convention and acquired bad habits. Why we so drift, no really sensible man knows, although he has not as yet been able even to remove his coat in the summer heat. Why? Is it lack of moral courage, or what? I would ask the women, did they not have so many of their own pet conventions.

The last and perhaps the biggest folly of all, is perpetrated by man, modern man, when he starts in to pollute the very air he breathes with smoke and noxious fumes, with a number of patents lying idly by which he knows could prevent this hideous mistake—an effort, it almost seems, to exterminate himself.

For many years the problems of physical culture in its bearing on the general welfare of my patients has been of the greatest interest to me, and especially in nervous and dyspeptic conditions. I feel that my results entitle me to speak with some authority of a problem in the study of which some original methods are justly claimed.

This problem is to find practically the normal average of physical development, under which the individual studied can do the best mental work, or at least that work which he or she is called on to do; in a general way, also, to investigate what articles of food help us most under varying conditions of physical and mental strain; what manner of eating, etc. I have also endeavored to determine what systems of exercise are best in this respect for the average man or woman, and have personally tried a great many, hoping that others might profit by such hard experiences.

In the future, I predict that the physician who does not know some points about physical methods will never make a success. I realize, however, that "a prophet hath no honor in his own country." This point is evidenced by one illustrious colleague who said that it was undignified for a physician to teach patients exercises. Another predicted my injuring, if not killing, the unwary. My mortality column, fortunately, thus far, seems to keep down fairly well. I earnestly wish these critics every success, alone with their pills and dignity, but as for myself I intend to do whatever I can to help those who trust me with their welfare.

The fruits of these investigations are so terribly meager, the problem such a great one and the literature so incomplete, that at present I can do little more than outline what I am trying to accomplish.

The first important thing is for the physician to get a normal physical standard for a man and woman and keep that impression in his mind for instant reference, a standard which, as in everything else, has rather elastic boundaries. This is a possible thing to acquire and is somewhat on a par with the ability (pardon the analogy) to judge a horse, or any other animal, even when considering different races or strains.

How singular it is that physicians claim to make people normal, yet have such poor conceptions of what *is* normal! A first-class judge of other animals would put us to shame with his knowledge of measurements and strength tests; and yet a dog or a horse is quite as complicated a being, as far as the body is concerned, as a man. No matter what other vast differences exist, as I believe in all reverence they do, we should know the human body perfectly, not so much in its anatomy, which is easily forgotten, but in its capacity. We should know every deviation from normal, under all circumstances and not only when diseased. The patient himself can often tell us this by his own feelings, and, indeed, frequently makes the diagnosis of the disease for us.

We must give the insurance companies and examiners credit for their hard work in compiling insurance statistics, at least as far as men are concerned; less so where women are considered. Only a small proportion of the fair sex take out insurance; more should do so, if only for this reason. No better experience is possible to help us find our normal man than a number of years in insurance work. I owe much to my own practice in this line. The home offices should give the examiners a better chance to check their results by the subsequent histories of all applicants they have examined. Statistics are at best dry reading and especially when compared to the fascinating realms of psychology, etc., and yet can we afford to neglect them?

After getting the normal standard for the persons under observation firmly fixed in mind, the physician should give them a thorough examination; note how they differ from his ideal for them. He should test their endurance, courage and patience, and enthusiasm for physical work. He should do this by setting certain tasks, generally a walk which he knows well, and study the effect. He should watch them unobserved. By degrees, and very slowly, he should add the requisite exercises which he intends that the patient should keep up for some time, possibly for years. He should warn them of the preliminary discombort, weariness and even pain, which most may experience for a week or so, and insist on absolute obedience.

Many persons will follow out a method which has been advised for a little time, and then decide to go on unaided. This is often a serious mistake, especially if the physician has not yet discovered the amount of exercise just sufficient to keep them in condition. It is one of the disheartening things in such work, but cannot be avoided.

For thin, anemic persons, and often in fat patients, I use various forms of hydrotherapy, having preference for cold rather than hot baths. If patients are too weak to begin treatments with active exercise or have any myocardial trouble, etc., rest of shortest possible duration is indicated, with massage, and later resisted movements. I hold that a physician should never prescribe anything he does not know about and he should be certain by personal tests that those he employs are in every respect absolutely efficient.

Later, I add my physical culture movements, which are culled from several systems, including the army setting-up drill; and I also may suggest certain outdoor games suitable to the patient. All this depends on his general condition, capacity for work, and the especial muscles which require development. Here I should like

to emphasize one thing, which is that unless one is half-dead there is some form of exercise that is beneficial and essential. The great point is to know when the maximum or the sufficient amount is reached, and what kind is needed. Experience in training alone teaches this. One must frankly set a limit, and waive all responsibility, if one's warning is not obeyed. Unfortunately patients will never say, if they disobey the physician, that the latter advised them to stop or cut down work. All patients require some dieting, forced or restricted. I insist on eating being made a business, and do not like my patients to read letters or talk very much at the table, especially avoiding heated argument. I advise rest before and after meals, sitting up, not reclining or standing, and anticipation of food to be encouraged by the use of the daintiest service, etc.

We are all aware of the effect of nervous conditions on the muscles, often most striking phenomena—the ataxic walk, the flaccid and spastic paralyses, the athetoid movements of certain idiots, cataleptic states, etc.; but we ignore the reverse effects. Dr. H. J. Berkley reminded me the other day that Hodge described over fifteen years ago the wonderful changes in the brain and spinal cord of bees (cell shrinkage and color changes—chromatolysis) after fatigue from flights, the changes being proportioned to the distances covered by the especial bee studied.

Within the past year or so a German, Weichardt, claimed to have found an antitoxin to fatigue by the injection into fresh animals the extracts from fatigued muscles. The antitoxin obtained from this source, he says, will greatly lessen fatigue when given to other animals.

My own experience has proved to me that the development of the muscle sense is the real problem of physical culture, rather than increasing the size of the muscle, which is only necessary to the extent that such a development requires. Muscular coordination brings with it a corresponding coordination of the nervous system; in fact, one cannot be cultivated easily without the other. Any one who has this sense developed is superior in most ways to the one who has not developed it and is less nervous and depressed when under strain.

The wonderful mental and physical powers of the small and insignificant-looking Japanese is due to this muscle sense, developed from his childhood up. The physical and the mental development of the juggler, the sharp-shooter, the lacrosse player, the swimmer, the fencer, golfer and tennis-player are far above those of the weight-lifter or the laborer. The personal courage and general fearlessness of one who has this muscular and nervous coordination is recognized in the army and on the plains. The best rider, the best lasso-thrower, the finest shot, etc., is generally selected for the posts of danger, even when his especial accomplishment is not necessarily required. People with the muscles well under the control of the mind are very often most heroic, as is shown by many examples in history and the present time. Only recently a wonderful little child juggler, out west, went on in her most difficult acts night after night, with an arm so swollen from blood-poisoning that it was nearly necessary to amputate it. This was not because of neglect or bad treatment, but because she would not complain and wanted to go on. I could mention many other examples.

People with a well-cultivated muscle sense have a magnetism, a subtle something which distinguishes them from the awkward, slow-moving person without snap. This is a part of them, no matter what they are called on to do, and becomes also a part of their mental processes.

The reason that an athlete, to speak in professional parlance, never "comes back" (which means never regains, after a period of protracted inactivity, the same physical excellence) is more mental than physical. It is due, usually, to faulty methods of training, overfatigue in training and a lessening of nerve-resistance by dissipation or strain. Although his muscles may respond to every test that they did before, the excitement of his profession will wear on him and he will lack, at crucial moments, his former courage and ambition.

Exercise is a two-edged weapon, and while one appreciates the zeal of certain persons who start gymnasia in the slums, yet it must be realized that nothing is gained by enabling a lung to take in more foul air and that such places as cellars, work-shops, etc., are dangerous places to exercise in and not nearly so beneficial as the playgrounds and out-door games; and again, every one possesses individual peculiarities and should take only the exercise which is best suited to his case.

A lady told me that a physician whom she once consulted for obesity said, abruptly, "Cut out all starch and sugar and walk five miles a day." He made no examination of any kind, knew nothing of her heart or kidneys, her measurements, or her resistance; but treated the matter as trivial and unimportant, although she had been in bad health for a long time. I would not like to take such a chance as that, which might have been a most disastrous one.

However, before we teach the masses physical methods, etc., let us clean up our city, abolish the smoke nuisance, lessen working hours for the sick or feeble and give them places suitable to exercise in, and have medical supervision of aspirants for such treatments.

The boy scout idea is an excellent one. Drilling, marching, etc., are the best of exercises and teach coordination of mind and body, which, though possible at any age is, of course, easier to acquire the younger and more enthusiastic we are.

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THE RARITY OF TABETIC AND PARETIC CONDITIONS IN THE NEGRO

A CASE OF TABES IN A FULL-BLOOD NEGRESS

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NEW ORLEANS

It is a matter of belief among neurologists who have followed the question of nervous diseases among negroes that the so-called parasyphilitic conditions—tabes and paresis—do not occur in the full-blood African. My own experience in our hospital wards and clinics, where a good percentage of the material is drawn from the colored population, has convinced me of the great rarity of such conditions in the unmixed negro, but I have on two or three occasions seen unquestionably full-blood blacks suffering from tabes. Some accident has in each instance, however, until the present, militated against my getting the proper data for recording the observation. The prevalence of these diseases in the mulatto is undisputed, though they are much less frequent than in the white.

The rarity of parasyphilitic states in the Ethiopian is all the more notable when we contemplate the fact that negroes are practically without morals and that their promiscuous sexual practices occasion the great if not universal prevalence of syphilis among them. So thoroughly "syphilized" are negroes about large cities, that it is a matter of serious doubt whether any considerable percentage escape infection. The careless untutored way of the downright negro is the cause of his neglect of any protracted effort at treatment and it consequently may be questioned whether any black is ever efficiently treated except while confined in a hospital ward. If the assertion of syphilographers and neurologists that untreated syphilis is most prone to culminate in the primary degenerations of the nervous system, the immunity of negroes to such conditions is made still more remarkable. Again, alcohol is said to be one of the contributing factors in the development of tabes and paresis, but the negro is notoriously addicted to alcohol, his indulgence in this respect being for the most part limited only by his inability to get it regularly. Obviously then, the negro is protected from the distant nervous effects of syphilis by something native to his organism.

We may pass by with mere mention the fact that some hold that the elementary tracts in the brain and spinal cord of negroes are rather better organized and more resistive and stable, and that the neuromuscular mechanisms are crude and approach more nearly toward the deeply organized and instinctive aptitudes of the anthropoid.

Another and to me more significant observation, however, has often compelled my attention. Anyone who has seen a great many cases of tabes has perhaps noted that the subjects of this disease are for the most part drafted from a class of persons who work assiduously and get much friction out of their lives; who feel the brunt of care and responsibility greatly, and who depress themselves with the tedium of their work and with apprehensive misgivings as to the possibility of failure, etc.; together with many other of the worries which rather seem to be the lot of the highly civilized white man. I am convinced that such temperamental and nervous defects have their influence in lowering the powers of resistance and in determining the development of tabes and the primary degenerative changes in the nervous system.

Herein may rest a possible explanation of the rarity of the parasyphilitic diseases in the negro, for one of the salient traits of his character is his improvidence. We only need to be acquainted with the life habits of negroes in large settlements in this country to be convinced that they have not progressed very far from the primitive habits of their antecedents in the rude huts of a mid-African village. Thus, since his contact with the white race, the negro has become better "syphilized" than "civilized," having suffered the penalty of all inferior races when thrown into contact with the better-civilized white man—that of contracting the vices with their consequences more quickly than the virtues. But as pertains to our present argument, the negro is a degree better off, thanks to his primitive limitations, for he can still enjoy the childlike euphoria of a care-free life.

One other explanation of the great rarity of tabetic and paretic states in the negro race is that suggested by Dr. T. H. Weisenburg, who once remarked to me that he had noted that tabetics nearly always have blue or gray eyes and otherwise blond complexion. I have since made the same observation. Certainly this is remarkable in New Orleans and vicinity, where people of Latin descent (practically all brunettes) predominate in numbers. This observation is of some significance here as it suggests that constitutions associated with more or less intense pigmentation of the skin carry with them some degree of immunity against such diseases as tabes.

However, the purpose of the present writing is to cite a case of unquestioned tabes in an undoubtedly full-blood negro, with flat nose, thick lips and black skin. In my judgment there is absolutely no question about the patient being a Simon-pure negress.

In passing I beg to call attention to the early age at which this case of tabes has developed. It is rather obvious that the patient acquired syphilis between the ages of 14 and 17, and that this is consequently a case of acquired tabes, and not one of the so-called juvenile tabetics, in which the syphilis was hereditary and operated from the time of birth.

REPORT OF CASE

History.—Annie S., a colored woman, aged 27, was referred from Dr. Bruns' eye clinic at the Eye, Ear, Nose and Throat Hospital, with the ophthalmologic diagnosis of primary degeneration of both optic nerves, and request for neurologic examination and possible explanation of the optic nerve condition. Family history as far as could be obtained was negative. The patient had not had any illness whatever before the birth of her first child. The menses began at 12 and were seemingly normal. Patient bore a healthy child at the age of 13½ years. The child is living and well. A dead child was born 3½ years later. Two and a half years subsequent to this there was a spontaneous miscarriage. Patient insistently denied that she ever had any skin or throat symptoms. There had been no disease or injury in more recent years, aside from very severe intermittent headaches for the past five years, which had a tendency to be worse at night. Patient had drunk rather freely of alcohol and had been very derelict in her morals. For the past two years she had suffered severe lancinating pains, especially in the legs, and had experienced a sense of binding or constriction about the waist occasionally. A short while before the sight began to fail she on several occasions saw double. Since the month of May, 1910, the sight had failed steadily first on the left, subsequently on the right. At the time of examination the sight was greatly diminished. Numbness and tingling and other paresthetic disturbances had occurred frequently in the ulna distribution of the hands and forearms.

Physical Examination.—Deep reflexes were absent in the lower extremities; plantar reflexes were normal. There was very slight Romberg sign. Pupils were absolutely rigid to light. The left pupil was larger than the right and somewhat oval in outline. Both pupils reacted slightly to efforts at accommodation. There was decided dulling of sense of touch and delayed sense of pain on the anterior surfaces of the legs. The bowels were obstinately constipated. Sometimes the bladder was so irritated that the patient was compelled to rise often at night. Nothing further of note was observed in the physical examination. The patient had never experienced ataxic symptoms so far as she knew.

In regard to the absence of ataxic tendency and practically negative Romberg test, we must recall that in tabetic cases in which optic atrophy and blindness have occurred in the early stages of the disease, impairment of the muscle and joint sense and the ataxic consequences are very slight or not at all present.

1224 Maison Blanche.

Venereal Diseases and Stricture of the Rectum.—J. P. Tuttle says that gonorrhea and chancroid have been enlarged on by some authors as frequent causes of stricture of the rectum. Theoretically, if an ulceration from gonorrhea should involve the muscular coat, there is no more reason why a stricture should not follow than from any other ulceration. As to chancre, these cases apparently do not occur so frequently as in former years.—*Boston Medical and Surgical Journal.*

RESULTS IN THE TREATMENT OF THIRTY CASES OF OTITIS MEDIA BY VACCINE THERAPY

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In the past two or three years much has been written on the results obtained on various infections treated by vaccine therapy. The literature on the subject has proved conclusively that therapeutic immunization by bacterial vaccine is a successful plan of treatment in properly selected cases, but the reader not especially familiar with this form of treatment is at a loss to know just what a properly selected case is. It is, therefore, my purpose in this paper, not only to report the results I have obtained in my series of cases of otitis media, but to show in which cases results should be expected, and in which good results were occasionally produced, but were the exception rather than the rule. For this purpose I have divided my cases into two classes—subacute and chronic.

SUBACUTE CLASS

In this class I have included all cases of not more than three months' standing. It would be impracticable to detail each case of my series under this heading, so I shall give the history of a representative case.

CASE 1.—Baby D., aged 3, had otitis media in both ears for two months, following an attack of scarlet fever. The discharge was about the consistency of cream, dirty white in color, profuse, and with scarcely any change in quality or character since the beginning of the attack. The previous treatment consisted of washing the ear three times a day with warm boracic acid solution. A culture was taken on gelatin agar and the causative organism found to be *Staphylococcus albus*. A vaccine was prepared and the patient inoculated with 50,000,000 of the dead organisms. Four days later the discharge had decreased about 50 per cent. On the seventh day an injection of 100,000,000 staphylococci was given, followed the next day by a slight soreness at the site of injection and a slight decrease in the discharge. Five days after the second inoculation, the discharge had ceased completely. Two days later a third inoculation was given to prevent a recurrence. The child was treated a year and a half ago and there has since been no return.

I have had thirteen similar cases, most of which followed measles, pneumonia and scarlet fever, in all of which the patients recovered. Of the thirteen cases the *Staphylococcus albus* alone was the causative organism twelve times and the pneumococcus once. The youngest patient was a year and a half old, and the oldest 32. The disease in the latter followed an attack of influenza and was of one month's standing.

Autogenous vaccines were used in all the cases, principally because the virulence of the organism making up the vaccine approaches as closely as possible the virulence of the organism producing the otitis media. The difference in virulence rather than strain I think is responsible for the better results obtained by autogenous vaccines over stock vaccines. This is probably more easily explained by the following example: An acne pustule and a virulent furuncle are often caused by the same organism — a *Staphylococcus albus*. A vaccine made from the staphylococcus producing the acne would not be expected to do the patient with the virulent furuncle much good, whereas a vaccine made from the staphylococcus of the furuncle would be positive in its beneficial effect on the patient suffering with a furuncle. No class of cases respond more readily to bacterial therapy than do cases of subacute otitis media.

CHRONIC OTITIS MEDIA

It is, of course, understood that no definite period can be set to determine when the patient passes from the subacute to the chronic stage, but to be as definite as possible in my statements, I have classified all cases of three months' standing, or longer, as chronic. Under this classification I have seventeen cases, varying in duration from three months to thirty years. The prognosis, as a rule, is least favorable in cases of long standing, and best in cases of relatively short duration. Cases in which the discharge was slight and without much odor were uniformly benefited. In nine cases I found a short, actively motile bacillus, which grew readily on any media and was negative to Gram's stain. The cultures of this bacillus had a very foul odor, similar to the odor of the discharge from the ears. The cases in which this organism was present showed little or no improvement after a course of seven or eight inoculations. In cases in which the staphylococcus, streptococcus or pneumococcus were the causative organisms, either alone or combined, the patients were markedly improved or entirely cured. Cases in which the staphylococcus and *Bacillus pyocyaneus* were present improved more slowly than those with the staphylococcus alone. The following case, however, which I cited in a previous paper, is a striking exception to the rule:

CASE 2.—The patient, Mrs. W., aged 30, was referred to me for therapeutic immunization for otitis media. Her ear had discharged almost continuously since she was six months old. Three years ago she submitted to a radical mastoid operation. Her recovery was prompt and the discharge stopped for six weeks—the longest absence of discharge in her lifetime. At the end of the seventh week the discharge began anew, and after two years' subsequent treatment by an otologist she was referred to me for vaccine treatment.

A smear from the discharge showed a staphylococcus and a *Bacillus pyocyaneus*. A vaccine of the corresponding organisms was made and the patient inoculated with 200,000,000 staphylococci and 300,000,000 *Bacillus pyocyaneus*. After four inoculations the discharge stopped completely. After the fifth inoculation it started again, and after the seventh inoculation it disappeared. Three more inoculations were given without its return. Two years have passed since the last inoculation and the discharge has remained absent.

In the literature I have found five or six cases with a similar history and result. This, however, is a relatively small proportion considering the number of patients treated. The causes responsible for the rapid cure and the numerous failures in similar cases remain to be explained. Two years ago a lady suffering with a double otitis media of eight years' standing was referred to me for vaccine treatment. The discharge was of a watery consistency, moderate in amount, and occasionally had some odor. Her treatment up to this period consisted principally of keeping her ears clean by means of warm boracic acid solution. A smear made at the time she presented herself showed a pneumococcus as the causative organism. Fortunately the organism grew very readily and a vaccine was prepared. After three inoculations the discharge ceased completely and the patient was discharged. One month later she returned with both ears discharging slightly. A smear at this time showed *Staphylococcus albus*. After two inoculations of this organism the discharge again stopped, only to recur two months later. After four subsequent inoculations of a staphylococcus vaccine, the discharge again ceased.

This process of disappearance and recurrence has continued at about the same intervals up to the present time. As long as she was inoculated at regular intervals, the discharge remained absent, but from four to six weeks after inoculations were discontinued a recurrence was sure to come. This represents that class of chronic otitis media which is only benefited by vaccine treatment. It is not an uncommon experience to encounter cases under this class in which the discharge diminishes about 50 per cent. under a course of inoculations, but at no time disappears entirely. Of the seventeen patients with chronic otitis media treated by vaccine therapy, three recovered completely, five were improved, and nine showed no improvement at all.

In this class of cases vaccine therapy should be tried when the ordinary measures fail. Its use should be considered as a means capable of producing some measure of good in about 50 per cent. of cases, with an occasional remarkable result.

CONCLUSIONS

In conclusion, I feel safe in saying that in subacute otitis media no other means of treatment is capable of producing such uniformly good results as vaccines. Their early use would greatly diminish the large number of chronic cases, so common to every physician, and so annoying to the individual.

The results in chronic cases, on the other hand, are so variable, that its use as a routine should not be advised. It should be tried, however, when other measures have failed.

VANADIUMISM

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Vanadium is a metal named by Sefström, in 1830, in honor of the northern goddess Vanadis (the German Freya). The metal is of no importance technically, although various forms of it are valuable. The pentoxid is used in photography as a developer. Vanadium chlorid and trioxid are used as mordant in printing fabrics; the trioxid is used also in the manufacture of steel, in making easily malleable and ductile alloys. Vanadium pentoxid has been used in diseases due to defective metabolism; there is not, however, enough clinical evidence to justify its use as a medicine.

Vanadiumism is a chronic intoxication caused by ingestion or absorption of some forms of vanadium, either industrially, medicinally, or accidentally. The principal lesions are found in the lungs, kidneys, and gastro-intestinal tract. The lungs are highly congested and show a marked destruction of alveolar epithelium. The kidneys reveal congestion due to continuous irritation and, at times, acute hemorrhagic nephritis. The gastro-intestinal tract shows evidence of irritation and inflammation.

Persons employed in establishments where the various kinds of vanadium are produced, and more especially vanadium trioxid, suffer from chronic poisoning. For example, laborers in reduction plants, who are exposed to the dust and fumes, are most susceptible on account of their occupation. The medicinal use of small doses of the pentoxid will frequently cause poisoning. Accidental poisoning may come from using or wearing clothing dyed by vanadium chlorid, trioxid, or pentoxid.

Anemia is an early symptom (a peculiar cachexia), not altogether unlike chlorosis. There is, at first, marked increase in the number of corpuscles and hemoglobin, which is shortly followed by reduction of cells and hemoglobin. At times, there is disintegration of the red cells. The cough is a prominent and characteristic symptom. It is dry, irritating, and paroxysmal, becoming so intense that hemorrhages are frequent and severe, even causing death. The workers in the manufacture of the various products of vanadium are very susceptible to tuberculosis and, unless removed from the labor, rapidly succumb to the disease. Emaciation, irritation of the nose, eyes, and throat are always in evidence. Anorexia, nausea and diarrhea (often absent), followed by obstinate constipation, indicate gastro-intestinal involvement. Albumin, casts and blood, are often present in the urine.

Continuous exposure to the poison leads to fine tremors of the extremities, headache, neuroretinitis, amaurosis, vertigo, hysteria, and melancholia. The drug is eliminated by the kidneys; it may be found also in the feces, sputum, and saliva. Dr. Omar T. Cruikshank, in his experiments on animals, has been able to observe the toxic effects which coincide with those found in man.

The diagnosis is not difficult when the history of exposure to the various forms of vanadium is at hand. Accidental origin is often obscure and diagnosis is not, at once, determined.

Watts gives the test for vanadium in the following:

> All vanadium compounds heated with borax or phosphorus salt in the outer blowpipe flame produce a clear bead, which is colorless if quantity of vanadium is small, yellow when it is large; in the inner flame the bead acquires a beautiful green color.
>
> Vanadic and chromic acids are the only acids whose solutions are red; they are distinguished from one another by the vanadic acid becoming blue and the chromic acid green by deoxidation.
>
> When a solution of vanadic acid, or acidulated solution of an alkaline vanadate, is shaken up with ether containing hydrogen dioxid, the aqueous solution acquires a red color like that of ferric acetate, while the ether remains colorless. This reaction will serve to detect the presence of one part of vanadic acid in 40,000 parts of liquid.

In the absence of grave renal, blood, nervous, and lung involvement, the prognosis is good. Where there is active inflammation of the kidneys and lungs the prognosis is unfavorable, but depends greatly on the extent of the lesions. Fatal terminations frequently ensue, as a result of continuous exposure to the poison.

The prevention of vanadiumism is difficult in vanadium works, owing to the carelessness of employees and employers. Means to allay and carry off the dust and fumes should be employed constantly. Perfect ventilation and the use of respirators are imperative. The nasal and oral cavities should be thoroughly cleansed with some efficient alkaline spray, such as the ordinary Dobell solution, followed by a mentholated oil spray. The stomach should be washed out, and later the intestines freely evacuated with a saline laxative. The cough may be allayed by giving terpin hydrate ¼ gr., heroin ⅛ gr., and creosote ½ minim, every two hours with counter-irritations of iodin or mustard applications over the chest. The inhalation of stimulating vapors is salutary. Iron, calisaya, and strychnin will meet the needs of anemic, nervous and debilitated conditions. Cod-liver oil may be given with advantage. Active outdoor exercises are essential. Turkish, Russian or cabinet baths may be given to aid elimination.

401 Fourth Avenue.

TWO CASES OF APPENDIX ABSCESS DRAINED BY RECTAL PUNCTURE

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The advantages of vaginal drainage for certain cases of pelvic abscess in women have long been recognized. The equal advantages of rectal drainage for the rarer condition of pelvic abscess in the male, have been less widely accepted. It has not been, however, an uncommon practice in the past to drain, in this way, residual pelvic abscesses occurring in men after abdominal operations for suppurative appendicitis. Nature was allowed formerly to effect an uncertain and occasional cure of appendiceal abscess by the same route, and occasionally the efforts on the part of Nature in this direction have been supplemented by the surgeon.

With improvement in the diagnosis and operative treatment of acute appendicitis, there is less and less occasion for resort to this method of drainage, either by the surgeon, or on the part of Nature. Yet there unfortunately exists a very restricted class of cases in which this simple, safe, and valuable procedure is indicated, and McLaren[1] has recently called attention to the subject in an article in which he reports fifteen cases of appendiceal pelvic abscess drained by rectum, with very satisfactory results. In one case rectal puncture alone sufficed to bring about a cure; in all the other cases it was combined with the abdominal operation, either before or afterward. He advocates rectal puncture and drainage of collections of pus in the rectovesical pouch as a preliminary measure, to be followed immediately by opening the abdomen above and dealing with the pathologic conditions found according to general surgical rules.

In suppurating appendicitis, removal of the primary focus is such a well-recognized desideratum as to call for an abdominal incision in the vast majority of cases, through which at the same time collections of infected fluid or of pus, either in the iliac fossa, or in the pelvis, can be so satisfactorily and adequately drained that routine preliminary drainage by the rectum will not appeal, I imagine, to the majority of surgeons, nor does it to me. But that there are certain definite, though narrow, indications for the procedure must be admitted by all familiar with large general surgical clinics.

Unfortunately all cases of acute appendicitis are neither diagnosed nor operated on in the early stages. A certain small number of patients first reach the surgeon profoundly septic and exhausted, with large abscesses well developed. In a case of this kind in which the abscess cake is palpable in the median line above the pubes, fills the pelvis, and bulges into the rectum, especially if it can be felt bimanually as a single fluctuating mass, the indications are clear for rectal puncture, which offers a rapid, simple, and safe method of drainge. Such patients must, however, be watched closely afterward; if the improvement in symptoms is not immediate and continuous it may be necessary to go in above, for it must be remembered that the cause of the lesion has not been removed, and that the original suppuration about the appendix may remain undrained, the pelvic abscess representing merely the overflow from the first. The difficulty of determining this point is the one great drawback to the employment of the method, and it should not be relied on exclusively when there is a mass in the iliac fossa, as well as a pelvic abscess. The method is ideal only for large pelvic abscesses when the appendix is itself pelvic in position, and this can be determined only with approximate accuracy by the position of the mass.

The technic is simple. It is a wise precaution, as pointed out by McLaren, to introduce a stiff catheter into the bladder for the purpose of emptying that viscus, and marking its position, so that injury to it may be avoided. I did not do this in either of my cases. Having dilated the sphincter, either with or without the use of a speculum, the anterior bulging wall of the rectum should be incised in the median line with curved blunt scissors, and the scissors advanced until pus is reached. A T-tube of soft rubber is then introduced and brought out through the anus. The whole procedure takes about three minutes. The convalescence, in my experience, has been uneventful and rapid. The following two cases are reported as illustrative of the value of the procedure:

CASE 1.—*History.*—G. A. A., No. 171,379. E. S., male, aged 18, entered the Massachusetts General Hospital on the service of Dr. Brooks, Aug. 13, 1910. One year ago the patient was in Rutland Sanatorium for tuberculosis of the lungs; discharged with disease arrested after several months; no previous attacks of appendicitis.

Present Illness.—Two weeks prior to admission the patient ate apples, pineapples and cherries in large quantities. Next day he had severe abdominal pain with vomiting; took salts and castor oil. Bowels did not move for three days. Since then he had been in bed with diarrhea and occasional vomiting. The stools had lately been nearly clear mucus, which discharged involuntarily. Abdominal pain, cramp-like in character, was present. There were no urinary symptoms.

Physical Examination.—The patient was a thin, poorly nourished and developed boy; tongue dry and coated; sordes on teeth; lungs negative, except for dulness and bronchial breathing at right apex; upper part of abdomen soft and flat; below umbilicus full and rounded, and dull on percussion. Catheterization removed about 8 ounces of high-colored urine, leaving the abdominal mass unchanged. There was tenderness and muscular spasm of moderate degree in the left lower quadrant; practically none in the right. Rectal examination: The rectum was empty; into front wall bulged an irregular, soft, fluctuating mass which was moderately tender. Temperature was 102 F.; pulse 120; white count 32,000; respirations 30.

Operation.—Lithotomy position. Sphincter dilated. Bulging mass opened with scissors and a large amount of foul pus evacuated. A portion of a gangrenous appendix came away with the pus. On account of free bleeding from the abscess cavity it was packed with gauze, the end of which came out through the anus. The patient made a good recovery from the operation. There was a profuse discharge of pus from the rectum; the wick was removed in twenty-four hours. The temperature shot up to 102 F. at the end of a week; a finger was inserted into the wound, but no pocketing of pus found; temperature came down at once. August 29 the patient was discharged to convalescent home in fair condition, with still slight tenderness and induration by rectum. The temperature was normal.

Subsequent History.—Jan. 24, 1911, the patient personally reported for examination. He had had no symptoms of any kind since leaving the hospital; felt and looked well; abdominal examination negative; by rectum a painless scar could be felt, with a well-marked transverse ridge above it; no stricture, no induration.

CASE 2.—*History.*—G. L., No. 171,969. E. S., male, aged 17, entered Massachusetts General Hospital on the service of Dr.

1. McLaren, Archibald: The Proper Treatment of Intraperitoneal Abscess in the Lower Abdomen, with Special Reference to Rectal Drainage in Pelvic Abscess, THE JOURNAL A. M. A., June 25, 1910, p. 2105.

Brooks, Sept. 15, 1910. He was born in Italy and came to this country Aug. 1, 1910. One week after arrival he began to have slight pains in the right lower quadrant; three weeks prior to admission the pains became worse; the patient lost appetite, and began to run down in health; one week later he had severe pain, with vomiting. Following that the patient felt poorly but without acute pain until September 14, when it became severe again, with vomiting; bowels moved daily; no urinary symptoms; had several chills.

Physical Examination.—The patient was a well-developed boy; temperature 99 F., pulse 116, respirations 34, white count 10,000; lay with knees flexed; tongue heavily coated; abdomen distended and tender in lower portion; large mass palpable, extending from level of umbilicus on the right, across median line to the crest of ilium on the left. Rectal examination was very painful. It revealed a tense, fluctuating mass, continuous with the abdominal mass, bulging into the anterior wall of the rectum.

Operation.—Sphincter dilated, anterior wall of rectum incised with knife, pus reached, opening dilated with half lengths and about one pint of pus evacuated; some bleeding; T-tube inserted. Patient sent to ward in good condition.

Convalescence.—The patient pulled out the tube within an hour. Shortly afterward he got out of bed and emptied about 10 ounces of pus and blood out of his rectum onto the floor. The tube was omitted after this. A small amount of pus discharged daily from the rectum. The abdominal mass gradually subsided; the temperature reached normal on the fifth day. The rectal wound was explored with the finger every two or three days. Enemas were used as needed. The patient made steady progress and was discharged in excellent condition September 29, the fourteenth day.

Subsequent History.—Letter of Jan. 14, 1911, stated that the patient was well and had been so since the operation. He did not report for examination.

213 Beacon Street.

X-RAY LOCALIZATION BY CONSTRUCTION

A MODIFICATION OF THE MC KENZIE-DAVIDSON METHOD

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In this method of localization two exposures are made on the same plate. McKenzie-Davidson's description[1] of this portion of the technic is as follows:

> Two wires at right angles to each other are placed on the photographic plate, film, or paper. The Crookes tube is then placed with its anode at a measured distance from the plate and exactly perpendicular to where the wires cross. The tube is fixed in a holder which slides in one plane. Further, one of the cross-wires must be in exactly the same plane as that in which the tube is to be displaced. The wires being painted over with some pigment, the part to be photographed is placed on the plate and carries with it the mark of the cross wires. The tube is then displaced to a measured distance to one side of the perpendicular, and an exposure given, then to a corresponding point on the other side of the perpendicular, and another similar exposure given. The resulting negative shows double images from the two different points of view. A further precaution is necessary, viz., to mark one quadrant of the plate and the corresponding quadrant on the patient's skin.

The plate is developed, fixed, and dried. It is then placed on an illuminating box, the film side next to the operator.

Figure 1 is a drawing made from a plate exposed according to McKenzie-Davidson's technic, showing the localization shadows of a needle suspended in a pasteboard box. The location of the needle is to be ascertained. In this drawing are seen the construction lines of the horizontal projection, which is drawn directly on the film side of the plate. The plate was exposed at 18 inches distance from the anodal point (point of luminosity on the target) of the tube which was displaced laterally 3 inches on each side of the perpendicular.

The lines *AB* and *ab* represent the shadows of the needle. On the horizontal are marked points *C* and *D*, 3 inches on each side of the perpendicular cross-line, indicating the position of the tube during the two exposures. From *C* and *D*, lines *CA* and *Da* are drawn, connecting *C* and *D* with identical points in the two shadows. These two lines intersect at a point *X*. The quadrant in which *X* falls is noted and the perpendicular distances of *X* from the two cross-lines bounding the quadrant are measured and found to be $1^{9}/_{16}$ inch and

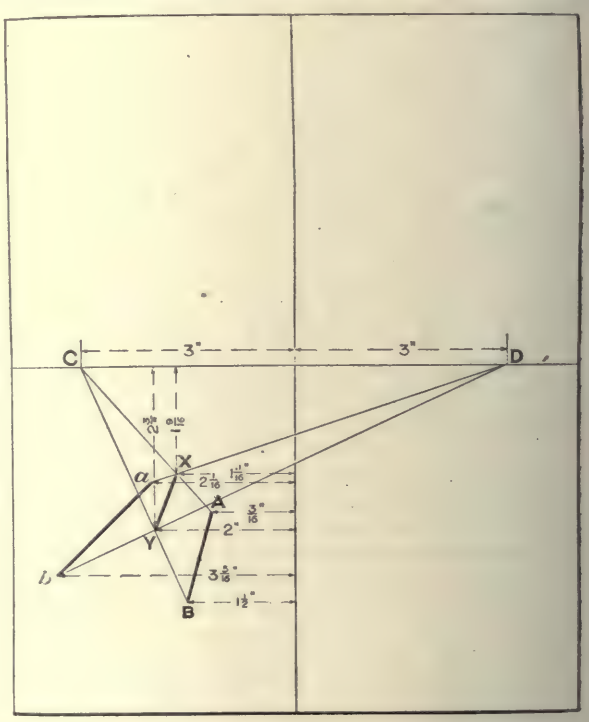


FIG.
HORIZONTAL PROJECTION

$1^{11}/_{16}$ inch, respectively. Similarly, the point *Y* is found by drawing the lines *CB* and *Db*, and its distances from the two cross-lines determined. These measurements are, 2⅜ inches and 2 inches. By connecting *X* and *Y* the line *XY* gives a horizontal view of the needle. By applying these localizing measurements for *X* and *Y* to the corresponding quadrant on the pasteboard box, the horizontal locations of *X* and *Y* are found.

To determine the distance of the needle from the plate at the time of exposure (which practically coincides with depth) a vertical projection is made. Figure 2 shows this projection. On a sheet of paper a long straight line is drawn. Two points are marked on this line, *G* and *H*, 18 inches apart. This represents the distance of the plate from the anodal point of the tube at the time of exposure. Through *G* and *H* two perpendicular lines are erected, *EF* and *bH*, the former representing the plane of the tube displacement, the latter the plane of the plate. Points *E* and *F* on line *EF* are each 3 inches distant from *G*, and represent the lateral displacement of the tube from the perpendicular.

1. Davidson, J. M., and Hedley, W. S.: A Method of Precise Localization and Measurement by Means of Roentgen Rays, Lancet, London, Oct. 16, 1907, p. 1001. Williams: Roentgen Rays in Medicine and Surgery.

On the line bH, two points, A and a, are marked $1^3/_{16}$ inch and $2^1/_{16}$ inches, respectively, the distances of A and a from the perpendicular cross-line on the plate as determined by actual measurement thereon (see Figure 1). The lines AE and aF are drawn intersecting at point X, which is found to be $2\frac{1}{8}$ inches from line bH. This is the exact distance of point Aa of the needle from the plate at the time of exposure. Similarly, point Y is found by marking on line bH points B and b, $1\frac{1}{2}$ inch and $3^5/_{16}$ inches, respectively, from H, the distances of B and b, respectively, from the perpendicular cross-line on the plate (see Figure 1), and drawing the lines BE and bF. Y is $4^3/_{16}$ inches from the line bH. By connecting X and Y the line XY gives a vertical view of the needle.

By these measurements of depth in conjunction with those of horizontal position heretofore obtained, the location of the needle is determined.

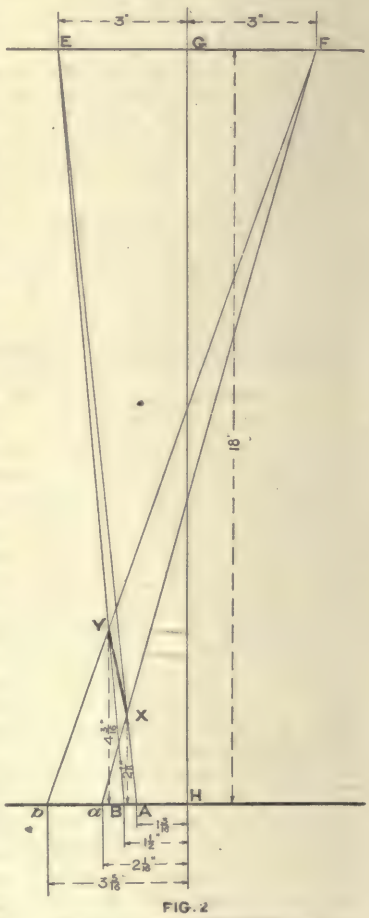


FIG. 2
VERTICAL PROJECTION

Certain points are to be emphasized in this method. In the horizontal projection the quadrant in which the points of intersection of construction lines fall is to be noted, and the perpendicular distances of these points from the bounding cross-lines obtained. In the vertical projection, when localization shadows of the same point fall in different quadrants, care must be taken to transfer the measurements to the proper side of the perpendicular, either right or left, as indicated on the plate. In drawing the projection lines in both projections, in order to connect the points marking the positions of the tube with their corresponding shadow points, these lines must intersect. It is to be noted that the horizontal projection is drawn directly on the film side of the plate. This insures simplicity and accuracy in technic, but it can be made on paper similar to the vertical projection.

By geometrical construction such as has been described, no special apparatus is required, and for this reason the method is particularly available for those radiographers who have not provided themselves with a localizing apparatus. It is to be noted that no special knowledge of mathematics is required in this solution of the localization problem as the various projection lines can be drawn by a rule of thumb. Again, by localizing several points on a foreign body and connecting them by lines, actual size, vertical and horizontal views of the body are obtained and permanently recorded in a drawing, a feature of distinctive value to the operator.

Walter Reed General Hospital.

THE SUCCESSFUL TREATMENT OF A CASE OF ILLUMINATING GAS POISONING *

WILLIAM RAVINE, M.D.
CINCINNATI

In looking through the literature and statistics on illuminating gas poisoning one is struck by the meagerness of the reports and by the variety of nomenclature used in describing cases. One finds, for instance, descriptions under the titles "Asphyxia," "Coal Gas Poisoning," "Carbon Monoxid Poisoning," "Poisoning by Noxious or Irrespirable Gases." In the several instances the cases have been the result of blowing out of gas lights, either because of ignorance or with suicidal intent; carelessness in heaping clothes on gas fixtures in such a way as to turn the cocks; leaking of gas fixtures; badly constructed or worn-out stoves and fixtures; or, as in my case, the overturning of a gas heater by an individual alcoholically stimulated to the point of carelessness.

During years 1900-1910, there were ten cases of illuminating gas poisoning at the City Hospital with six deaths.

Illuminating gas contains:

	Per cent.
Carbon monoxid	12 to 28
Carbon dioxid	0.3
Hydrogen	30.35
Marsh gas	21.45
Nitrogen	6

The carbon monoxid in this mixture of gases is the cause of the symptom-complex. Carbon monoxid has 200 times greater affinity for hemoglobin than oxygen, and, therefore, the life of an individual can continue only so long as the hemoglobin is able to attach enough oxygen to itself to maintain the process of oxidation essential to life.

SYMPTOMS

Carbon monoxid gas has no influence whatever when applied directly to nerve and muscle;[1] when it acts through the blood, however, phenomena appear which are indicative of primary stimulation, but which cause, secondarily, paralysis of the nervous system. Thus there occur at first severe headache, great restlessness, excitement and increased cardiac and respiratory activity, salivation, tremor, twitching and spasm, followed by mental confusion, exhaustion, drowsiness and paralysis and loss of consciousness, labored stertorous breathing and finally complete loss of sensibility, and death.

Thompson,[2] in a series of ninety cases, reports a leukocytosis in eighty cases, which he thinks is due to some specific action of the gas, and which is similar in its cause to the leukocytosis that occurs in ptomaine poisoning.

In all the cases reported in the literature there was in the early stages a subnormal temperature. The maximum temperature is usually attained on the first day. The highest temperature reported is by Steele.[3] The patient was a girl of eight years, who, when first seen, was in a state of coma. The temperature began to rise rapidly and within eight hours had reached 110 F., accompanied by a pulse rated at 215 per minute. In this case there was a complete recovery in six days following the use of cold sponges and inhalations of oxygen. In all the cases reported the pulse has been accelerated

* Read before the Medical Research Society, Cincinnati, March 2, 1911, at the suggestion of Professor Forchheimer, to whose courtesy I am indebted for the permission to report the case.

1. Landois: Text-Book of Human Physiology, Ed. 10, 1905, p. 58.
2. Thompson, W. G.: Tr. Assn. Am. Phys., 1902.
3. Steele: Philadelphia Med. Jour., Feb. 16, 1901.

and the rhythm of the pulse has been regular during the coma.

Physical examination of the lungs, as a rule, shows no abnormalities except in fatal cases, and in these the findings indicate a terminal edema. The urine shows no special characteristics. In a few cases there was a transient albuminuria. The pupils varied, being at times dilated, at times contracted. The symptoms on the part of the nervous system have been tremors, muscular twitchings, convulsions, rigidity, opisthotonos, anesthesia and headache. Evidence of vasomotor paralysis is found in burning sensations in the skin, especially over the face, and in the redness of the cutaneous surfaces. The lips and extremities appear bluish and cyanotic, owing to the peculiar cherry-red color that is a characteristic of carbon monoxid, but which does not obscure it. Coma, which is profound, is always accompanied by stertorous breathing.

Brunneaux[4] has reported a case of hemiplegia following gas poisoning; Finkelstein,[5] one of dementia; Scott,[6] acute mania with recovery after ten days; Bruns,[7] disseminated encephalomyelitis. Alexander Pauski[8] reported the case of a patient ill for months with paralysis of legs and arms, sensory and speech disturbances, amnesia and mental weakness. Becker[9] reported a case of multiple sclerosis. Bontecon[10] described the postmortem findings in three cases. His histories related that the faces were pale, that the expression was placid, the eyes closed, the pupils neither contracted nor dilated and the conjunctivæ clear. The muscles on section were, as a rule, red. The lungs were cherry red in color and on section showed a moderate edema. There was no unnatural amount of blood found in the pleura or pericardium. The heart was empty and the blood-vessels contained fluid blood. The left ventricle of the heart was contracted, the right ventricle and auricle as a rule were dilated. The viscera were all of a pinkish color. In the case of Broadbent,[11] there was a report of softening of the lenticular nucleus and the posterior part of the internal capsule.

DIAGNOSIS

The diagnosis of illuminating gas poisoning is based on the history of the case and on the presence of coma with stertorous breathing, cherry-red color of the face and hands and the spectroscopic analysis of the blood which demonstrates the presence of carbon monoxid hemoglobin. Carbon monoxid hemoglobin is cherry red in color and causes the appearance in the spectrum of two absorption bands between D and E not unlike the oxyhemoglobin bands. The further means of recognition is the sodium test. A 10 per cent. solution of sodium hydroxid, when added to carbon monoxid hemoglobin and heated, gives rise to a cinnabar red color. This same test applied to oxyhemoglobin produces a brownish-black mass.

TREATMENT

The earliest reported treatment for illuminating gas poisoning is that of Struthers,[12] who advised jugular venesection, on the basis of his experimental work on animals. Corssland recommends the hypodermic use of 15 mm. of a 10 per cent. solution of nitroglycerin injected into the epigastrium. Other writers have advised electric stimulation, oxygen inhalations, cardiac tonics and venesection, with transfusion of defibrinated blood or normal saline solution. One author in his treatment of a case did a venesection and gave an enema of 20 ounces of salt solution. Heinicke,[13] in a report of twenty-five cases of coal-gas poisoning, was the first to describe intravenous injection of salt solution.

CASE REPORT

Jan. 19, 1911, at 12:45 p. m., an unknown white man (Case No. 161,349) was admitted on the East Medical Service at the City Hospital with the following history:

History.—The inmates of a house at 223 George Street were alarmed by an odor of gas, and on investigation they found that it emanated from a room on the third floor, which had been engaged the night before by two men. On breaking open the door they found the two men lying on the floor, a small gas heating-stove overturned, and the gas escaping from the attachment on the wall. The men were hastily brought to the hospital by the police ambulance. One man was dead; the other was in a state of coma. The latter was a white man aged about 40.

Examination.—The patient's face was symmetrical, somewhat reddened and the skin about the lower lids blue. The lips were blue and covered with a white, frothy mucus. The pupils were dilated and did not respond to light. The breath was fetid. There was no odor of alcohol. There was stertorous breathing; no marks of violence either about head or the body. The skin over the entire body was dry and cold, and the finger tips were blue. The pulse was strong and rapid —130 beats to the minute. The rectal temperature was 97 F. There were no convulsions. Examination of heart and lungs revealed nothing of note. Extremities were relaxed. There was no Babinski sign or ankle-clonus. The patient did not respond to any form of external stimulation. Six hundred c.c. of a dark amber-colored urine were removed by catheterization. The specific gravity was 1.025 and the reaction was acid. No albumin, sugar or casts were present.

Treatment.—The patient was well covered with blankets and surrounded by hot-water bottles, and was given 1/30 gr. of strychnin hypodermically. The median basilic vein of the right arm was opened and 300 c.c. of blood allowed to flow, after which an intravenous transfusion of 1,200 c.c. of a 0.7 normal saline solution was given. Inhalations of oxygen were also given. Three hours later the face was somewhat reddened and the patient was perspiring, but was still comatose. Temperature was 100, pulse 136, respiration 32; caffein sodium benzoate, gr. ii, given hypodermically every four hours. After another three hours, the patient responded somewhat to external stimulation, but was still comatose. Temperature was 101, pulse 120, respiration 36. At the end of another three hours the condition was about the same; temperature 101, pulse 128, respiration 32. On the second day after entering the house the face and hands of the patient had assumed a distinct cherry hue. The man was drowsy, responded very slowly to questions, after answering which he immediately sank into sleep. The examination of the blood showed reds 4,500,000, whites 13,000, hemoglobin 80 per cent. The treatment consisted of the administration of strychnin, 1/30 gr., and caffein sodium benzoate, 2 gr., given hypodermically every four hours. The urine at this time was light amber in color. It was acid in reaction, with a specific gravity of 1.015. There was a slight amount of albumin present, but no sugar or casts. Nourishment consisted of 6 ounces of milk and 12 ounces of water.

Outcome.—On the third day consciousness returned. The man had no recollection of the past two days. He complained of a slight headache and dizziness. His face had a peculiar pinkish color, but the color of the hands was normal. At 6 a. m., his temperature was 99.3, pulse 88, respiration 24;

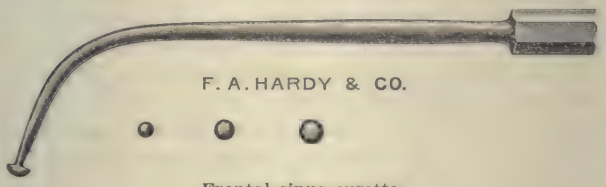
4. Brunneaux: Thèse de Paris, 1893.
5. Finkelstein: Lancet, London, 1891, ii, 3778.
6. Scott, A.: Encycl. Jahrb. d. ges. Heilk., 1896, vi.
7. Bruns: Neurol. Centralbl., 1902, No. 6, p. 242.
8. Pauski, Alex.: Neurol. Centralbl., 1902, No. 6, p. 242.
9. Becker: Deutsch. med. Wchnschr., 1893, xix, 571.
10. Bontecon: Med. News, Troy, N. Y., 1887.
11. Broadbent: St. Mary's Hosp. Rep., London, 1893.
12. Struthers: Edinburgh Med. Jour., 1855-6.
13. Heinicke: Deutsch. Chir., 1885, Part 18.

at 6 p. m., his temperature was 99.1, pulse 72, respiration 28. On the fourth day his general appearance was good. He complained of no discomfort and was taking liquid nourishment. All medication had been discontinued. The urine was dark amber in color, was acid in reaction, had a specific gravity of 1.025, and showed no albumin, sugar or casts. At 6 a. m., temperature was 98.1, pulse 84, respiration 20; at 6 p. m., temperature was 98.2, pulse 80, respiration 22. From this day on convalescence continued uneventful. The man was discharged well on the seventh day. At the time of discharge the blood examination showed 5,600,000 red cells, 10,000 whites and 90 per cent. hemoglobin.

FRONTAL SINUS CURETTE

BEELER HIGBEE, M.D.
LOUISVILLE, KY.

In cases of empyema of the frontal sinus in which the removal of the middle turbinate and ethmoid cells fail to give sufficient drainage to relieve the condition, it is often necessary to enlarge the opening into this sinus. For this operation I have had made a curette, which I have used with success in a great many cases, the exact sizes and curve of which are shown in the accompanying illustration. This instrument is made to use only after the middle turbinate and ethmoid cells have been removed. After this has been done, the curette of the smallest size is placed in the normal opening of the frontal sinus and carried well up. The curette is then pulled downward, forward and laterally, thus avoiding any serious trouble.



Frontal sinus curette.

1259 Bassett Avenue.

TRANSILLUMINATION OF THE MASTOID PROCESS AS AN AID TO DIAGNOSIS *

EMIL AMBERG, M.D.
DETROIT, MICH.

H. McA., aged 21, was admitted to Harper Hospital March 9, 1911. At 12 p. m. his temperature was 101.8 F., pulse 100, respiration 22. At 4 p. m. the temperature was 102.8 F., pulse 80. The patient complained of pain in the right ear. The temperature kept up until March 14, mostly about 99 and 100 F., with a tendency to diminish somewhat until March 20. It reached 100 F. at 4 p. m. on the 15th; 99.2 at 4 p. m. on the 16th; 100 at 4 p. m. on the 17th; 98.8 at 4 p. m. on the 18th; 99.2 at 4 p. m. on the 19th; 99 at 4 p. m. on the 20th. The ear discharged very freely; nevertheless, I thought it wise to perform a paracentesis. There was little tenderness over the mastoid antrum and over the anterior part of the tip, but some on the posterior portion of the mastoid and in the muscles of that region. The patient presented a somewhat septic appearance and complained off and on of pain.

The urine was normal. The blood-count March 9 showed a moderate leukocytosis; on March 12 a decrease of the leukocytosis.

On March 20 I transillumined the mastoid process according to the method of Gustav Dintenfass and found a distinct increase of the shadow on the right side. The patient's parents, who had been sent for on account of the probable operation, decided, against the urgent advice of the attending physician and myself, to remove him from the hospital. The father declared that he would shoulder all responsibility, even if the patient should die.

I learned that the patient was operated on at another hospital April 3; that the large mastoid was found to contain a mass of pus and granulations and that the dura was found exposed.

This case is reported in order to show that the transillumination, according to Dintenfass, was a great aid in our diagnosis. There exist two ways of transilluminating the mastoid process: first, illumination from without, the method of Victor Urbantschitsch; and second, illumination from within, the method of Dintenfass. Urbantschitsch places the source of light on the mastoid process, excludes light from the canal by a specially large ear speculum, and looks at the drum-membrane. The power of light necessary to make the drum-membrane visible allows conclusions as to the intensity of the pathologic process in the bone. Urbantschitsch, in his text-book, claims that his transillumination only makes us acquainted with a larger accumulation of secretion, or a more extended change of the pneumaticity of the mastoid cells, but that it does not make us acquainted with other suppurative processes which do not lead to an extended filling of the pneumatic cells. Dintenfass claims, among other things, for his method,[1] that in general a pneumatic bone allows much light to pass; that a sclerotic or ebonized bone does so to a considerably less extent; that fluid (pus), granulations and cholesteatoma do not let the light penetrate at all. Either the tip or the antrum portion is not penetrable for the light, or the whole mastoid process is much darker than that of the healthy side, or totally black. Dintenfass claims, as the essential part of his method, that the two mastoids should be illuminated simultaneously in order to draw a conclusion. In my examination I did not find this necessary. While I intended to transilluminate both sides simultaneously, I could not carry out my purpose, because one of the lamps did not light as strongly as the other; so I compared both sides, with satisfactory result. The character of the two mastoid processes is considered to be the same.

The lamps Dintenfass uses are 2 cm. long, 1.5 cm. wide, cylindrical, with a rounded tip, and are gently introduced equally far into the external auditory canals until, according to Dintenfass, only the cable winding is visible. Dintenfass asserts that the region of the mastoid process presents a reddish tint when transillumined, in the shape of a slice of orange. It is the strongest at the place of attachment of the auricle and decreases gradually backward. Dintenfass also asserts that his method of transillumination aids in diagnosis, and that it always gives interesting disclosures about the mastoid process, but admits that by itself it can only rarely be of importance.

I may add that in my case the claim of Dintenfass is verified. In considering the *x*-ray examination of the mastoid in relation to transillumination, it is my personal opinion that the transillumination might be tried first. The *x*-ray examination may give a more detailed picture, and thereby may give us also an idea of the location of the lateral sinus.

270 Woodward Avenue.

* Read before the Surgical Section of the Wayne County Medical Society, April 10, 1911.

1. Arch. Otol. (German), lxxxiii, parts 1 and 2, p. 125.

TECHNIC FOR HYPODERMIC INJECTIONS

FRANK THOMAS WOODBURY, M.D.
Major, Medical Corps, U. S. Army
FORT D. A. RUSSELL, WYOMING.

I desire to submit to the profession a simple, rapid and efficient technic for giving hypodermic or intramuscular injections, which will be found peculiarly suitable where a large number of injections are to be given at once. I have used it in giving the antityphoid bacterin treatment to a battalion of infantry and the civilian population of an army post. It has stood the test. There has not been an infected arm as a result, and no patient has shown a temperature above 99 F.

The materials needed are:

The bacterin emulsion.

A glass-barrelled syringe. I use the Sub-Q tuberculin syringe because it is graduated in hundredths of a cubic centimeter and because it is not attacked by iodin as metal is.

Tincture of iodin, U. S. P.; some gauze or cotton.

The technic is as follows: As the men form in line with sleeves rolled up, an assistant, without further preparation, dabs the arms with the tincture. I dip my needle into the tincture of iodin, draw some up and expel it, then draw up one dose of the bacterin emulsion into the barrel and expel it; the syringe is now sterilized. I then fill the syringe with the bacterin and inject it into the iodin-painted area of the arm. I then dip the needle into the tincture without drawing any up, wipe it off with the gauze or cotton and am ready for the next case. After the last case the syringe is cleansed with the tincture followed by alcohol and then air until dry.

A PAINLESS MERCURIAL INJECTION FOR SYPHILIS

CHARLES M. WALSON, M.D.
In Charge of the Venereal Clinic of the St. Louis City Hospital Department
ST. LOUIS

One of the difficulties in the injection of mercury in the treatment of syphilis is the local pain caused by the injection, this varying in different individuals. Bearing in mind the value of quinin and urea hydrochlorid as a local anesthetic, it occurred to me that it might be combined to advantage with the mercury bichlorid solution in the hope of preventing some of the pain attendant on the use of that salt as an injection. Beginning some experiments with this in view, I found that equal parts of quinin and urea hydrochlorid 2 per cent. and mercuric chlorid 2 per cent., both in distilled water, when heated to the boiling point and mixed, resulted in a clear solution. This solution when mixed in a cold state, throws down a white precipitate. The solution should be injected before it becomes cold, as later crystallization takes place. Stronger solutions have a tendency to cause induration at the site of injection. I have used this injection more than 100 times and have kept the patients (nine in number) under close observation to the present time. With a few exceptions the pain has been very slight, the majority of patients saying that pain was entirely absent. The injections were made into the buttock. Patients often stated that on sitting down in a chair afterward there was a feeling of numbness. With the solution in the strength above indicated, there has been very little local reaction. The results so far, in my experience, have been very gratifying, and I believe the use of this anesthetic salt will do much to abolish the disadvantages of the injection of mercuric chlorid in syphilis.

Therapeutics

CHRONIC ENTERITIS IN ADULTS

For purposes of practical discussion, the term "enteritis" cannot be strictly limited to a condition affecting only the small intestine and characterized by the so-called catarrhal inflammation of the mucous membrane. It is convenient to use the term to include disturbances of the digestion which do not affect markedly the stomach or the large intestine, and which are not dependent on new growths, ulceration, volvulus or intussusception of the intestines. The term "intestinal indigestion" is applied to various forms of these disorders, but it is convenient to include them all under the term "enteritis."

The predominating clinical characteristic of these conditions is fermentation with the production of more or less gas. This may be accompanied in some cases by diarrhea; in other cases by constipation. When the condition continues for a considerable time, there may be interference with the appetite and disturbance of the general nutrition, accompanied by loss of flesh. There may also be depression of spirits, and hypochondriasis.

This condition of disturbance of the digestion in the small intestine may be due to the use of improper food, to neglect of the general physical condition, especially with regard to proper exercise, which is seen strikingly exhibited in people of sedentary habits; it may be due also to neglect of the regular evacuations of the large intestine. Associated with it may be disorders of the stomach, of the liver and of the pancreas, as well as of the glands of the intestinal mucous membrane. There may be also defective action of the muscular coat of the intestine. To several or to all of these disturbed conditions is due the fermentation of the contents of the intestine, accompanied, frequently, by more or less pain, and often by dizziness, headache, and generel indisposition.

The treatment of this condition varies according to the cause, the predominating pathologic condition, and the more marked clinical symptoms. The first and most important indication for treatment consists in regulation of the diet. While the ordinary healthy person should eat a variety of all sorts of foods, which are commonly approved of as suitable diet for the human family, when the digestion in the intestine is imperfectly performed, such articles of diet should be selected as are, for the most part, digested in the stomach so that a small amount of residue will be left to be acted on in the intestine. Not only this, but foods which are not digested in the stomach should be reduced to a minimum on account of the danger that fermentation may commence in the stomach and be continued in the intestine. Among the foods to be selected are, of course, milk (though milk may not be advisable), eggs and fresh meats, including beef, lamb and poultry, as these are chiefly digested in the stomach. These may be supplemented by moderate amounts of farinaceous foods, such as stale bread, dry toast, baked potato, and boiled rice. Other much used cereals, especially oatmeal, milk toast, and bread and milk, should be avoided. Also, there should be forbidden, temporarily at least, the use of green vegetables, salads, pastry, and other sweetened flour products. Of uncooked fruits, oranges and grapes may usually be permitted, as being less likely to interfere with intestinal digestion than other foods such as strawberries, raspberries, currants, peaches and apples. Tea and coffee should be used in very limited amounts, as they have a tendency to increase flatulence and, especially as regards

tea, to increase constipation. Water should be taken in abundance. Little advantage will be derived from drinking excessive quantities of very hot water, although a glass of warm water at bedtime will generally prove useful.

All foods should be taken at regular intervals, and should be eaten slowly and carefully masticated. Intense mental application, after eating, should be avoided. Moderate exercise in the fresh air should always be insisted on. Alcoholic drinks should generally be forbidden.

MEDICINAL TREATMENT

In such cases as are characterized by the occurrence of one or several loose movements shortly after eating, a combination of ipecac, rhubarb and soda, as recommended by Dr. Francis Delafield, will frequently prove useful:

℞	Gm.		
Ipecacuanhæ	30		gr. v
Rhei	60	or	gr. x
Sodii bicarbonatis.....	4		3i

M. et fac capsulas 20.

Sig.: Take one capsule three times a day, before meals.

The official *Pulvis rhei compositus*, which contains rhubarb, magnesium and ginger, is also a good preparation for this condition. The dose is 2 grams (30 grains). Or the official *Mistura rhei et sodæ* (which contains ipecac, rhubarb, soda, peppermint, glycerin and water) may be used. The dose of this preparation is 10 c.c. (or 2 fluidrams), 2 teaspoonfuls.

If diarrhea is a prominent symptom, the use of bismuth will frequently be of advantage:

℞	Gm.		
Bismuthi subcarbonatis.....	20	or	3v

Fac chartulas 20.

Sig.: Take one powder three times a day, before meals.

If the loose movements are preceded or accompanied by pain, 0.015 gram (¼ of a grain) of codein sulphate may be given, for a few days, at the same time as the bismuth.

It is often better, instead of resorting to an opium or codein preparation, to give bismuth and salol, as:

℞	Gm.		
Bismuthi subcarbonatis.....	20		3v
Phenylis salicylatis.....	6	or	3iss

M. et fac chartulas 20.

Sig.: One powder three times a day, before meals.

If, on the other hand, constipation and flatulence are prominent symptoms, such remedies should be prescribed as will increase the muscular activity of the intestine and will also increase the natural secretions of the digestive organs. For instance:

℞	Gm.		
Fluidextracti rhamni pursianæ..	10		fl. 3iii
Tincturæ nucis vomicæ.....	5		fl. 3iss
Tincturæ cardamomi compositæ.	25	or	fl. 3i
Tincturæ gentianæ compositæ.ad	100		ad fl. 3iv

M. et Sig.: One teaspoonful three times a day, before meals.

If the tongue is heavily coated and there are evidences of stomach indigestion, dilute hydrochloric acid, in a dose of 5 drops, in water, three times a day, after meals, is good treatment. Frequently, when there is a good deal of intestinal flatulence, the phosphate of soda, a teaspoonful of the effervescing salt, administered two or three times a day, seems efficient in preventing this fermentation. On the other hand, if the urine shows indican and there is, therefore, intestinal putrefaction, alkaline laxatives should not be administered, as they tend to perpetuate such alkalinity of the intestines and more putrefaction. Other laxatives than the saline alkaline salts should then be administered, if a laxative is needed. The putrefaction can sometimes not be stopped until meat is removed, at least temporarily, from the diet.

The digestive ferments are used a great many times for both gastric and intestinal indigestion. It is doubtful of what advantage they are. Sometimes they are combined with alkalies, and it is the alkali that may be of benefit. Sometimes they are combined with an acid, and it is very likely that the acid is of benefit. At other times they are combined with radical changes in diet, and probably it is the change in diet that is of advantage. The starch ferments and digestants may be of advantage, if given immediately before meals, by aiding some starch digestion during the first half hour or possibly hour of stomach digestion, i. e., before such time as free acid or a considerable amount of acid peptones have been produced in the stomach, at which time all starch digestion must cease. It is doubtful if pancreatin is of any advantage administered by the mouth. Its activity is certainly soon destroyed by the acid of the stomach. If protected by an alkali, as sodium bicarbonate, it might be active during the first part of the stomach digestion, but its advantage is probably slight.

The advantage of pepsin preparations or other protein digestants such as papayan is always a question. The amount of pepsin given is generally altogether too small to be of much value in digesting the protein that is ingested with an ordinary meal. Also, there is likely to be an acid in many pepsin preparations, and it is the acid that does the work. Again, some of these preparations are combined with various wine or alcoholic solutions, and these may slightly stimulate digestion. A digestant which acts both in mildly acid and mildly alkaline media may be of some advantage, but a correction of the diet, the prevention of fermentation and putrefaction, the proper daily bowel action, the soothing of any mucous membrane inflammation, and the administration of hydrochloric acid, if indicated, is generally sufficient to correct most indigestions that are not due to organic disease.

The temperature of articles, especially fluids, taken into the stomach sometimes has a distinct effect on the action of the bowels. If there is much pain with the loose movements, it will be found that warm or hot drinks are less likely to aggravate the trouble, while, on the other hand, cold drinks will increase the pain and cause more frequent movements of the bowels. When there is constipation, cold drinks are more likely to stimulate the action of the bowels, although excessive cold drinks should not be given on account of the danger of interfering with the glandular secretions of the stomach and intestine.

The only scientific way, provided that simple treatments do not correct the indigestion and stop the enteric disturbance, to determine exactly what the mistake is, is to examine the stools under a known diet. This will generally disclose the exact mistake in the digestive process, and show what foods are perfectly digested, and what are imperfectly digested. (See THE JOURNAL, Nov. 19, 1910, page 1810.)

It should also be remembered that sometimes thyroid disturbance is the cause of intestinal indigestion. This is a rather frequent etiologic factor, especially in women.

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[*For other information see second page following reading matter*]

SATURDAY, JUNE 3, 1911

THE GLYCYL-TRYPTOPHAN REACTION IN GASTRIC CANCER

The so-called glycyl-tryptophan reaction of Neubauer and Fischer[1] is based on the fact that normal peptic digestion does not resolve albuminous substances into their ultimate constituents, the amido-acids, but into intermediate bodies, the further breaking up of which is completed lower in the alimentary canal. But although the pepsin of the stomach is incapable of producing amido-acids, this property is possessed to some extent by trypsin, by the autolytic ferments of various body tissues, and particularly by those of malignant tumors.

In gastric carcinoma, therefore, we have a tissue capable of secreting a ferment of this latter sort, and we may expect to find in the products of gastric digestion, in this condition, the amido-acids that would normally be absent. To demonstrate the presence of this ferment, Neubauer and Fischer subjected to the digestive action of the stomach contents to be tested, a dipeptid, that is, a compound of two simple amido-acids, whose cleavage would yield an easily identified product. For this purpose they selected glycyl-tryptophan, inasmuch as tryptophan is perhaps the most easily recognized of the amido-acids.

As was pointed out, indeed, by the originators of the test, the sources of error are both numerous and important. The presence of marked acidity, of blood or exudate, of pancreatic secretion—all can contribute to an erroneous positive result. Tryptophan itself seldom —practically never—occurs in normal stomach contents, and its presence after a proteid meal is so rare in nonmalignant diseases that Weinstein[2] holds that its occurrence is in itself significant of malignancy. The source of error most difficult of elimination is the possible presence of pancreatic secretion, as no means of recognizing this *per se* are known. The only way, but a necessarily unreliable one, is that suggested by the originators of the test—the demonstration of the presence of bile.

Some effort, hitherto without result, has been made to find a dipeptid capable of resisting pancreatic digestion, and yielding an easily recognized cleavage product. The "silk peptone" used by Kuttner and Pulvermacher[3] in place of glycyl-tryptophan offers no advantages in this respect, but the claim is made that the blood ferments are without action on it.

The reaction has now been in limited use for about two years, and a recent summary has appeared of the results obtained so far.[4] Positive tests were obtained in 84 per cent. of cases later confirmed by autopsy, in 75 per cent. of cases with diagnoses clinically certain, in 23 per cent. of suspect cases, and in 12 per cent. of nonmalignant cases. No normal stomachs were found to give the reaction. In view of such findings, the pessimistic conclusions expressed by some of the workers appear somewhat unfounded. Unfortunately, its value in early cases, in which the necessity for an accurate diagnosis is greatest, is almost unknown. If, as has been suggested and as appears probable, the autolytic ferment is excreted into the stomach only with the onset of ulceration of the tumor, it would appear as a rule only comparatively late in the disease, and so be of slight use from the viewpoint of early diagnosis. Its reliability is greatly increased by several repetitions of the test, and Lyle and Kober,[5] who have obtained strikingly accurate results with it, call particular attention to the value of several negative findings. It is probable that the final position of the reaction will be that of our other laboratory measures for the diagnosis of gastric carcinoma. And, inasmuch as it is founded on a principle entirely independent of those underlying our more usual tests, it will almost certainly have a distinct place as one of the several factors to be considered in establishing a diagnosis.

1. Neubauer and Fischer: Deutsch. Arch. f. klin. Med., 1909, xcvii, 499.
2. Weinstein, J.: The New Test for Cancer of the Stomach, with Suggested Improvements, THE JOURNAL A. M. A., Sept. 24, 1910, p. 1085.
3. Kuttner and Pulvermacher: Berl. klin. Wchnschr., 1910, xlvii, 2057.
4. München. med. Wchnschr., 1911, lviii, 674; abstr. in THE JOURNAL, May 6, p. 1370.
5. Lyle and Kober: New York Med. Jour., 1910, xci, 1151.

COLD-STORAGE EGGS

The modern development of cold-storage methods has in several ways added to the perplexities of health administration. On the one side are the obvious advantages, economic and other, of carrying over valuable but perishable foods from a time when they are not needed to a time of relative scarcity. On the other hand are the well-known abuses of "cornering" which raises the price both in the time of abundance and the time of scarcity, and of overlong storage which may cause wasteful or injurious deterioration. Attempts to remedy these abuses by legislative enactment are now being made, one of the most popular apparently being a three-months' time limitation on the storage period.

So far as eggs are concerned this movement is meeting with great opposition from large dealers, who point out that three months is quite too short a period to make storage commercially profitable. The question then seems to be whether fraud on the public purse or injury

to the public health can be traced to the storage of eggs at a low temperature for a period longer than three months. Published observations,[1] although rather meager, show that progressive physical changes take place in cold-storage eggs, such changes being especially evidenced by loss of weight and by an increased tendency of yolks and whites to mingle. Chemically, there is a lowering of the amount of coagulable protein and a lowered percentage of lecithin phosphorus. An increase in the lower nitrogen bodies, proteoses and peptones, is noted, while there is apparently a decrease in amido bodies. Bacterially, storage eggs appear to be sterile or inhabited by a few colonies of the more resistant fungi. Whether such changes as those indicated impair the food value of the egg or render it injurious to health is a point worthy of investigation. It does not follow that, because chemical alterations have occurred in a nitrogenous substance, the resulting product is necessarily unfit for food. Ripened cheese has been ordinarily subjected to the long-continued action of enzymes and bacteria, but its food value appears to be high.

Of course, quite apart from the effect of cold storage on the food value of eggs, the fact that most people find cold-storage eggs less palatable than fresh eggs renders the former less available for many uses. While the buyer is able to judge of the quality of most foodstuffs by their appearance in the market, a cold-storage egg, when offered for sale, is practically indistinguishable from a fresh one; it is on the table if at all that the difference is apparent. Whatever the final decision as to the effect on health of the use of cold-storage eggs, therefore, the public has a right to demand that it shall not be made to buy cold-storage eggs under the belief that they are fresh, or to pay the price of fresh eggs for stored ones. It seems possible that if dealers were compelled to call cold-storage eggs by their right name and to state the length of time they had been in storage, many of the disadvantages now ascribed to the practice of cold storage would be removed. At least, it is probable that the industry would tend to assume less speculative and more normal proportions.

1. Bull. 115, U. S. Dept. Agric., Bureau of Chemistry.

DANGER OF PANCREATIC EXTRACTS

While much of the advance in therapeutics is due directly or indirectly to experimental work on animals, it should be borne in mind that the administration of remedies to patients can seldom realize experimental conditions. The physician who assumes that, because in an animal experiment the hypodermic injection of a certain remedy has produced certain effects, similar results will follow its administration to man by the mouth, is apt to fall into error. This is well exemplified by the results of the attempts to secure an action on the metabolism of sugar by the use of pancreatic extracts. Assuming that diabetes is due to a failure of the pancreas to produce its internal secretion, there is a strong temptation to try to remedy this defect by using an extract of the pancreas as a substitute for the missing secretion.

Clinically such attempts have been failures. One reason for this may be that the amount of secretion present in the pancreas at one time is probably only a fraction of the amount necessary for the total metabolism of sugar for twenty-four hours. There is good reason to suppose that the pancreas is continually pouring its secretion into the blood in proper quantities, while the injection can be made usually not oftener than once a day.

In some cases the destruction of sugar effected by these remedies has been due to a toxic action which did not improve the patient's condition, although it temporarily lessened the amount of sugar.

The experimental proof that the extirpation of the pancreas can cause the appearance of diabetes led Zuelzer to attempt the production of an extract of pancreas which he believed to act as a hormone to stimulate the utilization of sugar in the economy. This hormone has been tested by J. Forschbach[1] with unfavorable results. In animal experiments the preparation showed the power to reduce the excretion of sugar temporarily, while it also produced some symptoms of poisoning with elevation of temperature. The trial was then made on diabetic patients with the result that, although there was a slight reduction of sugar excreted, the temperature rose and the patients presented indications of marked poisoning. The acidosis was unaffected and the sugar returned after a short time to its original height. Zuelzer is much inclined to attribute the temporary reduction of sugar to the toxic action of the remedy or to the febrile temperature excited by it. At any rate he concludes that the injurious effects of the remedy are so manifest that it is unjustifiable to subject patients to such danger for the slight advantage gained by the reduction in the amount of sugar excreted.

The action of extract of pancreas on animals with pancreatic diabetes and on normal animals has been investigated by E. Leschke.[2] Pancreatic extract derived from frogs or guinea-pigs was injected subcutaneously and intravenously into normal frogs and guinea-pigs and also into frogs from which the pancreas had been removed. The fresh pancreatic extract was used, also the same extract inactivated by heating it to 70 C. for a quarter of an hour and also that which had been heated for ten minutes to 100 C. The urine of the animals was examined for the presence of sugar. The experiments show that injections of fresh pancreatic extract occasion diabetes in normal animals, and in those animals that have pancreatic diabetes it increases the glycosuria. At the same time a severe disturbance of the general condition, which led to death within a short

1. Forschbach, J.: Deutsch. med. Wchnschr., Nov. 25, 1909.
2. Leschke, E.: Arch. f. Anat. u. Physiol., 1910, Physiol. Abt., p. 401; abstr. in Chem. Zentralbl., Feb. 15, 1911, p. 505.

time, appeared regularly under the influence of the injections. Pancreatic extract inactivated at 70 C. did not markedly affect the excretion of sugar, but it had a marked toxic action. Pancreatic extract heated to 100 C. could be injected without any injurious consequences. The investigations indicate that there is no scientific basis for treating diabetes with extracts of pancreas.

OUR VANISHING SHORE-BIRDS

The cosmic scheme is one of most intricate interrelation, in which the fact that living things are organized to prey on one another plays a most important part. Man's activities in modifying this scheme produce far-reaching results, generally unforeseen, sometimes disastrous for him. When, for example, we cause the wholesale destruction of harmless snakes we shall find in consequence a vast overproduction of grain-destroying rats and mice, such as are the natural prey of snakes. The brutal and insensate destruction of birds, to take another example, is followed by an incalculable increase in disease-conveying and otherwise pernicious insects.

This observation is apropos of an important investigation made by W. L. McAtee of the Biological Survey,[1] which demonstrates that our shore-birds throughout the eastern United States are fast vanishing. Of these long-legged, slender-billed and usually plainly colored birds there are more than sixty species in North America. They frequent the shores of all bodies of waters, large and small; but many of them are equally at home on plains and prairies. Numerous species formerly swarmed along the Atlantic coast and in our prairie regions; their extermination now seems imminent, so scarce have they become. The black-bellied plover was in great numbers along the Atlantic seaboard years ago; it is now but a straggler. East of the Great Plains the golden plover was once abundant; it is now rare. Great flocks of long-billed dowitchers formerly wintered in Louisiana; one sees now but flocks of a half dozen or less. The Eskimo curlew has probably been exterminated in the last decade, and other curlew species are greatly reduced.

The wonder is that any of these birds survive, so adverse to their existence are present conditions. In both fall and winter they are shot along the route of their north and south migration. They decoy readily and persistently, despite murderous volleys. The breeding-grounds of some species have become greatly restricted by the extension of agriculture, and their winter ranges in South America have no doubt been restricted in like manner. In several other ways pointed out by McAtee is their existence made most precarious.

Not by any means on sentimental or esthetic grounds alone need we plead for the protection of shore-birds. Many species eat mosquitoes, such as play so important a part in disease dissemination. Fifty-three per cent. of the food of birds from one locality was found to consist of mosquito larvæ; and among the insects thus eaten was the salt-marsh mosquito, for the elimination of which the state of New Jersey has expended much in money and energy. Cattle and other valuable live stock also are greatly molested, not only by mosquitoes, but also by horse-flies. Adults and larvæ of the latter have been found in the stomachs of several species of birds. The killdeer and the upland plover, moreover, devour the North American fever tick, so injurious to cattle. Crane-fly larvæ are frequently most destructive in grass-lands and wheat fields; among their many enemies shore-birds rank high. These birds, again, are very fond of grasshoppers, which, as all know, are most destructive of corn, cotton and other crops. Again, twenty-three species of shore-birds were found to have fed on Rocky Mountain locusts (great grain-consumers) in Nebraska.

Some of our severest economic losses are occasioned by insect pests of forage and grain crops; these pests are a natural food of shore-birds. The army-worm, cut-worm, cotton-worm, tobacco-worm and potato-worm are meat for the avocet, woodcock, pectoral and Baird sandpipers, upland plover and killdeer. The principal farm crops have many beetle enemies; birds thrive on these beetles. The boll weevil and clover-leaf weevil are food for the upland plover and the killdeer; the rice weevil for the killdeer; the cowpea weevil for the upland plover. Crayfish are a pest in southern rice- and corn-fields and they injure levees; they are a favorite food for the black-necked stilt, jacksnipe, robin snipe, spotted sandpiper, upland plover and killdeer. In Texas the upland plover follows the plough and eats grubs destructive to garden stuff, corn and cotton crops.

It would be well indeed for all the governments of states in which these birds have their habitat to legislate for their protection. Massachusetts, Vermont and Louisiana have established a continuous close season for some of these species until 1815; much more than this, however, is essential to be done.

1. McAtee, W. L.: Our Vanishing Shore-Birds, Circ. 79, Bureau Biol. Survey, U. S. Dept. Agriculture.

Current Comment

ANOTHER PURE FOOD DECISION

Another legal decision on the interpretation of the federal Food and Drugs Act has been handed down. This time it is from Justice Vedder of the United States Circuit Court for the Eastern District of New York. The government officers whose duty it is to enforce the Food and Drugs Act charged that the "peroxid cream" manufactured by that cooperative "patent medicine" concern known as the A. D. S. was misbranded under the act. The reason for their contention was that the amount of peroxid present in the cream was so insignificant that it could have no practical therapeutic value. While there was no denying the fact, Judge Vedder decided against the government. If this judge's view of the case is a correct one, it is necessary, apparently, merely to have an infinitesimal quantity of any ingredient in a mixture to be able to give that mixture the name of such an ingredient. As the law, which the judge says was not violated, also covers the subject of

food as well as drugs an extension of the principle enunciated by the court may be looked for. A pailful of miscellaneous vegetable pulp correctly doctored with the necessary amount of saccharin, sodium benzoate and coal-tar dye may be sold to the unsuspecting purchaser for strawberry jam — providing the manufacturer is careful to put a few strawberries in the pail. The gentleman just outside the entrance to the circus who dispenses the highly colored liquid sweetened with saccharin, acidified with citric acid and dignified by the name of Lemonade, is evidently well within his legal rights because he usually has at least half a lemon floating on the top of the barrel. The point in law should be still further extended. It is hardly fair to allow the dispensers of drugs and foods a monopoly on humbugging the public. The flashy gent who attempts to dispose of his specialty to the unsuspecting rustic should be absolved from all legal consequences providing his brick is gold-plated on at least one side.

SEXUAL HYGIENE IN THE AUSTRIAN SCHOOLS

In this country, we usually credit ourselves with progressive ideas. Americans who take any note of affairs in the Old World, however, sometimes find that while we have been dallying with progressive ideas, the forward step has been taken in Europe. In view of the discussion in regard to the possibility of introducing instruction on sexual hygiene into our public schools, it is interesting to observe that this step has already been taken in Austria, as will be seen by the letter from our Vienna correspondent in this issue. For three years instruction on this topic has been given, in connection with the teaching of anatomy, to pupils in the Austrian schools preparatory for the university and the other schools of the same grade; and recently it has been introduced experimentally into the course for those pupils who leave school in their fourteenth year. It has also been a part of the curriculum in German schools for two or three years. It will be of value for us to observe the results of this experiment, which we consider full of difficulties, but which in some respects would seem to be a more difficult one to make in continental Europe, where the traditions are so strongly in favor of keeping the youthful mind a blank on such subjects.

MILK LEGISLATION IN ONTARIO

One of the most prominent subjects of legislation by state and local authorities at the present time is the subject of clean milk, and many laws have been placed on the statute-books governing the production and sale of this important article of food. The province of Ontario has recently passed an act which provides very stringent regulations for the production and distribution of milk in all its stages, defines the conditions under which "certified" milk is to be produced, which includes the semi-annual tuberculin testing of the cows, and prescribes the rules for pasteurizing milk. Municipalities are given full authority to make all regulations coming within the purview of this act and to enforce them rigidly. It is one of the most stringent milk laws which has yet come under our observation, being more strict than many of the enactments in the United States which have aroused the strenuous opposition of milk producers and distributors. Like most Canadian laws, this will no doubt be rigidly enforced, and it will be profitable for us on this side of the border to observe the results. The consideration which has hitherto restrained many who would otherwise have been in favor of more stringent regulation of the dairy industry is the fear of increasing the cost of milk to the poor. At the same time, the importance of this article of food and its great susceptibility to contamination justify the most earnest effort to ensure cleanliness and care in its production and distribution. It is to be hoped, therefore, that we shall have full reports of the practical workings of the Ontario Milk Act.

SAFEGUARDS FOR MARRIAGE

That there should be more restrictions thrown about the marriage relation is the firm opinion of most students of the subject. A very pointed remark is contained in the report of the Vice Commission of Chicago, a book to which we shall probably refer more at length later. The report says:

> **An application for a license of any kind, whether it be to construct a house, run a push-cart, peddle shoestrings, or keep a dog, must be accompanied with evidences that the applicants are responsible and reliable agents. But for a marriage license, one person, unattended and unknown and, as far as one can know, an epileptic, a degenerate, or who has in his blood a loathsome venereal disease may pass his name through a window with that of a similarly questionable female, likewise unknown, and be granted the divine right to perpetuate his kind in turn, thereby placing a burden and blight on society and the community for generations to come.**

Not all agree on the methods, but as public opinion is educated to the need for some modification of our present rules, there will come about the possibility of improving conditions.

DIETETICS TAUGHT BY CARTOON

One of Briggs' recent cartoons in the Chicago *Tribune* contains a very suggestive lesson in dietetics. Three pictures are shown. In the first, an automobile is seen with a grocer pouring gasoline into the tank; the owner of the car excitedly exclaims, "Hey! What grade is that gasoline? Are you straining it properly?" The second picture represents the same characters, but this time the machine is being supplied with oil; the owner solicitously inquires, "What kind of lubricating oil are you giving that car? I want the best." In the third picture, the automobile owner is seen sitting at a restaurant table, ordering for himself a variety of foods that would make a dietitian shudder. Evidently, careful as he is in regard to the quality and character of the food he gives his automobile, the purity of the fuel he supplies for his human engine is immaterial; it may be good, bad, or indifferent, "strained" or not. The cartoonist might have carried the lesson yet a little farther by showing the amiable imbecility of the average human being in caring for the most delicate of all machinery—his own body. He might have shown the owner of a valuable car seeking the most expert machinist to repair his machine. Later the same man could have been pictured as seeking the services of the most ignorant quack, or as administering to himself some darkly mysterious combination of drugs in the form of a "patent medicine,"

when his own infinitely complex physical mechanism becomes disordered. The force of such satire does not rest on exaggeration; it is all, unfortunately, based on most sober and commonplace fact. What an interesting note on the intelligence of the average earth-dweller might be made from these data by a tourist from Mars!

PAY NO MONEY TO UNAUTHORIZED PERSONS

For the past five years we have published weekly in THE JOURNAL the following: "WARNING: Pay no money to any agent unless he presents a letter showing authority for making collections." It would seem that physicians would hesitate to pay money to transient and unknown individuals who are able to present no identification, and yet there seems to be continued carelessness on this point. Last week[1] we warned our readers against a subscription agent who gave the name of A. S. Brown and who claimed to represent the Seattle Subscription Company of Seattle, Wash. Several physicians had paid him money and failed to get any return for it. News is now received of a man—who may be the same person—who has swindled people in the same way in Colorado and Wyoming and who was reported to have gone to the northwest. This man collects money in advance, which his victims never see again, nor do they receive an equivalent. It is alleged that he uses various names, one of which is A. G. Stevens, care of the Denver News Company, a firm which apparently does not exist. This is another reminder that it is very foolish to pay money to unknown persons.

"REASONABLE" LYING PERMISSIBLE

The United States Supreme Court has decided that there is nothing in the Food and Drugs Act that prohibits Johnson, the cancer quack of Kansas City, from making lying assertions on the labels of his nostrums providing such mendacity does not relate to their composition. The pure food and drug law is held to protect the consumer only against false statement regarding the composition of medicines and not against falsehoods concerning their curative value. Briefly the facts are as follows: Johnson printed falsehoods on the labels of his "cancer cure" regarding its curative effects. The federal officials intrusted with the enforcement of the Food and Drugs Act took the ground that such falsehoods constituted misbranding under that provision of the act which reads in part as follows:

> ". . . the term 'misbranded' . . . shall apply to all drugs . . . the package or label of which shall bear *any statement . . . which shall be false or misleading in any particular.* . . ." [Italics ours.—ED.]

When the case came to court Johnson's lawyers held that the Food and Drugs Act was not intended to apply to claims for the curative effects of medicine, but only to claims about the composition. The judge of the lower court upheld this contention and decided in Johnson's favor. The federal officials carried the case to the United States Supreme Court and that court has just affirmed the decision of the lower court. It should be said, however, that three of the Supreme Court judges dissented from the decision—Justices Hughes, Harlan and Day. According to press dispatches, the Supreme Court acknowledged that the claims made by Johnson were untruths, but held that the federal Food and Drugs Act should not be construed to cover that particular kind of lying. All who are interested in the protection of the public health and particularly in the protection of the sick will regret that the federal Food and Drugs Act was so loosely worded as to be unable to stand this vital test of its efficiency. The various cancer fakers—of whom Johnson is a type—who have been driven out of business under the law as previously interpreted, will now be free to resume their damnable trade unmolested. As the people of the United States have evidently not made their will clear in the pure food law, they should now do so. It is imperative that this law be immediately amended so as to state positively and unequivocally that lying of all kinds shall be illegal when applied to foods and drugs. There is no more pressing piece of legislation needed than such an amendment. The result of this decision means, as the press dispatches to some of the Chicago papers state:

> "Medicine that is nothing but sweetened water, or pills composed of colored mud, may be labeled 'cures' and sold as such with impunity under the national pure Food and Drugs Act."

So far as the "patent medicine" fakes are concerned, there is now practically nothing to prevent the imposition of the grossest of frauds on the public. The "patent medicine" vendors do not care particularly about having to tell the truth about the composition of their nostrums; they do desire, however, to make such assertions as they see fit regarding the alleged curative properties of their preparations.

1. THE JOURNAL, May 27, 1911, p. 1584.

Medical News

FLORIDA

New State Laboratory.—Work on the new two-story brick and concrete laboratory for the State Board of Health, Jacksonville, has commenced. The new building is to be on the site of the old city jail on Julia Street. The building is estimated to cost $35,000, and will contain, in addition to the laboratories, the offices of the State Board of Health.

Meeting of Florida Physicians.—At the thirty-eighth annual session of the Florida Medical Association, held in Tallahasse, May 10-12, Tampa was selected as the place of meeting for 1912 and the following officers were elected: president, Dr. Albert H. Freeman, Starke, and vice-presidents, Drs. Joseph D. Bennett, Crystal River, and Nicholas A. Baltzell, Marianna. Dr. Joseph N. McCormack, Bowling Green, Ky., delivered an address before the association on "The Physician's Position with the People," and Dr. B. Merrill Ricketts, Cincinnati, an address on "Our Operations on the Chest."

IDAHO

Hot Springs Leased.—Dr. Henry W. Clouchek, Twin Falls, has leased Lava Hot Springs in Bannock County for twenty-five years, and will develop the property as a health resort.

Personal.—Dr. Fred A. Pittenger, Boise, who has been ill for several days, is reported to be convalescent.——Dr. George E. Hyde, Rexburg, president of the State Board of Health, has been named as delegate to the National and Provincial Convention to the State Board of Health, San Francisco.——Dr. Darius D. Drennan, Rathdrum, has been appointed physician of Kootenai County.——Dr. Malcolm McKinnon, Sandpoint, has been appointed physician of Bonner County.——Dr. Frederick Epplen, St. Joe, has started for Europe. Dr. Delos E. Cornwall succeeds him as district surgeon.

ILLINOIS

New State Hospital Site.—Dixon and Rockford are said to be making strenuous efforts for the location of the new state insane hospital for which $1,500,000 was appropriated by the last legislature.

Honor Retiring Officer.—Dr. Frank H. Jenks, for many years assistant superintendent of the Elgin State Hospital, left that institution, May 10, to take charge of the Ransom Sanitarium, Rockford. Before he left a farewell dinner was given in his honor by Dr. Sidney D. Wilgus, superintendent of the institution, and Dr. Jenks was presented by the medical staff with an office chair and a purse of money.

Personal.—Dr. Henry A. Bremmer, Ashton, with his wife and daughter, sail for Europe, June 17.——Dr. Nelson E. Oliver, Thornton, is reported to be seriously ill with septicemia.——Dr. Albert S. Green, Rockford, who has been seriously ill, is reported to be improved.——Dr. and Mrs. Joseph W. Smith, Bloomington, were seriously injured in an automobile accident near Covington, Ind., May 21.——Dr. Michael F. Dorsey, Streator, who has been seriously ill with pneumonia at Mercy Hospital in Chicago, is reported to be improving.

Chicago

Noted Chemist Dies.—Prof. Marcus A. de la Fontaine, for thirty years professor of chemistry in the Chicago high schools, frequently an expert witness in poisoning cases, died at his home, May 21, aged 73.

Physicians' Club Dinner.—At the annual meeting of the Physicians' Club of Chicago, held in the new Sherman House, May 26, Dr. Alfred N. Murray was elected secretary and Drs. George E. Baxter, Alexander H. Ferguson and Harry P. Woley were elected trustees.

Mary Thompson Hospital Affairs.—Dr. Frances Dickinson has been added to the board of trustees of the Mary Thompson Hospital. There is now in the bank a fund of $10,000 to the credit of the hospital and the Chicago Woman's Club will provide, it is said, against any deficit.

Pediatric Society Election.—At the annual meeting of the Chicago Pediatric Society, held May 22, Dr. John M. Dodson was elected president; Dr. Alexander C. Soper, vice-president; Dr. Joseph W. Brenneman, secretary; Dr. Mark Jampolis, treasurer; Dr. Henry F. Helmholz, editor, and Dr. Isaac A. Abt, member of the executive committee.

Sprague Memorial Institute.—The Otho S. A. Sprague Memorial Institute was organized in January, 1911. It is a memorial to the late Otho S. A. Sprague, who designated his brother, A. A. Sprague, as the chief instrument through whom funds left by will should be expended. The institute was organized by Mr. A. A. Sprague with the following as members of the corporation and the first board of directors: A. A. Sprague, A. A. Sprague II, son of Otho S. A. Sprague, Messrs. A. C. Bartlett, J. P. Wilson, C. L. Hutchinson, Byron L. Smith and Martin A. Ryerson, and Dr. Frank Billings. The directors have decided on medical research as the chief object for which the income of the memorial funds shall be expended and have elected Dr. H. Gideon Wells of the University of Chicago to direct research in medical problems. The work will be done in cooperation with the University of Chicago, Rush Medical College, Presbyterian Hospital and the Children's Memorial Hospital of Chicago. The institute will command a definite number of beds in the Presbyterian Hospital for the study of any disease under investigation. An advisory council has been appointed consisting of Drs. Frank Billings, James B. Herrick, Joseph L. Miller, Edwin R. Le Count, Ludvig Hektoen and Profs. E. O. Jordan and Julius Stieglitz.

IOWA

New State Journal.—The Iowa State Medical Society has decided to own and edit its own official organ. It has given authority for the purchase of the *Iowa Medical Journal* from Dr. Edward E. Dorr, Des Moines, its editor and proprietor, and will continue this publication as the official journal of the society under the editorial management of Dr. David S. Fairchild, Clinton.

State Society Meeting.—The sixteenth annual meeting of the Iowa State Medical Society was held in Des Moines, May 17-19, under the presidency of Dr. Mathew N. Voldeng, Cherokee. Dr. George W. Crile, Cleveland, O., delivered the address on surgery and Dr. James B. Herrick, Chicago, the address on medicine. The following officers were elected: president, Dr. Lawrence W. Littig, Iowa City; vice-presidents, Drs. Henry A. Leipziger, Burlington, and Van Buren Knott, Sioux City; secretary, Dr. Vernon L. Treynor, Council Bluffs (reelected); treasurer, Dr. Thomas E. Powers, Clarinda; and delegates to the American Medical Association, Drs. Max E. Witte, Clarinda; Edwin Hornibrook, Cherokee, and Francis E. V. Shore, Des Moines. Burlington was selected as the place of meeting for next year.

KENTUCKY

Ten-Cent Day in Louisville.—As a result of the 10-cent day in Louisville, April 26, $2,600 was received, nearly $1,000 less than the amount collected on a similar occasion two years ago.

Railway Surgeons Assemble.—At the seventh annual meeting of the Kentucky State Association of Railway Surgeons, held in Louisville, May 10-12, the following officers were elected: president, Dr. Charles H. Kearns, Covington; vice-presidents, Drs. Waller O. Bullock, Lexington; David Y. Roberts, Louisville, and William Cheatham, Louisville; secretary, Dr. James B. Kinnaird, Lancaster, and treasurer, Dr. Clarence H. Vaught, Richmond. Lexington was selected as the next place of meeting.

LOUISIANA

Parish Society Election.—Lafayette Parish Medical Society, at its meeting in Lafayette, May 6, elected Dr. Robt. D. Voorhies, president and delegate to the state medical society; Dr. Fred'k R. Tolson, vice-president and alternate delegate, and Dr. Lambert O. Clark, secretary and treasurer, all of Lafayette.

The Work of the Milk Commission.—At the second annual meeting of the Milk Commission, New Orleans Pure Milk Society, held in the Orleans Parish Medical Society Building, May 1, the officers were reelected. The secretary reported that several dairymen had signed agreements to serve only milk certified by the commission, and that others were likely to sign similar agreements. The milk thus dispensed has been freely tested and proved worthy of endorsement. The organization now numbers 119 members and a balance of $521.91 is reported.

Personal.—Col. William Gorgas, M.C., U. S. Army, had conferred on him the degree of LL.D. by Tulane University, May 17. At the same time Dr. Philip Frank, instructor in physiology in Tulane University, received the degree of B.Sc.——Drs. James P. Heard and Harry B. White have been appointed members of the Board of Health of Gueydan.——Dr. Jesse R. Johnson has been made president of the Board of Health of Amite City.——Dr. J. M. Bonnette, Pollock, fell in his office, May 4, sustaining a comminuted fracture of the left arm and a dislocation of the shoulder.

MARYLAND

Personal.—Dr. Frank H. Ruhl, Lansdowne, health officer of the thirteenth district, had a cerebral hemorrhage, May 7.——Dr. Henry W. McComas, Oakland, has succeeded Dr. John E. Legge, term expired, as secretary of the Board of Health of Garret County and physician to the county jail.

County Society Meeting.—At the annual meeting of Baltimore County Medical Society, held at Towson, Dr. Edward N. Brush, Towson, retiring president, delivered the annual address on "Experts and Expert Testimony" and the following officers were elected: president, Dr. Josiah S. Bowen, Mount Washington; vice-president, Dr. William L. Smith, Rider; corresponding secretary, Dr. Richard C. Massenburg, Towson; recording secretary, Dr. J. C. McCormick; treasurer, Dr. F. C. Eldred; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Henry L. Naylor, Pikesville, and alternate, Dr. L. Gibbons Smart, Lutherville.

Baltimore

Personal.—Dr. Duncan McCalman sustained a fracture of the clavicle and severe bruises by the overturning of his automobile, May 13.——Dr. George B. Scholl, business manager of the Franklin Square Hospital, has resigned, to take effect June 1.

Correspondence of Revolutionary Times.—Dr. Eugene F. Cordell is publishing in *Old Maryland* the interesting correspondence of the Drs. Wiesenthal during the Revolution. The elder Wiesenthal was an eminent surgeon who conducted a private medical school in Baltimore.

MASSACHUSETTS

Bequest to Medical School.—Harvard Medical School has been bequeathed $22,000 by the will of the late Prof. Samuel Hubbard Scudder.

Hospital Dedicated.—The new St. Margaret's Hospital, connected with St. Mary's Infant Asylum, Dorchester, was dedicated recently with impressive ceremonies.

Carnation Day.—May 20 was observed in Lynn as Carnation Day when the residents of the city and visitors were solicited to purchase carnations from children who had them on sale in the streets, stores, office buildings and public places. The proceeds of the sale were devoted to the support of the Day Camp for Tuberculosis situated in the midst of the Swampscott woods. The camp opened for the season, May 3, and will be able to accommodate forty-five patients.

MISSOURI

Small-Pox at State University.—Nine students of the University of Missouri, Columbia, have small-pox. There are said to be altogether sixteen cases of small-pox in the city; 1,600 persons have been vaccinated and 80 are under quarantine. A commission consisting of Dr. Woodson Moss, health commissioner, and Drs. Joseph E. Thornton, James Gordon, William G. Brown and David H. Dolley has been appointed to take care of the situation.

Personal.—Dr. William J. Calvert, Columbia, has been elected professor of preventive medicine in the University of Missouri.——Dr. John N. Baskett has been elected president of the Levering Hospital, Hannibal.——Dr. Richard L. Johnson, Rolla, a practitioner for nearly forty years, has retired from practice and will make his home with his son in Altoona, Kan.——Dr. Gustave Ettmueller, Jefferson City, has been appointed physician of Cole County and Dr. Horden T. Leach, Elston, physician to the County Farm.——Dr. Albert Willis, Birdpoint, has been appointed division surgeon for the Iron Mountain System.

NEW HAMPSHIRE

State Medical Meeting.—At the annual meeting of the New Hampshire Medical Society, held in Concord, May 11-12, the following officers were elected: president, Dr. George W. McGregor, Littleton; vice-president, Dr. John W. Staples, Franklin; secretary, Dr. D. Edward Sullivan, Concord (reelected); treasurer, Dr. David M. Currier, Newport; councilors for five years, Drs. Walter Tuttle, Exeter, and Louis W. Flanders, Dover; trustee for three years, Dr. John M. Gile, Hanover; delegate to the American Medical Association, Dr. John Z. Shedd, North Conway; alternate, Dr. Irving A. Watson, Concord; delegates to the Maine Medical Association, Drs. Thomas W. Luce, Portsmouth, and George P. Morgan, Dover; delegates to the Massachusetts Medical Society, Drs. Edward F. Houghton, Tilton, and Ira J. Prouty, Keene; necrologist, Dr. Eli E. Graves, Boscowen; anniversary chairman, Dr. Louis W. Flanders, Dover; committee on public health and legislation, Drs. Charles Duncan, Concord, and George A. Weaver, Warren, and committee on scientific research, Drs. John M. Gile, Hanover, Dennis E. Sullivan, Concord, and Louis W. Flanders, Dover.

NEW YORK

State Board Officers.—The New York State Board of Medical Examiners announces the election of the following officers: president, Dr. Glentworth R. Butler, Brooklyn; vice-president, Dr. Henry B. Minton, Brooklyn, and chairman of the question committee, Dr. Lee H. Smith, Buffalo.

Amendment to State Charities Law.—The governor has signed the amendment to the state charities law providing that no patient shall be received in the New York State Hospital for the Care of Crippled and Deformed Children except on application of a county poor superintendent or a city or county commissioner of charities.

Alienists Approve Conduct of State Hospital.—The report of the expert alienists, who have been inquiring into the conditions of the Matteawan State Hospital for the Criminal Insane, is entirely favorable to the conduct of the institution. They recommend that the hospital be taken from the jurisdiction of the prison commission and be placed under the supervision of the state commission of lunacy.

Personal.—Dr. Alvah H. Traver has been nominated as a member of the board of governors of Albany Hospital vice Dr. Willis G. Macdonald, deceased.——Dr. George H. Davis has been elected health officer of Le Roy and Dr. Charles D. Graney, secretary of the village board of health and registrar of vital statistics.——Dr. Hugh H. Shaw, Utica, has been appointed medical examiner of the civil service commission of that city, vice Dr. David H. Roberts.

Another Antivivisection Bill.—Senator Bayne has introduced another bill into the legislature to provide for a commission of seven members to inquire into the nature and extent of the practice of vivisection and to inquire into the laws relative to the proper protection of scientific experiments without having unnecessary cruelty. One member of the commission must be a state senator and another an assemblyman. The bill would appropriate $10,000.

High Mortality Record.—The bulletin of the State Department of Health for the month of March shows that the number of deaths in the entire state was 14,227, which is the highest number on record; the only other months when the deaths reached 14,000 were March, 1904, and March, 1910. The excessive rate was attributed to influenza. In the first three months of the year the deaths numbered 40,000, which is greater by 1,300 than the number last year.

Must Report Births and Deaths Promptly.—Attorney General Carmody, in an opinion rendered to the State Commissioner of Health, defines the powers and duties of local boards of health and the State Department of Health in enforcing the provisions of the section of public health requiring prompt and complete reports of all births to be filed with the department each month. He states that physicians who fail to comply with this public health law may have their licenses to practice medicine revoked. Dr. Porter, in commenting on this decision, states that the attorney general has outlined clearly the responsibility resting on the local health boards and it is the intention of the State Department of Health to see that their duties are carried out. He further states that it is extremely important that the registration of vital statistics should be improved, particularly in those places which have been negligent in the past. The attention of all physicians is directed to the law as quoted and their cooperation and support are urged. The law requires that births shall be reported within thirty-six hours and deaths within twenty-four hours from the time of their occurrence.

New York City

Conviction for Sale of Wood Alcohol.—The Court of Special Sessions in the case of Domenico Locatelli, charged with violation of Section 68 (h) of the sanitary code in selling anisette containing a large proportion of wood alcohol, is said to have found the defendant guilty and sentenced him to a fine of $250 with the alternative of ninety days in jail.

Vital Statistics.—The mortality of New York City for the first three months of 1911 was 17 per 1,000, as compared with 17.45 per 1,000 for the previous year and with 18.33 per 1,000 for the corresponding periods of the previous five years. This saving of life is most in evidence in the group under five years of age, almost 70 per cent. of the salvage being in that group. The increased mortality among elderly people was due, in all probability, to the increased prevalence of influenza. The birth rate for the same period was 28.11 per 1,000, the highest ever reported for this period.

Extension of Physiology Teaching.—Plans for the extension of the work of the department of physiology of Columbia University are being carried out. Three additions to the staff have been made: Frank H. Pike of Chicago University to be assistant professor, Horatio B. Williams of Cornell to be an associate and Donald Gordon to be an instructor. Dr. Williams is spending the summer in Europe visiting laboratories and arranging for the purchase of apparatus for electrocardiographic and other work. Professor Burton-Opitz will have charge of the instruction of the medical students and Professor Pike of much of the work in general physiology. A course in clinical physiology, dealing with the application of physiologic methods to problems of clinical medicine has been established. Changes in the laboratories will be made during the present summer. The income of the George G. Wheelock Fund is to be devoted to the extension of the library. The chief professorship of physiology, held by Frederic S. Lee, has been entitled the Dalton professorship, in memory of Dr. John C. Dalton, who was in point of time the first experimental physiologist of America and gave distinguished services to the Columbia School of Medicine for thirty-five years.

Research Laboratory Extends Its Activities.—On January 1 a special division of the research laboratory of the department of health was organized under the title of "Laboratory for Special Therapy and Preventive Medicine," and while the work of this new division is still partly in the process of organization, the following special fields are now covered by the new activities of the laboratory: 1. Cerebrospinal meningitis. The production, distribution and administration of antimeningitis serum. The performance of lumbar puncture for the diagnosis of cases of suspected meningitis. 2. Trachoma and other communicable diseases. A systematic investigation of the etiology and infectiousness of these diseases with special reference to microscopic diagnosis. 3. Syphilis. A study of the Wassermann reaction as a preliminary to making this test available to physicians, hospitals and dispensaries, in cases in which the patient is unable to pay

to have examination made in private laboratories. The laboratory is ready at present to receive a limited number of specimens for examination. 4. Gonorrhea. An investigation of gonorrheal vaginitis in young girls in hospitals and other institutions for children. The preparation and clinical application of vaccines for gonorrheal infections. 5. Streptococcus and pneumococcus serums. The production of these serums and an investigation as to their clinical value. These serums will be supplied in suitable cases, where bacteriologic examinations can be made.

Buffalo

Antituberculosis Work.—The second annual report of the Buffalo Association for the Relief and Control of Tuberculosis announces that the association has neither income nor endowment, but that the sum of $3,327.14 was available for the conduct of the Day Camp from the sale of national red cross stamps. In the Day Camp there were ninety-eight admissions and of these thirty patients were able to remain both day and night at the camp. Of these patients sixteen were sent to the State Tuberculosis Hospital, Raybrook. The tuberculosis dispensary of the association was open for 357 days and during this time 746 new patients were examined. Of these 239 were of tuberculosis of the lungs, thirty of tuberculous lesions other than pulmonary. One hundred and twelve cases were suspicious and in 365 tuberculosis was not found.

NORTH CAROLINA

The State Society Meeting.—The fifty-eighth annual meeting of the Medical Society of the State of North Carolina will be held in Charlotte, June 20-22, under the presidency of Dr. Chalmers M. Poole, Salisbury.

Personal.—Dr. Archibald A. Campbell, Statesville, has been elected county superintendent of health for Iredell County; Dr. J. Stevens Brown, Hendersonville, county superintendent for Henderson County; Dr. J. Rufus McCracken, Waynesville, county superintendent of health for Haywood County, and Dr. J. D. McMillan, superintendent of health for New Hanover County.——Dr. J. Ernest Dawdy has been reelected city physician of Winston-Salem ——Dr. J. Rainey Parker has been elected physician to the State Home of Orphans of the I. O. O. F., Goldsboro.

OHIO

Personal.—Dr. John D. O'Brien, pathologist of the Massillon State Hospital, has resigned to become director of the Cleveland Rest Cure Sanitarium near Strongville. He will be succeeded by Dr. Orlando D. Tatge, Massillon.——Dr. D. W. Brickley, Canal Winchester, has been appointed local surgeon for the Erie and Big Four Systems at Galion, vice Dr. Chalmers D. Morgan, Galion.——Dr. Ira J. Kail, a member of the staff of the Ohio Hospital for Epileptics, Gallipolis, has resigned and will practice in Huntington, W. Va.

Cincinnati

Personal.—At the annual election of the officers on the staff of the Cincinnati Hospital, May 26, Dr. B. Knox Rachford was elected president; Dr. Robert Carothers, vice-president, and Dr. Meyer L. Heidingsfeld, secretary.——Dr. and Mrs. Joseph Edward Pirrung left for Europe, May 31.——Dr. Simon P. Kramer has gone abroad.——Dr. William Nickels, an intern in the City Hospital, was operated on for appendicitis, May 18.

University of Cincinnati Notes.—The medical department of the university will introduce an innovation in medical teaching during the coming session. The entire senior class will spend the morning in practical work in clinical lectures and bedside instruction in the various hospitals, and lectures will be given only in the afternoons. The dispensary clinics will be attended only by the junior students.——The Board of Health of Cincinnati has decided that the equipments and resources of the departments may be utilized by the students of the university in the practical teaching of hygiene and sanitation.

PENNSYLVANIA

Leprosy in Pittsburg.—On May 24, a case of tuberculous leprosy was discovered in Pittsburg. Yee Tung, a bookkeeper in a Chinese store was taken to the Municipal Hospital and placed in a tent until a house can be erected for him.

Milk Stations Opened.—The Wyoming Valley Society for the Prevention of Tuberculosis has recently opened six stations in Wilkes-Barre and vicinity, with a trained helper in charge to teach mothers how to modify milk and in other ways properly to feed and care for babies.

Diphtheria in Pottsville.—Six rooms in the Benjamin F. Patterson Memorial School Building in Pottsville were closed by the school board May 25, all text-books and school appliances were ordered destroyed and all rooms fumigated because of diphtheria among the pupils. On May 24 a meeting was called by the council, school board and health authorities to take action because of the spread of this disease and it was decided that new sewers should be built to take the place of open ones in some parts of the town and that a sewage disposal plant should be established.

Philadelphia

Essington Hospital Opposed.—Mayor Reyburn has opposed the sale of the Lazaretto property at Essington, for sanatorium purposes, as it is likely to become a valuable part of the city's harbor. It was desired by the board of health for use of children.

New Society of Ophthalmologists.—At a meeting held May 14, the Philadelphia Polyclinic Ophthalmic Society was organized. Dr. Wendell Reber was elected president and Dr. Joseph L. McCool secretary, and Drs. William Campbell Posey, William M. Sweet and William Zentmayer were elected the executive committee.

Gifts for Jewish Charities.—At the annual meeting of the Federation of Jewish Charities of Philadelphia, on May 11, the report showed that the sum of $138,300 had been allotted to twelve charitable institutions during the fiscal year. Among the institutions receiving gifts were: Jewish Hospital Association, $32,000; Jewish Foster Home, $22,000; Jewish Maternity Association, $9,500; National Jewish Hospital for Consumptives, $3,000.

Jewish Sanatorium Report.—The second annual meeting of the Philadelphia Jewish Sanatorium for Consumptives, Eagleville, was held at the institution, May 7. The report for the year showed that 111 patients had been admitted to the institution and 90 had been discharged. Of those treated, 80.9 per cent. had been cured. The total income for the year was $25,000. The following officers were elected: President, Louis Gerstley; vice-presidents, Dr. Isaac Leopold, J. H. Louchheim and B. E. Block; secretary, Dr. Abraham J. Cohen, and treasurer, Morris Apt.

TEXAS

New Hospital Opens.—The new hospital of the Southern Pacific System, Houston, was opened May 27.

Diploma Mill Dean Sentenced.—It has been reported that Dr. J. William Decker, dean of the diploma mill known as the Gate City Medical College, located at Dallas, Texas, has been given a penitentiary sentence for using the mails to defraud.

Lepers in Texas.—The State Health Department has had made a list of the lepers now in the state of Texas, who number 30. Of these 11 are reported married and 9 single; 10 are severe cases, 2 medium and 6 mild; 20 are said to be Americans and 2 Mexicans; 16 are male and 6 female. As to location, 11 are in Galveston, 8 in San Antonio, 3 in Dallas, 3 in Sourlake and 1 each in Liberty, High Island, Del Rio, Comfort and Austin. They vary in age from 13 to 68 years.

Desire Texas National Park.—At its recent meeting the house of delegates of the State Medical Association of Texas passed a resolution in which it stated that the Panhandle of Texas is a healthful country and that the Palo Dura Canyon is a most beautiful and wonderful natural creation worthy of national recognition and preservation, and that it was the sense of this body that the Congress of the United States should take steps toward the creation of a national park and health resort at this spot.

Personal.—Dr. Frank C. Beall has been elected secretary of the faculty of the Fort Worth University medical department, vice Dr. William R. Howard. Dr. Robert B. Grammar has been elected vice-president of the board of directors and Dr. Frank D. Gray has been elected a director, vice Dr. Ira C. Chase.——Drs. Charles C. Jones and Thomas G. Calhoun suffered severe losses in a fire in Teneha, April 29.——Dr. George H. Lee, Galveston, fractured his arm, April 19, while cranking his automobile.——Major Thomas B. Fryar, N. C., N. G., Tex., Corsicana, has been designated to attend the maneuvers on the Mexican frontier.——Dr. Robert L. Hall, Terrell, has been reelected health officer of Kaufman County.

UTAH

Personal.—Dr. Perry G. Snow has been appointed professor of anatomy in the state university, vice Dr. John Sundwall. ——Dr. Charles G. Plummer, Salt Lake City, who has been seriously ill with septicemia, has recovered.——Dr. Howard P. Kirtley, Salt Lake City, has been placed in charge of the free dispensary of the Volunteers of America, Salt Lake City.

GENERAL NEWS

Sioux Valley Physicians to Meet.—The next meeting of the Sioux Valley Medical Association will be held at Sioux Falls, S. D., July 20, under the presidency of Dr. Prince E. Sawyer, Sioux City, Iowa. The membership of this society is made up of physicians from South Dakota, Minnesota, Nebraska and Iowa.

Canal Zone Sanitation.—The report of Col. William C. Gorgas, chief sanitary officer of the Isthmian Canal Commission, for March shows that there were 43 deaths from all causes among employees, of which 27 were from disease and 16 from violence, equivalent to a respective annual average death rate per thousand of 6.76 and 4. The annual average death rate per thousand for whites was 3.88 and for blacks 7.76, a substantial reduction as compared with March, 1910.

Confederate Surgeons Meet.—The annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy was held in Little Rock, Ark., May 17-18, and the following officers were elected: president, Dr. William F. Beard, Shelbyville, Ky.; vice-presidents, Drs. Carroll Kendrick, Kendrick, Miss.; John B. Bond, Little Rock, Ark.; Clarence J. Edwards, Abbeville, La.; and James D. Croom, Mexton, N. C.; and secretary and treasurer, Dr. A. Augustine Lyon, Nashville, Tenn.

Pure Water Association.—The National Association for Preventing the Pollution of Rivers and Waterways met at Johns Hopkins University, May 6. The chairman referred to Senate Bill No. 640, New York, entitled "An Act to Amend the Public Health Law in Relation to the Distribution of Sewage and Manufacturing Wastes into the Waters of the State," as a general form for a species of standard bill for uniform legislation in the various states. A committee of organization was appointed to formulate the aims and objects of the association and to draw up a plan of organization. This committee is composed of Drs. Henry M. Bracken, St. Paul, William H. Welch, Baltimore, Lt.-Col. Jefferson R. Kean, M. C., U. S. Army, and Messrs. Calvin W. Hendrick, Baltimore, and Rudolph Herring and H. de B. Parsons, New York City.

Tropical Medicine Meeting.—The eighth annual meeting of the American Society of Tropical Medicine was held in New Orleans, May 18-19, under the presidency of Dr. William S. Thayer, Baltimore. After the first morning session, luncheon was served at the refectory on the campus of Tulane University, and at the afternoon session leprosy was discussed and Dr. Charles W. Duval, New Orleans, demonstrated cultures of the *Bacillus leprœ* in his laboratory. The second morning session was devoted to pellagra, and on May 20 an excursion was taken to the leper colony at Indian Camp. The following officers were elected: president, Dr. Joseph H. White, U. S. P. H. and M.-H. Service; vice-presidents, Drs. Judson Daland, Philadelphia, and Richard P. Strong, Manila, P. I.; secretary, Dr. John M. Swan, Philadelphia; assistant secretary, Dr. Allen J. Smith, Philadelphia; treasurer, Dr. Charles Lincoln Furbush, Philadelphia; and councilors, Drs. Ramon Guiteras, New York City, and Charles C. Bass, New Orleans. A committee was appointed to arrange for a congress of tropical medicine at the Panama Exposition, consisting of the incoming president and Drs. George Dock, St. Louis, and William H. Welch, Baltimore, and S. Creighton Wellman, Oakland, Cal. It was decided that the next meeting of the society be held at the same place as the American Medical Association and on the day before that meeting.

Army Medical Corps Examinations.—The surgeon-general of the army announces that preliminary examinations for the appointment of first lieutenants in the army medical corps will be held July 10, and September 5, at points to be hereafter designated. Full information concerning these examinations can be procured on application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be between 22 and 30 years of age, a citizen of the United States, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, of good moral character and habits, and shall have had at least one year's hospital training, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received in order to lessen the traveling expenses of applicants as much as possible. The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School. In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the adjutant general at least three weeks before the date of examination. Early attention is therefore enjoined on all intending applicants. There are at present sixty-one vacancies in the medical corps of the army.

FOREIGN NEWS

Tribute to Aged Physician at Nice.—The Italian *Policlinico* states that there is an endowment at Nice for bestowing small prizes annually on persons who have distinguished themselves particularly in "works of kindness and charity." Among the recipients at the recent distribution of the prizes last month was Count G. Naldi, dean of the physicians at Nice, aged 91.

Date of International Dermatologic Congress.—We are informed from Rome that the date of the International Dermatologic Congress, which is to convene at Rome this fall, has been advanced one week, so that the opening day will be September 18. The secretary general is Dr. G. Ciarrocchi, 5 Piazza Grazioli, Rome.

Metchnikoff Goes to Southern Russia to Study the Plague.—The plague has been endemic in Astrakhan for some months although it seems to have been kept under comparative control The cable states now that Metchnikoff has gone to this point to study how the bacilli of the plague live during the summer when the plague disappears and whether they are the guests of certain animals or are carried over from season to season in attenuated human cases. Until these questions are answered, he says, it will be impossible to control the plague effectually.

Biennial Gathering of Spanish Obstetricians.—The meeting convened at Madrid April 28 and the royal palace was thrown open to the members for a reception, the king and queen taking a special interest in this branch of medical science. During the meeting by-laws were adopted founding a national association for obstetrics, gynecology and pediatrics, of which Dr. Fargas was elected president and was tendered a banquet. The occasion was hailed as an onward stride in the "movement for collective fraternity between the members of the medical profession." Dr. Fargas is professor of gynecology at the university of Barcelona.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 20, 1911.

Great State Insurance Scheme Against Illness and Unemployment

Before a crowded and sympathetic House of Commons Mr. Lloyd-George, Chancellor of the Exchequer, introduced a bill "to provide for insurance against loss of health and for the prevention and cure of sickness and for insurance against unemployment." This bill, which has been promised for some time, is the most important of all the measures of "social reform" to which the government is pledged and far surpasses any form of state insurance in existence, including the German scheme of Prince Bismarck, on which it has been to some extent modeled. The main difference is that the latter does not insure against unemployment. At present only a small proportion of the workers (about 6,000,000) are insured against illness (by the friendly and other societies) and an insignificant portion against unemployment. Those who stand most in need of insurance make up the bulk of the uninsured, for the reason that they cannot afford to pay for it. Indeed, about a quarter of a million of policies lapse every year because the insured cannot keep up their payments. In the German scheme the workman contributes according to his wages from 7 to 20 cents a week and the benefits vary accordingly. But the benefits of the lower class are too small for this country and it has been decided to establish one scale of benefits for all classes, though the contributions are reduced for those earning low wages. The contributions will be 8 cents a week for men and 6 cents for women, but men who earn less than $4 a week will pay only 6 cents and those earning $3 or less 4 cents; while women who earn only $2 will pay 2 cents. The cost of the insurance will be provided from three sources —contributions from the workers, the employers and the state. An employer will pay 6 cents a week for each employee and the state will pay 8 cents, but in the case of workmen earning the lower wages mentioned above the employer must also provide the deficiency in the workman's contributions.

The reason given is that he profits by the cheap labor, but Mr. Lloyd-George appears to have ignored the economic fact that low wages do not necessarily mean cheap labor. Insurance will be compulsory for all employees whose incomes are below the income tax level ($800 a year). There will also be a voluntary section for those who are not working for an employer but are engaged in some regular occupation and are mainly dependent on their earnings for a livelihood, such as the village blacksmith. It is anticipated that there will be 9,200,000 men and 3,900,000 women in the compulsory class and 600,000 men and 300,000 women in the voluntary class.

MEDICAL BENEFITS

The benefits include medical attendance in illness. At present when a workman falls ill he runs up a bill with a doctor which he tries to pay, with his other bills, when he recovers, but often he is unable to pay. Under the insurance scheme the payment of the doctor is thus guaranteed. It is thought that this will lead to a great improvement in the doctoring of poor people. In the friendly societies physicians are paid a capitation fee of $1 per annum for attendance and medicine in case of illness, but this is not considered by the profession sufficient and quarrels are always taking place with the societies. It is contended that proper attention and expensive drugs cannot be provided for the money. In the state insurance scheme it is proposed to pay the physician more than the friendly societies have done, but the amount has not been fixed.

Another new departure is that the prescribing of drugs is to be separated from dispensing of them. The medicines will be dispensed by pharmacists, with whom an arrangement will be made. The object is that there shall be no inducement to the doctor to withhold expensive drugs should they be required. For women there will be a benefit of $7.50 in maternity cases to cover nursing and medical attendance. Another branch of medical benefit is assistance to the anti-tuberculosis campaign. There are about 500,000 persons suffering from tuberculosis, which causes a great burden on the friendly societies. Between the ages of 14 and 55 one out of every three deaths is due to tuberculosis. At present there are only 4,000 beds in the sanatoriums for tuberculosis—a totally inadequate number. From the insurance fund $7,500,000 will be set aside for the purpose of building sanatoriums. For their maintenance a contribution of 24 cents for every insured person will be made, and in addition the state will contribute 8 cents. This will amount to about $5,000,000 a year. The sick allowance for insured persons will be $2.50 a week for three months, and after that $1.25 for another three months, but in the case of tuberculosis $2.50 will be paid for the whole six months. If a man is broken down altogether there will be a permanent disablement allowance of $1.25 as long as he is unable to earn a living in any way. For women the allowance will be $2 for the first three months and $1.25 afterward. If illness is due to a man's misconduct he will receive no sickness allowance, but will be entitled to medical treatment. Persons under the age of 16 will receive no sick pay, but will get the benefit of medical attendance. As in the German scheme, the funds will be collected by means of stamps on a card given to the workman.

PREVENTION OF MALINGERING

In the distribution of the benefits it is proposed to make use as far as possible of the well-organized and well-managed friendly societies. There will be a real check on malingering. Physicians' certificates are considered no check, but the members of a society naturally object to being swindled and will, as formerly, act as a check. The residue of the men who do not belong to a society will be collected in a body called the post-office contributors. As most of them will be uninsurable lives they will not be paid the same benefits as in friendly societies, but they will be a dwindling body, for in future men will enter the insurance scheme at the age of 16, before they have developed any serious disease. At present there will be an age limit of 45 years at which men can join the scheme at the ordinary rates; above this age they must pay increased contribution.

With regard to the finance of the bill it is estimated that within the first year the sum paid by all classes of contributors will amount to nearly $100,000,000, of which the employers will contribute $45,000,000 and the employees $55,000,000. The cost to the state will be about $23,000,000.

As stated, the entirely new feature of the bill is insurance against unemployment. On the Continent of Europe attempts have been made to do this, but they have been mostly failures because they are on the voluntary system. It has been decided that this insurance must be on a trade basis, because unemployment fluctuates according to trade. A beginning will be made with the more precarious trades—the engineering and building. Here there is not the same basis for actuarial calculation as in sickness and the proposals are therefore tentative. It is proposed that the workman and the employer will each pay 5 cents a week and that the state will pay a fourth of the total cost. There will be an abatement for employers who pay for their workmen by the year, which is an encouragement to constant employment and a discouragement to casual. Payment will not be made to a workman who is dismissed for misconduct or who is out of work through a strike or lockout. Relief will be given for unemployment due to fluctuation in trade. Two dollars a week will be paid, but no man can draw more than one week's pay for five weeks' contribution, so that a real loafer will drop out. This scheme will apply to 2,400,000 workmen.

No scheme such as this has ever been previously attempted. It appeals to the imagination of everyone and seems to have been received at first with unanimous approval and even enthusiasm by the whole press of the country, which includes Mr. Lloyd-George's most bitter opponents. It is the most far-reaching and deep-reaching project of social legislation ever atempted in any country, democratic or other.

CONSEQUENCES TO THE PROFESSION

As to its bearing on the medical profession, this bill is fraught with such grave consequences that it has aroused wide-spread apprehension. It involves the converting into contract practice of the treatment of all persons employed for a wage between the ages of 16 and 65 whose income is below $800. This comprises the greater part of the male population of the country and a considerable number of females. It is estimated that the total number of persons involved constitutes several million—the whole of the working class and a considerable portion of the lower middle class. There are very few doctors whose practice does not consist largely of this element of the population and many whose practice consists almost entirely of it. All that remains to them of private practice is the children below the age of 16 and the women, married or otherwise engaged, who do not work for a wage. Now contract practice has never been regarded with favor by the profession, and disputes are always occurring with the friendly societies in consequence of the low rate of remuneration.

The profession, both individually and through its various organizations, is showing great activity. The Royal College of Surgeons has petitioned the government to delay the medical provisions of the bill for a year, a committee of the British Medical Association has interviewed Mr. Lloyd-George, chancellor of the exchequer, on the subject. Special meetings of the divisions of the association have been called to consider the bill. While the physicians admit the value of the bill in regard to the benefits it confers on the working classes they think that if it does not receive important modifications it will inflict irreparable damage on the profession. Mr Lloyd-George has given personal assurances to the medical press with regard to the capitation payment. He has provided an annual sum of $21,000,000 for the provision of medical attendance, including drugs, dressings and appliances. The calculation is that this will permit a capitation fee for the doctors of $1.50 per head for each person insured. The amount will be increased on the advice of the central insurance office in districts where sickness is excessive. Moreover, the sum of $5,000,000 will be provided annually for the maintenance of sanatoriums, thus removing from the scope of domiciliary treatment phthisical patients who would otherwise make serious calls on the sum available for domiciliary medical attendance. The capitation payment of $1.50 so far is satisfactory, as the ordinary capitation grant of the friendly societies is only $1. However, there are several counterbalancing elements. Members of the friendly societies undergo medical examination before admission and therefore are physically selected. Under the bill all will be eligible. Again, in the friendly societies members are not entitled to attendance if the illness is due to their own misconduct; under the bill they are.

A great evil in connection with the contract practice of the friendly societies is that it places the doctor under the control of a body of ignorant and narrow-minded persons. To this the profession has objected quite as much as to the rate of remuneration. The wide-spread extension of this tyranny under the bill is viewed with dismay. From the standpoint of the workman it is also an evil that he should be deprived of all choice and compelled to accept the services of a particular doctor. In France and Germany, where under the insur-

ance scheme doctors are under the control of committees consisting of employers and employees, this compulsion has aroused great dissatisfaction. It is strongly felt by the profession here that in the interests of the physician as well as of the workman free choice should be allowed. Mr. Lloyd-George has recognized the desirability of this and looks favorably on the institution of a wide panel of local doctors willing to serve.

A calculation has been made as to the effects of the bill on the incomes of doctors. There are 30,000 physicians in the country. The number of persons in receipt of incomes over $800 (the limit of income above which the bill does not apply) is 596,380. This allows, in round numbers, twenty per doctor. Taking $50 as the average expenditure per family for medical attendance this allows each doctor $1,000. If the remainder of the population pay at the capitation rate of $1.50 the pay received for them would be $1,800 per doctor per annum. In addition an average of $250 can be put down for appointments to infirmaries, schools, etc. The total is $3,050. For this the country doctor may have to travel as much as 10,000 miles in the year, a remuneration of about 30 cents per mile, the same as a job master gets for a horse and trap and an uneducated man to drive. Nothing is allowed for medical skill or knowledge or the interest on capital expended.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 12, 1911.

Physicians and Classical Studies

For some years there has been a continually increasing tendency to sacrifice the studies of Latin and Greek in secondary instruction in France. This tendency has called forth strong protest from the medical profession. The Société médicale du XIV-e arrondissement de Paris has just passed a resolution requesting all medical organizations to make a unanimous stand to preserve the traditions of classic culture on which the dignity and the authority of a physician depends.

Unforeseen Consequence of Prosecution for Illegal Practice of Medicine

The Syndicat médicale de Dunkerque has just prosecuted for illegal practice of medicine a woman practicing midwifery who carried puerperal fever. As the government could not be persuaded to take the initial action, the *syndicat* undertook it as civil party, and the woman was condemned. The outcome was very curious. The woman was insolvent and the government refused to imprison the woman, on the pretext that she was old, although the *syndicat* offered to pay the expenses of her maintenance in prison. The *syndicat* was therefore obliged to pay the expenses of the prosecution ($46, or 230 francs), and the result was *nil*, for the woman continued to practice her calling in defiance of the judgment which inflicted no punishment. It would seem desirable to have such a carrier of infection prosecuted for manslaughter by the family of the victim; a severe prison sentence would certainly be obtained.

Use of Copper Pipes to Distribute Drinking-Water

The Council of Public Hygiene and Salubrity of the Seine has just been called on to pronounce with regard to the harmfulness or otherwise of use of copper pipes for drinking-water. Dr. Armand Gautier, professor of chemistry at the Faculté de médecine, who was charged with the investigation, concludes, and the council agrees with him, that the substitution of pipes of red copper for ordinary lead pipes has no disadvantages. The experiments made by Toussaint, Burq and Galippe, on themselves and others, and repeated by M. Gautier, have shown that food, even acid food, may be safely eaten, even though it may have cooled in untinned copper vessels, and that such vessels may be used in the kitchen without danger.

Reconstruction of the Hôtel-Dieu of Lyons

M. Herriot, mayor of Lyons, has just laid before the Académie de médecine the plans for the new hospital which the city of Lyons proposes to build. There are to be 1,300 beds. All the university clinics are to be transferred thither. The following principles are to be carried out: isolation of pavilions; separation of the septic and aseptic cases in the surgical service; numerous isolation chambers in each service for dying and noisy patients, etc.; annexes (dining-rooms, rest rooms, open-air galleries, etc.); modern installations for application of the recent methods in treatment (mechanotherapy, physiotherapy, hydrotherapy, permanent baths, etc). The hospital will occupy about 40 acres (16 hectares).

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 11, 1911.

Personal

Professor Filehne, director of the pharmacologic institute at Breslau, has resigned his position.

Prof. Heinrich Braun, director of the university surgical clinic at Göttingen, died suddenly May 9, from heart disease, at the age of 64. He received his anatomic and physiologic training at the University of Giessen, and in 1874 devoted himself to surgery, being assistant until 1884 at the surgical clinic and policlinic at Heidelberg. In 1873 he joined the faculty and in 1878 he became professor extraordinary. In 1884 he was called to Jena as regular professor, and from there in 1888 to Marburg. In 1890 he went to Königsberg and from there to Göttingen. He has produced a large number of articles on the most various topics in surgery.

Annual Meeting of German Medical Association

This year's session of the German medical league (*Deutscher Aerztetag*) will occur at Stuttgart, June 23 and 24. Its transactions are likely to attract especial attention, for the important question is to be discussed as to what attitude the German medical professional organization, the *Aerztevereinsbund*, will take toward the new imperial insurance law. There is no doubt that the law will be adopted in the form in which it has been returned by the committee, and that the essential demands of the medical profession will not be complied with. The *Aerztevereinsbund* passed a resolution two years ago that the German medical profession would not be satisfied with the imperial insurance law unless the demands formulated by the association were incorporated into the law in their entirety and without modification, and that in case this was not done the physicians would proceed to help themselves. This self-help, however, can only result in an impediment to the execution of the law and there is no question but that the extension of the social insurance contemplated by the legislature will be largely nullified by such opposition. It can only be surmised what steps the government will take to meet such an opposition to a law which it has sanctioned. It may be regarded as beyond question that the government will undertake to overcome the resistance of the physicians. From all this it is easily seen how serious a situation confronts the German medical profession. It will require the greatest circumspection on the part of their leaders to avoid bringing on a conflict which will lead to a marked deterioration in the economic conditions of German physicians and which possibly may finally end in defeat.

International Exposition of Hygiene in Dresden

The international exposition of hygiene at Dresden was ceremonially opened in the presence of the king of Saxony on May 6. Although as is the rule with exhibitions all the preparations are not yet completed, it is the general impression of those who have so far visited the exposition that the arrangements are remarkably well adapted to the instruction of the public and the advancement of public and private hygiene.

Twenty-Eighth Congress for Internal Medicine

As usual the congress for this year on internal medicine met at Wiesbaden in the latter part of April. The president was Professor Krehl, the Heidelberg clinician. As a result of the rule adopted last year and a strict business administration, it was possible in the four daily sessions to dispose of nearly 100 papers. Each speaker was limited to twelve minutes and each participant in the discussion to five minutes, except the addresses on the first day to which were allowed forty minutes each.

THE DIATHESES

The chief topic on the order of the day was "The Diatheses." The addresses were by the Berlin clinician, Professor His; the Munich pediatrist, Professor Pfaundler, and the Basel dermatologist, Privat-docent Bloch. The object was to present the established facts and a criticism of the views, especially prevalent in France, regarding this general pathologic conception, which is still regarded with a good deal of skepticism in Germany. His considered the history of opinion on this subject and discussed diatheses in internal medicine, saying that clinical experience compels us to recognize a relationship between certain groups of diseases apparently completely separated, and suggests a special pathologic basis for them. Gout, diabetes and obesity stand in a mutual relationship to each other. We see that they appear in individuals and often in families, either simultaneously or successively, and often also in connection with arteriosclerosis, contracted kidney, calculus formation, skin diseases, disturbances of digestion,

migraine and other nervous affections. There are always constitutional disturbances. As a rule, a hereditary predisposition is evident. Their prominent symptoms seldom exhibit themselves before the second or third decade, as they remain latent until that time. Still this latency is only apparent, for already in early childhood we notice prodromal symptoms and it is possible to make a prognosis in regard to certain parents on the basis of the health conditions of their offspring, especially abnormal tendencies to fat accumulation or emaciation, enuresis, nervous pain, inclination to frequent vomiting or to frequent fever or catarrhs of the respiratory and digestive apparatus. With puberty some symptoms become less prominent and others come to the front. In later life, obesity, diabetes or gout appear. Among the French, for as much as fifty years, such a predisposition has been recognized and called "arthritism" or the "arthritic diathesis." Among the Germans, during this period, clinical research has taken a different direction, while the French have retained more sympathy with ancient medicine. His reviewed the history of medicine from the time of Galen and showed how even when pathologic anatomy was flourishing, clinicians were still endeavoring to satisfy themselves with single clinical pictures as constitutional. Then pediatrics furnished new material and dermatology added to it. In Germany the idea of constitutional tendencies was revived especially through the efforts of O. Rosenbach, who called attention to the necessity of taking the functional disturbances into consideration in addition to the anatomic changes. The theory was further developed by F. Kraus and it was placed on a theoretically very acceptable basis by Martius of Rostock. His remarked in conclusion that we must depend especially on chemical investigation for the actual explanation.

DIATHESES IN CHILDREN

Professor Pfaundler discussed diatheses in pediatrics. By diathesis is meant a preparation for disease, a readiness for the appearance of certain diseases and groups of diseases. The presence of such predisposition is observed with especial clearness in children, for certain children sicken more readily than is to be expected from their age and character, although they are living under the same conditions as other children. The short period of time between birth and the appearance of the disease makes possible also a good supervision and the exclusion of diseases depending on external influences. The first children's disease which gave occasion for pondering this theme is scrofula, for the occurrence of which we now regard two elements as necessary, constitution and infection. We see that the tubercle bacillus alone cannot produce scrofula; the infection must attack an organism of a certain character which has been termed by Czerny, of Strasburg, the exudative diathesis. In addition to scrofula or the exudative diathesis there is an entire series of diathetic predispositions among children, such as the condition which we designate as the *status thymicolymphaticus*, infantile arthritism, and others. We recognize the condition of myxedema in which a series of lesions occur among which that of the thyroid gland is to be regarded as central. So the combinations of disease phenomena which interest us are relatively clear. One thing is quite striking: these combinations in certain cases affect especially the organs derived from the mesenchyma, the non-epithelial portions of the mesoderm. A whole series of questions are suggested by this fact: To what extent is the predisposition congenital? Did it first develop in the uterus or did it have its origin in the parental germ, or is it a genuinely inherited predisposition arising from injury to the germinal tissue affecting a long series of ancestors? Research on these questions is still scarcely blocked out. Pfaundler's assistants have collected data in regard to the health of the brothers and sisters of children with these diatheses and those of healthy children with the result that diathetic predispositions were found in the former six times as often as in the latter. But it is difficult to collect similar data in regard to the parents, and quite impossible in regard to the grandparents in consequence of our hitherto faulty genealogic investigations. The great variability and the multiplicity of the grouping of the individual elements indicating diathetic predisposition are remarkable. With reference to this, Pfaundler has constructed a series of tables based on numerous investigations. Further explanations may be expected from functional tests, such as those instituted in Berlin by Finkelstein on the tolerance of nourishment.

DIATHESES IN DERMATOLOGY

The last speaker, Bloch, dealt with diatheses in dermatology. A large number of diseases are observable at various periods of life which must be regarded not as simple organic diseases, but as the expression of a common constitution. Some help to the understanding of these may probably be obtained by the investigations on chemical allergy or anaphylaxis and the behavior of the organism toward foreign albumins. It is now known that in many cases a foreign albumin may provoke severe symptoms of poisoning and some of these have a striking similarity to those observed in diatheses.

THERAPEUTICS IN THE DIATHESES

Mendelssohn, of Paris, gave an account of the present status of the arthritism question in France and Armstrong, of London, reported on the radium treatment of metabolic diseases. His expressed doubt with reference to the permanency of the asserted successes. Linser, of Tübingen, has cured a number of skin diseases, which may be classed as of the diathetic type, by means of injection of normal human blood serum. Pick, of Prague, endeavored to find some connection between the phenomena under discussion and the law of heredity. Starting with Mendel's law of heredity, he shows apparently a regular occurrence of certain distinguishing characters in the family genealogic trees. Finally, O. Hansen, of Christiania, reported the success of treatment of severe blood diseases with serum. A number of speakers described the production of diathetic symptoms by the action of certain chemicals. Reicher, of Berlin, has been able in diabetic patients of a certain class to reduce the quantity of sugar in the blood to one-half by the use of radium emanations, while in patients of another class the method was not successful. These are, however, only experimental findings from which as yet no conclusions as to therapy can be drawn. Kraft, of the *Weisser Hirsch* sanatorium, commented on the extent to which the preference of a meat diet over a vegetable diet leads to the reduction of the amount of salts in the body.

OATMEAL IN DIABETES

From the mass of other articles we can only note briefly a few of the most interesting. Professor Magnus-Levy of Berlin believes that the oatmeal cure in diabetes depends on a peculiar substance in the oat starch not yet more definitely characterized. This view was opposed by many of the speakers in the discussion, while others sustained it, but the value of the oatmeal cure itself was recognized for the most part.

ASTHMA

Stäubli, of St. Moritz and Basel, described the influence of the high altitude on asthma. He remarked that for the production of asthma various factors still partly unknown are responsible and the same is true with the influence of therapy. The mountain climate has long been recognized as a remedy which acts more favorably with younger patients. It is worthy of note that the action does not run parallel with the increase in height; in individual cases extreme heights are serviceable, but this is often not the case as, for instance, Davos with its fifteen hundred meters (5,000 feet) is too high, while a few hundred meters lower the asthma attacks disappear. A permanent cure is not always obtained but the general invigoration of the body by the long freedom from the attacks is of importance. The speaker also made some interesting statements regarding the unusual prevalence of asthma in certain families, but he does not consider the danger of inheritance of the disease as great enough to constitute a reason for advising an asthmatic patient not to marry.

PREDISPOSITION OF THE APICES TO TUBERCULOSIS

New light is shed on the question as to why the apices of the lungs are first attacked in tuberculosis by some experiments of Baemeister, of Freiburg. Some years ago, W. A. Freund called attention to the fact that persons with so-called phthisical chests, generally from early youth, presented chests which were narrow and incapable of expansion in the upper part, chiefly because of insufficient mobility of the first rib. Notwithstanding the great extent of experimentation on animals and the countless numbers of guinea-pigs, rabbits, etc., which have been made artificially tuberculous, it has hitherto not been possible to produce experimentally a tuberculosis of the lung apices. Baemeister passed a wire around the first rib in young rabbits with the result that the growth of the upper part of the chest was retarded relatively to the general growth and the lungs showed conditions quite similar to the habitus phthisicus in man. These rabbits were then infected artificially with tubercle bacilli, both by way of the blood channels and by inhalation. The latter experiments gave no result but the former produced a quite typical tuberculous affection of the apices of the lungs. Thus the affection of the apices followed after the glands first acted on had been infected.

CURATIVE INFLUENCES ON TUBERCULOUS LUNGS

Koeniger, of Erlangen, believes that he has established as the result of numerous observations the fact that tuberculous pleurisy, which not infrequently occurs as a complication of pulmonary tuberculosis, often exercises a favorable influence on this disease. This influence is to be referred partially to the fact that the lung at the affected point is compressed and kept quiet, but also to the fact of chemical action from the pleurisy. Bruns, of Marburg, has succeeded in immobilizing individual parts of the lung for therapeutic purposes by a new process. The former Marburg clinician, Brauer, obtained very good curative results in severe tuberculous processes by induced pneumothorax, filling the pleural cavity of the affected side with gas to such an extent that the lungs were prevented from movement and partly compressed so that the wound surfaces were in contact and cicatrization could thus take place. Further experiments have now also shown that by interrupting the circulation in part of the lung pathologic processes can be influenced; practically success was achieved in so-called bronchiectasis by ligation of the artery supplying a part of the lung. The supply of blood and oxygen gradually ceased and the affected region of the lung dried up. But tubercle bacilli depend on moisture for their development.

APPENDICITIS

Fischler, of Heidelberg, described disturbances of the large intestine which occur in the neighborhood of the appendix and may present the picture of appendicitis. Such are hypertrophy of the cecum and mobility of this portion of the intestines accompanied by symptoms, chronic catarrh of the mucous membrane and similar conditions. In these cases operation can be of no service but only appropriate dietetic and medical treatment. Professor Krehl, of Heidelberg, concludes from these observations that the time must soon come when our views in regard to appendicitis must undergo revision. In the first place the aim should be to develop finer diagnostic methods.

TEST FOR PANCREAS SUFFICIENCY

Winternitz, of Halle, has been seeking for methods of forming a judgment as to the activity of the pancreas. After thorough experiments he has found that a complicated compound of iodin, iodobehenic acid, is split into its constituents only by the juice of the pancreas, so that on the administration of iodobehen, the appearance of iodin in the urine and the amount excreted permit a conclusion as to the functional activity of the pancreas.

BILE IN THERAPEUTICS

Singer, of Vienna, reports experimental and clinical investigation which he has instituted in conjunction with Glaessner on the laxative action of the biliary acids. They could demonstrate a noteworthy function of the bile in promoting the peristalsis of the colon by injecting bile into the rectum of dogs and afterward also in man. These injections gave a prompt and thorough evacuation in from ten minutes to one-half an hour. Cholic acid was isolated as the active agent, which was effective in the form of suppositories and enemata. The chief seat of this action is in the colon.

THE RÔLE OF THE SPLEEN IN DIGESTION

The investigations of Prym, of Bonn, on the part taken by the spleen in the work of digestion are worthy of notice. He investigated the question whether the spleen has the influence which has been formerly claimed on the excretion of pepsin in the stomach. For this purpose he instituted a large number of animal experiments, in part of which he removed the spleen entirely and in part he inserted it under exact control beneath the skin of dogs. He reached the conclusion that the excretion of pepsin is independent of the spleen.

BLOOD-PRESSURE IN NEPHRITIS

Bittorf, of Breslau, allowed oil to flow into the renal artery and obtained thereby a marked rise of blood-pressure. From this he concludes that in nephritis mechanical obstruction in the small branches of the artery is the cause of the increased blood-pressure.

MECHANICAL PREDISPOSITION OF PARTS OF LUNG TO DISEASE

Engel, of Düsseldorf, gave a mechanical explanation for the fact that in infants pneumonia affects as a rule quite definite parts of the lung. The peculiar conditions of childhood occasion in the position of the ribs the existence of impressions on the lung tissue in which the lung is not so well supplied with blood and air as in other places. Inflammation of the lung begins quite regularly at these points, and it is remarkable that on the right side the corresponding places are in the apices, from which the inflammation gradually spreads downward; on the left they are the parts of the lower lobe in the neighborhood of the spinal column. Probably these inflammations in the child also afford an explanation of the fact that in the adult the first signs of pulmonary tuberculosis appear at the right apex.

NATURE OF GOUT

Gudzent, of Berlin, discussed the two forms of uric acid, one of which is not affected by our therapeutic measures to date. Investigations must now be made as to how far this form of the acid is responsible for the occurrence of gout. According to his results, probably the whole of our previous views regarding gout must undergo a revision.

SALVARSAN AND THE NERVOUS SYSTEM

Schreiber, of Magdeburg, described some nervous affections observed in the course of salvarsan treatment, and discussed the question whether these symptoms were due to the action of salvarsan or of the syphilis. So far, he says, no case has been learned of in which a toxic action of the remedy on the nerves could be demonstrated. In a case of arsenic poisoning often cited in this connection, the patient had previously been treated with various other arsenic preparations recognized as dangerous. In all the cases the disturbances were recurring manifestations of the syphilis which had been only apparently cured. The negative Wassermann reaction is no evidence against this conclusion in these cases. In forty patients it was possible to obtain a positive reaction with the cerebrospinal fluid while the test with the blood gave negative results. For early cases Schreiber recommends treatment with salvarsan as early as possible, then a course with mercury, and again a treatment with salvarsan.

EGYPT AS A HEALTH RESORT

Schieffer, of St. Blasien, places a very low estimate on the curative action of a stay in Egypt. In many respects he regards the climate of Egypt as injurious. Especially he recommends that before the trip the physical condition of the patient shall be very carefully investigated, for only the milder renal and pulmonary diseases can be favorably influenced. A physician who had practiced for many years in the desert stated that only of late years had there been opportunity to make scientific examinations on the spot. In part, to be sure, they had had favorable results. Professor Krehl emphasized the importance of most careful clinical histories; so far he knows of not a single case in which a serious disease of the kidney has recovered in Egypt in which, in all probability, a cure might not also have been secured at home. Many a patient often spends his last dollars for a health trip to Egypt, but the physician must in the first place assume the responsibility of determining in such cases whether the patient shall make such a sacrifice.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 9, 1911.

Bismuth Paste Praised

At a recent meeting of the Vienna Gesellschaft der Aerzte, the method of using bismuth paste in treatment of certain surgical diseases was discussed, and the originator of this method, Dr. Beck of Chicago was present at the symposium. He was welcomed by the president and took part in the discussion, in which all authors were unanimous on the merits of the bismuth paste, especially for treating fistulas and obstinate sinuses.

Eligibility of Foreign Members to the Vienna Laryngologic Society

The Vienna Laryngologic Society decided at its last meeting to change its name to the Austrian Laryngologic and Rhinologic Society (Oesterreichische Laryngo-Rhinologische Gesellschaft), and to permit its members to domicile themselves in any place of the world. Hitherto, ordinary members could not continue their membership if they left Vienna, and therefore a good many eminent specialists had to be refused admission. There is in nearly every important town of this empire

at least one fully qualified rhinolaryngologist, who is now made eligible. Also foreign specialists, including German, French and American doctors, may now become members of the society, whose president now is Professor Chiari, head of the throat clinic of the Vienna General Hospital.

The Problem of Sexual Teaching in Schools

One subject has received much attention lately in our public and scientific press, which hitherto had been kept in the background from moral and other reasons—the enlightenment of children on the facts of propagation of life of animals and human beings. The realistic tendencies of modern times have drawn even the children into the whirlpool of these ideas and the necessity that girls especially should understand what it is impossible to hide from them has been a side issue of the movement termed "eradication of sexual diseases." Some years ago, the students on entering the university for the first time were handed a leaflet containing, in clear and instructive language, warnings against imprudence in sexual intercourse, and explaining the evils and dangers of gonorrhea and syphilis, both to the affected subject and to the offspring or wife. The next step was the instruction of the student before entering the university. In the higher classes of the preparatory schools, in which the pupils were between 16 and 18 years old, the teaching of anatomy gave a good opportunity for scientific instruction on this point. Such instruction was introduced into the gymnasia (schools equivalent to the preparatory schools) three years ago. Now, a group of teachers want the enlightenment on sexual problems to be given also to that vast number of children who leave school at the age of 14 and receive no further education thereafter. They justly point out that this class is more in need of knowledge on this subject, because from it the largest number of wage-earners are drawn, and because they are most subject to the dangers which threaten the ignorant. As an experiment, it has been decided to hand over the instruction on sexual subjects to the physician visiting certain schools, and it is left to his discretion to select the right moment for it. As a matter of fact, many teachers assert that in our country nearly all children at 14 know the leading facts of sexual matters. But the way they get their knowledge is often so demoralizing that a continuation of the present conditions must be prevented.

Marriages

HERMAN DAVID ANDREWS, M.D., Buffalo, N. Y., to Mrs. Annie Lake Bird, at Niagara Falls., Ont., May 5.

ALEXANDER E. WRENCH, M.D., Montclair, N. J., to Miss Henrietta Bernasch of Brooklyn, May 10.

JOHN W. BRONAUGH, M.D., to Miss Ada Knox, both of Morinda, Okla., at Windsor, Mo., May 8.

CARMOTTE ASHLEY COBB, M.D., to Mrs. Katharine Ogden Peck, both of Beaumont, Tex., May 3.

FRANK W. KIDDER, M.D., to Miss Irene Bonham, both of Los Angeles, Cal., May 10.

Deaths

Stanford Emerson Chaillé, M.D. dean of the faculty of Tulane Medical College; notable as a sanitarian, medical organizer and teacher; died at his home in New Orleans, May 27, from disease of the bladder, aged 80. He was born in Natchez; was graduated from the University of Louisiana, now Tulane University, 1853, and, after three years' study in Europe, returned and resumed his connection with his alma mater as demonstrator of anatomy, filling this position from 1858 to 1868, with the exception of three years during which he was surgeon and medical inspector in the Confederate service. From 1868 to 1908 he was professor of physiology, pathology, anatomy and hygiene in Tulane University, and from 1885 to 1908 was dean of the faculty. After fifty years' service, he retired in 1908 from active work in the college and was made emeritus professor and his golden jubilee was made the occasion of a notable celebration by the university. He was a member of the American Medical Association, American Public Health Association, and an honorary member of the College of Physicians of Philadelphia, and the Medical and Chirurgical Faculty of Maryland. Dr. Chaillé was a member and secretary of a commission appointed by congress in 1878 to investigate the cause of yellow fever, in the following year was one of the members and president of the Havana Yellow Fever Commission, and from 1885 to 1893 served as one of the seven civilian members of the National Board of Health. From 1857 to 1868 Dr. Chaillé was co-editor and proprietor of the *New Orleans Medical and Surgical Journal*. He was a voluminous contributor to the medical literature. Chief among his published works is that on "Origin and Progress of Medical Jurisprudence."

William Alfred Burgess, M.D. New York University, New York City, 1888; a member of the American Medical Association, and Association of Military Surgeons of the United States; first vice-president of the Wyoming State Medical Association; colonel and surgeon-general N. G., Wyo.; health officer of Cheyenne; a member of the local pension examining board; visiting surgeon to St. John's Hospital and attending surgeon to the Cheyenne Private Hospital; died at his home in Cheyenne, May 15, aged 46.

Verge Eugene Sweazey, M.D. University of Pennsylvania, Philadelphia, 1900; Army Medical School, Washington, 1902; who entered the medical corps of the army as lieutenant in July, 1901; and was retired with the rank of major, Dec. 27, 1910, on account of disability incident to service; died in Pasadena, Cal., April 16, from nephritis, aged 36.

William Appleton Rust, M.D. New York University, New York City, 1846; for ten years a member of the Boston School Committee; at one time a member of the Massachusetts legislature; a trustee of the Boston City Hospital and vice-president of the Boston Penny Savings Bank; died at his home in Brookline, Mass., May 15, from pneumonia, aged 87.

Horace Coleman, M.D. Medical College of Ohio, Cincinnati, 1849; surgeon of the 147th Ohio Volunteer Infantry during the Civil War; later a member of the local pension examining board of Troy, O., and an alderman of that city; for several years a resident of Washington, D. C.; died at his home in that city, May 12, from senile debility, aged 86.

William Frederick Gay, M.D. Tufts Medical School, Boston, 1899; professor of gynecology in the College of Physicians and Surgeons, Boston, and secretary of the Boston Medical Society; instructor in the Harvard Dental School, and a practitioner both of medicine and dentistry; died at his home in Boston, May 12, aged 41.

Richard Sappington, M.D. University of Maryland, Baltimore, 1851; and said to have been the oldest alumnus of that institution; one of the best known physicians and druggists of Baltimore; died at his home in Sunnyside, Baltimore, May 14, from senile debility, aged 84.

Emmanuel K. Deemy, M.D. New York University, New York City, 1860; Acting Assistant Surgeon, U. S. Army from 1862 to 1865; for many years a practitioner of Mechanicsburg, Pa.; died at the home of his son in Bellefontaine, O., May 15, from chronic nephritis, aged 76.

Michael Daniel Murphy, M.D. Bellevue Hospital Medical College, 1884; a member of the American Medical Association; president of the Middlesex County (Conn.) Medical Society in 1909-10; died at his home in Middletown, May 8, from heart disease, aged 53.

Emil H. Pohl, M.D. University of Oregon, Portland, 1893; a member of the American Medical Association; formerly professor of anatomy in Portland Medical College; died at his home in Fairbanks, Alaska, May 12, from cerebral meningitis, aged 41.

Stephen Harrison Griffith, M.D. University of Maryland, Baltimore, 1890; a member of the South Carolina Medical Association; who had recently moved to Greenwood; died at his old home in Gaffney, May 13, from heart disease, aged 44.

R. M. Reynolds, M.D. Philadelphia College of Medicine and Surgery, 1861; a veteran of the Civil War and for ten years thereafter an acting assistant surgeon in the U. S. Army; died at his home in Gypsum, Kans., April 25, aged 69.

William Perry Hager, M.D. Harvard Medical School, 1904; a member of the Massachusetts Medical Society and Northampton Medical Club; surgeon to the Dickinson Hospital, Northampton; died at his home, March 18, aged 36.

Frederick W. Kaiser, M.D. University of Alabama, Mobile, 1885; local surgeon at Flatonia, Tex., for the Galveston, Houston and San Antonio, and San Antonio and Arkansas Pass railroads; died at his home, May 13, aged 58.

Albert Henry Bill, M.D. Rush Medical College, 1875; of Cuyahoga Falls, O.; was instantly killed, May 9, in a collision between his buggy and a train on the Cleveland, Akron and Columbus Railway, aged 60.

Benjamin F. Crumrine, M.D. Medical College of Ohio, Cincinnati, 1876; a veteran of the Civil War; for twenty years a resident of San Antonio, Tex.; died at his home in that city, May 14, aged 66.

Thomas H. Beltz, M.D. University of Maryland, Baltimore, 1863; for more than thirty years a practitioner of York, Pa.; died at the home of his son in that city, May 11, from nephritis, aged 69.

Mary A. White, M.D. Northwestern University Woman's Medical School, Chicago, 1883; died at her home in Chicago, May 22, from arteriosclerosis, complicating chronic interstitial nephritis, aged 76.

Romania H. Palmer, M.D. Fort Wayne (Ind.) College of Medicine, 1882; University of Toronto, 1889; a pioneer practitioner of Harlem County, Neb.; died at his home in Alma, May 14, aged 72.

Andrew J. Rutledge, M.D. McGill University, Montreal, 1883; died at his home in Greenville, Cal., May 7, from the result of injuries received in an accident on the Indian Valley Grade, aged 55.

A. Grant S. Brubaker, M.D. University Medical College, Kansas City, Mo., 1899; formerly of Indianapolis; was found dead in his office in St. Joseph, Mo., May 15, from heart disease, aged 40.

William Renn Richards, M.D. University of Louisville (Ky.), 1902; for four years coroner of Floyd County, Ind.; died at his home in New Albany, May 10, from double pneumonia, aged 32.

Darius Cross Gee (license, Michigan, years of practice, 1903); for fifty years a practitioner of Centerville; died at his home in Ypsilanti, January 20, from senile debility, aged 82.

Edmund Childs Taylor, M.D. Willoughby (O.) University, 1837; for nearly sixty years a resident of Le Roy, N. Y.; died at his home in that place, May 8, from arteriosclerosis, aged 99.

John Smith Poyner, M.D. University of Nashville (Tenn), 1865; a member of the State Medical Association of Texas; died at his home in Thorp Spring, May 12, aged 77.

Garrett G. Hoagland, M.D. Jefferson Medical College, 1884; of Keyport, N. J.; a member of the Medical Society of New Jersey; died at Memphis, Tenn., May 11, aged 54.

John Richard Thomas Reeves, M.D. University of Maryland, Baltimore, 1858; a retired practitioner of Chaptico, Md.; died at his home, April 14, aged 78.

John A. Russell, M.D. Rush Medical College, 1877; died at his home in Chicago Lawn, Chicago, May 18, from cancer of the stomach, aged 60.

Duncan Dunbar McQueen, M.D. Manitoba (Man.) Medical College, 1895; died at his home in Winnipeg, May 6, from pneumonia, aged 45.

Christian J. Hartung, M.D. Rush Medical College, 1889; died at his home in Chicago, May 16, from hypertrophy of the liver, aged 54.

Joseph L. Webb, M.D. Eclectic Medical Institute, Cincinnati, 1871; died recently at his home in Beatrice, Neb., and was buried May 16.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

ERPIOL (DR. SCHRADER)

Report of the Council on Pharmacy and Chemistry

The original rules of the Council governing the acceptance of articles have recently been modified, particularly by adoption of Rule 10, which reads:

"Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession."

In view of these modifications, the Council is reconsidering the articles already accepted with the view of determining their compliance with the rules as amended. In line with this the Council reconsidered Erpiol (Dr. Schrader), manufactured by the William S. Merrell Chemical Company, and from the evidence given below concluded that one of the constituents, gossypin, is inert and its use unscientific. The Council therefore voted that Erpiol (Dr. Schrader) be omitted from New and Nonofficial Remedies and authorized publication of the following report.

W. A. PUCKNER, Secretary.

In consequence of the more thorough scrutiny now given by the Council to the therapeutic value of the remedies admitted to New and Nonofficial Remedies, the Council has reconsidered Erpiol (Dr. Schrader), previously accepted for New and Nonofficial Remedies. Erpiol (Dr. Schrader) is the name applied to capsules containing apiol, ergotin and gossypin, which are sold as an emmenagogue. The first two ingredients have a recognized value in the treatment of diseases of the female generative organs. The third, gossypin, is a preparation from cotton-root bark, belonging to the somewhat indefinite class of pharmaceutical preparations known as resinoids.

Cotton-root bark (*Gossypii radicis cortex*, U. S. P.) has been credited by some with pharmacologic and therapeutic properties, similar to ergot, especially in its action on the uterus; experiments on pregnant animals do not confirm this view. Most authorities on gynecology either make no reference whatever to the drug or ascribe little or no value to it. The preparations from the dried bark are inert.

From reports made to him, Professor J. U. Lloyd concluded (*Eclectic Med. Jour.*, 1876, xxxvi, 545) that a prime fluidextract of fresh cotton-root bark is an active therapeutic agent and deserving the attention of the medical profession, while that of the dry bark is inert and worthless. The gossypin on the market is made from the dried bark.

Professor Lloyd, who is considered an authority on eclectic medicine, says: "Were it left to me to admit or exclude it by reason of its therapeutical position, I should exclude it, because, in my opinion, it has never been demonstrated, in clinical practice, to be worthy of any therapeutic recognition whatever."

As the available evidence indicates that gossypin is an inert preparation, Erpiol (Dr. Schrader) was considered in conflict with Rule 10 and the Council has therefore voted that it be deleted from New and Nonofficial Remedies.

PERNICIOUS READY-MADE MIXTURES

As was stated last week in the report on Chichester's Diamond Brand Pills[1] the promiscuous sale of drugs commonly reputed as having abortifacient action, is all too common. The Australian Royal Commission,[2] appointed a few years ago to investigate the nostrum evil, came to the conclusion that pharmaceutical manufacturing houses were largely responsible for the sale of abortifacients. The report of this commission holds that ready-made emmenagogue pills are carried in stock by these houses and it is but a simple matter for irresponsible and criminally inclined persons to embark in the nefarious business of selling them. All that is necessary is for such traffickers to order so many "No. —" pills from a pharmaceutical manufacturing house and use the necessary boxes and labels. The commission referring to the ease with which such products could be obtained, said, regarding the price list of an American manufacturer:

> "A whole page of the catalogue is filled with a list of these homicidal preparations, offered at low prices. It would hardly accord with public interests to publish a copy of it; but the nature of the drugs, their deplorable consequences, and the absolute futuity of taking them for the criminal purpose which is the ordinary cause of their sale, cannot be too widely known. . . . They are commonly repacked and sold as secret medicines by persons who obtain a living by the traffic, and by pharmacists."

The report further holds that it is a common thing for druggists to sell these ready-made pills over the counter as they would sell a Seidlitz powder. While the Australian report mentions only one firm, the criticism applies to most

1. THE JOURNAL A. M. A., May 27, 1911.
2. Commonwealth of Australia: Royal Commission on Secret Drugs, Cures and Foods Report, 1907, I, 19.

pharmaceutical manufacturing houses making pills or tablets. The following list taken from the catalogue of a pharmaceutical manufacturer, is typical of its kind:

39. Amenorrhea.
285. Emmenagogue, "A," Bonjean.
Emmenagogue Hobermann (721).
286. Emmenagogue, "B," Hooper.
287. Emmenagogue, "C," No. 4.
288. Emmenagogue, "D," Mutter.
Emmenagogue, Mutter, Improved (710)
Ergotin, Bonjean, 2 gr. (713).
Ergotin, Bonjean, 3 gr. (714).
Ergotin, Bonjean, 5 gr. (715).
294. Ergotin Compound, Goodson.

Should the firms who list these preparations be charged with the matter, their defense would be that all these many formulas for "emmenagogue pills" were made at the request of physicians, who prescribed them. While the defense is a weak one, nevertheless we believe that physicians should carefully refrain from prescribing such ready-made formulas. This applies particularly to preparations having therapeutically suggestive names, names which the public is quick to understand—or misunderstand—and to recommend for purposes not thought of by the prescriber. It is but another illustration of the general objectionableness of "ready-made prescriptions."

PRESS-CLIPPINGS AND NOSTRUM ENTERPRISE

Of the many charges that may be preferred against the "patent medicine" makers, lack of enterprise in obtaining prospective victims is not one of them. We have referred before to that brilliant stroke of advertising done by the exploiters of Purgen, who panegyrized their purgative on sheets of toilet paper. More recently two cases have been brought to our attention in which "patent medicine" makers have resorted to the use of the press-clipping bureaus, for lists of possible purchasers. The following news item appeared in the Brockton (Mass.) *Times*.

"Mrs. Wm. Wilcox is at the Jordan Hospital, suffering from an attack of acute rheumatism."

This piece of news was garnered in by a clipping bureau and sent to one of its customers—the exploiters of the nostrum "Angeline." If its manufacturers are to be believed—which they are not—"Angeline will permanently cure acute and chronic rheumatism." So the Angeline booklet is sent to Mrs. Wilcox, evidently in the belief that advertising bread cast on the waters may come back after many days in the form of an order.

Raymond & Co., who sell "Raymond's Pectoral Plasters," also use press-clippings. A Sunday-school superintendent, of a small village in Virginia, recently received one of Raymond's "positive cures" for whooping-coughs, bronchitis, etc., with the following ingenious note:

Dear Sir:—We noticed in the ———— *Journal* that Whooping Cough is interfering with the attendance of your school and are of the opinion that RAYMOND'S PECTORAL PLASTERS are not known in your vicinity, or this would not be the case. We wish you would hand the one inclosed to the mother of one of the little ones affected, that she may see for herself what they ACCOMPLISH. Then when you are both satisfied as to their MERIT will you kindly advise us, on the inclosed card the name of the merchant in ———— who sells medicines of any kind that we may take up with him the sale of these Pectoral Plasters in your community.

Association News

THE LOS ANGELES SESSION

Additional Data About the Annual Session This Month

The Sixty-Second Annual Session of the American Medical Association will be held in Los Angeles, June 27 to 30. THE JOURNAL commenced to give information about it in February. In March there were full details of the railroad arrangements. The Los Angeles Number was issued May 20, devoting twenty-seven pages to a detailed and illustrated write-up. In that issue the programs of the sections were given. Additional information was published May 27, page 1589. The following additional announcements have been received:

MEDICAL ALUMNI REUNIONS AT LOS ANGELES

The usual class reunions will be held on Tuesday evening, June 27. The committee, through the local representatives of the various alumni, will arrange for the places of meeting and procure to the members the most reasonable rates for the dinners. A large register in charge of an attendant will be at the Bureau of Registration on the fourth floor of the Hamburger Building, Eighth and Broadway, where the alumni of the various colleges are requested to register. Members of the Association will confer a great favor on the committee by attending to this, as it will be impossible in any other manner to determine the number to be provided for by the caterers at the various reunion dinners. Information will be given by the registrar as to the places in the city where the reunions are held. It would greatly facilitate the work of the committee if the members who expect to attend reunions would at once notify the chairman by letter.

ANDREW STEWART LOBINGIER, Chairman,
Committee on Section Entertainment and Alumni Reunions.
608 Helman Building, Los Angeles.

RED CROSS FIRST AID CAR

The American Red Cross First Aid Car will be at Los Angeles during the Annual Session. This car, engaged in teaching first aid to the injured in the various parts of our country, is devoted primarily to such instruction on the railroads, but at the various stops made opportunity is always taken to instruct employees in the various manufacturing plants and others. At Los Angeles we will be very glad to receive all members of the American Medical Association who care to visit the car. Its location will be announced later.

CHARLES LYNCH,
Major, Med. Corps, U. S. Army, in Charge, First Aid Dept.

MEDICAL EDITORS TO MEET

The annual meeting of the American Medical Editors' Association will be held at the Alexandria Hotel, June 26 and 27, under the presidency of Dr. Joseph MacDonald, Jr. The annual banquet will be Monday evening at the same hotel. Further information can be obtained from Dr. MacDonald at 92 William Street, New York.

Correspondence

New Suture Material

To the Editor:—For a number of months I have been using, particularly in certain forms of plastic work, a new suture material to which my attention was first called by Dr. Gates, of Bucyrus, O. The material is enameled copper wire. This wire is used in electric work, is very cheap, and I have found it very satisfactory. I get it in two sizes, the smaller size taking the place perfectly of horsehair, while being in many respects much more satisfactory. I use it largely in cases in which I wish to secure accurate apposition of skin incision so as to avoid scar. I have also used the larger size in cleft palate work, using a shot to secure the ends of the wire, the shot not only holding the ends securely but in a large measure keeping the child from working his tongue against the roof of the mouth.

This wire is made by the Dudlo Manufacturing Company, of Cleveland, and it is so cheap that a dollar's worth will last for these purposes a long while. I have been using a larger size in some cases in closing the abdominal incision, but am not sure that it presents any advantages over silkworm-gut, except that it is materially cheaper.

J. F. BALDWIN, M.D., Columbus, O.

The Round Ligament Operation

To the Editor:—In THE JOURNAL, May 20, is a letter from Dr. Raymond Turck, of Jacksonville, Fla., concerning the round ligament operation which has been under discussion. He makes therein a statement which may be construed as

an insinuation that I heard of an operation performed by him in the Chicago Hospital during September, 1901, and immediately afterward published my paper on October 5.

It is rather curious that Dr. Turck should not have written this letter ten years ago. The explanation is simple. Dr. Turck has, within the last two years, developed an animus against me, for reasons which it is not necessary to go into here.

My first round ligament operation was performed on the living subject (Mrs. H., wife of an army officer) in the early part of April, 1901, in the Chicago Hospital (where Dr. Turck worked regularly). It was demonstrated to the staff of the hospital, by whom I was assisted, as an original procedure. I first conceived the idea in February and performed the operation in March on two bodies in the dissecting-rooms of Rush Medical College. During the following months I carried out the procedure several times in the Rush Medical Clinic and in the Presbyterian Hospital. These case-records are on file in the latter institution.

I wrote my short paper and made my "very crude drawing" during my August vacation. I did not publish it until October because I wished to examine my early cases occasionally to determine the results of the operation. At this period my usual procedure on cases of retroversion was Kelly's ventrosuspension. I did not abandon this operation until about three years later, after I had thoroughly tested my own operation, and had observed several patients who had successfully stood the test of pregnancy.

From Dr. Andrews himself, some time after my paper had appeared, I first heard that Dr. Frank Andrews had carried out a somewhat similar procedure. He had never published any account of it. From conversations which I have had with Dr. Andrews it is clear that he was the first to carry out the principle of the operation, though, not having made it public, he has no complaint against one who conceived it independently and first described it. Priority can be historically determined only by the evidence of publications.

As to Dr. English's letter in your same issue, I should like to point out that the operation is not meant to produce the result obtained by ventro-fixation or by the Alexander, Montgomery, Gilliam procedures or others of this variety. If it were so, his criticism would be good. I do not aim to suspend the uterus, or to draw it upward unnaturally, as is the effect of these operations. I aim merely at placing the organ in its natural anteverted position, trusting to intra-abdominal pressure acting on the posterior (upper) surface of the uterus to keep it there. Dr. Baldy has very satisfactorily elucidated this principle in his recent papers. If there is some degree of prolapse in addition to the retroversion, I always shorten the uterosacral as well as the round ligaments. If a surgeon wishes to suspend the uterus from the anterior abdominal wall, I advise him not to use my operation.

J. CLARENCE WEBSTER, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FORMULARIES

To the Editor:—Please inform me where I can obtain the very best formulary now in print; and also a book of a general character, containing formulas for the manufacture of almost every compound known, both proprietary and otherwise.

V. J. WARD, M.D., Berlin, Ga.

ANSWER.—It is difficult to say which is the best formulary as that will vary with the purpose for which it is needed. In our opinion the "very best formulary" is "The Physicians' Manual of the U. S. Pharmacopeia and the National Formulary," published by the American Medical Association, price 40 cents. Information regarding patent or secret preparations is apt to be unreliable on account of the difficulties in making complete and accurate analyses of these preparations and because their secrecy enables their proprietors to change the formulas frequently. If the physician hopes to gain anything in his own practice by a knowledge of the composition of these medicines he is apt to be grievously disappointed, for the formulas, instead of testifying to rare knowledge of therapeutics, not in the possession of the average physician, usually call for ingredients, the therapeutic properties of which, if they have any, are well known to the medical profession. These properties are, however, usually so indefinite that they are little suited for use in any special case. It is an absurdity for a physician, after having given much time and skill to the exact diagnosis of a case, to apply a remedy which is equally suited to a dozen different, even if similar, ailments.

The following list includes the more prominent formularies:

Cumming: Formulary, L. S. Matthews & Co., 2623 Olive Street, St. Louis, $2.50 net.

Fenner: Complete Formulary, B. Fenner, Westfield, N. Y., $10 net.

Beasley: Druggists' Receipt Book, P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, $2.50 net.

TEST FOR LEAD IN URINE

To the Editor:—Kindly describe a test for lead in urine which is reliable and which a general practitioner with limited technic and facilities could make in his office. A. L.

ANSWER.—Any method of testing for lead in urine involves the evaporation of the urine and usually the passage of hydrogen sulphid, which processes give off highly offensive odors that the physician will hardly care to have in his office. The following is a reliable method but involves more apparatus than most practitioners possess.

A quart of urine acidified with acetic acid is evaporated to dryness and fused in a crucible with a little pure potassium nitrate until it becomes white. When the crucible is cool, dilute hydrochloric acid is added hot to extract the residue after ignition. The extract is then filtered and the filtrate treated with ammonia to alkaline reaction, to precipitate the phosphates and iron. Ammonium sulphid is added at the same time to throw down the lead and iron as sulphids. This deposit is washed three times by decantation with hot water; then water acidified with hydrochloric acid is added, and the whole allowed to stand until the next day. It is then filtered through a small filter and the residue washed. A little pure nitric acid is then added drop by drop to dissolve the lead sulphid left on the filter and to carry it through as nitrate. This filtrate is collected in a watch-glass, evaporated to dryness, and the final test made by adding a drop of water and a crystal of potassium iodid. A yellow precipitate denotes lead. (Peterson and Haines: Text-Book of Legal Medicine and Toxicology, 1904, ii, 388.)

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 27, 1911.

Fisk, Owen C., lieut., on expiration of his present leave of absence will proceed to the Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment.

Slater, Ernest F., M.R.C., now awaiting orders at New York City, will proceed to Columbus Barracks, Ohio, for duty.

Roberts, William M., major, relieved from duty with the maneuver division, San Antonio, Texas, and will proceed to Fort Thomas, Ky., reporting on arrival to the adjutant-general of the Army.

Stanton, Samuel C., C.S., entered into contract for duty as attending surgeon, headquarters.

Heterick, R. H., M.R.C., left Fort Brady, Mich., on fifteen days' leave of absence.

Crampton, Louis W., colonel, granted leave of absence for four months, with permission to go beyond the sea, to take effect on his relief from duty in the Philippines division.

Thomason, Henry D., captain, ordered to proceed to Raleigh and Asheville, N. C., to assist in the reorganization of the sanitary troops of the state.

Eliot, Henry W., M.R.C., now at Fort McKinley, Maine, is relieved from further duty in the Army transport service and will report to commanding officer of that port for duty.

Vose, William E., major, granted leave of absence for two months and fifteen days, to take effect about July 15; ordered to proceed to Jackson Barracks, La., about July 1, 1911, for temporary duty, and after completion thereof, and on expiration of leave of absence, will proceed to the Philippine Islands for duty.

Speissegger, Charles A., Jr., M.R.C., is ordered to active duty and will proceed to Fort Moultrie, S. C., for duty at that post; on return of Major Frank C. Baker, Medical Corps, Lieutenant Speissegger will stand relieved from further duty at that post and from active service in the Medical Reserve Corps.

Powell, William A., captain, reports from detached duty with troops to Fort McKinley, Maine, to leave of absence for ten days.

Bushnell, George E., colonel, promoted to, with rank from May 1, 1911.

Ireland, M. W., lieut.-col., promoted to, with rank from May 1, 1911.

Davidson, Wilson T., major, promoted to, with rank from May 1, 1911.

Kilbourne, Edwin D., captain, granted leave of absence for two months.

Bell, Leonard P., M.R.C., granted leave of absence to and including July 4, 1911.

Kean, Jefferson R., lieut.-col., will proceed to Los Angeles to represent the Medical Department at the sixty-second annual session of the American Medical Association in that city, June 27-30, 1911.

Roberts, William M., major, orders directing him to proceed to the Philippines Islands, June 5, is amended so as to direct him to sail from San Francisco July 5, 1911.

Medical Corps, U. S. Navy

Changes during the week ended May 27, 1911.

Rodman, S. S., surgeon, detached from the *Rhode Island* and ordered to the *New Jersey*.

Riggs, R. E., P. A. surgeon, detached from command of the naval hospital, Port Royal, S. C., and ordered to duty in connection with fitting out of the *Ohio* and to duty on board that vessel when placed in commission.

Rossiter, P. S., P. A. surgeon, orders of May 18 should read "naval hospital, Puget Sound, Wash.," instead of "naval hospital, Mare Island, Cal."

Thomas, G. C., asst.-surg., detached from the *Rhode Island* and ordered to the *Ohio*.

Malkin, G. M., A. A. surgeon, appointed acting assistant surgeon from May 18, 1911.

Kress, C. C., asst.-surg., detached from the naval medical school, Washington, D. C., and ordered to the *Celtic*.

Asserson, F. A., surgeon, detached from the naval hospital, Boston, and granted sick leave for four months.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 24, 1911.

Glennan, A. H., asst. surg.-gen., granted ten days' leave of absence from June 2, 1911.

Kerr, J. W., asst. surg.-gen., detailed to represent the service at the annual meeting of the American Association of Medical Milk Commissions to be held at Philadelphia, May 23-24, 1911; detailed to attend the ninth annual conference of State and Territorial Health Authorities with the Public Health and Marine-Hospital Service to be held in San Francisco, June 24-25, 1911; detailed to represent the service at the annual conference of State and Provincial Health Officers of North America, to be held in Los Angeles, June 30 to July 1, 1911.

Carrington, P. M., surgeon, directed to proceed to Vancouver and Victoria, B. C., on special temporary duty.

Nydegger, J. A., surgeon, relieved from command of the station at Pittsburg, Pa., and directed to proceed to the United States Marine Hospital at Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Anderson, J. F., P. A. surgeon, detailed to represent the service at the annual meeting of the American Association of Medical Milk Commissions to be held in Philadelphia, May 23-24, 1911.

Schereschewsky, J. W., P. A. surgeon, detailed to represent the service at a special conference on Conservation of Child Life to be held at Richmond, Va., May 22, 1911.

Bryan, W. M., asst. surg., granted ten days' leave of absence from May 21, 1911.

Stoddard, C. S., A. A. surgeon, granted one month and fifteen days' leave of absence from June 1, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PRESS BULLETINS ON HEALTH TOPICS

The value of newspapers as a medium of educating the people on public health topics is being widely recognized by medical and other scientific bodies, many of which, including the American Medical Association, send out regular press bulletins for the use of editors of newspapers. These bulletins contain announcements of public importance, abstracts of articles and editorials and news regarding new methods of treating disease or recent medical discoveries.

This work has also been taken up by a number of our state associations, notably the Colorado State Medical Society, which has for two years past maintained a press committee, the function of which is to supply to newspapers of the state short articles on disease and its prevention. The report of the press committee made at the last meeting of the state society recounts the work of the past year and is worthy of careful consideration by members of medical societies and of similar committees in other states. The report is, in part, as follows:

REPORT OF THE PRESS COMMITTEE OF THE COLORADO STATE MEDICAL SOCIETY

Written requests with assigned subjects were mailed to 189 members of this society. Replies were received from many, some refusals, others promises of papers later. About fifty-five complied with the request by sending in good, practical articles. This is a very good showing, when we consider that the work is only in its second year, and that most of those solicited were exceedingly busy members; but it is to these that we look always, as they are the ones who are most ready to sacrifice a few hours' rest or recreation for the good of the masses.

Of these fifty-five papers, fifty were revised, typewritten and published in the public press. Twenty were assigned to forty-eight weekly papers published in different parts of the state. These papers were first prepared in the form of proof-sheets, and were then mailed semi-monthly to the forty-eight weekly papers consenting to use the matter.

The other thirty papers were printed on the editorial pages of the Denver *Post*, the *Rocky Mountain News* and the Denver *Times*, one article a week in each of these papers. The papers, of course, were soon exhausted at this rate and as no more came in the work in these large dailies was of necessity abandoned, much to the disappointment of the editors of the press and of your committee.

The attitude of the press regarding this work, on the whole, is quite favorable, in some instances extremely so. Of course, it largely depends on the character of the matter submitted, and few professional men have the faculty of writing interesting articles for the layman. It is really difficult so to clothe a medical subject that it will be read with interest and understanding by the public. Every article had to be revised before it could be accepted for publication by the lay press. . . .

Of the 225 newspapers in this state that were written to regarding publication, fifty replied—forty-eight in the affirmative, while two requested pay for its insertion.

For this work the society appropriated $100 at our last meeting. Orders have been drawn, as will be shown by the treasurer's books, for the following items:

Postage	$ 25.19
Stationery and return postals	20.00
Circular letters	2.00
Typewriting	20.00
Circulars	3.00
Return postal cards	3.75
Files	.81
Proof sheets	22.75
Envelopes	2.50
	$100.00

The typewriting consisted of making the original lists of members and the assignments and lists of all newspapers published in the state; filling in, writing and addressing all original correspondence, both to members and to newspapers, and the making of three copies of the fifty papers which were published. . . .

Printers, stationers, stenographers and others connected with the work have been pressed into service wherever possible, and all responded nobly to the appeal, with a sacrifice in each instance. This, in conjunction with the work of the members who have so generously responded with material, has been the cost of this year's effort to educate the public on "How to Keep Well."

In closing, may I briefly give my conclusions, formed by two years' active service on this committee? The work is one of the most important which the medical profession can perform for humanity. The public is not yet ready to accept our offering in the spirit in which it is proffered, but is fast growing to recognize our sincerity of purpose.

That education on preventable disease is necessary is without argument. To make this effective, perseverance is equally important, for with each succeeding year some new generation must be reached. To accomplish this, there should be one center or bureau, of which each state society is a part. Papers could then be secured from the best writers in each society, could be collected by the press committee and could be forwarded on to the secretary of this department of the American Medical Association, there to be revised and printed. They should then be distributed to the various press committees of the state societies, whose duty it would be to see that the matter was properly placed in their own state and local press. This would greatly simplify matters and would reduce the cost more than half. As it is at present, each paper, to complete and place in the hands of the lay press, costs in the

neighborhood of $5. Whereas, by the centralized idea, it should not cost more than four times this amount to cover the whole United States with each release.

As to the funds, if every state society would appropriate, say $50 for this purpose, sending it on to the Press Committee of the American Medical Association, and an additional $25 for postage for the state committee, a more persistent, consecutive and satisfactory campaign of education could be carried on.

The report of the committee indicates the principal practical difficulty encountered, viz., that of securing a sufficient number of papers to supply any number of newspapers with original and exclusive articles for any length of time. The amount of material needed to supply the newspapers of the entire country would be enormous. With the cooperation of all our members, however, it could be accomplished. The unselfish character of this work is realized when it is understood that the articles contributed for the use of the Colorado press bulletin were published anonymously, bearing only the imprint of the committee to show that they were approved by it. The field opened up by this method of popular education is attractive and well-nigh unlimited, and with the cooperation of the state associations and the leading members of the profession an enormous amount of good can be accomplished.

Advance proofs of the articles for use in Colorado during the coming year show the following titles among others: "What Modern Vaccines Are," "How to Control the Infectious Diseases of Childhood," "Proper Control of Tuberculosis," "Some Food Adulterations," "Shall Consumption be Registered?" "Is a Tumor Harmless?" "Poor Eyesight," "How to Control the Spread of Typhoid," "Overfeeding and Overheating in Winter," "How Typhoid Fever Spreads," "How to Avoid Diseases of the Lungs," "Colds," "How Tuberculosis is Spread," "To Dispose of the House-Fly," "Sanitary School-Rooms." These are all topics of the utmost importance to the health of every individual and both the public and the press will readily cooperate as soon as the importance and value of public education on health topics is made manifest.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

IOWA: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

KANSAS: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MICHIGAN: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH CAROLINA: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WYOMING: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Idaho April Report

Dr. O. J. Allen, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 4-5, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 34 of whom 25 passed and 9 failed. The following colleges were represented:

PASSED			
College		Year Grad.	Total No. Examined.
University of Colorado	(1907)	(1910)	2
Denver and Gross College of Medicine		(1910)	1
Rush Medical College	(1908)	(1909)	2
College of Physicians and Surgeons, Chicago	(1892)	(1908) (2, 1909)	4
Keokuk Medical College, Coll. of Phys. and Surg.		(1905)	1
Western Eclectic Coll. of Medicine and Surgery		(1909)	1
Sioux City College of Medicine		(1905)	1
University of Louisville		(1893)	1
University of Michigan, Dept. of Med. and Surg.		(1909)	1
Michigan College of Medicine and Surgery		(1895)	1
University of Missouri		(1908)	1
St. Louis University		(1908)	1
Creighton Medical College		(1900)	1
New York University Medical College		(1897)	1
Medical College of Ohio		(1908)	1
Ohio-Miami Medical College		(1910)	2
Ohio Medical University		(1898)	1
Jefferson Medical College		(1910)	1
University of Toronto, Ontario		(1907)	1

FAILED		
College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1909)	72
Chicago College of Medicine and Surgery	(1909)	69
Illinois Medical College	(1901)	71
Medical College of Indiana	(1904)	62
Kansas Medical College	(1905)	72
St. Louis College of Physicians and Surgeons	(1906)	68
Creighton Medical College	(1907)	73
Tennessee Medical College	(1894)	60
University of Tennessee	(1894)	51

Georgia Homeopathic Reciprocity Report

Dr. R. E. Hinman, secretary of the Georgia Homeopathic Board of Medical Examiners reports that at the meeting held at Atlanta, May 2, 1911, one candidate, a graduate of the Cleveland University of Medicine and Surgery, 1894, was licensed through reciprocity with West Virginia.

New York State Board of Medical Examiners

A communication from Dr. M. J. Lewi, secretary of the New York State Board of Medical Examiners, states that a meeting of that board was rendered necessary for organization purposes by reason of the death of both Drs. William Warren Potter and W. E. Ely, respectively president and vice-president of the board. The meeting was called by Dr. Augustus S. Downing, First Assistant Commissioner of Education, May 19, 1911, at Albany. At this meeting Dr. Glentworth Reeve Butler, Brooklyn, was elected president, and Dr. Henry B. Minton, Brooklyn, vice-president. The question committee was reorganized as follows: chairman, Dr. Lee H. Smith, Buffalo; Dr. Ralph H. Williams, Rochester; Dr. A. W. Booth, Elmira, and Dr. Henry B. Minton, Brooklyn.

In keeping with the action ot the board at its last annual meeting, a resolution was adopted that on and after Jan. 1, 1912, examination groups in each topic shall consist of twelve questions (instead of fifteen as heretofore) the first six of which must be answered by the candidate and, from the remaining six, the candidate is to answer four questions of his own choosing.

Book Notices

TECHNIK DER MIKROSKOPISCHEN UNTERSUCHUNG DES NERVENSYSTEMS. Von W. Spielmeyer Privatdozent und Assistent an der psychiatrischen und Nervenklinik in Freiburg i. Br. Cloth. Price, 4.40 marks. Pp. 131. Berlin: Julius Springer, 1911.

This handy manual deals with the microscopic technic of the examination of nervous tissues in a manner adequate for practical purposes. It contains most recent methods at all applicable in routine neuropathologic work. A feature deserving of commendation is the omission of both the obsolete and the untried and theoretical in neurologic technic. The chapters on "Principles," and "Scope and Aims of Examinations Into the Normal and Abnormal Histology of the Nervous System." are excellent and appropriately placed as an introduction to methods.

VERHANDLUNGEN DER BERLINER MEDIZINISCHEN GESELLSCHAFT AUS DEM GESELLSCHAFTSJAHRE 1910. (Separat-Abdruck aus der Berliner klinischen Wochenschrift.) Herausgegeben von dem Vorstande der Gesellschaft. Band XLI. Paper. Pp. 380, with illustrations. Berlin: L. Schumacher, 1911.

This work consists of reprints from the *Berliner klinische Wochenschrift*. It is divided into two parts; the first gives the transactions and discussions on the various papers of the Berliner medizinische Gesellschaft, which numbers 1,638 regular members, and the second part contains the papers presented before this society.

DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M.D., Member of the American Medical Association. Third Edition. Cloth. Price, $5. Pp. 1037, with 112 illustrations. New York: E. B. Treat & Co., 1911.

The third edition of this work retains the commendable features of the previous editions; the book has been subjected to a thorough revision, bringing it up to date. Several of the chapters have been practically rewritten and an entirely new chapter on "Arteriosclerosis in Relation to Affections of the Gastro-Intestinal Tract" has been added. The book presents in one volume the information needed by the practicing physician regarding the diseases of the stomach and intestine.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Cloth. Price, $4 net. Pp. 775, with 815 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Many methods of diagnosis and treatment, even the commoner ones, fail through faulty technic, or are neglected entirely by the practitioner because adequate descriptions of the procedures are not readily available in general medical texts. In "Diagnostic and Therapeutic Technic" Morrow describes a large number of these minor operations and diagnostic methods including transfusions, infusions, venesection, intubation, tracheotomy, exploratory punctures and aspirations, urethral and pelvic examinations, etc. Outline drawings showing instruments, position of patient and operator, and the successive steps in the more complicated operations accompany the text.

The chapters on anesthesia, including local and spinal anesthesia, are completely and well written. The dangers of the A-C-E mixture and of gastric lavage before the return of the reflexes after general anesthesia might well be emphasized more strongly. The points urged against spinal anesthesia are well taken.

In the administration of antitoxic serums, we question the advisability of advocating the axillary space as a site for the injections. The risk of injuring vessels and other structures in a struggling child is too great, when there are so many other regions where loose cellular tissue can be found.

A paragraph on preserving fluids for tissues might have been added with advantage to the chapter on the collection and preservation of pathologic material. Exploratory punctures, and the reasons for occasional failures to obtain fluid are interestingly discussed.

The chapters dealing with tne examination of special organs are prefaced by a brief review of the anatomy of the part under discussion. With the exception of the description of the ear, which is written in an unnecessarily popular style, these preliminary notes form a concise and valuable introduction to the study of the several organs. We commend especially the section on the larynx, in which a well illustrated description of intubation is given.

The typography is good. The outline drawings are more practical than artistic, and in one or two instances are misleading. Thus in illustrating hypodermoclysis the fluid is represented as in the breast instead of beneath it. This is a common error in performing hypodermoclysis and causes unnecessary suffering to the patient.

Aside from operations such as bronchoscopy, which only the skilled specialist is competent to perform, most of the procedures described are those which practitioners, particularly the large number who meet emergencies in practice remote from the larger medical centers, may at some time be called on to perform. The hospital intern and the older practitioner will find here a large store of practical and helpful information.

Medicolegal

When Orders for Physical Examinations Should Not Be Granted

The Court of Appeals of Kentucky says, in Lexington Railway Co., vs. Cropper (133 S. W. R. 968), a personal injury case brought by the latter party, that, manifestly, the application for a physical examination should be based on an affidavit showing that knowledge of necessary and material facts in respect to the plaintiff's injuries or condition can be acquired only by such examination; and the right to the order, being founded on necessity, will not extend beyond the necessities of the case. In no case should the order be granted merely for the purpose of obtaining cumulative evidence, or where the injuries complained of are so patent as to be apparent. In numerous cases of this character this court has decided that the defendant has not the arbitrary right to demand a physical examination of the plaintiff, but the application for an order for such an examination is a matter which addresses itself to the sound discretion of the trial court; and on appeal its ruling in granting or refusing the order will not be disturbed, unless it is made to appear that there was an abuse of that discretion. In this case there was no abuse of discretion, and no error, in refusing to grant an order for the physical examination of the plaintiff, when not applied for until after he had concluded the introduction of his evidence, on the second trial of the case, which had been pending for more than two years.

Sufficient Preliminary Proof by Physicians of X-Ray Photographs

The Supreme Court of California says that in the personal injury case of Kimball vs. Northern Electric Company (113 Pac. R. 156) certain *x*-ray photographs of the plaintiff's knee were introduced in evidence after two of the medical witnesses had been examined with reference to them. It was contended that the proponents of the photographs failed to introduce proof of their correctness, or that either of the physicians was an expert in such matters. While, perhaps, the examination was not so minute on that subject as one might wish, it did sufficiently appear that the two witnesses and others were present at another physician's office when *x*-ray plates were made of the plaintiff's knee, and that the photographs introduced in evidence were printed from those plates. While it would have been better, no doubt, to have introduced evidence of the familiarity of the physicians with the process of *x*-ray photography and the methods employed in preparing these particular exhibits, the court cannot see that the omission so to do amounted to error necessitating the reversal of the cause. The witnesses were qualified surgeons. It is well known that the *x*-ray is almost universally understood and used by surgeons of the present day in examining injuries. Doubtless the court required less preliminary proof from such witnesses than would have been exacted from laymen. The surgeons had testified without objection that they had examined the injuries themselves by the use of the *x*-ray apparatus, and this testimony in itself was an indication that they were familiar with the use of the Roentgen rays. When, therefore, they testified to the taking of certain *x*-ray pictures, or rather the making of plates, the court doubtless assumed that the ordinary methods of those familiar with such matters had been followed. While counsel for the defendant objected to the testimony of the surgeons on the ground of the failure of the plaintiff to show their expert qualifications, no request was made of the court that they should be preliminarily questioned on that subject. The surgeons put initials on the plates at the time they were made, and testified that those initials appeared on the prints introduced in evidence. But, even if an error were committed in the admission of testimony relating to the photographs, it was harmless, for it was evident that the condition shown by the photographs did not differ from the circumstances disclosed by the testimony of the physicians based on their own observations. A photograph is used like any other chart, for illustrative purposes; and where, as in this case, such illustrations do not mislead, no error is wrought.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Climatological Association, Montreal, Canada, June 13-14.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

AMERICAN THERAPEUTIC SOCIETY

Twelfth Annual Meeting, held in Boston, May 11-13, 1911

Under the presidency of DR. H. W. WILEY, Washington, D.C.

The officers elected were named in THE JOURNAL, May 27, page 1584.

Bromato-Therapy

DR. H. W. WILEY, Washington, D. C.: Foods are of the greatest possible service in medical practice, when properly employed, not only in the prophylaxis of disease, but also in its actual treatment. This, of course, has long been recognized in the case of diabetes, but in many other affections we are only just beginning to appreciate their value, and I feel sure that when we have come to fully understand this matter a great step forward will have been made in the practice of medicine. We have, naturally, to examine into the properties of various articles of diet. A bitter controversy has been raised over the question, Is alcohol a food? Again, the respiration calorimeter has come to our assistance, and it has been shown by Atwater and his assistants that the average adult human organism is capable of completely oxidizing a considerable quantity of alcohol per day. This quantity, of course, varies in different individuals, but may be set down as about 3 ounces, provided the administration is distributed over different periods of the day. I think there is a marked tendency in the profession to regard the virtues of alcohol as very questionable. The old idea that if one is going to expose himself to extreme danger or extremes of climatic conditions, the body should be fortified by the use of alcohol, has disappeared. It is quite certain now that alcohol does not make one less apt to freeze, but more so, and that it does not give any such amount of energy as to be at all compensatory for the injury it may produce. On the witness stand I have stated that I considered alcohol a food because a certain quantity of it is burned in the body, with the production of heat and energy. In the light of recent investigations, however, and from theoretic considerations, I am inclined to the opinion that the effort to rid the body of even the small quantities of alcohol mentioned may, perhaps, consume a great deal more energy than is furnished by its combustion, and that, on the whole, it cannot be regarded as a food, even in the limited sense here described. The susceptibility to certain diseases of persons addicted to alcohol has been noted by many writers, and the records of death by sunstroke indicate that a very large percentage of the victims are alcoholics. The tendency which alcohol has to weaken the bodily resistance, therefore, is a matter not to be left out of consideration. The general result of the study of this problem has been an accelerated movement to restrict the use of alcohol in medical practice, and especially in hospital practice. Both as a means of preventing disease and as a remedy this agent is rapidly falling into disrepute, so that it bids fair to become merely a memory in our materia medica and the Pharmacopeia.

Some Observations on Vaccine Therapy

DR. E. W. NAGLE, Boston: To secure an active vaccine one must have a virulent type of bacteria; these must be killed at the correct time, before they begin to lose their cultural characteristics, and it is essential to subject them to the lowest degree of heat for the shortest possible time necessary to kill them. The question of dosage is a difficult one. I do not depend on the opsonic index, but rely entirely on the clinical symptoms. Usually my beginning dose is a small one: one-fourth of 1 c.c. (150,000,000 in the case of staphylococcus vaccine) increasing to 0.5 c.c., 0.75 c.c., and then 1 c.c., and continuing with this dose if there has been marked improvement. In cases where it seems imperative to bring the patient quickly under the influence of the vaccine—as when there is recurrence during treatment—I do not increase my dose gradually, but after the first small dose give a large dose once. In cases where vaccine is administered oftener than twice a week, I give smaller doses. The injections have always been given in the arm, alternating right and left in order to give the site of the injection the longest possible time to recover from any soreness. Chronic suppurative ears interest me especially, as they respond so readily to vaccine therapy. My success in treating nose cases with vaccine is not, I regret to say, to be compared with that obtained in discharging ears.

DISCUSSION

DR. E. W. NAGLE: In the suppurative ears we found the streptococcus, staphylococcus, pseudo-diphtheria bacillus, proteus and a number of bacteria which it was impossible to identify. In the nose cases there was also a great variety of bacteria, and many of these we were unable to classify. As to other treatment in conjunction with the vaccine, absolutely nothing else was employed, except in the way of cleansing procedures. All the patients had previously been treated by the ordinary methods.

Salvarsan as a Patented Product

DR. F. E. STEWART, Germantown, Pa.: The object of the patent law being to promote progress in science and the useful arts, it logically follows that its proper application to materia medica inventions will promote progress in materia medica science, and the arts of preparing medicines and applying them to the healing of the sick. As now applied, the patent law hinders progress in the knowledge of drugs as therapeutic agents and injures the professions of medicine and pharmacy. Product patents are monopolies granted to persons who are not required to be interested in promoting science or in advancing the arts of medicine and pharmacy. Progress in materia medica science and in the pharmacologic arts is dependent on the cooperation of those engaged in the practice of the pharmacologic arts and in the results of the publication of their researches for the benefit of science. The position assumed by certain members of the medical profession, that it is immoral for physicians to make money out of the sale of drugs, is unwarranted. The wrong is in carrying on what ought to be a professional business in a commercial manner. Materia medica products cannot properly be introduced to science without using the educational machinery of the profession, viz., medical societies and press. When products are controlled by commercial introducers their introduction to science by the cooperative work of the profession is impracticable, because the opening of the journals and medical societies to their discussion converts the educational machinery of the profession into a great advertising bureau for the exploitation of monopoly. Most of the experimental work necessary for determining the value of new therapeutic agents is carried on in hospitals, dispensaries and other charitable institutions. When the results are appropriated by commercial houses for building up monopolies, beneficence is turned into commercial exploitation, a crime against humanity. Under a system of competition it is safe to open the educational institutions and their laboratories to the manufacturers of materia medica products, and ask their cooperation in developing the science of materia medica. Under the system of product patents maintained in this country the medical journals are forced to give the manufacturers advertising space that millions of money could not purchase; being compelled to do this in order to keep up with the foreign journals in publishing important news.

We are told that Ehrlich made an arrangement with the German house of Meister, Lucius and Bruening whereby this house furnished him with the money required to carry on the

"606" experiments which resulted in the discovery of dioxydiamidoarsenobenzol, with the understanding that if a product was obtained of sufficient value to warrant its commercial introduction, it was to be patented and the patent controlled by the house mentioned. I believe that the arrangement thus made represents a plan of cooperation between professional and commercial interests which, if purged of the monopolistic feature now pertaining to it, might be made in every way commendable. Medicine, including pharmacy, is an altruistic profession. Its object is to prevent disease and heal the sick; not to exploit the sick-room for gain. Cooperation between the medical and pharmaceutical professions and the great manufacturing houses with that end in view means progress, but such cooperation must include control of the pharmacologic arts by licensed practitioners of medicine and pharmacy and compliance with rules for the advancement of pharmacologic science.

The Uses and Limitations of General Anesthesia as Produced by Subcutaneous and Intravascular Injections

DR. W. W. BABCOCK, Philadelphia: Burkhardt's method consisted of the intravenous injection of chloroform and of ether. Chloroform soon had to be abandoned, but ether is still employed to a limited extent, especially in Russia. In the seventy-five or 100 cases now on record there have been one death and several instances of pulmonary embolism. The method is not, therefore, to be recommended. I desire to call attention to the production of anesthesia by the subcutaneous injection of narcotics, which is a recent application of a very old use for these agents. It is not, as a rule, well adapted for children, but in adults I have met a very fair measure of success. In 10 per cent. of the cases in which it was tried I have found it possible to induce complete anesthesia, with abolition of the reflexes, and in from 50 to 60 per cent. sufficient anesthesia for operative purposes, though without entire abolition of these. The drugs employed are of three classes: (1) hyoscin or scopolamin; (2) morphin and apomorphin; (3) alcohol and similar agents. In regard to apomorphin, I am convinced that its main action is that of a sedative. It is, therefore, a terrible mistake to administer it in cases of narcotic poisoning, as is sometimes done. The method which I have found most satisfactory is to give a subcutaneous injection of one-eighth grain of morphin with 1/100 grain of hyoscin or scopolamin, and also an enema of normal salt solution containing 1 to 3 ounces of alcohol. In fifteen minutes the hypodermic injection is repeated, if necessary, and in fifteen minutes more a third injection may possibly be required. The doses are regulated entirely according to the effects observed. When apomorphin is employed, only a very slight emetic effect, or none at all, has been noted. Objections to this method are, first, that, as a rule, it is not suitable for abdominal operations; and second, that if toxic products are present in the system the narcotics will tend to retard elimination by closing up the emunctories. It is an ideal method for operations about the mouth, throat and nose, where ether proves very dangerous and unsatisfactory, and when it is used we can often dispense with tracheotomy. It is essential to watch the breathing of the patient very carefully, and sometimes it is found necessary to pull the tongue forward.

DISCUSSION

DR. A. E. GALLANT, New York: If during anesthesia the patient's head is kept in such a position that the chin touches the chest, the tongue will never fall back.

DR. W. J. MORTON, New York: It is not generally known that previous to the first use of ether anesthesia at the Massachusetts General Hospital (in 1846) my father, Dr. Morton, had employed this for thirty-seven private operations done by Dr. Henry J. Bigelow, and that, before beginning the administration of ether, he was accustomed to give large doses (40 minims) of laudanum.

Epithelial Conductors and Obstructors

DR. ROBERT T. MORRIS, New York: The chief obstructor of the development of epithelium on raw surfaces is peroxid of hydrogen, a substance which is in universal use throughout North America. Next to it in this regard, and also next most commonly used, is gauze, and the third most destructive agent for young epithelial cells is some form of ointment. Then come the so-called protective coverings, such as gutta percha, which allow culture media to collect underneath. Among conductors of new epithelium one of the most remarkable is the moist skin of an egg, which some of the old surgeons believed actually to carry a vital principle. Other good conductors are animal membranes, like Cargile membrane, silver foil, and oiled silk (if properly sterilized). Substances which are entirely impervious are conductors to a very limited extent, if cut into strips and employed with great care.

Diabetes Mellitus from a Surgical Standpoint

DR. ALFRED KING, Portland, Maine: In diabetes it is essential that there should be a careful and complete examination of the urine and a study of its changes, a consideration of the metabolic changes taking place in the fluids and tissues of the body, especially as regards nutrition and the processes of repair, and also a general examination, including the blood, blood-vessels, emunctories and resisting power. Gangrene, which is generally due to arteriosclerosis, often calls for surgical treatment, preventive, palliative or operative. In the lower extremities the disease may affect but one or more toes. In these cases if the line of demarcation forms early, if the adjacent parts are not inflamed, and if there is a good pulse in the posterior tibial artery behind the internal malleolus and in the dorsalis pedis, the removal of the dead portion alone may be sufficient. If, however, the line of demarcation forms slowly, if the foot is inflamed and the pulse in the arteries mentioned is feebly felt, if at all, operations on the foot are harmful. In such cases the amputation should be above the knee. The diabetic may require any kind of surgical procedure. Because of his disturbed metabolism, impaired nutritive and reparative processes, reduced resistance and depressed nervous system, the most careful consideration for the patient is called for, and also the most skillful application of the principles of surgery in the treatment of wounds. If, however, proper precautions are taken and the patient is properly prepared beforehand, a large proportion of diabetics can be operated on as safely and satisfactorily as other individuals.

Chronic Acetanilid Poisoning: A Definite Symptom-Complex as a Result of the Continuous Ingestion of the Drug

DR. H. C. GORDINIER, Troy, N. Y.: Chronic acetanilid poisoning is productive of the following perfectly definite and easily recognized symptom-complex: chronic cyanosis, cardiac insufficiency, a distinct blood-picture and definite renal changes. The acetanilid habit is much more common than is generally supposed, and its enslavement is comparable with or worse than that of opium or alcohol. Acetanilid has a special predilection for the cardiovascular system, acting as a virulent hemolytic poison.

DISCUSSION

DR. P. K. BROWN, San Francisco: In these cases of cyanosis the blood-picture alone usually makes the diagnosis clear. In my fatal case, previously reported, in which the patient took 60 grains of acetanilid within a short time, it is noticeable that, in addition to the terribly destructive action on the blood, there appeared to be an effort at repair, as shown by the presence of some red cells of very large size.

DR. C. E. DEM. SAJOUS, Philadelphia: There is one effect of the coal-tar products which is often overlooked, namely, constriction of the arterioles, as shown by animal experimentation. This, I think, offers ample explanation of the characteristic cyanosis. In my experience cases of acetanilid addiction are not so difficult to manage as those of opium addiction. The patients usually get over the habit readily, and with no permanent ill effects.

The Treatment of Leukemia with the Mixed Toxins of Coley

DR. R. C. LARRABEE, Boston: Five cases have been previously reported. I have now to report thirteen additional cases: nine of my own, three of Boldoff's and one of Coley's. Under

this treatment the general condition of the patients, some of whom had been treated with the *x*-ray without benefit, usually improved markedly, and in many instances there was a very marked diminution in the number of leukocytes. In other cases the leukocytes did not diminish, though the general condition improved. It is noticeable that while the myelogenous cases were often benefited, the lymphatic cases showed no improvement. This mixed toxin treatment is to be regarded as merely palliative, not curative; but in many instances it adds greatly to the comfort of the patient and no doubt prolongs life. It should not be forgotten, however, that it is a dangerous treatment, and ought, therefore, to be employed with the greatest caution.

Hypo-Adrenia as a Cause of Death in Infections, and Its Treatment

DR. C. E. DEM. SAJOUS, Philadelphia: By hypo-adrenia I mean that form of adrenal insufficiency which occurs late in the course of a febrile disease, as a result of the exhausting secretory activity, probably aggravated by temporary local lesions, to which the adrenals are subjected during the early or febrile period of the disease. As stated by Morichau-Beauchant, the adrenals seem to show a special predilection for certain infections, by far the most marked in the case of diphtheria. If at the end of an infectious disease the case, instead of proceeding to convalescence, remains in a condition of asthenia, with low blood-pressure and temperature, there is good ground for the conclusion that terminal hydro-adrenia has occurred. As to the pathology, in the special type in question, no adrenal lesion may be discernible. In the majority of instances, however, the organs are congested, and may show here and there a limited hemorrhagic area. In these cases the use of adrenal gland or of pituitary body, which acts very similarly, though with less violence and more lasting effects, sometimes gives surprising results. In emergency cases large doses of the adrenal active principle may be injected with saline solution intravenously, but in the average case the glandulæ suprarenales siccæ of the U. S. Pharmacopeia given by the mouth, is fully as effective, if commenced as soon as asthenia and low blood-pressure appear. The dose of 3 grains, three times a day, should be increased gradually to 5 grains.

Malignant Endocarditis in New York City

DR. T. E. SATTERTHWAITE, New York City: Malignant endocarditis is a very serious disease, often difficult of diagnosis, and usually fatal, in spite of the best possible treatment. By pathologists it is believed to be simple endocarditis which has become infected by poisonous germs. It is so rare an affection that no one person can have had much personal experience with it, but I have had the unusual opportunity of studying 100 cases on the record books of several New York hospitals. With regard to the infecting agent, only those of the streptococcus, staphylococcus, pneumococcus and gonococcocus groups were recorded, either as having been found in the living blood or in the body after death. Among the associated systemic diseases I found rheumatism in more than one-third of the cases, and suppurating foci, pneumonia, pleurisy, phthisis, syphilis, gonorrhea, influenza, tonsillitis, chronic peritonitis, chronic appendicitis, colitis and nephritis in varying proportions. In the 100 cases a germ was found in only thirty-three, and some of these cases were examples of mixed infection. The predominating germs were of the pus-producing varieties. Under the age of 4 years malignant endocarditis almost never occurs in New York, as shown by the statistics of a number of hospitals, including the Babies' Hospital. It is apparently most frequent between the ages of 30 and 40. Basing our prognosis on the 100 hospital cases, we may conclude that 85 per cent. of the patients die, while 10 per cent. improve for a time—how long is uncertain. In 5 per cent. only is there such a degree of improvement that it may be called recovery, so far as the malignant nature of the disease is concerned. In these 100 cases the number of weeks spent by patients in the hospital varied from one to thirteen, the majority succumbing before the end of the fifth week. Anti-gonococcic serum was used in one case, other serums in three, and vaccines in five; but in no instance was there recovery under these forms of treatment.

Other Papers Read

Other papers read were: "Note on Fluorescence Excited Within Human Tissues as a Method of Treatment," by Dr. W. G. Morton, New York; "A Modified Vaccine Therapy in Pneumonia, with Animal Experiments," by Dr. P. K. Brown, San Francisco; "Use of Nickel Sulphate in Medicine," by Dr. L. Kolipinski, Washington, D. C.; "Panhysterocolpectomy: Complete Excision of the Uterus and Vagina, with Closure of the Vagina, for Prolapsus," by Dr. A. E. Gallant, New York; "Considerations on the Treatment of Chronic Disease," by Dr. J. M. Taylor, Philadelphia; "The Treatment of Chronic Universal Perihepatitis," by Dr. R. W. Wilcox, New York; "The Newer Heart Remedies," by Dr. W. F. Boos, Boston.

SOUTH CAROLINA MEDICAL ASSOCIATION

Sixty-Third Annual Meeting, held at Charleston, April 18-20, 1911

Under the Presidency of DR. JAMES H. MCINTOSH, Columbia

Officers Elected

The officers for the ensuing year are the following: President, Dr. J. W. Jervey, Greenville; vice-presidents, Dr. A. E. Baker, Charleston, Dr. J. H. Miller, Laurens, and Dr. H. B. Lee, Summerville; secretary, Dr. Edgar A. Hines, Seneca; treasurer, Dr. C. P. Aimar, Charleston.

President's Address: The Imperative Necessity for Proper Drainage of Our Water Courses and Lowlands

DR. JAMES H. MCINTOSH, Columbia: The United States government spends millions of dollars every year on the development of the arid and unfruitful lands of the West, and by irrigation and drainage makes these acres to become the most productive and valuable lands in our country. We must impress strongly on this government of ours that the time has come for it to turn its paternal eye in this direction. There are thousands and thousands of acres of land in the South, rich in every constituent necessary to the production of enormous crops, but what it needs, and must have, is drainage, and, incidentally perhaps, irrigation. When these lands have been properly drained, not only will they become most productive, but in addition, we shall have abolished them as disease-breeding foci, and the whole country will feel the good effects. I urge the state and counties to take up this work at once, using the state convicts and county prisoners for that purpose. My attention has been directed to this matter particularly, because of my connection with life insurance work. It is rare, indeed, to come across a single application in which malaria does not figure as a cause of death of at least one member of the applicant's family, while in the personal history it is by far the most frequent cause of illness.

Multiple Neuritis, Probably Beriberi Associated with Pellagroid Erythema

DR. ROBERT WILSON, JR., Charleston: The patient was a medical student, 22 years old, of good habits. Illness began in August, 1910, with slight edema of lower extremities and fatigue on comparatively slight exertion. August 29, at which time general condition had improved slightly, according to his own account, he still had slight edema of legs and complained of weakness. Examination revealed a systolic murmur at apex, moderate degree of anemia, knee-jerks sluggish, a pronounced erythema on back of each hand extending from base of phalanges to the wrist, tongue red. Urine contained no albumin. Two weeks later he returned to his home in Virginia. At this time the erythema had almost disappeared, but he was feeling very weak. No other symptoms had developed. On reaching home, September 14, he was exhausted and had to be carried from the train to his home; also had a temperature of 101 F. The fever continued several days and then passed off. The urine was scanty and dark. Immediately on reaching home he developed a multiple neuritis, the lower extremities suffering in greater measure than the upper. Improvement began very shortly and continued without interruption until complete

recovery. When first seen the diagnosis of pellagra was made tentatively, based on the erythema, general weakness, red tongue and sluggish reflexes. Later developments, however, left little doubt that the case was one of beriberi. The most interesting feature of the case was the erythema which was identical in appearance and location with that which is characteristic of pellagra.

Herniotomy in Youth and Old Age

DR. A. E. BAKER, Charleston: At this time of life Nature's recuperating powers are weak and may not respond to therapeutic measures.

Wounds are sealed with collodion and no plaster of Paris should be applied to the child's body. About eight hours after operation a very young child may be permitted to leave the infirmary. The mother is the best nurse. The unmodified Bassini operation is faulty in the cure of hernia in old age. Method advised—approximating like tissue to tissue. The conjoined tendon is not a part of the closure of the internal abdominal ring—it serves only to close the lower two-thirds of the canal. Local anesthesia is preferable in old age.

DISCUSSION

DR. C. B. EARLE, GREENVILLE: I would take exceptions with Dr. Baker as to a mother being the best nurse for the young child. I have operated on a number of young children, and I think the younger the child the more easily that child is controlled by a nurse. I do not think herniotomy should be done before two and one-half years, because we can easily get a cure by pressure. I would also take issue with Dr. Baker about the suture. The reason Dr. Baker advocates the linen or silk, is that the circulation is bad in old patients—the very reason which renders an unabsorbable suture more apt to become an irritating body and be thrown off, and irritation of the suture is probably the greatest cause of relapse after herniotomy.

DR. J. SHELTON HORSLEY, Richmond, Va.: I wish to add my experience to Dr. Baker's in regard to the postoperative treatment of children at their homes. I believe all children (private patients) under five years of age, do better if they are taken from the hospital as soon as the operation has been performed. They are accustomed to be carried about by their parents, to have their nourishment prepared in a certain way, and to environments which are distinctly different from those of the hospital. This abrupt change often interferes with the child's nutrition and in this way prevents healing of the wound. I believe also that all hernia patients over fifty-five years of age ought to be operated on under cocain unless they are excessively nervous. I recently operated on an old gentleman eighty-one years of age, under cocain, and he made an entirely smooth convalescence. The mere giving of a general anesthetic to a patient of this age is much more dangerous than the operation for the hernia.

Typhoid and Its Prevention by Vaccination

DR. ALEXANDER LAMBERT, New York City: Typhoid is an index of a community's sanitation, and at present the incidence of this disease decreases as the population increases—that is, typhoid is most prevalent in small towns and in the country. It is also more prevalent in the South than in the North. A considerable reduction in the number of cases of typhoid has been secured wherever a pure water-supply has been installed. In like manner supervision of urban milk-supplies has eliminated some typhoid. The Spanish-American War taught us the importance of the common house fly as a disseminator of the disease, and the importance of contact infection. War against the fly is spreading throughout the country, and isolation of typhoid cases is being more strictly carried out. The last factor to be discovered in the spread of typhoid has been the "carrier." Inasmuch as typhoid cases disseminate bacilli during the incubation period and for an uncertain length of time after recovery, while a smaller per cent. become chronic carriers, it has been impossible to control this factor in the spread of the disease. Realizing the impossibility of controlling the many factors concerned in the spread of typhoid, medical men redoubled their efforts to find some suitable method of prevention. Sir A. E. Wright, in 1898, began wholesale innoculations against typhoid in the British army in India, and continued this work in South Africa during the Boer war. Germany followed suit in the Hereros campaign, 1904-1907. The French Academy has just recommended that the same work be instituted in the French army, and in 1910 voluntary inoculations against typhoid were begun in the United States army. So far the results of typhoid vaccination have been gratifying; the morbidity has been reduced more than one-half, and the mortality by considerably more than this. Our army on the Mexican border is immunized, and so far there has not been a case of typhoid, which is in contrast to the late war with Spain, when one-fifth of the army had typhoid and 86 per cent. of all deaths during the war were due to the same cause. The vaccination is entirely harmless, consisting of three hypodermic injections, first of 500,000,000 dead bacilli, then one billion ten and twenty days later. The general reaction following these injections consists of malaise, headache, and slight rise of temperature, with a local reaction of hyperemia the size of the palm of the hand, and at times swelling of the axillary glands; both reactions usually subside within forty-eight hours.

A Typical Case of Raynaud's Disease

DR. T. E. WANNAMAKER, JR., Cheraw: The patient, a well-nourished colored male of 27 years, has suffered from the disease since 14 years of age. Has lost the terminal phalanges of all fingers on both hands, except middle finger of left hand, and that has been slightly affected. The same is true of the toes, and one leg was amputated above the knee at an early stage of the disease when the true nature of the affection was not recognized. Marked improvement followed surgical intervention but the fingers became affected two years later. Since then recurrences were inevitable, one or two attacks occurring each year. Heredity is suggested as an etiologic factor. Drugs seem of little value in treatment, except for relief of pain. Despite the partial loss of all extremities, this patient is able partly to earn his living as a shoemaker, but excessive use of his fingers predisposes to a recurrence.

The Successful Removal of Two Pieces of Steel from the Eye by Electromagnet

DR. CHARLES W. KOLLOCK, Charleston: These two cases were seen within eight days of each other. In the first the eye was seen about an hour after the accident had occurred. The fragment had flown from the top of a cold chisel, struck the cornea near its center, passed through the lens into the vitreous and wounded the pupillary edge of the iris in its flight. As the wound was open and recent an examination with the *x*-ray was not waited for. The point of the Parker magnet was held near the cornea and immediately the piece of steel slipped out. In two months the eye had become quiet, the lens had been absorbed and a little sight remained. A later examination showed that there was no vision, but the eye was quiet and painless.

The second case was seen about four hours after the injury had been received. The foreign body had passed through the center of the cornea, pierced the lens and rested partly in the lens and vitreous humor. It could be indistinctly seen in this position. The magnet held near the wound again easily drew the fragment from its resting place. There was a mild infection of the wound in this case as it was fully four hours after the accident occurred before it was seen. The man was a locomotive engineer and ran his engine a hundred miles with the eye exposed in its wounded condition. Nearly three months elapsed before the eye became quiet. A little vision remains in this eye which might be improved by clearing the pupillary space.

Complications and Sequelæ of Gall-Bladder Diseases as the Result of Delayed Diagnosis

DR. LEGRAND GUERRY, Columbia: Within the last month I have operated in five cases of gall-stones, in which the patients were over 65 years of age, three out of the five were 70 years of age; four out of the five had stones in the common duct, and one an advanced interstitial pancreatis. Jaundice is not a symptom of gall-stones. We do not have jaundice as a symptom until the common duct is involved. We

must have obstruction of the choledochus somewhere to produce jaundice. Jaundice in gall-stones means that we have entered upon the second stage of the disease and instead of having simple stones in the gall-bladder to deal with, we have also a serious trouble of an obstructed and infected choledochus, which runs the mortality from one-half of 1 per cent. to 10 per cent. The following is a case in point: A man, aged 67, for fifteen years complained of indigestion. This was followed by numerous attacks of bilious colic (whatever that is) which would recur two or three times every year. There was a gradual failing in both appetite and health. Eleven months ago, severe attack of colic occurred, with high fever, sweats and point of tenderness. Profound jaundice developed, which led ultimately to diagnosis of gall-stones. Upon operation several hundred stones were found, with more pus; several stones of large size in the choledochus. As the result of the long continued absorption of toxins and cholemia, he probably had a myocarditis, nephritis, and undermined nervous system, with extremely low resistance. Operation showed a very large head of the pancreas. (In 27 per cent. of the common duct cases there are pancreatic complications.) Three weeks after operation patient was convalescent, when pulse began to rise and he died in seven days. Such cases show that we can remove the gall-stones, but not the kidney, heart and other complications—the result of procrastination and delay. If the symptoms in any given case do not demand intervention, they demand the very strongest possible reason for not interfering. We cannot, and we need never, expect success in the field of work if we wait until the symptom of jaundice is flung in our faces, and a diagnosis made as the man walks into the office. Jaundice, biliousness, indigestion and the other go-betweens for efficiency and sound knowledge should be expunged from the record, and an earnest effort made to place a true interpretation on symptoms. How often do we hear of innocent gall-stones? Innocent gall-stones, in our humble opinion, belong to the department of fiction, and instead of the stones being innocent, it is the innocent doctor.

Medical Inspection of Schools

DR. WILLIAM WESTON (Chairman of the Legislative Committee): A bill to provide for a system of medical examination of school children and students attending public schools and colleges within the state is now on the calendar of both the Senate and the House. This bill has the endorsements of the committee on medical affairs, likewise the committee on education. The bill has also been recently endorsed by the State Teachers' Association and many other organized bodies. There is every reason to believe that the bill will be enacted into law at the next session of the legislature. The committee believes that it has, after studying the laws of the various states of the Union as well as those of foreign countries, formulated a bill which will be of unusual benefit to the schools of South Carolina.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(*Continued from page 1606*)

Conjugal Tabes Dorsalis

DR. A. A. ESHNER, Philadelphia: Sometimes several members of a family develop tabes or paresis, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first. In one of my cases the symptoms appeared in husband and wife at about the same time. No history of syphilis was elicited, although infection may have occurred. In the second case it was learned incidentally that the husband of a woman who was under treatment for tabes likewise presented symptoms of the same disease, although he insisted that there was nothing wrong with him and declined treatment; he gave a history of an initial lesion.

Acute Dilatation of the Stomach in Pneumonia

DR. M. H. FUSSELL, Philadelphia: Acute dilatation of the stomach is a real complication or sequel to pneumonia fraught with great danger to the patient, usually easily relieved and generally unrecognized. Eleven cases have thus far been reported, including my own. In cases which have come to autopsy there has been found constriction of the duodenum at the root of the mesentery. The question as to which is primary, the duodenal obstruction or the dilated stomach, is still undecided. I believe that in these pneumonia cases there is an involvement of the innervation leading to dilatation, this dilatation in itself causing by traction a constriction of the duodenum. Unquestionably there are some cases with chronic dilatation which develop acute symptoms. The symptoms are vomiting, abdominal pain, distention due to enlarged stomach, constipation, collapse, splashing sounds, peristaltic movement over the stomach. Lavage brings great relief and, if dilatation has occurred after the crisis, recovery is almost certain to occur. Lavage must be done as often as distention occurs. When the patient is in collapse it is feared that passage of the tube may be fatal. This is a mistake, for the tube is easily passed and relief is marked. By turning the patient on his side or abdomen the constriction of the duodenum is relieved. Food and drink must be interdicted. Strychnin and physostigmin (eserin) are of value.

DISCUSSION

DR. C. G. STOCKTON, Buffalo: The most striking case I have ever seen was one of acute dilatation in a child of nine years. The size of the stomach was unbelievable. It was undoubtedly acute. I think that dilatation does occur in pneumonia more than we realize. I have seen it in two other cases of pneumonia.

DR. C. N. B. CAMAC, New York: It has been suggested, and some of the autopsies tend to support that idea, that the dilatation may possibly be brought on by involvement of the vagus by mediastinal exudate associated with pneumonia. In some of the cases there was at autopsy very extensive dilatation. It was almost altogether in lower lobe pneumonia.

DR. S. J. MELTZER, New York: Pneumonia produces very often a dyspnea and frequent swallowing without any saliva. It is possible that the presence of air thus swallowed may be a factor in the production of dilatation.

Comparative Toxicity of Various Alcoholic Beverages

DR. JULIUS FRIEDENWALD, Baltimore: Experimentally I found that pure alcohol is less toxic than inferior whisky, and good whisky less toxic than inferior whisky, but more toxic than pure alcohol. Brandy is more toxic than alcohol or whisky, and genuine brandy just as toxic as ordinary brandy. Rum is more toxic than alcohol, whisky or brandy, and gin more toxic than pure alcohol. Liqueurs are more toxic than pure alcohol, whisky or brandy, and just as toxic as rum. Beer is but slightly more toxic than pure alcohol, and ale is no more toxic than beer, but more toxic than pure alcohol. Wine is more toxic than alcohol or whisky, and red wines are more toxic than white wines.

DISCUSSION

DR. G. M. KOBER, Washington, D. C.: Did Dr. Friedenwald estimate the amount of fusel oil present before injecting? My impression is that whenever the amount of fusel oil exceeds 1 part to 1,000 it is toxic.

DR. V. C. VAUGHAN, Ann Arbor, Mich.: The fact that a substance proves poisonous when introduced intravenously does not say that it will prove poisonous when given by the stomach. I do not think his investigations have taken into account this relative toxicity.

DR. J. FRIEDENWALD, Baltimore: I did not estimate the amount of fusel oil before injection. It is difficult, of course, to draw any conclusion from a small number of experiments of this kind. This was a little bit of work done experimentally on rabbits to obtain the pathologic effect of alcohol on them.

Two Cases of Leukemia with Disease of the Gums

DR. HENRY JACKSON, Boston: These two cases are of especial interest in that the chief symptom in each case was due to disease localized in the gums. The gums were much thickened, measuring 1 inch in cross section; along the edge was superficial ulceration, and they bled easily when touched. Both cases were considered as some local disturbance of the gums and mouth until the blood examination made the diagnosis possible. The first case is one of acute lymphatic leukemia. As the glands were not enlarged in the first part of the disease this case suggests that the cause of the leukemia is to be sought in the bone marrow, rather than in a disturbed function of the lymphatic glands. This supposition is further substantiated in that though most of the cells were typical large lymphocytes, some of them were very similar to myelocytes, as granules were present in the cell substance. The second patient was a man 36 years of age, a dentist. Swelling of the submaxillary glands was soon followed by swelling of the cervical glands and gums; gums tender, hemorrhage; chief complaint great weakness. He was admitted with a diagnosis of scurvy. In this case the first impression of the stained specimen suggested an acute lymphatic leukemia, but the granules showed the cells to be abnormal myelocytes.

DISCUSSION

DR. R. C. CABOT, Boston: It seems to me we have more difficulties as years go on in a fair demarcation of the clinical picture of acute lymphoid leukemia from the cliuical point of view. It has always been an occasional stumbling-block that certain cases of whooping-cough have such an enormous number of lymphocytes and there are several instances of supposed leukemias reported recovered which were obviously whooping-cough. There is another difficulty, namely, a septic lymphocytosis.

DR. HENRY KOPLIK, New York: Most men working among children feel that the blood picture in children can scarcely be compared with that of the adult. Anemias in children so closely simulate leukemias in the adult that one must be cautious in speaking of lymphatic leukemia.

(*To be continued*)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Medical Research, Boston

April

1 *A New Type of Cell Inclusion, not Parasitic, Associated with Disseminated Granulomatous Lesions. S. B. Wolbach, Boston.
2 *Nature of Trachoma Bodies. S. B. Wolbach, Boston, and S. H. McKee, Montreal.
3 Studies on Bacterial Variation. L. F. Rettger and J. L. Sherrick, New Haven, Conn.
4 A Chemical Study of Human Sweat. L. W. Riggs, New York.
5 Two Cases of Tumor Metastases Involving the Parathyroid Glandules. R. L. Thompson, St. Louis.
6 *Accessory Thyroid Tissue Within the Pericardium of the Dog. J. L. Swarts and R. L. Thompson, St. Louis.
7 *Recuperation of Nerve-Cells After Functional Activity from Youth to Senility. D. H. Dolley, Columbia, Mo.
8 *Study of the Hemopoietic Serum of Carnot. R. C. Larrabee, Boston.
9 *Studies in Immunity to Tuberculosis. A. K. Krause.
10 Biology and Biochemistry of Bacteria and Their Relation to Therapeutics. A. I. Kendall, Boston.
11 *Pathologic Changes Which Develop in the Kidney as a Result of Occlusion by Ligature of One Branch of the Renal Artery. W. DeB. MacNider, Chapel Hill, N. C.
12 Chronic Passive Congestion of the Liver. F. B. Mallory, Boston.

1. **A New Type of Cell Inclusion.**—In five human cases Wolbach found peculiar and striking cell inclusions. Four of these cases occurred in a series of nine hundred necropsies. The lesions have considerable resemblance to miliary tubercles. They consist at first of groups of epithelioid cells and giant cells. Later, a proliferation of connective tissue takes place, which leads to a fibrous tissue focus surrounding the giant cells. Extensive necrosis or caseation does not occur. Complete cicatrization is the rule. The inclusions are made up of two materials with different staining reactions. The type structure is that of a central mass with radiating straight or spinous projections. They bear a superficial resemblance to forms assumed by the acid-fast bacteria, including the tubercle bacillus, following certain methods of inoculations, and to the capsular material with spinous projections occasionally encountered in experimental lesions produced by certain fungi. They are found most often in giant-cells. The smaller forms are often found within endothelial leukocytes and occasionally within endothelial cells, which are attached to the walls of the lymph-spaces. Rarely the inclusions have been found free within the sinuses of lymph-nodes. The lesions in which these inclusions occur have been found in lymph-nodes, spleen, liver and lung. The most striking feature in the consideration of the lesions in which the inclusions occur is the wide distribution throughout the body. Tuberculosis has been excluded, as far as a most painstaking search for tubercle bacilli can exclude tuberculosis; also none of these cases show a typical tuberculous lesion in any part of the body. According to Wolbach the most important deduction to be made from this study is that it is a hitherto undescribed, generalized process of non-infectious origin.

2. **Nature of Trachoma Bodies.**—Wolbach and McKee hold that trachoma bodies are not specific of trachoma, nor are they parasitic in nature. In sections, they are found only in the most injured portions of the epithelium, where typical mucus-secreting cells are absent. On the other hand, in the more normal portions of the epithelium, where mucous cells are present, trachoma bodies cannot be found. Granules identical in size and staining reaction with the red granules of trachoma bodies may be found in disturbed mucous secretion. The so-called plastin material of trachoma bodies is similar in staining reaction and arrangement with certain forms of mucous secretion. The authors have come to the conclusion that trachoma bodies are the product of mucous secretion under pathologic conditions.

6. **Accessory Thyroid Tissue of the Dog.**—Of twenty-four animals showing pericardial thyroids, the structure of these bodies corresponded almost identically with the structure of the thyroid gland of the same animal in twenty-one instances. The exceptions were in two colloid goiter dogs which showed normal pericardial thyroids and in one animal with hyperplastic thyroid which showed a normal pericardial thyroid. In the limited amount of human material so far examined, Swarts and Thompson have failed to find thyroid tissue within the pericardium.

7. **Recuperation of Nerve Cells.**—The following conclusions are deduced by Dolley from the nature of the anatomic reaction in the Purkinje cell and the differential counts for the different animals.

1. To the end of its life-cycle the cell continues to react and there is manifest the attempt toward reorganization and restoration.
2. The power of recuperation is an inherent capacity, varying in each individual after the same degree of exhaustion.
3. The equipment of chromatin affords a valuable index of the power of the cell taken by itself and of the capacity of the individual when taken collectively. In the poorest recoveries the chromatin was more scanty and more delayed in restoration; in the best it was more rapid and tended to swing back to a more distinct excess as compared with an average.
4. Very young puppies show a greater and more wide-spread reaction to a given strain than adult dogs and recover from it more slowly.
5. The best recovery was in the dog which was in the best state of training.
6. The process of recuperation after exhausting activity is slow. After a physical overstrain of the kind employed complete recovery could not be expected in the best subject under two weeks, while the least capable subject used shows that it may be a matter of several months, or likely longer.
7. There is a wide range of anatomic states in different though apparently normal animals under the same external conditions.
8. Natural senescence and natural death, from the point of view of the nerve-cell, may happen independently of any extraneous cause whatsoever and are the inevitable final result of its natural activities. The morphologic price of activity is age.
9. Premature senility is the certain outcome of the injudicious and extravagant expenditure of energy without adequate chance for rest and recuperation.

8. **Hemopoietic Serum of Carnot.**—Larrabee was unable to verify the work of Carnot either experimentally or clinically.

On the experimental side the results were wholly negative, the average change in the red corpuscles after "hemopoietic serum" being a slight decrease. In a number of instances the injection of the serum was followed by considerable changes, never so great as those observed by the French writers, and apparently representing merely normal fluctuations. The latter were shown, in a few animals, to be much more marked than is commonly supposed. The serum was administered to eleven patients with anemia of various sorts. In three there was an immediate increase of red corpuscles exceeding 250,000, the maximum being 828,000. All were in post-hemorrhagic anemias.

9. **Immunity to Tuberculosis.**—As a result of his experiments, the following conclusions are drawn by Krause:

1. Sensitization of non-tuberculous guinea-pigs with tuberculoprotein does not alter their resistance to experimental tuberculous infection.
2. Sensitization to tuberculoprotein and relative immunity (increased resistance) to infection can occur coincidently in the same animals.
3. Resistance to infection is markedly lowered during the period that a sensitized animal is suffering from symptoms of anaphylactic shock.

11. **Pathologic Changes in the Kidney.**—Ligature of the posterior branch of the renal artery, MacNider says, leads to a necrosis of the greater portion of the cortex and the superficial portion of the medulla of approximately the posterior one-third of the kidney. An imperfect anastomosis between the vessels of the two vascular zones of the kidney is possible and does develop. With the development of the anastomosis there is at first an ingrowth of connective tissue cells into the necrotic zone, followed by an ingrowth of renal epithelium. Some of the glomeruli are regenerated by an ingrowth of capillary buds which later become canalized and contain blood. A secondary fibrosis is inaugurated, and with its development there is an atrophy of renal tubules, fibrosis of the glomeruli and obliterative changes in the vessels. The resulting picture is comparable to a chronic interstitial nephritis.

American Journal of Diseases of Children, Chicago

May

13 *Studies on Infant Nutrition: 1. Metabolism in Chronic Malnutrition. A. M. Courtney, New York.
14 *Etiology and Nature of Hard Curds in Infants' Stools. J. Brennemann, Chicago.
15 A Duodenal Tube for Infants. A. F. Hess, New York.
16 Spasm of the Pylorus in Infancy. J. L. Morse, Boston.
17 Blood Transfusion in Infants by Means of Glass Tubes. B. Vincent, Boston.

13. **Metabolism in Chronic Malnutrition.**—A summary of the analysis of the behavior of fat in patients under observation by Courtney brings to light the following peculiarities in the effect produced by fat intake. In all patients it undoubtedly produced an increased peristalsis of the small intestines. Whether this effect was produced by the fat independently, or whether the fat facilitates the similar action of the carbohydrates can for the present not be stated with a degree of certainty. The increased peristalsis results in a fall of fat absorption and, in an abnormal composition of the feces, which expresses itself in a high content of insoluble soap. However, the lack of fat absorption and the withdrawal of mineral bases by the unabsorbed fat did not reach a sufficient degree of intensity to be regarded as very important factors in causing the defective nutrition noted in the patients. On the other hand, the fat of the food failed to produce the principal effect that it invariably causes in health. Namely, it failed to bring about in connection with the carbohydrate of the food the normal gain in weight in the patients, who did not suffer from any difficulty in nitrogen assimilation, and whose diet contained a sufficient amount of calories for normal growth.

14. **Etiology of Hard Curds in Infant's Stools.**—The principal point emphasized by Brennemann is that when he resorted to the time-honored expedient of boiling the milk, he found almost without exception that the digestion improved, and that without any exception the hard curds disappeared within a day or two without otherwise altering the food. In all his experiences he has never seen a hard curd unless a considerable amount of raw milk casein was given, and he has never seen curds persist or occur when boiled milk, no matter in what amount, was given. He also points out that certain very diverse foods, commonly recognized as easily digested foods, such as buttermilk, condensed milk, dried milks, sodium citrated or otherwise alkalinized milks, all have one thing in common—they do not curdle in hard masses as raw milk does. On the other hand, it is certainly a question whether the use of rennin, as in pegnin or chymogen, has decided, or, indeed, any advantages when the milk is previously boiled, over boiled milk itself; and when not boiled the result is not satisfactory because of the toughness of the small curds that are formed. Even in the preparation of "eiweissmilch," with raw and boiled milk, respectively, there is an appreciable difference in the consistency and amount of the curd and the amount of whey extracted; hence a difference in the ultimate food itself in the very respect that makes it unique and effective as a therapeutic measure. He who uses raw "eiweissmilch" will get very different results from another who uses boiled milk in its preparation.

Medical Record, New York

May 13

18 Mistakes in Diagnosis of Chronic Lesions. W. A. Bartlett, New York.
19 *Prevention of Insanity: Hygiene of the Mind. A. J. Rosanoff, Kings Park, N. Y.
20 *Etiology of Pancreatic Disease. J. E. Davis, Detroit.
21 Ocular Manifestations of the Peripheral Affections of the Fifth Cranial Nerve. G. H. Bell, New York.
22 *Chlorids, Phosphates and Sulphates of the Urine in Last Stage of Pulmonary Tuberculosis. J. C. Warbrick, Chicago.
23 Postoperative Urinary Incontinence. J. B. Squier, New York.
24 Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.
25 *Acute Tonsillitis and Its Treatment. H. Hays, New York.

May 20

26 Random Recollections of a Long Medical Life. S. Smith, New York.
27 *Diagnosis of Cancer of the Uterus. E. Atlee, Philadelphia.
28 Holzknecht's Method for Measuring Dose of Roentgen Rays. J. B. Stern, New York.
29 *Comparative Longevity of the Sexes. A. H. Stewart, Lawton, Okla.
30 Segregation and Education of Children Affected with Ringworm of the Scalp. U. J. Wile, New York.
31 Two Cases of Gastric Ulcer Due to Diseased Gall-Bladder and Appendix. A. Judd, New York.
32 *Prognosis of Lobar Pneumonia. T. F. Reilly, New York.

19. **Prevention of Insanity.**—Rosanoff presents a certain modern standpoint of the etiology of insanity and a review of measures of prevention which have been practiced with some degree of success and which may, therefore, be recommended for general adoption.

20. **Etiology of Pancreatic Diseases.**—During the past year Davis has observed and treated one case of carcinoma and three of diabetes mellitus in which functional tests pointed to involvement of the pancreas. Advantage was frequently taken of the test findings and adjustment made in the quantitative relations of the fat, protein and carbohydrate. The results have been convincing that very marked relief was consequently afforded; furthermore, in two of the cases which have resulted fatally, prolongation of life was very evident.

22. **Chlorids, Phosphates and Sulphates of the Urine in Pulmonary Tuberculosis.**—Warbrick states that the changes in the chlorids, phosphates and sulphates in the last stages of pulmonary tuberculosis are not as great as would be expected in the last part of a wasting disease. The chlorids are somewhat increased, but this might be accounted for by the large amount of food that must be taken to keep up repair. The phosphates are sometimes increased also. The sulphates were found to be increased in three examinations of the urine.

25. **Acute Tonsillitis and Its Treatment.**—Hays recommends the treatment of tonsillitis by means of a 50 per cent. silver nitrate solution, after thorough anesthetization of the tonsil with cocain. The silver is applied to the opening of each crypt, and the patient afterward uses a spray of peroxid of hydrogen.

27. **Diagnosis of Cancer of Uterus.**—The relation of body weight to early diagnosis is the point discussed by Atlee, who maintains that the point of importance to be considered is,

not actual weight of the individual, but comparative weight of that individual at different periods. The actual maximum weight of the constitutionally light woman can but differ greatly from the actual maximum weight of the constitutionally heavy woman.

In the furtherance of this research, twenty-four cases have been carefully studied by Atlee and the evidence obtained is interpreted to point almost conclusively one way, viz., that the incipient stage of cancer of the uterus is coincident with the maximum weight of the woman, irrespective of age; and that the duration of this incipient stage may vary, as does that of the recognized stage of the disease.

29. **Comparative Longevity of the Sexes.**—A statistical study made by Stewart shows that there is a great preponderance of women in the older population, and the greater the age the greater is this preponderance. After making all due allowances for the greater mortality of man in war and from accidents from dangerous occupations and from masculine excesses Stewart feels that there are good reasons for believing that nothing short of a constitutional difference can account for the greater tenacity of life in women. Woman is a physiologic miser, she accumulates energy without expending it, while man is a physiologic prodigal; he expends more energy than he accumulates.

32. **Prognosis of Lobar Penumonia.**—The two general conditions, Riley says, which betoken an approaching dissolution in most cases are the presence of the so-called Romberg Passler syndrome, and, second, the failure of the right heart. In the first instance, the dilatation of the blood-vessels in the splanchnic area causes the normally low blood-pressure to sink much lower; this is accompanied by an increased rapidity of the heart. Shortly afterwards tympanitis becomes a marked symptom. The patient then looks as though he had been bled excessively. He has the appearance of profound shock; the pulse becomes irregular and this is often followed by delirium, hallucinations, restlessness and later stupor and coma; although occasionally the heart becomes much slower, the patient invariably dies when this symptom is well developed. In the second class the patient is cyanotic and there is great dyspnea, the jugulars are full and pulsating, the heart dulness is sometimes increased to the right, and the liver dulness almost always increased. Occasionally such a patient is saved; they usually die of asphyxia. When death has begun, the earliest indication of which is an increasing dyspnea, and a rattle with each respiration, which persists after coughing, recovery is unlikely. Riley says it would be difficult to get a unanimous opinion among any group of medical men of the present day that any form of treatment has any specific value as a cure of pneumonia. Personal views as to their ability to alter the prognosis by this or that treatment will always prevail. Certainly the prognosis can be influenced by the treatment and prevention of symptoms, complications, and sequelæ, but it is difficult to measure this in a concrete way. Last, but by no means least, in making a prognosis we must take into account the mental attitude of the patient. Hopefulness, determination to win, and patience sometimes prevail when there does not seem to be a glimmer of hope. These mental phenomena cannot be measured, but, when coupled with confidence in the physician, undoubtedly have a favorable influence. Possibly the loss of this personal confidence in the physician is an added factor in the high mortality in hospital practice.

American Journal of Urology, New York

April

33 Phenolsulphonephthalein as Test for Renal Function Before Operation. E. L. Keyes, Jr., New York.
34 Value of Vaccines in the Treatment of Infections of the Urinary Tract. H. Cabot, Boston.
35 Time and Method for Prostatectomy. B. Tenney, Boston.
36 Some Untoward Consequences of Phimosis and of Circumcision. G. H. Edington, Glasgow.
37 Perineal Prostatectomy. A. H. Ferguson.

Kentucky Medical Journal, Bowling Green, Ky.

May

38 *Rheumatic Eye Disease. S. G. Dabney, Louisville.
39 Ectopic Gestation. H. A. Davidson, Louisville.

38. **Rheumatic Eye Disease.**—Hot applications to the eye are believed, by Dabney, to be generally useful. In iritis, atropin is the mainstay while leeches and dionin are often useful. He uses the dionin in 10 per cent. solution; it allays pain for a considerable time and is said to promote the absorption of the atropin. Dabney is under the impression that the profession underrates the value of frequent sweat baths. He says that elimination by this means and by frequent systematic muscular exercise combined with careful avoidance of constipation, are all important measures.

Journal of Nervous and Mental Diseases, New York

May

40 Growth Changes in the Nervous System. H. H. Donaldson.
41 A Case of Cerebral Decompression of Five Years' Standing, in Which a Large Cerebral Hernia Has Resulted, with Marked Improvement in Optic Neuritis. J. H. Lloyd, Philadelphia, and J. M. Spellissy, Philadelphia.
42 *Study of Heredity in Insanity in Light of Mendelian Laws. G. L. Cannon and A. J. Rosanoff, New York.

42. **Heredity in Insanity.**—The material on which the authors made their observations consists of the pedigrees of eleven patients and includes thirty-five different matings, a total of 221 offspring. They found that both parents being neuropathic, all children will be neuropathic. One parent being normal, but with the neuropathic taint from one parent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal, but capable of transmitting the neuropathic make-up to their progeny. Both parents being normal but each with the neuropathic taint from one parent, one-fourth of the children will be normal and not capable of transmitting the neuropathic make-up to their progeny, one-half will be normal but capable of transmitting the neuropathic make-up, and the remaining one-fourth will be neuropathic. Both parents being normal, one of pure normal ancestry and the other with the neuropathic taint from one parent, all the children will be normal, half of them will be capable and half incapable of transmitting the neuropathic make-up to their progeny. Both parents being normal and of pure normal ancestry, all children will be normal and not capable of transmitting the neuropathic make-up to their progeny.

Annals of Surgery, Philadelphia

May

43 Recent Advances in Pulmonary Surgery. J. H. Jopson, Philadelphia.
44 *Injury as a Causative Factor in Cancer. W. B. Coley, New York.
45 *Acute Ulcer Peritonitis in Typhoid. F. Hawkes, New York.
46 *Radical Cure of Femoral Hernia in the Aged. P. M. Pilcher, Brooklyn, N. Y.
47 Acute Diverticulitis. H. A. Bruce, Toronto, Canada.
48 Appendicostomy to Safeguard the Excluded Colon in Lane's Operation for Chronic Intestinal Stasis. A. E. Rockey, Portland, Ore.
49 Case of Chylous Cysts of the Mesentery. W. H. Axtell, Bellingham, Wash.
50 Removal of the Ureter with a Tuberculous Kidney. G. E. Shoemaker, Philadelphia.
51 Use of the Moorhof Bone Plug in the Surgical Clinic of the University of Minnesota. J. C. Stewart, Minneapolis.
52 *Use of Scarlet Red and Amidoazotoluol in Stimulating the Epithelization of Granulating Surfaces. J. S. Davis, Baltimore.
53 An Improved Device for Transfusion. H. H. Janeway, New York.

44. **Injury as Causative Factor in Cancer.**—A careful study of over 1,200 personal observations has convinced Coley that local trauma of any kind, from chronic irritation to a single local contusion, is not infrequently the direct exciting cause of malignant tumors of all types. That a single local injury may cause a carcinoma as well as a sarcoma, is no longer open to speculation. Coley believes that his cases fulfil all the conditions necessary to establish a definite causal relationship between a single trauma and the development of a cancer. This relationship in no way depends on ability to offer a scientific explanation of it; nor does it depend on the acceptance of any one of the various hypotheses as to the etiology of cancer. It can equally well be explained whether we accept the extrinsic or intrinsic origin of malignant tumors.

45. **Typhoid Ulcer Peritonitis.**—Hawkes claims that early operation is not usually suggested in these cases because the diagnostic value of abdominal rigidity at its first appearance is not appreciated, and that on this account a persistent

search for it is not made from the time that the patient begins to suffer from abdominal discomfort. The records show that it is only recognized, as a rule, when marked pain is complained of, and unless other alarming symptoms are present, the case is, unfortunately, too often watched until the rigidity becomes general and a spreading peritonitis has become well established. He believes that enough evidence is at hand to justify the statement that an early exploratory operation exerts a distinctly beneficial influence, not only on ulcers that may be about to break down but on others as well, thus preventing their further progress toward separate perforations, a condition recognized as almost invariably fatal.

46. **Femoral Hernia in the Aged.**—The radical cure of femoral hernia in the aged which Pilcher advocates consists of the following steps: (1) Intracutaneous injection of .2 per cent. solution of cocain along the line of incision. (2) Incision, enucleation of the sac, and exposure of the femoral ring. (3) Opening the sac and inspection of the contents, incision of point of constriction, and return of intestines to abdominal cavity. (4) Transfixation and ligature of the neck of the sac with a single ligature, and fixation of the stump of the sac to the abdominal wall above the femoral ring. (5) Single purse-string suture uniting Poupart's ligament, Gimbernat's ligament, the pectineal muscle and the sheath of the femoral vessels, obliterating the patency of femoral canal. (6) Closure of the wound with interrupted silk sutures, without drainage.

52. **Scarlet Red Dressing of Ulcers.**—Davis says that scarlet red and amidoazotoluol will not heal every wound, but in the majority of cases, when applied with the proper technic, they will cause epithelial stimulation in the edges of the most sluggish wounds, and give a rapid healing which is stable and resistant, and which has the macroscopic and microscopic appearance of the normal skin. There is no tendency to subsequent contraction, and the skin becomes movable on the underlying tissues in a reasonable time. The consensus of opinion is that there is no danger of producing malignant growths by the clinical use of these substances. Davis' experience has convinced him of this, and, he says, although occasionally there is an overgrowth of epithelium, this soon assumes the level and the appearance of the normal skin.

Journal of the American Public Health Association, Urbana, Ill.

April

54 Further Contribution to Our Knowledge of Insecticides. C. T. McClintock, H. C. Hamilton and F. B. Lowe, Detroit.

Boston Medical and Surgical Journal

May 11

55 *Experimental Work on Fusion of Nerves and Its Practical Bearing on Infantile Paralysis. H. O. Feiss, Cleveland.
56 Case of Hemiatrophy from Scleroderma. P. C. Knapp, Boston.
57 The Towns-Lambert Treatment for Morphinism and Alcoholism. R. C. Cabot, Boston.
58 *Review of Two Hundred and Fourteen Cases of Extra-Uterine Pregnancy at the Massachusetts General Hospital. W. P. Coues, Boston.

May 18

59 Meningitis in Infancy. J. L. Morse, Boston.
60 Complete Rupture of the Supraspinatus Tendon. Operative Treatment with Report of Two Successful Cases. E. A. Codman, Philadelphia.
61 Intussusception in Children. J. H. Young, Newton.
62 Treatment of Intussusception in Children. W. E. Ladd, Boston.

55. **Fusion of Nerves.**—Nerve "fusion" is nothing more nor less than a method which attempts to render permanent the arrangement of the fibers in that stage of regeneration when they run in more than one direction. It is a method for taking advantage of the confused nerve pattern of the scar in the transitory stage and fixing that pattern in the hope that, when regeneration is finally completed, the fibers will have grown down different tracts from those which they originally occupied, thus defeating chemotaxis. So in a case of paralysis, if some of the fibers in the nerve are degenerated and their sheaths are empty, the question arises whether the interposition of a proper scar in the course of that nerve may distort its nerve pattern so as to enable the empty tracts to become occupied again with new fibers. Not only this, but also whether some of the branches that form on the sprouting ends of the divided axis-cylinders may also be made to enter tracts which have previously been empty, thus gaining not only a new distribution of fibers, but also an actually greater number. In this preliminary report, Feiss details the method of procedure adopted by him, and also reports one instance in which it was used on the human. But not sufficient time has elapsed to make a final report.

58. **Extrauterine Pregnancy.**—The conclusions arrived at by Coues from a study of these 214 cases are as follows:

1. Irregular flowing seems to play the important part given it in the books as a symptom of extra-uterine pregnancy.
2. The importance of a long period of sterility as a cause of extra-uterine pregnancy does not seem to be borne out by these statistics.
3. Conditions possibly leading to extra-uterine pregnancy: The fact that cystic ovaries, disease of the opposite tube, adhesions or a previous miscarriage occurred in over 83 per cent. of 202 cases is suggestive, and is in agreement with authorities as to the possible relation of such conditions to extra-uterine pregnancy.
4. The fact that in only 26.5 per cent. of 207 cases the pain was sudden is of interest. In about three-fourths of the cases the sudden, severe pain was preceded by pain of less severity, coming on gradually.
5. Of considerable interest is the leukocytosis observed in the cases in shock. This is apparently a perfect example of leukocytosis after hemorrhage. The finding of a temperature of 100 or over in 43.4 per cent. of the cases, and of a temperature of 101 or over in 14.4 per cent. of cases, is also of interest. Ordinarily it is supposed these cases rarely have any fever.
6. Active hemorrhage at operation. Some observers with much experience in this subject say that active hemorrhage actually seen at operation occurs so rarely as to be practically negligible. It occurred in 4.4 per cent. of all the cases operated on. It is possible that the hemorrhage was in some cases started up by operative manipulation.
7. Immediate vs. delayed operation.

These statistics, Coues points out, show that it is best to wait for a time before operating on patients in shock. Twenty-five per cent. mortality of those operated on in shock, 8.3 per cent. mortality of those for whom the operation was delayed for a time. Active stimulation and blood-pressure-raising drugs seem to be best given after the bleeding points in the tube are secured. Rest and morphia while waiting are most important. Waiting any length of time with a case of extrauterine pregnancy in good condition is dangerous, since it has been shown that bleeding may recur at any time, so that in a few hours the patient may be again in a desperate condition.

Quarterly Bulletin of Northwestern University Medical School, Chicago

April

63 *Improved Technic in Brain Surgery. E. W. Andrews, Chicago.
64 *Desmoid Tumors of the Abdominal Wall After Operation. E. W. Andrews, Chicago.
65 Methods of Testing the Mental Status of Subnormal Children. E. R. Shaw.
66 *Treatment of Puerperal Sepsis by Intravenous Injection of Mercuric Bichlorid. H. M. Stowe, Chicago.
67 Mild Traumatic Neuritis of Brachial Plexus. K. Speed, Chicago.
68 *Study of Forty-Seven Wassermann Reactions After Injection of Salvarsan. J. S. Eisenstaedt, Chicago.
69 *Peculiar Catheter Accident. V. D. Lespinasse, Chicago.
70 Pediatric Clinics of Europe. J. H. Hess, Chicago.
71 Movability of Heart and Aorta in Health, Evidenced by Skiagrams Taken in Unusual Positions. C. A. Elliott, Chicago.

63. **Improved Technic in Brain Surgery.**—Andrews cites a case in which he used glass tubes for subdural drainage of the lateral ventricles in a case of internal hydrocephalus. He says he is convinced that the use of a thin glass, rather than a metal, tube contributed not a little to the success of this interference. The smoother surface texture of glass and the lighter specific gravity probably contribute to this result. Skiagrams taken three years after the operation show the tube to have remained exactly where inserted, and the permanent cure speaks for its persistent utility.

64. **Desmoid Tumors of Abdominal Wall After Operation.**—Two cases, both following hernia operation, are reported by Andrews but one of these was not examined histologically, and was not seen by him before the mass had formed. It was possibly not a true desmoid, but a chronic ligneous abscess, like the "holzphlegmone" of the neck. He says that desmoid tumors should be removed by operation, inasmuch as the tendency is to grow larger and occasionally to start degenerative retrograde or malignant changes.

66. **Treatment of Puerperal Sepsis.**—Stowe has given 185 injections of 1/5 grain of mercuric bichlorid in septic cases

and has never seen any bad or toxic results therefrom. He says that intravenous medication appears to offer the quickest, most accurate and most dependable method of drug administration and that the reputed dangers of embolism are greatly overestimated. Mercuric bichlorid is not the ideal drug to combat septicemia, but it has the advantages of being easily associated with other forms of treatment, is harmless in action and is worthy of trial in serious cases. Care should be taken, however, to keep the teeth clean and to omit salines during the course of treatment.

68. **Wassermann Reactions After Injection of Salvarsan.**—The results of Eisenstaedt's study show that the injection of salvarsan in specific disease does not cause a rapid disappearance of the Wassermann reaction. Cases of latent syphilis, even after the injection of salvarsan, may show a positive reaction. Those cases of lues marked by dry lesions do not react as readily to salvarsan as those characterized by moist or succulent lesions, as judged by the effect on the Wassermann reaction. In those cases of primary lues, in which the patients were injected early with salvarsan, the Wassermann reaction may remain negative for relatively long periods. The injection of salvarsan late in the primary stage of syphilis does not seem to affect the appearance of the Wassermann reaction.

69. **Peculiar Catheter Accident.**—In this case the first loop of an ordinary knot had been tied in the catheter as the filiform coiled up in the bladder. The patient was quite sensitive and had several bladder spasms while the instrument was in place. Lespinasse suggests that probably during one of these spasms the end of the rat-tail of the catheter was crossed over the shaft, and a large loop was formed. This loop being drawn down to its present size by the traction and the resistance of the prostatic urethra. In this particular case no harm was done to the patient.

Philippine Journal of Science, Manila

December

72 *Experiment with Orange-Red Underwear. J. M. Phalen, U. S. A.
73 *Treatment of Strychnin Poisoning with Chloroform. A. O. Shaklee, Manila.
74 *Bone Lesions of Small-Pox. W. E. Musgrave and A. G. Sison, Manila.
75 *Specific Treatment of Leprosy. E. R. Whitmore and M. T. Clegg, Manila.
76 *Tuberculosis in the Philippines. E. R. Whitmore, Manila.
77 Therapeutic Inoculations of Bacterial Vaccines. E. R. Whitmore, Manila.

72. **Experiment with Orange-Red Underwear.**—As the result of very extensive experimentation and observation, Phalen's final judgement is that the test underclothing has added materially to the burden of heat on the system, a burden which undoubtedly is the great cause of tropical deterioration. To balance this, it is protective against the chemical ray, the influence of which is regarded as of little moment, and which is sufficiently excluded by khaki clothing and the campaign hat worn at present. Certainly no beneficial effect whatever was observed from the use of this clothing. This experiment suggests that any efforts toward increasing the physical well-being and efficiency of the soldier shall be directed toward protecting him from the debilitating effects of heat and humidity. After giving due weight to the prejudice against the clothing, the persistent complaints of greater heat, greater weight and increased perspiration lead Phalen to the conclusion that the colored garments are more receptive to heat rays than are the white.

73. **Chloroform in Strychnin Poisoning.**—Shaklee found that dogs poisoned with doses of strychnin which are certainly fatal may recover from the effects of the strychnin if properly treated with chloroform, together with the intravenous injection of liberal quantities of Ringer-Locke solution. Better results are obtained if the chloroform is given by intratracheal insufflation and in uniform concentration as low as consistent with the condition of the patient. Dogs saved from strychnin death by means of chloroform are likely to die later of chloroform poisoning. Chloroform is far inferior to ether for the treatment of strychnin poisoning, and probably for the treatment of convulsions in general.

74. **Bone Lesions of Small-Pox.**—The cases of eight patients who were suffering from deformities of the forearms and hands caused by small-pox contracted during childhood are reported by Musgrave and Sison. The deformity in nearly all the cases consisted of a shortening of both forearms together with enlargement and irregular development about the elbow joints, and irregular enlargements, shortening and other deformities of bones of the wrist, hands and fingers. The authors are of the opinion that the seat of the primary lesions is in that active part of the bone between the epiphysis and diaphysis which grows ex utero, and that the most probable cause of the deformity is primary inflammation and destruction of the secondary center of ossification situated between the epiphyses and diaphyses, resulting in premature ossification.

75. **Specific Treatment of Leprosy.**—Whitmore and Clegg have prepared a vaccine, a glycerin extract and a soap solution from an acid-fast bacillus which Clegg cultivated from leprous tissue. They have used these preparations in the treatment of cases of leprosy for twelve and one-half months, without noting any improvement in the condition of any of the patients. In some of the cases they have noted reactions after the injections, but they are not prepared to say whether or not these reactions are specific. The glycerin extract of this organism does not produce a skin reaction on leprous or tuberculous patients, nor on normal persons. They have treated these same leprous patients for two and one-half months with a soap solution of leprous spleen, rich in leprosy bacilli, without noting any improvement in the condition of the patients. They have treated cases of leprosy for eight months with injections of atoxyl and also with injections of a mixture of sodium cinnamate and mercury cinnamate, without noting any improvement in the patients. They have treated cases of leprosy for eight months wtih injections of Nastin B. These patients already had been treated with injections of Nastin B for nine months by Dr. Teague. At the end of the seventeen months no improvement was noted.

76. **Tuberculosis in the Philippines.**—The result of Whitmore's work seems to indicate that none of the specifics used by him were of especial value in the treatment of pulmonary tuberculosis in natives of the Philippines.

Providence Medical Journal

May

78 Acute Osteo-Arthritis of the Spine After Trauma in Osteo-Arthritic Patients. F. J. Cotton, Boston.

Lancet-Clinic, Cincinnati

May 13

79 Ocular Complications of Measles. L. D. Brose, Evansville.
80 *Blastomycosis. A. Ravogli, Cincinnati.
81 Ipecacuanha. W. E. Bloyer, Cincinnati.

80. **Blastomycosis.**—Iodid of potassium in blastomycetic dermatitis failed in all Ravogli's cases. He prefers the use of tonics. A mixture of arsenic and chlorid of iron has given better results. He relies on the local treatment. The scraping of the granulating surfaces with the sharp curette is necessary, and the raw surface is cauterized with pure lysol. The resulting wound is dressed with gauze saturated in castor oil and balsam of Peru in equal parts. When the small abscesses reappear the exposure to the Roentgen rays has given beneficial results. Ravogli says that perseverance and courage must be used to obtain success in this affection. It is difficult to rid the tissues of the spores budding in their midst, but with perseverance in continuous treatment, giving no quarter to the fungi, and with the use of strong, escharotic cauterizing antiseptics, he has obtained a permanent cure in two cases, and in one, although rather extensive, a marked improvement.

Canadian Medical Association Journal, Toronto

May

82 A Study of Eight Hundred and Fifty Cases of Scarlet Fever with a More Particular Consideration of Seventy-One Fatal Cases. J. McCrae, Montreal.
83 *Relation of the Thyroid to the Female Generative Organs. J. R. Goodall and L. C. Conn, Montreal.
84 Medical Inspection of Schools in All Countries. J. Stewart, Halifax.

83. **Relation of Thyroid and Female Generative Organs.**—Shortly after the onset of pelvic pain and discomfort, the patient noticed a gradual enlargement of her thyroid, dyspnea, tachycardia and other symptoms of thyroid disease. After a while an operation was done and when the abdomen was opened the pelvic disease proved to be a chronic tuberculosis, involving tubes, ovaries and uterus extensively. All these organs were removed. About twelve days after the operation, the authors noted that the thyroid was decreasing in size. This continued and six months after the operation the woman was entirely well. The thyroid had enlarged synchronously with the onset and progress of a grave disease of the generative organs, and with the removal of the pelvic disease the goiter visibly diminished to dimensions below the normal. The authors believe that there can be no hesitation, then, in claiming that the pelvic disease was the cause and the thyroid enlargement the effect. This led them to investigate the subject further, clinically and experimentally, and the following conclusions represent the results of this work:

1. The relation between the female genitals and the thyroid is very intimate.
2. The generative organs which stand in such close relation with the thyroid are the ovaries.
3. That the uterus is devoid of any influence on thyroid activity, except in that its function may affect the ovarian function, and through this the thyroid.
4. Thyroid activity is in a measure under the governance of ovarian activity.
5. Ovarian hyperactivity is a frequent cause of the development of exophthalmic goiter.
6. Diminished or absent ovarian activity usually coincides with myxedema.
7. Puberty, menstruation, pregnancy, lactation and menopause exercise a profound influence on thyroid secretion.
8. Thyroid secretion and ovarian secretion do not supplement each other; they neutralize each other.
9. The ovary has two secreting structures—the corpora lutea and the interstitial cells.
10. It is the secretions from the latter which seem to bring the ovary and thyroid into such close relation.

Ophthalmology, Seattle, Wash.

April

85 Incipient Glaucoma, Its Diagnosis and Treatment. A. A. Bradburne, Southport, England.
86 Operation of Simple Trephining of the Sclera for the Relief of Glaucoma. R. H. Elliot, Madras, India.
87 Arterial Hypertension and Its Relation to Morbid Changes in the Eye. L. C. Peter, Philadelphia.
88 Eye Tuberculosis and Its Treatment. J. E. Windbiel, Amsterdam, N. Y.
89 Bilateral Partial Tenotomy, with a Greek Cross Test-Object for Use During Operation. S. L. Ziegler, Philadelphia.
90 Extractum Corporis Ciliaris in the Treatment of Sympathetic Ophthalmia. E. B. Heckel, Pittsburg, Pa.
91 Visual Malingering. H. V. Würdemann, Seattle, Wash.
92 A Case of Varix or Angioma Venosum of the Orbit. J. F. Klinedinst, York, Pa.
93 Relation of the Anterior Ethmoid Region to Diseases of the Eyes. J. I. Dowling, Albany, N. Y.
94 A Case of Infection Following Cataract Extraction Treated by Vaccines, with Rapid Recovery. R. P. O'Connor, Fort Screven, Ga.
95 Telescope Eyeglasses. K. Scott, London, England.

New York Medical Journal

May 20

96 *Case of Aneurysm of the Arch of the Aorta. J. Tyson, Philadelphia.
97 Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
98 *Certain Lesions of the Lymph-Nodes. D. Symmers, New York.
99 The Manual Treatment of Certain Forms of Ulceration of the Skin. E. F. Cyriax, London.
100 *Pick's Syndrome, with Report of Case. E. E. Cornwall, Brooklyn.
101 Training for Public Health Work. A. E. Shipley, Brooklyn.
102 Causes of Constipation. S. Floersheim, New York.
103 Removal of the Third Digital Phalanx with Formation of a New Joint. E. Beck, New York.

96. **Aneurysm of Arch of Aorta.**—In Tyson's case the aneurysm was treated by wiring on two different occasions. The first time ten yards of silver wire were introduced into the sac. The most striking change which succeeded the wiring was the disappearance of the aneurysmal murmur, and the pain abated. There was no reduction in the size of the tumor. The systolic murmur which disappeared after the wiring remained absent. About two months afterward the aneurysm was again wired. Eighteen feet of No. 2 silver wire were introduced and 10 feet of No. 1 wire. The pain was again relieved by the wiring and the patient was able to sleep. The pulsation appeared also to be somewhat less strong. Notwithstanding the treatment, the aneurysm continued to grow rapidly. The man died about five weeks later. At the autopsy one piece of wire was seen to extend down the aorta, through the aortic valvular orifice into the left ventricle. It was a double loop, both ends being mixed up in a mass of wire. The lower end came to within 1 inch of the apex and the wire was quite firmly attached to one of the pectinate muscles.

98. **Certain Lesions of the Lymph-Nodes.**—Symmers summarizes his paper as follows:

1. Primary disseminated epithelioid tuberculosis of the lymph-nodes, while rare, is by no means unknown. Its occurrence as an epiphenomenon in status lymphaticus, however, appears not to have been recorded, so that the case described in this communication would seem to occupy an unique position.
2. The histologic changes in Hodgkin's disease resolve themselves into three stages, the first of which is characterized by focal hyperplasia of lymphoid cells and is succeeded, among other features, by the formation of multinucleated giant-cells and interstitial connective tissue overgrowths. Although the lesion may not progress beyond this granulomatous stage, cases occur in which the connective tissue stroma undergoes such extensive hyaline metamorphosis that the cellular details are obscured and the histologic individuality of the process is established only with difficulty. This transformation would appear to represent an attempt at healing.
3. A type of Hodgkin's disease exists, either primarily in the cervical region or in the thorax, in which the growth may invade surrounding structures and initiate secondary nodules in distant parts. In either issue the process admits of at least two legitimate interpretations: First, that invasion of surrounding viscera may be referred to sarcomatous transformation of an originally granulomatous lesion, or that it is an expression of compulsory growth and thus locally malignant rather than malignant in the sense that the infiltrating cells possess autonomous properties. Second, that the occurrence of secondary nodules may signify neoplastic conversion of the original growth and the transmission of autonomous qualities to cellular emboli deposited in distant parts, or that the transplanted provocative agent finds a suitable field of activity in the form of lymphomatous foci preexisting in the organ secondarily involved, or that it actually brings such foci into being, the process throughout remaining within the bounds of an inflammatory lesion. But when such highly presumptive evidence of malignancy as destructive infiltration of neighboring tissues and the formation of secondary nodules in distant parts is combined with changes in the morphology of the growth indicated by the development of vast numbers of large round cells and of myeloid giant cells, neoplastic conversion would appear to be established beyond doubt.

100. **Pick's Syndrome.**—The signs and symptoms which essentially constitute Pick's syndrome are: Enlargement of the liver with obstinately recurring ascites, but without jaundice and without signs of cardiac abnormity, in a patient who gives a previous history of pericarditis. Pick believes that the latent pericarditis disturbs the circulation, thereby producing hepatic engorgement and also connective tissue hyperplasia which interferes with the ramifications of the portal vein and thus brings about the ascites. He calls this pathologic complex pericarditic pseudocirrhosis of the liver. Cornwall cites such a case occurring in a boy, aged 19, after an attack of typhoid.

Albany Medical Annals

May

104 The Formation of Gall-Stones. H. W. Carey, Troy, N. Y.
105 Symptomatology and Differential Diagnosis of Gall-Stone Disease. H. C. Gordinier, Troy, N. Y.
106 Surgical Treatment of Gall-Stones. J. B. Harvie, Troy, N. Y.

Medical Fortnightly, St. Louis

May 10

107 Is Anything the Matter with the Doctors? W. J. Robinson, New York.
108 In the Twilight. C. E. Warren, North Easton, Mass.
109 Surgical Eponyms. M. Hagen, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

May 6

1 Sensibility of Alimentary Canal in Health and Disease. A. F. Hertz.
2 *Symptomatic Vagaries of Partial Pyloric Obstruction. A. E. Maylard.
3 Indications of Inborn Proclivity to Gout. Sir D. Duckworth.
4 Suprapubic Transverse Fascial Incision in Gynecology. T. Wilson.
5 Aneurysm of the Innominate Artery; Proximal Ligature; Recovery. P. Sargent.
6 *Reversible Pulmonary Crepitation in Cardiac Failure. A. Morison.
7 Infant Mortality. W. E. Heilborn.

2. Symptomatic Vagaries of Partial Pyloric Obstruction.—The points of most significance in partial pyloric obstruction, according to Maylard, are intermittent attacks of dyspepsia, coupled at such times with the physical signs of gastric peristalsis or gastrectasis in often otherwise healthy patients.

6. Reversible Pulmonary Crepitation in Cardiac Failure.—Morison uses the adjective "reversible" rather than hypostatic, static or postural, to emphasize the fact that the well-marked crepitation denoting pulmonary congestion in the most dependent part is abolished, usually altogether and always, almost, by a single rotation of the patient on his own axis in bed, and in the short space of time which that movement occupies, a fact no doubt explicable by the nature and degree of the congestion in question. It is always, so far as his experience goes, denotative of a grave degree of cardiac failure when reversible from one lung to the other, but may nevertheless disappear and leave the patient in a position to resume his normal activity. While exhibiting the sign, however, he is compulsorily bedridden. It is not the state of the arteries, but of the heart which accounts for it. The sign denotes enfeebled ventricular action. It may be associated with an apical bruit of mitral incompetency, which disappears on convalescence; or no such bruit may be present. As it so happens, Morison has noted it more frequently in the absence than in the presence of organic valvular disease. The cardiac rhythm may be quite regular—has been so—in the cases in which he has observed it, and its rate only moderately, or, at times, considerably, increased.

British Medical Journal, London

May 6

8 *Hemorrhoids. E. S. Bishop.
9 Operative Treatment of Rectal Carcinoma. J. W. Smith.
10 Practical Points in Operating on Kidneys and Ureters. E. Deanesly.
11 *Appendicular Dyspepsia and Treatment of Diffuse Peritonitis. R. C. B. Maunsell.
12 Deaths Following Gastro-Jejunostomy Not Due to Anastomosis. C. H. Whiteford.
13 Pathology and Treatment of Fistulæ. H. Drummond.
14 Similarity Between Acute Abdominal and Acute Pulmonary Conditions. G. G. Wray.
15 Mechanism of Transmission of Trypanosoma Lewisi from Rat to Rat by Rat Flea. C. Strickland.
16 Drainage Tube for Suprapubic Cystotomy, Liver Abscess and Abdominal Cysts. L. McGavin.

8. Hemorrhoids.—In Bishop's opinion the radical method of obliterating the perineal portion of the internal hemorrhoidal plexus (Whitehead's operation) is the one method which can be relied on to prevent any return of the condition. In order to carry this out effectually, he says that the whole perineal portion of this plexus up to the pectinate line should be removed, and the submucosa beyond brought down and firmly fixed to the skin. Failure to do this is at the root of organic stricture of the anus following an operation. In many, at least, of the cases or organic stricture following operation, dissecting out the resulting scar tissue, freeing of the external sphincter, and bringing down of the submucosal layer to the skin will result in a cure.

11. Appendicular Dyspepsia.—For several years it has been Maunsell's practice to open the abdomen by the ordinary oblique incision, remove the gangrenous or perforated appendix, and pass large "cigarette" drains from the wound to the bottom of the pelvis and to one or both kidney pouches, according to the diffusion of the purulent exudate. Silkworm-gut stitches are then placed in position, but not all tied, and the patient is nursed in the "Fowler" position, whilst plenty of saline solution is administered by the rectum. He does not find it necessary, even in the most diffused cases, to make counter openings in the loin or elsewhere. The drains are removed in from thirty-six to forty-eight hours and more of the sutures are tied, but the wound is not completely closed.

Clinical Journal, London

April 26

17 Gangrene Cholecystitis. H. J. Waring.
18 A Case of Carcinoma of the Rectum. E. M. Corner.
19 Clinical History and Treatment of the Less Obvious Types of Gummata. H. Curtis.

May 3

20 Principles of the Treatment of Colitis. W. H. White, R. Hutchison and P. L. Mummery.
21 Operations for Pott's and Dupuytren's Fractures. R. P. Rowlands.

Quarterly Journal of Medicine, London

April

22 *Infection of the Urinary Tract in Children by Coliform Organisms. W. M. Jeffreys.
23 *The Third Sound and "B" Wave in Slow Heart Action; Fallacies in the Interpretation of Records. J. D. Windle.
24 Paroxysmal Tachycardia of Brief Duration. E. E. Laslett
25 Modern English Cardiovascular Teaching. T. Lewis.
26 Alterations of the Hydrochloric Acid in the Gastric Juice. Due to Carcinoma of the Stomach. G. Graham.
27 *Influence of Salicylates on the Cardiac Lesions of Chorea. E. A. Cockayne.
28 The Viscosity of the Blood. C. Allbutt.
29 Influence of Bacterial Emulsions on Phagocytosis. F. Golla.
30 Tuberculin in the Diagnosis and Treatment of Tuberculosis. E. C. Hort.
31 *On Oxycephaly. H. M. Fletcher.
32 Treatment of Gastric Ulcer. E. I. Spriggs.

22. Infection of the Urinary Tract in Children.—Among 121 cases collected and studied by Jeffreys, sixty-seven were due to coliform organisms, thirty-seven to staphylococcus, ten to streptococcus, three to pneumococcus and four to other organisms. Of fourteen cases occurring during 1910, five patients died of the disease and one of meningococcal meningitis, in which the coli infection was a complication. There were sixteen cases in 1909, twelve cases in 1908 and nine cases in 1907; the remaining nine cases were scattered over the previous six years, and one of the patients died of the disease in 1905. Only ten dated the trouble from some previous illness, generally an acute specific fever. In thirty-four cases there was definite evidence of bowel trouble of one kind or another, in ten cases the bowels were noted as regular, and in sixteen there was no evidence pointing to bowel trouble.

With regard to the chief symptoms complained of, in thirty-seven cases they pointed to bladder trouble, usually painful micturition; three cases were brought up for diarrhea and vomiting, nine for abdominal pain, five with meningeal symptoms, four for debility and in two there were no symptoms. Four cases were discovered in children suffering from some other illness. Twenty-one began with symptoms pointing to bladder trouble and nine with symptoms suggesting pyelitis. In thirty cases there was no evidence to suggest the mode of onset. There was evidence pointing to pyelitis in thirty cases; in twelve the right kidney only was affected, in three the left only. The renal trouble began in or was confined to the right kidney in seventeen cases, the left in five; in one of the latter the right kidney was more markedly affected than the left. In eight cases there was no evidence to show which kidney was first affected. Examination of the urine shows that pus was present in nearly every instance, fifty-six out of sixty. Albumin was present in forty-five and blood in fifteen. The urine was acid in thirty-nine cases, alkaline in seven, neutral in one and in the remaining thirteen cases no note was made of the reaction. Casts were noted as being present four times.

Only twenty-one patients were discharged as being cured, that is to say, with no symptoms and no pus in the urine. Nine died; of these six died of the urinary trouble and three of some other disease, of which the urinary infection was a complication. Six were discharged *in statu quo ante* and twenty-three as "improved;" this usually meant that symptoms had abated but that pus was still present in the urine. Altogether fourteen patients were untreated, except by rest in bed and nursing; of these, one was cured, five went out unchanged, two were "improved," and six died, three of the latter from some other complaint. Forty-six patients were treated with drugs, or local applications to the bladder, and twenty of them were cured, four with washing out the bladder, one with alkalis by the mouth, five with antiseptics by the mouth and one with vaccines. The remainder had various combinations of the above methods. The usual treatment was on three lines: 1. Alkalis. 2. Urinary antiseptics. 3. Local treatment to the bladder. These were usually combined. Jeffreys thinks it most important to treat the bowel condition by washing out the large intestine and keeping it acting by means of aperients, but being careful not to produce further irritation of the large intestine, as is very likely

with aperients. Judging by three cases cured by appendicectomy, it seems well worth while resorting to this measure in stubborn cases.

23. **Third Sound and B Wave in Slow Heart Action.**—A third sound with an associated B wave was present in 2 out of 193 observations made by Windle on normal individuals. The pulse-rate was abnormally slow and sinus irregularity present in both cases. In thirteen instances of the number of persons examined, a decided B wave was present in the venous tracing, in none of which a third sound was heard. Marked sinus irregularity was present in nine of the records. The pulse-rate in these cases varied from 50 to 60 per minute. When the pulse-rate was quickened in cases in which the B wave was persistently present under normal conditions, it did not show in the tracing when the pulse rate exceeded 80 per minute. When associated with sinus arrhythmia it was absent from the venous curve when the arrhythmic beats approached this rate. Windle found that the B wave may first appear in the venous tracing coincidently with regular slowing of the heart to a rate of from 50 to 70 per minute under digitalis. This may be brought about in the normal heart. In no case observed was there a third sound present. In slowing resulting from partial heart-block due to squill, an extra wave succeeding, blocked auricular waves is shown to occur. Coincidentally with the establishment of heart-block in this case, a clearly marked third sound was present. Venous curves showing the B wave may present a close resemblance at times to those resulting from extra-systoles or cases of heart-block. With a certain rate of pulse the B and A waves may fall together and give an appearance to the curve closely simulating an increased A-C interval.

27. **Influence of Salicylates on Cardiac Lesions of Chorea.**—The records of 780 hospital patients with chorea, treated during the last eight years, were carefully examined by Cockayne in order to discover whether salicylates really have the power of preventing the onset of carditis, or, if already present, of checking its further progress. Of the 780 patients, 355 were given salicylates and 425 received other treatment: 156 received doses below 60 grs. a day, 95 between 60 and 100 grs., 60 between 100 and 200 grs., 19 between 200 and 300, and 8 received doses of more than 300 grs. a day; the remaining patients were treated with acetosalicylic acid. If the drug has no effect the numbers showing cardiac change should be in the proportion of thirty-nine untreated to thirty-two treated with salicylates, and the actual numbers obtained are so near these that the disparity can have no significance. It might be thought that the larger doses would have had more effect in preventing the progress of the cardiac trouble, but the statistics do not suggest that the size of the dose has any such effect. Cockayne assumes that the organisms of rheumatism were probably present in the myocardium, endocardium or pericardium in these cases, and the salicylates (in the doses usually given) appear to have had no action in preventing their entrance into the heart, nor in stopping their further activity when once established there. This is confirmed by their inability to check the continuance of that low intermittent fever, with its daily or almost daily rise, usually to some point between 99 and 100 F., so characteristic of rheumatic infection in childhood. The fact that they do not prevent the formation of subcutaneous nodules, and that they have no action on choreic movements, which is probably due to toxins elaborated by organisms lying near the blood-vessels of the cerebrum, and poisoning the nerve-cells in their vicinity, would lead one to expect, by analogy, that they would have no action in the similar conditions found in the heart, and Cockayne's results show that this is the case.

31. **Oxycephaly.**—The cranial deformity generally known as oxycephaly is also described under various appellations, such as acrocephaly, known as *Thurmschädel, Spitzkopf,* tower or steeple-head, *turritum caput, tête à la Thersite* (Hamy). The cardinal signs are the characteristically shaped head, exophthalmos and impairment of vision, sometimes amounting to total blindness, associated with changes in the fundi oculorum. The aspect of the patient is very striking, the great height of the forehead sloping gradually upward to the vertex with feebly marked superciliary ridges. The vertex of the skull appears pointed instead of flattened or rounded, and a ridge, or bony prominence, is sometimes felt in the region of the bregma. The hairy scalp may be raised above the normal level and present the appearance of being perched on the top of a cone. Viewed laterally, the ears appear placed on a lower level than normal. The temporal ridges and depressions are feebly marked. Exophthalmos is present in all the well-marked cases. It is sometimes extreme, and dislocation of the eyeballs in front of the eyelids occasionally occurs. Failure of closure of the eyes, especially during sleep, may lead to lachrymation and conjunctivitis as in Graves' disease. Not infrequently the protrusion of the eyeballs is unequal on the two sides. Divergent squint is common and gives a peculiar appearance to the bulging eyes; occasionally the squint is convergent. Nystagmus is present in the majority of cases.

The complexion tends to be muddy, sallow and dark, especially in the older patients. The hair was dark in all the cases Fletcher has seen. They are usually mouth-breathers; the open, gaping mouth adds to the grotesque appearance and gives it a stupid vacant expression. In many cases the palate is shortened and extremely highly arched. The teeth are liable to early caries, the incisors are prominent. The last upper molars may remain unerupted, owing to the shortening of the superior maxilla. Intelligence is unimpaired in quite a large proportion of cases, and may be above the average. It is probable that in cases with a mental development below the average this may be due to the ocular defect, which develops in early life and produces a backwardness from "deprivation," to use Ireland's term. One of Fletcher's patients showed a remarkable degree of intelligence; finding that he was unable to read letters, he speedily taught himself to read the blind alphabet.

Medical Press and Circular, London

April 26

33 *Tachycardia in Children. E. Cautley.
34 Eclampsia: Puerperal Septicemia. H. Jellett.
35 A Case of Natural Delivery Following Cesarean Section. B. A. H. Solomons.
36 Pyloric Stenosis in Infancy. N. P. Marsh and K. W. Monsarrat.

May 3

37 Relation Between the Teeth and Certain Diseases of the Skin and Mucous Membrane. W. K. Sibley.
38 Morbid Mental Growths. G. H. Savage.
39 Chlorid of Ethyl as General Anesthetic. A. Malherbe.
40 Mental and Sick Nursing—a Retrospect and a Prospect. R. Jones.

33. **Tachycardia in Children.**—Cautley emphatically states that the proper treatment of tachycardia depends on its causation. If there is true dilatation, rest is essential until the heart has reverted to its normal or almost normal size. This must be followed by gradual exercise; at first passive exercises, and then resisted movements while in bed, slowly increased according to the results obtained. Subsequently the patient is allowed to sit up, to get up, to walk about the room, to walk downstairs and on the level, to walk upstairs and up a gradual slope, and then increasing distances up hill at a gradually increasing pace. The slightest shortness of breath is a sign of strain. In no instance should a school child be allowed to join in violent games until compensation has been perfectly established for at least six months. Games, such as croquet, golf, archery, badminton and lawn tennis can be taken up by degrees. Bicycling can be begun at a slow pace on a level road, six to eight miles an hour, and ultimately limited to ten to twelve miles an hour. Short bursts at a high speed and long distances must be forbidden. For the neurotic heart rely on general hygiene, residence in a non-stimulating climate, hydro-therapeutics; and a non-stimulating diet, devoid of alcohol, meat extracts, tea and coffee, and containing only a moderate amount of meat. Attend to the digestion, regularity of the bowels, sufficient sleep, and a simple mode of life. The most suitable drugs, in Cautley's opinion, are the valerianates, especially the valerianate of zinc, bromids and belladonna. During an attack of true tachycardia an attempt may be made to cut it short by applying to the præcordium a cold compress, an ice-bag, a spray of ethyl chlorid, or a mustard leaf, and giving strong

black coffee or sal volatile by mouth. In the intervening periods the treatment must be carried out on the lines appropriate for the treatment of the neurotic heart.

Annales de Gynécologie et d'Obstétrique, Paris

April, XXXVIII, No. 4, pp. 193-256

41 The Ovaries of New-Born Infants. M. Delestre.
42 Hysterectomy Without Opening the Uterus, for Hemorrhage from Placenta Prævia; Mother and Child Doing Well. Reymond and H. Cazalis.
43 *Treatment of Hemorrhage from Abnormally Situated Placenta. Champetier de Ribes and A. Couvelaire.

43. Hemorrhage from Abnormally Situated Placenta.—De Ribes analyzes his sixty-eight cases of this kind between 1890 and 1907. The mortality was 10.29 per cent., but two of the seven patients who died were moribund when brought in, and another was in advanced septicemia. A number of the children were prematurely born and died soon afterward, but twenty-five of the thirty-six children born alive left the maternity in good condition. In eight of the total sixty-four cases delivery proceeded normally and in seven nothing was required but podalic version. In eleven cases the hemorrhage was controlled by merely rupturing the fetal membranes, six of the children being born alive. In thirty-eight cases this was supplemented by introduction of the inflatable bag, twelve of the twenty children surviving.

Couvelaire reviews the experiences in 162 cases at the Baudelocque clinic during the last twenty years. The total mortality was 6.7 per cent., and excluding the moribund cases, only 1.28 per cent. The nearer to term the greater the viability of the children, only nine succumbing of the nineteen infants weighing over 3 kilograms at birth, while only two survived of the seventeen less than 2 kilograms in weight. Treatment was by rupturing the membranes, supplemented or not with the inflatable bag. In cases of neglected hemorrhage, in which the women are liable to die of septicemia if they survive the shock of their hemorrhages, he realizes the advantages of the Porro operation as removing at once the source of the hemorrhage and the organ which is liable to be the portal of entry for septicemia. He recently performed this operation with eminent success in thirteen minutes, with 10 gm. of chloroform, the hemorrhage being behind the placenta and very profuse.

Annales de l'Institut Pasteur, Paris

March, XXV, No. 3, pp. 193-286

44 *Experimental Typhoid Fever. E. Metchnikoff and A. Besredka.
45 Protection of Red Corpuscles Against Hemolysis by Dilute Solution of Formol. (Etude de la stabilisation des globules rouges de mammifères—du mouton en particulier—par les solutions tres diluées de formol.) P. A. Delille and L. Launoy.
46 Mechanism of Deviation of Complement Test: the Antihemolysins in the Serum. (Mécanisme de la réaction de Bordet-Gengou. II.) Crendiropoulo.

44. Experimental Typhoid Fever.—The research reported was done on fifteen anthropoid apes, fifty-one monkeys and a number of the ordinary laboratory animals. The fifteen chimpanzees alone were susceptible to typhoid infection by way of the mouth, while none of the lower monkeys, guinea-pigs or rabbits developed typhoid by this route, although in two monkeys of the macacus type typhoid bacilli could be cultivated from the spleen and lymph-glands but there were no characteristic lesions in the intestines. The picture of experimental typhoid differs entirely from that of experimental peritonitis induced by injection of typhoid bacilli in rodents. Vaccination with killed bacilli, which protects guinea-pigs against peritoneal infection, proved powerless to prevent experimental typhoid in the apes. This shows, Metchnikoff says, that we make a mistake when we attempt to apply to man the results of experimental research on guinea-pigs and rabbits.

Annales des Maladies des Org. Génito-urinaires, Paris

April 1, XXIX, No. 7, pp. 577-672

47 *Surgical Means to Estimate Kidney Sufficiency. (Moyens chir. de se renseigner sur l'état des reins quand cathétérisme urétéral et séparation échouent.) V. Rochet.
48 General Principles in Treatment of Gonococcus Urethritis. B. Motz.
49 Experimental Research on the Internal Secretion of the Prostate. N. Serrallach and M. Parés.

April 15, No. 8, pp. 673-768

50 Complete Prolapse of Bladder in 15-Months Infant. (Inversion vésicale.) Dervaux.
51 Rare Deformity of the Kidney. (Anomalie du rein.) M. Gerard
52 *Cystoscopy and Catheterization of Double Ureter. O. Pasteau.
53 *Renal Tuberculosis and Tuberculous Bacteriuria. G. Bolognesi.

47. Surgical Means to Determine Kidney Sufficiency.—Rochet refers to the cases in which catheterization of the ureters and intravesical segregation of the urine are impossible for any reason. The disadvantages of the various technics in vogue are obviated by a method which he has found very useful and describes as follows: The diseased kidney is not incised, but the ureter below is exposed and a small lengthwise buttonhole is made in it 6 or 7 cm. below the kidney. A short catheter is then pushed up through this buttonhole into the pelvis of the kidney. This collects all the urine from this kidney, and a large bougie is pushed down into the lower end of the ureter to plug it so no urine can pass out through it. The previously cleansed bladder collects the urine from the other kidney and the functioning of both is thus plainly beheld. If conditions require it, nephrectomy can follow at once or after an interval, as was done in one of Rochet's two cases. It is best to suture the buttonhole, as it did not heal up in the one case in which this was neglected.

52. Catheterization of Double Ureter.—Pasteau adds another to the twelve cases on record of double ureters on one or both sides, and discusses the cystoscopic findings with this anomaly, with or without two orifices in the bladder for each ureter. In his case there were three ureter mouths; the ureter catheter could not be passed through one, but it passed readily through the two others.

53. Tuberculosis of the Kidneys and Tuberculous Bacteriuria.—Bolognesi reports a case of the latter. The patient was a ii-para, aged 29, with symptoms suggesting tuberculosis in a wandering kidney. The kidney was removed, but notwithstanding the tuberculous bacteriuria only slight lesions were found in the kidney and they were not tuberculous. The case confirms anew the fact that tubercle bacilli can filter through the almost intact kidney parenchyma, with merely some minute and non-specific lesion. The tuberculin reaction was positive, but there is no evident tuberculosis in any organs. The patient is still in good health.

Lyon Chirurgical, Lyons

April, V, No. 4, pp. 301-420

54 *Kidney Stones. (Gravité opératoire des interventions pour calculs du rein.) M. Rafin.
55 Mechanism of Hernial Strangulation. (Mécanisme de l'étranglement herniaire.) J. Petrivalsky.

54. Kidney Stones.—Rafin reviews the statistics from eight European clinics in regard to operative treatment of kidney stones. In 287 aseptic cases the total mortality was 4.5 per cent.; this includes 34 pyelotomies without a fatality, and 193 nephrectomies with a mortality of 4.6 per cent. Operative treatment is thus shown to be comparatively harmless in the cases with little or no infection. The outlook is graver in the infected cases; the mortality in 158 nephrectomies for septic kidney stones was 18.4 per cent.; 14.2 per cent. in 7 pyelotomies and 5.3 per cent. in 205 nephrectomies. In 69 other cases the lithiasis was bilateral; one of Brougersma's two patients in this class had five operations before a complete cure was realized. Operative treatment in the aseptic cases gave excellent results, irrespective of the method followed.

Presse Médicale, Paris

April 22, XIX, No. 32, pp. 317-332

56 Cooperation of the General Practitioner and the Laboratory. (Le laboratoire et le practicien. Leurs rôles respectifs dans les analyses de produits pathologiques.) L. Hallion and A. Bauer.
57 Flexible Drains. (Le drainage par drains métalliques souples.) L. Lemaire.
58 Pterygium. (Sur la structure, le pronostic et une opération modifiée du pterygion.) A. Terson.
59 Chronologic Connection Between Ovulation and Menstruation. H. Busquet.

April 26, No. 33, pp. 333-340

60 Electric Heating of Deep Tissues. (La diathermie.) D. Labbé and M. Blanche.
61 Agar-Agar. A. Martinet.

Revue de Chirurgie, Paris

April, XXXI, No. 4, pp. 401-512

62 *Bilateral Tubal Pregnancies with Triplets. (Etude sur les grossesses tubaires bilatérales simultanées à propos d'un de grossesse tubaire à trois foetus.) P. Launay and Seguinot.
63 Tuberculosis of the Hip-Joint. (Coxotuberculose et son traitement.) P. Coudray.
64 Tumor in Salivary Gland. (Cylindrome de la glande sublinguale.) L. Heully and A. Boeckel.
65 *Hemorrhage in Gall-Bladder as Source of Biliary Colic. (Sur un point de pathogénie de la colique biliaire dans quelques formes de cholecystite non calculeuse.) S. Solieri.

62. **Bilateral Tubal Pregnancy.**—Launay and Seguinot have found forty-one cases of bilateral tubal pregnancy on record, and they report a case in which there was a twin pregnancy in one tube and a simultaneous single pregnancy in the other. The size of the three three-months fetuses proved that the pregnancies were practically simultaneous. In only fifteen cases on record was the tubal pregnancy simultaneous on both sides.

65. **Biliary Colic in Cholecystitis Without Gall-Stones.**—Solieri refers to Sheldon's compilation of thirty-seven cases of apparent gall-stone colic without gall-stones. Henkel has also encountered seven cases of the kind, and Solieri has recently had a patient in his charge with typical, periodical biliary colic although there was not a trace of gall-stones in the gall-bladder or biliary passages. The patient was convalescing from typhoid and the operation revealed typhoid ulceration of the mucosa of the gall-bladder, with repeated hemorrhage from this ulceration. The hemorrhages had distended the inflamed walls of the gall-bladder and induced the typical attacks of pain as the walls contracted in the effort to expel the dense mass resulting from the accumulated blood. The first attack of colic lasted two days and seriously depressed the patient but the temperature returned practically to normal after evacuation of the gall-bladder. Four days later another attack of colic came on, and opening up the gall-bladder again revealed that it had filled up with blood anew although no immediate source for the hemorrhage could be detected. After this there were no further disturbances and the patient rapidly recovered. A tumblerful of blood was removed from the gall-bladder the second time it was opened. Pure typhoid cholecystitis of this type must be rare; typhoid infection of the gall-bladder generally sets up a more chronic inflammation or a rapidly fatal phlegmon (Lejars).

Archiv für Verdauungs-Krankheiten, Berlin

April, XVII, No. 2, pp. 119-240

66 *Estimation of Hydrochloric Acid in Stomach Content. (Ueber prozentualen und absoluten Salzsäuregehalt des Mageninhalts und seine Bedeutung für die Funktionsprüfung des Magens.) J. Schütz.
67 History of Intubation of the Duodenum. J. C. Hemmeter (Baltimore).
68 Physiologic Chemistry of the Human Pancreas. J. C. Hemmeter.
69 Importance of the Thread Impregnation Test for the Recognition of Ulcers of the Upper Digestive Tract. M. Einhorn, New York.
70 *Palpability of the Appendix. (Zur Palpierbarkeit des Wurmfortsatzes.) W. Orlowski.
71 Gastric and Duodenal Ulcers. Four Cases. G. A. Friedmann (New York).
72 *Pathology of Gastric and Intestinal Disease. (Kasuistische Beiträge zur Pathologie der Magen- und Darmkrankheiten.) E. Solms.
73 *The Therapeutic Use of Bile. (Die physiologische Funktion der Galle.) Z. Inouye and T. J. Sato.

66. **Percentage and Absolute Amount of Acid in Stomach Content.**—Schütz writes from von Strümpel's clinic in Vienna to sustain the view that the total amount of hydrochloric acid is the chief criterion in the study of gastric functioning. He describes the technic best adapted for research in this line, and gives the tabulated details of twenty-one cases of various stomach affections. His findings show that cases should be grouped as those with hyposecretion and hypomotility, in which case the absolute amount of hydrochloric acid is small. The other group contains the cases with large absolute amounts of hydrochloric acid with normal or increased stomach content an hour after the test meal. He suggests also for the hydrochloric acid unit, 1 c.c. $\frac{n}{10}$ — HCl.

70. **Palpation of the Appendix.**—Orlowski was able to palpate the appendix in 250 of 510 men who had never had any symptoms on the part of the appendix. He was surprised to find that the appendix was tender in 58.4 per cent. of the 250 cases. In examining for the appendix he begins to palpate at the psoas iliacus, the patient lying on his back, and palpates along the cecum to the appendix from below upward and from without inward. If the abdominal wall is too rigid, he has the patient lie in a hot bath to relax the muscles. With this technic he found it easy to detect the appendix in over 50 per cent. The appendix can seldom be palpated its entire length. He reviews considerable work in this line in Slavic literature as well as Rudnitzki's work in the *Archiv.* The latter was not so successful in palpating the appendix, but he found it tender in 59.7 per cent. of the cases in which he was able to palpate it.

72. **Pathology of Gastro-Intestinal Tract.**—Solms reports from Boas' clinic in Berlin four unusual cases, three being remarkable for the rapid and pronounced increase in weight with progressive cancer in men of 32 and 39. In the first case a gastric carcinoma had evidently developed in an ulcer treated four years before. Not a trace of tenderness or tumefaction could be detected on examination, six months after the first symptoms. Treatment for the hyperacidity improved conditions but two months later a large tumor was palpable and the laparotomy showed an inoperable growth. This case confirms the malignancy of these rapidly developing carcinomas. The outlook for operative treatment is more favorable in cases in which the symptoms have been longer in developing. The patient increased over 18 pounds in weight in the first eighteen days of his stay in the clinic and he was discharged, but symptoms returned in a week. In the next case the patient gained nearly 8 pounds in a week, notwithstanding the presence of advanced carcinoma at the pylorus, hidden behind the liver. In the third case the lack of a palpable tumor, the gain of nearly 13 pounds in a week in connection with the age, 32, spoke against cancer. The only symptoms had been occasional vomiting, commencing in March; by October the patient felt weaker, with a sensation of distention of the stomach even when the food was restricted to fluids. There was no pain in the stomach nor blood in the vomit; the appetite persisted good, but toward the last there were occasional cramp-like sensations in the abdomen and considerable loss of weight. In December he entered the clinic and gained nearly 13 pounds in weight in a week but on discovery of occult blood an inoperable carcinoma was found at the junction of the duodenum and jejunum. In a fourth case the trouble was a syphilitic ulceration at the splenic flexure. In the fifth case there were evidences of gastrectasia and gastroptosis in a woman of 23, but there were no signs of stenosis of the pylorus. After gastro-enterostomy the patient was permanently cured, suggesting the possibility of some kinking as responsible for the persistent vomiting.

73. **Bile in Therapeutics.**—After discussion of the physiologic functioning of bile, its antiseptic and diastatic action and the way in which it promotes peristalsis and absorption of fat, Inouye and Sato give the metabolic findings in fifteen cases and report others, all confirming the advantages of bile as a rational organotherapy against the symptoms produced by defective secretion of bile in jaundice from various causes. It promotes absorption of fat, they say, and if it is given fasting, with considerable water, it does not disturb the digestion in the stomach. It also exerts a laxative action. They prefer to give the bile in the form of condensed ox-gall in sweetened peppermint water, in the dose of 0.5 or 1 gm. (7.5 to 15 grains) an hour before meals, three times a day.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 2, pp. 337-480. Last indexed April 8, p. 1075

74 *Wind Instruments and Emphysema of the Lungs. (Führt die funktionelle Beanspruchung der Lungen beim Spielen von Blasinstrumenten zu Emphysem?) E. Becker.
75 *A Century of Tuberculosis at a Health Resort. (Die Sterblichkeit der Bevölkerung Lippspringes an Tuberkulose von 1801-1909.) Werner.
76 *Tuberculosis in Infants. (Ueber Säuglingstuberkulose.) R. Pollak.

77 *Interpretation of the Findings in the Lower Lobe. (Zur Beurteilung einseitiger Unterlappenbefunde.) A. Bauer.
78 *Adenoid Vegetations in Relation to Tuberculosis. (Die adenoiden Wucherungen des Nasen-Rachenraumes in ihren Beziehungen zur Tuberkulose.) G. Simon.

74. **Wind Instruments and Emphysema of the Lungs.**—Becker has been studying the vital capacity in twenty-two players of wind instruments, and a number of other persons. The findings show that there is a tendency to over-distention of the upper part of the lungs in players of wind instruments, but that diffuse chronic emphysema is generally the result of disturbances in breathing caused by chronic inflammatory narrowing of the bronchi.

75. **Tuberculosis at a Health Resort 1801-1909.**—Werner declares that never and nowhere in the world have such data been available as he has found at Lippspringe in Prussia. He also asserts that nowhere in the world has there been such a general and intensive dissemination of tubercle bacilli as during the 100 years and more at this place since it became famous as a health resort for consumptives. During the last seventy-six years, 170,000 visitors came for a course of the waters and fully 80 per cent. were consumptives. They were lodged mostly in private houses and there was no suggestion of measures to prevent contagion. At the same time the parish records for over a century give the cause of death of the native population. These data show that early in the last century nearly 10 per 1,000 of the population died of tuberculosis, but this proportion has been growing constantly less until in the last four years it amounted only to 3.5 per thousand. The population of Lippspringe is unusually stable, and the data presented speak against the assumption that pulmonary tuberculosis is highly infectious. If this were the case, the whole population of Lippspringe would have died off of tuberculosis. The consumptives' sojourn at Lippspringe is restricted to the six warmer months of the year, and hence it must require longer than six months for children and adults to acquire tuberculosis. As the population escaped infection, even with this close contact with the tuberculous, there seems to be little danger of infection of visitors by each other at such a health resort. Another point brought out by these data is that closed institutions are not superior to ordinary spa conditions as far as security against infection is concerned.

76. **Tuberculosis in Infants.**—Pollak surveys the experiences in this line at the Vienna policlinic, giving the details of a few typical cases of tuberculosis in infants. In three no clinical symptoms of tuberculosis could be discovered until over eight, fourteen and eighteen months after a positive tuberculin reaction had been obtained. The most frequent sign of tuberculosis in infants is involvement of the bronchial glands, manifested by the cough and wheezing during expiration. Cutaneous tuberculides are also a frequent early sign. Tuberculous meningitis often develops a few weeks after primary infection of the infant, but tuberculosis may exist throughout the first year of life without any clinical manifestations. The prognosis depends essentially on the severity of the infection: infants infected from a patient with advanced tuberculosis generally succumb, while the surviving infants had generally derived their infection from a mild source. It was found that the tuberculous infants grew up with the phthisical habitus. This habitus is thus the consequence of early infection with tubercle bacilli.

77. **Interpretation of the Findings in the Lower Lobe.**—Bauer gives the details of nine cases of a unilateral process in the lower pulmonary lobe. In two, tuberculosis had been incorrectly assumed; in seven others the alleged tuberculous process in the lower lobe still persists, but tubercle bacilli have been found in only one case. The findings show that normally the lower lobes are more movable and more active in their excursions than the upper lobes and apices which are so readily rendered immovable by cicatricial changes. The findings may vary in degree, but their constant presence at the same points is significant. He always examines early in the morning, before the first cough and expectoration, again during and after this, and again in the afternoon; that is, twice a day, systematically, at shorter or longer intervals.

78. **Adenoid Vegetations in Relation to Tuberculosis.**—Simon has examined eighty-eight excised adenoid growths, finding tubercle bacilli in them only in three cases, once from a robust and apparently healthy girl with negative tuberculin reaction. He did not find tubercle bacilli in the vegetations from six children with pronounced pulmonary tuberculosis and only once in those from six children with manifest tuberculosis of the bronchial glands, showing that the tonsils and vegetations must play only a subordinate part as portals of entry for the tubercle bacillus. He advises in treatment merely measures to act on the lymphatic diathesis, leaving the adenoid vegetations alone unless they interfere with respiration. Dieting, brine baths, etc., will act indirectly on the vegetations. But it is extremely important in every case of enlarged tonsils and vegetations to examine the thorax with care, as also, when there are signs of disease of the bronchial glands or bronchial catarrh, the nasopharynx should be investigated with special care.

Beiträge zur klinischen Chirurgie, Tübingen

March, LXXII, No. 2, pp. 265-580

79 *Idiopathic Talipes Cavus. (Hohlfuss.) E. Müller.
80 Indications with Abdominal Contusions. (Indikationsstellung bei traumatischen subkutanen Bauchverletzungen.) M. Hopp.
81 *Perforation of Gastric and Duodenal Ulcers. G. Petren.
82 Surgery of Vessels. (Zur Chirurgie der Gefässe.) J. Amberger.
83 Deep Goiter with Accessory Goiters. (Ueber Struma retrovisceralis mit Halskyphose und über laterale Nebenkröpfe.) A. Reich.
84 Anatomy and Surgery of the Biliary Ducts. (Gallenausführungsgänge.) H. Kunze.
85 *Treatment of Parathyreopriva Tetany by Parathyroid Grafts. (Behandlung der Tetania parathyreopriva mit Uebertragung von Epithelkörperchen.) M. Krabbel.
86 *Acute Carcinosis. P. Horn.

79. **Talipes Cavus.**—Müller reviews twenty cases of severe contracture of the plantar muscles of various origin. An inherited tendency was evident in three cases and in another family two sisters were affected. Subcutaneous resection of the plantar aponeurosis is generally sufficient, at least for children, followed by a plaster cast and the use of a screw apparatus. This suffices in the milder cases; in the more severe it is necessary to resect the soft parts with a wedge excision in the tarsus, including the four cartilage faces of the mediotarsal articulation, or a wedge from the tarsometatarsal articulation.

81. **Perforation of Gastric and Duodenal Ulcers.**—Petren gives summaries of 100 cases of acute peritonitis from perforation of an ulcer of the stomach or duodenum requiring operative treatment. The material is compiled from thirteen hospitals in southern Sweden. There was more than one perforated ulcer in 5 per cent. of the cases, and the ulceration was generally of comparatively long standing; in more than half the cases the patients had had symptoms of ulcer years before or recently or both, and in only ten had the ulceration run a latent course, and in these cases it was generally in the duodenum. In more than half of the cases, vomiting occurred in connection with the perforation. In fifty-nine cases the perforation was sutured and twenty-eight of the patients were saved, while only three recovered of the forty-one in which this was not done. In the fifty cases in which the operation followed the perforation within fourteen hours, twenty-four of the patients recovered, while only seven of the others were saved. The tabulated data show conclusively that an operation in the first twelve hours, with complete suture of the perforation, are very important conditions for a favorable outcome, especially when the patient is under 40. Whether the stomach was full or not, does not seem to influence much the outcome when the operation followed in less than twelve hours. When the pulse is 120 or over the prognosis is grave. He discusses the technic, his work filling 137 pages.

85. **Parathyroid Grafts for Tetany.**—Krabbel reports a case of tetany following strumectomy in 1901. The tetany developed the day after the operation. The patient was an otherwise healthy girl and the attacks of tetany returned only during menstruation; the cramps were limited to the hands, but there were also headache, vertigo, tremor and pains in the

side and back. After seven years, four parathyroids from another goiter patient were implanted in a hole made for them in the tibia. Improvement gradually followed, completely relieving the patient of the annoying manifestations of her postoperative tetany. In a second case genuine tetany developed in a young man with chronic tuberculous cystitis and hypoplasia of the genitals. A parathyroid was implanted in a preperitoneal space and there has been no further manifestation of the tetany since, not even when a cystoscope is introduced. The hypoplasia of the testicles in this case suggests that several of the glands with an internal secretion may be abnormal, or at least rudimentary. The patient succumbed to tuberculosis of the kidney ten months after the operation.

86. **Acute Carcinosis.**—Horn has collected 182 cases, including five from his own experience, in which cancer developed and ran its course in about three months, with metastasis in 83 per cent. He gives the summaries of the material, calling attention to the predominance of these galloping cancers in the lung, kidneys and liver, organs in which primary carcinoma is comparatively rare. None of these galloping cancers was found in the uterus or skin, and the breast, stomach and rectum were only rarely involved. Over 51 per cent. of the patients were under 40, seventeen under 10, twelve between 10 and 20; twenty-seven between 20 and 30 and thirty-seven between 30 and 40. In the cases in which the breast was involved there had generally been preceding mastitis; both breasts were affected in 34 per cent. of the forty-one cases of mammary carcinoma. In twenty-six of the cases the carcinosis had been misinterpreted. The lung carcinomas made only slight local disturbances, the metastasis in the brain having dominated the clinical picture, so that the diagnosis was generally cerebral tumor. The acute cachexia will generally supply the clue if the possibility of acute carcinosis is borne in mind, especially with a history of preceding trauma, development during pregnancy or puerperium, involvement of a predisposed organ and comparative youth. Operative treatment has no chance for success in this acute malignant disease. In conclusion, he reports a case of primary sarcoma of the thyroid leading to acute miliary sarcomatosis with multiple metastasis in the gastro-intestinal tract.

Berliner klinische Wochenschrift

April 24, XLVIII, No. 17, pp. 741-784

87 *Kinks which Develop in Our Drainage System in Chronic Intestinal Stasis. (Schleifen welche sich in unserem Magendarmkanal bei chronischer Darmstase enwicklen.) W. A. Lane.
88 *Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. Fifty Cases. (Chronische Darmstase, behandelt mittels Kurzer zirkulärer Umschneidung oder Kolektomie.) H. Chapple.
89 Linear Amputation. (Indication, Technik und Nachbehandlung der "linearen Amputation.") W. v. Oettingen.
90 *Removal of Large Angioma of the Brain. R. Cassirer and R. Mühsam.
91 *Pyelitis of Pregnancy. N. Markus.
92 The Roentgen Rays in Gynecology. M. Fraenkel.
93 Responsibility of the Surgeon from Legal Standpoint. (Der Operationsvertrag.) Katz.

87-88. Similar articles appeared recently in our British exchanges.

90. **Angioma of the Brain.**—Cassirer and Mühsam report a successful operative case of Jacksonian epilepsy involving the left side, in a young man. The attacks had gradually increased in number and severity during six years, with finally "touch paralysis" of the left hand. An operation revealed an angioma of the pia mater which had penetrated into the cortex. The dura flap was replaced and a week later the angioma was removed, ligating even the minutest veins. Left facial paralysis and paralysis of the arm and leg were noted at once after the operation, but this gradually subsided except for a little paralysis of the fingers, as part of the center for the hand was removed with the tumor. There have been no further epileptic attacks since, and the young man has resumed his work as a forester, for which his epilepsy had long completely incapacitated him. There are only a few such cases on record—three are cited from Krause's experience. In all, the circumscribed epilepsy was the main symptom, the course was extremely slow and gradual, and there was none of the general symptoms common with brain tumors, or merely traces of headache or choked disk, while in each case there was a history of some trauma, possibly slight and in childhood. Intervention has generally been restricted to ligation of the vessels and destruction of the tumor tissue, but extirpation has given excellent results in a number of cases.

91. **Treatment of Pyelitis of Pregnancy.**—Markus remarks that pyelitis in pregnant women is generally confined to the right kidney pelvis, and is due to compression of the right ureter by the gravid uterus, exaggerating the normal angular course of the right ureter into actual kinking. The gravid uterus has a tendency to deviate to the right, and by simply having the women lie on their left side all trouble from compression of the right ureter ceases at once. Rosinsky has found this the sovereign measure in treatment of the pyelitis of pregnancy, and Markus adds his testimony in regard to the remarkable benefit from it in two cases in his practice. The trouble came on in one with a chill, high fever, tenderness at McBurney's point and a painful area in the sacral and right kidney region, with albumin and pus in the urine, and both diplococci and colon bacilli. No benefit was derived from a course of local treatment for the assumed cystitis. The uterus, four months pregnant, was found to be deviated to the right, probably from adhesions left from a former pregnancy. The patient was instructed to lie on the left side and mineral waters and hexamethylenamin were given internally to flush out the kidney from within. These measures, previously ineffectual, promptly cured the patient when supplemented by reclining on the left side. The temperature was normal by the end of a week and the urine free from pus and bacteria by the ninth day. Ten days after complete recovery there was a slight recurrence of the pyelitis which yielded at once on resumption of treatment. This recurrence, he adds, sustains still further the assumption of compression of the ureter as the cause of the trouble as the patient got up. The second patient was eight months pregnant and the same treatment proved equally effectual.

Deutsches Archiv für klinische Medizin, Leipsic

CII, Nos. 3-4, pp. 217-450. Last indexed April 29, p. 1302

94 *Distribution of Goiter in Saxony. (Verbreitung des Kropfes im Königreich Sachsen mit bes. Berücksichtigung der geologischen Verhältnisse.) E. Hesse.
95 *Testing Kidney Functioning. (Zur Funktionsprüfung der Niere.) P. v. Monakow.
96 *Research on Functioning of Kidneys with Chronic Vascular Disease. Schlayer.
97 Ventilation of the Lungs with Emphysema. (Gasaustausch zwischen der Aussenluft und den Alveolen. III.) R. Siebeck.
98 Increased Metabolism with Chronic Leukemia. (Steigerung des Stoffwechsels bei chronischer Leukämie und ihre Ursachen.) E. Grafe.
99 *Spastic Constipation and Its Relation to Antiperistalsis. (Die spastische Obstipation und ihre Beziehungen zur Antiperistaltik.) G. Boehm.

94. **Goiter in Saxony.**—Hesse's map seems to indicate that mountainous regions, irrespective of the geologic formation, are particularly prone to goiter. He is inclined to incriminate some physical factor, possibly hill-climbing, in the origin of goiter, but believes that several causes probably cooperate. In the Marienberg epidemic of goiter it was found that the collars worn had been too tight, the young people's necks growing in circumference faster than the parents had realized.

95. **Tests of Kidney Functioning.**—Monakow reports from the Munich clinic in charge of von Müller extensive research on the capacity of the urine to eliminate salt and nitrogen, iodin and water. The elimination of each was tested daily for from three to eight weeks. On a constant diet he gave the patients on one day 20 gm. of urea, or gave 10 gm. of salt or had the patient drink 3 quarts of water, each on a separate day, supervising the elimination in the urine thereafter. The findings in nine cases of nephritis are tabulated with the necropsy findings in most, thirty-three tables giving an oversight over the metabolism. They demonstrate beyond question that there are kidney disturbances in which the elimination of salt proceeds normally, while the elimination of nitrogen is extremely defective. In other cases the salt may be eliminated defectively, while the output of nitrogen is normal. It is possible to determine the conditions in this respect in each individual case and thus permit proper treatment. Compari-

son of the clinical course with the anatomic findings seems to indicate that the glomeruli are involved in the elimination of nitrogen, while the convoluted tubules are engaged more in the elimination of salt and of water.

96. **Functioning of Diseased Kidneys.**—Schlayer devotes over thirteen pages to the tabulation of the details of forty-one cases of what he calls chronic vascular nephritis, including contracted kidney. With the chronic vascular disturbance, the elimination of water is defective, while that of salt is unmodified, elimination of milk sugar is retarded, while that of iodin proceeds as under normal conditions. The vessels of the kidneys are injured by prevailing conditions and may become hypersensitive, in which case there is polyuria, or the vessels may be so severely injured that they act sluggishly, in which case there is oliguria. Even ingestion of large amounts of salt and water is not followed by elimination of the salt or of the water, as the kidney vessels are not sufficient for the task. He thinks that this is the first time that attention has been called to this oliguria form of contracted kidney. The kidney vessels may seem to be normal on histologic examination, but this does not guarantee their functional integrity. With contracted kidney the injury of the vascular system of the kidneys is practically universal, in contrast to the anatomic findings. In both acute and chronic vascular nephritis the elimination of solid substances and hence the specific gravity are determined by the biologic behavior of the kidney vessels.

99. **Constipation and Antiperistalsis.**—Boehm reports clinical experiences and reviews the results of experimental research, all suggesting that excessive antiperistalsis may sometimes be responsible for intractable constipation. Atropin never failed to control it in his cases.

Deutsche medizinische Wochenschrift, Berlin

April 27, XXXVII, No. 17, pp. 769-816

100 *Radioactivity of Mineral Waters. H. Kionka.
101 *Prognosis and Course of Pneumococcus Meningitis. F. Rolly.
102 *Diagnosis of Gout from Purin Metabolism. A. Magnus-Levy.
103 Technic to Avoid Febrile Reaction After Intravenous Injection of Salvarsan. W. Wechselmann.
104 *Length of Sojourn of Food in the Body. (Dauer des Verweilens der Nahrungsmittel im Körper.) A. Hiller.
105 *Treatment of Sluggish Intestinal Functioning by Hot Enemas. (Darmträgheit und ihre Behandlung mit warmen Darmeingiessungen.) A. Hiller.
106 Duodenal Ulcer. (Duodenalgeschwür.) Seyffarth. Commenced in No. 15.
107 *The Wassermann Reaction in Lead Poisoning. (Wassermannsche Reaktionen bei Bleivergifteten.) A. Dreyer.
108 *Kidney Colic and Herpes Zoster. E. Rosenberg.
109 Sterilization of the Hands. (Altes und Neues zur Händedesinfektion.) P. Sick.
110 *Experimental Scarlet Fever. (Experimentelle Untersuchungen über die Scharlachätiologie.) G. Bernhardt.
111 *Pectineal Hernia. Ulrichs.

100. **Radioactivity of Mineral Waters.**—Kionka surveys our present knowledge in regard to the properties of radium and radioactivity. Radium and its chemical compounds lose half their active power in 1,760 years, and this period is accepted as the "half value constant unit;" this unit for the emanations is only 3.8 days, and for induced radioactivity only half an hour. The emanations send out only alpha rays and have a general action, while radium itself has a local action, sending out both alpha and beta rays and also the gamma rays which are identical with the Roentgen rays. Sifting the literature shows, he says, that absolutely certain success cannot be guaranteed from radium treatment in any affection or disease, but that good results have been achieved in chronic rheumatism and in gout. It relieves the pain in many cases and, exceptionally, in deforming arthritis; and a little more often in neuralgia, especially sciatica. The pains in tabes have also occasionally been relieved, but the other symptoms were unmodified. In local treatment of tumors and nevi it has also done good service. Gudzent has definitely proved that radioactive substances are able to transform the sparingly soluble sodium monourate into a more easily soluble body, and thus permit the dissolving out of the deposits of urates in the gouty. The action depends on the length of exposure to the emanations rather than on the dosage. Fofanow witnessed the subsidence of artificially induced tophi in animals under the influence of radium emanations.

101. **Pneumococcus Meningitis.**—Rolly states that thirty patients with pneumococcus meningitis have been treated at the medical clinic at Leipsic during the last five years, and four of the patients recovered. Frequently repeated lumbar puncture not only permitted differentiation, but had a direct curative effect. The fluid contained increased numbers of polynuclears in the early stages, while the mononuclears predominated toward the close of the disease process. In the first three of the four cases with recovery, the meningitis seemed to develop at the same time as the pneumonia, but in the fourth case the meningitis seemed to have been the first localization. The meningitis developed with sepsis and endocarditis in 20 per cent. of the total thirty cases; with otitis media in 10 per cent.; with disease of the accessory nasal sinuses in 30 per cent.; after trauma in 3 per cent., and with unknown primary localization in 10 per cent. With pneumococcus peritonitis the onset is generally stormy, but it may be masked by the predominant disease. The delirium was aggressive, the patients screaming and trying to get out of bed until they fell into coma; death followed in from two to twenty-five days. Only six of the total thirty patients lived for more than ten days, except the four who recovered. Repeated and copious withdrawal of cerebrospinal fluid by lumbar puncture evidently gave vent to swarms of pneumococci, and the influx of fresh fluid brought bactericidal reenforcements to the spot. Large doses of hexamethylenamin seem indicated also, as the drug passes into the cerebrospinal fluid, according to experiences recently reported. In one of the four cases with a favorable outcome, Rolly applied lumbar puncture sixteen times, withdrawing a total of 600 c.c. of fluid. The patient was a girl nearly 3 years old. The other convalescing patients were 6, 18 and 20 years old. The prognosis of pneumococcus meningitis seems to be graver than in the epidemic form.

102. **Diagnosis of Gout from Purin Metabolism.**—Magnus-Levy reports the case of a man of 43 with disturbances ascribed to gout until the metabolic findings were found constantly normal. The apparently gouty disturbance in both feet was then ascribed to flat-foot, but no benefit was derived from treatment on this assumption. Finally a tophus developed in the ear, which confirmed the diagnosis of gout. Levy is convinced that there were actual flat-foot disturbances, and that they provided the point of lesser resistance so that the gout localized at this point rather than at its usual sites. His has recently published a similar case in which the elimination of uric acid proceeded as in normal conditions, and yet the patient presented typical gout. These cases suggest that the explanations offered for the mechanism of gout do not fit all the cases.

104. **Length of Sojourn of Food in the Body.**—Hiller used uncooked ripe peas for the test, finding that they passed readily and harmlessly through the alimentary canal and were easily recognized in the stool. Experiments on a number of healthy persons, on ten with gastric fever and fifteen with typhoid, besides a number of other patients, showed a number of interesting points in regard to intestinal functioning. The food eaten at one time does not pass through the intestines in one mass; the peristaltic contractions move along more rapidly the part of the intestinal content which is nearest the walls, leaving the center to follow more slowly. When the peristalsis is abnormally active on account of irritation of the bowel walls, or abnormally sluggish in cases of constipation, the bowel content is moved along to correspond. With normal conditions the swallowed peas showed that the food sojourned in the intestines from eighteen to forty-two hours, with habitual constipation from forty-two hours to five days. Catarrhal irritation of the intestine increased the peristalsis so that the sojourn was reduced to thirteen or fifteen hours, and, with dysentery, to six or nine hours. In typhoid there is evidently a paralysis of the bowel during the second, third and fourth week in the severer cases. In treatment of habitual constipation Hiller has been much pleased with the effects of a systematic enema of hot water every morning, injecting a quart of water at a temperature of about 95 to 104 F.

There is probably an antiperistaltic reflex which forces the water past the sigmoid flexure, as, beside the stool which follows at once, fluid stool is expelled about fifteen minutes later and again from half an hour to an hour afterward. The effect of this hot enema does not wear off like that of other measures to act on the bowels. He has one patient who has kept it up regularly with constant benefit for two years to date.

107. **Wassermann Reaction in Lead Poisoning.**—Dreyer obtained a positive Wassermann reaction in four of thirty-five patients with lead poisoning free from any signs or history of syphilis. He also suggests that a positive reaction may be obtained in mercury poisoning in persons free from or cured of syphilis, the metal poisoning leading to erroneous conclusions.

108. **Kidney Colic and Herpes Zoster.**—In Rosenberg's case the long dubious diagnosis of nephrolithiasis was cleared up by an eruption of herpes zoster and the discovery of a hypersensitive zone that fitted in with Head's theory. The intense colics in the right side of the abdomen in the extremely nervous woman of 26 were not accompanied by any signs of trouble in the kidney region, palpation, urine and Roentgen-ray findings all being negative. Not until after a year and a half was the diagnosis rendered certain by the herpes and hypersensitive zone. The case confirms in every respect that recently reported by Bittorf in which the right herpes zoster in the eleventh dorsal segment region accompanied colics in the right kidney region from intermittent hydronephrosis in a wandering and probably calculous kidney.

110. **Experimental Scarlet Fever.**—Bernhardt was able to induce apparently typical scarlet fever in monkeys by inoculation with scrapings from the tongue of scarlet fever patients. The inoculations were successful even when made in the mouth alone. The monkeys were of the smaller species and the inoculations gave positive results in fourteen of the nineteen experiments, only three being positively negative. He was able by passage through the monkeys to obtain the virus pure.

111. **Pectineal Hernia.**—Ulrichs reports a third case of this form of hernia encountered at the Urban Hospital in Berlin, bringing the total to fifteen on record of which he knows. In this latest case the hernial sac was extremely long so that it lay along behind the femoral vessels, below the fascia, close to Gimbernat's ligament. There was no external evidence of the hernia except a broad, shallow protrusion just below Poupart's ligament, filling the oval foramen.

Jahrbuch für Kinderheilkunde, Berlin

April, LXXIII, No. 4, pp. 391-544

112 Digestion of Farinaceous Foods in Infant Feeding. (Weitere Untersuchungen über Mehlabbau.) M. Klatz.
113 Amino-Acid Content of Urine in Children. (Aminosäurengehalt des Kinder- und Säuglingsharn.) R. Hadlich and P. Grosser.
114 *Action of Sugar and Salt on Infant Organism. (Wirkung von Zucker und Kochsalz auf den Säuglingsorganismus.) S. Cobliner.
115 Etiology of Congenital Inspiratory Stridor. W. P. Shukowsky.
116 Epidemic of Typhoid in a Boys' Orphan Asylum. (Zur Klinik des Abdominaltyphus im Kindesalter.) H. Vogt.

114. **Action of Sugar and Salt on Infant Organism.**—Cobliner used a 5.5 per cent. solution of grape sugar and infused up to 200 c.c. in twenty-three infants. He gave to twenty-five others 2 to 3 c.c. of sodium chlorid with their food, and in nineteen others made a subcutaneous injection of 200 c.c. of a 0.9 per cent. salt solution. The findings in regard to the following reactions with these and other tests reported are tabulated for comparison. Among the conclusions drawn from them is that the kidneys of young infants are more susceptible than those of adults. They do not eliminate salt supplied suddenly in large amounts; retention follows and sometimes edema occurs, even in perfectly healthy infants. A temperature reaction is also the rule.

Medizinische Klinik, Berlin

April 23, VII, No. 17, pp. 641-678

117 *Benign Stenosis of the Splenic Flexure. (Gutartige Stenose an der Flexura coli sinistra.) E. Allard.
118 *Present Status of Salvarsan. (Welche Stellung gebührt dem Salvarsan in der Syphilistherapie.) G. Stümpke.
119 Diagnosis and Treatment of Isolated Mitral Stenosis. H. Birrenbach.
120 *Case of Cerebral Neurasthenia Cured by Breathing Exercises. H. E. Knopf.
121 Technic of Catheterization of the Ureters. H. Lohnstein.
122 *The Wassermann Reaction as an Aid in the Detection of Criminal Responsibility. (Die Wassermannsche Probe als Hilfsmittel der forensisch-psychiatrischen Beurteilung; Schwachsinn; sexuelle Delikte.) S. Placzek.
123 Blood Findings in Scarlet Fever. (Zytologische Blutuntersuchungen bei Scharlach.) O. Roth.

April 30, No. 18, pp. 679-720

124 *Lactation. (Das Stillen, seine Technik und Indikationen.) S. Weiss. Commenced in No. 17.
125 Radium from Biologic Standpoint. H. Kionka.
126 *Symposium on Operative Treatment of Gastric Ulcer. (Magengeschwür.) M. Wilms and Others. Commenced in No. 16.
127 *Bronchoscopy. (Zur klinischen Bedeutung der Endoskopie der unteren Luftwege.) A. Ephraim.
128 *Salvarsan in Small-Pox. R. Lenzmann.
129 Reflex Epileptic Seizures in Appendicitis. Two Cases. F. Berndt.
130 *Substitute for Mountain Sunshine. (Kann man die "Höhensonne" künstlich ersetzen?) G. Breiger.
131 Has Silicic Acid Balneotherapeutic Action? (Hat die Kieselsäure balneotherapeutische Bedeutung.) H. Schulz.

117. **Stenosis of Splenic Flexure.**—Allard reports two cases of non-malignant stenosis of the left flexure of the colon. The patients were men of 25 and 51, with long chronic constipation. Attacks of colic, localized predominantly in the left hypochondrium in one case and more diffuse pain throughout the abdomen in the other, were explained by kinking of the splenic flexure with resulting growing together of the transverse and descending colon, evidently traceable to some pericolitis not perceived at the time. If internal measures do not prove successful after a reasonable trial, he adds, operative treatment should no longer be delayed, as such cases as these show that it is indispensable.

118. **Salvarsan in Syphilis.**—Stümpke summarizes his experiences as teaching that although there is little chance of eradicating syphilis with salvarsan at one blow, yet this should be the ideal aimed at, and consequently in recent infection an intravenous injection should be made, followed by another after a week. The second dose should not be given earlier than this, as witness, he remarks, the case reported by Fovento of Trieste—severe hemorrhagic nephritis developing at once after the second dose of salvarsan by intramuscular injection, the first having been intravenous, three days before. Repeated control by the Wassermann reaction is indispensable. He adds that at present no one knows how the syphilis is going to run its course as a whole after salvarsan treatment, and thus a certain expectant attitude is justified, although this should not deter from the use of salvarsan in cases with malignant manifestations or refractory to mercury, and early in syphilis in infants.

120. **Respiration Exercises in Treatment of Neurasthenia.**—Knopf has long been extolling the benefits of systematic breathing exercises as a kind of internal massage of the viscera, regulating the functioning of the liver, bladder and bowels besides the influence on the respiratory organs. The main feature of his exercises is that the deep inspiration and deep expiration succeed each other without any pause, and thus there is no stationary congestion in the parts. His success has been particularly good in stuttering, asthma and chronic bronchitis, and the diuretic and cholagogue action has given great relief in heart disease. He noticed that goiter seemed to be much influenced by the breathing exercises in certain cases, the thyroid increasing nearly half an inch in size during inspiration and subsiding again to even less size than at first during expiration. While studying the effect of the exercises on vascular goiter, he encountered a patient with a medium goiter who had had an extremely painful hemorrhagic gynecologic affection for three years. As during this period any breathing was painful, she did not use the abdominal muscles in breathing and they evidently atrophied. During the following years, as all deep breathing had ceased, there was no fluctuation in the blood-pressure in the brain. Consequently the vasomotor nerves and muscles in the brain suffered from disuse and the brain did not receive sufficient nourishment. The defective supply of blood

and nourishment of the brain explained the defective functioning of the brain, the cerebral neurasthenia, which had rendered the patient a physical wreck, as she said, irritable and depressed, with insomnia and tremor, the slightest physical exertion causing extreme shortness of breath and dizziness, the motor innervation morbidly sensitive to fatigue. All these symptoms vanished under the breathing exercises in such a short time and so completely that there can be no question of the correctness of the above diagnosis, made retrospectively. The exercises are done with the trunk bare, in front of a mirror, until the chest is seen to expand properly. At her first exercise, this patient nearly fainted during the deep inspirations and could proceed only after a brief rest each time. But in a day or so conditions improved and by the thirteenth day the patient no longer suffered from shortness of breath; appetite had returned, and the bowel functioning was normal. No other measures were attempted except the exercises.

122. **Wassermann Reaction from Forensic Standpoint.**—Placzek reports a case of criminal sexual actions in a young man who gave a positive Wassermann reaction as the first and only sign of inherited syphilis, previously unsuspected, but revealed by investigation of the antecedents.

124. **Lactation.**—Weiss concludes his study of the technic and indications for the most effective breast-nursing, with the statement that only serious chronic diseases, such as advanced nephritis, psychoses, retinitis, etc., may contraindicate nursing the infant in certain circumstances in which the physician must decide, but that there are no absolute indications forbidding the mother to nurse her child. Acute infectious diseases and mild febrile affections should not deter the mother from nursing; Salge has reported a case in which the mother with severe scarlet fever nursed her infant and Weiss has also had a case of the kind, both children thriving and escaping infection. Even when menstruation has returned, the children continue to increase in weight according to careful research by Jacobius at the Berlin Infant Dispensary.

126. **Gastric Ulcer.**—This is a continuation of the symposium on this question, the present contributions being from Hochenegg, Friedrich, Wilms and Borchardt on the indications for operative treatment of gastric ulcer, preferred mode of intervention and results to date.

127. **Importance of Endoscopy of Lower Air Passages.**—Ephraim comments on the lack of appreciation of the advantages of direct visual inspection of the air passages in dubious cases. Instead of wasting valuable time, the practitioner should resort to endoscopy which may clear up the diagnosis in a moment. Besides the disturbances from a foreign body in the air passages, he has had six recent cases of hemoptysis or dyspnea which endoscopy explained as due to a primary sarcoma in a bronchus or carcinoma in the lung, or stenosis from a goiter or aortic aneurysm. The hemoptysis in one of these cases had returned periodically for three years, and tracheobronchoscopy first revealed that the hemorrhages proceeded from varicose veins in the trachea which were then easily cauterized. He has never witnessed hemorrhage result from the endoscopy, and knows of no such case on record, not even recurrence of hemoptysis.

128. **Salvarsan in Small-Pox.**—Lenzmann gave salvarsan in each of three cases of small-pox. He reports that it proved harmless and a favorable influence seemed to be apparent.

130. **Substitute for Mountain Sunshine.**—Breiger ascribes the benefit from the sunlight at high altitudes to the preponderance of the ultraviolet rays, which induce a persisting active hyperemia, lasting for hours, without any tendency to sweating. He thinks that this same result can be accomplished with artificial light rich in the ultraviolet rays, and reports experiences in this line. He suggests that it opens possibly new horizons for treatment of tuberculosis, etc.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 1, pp. 1-168. Last indexed April 22, p. 1233

132 Prognosis of Extensive Resection of Small Intestine. (Prognose der ausgedehnten Dünndarmresektionen.) V. Lieblein.
133 *Ulcer in Jejunum After Gastro-Enterostomy. J. Exalto.
134 Experimental Research on Regeneration and Neoformation of Lymph-Glands. (Die anatomischen Grundlagen der Chirurgie der Lymphdrüsen.) A. Vecchi.
135 *Tardy Rachitis in Relation to Mineral Metabolism. (Zwei Fälle von sogen. "Spätrachitis." Der Mineralgehalt der Knochen und der Mineralstoffwechsel im Vergleich zu der kindlichen Rachitis.) J. A. Schabad.
136 Diagnostic Significance of Exaggerated Phloridzin Glycosuria. Caro.
137 *Curative Action of Normal Animal Serum on Suppurating Processes. L. Fejes and E. Gergo.
138 Hydrops of Total Bile System with Chronic Occlusion of Common Bile Duct. (Hydrops des gesamten Gallensystems bei chronischem Choledochusverschluss und seine Bedeutung für den Chirurgen.) W. Kausch.

133. **Peptic Ulcer After Gastro-Enterostomy.**—Exalto reviews the literature on this subject and reports extensive experimental research, all confirming the assumption that these ulcers after gastro-enterostomy are due to the action of the acid gastric juice on the intestinal mucosa, and that this acidity should be neutralized with alkalies in prophylaxis. After a gastro-enterostomy the patient should keep up an ulcer diet for a long time. His experience indicates that the posterior retrocolic gastro-enterostomy according to von Hacker, as near to the duodenum as possible, is least liable to be followed by a peptic ulcer.

135. **Tardy Rachitis.**—Schabad reports two cases of rachitis in sisters. One was a girl of 16 and the metabolic findings in regard to minerals are recorded and compared with the chemical findings in the bones after her death from tuberculous pleurisy, and with the metabolic findings in her twin sister. Schabad regards the trouble in this case as a juvenile chondrodystrophy, the lack of benefit from phosphorus-cod liver oil and other features distinguishing the trouble from ordinary rachitis.

137. **Horse Serum in Treatment of Suppuration.**—Fejes found that the bactericidal action of fresh normal animal blood-serum in the test-tube is apparent also when the serum is brought into contact with an infectious focus in the tissue. Gergo reports the application of this method in 100 cases in acute suppuration. He used normal horse or cattle serum, first aspirating the pus, then injecting a little serum into the focus to rinse it out, aspirating all excessive fluid, then covering the puncture hole with a scrap of sterile gauze, held in place with adhesive plaster. A single treatment is generally sufficient, and it seems to be immaterial what germs are involved or where the abscess is located. The functional and cosmetic results are superior to those obtained by any other means, while the bactericidal serum seems to induce a passive immunization, and there is also an active immunizing by the hyperleukocytosis and phagocytosis induced. He injects the serum with a needle which has no opening at the tip but a row around just below the tip, thus rinsing the walls of the cavity more effectually. A chill and serum exanthem may follow if care is not taken to aspirate out the superfluous serum. The main field for this serotherapy is in acute abscesses in the soft parts, but he has found it useful also in two cases of purulent bursitis and in several bone and joint lesions, but his experience in this line has not been enough for a definite verdict.

Münchener medizinische Wochenschrift

April 25, LVIII, No. 17, pp. 881-936

139 *Salvarsan in Cancer. (Erfahrungen mit Salvarsan bei malignen Tumoren.) V. Czerny and A. Caan.
140 Roentgen Rays in Diagnosis of Gastric Ulcer. (Zur Röntgendiagnostik des runden Magengeschwürs.) F. de Quervain.
141 *Radical Mastoid Operation. (Radikaloperation des Ohres.) K. Herschel.
142 The Salvarsan Question. A. Stühmer.
143 Pregnancy Diabetes. (Zur Kenntnis des sogen. Schwangerschaftsdiabetes.) H. Ehret.
144 Color Tests for Sugar, Creatin and Creatinin in the Urine. W. Autenrieth and G. Müller.
145 Teaching the Deaf to Understand Speech by the Movements of the Lips. (Ueber den Absehunterricht für Schwerhörige.) M. Nadoleczny.
146 Case of Tetanus Following Subcutaneous Administration of Radiolcarbenzym. K. Laubenheimer and A. Caan.
147 Secondary Syphilis in Monkeys and Rabbits. C. Grouven.

139. **Salvarsan with Cancer.**—Czerny and Caan report experiences with salvarsan in twelve cases of malignant tumor, the results, they say, justifying further trials in this line unless the patients are much debilitated. Sarcoma seems to

feel its effect most; there may be a stormy reaction at first. Their experience suggests that the ordinary doses should be repeated several times, possibly combining intravenous injection with a local injection into the tumor. Operable cancers should always be removed, of course, but in case of sarcoma with a positive Wassermann reaction it might be well to precede the operation with salvarsan, similarly to the Esmarch iodin treatment.

141. **Radical Operation on the Ear.**—Herschel pleads for immediate suture after the radical operation, with careful after-treatment to prevent formation of adhesions or recesses while promoting cosmetic healing. The best means to attain this, he thinks, is by filling the hole with small square gauze pads; this prevents excessive granulation. This he combats, besides, with silver nitrate, a bead of the nitrate melted on the end of a sound. This tamponing and cauterization gave good results, the healing period being much shortened by this and the primary suture in his fifteen cases, all the patients being completely cured in from four to seven weeks except one who required a second operation. The results for the hearing are better the earlier operative treatment is applied, and he urges practitioners not to delay too long, as, besides the annoyance from a suppurating ear, the danger from complications is like smoking when sitting on a powder keg. One of his patients, promptly cured by the technic described, had been treated daily for two years and every second day for four more years by an ear specialist, while the ear kept on calmly suppurating. It has been his frequent experience that conditions were found much worse than had been anticipated when the region was opened up. In one such case the mastoid process had not been at all tender, yet the cells were found filled with pus even up to the sinus. The ear had been suppurating for years and there was a fistula in the hammer region, but the suppuration seemed to have much declined of late and there had never been any threatening symptoms. He operated only on the desire of the patient to be delivered from the annoying running of the ear, and rejoiced indeed that he had done so when he found the mastoid process thus riddled with disease. It is far better, he declares, to operate and possibly find in a few instances lesions apparently less serious than had been suspected, than to let a single case like this escape the radical operation which soon would have come too late to save the hearing or possibly the life.

Virchows Archiv, Berlin

April, CCIV, No. 1, pp. 1-160

148 Histomechanics of the Vascular System and Pathogenesis of Angiosclerosis. R. Thoma.
149 Neoformation of Blood-Vessels. (Neubildung von Blutgefässen.) R. Minervini.
150 Multiple Primary Carcinomas. S. Pusateri.
151 Case of Papilliferous Mammary Adenocarcinoma with Papillary Metastases in the Axillary Glands. S. Pusateri.
152 Contribution to the Adenomyoma Question. (Nachnierenkanälchen mit Glomerulusanlage in der Leistengegend beim menschlichen Embryo.) R. Meyer.
153 Mitosis with Non-Malignant Epitheliomas. (Verhalten der Mitosen bei den gutartigen papillären Epitheliomen.) J. Catsaras.
154 Changes in Stomach with Pernicious Anemia. (Magenveränderungen bei perniziöser Anämie.) S. Herzberg.

Wiener klinische Wochenschrift, Vienna

April 27, XXIV, No. 17, pp. 583-618

155 Salvarsan in Syphilis in Children: Twenty-Six Cases. (Heilwirkung des Salvarsans bei der Lues des Kindesalters.) J. v. Bokay, L. Vermes and Z. v. Bokay.
156 *Diagnosis and Pathogenesis of Cholelithiasis. E. Biernacki.
157 Case of Alternating Tetany and Epilepsy. (Tetanieepilepsie.) A. Luger.
158 Alizarin Indicator for Titrating Alkali in the Blood. (Neuer Indikator zur Bestimmung des titrierbaren Alkalis im Blute.) P. Bernhardt.

156. **Gall-Stones.**—Biernacki's experience has convinced him that gall-stone disease is one of the manifestations of the uric-acid diathesis; it is frequently accompanied by other signs of this uric-acid tendency. He has noticed a certain regularity in the development of the gall-stone troubles; a number of attacks may occur over a period of six to eight weeks and then there may be a pause for several months. The patients frequently connect the attacks with certain seasons. During these periods the slightest error in diet may bring on the colic, while during the intervals gross errors in diet are tolerated without harm. These free intervals explain the benefit frequently ascribed to certain drugs or measures which the patient happened to be taking at the time the free interval arrived. Biernacki says that he has had many patients with typical attacks of pains, fever and jaundice a year or two after they had been operated on for gall-stones. Some of his Carlsbad patients of this class figure in the literature as "cured operative cases." He believes that so long as the tendency to cholecystitis persists there will be new formation of concrements. Dietetic prophylaxis is the main thing, avoiding excess in eating, and highly seasoned food and alcohol.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVIII, No. 1, pp. 1-259. Last indexed Feb. 18, p. 551

159 Venous Myomas of the Uterus with Intravascular Growth. A. Sitzenfrey.
160 No Evidence from Experimental Research Reported that Eclampsia is Due to Anaphylaxis. F. Felländer.
161 *Organotherapy of Osteomalacia. (Zur Klinik und Organotherapie der Osteomalacie, nebst anatomischen Untersuchungen über die "interstitielle Eierstocksdrüse.") R. Stern.
162 Antiseptic Lavage of the Vagina in Obstetrics. (Sind die antiseptischen Scheidenspülungen bei der Geburt bakteriologisch begründet?) O. Burckhardt and K. Kolb.
163 Origin of Mammary Glands in the Axilla. (Zur Genese der Achselhöhlenmilchdrüsen.) A. von der Heide.
164 Anaerobic Blood-Cultures in Puerperal Fever. (Infektion und Fäulnis.) A. J. M. Lamers.
165 *Necessity for Microscopic Examination of Assumed Recurrences of Cancer of the Uterus. A. Sitzenfrey.
166 *Resuscitation of New-Born Infants. (Behandlung des Scheintods Neugeborener.) F. Ahlfeld.
167 Leukoplakia of the Uterus. J. Hofbauer.

161. **Osteomalacia.**—Stern reports the case of a woman of 41 who had borne eight children, and osteomalacia developed after her sixth delivery. She was treated with milk from a castrated goat. Great benefit followed as in Fränkel's case, but this improvement was not a complete cure, and the symptoms recurred after a stationary period of several weeks. The ovaries were then removed and a complete cure was soon realized except for the irreparable lesions. The case sustains the assumption of an internal secretion of the ovary and its antibody, but his further research to study the subject still closer gave negative findings.

165. **Necessity for Microscopic Examination of Alleged Recurring Cancer.**—Sitzenfrey reports a case in which a woman, 46 years old, had the uterus removed for an adenocarcinoma, six years after the death of her consumptive husband. Three months later a local ulceration was assumed to be recurring cancer but the microscope revealed that it was a tuberculous process in the retroperitoneal tissue, evidently infected from the intestines. The diarrhea observed the fourth day after the first operation, had evidently been due to tuberculous intestinal ulcers. The second laparotomy in this case revealed inoperable tuberculous conditions. If the excised scrap had been examined with the microscope in time, the patient would have been spared this useless second operation. In another case the supposed recurrence proved to be merely granulation tissue but this was not ascertained until after a number of lymph-glands had been removed; the enlargement of the lymph-glands was probably due merely to the inflammation after the radical operation, kept up by the trauma from daily vaginal irrigation. Sitzenfrey believes that such mistakes in the diagnosis of recurring carcinoma are more common than generally recognized. Wertheim says that the cicatricial tissue after his abdominal hysterectomy is liable to be heavy and tough, so that his assistants have frequently diagnosed recurrences in these harmless lumps, especially when the tissue is the seat of an inflammatory process.

166. **Resuscitation of New-Born Infants.**—Ahlfeld emphasizes that the causes and clinical picture of the asphyxia of newborn infants vary from case to case, so that individualized treatment is imperatively necessary. In order to ensure this, he clears the child's upper air passages and places it at once in a bath tub, keeping the water constantly at 38 to 40 C. (100.4 to 104 F.). All the examination of the child is done in the hot water. He insists that the umbilical cord should be cut at once in case of asphyxia; no change that can benefit the child can occur by means of the placental circulation, and

consequently there is no use in leaving it with the mother. In the hot water the capillaries of the skin filled with blood relieve the congested organs and the stimulus from the change from room temperature to that of the hot water has a powerful action on the circulation. It is then easy to inspect the child and estimate its viability and determine whether the air passages are free or not. He adds two more to the four cases he has previously published, in which the child breathed but there was no action on the part of the heart; on the other hand, a new-born child may be dead and yet its heart may keep beating. This renders it difficult to distinguish actual from apparent death of new-born infants, and this decision is much facilitated by observation of the child in the hot water. If the air passages cannot be cleared, he holds the child up by its legs for fifteen seconds, tapping its thorax and watching to see if mucus drips from its mouth or nostrils. If these manipulations fail, he wraps the child in a hot blanket and introduces a flexible catheter to aspirate the phlegm in the trachea and bronchi. If the passages can be cleared in this way, the viable child makes a deep inspiration and the heart action soon revives. Measures should be at hand for these procedures at every childbirth, and especially when there are pathologic conditions. Vigorous friction of the child's body has proved the best stimulus at this stage; the child is wrapped with hot cloths and is replaced in the hot water between each manipulation, pouring in hot water to keep the temperature at the desired height. Insufflation through a catheter and Schultze's swinging may effectually supplement the other measures, but the swinging is contraindicated with weakly and deformed children, the prematurely born and those injured during birth, as also when there is suspicion of pressure on the brain. For this the hot bath is the best of all measures, possibly supplemented by a little venesection. Ahlfeld adds that if after half an hour of these measures there is no sign of life, except the contractions of the heart, there is no hope of reviving the child and further efforts are merely to satisfy oneself and the family that nothing has been left undone. He cites a number of typical cases to show the various factors responsible for the asphyxia in different cases.

Zentralblatt für Chirurgie, Leipsic

April 29, XXXVIII, No. 17, pp. 597-628

168 *Operative Treatment of Varicocele. G. Nilson.

168. **Treatment of Varicocele.**—Nilson has operated in sixty-five cases by the technic of which he gives an illustrated description. It requires only fifteen minutes to complete it or less, and is done under local anesthesia. The stumps of the vein are drawn such a distance apart that there can be no question of regeneration of the blood canal later, while the testicle is safely suspended from the internal abdominal muscles. The long lower stump of the vein is drawn through behind the lower fibers of the common aponeurosis of the internal and transverse oblique muscles which are separated from the front of the rectus without disturbing the lay of the fibers or cutting them. This holds the testicle firm while effectually preventing, he says, recurrence of the varicocele.

Zentralblatt für Gynäkologie, Leipsic

April 29, XXXV, No. 17, pp. 641-672

169 *Childbirth in Progressive Muscular Atrophy. (Geburt bei Dystrophia musculorum progressiva Erb.) F. Gutzmann.
170 Ovariotomy During Delivery by Cesarean Section. (Weiterer Fall von Ovariotomie intra partum mit Kaiserschnitt.) A. Hesselbach.
171 Connection Between Ovulation and Conception. (Beziehung der Konzeption zur Menstruation.) S. Chazan.

169. **Childbirth with Progressive Atrophy of the Muscles.**—Gutzmann adds another to the two such cases on record; in all the period of expulsion was extremely protracted. This confirms the importance of the action of the abdominal muscles in delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 16, XXXII, No. 46, pp. 483-498

172 The Hypophysis Cerebri in Relation to Obesity. (Sulla patogenesi della degeneratio adiposo-genitalis.) G. A. Pari.

April 18, No. 47, pp. 499-506

173 Influenzal Peritonitis. M. Lodi.

April 20, No. 48, pp. 507-514

174 Hysteric Trophic Superficial Processes. (Disturbi trofici della cute di origine isterica.) C. Coniglio.

April 23, No. 49, pp. 515-530

175 *Test for Albumose in Urine. (Il mio metodo di ricerca dell' albumosuria.) U. M. Fittipaldi.

175. **Test for Albumose in the Urine.**—Several years of experience have confirmed, Fittipaldi says, the advantages of his technic for detection of albumose in the urine. The presence of considerable albumin does not interfere with the findings. After precipitation with alcohol the precipitate is dissolved in soda solution, 31 or 32 per cent. The solution is then tested with a 5 per cent. solution of nickel sulphate mixed with equal parts of ammonia. A few drops of this mixture are added to the alkaline solution, and the presence of products of proteolysis is revealed by an orange-yellow tint. This test reveals the presence of albumosoids in a proportion of 4 to 10,000, or less. It is less sensitive than some of the other technics, he declares, but it is a reliable one. He quotes a number of authors who have reported favorably on his technic.

Policlinico, Rome

April 16, XVIII, No. 16, pp. 485-516

176 Blood Pigment in Urine not Pathognomonic of Malaria. (Sopra un preteso segno patognomonico della infezione malarica.) C. Mars.

April 23, No. 17, pp. 517-552

177 *Improved Test for Indicanuria. (Nuovo metodo per la ricerca dell' indacano nelle urine.) M. Barberio.

177. **Nitrite Test for Indican in the Urine.**—Barberio comments on the great importance of examining the urine for indican as a sign of disease, and recommends a 1:2000 solution of sodium nitrite for the reagent. This keeps well; 2 or 3 drops are mixed with 5 c.c. of filtered urine and well shaken. Then 5 c.c. of concentrated hydrochloric acid and 2 c.c. of chloroform are added. The tint changes from clear yellow to violet; the chloroform, colorless at first, changes to blue, while the supernatant fluid is dark yellow, pinkish or violet. Comparison of the findings with this technic and with Obermayer's shows that the chloroform takes up the indigo blue more rapidly and intensely with the former. The rapidity of the technic avoids the formation of indirubin and thus protects against another source of error, but its chief advantage is that the reagent, the sodium nitrite solution, is so easily prepared, so stable and acts so promptly, thus adapting it for every-day routine practice.

Riforma Medica, Naples

April 17, XXVII, No. 16, pp. 421-448

178 *Sulphur Reaction in Urine with Cancer. (Sull'aumento degli acidi ossiproteinici nelle orine di carcinomatosi.) H. Salomon and P. Saxl.
179 Regeneration of Blood in Anemic Animals Under Quinin. (La rigenerazione del sangue nelle anemie da sottrazioni sanguigne in animali chinizzati.) D. De Sandro.
180 *Lumbar Puncture in Cerebral Hemorrhage. A. Rossi.

178. **Sulphur or Oxyproteic Acid Reaction in the Urine with Cancer.**—Salomon and Saxl give in condensed form the technic for determination of the proportion of oxyproteic acid in the urine in relation to the total nitrogen. In the healthy the proportion is about 1.2 per cent., but in case of cancer the oxyproteic acid nitrogen seems to range from 3 to 4.5 per cent. Their technic was given in detail recently in THE JOURNAL, May 27, page 1593.

180. **Lumbar Puncture in Cerebral Hemorrhage.**—Rossi has been applying lumbar puncture for diagnosis and estimation of the prognosis in cases of cerebral hemorrhage, and here gives the clinical history and necropsy findings in seven cases. They show that admixture of blood with the cerebrospinal fluid indicates very serious conditions. When the hemorrhage into the brain occurs suddenly, the gravity of the case depends on the amount of blood pouring out into the tissues and into the cerebrospinal fluid. When the cerebral hemorrhage occurs more insidiously, the symptoms are mild at first, but they increase rapidly in gravity from the reaction on the part of the meninges, etc. The presence of blood in the cerebrospinal fluid in this class of cases warns of impending danger, notwithstanding the mildness of the symptoms at first. The discovery of blood in the spinal fluid further serves to differentiate cerebral hemorrhage from conditions which might

otherwise be confounded with it, such as embolism, congestions, epilepsy, encephalitis and uremic and diabetic coma. The nine typical cases reported represent examples of each of these three groups.

Hospitalstidende, Copenhagen

March 22, LIV, No. 12, pp. 305-328

181 *Favorable Influence of Exposures to the Arc Light on Respiration in Heart Disease. (Undersøgelser over den universelle Buelysbenandlings Virkning paa Respirationen ved Hjertesygdomme.) V. Rubow and C. Sonne.
182 Case of Multiple Sclerosis with Conjugate Ocular Paralysis of the Voluntary Lateral Movements with Retention of Vestibular Reflex Movements. H. Rønne.

March 29, No. 13, pp. 329-360

183 *Wassermann Reaction in the Blind, Deaf Mutes and Epileptics of Denmark's Asylums. (En Undersøgelse af Blinde, Døvstumme og Epileptikere i Danmark ved Hjælp af Wassermann's Reaktion.) O. Thomsen and W. Leschly.

April 5, No. 14, pp. 361-384

184 *Salvarsan in Syphilis. H. Boas. Commenced in No. 13.
185 Site of Principal Lesions in Advanced Tuberculosis. (Hvilken Lunge findes fortrinsvis angreben ved Lungetuberkulosens sidste Stadium?) K. Secher.

April 12, No. 15, pp. 385-416

186 Spirometer Findings in Pulmonary Disease. (Spirometriske Undersøgelser hos Brystsyge.) F. Tobiesen.
187 *Blotting-Paper Test for Free Hydrochloric Acid in Stomach Content. (En ny Metode til Bestemmelse af den fri Saltsyre i Mavesaften.) I. Holmgren.
188 Two Cases of Volvulus. H. v. Thun.

181. **Effect of Arc Light Exposures on Respiration in Heart Disease.**—Rubow and Sonne report experiences which show that arc light exposures have a marked influence on the respiration in heart disease, rendering it slower and less shallow and thus relieving the dyspnea. They record the findings in a number of cases before and after exercise, the effect of the arc light exposures far surpassing that attainable by any other means. The results confirm in every respect Hasselbalch's statements in regard to this action on the respiration. His research was on healthy persons, but Rubow and Sonne have applied the procedure to supplement the ordinary measures, rest, dieting and heart tonics, in heart disease, when the dyspnea still persisted after their systematic application. Unless the arc light induces an erythema it does not have the desired effect on the respiration. The incandescent light baths in common use lack the ultraviolet erythem-inducing rays, and thus fail to have the same effect on the respiration as the arc light.

183. **The Wassermann Reaction in Deaf-Mutes and Epileptics.**—Thomsen and Leschly have previously reported their findings in regard to the Wassermann reaction among the inmates of the asylums in Denmark, and they here report that the findings were constantly negative in 146 blind inmates and in all but 3 of 344 deaf-mutes and 1 of 259 epileptics. There were no signs or history of syphilis in two of the cases with a positive reaction, but there was a history of keratitis at one time in the two others.

184. **Salvarsan in Syphilis.**—Among the fourteen syphilitics whom Boas treated with salvarsan, two seemed to be uninfluenced by the medication, while he has not encountered a single refractory patient among the last 302 patients given mercurial treatment. Only two of the entire fourteen have been free from recurring symptoms to date. In several cases there was persisting local infiltration and 0.028 gm. of arsenic was recovered in one case from the necrotic tissue which sloughed off for months after the injection. This patient was entirely incapacitated for business for several months after the injection, as a direct consequence of it. One patient presented symptoms of acute arsenic poisoning after the injection, with edema and erythema of the face, paresthesia in fingers and toes, vomiting, headache and high fever. The edema persisted for sixteen days. Another patient three weeks after the injection developed pains radiating from the focus to the neck, with vertigo. Even in the most favorable cases, Boas affirms, the symptomatic benefit was no more pronounced than is usual under mercury. There was recurrence of symptoms earlier than under the old treatment. He mentions further a fatality recently reported by Morata; a young man, healthy except for a mild recurrence of syphilis two years after infection (papules in the mouth and adenitis universalis), vomited blood three hours after intravenous injection of 0.04 gm. salvarsan; anuria and collapse followed and he died the next day in coma, necropsy showing intense congestion of the epithelium of the kidneys evidently arresting renal functioning completely. Boas' final conclusions are to the effect that salvarsan should be reserved exclusively for the cases in which ordinary treatment has failed.

187. **The Blotting-Paper Test of Gastric Acidity.**—Holmgren's application of capillary attraction to quantitative estimation of the free hydrochloric acid in the stomach content was described in THE JOURNAL, March 18, 1911, page 857.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

MYSTERIES OF LIFE SERIES. By Isabelle T. Smart, M.D., Medical Examiner of Defective Children, Department of Education, City of New York. Book 1: What a Mother Should Tell Her Little Girl. Pp. 105. Book 2: What a Mother Should Tell Her Daughter. Pp. 105. Book 3: What a Father Should Tell His Little Boy. Pp. 116. Book 4: What a Father Should Tell His Son. Pp. 103. Cloth. $2.50 per set; 75 cents per volume. New York: The Bodmer Publishing Co., 1911.

HYDROTHERAPY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. Embodying a consideration of the Scientific Basis, Principles and Practice of Hydrotherapy and some allied Branches of Physiologic Therapy. By G. K. Abbott, M.D., Dean of the Faculty and Professor of Hydrotherapy and Practice of Medicine in the College of Medical Evangelists. Cloth. Price, $3. Pp. 308, with 30 illustrations. Loma Linda, Cal.: The College Press, 1911.

ONE THOUSAND SURGICAL SUGGESTIONS. Practical Brevities in Diagnosis and Treatment. By W. M. Brickner, B.S., M.D., New York, Adjunct Surgeon, Mount Sinai Hospital. With the Collaboration of E. Moschcowitz, M.D., J. P. Warbasse, M.D., and H. Neuhof, M.D., New York, Associate Editors, American Journal of Surgery. Fourth Edition. Cloth. Price, $1. Pp. 227. New York: Surgery Publishing Co., 1911.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part 33. (Authors: W to Werbitzki.) By C. Wardell Stiles, Ph.D., Consulting Zoologist, Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Assistant Zoologist, Bureau of Animal Industry. U. S. Dept. of Agriculture, Bureau of Animal Industry, Bull. No. 39. 1911.

CONTRIBUTIONS TO MEDICAL SCIENCE. By Howard Taylor Ricketts. 1870-1910. Published as a Tribute to His Memory by His Colleagues Under the Auspices of the Chicago Pathological Society. Cloth. Price, $5.33. Pp. 497, with illustrations. Chicago: The University of Chicago Press.

UEBER MORBIDITÄT UND MORTALITÄT DES MENSCHEN, ZUGLEICH EIN BEITRAG ZUR FRAGE DER KONSTITUTION. Von Dr. Julius Bartel, Privatdozent und Assistent am Pathologische-Anatomischen Universitäts-Institut in Wien. Paper. Price, 2.50 marks. Pp. 95. Vienna: Franz Deuticke, 1911.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS. Twenty-Third Annual Meeting, held at George Washington University, Washington, D. C., May 3-5, 1910. Vol. V. Paper. Pp. 409, with illustrations. New York: F. H. Hitchcock, 1911.

SIEBENUNDACHTZIGSTER JAHRES-BERICHT DER SCHLESISCHEN GESELLSCHAFT FÜR VATERLÄNDISCHE CULTUR. Enthält den Generalbericht über die Arbeiten und Veränderungen der Gesellschaft im Jahre 1909. Paper. Pp. 69. Breslau: G. P. Aderholz, 1910.

SOME NEGLECTED FACTORS IN EVOLUTION. An Essay in Constructive Biology. By Henry M. Bernard, M.A. Cantab., F.Z.S. Edited by Matilda Bernard. Cloth. Price, $3 net. Pp. 489, with 47 illustrations. New York: G. P. Putnam's Sons, 1911.

HANDBOOK OF THE TREES OF THE NORTHERN STATES AND CANADA EAST OF THE ROCKY MOUNTAINS. By Romeyn B. Hough, B.A., Author of "American Woods." Cloth. Price, $8. Pp. 470, with illustrations. Lowville, N. Y.: R. B. Hough, 1907.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY. TRANSACTIONS OF THE FIRST ANNUAL MEETING. Paper. Pp. 356, with illustrations. Johns Hopkins University, Baltimore, Nov. 9-11, 1910.

PAPERS READ BEFORE THE AMERICAN SOCIETY OF TROPICAL MEDICINE AND PUBLISHED UNDER ITS AUSPICES. Volume V. 1910. Paper. John M. Swan, Secretary, 1818 Lombard St., Philadelphia.

ANNUAL REPORT OF ST. JOSEPH'S GERMAN HOSPITAL OF BALTIMORE, IN CHARGE OF THE SISTERS OF THE THIRD ORDER OF ST. FRANCIS. For the Year 1910. Paper. Pp. 48.

THE NERVOUS LIFE. By G. E. Partridge, Ph.D., Formerly Lecturer in Clark University. Cloth. Price, $1 net. Pp. 216. New York: Sturgis & Walton Co., 1911.

DIE NEURALGIEN DER TÄGLICHEN PRAXIS. Von Dr. O. Schellong, Arzt in Königsberg i. Pr. Paper. Price, 1.80 marks. Pp. 83. Berlin: Julius Springer, 1911.

REMINISCENCES OF LINDA RICHARDS, AMERICA'S FIRST TRAINED NURSE. Cloth. Price, $1 net. Pp. 121. Boston: Whitcomb & Barrows, 1911.

ST. LUKE'S HOSPITAL MEDICAL AND SURGICAL REPORTS. Volume II, 1910. Paper. Pp. 253, with illustrations. Poughkeepsie, N. Y.: F. B. Howard.

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THE POSSIBLE DIAGNOSIS AND A TECHNIC IN EXCISION OF A CHRONIC INDURATED ULCER OF THE POSTERIOR WALL OF THE STOMACH *

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OMAHA, NEB.

The technic of operations on the stomach for ulcer, curiously enough, followed that for cancer, and the radical operation for ulcer situated near the pylorus is practically identical with that for cancer. To-day we are in many instances operating on ulcer not only to relieve the symptoms for which it is directly responsible, but to prevent cancer development on the ulcer base. The physician, more particularly the stomach specialist, hardly has a fair chance to study the relationship between ulcer and early cancer; for such knowledge we must go to the surgeon who, having a large experience in stomach surgery, excises, whenever possible, all chronic calloused ulcers and submits each specimen to the examination of an expert pathologist. In the Mayo clinic 71 per cent. of excised cancers of the stomach were found to have developed on an ulcer base, and doubtless many excised chronic calloused ulcers, if carefully examined, will be found to be undergoing early cancer changes; hence, wherever the location, wide excision, outside of the area of induration, is imperative as a logical surgical procedure. Not much has been written about excision of chronic ulcers of the posterior wall of the stomach (saddle-bag ulcer not considered); in fact, nothing of value with which I am familiar, prior to Coffey's beautifully illustrated article,[1] in which he describes among others, one case of this type, and an article by W. J. Mayo.[2] In Coffey's case, direct attack by excision through an opening in the gastrohepatic omentum was employed. Mayo describes and illustrates effectively, "transgastric excision of calloused ulcer of the posterior wall of the body of the stomach"; five patients have been operated on by him successfully after this technic. A note at the end of Mayo's article credits L. S. Pilcher with having made a successful transgastric excision of an ulcer of the posterior wall of the stomach in a similar manner.[3]

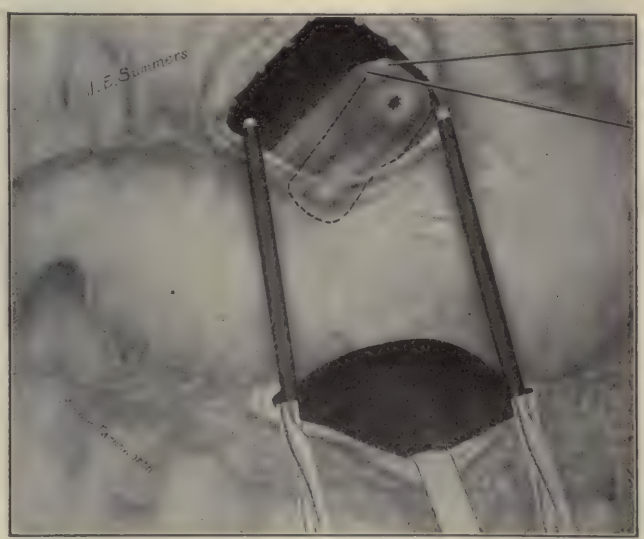


Fig. 1.—Gastrohepatic and gastrocolic omentum opened; ulcer freed, showing perforation and area of induration.



Fig. 2.—Lesser cavity of the peritoneum packed off; gauze packing in stomach.

Very few ulcers of the posterior wall of the body of the stomach have been attacked surgically. Moynihan ("Abdominal Operations") does not describe a technic, writing, "Though I have often found large adherent ulcers on the hinder surface (stomach) I have never been prevented from doing the usual operation" (posterior gastro-enterostomy).

* Read before the Nebraska State Medical Association, May 3, 1911.

1. Coffey, R. C.: Surgical Treatment of Ulcers Along the Lesser Curvature of the Stomach, Surg., Gynec. and Obst., December, 1910, p. 545.

2. Mayo, William J.: Transgastric Excision of Calloused Ulcer of the Posterior Wall of the Body of the Stomach, Ann. Surg., December, 1910, p. 797.

3. Case reported in the Long Island Med. Jour., May, 1908.

Our knowledge of the different forms and locations of gastric ulcer has been made possible only by a careful study of the subjective and objective symptoms and by comparing them with the operative findings. To date we have learned little from other methods, including the *x*-ray. I shall incorporate the essentials of the history of a case referred to me, as the symptoms differ somewhat from those commonly given of ulcer of the stomach, and may aid toward a recognition of chronic ulcer of the posterior wall of the stomach, particularly where its base is adherent to the pancreas or other structures.

REPORT OF CASE

During the latter part of December, 1910, Dr. A. D. Dunn of Omaha, turned over to me for operation in the Clarkson Hospital a man giving an undoubted history of chronic gastric ulcer. The notes on history and examination are by Dr. Dunn.

History.—"W. H., policeman, aged 40, married, was first visited Oct. 7, 1910. Family history negative. During the past two years, with a gradual onset, there had been, commencing about half an hour after meals, a sense of fulness and heaviness in the epigastrium with some belching; this condition would last one to two hours. The discomfort was greater



Fig. 3.—Dotted line, sutures in the posterior wall of the stomach; the repaired openings in the gastrohepatic and gastrocolic omentum; cigarette drains.

after a full meal, and was increased by sour vegetables and condiments. One year before the man had vomited blood. For the past two months he had vomited blood frequently and for several weeks blood had been present daily in the vomitus; his stools had been tarry, and he had rapidly grown pale and weak. Blood showed 2,500,000 reds and 30 per cent. hemoglobin; there was marked tenderness in the epigastrium; he complained bitterly of pain across the back, which was worse after eating; there was a hyperesthetic, tender area to the left of the tenth, eleventh and twelfth dorsal vertebræ. The patient was sent to the hospital and put on a Lenhartz diet. The course was completed in six weeks, at the end of which time the blood had disappeared from the stools; vomiting had ceased and he was largely free from pain; he returned home. One night he overate; the epigastric pain recurred with intensity and blood reappeared in the stools; he complained of pain in the region of the heart, which usually commenced between 11 and 12 o'clock at night and lasted until 3 or 4 in the morning. There was intense soreness and heaviness in the testicles, which made it difficult for him to rise from his chair.

Examination.—"Dec. 8, 1910: Patient is much improved in general appearance. There is marked tenderness and rigidity in the epigastrium; the fifth, sixth and seventh interspaces in the nipple line are exquisitely tender, as is the whole right and left dorsal area on both sides from the sixth to the twelfth dorsal vertebræ. Both testicles are hyperesthetic but do not appear abnormal. A test breakfast shows a total acidity of 82; hydrochloric acid, 60; blood present. No retention after eight hours from a test meal.

"The patient returned to the hospital and after one week's starvation a modified Lenhartz diet was again instituted. During three weeks there was little improvement; pain persisted to the extent of making his nights miserable and the stools were rarely free from occult blood. As soon as any increase was made in the diet the pain would be aggravated and the occult blood would be in greater evidence. Inasmuch as there had been no satisfactory results from medical treatment, and the patient's physical condition and the blood findings (reds 5,000,000, whites 5,500, hemoglobin 85 per cent.) were such as to warrant an operation, it was deemed the proper moment for surgical intervention in an obstinate and persistently bleeding ulcer."

Operation.—I operated on Dr. Dunn's patient in the Clarkson Hospital Jan. 2, 1911. The ulcer was situated on the posterior wall of the stomach; it was large and indurated. The anterior wall of the stomach could be invaginated into the ulcer base to the depth of one-half the length of the last phalanx of the thumb. After the usual application of stomach clamps the gastrohepatic omentum and the gastrocolic omentum were opened as indicated in Figure 1, and with gauze protection the ulcer was freed from firm posterior attachments, in the doing of which I perforated the base, opening the stomach. The ulcer base was so adherent to the pancreas that I am inclined to believe perforation with adhesion had already taken place. The induration extended over and across the lesser curvature; I might designate the ulcer as a "turned saddle." Before the ulcer was excised the cavity of the lesser peritoneum was packed off as indicated in Figure 2, and as it was excised the stomach was lightly stuffed with gauze for further protection of the wound—also shown in Figure 2. Figure 3 illustrates well the line of sutures in the posterior wall; there were two continuous, a through-and-through (not the Connell) and an imbedding musculoperitoneal. Figure 3 also shows the closed gastrohepatic and gastrocolic temporary wounds for technic. Two large cigarette drains were introduced, each to the line of suture in the stomach wall and coming out, the one at the upper end of the abdominal incision and the other at the lower. Our patient has, to date, made a most excellent recovery.

The peculiar pains complained of may be explained by the posterior adhesions. The splenic artery runs along the upper border of the pancreas as a rule, but I have seen one case of fatal hemorrhage from a gastric ulcer which ulcerated into the splenic artery running within the pancreas tissue. Cases of fatal hemorrhage from gastric ulcer have been reported in which the ulcerated splenic artery was the source, but whether or not a variation in the usual position of the vessel was the reason, I am not informed. Brinton says that 58 per cent. of fatal gastric hemorrhages come from the splenic artery. The possible relation of an ulcer of the posterior wall of the stomach to the splenic artery would suggest extreme gentleness in the freeing of adhesions.

DEFINITE KNOWLEDGE OBTAINED BY MEANS OF THE X-RAY*

E. M. SALA, M.D.
ROCK ISLAND, ILL.

While it is possible for an expert photographer so to alter *x*-ray negatives and prints that they may be made to represent almost anything, yet there can be no question about the *x*-ray's wide range of usefulness in solving the many perplexing problems with which the surgeon is continuously confronted.

* Read before the Western Surgical Association, Chicago, December, 1910.



Fig. 1.—This (Case 1) illustrates very well what was considered a fairly good result in fractured femur preceding the time of the *x*-ray. Here we have not to exceed one inch of shortening in a lateral union of a square break. This fracture was adjusted by several physicians and thought to be in perfect position.



Fig. 2.—Another view of fracture (Case 1) shown in Figure 1. While the patient has a very good result for a fractured femur, yet it is not quite what we should expect with the aid of the *x*-ray. In this illustration and in Figure 1 the outlines of the bone have been reenforced in order that they might be clear after reduction and reproduction.



Fig. 3.—Double compound fracture of tibia and comminuted fracture of fibula. This (Case 2) shows how necessary it is to take exposures from two or more directions in order to have a correct understanding of the existing deformity. This patient was injured in an automobile accident and escaped with only his life; he sustained other serious injuries besides the one here shown. Owing to the shock and other conditions present it was thought best not to operate on him and readjust the fragments as they should be. The main efforts were exerted to save his leg from amputation. This was accomplished by the aid of an ambulatory splint and the application of plaster-of-Paris molds.



Fig. 4.—Lateral view of double compound comminuted fracture of tibia and fibula (Case 2). The patient now, six months after accident, is walking on the leg without any apparent evidence of shortening. He has discharged some small pieces of bone and has experienced a rather protracted disability, but the result seems as good as we could have obtained by an operation so far as usefulness is concerned. New bone has bridged across the gap caused by the displaced fragment of bone, the fragment has grown to the new bone and the whole leg seems strongest at what would appear to be its weakest point. In this and Figure 3 also the outlines of the bone in the radiograph have been reenforced.

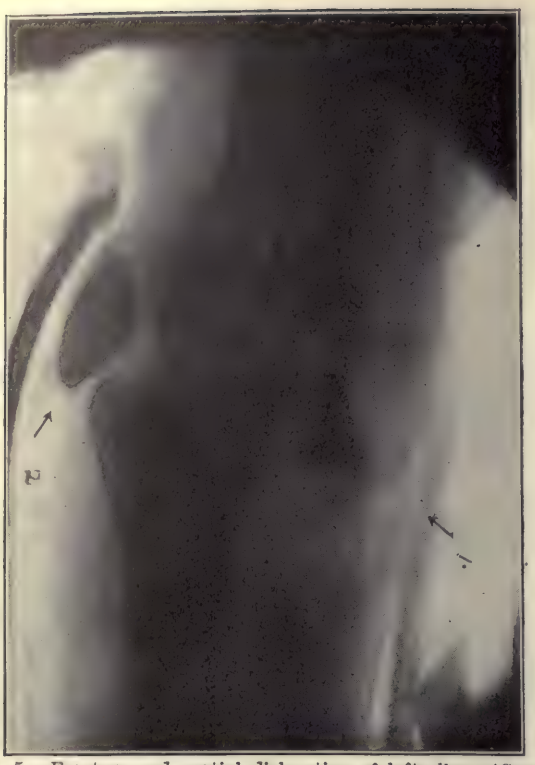


Fig. 5.—Fracture and partial dislocation of left elbow (Case 3). Arrow 1 points to detached external condyle and Arrow 2 to internal condyle. Arm is still in splints after a labored effort by two good physicians to adjust break without operation. This adjustment is probably as good as it could be without an open operation.



Fig. 6.—Lateral view of same fracture (Case 3) of both condyles before wiring, upper fragment protruding through skin. The outlines of the bones have been reenforced in this set of radiographs also.



Fig. 7.—Same elbow (Case 3) after adjustment and wiring condyles in place. It was necessary to open elbow by incisions in three places and tissues were elevated so we could see clear through arm in front of bones. One incision was made where bone had penetrated through skin.



Fig. 8.—Lateral view of same fracture (Case 3) after wiring. Elbow was put in splints and kept quiet for six weeks, no passive motion being permitted until inflammation had entirely subsided. Four months after injury boy has full use of arm.



Fig. 9.—A girl, 8 years old (Case 4), swallowed a fence staple. A skiagraph (not reproduced here), taken three hours afterward, showed the staple being churned about in the stomach. This shows the staple about to leave the stomach. Here the staple made a half turn while being radiographed and we have a double view of it. In this set of pictures the outlines of the staple and some of the bones have been reenforced.



Fig. 10.—This shows the staple traversing the descending duodenum on the opposite side of spine from Figure 9 and down below last floating rib. The staple was not aided in its progress by any form of treatment. Here we also get a partial double view on account of the peristaltic action of the bowel.



Fig. 11.—Staple in ascending duodenum about the duodenojejunal juncture; it has almost completed a circle; this is also a double view. Figures 9, 10 and 11 were all taken during the same hour, showing the speed with which such things travel. The staple then had traveled from the upper right-hand corner to the jejunum in one hour's time, or in four hours after being swallowed.



Fig. 12.—This was taken thirty-six hours after Figures 9, 10 and 11, and shows the staple to better advantage, evidently because it was more stationary. No treatment was given the child except an enema, thirty-nine hours after the staple was swallowed, when the staple was washed away. This plate was exposed to the *x*-ray nine seconds. It appears as though the staple had turned around in the large bowel, but it was evidently proceeding arch first and was about to make the loop of the sigmoid.

An agent for one of our large *x*-ray houses recently said that certain physicians had told him that "the *x*-ray was a thing of the past and it would soon be done away with." Such conclusions can be due only to one of two causes: either these physicians have fumbled their own *x*-ray work or some one else has fumbled it for them.



Fig. 13.—Fracture of both bones of forearm (Case 4). Here we have quite clearly demonstrated a condition in fractures of two bones parallel to each other in which it seems almost impossible to secure a perfect coaptation without an operation, because when one bone is perfect the other is out of adjustment, and if the second bone is perfect the other is out.



Fig. 14.—Simple fracture of lower third of right tibia (Case 5), which at first glance appears to be a comminuted fracture. The diamond-shaped piece of bone in reality is a part of the main bone, the white mark all around it being caused by the peculiarity of the break.

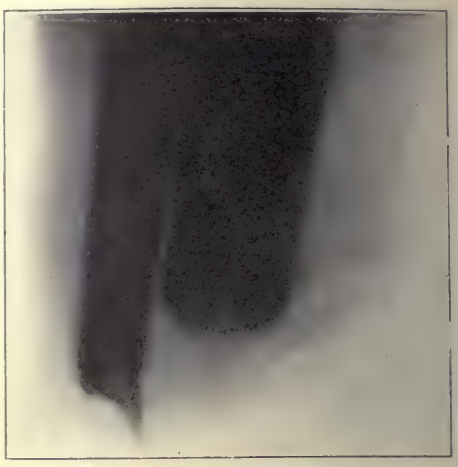


Fig. 16.—Amputated leg (Case 7), fibula being left half an inch longer than tibia with an additional spicula projecting one-fourth inch further. This leg gave trouble until reamputated and bones made even, which shows the importance of making bones even. If either bone is to be left long it should be the tibia, because it is the larger and the bone that bears the weight of the body, the fibula being only a brace.

Some one has well said: "To read the report of finding a renal calculus, a tuberculous hip or a frontal sinus disease is one thing; to realize the long road of failure and discouragement which the writer traveled to reach that end is quite another." The man who sells you the machine tells you that it will take any old thing at any old time; he puts it in and shows you how it is done; after he is gone your troubles just begin. When you have spoilt about two or three hundred plates and punctured half a dozen tubes you begin to realize how little you really did know about the business in the beginning. I spent six years trying to take a picture of a hip-joint before I succeeded in getting one that I would dare exhibit without an apology. Some one has said that "not failure, but low aim, is crime."

The *x*-ray is no longer estopped by the query whether these things can be taken; it is now only how well they can be taken; that is, radiography is a highly developed art.

Much of our work previous to the *x*-ray was problematical. A fracture would be adjusted so that the part looked all right to the naked eye and allowed to go at that, but to-day it is different. After the fracture is adjusted an *x*-ray is taken, and if the bones are improperly adjusted the fracture is treated accordingly. Time was when a surgeon might say that an injury to a joint was a simple sprain and stick to his opinion without fear of contradiction, but to-day he may be forced to change his opinion when confronted by the *x*-ray findings. It is surely a great source of satisfaction to be in practice in the present age as compared with the many uncertainties which existed in the practice, say twenty years ago.

In fractures the *x*-ray shows us, many times, a very imperfect adjustment of the bones in what had seemed a perfect adjustment when examined without the aid of the *x*-ray. Frequently amputations refuse to heal and it is not always possible for one to say why, without the aid of an *x*-ray. A small piece of bone may have been left in rounding off the edges of the bone; or it may be found that the bone was left long when it should have been short. The case shown in the collection here (Figure 16) is a very good illustration of how this happens. Here the sur-



Fig. 15.—Normal ankle on left and sprained ankle (Case 6) on right with particles of tibia broken off. Such injuries tell the reason why some sprained ankles do not recover rapidly, there being a fracture in addition to the sprain. These breaks are always overlooked without the aid of an *x*-ray. The two views demonstrate how it is possible to develop a negative so that all the soft tissues and even the tendons disappear, the single foot view showing a shadow of the tendo Achillis. The outlines of the particles of broken tibia on the right have been strengthened for fear they would not otherwise show in the reproduction.

geon, no doubt, thought that the bones were even; but instead the fibula is half an inch longer than the tibia with a sprig of bone extending down fully half an inch further; this constantly gave trouble until removed. A condition like this may be ascertained without the *x*-ray in a thin subject, but in the average individual it would be rather difficult, previous to operation.

The course of the ureters can be outlined when they contain metal catheters; the stomach can be clearly outlined when injected with bismuth and the work on the thoracic cavity, so beautifully worked out by Beck, makes the knowledge we may obtain with the *x*-ray very extensive. The aid which the *x*-ray bears to a correct diagnosis (within its limits of course) cannot be underestimated. Many of these points, thus hastily referred to, are illustrated by the accompanying radiographs and case reports.

The *x*-ray, when in good working order, is one of the most valued adjuncts to good surgical work we have at our command. It helps to make surgery a more exact science. It gives us a much clearer understanding of our cases and will, eventually, lessen to a great extent the vast number of cripples that were unavoidable previous to the time of the *x*-ray.

A CERTAIN AND SIMPLE METHOD OF OBTAINING THE KNEE-JERK

CURRAN POPE, M.D.
LOUISVILLE, KY.

In the study and investigation of neurologic cases, I am constrained to believe that the knee-jerk or patellar tendon reflex, correctly obtained, is one of the most important tests, if not the most important, in a great variety of cases. It is certainly a test that the general practitioner should more frequently make in the ordinary routine examinations of his practice. Perhaps not everyone is aware that the knee-jerk is often present, but inhibited by the patient, and that any method that will insure a correct response is well worth consideration. I have found it practically impossible for a patient to inhibit the knee-jerk if the method here described is employed. It was in an endeavor to prevent this frequent occurrence that the following plan was evolved.

The patient, male or female, should sit in an ordinary straight-backed office chair, relaxing the entire body as far as possible. The feet are then pushed forward so as to extend the lower limbs comfortably. This position produces complete relaxation of the flexor groups of muscles of the lower limbs, and, as it is these groups of muscles that inhibit the response, it seems rational to believe that the inhibition would be prevented.

With the limbs in the position indicated, and with the ends of the toes of both shoes on a line, the clothing is drawn reasonably snug over the patella with the thumb and forefinger of the left hand in right-handed individuals. The three remaining fingers and the palm of the hand should rest on the thigh just above the patella. With a percussion hammer a gentle tap is given the tendon and its response or the absence thereof can be both seen and felt, for the palm and three fingers of the left hand will give an excellent index of the prominence and activity of the response.

In this position, reinforcement is most satisfactorily performed, and a wider range of action obtained.

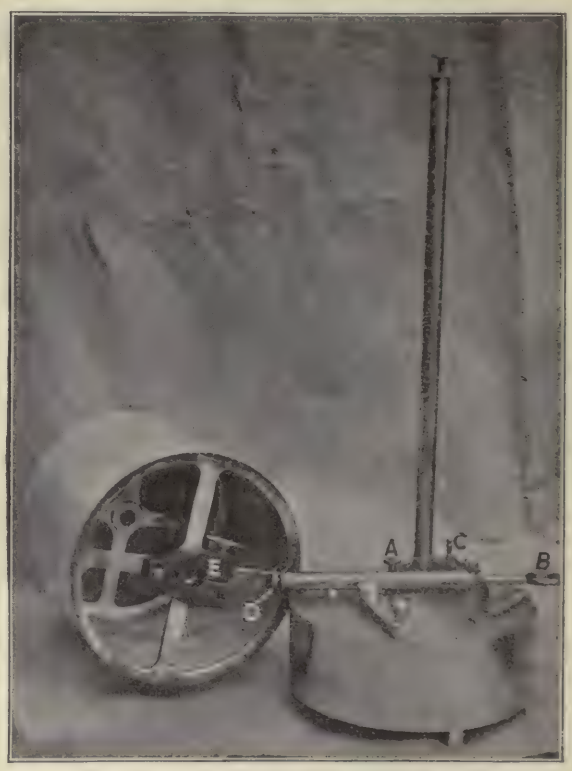
I have been unable to find a description of this method and, therefore, believe it to be original. It has stood me in good stead in some cases in which it was very important to know the presence or absence of this reflex.

115 West Chestnut Street.

A DRUM-SPINNING ATTACHMENT FOR AN ORDINARY KYMOGRAPHION

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This attachment can be fastened to the base of a Harvard Apparatus Company's kymographion by means of a single thumb screw, as shown at *A* in the illustration. The device is "set" by pulling out the plunger by means of the ring *B*. When the knob *C* is pulled the drum will be spun around rapidly for one revolution and then stopped in exactly the same position as that from which it started. The writing-points of all muscle levers,



Drum-spinning attachment for an ordinary kymographion.

tuning-fork, etc., remain constantly on the even surface of the drum paper. The plunger can be at once "set" and the drum spun again as many times as desired, thus allowing superimposed curves to be taken on the same base line. A set-screw *D* can be adjusted to regulate the speed at which the drum spins. A special clamp *E* fastened to the lower part of the drum permits it to be firmly clamped on to the drum spindle. With slight variations in regard to the attachment this device may be used on any ordinary kymographion. It is generally desirable to fasten the kymograph down to the table by means of a small hand clamp.

This spinning device was made for me by Mr. Paul Bauer, mechanician for the Washington University Medical School. It answers the same purpose as the pendulum, or spring myograph, with the added advantages that it is smaller, cheaper, and much more easily and conveniently manipulated by students.

THE X-RAY TREATMENT OF RINGWORM OF THE SCALP

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NEW YORK CITY

Although I have not heretofore attained all the success which could be desired with the *x*-ray treatment of ringworm of the scalp, I was so profoundly impressed with the results observed during a recent trip to London and Paris, that I do not hesitate to urge this plan of treatment when it can be properly carried out. As is the case, however, in many matters in medical and surgical practice, the personal equation and the experience of the operator are great factors in success in the employment of the *x*-rays; but with sufficient care and vigilance, dexterity can be secured by many in the use of this remedy, and the best results obtained.

Ringworm of the scalp is often regarded too lightly. While certain recent cases may yield readily to various forms of treatment, and while the disease tends to pass away at puberty, no one who has had much to do with ringworm of the scalp among poor children or in public institutions will underestimate its seriousness, or scorn any measure which offers a prospect of a speedy cure of this rebellious affection.



Fig. 1.—Child prepared for *x*-ray applications to whole scalp. The applications are made at right angles to the points A (toward the forehead), B, C, D and E.

In New York City, children with ringworm are very properly excluded from the public schools. When it gains a foothold in asylums it becomes a veritable nuisance and even a scourge, involving great care and expense in the segregation and treatment of those afflicted; of this I have had personal experience on many occasions. In some of the city institutions it has been very prevalent at times, and in the hospital on Randall's Island there are always many hundred children with ringworm, some of whom remain months, and even years uncured, in spite of intelligent medical treatment and faithful nursing.

In Paris, some time ago, ringworm became so prevalent that there was established in the Hôpital St. Louis a special school, with instructors, where several hundred children were kept under treatment, as it was found impossible to check the disease by out-patient management. It was here that Sabouraud made his remarkable studies, which have thrown so much light on the subject, and here that he developed and systematized the treatment now under consideration. The result of this has been that, whereas there were at one time large numbers of children under his care, about 300, I understood that, when I was visiting the school recently to study the process of cure, there were only about fifty in the school. The numbers of affected children have steadily diminished, and the disease is largely stamped out in Paris by means of *x*-ray treatment, some thousands having been thus treated.

In London, ringworm became so prevalent and obnoxious that the Metropolitan Asylums Board created what is known as the "Downs School," in the country at Sutton, in Surrey, about fifteen miles distant from London, where children affected with ringworm were sent from the various public institutions under its charge. From the first, it was placed under the medical care of Dr.

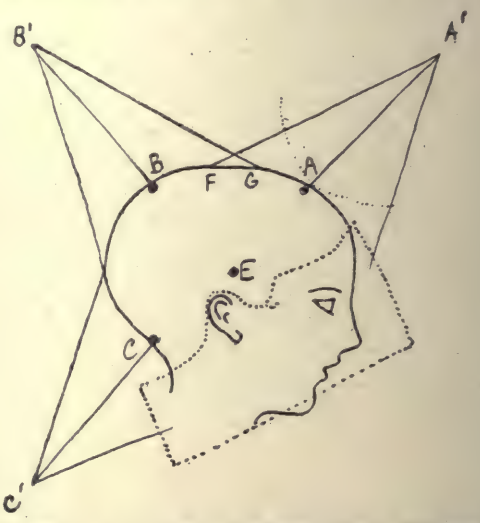


Fig. 2.—Points A, B, C and E receive each a full pastil dose. A' F, B G indicate the angle at which rays from A' and B' fall on scalp, and the distance from the source of the rays as compared with the normal distance A' A and B' B. The dotted line represents the sheet of lead used to protect the ear and face when point E is *x*-rayed.



Fig. 3.—Box-shield in position for *x*-ray application to upper occiput (B). The white lines indicate the direction of the rays through the aperture in the box. The white arrow indicates the direction in which the dose is to be aimed when the left side of the scalp is being rayed. The ear and side of the face is then covered by lead-foil as in the diagram (Fig. 1). Similarly when C is rayed the neck and back are protected. (The pegs here shown were found to be somewhat too thick and have since been made more slender.)

Colcott Fox, of London, who gives all day Saturday to the work, and through whose courtesy I was enabled to spend considerable time there, examining the children and watching the method of treatment. The direct *x*-ray applications were given by Dr. H. O. Adamson, who has done much to make this mode of treatment effective; he also spends all Saturday there, and another man does *x*-ray work on two other days of the week, all with skilled nurses.

The institution consists of six dormitory buildings, holding seventy patients each, with other buildings for administration, schools, laundry, electric plant, etc. The dormitories have been full much of the time, with over 400 children, but of late they are less crowded, as the disease seems to be well under control. Several thousand children have been treated and cured there, almost 1,000 in 1909, and 598 up to July 16, 1910. On July 9 forty-five were admitted and thirty-one discharged, and thirty-two were discharged on July 16, admission being only every two weeks. The children stayed in the schools about three months each, and were then returned to the institutions from which they came. As they were all under the continual care of the Metropolitan Asylums' Board, in other institutions, they were under constant observation, and the authorities were in a position to know if there was any return of the disease. I was, therefore, greatly interested to learn that it was the rarest thing to have a child sent back for treatment, and my inspection of the books showed that this very seldom occurred.

The same treatment for ringworm of the scalp has also been carried out on a large scale by Dr. J. H. Sequeira, in the out-patient department of the London Hospital, where there is a most elaborate and excellent *x*-ray outfit, at one time thirteen nurses being employed. There had been about 2,000 ringworm cases treated since July, 1906, and 580 during the half year ended July 1, 1910.

A very intelligent nurse brought some new patients while I was there; I asked her how many children she had brought from her institution, and she replied "about 200." I then asked her how many she had brought back uncured, and she said, not over two or three of the entire number.

There have been also reports from others who have made extensive and successful use of this method of treatment. My personal observation was quite enough to satisfy me that we have in this method the means of controlling a disease which has hitherto been the source of vast annoyance to physicians and managers of many public institutions.

When the claim was first made in the medical journals that obstinate ringworm could be cured with a single application of the *x*-ray I was incredulous, and although treatment by the *x*-ray has been used for some years in the New York Skin and Cancer Hospital, I have to admit that I do not know of any cases which have been cured by a single exposure; and I now believe that the fault has been in the technic of the operation, for the testimony obtained in Paris and London was that this was almost invariably the case.

It is not necessary here to make any extended remarks on the different forms of ringworm of the scalp, or on the diagnosis, which can be so easily established by the microscope, but only to state that all forms of the disease, and also favus,[1] seemed to yield to the right administration of the *x*-rays. The secret of success lies in securing a proper strength and duration of exposure which shall effect complete depilation of the hair, no more and no less; and this is secured by means of a radiometer, the most practical of which is that known as the "pastil of Sabouraud." These pastils consist of small discs of cardboard, coated with a yellow preparation containing platino-cyanid of barium; they are exposed to the *x*-rays during the treatment until they change to a pale green color, corresponding exactly to a test scale accompanying them.

There are, of course, many elements to consider in connection with the operation of the *x*-ray which this is not the place to discuss; suffice it to say that no one should attempt the treatment here described without a good working knowledge of this powerful agent. It is to be remembered that the effects of the ray will vary with: (1) the intensity of the rays produced; (2) the distance of the anticathode, or target, from the treated part; and (3) the duration of the exposure. The intensity of the rays may vary in the same apparatus from day to day or even in the course of the same day, with the high or low tension in the tube, with the temperature, state of the barometer, action of the coil or static machine, thickness of the glass of different tubes, condition of the conductors, etc., so that a time exposure, as practiced by many, may be a very uncertain guide; unless, therefore, there is some efficient radiometer to measure accurately the amount of rays used, there is great danger of overdoing or underdoing the work, as will be mentioned later. This, however, can be accurately determined and regulated by the pastil of Sabouraud.

The distance from the anticathode, or target, is fixed by Fox by means of three light wooden pegs, about 3 inches long, protruding from the tube-holder, which rest on the affected part; Sabouraud adheres to tubes made of metal or lead glass of various sizes, the ends of which rest on the scalp. Sabouraud makes the distance 15 cm. or 6 inches, and Fox 17.5 cm. or 7 inches.

Having, thus, the distance a fixed element, and the matter of the intensity of the application determined definitely by the change in color of the pastil, the duration of the exposure becomes a negligible quantity, provided that the pastil reaction is accurately attended to; but Fox has also clocks, one for each of three patients treated at the same time, which are set at the beginning of each exposure, so that after a certain number of minutes the pastil is removed and frequently examined, in comparison with the standard color to which it is to be changed.

The pastil is inserted at exactly one-half the distance from the anticathode to the scalp, 7.5 cm. or 3 inches from the former by Sabouraud, and 3½ inches by Fox. In the apparatus employed by Sabouraud, the pastil is made to adhere to the plate holding the metal or glass cylinder for localizing the *x*-rays, which thus has to be wholly removed each time it is inspected. In the apparatus used by Fox, the pastil is applied on the end of a plug which is inserted in the proper position, and so can be removed much more easily, without disturbing the apparatus.

The time occupied by an exposure necessary to change the pastil correctly, as practiced by Fox and Adamson, (from 20 to 30 minutes) surprised me, for it was more than I had been accustomed to allow in such cases. Sabouraud states that by using very hard tubes he had been able to reduce the exposure to about six or seven minutes for each sitting, but he had arranged matters so that the usual sittings last from ten to fifteen minutes, according to external conditions of the atmosphere, the tubes, etc.[2] All of them use quite a small tube made by Drisler, which has a wonderful endurance; running

1. At the meeting of the British Medical Association in London, in July, 1910, Dr. Dally reported in regard to the treatment of favus at the special school established by the London County Council for these cases in Frick Street. One hundred and fifty children had been admitted, eighty-two of whom were treated with the *x*-ray with one single application, the entire scalp being covered in five exposures by the method advocated by Adamson. The treatment was perfectly successful.

2. Brit. Jour. Derm., 1906, xviii, 207.

eight hours daily they will often last for from two to six months. Sabouraud used a static machine until recently, when he introduced a coil; he now employs both; both Fox and Sequeira use coils.

I could not learn just how it was that the time of exposure by Fox was so much longer than the exposure by Sabouraud, but it had to do, of course, with the apparatus employed. The experience of all the workers was, however, that the pastil (when it was genuine and correctly employed) was to be relied on, and represented the dosage of *x*-rays which the average skin will stand, whereas less than the measure of a pastil dose was inefficient to produce complete depilation, and would not effect a cure. They told me that they did not recognize idiosyncrasies as to the effect of the *x*-ray on different skins, and did not find it necessary to vary the dosage for different patients. Adamson[3] says, however, that some pastils are more sensitive than others, and recommends only those obtained from the original makers (Drault, of Paris) and then only with the "B tint" which accompanies the book of them, since the "B tint" was apparently not a fixed standard, but was adjusted to each series of pastils.

For the proper employment of this treatment it is necessary that the hair should be cut very short with a clipper, and it is commonly wise thus to clear off the entire scalp in order also to detect small incipient patches, which might be overlooked and so protract the cure. When there are but few patches these can be treated by isolating them with localizing tubes of proper size, or lead shields, but when there are more than five scattered patches the rule is to depilate the scalp completely by means of the *x*-rays. Sabouraud accomplishes this in ten or twelve exposures, covering each circle that has been treated with a disc of lead foil, so that the rays shall not touch it again.

Adamson[4] has presented a simplified method of depilating the entire scalp with five exposures, which I observed to work so perfectly that I shall describe it as briefly as possible, presenting his illustrations, with his kind permission. The object of the method is to make applications of the *x*-rays at five different points of the scalp, in such a manner that while the areas of exposure encroach on each other, the rays fall at such an oblique angle that there is no injurious effect from overlapping, but each and every portion of the scalp receives the full pastil dose of *x*-rays; so that the areas which have been treated are not covered with lead foil, as by Sabouraud.

The location of the several applications is shown in the accompanying illustrations. The hair being clipped short over the whole head, five points are marked on the scalp with a blue skin-pencil: A, in the center line, from 1½ to 2 inches within the frontal margin of the hairy scalp; B, near the center of the crown, five inches back of A; and C, just above the lower border of the hairy scalp, which should also be 5 inches from B; at the sides of the scalp D just above and in front of the left ear, and E just above and in front of the right ear. These points should also be 5 inches from the center line. The points are then connected with lines made by a blue pencil, which should meet each other at right angles (Fig. 1).

A Sabouraud pastil dose is given over each of these points A, B, C, D and E in succession, beginning with B, in such a manner that the point is the center of each area rayed, and the anticathode at a distance of 6 inches is vertically over the point, and so at right angles to each of the other applications (Fig. 2); the forehead, nape of the neck, the ears and side of the face must be protected with lead or rubber when exposed to the rays. Most of the applications are made with the patient lying down (Fig. 3). The aperture in the box through which the rays pass is 3 inches in diameter, and 3¼ inches from the anticathode, so that the rays diverge, at the head, to a circle 6 inches in diameter. Care must be taken in applying the rays at A, E, C and D to have the center of the area over the point indicated, so that about half the dose goes on the scalp, and much of it on the shield protecting the face, ears and neck, otherwise there will be an overexposure somewhere.

When Adamson's account appeared nearly two years ago, he had used this method in seventy-five cases with perfect results; as I observed its workings it was excellent. Since that time he must have treated hundreds of other cases in this way, for a large share of the children in the Downs School had the entire scalp depilated for extensive ringworm by this method.

The effects of the application of *x*-rays in these cases are very interesting. There are, of course, no visible results from the exposure at once; at the end of about seven days there may be a slight erythema, but generally not, and nothing occurs until about two weeks after the operation, when the hairs begin to fall with the slightest traction, and within a week later the process is in full operation. By the end of a month from the time of exposure, the scalp is pretty well bared; the roots of the hairs are found to be atrophic and their points sharpened. The hairs affected by the trichophyton are the last to fall, and must be removed by daily washing with soap. Fox washes the head every day, from the beginning, and keeps the scalp lightly anointed with a carbolized petrolatum, which prevents the affected hairs from carrying the disease. Sabouraud treats the scalp from the first day of the operation to the end, with a daily application of a weak tincture of iodin: tincture of iodin (freshly prepared) 1 part, alcohol 9 parts.

The diseased patch, or the whole scalp when treated, remains bald for a month or two, when it becomes covered with fresh hair (lanugo), and within from three to four months, if the process has been properly carried out, the hair will have regrown well, with no trace of the parasitic disease.

In the Downs School, where I had the opportunity of observing large numbers of children at various periods after the single application of the *x*-rays, it was possible to verify the facts above stated to a nicety. The children were returned to their various institutions when the hair was partly regrown, and when Dr. Fox, who examined each child minutely, was satisfied that there were no remains of the parasite on the originally diseased patches. This generally occurred at about the end of three months from entrance, and as already stated, thirty-one children were discharged one Saturday, and thirty-two a week later. Ordinarily, it is better to determine the cure by accurate microscopic examination of the débris scraped from the site of the patches, after being soaked with equal parts of liquor potassæ and glycerin, but with Dr. Fox this had become unnecessary, and, as stated, the results proved the correctness of his judgment and sufficiency of the treatment. As already mentioned it was the rarest thing to have a child readmitted, although being still in various institutions very great care was naturally exercised against recurrence.

A few points remain yet to be considered. It is possible that in certain cases the *x*-ray may not have been given to the full pastil dose, from error in judgment of

3. Brit. Jour. Derm., 1906, xviii, 183.
4. Lancet, May 16, 1909

the operator as to the change in color of the pastil, and depilation may not be complete in the affected patches. This cannot be determined at once, and only after the expiration of at least a month should a second application of the *x*-ray be made; this necessity, however, seldom occurs in skilful and experienced hands. Then, again, if the proper dose of *x*-rays, as regulated by the pastil, has been much exceeded, one of two untoward results may follow: (1) there may be a burn, of more or less severity; or (2), permanent alopecia may result. Fortunately, the former rarely if ever happens now, except with very unskilful handling of the rays, and occurrence of alopecia is also very exceptional. I was told that permanent baldness had happened a few times in the very earlier trials of this method in London, but not in later years. I know of one case in New York in which the hair did not come back over a localized area, but this was from repeated use of the rays in unskilful hands. If the hair does not grow within six months the alopecia will be permanent.

Some question has arisen in regard to the possible effect of *x*-rays on the structure or functions of the brain, and this was the subject of a special discussion at a joint meeting of the dermatologic and electrotherapeutic sections of the British Medical Association;[5] the conclusion was unanimously reached that in the many thousands of cases in which the *x*-ray method had been practiced this had not occurred, and that "they might regard the spécter of brain trouble as abolished." There was not even headache after the prolonged and repeated exposure to the *x*-rays in operating on the entire scalp, though some think it not desirable to employ this treatment in children under the age of 3 years.

As for the mode in which proper *x*-ray treatment cures ringworm of the scalp, all are agreed that it does this solely by effecting a complete depilation, and that the parasites are in nowise killed by the *x*-ray, in the doses used. The trichophytic hairs are liable to spread the disease, but the contagiousness of the patient ceases when they have all fallen, a month or so after the exposure to the *x*-rays.

Sabouraud[6] makes some interesting remarks concerning the gain, financial and other, which has been accomplished by the perfecting of this method of treatment of ringworm of the scalp. In these he shows that whereas before 1904 there were 300 beds in the Ecole Lallier, at the Hôpital St. Louis, occupied by these patients, whose stay averaged over two years each, he has reduced the number to 100, and the average time for a cure to a little over three months; and whereas, in 1903 there were 110 discharged cured, he now discharges more than 500 annually. The cost of each child for a cure was originally about 2,000 francs, whereas now it is but 260 francs, effecting a saving of between 300,000 and 400,000 francs annually to the government.

In conclusion, I am well aware that much that I have written is well known to many, and that the value of the *x*-ray treatment of ringworm of the scalp is accepted by most if not all dermatologists, but I cannot help feeling that this really great advance in dermatology is not thoroughly appreciated by the profession, and that the technic is not so understood that the best results are commonly obtained. Undoubtedly in recent cases good results can often be secured by the older, well-known remedies, but long experience in public practice and institutions convinces me that there are multitudes of cases in which the disease remains uncured for very long periods, being held partially in check by treatment of various kinds. From what I saw in Paris and London I know that the treatment here described is thoroughly effective.

It is recognized that there are objections to the treatment, in regard to the perfect baldness of patches or of the entire scalp, which must be endured for six weeks or so; but certainly the prospect of a cure in three months, instead of over two years on an average (as under the skilful treatment in the Hôpital St. Louis in Paris, prior to 1904), warrants endurance of this relatively trifling annoyance. Sabouraud,[7] after studying the disease microscopically for many years, wrote in 1896: "Not only is there no curative treatment known for tinea tonsurans, but I believe I am authorized in saying that no antiseptic treatment whatever will be found in the future capable of accomplishing this end. For even if we vary the chemical nature of the antiseptics, that would hardly change their power of penetration, whether solid, liquid, or gaseous they would always meet the same obstacle, that they could not penetrate deep enough. The root of the hair is inaccessible to external antiseptics."

It was this conclusion which led him to experiment with various methods of depilation (for the hair cannot be epilated mechanically, as it breaks off), and as a final result we have the method now described which has given such brilliant success in thousands of cases, at the hands of many careful observers who vouch for the results.

531 Madison Avenue.

5. Brit. Jour. Derm., 1909, xxi, 394.
6. Sabouraud: Les Teignes, Paris, 1910, p. 804.

THE PRESENT STATUS OF THERAPEUTICS AND THE SIGNIFICANCE OF SALVARSAN *

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The value of salvarsan is being discussed at present almost exclusively by syphilographers and simply as a new remedy for syphilis. From this point of view the verdict as to its importance will depend on its efficiency as a therapeutic agent compared with that of mercury, whether it is more efficient or at least as good as that old specific remedy. General medicine, however, offers another point of vantage. Salvarsan is not simply an additional remedy for syphilis; it marks an epoch in medicine. This, I believe, will remain true, even if it be finally established that for syphilis this new remedy falls short of the old ones. Salvarsan presents a new departure and a new principle in therapeutics. It is from this point of view that I wish to make my remarks on the therapeutics of salvarsan. In order to elucidate my position, however, permit me to present in the first place a brief outline of the rapid fall and the slow rise of therapeutics during the course of the new medical era: this will assist us at the same time in the understanding of the present status of therapeutics.

For many hundreds of years practitioners of medicine lived in the bliss of ignorance; they were sure that they cured diseases—that the recovery of a patient was due to the drug which they administered. With the dawn of the new era in medicine, some seventy or eighty years ago, there came a sudden awakening—at least for a good many: the confidence in the action of drugs and therapeutic measures was shaken to its foundation. One of

7. Sabouraud, Les Teignes, Paris, 1910, p. 770.

* Read at the opening of the symposium on salvarsan at the annual meeting of the New York State Medical Society, April 18, 1911.

the most potent factors in this upheaval was the success of homeopathy: if patients can get well, it was argued, with such infinitesimal doses of drugs, they probably do get well without the assistance of any drugs and sometimes perhaps even in spite of the drugs. A remarkable situation now arose. While it is as clear as day that the practice of medicine has a right of existence only by the help which it can render to the sick, medicine of that day decided to go ahead without therapeutics. Pathologists began to establish anatomic changes corresponding to every disease, and clinicians diligently and conscientiously studied the symptoms of diseases by which these changes could be recognized during life. The interest of clinicians began to center preferably in such diseases as would lead to a confirmation of the diagnosis by a post-mortem finding. Thus the subject of therapeutics was relegated completely to the rear, and for a long period no man of standing in the science of medicine devoted his time to the study and furtherance of this most necessary branch in medicine. We know the anatomic changes which take place in diseases, said the celebrated Skoda; we can diagnose diseases, but we cannot cure them. We all know that even in our day we have not a few who still profess the same dangerous fatalistic doctrine.

Permit me to say here in parenthesis that the intimate coalition of pathologic anatomy with clinical medicine led to another serious result: the identification of the pathologic changes after death with the preceding disease. This, too, is a misleading and dangerous conception. The pathologic state after death is only a consequence of the disease and not the disease itself. Disease in most cases is not a state, but a process, a functional disturbance which may lead to permanent anatomic changes, if not intercepted in time. I say it here because it cannot be said often enough, and because of the fact that functional disturbances are more readily amenable to corrections than permanent anatomic changes.

After a period of complete therapeutic nihilism the practice of medicine gradually began to recover from its shock. We need not dwell here on the development of surgical therapeutics, which was rather stimulated than hampered by pathologic-anatomic studies. Perhaps even in internal medicine the new pathology stimulated to new therapeutic activities by its dictum that disease is not a unit, an entity, but is a disorder, localized in various organs. At any rate, a method of treatment began to be developed which is directed against the disorder of organs and functions or against troublesome symptoms. In the course of many years, by diligent pharmacologic and therapeutic studies, a great many drugs were found and synthetically created which act on the kidneys, heart, gastro-intestinal canal, eyes, skin, etc., or relieve fever, pains, restlessness, insomnia, or supplant deficient secretions. The substitution method of treatment, although it relieves only the symptoms and must, therefore, be classed as belonging to symptomatic therapy, is a very interesting and valuable addition to modern therapeutics and is based on a new conception of the functional activity of some organs, that is, internal secretion. Besides the symptomatic therapy another method of treatment gradually grew up which is now known under the promising name of physiologic therapeutics. Perhaps even this method may have received a stimulus from another dictum of the new pathology, namely, that disease is nothing else but physiologic processes under changed conditions. The underlying principle of the physiologic method is to assist the sick man in getting well by all those means which keep the well man healthy and vigorous. Physiologic therapeutics lays great stress on the proper regulation of diet, air, water, light, exercise; on nursing, physical comfort and mental cheerfulness. All these therapeutic measures have as their aim, not the treatment of the disease, but, as stated before, the treatment of the patient, either to make him fit to resist the onslaught of the disease, or to make him at least comfortable while he is succumbing to it.

With the birth and development of bacteriology there seemed to be a new era in sight for therapeutics. The before-mentioned dictum of pathology that disease is not a unit was proved not to be entirely correct. It was established for various infectious diseases that each one was due etiologically to a well-defined microorganism. It seemed, therefore, plausible to expect that agents, capable of killing these organisms outside of the body, might prove to be efficient remedies for the disease produced by these organisms. A few years' experimentation, however, destroyed this hope; those germicidal agents when administered to the infected animal in sufficient quantity killed the host more readily than the virulent parasite. Yet, in the further development of the new branch of medical science, new, fundamental facts were brought to light and new means were discovered which enabled us in some instances to grapple, indeed, with the disease itself. I speak of the therapeutics of immunity, the principles of which I may perhaps state in the following manner. The old fact, which was disastrous to the old therapeutics, namely, that patients get well without any outside treatment, became the corner-stone for the new therapeutics. Scientists began to inquire into the method which the animal organism employs in dealing with diseases. And there it was found that one more claim of pathology was not entirely correct, namely, that there is nothing new in pathologic processes, that pathology is simply physiology under changed conditions. It was discovered, in the first place, that in diseases the assailed animal organism creates new products by means of which it tries to ward off the blows or even to destroy its assailant; and we have quickly learned to treat some diseases specifically by the very same new products. Either we borrow these products from one animal and give them to another which is short of its own ammunition, as in the case of antitoxins; or we try to stimulate the organs of the afflicted animal itself to a greater production of the defensive agents, as is the case when vaccine is used. We have thus acquired the means of treating specifically and effectively the disease itself or its chief cause at least in two grave cases, in diphtheria and meningitis, and perhaps also in tetanus.

Furthermore, in the course of these studies we have learned another very important fact, namely, that many phenomena which were considered as a part of the disease are actually a part of the attempt of the organism to cure itself. Here again we were quick enough to adopt this therapeutic procedure. Bier's method of treating chronic diseases presents such a brilliant instance. Hyperemia, which was considered as a sign of disease, is here employed as a therapeutic measure.

Let us take rapidly an inventory of our present therapeutic possessions. There are the two old remedies: quinin for malaria and mercury for syphilis. They are specifics indeed, but science and art have no share in their discovery, I shall return to them later. Since the rise of the new era in medicine three groups of therapeutic procedures were developed. 1. Drugs and meas-

ures to control or relieve symptoms of disease. 2. Physiologic measures to increase the resistance of the patients. 3. The reaction products of infected animals. The last-named group is beyond doubt one of the greatest acquisitions in therapeutics. But the extent of its usefulness will have natural limitations, which I shall not discuss here. As to the first group, I belong to those who believe that the control of symptoms is a very important factor in the treatment of patients and diseases. The attacks on the value of these drugs came from the anatomic school which never outgrew its therapeutic nihilism. Regarding the second group, I am ready to concede that there is a good deal of self-evident useful truth in the teachings of the school of physiologic therapeutics, but there is a glaring disproportion between the quantity and quality of its preachings. Furthermore, I am afraid that many of the medical apostles of the treatment of diseases by free water, free air, free speech and free press, are at the bottom of their heart therapeutic nihilists as far as drugs are concerned.

In still fewer words: We possess many drugs for treatment of symptoms of diseases, and we are well provided with good advice as how to treat the patients, but we have at our command extremely few remedies for the treatment of the disease itself or its chief cause. And what is worse: a great many of the better class of physicians are still dominated by the old fatalistic doctrine: You may study disease, you may understand it, and you may diagnose it, but you can never cure it.

Now let us look at salvarsan: what it is capable of accomplishing and how it was created. It is proved beyond controversy that salvarsan is capable of completely destroying in the animal body the spirochete of syphilis and of frambesia, the spirilla of European and African relapsing fever and the microorganisms of chicken spirillosis; in short, salvarsan is a specific remedy against a group of diseases caused by protozoan spirilla; it is a spirillocide. And it is not an accidentally discovered drug. We have here the first instance in the history of medicine of an efficient, specific, synthetic drug scientifically developed by the mental efforts of a single scientist. As a specific remedy and a drug it can be compared only with the two other specific remedies: mercury and quinin. I stated before that science and art had no share in the discovery of these drugs. Permit me to narrate briefly their histories. Regarding mercury it is known that corrosive sublimate and calomel were used for skin diseases by Arabian physicians as long ago as the ninth century. The gray ointment was invented in the thirteenth century and was used for the same purpose. When at the end of the fifteenth century syphilis broke out in Europe epidemically, the skin manifestations were treated as before by these mercurial preparations. When later it was recognized that these skin sores were manifestations of a specific disease, gray ointment, calomel and corrosive sublimate remained as remedies for syphilis; and so it went on for centuries. Wood introduced in 1854 the method of administering medicine by means of hypodermic injections; fifteen years later syphilologists began to administer mercury by this method and again corrosive sublimate, gray ointment (oil) and calomel were and still are the chief mercurial preparations employed in this manner. However much modern syphilologists may have contributed to the knowledge of the pathology and symptomatology of syphilis, it is quite evident that they have added very little of fundamental importance to our knowledge of its treatment. At any rate, neither syphilologists nor any one else can claim the credit of having discovered the value of mercury as a specific for syphilis. That knowledge was never discovered; it simply grew gradually in the course of many centuries and, let me add, in spite of violent opposition. For again and again the claim was set up by the antimercurialists that many of the manifestations which were considered as being due to syphilis were only symptoms of mercurial poisoning. Only within the last few years and before the recent salvarsan period, we find statements in the literature to the effect that the mercurial treatment of syphilis led in some cases to polyneuritis, to optic neuritis, to deafness and other affections of the nervous system. To this the syphilologist retorted that the affections of the nervous system in these cases were syphilitic manifestations and due to an insufficient treatment with mercury. Let me say here in parenthesis that we are now confronted with a well-known psychologic phenomenon, namely, that the persecuted readily acquire the methods of their tormentors. Some of our syphilographic friends proclaim now with great assurance that salvarsan causes optic neuritis, deafness and other affections of the nervous system.

Our knowledge of quinin as a specific remedy for malaria has a well-defined beginning. At about the middle of the seventeenth century the Countess of Chinchon, the wife of the Spanish viceroy in Peru, had malarial fever and was persuaded to use the bark of a Peruvian tree which the natives were in the habit of using for the same fever. After testing it first on a servant, she took the remedy and was cured. Her physician, del Vego, brought the remedy to Europe.

These histories show conclusively that science and scientists had nothing to do with the introduction of mercury and quinin as specific remedies.

I have said that the principles underlying the specific action of salvarsan were developed by the mental efforts of a single man. Before speaking of these principles and the various steps in their development, let me say a few words with reference to the personal element. To my mind that factor is of considerable importance for the future development of therapeutics. That science grows which attracts a large number of qualified enthusiastic investigators. In the past the gifted among clinicians were attracted by pathology and diagnosis. The pharmacologists studied the action of drugs on the organs of healthy animals. Neither of them studied the problem of how to cure diseases. Therapeutics did not attain the dignity of a science; the subject was often in the hands of men who did not enjoy the confidence of the discriminating medical savant. The investigator who gave salvarsan to medicine, however, is one of the keenest thinkers in medicine. For one-third of a century he has stood in the front rank of medical investigators and many of his contributions to medical knowledge are masterstrokes. Now this leader of leaders for a number of years bent all his energies to do for medicine that which medicine needs mostly, and that is to find remedies which could destroy the cause of diseases. These efforts were now crowned with a brilliant success. A chemical compound was synthetically constructed which fits exactly to a related group of pathogenic microorganisms, destroying them with one stroke within the animal's body wherever accessible. By the scientific position of the master and by his brilliant deed, therapeutics will rise now to a higher level in the estimation of discriminating medical men. That will help to attract to this field competent medical investigators, and therapeutics may become indeed a fruitful, a useful and a healing science.

Now let us look at the principles underlying the selective action of salvarsan. Ehrlich's chemotherapy is based on a few comparatively simple assumptions, some of which he conceived very early in his scientific life. Ehrlich assumes that a substance exerts a definite action on a living animal cell only when it becomes intimately connected with this cell or fixed by it. A cell, however, cannot fix any substance unless it has a receptor for it. The receptors for chemical substances Ehrlich calls chemoceptors. Various cells are provided with various chemoceptors. Hence when a chemical substance is introduced into an animal body, it becomes unevenly distributed among its tissues, on account of the difference in the affinities of the various tissues to this substance—the affinity of the tissue meaning the possession of specific chemoceptors for the corresponding substance. When the animal body harbors independent cells, for instance, pathogenic microorganisms, it may happen that only these organisms possess chemoceptors for the substance, or that they possess these receptors in larger numbers than the cells of the host. The result may then be that the substance would be fixed exclusively in these organisms or in much greater proportion than in the cells of the host. And if the union of the substance and the microorganisms would be of such a nature as to lead to the destruction of the parasite, the introduction of such a substance into an infected animal would lead to the extermination of the given parasite in that animal. Furthermore, when that substance is a compound, consisting of various, more or less firmly connected chemical groups, the entire complex might become fixed in certain cells, if the latter possess receptors for one of these groups. In this way a destructive group of a complex chemical compound might become active on a cell which possesses receptors only for one of its innocent partners. By successive attempts at introducing groups possessing receptors for certain microorganisms into a chemical complex possessing a poisonous group, a chemical compound may be finally created which would destroy the parasites and leave the animal host comparatively unaffected. Now that was the method by which salvarsan was created. But what an amount of ingenuity and strenuous endeavor had to be expended before this goal was reached! Ehrlich and his co-workers experimented first with trypanosomes. We shall not speak here of their work with dyes. The path which led up to the creation of salvarsan began with the studies of the arsenical preparations. Atoxyl was the first product which was investigated; but it was soon found that not only the trypanosomes, but also the nervous system of the infected animal, the optic and acoustic centers, possessed effective chemoceptors for this compound. Ehrlich soon recognized the true constitution of atoxyl, which permitted the substitution of various derivatives. And now the long and laborious studies began. At first arsacetin was reached, a promising compound which, however, was not yet free from affinities to the nervous system. The next much more satisfactory product obtained was arsenophenylglycin, which was the four hundred and eighteenth compound in the series. At this period Ehrlich's attention became more concentrated on the action of these arsenical compounds on spirilla. Arsenophenylglycin was found very active on the spirillum of relapsing fever. But still nearly two hundred more compounds were tested until the six hundred and sixth was reached. This product, dioxydiamidoarsenobenzol or salvarsan, proved to be ideal in its effects. It seemed to destroy completely the various forms of spirilla within the animal body. The nervous system of various species of animal hosts remained entirely unaffected by the drug. The curative dose formed in all instances only a small fraction of the toxic dose. Finally a single injection of the remedy accomplished in all the investigated animals and for all forms of spirilla a complete sterilization of the infected animal. Ehrlich laid great stress on this last fact, and for good experimental reasons. In the experiments with the other arsenical compounds and the trypanocidal dyes, it was discovered that the trypanosomes which escaped destruction rapidly acquired complete resistance to the destructive action of the remedies and then became ancestors of very resistant strains of parasites. In consequence of this experience it then became one of the aims of the chemotherapy to obtain a compound which would destroy all the parasites with one injection—*sterilisatio magna*. Such a compound was found in salvarsan; it destroyed with a single injection the various spirilla in various species of animals.

Salvarsan exerts some effect also on trypanosomes, but this effect cannot be compared with its action on spirilla. The same is apparently true also of the effect of salvarsan on the plasmodia of malaria. It seems that salvarsan exercises some general action on the protoplasm of various protozoan forms, but it holds more specific relations to the spirilla. The specificity of these synthetic products is one of the most promising facts. Highly interesting in this connection is the statement of Ehrlich that the arsenobenzol compound which is equally active on trypanosomes and spirilla becomes very active on the latter and indifferent to the former when iodin is introduced into this compound. It is evident that Ehrlich's method of creating synthetically, specifically active chemical compounds, offers great possibilities for future therapeutics. We ought also to remember the one statement of Ehrlich, namely, that he stopped temporarily at 606 because it was not necessary, for the present at least, to look for a still better preparation than salvarsan.

When we now turn our attention to human diseases which are caused by spirilla, we find in the first place that in relapsing fever one intravenous injection of salvarsan is sufficient to destroy completely all the spirilla and rapidly to cure the patient. This shows that the facts which were derived from animal experimentation hold good also for the human species, at least in such cases as relapsing fever, in which the blood is the main abode of the spirilla. It may be mentioned here that cases of filaria also seemed to have been cured by an intravenous injection of salvarsan. The problem, however, becomes complex when we come to judge the effect of salvarsan on human syphilis, for which we possess now quite a large literature. Not the least complicating element is the fact that a good many of the clinical writers on the subject are not sufficiently well trained in the methods of critical scientific observation. Another very disturbing element is the great bias of some of the authors. How else can the astounding facts be explained when one syphilologist states that he gave up the remedy after using it only in a few cases because of its comparative uselessness and of the harm it does to the central nervous system, while his colleague at the same institution reports with unbounded enthusiasm of the wonderful effect of the remedy in fourteen hundred cases of all forms of syphilis with comparatively little by-effects? Is it not further an evidence of glaring bias to ascribe an optic neuritis to the single injection of salvarsan and to leave out of consideration the effects of enesol and arsacetin, with which the patient was treated previously

to the salvarsan injection—especially of arsacetin, the damaging effect of which on the optic nerve is an established fact? Besides the complexities emanating from personal factors, we deal in human syphilis with a chronic disease. In some instances the spirochetes are undoubtedly enclosed, at least temporarily, in tissues, which for the time being, cannot be penetrated by the salvarsan solution. Furthermore, the method of administration of salvarsan is still in an unsettled state; it is insufficiently absorbed from some subcutaneous or intramuscular injections, and it is too rapidly eliminated, when it is injected intravenously. In spite of all these difficulties, however, the great mass of accumulated evidence establishes beyond a doubt that in human syphilis salvarsan acts in the same specific manner as in the experiments on animals; that is, it destroys the cause of the disease. The following clinical results are undisputed facts. It was found that with but few exceptions an injection of this drug causes disappearance of all accessible spirochetes. There are already a considerable number of cases on record, in which an early injection prevented so far the development of secondary manifestations, the time elapsed being in some cases seven or eight months. Syphilitic manifestations of nearly all forms and in all stages were profoundly affected by a single injection; there were only a few exceptions to this rule. There are a good many cases in which all the external manifestations disappeared without recurrence so far. These facts are surely sufficient to show that salvarsan acts on human syphilis in a definitely specific manner, that is, it destroys the cause of the disease. Its action is at least as specific as that of mercury on the same disease. It differs from mercury and has some advantages over it in the following points. Salvarsan destroys all spirilla; mercury affects only the spirochetes of syphilis. Salvarsan produces apparently antibodies in the blood as is shown by the effectiveness of the serum and the milk of those who were injected with it; there is no evidence of the formation of antibodies by mercury. The effect of salvarsan is much more rapid than that of mercury; one injection of salvarsan accomplishes in two weeks as much as repeated injections of mercury accomplishes in six weeks. Finally, whereas mercury is inimical not only to the parasite, but also to the host, causing cachexia of the patient, salvarsan, reversely, acts rather favorably toward the host; it stimulates to rapid healing and causes an increase of the weight of the patient. Careful future studies will bring to light any further quantitative and qualitative differences between the actions of the two specifics for the same disease and will determine the conditions in which they may compete or they may supplement each other. This desirable end, however, can be brought about only by an unbiased, judicial and scientific attitude toward the merits and demerits of either of the specific remedies.

Here it must be acknowledged that one of the original important expectations regarding the actions of salvarsan has not been realized in human syphilis. While in the animal experiments one injection cured the disease permanently, this has not been the rule in the treatment of human syphilis, especially when the treatment is begun after the onset of the secondary manifestations. In a good many instances the syphilitic symptoms reappeared even after repeated injections of salvarsan. While it seems that relapses occur less frequently after intravenous injections and become strikingly less extensive and less frequent with the repetition of the injections, the fact remains true that in many instances the syphilitic human body cannot be sterilized with one injection. This fact would have had to be put down as a very serious drawback in the treatment of syphilis by salvarsan, on account of the possibility of the gradual development of resistant strains of spirochetes. Fortunately it has been recently discovered by Margulies, in Ehrlich's institute, that, in contrast to arsacetin and arsenophenylglycin, salvarsan does not produce strains of spirilla resistant to it. This important observation finds its confirmation in recent clinical experience. The third and fourth injection of salvarsan affects the syphilitic manifestations with the same promptness as the first injection. This fact is very significant; it takes away the motive for the aim to destroy all the parasites with one injection, and it may lead to important changes in the method of administration of salvarsan. On the basis of the foregoing considerations I have recently advocated, instead of the use of one large dose, the injection for some time at regular intervals of small doses of salvarsan in very dilute solutions into the lumbar muscles. By this method it may be possible to prevent local and general by-effects as well as relapses. The method offers the further advantage that it could be used by the general practitioner.

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SAMBON'S NEW THEORY OF PELLAGRA AND ITS APPLICATION TO CONDITIONS IN GEORGIA

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I wish to call attention to a new theory of pellagra, and especially to apply this theory to conditions in Georgia, and to show that the same conditions exist in Georgia to produce the disease that exist in Italy, the chief home of the disease. This theory was formulated by Dr. Louis W. Sambon, lecturer on tropical medicine at the Liverpool School of Tropical Medicine, who was detailed for three months in 1910 in Italy, where he studied pellagra. Dr. Sambon is a research student of recognized ability. In 1903 he formulated the tsetse fly theory of sleeping-sickness, which has proved true. His "Progress Report" on pellagra and the result of his investigations appeared in the London *Journal of Tropical Medicine* during September, October and November, 1910, and I shall draw freely on these accurate and interesting articles.

First, I wish to define pellagra according to our present knowledge. Pellagra is a non-contagious, non-inheritable disease, of insidious course, characterized by a peculiar, periodic eruption, and a series of symptoms involving the nervous and digestive systems, periodic and progressive. This definition is based entirely on the clinical history of the disease, and does not take into account the cause or the environment in which the disease develops. We can now proceed more fully to the consideration of this new theory of cause and origin.

There is one primary condition on which all theories are based, and one easy way by which we test freely and accurately every theory. It is stated in this simple way: Every theory to be correct must be in accord with the

facts. On this simple proposition all theories must stand or fall, and by this same simple rule we may test this new theory of pellagra.

Sambon opens with five propositions:

1. Pellagra is not due to the eating of maize, either sound or deteriorated, as hitherto almost universally believed. In support of this statement are the following facts:

A. Maize was grown in Italy from one and a half to two centuries before pellagra appeared in that country, and it is, therefore, impossible to connect the introduction of the new cereal with the first appearance of the disease.

B. Pellagra occurs in people who do not eat maize or corn products. Casana stated at a meeting of the Catalonian Academy of Medicine that in Spain the greater prevalence of pellagra existed in those provinces where the cultivation and use of corn is unknown. Children contract the disease in Italy as early as the third month, provided they are brought outdoors and exposed to the bites of the *Simulium* fly. An illegitimate child was born in an Italian jail, and at five months was adopted by peasants living along a running stream. It developed pellagra in two weeks after exposure to the bite of this fly, though it had never eaten any corn products of any kind.

C. The absolute failure of preventive measures on the part of the Italian government; *e. g.*, the inspection of maize and its products; abolition of the late varieties of maize; notification of cases; and establishment of pellagrosarios for the treatment of the disease.

2. Pellagra has a striking, peculiar, and well-defined topographical distribution. In northern and central Italy the pellagra foci are found in the narrower valleys of the country districts, where the streams are infested by the *Simulium* fly. Wherever pellagra is found, these flies are found in the districts bordering the streams.

3. These endemic foci, or stations, have remained exactly the same for at least a century. The disease presents the same relative proportions in all the affected districts, and towns are generally exempt.

4. The pellagra stations are closely associated with streams of running water. Pellagra is a rural disease, and the greater number of cases occur in the country districts, and especially among people living along running streams. The greater liability of field laborers is explained by the fact that they are more exposed to the infective agent than others. Nearly all the pellagrins in Italy say that in the spring they are greatly tormented by the bites of the sandflies. These flies are more active in the early morning and late evening.

5. A blood-sucking fly, of the genus *Simulium*, is, in all probability, the agent by which pellagra is conveyed. It is a periodic disease, the seasons of incidence being spring and fall, and the *Simulium* fly has these same periods of activity.

This is a condensed statement of the Sambon report as to conditions in Italy. We now turn to conditions in Georgia. I asked the junior and senior classes in the Atlanta College of Physicians and Surgeons for a statement of the cases of pellagra in their home communities with regard to sex and the relation of the homes of the pellagrins to standing or running water. Georgia is not in the statistical area, and this was as accurate a method as I could find to get an estimate. Thirty-six cases were reported, twenty-six women and ten men. All of the number but one either lived on or very near streams of water; this patient was a banker living in a small town and the relation of his residence to streams could not be determined. Thirty students reported from as many different communities. These separate reports follow:

Number of Report.	Number of Pellagrins.	Residence.
1	3	Swamp, 3 streams.
2	3	Swamp.
3	1	Stream within 50 yards.
4	1	Location wet and swampy.
5	2	Stream within ¼ mile.
6	1	Unknown.
7	1	¼ mile standing water.
8	1	¼ mile branch.
9	1	Between two streams.
10	1	¼ mile pond and stream.
11	1	300 yards of a branch.
12	1	On Chickamauga Creek.
13	1	Within 200 yards of creek.
14	1	Within 300 yards of creek.
15	2	Within ¼ mile of creek.
16	1	On stream.
17	1	On stream.
18	1	Resided on pond 5 years.
19	1	Between two springs and fresh branches.
20	1	Within 1 mile of stream.
21	1	Within 250 yards of stream.
22	1	Within 200 yards of stream.
23	1	12 years within 100 yards of stream.
24	1	15 years within 100 yards of stream.
25	1	Within 1 mile of stream.
26	1	Within ¼ mile of stream.
27	1	Within 30 yards of stream.
28	1	On sea coasts.
29	1	In city.
30	1	Within 100 yards of stream.

The testimony of these thirty men from different sections of Georgia and some of the other southern states agrees in this: The cases of pellagra in the South originate in those living on or near streams of running water. The idea was new to these students; they were from places far distant from each other, and yet their testimony is practically united. While in Franklin, N. C., last summer I investigated the premises and surroundings of a pellagra patient, a woman, who had recently died. The house bordered the road in front, and behind a branch of rapid mountain water ran within fifty feet of the back porch. On the right of the house was a perfect swamp, and the stream marked out a narrow mountain valley; exactly the same topographic conditions found in Italy by Sambon. These valleys and stream areas were so alike in situation and environment that he was able, after viewing the topography of a given locality, to state whether pellagra existed in that locality, and this without being once in error, and even before he was given the pellagra statistics of the given area.

The *Simulium* fly is of the order *Diptera*, or two-winged flies; family *Simuliidæ;* with the one genus *Simulium*, having species. Of these Sambon found three species in Italy—*Simulium reptans*, *S. ornatum*, and *S. pubescens*, chiefly the last. The two chief species in America are *Simulium venustum*, or black fly, the great biter of the Northern woods; and *Simulium pecuarum*, the southern buffalo gnat. This buffalo gnat causes the death of many mules and domestic animals. It is found along the tributaries of the Mississippi river, through the state of Mississippi, possibly all of Arkansas, in Tennessee, Kentucky, and parts of Missouri, Illinois, and Indiana. Since 1850 this buffalo gnat has killed many thousand domestic animals. The gnats appeared in Mississippi as early as 1818, and in 1884 killed in Franklin Parish, La., 300 head of stock in one week. They do not seem to appear every year in damaging numbers, but are always more numerous in time of flood. Sambon notes that in Italy the greatest number of pellagra cases occur in the flood and overflow years.

Two crops of the insect emerge from the streams each year; one appearing from February to April, and the other from September to December. The eggs are laid, when possible, in streams of rapid, shallow water, as in an ordinary branch or creek. Rock, leaves and brush in the water are good places. They hatch in about eight

days to a larva, passing in about four weeks into the pupa stage, and emerging in three weeks, after having spent the pupa stage in the bottom of the stream, as the mature two-winged fly or gnat. Pellagra is most active in spring and autumn, and toxins have no relation to seasons, whereas diseases of parasitic origin are seasonal.

It has been shown that the same topographic conditions exist in Georgia and some of the other southern states that Sambon found in Italy. It has also been shown by the united testimony of several students that practically all the cases of pellagra are rural in origin and exist along streams. I asked Dr. Bradley, assistant state entomologist of Georgia, to determine for me, if possible, whether any species of the *Simuliidæ* existed in Georgia. He consulted Dr. J. M. Reade, professor of botany in the University of Georgia, at Athens, and they found in a creek two miles from Athens the larvæ of the fly in such numbers that they completely covered some of the rocks. Attached at the anal end, they waved their two modified mandibles in the fast-flowing water in search of desmids, diatoms, and other aquatic growths. They were found February 8, and they merged as the spring brood of the mature fly March 27, 1911. This species was identified as *Simulium pictipes,* a remarkably large species, found also and reported from the Adirondack Mountains, Texas, Michigan and California. This species was identified for Dr. Bradley by Dr. O. A. Johannsen of the Maine Experiment Station. The third condition exists in Georgia as in Italy, viz., the presence of an abundance of *Simulium* flies. Lastly, we have a large rural population, as has Italy.

To summarize:

1. Georgia and Italy both have pellagra.
2. The two have the same topographical conditions.
3. Pellagra originates in both territories along streams.
4. Both countries have many *Simulium* flies.
5. Both countries have a large rural population, from which most cases of pellagra originate.

This theory of Sambon has received the support of Sir Patrick Manson in the fourth edition of his book on tropical medicine; and Castellani and Chalmers support it in their recent book on the same subject. Professor Terni at the Pellagra Congress held at Milan, and Drs. Moore, Wood and Taylor, spoke in favor of Sambon's insect theory at the Columbia, S. C., Congress on Pellagra, though Sambon had not in 1908 connected the *Simulium* with the disease. The supreme criticism of the theory lies in the fact that the parasite has not yet been discovered, and this discovery is necessary to complete the theory. Analogies are always dangerous, and when pursued too far lead one into an illogical abyss, but I think that there is an analogy between pellagra and malaria. Both develop in swamp and stream localities, both have periods of seasonal incidence, and removal from the endemic areas common to each disease results in improvement, and prevents reinfection. Laveran discovered the parasite of malaria in 1880, but it was not until 1898 that Ross discovered the mosquito as the definite host. The discovery would have been just as real had Laveran discovered the insect first, and Ross the parasite last. Indeed, this is the order in which Sambon discovered the tsetse fly and the sleeping-sickness parasite as the cause of sleeping-sickness—insect first and parasite last. The parasite of pellagra is a discovery to which we may look forward in the near future. Certain it is that the corn theory is not in accord with the facts, and must die the death of unfounded theories.

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A DIRECTORY FOR WET-NURSES: ITS EXPERIENCES FOR TWELVE MONTHS

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Most general practitioners and all men who deal especially with infants have had at one time or another occasion to find a wet-nurse for some sick baby. Often it has been a question of obtaining human milk within twenty-four hours to save the life of the baby. Anyone who has searched for a wet-nurse and has hunted hours and sometimes days without success, knows what a discouraging chase it has been; it has been doubly so when the emaciated baby was quickly slipping beyond all hope of recovery.

An attempt was made, about ten years ago, to register wet-nurses at the Boston Medical Library under the same system as an intelligence office and thus to centralize the demand and supply. This was a failure for several reasons: A mother who was forced to wet-nurse usually did so because she had not enough money to live on and, therefore, could not wait for a position. If she was married her husband had either deserted her, was dead, or incapacitated by disease, and she, therefore, was forced to become the wage earner of the family; if she was unmarried, she was either deserted by the father of her child or was unable to obtain help from him for various reasons. If she was lucky enough to obtain other sorts of work she weaned the baby immediately and boarded it with some woman. The attempt at the Boston Medical Library was, therefore, a failure. In 1906 Dr. F. P. Denny of Brookline, in closing the discussion of a paper that he read before the American Medical Association, said, "If some charitable institution, preferably a hospital under medical supervision, would keep at least a registry for wet-nurses, whose antecedents are well known, it would be of great benefit. Such an institution, using every precaution, in desperate cases, might furnish breast-milk on short notice." The matter dropped there and nothing more was done. This paper is a description of a directory and home for wet-nurses which has been run for one year, and which has been the means of saving many babies' lives. So far as I can find out, this is the first successful attempt to establish a directory for wet-nurses.

Two things are necessary for success: first, the directory must be run in connection with some babies' hospital where the problems of breast-feeding are understood; and second, the women must have a home where they can wait for work without expense to themselves. The money necessary for this venture was given by a philanthropist who made no restriction as to the scope of the work, but who wisely insisted that it should be widely advertised.

On Feb. 1, 1910, the directory was opened, under the supervision of the hospital of the Massachusetts Infant Asylum. A moderate-sized house was obtained with a parlor, kitchen and three bedrooms fitted for six women and their babies, and accommodations for a matron. The women at first took their meals at the hospital; later it was found wise to send the meals from the hospital to the house in a specially constructed box which was donated by one of the directors. The food is good and wholesome, such as is given to the wet-nurses in the hospital.[1]

1. Talbot, F. B.: Two Methods of Obtaining Human Milk for Hospital Use, Boston Med. and Surg. Jour., March 2, 1911, p. 304.

The next problem was to find the wet-nurses so that when the demand came there would be a supply. This was done in two ways. The first, and most important, was through the various maternity hospitals. It was quickly found that the directory was facilitating their work because one of their problems was to make provisions for the friendless mothers who had to go penniless out into the world, and it was found that in most instances the directory could help them in a very practical way. The second way was intended to create a demand as well as a supply. This was done by sending the following postal card to every physician in Massachusetts and all the large towns and cities of the New England States.

HOSPITAL OF THE MASSACHUSETTS INFANT ASYLUM
106 Chestnut Avenue
DIRECTORY FOR WET-NURSES

JAMAICA PLAIN, October 20.

A directory for wet-nurses has been established at the hospital of the Massachusetts Infant Asylum, Jamaica Plain, telephone Jamaica 132. Wet-nurses may be obtained here at any time by paying a fee of ten dollars. The institution is not expected to make money and this fee is a nominal one to help pay expenses. The wet-nurses and their babies are examined physically by a physician; no one will be recommended with any signs of tuberculosis or syphilis. The babies are weighed at frequent intervals to determine how much breast milk the mothers are giving the babies and how well the milk agrees, as shown by their weekly gain in weight. An attempt is made to teach the mothers how to be cleanly, self-respecting and how to care for their babies. The directory requests you to send to it any woman who desires to obtain a position as a wet-nurse; she will be given board and lodgings free if she is a worthy person. In this way she will have an opportunity to remain with her baby and to get work. Further information can be obtained by telephoning the Hospital of the Massachusetts Infant Asylum, or Dr. Fritz B. Talbot, 311 Beacon Street, telephone Back Bay 173.

Many of the calls for wet-nurses were due to these postal cards and in a few instances they were instrumental in sending prospective wet-nurses to the directory.

When a woman applies for admission to the directory she and her baby are examined by the physician on duty who fills out the following card which is kept for reference.

Name of wet-nurse.....
Taken on probation.....Accepted.....
Comes from .....
Birthplace.....Age.....S. M. W.....No. of children.....
Confined. Date.....Place.....
Family history .....
Past history .....

EXAMINATION: Breasts.....
Nipples.....Mouth and throat.....
Lungs.....Glands.....
Skin.....Bones.....
Wassermann reaction.....REMARKS.....
Baby—Physical condition .....
This woman is.....suitable for trial.
.....M.D., Examiner.

The reverse side of the above card is intended for a record of the names of the infants nursed and the dates of first and last nursing.

A careful physical examination is made for signs of tuberculosis and syphilis. The Wassermann test is done on the blood of each woman at the Harvard Medical School. If the physical examination and the Wassermann reaction show that the woman is normal, she is admitted to the directory. Occasionally a wet-nurse can wait in her own home for a position, but she is required to come to the hospital with her baby for the physical examination and her address and telephone number are taken. Any woman who is unable or unwilling to come for examination is not recommended to a position, but her address is given to anyone who cares to look her up. These wet-nurses' names are put on a list and sent out in turn as they register.

Frequently the wet-nurse comes underfed or only recently up from her confinement; she must, therefore, be built up before she is allowed to go out to work. While she is waiting she is taught the proper care of herself and baby, and is required to do only light housework. The babies are watched and weighed carefully twice a week and it does not take long to find out whether the breast-milk which they are receiving is good or not. Once a week the babies are weighed before and after nursing for six consecutive nursings in order that an idea may be obtained of how much milk is being secreted. The supervision of two excellent trained nurses[2] as well as two more semi-trained associates makes it possible to obtain a very good idea of the physical condition and the moral character of the woman.

The directory charges a fee of ten dollars for supplying one of these women. This fee is used to pay, as far as possible, the expenses of the institution, the balance being supplied by charity. If the demand and supply continue to increase the directory should be self-supporting at the end of another year. When the public does not appreciate what this nominal fee means, and considers it exorbitant, the directory explains that the fee represents the trouble and time of finding the women, the physical examination, the knowledge about the women which could be obtained in no other way, and their board for the time which they have had to wait. There are more people who consider the fee too little than too much. The directory feels sure that the many physicians who have used the directory appreciate it as much as the family does. The women are supposed to receive wages of eight dollars a week which they save for the future when they have to look out for themselves. Some have saved over one hundred dollars. If for any reason they do not seem to be worth this amount or the family is unable to pay that much, they are allowed to go for a smaller sum.

The baby must go with the mother in every instance. No exceptions can be made to this rule for the following reasons: Usually a baby which requires a wet-nurse is so sick that it cannot drain her breasts as does the normal infant; if the breasts are not emptied by the healthy baby after the sick one is satisfied, the milk soon dries up. Second, if the nurse's baby is placed at board, the money earned would quickly be used up; and third, it is hoped that if the mothers and babies are kept together long enough, the former will become so attached to them that they will always care for them. It has been found that most of the mothers do become fond of their babies. All have said, "I don't know what I should have done if this opportunity had not been given me." Lastly, the directory is profiting from the experience of the wet-nurses in New York, whose babies are placed out to board as soon as the mother obtains a position, with a reported mortality of 95 per cent. The mortality among wet-nurses' babies while under our care has been zero.

After the wet-nurse has been in a position a week or more the following cards are sent to the head of the family and to the family physician to be filled out:

DIRECTORY FOR WET-NURSES
UNDER AUSPICES OF
HOSPITAL OF THE MASSACHUSETTS INFANT ASYLUM
106 Chestnut Avenue, Jamaica Plain, Mass.

.....191..

M .....

Will you kindly answer the following questions regarding.....
..... and add any further information which may be of service regarding her.

Respectfully,

.....Supt.

1. Is the wet-nurse neat?
2. Willing and cheerful?
3. Does she take correction well?
4. Orderly and thorough in her work?
5. Gentle and patient with her own baby?
6. Did she seem fond of her own baby?

2. Miss Alice Cheney and Miss Greta Mabry.

7. Conscientious?
8. What are the wet-nurse's faults, if any?
9. How much did your baby gain on her milk?
10. Did your baby improve?

Remarks:

DIRECTORY FOR WET-NURSES

UNDER AUSPICES OF

HOSPITAL OF THE MASSACHUSETTS INFANT ASYLUM

106 Chestnut Avenue, Jamaica Plain, Mass.

Dear Dr.....

Will you kindly answer the following questions regarding..... ....., who went as a wet-nurse to your patient, ...

1. Was the wet-nurse satisfactory?
2. Did she do well with the sick baby?
3. How well did her own baby do?
4. Would you be willing to recommend her again?

Remarks:

.....M.D.

I expected that there would be a great demand for wet-nurses during the summer and fall months and was greatly surprised and gratified to find that this continued throughout the year during which thirty-five wet-nurses lived at the directory for varying lengths of time. Three to five women have been sent into families each month. In many instances one woman obtained several positions, from all of which came favorable reports about the sick baby. The majority of the reports which have come back say that the sick baby has gained three pounds in six weeks.

The early experiences of the directory were not hopeful. One of the first women who came deserted her baby one evening and was not seen afterward, despite the fact that the police were immediately notified. Some of the other women had no milk at all or were not physically fit to nurse, and were, therefore, returned to the charity from whence they came. With experience came better judgment in picking the women, and of late the directory has had very satisfactory applicants.

The wet-nurses themselves seem to be happy, and without exception have improved a great deal physically. Their babies have all gained weight in a normal manner. They have been in better general condition than the wet-nurses' babies who live continually at the hospital, even when they were weaned entirely from the breast. When the milk has given out, the women have returned to the directory and have been referred to the charity from which they came. One or two have been fortunate in securing the sympathies of the family with whom they worked and have obtained permanent homes; two others who were unmarried before coming to the directory have been married while under its care and are now living in homes of their own.

The physicians who have used the directory are scattered from Maine to Connecticut. Occasionally they required only a few ounces of human milk for the sick baby to get the necessary therapeutic effect. In that case the directory was able to supply small amounts of drawn breast-milk (from 4 to 12 ounces) which was delivered in sterile bottles packed in ice.

The obstacles to establishing a directory for wet-nurses seemed very big at first sight, but became less and less formidable as experience increased. The troubles of the past year have been insignificant when compared to the good the institution has done. I believe that similar directories could be established in all large cities for the good of the sick babies and the practitioners on the one hand, and of the wet-nurses and their children on the other.

NOTE.—The Northwestern University Medical School diet kitchen, at Chicago, under Dr. F. X. Walls, has been using human milk for a number of years. It always has a wet-nurse on its pay-rolls and at times more than one. The wet-nurses milk their breasts by hand and average 20 to 30 ounces to each nurse daily. This method of obtaining human milk is similar to that used at the hospital of the Massachusetts Infant Asylum, which was described by me in the Boston Med. and Surg. Jour., March 2, 1911, p. 304.

311 Beacon Street.

CONTAMINATION OF THE FLY WITH POLIOMYELITIS VIRUS

TENTH NOTE *

SIMON FLEXNER, M.D., AND PAUL F. CLARK, PH.D.

NEW YORK

There are still so many unsolved problems relating to the manner of the spread of epidemic poliomyelitis that every new fact would, at present, seem worth recording. The present point of view, based on seemingly accurate clinical observation, is to the effect that many cases of the disease can be connected with each other through evidence of direct and indirect contact of the ill and the well. Not all cases, however, have been so connected, and it remains, therefore, to ascertain whether any other agency than human contact may be invoked to account for the distribution of the infectious agent. Perhaps the most baffling cases are those which arise at widely distant points in a sparsely populated community. That certain of these cases are actually connected with each other through the intermediation of persons commingling with both the ill and the well seems highly probable; but strict search has failed often to establish the fact of such intermediation. Hence the possibility that insects take part in the dissemination of the infection has been suggested by many writers; but up to this time we have had no actual data on which to support this notion.

Insects that possess the power to migrate over a considerable territory, that affect all classes of society, that abound during the period of greatest prevalence of the disease, and that do not wholly disappear at any season, should be the first to come under suspicion. Many, if not all, of these conditions are fulfilled by the common house-fly, which, therefore, has been subjected to a series of contamination experiments.

The flies employed by us have been laboratory bred. Full-grown flies have been permitted to feed on the fresh spinal cord removed from monkeys inoculated with the virus of poliomyelitis and recently paralyzed. After feeding, the flies have been removed to a fresh receptacle from which certain numbers were removed at intervals, killed with ether, then comminuted with sand and extracted with saline solution, from which a bacteria-free filtrate was obtained by means of a Berkefeld filter. The filtrate was injected in the usual manner into the brain of rhesus monkeys. Brief protocols of two experiments follow:

Experiment 1.—A *Macacus rhesus* monkey was inoculated intracerebrally on May 2 with 3 c.c. of a filtrate prepared from the bodies of seven flies which had lived in clean surroundings for twenty-four hours after having fed on portions of the spinal cord obtained from a recently paralyzed (poliomyelitis) monkey. After recovery from the ether anesthesia, the monkey remained well until May 8, when it appeared somewhat weak. On May 9, it presented the common prodromal symptoms of excessive nervousness and excitability and the left arm showed paralysis. During the day the paralysis extended and affected the right arm. May 10, the legs were also paralyzed; the animal was etherized. The autopsy showed the characteristic lesions of experimental poliomyelitis in the spinal cord.

Experiment 2.—Another *Macacus rhesus* monkey was inoculated intracerebrally on May 3 with a filtrate prepared from the bodies of ten flies, which had fed forty-eight hours before on the spinal cord obtained from a paralyzed monkey. After recovering from the ether anesthesia, this animal remained well until May 13. By May 14, paralysis of all four extremities had developed and the animal was etherized. The autopsy

* From the Laboratories of the Rockefeller Institute for Medical Research

showed characteristic lesions of experimental poliomyelitis in the spinal cord.

The experiments recorded merely show that flies contaminated with the virus of poliomyelitis harbor the virus in a living and infectious state for at least forty-eight hours. They do not show that this is the limit of the period of survival, and they throw no light on the question whether the virus is retained merely as a superficial contamination or whether it can survive in the gastro-intestinal tract Experiments relating to these points are in progress.

HEXAMETHYLENAMIN: A REMEDY FOR COMMON COLDS

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PORTERVILLE, CAL.

Acute infections of the upper respiratory tract, whether manifested as coryza, acute rhinitis, pharyngitis, or tracheobronchitis, are of the commonest incidence. A "cold," the grip, influenza nostras, catarrhal fever, acute bronchitis, are common terms used to designate such attacks. The infectious nature of the disease is almost universally accepted, although the identity of the infecting agent is not established. Walter's investigations[1] are of practical interest. He shows that the *Bacillus segmentosus* of Cautley and the *Micrococcus catarrhalis* are probably sometimes causative of acute rhinitis and infections of the middle ear and accessory nasal sinuses.

A cold may cause as much suffering and incapacity as many diseases considered more serious. Often the illness is prolonged from the usual few days to ten days or two weeks. These infections are only too frequently the starting-point of complications that are a life-long menace to well-being. Among such complications and sequelæ are a predisposition to repeated attacks, a tendency to "catch cold" easily, suppurations of the accessory nasal sinuses, otitis media, hypertrophied and chronically inflamed tonsils, adenoids, etc.

The diversity of treatment of colds is common knowledge; doctor and layman alike prescribe hot drinks, foot-baths, sweats, quinin, coal-tar antipyretics, Dover's powders, whisky, and so on. And some as wisely prescribe time, since the disease is self-limited and a recovery is the rule after a period of greater or less discomfort.

In view of the reported excretion[2] of hexamethylenamin in the saliva, and by the middle ear and bronchial mucous membrane, I have been for the past year prescribing it for common colds.

In most cases it acts promptly and efficiently. The irritating, watery secretion of coryza stops; the fever, aching and malaise of influenza cease; the threatening disease is averted.

Hexamethylenamin should be administered at the earliest possible moment; that is, when the nose begins to feel stuffy or the discomfort begins—"when the cold is being caught." Its use, after the infection has existed for several days, is less gratifying, possibly on account of the mixed infection at that time with pus organisms.

As to the dosage, it seems necessary that a larger amount must be given to obtain antiseptic results in the gall-bladder, subarachnoid space or on the nasal mucous membrane than is required as an antiseptic in the urinary tract. The findings of Crowe[2] seemed to indicate that 75 gr. a day must be given in order to obtain quickly the desired effect in the gall-bladder. At the onset of a cold the following prescription, which makes the dose 15 gr. four times in twenty-four hours, is efficient:

℞
Hexamethylenamin ..... gm. 12| or 3iii
Div. in chart. cerat. No. xii.
Sig. One powder to be taken in a goblet of cold water four times daily.

Copious water-drinking is encouraged, which lessens the possibility of bladder irritation. This latter is the only ill effect of the drug, but it occurs only occasionally and ceases at once when the medicine is discontinued. As a cure for colds it may be as great a boon as it has been proved to be as a urinary antiseptic.

1. THE JOURNAL A. M. A., Sept. 24, 1910, p. 1091.
2. Crowe: Bull. Johns Hopkins Hosp., 1908, xix, 109; Barton: THE JOURNAL A. M. A., March 12, 1910, p. 871; Heitmuller: ibid., April 9, 1910, p. 1222; Hanzlick: ibid, June 11, 1910, p. 1940; Brown: ibid., April 16, 1910, p. 1308.

TUBERCULOUS JOINT-DISEASE

REPORT OF A CASE ILLUSTRATING THE CRITICAL WATCHFULNESS DEMANDED DURING CONVALESCENCE

JOHN JOSEPH NUTT, M.D.
NEW YORK

The patient, a young woman, had suffered since four years of age from hip-joint disease. She had been under the care of four different surgeons, all excellent men of high standing. While a patient of the third surgeon, she became very impatient to have the apparatus removed. She was wearing at this time some sort of a convalescent splint the exact nature of which I do not know.

About five years ago the patient put herself under the care of the fourth surgeon and was immediately told that she should have discarded all braces ten years before. Since that time she has not only been without any protection to the joint but has had *massage* and *passive movements* prescribed. She complained of weakness from the first and during the last four years it has been increasing. The surgeon does not seem to have appreciated the true significance of this subjective symptom nor of the more indicative signs which are now well marked but must have been discoverable any time during the last three or four years. Weakness on first removal of a support would be expected but with careful directions, looking to the prevention of over-use, etc., this should tend to lessen rather than increase if convalescence is to result in a cure.

At present she is able to walk but a short distance and uses the leg more as a prop or stay than as a support. Examination shows: An area of acute sensitiveness behind and above the great trochanter; marked muscular spasm as the limitations of motion are reached, and acute apprehension of the joint to weight-bearing or to the interarticular pressure caused by attempting to raise the leg from the table when in the reclining position.

A radiograph showed absence of head and neck of the femur, an almost completely filled acetabulum, and a partially formed socket above the old one, in which the remainder of the neck is articulating. There is a spot, half an inch in diameter, back of the trochanter, which appears to be the site of an active inflammatory process.

Protection from all weight-bearing, by the use of crutches, has been ordered, without any apparatus for either immobilization or traction, and, the patient's general condition being excellent, it is expected that frequent examinations will determine a disappearance of the signs and that six months or possibly one year will find the crutches unnecessary. Should the signs persist or increase, more protective measures will have to be adopted. Passive movements and massage are emphatically forbidden.

This case seems to illustrate the necessity of frequent examinations during convalescence from hip-joint disease. In no other way can the signs of Nature be properly interpreted. Her approval or her disapproval of the demands made on the joint must be recognized and means must be taken to follow the path she points out before serious damage is done the recovering articulation.

ANOTHER CASE OF SPOROTRICHOSIS IN MAN

ALBERT BEAM, M.D.

WILSEY, KAN.

In view of the considerable number of sporotrichal infections in man reported recently by Sutton and others from the middle West, the disappointments experienced by practitioners who fail to recognize the character of the infection, and the pain, danger and expense to which these patients are often subjected, the following more or less typical case may be of interest.

History.—The patient, C. H. B., aged 17, was the son of a farmer, a native and resident of Kansas. The family history was exceptionally good; past history negative. The present trouble consisted of an indolent ulcer on the left knee and four nodules on the inner side of the left thigh with the history that about one month before a small red papule appeared on the knee, which was opened with a needle. This papule spread out slowly and the nodules appeared one at a time. At this time the patient came under my care. There were no subjective symptoms excepting occasional prickling sensations about the ulcer.

Examination.—No systemic disturbance, enlarged glands, impaired functions or any other lesions were found. The ulcer was 3.5 cm. long, 1.5 cm. wide, 3 or 4 mm. deep, covered with a tough brown crust and filled with a dark brown, thick, tenacious pus. The edges of the ulcer were thickened, undermined and bluish-red in color. The line of junction of diseased and normal skin was clearly marked. The area, from edge of ulcer to normal skin, was about 7 mm. The nodules were cutaneous bodies evenly distributed over the lower two-thirds of the thigh, varying in size from a large pea to a hazelnut, definitely outlined and hard except that the lowest one fluctuated in the center. The lowest two were covered with bluish-red skin, the other two with normal skin. None of the lesions was painful or tender and no connecting lines or marks were found.

Treatment.—The pus was evacuated and the wounds dressed with solution of iodin. The patient was given increasing doses of potassium iodid.

Recovery was prompt and uneventful.

Therapeutics

ACUTE ENTERITIS IN CHILDREN: SUMMER DIARRHEA

While pediatricians ridicule the use of the term "summer diarrhea" as unscientific and inexact, still, when one hears or reads the term, a well-defined clinical picture appears before the mind. We all recognize that children from birth up to the age of 1½ or 2 years are especially liable, during the hot weather of our temperate zone, to be affected with frequent loose movements of the bowels, which not infrequently produce serious and sometimes fatal results.

The pathology of this condition is less definitely understood by us than the clinical symptoms and appearances. Even to apply to it the term "acute enteritis" is not free from criticism of inaccuracy and inexactitude. In a large proportion of cases, the trouble would seem to be, to a great extent, in the small intestine, and in another large proportion of cases the large intestine is equally and sometimes more extensively affected than the small intestine. Often, too, frequent vomiting would indicate that the function of the stomach is not performed in an entirely normal manner. In the cases in which the large intestine is extensively affected, and in which the presence of blood in the stools and tenesmus are common symptoms, it is fair to make a separate class and distinguish these cases as cases of colitis or ileocolitis.

In those which we distinguish as enteritis and in which it is customary to believe that the small intestine is chiefly affected, the most conspicuous symptom is diarrhea, accompanied sometimes by pain in the middle of the abdomen, but without tenesmus. This class of cases includes a considerable proportion of those forms of disease which have been distinguished as cholera infantum mainly from the rapid onset of the symptoms and the great depression which attends its onset. Possibly in the future a certain proportion of these cases may be distinguished from cases of ordinary acute diarrhea in children on account of the determination of some different bacterial origin.

Limiting, then, our attention at the present time to the cases of ordinary diarrhea seen in infants and young children during hot weather, it has been proposed (see article by Charles Hunter Dunn, THE JOURNAL, Aug. 21, 1909, page 599) to separate these cases into four classes: (1) those in which nervous influence has an important part in producing the symptoms; (2) those in which indigestion is the chief factor; (3) those in which bacterial fermentation seems to be of especial importance; (4) those in which bacterial infection is observed. The latter two it has been proposed by some writers to consolidate into one class and distinguish them as caused by bacterial action, but in the former class the bacterial action is exerted on the intestinal contents by the so-called saprophytic bacteria, while in the latter class the bacteria act on the tissues of the body. This third class has been designated, in accordance with the classification adopted by the pediatric department of Harvard University, as intestinal indigestion with fermentation, or fermental diarrhea. To this class belongs the larger proportion of cases of ordinary summer diarrhea of infants.

The descriptive term, "summer diarrhea" suggests several factors which have an important etiologic relation to this condition. First, during the hot weather of summer, young children become debilitated simply through the influence of the extreme heat. Second, during the hot weather the food-supply of infants is subject to special contamination and deterioration, consisting, as it does, mainly of milk, which usually undergoes transportation and more or less handling, so that a considerable number of hours elapses from the time it leaves the cow until it is consumed by the infant.

The treatment of this acute enteritis occurring in children during hot weather is not chiefly medicinal, but the most important part of the treatment is the hygienic and preventive treatment. In order to prevent these attacks of diarrhea, the child should be kept, so far as possible, from exposure to excessive heat, and should also enjoy a constant supply of fresh air. These conditions are secured least advantageously in the city, and especially in the crowded tenements where most of the poor people live, and where most of the children are compelled to pass the early part of their lives. In order to avoid the excessive heat and to obtain the necessary fresh air, it is exceedingly desirable that the children should be taken into the country or to the seashore during the months of July and August. Failing this, they should be kept out of doors as much as possible, on shaded roofs, in parks or, if possible, on ferry boats or boats provided especially for the health and amusement of the children of the poor. Daily bathing in tepid or cool water helps greatly to promote the comfort of the children who are obliged to remain in crowded houses.

Next to the air, the food demands consideration. As has been so repeatedly stated, the best food for the child, certainly during the first six months of its life, probably during the first nine months, and possibly during the first year, is the milk obtained from the mother's breast. Children who are fed in this way are far less liable to suffer from intestinal disorders during the hot weather than children who are fed on artificial food. In children who are not nursing at the mother's breast it is of the highest importance to give milk which is fresh, uncontaminated, and which has not undergone changes incident to fermentation and decomposition. Much has been said recently about the necessity of quickly reducing the milk to a temperature of about 40 F., and of keeping it at that temperature until it is used. This unquestionably prevents, to a great extent, deleterious changes in the milk, but these changes are far less likely to occur when the milk is used promptly after being obtained from the cow. Of course, in the largest cities where all the milk must be brought from a distance in the country, it is impracticable to obtain milk until it is at least twelve, often twenty-four, and possibly in some cases thirty-six hours old. Under these circumstances, special care must be taken to preserve the milk from contamination and from undergoing the changes which make it a poor food for infants. On the other hand, in the country and in the smaller cities there is really no reason why the milk should not be obtained fresh, so that it will not be more than twelve hours old when it is delivered to the consumer, and in many instances it is possible to obtain it directly from the cow twice a day. Under these circumstances, the problem of infant feeding is greatly simplified.

In children who have been weaned shortly after birth, cows' milk is probably the best substitute for mother's milk, which it is practicable to obtain, but in young infants it is not proper to feed cows' milk, however fresh, without modifying it so that it may conform more nearly to the composition of mother's milk which corresponds to the present age of the child. This matter of milk modification was referred to in this department Aug. 6, 1910, page 504. When these important prophylactic measures have not been carried out with sufficient precision and the infant has become the victim of an attack of acute enteritis, the problem becomes a somewhat different one.

When called to attend an infant who has recently been attacked by diarrhea, the first question which arises in the mind of the physician is as to the propriety of administering some laxative in order thoroughly to clear out from the intestine the offending material which is believed to be present there and to be causing a continuation of the diarrhea. Almost all writers and teachers to-day agree that the treatment should be initiated by the administration of a laxative. They do not, however, agree on which of the different laxatives should be selected. Castor oil, calomel, the salines, and rhubarb all have their advocates. Perhaps most writers advocate the use of castor oil, if it seems probable that the stomach is in a condition to tolerate it. It has been advised to administer castor oil at a considerable interval, as two hours, after any nourishment has been taken into the stomach, and to refrain from giving any further nourishment for two hours more. In case the first dose is vomited, a second dose may be given an hour later. If the patient is not vomiting at the time and no food is given for a considerable period before and after the administration of the oil, it will not, as a rule, cause vomiting, and will act speedily and effectively, and from its after constipating effects will prove doubly useful, both clearing out the offending matter from the intestine, and then checking a further tendency to diarrhea. If calomel is selected as the cathartic, it may be given in doses of from 1/20 to ¼ grain, repeated at intervals of half an hour until six or eight doses have been taken. Or a single large dose may be given with milk of magnesia. This acts less promptly than the castor oil, but is a favorite remedy with many practitioners. Others prefer one of the salines, especially sodium sulphate, which may be given in dose of 10 grains to a child six months old, or 20 grains to a child a year old, as recommended by La Fetra. This depletes the intestinal circulation and at the same time clears out any fermenting food, bacteria or toxins which may be in the intestine. Another useful laxative is rhubarb, which may be combined with soda. This requires several hours for its action but, resembling castor oil, it has the advantage of having an after constipating effect, and so counteracts the continuance of the diarrhea.

It should not be overlooked that there are still a few practitioners who, when called to a case of this kind, and finding that the patient has already had half a dozen or a dozen copious, loose movements from the bowels, are of the opinion that further stimulation of intestinal action is unnecessary, and commence the treatment with an opiate, administering it with the idea of checking the excessive action of the muscular coat of the intestine, and feeling that there is less danger from the absorption of products of fermentation in the intestine than from the weakening of the patient by the excessive intestinal action.

After the intestine has been thoroughly emptied by the administration of a laxative, it is customary to deny the patient any food at all for from twenty-four to forty-eight hours. Thirst will be a prominent and distressing symptom, and to meet this it is customary to give small quantities of water at frequent intervals. Some physicians, instead of giving simple water, give barley water, feeling that they are giving some nourishment in addition to the water, but the amount of nutriment so administered is very, very small. After from twenty-four to forty-eight hours the feeding of the child must be resumed. The most generally useful food is milk, which should be modified, of course, to the age of the child and the power of digestion, if that can be learned. If the capacity of digesting proteins is impaired, the proportion of proteins should be reduced. If, however, the capacity of digesting starchy foods is impaired, these should be reduced. Some believe that the digestive power of the individual can be learned by observation of the feces; that when the feces have a fetid odor, the power of digesting proteins is impaired; when they have a sour odor, the power of digesting starch is impaired; and when they have a rancid odor, the power of digesting fat is impaired. It will usually be found desirable not only to modify the milk in proportion to the age of the child, but to give this modified milk diluted so as to render it easier of digestion. In many cases it will be of advantage to give the milk partially predigested by the use of pancreatin with the bicarbonate of sodium. For instance, the following may be used:

℞	Gm.		
Pancreatini	2		3ss
Sodii bicarbonatis	8	or	3ii

M. et fac chartulas 24.
Sig.: Use as directed.

Dissolve one powder in two tablespoonfuls of water and add eight tablespoonfuls of milk. This may be gradually warmed and given to the child as soon as it gains the required temperature, or, having been raised to a temperature of about 100 F., the warming process may be continued for four or five minutes. If the warming process is continued for very many minutes the milk will develop a bitter taste and become less palatable to the patient, although, of course, not less digestible.

Here, again, the therapeutic management of the child may be varied according to the population of the city where he resides. Owing to the difficulty of obtaining fresh milk in the largest cities it will often be found advisable to resort to condensed milk. Thirty or forty years ago condensed milk enjoyed great popularity as a food for infants because it received the recommendation of specialists in the diseases of children who lived in the largest cities and who realized the difficulty of securing an adequate supply of fresh, uncontaminated milk for their poorer patients. Condensed milk became almost a craze, and the craze passed on from the larger cities to the smaller cities, and even to the country districts, but a few years sufficed to prove that children who were brought up on condensed milk were not so well developed as children who were fed on fresh cows' milk, and the pendulum swung the other way and condensed milk fell into disuse. However, in many instances, in the large cities, for brief periods of time, as for instance during the hot summer months of July and August, it will be found a most useful adjuvant in the feeding of children. If deemed advisable, one of the many artificial foods may be tried for a short time.

Beef juice, beef tea, and other meat preparations may sometimes prove useful temporarily, but their importance is so little compared with that of milk that their discussion need not detain us longer.

No child should ever be treated for any acute disorder without the physician ascertaining its temperature. When, in these cases, the child is found to have some fever, active efforts should be made to combat it. The most useful method of accomplishing this is by means of tepid or cool baths in connection with fresh air and avoidance of exposure to the sun. A sick child, and especially a child ill with diarrhea, should never be moved about by the handling and tossing up and down of which ignorant people are so fond. Nor should he be wheeled long distances in a baby carriage, which also imparts a continuous series of jolts to the little invalid. He should be laid on a bed or on a pillow and kept as quiet as possible. He should, especially if he has pain, have warm applications made to the abdomen. These may be a small rubber bag partly filled with warm water, a hot poultice, a spice paste, or simply hot flannel dry or moistened with alcohol and water.

Having discussed thus in detail the most important part of the treatment of the child, there remains now to speak of the less important part, the medicinal treatment. The most popular drug in this class of cases is bismuth. The notion that many physicians have that subnitrate or subcarbonate of bismuth coats over the mucous membrane of the intestine and so relieves irritation and inflammation is probably generally a delusion. Whether it acts as an antiseptic in antagonizing decomposition and fermentation of the intestinal contents, has not been determined. On the ground that small doses cannot have very much effect in protecting the mucous membrane of the intestines, it has been proposed to give large doses, of from 15 to 30 grains, but while some may hesitate to give doses of this size, there is considerable clinical evidence in favor of the usefulness of smaller doses, of from 5 to 10 grains.

Another drug of perhaps equal repute with bismuth is phenyl salicylate (salol). This often allays vomiting, if it is present, often relieves pain, and unquestionably diminishes fermentation and decomposition. It may be given in a dose of ½ grain for a child of one year, or 1 grain for a child of two years, repeated every two hours. It should not be given, however, for more than ten doses at this rate, as it readily causes phenol poisoning. If given longer the frequency of the dose should be reduced to once in six hours.

Again the question as to the advisability of giving opium arises. If, after the intestinal canal has been thoroughly cleared out the frequent loose movements continue, it will generally be found that small doses of opium will prove useful. The best preparation for children is probably the tincture of deodorized opium. The proper dose of this for a child of from 1 to 2 years is 1 drop, and for a child of 6 months it is ½ drop. With this drug may be combined various aromatics. Many physicians still use some combination of bismuth and opium, as:

℞	Gm. or c.c.		
Bismuthi subnitratis	6		ʒii
Mucilaginis acaciæ (fresh)	25	or	fl.ʒi
Tincturæ opii deodorati	1		♏xviii
Aquæ cinnamomi .....ad	100	ad	fl.ʒiv

M. et Sig.: A teaspoonful, in water, every two hours. Shake.

It has been shown in the laboratory that the bismuth subnitrate can, although it is exceedingly rare that it does, cause a little irritation and nitrite poisoning. The bismuth subcarbonate can never do any harm; therefore, it seems advisable to always give the subcarbonate of bismuth rather than the subnitrate. Also, it seems not good prescription-writing to put bismuth, an insoluble preparation, into a solution which must be shaken, and in which the amount of bismuth in one dose may not represent the amount in another dose. It is much better, therefore, to order bismuth in powder and have this put into milk, or whatever nutriment the child is receiving. It can be put into a teaspoon of milk, and the child will readily sip it down. It may be ordered alone or in combination with phenyl salicylate as above suggested. A prescription for a child one year old would be as follows:

℞	Gm.		
Bismuthi subcarbonatis	6	or	ʒiss

Fac chartulas 20.
Sig.: A powder every two hours.

Or:

℞	Gm.		
Bismuthi subcarbonatis	3		gr.xlv
Phenylis salicylatis	50	or	gr.viii

M. et fac chartulas 10.
Sig.: A powder every two hours.

It is much better to order the deodorized tincture of opium alone and administer a drop or more, as deemed necessary, every three or four hours, depending on whether the child is drowsy or not. If less than one drop is required, it is easy for the nurse to put a drop into two teaspoonfuls of water and give the child one of them, which would represent ½ a drop of the preparation.

If the heart becomes weak, whiskey or brandy may be given. For a child 1 year old, from 10 to 20 drops, in plenty of water, and given at intervals of two hours, is a large enough dose.

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[*For other information see second page following reading matter*]

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GROWING ANIMAL TISSUES OUTSIDE OF THE BODY

Wöhler in 1828, by synthesizing urea, performed what up to that time was considered to be impossible, namely, the artificial production of an organic substance from mineral matter. Since then up to the present time there have been few advances in biology which seem so startling as do those which have been made in recent years, resulting in the establishment of a technic whereby animal tissues may be made not only to live, but also actually to grow outside of the body.

Harrison,[1] working at Johns Hopkins, in 1907, was the first actually to cultivate tissues outside the body. He found that the embryonic tissue of frogs, when transplanted into coagulable lymph, would develop normally. Burrows[2] in 1910, working under Harrison at Yale, was the first to grow normal tissues of warm-blooded animals; he used chick embryos in his experiments. Finally Carrel and Burrows[3] at the Rockefeller Institute, in September, 1910, succeeded for the first time in cultivating mammalian tissues. Recently they[4] have published a complete account of their technic and results. It was found that almost all the adult and embryonic tissues of the dog, cat, chicken, rat and guinea-pig could be easily cultivated *in vitro*. The life of these tissues varies from five days to about twenty days; but it may be prolonged by secondary and tertiary cultures. This property of growth *in vitro* is not limited to tissues of the lower animals, but is a characteristic also, at least to some extent, of human tissues; for these investigators succeeded in cultivating two human tumors, a sarcoma of the fibula and a carcinoma of the breast. In this connection it is interesting to note that a tumor grown outside of the body may also retain its malignant features; for a culture *in vitro* of the Rous fowl sarcoma when inoculated into a chicken caused the development of a sarcoma.

1. Harrison: Proc. Soc. Exper. Biol. and Med., 1907, iv, 140.
2. Burrows, Montrose T.: The Cultivation of Tissues of the Chick-Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 205.
3. Carrel, Alexis, and Burrows, Montrose T.: Cultivation of Adult Tissues and Organs Outside of the Body, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379.
4. The articles by Carrel and Burrows, as well as those to which reference is made later in this editorial, are to be found in the Journal of Experimental Medicine, April and May, 1911.

Lambert and Hanes have studied the question of cancer immunity by the method of cultivating tissues *in vitro*. They have found that "sarcoma cultivated in plasma from immune animals grows quite as vigorously as in plasma from normal and tumor-bearing animals, thus affording further proof of the absence of specific cytolytic substances in the body fluids of animals immune to transplantable cancer." Although animals may be successfully inoculated with sarcoma cultivated *in vitro*, there is evidence of diminished virulence. The duration of life of sarcoma cells grown in plasma seems dependent only on a renewal of the medium.

At Carrell's suggestion, Ruth has studied, also by this means, the phenomena which occur in the cicatrization of wounds, developing principles outlined earlier by Carrell. For the purpose Ruth used small fragments of the skin of guinea-pigs and frogs in the centers of which he made a rectangular wound. The skin of the guinea-pig developed in most instances connective tissue cells alone; but the skin of adult frogs generated epithelial cells almost exclusively. He states that repair of such wounds consists of three mechanisms, as follows:

1. Sliding of the epithelial edges of the wound toward the open central spaces, a process which occurs during the first six or twelve hours.

2. Epidermization, a stage during which there is a wandering out of epithelial cells from the edges of the shifted epithelium, either as isolated cells or as a thin continuous layer. These processes grow towards each other from opposing edges at a rate of about 0.06 mm. per hour, so that a wound of about 0.82 by 0.32 mm. may be completely covered by epithelium about ten hours after the preparation of the culture.

3. Progressive contraction of the original edges of the wound, with the result that the space between the edges diminishes and the epidermized surface may finally be less than one-fourth of the original area of the wound. On the basis of Jacques Loeb's discovery that in certain marine animals growth is accelerated by a slight diminution and retarded by a slight increase in the osmotic tension of the surrounding fluid medium, Ruth found that the rate of growth of new epithelium was increased by a diluted medium both *in vitro* and *in vivo*. Thus, he was able to retard or to accelerate the rate of growth of epithelial cells by injections into his animals of hypertonic solutions or distilled water.

The technic employed by these various investigators consists essentially in placing small pieces of living tissue into fluid plasma which will coagulate immediately, and in maintaining the growth at the proper temperature. The observations are then made by keeping the cultures on a warm stage of a microscope. In a discussion of their methods Carrell and Burrows state that theoretically the technic is very simple and that it is not at all difficult to obtain at least some growth of a tissue *in vitro*.

5. Carrel, Alexis: The Treatment of Wounds, THE JOURNAL A. M. A., Dec. 17, 1910, p. 2148.

By modifying their technic somewhat Carrel and Burrows have made the very important observation that certain laws of growth discovered by Jacques Loeb in lower organisms are true also for higher organisms; and in this respect their results are in agreement with those of Ruth previously mentioned. On the assumption that the blood is not the best possible medium for the growth of tissues they attempted to discover as nearly as possible what constitutes an optimum medium. Their reasoning in this connection is very interesting. "If the blood were the best possible medium, the cells would grow without restraint, the organs and tissues would lose their relative size and morphology and the whole body would become monstrous. Therefore, it may be assumed that the power of growth is kept under constant restraint, that every organ is compelled to follow the morphologic plan of the organism and that normal plasma is far from being the optimum medium for the culture of normal cells." From their experiments, which consisted chiefly in altering the osmotic tension of the plasma, they conclude that each tissue has probably its optimum medium. In general, hypertonic solutions retarded and hypotonic solutions accelerated the growth of tissues. For the spleen (of a chick) the optimum medium seemed to be three volumes of plasma to two volumes of distilled water.

It is difficult to estimate the importance of this new work. It lays bare practically a whole new field for experimental attack on many of the most fundamental problems in biology and the medical sciences. For example, as Carrel states, the artificial growth of such glands as the thyroid may be the means of attacking the problems concerned with the various internal secretions; and the extension of such work as Ruth has inaugurated may lead to the possibility of artificially hastening the repair of surgical wounds. The importance of the work from the standpoint of the cancer problem is obvious.

THE ADVERTISERS' PROTECTIVE ASSOCIATION

Probably every newspaper and magazine in the United States has received, within the last week or ten days, a circular letter from an organization calling itself the "Advertisers' Protective Association" or, more briefly, the "A. P. A." No office address is given, but merely a post-office box number in New York City. The secretary of this association is Frederick W. Hooper, who asserts that this organization "is composed of manufacturers of foods, beverages and drugs, representing an investment of $400,000,000.00, whose advertising expenses are annually over $100,000,000.00." The circular letter is addressed "Dear Mr. Editor," and the opening paragraph reads:

> "During the past five years, the Bureau of Chemistry of the Department of Agriculture, has made a number of very vicious and uncalled-for assaults on foods, beverages and drugs, greatly to their injury, as well as *damaging to the Press which has been carrying the advertising contracts in these lines.* Many publications have, no doubt, felt the effect of these assaults *by a reduction in amount of advertising patronage from the manufacturers of* foods, beverages and *patent medicines.* We are, therefore, presenting the following facts, to show why the earning power of your publication has been, or will be, diminished in these lines, unless these attacks are stopped." [Italics ours.—ED.]

Then follows a scurrilous attack on Dr. Wiley, chief of the Bureau of Chemistry, because of his activity in repressing frauds in foods and drugs. The implication is made that Dr. Wiley was rewarded by the Kentucky whisky distillers because he fought the vile concoctions that are frequently sold as whisky; that he got some material benefit from Heinz, the pickle manufacturer, for his attitude against the use of sodium benzoate and, finally, that "in the fight on proprietary medicines, the American Medical Association, better known as the 'Doctors' Trust,' furnishes the sinews of war." The Advertisers' Protective Association tells the papers:

> "If this condition of affairs is not changed, *it will result in greatly cutting down the support you receive from the manufacturers of* almost numberless Foods, Beverages and *Proprietary or Patent Medicines*, and the question presents itself: Will you and your influential paper stand for such a condition? We think not!" [Italics again ours.—ED.]

The papers are then instructed: first, to bring pressure to bear on the Secretary of Agriculture and their congressmen and senators to curb the activities of the Bureau of Chemistry; second, "to take the matter up in the editorial columns" of their papers and show how Dr. Wiley is "squandering" the people's money "to advance the interests of . . . his particular friends." The letter closes by again urging the papers "to let your senators and your congressmen know your attitude in this matter," and it promises that if this is done "you will be rewarded . . . by an improvement in your [advertising?] business."

It is evident that the "Advertisers' Protective Association" is but a new alias for the "patent medicine" interests. Apparently, this circular is a final desperate attempt on the part of the nostrum-makers to retain their grip on the press of the country. It remains to be seen whether the American newspaper editor will jump at this crack of the whip or whether he has emancipated himself from the thraldom of "patent medicine" slavery.

It is significant that this wide-spread attempt to control the editorial policy of the newspapers of the United States by the promise of bribes in the form of advertising contracts should have been made at this time. In *Collier's* excellent series by Will Irwin on "The American Newspaper" the influence of the advertising department over the editorial policy of newspapers was being discussed at about the same time that the "A. P. A." sent out its circular letter.

We shall watch with interest the attitude of the press of the country in this matter. Will it maintain a "conspiracy of silence" and refuse to publish any matter that, while of vital interest to the public, may be inimical to the interests of its advertisers? Will it go

further and aggressively attack the admirable work that has been and is being done by the Bureau of Chemistry? We believe that it will do neither, but that it will assert itself as a free press should and, by exposing the methods of the "patent medicine" fakers and their attempt at intimidation and bribery, retain the prestige and influence which some of our American newspapers seem to have lost.

INACCURACY IN THYROID MEDICATION

Attention has again been called to the inaccuracy which characterizes much of the thyroid medication. In a recent publication, Beebe[1] discusses especially the wide variations in the iodin content of the thyroid most frequently used for medicinal purposes (that of the sheep), and advocates the use of an extract containing a standard amount of iodin.

There can be little doubt that the therapeutic efficiency of thyroid is largely determined by the iodin content, although, as Hunt and Seidell[2] pointed out three years ago, the clinical evidence for this, while very convincing so far as it goes, is not extensive. These authors found that the iodin content of most of the commercial dry thyroids on the American market ranged between 0.1 and 0.2 per cent. and suggested that it would perhaps be desirable to fix a standard of not less than 0.12 per cent. iodin for the official preparation. Since that time one firm has adopted a standard of not less than 0.2 per cent. and it is quite probable that the standard suggested above is too low. Whether, however, a standard as high as 0.2 per cent. for sheep thyroids would be feasible in this country seems open to doubt; with one exception the normal fresh sheep thyroids, the analyses of which are reported by Beebe, fell below 0.04 per cent. (which is equivalent to about 0.2 per cent. in the dried gland). There would probably be no difficulty in maintaining a standard of 0.2 per cent., however, if manufacturers were permitted by the Pharmacopeia to use the thyroids of hogs and beeves; according to the analyses both of Hunt and Seidell, and of Beebe, the thyroids of these animals contain a higher average of iodin than do those of the sheep.

Beebe suggests that if an extract containing a definite amount of iodin were adopted the question of the source of the material would become unimportant. It is a question, however, whether it is desirable still further to complicate the present situation by the introduction of special preparations, and whether the dried gland with a more definite percentage of iodin would not meet most needs. At least one extract, apparently practically identical with that proposed by Beebe, but with a smaller percentage of iodin, has been on the European market for many years, but does not seem to have proved distinctly more satisfactory than the dried gland.

Although the varying amounts of iodin in the thyroid preparations constitute an important element in the inaccuracy of thyroid medication, a far more general source of inaccuracy is the uncritical way in which thyroid tablets are used. It may be that the tablet is the best and most convenient form of administering the drug (if the tablet is well chewed), but the use of tablets has led to great confusion and haziness as to dosage. This results in part from the fact, as pointed out by Hunt and Seidell, that different manufacturers express the weight of their tablets on different bases. Thus one firm's "5-grain tablet" means a tablet weighing 5 grains, but containing 2 grains of dried thyroid, or the equivalent of 10 to 14 grains of the fresh gland; another firm's "5-grain tablet" means a tablet containing dried thyroid equivalent to 5 grains of the fresh gland, etc. A still more confusing practice, which unfortunately has become very prevalent among physicians, is that of speaking of unspecified "tablets." A physician of some experience can frequently, although by no means always, guess at the size of the tablet meant, but the possibilities of error are obvious from the following example: One firm lists tablets of various sizes ranging from ½ to 5 grains, meaning that the tablets contain dried thyroid equivalent to from ½ to 5 grains of the fresh gland. As 1 part of the dried gland represents from 5 to 7 parts of the fresh gland, the weakest of these tablets contain but about 1/10 of a grain of the dried gland. A 2-grain "tablet" of one of the firms which base the weight on the amount of dried gland would thus contain twenty times as much of the drug. When it is further considered that the thyroid in some of these tablets contains four times as much iodin as that in other tablets, which presumably makes it four times as active, it is evident that one "tablet" may have the physiologic effect of eighty other "tablets." Although it is improbable that such extreme confusion happens often (the weakest tablets being prepared usually for special purposes), there is a distinct possibility of its occurrence.

Of course such a condition of affairs as to the dosage of a powerful drug like thyroid would ordinarily be intolerable, but the redeeming feature is that thyroid medication must of necessity be peculiarly individual; the correct dose is determined by the degree of thyroid deficiency to be met, and this can be determined only by repeated trials. But after the correct dose has been determined it is highly desirable that treatment be continued with a preparation of uniform activity; this is especially important if the treatment is to continue for months as is sometimes necessary.

These difficulties would be obviated if physicians would always base their dosage on the preparation of the Pharmacopeia; a further improvement would undoubtedly be the adoption by the latter of a standard iodin content.

1. Beebe: Am. Jour. Pharmacy, 1911, p. 56.
2. Hunt and Seidell: Hyg. Lab., Bull. 47, U. S. P. H. and M.-H. S., 1908; THE JOURNAL A. M. A., Oct. 24, 1908, p. 1385.

THE EMASCULATED FOOD AND DRUGS ACT

The federal Food and Drugs Act, under the interpretation recently given it by the Supreme Court of the United States, has become practically a dead letter so far as it affords protection against the fraud and cruelty connected with the exploitation of "patent medicines." As was noted last week, the court has decided that the national pure food law does not prohibit false statements on labels or medicines so long as such statements are confined to curative effects and not to composition. To the average quack and "patent medicine" vender, such an interpretation will prove a priceless boon.

It should be borne in mind that the Food and Drugs Act does not require the composition of any "patent medicine" to be printed on the label; it does not even require the presence of any but a very few of the most powerful and dangerous drugs to be made public. A preparation may contain strychnin, prussic acid, arsenic or any one or more of a hundred equally dangerous and violent poisons and no mention need be made of the fact on the label. The "patent-medicine" faker cares little about restrictions regarding the composition of his nostrum; all he asks is permission to make any assertion that he sees fit regarding the curative effect of his preparation. The Supreme Court's decision means that that permission now exists under the federal Food and Drugs Act.

A weak solution of sugar or common table-salt in water, or for that matter a bottle of plain water, may now legally be labeled:

CANCEROID

A POSITIVE AND NEVER-FAILING CURE FOR CANCER, TUBERCULOSIS AND ALL OTHER DISEASES

GUARANTEED BY DR. QUACK UNDER THE FOOD AND DRUGS ACT.

Such a label, while a tissue of lies, is not illegal under the present pure food law. Hundreds of nostrum venders, when the Food and Drugs Act went into effect, had to discard their "sure-cure" labels because Dr. Wiley held that the law prohibited lying "in any particular." Now they can resurrect their old stock and send out their preparations labeled with the same unblushing falsehoods that were so common before the advent of the pure food law. Every "cancer-cure" faker, every "consumption-cure" swindler, every medical humbug of any kind or description can now resume his miserable trade with a feeling of perfect security, providing he is careful to make no misstatement regarding the composition of his wretched fraud. And he is not required to say a word about the composition of his nostrum unless it contains alcohol, morphin, acetanilid or one of the other eleven drugs or their derivatives that are specifically mentioned in the act!

From what has been said, it is evident that an amendment to the Food and Drugs Act is imperative. The law was passed, after years of opposition on the part of food dopers and "patent medicine" fakers, for but one object—the protection of the public health. As it now stands it fails to protect the public in a most vital particular, namely, against the cruelly fraudulent claims of the "sure-cure" school of swindlers. The law should be changed at the very earliest moment so that it shall specifically prohibit *every kind* of false statement regarding foods or medicinal preparations. The amendment, moreover, should be broad enough to prohibit lying regarding medicines and foods not only on the labels, but also in all advertising matter dealing with these special products.

SOME CONSIDERATIONS REGARDING THE USE OF DIPHTHERIA ANTITOXIN

There is no difference of opinion among unprejudiced observers as to the great life-saving value of diphtheria antitoxin. Carefully prepared and impartially analyzed statistics show that the average mortality from the disease prior to the introduction of the antitoxin as a therapeutic measure has been reduced one-half or more under the employment of this agent. In addition, the duration of the individual attack is shortened and its severity lessened. Among other things, unpleasant sequels, such as the paralysis resulting from peripheral neuritis, have become less frequent. Moreover, through the employment of prophylactic injections the spread of the disease has been checked and in numerous instances local epidemics have by the same means been brought to an end.

It was recognized even early in the history of the treatment that the procedure was not unattended with possibilities of danger. Perhaps the first death in the sequence of an injection of diphtheria antitoxin was that of the child of a German physician. The cause of the untoward result in this case, as well as in others that have since been reported, is involved in some obscurity, although it was supposed to reside in the condition of lymphatism, attended with persistence of the thymus gland and hyperplasia of lymphatic structures in various parts of the body. Less severe complications, such as articular swelling and pain, cutaneous exanthemata and other constitutional phenomena also have been observed. These have been referred to the serum in which the antitoxic principles are contained. The reactions noted are at the present time comprehended in the term "anaphylaxis," and are looked on as expressions of hypersusceptibility to specific protein substances. The phenomenon has been carefully studied by numerous investigators, and much has been learned with respect to its occurrence, but no satisfactory means of preventing it has yet been discovered.

Next in importance to the acceptance of the specific therapeutic value of diphtheria antitoxin is its early routine employment, for it has been demonstrated beyond question that the good results from its use are directly proportionate to the promptness with which it is administered. As the antitoxic principles are themselves innocuous, there is no rigid limitation as to the dosage

of the serum apart from the effect to be secured. Accordingly, the practitioner has no choice in the presence of a case of actual diphtheria. When, however, the nature of the disease is doubtful or merely suspicious, or in case of exposure to infection, there may be a question as to the wisdom or the necessity of injecting antitoxin, in view of the possibility of unforeseen complications developing. An interesting discussion of this phase of the subject is presented by Dr. E. W. Goodall[1] in a recent communication based on an experience with diphtheria for eight years prior to the introduction of the antitoxin treatment and for the sixteen years that have elapsed since. As he points out, the symptoms due to the serum itself, consisting of fever and rash—urticaria or erythema—and observed as well when similar treatment is employed in cases of tetanus, streptococcus infection and typhoid fever, occur in about 35 per cent. of the cases, while in 3 or 4 per cent. there occur also articular manifestations of an inflammatory character. These phenomena set in from one to three weeks after the injection. While unpleasant, they are unattended with danger, and they constitute no contra-indication to antitoxin treatment. In other cases, however, particularly when a second injection is given, the symptoms attain a greater degree of severity, and they may set in after the interval mentioned or after a shorter interval—from twelve hours to six days—or even within a still shorter interval—from a few minutes to six hours. In addition to the rash, which may involve a large area of the cutaneous surface and probably mucous membranes also, the temperature becomes elevated, the skin cyanotic and rigors occur. There may also be collapse or convulsions and drowsiness. These phenomena develop, however, only when the second or subsequent injection is given later than ten days after the preceding one. In one instance the interval was as long as seven and one-half years. On the other hand, the reaction does not appear in every case of reinjection. In yet a small number of cases grave symptoms—intense dyspnea, with failure of respiration and collapse—appear after a primary injection of serum. Many of the patients in this group have been sufferers from asthma or some allied disorder or possess an idiosyncrasy to horses.

Therefore, great care and discrimination should be exercised in the prophylactic administration of diphtheria antitoxin. Not only may a person so treated prove hypersensitive, but he would be rendered so in the event of a subsequent injection becoming necessary for remedial purposes. In cases of doubt or suspicion antitoxin treatment should be given only when the larynx is involved. In cases of undoubted diphtheria, antitoxin should be administered without delay or hesitation except in the presence of asthma, and then a decision will have to be reached from the gravity of the symptoms. The earlier the treatment is instituted the smaller will be the dose required and the less, therefore, the danger of reaction.

1. Goodall, E. W.: Brit. Med. Jour., Feb. 11, 1911, p. 292; abstr. in THE JOURNAL, March 11, 1911, p. 779.

VOLUNTARY CLOSING OF MEDICAL COLLEGES

Out of the ten medical colleges in Missouri, the University Medical College of Kansas City was one of four which were listed among acceptable (Class A) medical colleges by the Council on Medical Education in its classification published last year. The position of this school has been maintained under many difficulties, dependent as it was on the tuition fees received from its students supplemented by gratuitous services and personal sacrifices on the part of its faculty. And now the trustees and faculty have decided to close the doors of the college permanently at the end of the present session. According to a statement published elsewhere in this issue—a statement which should be read by all who are interested in medical education—the college was closed in recognition of the marvelous progress which has been made in medical science in the last quarter of a century; a progress that has made necessary not only higher preliminary qualifications for those who are to study medicine, but also the possession by the medical college of thoroughly equipped laboratories, of more extensive clinical facilities and of a corps of teachers—trained specialists in their various subjects—some of whom, at least, must devote their entire time to teaching and to research.

The faculty fully realized that an increase in the standards of admission would mean a reduction in the number of students and a corresponding reduction in the already seriously limited income of the medical school; nevertheless, at the beginning of this its last session, a higher entrance requirement, a year of college work, was made effective. To make other needed improvements, to obtain the additional laboratory equipment and the expert instructors, it was recognized that funds from some source aside from students' fees were absolutely essential. A larger enrolment of medical students and a greatly increased tuition fee, which might have enabled the college to make the desired improvements, were out of the question since there continued to exist many less particular medical colleges which were ready to accept students with almost any preliminary education. After a long and fruitless effort to secure the needed funds, therefore, the trustees and faculty of the University Medical College preferred to close the doors and to retain the college's good name rather than to continue it other than as a first-grade and an honorable school.

But while honor is due to the men who are willing thus to sacrifice their personal interests and ambition in order that the future physicians may be well educated, it is to be regretted that one of the medical schools of the better grade is thus closed while scores of schools much inferior to it continue to exist. The faculties of the latter schools will probably welcome the closing of this conscientious competitor, since, of course, they will gain in numbers—and dollars—thereby. These inferior schools will doubtless continue to sing their own praises and to accept the fees of unqualified students so long

as inadequate or unenforced legal requirements will permit. Medical colleges of the better class may be depended on to keep abreast of the progress in medical education or voluntarily to close their doors; those that are purely commercial will continue in the old rut. It is high time, not only that medical students should be warned regarding the handicap that goes with a diploma from a low-grade medical school, but also that the public should be safeguarded against the ill-trained output of these institutions.

Current Comment

PUBLIC PARKS AND THE PHYSICIAN

The value of public parks and playgrounds to the great mass of city dwellers is now generally recognized, but in the rapid growth of our cities timely provision for parks is usually overlooked until business and material interests have so much encroached on the available spaces that their conversion into parks is so expensive as to be almost prohibitory. As a consequence, these lungs of the cities are, too often, utterly inadequate. While it is true that the health of the workers in a city is one of its most valuable assets from a purely material point of view, as conducing to efficiency and increased output, yet it is a matter of slow and difficult progress to bring the business portion of the community to realize the direct importance of a matter, which, at first sight, seems to affect them so remotely. The movement for parks and playgrounds belongs to preventive medicine, in the modern conception of that subject. It is, therefore, the opportunity and the duty of the physician, as a public-spirited citizen, to exercise foresight in this matter, and to use his influence in securing adequate parks, playgrounds and breathing-spaces for the people. Physicians have not been entirely remiss in this matter; on the contrary, in many places they have been the leaders in this work, as they should be everywhere. Many American cities have realized the value of parks and playgrounds and have spent large sums of money in providing them. Some are splendidly equipped in this respect; so much so that in the recent meetings in Europe, concerning the town-planning and city beautification movement, some of our cities were cited as models to be imitated by the older urban centers of Europe. Berlin is one of these cities that has recently taken up the matter of providing a system of forest reserves or parks just outside the city, as well as several within the city limits, to give greater opportunity to the people for outdoor air, exercise and recreation—a *receptaculum oxygenii*, as they have been termed. The chairman of a committee having in charge this park promotion enterprise in Berlin recommends that the physicians, with the architects, should be the leading spirits in the hygiene of the masses, and says that it is a matter of reproach that millions are spent on sanatoriums for the treatment of tuberculosis, while no adequate provision is made for giving the masses the air and light and opportunity for recreation which would largely help to prevent the condition which these sanatoriums try to cure at such great expense.

THE DOMESTICATED SERPENT VERSUS THE DOMESTIC CAT

The domestic cat has been sentenced to banishment by the modern hygienist because of the alleged fact that she harbors germs in her long hair and is subject to diphtheria and, perhaps, other infectious diseases which may be communicated to human beings, chiefly the children who play with her. The faithful dog, particularly the house-dog, with his long hair and his repertoire of wheezes and distempers, due largely to too much pampering, is also under suspicion. Thus, two of our most cherished and time-honored associations are threatened by the ruthless hand of science. The faithfulness and cheerful companionship of Fido, and the purring domesticity of Tabby are to weigh as nothing against the teachings of preventive medicine. The alleged rat-killing habit of the cat, even in the face of the demonstrated fact that rats convey plague, is not to be considered as a mitigating circumstance in her favor. Professor Sambon, a London authority on tropical diseases, including the various forms of plague, is against the cat and suggests a substitute rat-catcher and vermin-exterminator in the form of a wriggling, gleaming, non-venomous snake. He cites history in support of his contention that the snake is the proper substitute for the cat. He calls attention to the ancient practice in Egypt and elsewhere of keeping domesticated snakes to rid the premises of vermin and suggests the revival of this practice for the extermination of rats. The snake has no long hair; he is, in consequence, alleged to be somewhat more hygienic. And, indeed, in some tropical and semitropical countries to-day, snakes are tolerated, if not domesticated. The value of snakes in ridding the fields of rats and mice which destroy the farmer's grain was referred to in an editorial on birds[1] last week. We are reminded that the caduceus with the twining serpents has constituted the symbol of medicine from the time of Æsculapius, or even before, and is a recognition of the sanitary significance of the snake. Can it be that in this day of the turning topsy-turvy of many traditions the despised snake is coming into his own again, and that the modern science of hygiene and sanitation will accord him his ancient and honorable place in medicine? Are we to say, *Vale* the infectious cat and dog, and *Salve* the snake?

THE WHITE RACE IN THE TROPICS

The evidence given by Dr. Gorgas of the healthfulness, under proper sanitation, of the tropics for white men is supported by that of Dr. Victor G. Heiser, chief of the health department in the Philippines. He finds the death-rate there among government employees for the past year to be at the astonishingly low figure of 5.82 per thousand. Even after allowing for the selected character of the employees and the absence of young children and very old people among them, this rate, he says, is still lower than that of the civilian population of any other tropical country. He also adds that, in his opinion, if the simple essential rules of hygienic living were more closely observed the death-rate could be still further lowered. It has been said that Americans tend

1. Our Vanishing Shore-Birds, THE JOURNAL A. M. A., June 3, 1911, p. 1658.

to become enervated and lazy in tropical countries, but this has been contradicted. It is asserted by others that a reasonable amount of active exercise under proper conditions is as essential to health in tropical as in temperate regions. These facts and views are not in agreement with those expressed by Woodruff and others, who hold that the white race necessarily degenerates in hot regions and is at its best only in a cool and cloudy climate. However this may be, it must be admitted that the tropics have not been fairly tried by the white race. In the past this was impossible, as we have only lately acquired some of the more important data needed to guide us in our utilization of tropical regions. One point may be mentioned, however, on which there is still some difference of opinion; this is the need of alcohol as a protection against some of the dangers incurred in those regions. There has been a rather wide-spread notion, which is still somewhat supported by medical authority, that the moderate use of alcoholic drinks is a prophylactic against some tropical diseases. The best authorities, however, give this notion little support. A recent German writer (Riegel), summing up the data from the military history of operations in tropical and subtropical countries, emphatically condemns the use of alcohol in any expedition in tropical regions. Many white men carry drinking habits into warm countries or acquire them there under the impression that alcohol is a defense against the deteriorating effects of the climate. With our more recently acquired knowledge of tropical diseases many of the old arguments in favor of its use certainly fail. The idea of the general deterioration of the white race in warm countries will possibly become as obsolete as those formerly held concerning many of the tropical diseases have become. Even the so-called tropical neurasthenia may prove to be avoidable. Then, if we realize our sanitary ideals, the pressure of population, as Dr. Gorgas has pointed out, will demand the full utilization of these most productive portions of the earth.

PANAMA AN OBJECT-LESSON TO CIVILIZATION

The report of the Department of Sanitation of the Isthmian Canal Commission for the month of March, just issued, indicates that the Canal Zone, formerly swept by disease and pestilence but now policed by Colonel Gorgas and his sanitary inspectors, is as safe a place as any on earth for a white man or woman to live. During the month of March, there were only forty-three deaths from all causes among 47,935 employees. Sixteen of these deaths were from violence, and twenty-seven were from disease. Of these victims twenty-three were colored and four were Italian or Spanish. Not a single white American man died of disease. Still more striking are the figures for white employees and their families from the United States. In this class, there are, at present, 10,299 persons in the Canal Zone. Out of this number, equivalent to the entire population of an average American city, there were only ten deaths. Of these, three white employees from the United States, out of a total number of 6,017, died as the result of accident; none died as the result of disease. Out of 4,282 white women and children from the United States, there were only seven deaths. An analysis of the causes of these deaths is especially instructive. One woman, aged 81, died of chronic nephritis. One infant lived only two and a half hours, as the result of premature birth; three women, aged 22, 27 and 41, died as the result of complications due to pregnancy. All of these deaths can be regarded as, in a measure, unavoidable. Only two cases of death of white Americans from preventable disease remain; one woman, aged 32, and one child, aged three years, both of whom died of pneumonia. And this out of a total number of white women and children of over 4,000 and a total number of white Americans of over 10,000. Has any such record in the elimination of disease ever before been established or even dreamed of? The present population of the Canal Zone, is, it is true, composed of young, vigorous and carefully selected persons, and some allowance must be made for this fact. Yet as good results can be secured in any community in the United States, if the intelligent, painstaking, scientific methods followed by Colonel Gorgas and his subordinates are only adopted. If the Panama Canal should serve no other purpose than that of an object-lesson in sanitation, it will be worth to the United States and the civilized world far more than its total cost. The world has been shown that preventable disease is the result of ignorance and indifference and that in view of our present knowledge of the causes and methods of prevention of disease its continued existence is discreditable to modern civilization.

Medical News

CALIFORNIA

Medical Officers Entertained.—On May 18 the San Diego County Medical Society and the Physicians' Club of San Diego entertained the medical officers of the army and navy, on duty at and near San Diego, at an informal smoker at the University Club.

Personal.—Dr. Robert O. Moody, San Francisco, associate professor of anatomy in the University of California, has been given leave of absence for the first half year.——Dr. J. G. Fitzgerald has been appointed associate professor of bacteriology in the University of California.——Dr. Lyman H. Case, Santa Monica, who has been seriously ill with inflammatory rheumatism, is reported to be improving.——The house of Dr. Joseph K. Swindt, Pomona, was destroyed by fire, May 20, with a loss of $6,000.

COLORADO

Medical Institute Caught.—The Dr. Rhodes Institute, Denver, an advertising concern, and "Dr." Richard J. Brown, connected with the institute, are said to have been declared guilty of fraud and ordered to pay damages of $4,000 to S. A. Combs by the district court May 26. It was alleged that Combs had been treated by Dr. Brown for hernia by paraffin injections.

Mortality of 1909.—According to Bulletin 108 of the State Board of Health, there was a slight increase during the year in the death-rate which is due, probably, to the increased number of tuberculous patients who have gone to Colorado in an advanced stage of the disease. The highest mortality at all ages occurred in March, and the lowest in June. Both of these agree with the figures for the entire registration area.

Children's Pavilion at Children's Hospital.—The Children's Pavilion Association of the Denver County Hospital has abandoned the plan of having a pavilion in the grounds of the County Hospital and will unite with the Children's Hospital Association. The hospital will be enlarged and will receive, at the expense of the county, all children who would otherwise be sent to the County Hospital. The association cleared $1,300 for its Easter ball.

DISTRICT OF COLUMBIA

Tuberculosis Camp Opened.—The Red Cross Tuberculosis Day Camp was opened May 2 and four tents have been erected and fitted up for the accommodation of additional patients. The camp is being operated under the auspices of the District of Columbia Red Cross Chapter. During last year more than eighty patients were admitted to the camp.

Supervisors Sued.—The District of Columbia Medical Board of Supervisors, which has the power of granting licenses to practice medicine, has been sued for reciprocal license by Dr. Thomas V. Hammond who claims reciprocal license by reason of a license he holds from the State of Maryland. The board is said to be exceedingly careful in the matter of issuing licenses as there are at present more than 1,500 physicians registered in Washington, all of whom are supposed to be engaged in active practice.

ILLINOIS

Tag Day in Lake County.—Lake County celebrated its annual tag day, June 3. The proceeds, estimated at about $5,000, will be divided between the Lake Bluff Orphanage, the Lake County Tuberculosis Institute (which maintains a tent colony), and the Jane McAlister Hospital, Waukegan.

Personal.—Dr. Robert S. McCaughey and family, Hoopeston, have sailed for Europe.——Dr. Charles True, Kankakee, is reported to be seriously ill as the result of cerebral hemorrhage.——Dr. Harry S. Oyler, Lincoln, sustained painful injuries in a runaway accident, in which his buggy was demolished, May 27.——Dr. Lewis H. Skaggs, Ellsworth, is reported to be seriously ill.

Chicago

Personal.—Dr. Frank Edward Simpson has returned from abroad.——Dr. Duncan B. McEachern has been appointed temporary superintendent of the Contagious Disease Hospital. ——Dr. Rudolph Vlach sailed for Europe, May 30.

Gradle Memorial Collection.—The extensive private medical library of about 5,000 volumes, collected by the late Dr. Henry Gradle, has been presented by Mrs. Gradle and her children to the trustees of the Crerar Library and will be known as the Henry Gradle Memorial Collection.

Hyde Memorial Services.—Services in memory of Prof. James Nevins Hyde will be held in the upper amphitheater of Rush Medical College, June 12, at 11 a. m. The medical profession is invited to participate in these services. The memorial address will be by Dr. J. B. Herrick.

Another Tuberculosis Hospital.—At a meeting of the Jewish Consumptive Relief Society, recently, it was decided to erect a tuberculosis hospital to cost $75,000. A sinking fund of $3,000 has been set aside and on June 4 a vaudeville performance is to be given at the Colonial for the benefit of this worthy charity.

Intern Examination.—The deputy warden of Cook County Hospital states that the figures as given in the news item in THE JOURNAL of May 27, regarding the result of the intern examinations were incorrect, and that, of the first fifty places on the eligible list of interns of Cook County Hospital, Northwestern University Medical School received 17, Rush Medical College 16, the College of Physicians 10, Bennett Medical College 6, and the Chicago College of Medicine and Surgery 1. ——One hundred and seventy women physicians of Chicago gave a dinner, June 1, to the three women who passed the recent examinations for interns at Cook County Hospital.

The New Health Commissioner.—Mayor Harrison has selected Dr. George Bright Young, United States Public Health and Marine-Hospital Service, as health commissioner of Chicago, succeeding Dr. William A. Evans, who has made so distinguished a record in that office. The mayor's choice meets with general approval. Dr. Young was born in New Orleans, May 12, 1860. In 1870 his family moved to Charlottesville, Va., where he received his academic education at the University of Virginia. He took the first year of his medical course at the University of Virginia and completed it at the University of Maryland, Baltimore, from which he graduated in 1887. Jan. 30, 1890, he entered the United States Marine-Hospital Service as Assistant Surgeon; in 1894 he was made Passed Assistant Surgeon, and, on Dec. 10, 1905, was promoted to Surgeon. Dr. Young has an enviable record of service. For three years he was in charge of the national quarantine at Delaware Breakwater. During the prevalence of cholera in Europe in 1893 Dr. Young was one of the officers sent by the service to take charge of the shipment of emigrants and cargoes from the various ports. He had charge of all traffic from Southern Italy and the Island of Sicily, with headquarters at Naples. This duty continued for about a year. One of its results was to demonstrate the sufficiency of the national quarantine regulations, for it so happened that while vessels were leaving for United States, other vessels of exactly the same character and carrying passengers and cargoes of identical origins were leaving for various ports in South America, and while not a case of cholera developed on any vessel from Naples after the regulations were put in force, every vessel not handled by Dr. Young had severe outbreaks of cholera and lost from 25 to 200 passengers. During the yellow fever outbreak in 1897 he had charge of interstate quarantine in portions of Tennessee, Mississippi, Alabama and Arkansas, at which time he established the first extensive system of train inspection. In 1898 he was detailed in the office of the surgeon-general for duty in connection with the supervision of the general quarantine operations of the service during the epidemic of that year. In 1905 he had charge of the operations of the service in a considerable portion of the South, including the supervision of the work done during the outbreaks in Natchez, Miss., Lake Providence, La., and Hamburg, Miss., and the interstate quarantine controlling train inspection and similar matters in a territory embracing nearly all of Mississippi, portions of Louisiana, Alabama, Tennessee and Kentucky. During the past six years Dr. Young has been stationed in Chicago where he has been active in sanitary work, in addition to his service as superintendent of the U. S. Marine Hospital. For several years he has been a member and is now president of the Lake Michigan Water Commission, he was a member of the City Milk Commission and is a member of the City Club's committee on insect pests. He has represented the United States Public Health and Marine-Hospital Service in the House of Delegates of the American Medical Association for the last four years, and in its Council on Medical Legislation and Council on Medical Education. The appointment of Dr. Young is an augury for efficient service, unhampered by political pledges or promises.

INDIANA

Hydrophobia Fund.—More than $1,200 has been accumulated by the auditor of the state for the care of indigent persons affected with hydrophobia. The last legislature passed an act providing that 5 per cent. of the surplus dog fund in every county should be turned over to the state for this purpose.

Personal.—Dr. Nelson J. Shook, Kendallville, fractured his clavicle and was painfully cut about the face and hands by the overturning of his automobile while making a professional call, May 27.——Dr. Charles L. Dreese, Goshen, was attacked by an insane patient, May 22, and seriously injured.——Dr. William H. Johnson, Indianapolis, who has been seriously ill, is convalescent and has resumed practice.

IOWA

The State Society.—Dr. Lawrence W. Littig, Davenport, was elected president of the Iowa State Medical Society at the last meeting. Dr. William B. Small, Waterloo, the treasurer, was reelected, and Dr. Granville N. Ryan, Des Moines, is the new trustee, Dr. Thomas E. Powers, Clarinda, holding over.

Woman's Hospital Planned.—The Iowa State Association of Medical Women and the City Federation of Women's Clubs of Des Moines plan the establishment of a hospital for women in Des Moines. The clinic maintained during the last year for women and children has been far more successful than was expected and the necessity of a hospital to give care exclusively to women and children not able to pay for the regular hospital care is apparent.

LOUISIANA

State Society Meeting.—The thirty-second annual meeting of the Louisiana State Medical Society was held in Shreveport, May 30-June 1, under the presidency of Dr. Edwin J. Graner, New Orleans. New Orleans was selected as the place of meeting for 1912 and the following officers were elected: president, Dr. Richard O. Simmons, Alexandria; vice-presidents, Drs. James C. Willis, Shreveport, Benjamin A. Ledbetter, New Orleans, and E. Otis Edgarton, Arcadia; secretary, Dr. Joseph Denegre Martin, New Orleans (reelected); treasurer, Dr. Charles C. Bass, New Orleans (reelected); delegates to the American Medical Association, Drs. Charles Chassaignac, New Orleans, and Oscar Dowling, Shreveport, and alternates, the secretary and Dr. Robert H. Blackman, Monroe.

MARYLAND

Hospital Changes Hands.—The sisters of charity have purchased for $26,000 and taken possession of the Allegheny Hospital, Cumberland. The capacity of the institution will be doubled.

Personal.—Dr. Jeptha E. Pitsnogle, Hagerstown, has been appointed health officer and Dr. William D. Campbell assistant health officer of Washington County.——Drs. Thomas C. Bussey, Texas, and Frank H. Ruhl, Lansdowne, who recently had cerebral hemorrhages, are reported to be improving.

Psychiatrists for Social Service Work.—The Maryland Psychiatric Society is raising a fund of $2,500 to employ a trained psychiatrist to do social service work. This will embrace efforts for the prevention of insanity and for the after-care of those discharged as cured. He will visit state hospitals and study the patients. He will also visit the homes of discharged patients and endeavor to find suitable occupations for them. The society is preparing the first issue of a publication to be known as "The Maryland Psychiatric Quarterly."

Baltimore

Addition to Institution.—A large addition is to be made to Mount Hope Retreat, a private institution for nervous and insane patients, under the care of Roman Catholic sisters. Two additional wings are to be built, two stories high, and the improvement will cost about $90,000.

Personal.—Dr. Julius W. Schlieder is reported to be seriously ill with septicemia, due to an operation wound.——Dr. John McF. Bergland is to be resident physician at Biddeford Pool, Me., this summer.——Dr. William Simon, Catonsville, is convalescent after typhoid fever.——Dr. Lewellys F. Barker has recovered from his recent operation and resumed practice. ——Drs. Hugh H. Young, Emil Novak and Anton G. Rytina will spend the summer abroad.——Drs. Leo J. Goldbach and Herbert E. Laroque have sailed for Europe.

MASSACHUSETTS

Personal.—Dr. John M. Martin, Boston, has been appointed a school physician vice Dr. John L. Ames.——Dr. Albert M. Dunlap has been appointed a member of the faculty of Harvard Medical School recently established at Shanghai, China, and will sail for his new post of duty this month.

County Medical Society Meeting.—Hampshire District Medical Society held its annual meeting in Northampton, May 12. Dr. George B. Shattuck, Boston, president of the Massachusetts Medical Society, delivered an address on the work of that organization. Dr. Nelson C. Haskell, Amherst, was elected president; Dr. Maurice W. Pearson, Ware, vice-president; Dr. Albert M. Belden, Northampton, secretary; Dr. Justus G. Hanson, Northampton, treasurer, and Dr. William J. Collins, Northampton, librarian.

New Hospital.—Plans have been perfected by many physicians and business men of Boston to supply that city with a large private hospital providing the best of medical treatment to patients willing to pay for private rooms and special care. The hospital will be incorporated with a capital stock of $500,000 and the board of directors includes the following physicians: Drs. Arthur T. Cabot, William T. Councilman, Reginald H. Fitz, Joseph L. Goodale, Francis B. Harrington, Henry Jackson, Robert W. Lovett, John L. Morse, Edward Reynolds, Maurice H. Richardson, Frederick C. Shattuck, Edward W. Taylor, Paul Thorndike and John Collins Warren.

MICHIGAN

Names School for Physician.—One of the two new grade schools of Pontiac is to be known as the John P. Wilson School in honor of the practitioner of that name who was one of the prominent men of the city during and after the Civil War.

Antituberculosis Societies.—Dr. Fred R. Waldron has been elected president of the Ann Arbor Society for the Prevention of Tuberculosis, vice Rev. Carl S. Patton, resigned. It was reported that there are now three patients at Camp Lookout and it was decided to hold an annual tag day during the last week in October.——The organization of the Adrian and Lenawee Antituberculosis Society was perfected at a meeting held, May 24. Dr. Esli T. Morden was elected secretary-treasurer of the Association.

Personal.—Major John V. Frazier, Lapeer, has been detailed to the maneuver camp at San Antonio.——Dr. Elizabeth M. Hooper, Port Huron, was the guest of honor at a dinner given in Des Moines by the examiners of the Ladies of the Maccabees, April 29.——Dr. Philander B. Wright has resumed practice at Grand Rapids after an absence of three years.——Dr. David Ralston has been appointed health officer of Cadillac for the eighth consecutive term.——Dr. and Mrs. Periam B. Hardy, Tecumseh, sailed for Vienna, June 24.——Dr. Enoch M. Mather, Detroit, was painfully injured in a collision between his motor car and a trolley car, May 18.——Dr. John H. DeMay has been elected health officer and Dr. Roy W. Chivers secretary of the Board of Health of Jackson.

MISSOURI

State Tuberculosis Board Meeting.—At the annual meeting of the State Board for the Prevention of Tuberculosis, held in Jefferson City, May 31, the following officers were elected: Dr. Herman E. Pearse, Kansas City, president, and Drs. R. M. Funkhouser, George W. Heuman and James Stewart, St. Louis, Edward W. Schauffler, Kansas City, Gustave Ettmueller, Jefferson City, and William S. Allee, Olean, members of the executive committee.

New Hospital for Kansas City.—Mr. R. A. Long has endowed the Christian Church Hospital in Kansas City with $200,000 in addition to the $150,000 already pledged in popular subscriptions. Dr. William E. Minor and the architect have returned after a visit to the hospitals of the chief cities of the East and Middle West. The chief aims in the construction of this hospital are to be plenty of ground room, a building freely equipped with roof gardens, sun parlors and sleeping porches. The construction of the new hospital is to begin early in 1912.

Personal.—Dr. and Mrs. Joe Carter Weston have started for Europe.——Drs. D. R. Russell, E. A. Pond, Ralph A. Shiras, Joseph L. McDermott, Darwin De Lap and David Robinson have been appointed ambulance surgeons by the Hospital and Health Board of Kansas City.——Dr. Calvin C. Leeper, Braymer, has been reappointed president of the board of control of the State Industrial Home for Girls, Chillicothe.——Dr. Albert J. Campbell, Sedalia, has been elected a director of the Missouri Association for the Relief of Tuberculosis.——Lieut. Laurence C. Cook, M. C., N. G. Mo., Webb City, has been detailed to duty at the maneuver camp on the Texas frontier.

St. Louis

Wins Damage Suit.—Dr. George Tracewell, St. Louis, who entered suit against the United Railway Company of St. Louis for $20,000 actual and $10,000 punitive damages, on account of damages said to have been sustained by his forcible expulsion from a Wellston car in 1909, was awarded $5,000 actual damages and $1,000 punitive damages by the supreme court, May 24.

NEW HAMPSHIRE

New Head of Department.—Dr. Frederick P. Lord, Iowa City, formerly connected with the department of anatomy of the State University of Iowa, College of Medicine, has been secured as the head of the department of anatomy of Dartmouth Medical School, Hanover. Dr. Lord assumes his new duties at the beginning of the next college session.

New Hospital Dedicated.—The Bigelow Memorial Hospital, North Conway, erected for the use of the public by Mrs. Helen Bigelow in memory of her parents, was formally dedicated, May 18. The hospital is located midway between North Conway and Intervale. It is on the cottage plan, with all wards and operating departments on the first floor, and has accomodation for twenty patients.

NEW JERSEY

Bequest.—By the will of the late George A. Bertin, who died in Tunis, in December last, $100,000 is bequeathed to the Children's Seaside Home, Atlantic City.

Money for Preventorium.—Through the efforts of Mrs. J. Borden Harriman, a friend has contributed $50,000 toward the completion of the proposed additions to the buildings of the Tuberculosis Preventorium for Children, Farmingdale. It is said that $23,000 is still needed to bring up the capacity of the institution to its proposed 158 beds, and that $55,000 a year, of which $30,000 has already been pledged, will be required to support the institution.

Health Officers' Association Organized.—The Health Officers' Association of New Jersey met for organization, May 24, at Newark, thirty-three health officers, inspectors and members of local health boards being present. The objects of the association, as stated, are the advancement of knowledge relating to public health and sanitation, and the promotion of social intercourse among health officials. The active members include employees of local and state boards of health, that is to say, health officers and sanitary inspectors, while members of the State Board of Health and local boards of health are eligible to associate membership. The officers of the association are as follows: president, Chester H. Wells, Montclair; vice-president, John O'Brien, Jr., Plainfield; secretary-treasurer, J. Scott MacNutt, Orange, and chairman of executive committee, Dr. Edward Guion, Atlantic City.

NEW YORK

New Hospitals.—The necessary capital has been subscribed for a town hospital for the town of Union to be located in the Bible School building, Lestershire, which will be remodeled for the purpose. The hospital will have accommodation for at least thirty patients and is expected to be ready for occupancy by August.——Dr. Frank W. Sears, Binghamton, announces that his private hospital will be ready to receive patients June 15. The institution is to be known as the Terrace Hospital.

Objection to Hospital Clause.—The State Charities Aid Association has submitted a brief to the senate cities committee opposing those parts of the new charter for New York which would abolish the trustees of Bellevue and the allied hospitals and the board of inebriety and create a department of hospitals. The association says that the trustees of Bellevue and the allied hospitals have succeeded in establishing public confidence in Bellevue, and it would be unwise to dismiss them in the midst of their work. The brief also opposes the proposed department of hospitals on the ground that it would not in reality be a department of hospitals, as much of the hospital work would fall under the department of public charities.

New York City

Personal.—The following sailed for Europe on June 3: Dr. David J. Dickson, Dr. and Mrs. Alfred J. Newman, Dr. and Mrs. Julius R. Fabricus and Dr. and Mrs. William G. Wylie. ——Dr. Ernest Sachs has been appointed associate in surgery at Washington University, St. Louis.

Brooklyn Hospital to be Rebuilt.—Plans are in preparation for the rebuilding of the Brooklyn Hospital on DeKalb Avenue and Raymond Street. Twelve new buildings will be erected at a cost of about $1,000,000. A gift of $100,000 has already been received for the construction of a dispensary in memory of the late William H. Harriman.

New Official for Bellevue.—Dr. Walter H. Connolly has been appointed first deputy medical superintendent of Bellevue and the allied hospitals. This position was vacated in February when Dr. Winford H. Smith went to Johns Hopkins and Dr. George O'Hanlon, Kings Park, was advanced to fill the vacancy. If the Municipal Civil Service Commission approves the appointment Dr. Connolly will succeed Dr. O'Hanlon.

Boy's Health League Exhibit.—The De Witt Clinton High School has an association called the De Witt Clinton High School Health League, having about 1,600 members, which is holding an exhibit to show what they have accomplished in four months. They have been so successful and the power of the coming generation in bringing about better health conditions is so generally conceded that an effort will be made during the coming summer to organize all high schools throughout the country into a national league. It is proposed to send the exhibit out to other schools as a model.

Prevention of Infant Mortality.—The Health Commission announces in the Bulletin of May 23 the outline of the plan of the department to reduce the mortality of infants with especial reference to diarrheal diseases. Since May 1 the nurses detailed to schools in the congested districts where the death and birth rates are both high have been visiting the houses where the greatest number of births have occurred since June 1. Each nurse devotes half a day to this work and is required to have under her care seventy-five babies, making visits to each at least once in ten days, and keeping and forwarding daily reports and case records. After June 15 each nurse will be required to have 150 babies under her charge. Nine infants' milk stations have been opened in the city, at each of which a nurse is in attendance, and four more stations will be opened at an early date. During May lectures were given in the public schools to all girls over 12 years of age regarding the care of infants, and, where the need seems evident, "Little Mothers" leagues have been formed. Lecture centers for conferences with mothers with instruction as to the care of well babies and medical attendance for sick babies will be established in the recreation centers, recreation piers and play-grounds.

NORTH CAROLINA

Lightning Strikes Hospital.—St. Agnes Hospital at Raleigh was struck by lightning recently setting fire to the building and resulting in a loss of more than $3,000 to the structure. Fortunately no lives were lost.

College Notes.—Work has begun on the new building authorized by the legislature for the medical department of the university at Chapel Hill, and it is expected the building will be ready in September. The legislature appropriated $37,000 for this purpose.

Hookworm Hospital.—Dr. John A. Ferrel, Kenansville, assistant secretary of the State Board of Health for Hookworm, announces that a special field hospital will be established for the reception and treatment of cases of hookworm in the southeastern section of the state.

Large Endowment for Hospital.—The "Moses H. Cone Memorial Hospital of Greensboro" was incorporated by the secretary of state last week to build a mammoth hospital in Greensboro to cost $1,000,000 as a memorial to the most wealthy citizen of that town who recently died. Work will begin shortly. An auxiliary hospital will also be built at Blowing Rock.

OHIO

Tuberculosis Educational Contests.—Prizes were recently given to the school children of Cincinnati for the best tuberculosis alphabet. Through the cooperation of the Cincinnati *Times-Star*, the Cincinnati Antituberculosis League was able to make the campaign a great success from an educational point of view. Cardinal principles about tuberculosis were emphasized in the minds of thousands of young persons, and the results will be better health. The answer considered the best of all was: "A is for Alcohol, which men should not drink. It weakens their systems and makes their lungs a prey to the consumptive germs." Another letter from the prize-winning alphabet is: "F is for Fight. The only way to get rid of tuberculosis is to fight it and fight it hard." An alliterative contribution is found in the letter D: "D is for Determined Doctors, who fight damp, dusty, dirty dwelling-houses and deadly public drinking-vessels, which destroy, diminish and detract from domestic happiness and increase the death-rate from the dreadful disease, consumption." Mayor Schwab, who acted as one of the judges in the contest, praises the plan and says that it accomplished a vast amount of good in that it helped spread among the youth information regarding one of the worst plagues of the race. The complete prize-winning alphabet is printed in the *Journal of the Outdoor Life* for May.

PENNSYLVANIA

Legislature Thanks Mrs. Dixon.—In a resolution passed by the legislature, Mrs. Samuel G. Dixon, wife of the state commissioner of health, is thanked for the donation to the commonwealth of the Union Chapel at the Pennsylvania State South Mountain Sanatorium, Mount Alto, as a place of worship for the tuberculous patients at the sanatorium and the attendants.

Testimonial to Health Commissioner.—The board of health of the city of Erie has given a strong testimonial to the efficient work done by the State Department of Health in assisting the local health authorities to put down the recent typhoid fever epidemic in that city. The board especially commends the promptness of the response for assistance, the haste with which the body of assistants was dispatched, the thorough method of their work, and the efficient and competent work of the two nurses who were sent by the commissioner. City councils of Erie also adopted resolutions of thanks and appreciation for the excellent work accomplished by the State Department of Health.

Alumnæ Meet.—The thirty-sixth annual meeting of the Alumnæ Association of the Women's Medical College of Pennsylvania was held at the college building in Philadelphia, June 1-2. The fellowship fund of $500 for six months' study abroad was completed by the alumnæ during the session and was awarded by the recommendation of the faculty and the consent of the alumnæ present to Dr. Martha Tracy, Philadelphia, 1904, associate professor of chemistry and director of the laboratory of chemistry. An endowment fund committee was appointed with Dr. Blanca H. Hillman, 1905, chairman. This committee intends to raise $500,000 to equip more fully the laboratories, to increase inadequate salaries, and to aid in research work.

Philadelphia

Southwark Medical Library.—The contract has been awarded for the erection of the Southwark Branch of the Public Libary System of Philadelphia. The Committee on Medical Libraries of the Philadelphia County Medical Society hopes to have plans completed to install a medical book and magazine section when the building is finished.

College Additions.—Plans for the new five-story addition, 50 by 150 feet to be built on the south side of Cherry Street, west of Seventeenth, and for the new one-story dispensary 60 by 180 feet for the Medico-Chirurgical College have been

presented by the architect.——Plans are being prepared for alterations to the University Hospital, Thirty-Fourth and Spruce Streets, and for remodeling the Nurses' Home.

College Commencements.—The fifty-ninth annual commencement of the Women's Medical College of Pennsylvania was held May 31. Dr. Harvey W. Wiley delivered the address and thirty-two women received the degree of doctor of medicine. ——The eighty-sixth annual graduation exercises of Jefferson Medical College were held June 5. The valedictory address was delivered by Surgeon-General Charles F. Stokes of the United States Navy, and 117 men graduated. The Corinna Borden Keen Research Fellowship was awarded to Dr. Warren B. Davis (Class of 1910). This carries an award of $1,000 and a year's study and research in Europe or elsewhere.

Swimming for Public School Children.—With the consent of Alfred S. Eisenhower, chief of the bureau of city property, six of the city's free bath houses will be devoted to the use of public school children on certain days of each week during ten weeks beginning June 22 and ending August 31. Men and women teachers of swimming will be engaged and free lessons given to the boys and girls of the four grades. William A. Stecher, director of physical instruction, is responsible for this movement as he pointed out to the committee that the report of the coroner showed that 143 persons were drowned last summer.

Wholesome Food and Backward Children.—The University of Pennsylvania will conduct a psychologic clinic this summer and the effect of wholesome food on backward and mentally deficient children will be one of the special studies of the course. Mrs. Louise S. Bryant, of the Russell Sage Foundation, New York, who has made a special study of dietetics, will conduct these experiments. Working with Mrs. Bryant in the school attached to the clinic will be Miss Elizabeth Farrell, in charge of the ungraded classes in the New York public schools, and two specialists in the training of backward children, Miss Walsh and Mrs. Pfeifer, of the Russell Sage Foundation. Beside the work in the clinic and school, the parents of the children will be visited and instructions as to the selection and proper preparation of food will be given.

Personal.—Dr. James C. Wilson has resigned as professor of practice of medicine in Jefferson Medical College.——Drs. W. M. Late Coplin, Edward T. Reichert and J. Nicholas Mitchell have sailed for Europe.——Dr. Michael T. Prendergast is seriously ill in Ocean City, N. J.——Dr. George J. Holtzhausser sailed for Europe May 24.——Dr. Louis Fisher of the staff of the Mount Sinai Hospital was the guest of honor at a banquet given by the members of the staff of that hospital at Mosebach's Casino on May 26. Dr. Fisher has sailed for Europe.——Dr. Edwin A. Jerecki, chief resident of the Jewish Hospital, was given a testimonial dinner at the Mercantile Club, May 20, by the hospital staff and board of officers prior to his departure for Europe, May 27.——Dr. Alfred Stengel sailed for Europe June 8.——At a meeting of the medical staff of the Jewish Hospital the nomination of Dr. Myer Solis-Cohen and Dr. Hervey L. Bates were forwarded to the board of trustees to fill the two vacancies of pediatrist in the hospital staff. Both are chiefs of the children's dispensaries at the hospital.——Dr. George W. Norris has been elected visiting physician to the Episcopal Hospital, vice Dr. David L. Edsall, resigned.——Dr. John Henry W. Rhein has been elected professor of diseases of the nervous system in the Philadelphia Polyclinic and College for Graduates in Medicine.

VIRGINIA

Elections.—At the annual meeting of the South Piedmont Medical Society, held in Lynchburg, the following officers were elected: president, Dr. James S. Haile, Chatham; vice-presidents, Drs. Adam T. Finch, Chase City; Henry W. Dew, Lynchburg, Henry C. Beckett, Scottsburg, and Wm. O. Smith, Altavista; and secretary-treasurer, Dr. George A. Stover, South Boston.——The Staunton Post-Graduate Medical School, at its meeting May 10, elected Dr. Hunter B. Spencer, dean; Dr. Walter F. Hartman, Swoope, vice-dean; Dr. Alexander J. Burkholder, recorder, and Dr. John F. Armentrout, treasurer.

Personal.—Dr. George W. Brown, Saluda, has succeeded Dr. Oliver C. Brunk, resigned, as superintendent of the Eastern Hospital, Williamsburg.——Dr. Albert S. Priddy, Keysville, has been elected superintendent of the epileptic colony, Lynchburg.——Dr. Joseph S. De Jarnette has been reelected superintendent of the Western State Hospital, Staunton, and Dr. Wm. F. Drewry, superintendent of the Central Hospital for Colored Insane, Petersburg, and Dr. John C. King, superintendent of the Southwestern State Hospital, Marion.——Dr. Schuyler B. Moon has been appointed to succeed the late Dr. Adolph G. Hoen as director of the Pasteur Institute of Virginia at the University College of Medicine, Richmond.

GENERAL NEWS

National Antituberculosis Association to Meet.—The seventh annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at the Brown Palace Hotel, Denver, Colo., June 20 and 21, and on the latter day a meeting will also be held of the Southwestern Conference on Tuberculosis under the chairmanship of Dr. William M. Brumby, San Antonio, Tex. The work of the association will be under three sections; pathologic, clinical and sociologic. The subject for discussion in the advisory council is "Official Responsibility in the Tuberculosis Problem."

Ashford's Work in Porto Rico.—The astonishing record made by Major Bailey K. Ashford, Med. Corps, U. S. Army, in his fight against the hookworm in Porto Rico was testified to by Gov. George R. Colton, of that island, who arrived in New York from Washington on April 26 on his way back to San Juan. According to the *Army and Navy Journal*, he said that 300,000 cases of the hookworm had been cured in the island, and that the disease has been virtually eradicated in the towns and low country, though still prevalent in the coffee district and hill country, where about three-fourths of the population is affected, reducing the value of labor 50 per cent. Governor Colton considers the island ideal for a winter resort, and expects to see it soon become a Mecca for northern tourists in the cold months. Last year the island was visited by 8,000 tourists. The exterior trade of the island has grown from $17,000,000 in 1901 to $68,000,000 in 1910. The health and sanitation service has been conducted by the municipalities, but Governor Colton has been in Washington seeking congressional authority to designate an officer of the Medical Corps, U. S. Army, as director of sanitation, expecting to appoint Major Ashford to that position.

Elections in Special Societies.—The American Dermatological Association, at its thirty-fifth annual meeting held in Boston, May 25-27, selected St. Louis as the next place of meeting and elected Dr. Grover William Wende, Buffalo, as president; Dr. James Sullivan Howe, Boston, vice-president; Dr. James MacFarlane Winfield, Brooklyn, N. Y., secretary and treasurer, and Dr. William Allen Pusey, Chicago, councilor at large.—— The thirty-third annual meeting of the American Laryngological Association was held in Philadelphia, May 29-31; the following officers were elected: president, Dr. James E. Newcomb, New York City; vice-presidents, Drs. Frederick C. Cobb, Boston, and Burt R. Shurly, Detroit, Mich.; secretary and treasurer, Dr. Harmon Smith, New York City, and librarian, Dr. Joseph H. Bryan, Washington, D. C.——The American Gynecological Society held its annual meeting in Atlantic City, May 23-25, and elected the following officers: president, Dr. Howard A. Kelly, Baltimore; vice-presidents, Drs. Richard R. Smith, Grand Rapids, Mich., and John A. Sampson, Albany, N. Y.; secretary, Dr. J. Le Roy Brown, New York City (reelected); treasurer, Dr. J. Wesley Bovee, Washington, D. C. (reelected); and councilors, Drs. Reuben Peterson, Ann Arbor, Mich., Franklyn S. Newell, Boston, and Walter W. Chipman, Montreal. Baltimore was selected as the next place for meeting.

Yellow Fever Bulletin.—Although yellow fever seems to have been practically eliminated from the United States, Cuba and the Canal Zone by the measures adopted since the demonstrations of Reed and Carroll and their fellow workers concerning it, yet the disease is still a serious one in many parts of the world. In some of the West Indies, in Central and South America, and especially in Africa, the disease is practically always present. In West Africa, which is being rapidly opened up to settlement and exploitation, the disease is a serious handicap to the development of the country. In 1910 there were extensive epidemics on the west coast. Recognizing the importance of this disease the Liverpool School of Tropical Medicine has begun the publication of a monthly bulletin devoted exclusively to yellow fever. The first number has just appeared and its forty-four pages contain an interesting review of the yellow fever situation in all parts of the world. It contains a number of papers on this disease and discussions by eminent men at the last meeting of the Society of Tropical Medicine and Hygiene; abstracts from other journals, some editorial comment and a bibliography of the publications on yellow fever during 1910 and 1911. This bibliography will be continued and it is hoped to form a complete library on the subject of yellow fever. The School of Tropical Medicine deserves commendation and encouragement for this additional weapon in the fight against yellow fever.

Antivivisectionists' Prayers.—The following prayer has been circulated widely in England: "O God of mercy, send kind death to thy dear dumb creatures, left tortured and agonizing in the laboratories, when the vivisectors go home to dine and sleep." The petition is entitled "My Last Prayer at Night," and is signed by one C. L. Perkins, captain of the royal navy. Recently an attempt of the New England Antivivisection Society to get the clergymen of New England to offer this prayer called forth the following spirited letter from one of them, which appeared in the Boston *Herald*, May 17: "What a delicious paradox this is! Here is a man whose only business is, in time of war, to maim and slaughter his fellowmen, praying every night against those whose profession is to save human life. I think I see him at one moment urging his gunners to rake the enemy's decks fore and aft, yelling like an Ashanti, 'Give 'em h—l, boys!' and several hours later, kneeling in pink pajamas before his berth, slobbering a few maudlin tears over the cats and dogs and rabbits which he thinks the vivisectors have left in their misery. You have asked me, Captain Perkins, to adopt your daily petition as my own. I am almost willing to say yes, but on one condition. Will you offer a prayer of mine, not every day, but once in a while, at least? This is the prayer which I wish you, captain, and all others of your rank might offer: 'O God of nations, send kind death to thy poor soldiers and sailors left mangled and moaning after the battle, while the captains and the kings sit down to celebrate their victory in wine and song. Remember, we beseech Thee, the widows and little children made desolate by brutal conflicts of greed and plunder, brought on too often by an insensate thirst for glory and reward. Save us, our Father, from all who in their blindness foment jealousy between nations and hatred among races, and most of all from those who for the sake of gold would plunge their country into the hellishness of war.' But perhaps I have taken the captain and his prayer too seriously. The card is doubtless a new device in pamphleteering, and a rather clever one, were it not for the stupid blunder of giving the occupation of the writer. I cannot offer such a prayer as this. I know too well the blessings that vivisection has brought to mankind. For my part, I prefer to offer a prayer which will include both sides: for the vivisectors, that they may ever be kept from causing unnecessary pain; for the antivivisectionists, that they may be given that due sense of proportion which will turn them from misdirected sentiment and set their moral enthusiasm free for attacking the really great and sinister evils that beset society."

Permanent Commission for International Medical Congresses.—The offices of the permanent commission are at The Hague, but the first meeting of the commission was held at London in April with Dr. F. W. Pavy in the chair. Among the points considered was the request to include Spanish and Esperanto among the official languages of the international medical congresses. This request was voted down, it being considered inadvisable to add another to the official languages already adopted; in regard to Esperanto, it was stated that it is a language still too little known to be taken into consideration. The International Federation of Dentists had requested that dentists not possessing a medical degree might participate in the congress, but this was also voted down, the commission believing that it is necessary to maintain the general principle that only qualified physicians are eligible to membership in the congress. At the same time the commission calls attention to the statute in the regulations to the effect that scientists presented by national committees or by the executive board can be admitted to membership in the congress. The request of Canada and Poland to be allowed the right to be represented in the international permanent commission was denied, the commission having made it a principle that representation in the permanent commission is to be restricted to delegates from strictly national committees. The organized profession in lower Austria had petitioned for the creation of a section for medical economics, but the commission declined to consider this in view of the fact that all the congresses previously held have been of a purely scientific character and the commission desires to maintain this character.

One of the principal features of the work of the permanent commission is to keep in touch with the boards of international societies and congresses so that coincidences of time, place and subjects may be avoided, and the study of questions requiring international cooperation may be promoted and committees appointed for the purpose. It was voted that the permanent central offices for the international specialist medical congresses can be installed at the central office of the permanent commission. The president or secretary of the permanent boards of the international specialist congresses may be invited to attend the conferences of the permanent commission, and the secretary of the latter may be invited to attend the meetings of the permanent boards of the specialist congresses when subjects of mutual interest are to be discussed, but without the right to vote. The members of the permanent commission include ex officio the presidents and secretaries-general of the last and the approaching international medical congress, a secretary-general and assistant secretary, the president of the international association of the medical press, ex officio, and a delegate from each national committee, the delegate to be elected by the other members of the national committee.

The date for the next medical congress was appointed as August 6 to 12, 1913, the interval between the congresses having been lengthened to four years. The secretary-general is Dr. W. P. Herringham, 40 Wimpole Street, London, W. All suggestions and demands in regard to the international medical congresses should be made to the secretary-general of the permanent commission, Prof. H. Burger, Vondelstraat I, Amsterdam, or to the office of the permanent commission, in charge of P. M. van der Haer, assistant secretary, Hugo de Grootstraat 10, The Hague, Holland. Further particulars were given in THE JOURNAL, April 8, 1911, page 1074.

CANADA

New Sanatorium.—A new sanatorium is to be erected on the bank of the Red River in Elmwood, Winnipeg, by a company headed by Dr. A. D. Carscadden. The building will be four stories and a basement in height, 54 by 85 feet, and will cost $70,000.

Donations to Library.—Dr. Casey A. Wood, Chicago, has donated to the McGill University Medical Library a collection of rare works on diseases and surgery of the eye. Dr. Gordon W. Byers, Montreal, has added to this, 2,500 valuable reprints on ophthalmology. Dr. Wm. Osler and Sir Lauder Brunton have recently sent out a series of magnificent engravings for the new home of the library at Montreal.

Personal.—Dr. John T. Fotheringham, Toronto, is in charge of the medical services of the coronation contingent from Canada.——Dr. Roger Doyen, son of Professor Doyen of the Doyen Institute, Paris, France, is establishing a dispensary for the cure of tuberculosis cases in Montreal.——Dr. Ridley Mackenzie, Montreal, has returned from Europe.——Dr. Charles Kirk Clarke, superintendent of the Hospital for the Insane, Toronto, has been appointed superintendent of the Toronto General Hospital, vice Dr. John N. E. Brown, retired.

Dominion Anti-Tuberculosis Association.—The Canadian Association for the Prevention of Tuberculosis met in London, May 17 and 18, under the presidency of Dr. J. George Adami, Montreal. It was reported that the death rate from tuberculosis had decreased in ten years in Ontario from 11.8 per cent. to 7.6 per cent. A feature of the meeting was the report on the work of the "Hygienic Nine," bands of women of nine who conducted educational classes through the medium of hygienic lectures. Municipal health officers were criticized for their laxity in promoting campaigns with regard to tuberculosis. Dr. J. George Adami was reelected president and Dr. George D. Porter, Toronto, secretary. The next meeting will take place in Toronto.

Hospital News.—Toronto is to have a new private hospital with accommodation for sixty to one hundred patients. Dr. John N. E. Brown, late superintendent of the Toronto General Hospital, is to be in charge.——Dr. Charles K. Clarke, superintendent of the Toronto Hospital for the Insane, has been appointed superintendent of the Toronto General Hospital. Dr. Clarke is dean of the medical faculty of Toronto University. This will bring the two institutions into closer relationship.——Dr. William C. Barber, late of the Rockwood Hospital for the Insane at Kingston, is to establish a large private sanitarium at Orillia, Ont.——Dr. J. M. Forster, superintendent of the Hospital for the Insane at Brockville, has been appointed superintendent of the Toronto Hospital for the Insane.——Dr. John C. Mitchell of the Hamilton Hospital has been appointed superintendent of the Brockville institution.

Society Meetings.—Alberta Medical Association met in Edmonton the last week in April and elected Dr. Park, Edmonton, president; Dr. Frank W. Crang, Strathcona, vice-president, and Dr. George McDonald, Calgary, registrar.—— The fourth annual meeting of the Toronto Academy of Medicine was held in their new quarters in Queen's Park and the following fellows were elected as officers and council: president, Dr. Newton A. Powel; vice-president, Dr. Richard A. Reeve; past president, Dr. Harley Smith; honorary treasurer, Dr.

William A. Young; chairmen of sections—medicine, Dr. Graham Chambers; surgery, Dr. Herbert A. Bruce; pediatrics, Dr. John T. Fotheringham; pathology, Dr. John J. McKenzie; ophthalmology, Dr. Chas. Trow; state medicine, Dr. John S. McCullough, and elective members, Drs. John Ferguson, William J. Malloch, Herbert J. Hamilton, James F. W. Ross, Patrick W. H. McKeown, Alexander McPhedran, Fred N. G. Starr, and Edmund E. King.

Meeting of Ontario Medical Association.—The thirtieth annual meeting of the Ontario Medical Association was held in Niagara Falls, Ontario, May 30 to June 1, under the presidency of Dr. Henry R. Casgrain, Windsor, Ont., Dr. F. Arnold Clarkson, Toronto, acting as general secretary. The address in medicine was delivered by Dr. Thomas B. Futcher, Baltimore, who took for his subject "The Relationship Between the Ductless Glands and Carbohydrate Metabolism," and the address in surgery, by Dr. Alexander E. Garrow, Montreal. A resolution was adopted calling for provision to be made at each general hospital in the province for the care of tuberculosis cases. It also recommended that any general hospital refusing to provide wards for such cases should be reported to the provincial government and have their annual grant withdrawn. Another discussion receiving considerable attention was that of infant mortality, the chief health officer for the province recommending that mothers should be recompensed with a small sum when each of their children reached five years of age. The report of the special committee on the revision of the constitution was adopted whereby the Ontario Medical Association would become a branch of the Canadian Medical Association. The following officers were elected: President, Dr. Herbert A. Bruce, Toronto; vice-presidents, Drs. Frank E. Wilson, Niagara Falls, William Hall, Brampton, Frederick P. Drake, London, George H. Field, Coburg; treasurer, Dr. James H. Mullin, Hamilton; and general secretary, Dr. F. Arnold Clarkson, Toronto.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 27, 1911.

The National Insurance Bill

The medical profession, which is notoriously difficult to move in political matters, has been thoroughly roused by the national insurance bill, which threatens it with an economic revolution unprecedented in its history. Meetings to consider the bill are being held all over the country and a special representative meeting of the British Medical Association will be held in a few days. Both the medical and the lay press are deluged with letters from doctors protesting against the bill. The total conversion of practice among men with incomes below $800 into contract practice is viewed with dismay. The contract practice of the friendly societies is tolerated by the profession as a necessary evil because many of the members are not in a position to pay the regular fees and it has always been considered a grievance that patients who can afford to pay fees should be admitted into such societies. Under the present bill this would occur on a large scale, as many men with incomes from $500 to $800 can afford to pay, and do pay, fees. Moreover a large disadvantage, the magnitude of which is difficult to gauge, will be introduced by the admission of all persons, however weak or subject to disease. Under the friendly societies a medical examination has to be passed before admission. A strong feeling exists in the profession that payment should be made for work done and not by capitation fee. But this is open to the grave objection that it would encourage malingering, as the shortening of illness would be in the interest of neither doctor nor patient. It is also felt that no person with an income of $400 should be eligible for medical benefits. If payment is to be made by capitation fee, the one proposed, $1.25, is considered inadequate and a fee of $2 is suggested. The appearance of the bill has already affected doctors injuriously as practices are becoming unsalable. Many men are bitterly complaining that a practice for which a few years ago they paid $5,000 is quite unmarketable. It also seems that the bill will have a most injurious effect on the funds of the voluntary hospitals. At present much money is derived from contributions by employers and workmen. It is thought that when the bill becomes law the employers will not be so willing to contribute to the hospitals as they will already be compelled to contribute toward the sickness benefit of the men. The latter will also be less willing or less able to pay, as a compulsory deduction will be made from their wages under the bill.

The Census

A preliminary report has been made on the census which was taken at the beginning of this year. The population of England and Wales is found to be in round numbers 36,000,000—an increase of 3,500,000 over the last census in 1901. The percentage rate of increase is 10.91, which shows a diminution of the rate of the previous decade. In 1881 the percentage was 14.36, in 1891 11.65, and in 1901 12.87. The population of London is now 7,250,000, but this increase has taken place entirely in the "outer ring," where it amounts to 33 per cent. The development of tube railways, motor bus services, and electric transit generally has offered great facilities for getting out of the crowded centers. Hence there has been a great movement of population not only from the centers, but also from the inner to the outer suburbs. The population of Ireland, as in the past, shows a decrease. In the ten years this amounts to 76,824, or 1.7 per cent. The population now is 4,381,951. There are only three towns with a population over 50,000—Belfast, 385,492; Dublin, 309,272, and Cork, 102,274.

Is a Doctor a Workman?

An interesting legal point under the Workmen's Compensation Act has arisen in consequence of a doctor who had been house-surgeon at the Kidderminster Infirmary claiming compensation for injuries arising out of his employment. His salary was $500 a year with board and lodging. When he first took office there was no *x*-ray apparatus but after a time one was installed which it was decided to use in some cases of ringworm. Before doing so, after consultation with one of the honorary surgeons, it was decided to try the apparatus on the house-surgeon's arm to test the effect of the treatment. Though the application lasted only fifteen minutes the results were so serious that he had to submit to an operation on the arm and the wound took six weeks to heal. The applicant stated that the experiment was carried out for the benefit of the patients. Medical witnesses said that it was his duty to submit to experiment, although they admitted that his duties were prescribed by the rules of the institution which had not been altered since the apparatus was introduced. In giving judgment the judge said that it did not follow because a new knife was introduced a house surgeon should allow the knife to be tried on his body. According to the terms of the applicant's contract with the infirmary it was clear that the question of a dangerous experiment did not arise on his appointment. He accordingly dismissed the application but gave leave to appeal. The question whether the doctor was a "workman" within the meaning of the Workmen's Compensation Act was not definitely decided by the judge but the point on which he gave judgment and the leave to appeal indicate that he regarded the applicant as such.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 19, 1911.

Vital Statistics in France in 1910

The *Journal Officiel* will soon publish statistics for the population of 1910. The following are the essential figures, with a total population of 39,961,945.

Number of living births	774,358
Number of deaths	703,777
Number of marriages	309,289
Number of divorces	13,049

The births exceed those of 1909 by 4,389, but the advantage is very slight; the number is practically the same as that of the three preceding years, during which it was lower than it had previously been for more than one hundred years. In 1859, there were in France 1,018,000 births, and this figure was just about maintained up to 1868. Then it fell to 948,000. From 1868 to 1886 the figures began with a 9. After 1887 it was reduced to 899,000 and continued to be written with an initial 8 until 1906. For four years it has fallen to the figure 7, and the year 1909 also confirms this decadence.

The death-rate was extraordinarily low in 1910, but on close inspection not much reason for congratulation is found. If there are few deaths that is due, in great part, to the fact that there are few births. In fact, there were in 1910 only 90,000 deaths of children of 1 year of age and under. This figure, when compared with that of the births (774,358), represents a mortality of 12 per cent. In 1906 the mortality was about the same (14 per cent.), but as there were more births (807,000) this mortality produces 116,000 deaths or 26,000 more than to-day. Consequently, the diminishing of

the number of infantile deaths is due, not to improvement, for the chances of death remain about the same, but to the constant decline of the birth-rate.

Can this lamentable situation be improved? Dr. Jacques Bertillon, head of the municipal statistics of the city of Paris, believes that it can. In support of his view he cites the increased number of marriages which he attributes to the influence exercised by the law of 1907, which has simplified the formalities of marriage. The following are the number of marriages in France:

Before the law of June 21, 1907:

	First Semester	Second Semester
1902	152,890	141,896
1903	152,386	143,610
1904	152,454	146,267
1905	153,812	148,811
1906	154,800	151,687
1907	154,081	.....

After the law of June 21, 1907:

	First Semester	Second Semester
1907	.....	160,822
1908	162,495	153,433
1909	156,294	151,657
1910	156,761	152,728

In Belgium a similar law has exercised an analogous influence; marriages have become more numerous and earlier, while illegitimate births have become rarer and legitimate births have increased. Likewise, in Bavaria, a similar law has had important consequences on the birth-rate and the increase of the population. Dr. Bertillon believes, therefore, that there is no reason to say that the legislator is impotent against a moral evil. There is, he believes, no adequate physiologic or economic reason why France should not increase like all other countries.

Memorial to Dr. Mesny

The commission charged with the administration of the Carnegie Foundation for recompensing acts of heroism, has just awarded the golden medal with a gift of $5,000 (25,000 francs) to Mme. Gérald Mesny as a memorial of her husband, whose heroic death in Manchuria has been mentioned (THE JOURNAL, March 18, 1911, p. 826). Moreover, the members of the international conference on the plague assembled at Mukden, visited the tomb of Dr. Mesny at Harbin in a body and Dr. Broquet, delegate of the French government, made a touching speech.

New Director-General of the Vaccine Institute

On May 16, the Académie de médecine nominated a new director-general of the Institut supérieur de vaccine to succeed Professor Kelsch, who died last February. Dr. Robert Wurtz, agrégé professor at the Faculté de médecine de Paris and physician of the hospitals, was unanimously chosen. He is a son of the illustrious chemist who was one of the most distinguished professors of the Faculté de médecine de Paris. Dr. Robert Wurtz is known especially for his works on bacteriology, hygiene and epidemiology. He was, for a long time, in charge of the mission at Abyssinia, where he was on various occasions, called to give attention to Emperor Menelik. Some weeks ago, he visited Guinea and the Congo to study sleeping-sickness and other exotic diseases.

A New Procedure in Radiotherapy

At the same session, Dr. Béclère read before the Académie de médecine a report on the work of Dr. Haret, assistant in radiotherapy at the Hôpital Saint-Antoine, the introduction of the radium ion into pathologic tissues without breaking the skin. The procedure consists in employing electrolysis to make the radium, under the form of ions, penetrate through the skin into the cellular elements of the neoplasms. The technic is as follows: application on the diseased region of the positive electrode composed of a compress saturated with a solution of 10 micrograms of radium bromid; passage of a current of 10 milliamperes for thirty minutes; three sittings a week. Dr. Haret's therapeutic attempts along this line have as a scientific base a whole series of experimental researches on rabbits and young cattle. These researches have shown that electrolysis causes the radium ions to penetrate through the unbroken skin into the subjacent tissues, aponeurosis, muscle, periosteum and bone, and that it reaches the depth of at least 9 cm. (about 3½ inches), accumulates there in heavy doses and remains for more than fifteen days without injury to the healthy cellular elements or to the general condition of the experimental animal. These experiments have shown the harmlessness and the legitimacy of this new method of radiotherapy. The application of these experimental data to the treatment of neoplasms has already furnished Dr. Haret about ten observations, of which the most important concerned a large sarcoma of the shoulder-blade in a young woman of 27. This sarcoma, after having diminished considerably in volume under the influence of Roentgen rays, remained stationary with persistent pains, but after several treatments with radium introduced by electrolysis, the pain ceased, the tumor diminished and finally disappeared completely. Although this new method of radiotherapy has not always been followed with such favorable results, Dr. Béclère believes that it justifies serious hopes. Up to the present, it has been employed alone, but it may be predicted that it will often be combined advantageously with radium irradiations and that the domain of the application will be extensive like that of the Roentgen rays.

Diet in Typhoid Fever

At the same session, Dr. H. Vaquez, physician of the hospitals of Paris, called the attention of the academy to recent changes in the ideas with regard to the diet of typhoid patients. Some Russian and German physicians have not hesitated to depart from the strict milk diet, and Dr. Vaquez has followed their example by instituting various régimes of which milk still constitutes a part, but in which porridges, eggs, purées, creams and raw and rare meat are also used.

Some have considered this diet imprudent at least. It has been accused of causing grave complications, such as intestinal perforation and hemorrhage, and of augmenting the chances of relapse. To these altogether theoretical criticisms, Vaquez opposes facts. Varied diet in connection with systematic balneotherapy in 160 cases has resulted in fifteen deaths, of which three were caused by intestinal perforation. He has had only eight cases of intestinal hemorrhage, of which only two were serious. There were twenty-two relapses. These results are not materially different from those of the best statistics obtained with treatment by other methods. It should be added that the duration of typhoid fever was much shortened, and that, in particular, the period of descending oscillations was remarkably shorter. The fall of temperature often occurred, not as lysis, but abruptly, as in pneumonia. Complications connected with secondary infections were very exceptional. They were confined to four cases of phlebitis, three of pyelonephritis, one of cholecystitis, one of otitis and one of subcutaneous abscess.

Dr. Vaquez concludes, therefore, that varied diet in typhoid fever does not produce the ill effects which have been attributed to it, but that, on the contrary, it is capable of facilitating the favorable outcome of the disease and of protecting the patient from the secondary complications which so often make the prognosis unfavorable.

Personal

On May 9, the Académie de médecine elected a member in the section of pathologic anatomy to replace Dr. Lancereaux, who died last October. Dr. Achard, who was elected, was born in 1860. He was formerly a pupil of Professor Lannelongue and collaborated with Professor Debove in editing several manuals of medicine. He was physician at the Hôpital Necker, and last year was appointed to the chair of general pathology at the Faculté de médecine de Paris, where he succeeded Professor Bouchard.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 18, 1911.

Personal

Surgeon-General Dr. Villaret, a military surgeon of high rank, died May 9, aged 64. Villaret rendered a not inconsiderable service to the development of military sanitation and also showed a manifold literary activity, being especially widely known as the editor of the dictionary of universal medicine (*Handwörterbuch der gesamten Medizin*).

Increased Municipal Hospital Facilities

The deputation for municipal hospitals determined at a recent session to rebuild and extend the municipal hospitals to the extent that seems necessary as soon as possible. A hospital is to be erected for prostitutes and one for infectious diseases at the Urban Hospital and also a hospital for children in the south part of Berlin, in which nurslings and

children affected with whooping-cough shall be admitted. The erection of another large general hospital is considered not necessary in the immediate future on the assumption that mild cases, convalescents, contagious and tuberculous cases will be removed from the present municipal hospitals and provided for in homes, forest stations, pest houses, etc.

Campaign Against Tuberculosis in Rural Districts

Robert Koch assigned the spread of the disease in country districts and the lack of suitable efforts against it as one of the reasons for the fact that the reduction of the average mortality from tuberculosis in Germany and in many other European countries has come to a standstill during recent years. With his characteristic thoroughness he endeavored to discover the reason for this situation, and he gave the impetus to exact researches in those country districts of Prussia in which the tuberculosis mortality was the highest and the conditions for investigation were the most favorable. These studies were undertaken by Professor Jacob, a former assistant of von Leyden and on account of the recommendation of Koch himself were carried out with the assistance of the Prussian minister of education first in the Osnabrück district in the province of Hanover. The results of these studies have just been published by Professor Jacob. As his conclusions are of value, not only for the affected district but also generally for Germany and other countries as well, I give a summary of them here: According to Professor Jacob the tuberculosis dispensaries in the cities do not afford data for a clear idea of the conditions in regard to tuberculosis in the country. The inquiry would better be made in the homes of the peasants themselves by means of a question-blank filled out by especially trained visiting nurses. Medical examinations of children should be extended to all children attending school and as far as possible, to those who are not yet required to attend. For establishing the diagnosis of tuberculosis von Pirquet's test should be applied as far as possible. Medical examination of adults should be made in all cases of tuberculosis and all cases that are suspected to be tuberculous. For the purpose of more exact determination of the mortality from tuberculosis, an obligatory medical examination of dead bodies should be required for at least one or two years, with a corresponding remuneration for the physicians. All results obtained should be transmitted to a central aid station for the district and should be further elaborated by the chief. An important reason for the origin and spread of tuberculosis is to be found in the unhygienic character of the dwellings. In the country, particularly, tuberculosis for this reason may be put in the first place as a house disease. In addition, insufficient hygiene of schools with reference to the school houses and also the nutrition and care of school children in other matters, must be taken into consideration. The nutrition of children in the country by cow's milk is, almost without exception, completely inadequate. The same is true with reference to the supply of meat, eggs, fresh vegetables, etc Alcoholism is very wide-spread in the country districts. All these elements diminish the physical resistance of the people and increase the predisposition to tuberculosis. Cleanliness, especially care of the skin and of the teeth and clothing, is quite inadequate. Glandular tuberculosis is about as widely spread as among the children of the city population. Infection within the dwelling must be considered as the most important factor in the tuberculous infection of children.

No grounds for assuming a hereditary transmission were found. In a not inconsiderable number of children, transmission by flies plays a rôle. The origin of tuberculosis that is so widespread in adults must, for the most part, be referred to tuberculous infection in the home during childhood. The evils complained of ought to be opposed with the greatest energy. Dwellings must be improved and greater care must be taken for the schools to secure rational nutrition and care of the school children. The installation of school physicians in the country is to be generally recommended. The country population should be instructed with reference to the cause and cure of tuberculosis. Tubercle bacilli in the dwellings of tuberculous patients must be rendered harmless and disinfection should be made obligatory and gratuitously provided for all patients suffering with open tuberculosis and regularly after a death from tuberculosis. For disinfection the process of Lockemann and Kroner by means of paraformaldehyd and permanganate is to be recommended. Curable tuberculous patients should, as far as possible, be sent to sanatoria at the beginning of their illness. Healthy children must be removed from homes infected with tuberculosis and placed in others. Isolation of phthisical patients who are disseminating the bacilli is the most important of all measures in the campaign against tuberculosis

The Law Against Quackery

The same favorable testimonial cannot be given the Reichstag for its action in the matter of the law to regulate the unqualified practice of medicine as was given for the action on the vaccination question. The proceedings of the committee in which the bill is at present under discussion show constantly more plainly, as I have already indicated in my former report, that the parties intend to bury the bill in the committee and give it no chance to reach the Reichstag in full session.

Flower Days for German Charity

As in Germany we have no multimillionaires to rely on, the private philanthropy which assists the government in the field of charity is compelled to adopt the most various means and methods to raise the necessary money. The means hitherto employed in the most various forms, such as festival arrangements, bazaars, raffles and the like with which to induce well-to-do citizens to open their purses under more or less friendly compulsion, have exhausted their efficacy according to the general opinion, and therefore a new method has been determined on. This year in the various cities on definite days a number of young girls and children will sell flowers on the streets and in the houses and there is reason to hope from some examples that these flowers will be sold at an unusually high price to the advantage of the cause to which the money is to be devoted. June 24 and 25 in Berlin are to be flower days for mothers and children, the proceeds of which are to go to the institutions for the care of infants and the like. These arrangements will be supplemented by evening lectures, at which instruction on important questions in the field of social hygiene and the care of children will be given free to the public by physicians by means of lectures, moving pictures, etc. Previous to this on June 16 the central committee of the Prussian National Red Cross will hold a cornflower day (*Kornblumentag*) to raise funds to provide spa treatment for needy war veterans and for the building of the Red Cross home for veterans and for similar purposes.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, May 18, 1911.

First Austrian Congress on Tuberculosis

A few days ago, the first Austrian congress on tuberculosis was held in Vienna. At present, in our country there is no public general institution or central board dealing with this question, which has been left entirely to private—and therefore often commercial enterprise. The government, at last aroused to its duty, has called together this congress to organize and centralize the whole subject.

Hitherto, all efforts have been directed to the care of curable patients. Prophylaxis in the sense of making the incurable ones harmless—and these are the most dangerous ones—has been neglected. This congress has impressed on the lay public the importance of secluding the patients in the later stages of phthisis. Thus, there are only 400 beds open in the whole country for advanced tuberculosis patients; and only six tuberculosis sanatoriums are open in Austria, five of which are private commercial concerns. In seven public hospitals there are special tuberculosis wards, but these also try to keep away the hopeless cases; only one surgical pavilion is devoted to that disease, as well as one institute in Vienna. In eight seaside places there are convalescent homes for tuberculous children, and in twenty-one towns and hamlets there are small local committees, which give advice and help in cases of tuberculosis. These are all. Dr. Larisch, who read a paper on this subject, also pointed out that the government has lately turned its attention toward the occurrence of this disease amongst its servants and officers, chiefly in its industries, the prisons and the post-office service. Much more has been done by the workmen's and the merchant clerks' sick clubs (Krankenkassen). The head physician of the first-named institute, Dr. Docent Schiff, who supervises 320,000 wage-earners in Vienna, showed that the occurrence of tuberculosis among members of this Krankenkasse entails an expenditure of 1,250,000 kronen ($300,000) sick pay per annum, or about 20 per cent. of the total sick pay. The number of cases is 11 per cent. of all, while the number of sick days for tuberculosis is 23 per cent. of the total number. The patients of the Krankenkasse are paid full sick pay for twenty-six weeks, half pay for another twenty-six weeks. After one year of continued disease they are discharged! Thus, just those who most need help are left without it. In the merchant clerks' sick club a strict supervision of all suspected cases is organized. At the special hospital owned by the club the diagnosis is reached or attempted by all modern means.

Sixty district doctors are informed from there and each tuberculous patient is put on a list and reported on regularly by the doctor. Attention is paid to the social and other conditions of the patient. This club has also made arrangements to have its members cared for in open-air institutes and is the only club which receives incurable patients in its special ward. In another paper by Dr. Reisinger, the outlines of the proposed general organization were illustrated. The whole country is to be divided into small health districts. In the center of each a local committee, consisting of the district doctor, the head of the administrative board, the vicar and other prominent men, will have the power to supervise patients and their surroundings, to give advice in health matters, to inspect the sanitary conditions of stables and of human dwellings, to control the supply of milk, and to deliver lectures and give demonstrations pertaining to the subject. Two new measures, however, are indispensable if the desired effect is to be obtained: the compulsory notification of tuberculosis—at least to the local committee—and the appointment of "tuberculosis inspectors," equivalent to the existing malaria inspectors and pellagra inspectors. One of the results of the congress may be seen in the fact that the government has already found it suitable to grant a sum of 2,000,000 kronen ($500,000) for the preparatory arrangements of the above scheme.

Demonstrations Against a Severe Examiner

Professor Schauta, the well-known gynecologist and obstetric surgeon, was exposed to unpleasant demonstrations by students a short time ago on the ground that he had been too severe at the examination, having reprimanded more than 30 per cent. of the candidates during the last few months. The professor explained his attitude to the students in general by stating that his conscience did not allow him to accept from his students insufficient knowledge. The most precious good we have, the life of mothers and children, depended on the knowledge of the doctor. He could not believe that any but the very best qualifications were admissible. He concluded by saying that the best demonstration against him was sufficient knowledge. In the senate of the university and among the students generally, Schauta's attitude was approved, for just now when the increase of medical science is so very marked, a lessening of the requirements for passing would mean a deterioration of the quality of the young physicians.

Introductory Lecture by Ortner

Professor Ortner, who has taken over his clinic, has introduced himself to the students by a most lucid lecture entitled "Occult Diseases," in which he explained the correlations of organs generally not thought of. The lecture threw a vivid light on the methods of teaching of the new professor, and it must be stated that the impression was an excellent one. Among the large number of guests present the entire senate of the Vienna University and numerous officials were seen. The university has gained a really first-class man for its teaching duties.

Marriages

ALEXANDER BROWN DANCY, M.D., Jackson, Tenn., to Miss Mary Happel of Trenton, Tenn., a daughter of the late Dr. Thomas J. Happel, June 6.

ROSS EDWIN PRIDGEN, M.D., Oakland, Tex., to Miss Edith Lane Fox of Van Vleck, Tex., at Thomaston, Tex., March 14.

J. OSCAR BROWN, M.D., Big Cabin, Okla., to Miss Corrinne Arnold of Louisville, Ky., at Jeffersonville, Ind., May 21.

MALCOLM SUMNER WOODBURY, M.D., Clifton Springs, N. Y., to Miss Stella Baker of Kansas City, Mo., June 7.

CLARENCE LEON FESSENDEN, M.D., Sioux Falls, S. Dak., to Miss Ethel Millen of Syracuse, N. Y., June 6.

MARTIN HAGEN, M.D., Soldier's Grove, Wis., to Miss Edna May Johnson of Cashton, Wis., May 30.

JOHN L. LAIRD, M.D., Philadelphia, to Mrs. Gertrude Sturtevant of Wilkes-Barre, Pa., May 20.

FRANK LAWRENCE BAKER, M.D., Weston, Neb., to Miss Frances Jaffe of Lincoln, Neb., May 21.

J. FRANK DENNIS, M.D., Waterloo, Ia., to Miss Hilda A. Tracy of Spickard, Mo., May 2.

WALTER HAROLD SCHEEL, Utica, N. Y., to Miss Gladys M. Head of Chicago, May 23.

Deaths

Isaiah F. Everhart, M.D. University of Pennsylvania, Philadelphia, 1863; a member of the Medical Society of the State of Pennsylvania; philanthropist and naturalist of Scranton; who endowed the Everhart Museum of Natural History in Scranton; a medical cadet and later assistant surgeon of the Eighth Pennsylvania Volunteer Cavalry, and surgeon of the Sixteenth Pennsylvania Volunteer Cavalry during the Civil War; surgeon of the Ninth Pennsylvania State Guards during the strike of 1871; for seven years a member of the medical staff of the Lackawanna Hospital; died at his home in Scranton, May 26, from cerebral hemorrhage, aged 71. A bronze statute of Dr. Everhart, presented to Scranton by Dr. B. Harry Warren, West Chester, is to be dedicated this month.

Francis Marion Prince, M.D. Jefferson Medical College, 1849; one of the oldest and most esteemed practitioners of Jefferson County, Ala., and a resident of Jonesboro and later of Bessemer; died at the home of his daughter in Glen Iris, Birmingham, May 17, from cerebral hemorrhage, aged 83. Dr. Prince was a member and once vice-president of the Medical Association of the State of Alabama; a charter member of the Southern Surgical and Gynecological Society; a member of the Tri-State Medical Association of Alabama, Georgia and Tennessee; for several years president of the Jefferson County Medical Society, and first president of the Bessemer Medical Society. He served throughout the Civil War as surgeon and medical inspector in the Confederate service.

Augustine S. Mason, M.D. Medical College of Virginia, Richmond, 1855; a member of the American Medical Association; surgeon in the Confederate service and chief surgeon of the military department of Richmond throughout the Civil War; for nearly fifty years a practitioner of Hagerstown, Md.; died at his home, May 26, from arteriosclerosis, aged 77. Washington County Medical Society, at a special meeting, adopted resolutions setting forth the brilliant qualities of Dr. Mason and deploring his death.

Benton M. Hall, M.D. Tulane University, New Orleans, 1900; a member of the Medical Association of the State of Alabama; a hospital steward during the Spanish American War; formerly a practitioner of Texas and Colorado, where he was obliged to go on account of his health; died at his home in Huntsville, Ala., May 16, from tuberculosis, aged 35.

Mark D. Ethridge, Memphis (Tenn.) Hospital Medical College, 1902; a member of the American Medical Association, and for several years a practitioner of Sandersville, Miss.; who lived for a time in Silver City, N. M., where he was obliged to go on account of his health; died in Meridian, Miss., May 14, from tuberculosis, aged 32.

Robert Lee O'Brien, M.D. Baltimore University, 1904; a member of the American Medical Association; secretary of the Eastern Colorado Medical Association and local surgeon of the Burlington System at Akron, Colo.; was found crushed to death under his automobile near that place, May 30, aged 34.

Edward Arthur Dakin, M.D. Hahnemann Medical College, Philadelphia, 1881; of Boston and Magnolia, Mass.; a member of the Boston Gynecological and Surgical Society; died in the Addison Gilbert Hospital, Gloucester, Mass., May 22, from septicemia, due to an abrasion of the instep, aged 58.

Augustus Greely Eliot, M.D. College of Physicians and Surgeons, New York City, 1843; a former practitioner of New York City; one of the founders of the New York Academy of Medicine, visiting physician to New York and Bellevue Hospitals, died in Rostock, Germany, May 10, aged 90.

John B. Cook, M.D. University of Southern California, Los Angeles, 1890; a member of the medical staff of the California Hospital, Los Angeles; for five years physician to the State Reform School, Whittier; died at his home in Los Angeles, May 20, from cerebral hemorrhage, aged 43.

Bertha Hastings Campbell, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1891; of Anadarko, Okla.; a member of the Oklahoma State Medical Association and a pioneer practitioner of Logan County; died in the El Reno Sanitarium, May 12, aged 46.

Cyrus C. Paxson (license, Kansas, 1901); for twenty years a practitioner of Bolton, Kan., and for the last six years a resident of Independence; died in the Montgomery County Hospital, May 18, from cerebral hemorrhage, following a fracture of the hip, aged 74.

Joseph T. Pindell, M.D. University of Maryland, Baltimore, 1865; a medical cadet in 1864 and then for two years surgeon in the army; at one time a member of the council and mayor of Wellsville, Kan.; died at his home in that city, May 22, from nephritis, aged 81.

John H. Dennard, M.D. Atlanta (Ga.) Medical College, 1893; a member of the Medical Association of Georgia and at one time mayor of East Point; local surgeon of the Seaboard Air Line; died at his home in East Point, May 21, from hemorrhage, aged 38.

John H. Whitenack, M.D. Medical College of Indiana, Indianapolis, 1874; superintendent of the pharmaceutical department of a wholesale drug house of Indianapolis; was stricken with apoplexy, May 23, and died in an ambulance while being taken to his home.

Andrew Guffin Cooper, M.D. Indiana University School of Medicine, Indianapolis; of Scircleville, Ind., intern in the Indianapolis City Hospital; aged 29; was almost instantly killed in a collision between the hospital ambulance and a street car, May 14.

John D. McGirk, M.D. University of Pennsylvania, Philadelphia, 1871; founder of McGirk's Sanitarium at Philipsburg, Pa., and a member of the borough council from 1865 to 1868; died at his home in Philipsburg, May 25, from senile debility, aged 76.

Clarissa Van Yeomans, M.D. Hahnemann Medical College, Chicago, 1870; for more than twenty years a practitioner of Clinton, Ia.; died at the home of her daughter in Grand Crossing, Chicago, May 6, from senile debility, aged 89.

Dalton Stewart McCarthy, M.D. Trinity Medical College, Toronto, 1893; of Hemet, Cal.; a member of the American Medical Association; died at the home of his parents in Orangeville, Ont., May 14, from nephritis, aged 41.

Robert Atkinson, M.D. University of Maryland, Baltimore, 1854; founder and for thirty years president of the Atkinson Private School for Boys, Baltimore; died at his home in Baltimore, May 21, from pneumonia, aged 79.

Peter Follman, M.D. Ecole de Médecine, Paris, France, 1860; a practitioner of the United States since 1863, and a resident of Mankato, Minn., since 1869; died at his home in that city, May 17, from cerebral hemorrhage, aged 84.

Elbert C. Macy, M.D. Hahnemann Medical College, Chicago, 1885; a veteran of the Civil War; for forty-five years a practitioner of Pleasanton, Ia.; died recently at his home, and was buried, May 13, aged 66.

Alpheus Prince, M.D. University of Buffalo, N. Y., 1883; a member of the pension examining board of Byron, N. Y.; died at the home of his son in Ithaca, N. Y., May 18, from nephritis, aged 55.

John Francis Baker, M.D. Long Island College Hospital, Brooklyn, N. Y., 1890; of New Haven, Conn.; died at St. Raphael's Hospital in that city, May 21, after a surgical operation, aged 50.

Albert Hamilton Hayes (license, Massachusetts, years of practice, 1894); of Boston; was overcome by heat in a subway station in Boston, May 22, and died a few moments later, aged 71.

Pierre M. Fourguette, M.D. Faculté de Médecine, Paris, France, 1882; for several years physician of the French Society of New Orleans; died at his home in that city, May 21, aged 53.

William Burgess Brengle, M.D. Rush Medical College, 1879; a member of the Oklahoma State Medical Association; physician of Noble County; died at his home in Perry, May 18, aged 58.

William Robert Anthony Wilson, M.D. College of Physicians and Surgeons, New York City, 1895; formerly of Peoria, Ill.; died at his home in Pittsfield, Mass., May 13, aged 41.

William Protzman, M.D. Cincinnati College of Medicine and Surgery, 1882; one of the oldest practitioners of Lincoln, Neb.; died at his home, May 23, from senile debility, aged 82.

William McKee Eldon, M.D. Jefferson Medical College, 1888; formerly a member of the American Medical Association; died at his home in Roaring Spring, Pa., May 18, aged 51.

G. E. Milton Smith, M.D. University of Maryland, Baltimore, 1888; of Baltimore; died at the Church Home and Infirmary in that city, May 22, aged 43.

John Bugbee Hartwell, M.D. Albany (N. Y.) Medical College, 1856; died at his home in Lockport, N. Y., May 2, from arteriosclerosis, aged 82.

George P. Shoemaker, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1882; died at his home in Hendley, Neb., May 4, aged 58.

Charles Henry Hamilton, M.D. Rush Medical College, 1873; died at his home in Dubuque, Ia., May 28, from erysipelas, aged 68.

Daniel H. Whitford, M.D. Bennett Medical College, Chicago, 1878; died at his home in Elgin, May 17, aged 58.

William H. Pickford, M.D. Jefferson Medical College, 1881; died at his home in Philadelphia, May 15.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

PIX CRESOL

W. A. Puckner and W. S. Hilpert

In a paper on "The Abuse of Chemical Formulas"[1] several examples were given of the various methods employed by "patent medicine" concerns to give standing to their products by assigning to them a chemical formula. In some cases the formulas given are impossible, in other cases they may represent the chemical composition of only one constituent or it may be an attempt at both. To a chemist such formulas are absurd and on seeing a formula which he knows to be wrong he naturally thinks "Fake," "Ignorance," or both. Just such a formula ($C_5H_6N.SO$) applied to a product called Pix Cresol, manufactured by the "Pix Cresol Chemical Co., Kansas City, Mo.," attracted our attention. No mention of such a formula can be found in such works as Richter's most complete Index of Carbon Compounds, nor the three supplemental volumes published, 1901-1905, by the German Chemical Society and Beilstein's Organic Chemistry (3rd Edit.). This fact, supplemented by inquiries from correspondents as to the composition of the substance made it seem worth while to make a chemical examination of it.

The examination was made and showed that the essential constituent was oxyquinolin sulphate. As potassium sulphate was also found it was concluded that Pix Cresol was a preparation containing a mixture of oxyquinolin sulphate and potassium sulphate, which has also been known in the past under the proprietary name, "Chinosol." At this time a letter was referred to the laboratory containing the report of an analysis of Pix Cresol, which showed the presence of oxyquinolin sulphate but no potassium sulphate. As this indicated that Pix Cresol contained as its essential constituent the substance now sold as Chinosol, the laboratory purchased a new specimen of Pix Cresol from the Chicago representatives of the Pix Cresol Co. The examination[2] of this specimen showed that it consisted of approximately 21 per cent. oxyquinolin sulphate, about 8.3 per cent. potassium sulphate and the remainder almost entirely milk sugar.

It is evident, then, that both the specimen of Pix Cresol obtained directly from the manufacturers and also the one purchased more recently from the Chicago agent, contain as an essential constituent Chinosol of the composition sold formerly. The substance now sold under the name Chinosol and described in New and Nonofficial Remedies is pure oxyquinolin sulphate, and as the exploiters of Pix Cresol probably obtain their supply of oxyquinolin sulphate from the Chinosol Company, the sole American agents for Chinosol, it is to be

1. Puckner, W. A.: Report of the Chemical Laboratory of the American Medical Association, iii, 7.
2. The analytical details will be published in the annual report of the laboratory.

expected that Pix Cresol should change in composition. It is probable that the analysis referred to the laboratory deals with a more recent specimen than the two examined in the Association laboratory.

EDITORIAL NOTE: In view of the Council on Pharmacy and Chemistry's findings,[3] viz., that chinosol is a powerful antiseptic but a feeble germicide and considering that Pix Cresol contains but 21 per cent. oxyquinolin sulphate, the absurdity of the following claims made for Pix Cresol require no further comment:

"Pix Cresol is an Absolutely Sure and Yet Perfectly Safe, Never Failing Destroyer of Pus (*Staph. Pyogenes Aureus.*)"

"It is germicidal, bactericidal, bacillicidal. It is certain as a microorganism destroyer. It destroys absolutely."

"Ridding the blood of germs, it aids in rendering it replete with oxygen———."

"It kills the germs."

"No organism that is causative of morbid processes can withstand it."

"It destroys microorganisms of all kinds. It destroys them absolutely."

"The germ's tenacity of life does not avail against its action as germicide."

"It destroys the spores and toxins utterly."

A further estimate of the pseudo-chemical company, bearing the name of this "strongest, safest, least expensive medical antiseptic, disinfectant and deodorizer known" may be gained by a cursory glance at some of its "specialties":

"Maizinin compound, Positive Chill and Malaria Specific" the firm says, "prepares the parasites for execution by the leukocytes." It is said to contain arsenic, while the name implies the presence of some plant drug.

"Psora, the Syphilis Specific," is a shot-gun mixture said to be "the scientific combination of the soluble Triple Iodids with the active principles of Echinacea, Cascara amagra, Berberis aquif., and Phytolacca rad.," and is claimed to make "the syphilitic lesions disappear and fail to return."

"Rectoids—Cones for the treatment of all rectal trouble," are said to be "a combination of Rectin (Pix) compounded from Buckeye, Collinsonia, Hammamelis, Belladona, Pix Cresol."

"Tablets for the Female—Pix Cresol Utcrettes," it is said, "for sanitary purposes may be continued forever . . . "

When one realizes that this sort of pseudo-scientific twaddle is accepted by many physicians at its face value, the outlook for therapeutics seems dark, indeed. So long as the existence of such concerns is tolerated by the medical profession, so long will there be a crying need for a "Propaganda for Reform in Proprietary Medicines."

Correspondence

Long Beach and the Los Angeles Session

To the Editor:—I was sorry not to see more in the Los Angeles Number of THE JOURNAL about Long Beach, the largest (17,500 people) and most popular beach suburb of the convention city. The trolley service between here and the city is a twenty-minute one and the journey, 22 miles, is covered in forty-five minutes. It is a city of easterners almost entirely, nearly every state being represented. We have good schools, including a $150,000.00 polytechnic high school.

While we have a "Pike," and an 1,800-foot pier stretching out into the ocean, large hotels and apartments, amply able to accommodate enormous crowds, we have one distinction (our greatest asset, and that for which we are best known as a pleasant place for a man to send his family); we have no saloons.

Many physicians will be glad to know that they can bring their families to such a place and be with them at night without missing a single session and, further, that the family will be in good surroundings and on the beach for their recreation time instead of in the crowded city.

We have Dr. Evans in our auditorium (seating 6,000, and on the pier), on June 23, on the subject of "The Great White Plague."

THOMAS L. ROGERS, Long Beach, Cal.
Secretary-Treasurer, Long Beach Medical Society.

Pilocarpin in Pruritus

To the Editor:—In your article on pruritus in THE JOURNAL (April 8, 1911, p. 1034), you omitted reference to the internal use of pilocarpin in pruritus. It will be found of exceptional value in the pruritus so often accompanying influenza, the pruritus of jaundice and pruritus vulvæ. Atropin combined with pilocarpin checks the sweating and salivation, which otherwise are liable to occur.

Dose:

Pilocarpin .....gr. 1/4
Atropin .....gr. 1/100

Give only when the pruritus commences.

JOHN J. REID, M.D., New York.

The Physician's Opportunities in the Foreign Field

To the Editor:—In recent copies of THE JOURNAL I noticed something in regard to medical missions. A beautiful picture in the life of our Lord Jesus Christ while on earth is given by Luke the beloved physician in the fourth chapter of the Gospel according to Luke, verses 33 to 44 inclusive. I quote from it:

"And Simon's wife's mother was taken with a great fever; and they besought Him for her. And He stood over her, and rebuked the fever; and it left her; and immediately she arose and ministered unto them. Now when the sun was setting, all they that had any sick with divers diseases brought them unto Him, and He laid his hands on every one of them, and healed them.

"And devils also came out of many . . . And the people sought . . . that He should not depart from them. And He said unto them, I must preach the Kingdom of God to other cities also; for therefore am I sent. . . . "

China, Arabia, Burmah, Laos, India, China, the great unoccupied fields of central Asia, Mongolia, Afghanistan, Turkestan, Manchuria, the Philippines and many other islands of the sea, are all crying out to-day for the ministry of healing, and offer to the Christian physician a glorious field of service. Men like Livingston, Parker and Morrison have given luster to the medical profession.

The mission boards are calling for medical men now, some for my field, Korea. The first resident Protestant missionary to Korea was Dr. Horace M. Allen, who by ministering to the severely wounded prince in the early days, received the royal favor of the emperor of Korea, whose favorable attitude toward missionaries and mission work did much to open that land to the gospel. The needs of the people in these lands for intelligent medical service is indescribably great. They gladly avail themselves of the physician's ministry. Medical supplies, instruments, the dispensary and eventually a hospital are usually supplied the physician by the board he represents. Sometimes these hospitals are the gifts of the people on the field in appreciation of the doctor's services as in the case of Dr. Allen's fine hospital in Madras, India.

Diseases met in these lands cover a wide field; diseases of the eyes, skin diseases of children, difficult obstetric cases (the normal cases usually being seen by midwives), a wide field of surgicel cases, tuberculosis, and the diseases peculiar to those lands, leprosy, beriberi and many others, offer a field for special investigation and study for those who so desire. Above it all there is a terrible heart-rending cry of suffering going up from these non-Christian lands which should reach

3. Council on Pharmacy and Chemistry Reports, 1910, p. 47.

the heart of the Christian physician and cause him prayerfully to consider his own relation to this call and the willingness to meet it, remembering the words of our Lord Jesus Christ, the great physician: "Inasmuch as ye have done it unto one of the least of these my brethren ye have done it unto Me."

In addition to the actual work of the medical missionary there is a great field for medical teaching. The object of the medical mission work is primarily to win the people to Jesus Christ using healing as a means to this end and in answer to our Saviour's command: "Go ye into all the world and preach the gospel to every creature."

In our own field in southern Korea there is a call now for two medical missionaries. Information as to this call may be obtained by writing to Dr. S. H. CHESTER, Secretary Executive Committee on Foreign Missions, Southern Presbyterian Church, First National Bank Building, Nashville Tenn.

To those who are interested in further information concerning medical missions, most helpful and interesting information may be obtained from the following sources:

Medical Missions, by Wanless, price 25 cents.
Murdered Millions, by Dowkont, price 15 cents.
The Supreme Decision, by George Sherwood Eddy, price 10 cents.
The Work of the Medical Missionary, price 15 cents.

These and others can be obtained from Mr. W. B. SMITH, Candidate Secretary, Student Volunteer Movement, 125 East Twenty-Seventh Street, New York City.

W. H. FORSYTHE, M.D., Mokpo, Korea.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SPOROTRICHOSIS

To the Editor:—I have recently noticed articles in THE JOURNAL on sporotrichosis. I can find nothing in the text-books on the disease and am anxious to know where I can find something on the subject, fully setting forth just what it means.

S. C. BROADSTREET, Mt. Pleasant, Texas.

ANSWER:—Sporotrichosis is described in recent books on skin diseases (Stelwagon, Hyde, Pusey, etc.). In his paper "A Case of Sporotrichosis in Man" (THE JOURNAL, May 6, 1911, p. 1312), Dr. H. J. Harker gives a bibliography which includes the principal contributions on this subject in English literature. Reference may also be made to the article by Dr. R. L. Sutton ("Sporotrichosis," THE JOURNAL, Sept. 17, 1910, p. 1000) which gives a rather full bibliography.

BACTERICIDAL EFFECTS OF ALCOHOL AND CHLOROFORM

To the Editor:—1. How long will it take 94 per cent. commercial alcohol to kill the ordinary pus-producers?

2. Which will kill a germ most quickly, 60 per cent. or 94 per cent. alcohol? (a) on the skin and (b) in glass bottles.

3. How long will it take an anesthetic, such as ether or chloroform, to kill pus-producers?

L. T. S. HOTTENDORF, M.D., Randolph, Utah.

ANSWER.—1. Several hours. Ten per cent. alcohol restrains the growth of bacteria, but an alcohol of nearly absolute strength is required to *kill* bacteria, and even this is not efficient against spores.

2. The stronger alcohol is more efficient, both on the skin and in glass bottles.

3. We find no statement with regard to the bactericidal activity of ether. Chloroform is active in 1 per cent. solution. A considerable period of contact would be required.

RED CLOTHING AND ACTINIC RAYS

To the Editor:—With great interest I read your editorial on "The Use of Orange-Red Underclothing in the Tropics" in your issue of May 20. This editorial contains the following sentence: "Orange-red underclothing and hat-linings were chosen on account of the known resistance of this color to the actinic rays of the sun." Can you tell me where I can find some scientific data regarding this fact?

E. E. BLAAUW, Buffalo, N. Y.

ANSWER.—The use of red underclothing and hat-linings is simply an adaptation of the well-known principles governing the proper construction of a "dark room" for the development of negatives. The "Century Dictionary" says that such a room is one "from which all actinic rays have been excluded. . . . This dark room is not without light, but its light is of a quality which in no way affects the plate." As red objects owe their color to the fact that they transmit only that part of the light whose combined effect on the eye is red, it follows that the ultraviolet or actinic rays, which lie at the other end of the spectrum, will not easily pass through the orange-red material. For a full discussion of the principles of light and heat absorption and radiation see "Elementary Treatise on Physics," by Ganot, translated from the French by E. Atkinson. Wm. Wood & Co., New York, 1906. For further elaboration and application of these physical laws to the point in question see "Effects of Tropical Light on White Men," by Major Charles E. Woodruff, U. S. Army, Rebman Publishing Co., New York, 1905.

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 3, 1911.

Wolfe, Edwin P., major, granted one month's leave of absence, to take effect about July 1, 1911.

Wolven, F. Homer, D.S., reported for temporary duty at Fort William H. Seward, Alaska.

Lowe, Thomas S., M.R.C., left from temporary duty at Fort Apache en route to Douglas, Ariz., for field duty.

Clark, John A., captain, leave of absence extended twenty days.

Carter, Charles S., C.S., reported for duty at Fort Morgan, Ala.

Kunckel, George I., D.S., ordered to temporary duty at several posts in the Department of the Gulf.

Phillips, Hiram A., lieut., reported on ten days' leave of absence.

Lynch, Charles, major, ordered to Boston on special business pertaining to the American Red Cross.

Ballard, James C., M.R.C., reported for temporary duty at Fort Miley, Cal.

Wales, Philip G., major, ordered to Washington, D. C., for examination for promotion.

Ashford, Mahlon, lieut., granted leave of absence for two months with permission to apply for extension of one month.

Kinard, Kerwin W., M.R.C., recently appointed, ordered to active duty and assigned to station at Fort Ethan Allen, Vt.

Hughes, Leonard S., 1st-lieut., relieved from duty with maneuver division and ordered to Fort Clark, Texas, for duty.

Boyer, Perry L., captain, relieved from duty at Fort Clark, Texas, and ordered to Chicago, Ill., for duty as attending surgeon, headquarters, Department of the Lakes.

Hall, James F., captain, relieved from duty as attending surgeon, headquarters, Department of the Lakes, Chicago, and ordered to Fort Strong, Mass., for duty.

Lombard, Marion S., M.R.C., recently appointed, ordered to active duty and assigned to duty with troops at target range, Ashland, Neb.; on completion of this duty assigned to him will stand relieved from active duty in M. R. C.

Heflebower, R. C., lieut., left Fort Bayard, N. M., on twenty days' leave.

Hoff, John Van R., colonel, ordered to make inspection of medical departments at several posts in the Department of the East.

Medical Corps, U. S. Navy

Changes during the week ended June 3, 1911:

Berryhill, T. A., medical inspector, detached from the marine recruiting station, New York, and ordered to the naval medical supply depot, Brooklyn.

Brownell, C. D., surgeon, detached from the naval hospital, Las Animas, Colo., and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment..

Stepp, J., surgeon, ordered to the *Missouri*.

Moran, C. L., P. A. surgeon, commissioned passed assistant surgeon from Feb. 10, 1911.

Hough, F. P. W., and Rhoades, G. C., P. A. surgeons, commissioned passed assistant surgeons from April 11, 1911.

Smith, W. B., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to the Naval Academy.

Hayden, R., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Academy.

Smith, C. W., asst.-surgeon, detached from the *Dubuque* and ordered to the *Nashville*.

Mackenzie, E. G., P. A. surgeon, commissioned passed assistant surgeon from Dec. 28, 1910.

Woodland, E. E., and Ledbetter, P. B., asst.-surgeons, commissioned assistant surgeons from May 4, 1911.

Malkin, G. M., acting asst.-surgeon, ordered to the navy recruiting station, Baltimore.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 31, 1911.

Lumsden, L. L., P. A. surgeon, granted fifteen days' leave of absence from May 29, 1911.

Babrenburg, L. P. H., P. A. surgeon, granted one month's leave of absence from June 1, 1911.

Edwards, George P., A. A. surgeon, granted thirty days' leave of absence from June 1, 1911.

Naulty, C. W., Jr., A. A. surgeon, granted eighteen days' leave of absence from May 31, 1911.

Thompson, W. R. P., A. A. surgeon, granted ten days' leave of absence from May 24, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE LEAGUE FOR MEDICAL FREEDOM

Collier's Weekly, June 3, prints the following editorial under the caption: "Liberty":

Protests from readers have greeted our criticism of the League for Medical Freedom. Also a protest is telegraphed from the California branch of the league. In the minds of most of those who protest, the principal objections are to the following positions taken by us: 1. That the league contains the kind of men who opposed the pure food act. 2. That the activities of the league are against public welfare and frequently surreptitious. Our answer follows:

1. B. O. FLOWER, one of the nine founders of the league, and now in his second term as president of it, was PRESIDENT OF "THE R. C. FLOWER MEDICINE COMPANY" from 1885 to 1899. R. C. FLOWER is the notorious quack and general humbug whose latest arrest was as late as 1908. B. O. FLOWER wrote the league's pamphlets on "Bubonic Plague" and "The Compulsory Medical Inspection of School Children." His views on patent medicine are often expressed. For instance:

> I believe that a great majority of the proprietary medicines are infinitely less dangerous to the public than the majority of regular doctors' prescriptions.

2. C. W. MILLER, second vice-president of the league, was also one of the founders. In his newspaper, which publishes patent medicine advertising, he has constantly fought the medical profession. Last year one of his addresses against what he calls a "doctors' trust" was delivered to the Dairy Association in Baltimore. We may say in passing that *Collier's* does not believe in freedom to sell tuberculous milk any more than it does in freedom to sell tuberculous meat.

3. MRS. DIANA BELAIS, a director and also a founder, has appeared before in this paper as president of an anti-experiment society, a well-meaning, ignorant, reckless, and muddle-headed agitator. We are officially informed by the chairman of the "committee on publicity and education" of the league that Mrs. BELAIS was made a director "because of her courageous efforts to secure a higher law in New York State than the doctors' cruel theories and professional arrogance." Here's to anti-experiment, meningitis, diphtheria, and freedom!

4. DR. C. S. CARR, who is on the advisory board, edits a pseudomedical sheet. *Collier's* long ago printed a letter signed "The Peruna Drug Company, per CARR." As editor of "Medical Talk for the Home," he carried advertisements of many of the medicines exposed in *Collier's* in our series on "The Great American Fraud." He is now editor of the *Columbus Medical Journal*, which he at once turned from an ethical sheet into a sheer fraud. Look at the issue of May, 1909. On the front cover is a picture of CARR himself writing: "All drugs are poison. All druggists are poisoners." On the reverse side is an advertisement beginning: "Prescribe Antikamnia and Codein tablets in la grippe, headaches, etc." Hurrah for freedom and Peruna!

5. GEORGE P. ENGLEHARD, who is on the advisory board, has for a long time in his journals [*Medical Standard* and *Western Druggist*] defended the patent-medicine interests.

6. CHARLES HUHN, also a member of the board, is a prominent officer in a cooperative patent-medicine concern.

7. Another founder was a member of the advertising agency which is now spending for the league the money which it puts into its advertising campaigns.

The league says it did not oppose any "sanitary or quarantine laws." This statement requires some hardihood, as the hearings of the Senate Committee on Health, and more especially of the House Committee on Foreign and Interstate Commerce, show. It would interest us to know whether the league can point out a single health bill introduced in Congress which it has not opposed. When the leaders wish to oppose a sanitary or quarantine law they do it on the ground that such a law would *indirectly* "lead to compulsory and discriminatory legislation."

The league was nominally born recently, but those who make it up had already as individuals, and even as organizations (such as the Colorado League for Medical Liberty) opposed State and National legislation. A pamphlet published by the Colorado branch singles out *Collier's* for attack, and was written by a notorious quack doctor. In California, which was the special theme of our former editorial, if the league should prevail, the next threat of bubonic plague would be carried out, instead of being suppressed like the last; small-pox might again become a serious epidemic; school children would bear their ills as best they might. A bill was introduced ordering that the Board of Health be composed of two "allopaths" (a school which does not exist but is a hostile term for regular physicians), two homeopaths, two "eclectics," two osteopaths. It did not pass!

Some leading homeopathists and osteopathists, be it said, are in favor of a national health bureau and strongly against the agitations of the league. DR. FRANCIS B. KELLOGG, president of the California State Homeopathic Society, in an address recently said: . . . "In my opinion there is an effort being made to exploit the homeopathic profession by influences and interests which are indirectly but radically opposed to the welfare not only of practitioners of medicine in general, but to that of humanity itself. I refer to the effort to enlist homeopathic support for the so-called National League for Medical Freedom."

PLATO complained that in his day doctors made too sharp a distinction between the body and the mind. In our day the best class of physicians frequently recommend faith cure and Christian Science, and the Emmanuel movement is an indication that it is possible for science and religion to work together in healing. Few mere observers rate the benefits that Christian Science has brought to the community more highly than we do. A belief which so frequently brings about an actual improvement in character, disposition, bodily health, and mental atmosphere, deserves the most serious recognition, even by those who regret its hostility to the progressive science of medicine. It is possible at times, for clever designers to use members of any faith for disastrous purposes. When R. C. FLOWER was at the height of his career, in 1907, as manufacturer of diamonds, vender of fake mining stock, wearer of most ingenious disguises, traveler under assumed names, and general artist in gold bricks, he conceived the idea of playing for profit upon the earnest beliefs of the followers of Mrs. EDDY. One of his accomplices, a woman, who also used an assumed name, worked the game with him, and when Dr. FLOWER, alias Mr. CORTLAND, took up the cudgels in defense of Christian Science, without being requested to do so, he said:

> Not that I am one of its disciples, but I like to see every one FREE TO PRACTICE MEDICINE AS HE WISHES.

Here we have the very words themselves from old Doc FLOWER. Up with freedom!

Everybody who believes in "freedom" in medicine is within his natural and political rights in supporting this league. *Collier's*, not believing in this species of "freedom," is also within its rights in treating the league as a menace, the make-up, bias, and purpose of which ought to be fully understood.

THE TUBERCULOSIS BILL IN COLORADO

The Denver (Colo.) *News* for May 18 says, regarding the bill passed by the legislature requiring the registration of patients suffering from tuberculosis:

The bill for the registration of tuberculosis is a bill to recognize facts, and deal with them as facts. It is a fact that tuberculosis is an infectious disease. It is a fact that every case of tuberculosis is caught, directly or indirectly, from some other case. It is a fact that the careless consumptive is a source of serious danger to the community. It is a fact that this danger to the community can be almost absolutely abolished by attention to a few simple rules of conduct; rules which make for the patient's comfort as well as for the community's health.

The bill recognizes these facts. The bill seeks to safeguard the public health from the greatest and deadliest disease in the world. . .

The opponents of the bill act as if it were a new thing in American legislation, and predict all manner of dire results which will flow from it, if it becomes a law. As a matter of fact, the bill is not new. . . . [It] is practically identical with the laws now in force in eighteen states; and some of these the most progressive states. California, Connecticut, Iowa, Illinois, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, New York, New Jersey, New Hampshire, Pennsylvania, Rhode Island, Vermont, Washington and Wisconsin have this law now. So has the District of Columbia. All told, 49,784,000 persons, or 54 per cent. of the entire population of our country, are living now under this law—and finding no inconvenience from it whatsoever. Talk about

the oppression the law will cause is idle in face of the fact that a majority of the American people have already tested the law, and found no oppression in it.

And wherever it has been in force for any considerable time, tuberculosis is beginning to retreat.

The liberty to transmit a wasting and destructive plague is hardly one of the sacred and inalienable rights of mankind.

MEDICAL LEGISLATION IN ILLINOIS

Since proposed medical legislation was reviewed in this department of THE JOURNAL, May 13, the Illinois State Legislature has adjourned, after passing the following bills:

S. B. 174, to create a sanitary inspection board to be appointed by the state food commissioner, to regulate sanitary conditions of creameries and food factories.

S. B. 235, to enable the State Board of Health to issue temporary licenses to senior students in colleges having a course extending over five years.

S. B. 263, to appropriate $20,000 per year to the State Water Survey for the purpose of investigating the public water-supply.

S. B. 264, to increase the number of state factory inspectors, and to provide for an additional physician on occupational diseases.

S. B. 422, to abolish the common drinking cup.

S. B. 475, to prevent goods, wares and merchandise delivered to any house in which contagious disease exists from being returned at any time to the seller of such goods, wares and merchandise.

H. B. 53, to provide compensation for municipal officers who furnish burial permits on certificates of death.

H. B. 55, to prohibit city councils from enforcing the tuberculin test on dairy herds.

H. B. 140, to provide for the equipment of a state surgical institution for children under 14 years of age.

H. B. 250, to provide for the protection of the public health by minimizing the causes of occupational diseases.

H. B. 434, to allow counties to erect and operate branch county hospitals.

H. B. 460-61, to empower the Chicago Board of Education to establish and maintain schools for deaf, dumb, crippled, blind, subnormal, dependent and delinquent children.

H. B. 642, to make an appropriation of $60,000 per year for the equipment, maintenance and extension of the College of Medicine of the University of Illinois.

The bill to establish a state sanatorium for consumptives failed to become a law; although a bill passed the senate carrying an appropriation of $100,000, and one passed the house, with an appropriation of $25,000.

H. B. 493, to provide for adequate registration of births and deaths, died in the house. Three attempts were made to pass this bill without success. Further consideration was postponed to a later day.

H. B. 608, which authorizes boards of education to appoint one or more school nurses "to have general oversight and supervision of the health of pupils in the public schools, to visit the public schools for the purpose of examining into the condition of health of pupils and to consult with teachers and parents regarding means of improving the health of pupils and the sanitary conditions of the public schools and to make recommendations to the board of education or the board of school directors concerning the result of such investigations," passed both houses but Governor Deneen has been asked by the State Board of Health to veto it.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

KANSAS: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MICHIGAN: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH CAROLINA: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Medical College Voluntarily Closed

The following letter has been received from Dr. J. M. Frankenburger, dean of the University Medical College of Kansas City: "At the last meeting of the Board of Trustees of the University Medical College, the following resolution was adopted. We dislike very much to close our doors but think it best to do so at this time, while we are in good standing in every respect." The following is the resolution:

"The University Medical College, during the thirty years of its existence has endeavored to teach medicine according to the most approved methods and has always kept in the forefront of all advances therein. It has therefore been favored to a remarkable degree with the confidence of the medical profession, and points with much pride to the general character of excellence of its graduates and to the marked success and standing which they have held.

"Medicine in the past generation has probably made greater advancement toward the goal of scientific exactitude than any other of the learned professions, and to it has been added a greater wealth of increased knowledge than has been achieved in centuries before. With these great achievements has arisen the necessity for much more highly educated men capable of mastering these enlarged fields of knowledge, and corresponding revolutionary advances in the standards and demands of medical education. Great laboratories with trained specialists in research lines who devote their exclusive time to research work and teaching have become an essential in the equipment of institutions which expect to remain in the forefront of future progress. These laboratories require vast sums of money for their equipment and maintenance to say nothing of the necessary salaries of expert teachers who in this work are shut off from the emoluments of private practice. In consequence the expense of educating a modern physician has in many of our leading institutions been found to run as high as $1,000 per year for each student. The tuition fees however are in few schools more than $250 a year, and in the University Medical College are only $100. To maintain its position in advanced medical education therefore it is evident that no school can be self-maintaining on the basis of its tuition fees as its only source of income. Such education is only possible where endowments are available. Such endowments are lacking in the University Medical College. Up to the present time our work has been equal to the best and to-day we are recognized by the Association of American Medical Colleges and by the Council on Medical Education of the American Medical Association, as one of the four standard schools of the State of Missouri.

"Such a rank and standing however can obviously not be maintained long in the future progress of medical education without endowment. Therefore be it resolved: That the trustees of the University Medical College of Kansas City, Mo., proud of its past, loyal to its many high-class graduates, and devoted to the highest interests of a grand profession, rather than suffer a lost prestige or accept any lesser position among the medical schools of America, do now in view of future necessities, and in the assurance of its present high rank, and for the good of future progress in medical education in Kansas City, and the State of Missouri, announce that with the end of the present teaching year it shall surrender its dearly loved privilege to those institutions financially able to meet the demands of future education in medicine."

The Anesthetist.—The anesthetist should be thoroughly skilled in local, venous, spinal, rectal and general anesthesia. He should be conversant with the minutest details in connection with all its branches, and be competent to carry them out. A special study should be made of the different drugs employed, more especially of the newer preparations. He will then be in a position to teach the student a subject which is of the utmost importance to the public at large.—E. C. Ryall, in the *Practitioner*.

Book Notices

THE SOCIAL EVIL IN CHICAGO. A Study of Existing Conditions with Recommendations by the Vice Commission of Chicago (a Municipal Body Appointed by the Mayor and the City Council of the City of Chicago) and Submitted as Its Report. Chairman, Dean Walter T. Sumner, 117 North Peoria Street, Chicago. Paper. Pp. 368.

It is largely owing to the efforts of the medical profession that a new interest has been aroused regarding questions relating to sexual vice and a new sense of danger to the public welfare from the institution of prostitution has been excited. The problem is seen not only to involve a relaxation of public morals, but to threaten even the existence of the race. As a consequence of this increased interest, the so-called vice commission was appointed by the mayor of Chicago to investigate conditions in that city. In this investigation the medical aspects of the question were given due consideration and the commission contained in its membership five physicians whose advice and special knowledge were of great value. The general as well as the medical public naturally await with great interest the conclusions of this body which after long deliberation has now presented its report. This report is a book of 358 pages containing the conclusions of the commission with detailed statements of the facts on which these conclusions are based.

The commission availed itself to some extent of the work of previous investigators, but also gathered information as to local conditions at first hand by statistical and detective work, carefully verified, so that the conclusions are believed to be reliable. While the exact figures are chiefly of local interest, the estimates and conclusions which have been very conservatively drawn, cannot fail to be of value to other students of the problem. The vice conditions are essentially similar in all cities, but the vice of the large city draws so extensively on smaller cities and villages for support and patronage that it becomes, to a large extent, the vice of the country as well, and the disease engendered by this disgrace of civilization is spread throughout the land. Especially to the country physician who must often meet and care for the results of city vice, this distribution of the evil must be of special interest.

The practical conclusions of the Chicago investigation are summed up in a program which is expressed as follows: constant and persistent repression of prostitution as the immediate method, absolute annihilation as the ultimate ideal. For carrying out this program two agencies are proposed: the appointment of a morals commission and the establishment of a morals court.

The report deals in detail with the present conditions in Chicago. The exploitation of vice is shown to be a vast commercial enterprise involving about 5,000 regular prostitutes with a larger but unknown number of semiprofessional and clandestine prostitutes. The profits of this business are estimated at at least $15,000,000, annually of which a large share goes to the disorderly saloons, a considerable part to men who control and live on the unfortunate women, and a portion at least is used to secure protection from the law and influence political action. The relations of the evil with saloons, the police, economic conditions, especially the influence of poor wages, long working hours, and fatigue on the moral stamina of women, and the manner in which various places of amusement are made accessory to vice and contribute to the downfall of girls, are the topics of detailed discussion.

Among the remedial measures the commission includes the treatment of venereal diseases, the better supervision of homes, a revision of the criminal law, more skilful treatment of semidelinquent women, more rational treatment of the cases of arrested women, of the occasional prostitutes, of unmarried mothers, and more adequate provision for professional prostitutes.

In the report of the commission the medical aspects of the social evil are appreciated at their true value. It is not to be expected that such a work should afford any comprehensive treatment of this subject. The pathologic effects of the evil are plainly, but conservatively stated. The chief interest, however, centers in the medical methods of control proposed. These are:

1. Registration of venereal disease.
2. Segregation of the infectious.
3. Supervision of candidates for marriage.
4. Registration of births.
5. Compulsory treatment of the eyes of new-born babes.
6. Hospitalization of infected prostitutes.
7. Hospitalization of those innocently infected.
8. A study of eugenics.

In reference to venereal disease the discussion develops nothing new except the proposed extension of the powers of the health department and the apparent sanction of the commission to methods of individual prophylaxis. The report states:

"Under the police powers now granted by the state, except where specifically limited by statute, the department of health could quarantine persons when notified of venereal disease in them by physicians. To secure proper enforcement of this right, it should be specifically guaranteed by statute." "The health department should have the right to inspect prostitutes by a legal extension of the right granted to it to inspect other persons exposed to contagious disease. This will require an amendment of the statute which interferes with the logical right of the health department in this particular." The report evidently intends that these large powers shall be conscientiously and thoroughly exercised. The following is the program of examination:

"The examination of infected persons by the department of health should include: (a) physical; (b) laboratory; (c) gonorrhea by microscope; (d) syphilis, by microscope and Wassermann blood-test; (e) quarantine in hospital; (1) in homes when under age; (f) notifying of venereal disease to department of health; (g) names of all infected persons supplied to department of health."

That this is a large program cannot be denied. Logically it would apply to the infected male as well as to the female and it would be unjust and probably inefficacious to make a discrimination. At any rate such a program needs thorough education of the people to the dangers of these diseases before such measures for their suppression can find sufficient support to render them effective.

The apparent attitude toward medical examination of prostitutes and personal prophylaxis after intercourse is striking. It might have been expected that the timidity or prejudices of the lay members of the commission would have prevented the discussion of this somewhat tabooed subject or secured some condemnatory statement. We are glad to see that this is not the case. No thorough discussion of the subject is undertaken and *réglementation* is by no means officially approved. But there is evidently a fair recognition of the fact that prophylactic examinations may under proper regulations effect a diminution in the amount of venereal disease and the usefulness of certain methods of prophylaxis after intercourse is recognized. This is not to say that there is any minimizing of the value of moral and educational measures of prophylaxis.

The great importance of this report is hardly to be overestimated. It should form the subject of careful study and it is to be hoped that by the early institution of some of the measures recommended, the extent of the social evil may be considerably reduced.

THE ANATOMIC HISTOLOGIC PROCESSES OF BRIGHT'S DISEASE AND THEIR RELATION TO THE FUNCTIONAL CHANGES. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Cloth. Price, $5 net. Pp. 227, with 45 illustrations. Philadelphia: W. B. Saunders Co., 1910.

This is an unusually well-illustrated and well-printed book. The illustrations are partly colored pictures of pathologic kidneys and partly reproductions of microphotographs.

The book contains lectures delivered in the Russell Sage Institute of Pathology during the winter of 1909. They are interesting and give the results of extensive experience, and careful thinking; they are purely pathologic or as the author puts it, have to do with the "morphology of nephritis."

The author deprecates the use of the terms "parenchymatous," "interstitial" and "diffuse." He also regards as

equally objectionable "the terms 'acute' and 'chronic,' for they not only do not describe with any degree of precision the time limit of nephritis or the rapidity of its formation and its progress but they have lost in the course of pathologic investigations any definite significance with regard to a particular process or group of processes." His classification of kidneys changed by Bright's disease may be summarized as follows: nephritis simplex is represented mainly by varying combinations of parenchymatous degenerations and inflammatory edema but require no descriptive term such as "degenerativa" "exudativa," "hemorrhagica" and "prolifera," which describe varieties. "When in such kidneys, loss of parenchyma occurs with connective-tissue growth and vascular changes the term 'nephritis degenerativa et productiva' is used." The term "nephritis productiva" is used as synonymous with "interstitial nephritis." These forms of nephritis are described in detail and illustrated fully and well.

This book is interesting not so much for its descriptions as for its excursions into general pathology and physiology, as applied to renal diseases. For instance, the second lecture is largely devoted to a discussion of the different views of the functions and their relations to pathologic changes.

The excursions into the field of general pathology consider such subjects as degenerations, edema, inflammation, cardiac hypertrophy and other heart changes; arteriosclerosis and their relation to nephritis. The history of our knowledge of these subjects and the varied views held by pathologists are fully given and judiciously considered.

The author believes that many chronic cases of nephritis in middle and late life are due to degenerative changes in kidneys which were effected in early life by some infection and from which it was supposed that there had been perfect recovery. The possibility of the latter he doubts.

He also believes that tube casts are not of definite uniform character and derivation. "Epithelial cells, by granular disintegration and subsequent hyaline transformation can furnish material for their formation." "A colloid secretion is furnished by the epithelium and may produce casts or such a substance may be formed by degeneration and transformation of the cells and lastly both of these substances may fuse with an inflammatory albuminous exudate." He does not believe that cylindroids have the same origin or significance as casts.

Pathologists will enjoy this book, though they may not agree with its author in all things. Others who wish to inform themselves about pathology as applied to Bright's disease can find nothing better or more up to date.

CHOLERA AND ITS TREATMENT. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., Physician, Cholera Wards, Medical College Hospital, Calcutta. Oxford Medical Publications. Cloth. Price, $4. Pp. 236. New York: Oxford University Press, 1911.

This work reviews the history of cholera epidemics, including the recent prevalence of the disease in Russia. The causation, pathology and clinical description, including diagnosis and prognosis, are discussed in separate chapters, but the chief interest of the work centers in the final chapter on treatment. The author shows that the mortality has maintained a high figure, approximating 60 per cent. under all previous forms of treatment. This mortality has been reduced, according to Rogers, to 23.3 per cent. by the use of intravenous injections of hypertonic saline solutions and the administration of permanganates by mouth. The book, while not of immediate practical value to the majority of physicians, will be read with interest by those who desire special information on this subject.

A MANUAL OF GYNECOLOGY. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital. Cloth. Price, $5 net. Pp. 632, with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This book, while not complete, is a valuable contribution to diagnosis and treatment in general gynecologic disorders. The author has outlined the pathologic teachings on endometritis up to the present and has indicated the significance of the blood-count in inflammatory conditions of the pelvis. In cases in which the etiologic factor is positively determined, he recommends the employment of bacterins, especially in gonorrheal infections. In the treatment of procidentia he clings to the questionable procedure of ventral fixation, although under the vaginal technic he describes the vaginal operation and its limitations. Eden gives the old Emmet technic for complete lacerations in detail but omits to mention the advantages which are gained by the Tait operation. The description of the operation for retroflexion is extremely valuable. The indications are given for conservative operative procedure, and the symptomatology of uncomplicated retrodeviations of the uterus are recognized. The limitations for the Alexander-Adams operation are definitely stated, and the advanced views on this subject are given.

DIE AKUTE POLIOMYELITIS BZW. HEINE-MEDINSCHE KRANKHEIT. Von Dr. Ivar Wickman, Privatdozent am Karolinischen Institut zu Stockholm. Paper. Price, 5 marks. Pp. 108, with illustrations. Berlin: Julius Springer, 1911.

This monograph of 108 pages is an unchanged reprint of the section with the same title from the "Handbuch der Neurologie," edited by M. Lewandowsky and published by Springer. The various phases of the disease are considered carefully and fully, especially the symptomatology and the epidemiology and full notice is taken of the recent work on the etiology. This is probably the best discussion of the epidemiology that we have; the rôle of abortive cases and healthy carriers in spreading the disease is clearly shown in the author's study of Swedish epidemics. At the end is a good bibliography. The name *Heine-Medinsche Krankheit* was suggested by Wickman some years since in order to include under one term all the forms of clinical disease caused by the virus of acute poliomyelitis; the spinal, the bulbar, the encephalitic, etc. It does not seem at all necessary to introduce this name into English literature. Indeed, it may be doubted whether its introduction will ever serve any real useful purpose.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. Bathe Rawling, M.B., B.C., F.R.C.S., Surgeon with Charge of Out-Patients, Demonstrator of Practical and Operative Surgery, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital. Fourth Edition. Cloth. Price, $2 net. Pp. 96, with 29 illustrations. New York: Paul B. Hoeber, 1911.

This is a very neat and comprehensive little volume of about 90 pages. Most of the illustrations are from the justly popular retouched photographs, while certain necessary outline diagrams are added where they can better elucidate the subject. The text is strictly limited to the scope expressed in the title, and the author has shown considerable restraint in carefully avoiding any suggestion of surgical application of the abundant material furnished, contenting himself with adhering to the original special purpose and maintaining the handy size of his volume. It is a very convenient book for the student and the busy practitioner.

MANUAL OF CYSTOSCOPY. By J. Bentley Squier, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Morocco. Price, $3 net. Pp. 117, with illustrations. New York: Paul B. Hoeber, 1911.

This is an admirable primer of cystoscopy, worthy of recommendation as a truthworthy guide to beginners in the inspection of the vesical walls. Both text and illustrations are instructive.

Medicolegal

Circumstances Under Which a Patient Cannot be Charged for Services Rendered at Another's Request

The First Appellate Division of the Supreme Court of New York in Edson vs. Hammond (127 N. Y. S. 359) reverses a judgment for services recovered by the plaintiff and orders a new trial. It says that a brother of the defendant sought to have him adjudged a lunatic. To take charge of the medical side of the case he employed an alienist, who employed other alienists. The defendant, after a hearing, was committed to Bellevue Hospital, and was then transferred to a private sanitarium. At the latter, he became ill, and, although he had his own physician, the latter was not notified to attend

him, but the alienist above mentioned called on the plaintiff to attend him professionally, he being informed that his new patient was accused of being a lunatic. The plaintiff found the defendant unconscious when he called on him, and, having made his diagnosis, was told by the alienist to continue his treatment of the case, which he did. The defendant remained unconscious about two days, and the plaintiff visited him professionally for about two months, making two blood and four urinary examinations.

It was conceded that the defendant never made any request that the plaintiff attend him, either to the plaintiff or to any other person, nor did the defendant promise to pay the plaintiff for his services, nor make any payment on account of his bill. Liability was sought to be predicated on the theory that, when a physician is called by a third person to attend a patient in a serious condition, he can recover from the patient when his services are accepted without objection, and that this is so even when the patient is unconscious and therefore not able to acquiesce. This proposition was sought to be sustained by two cases: Sceva vs. True, 53 N. H. 627, and Cotnam vs. Wisdom, 83 Ark. 601. The general rule deducible from these cases is thus stated: "Where a physician renders services to a patient, either under an express employment or with his consent, the law raises an implied promise on the part of the patient to pay him what the services are reasonably worth. So, also, where in a proper case a physician renders services to a person without his request or consent, or where one is injured by an accident rendering him unconscious, the law will imply a promise from him who received the benefit of the services to pay for them." 30 Cyc. 1596. The last sentence quoted rests on the authority of the Arkansas case, and of Pray vs. Stinson, 21 Me. 402.

But in the case before the court even the doctrine of the Arkansas and Maine cases would not warrant a recovery beyond the services rendered on the two days when the defendant was unconscious; nor would it seem to justify a recovery for physician's services rendered to one accidentally injured, even if rendered unconscious, where immediate attention is not required, and particularly in a city where a free ambulance service exists, and where free hospital treatment is furnished by the municipality. The natural course there to pursue is to call on the gratuitous service thus provided, and the rule founded on the necessity and humanity of other cases does not apply.

As to the other visits, liability was sought to be attached on the ground that the defendant did not protest against, or object to, the attendance of the plaintiff. To establish this liability, three things should have concurred: (1) The defendant should have known that the plaintiff was attending him professionally. (2) He should have been in such a condition, mentally and physically, that he was free to object or protest. (3) He should have either expressed his assent to the plaintiff's attendance or failed to object thereto.

As to the first requirement, it appeared that the defendant was constantly being visited at the sanitarium by physicians in the employ of his brother, engaged as alienists to examine into his mental condition. The names of nearly twenty such alienists appeared as having then visited and examined him, and the defendant said they all felt his pulse, looked at his tongue, examined the nurse's record and talked with him, many of them leaving medicine for him, and most of them wanting him to take medicines. He could not protest against their presence, for he was in restraint and under observation, even though he was allowed to drive out with his own attendants. There was no proof that he ever regarded the plaintiff as anything else than one of these alienists, whose visits he was required to receive. There was no proof that the samples of blood and urine submitted for examination were obtained with his knowledge, or that he knew of the use to which they were to be put. On this record, it cannot be said that the defendant ever knew that the plaintiff was attending him professionally.

As to the second requirement, the fact that the defendant was under restraint and that he was required to permit the visits of all these physicians, as well as his then mental condition, might furnish reason for his failure to protest. He was not told that his own physician was trying to visit him, nor did it appear that he had any knowledge that he was physically ailing. As to the third requirement, it was conceded that he never verbally ratified the plaintiff's employment, nor did he protest against the same, which is explained by the discussion of the two preceding requirements.

The court is not now concerned with the question of who may be responsible for payment for the plaintiff's services, save in so far as it is called on to determine that, on the record, the defendant is not responsible. Nor is the situation changed by cases holding that the professional privilege existed to a sufficient extent to prevent the divulgence of information acquired by a physician called in by a third party to attend a person in a comatose state.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Climatological Association, Montreal, Canada, June 13-14.
American Medico-Psychological Association, Denver, June 19-20.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Oregon State Medical Association, Los Angeles, Cal., July 10.
South Dakota State Medical Association, Pierre, S. D., June 14-16.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting, held at Atlantic City, N. J., May 23-25, 1911

The President, DR. REUBEN PETERSON, Ann Arbor, Mich., in the Chair

The Treatment of Placenta Prævia at the Sloane Hospital for Women

DR. EDWIN B. CRAGIN, New York: In the first 20,000 deliveries, cases of placenta prævia were treated by different methods: by Braxton Hick's version and using the half breech as a uterine tampon, or by gauze tamponade of the cervical canal and vagina, or by dilatation of the cervical canal by the Voorhees bags. In the later cases the method consisted of dilatation of the cervix and control of the hemorrhage with the largest Voorhees bag which could be introduced, i. e., No. 3 or 4, and, after good dilatation was obtained, either a version was done and the child delivered by the breech, or if the placenta prævia was lateral, or even marginal, with slight hemorrhage, and the vertex was presenting, the membranes were ruptured and the head allowed to come down and exert pressure on the lower uterine segment and the edge of the placenta, the delivery being expedited by the forceps, if necessary. This use of the elastic bag is extra-ovular, the membranes being kept intact until the bag passed the cervix and good dilatation was obtained. In the 5,000 later deliveries there were forty-nine cases of placenta prævia, fourteen complete, and thirty-five of the incomplete variety. There were two deaths among those of the complete variety, or 14.2 per cent., and two deaths in the thirty-five of the incomplete variety, or 5.7 per cent. In the 20,000 cases there were thirty-nine cases of complete placenta prævia with nine deaths, or 23 per cent., and 135 cases of incomplete placenta prævia with eleven deaths, or 8.1 per cent. The total fetal mortality was 51 per cent. in the second and 60.3 per cent. in the first series. Regarding the question of placenta prævia being an indication for Cesarean section, I have never met a case in which I considered it indicated.

Placenta Prævia

DR. EDWARD P. DAVIS, Philadelphia: Of late our attention has been drawn to the value of intra-ovular pressure in placenta prævia by inserting, with suitable forceps, a good-sized bag through the membranes or placental substance, and by dilating this bag fully, thus controlling hemorrhage through pressure and hastening delivery. In partial placenta prævia treated with or without intra-ovular pressure by a dilating bag, the maternal mortality is not high. The high fetal mortality of placenta prævia, treated by vaginal methods, and the considerable maternal mortality, naturally suggest the possibility of delivery by abdominal section. The advocates of suprasymphyseal section urge its adaptability in these cases. In three cases of central placenta prævia in which I operated as soon as the diagnosis could be made out, the mothers recovered without incident; one normal child at term did well; the second child was a monstrosity, the third child, which was premature, did not long survive. There is, I believe, a close analogy between ectopic gestation and central placenta prævia. In both the cardinal dangers are those of hemorrhage and infection; in both palliative measures are insecure and unsatisfactory; in both operative treatment is our only reliable resource. In the present stage of our knowledge no method of treatment compares with abdominal Cesarean section in central placenta prævia, if the lives of both mother and child are to be considered. The mortality of abdominal Cesarean section in uninfected cases is now less than 2 per cent. in a large number of cases, and the fetal mortality in a considerable number is often nothing. A considerable amount of bright vaginal hemorrhage in a pregnant patient is always a dangerous symptom; and during the latter months of pregnancy, mother and child being previously in good condition, such hemorrhage should be considered as indicating a condition fully as critical as ectopic gestation. Such cases should be seen immediately by a competent obstetrician and a very careful examination made. Under favorable conditions delivery by abdominal Cesarean section should greatly improve the chances of both mother and child.

Analysis of Forty Consecutive Cases of Placenta Prævia

DR. J. CLIFTON EDGAR, New York: Ten of these cases were central, nine partial, twenty-one marginal. Seventeen were emergency ones. Seventeen were first seen at the onset of the bleeding; in twenty-three, the hemorrhage had lasted from a few hours to several days. Twenty-three cases only were exclusively treated by the hospital, the remaining seventeen had received various treatments before entering this hospital service. In twenty-nine cases the cervical dilatation was two fingers, or less when first seen. Treatment embraced cervical and vaginal gauze packing in thirty-two cases; de Ribes bags in three cases; Pomeroy bag in seven cases; bimanual dilatation as a primary measure in two, and following gauze packing in ten cases. Induction of labor in nine cases. The methods of delivery were: version and breech extraction in twenty cases; forceps in six cases; simple breech extraction in five cases; spontaneous delivery in eight cases; making, with one case undelivered, forty cases. Post-partum uterine tamponade in forty cases. Maternal mortality, 7.5 per cent.; infant mortality, 32.25 per cent.

The Best and Worst Methods of Treating Placenta Prævia

DR. HENRY D. FRY, Washington, D. C.: The best and the safest method to deliver a woman suffering from placenta prævia is purely an obstetric problem and its decision should rest with the expert obstetrician. Experience clearly demonstrates that maternal interests are guarded best by evacuation of the uterus as soon as the diagnosis of placenta prævia is made. Rapid dilatation of the cervix has no place in the treatment of placenta prævia, whether performed manually, by the Bossi dilator, or by vaginal Cesarean section. Version by the podalic method is never advisable unless uterine action has softened and dilated the cervix sufficiently to insert the hand. Slow delivery of the infant should be substituted for extraction. The artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and podalic version is dangerous. After version has been accomplished, the leg, breech and body of the infant successfully plug the cervical opening and by pressure against the area of uteroplacental detachment prevents the further loss of blood. Bleeding being absolutely under control, every effort should be made by slow delivery to secure dilatation and thereby prevent laceration of the lower uterine segment. My rule is to discontinue anesthesia after having performed version and to hasten uterine action by rubbing the fundus of the uterus, and by encouraging the patient to make use of her auxiliary muscles to supplement the uterine force. The danger is not over with the successful termination of labor. The mother has yet to run the gauntlet of post-partum hemorrhage and sepsis. The proper application of the intra-uterine tampon of sterile gauze is a most valuable agent in preventing further loss of blood. Laceration of the lower segment of the uterus is a frequent cause of fatality in placenta prævia. The complication favors both hemorrhage and sepsis. The least dangerous obstetric interference is that necessary to perform bipolar version. The fingers do not come in contact with the danger zone but are passed through the internal os and directly within the ovular sac. Abdominal Cesarean section in placenta prævia is advisable in central placenta prævia complicated by an undilated cervical canal. Not only must the cervix be undilated, but the tissue must be hard and unprepared for artificial dilatation. This condition exists only in about 5 per cent. of all cases of placenta prævia, and is almost never met with in multipara. Contra-indications for abdominal Cesarean section are (1) excessive loss of blood before the opportunity arises for performing the operation, (2) a soft and dilatable cervix, and (3) a partial or marginal placenta prævia. Previous attempts to dilate and deliver the case by the natural passages; the use of gauze tampons and rubber bags to control hemorrhage, place such cases on the undesirable list, and if subjected to surgical skill, a Porro operation should be substituted for Cesarean section.

DISCUSSION

DR. RICHARD C. NORRIS, Philadelphia: There are cases in which placenta prævia is best treated by abdominal Cesarean section, but the number will always be limited, probably about 5 per cent. of all cases of primiparæ. The ideal conditions for Cesarean section are a rigid cervix, a viable child, a mother who is a good surgical risk, and the diagnosis made at an early period. We must not, in order to save the child's life, which is problematical, sacrifice the life of the mother. The intra-uterine tampon to prevent post-partum hemorrhage must not only be intra-uterine but it must be placed firmly in the vagina so that the cul-de-sac is filled and upward pressure made to control bleeding.

DR. J. WHITRIDGE WILLIAMS, Baltimore: In cases requiring nothing more than rupture of the membranes I have used exclusively the Champetier de Ribes balloon. I have had no maternal deaths. A dangerous method of treating placenta prævia is by rapid dilatation, either with the fingers or with some instrument. In a number of cases I have been obliged to remove the uterus by abdominal section to overcome the damage done by this treatment. As to abdominal Cesarean section, the indications for it are so extremely infrequent that one can do without it, and I have not been able to see the justice of the mode of reasoning of the Germans who have been extremely enthusiastic over it.

DR. WALTER P. MANTON, Detroit, Mich.: I have used all the methods advocated, except Cesarean section, and I do not recall having seen a case where I thought this operation would be applicable. In the last 1,989 cases of confinement at the Women's Hospital in Detroit we had nineteen cases of placenta prævia, and in only one was the placenta centrally implanted. In my own experience, I have never lost a mother with the methods that have been advocated. The infant mortality has been between 50 and 60 per cent. I have not had great success with the Braxton Hicks method of bipolar version, but by the use of the de Ribes bag and Voorhees bag my patients have come through safely, although the infant mortality has been high.

DR. WILLIAM S. STONE, New York City: I wish to mention a case of accidental hemorrhage in which I decided to do the

vaginal operation after the patient was on the table, as the conditions were such that it was the easiest and quickest way to remove the contents of the uterus, and it proved to be such. I have never done vaginal Cesarean section for true placenta prævia.

DR. J. M. MUNRO KERR, Glasgow, Scotland: In domestic practice we can do no better than to do version by the Braxton Hicks method. That is the problem for the general practitioner. In the Glasgow maternity hospital we have tried chiefly two treatments—bipolar version and the treatment by bags, and so far our results have differed very little by the use of the two methods. We have, if anything, a little lower fetal mortality, and if anything, a slightly lower maternal mortality, but it has been very slight indeed, and consequently I can understand very clearly the attitude of those who support the use of the bag and bipolar version. But the real point of importance at the present time is the position of Cesarean section. This operation in domestic practice has a place in skilled hands, but I believe we have given it rather half-hearted support. There are certain cases in which Cesarean section is called for. They are: (1) The child must have reached nearly a full term; (2) the child must be viable and in good condition; (3) there must be probably a defect in delivery, either in regard to the pelvis, slightly small, or as regards rigidity of the soft parts; (4) it should be employed in women late in life who must possibly have another chance to bear a child; (5) the operation should only be employed where there has been danger of infection. If we give it out as decidedly our opinion that in cases of that sort Cesarean section is indicated, we would put the position of this operation on a proper basis, and in the future we might possibly be able to extend it or make its application less limited.

The Use of Iodin in Skin Sterilization for Surgical Purposes

DR. J. WESLEY BOVÉE, Washington, D. C.: So far as can be ascertained by culturing epidermic scrapings, weak dilutions of iodin, even to 5 per cent. of the official tincture, thoroughly sterilize the surface of the skin for a period of time lasting from two to fifteen minutes after its application. This inhibitive action of absolute alcohol is greatly enhanced by the addition of iodin to an equivalent of 5 per cent. of the U. S. P. tincture. Pubic hair placed in iodin dilutions of 5, 10, 20, 30 and 40 per cent. strength (of the official tincture), respectively, for 2, 3, 5, 8, 10, 12 and 15 minutes, respectively, all showed growths after three days' incubation, while using 50 per cent. dilutions under the same conditions practically always prevented growths. Control scrapings of skin taken from the abdomen above the umbilicus, over periods of time varying from two minutes to two hours when 40 per cent. dilutions were used, always showed negative results as to colonies. Cultures from hair and skin that had been subjected to 50 per cent. dilution of tincture of iodin never produced growths. Tincture of iodin diluted with an equal amount of absolute alcohol may be considered reliable as a local application in preparation of the skin or mucosa in any part of the body. Dilutions of less strength are unreliable, if hairs or large hair follicles are in the field of operation. The 50 per cent. dilution of tincture of iodin, if not carelessly applied, is not liable to injure the skin.

(To be continued)

ILLINOIS STATE MEDICAL SOCIETY

Sixty-First Annual Meeting, held at Aurora, May 16-18, 1911

The President, DR. A. C. COTTON, Chicago, in the Chair

Medical Service of the State Hospitals

DR. CHARLES F. READ, Watertown: The physical examination of patients extends from the crown of the head to the sole of the feet, may include pulse tracings, blood-pressure estimations, examinations of the ocular fundi, body fluids, etc., and is completed by a painstaking neurologic investigation. Spinal puncture has become a matter of routine in two or three of our hospitals, and is carried out at times in nearly all institutions. With the aid of this procedure we are accomplishing some surprising results in the matter of diagnosis. The report of a positive Noguchi together with an increased lymphocyte-count at once assures us that we are dealing at least with an organic case if not paresis. The mental examination begins not with the patient but with his progenitors, tracing back as many generations as possible, and not only taking into account the existence of actual insanity, epilepsy, alcoholism and imbecility, but also of neuralgias, tics, tramp life, fears, chorea, oddities, etc. After this, so far as possible, the patient's life history from early childhood on is obtained with a view of determining what manner of man has become involved in difficulties arising out of a lack of proper reaction to stress and strain. Turning to the patient himself, a study is first made of his reaction to the hospital environment, the value of which observations often depends on the proper interpretation of a single act or a half dozen words.

DISCUSSION

DR. L. C. TAYLOR, Springfield: A great deal has been done in the last few years since the adoption of the civil service law in regard to the state institutions. A few years ago the institutions of Illinois were looked on as custodial, and the treatment of mental conditions was hardly entered on at all. The establishment of the psychopathic hospital at Kankakee, a short time ago, gave a great impetus to those connected with state institutions. The establishment of this psychopathic hospital has given interns and physicians throughout the state the opportunity of going to that institution and studying under experienced teachers, not only psychiatry but also pathologic conditions. The mere fact that men working in the state hospitals can be promoted by competitive examinations has led to improvement in the service.

DR. HUGH T. PATRICK, Chicago: It is for the profession and the public at large to keep on sowing the seed and keep on upholding the hands of men who improved the public service in the insane hospitals. If people are not afraid to entrust members of their families to physicians outside of these institutions, why should they mistrust those who are at the head of these institutions—men who have the same conscience and the same earnest endeavor to do what is right and that which is best for these patients? It devolves largely on the profession to instruct the public that we have good state institutions, and that we have good men at the head of them.

DR. J. W. PETTIT, Ottawa: We must not lose sight of the fact that an organized profession of the state inaugurated the movement that made these things possible.

DR. CARL E. BLACK, Jacksonville: A new class of men sent to the state institutions are identified with the medical profession as they never were before, and they bring to us information we never received before. They are interested in their work. They are seeking these promotions. They are taking up the work with new enthusiasm, and with a new incentive. In that way the care of the insane, the study of insanity, is brought to the profession by these men by identifying themselves with our local and state medical societies.

DR. JULIUS GRINKER, Chicago: We must realize that the insane patient is a sick patient. Some physicians discourage the sending away of patients who need institutional care. The institutional man must come in contact with the medical profession in order to stimulate him to do good work, and the more closely we come in contact with them the more we appreciate their work and that of others, the better work we will get out of them. This movement is progressing not only throughout this country but everywhere. Psychiatry should be brought in touch with everything that medicine can bring to bear on it from all sides.

Experimental Transplantation of Legs

DR. V. D. LESPINASSE, Chicago: Blood-vessel anastomosis will not save every crushed limb, but it will save a great many that are now amputated. The crushed and contused portion of the blood-vessels must be removed. If one cannot bring the vessel-ends together after this has been done, the extremity must be shortened until approximation is possible. If the nerves are intact, the probability of success is increased as section of the nerves tends to vasodilatation, and hence stagnation of the blood-stream, thus predisposing to thrombosis.

A crushed limb should not be amputated without a careful examination as to the possibilities of resecting the crushed portion and replacing the hand or foot back on the stump.

Prevention of Blindness

DR. THOMAS A. WOODRUFF, Chicago: Preventable blindness is due to numerous and varied causes. The first steps have been taken toward suppressing one cause of blindness, namely, ophthalmia neonatorum, which for years resulted in more blindness, with the exception of optic nerve atrophy, than any other local affection. The public must be educated not only to the existence of ophthalmia neonatorum, and the terrible consequences that may result from its presence, but to the fact that it is preventable, and that their aid is necessary in securing such legislation as will make compulsory the use of such measures as will prevent this disease. Education in the movement may be carried on by means of a wide distribution of literature, leaflets and various forms of propaganda, photographic exhibits, lantern slides, press notices, magazine articles and public speaking before all kinds and grades of audiences. The statute books of many states contain laws relating to the prevention of ophthalmia neonatorum, but unfortunately these laws have become more or less of a dead letter, and an effort should be made requiring their enforcement. If this were done and a few prosecutions obtained for failure to adhere to the law, much benefit would be reaped in the fight for the prevention of blindness from ophthalmia of the new-born. Laws should be passed which would require state control of the blind. All cases of inflammation of the eyes in new-born babies should be reported by physicians and midwives. One of the most important factors in the suppression of the disease is the registering and licensing of midwives, for many of these women are hopelessly ignorant, dirty and careless, and that they play no small part in the effort to check this disease must be admitted.

DISCUSSION

DR. J. W. SMITH, Bloomington: These cases do not come to the specialist first-hand, but usually go to the general practitioner first, and for this reason this subject should interest the general practitioner the same as it does the specialist. We should emphasize the importance of antiseptic precautions at and during the time of parturition or labor.

DR. A. L. ADAMS, Jacksonville: The solution of the problem appears to be one of education. People should know the facts, and I believe when they learn the possibility of prevention of blindness by a campaign of education, as has been done with tuberculosis, then these cases will receive early treatment which will result in the prevention of blindness in a large number of cases.

DR. WILLIAM H. WILDER, Chicago: It is a lamentable fact that many practitioners to whom such cases are referred either become rusty in their knowledge of the treatment of such cases, or they have never acquired it, because I personally know of many cases coming from practitioners who have not treated them correctly, and the result has been that a destructive ulcer of the cornea has occurred.

(To be continued)

OHIO STATE MEDICAL ASSOCIATION

Annual Meeting, held at Cleveland, May 9-11, 1911

(Concluded from page 1602)

Mucous Colitis

DR. C. C. FIHE, Cincinnati: This is not a disease entity; it is the symptom and sign of a disease, the nature of which is not always identical. There may be all grades of pathologic changes within the mucous membrane of the colon. There is a great group of mucous colitis in which the cause lies in the pathologic conditions in and about the colon itself. Angulation of the colon has been the cause of many of my cases of mucous colitis, and the correction of the malposition by bandage or operation has been followed by a cessation of both constipation and mucous colitis.

Occasionally surgery must be resorted to. Adhesions are usually found at or near the site of angulation and again the end is accomplished.

DISCUSSION

DR. A. M. CRANE, Marion: Judging from my personal experience, most of the cases are sigmoiditis and proctitis. Most patients are neurasthenics. The treatment is varied. Cathartics should be avoided. Castor oil does well; olive oil gives good result, but the most relief is obtained from high colonic flushing with the rectal tube high in the bowel, with three quarts to a gallon of saline solution, to be followed by a 10 per cent. solution of argyrol, which is permitted to remain.

DR. J. M. RECTOR, Columbus: Practically all my patients come as a result of constipation. In many there is a history of typhoid preceding the constipation. The cause of this constipation is the relaxation of the musculature of the colon with a lack of sufficient residue to make a stool. The feces become dry and stick in the folds of the bowel and little particles of stool are retained, and when they do come away the mucous membrane comes with them, and from that denuded place comes mucus. This also allows auto-intoxication and absorption, and in the secondary symptoms the constipation, which is the cause, is overlooked. I would criticize the application of the bandage, favoring rather exercise for the muscle. I do not think angulation has anything to do with the disease.

DR. J. E. GRIEWE, Cincinnati: The causes in these cases are both mechanical and chemical. First, there is the result of absorption of chemical material, and later on the tremendous pressure from the accumulation of material. Mere regulation of the diet will not cure it. While angulations may be overestimated, they must not be neglected when they are found to any extent.

The Value of Drugs in Circulatory Diseases

DR. H. B. BLAKEY, Columbus: I believe that the heart in pneumonia is injuriously affected by digitalis. Where there is a toxemia to combat digitalis merely increases the toxic condition against which the heart must work. In these cases the solution of the difficulty will be an antitoxin. Cardiac therapy in most cases is a fight against odds, and the utmost care and judgment must be used to avoid increasing the odds by too much drugging or drugging without an exact knowledge of how the result will be reached. Drugs should never be used to restore compensation when rest in bed alone will do it, except in those cases in middle or later life in which too long resting in bed may prove injurious. Attempts to hurry compensation in a badly decompensated heart only unduly weakens the heart, and a slow recovery is really more to be desired than a too rapid one. There is no therapy in heart disease as good as physical and mental rest, which should have as its object the giving of the greatest possible relief to the heart and the least possible disturbance to the patient. Digitalis should never be given, except where there is a dilated heart with a weakened systole. It should never be given in those cases in which the heart is combating a toxemia, except when the heart is dilated, and even then we must be sure there is no degeneration of the muscle fibers of the heart. Strychnin should be limited to those cases in which it is desired to slow the heart and increase blood-pressure. Alcohol has merit as a cardiac stimulant, but it should be given over a long period of supportive treatment, except in cases of those accustomed to taking the drug regularly. Caffein should only be given in those cases in which the desire is to increase the heart-rate as well as to increase the blood-pressure. The nitrates can in no way be considered as heart tonics or stimulants. Morphin can be used without fear of any deleterious action in any form of heart disease.

DISCUSSION

DR. C. G. HOOVER, Cleveland: I cannot agree that digitalis should never be used in pneumonia. Patients with pneumonia, as well as other infectious diseases, may have myo-

cardial insufficiency, and one must rely on the size and transverse diameter of the right heart. When it is very rapid and shows a definite dulness on the right side, then is the time to use digitalis. Of course, not every patient should have digitalis, but the trouble is that it has not been given in sufficiently large doses. One milligram of strophanthin is the equivalent of 3 drams of digitalis, and yet one would not give it in 3 dram doses. Strophanthin is not indicated in all kinds of circulatory disease, but the single indication is myocardial insufficiency.

DR. M. J. LICHTY, Cleveland: The use of cardiac stimulants or cardiac tonics is not to be compared to the value of rest. It is hard to tell what remedy will do the work, and none can be depended on absolutely. Rest alone will not do everything, nor will drugs. The preparations of digitalis are many times disappointing, but they often help, in spite of the fact that the patient is going about.

DR. N. R. COLEMAN, Columbus: While there can be no doubt that digitalis is one of the most valuable remedies in many cases of cardiac or cardiovascular diseases, it is not applicable in all cases. The conditions, circumstances and complications have all to be taken into consideration.

Nitrous-Oxid-Oxygen Anesthesia

DR. ELMER I. MCKESSON, Toledo: As a routine anesthetic this surpasses any agent known when the proper technic is carried out. It may be successfully used in any operation that can be done under ether with few limitations.

Vaccine Therapy from the Standpoint of the General Practitioner

DR. LOUIS W. LADD, Cleveland: The indiscriminate use of vaccines by those ignorant of their power for good and evil is to be strongly condemned, as there are no more powerful poisons than bacterial proteids, and much harm may result from their injudicious use. Each case treated is a study in itself. Personal idiosyncrasies, variations in virulence in different strains of the same microorganism, etc., are conditions that cannot be predetermined, and must be worked out by careful experimentation in each case.

As a rule the best results with vaccine therapy have been obtained in the treatment of chronic local infections, though not infrequently brilliant results have been obtained in the treatment of acute local infections. Less satisfactory by far is the treatment of acute general infections. Vaccine therapy should not be used to the exclusion of other measures.

Rectal Feeding in Diseases of the Stomach

DR. JOHN D. DUNHAM, Columbus: A good nutrient enema is: Yolk of two eggs—300 calories; 30 gm. pure dextrose—1,200 calories; 5 gm. common salt; pancreated milk to 300 c.c. Rectal feeding cannot take the place of mouth feeding for any period of time, as subnutrition is the result. Therefore, rectal feeding has a limited field of usefulness and is not advantageous in esophageal or pyloric strictures. High enemata of normal salt solution are probably as beneficial as the usual nutrient enema. When used in uncomplicated gastric ulcer, nutrient enemata do not increase the acidity. On the other hand, when combined with total abstinence of food and liquids by mouth, the hydrochloric acidity is probably reduced. In gastric ulcer with relative stenosis at the pylorus, lavage and careful mouth feeding are better than rectal nutrients as method of treatment.

DISCUSSION

DR. JOHN P. SAWYER, Cleveland: The psychic influence of taking food has to be taken into account. The use of a large quantity of albumin, even in the form of peptone, is apt to cause bacterial decomposition in the rectum, and there is the end of usefulness of rectal feeding. The cleansing enemata and washing the bowel are often of use. The clinical benefit of giving a small food enema is not to be denied. It is of great help in carrying over a crisis but not of benefit in continued use. Rectal feeding sometimes proves a detriment in that it sets up a nervous excitement and bowel irritation.

DR. M. ROSENWASSER, Cleveland: In addition to the egg, I use malted milk, which contains sugar, and also have used dextrose and pancreatin. Rest and that will do the work.

The Surgical Aspects of Painful Indigestion

DR. G. W. CRILE, Cleveland: I have come to depend on certain phenomena and certain methods for the diagnosis. One of the most potent causes for confusion is the fact that whatever the disturbance of the body—whether the beginning of an acute infection, a physical injury of any part, a nervous strain, worry or fear, appendicitis, salpingitis, gall-stones, brain tumors—indeed, almost any disturbance of the body, it is at once reflected on the stomach as nausea, vomiting, anorexia, indigestion, etc. In the differential diagnosis of chronic appendicitis, one must consider ureteral calculi, neurasthenia, gall-stones, diverticulitis, and gastric and duodenal ulcers. Given a case of chronic painful indigestion, while the temperature and pulse may be normal, there is usually constipation, and an impairment of the general health. If in addition to the routine symptoms, there is a history of night attacks of pain at irregular intervals, gall-stones must be considered. If there is no hyperacidity, if the pain is referred rather to the chest and back, and there is a tender point between the tenth and eleventh ribs in the back, and pressure under the costal border when relaxed in a warm bath produces local tenderness and referred pain; if the kidney is negative to *x*-ray, a diagnosis of gall-stones or chronic cholecystitis may be made.

If the pains are distributed over the whole abdomen, constipation quite marked, frequently a single darting pain; if the ureters are negative for stone, and there is local tenderness when there is pressure on the appendicular region, and production of referred pain identical with that complained of; and if one makes deep palpation over the appendix at intervals of about four hours and there is an increasing tenderness, one may diagnose appendicitis. The latter method will often unmask a chronic appendicitis in ambush. Treating the left iliac fossa in precisely the same manner as a control, if there is chronic appendicitis there will usually develop after several vigorous examinations a definite and high degree of tenderness in the right fossa, while the left remains negative. The importance of this method cannot be overestimated. In chronic appendicitis there may be a certain amount of hyperacidity, especially if there is associated nervous strain. Gastric ulcer usually frankly announces itself, as by immediate distress on taking food, hyperacidity, free blood and, of course, hematemesis.

It is duodenal ulcer that gives the greatest interest. The frequency of this lesion has only recently been appreciated. There is no lesion that can with such confidence be diagnosed on the clinical history alone. There will be rhythmic periods of daily pain at certain intervals after meals. When the stomach is well emptied this burning, stinging or heavy pain appears, with scalding eructations and much gurgling of gas in the intestines. It wears away after an hour or two, but is almost immediately relieved by food. Lying on the left side sometimes gives relief. There is no vomiting unless obstruction has developed. A test meal shows the digestion to be good, food passing out of the stomach promptly, but the acidity is high. Local tenderness appears when the ulcer has penetrated the wall. The fact that there is pain in the region of the appendix, of the gall-bladder, of gastric and duodenal ulcer and no pain in lesions of the mucous membranes of the intestines is explained on the law of phylogenetic association. Pain is associated with the excitation of nociceptors, and these may take precedence over and dispossess the routine functions, such as peristalsis, secretion and absorption and their occupancy of their respective nervous mechanisms, just as fear does. This hypothesis readily explains the extraordinary improvement in the digestive functions and the general health following the removal of an appendix so slightly altered physically that only the clinical results in many cases could persuade one that this change could be an adequate cause for such far-reaching and important symptoms. It would also explain certain gall-bladder phenomena—indigestion, loss of weight, disturbed functions, etc.

The Renal Function in Surgery

DR. LOUIS E. SCHMIDT, Chicago: Renal function tests are decried by those individuals who are not in a position to meet the exacting conditions or are not competent to carry on this work. In kidney surgery at the present time, collection of the urine from each kidney separately is absolutely essential. It is a well-known fact that operations carried out in any part of the urinary tract are attended by a mortality which is directly referable to diseased kidney function. For this reason, the necessity for testing the total renal function, or as it is often called, the combined renal function in these cases whenever considering operative interference, will become a recognized requirement. The differential diagnosis in cases of obscure abdominal disease can often be made and certainly assisted by the functional tests; also in cases of questions between renal and splenic tumors, or renal and hepatic enlargements, and cases of retroperitoneal inflammatory masses from appendiceal inflammations.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(Continued from page 1681)

The Control of Epidemic Poliomyelitis

DR. SIMON FLEXNER and DR. PAUL F. CLARK, New York: At present the chief reliance must be placed on preventive methods, and these are to be based on accurate knowledge. It should be accepted as a fact that epidemic poliomyelitis is a contagious, infectious disease, the cause of which can enter the brain and spinal cord by way of the nasopharyngeal mucosa, and can, also, be eliminated from the nervous system by this membrane. Attention should be directed toward proper isolation of cases of epidemic poliomyelitis, to the disinfection of the nasal and buccal secretions, to the proper supervision of nurses and other healthy persons coming in contact with the ill, since such persons have been shown to be carriers of the infection, and to the recognition and control of the slight and abortive cases of the malady from which further extension may be feared. That insects may be passive carriers of the infectious agent we have recently proved in respect to contaminated flies. That an antiserum for the virus of poliomyelitis can be secured is now established, but thus far no antiserum has been prepared that is suitable for therapeutic use. We have ascertained that hexamethylene tetramin possesses a certain power of neutralization of the virus of poliomyelitis in monkeys, and we have further discovered that this power can be enhanced by chemical modification of this drug. Whether the problem of the treatment of the disease is to be solved along this line of investigation cannot, of course, be predicted, but the outlook is distinctly hopeful.

DISCUSSION

DR L. A. CONNER, New York: Have you any suggestions to make as to the preventive management of the nasopharyngeal mucous membrane?

DR. S. FLEXNER: I have assumed that the disease ought to be dealt with now in the manner with which we deal with epidemic cerebrospinal meningitis. We know a number of simple substances which are aseptic disinfectants for the virus. A very good one is menthol and hydrogen peroxid. I think it is a virus which is sufficiently readily injured by means of disinfectants which are mild enough to be employed, that, if you consider it a proper and safe measure to use disinfectant solutions in atomizers you could carry it out. We have great faith in cleanliness of the nose, of the hands and of the clothes. I mean by that to keep them free from the secretion. The virus has never been found in the secretions of the nose of human beings, but the number of observations is very small. It is extremely difficult to get secretions from the human nose. We have had the best specialist in New York help us to get the secretion from the nose and failed.

DR. F. P. KINNICUTT, New York: I would like to know the probability of the disease being contagious. Has Dr. Flexner any particular method of disinfection of clothing? Is it possible for any information to be given us in regard to the mode of using hexamethylene tetramin?

DR. S. FLEXNER: The problem of disinfection is not peculiar. I should deal with it as with any of the rather highly contagious diseases. The reason I have suppressed the precise information about these compounds is that we have probably thirty of them now under comparison and we are going to choose the best one and it would not be fair to say now which it is likely to be because we do not know, but the point is that it is a possible line of advance.

A Case of So-Called Leukanemia

DR. W. F. HAMILTON, Montreal: The patient, a farmer, aged 43, previously healthy, noticed a mass below the left costal border, which increased in size; he lost appetite, weight and strength and grew pale. Examination showed a spleen which reached down to Poupart's ligament; the liver was 2½ inches below the costal margin in the nipple line. There was no ascites nor glandular enlargement. The leukocytes numbered 5,600 and myelocytes were present. The polymorphonuclear cells were diminished, while the lymphocytes and large mononuclear cells were greatly increased in number. The hemoglobin was 65 per cent. and the red cells 3,150,000. Death occurred about 2½ years after onset. No autopsy was made. This case was really one of atypical leukemia. The term leukanemia might well be discarded.

DISCUSSION

DR. R. C. CABOT, Boston: What were the clinical features of the case aside from the blood?

DR. W. B. JAMES, New York: I wonder how many members feel perfectly satisfied with the recognition of such cases as this and those described as acute lymphatic leukemia as a distinct morbid entity? The term leukanemia implies the ordinary lymphatic leukemia.

DR. W. F. HAMILTON, Montreal: The clinical features were those of weakness, a slight pallor, no fever, moderately increased pulse-rate, no edema, an enormously large abdomen and a very greatly enlarged spleen over which one could feel to-and-fro movements. There was ascites, no pain or tenderness over the long bones. The peripheral lymph glands were not enlarged. The patient was in the hospital for four weeks and subject to *x*-rays and made little or no improvement.

The Possible Prevention of Pneumococcus Empyema by Hexamethylenamin

DR. FREDERICK C. SHATTUCK, Boston: The lethal action of hexamethylenamin on the typhoid bacillus in urine, the general permeation of the body by this drug and the general delicacy of the pneumococcus, suggested that possibly empyema might be wholly or partly prevented as a sequel of pneumonia by the routine administration of the drug. Thus it has been used for the past year in nearly all the cases of pneumonia in my service in the Massachusetts General Hospital and in some of those of my colleague, Dr. Gannett. The drug was given as soon as the diagnosis was established, in doses of 10 grains, three times a day and continued into convalescence. In only three out of fifty-nine of these cases empyema developed. During the same period forty-six patients were treated without hexamethylenamin, only one developing empyema. In the preceding year, of one hundred and forty-two cases of pneumonia without hexamethylenamin, in three empyema developed. Of thirty-four patients treated at the Johns Hopkins Hospital six developed empyema. Of thirty-five patients in the previous year without hexamethylenamin one developed empyema. At the Presbyterian Hospital in New York, of nineteen pneumonia patients taking hexamethylenamin, one had empyema. Of one hundred and ninety-three without the drug, five had empyema. These figures seem to show that this remedy is in no sense a preventive of empyema following pneumonia. Neither in the Massachusetts General nor the Presbyterian Hospitals did pericarditis develop in any case taking the drug, although it was noted in 4 to 5 per cent. at the Massachusetts and in 1.5 per cent. at the Presbyterian in those not taking the drug. Furthermore, the Mas-

sachusetts' records show that otitis media occurred in about 4 per cent. of the non-hexamethylenamin cases, in no instance in the hexamethylenamin series.

Renal Decapsulation in Chronic Bright's Disease

DR. JAMES TYSON, Philadelphia: A study of the four cases of nephritis treated by decapsulation shows that in no case was complete cure effected, notwithstanding the healthy appearance of the patients at certain times after operation. However, the operation is so serviceable in certain instances that it ought to be done more frequently. The conditions which demand it are stubborn persistence of symptoms causing great inconvenience or danger to life, such as permanent dropsy, uremia shown by convulsions or intense headache, anuria and large albuminuria. Operation should not be considered until medical treatment proves unavailing. It is also indicated in perinephritis. Contra-indications are an age of over 50, valvular heart disease with irregularity of action, extensive cardiovascular changes, or albuminuric retinitis.

(*To be continued*)

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

Fourteenth Annual Meeting held in Philadelphia, April 19-20, 1911

(*Concluded from page 1608*)

The Treatment of Gastric Disturbances

DR. J. KAUFMANN, New York: Treatment requires correct diagnosis. The progress made in the reading of gastric analyses assists in directing treatment along the right lines. Aside from properly interpreting disorders of gastric function, we have to consider their pathologic meaning. There must be a differentiation of primary and secondary gastric disturbances. Among the latter, those caused by chronic appendicitis, cholelithiasis, etc., are much emphasized at present. While undoubtedly occurring, their frequency is greatly over-rated; and too much importance is given to this special etiologic factor, at the cost of others that are known as provokers of gastric disturbances. Every etiologic factor should be taken into account. At the same time, the condition of the stomach proper requires consideration, even in cases of secondary gastric disturbances.

DR. JOHN A. LICHTY, Pittsburg, Pa.: Medical treatment is often instituted in cases of hyperchlorhydria and carried on for a long time, yet the patients still over-secrete, though they may improve so far as general health is concerned. Quite a number of these patients are improved or cured by surgical intervention, but there are still many that remain non-surgical and difficult to treat.

The Gastric Weak Line in Wounds of the Abdominal Wall

DR. ROBERT T. MORRIS, New York City: Failure of union of the abdominal-wall wound apparently means a trophic disturbance, and this incidentally corresponds to the area of superficial sensory disturbance described by Head for the gastric zone. It is probable that irritation of the nerves of the stomach, referred to their respective segments of the spinal cord, is continued as an impulse to the superficial gastric area, which is commonly irritated coincidently with irritative processes of the stomach. (This article will be published in THE JOURNAL.)

DISCUSSION

DR. J. C. HEMMETER, Baltimore: There are a great many presumptions in the hypothesis of Dr. Morris. We must first prove that the stimulus goes from the gastric zone to a segment of the cord from which this trophic nerve comes out.

DR. L. W. KAST, New York City: I consider the idea of Dr. Morris a very happy one. It does not prove anything, but it attracts attention again to the viscerocutaneous reflex, as well as to the mutual reflex association between internal organs and certain areas of the skin.

DR. S. J. MELTZER, New York City: I am surprised that the idea should not have suggested itself to Dr. Morris that the stimulus might not be a nervous but a chemical one. Surgeons experience that the stitches give way readily after operations on the bile-ducts, and it is possible that this may be not only due to bile, but also to pancreatic secretion.

DR. A. G. GERSTER, New York City: We face this problem, not only in the region of the epigastrium, but also in every other region of the body. I think that Dr. Meltzer's explanation has a great deal in it. Anesthesia alone is sufficient to disturb the pancreatic and gastric secretions so much that the entire chemical processes in the body are profoundly changed.

DR. R. T. MORRIS, New York City: The fact that repair did not take place in a case in which there was irritation of the pylorus led me to the conclusion that there was a trophic disturbance of that particular group of nerves running from a certain definite segment of the cord.

A Case of Banti's Disease

DR. J. FUHS, Brooklyn: This patient was successfully treated by splenectomy, afterward passing through an attack of typhoid and an operation for appendicitis. She had a typical, characteristic attack of typhoid, differing in no way from such attacks in patients not operated on, with the exception of the blood-findings, which showed a rather high leukocyte count for a case of typhoid, and a relatively high polymorphonuclear leukocytosis. The reaction to the surgical interference during the course of the typhoid did not present anything characteristic, and her recovery was as rapid as could be expected in a patient not splenectomized.

DISCUSSION

DR. J. C. HEMMETER, Baltimore: I, too, have a case of Banti's disease that has some very peculiar landmarks. This patient had profuse hemorrhage from the bowels, an ascites, a huge spleen, and cirrhosis of the liver. He has been operated on for appendicitis, and has had typhoid. The blood-picture in this case is typical of Banti's disease. Mallory has found in the portal veins of the liver typical splenic cells, which proliferate there almost like cancer cells. This is very striking evidence pointing to the fact that the spleen is really the starting point of the trouble, and not the liver.

DR. J. KAUFMANN, New York City: In a patient of mine some clinical facts pointed to the origin of the disease in the spleen. In all cases in which we can make out that the spleen is the primary seat of the disease, we should remove it. The blood-picture does not show anything typical. In our case, for instance, it was that of pernicious anemia.

DR. J. C. BLOODGOOD, Baltimore: I have had six cases of Banti's disease. In three of these, splenectomy was done. Two of those operated on are living, and all three of those not operated on. If we had removed the spleen in the latter cases, the operation would have been regarded as showing perfect results. The treatment given those not operated on was rest, with arsenic and iron.

DR. L. W. KAST, New York City: I believe it to be only a symptom-complex. The fact that it may be a syphilitic or a postsyphilitic condition should be borne in mind in making the diagnosis.

DR. J. FUHS, Brooklyn: Clinically, it is impossible to differentiate the symptom-complex of Banti's disease from cases in which, on examination of the spleen, tuberculosis or granulomata are found. I think that the hemorrhages and the blood-findings speak in favor of its being a toxemia. The Wassermann reaction was positive in two cases recently published.

The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach

DR. J. C. BLOODGOOD, Baltimore: In a case of ptosis of the stomach and colon, the first case in which I resected for ptosis, medical treatment did not decrease the residuum in the stomach, which amounted to 200 c.c. I resected a little beyond the pylorus to a point that would make a straight line of the greater curvature and of the duodenum, suturing the duodenum to the stomach according to the method of Kocher, and then turning in the end. Resection of the stomach for ptosis is the simplest resection, because there are no adhesions. Things are so relaxed that there is very little shock. This patient had no postoperative complications after thirty-six hours. He has been relieved of the stasis of material in his stomach and colon,

causing constipation, and the diarrhea is also over. The operation has been done ten weeks, and the man has gone back to his work.

Another case was one in which we suspected cancer of the pancreas. On exploring the abdomen, we found a small nodule on the head of the pancreas. There was a large gall-bladder; and in the common duct I could feel this nodule. It was not a stone. The operation performed was one that I had advocated two years before. I made the point that you should also resect the duodenum, because it is impossible to imagine a cancer of the diverticulum of Vater that would not infiltrate the duodenum. Local resections of the tumor itself have been done without any success, owing to the fact that the cancer has been cut through. In this case, in which there were clay-colored stools before operation, bile appeared with the first stool, and the patient is gaining in weight, showing that the loss of the pancreatic secretion is not incompatible with a gain in weight.

DISCUSSION

DR. J. KAUFMANN, New York City: If the operation in the first case was performed merely on account of the location and size of the stomach, I do not believe that these are sufficient indications for any operative procedure. Tonus is very important in cases of the neurasthenic type, the inborn weakness of the nervous system giving rise to atonic conditions. In such cases, stagnation may occur periodically, but disappear again. So long as there is no obstruction of the outlet, this condition does not require operative procedure.

DR. M. EINHORN, New York City: Gastroptosis, as such, is not at all important, and retention is almost never associated with it when it exists without any other condition at the pylorus.

DR. J. C. HEMMETER, Baltimore: S. A. Matthews has shown that removal of the duodenum is almost as fatal as removal of both kidneys.

DR. A. L. BENEDICT, Buffalo: The term gastroptosis does not mean a ptosis as the word is applied otherwise in pathology. It means that there is an atony or dropping down of the greater curvature. The word ptosis should be limited to the distinct dropping of a whole organ. A dilated stomach can be shrunk by methods of medical treatment.

DR. HENRY D. BEYEA, Philadelphia: In 1898 I devised an operation for gastroptosis. The procedure consists in simply shortening the normal ligaments. It is unassociated with danger, and is not mutilating.

DR. J. C. BLOODGOOD, Baltimore: The indication in this case was the fact that the patient had residuum. Extreme degrees of ptosis may be present without producing symptoms, and considerable symptoms may occur with but slight ptosis. My case was not one in which I should wish to try suture of the ligament alone.

Neuromuscular and Secretory Coordination Between Stomach and Duodenum

DR. J. C. HEMMETER, Baltimore: Secretion in the duodenum is not augmented by the presence of hydrochloric acid on the stomach side of the sphincter pylori. The hydrochloric acid or its derivatives must enter the duodenum. There is a periodic undulatory secretion of the intestinal juices in the fasting condition. Psychic secretion of pancreatic juice occurs in man. Jejune or fasting peristalsis (Pawlow and Boldyreff) occurs in the human being, probably as a means of evacuating products of excretion. This cannot be observed by the bismuth and *x*-ray method, because the digestive tract is not empty when bismuth is given. Observations on duodenal and ileocecal fistulas show it, however. There is a relation between the presence of bile and pancreatic juice in the fasting stomach to (a) disturbance of reciprocal intervention between the sphincter of Vater and the gall-bladder in enteroptosis, and (b) the normal jejune or fasting peristalsis of Pawlow and Boldyreff.

The Function of the Duodenum

DR. L. KAST, New York City: The bulbus duodeni frequently shows food retention, which can be seen on the fluoroscope, if bismuth is mixed with the food. The food-retention is often associated with altered peristalsis of the pyloric portion of the stomach, and is the explanation for a variety of subjective gastric symptoms. The duodenal food-retention has a diagnostic significance.

The Cause and Relief of Pain in Duodenal Ulcer

DR. JAMES T. PILCHER, Brooklyn: As the result of observations in 100 cases of ulcer of the duodenum that were diagnosed and the diagnosis confirmed by operation, and also of some experiments on dogs, I have reached the conclusion that ulcer of the duodenum reflexly excites a hyperacidity of the gastric juice; the maximum amount of secretion of hydrochloric acid in the stomach is due to a direct chemical action (hormones), and is at its height from one to four hours after meals; it passes into the duodenum as hydrochloric acid, there being no food four hours after meals for it to work on; and it does not excite a flow of the duodenal juice directly, and is not neutralized by the small amount present. The relief of pain in duodenal ulcer follows the ingestion of any substance into the stomach, which neutralizes the acid gastric juice. Food taken into the stomach excites at once a reflex secretion in the duodenum; the duodenal secretion is alkaline in approximately the same degree as the gastric juice is acid; and this secretion is of sufficient quantity and concentration to neutralize the hydrochloric acid of the gastric juice.

Six Cases of So-Called Larval Hyperacidity

DR. JULIUS FRIEDENWALD, Baltimore: In the larval hyperacidity, there is an actual hyperacidity, which is often not revealed; inasmuch as the gastric contents are not extracted early enough, for the secretion, which at an earlier period would present a hyperacidity, is gradually neutralized before the end of an hour when taking an Ewald test-breakfast. Observations over a series of six cases have been made. Test-meals were given, and removed at varying intervals; and while the percentage of free hydrochloric acid was normal and subnormal at the end of an hour, after an Ewald test-breakfast, yet it was found that there was a period in which a hyperchlorhydria was manifested.

Gastric Hypersecretion

DR. ARTHUR F. CHASE, New York: The results obtained from more than 200 tests throw light on the extent to which secretion is influenced by motility, and suggest that in cases of disordered motility the dry test-meal is a more accurate index of the secretory function of the stomach than is the wet. The rôle of fatigue in gastric function is important.

A New Test Breakfast

DR. DUDLEY ROBERTS, Brooklyn: This meal consists of lactose added to weak tea to the strength of 10 per cent. After the lapse of one hour, a portion of chyme is extracted, and water in known amount is added; and a second extraction is performed. By the Mathieu-Raymond formula, the total residue is calculated; and by the estimation of the lactose present, the amount of test-meal remaining is accurately determined. The estimation of the lactose in such a solution is simple. It would seem that the method, because of its simplicity and accuracy, might be worth general adoption.

The Benzidin Test for Occult Blood in Diseases of the Digestive Organs

DR. F. W. WHITE, Boston: The Schlesinger and Holst modifications of the benzidin test have been used in several hundred cases. I do not consider this test over-delicate, a large majority of negative results having been obtained. In feces, positive results were obtained only with ulcerative lesions of the gastro-intestinal tract and in hepatic cirrhosis. The benzidin test has many advantages over the guaiac test.

DISCUSSION

DR. ALBERT BERNHEIM, Philadelphia: Within the last few weeks, I have tried a new test with fluorescin, which acts in the same way as phenolphthalein, and is more delicate than the latter in some cases.

DR. DUDLEY ROBERTS, Brooklyn: I have come to the conclusion that positive findings are of great value in the benzidin

test, though negative findings indicate comparatively little. Several times I have been much confused because patients have taken hemoglobin preparations, and I now guard against that source of error with great care.

DR. J. FUHS, Brooklyn: In testing for blood in the stomach contents, I always test the saliva also for blood. If one adds benzidin to stomach-contents, it seems to have the property of liquefying mucus.

DR. A. S. BENEDICT, Buffalo: I have found several cases in which the occult blood in the feces came from a spot but 10 inches above the anus.

DR. F. W. WHITE: I think that both the positive and the negative findings have a good deal of value. If, in patients who have suspicious symptoms, I find no occult blood after they have had time to develop cancer, I consider this good evidence against the existence of malignant disease. Positive results in the feces mean a good deal more than the same results in stomach-contents.

Lymphocytosis in Certain Gastro-Intestinal Cases

DR. JOHN P. SAWYER, Cleveland, Ohio: In practically all my cases, for several years, a differential count has been made, and in the course of these observations I have often found the differential count of clinical advantage. A slight variation from the average lymphocyte-count is not of considerable moment; but when the count rises to 40 or 50 per cent. this is probably indicative of a considerable departure from the usual blood formation. These large lymphocyte counts are found without leukocytosis in a considerable number of diseases; among them, cases of gastro-intestinal disease. It occurs in cases in which gastro-intestinal catarrh is not discoverable by the test-meal or the stool; and in which the history shows no record of the existence of such catarrh recently. The condition of the gastric secretion seems to have no determining influence on this lymphocytosis. It is usually found in persons whose resistance is low. In such cases it is possible, by treatment of the patient, to bring about a very rapid and decisive change in this lymphocytosis. This treatment consists in the administration of iodid of iron for a few weeks and the exhibition of arsenic. This treatment brings about a prompt reduction in the lymphocyte-count, and the patients gain rapidly in weight and strength.

DISCUSSION

DR. S. T. MELTZER, New York City: I have come to the conclusion that there is a difference in the ferment between the leukocytes and the lymphocytes. One acts in alkaline, and the other in acid media; and I thought that there might be some sort of definite relation between certain conditions of acidity and lymphocytosis.

Is Pellagra a Disease Primarily of the Alimentary Tract?

DR. J. C. JOHNSON, Atlanta, Ga.: Gastro-intestinal symptoms are usually the first to appear in pellagra, and are in proportion to the gravity of the attack. There is an absence of hydrochloric acid in advanced cases; and in many, a lack of ferments. The patients were treated successfully with chlorid of potassium, tincture of iron, and essence of pepsin.

DISCUSSION

DR. S. J. MELTZER, New York City: The fact that the serious cases of pellagra had no hydrochloric acid, and that the cases that had hydrochloric acid had no serious symptoms, would indicate that the cause of the disease is of a kind that has to pass the stomach and that if hydrochloric acid is present in the stomach, it does not develop.

DR. A. S. BENEDICT, Buffalo: There is absolutely nothing specific or in the nature of an entity about pellagra. Cases of it are nothing but ordinary senility, insanity, skin-eruptions of various kinds, and all sorts of toxemias.

A Case of Voluntary and Intentional Regurgitation

DR. ALBERT BERNHEIM, Philadelphia: The patient can regurgitate food voluntarily and intentionally, whenever he desires to relieve symptoms of gastric distress. He usually takes a glass of water, to liquefy the contents of his stomach, so that they may come up easily; and also takes some bicarbonate of soda, so that the acidity of the regurgitated material may not injure the mucous membrane of the throat and mouth. He then bends over, so that the abdominal muscles compress the stomach. The esophageal opening of the stomach then dilates, and the food comes out.

DISCUSSION

DR. L. M. GOMPERTZ, New Haven, Conn.: I had a patient who was able to regurgitate his food. On one occasion, he had a complete case of reversed peristalsis, vomiting turpentine five minutes after it had been given by enema. He recovered from this attack without treatment.

Mitral Murmurs in Gall-Stone Disease

DR. DAVID RIESMAN, Philadelphia: In a number of cases of gall-stone disease, a mitral systolic murmur is audible during and shortly after an attack of colic. These murmurs are perplexing when the advisability of operative treatment is to be weighed. In all the cases seen, the murmur had not existed prior to the attack of colic. It is not due to endocarditis, for it disappears soon after the attack. It is not due to anemia, nor is it due to jaundice, for it can be heard in cases that do not have icterus. It probably depends on temporary dilatation of the heart. I believe that the chronic disease of the biliary tract, with its accompanying infection, causes a myocardial degeneration, somewhat analogous to that found in connection with fibroid tumors of the uterus. The degeneration predisposes the heart to dilatation when, during attacks of colic, the blood-pressure rises. The murmur is loud and unmistakable; the heart is enlarged, but not to any great degree. The murmur is no contraindication to surgical intervention. Indeed, if the pathogenesis is as stated, it constitutes a point in favor of operation. Care should, however, be taken with the anesthesia.

DISCUSSION

DR. S. J. MELTZER, New York City: It sometimes happens that there is a murmur in association with pain so excruciating as to lead one to believe it due to some trouble with the gall-bladder; while actually this pain is a symptom of angina pectoris. I have no doubt, however, that in Dr. Riesman's cases there was definite evidence of gall-stones.

DR. J. FUHS, Brooklyn: I have seen two cases of distinct biliary colic with asthmatic attacks in patients who had never had any asthmatic attacks before the attack of cholelithiasis, and never had one afterward. There was no functional or or organic disturbance of the circulatory organs either before or after the attack of gall-stones.

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Second Annual Meeting, held at Rome, April 19-21, 1911

(*Concluded from page 1604*)

What Has Been Done in Georgia Against Hookworm Disease

DR. A. G. FORT, Lumpkin: The disease has been demonstrated as heavy in fifty counties, light in twenty-five counties and as only demonstrated in fifty-two counties. To ascertain what percentage of suspects really had the disease we watched quite a number of specimens and found that an average of 74.1 per cent. of the suspects were really infected. We believe that hookworm exists in every county in Georgia and expect to demonstrate it in a short time. In the eradication of this disease the enlistment of the physicians in the various sections of the state is indispensable, next is the cooperation of the people so that they will present themselves for treatment, and finally finding means for the treatment of the indigent. We depend on the physicians of the state to treat the hookworm disease. We have sent to each physician bulletins on hookworm disease and we have also sent letters to each physician in the state. We have appeared wherever it was practical before the district and county societies, and our inspectors have visited hundreds of physicians personally making an effort wherever possible to enter into the technic of the examination

by means of the microscope. We have endeavored to get the cooperation of the people by giving lectures, by talking to parents whose children present evidence of infection, by giving talks to school children and by notifying each parent whose child is suspected of being infected and by sending to the parent bulletins stating the cause, nature and prevention of the disease, and the methods to be followed in securing a cure. In every section we have endeavored to see that a few typical cases have been treated in order that they might be an object lesson. As another means of getting the cooperation of the people we have used the press, having visited 102 editors and secured for publication 169 articles. The matter of providing treatment for the indigent is a perplexing question. The final task in the work of eradication is the stopping of soil pollution. This is a work of education and will require a great length of time. About 83 per cent. of the people in the state of Georgia live in the country and soil pollution is generally practiced, with no thought of the serious consequences. Outside of the cities and towns a large percentage of the people have no privies at all. The farmers are beginning to realize their importance and are asking for plans and specifications.

We have during the last twelve months visited seventy-five counties, examined 419 schools with an attendance of about 40,000 and found about 10,000 suspects. We have made 4,472 microscopic examinations and found 2,205 positive. We have reported as treated about 10,898 persons. We have delivered 400 lectures, many of them illustrated.

A Simple Technic in Gynecologic and Obstetric Perineal Repair

DR. R. R. KIME, Atlanta: By the buried suture the principles of the Emmet operation can be carried out equally as well if not better than in the denuding process and by a far simpler and quicker technic. I have been advocating this method of perineal repair for fifteen or twenty years. The longer I practice it the more I am convinced of its utility, efficiency and simplicity. If the flap is properly elevated, either or both vaginal sulci, anterior fibers of levator ani, pelvic fascia, sphincter ani, when lacerated, and the perineal structures proper can be approximated forming a good firm pelvic floor and as large a perineal body as is desired without destruction of tissue, which is a factor of importance in many cases. Scar tissue should be removed. It is best to conserve the vaginal tissue, especially if the patient is likely to have more children. The flap protects the sutures, lessens chances of infection and prevents the formation of pockets in vaginal sulci, lessens collection of lint from dressings; if infection does occur superficial stitches can be removed without complete separation of the parts. In obstetric work the same principles apply except that the parts are already denuded for suturing. All that is needed for the operation is a needle holder or artery forceps, scissors, No. 2 plain catgut and a small, full curved needle with a large eye. This method does not require an expert anatomist for hairsplitting dissections of the various individual muscles of the perineum.

DISCUSSION

DR. W. W. BATTEY, JR., Augusta: In all operations for the repair of the perineum we must have in view two facts, the necessity for support for the pelvic floor and for the rectocele. The operation employed by Dr. J. Riddle Goffe of New York is one of the best we can use. The repair can be accomplished in about fifteen minutes and the technic is very simple. The post-operative care of these patients is of as much importance as the operation itself.

DR. J. R. B. BRANCH, Macon: With regard to the post-operative care of these patients, they are left, as a rule, in the hands of a nurse and the ultimate success of the operation remains in her hands. One question that arises is whether to use a catheter or not. If the nurse cleans the perineum, dusts it over with aristol (thymol iodid), and then catheterizes the patient, the sutures may hold well. It is better, however, in many instances not to institute catheterization until we are sure that the sutures will hold. The bowels should be thoroughly cleansed out before operation and then a low diet given. The best results are then obtained by tying up the bowel. These patients do not need much nourishment. The bowels should be moved on the eighth, ninth or tenth day by means of an olive oil suppository, which should be given through the retention catheter. This catheter should have been introduced into the bowel, sutured there, to permit of the escape of gas.

DR. R. R. KIME, Atlanta: I wish to emphasize the importance of using the buried suture in these cases. I have never been able to get successful results otherwise. The suture should be one that is absorbable. If the knot is left in the rectum there are chances of infection from the rectum and this can be avoided by the method that I propose.

Tuberculosis Among Insane Negro Women

DR. N. P. WALKER, Milledgeville: These 265 cases do not represent selected cases and the period of observation extends over five and one-half years. Within the past five years the sanitarium has received 4,496 patients of whom more than 90 per cent. were between the ages of fifteen and ninety. For the registration area it is stated that 84 per cent. of people dying of the disease succumb between the ages of fifteen and seventy. In a sane community only about 61 per cent. are within these limits. One of the chief local etiologic factors is the crowded conditions of the wards. The normal capacity of the main building for negro women is 310 and the average number accommodated is 420. Note was made of the sleeping quarters of seventy-four consecutive patients in 1906-1907 and it was found that the percentage was 130 per cent. higher among the patients from the dormitories than from regular rooms, and 170 per cent. higher among those sleeping in the day rooms. There are many difficulties in making an early diagnosis of tuberculosis among the insane. Many do not complain at all and it is quite impossible to obtain a reliable history, especially among the negroes. There were thirty-three cases of acute miliary and general tuberculosis, forty-four in the third stage of pulmonary tuberculosis, 123 in the second stage and fifty in the third stage. There was one case of polyserositis, two of enteric fever, five of adenitis and seven of pleurisy with effusion. There were many forms of complications presented. The treatment presented many obstacles. Many were indifferent to instructions and it is almost impossible to secure systematic regulation of rest and exercise. The open air treatment was begun in 1905. As for mortality, of the thirty-three cases of miliary and general, two with enteric and one of polyserositis, all died. Of five patients with adenitis, four improved and one died of other disease. Of seven with pleurisy with effusion, five recovered, one improved and one died of intercurrent disease. Of those with chronic tuberculosis in the third stage, thirty-seven died, six were furloughed not improved and arrest took place in one. Of 123 in the second stage, twenty-one were cured, twenty-six arrested and forty-one died. Of fifty patients in the first stage, twelve were cured, sixteen arrested. The influence of isolation and treatment on the death rate among colored women has been gratifying. In 1905 the ratio was 9,317 per 100,000; in 1906, 6,677, in 1910, 2,936 or one-third the rate of 1905.

The Colon Bacillus as the Principal Cause of Abdominal Diseases

DR. FENTON B. TURCK, Chicago: The virulency of the colon bacillus is now quite generally recognized. The degree of virulency can be determined by cultures taken from the ileum or cecum and fed to rats. Immunity, or partial immunity, can be established by the use of vaccines. Where the thyroid gland is deficient, the giving of thyroid extract will reduce the virulency. The symptoms are variable in different patients. The cultures taken from the lower ileum or cecum were taken from an area of the greatest bacterial activity. One-half to one cubic centimeter of a bouillon culture of non-virulent *B. coli* can be injected into the peritoneum of the rat without any marked effect, but if the virulency is well marked, death will follow. In the treatment of such diseases one should reduce the virulency of the *B. coli;* he should restore the stomach and intestines to their normal condition; by hygienic living, proper diet, etc., he should guard against recurrences. If the retention was of long standing, and the correction of dietetic errors and hygienic living, drugs, etc., do not avail, surgical means are required. This, however, only removes the effect and not the cause, and after-treatment is necessary to

remove the causal factors. Lavage of the stomach with a weak solution of silver nitrate is necessary. Heat stimulation (hot water introduced into the stomach) is very beneficial to create antibodies and restore the muscle to functional activity. Lavage of the colon with water and air will excite peristalsis and act as pneumatic gymnastic exercise of the muscle wall of the colon. Liquid petrolatum enemas are of great value in cases of constipation. Some have recommended the use of *B. bulgaricus* as antagonistic to the *B. coli*, but others maintain it has no effect when taken with a mixed diet.

The injection of vaccines is of the greatest value. The cultures should not be taken from the ileum or cecum, as there the strain is most virulent. The cultures are injected into a dead fetal pig and grown in a serum pressed out from the fetal pig. In acute cases small injections are taken from three to five days apart; in the chronic cases larger doses are given but farther apart. In many cases where the mechanical physical means and vaccine and serum treatment are all negative, the use of the thyroid substance will be beneficial. Laxatives and purgatives are valuable for expelling the accumulated material from the bowel, but are of no permanent value. Those drugs which have the least irritating effect should be used. Antiseptics of all forms have little value, as they seem to increase the virulency of the *B. coli*. A few of the oxidizing agents, such as substances containing magnesia or iodin compounds, containing free oxygen that can be liberated, will promptly excite the antibodies in the blood. The diet regulates the bacterial contents of the intestines. Frequent changing of the chemical nature of the diet will prevent the establishment of any one type of bacteria in the intestines. The frequency of meals is of great importance. In many more time is required, because of the slow movement to clear the alimentary tract and give time for rest. Meat increases intestinal intoxication and should not be eaten oftener than once a day. Rice is one of the most easily digested foods, and least toxic in effect. It may be combined with extract free meat, into an easily digested, nutritious and inviting dish. Carrots, beets, parsnips, raw cabbage, celery, raw tomatoes, apples, are all good and may be used in various combinations. Irish moss and agar agar, cooked into a jelly and flavored, will do much to reduce the virulency of the *B. coli*. Lavage of the stomach and colon will notably have a beneficial effect but will produce changes in the chemistry of the blood. Hot baths have a like effect, but to a less degree. Exercise is an essential part of the treatment to be adopted in combating constipation.

Drinking Water with Meals

DR. GEORGE M. NILES, Atlanta: There is a widespread idea that the habit of imbibing water or any other fluid as food is harmful. I believe it to be based on erroneous physiologic conclusions and promulgated more by tradition than by painstaking observation. Water does not to any extent permeate a mixed meal in the stomach and consequently cannot dilute or interfere with the potency of the gastric juice. Much water at meals is contra-indicated in gastroptosis, in patients with weak hearts or uncompensated valvular lesions, occasionally where there is a marked tendency to colic or spasm of the pylorus. Copious draughts of ice-water gulped down during fatigue or profuse perspiration are both unhygienic and dangerous. A large percentage of patients coming under my notice for poor nutrition, constipation, intestinal auto-intoxication and numerous other states of disordered digestion are those who drink no water with their meals, or very little. I enlisted the aid of sixteen young men of good physique and good digestion, each one accustomed to drinking one or two glasses of water with his meals. Eight of these young men were instructed to drink no water with meals, and only what was demanded to satisfy thirst between meals for a week. The other eight were instructed to drink four glasses of water with each meal and between meals to drink it as was desired. Of the eight who drank no water, all lost in weight, from eight ounces to two pounds, with one exception, and he remained at exactly the same weight as before. Each one complained of headache and more or less constipation. The eight who drank four glasses at a meal fared much better. All gained in weight from four ounces to two and one quarter pounds, except one, whose weight remained the same. Not one had headache, constipation or any digestive discomfort. The one who was constipated at the beginning found his bowels more regular.

DISCUSSION

DR. E. C. THRASH, Atlanta: It has been my policy to curb thirst during meals, but otherwise to drink when inclined to do so. Drinking too much water is detrimental, and drinking too little water is also detrimental. It is better to drink the quantity of water that the system demands and not to go to extremes.

DR. T. J. MCARTHUR, Cordele: I feel sure that many people suffer from indigestion, supposedly the result of kidney trouble, when the real cause is a lack of a sufficient water supply to the system. My personal observation has been that it is not an advantage to take too much water with meals. I think the happy medium is to be found in taking two glasses of water with meals. One should insist on a definite quantity of water being taken during the twenty-four hours. We should not force the amount of fluid beyond the demand. Some people get the idea that water is unhealthful, and drink but small quantities of it. If they drank more and diluted the contents of the alimentary canal more frequently there would be less absorption of toxins.

DR. J. R. B. BRANCH, Macon: It makes a difference whether liquids are taken in the beginning or at the close of a meal. The saliva plays a very important part in carbohydrate metabolism. If one chews his food thoroughly, he obtains the proper secretion of saliva; if a moderate amount of water is taken at this time no harm will result, but if large quantities are taken or the food is washed down with fluid the proper digestion of the carbohydrates is interfered with.

DR. S. A. VISANSKA, Atlanta: One of the greatest arguments to my mind in favor of taking water with meals is that an infant artificially fed must have its milk diluted with water to the same degree as the mother's milk is. In infants we seldom find kidney troubles; the water seems to flush out the kidneys. So far as my experience goes, the taking of water with meals is beneficial rather than harmful.

Bacillus-Carriers and Their Relation to Public Health

DR. K. R. COLLINS, Atlanta: Carriers may be divided into three classes: (1) Permanent carriers; this class is confined to such persons as have never had the disease which is produced by the organism for which they act as host. (2) Temporary carriers; those who come in close contact with a patient suffering with an infectious disease and acquire temporarily the organism related to the disease. (3) Persons convalescent from certain diseases who continue after complete recovery to maintain the organism causing the disease for varying periods of time. Among convalescents individuals have been found who carry the active bacilli anywhere from a few days to 669 days after the disappearance of the membrane in diphtheria. Convalescents from typhoid may carry the organism from a few weeks to twelve to eighteen months after their recovery. Such convalescents may be responsible for some outbreaks of typhoid in schools and colleges. We have no accurate knowledge regarding contacts in typhoid as we have in diphtheria, but it is quite possible for an individual to acquire temporarily the organism and to become a means of transmitting the disease. Several cases of permanent carriers of typhoid fever have been reported as "Typhoid Mary," reported by Dr. Soper of New York City. There are other diseases carried in the same way as has been demonstrated in a case of cerebrospinal meningitis. It would seem advisable in cases of epidemics of various infectious diseases to consider the possibility of human carriers and to give careful instructions to those recovering from these diseases as to how to protect others.

DISCUSSION

DR. J. C. BLOOMFIELD, Athens: The question of bacillus carriers is a very important one with health officers especially. My experience has been that people are willing to do what is right if they understand the reason. Mild cases of diphtheria, where the patient is not very ill, are the ones that make the trouble, as it is sometimes very difficult to make

people understand that such cases are dangerous. In our town there is a milk district with 200 to 250 inhabitants which furnishes one-third of all the cases of typhoid in the city; this district is supplied with the same water as the other parts of the city, and I am convinced that there is a typhoid carrier in that locality. They are careless here about their hygienic surroundings and every year typhoid appears in April and continues until December. In cases of diphtheria, every child in the school-room which was occupied by the patient should have a culture taken. In the city of Athens we have an ordinance that no child who has a sore throat for twenty-four hours can return to school until a culture has been taken and declared free. Many children without membranes give positive cultures.

DR. J. C. BENNETT, Jefferson: If we suppress the carriers of disease, contagious diseases can be stamped out.

DR. J. R. BRANCH, Macon: In typhoid it is well known that the patient harbors the bacilli and scatters them through the urine and feces. At the end of convalescence the urine and bile can be sterilized absolutely by the administration of hexamethylenamin, 5 grains three times a day. It would be a good idea to have the urine and feces examined before the patient is discharged.

DR. R. R. DALY, Atlanta: It is the physicians duty to educate the people in regard to these bacillus-carriers. I know a family of five children who had diphtheria and all were carriers, and yet the father refused to understand that they were dangerous and did not isolate them.

Diseases of the Mouth

DR. ROBIN ADAIR, Atlanta: The neglect of this subject often results in loss of masticating surface, part of a jaw or the death of the patient. Growths in the mouth are often of dental origin, and the custom of treating these cases with drugs is to be condemned. When examining a patient, extend your observations to the gums. The local surgical treatment is the work of a dentist. Fortunes are spent to attempt to cure tuberculous patients, who reinfect themselves every time food, medicine or saliva pass over their diseased cavities and gums. Many so-called throat, eye, stomach, intestinal, liver and kidney troubles are due to a diseased mouth and medical treatment cannot cure them. The mouth must have attention. Many mouths which were in good condition before an illness soon after convalescence develop disease of the gums; this is because the physician has not given proper care to this organ while the patient was under his care. The patient is apt during illness to lose the cleansing advantages and the mouth becomes a culture tube for bacteria.

DISCUSSION

DR. GEORGE N. NILES, Atlanta: In treating cases of gastro-intestinal disease, whether in the adult or the child, one should never neglect the condition of the mouth. The alimentary canal cannot be kept clean unless the mouth is clean.

DR. R. R. DALY, Atlanta: The antituberculosis society found some time ago that it was not getting the results that it wanted and tried to learn the cause. Dr. Adair was consulted on the subject and he pointed out one reason, the lack of proper care of the mouth. After the society had obtained the services of dentists to work on the teeth of these unfortunates, remarkable results were obtained. Mouth contamination interferes with proper digestion, and it also causes sore throat and other conditions that improve when the teeth are cleansed.

DR. E. C. CARTLEDGE, Atlanta: At the hospital it is the custom to always clean the teeth of the patient before giving the anesthetic. The germs of pneumonia are always present in the lungs and unless these germs are gotten rid of before the operation pneumonia is likely to occur. This point is too frequently overlooked. I never have a patient consult me unless I first examine his mouth.

DR. S. A. VISANSKA, Atlanta: The time to begin oral hygiene is in infancy. It would be a good idea if the society would elaborate on the lines brought out in this paper and especially in regard to the spreading of contagious diseases because of the lack of proper oral hygiene.

A Plea for the Isolation of the Criminal Insane

DR. W. A. ELLISON, Milledgeville: It is my observation that the natural instinct of the criminal is to exercise a malicious influence over his fellow associates, creating disturbances and demoralizing the law and order of things, and if possible inciting insurrection. Worst of all, the criminal hinders the favorable prognosis of the common insane. I plead for a better court of commitment, one that should eliminate the ten days' notice and treat one with a diseased mind rather as a sick man than as a criminal. The shameless exhibition of insanity pushed as a mode of defense in crime and followed soon after commitment by the indignant efforts of the accused to be adjudged sane should make us more cautious, and the erection of colonies for the criminal insane would lessen the number of such pleas on the side of the criminal. In regard to the study of criminology as associated with insanity we may devide it into two classes; insanity as a culminative factor in the production of crime and crime as a culminative factor in the production of insanity. My idea of a colony for the criminal insane is a colony for the insane under the management of a separate board of trustees, or directly under the management of the prison commission, on an area sufficiently large, whereby the able-bodied can be put to work, to develop their bodies and possibly their minds. As physicians we should urge on the state the isolation of this class.

DISCUSSION

DR. R. R. DALY, Atlanta: There is something peculiar about the criminal insane which differs from what is found in the ordinary case of insanity. The fear of personal harm in these institutions greatly interferes with the work of the doctor, and in Matteawan, N. Y., the doctor always has a personal attendant who does nothing but stand behind. This interferes with the work of the doctor in cases of men who are not criminally insane.

DR. W. A. ELLISON, Milledgeville: Physicians should be given an opportunity to examine the patients suspected of being criminally insane in order to determine the character of their insanity. The proper treatment of these cases should not be interfered with in the courts. While the physician should always be on guard when brought into contact with these patients, he should not be in great fear of personal injury.

A State Journal

The society voted to establish a state journal, owned and controlled by the society and edited by the secretary, Dr. W. C. Lyle, Augusta.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

May

1 Oriental Sore in Panama. S. T. Darling, Ancon, C. Z.
2 *Use of Blood Charcoal as Clearing Agent for Urine Containing Glucose. R. T. Woodyatt and H. F. Helmholz, Chicago.
3 *Chlorid and Water Tolerance in Nephritis. K. M. Vogel, New York.
4 *Studies on Water-Drinking. W. M. Hattrem and P. B. Hawk, Urbana.
5 Determination of the Catalytic Activity of the Blood as a Clinical Diagnostic Method. M. C. Winternitz, G. R. Henry and F. McPhedran, Baltimore
6 *Study of the Internal Function of the Pancreas in Carbohydrate Metabolism. J. H. Pratt and L. H. Spooner, Boston.
7 Tuberculous Retroperitoneal Adenitis Connecting by a Sinus with the Duodenum. M. Lincoln, Worcester, Mass.
8 *Case of Synchronous Cardiac and Respiratory Rate. G. W. Norris, Philadelphia.
9 *The Utilization of Fats and Oils Given Subcutaneously. L. H. Mills, New York.

2. **Blood Charcoal.**—The authors advise that, before any conclusions be drawn from measurements made by the Bang and Bohmannsson method, the individual sample of charcoal which is used shall be thoroughly tested in control experiments.

3. **Chlorid and Water Tolerance in Nephritis.**—Vogel emphasizes that the manner in which the kidney deals with known amounts of sodium chlorid and water furnishes, at least in some measure, an index of its functional capacity in general

and aids in establishing the anatomic diagnosis. It is, therefore, apparent, that whatever may be thought of the salt-poor diet as a routine mode of treatment, the indications to be gained from a study of the chlorid and water intake and output are sufficiently valuable to render it advisable to make such determinations in beginning the treatment in every case of nephritis that is at all severe.

4. **Water Drinking.**—The observations made by Hattrem and Hawk showed that the drinking of copious (1,000 c.c.) or moderate (500 c.c.) volumes of water with meals decreased intestinal putrefaction as measured by the urinary indican output. Copious water-drinking caused a more pronounced lessening of the putrefactive processes than did the moderate water-drinking. In copious water-drinking the total ethereal sulphate output was increased coincidently with the decrease in the indican output. This observation furnishes strong evidence in favor of the view that indican has an origin different from that of the other ethereal sulphates, and that they cannot correctly be considered as indexes of the same metabolic process. When Ellinger's method is employed, the authors say that the determination of indican should be made on fresh urine before any preservative has been introduced. Especially is this true when thymol is used as the preservative. The decreased intestinal putrefaction brought about through the ingestion of moderate or copious quantities of water at meal time is probably due to a diminution of the activity of indol-forming bacteria following the accelerated absorption of the products of protein digestion, and the passage of excessive amounts of strongly acid chyme into the intestine.

6. **Internal Function of Pancreas in Carbohydrate Metabolism.**—The authors found that there is a rapid decrease in the power to assimilate glucose after the onset of atrophy of the pancreas. The persistence of a low limit of assimilation for more than a year shows that the other organs of the body compensated imperfectly, if at all, for the pancreatic insufficiency. Diabetes did not develop in any animal, although in two the atrophy and sclerosis of the pancreas were extreme. It cannot be denied that the retained ability to consume sugar in animals with the pancreas almost totally sclerosed was possibly due to some compensating action elsewhere in the organism. The limit of assimilation in a dog with atrophy f the pancreas which had been under observation fourteen months was increased more than 100 per cent. by feeding fresh pancreas.

8. **Synchronous Cardiac and Respiratory Rate.**—The respirations in Norris' patient were very rapid, but the pulse-rate very slow. The pulse-rate and the respiratory rate were absolutely synchronous, 72 per minute. This condition persisted for about twenty-four hours, during which time the cardiac and respiratory rate remained absolutely synchronous.

9. **Utilization of Fats and Oils Given Subcutaneously.**—Mills' experiments have shown that olive, peanut, cocoanut, sesame, cotton-seed, lard oils, unsalted butter-fat and lard may be given hypodermically and over a considerable period without local irritation, provided aseptic care is used, and no constitutional disturbance occurs, provided precautions are used to prevent injection into the blood-stream. Emulsions of these oils made with 3 to 5 per cent. of egg lecithin and water are permanent, and cause no irritation if given subcutaneously. Oils and fats given subcutaneously are absorbed by means of the lymphatic system and eventually reach the thoracic duct. Lymphatic vessels and glands in contact with and transmitting oil for any length of time become hypertrophied and are thus better able to carry oil. The amount of absorption of plain oil from the subcutaneous tissues after injection during starvation is so small as to be negligible. Emulsified oils and fats injected during starvation are absorbed in amounts sufficient to furnish from one-half to two-thirds of the full calorific requirement of the animals injected. Oils and fats so injected and absorbed have no more influence on the destruction of protein in starvation than has fat given alone by mouth. Plain oils injected subcutaneously under conditions of low protein ingestion are little, if any, better absorbed than when similarly given during starvation. Emulsified oils injected under these conditions are absorbed quite as well as similar oils given to starving animals. Plain and emulsified oils are absorbed about equally well when the animals injected are given a plentiful supply of protein in their food. This probably furnishes the large quantity of lipolytic enzymes necessary for body action on plain oil. The injection of oils subjected to lipolysis causes death, which is due apparently to the production of oleic or other acids with the possible formation of toxic quantities of soaps. Oil absorbed from the tissues after subcutaneous injection is (a) burned in the body for the production of heat and energy, thus sparing the body fat; (b) retained as such within the organism; or (c) possibly converted into body fat by reconstruction in the liver, from which it may be sent for storage to the various fat depositories, after which it is drawn on as needed. Proof of this last proposition is lacking. It seems likely, from comparative examination of the iodin indices of the ether extracts of visceral and adipose tissue that the actively functioning viscera use oil and fat absorbed after subcutaneous injection for the direct performance of their functions, and that the storage of the foreign fat given in excess of the nutritive requirement takes place principally in the subcutaneous tissue, liver and lungs, to a small extent in the kidneys and spleen, while the pancreas and stomach and intestines are practically uninfluenced. This demonstration that after injection under suitable conditions oils can be absorbed to an amount capable of covering so large a proportion of the calorific requirement suggests the application of such injections to the treatment of wasting diseases, to the cachectic conditions associated with imperfect metabolic processes, and especially to tuberculosis, in which the intolerance to fats is almost symptomatic.

Buffalo Medical Journal

May

10 Pellagra in Buffalo. G. W. Wende, Buffalo.
11 A Plea for Hospital Delivery of Our Maternity Patients. L. Schroeter, Buffalo.
12 Fiftieth Anniversary of the Graduation of Drs. Clawson and Smith. C. G. Stockton, Buffalo.

New York State Journal of Medicine

May

13 *Medical Teaching and State Boards of Medical Examiners. C. Stover, New York.
14 Venesection and Saline Infusion in Pneumonia. J. S. Waterman, Brooklyn, N. Y.
15 *An Improved Method for the Extraction of the Immature Cataractous Lens. H. E. Smith, Norwich, N. Y.
16 Early Functional Danger Signals in Abdominal Disease. R. S. Fowler, Brooklyn, N. Y.

13. Abstracted in THE JOURNAL, May 6, 1911, p. 1351.

15. **Extraction of the Cataractous Lens.**—The operation described by Smith differs in two particulars from the usual extraction operation. Taking a firm and deep grasp with the fixation forceps on the conjunctiva just below the insertion of the internal rectus muscle, a knife with a blade the shape of a miniature scalpel is thrust through the cornea about the middle of the supero-temporal quadrant and the blade carried down to the lower edge of the dilated pupil, its edge being toward the operator. The handle is then made to describe the arc of a circle away from the surgeon, and a cut is made through the capsule up to the upper limit of the pupil, the blade, then slightly withdrawn, is carried over to the inner side of the mid-pupillary space, the same maneuver repeated and a cut made in the capsule at right angles to the first. The blade is then turned into the same plane as its entrance and is withdrawn. If for the left eye the operator stands on the left side of the patient, the fixation is just above the internal rectus and the knife entered into the infero-temporal quadrant, the cut in the capsule then begins at the upper limit of the pupil. The procedure otherwise is the same. After the capsulotomy the conjunctival sac is flushed with an antiseptic lotion, the patient given a hypodermic of ¼ grain morphin and put to bed. He is allowed to remain there from four to six hours before the extraction proper is performed. This does not differ from the ordinary method, but the corneal section should be ample, for most immature cataractous lenses are large. The period of waiting and the method of capsulotomy are the two essentials of this operation. During the waiting period the capsule, having been amply divided, curls away

from the cortex and allows the aqueous to insinuate itself between this and what remains of the enveloping capsule, causing a separation between the two. That this is true is seen by the ease with which the later delivery of the lens is always accomplished, and its clean, full and smooth outlines when it does come out.

Medical Herald, St. Joseph

May

17 *Present Status of Salvarsan. A. Schalek, Omaha, Neb.
18 *Suggestions for the Application of Lactic Ferments in Genito-Urinary Work. F. S. Mason, New York.
19 *Difficulties Encountered in Late Operations for Intestinal Obstruction. H. E. Pearse, Kansas City, Mo.

17, 18 and 19. Abstracted in THE JOURNAL, April 15, 1911, pp. 1140 and 1141.

Journal of Biologic Chemistry, Baltimore

May

20 Refractive Indices of Solutions of Certain Proteids. Gliadin. T. B. Robertson and J. E. Greaves, San Francisco.
21 Method for Quantitative Determination of Aliphatic Amino Groups. D. D. Van Slyke, New York.
22 Quantitative Determination of Prolin Obtained by the Ester Method in Protein Hydrolysis. Prolin Content of Casein. D. D. Van Slyke, New York.
23 Digestion of Protein in the Stomach and Intestine of the Dog-fish. D. D. Van Slyke and G. F. White, New York.
24 Relation Between the Digestibility and the Retention of Ingested Proteins. D. D. Van Slyke and G. F. White, New York.
25 *Increase in Metabolism Due to the Work of Typewriting. T. M. Carpenter, Boston.
26 Pentosans in Lower Fungi. A. W. Dox and R. E. Neidig, Ames, Iowa.
27 Factors Influencing the Quantitative Determination of Gliadin. J. E. Greaves, San Francisco.
28 Composition of Certain Substances Produced by the Action of Pepsin on the Products of the Complete Peptic Hydrolysis of Casein. T. B. Robertson and H. C. Biddle, San Francisco.
29 Theory of the Mode of Action of Inorganic Salts on Proteins in Solution. T. B. Robertson, San Francisco.
30 Relationship Between Urea and Ammonium Salts. A. J. Wakeman and H. D. Dakin, New York.
31 Formic Acid as an Intermediary Substance in the Catabolism of Fatty Acids and Other Substances. H. D. Dakin and A. J. Wakeman, New York.
32 Sulphur in Proteins. T. B. Johnson and G. Burnham, New Haven, Conn.
33 Hydrolysis of Casein. T. B. Osborne and H. H. Guest, Connecticut.

25. **Increase in Metabolism Due to Typewriting.**—Carpenter found that the rate of from fifty-seven to 115 words per minute resulted in an increase in the pulse-rate from 90 to 120, and in the respiration per minute from 19 to 30. There was also an increase in the body temperature, although it is evident that the total rise was not satisfactorily measured in these experiments. The work of typewriting at the rates reported in his experiments resulted in an increase of 30 to 70 per cent. in the total metabolism above the resting metabolism, or an average of about 50 per cent. The amount of increased energy above the resting metabolism per 1,000 words was on the average about 7 calories, and the increase in both the carbon dioxid and the oxygen was 2.5 grams. The increase in carbon dioxid and oxygen due to 1,000 strokes on a typewriter was 0.57 and 0.54 grams, respectively, and about 1.6 calories increase in energy output. The measure of metabolism by periods during the work of typewriting shows that there was a gradual decrease in the amount of energy required per 1,000 strokes. This was more marked in the individuals whose hands and fingers became extremely tired, which would indicate that during fatigue, work is accomplished more economically. The average equivalent amount of work calculated from the increase in metabolism in these experiments varied from 1,950 to 4,600 kilogrammeters per hour, and the calculation based on these results gave an average of 145 kilogrammeters per 1,000 strokes of typewriting. The variation in the increase in metabolism due to the work of typewriting in these different individuals is considered to be due to differences in individual facility and technic. The female subjects represented the extremes in these experiments.

Lancet-Clinic, Cincinnati

May 20

34 *Preparation Required for the Practice of General Surgery. G. W. Green, Chicago.
35 Insanity and Allied Conditions. I. O. Allen, Richmond, Ind.
36 Myositis Ossificans. S. Lange, Cincinnati.
37 Cincinnati's Tuberculosis Problem and Some Suggestions for Its Solution. W. H. Streitmann, Cincinnati.

34. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1134.

American Journal of Orthopedic Surgery, Philadelphia

May

38 *Treatment of Congenital Talipes Equinovarus in Infancy and Early Childhood. R. E. Soule, New York.
39 *Artificial Impaction in Hip Fractures. F. J. Cotton, Boston.
40 A Scheme for Determining the Correct Relative Position of the Joint of an Apparatus to the Anatomic Joint. J. J. Nutt, New York.
41 A Case of Tubercular Osteomyelitis of the Extremity of the Femur Resembling Infantile Scurvy. S. M. Cone, Baltimore.
42 *Muscular Weakness and Pain. E. H. Bradford, Boston.
43 A Case of Congenital Elevation of the Scapula. P. Le Breton, Buffalo.
44 The Plaster Swathe. R. Soutter, Boston.
45 A Rolling Bench for Use After the Reduction of Congenital Luxation of the Hips. G. G. Davis, Philadelphia.
46 Anatomic Anomaly Causing Symptoms of Broken Arch. F. J. Cotton and H. F. Day, Boston.
47 An Instrument for Shortening Tendons. A. O'Reilly, St. Louis.

38. **Congenital Talipes Equinovarus in Infancy.**—Soule emphasizes particularly that the earlier begun and the more continuous the treatment, the less likelihood of having to resort to braces at a later period. He says that the inward rotation of the tibia on its long axis is usually found in cases which have been allowed to continue into early childhood before attempting correction of the club-foot. Knock-knees is also a later development found in the walking period. It is emphasized that no case should be left to the nurse or parent to manipulate, neither should they remove or apply fixing dressings and manipulate the foot. With the continuous plaster dressings correction is more quickly attained, and the restoring of balance between the adductor and abductor muscles and the reforming of articular facets is more certain, and the maintenance of the position is absolutely under control. The treatment is kept under the control of the surgeon better with plaster-of-Paris dressings than with readily removable dressings. There is less atrophy from plaster than from the restricting bands of braces. With reasonable care cleanliness is maintained, and there should be no irritation of the skin if the plaster is not carried above the knee. Excoriations will not interrupt treatment when zinc oxid adhesive plaster is used to protect the foot. A child walks much more comfortably and easily in a well-applied plaster dressing than in any confining brace. Adhesive plaster applications can be used when the surgeon desires to test the ability of the foot to maintain itself without allowing any loss in the amount of correction attained. Restoring the foot to an apparently corrected position does not constitute a final result. Soule holds that tenotomies are seldom necessary. When the tendo achilles is tenotomized a most important resisting point toward the correction of the deformity is removed. The division of the plantar and internal ligaments removes an important element in the correction of the abnormal contour. Open division of structures produces scar tissue which furnishes an added element toward relapse.

39. **Artificial Impaction in Hip Fracture.**—Cotton regards it rather strange in view of the admittedly poor prognosis of unimpacted hip fractures that no one seems to have reached the obvious inference as to treatment. He asks: if unimpacted hip fractures fail of union and do badly while similar impacted fractures do relatively well, then why not impact? Yet such impaction seems not to have been attempted in any deliberate fashion. Cotton tried it in one case. An unimpacted was converted into an impacted fracture. Perfect position was not obtained, nor was the erosion of bone ends entirely averted; but from the time of operation there was no crepitus, no mobility, no tendency to loose eversion, and the result is comparable with the usual result of impacted fracture of the femoral neck in a patient of this age and type. A similar result was obtained in a second case.

42. Abstracted in THE JOURNAL, July 2, 1910, p. 51.

Woman's Medical Journal, Cincinnati

May

48 Clinical Observations in Feeding Dispensary Babies. E. L. Coolidge, New York.
49 Factors for and Against Gynecologic Operations. M. D. Rushmore, New York.
50 Alcohol in Relation to Epilepsy. S. Radcliffe, Yonkers, N. Y.

Bulletin of the Lying-In Hospital of the City of New York

June

51 *Cesarean Section by the Small Median Incision Above the Umbilicus. A. B. Davis, New York.
52 *Summer Diarrhea in Infants Under Two Years. E. L. Coolidge, New York.
53 Radical Treatment of Abortion. G. W. Kosmak, New York.

September

54 Fibromyomata of the Uterus, Complicating Pregnancy, Labor and the Puerperium. R. W. Lobenstine, New York.
55 Prolapse of the Umbilical Cord. C. B. Knapp, New York.
56 *A Case of "Puerperal Bacteremia" Treated by Intravenous Injections of Magnesium Sulphate. R. W. Lobenstine, New York.
57 Pregnancy Complicated by Nephritic Abscess; Normal Delivery Followed by Nephrectomy. J. W. Markoe, New York.
58 A Case of Exstrophy of the Heart. J. E. Welch, New York.

December

59 An Outline of the History of the Society of the Lying-In Hospital of the City of New York. J. W. Markoe, New York.
60 The Beginnings of Mind in the New-Born. F. Peterson and L. H. Rainey, New York.
61 *What We Can Expect from Vaccines in Puerperal Sepsis. J. O. Polak, Brooklyn, N. Y.
62 *A Modification of Lane's Operation for Cleft Palate and Harelip. J. W. Markoe, New York.

51. **Cesarean Section.**—Davis makes a very extensive detailed report on 197 Cesarean sections performed in the service of 60,000 cases, or once in 304.56 cases (0.33 per cent.).

52. **Summer Diarrhea in Infants.**—The routine treatment pursued in this service of the Lying-In Hospital has been as follows: For bottle-fed babies under 1 year of age, as soon as the infant is seen, all milk is stopped and the baby given either barley or granum-water. These gruels are made by mixing 1 heaping teaspoonful of the flour with 1 pint of water, cooking the same for fifteen minutes, then adding a pinch of salt. This thin gruel is fed every two or three hours, according to the age of the child, the proper number of ounces for the special age being prescribed. Two ounces of boiled water are also given between meals. This feeding is kept up for twenty-four or forty-eight hours according to the severity of the attack. At the end of this time the mother is instructed to add 1 ounce of whole milk to each pint of the gruel and from this point the milk is gradually worked up in the formulæ until the correct amount for the child's age and digestive capacity is reached. The baby is not kept on gruel alone for any great length of time, and to this fact more than to anything else Coolidge attributes success in dealing with these cases. There are some babies that cannot digest the fat in cow's milk after a severe attack of diarrhea and in such instances condensed milk is substituted for the fresh milk, as the former contains such a very low percentage of fat that it is usually well borne by this class of babies. As the infant improves, fresh milk is gradually substituted for the condensed milk until the correct formula can be taken. Coolidge generally begins the condensed milk in a dilute mixture, often 1 part of the condensed milk to 30 of the gruel and gradually increases the strength until the dilution is 1 to 10 or 12 according to the age of the child. At this point one feeding of a weak fresh milk formula is substituted for one of the condensed milk, then in a day or two, two meals of the fresh milk, etc., until all fresh milk is being taken. Babies from 1 to 2 years of age are given, in addition to the above food, mutton or chicken broths free from fat, once or twice a day, also a little zwieback broken up in the broth. After two or three days, farina porridge made as thick as an ordinary breakfast cereal is given, often with a very small bit of butter added to make it palatable, until milk can be used on the same. In breast-fed babies, the mother is instructed to give barley-water for twenty-four hours and to apply the breast-pump at regular intervals during this time. Boiled water is also given to these breast-fed babies. At the end of this time 1 or 2 ounces of barley-water is given to the child just before the breast and then the nursing is allowed for five minutes at each feeding time. As the stools improve the amount of barley-water is decreased and the nursing from the breast increased until gradually the child is taking its usual amount of nourishment. The medication given these cases depends on the severity of the infection; when the stools are simply frequent, thin and yellow or green, give from 1 to 2 teaspoonfuls of castor oil and follow this up the next day by aromatic syrup of rhubarb, in doses of from 5 to 20 drops every three hours, according to the child's age. This is generally continued for two or three days. Very often this is all that is required. If at the end of this time the stools are still frequent, containing blood or much mucus, calomel, $^1/_{10}$ of a grain, every hour for ten doses is prescribed, and after several free movements follow it up by a bismuth mixture.

56. **Magnesium Sulphate in Puerperal Bacteremia.**—The uterine culture in this case showed a pure growth of streptococci at the end of twenty-four hours. The blood-culture presented no apparent growth after twenty-four hours, but a very abundant growth at the end of forty-eight hours. On the second day after admission, 30 grains of magnesium sulphate were dissolved in 8 ounces of sterile water and the mixture introduced into one median basilic vein at a temperature of 108 F. There was a slight chill after the infusion and the temperature went up temporarily from 103 to 104.2 F. The pulse continued about 120 to the minute, and on the second day following this first injection, both the pulse and temperature showed some slight improvement. The patient's general condition also appeared a trifle better. On the third day after the injection the temperature dropped to nearly the normal, while the pulse came down to between 90 and 100. That night, however, there was a sudden change for the worse; the temperature went up to 105 F., and the pulse 130-140. Strong stimulation was required and death was looked for within twenty-four hours, as the patient became weak and listless. A second injection of magnesium sulphate of the same strength was now given. This was again followed by a chill and a temperature rise to 106.4 F. Within six hours both the temperature and the pulse began to subside, so that two days later both were normal. A blood-culture taken at this time remained sterile after three day's incubation. Convalescence was rapid and uneventful thereafter.

61. **Vaccines in Puerperal Sepsis.**—Polak admits that vaccine therapy has a definite field in the treatment of puerperal septic infection in the subacute stage and after the local focus has formed, it hastens convalescence. Inoculations with autogenous vaccines will promise prompt results in staphylococcic and colon bacillic infections, but in streptococcic poisoning, vaccine treatment is unreliable, and is of value only when the virulence of the germ is attenuated, or when Nature has already developed a phagocytic defense.

62. **Modification of Lane's Operation for Cleft Palate.**—The technic of Lane is followed by Markoe, except that the mucoperiosteum covering the intermaxillary bone is separated from the subjacent bone and carefully fitted under a raised flap from the opposite alveolus, this completely closing in the arch of the alveolus and also helping to form the floor of the nose anteriorly.

Journal of the Delaware State Medical Society, Wilmington

May

63 What Is Heart-Block? A. Robin, Wilmington.

Kentucky Medical Journal, Bowling Green

May 15

64 Rheumatic Eye Disease. S. G. Dabney, Louisville.
65 Ectopic Gestation. H. A. Davidson, Louisville.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May

66 *An Experimental Study of Camphoric Acid. G. B. Roth, Ann Arbor.
67 Influence of Various Salts on Tetany Following Parathyroidectomy. C. Voegtlin and W. G. MacCallum, New York.
68 *Rôle of the Portal Circulation of the Liver in Bile Formation and Jaundice. C. Voegtlin and B. M. Bernheim, Baltimore.
69 *Laxative Properties of the Tribasic Salts of Phenolphthalic Acid. L. G. Rowntree, Baltimore.

66. **Action of Camphoric Acid.**—Roth found that both on frogs and higher animals sodium camphorate acts as a stimulant to the central nervous system, producing in the frog, at times, a distinct increase in reflexes. It is devoid of effect

on the secretory nerve endings of the sweat glands and in addition has no influence on the salivary secretions. The drug given as the sodium salt is comparatively non-toxic for frogs, cats or rabbits. It is more toxic when given intravenously than subcutaneously. Its diuretic effects are comparable to those of an indifferent salt such as sodium chlorid. It raises the blood-pressure in mammals and has some depressing effect on the heart muscle. These circulatory changes like the effects on the kidney are due to salt action. Camphoric acid given to animals as sodium camphorate is a true respiratory stimulant.

68. **Bile Formation and Jaundice.**—The authors hold that the amount of bile formed by the liver depends on the blood-flow through this organ. The jaundice and fatal toxemia resulting from occlusion of the common bile duct can be avoided by an Eck fistula made at the time of the ligation of the duct. In cases in which, owing to occlusion of the duct, jaundice has already developed, an Eck fistula causes the symptoms to disappear. It is shown by the authors that the liver has a hemolytic function.

69. **Laxative Properties of Tribasic Salts.**—Experiments were made by Rowntree to see if potassium phenolphthalate and sodium phenolphthalate possess purgative properties. The neutral solution was injected into dogs which were kept in separate metabolism cages and whose diet and water had been carefully controlled and the condition of whose stools was known. Only such dogs whose stools were well formed, were hard, dry and friable, were used. The skin was shaved in spots and the drug injected under aseptic conditions and with antiseptic precautions. At first it appeared that no local irritant effect accompanied the subcutaneous administration of these preparations, but in about half of the experiments evidence of local irritant effects did appear, sometimes only as a slight indurated nodule appearing within a week or two after the injection, again as an infiltration involving a considerable area and appearing within two or three days. Rowntree says that undoubtedly these preparations are irritant locally. These substances are of little or no value as subcutaneous purgatives and do not compare at all favorably with phenolphthalein itself or its tetrachlor derivative.

Journal of Ophthalmology and Oto-Laryngology, Chicago

May

70 Ocular Manifestations of Arteriosclerosis and Their Diagnostic and Prognostic Significance. C. A. Veasey, Spokane, Wash.
71 Neuralgia of the Larynx. H. Kahn, Chicago.

Vermont Medical Monthly, Burlington

May

72 Indigestion as a Surgical Symptom. I. S. Haynes, New York.
73 Bacteriologic and Serodiagnosis of Syphilis. C. F. Dalton, Burlington.

Dominion Medical Monthly, Toronto

June

74 *Case of Entero-Uterine Anus. F. W. Marlow, Toronto.
75 A Case of Infection of an Indefinite Nature in Which Sodium Salicylate Appeared to Have a Beneficial Action. G. Chambers, Toronto.
76 Insanity. R. H. Robinson, Toronto.

74. **Entero-Uterine Anus.**—Following an abortion in Marlow's case there developed an entero-uterine anus. Presumably the uterus was punctured during the induction of abortion or during later manipulations, and then the intestine was either dragged in through the opening or it herniated through. At any rate a few days later the fecal matter discharged from the uterus into the vagina, in its entirety, there being none whatever passed per rectum. Meanwhile the patient presented signs of pelvic peritonitis and was very ill. Later the peritonitis subsided, but she gradually became emaciated. The discharge was of fluid consistence and so irritating that excoriation existed all over the perineum and half way down the inner sides of the thighs. The conclusion arrived at by Marlow was that the opening was between the small intestine probably low down, as the emaciation was not extreme considering the time elapsed and the lower segment of the uterine body. Marlow did an entero-anastomosis and closed the opening in the uterus. The patient made a complete recovery.

Louisville Monthly Journal of Medicine and Surgery

May

77 Cancer of the Breast. L. Frank, Louisville, Ky.
78 Transfusion of Blood. D. W. Barrow, Lexington, Ky.
79 Acute Anterior Poliomyelitis. E. B. Bradley and F. H. Clarke, Lexington, Ky.
80 The Wassermann Reaction. R. H. Davis, Louisville, Ky.

Boston Medical and Surgical Journal

May 25

81 Occurrence of Infantile Paralysis in Massachusetts in 1910. R. W. Lovett and P. A. E. Sheppard, Boston.
82 *Anterior Poliomyelitis. M. J. Rosenau, P. A. E. Sheppard and H. L. Amoss, Boston.
83 *An Experimental Study of Tendon Regeneration. J. W. Sever, Boston.
84 *Tendon Suture. F. L. Richardson, Boston.

82. **Anterior Poliomyelitis.**—The fact that the virus of epidemic poliomyelitis was not demonstrated in the buccal and nasal and pharyngeal secretions of eighteen experimental cases studied by the authors is not considered by them to be proof that it may not have been there. They hold that in any event, the virus would have been greatly diluted, owing to the relatively large amount of salt solution used to wash the mucous membrane. Furthermore, under the conditions of the experiment, the virus may have been so attenuated as to be incapable of infecting monkeys. It is well known that a considerable quantity of the virus from the central nervous system of man is sometimes required to initiate the infection in monkeys. The authors do not construe their results as in any way disproving the assumption that the infection in this disease may be discharged from the mucosa of the upper respiratory passage and enter through the same channel.

83. **Tendon Regeneration.**—Thirteen operations were performed by Sever on as many cats for the purpose of studying this question. He found that: Silk or linen thread is an excellent material to use to lengthen tendons in suitable cases. The growth of new tissue will penetrate and permeate the silk only slightly, and in some cases not at all, and does not absorb it. When the peritendineum and tendon sheath have been removed, some foreign body such as silk is essential for regeneration, to serve as a director for the new growth. With the sheath and the peritendineum present and sutured, no foreign body need be inserted. In this case the new growth is true tendon tissue. Without the presence of the sheath and the peritendineum, no true tendon tissue can be regenerated. Such tissue is merely fibrous tissue, lacking elasticity and subject to stretching. The new "tendons" are apt to be larger and stronger than the resected ones, especially when silk has been used to replace the resected portion. Provided the sheath and peritendineum are preserved and function allowed early, adhesions may not occur. Without the sheath, adhesions may and do occur much more frequently.

84. **Tendon Suture.**—Richardson favors the following procedure: The first stitch is introduced in the shorter end of the tendon about a qurater of an inch from the cut end. (1) The suture is passed through the tendon transversely and (2) then back parallel to the first stitch at about the same distance from the cut end, but a little to one side of the first stitch. A half knot is tied, not too tight. (3) The same suture is then passed through the other end of the cut tendon, and while the assistant holds the cut ends together, the suture is (4) passed back parallel to the third stitch, a half knot is tied and the two free ends of the suture are securely tied together. The pull of this suture is obliquely across the fibers of the tendon. If the tendon is a large one, or if there is much strain in approximating the ends, a second and possibly a third similar suture may be introduced from other sides of the tendon. As this suture tends to displace the ends of the tendon laterally, it may be necessary to put one through-and-through suture near the cut ends to hold them in close approximation. Wherever possible, the tendon sheath should be reconstructed about the tendon to prevent the ingrowth of scar tissue from surrounding connective tissue. The important things to be borne in mind in tendon suture, stated in the order of their importance, are: (1) Asepsis, (2) preservation of peritendineum, (3) approximation of ends, (4) restoration of tendon sheath, and (5) dryness of wound.

Chicago Medical Recorder

May

85 Prognosis and Treatment of Burns. L. E. Schmidt, Chicago.
86 Caricature in Medicine. M. Frank, Chicago.
87 Treatment of Syphilis. A Retrospect and a Prospect. E. A. Fischkin, Chicago.
88 The Minor Cardiants. W. F. Waugh, Chicago.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

May 15

89 *Pulmonary and Circulatory Complications Following Surgical Operations. E. H. Beckman, Rochester.
90 *Autogenous Vaccines in the Treatment of Mixed Infections in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
91 *Sudden Death in Cardiovascular Disease. G. Cross, Minneapolis.
92 *Bovine Tuberculosis in Relation to Human Ills. A. Kuhlman, Melrose.
93 A Lead Shot in the Appendix. A. N. Collins, Austin.
94 A Case of Typhoid Perforation Successfully Operated On. A. C. Strachauer, Minneapolis.

89. Abstracted in THE JOURNAL, Nov. 26, 1910, page 1922.

90. An article on the same subject was published in the *Illinois Medical Journal*, April, 1911.

91. Abstracted in THE JOURNAL, Nov. 26, 1910, page 1922.

92. **Bovine Tuberculosis and Human Ills.**—In a farmer family, a girl, 16 years of age, complained of a sore throat, catarrh of the nose, foul breath and indigestion. On examination she had enlarged tonsils, swollen cervical glands, and a general congestion of the mucous membrane of the nose and throat. Lungs, negative; no tubercular history in the family. Shortly afterward her father complained of similar symptoms—catarrh, slight cough and indigestion. Three other children had enlarged tonsils, enlarged cervical glands and digestive disturbances. One boy had frequently severe pains in the stomach and abdomen, most marked over the cecum and always worse at night. The family was treated at intervals for about six months. Besides the local treatment of the nose and throat, medicine was given to relieve the indigestion, and general tonics were administered. Six months afterward the farmer applied to Kuhlman for treatment, and said that he had killed a cow which had been discharging from the nostrils, coughed and had slowly wasted away. A competent veterinary surgeon made a tuberclin test of all his cattle, thirty-eight in number. All, with the exception of six, gave the tuberculin test for tuberculosis. He sent all the cattle affected to the State Sanitary Board and they were slaughtered in South St. Paul. The farmer bought a new stock, but had every new cow tested. This was a year ago and since that time they have been practically free from ills. The catarrh is all gone and the boy has not had any more attacks of what Kuhlman once diagnosed as a slight attack of appendicitis. It is Kuhlman's opinion that there is more tuberculosis among cows than is generally believed by the average physician, and that it would be worth while in many cases to investigate the source of the milk as bearing some relation to disease.

Southern California Practitioner, Los Angeles

May

95 Puerperal Infections—Cause and Treatment. T. J. Watkins, Chicago.
96 Treatment of Disease by Spinal Concussion, Sinusoidal and Freezing, etc. H. E. Stroud, Los Angeles.
97 Physiology and Pathology of Senescence. H. E. MacDonald, Los Angeles.
98 The Dawn of Medicine, the Pre-Hippocratic Period. C. L. Allen, Los Angeles.

Archives of Pediatrics, New York

May

99 *Chronic Intestinal Indigestion in Early Life. J. P. C. Griffith, Philadelphia.
100 *Blood-Pressure in Cases of Acute Nephritis of Children. L. Gordon.
101 Certain Fractures of the Upper Extremity in Children. I. S. Haynes, New York.
102 Post-Typhoid Delirium. A. Baines, Toronto.
103 *Studies on Milk Sugar. H. F. Helmholz, Chicago.
104 Taxis and Succussion. A New Treatment of Intussusception. J. Zahorsky, St. Louis.

99. **Chronic Intestinal Indigestion.**—Griffith emphasizes that medical treatment of chronic intestinal indigestion in early life is largely of secondary consideration. The overcoming of the constipation, which is such a common symptom, is important. In addition to the hygienic measures, either small daily doses of a saline laxative or of cascara, phenolphthalein or similar drug may be required. In other cases a small amount of sulphate of magnesia or syrup of rhubarb may be added to the tonic medicines administered. In bad cases the nightly injection of olive oil or cotton-seed oil may be of service. Very often the diet may be selected to overcome the constipation, bearing in mind, however, that many of the laxative foods are more or less irritating to the bowels. As a rule, enemata are not efficient, as they operate only on the rectum. A drug is required which affects the whole intestinal tract. Where there is much secretion of mucus from the bowel, saline douching is sometimes of service, but this practice should not be continuous, as it sometimes maintains the symptoms which it is intended to cure. The administration of a good malt extract appears to aid the digestion of starch. One should be selected which is known to contain a large percentage of diastase, as there is a great difference among them in this respect. In general, as far as other medicinal treatment goes, Griffith has had the best results with the combination of an alkali with a bitter tonic. For this purpose, bicarbonate of soda may be given with tincture of nux vomica, compound tincture of gentian, and an aromatic water, administered ten to twenty minutes before meals. Cod-liver oil, although theoretically an excellent remedy to improve the general health, is often contraindicated, especially early in the disease, on account of its tendency to increase indigestion in many cases. The remark applies to the use of iron given for the anemia, since until convalescence is established this may increase the digestive trouble and the constipation. The importance of resistance in the treatment is emphasized. Griffith says that unless this is maintained, and especially unless the dietetic treatment is rigorously followed for months, an improvement which has seemed very decided, and even a cure which has seemed complete, will inevitably be followed by relapse.

100. **Blood-Pressure in Acute Nephritis in Children.**—According to Gordon, the blood-pressure in children suffering from acute nephritis is raised and this rise of pressure may be very great. In three of seven acute cases, the hypertension was very marked. This fact is of diagnostic value, as in no other disease of childhood is there to be found the same high range of blood-pressure. Those patients who had the highest pressure were those in whom only a slight trace of edema was noticeable, and also it is of interest to note that in these same patients the quantity of blood in the urine was very great, the urine indeed looking like the pure blood; the explanation of the large quantity of blood in the urine being probably, that a rupture of the renal capillaries had occurred consequent on the greatly increased blood-pressure. Gordon emphasizes the fact that in children it is only by means of the sphygmomanometer that changes in the blood-pressure can be ascertained with any degree of certainty.

103. **Milk Sugar.**—Helmholz tries to show that the commonest type of gastro-intestinal trouble is caused directly by the food; that it is brought on in its most acute form by the lowering or the overstepping of the tolerance for sugar, be that by improper feeding, by infection, by spoiled milk, by high external temperature, or by other causes. The food which under normal conditions, nourishes the child, becomes a poison as fatal as bacterial toxins. He emphasizes that the purity of the milk, though of great importance, is not the only important factor. The emphasis that is being laid on pasteurization of a city's milk supply, while it is of great value and, if properly understood, leads to much good, has, unfortunately, overshot the mark among the uneducated. Instead of feeding their infants fresh milk they avoid the bacteria entirely by giving them proprietary foods, with the dire results that one sees in dispensary work. This concentration on the bacteria of milk has left the equally important factor of the quantity and character of the food entirely out of account. How many mothers, he asks, are there in America to-day who realize the danger that lurks in the sugar which they so generously add to the milk? How many doctors are there who appreciate this fact? How many doctors are there who will tell a mother to stop nursing her child with no other indication than the fact that the first few

drops of milk expressed from the breast are blue? We see this in the dispensary only too often. This cornerstone of infant feeding is lightly set aside, not by one, but by a large percentage of physicians, who will take a child from the breast for the most trivial reasons. As regards his advice to mothers on feeding infants, it will depend largely on who sent him the last sample of proprietary food. What we need, he says, is education of the doctor primarily, and, by him, the education of the public. We need to cull the scientific and clinical facts from the mass of empiricism of infant feeding, so that they can be presented to the physicians in a form that will be useful to them, so that they may appreciate the dangers as well as the therapeutic advantages of the different elements of the milk. What we need is capable supervision of each milk station by men who can make each station a center from which the prepaganda of rational feeding and therapy will spread, so that ignorance will keep no infant from the breast, so that ignorance will no longer prevent the institution of the right therapy when there is still hope to save the child.

New York Medical Journal

May 27

105 *An Operation for Progressive Spinal Deformities. R. A. Hibbs, New York.
106 Papillary Carcinoma of the Bladder with Metastasis of the Tarsus and Metatarsus. G. E. Shoemaker, Philadelphia.
107 Education in Social and Sexual Hygiene. C. E. Nammack, New York.
108 Why Are We Opposing Forms in Medical Nomenclature? T. W. Schaefer, Kansas City, Mo.
109 *Medicozoologic Nomenclature; the Correct Name of the Protozoon of Syphilis. C. A. Pfender, Washington, D .C.
110 Lactic Ferments in Genito-Urinary Works. F. S. Mason, New York.
111 Methyl Alcohol Amblyopia. T. B. Holloway, Philadelphia.
112 The Roentgen-Ray a Duty in Cancer. S. Tousey, New York.
113 A Plea for the Early Diagnosis and Early Surgical Treatment of Mammary Cancer with Special Reference to Obtaining Better Results. J. H. Gleason, Manchester, N. H.

105. **Progressive Spinal Deformities.**—Hibbs has done an operation for stiffening the knee joint (1), which consists of removing the patella from its periosteum and putting it in the joint after a space is freshened in the bones to receive it, the periosteum then being stitched to that of the tibia and femur. In these cases the patella was not absorbed, but formed a bridge between the tibia and femur, and the periosteum reproduced in every case new bone sufficient to make a large bony bridge and a perfectly safe bony ankylosis. This operation led to the conception, that if the periosteum of the spinous processes was carefully removed, and the processes were divided at their base and placed longitudinally in the interspinous space touching with either end of the base from which the processes were removed and then the periosteum brought back and sutured, a similar condition would be produced. That is, the process would become adherent to the base at either end, thus filling up the interspinous gap with solid bone, and the periosteum would reproduce more bone so that there would be secured a fusion of the posterior aspect of the vertebra by a bridge of bone which would increase in size and strength so that absolute ankylosis would be secured. Hibbs has done this operation on three patients, all with Pott's disease of the spine. A sufficient time has elapsed only in one case to give positive proof that the condition which he attempted has been produced.

109. **Medicozoologic Nomenclature.**—It is shown by Pfender that the correct generic name of the protozoon which produces syphilis is *Treponema*, with *Treponema pallidum* as type species, and not *Spirochaeta*, which has become popularized.

Medical Record, New York

May 27

114 The Medical Side of the Army Maneuvers in Texas. N. S. Jarvis, New York.
115 Dreams and Their Analysis in Reference to Psychotherapy. H. W. Frink, New York.
116 Functional Sexual Disorders Proceeding from the Genito-Urinary Tract. T. M. Townsend and J. J. Valentine, New York.
117 The Value of Doing Nothing. R. P. Francis, Montclair, N. J.
118 Herpes Zoster, Acute Poliomyelitis and Zinc Phosphide. W. F. Waugh, Chicago.
119 Treatment of Neurasthenia. F. H. Barnes, Stamford, Conn.
120 Pneumonia. C. S. Webb, Bowling Green, Va.
121 A Case of Transposition of the Heart. N. P. Brooks, Conquista, Coah, Mexico.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 13

1 *Functional Derangements of the Nervous System. G. E. Rennie.
2 Lead Poisoning and the Race. Sir T. Oliver.
3 Granular Kidney and Its Surprises. S. West.
4 *A Fatal Case of Secondary Syphilitic Nephritis. A. J. Hall and J. M. Beattie.
5 The Vasomotor System in Tabes. H. Matthews.
6 *Two Cases of Congenital Aphasia in Children. E. McCall.
7 *Treatment of Rheumatic Diseases by Vaccines. C. P. Ball.
8 *Deep Temperature of the Human Body at Rest and After Muscular Exertion. N. D. Bardswell and J. E. Chapman.
9 Prescription of Glasses. R. A. Morrell.
10 *Etiology of Iritis. R. A. Yeld.

1. **Functional Derangements of Nervous System.**—The point is emphasized by Rennie that the indications for treatment from a review of the pathology of neurasthenia are somewhat different from those in hysteria. While the mental symptoms are still prominent, it is not necessary to adopt the isolation treatment. A mistake is very often made, he says, in advising neurasthenic patients to start off on a sea voyage before any attempt has been made to improve their physical condition, although it is true that a change of scene and surroundings, combined with relief from work, is very beneficial in diverting the patient's thoughts from himself and restoring him to a healthier frame of mind. A neurasthenic is not only jaded in body and mind, and unable to stand the strain of traveling or to take an interest in sightseeing, but he is also suffering from digestive derangements and sleeplessness, and these latter conditions are often aggravated by traveling. Rennie has seen this so often that he is satisfied that we do best for our patients if we first of all put them to bed in the fresh air with quiet and rest, relieve their digestive disturbance by appropriate dieting, secure the free action of the bowels, favor elimination by the skin by warm baths and massage. The state of nutrition of the nervous system can also be improved by securing oral asepsis, by the use of intestinal antiseptics, and by the use of tonics, especially the glycero-phosphates and the hypophosphites. After a month or so of this treatment, the patient will be much improved physically, and will then be able to profit very considerably by a voyage or by a stay in some health resort. Rennie warns to be most guarded in prescribing sedative drugs—for example, opium, morphin or heroin—without very careful consideration, owing to the great tendency there is for patients to contract drug habits. In fact, he says, the less we depend on drugs, the more we adopt general hygienic treatment, the greater the amount of good we shall do for patients suffering from the various forms of functional derangement of the nervous system.

4. **Secondary Syphilitic Nephritis.**—In the case reported by Hall and Beattie, vomiting was almost constant, and a troublesome feature of the case. Nothing seemed to give any relief. They thought at first it was due to the milk diet, and eventually solid food was tried, but it made little or no difference. Headache was chiefly frontal and almost constant. Dropsy remained considerable at all times, and increased toward the latter part of life. The pitting over the abdomen and thorax was always great. The specific gravity of the urine varied from 1.010 to 1.019. The quantity was always considerably below normal, but the man sweated very profusely, not only in the hot-air baths, but often at other times also. The blood-pressure usually was about 160 (max. systolic). The temperature was normal throughout, and the fundi oculorum were normal. Early in June a papulo-erythematous rash appeared in the axillæ, elbow hollows and groins, the sites of mercurial inunction. This spread over the trunk and limbs, was very irritable, and peeled freely. A month later he became much worse, the dropsy increased, and the tongue and lips became more sore. The hands became tremulous, later the ears were sore and painful, conjunctivitis and inflammation of the nail-beds followed. On August 6 he became noisy and delirious, with insomnia, and he died comatose on Aug. 9, 1910. At the necropsy, the kidneys were

found enlarged, the capsules stripped easily, leaving a smooth surface, color pale, stellate veins marked. The superficial cortex was increased, being in the proportion to medulla of 1 to 1. Section showed a uniform yellowish color, vascular markings obliterated; no amyloid change, no pelvic dilatation; no cysts; tissue firm and edematous; vessels slightly thickened at places.

6. **Congenital Aphasia in Children.**—These two cases illustrating the forms of mental defect known as word-blindness and word-deafness, were met with by McCall during the course of medical inspection of the elementary school children. As they seemed to be fairly typical examples of these conditions McCall believes they are worth recording. Male, aged 12 years, was presented on account of his inability to learn to read. Except for this defect, he was of quite average intelligence. Most painstaking efforts had been made to teach him to read; for many years he had extra tuition at school for this purpose, but with practically no result. Hearing and vision were normal. He answered questions readily, recognized by name all objects presented to him, but failed to spell the noun denoting a given object. He recognized single letters, but was unable to interpret the written word. He wrote well from a copy, and had a good eye for form; he drew well from still life. One of his drawings represented an onion in section; below was written "Onion, cut across." When shown the word "onion" he named it correctly, doubtless from association of ideas; the two following words "cut across" he was unable to recognize. He could not write a single word from dictation, but could write his own name correctly, this being obviously mechanical, due to frequent repetition.

The second patient was a male, aged 8 years, Oriental by birth. Muscular control was poor; the child jerked and twisted his arms and head continually. When spoken to he took no notice, and might easily be taken for a deaf child. A noise at once attracted his attention. He responded by head movements to sounds made by the other children in the class. He attempted to reproduce the spoken word by lip reading, and succeeded to some extent. His brother, a very intelligent lad, communicated with him largely by signs. When shown an object and told its name he would repeat the word, watching the speaker's lips, but did not retain the memory of the word, even when again shown the object. His speech was markedly defective and the intonation resembled that peculiar to cleft palate (this might be due to the very high palatal arch). As words, however, meant nothing to such a child, he did not attempt to imitate them unless directly made to do so; he therefore did not learn to talk.

7. **Vaccine Treatment of Rheumatic Diseases.**—While resident medical officer to the Royal Hospital for the Incurables, Dublin, some years ago, where there are always a very large number of chronic rheumatic cases, Ball was struck with the peculiar sapremic appearance of most of these patients, and in some of them it was possible to trace in the history the onset of the disease following on some distinct infection, or subsequent to a chronic suppuration. From experience with a large number of cases, he believes that the focus of infection can at times be ascertained, and although a few are probably due to a specific microorganism, many cases are due to a general sapremia following from a localized seat of infection. Many cases have come under his notice where the focus of infection has been found microscopically to contain chiefly streptococci. In some cases even, where no seat of infection—such as bad teeth, leukorrhea, intestinal putrefaction and colitis—could be found, he has used the antistreptococcic serum with success. So many of these cases responded with such remarkable results that he thinks their use is justified in all doubtful cases. Even in a case of acute articular rheumatism following on an attack of gonorrhea with subsequent gleet, he has had success by the employment of antistreptococcic vaccines, when the injection of gonorrheal vaccines had failed.

8. **Body Temperature in Rest and After Exertion.**—It has frequently been stated that a rise of temperature following exercise is a characteristic sign of pulmonary tuberculosis, and, in fact, that the disease can be recognized by such a rise. Bardswell and Chapman are convinced by the results of their experiments that this obviously is not the case. Again, a rise of temperature occurring in a consumptive patient after exercise is by many considered to be evidence that the patient has inoculated himself. What is termed auto-inoculation may have taken place, but the fact of the temperature being raised, even to a considerable extent, is in itself no evidence of such auto-inoculation. The authors point out that it is a fact of some interest in this respect that the consumptive in good general condition, but with well-marked physical signs and with bacilli still in the sputum, will often be found to have a lower temperature after a given amount of exercise than a healthy person who has done exactly the same work. The rise of temperature in the consumptive in such a case is not due to an auto-inoculation; it is a physiologic rise as a result of the exercise. Finally, since it is the practice to regulate the exercise of consumptives in no small measure by noting the effects of given amounts of exercise on the temperature, it is clearly of great assistance to have a knowledge of the effect of such exercise on the temperature of the normal person.

10. **Etiology of Iritis.**—Of 159 cases of primary iritis referred to by Yeld, 45.28 per cent. were syphilitic; 16.35 per cent. were rheumatic; 15.09 per cent. were gonorrheal; 10.06 per cent. were toxemic; 1.25 per cent. were gouty; 1.25 per cent. were osteo-arthritic; and 10.6 per cent. were obscure in origin.

Lancet, London

May 13

11 *Heredity and Insanity. F. W. Mott.
12 Abnormal Forms of Breathing in Cases of Angina with Pulsus Alternans. J. D. Windle.
13 *Six Cases of "Utriculoplasty" for Uterine Hemorrhage. V. Bonney.
14 *Nature of Hematocolpos Fluid, and the Character of the Obstructing Membrane. W. B. Bell.
15 Hidden Dangers of Appendicitis: A Plea for Early Operation. H. J. Patterson.
16 *Unusual Effects of Perforated Gastric Ulcer. W. P. S. Branson and T. P. Legg.
17 Progress in Cancer Research. C. E. Walker.
18 Two Cases of Eosinuria. A. C. D. Firth.
19 *A Rare Case of Congenital Umbilical Hernia. J. P. Mitchell.
20 The National Insurance Scheme: The Prussian Official Tariff for Medical Attendance. G. P. Forrester.

11. **Heredity and Insanity.**—Mott summarizes his paper as follows:

1. Hereditary predisposition is the most important factor in the production of insanity, imbecility and epilepsy. It is the tendency to nervous and mental disease, generally speaking, which is inherited. This may be termed the neuropathic taint.
2. Education, sanitation and the rest, as Bateson has stated, are only the giving or withholding of opportunity for good or ill.
3. Alcohol is a powerful coefficient, but nor of itself the main cause in the production of insanity, except in the rather infrequent cases of alcoholic dementia.
4. Certain types of insanity may be transmitted with greater frequency than others. This has been termed similar heredity. The types are: Periodic insanity (also termed "manic-depressive"), delusional insanity and epilepsy. The general rule, however, is for a different type to appear.
5. Mothers transmit insanity and epilepsy with much greater frequency than do fathers, and the transmission is especially to the daughters.
6. Anticipation or antedating is the rule whereby the offspring suffers at a much earlier age than the parent: more than one-half of the insane offspring of insane parents are congenital idiots or imbeciles, or have their first attack in the period of adolescence. This adolescent insanity may take an incurable form of dementia in a large number of cases; in others it is usually mania, melancholia, or periodic insanity, and not infrequently epilepsy with or without imbecility. Very rarely does the parent become insane before the offspring. This is a strong argument of hereditary transmission, possibly hereditary transmission of an acquired character.
7. Regression to the normal average may be (1) by marriage into sound stocks, or (2) by anticipation or antedating leading to congenital or adolescent mental disease terminating the perpetuation of the unsound elements of the stock.
8. High-grade imbeciles who are not at present in any way checked in procreating owing to social conditions interfering with survival of the fittest, together with chronic drunkards, neurasthenics and neuropaths, are contiually reinforcing and providing fresh tainted stocks.
9. Recurrent insanity, owing to the fact that patients are not segregated for any length of time, is probably the most potent cause of insane inheritance. Facts tend to support the opinion that the recurrent types of insanity during lucid intervals may breed a stock of potential lunatics and paupers.
10. Nature is always striving to go back to the normal average and only relatively few of a stock are insane. A stock with a streak of insanity when combined with genius is not bad, and the same may be applied to a nation; but we only want a streak of genius and insanity, the great body of the nation should be of good normal average, for Mott believes that nation will possess

the greatest potential virility in the struggle for existence that can breed from the greatest number of men and women with good bodily health, who possess a large measure of the three attributes of civic worth—viz., courage, honesty and common sense, combined with parentage, pride of family and pride of race.

13. **Utriculoplasty.**—Utriculoplasty is considered by Bonney a legitimate alternative to hysterectomy in the treatment of intractable uterine hemorrhage due to the condition variously known as "hemorrhagic metritis," "chronic fibrotic metritis," and other similar terms, and also that it is feasible to apply it to a uterus the seat of small multiple myomata. It would appear to be preferable to hysterectomy when the patient is still of child-bearing age, and the cervix is reasonably healthy, and especially if the patient herself objects to an enforced abolition of the menses. In the reverse of these conditions, removal of the uterus is the more suitable operation—by total hysterectomy if the cervix be unhealthy, by subtotal hysterectomy in all other cases. In the event of pregnancy following utriculoplasty it would, Bonney thinks, be desirable to induce the labor some weeks in advance in order to lighten the work of the uterus.

14. **Nature of Hematocolpos Fluid.**—According to Bell hematometra rarely occurs with hematocolpos, and can only be a very late complication. The non-coagulability of menstrual blood is due to the removal of fibrin ferment and fibrinogen, probably effected by the endometrium. The lactic acid present is not produced by bacteria. The calcium content of menstrual discharge is very high. The vagina is for the most part developed from the Müllerian ducts, and its lining epithelium may therefore occasionally be of a columnar type, and glands may be present.

16. **Perforated Gastric Ulcer.**—Severe pain over the left loin and lower ribs was the main symptom complained of by the authors' patient. This followed a supposed attack of pleurisy which was later shown to have been perforation of a gastric ulcer. Although gastric symptoms of note were conspicuously absent, the trouble had been gastric in origin, a cytologic examination of the contents of the fasting stomach was carried out, and demonstrated the presence of pus in considerable quantity. In spite of this positive evidence it was hard for anyone who saw the gusto with which the patient attacked an ordinary meal to believe that a serious lesion was present in the stomach. Blood examination showed a moderate grade of secondary anemia without leukocytosis. It was noted as a curious and recurrent feature of the illness that with each acute paroxysm of pain, the left arm and hand, with the left side of the chest, became covered with sweat, the right side remaining perfectly dry. At the operation, a tender epigastric swelling was found to be explained by a large area of dense fibrous adhesion by which the anterior wall of the stomach and the anterior belly wall were bound inseparably together, the cicatrix penetrating the belly wall to a considerable depth. The stomach was somewhat contracted, and exhibited a certain degree of hour-glass deformity at the site of its adhesion to the anterior parietes, while the posterior wall, in practically its whole extent, was immovably fixed to the tissues behind it. The greater omentum contained numerous enlarged and hard lymphatic glands. A certain amount of the dense fibrous material uniting the two was cut away, but it was finally decided that complete separation was impossible because so large a part of the anterior wall of the stomach was attached to the parietes. The belly was closed without the effecting of anything remedial. Contrary to expectation, the operation was a complete success. Five months later, the patient expressed himself as entirely free from pain, and had gained in weight.

The authors conclude that the pains which were the predominating feature of the malady in its later stages were neuralgic in character. It is supposed that they were excited by the involvement of branches of the intercostal nerves in the cicatrix which bound the stomach to the anterior belly wall, and that in the effort to effect a separation here the damaged nerve-endings were divided from their stems. They believe that the more or less fortuitous cure suggests that the part played by the intercostal nerves in producing the chronic pains of gastric ulcer is worthy of more attention than it has received. It is not unlikely that the unexplained relief of abdominal pain occasionally derived from an inconclusive exploratory operation may be due to section of peripheral nerves in the course of the incision, and conversely, that the failure to obtain relief from gastro-enterostomy may at times depend on the fact that the pain is not gastric in origin but neuralgic—that is to say, intercostal.

19. **Congenital Umbilical Hernia.**—Mitchell's patient was a child, 6 hours old. On examination the thoracic organs were found to be normal. The abdomen was the usual size, soft and palpable, but was everywhere resonant, no liver dulness being definable. Projecting very much into the attenuated umbilical cord was a body, which in size and shape resembled a cocoanut; it was of a deep bluish-red color, the surface was smooth and even, the consistence firm and resilient. There was no gurgling on pressure, and it was not reducible. At its attachment the base was 3 inches in diameter, circular, and surrounded by an area of very pink, hard and thick, but healthy skin. The umbilical vessels were situated on the under surface of the hernia. An incision was made on the superior surface of the hernia and a director was inserted between the parietal peritoneum and the contents of the sac. Adhesions which had formed were easily overcome, and when the sac was separated off, the whole of the left lobe and the greater portion of the right lobe of the liver were found prolapsed into the cord. It was not easy to replace it in the abdomen, for the round ligament was found to be holding it in its position; it was therefore ligatured and cut and the liver fell back into position. Three deep transverse silkworm-gut sutures were passed through the recti muscles, which were firmly approximated, the sutures being buried. The umbilical vessels being ligatured the thickened firm edges of the navel were trimmed and several superficial sutures inserted, thus obliterating the circular aperture and making a vertical wound. Healing took place by granulation and a perfect cicatrix was obtained. There is thus far no evidence of weakness in the abdominal wall.

Journal of Tropical Medicine and Hygiene, London

May 1

21 Infection by Schistosomum Japonicum. A. H. Skinner.
22 Schistosomum Japonicum Dysentery in an American Child. O. T. Logan.
23 Drugs and Drug Habits in Burmah. R. H. Castor.

Lyon Chirurgical, Lyons

May, V, No. 5, pp. 421-544

24 Fatal Complications of Cancer of the Prostate. (Comment meurent les cancéreux prostatiques.) V. Rochet and C. Ronot.
25 Access to the Pelvis by the Coccyx-Perineal Route. P. Fiolle and D. Zwirn.
26 *Precordial Thoracectomy or Cardiolysis. (L'opération de Brauer dans un cas de médiastino-péricardite tuberculeuse.) J. Curtillet and G. Pélissier.
27 Advantages of Fowler Position in Treatment of Acute Peritonitis. L. Arnaud.
28 Gangrene of Intestine from Obliteration of Mesenteric Vessels. F. Leclerc and G. Cotte.

26. **Cardiolysis.**—Curtillet and Pélissier report the first application in France of Brauer's method of precordial thoracectomy for adherent pericardium although three other operations of the kind have been done in France since. The operation has been done twenty times in Germany and three times in England, they state. In the personal case reported the patient was a tuberculous young man, and although the operation warded off the dangers on the part of the heart, yet the tuberculous polyserositis continued its implacable course. The edema disappeared by the sixth day after the operation and the patient who had previously been confined to bed was able to be up and about, his heart then responding to digitalis, previously almost entirely ineffectual. In fifteen of the total twenty-seven cases the heart trouble was of tuberculous origin, and the results in this group were by no means the poorest reported.

Obstétrique, Paris

April, IV, N. S., No. 4, pp. 345-480

29 *Tuberculin Reaction During Pregnancy and Parturition. (De la sensibilité des femmes enceintes et recemment accouchées à la tuberculine.) P. Bar and L. Devraigne.
30 Technic for Pubiotomy. R. de Bovis.
31 *Glycogen in the Placenta. (Le glycogène dans le placenta discoide.) S. Zaretzky.

29. **Sensibility to Tuberculin of Pregnant and Parturient Women.**—Bar and Devraigne have applied the intradermal tuberculin test to 28 non-pregnant women, 137 in different stages of pregnancy, 198 recently delivered, and again a second time in 42 parturients. They also injected a drop of a 1 to 10,000 solution of tuberculin in 130 new-born infants. The findings all harmonize with the assumption of antibodies as responsible for the reaction to the tuberculin, especially the constantly negative results in new-born infants, the frequent negative results in tuberculous women with rapidly progressing lesions and the intensity of the reaction in tuberculous women who are holding their own against the disease. The findings are classified and tabulated under various headings. They differ in certain particulars from those reported by Stern in similar research.

31. **Glycogen in the Placenta.**—Zaretzky discusses the important glycogenic function of the fetal membranes and placenta and its share in the carbohydrate nourishment of the fetus. His monograph fills over sixty pages and is accompanied by ten full-page colored plates and an extensive bibliography.

Presse Médicale, Paris

April 29, XIX, No. 34, pp. 341-352

32 Technic for Total Resection of Superficial Idiopathic Varices of the Leg. P. Alglave.
33 The Radioscopic Changes in the Stomach, Duodenum and Large Intestine, Standing and Lying. T. Tuffier and Aubourg.

May 3, No. 35, pp. 353-360

34 *Localized Pulmonary Edema or Tuberculosis? R. Brunon.

34. **Nephritic Pulmonary Edema or Tuberculosis?**—Brunon has sometimes encountered cases in which edema in the apex of the lung, resulting from kidney disease, simulated a tuberculous process, passing through the phases of hemoptysis, induration and cachexia with cavity formation, and yet the tubercle bacilli were not involved. Differentiation is particularly important as nephritis and tuberculosis require opposite treatment, the extranourishing food indicated for the latter doing harm in the former. He describes a case of this kind in a youth of 15 with an acute febrile affection and physical signs, including radiography, suggesting induration of the right apex and involvement of some glands in the chest, discovered after the stormy onset of an acute febrile condition lasting twenty days, with slight albuminuria. The fever subsided with copious diuresis and the signs in the apex gradually disappeared, but the slight albuminuria persisted for eight months and the glandular process for a year. Cases of this kind confirm the possibility of a local congestion at the apex which may or may not be accompanied by a bronchial adenopathy. The diagnosis must be based on study of the antecedents, the evolution of the disturbances, analysis of the urine, which always contains more or less albumin in these cases, and on the benefit from restriction to a milk or milk-vegetable diet. This dieting is not only the best treatment but it serves to clear up the diagnosis.

Semaine Médicale, Paris

May 3, XXXI, No. 18, pp. 205-216

35 The Internal Secretion of the Stomach. M. Loeper.

Berliner klinische Wochenschrift

May 1, XLVIII, No. 18, 785-828

36 *By-Effects of Salvarsan. (Bedenkliche Nebenerscheinungen bei mit Salvarsan behandelten Patienten.) E. Finger.
37 Diffuse Elephantiasic Syphiloma. (Beitrag zur Salvarsanbehandlung.) I. Bindermann.
38 Syphilitic Primary Lesion in Scalp. (Zur Kenntnis des syphilitischen Primäraffektes an der behaarten Kopfhaut.) L. Weiss.
39 *The Cerebrospinal Fluid in Tuberculous Meningitis. J. Hohn.
40 *Colon Bacilli in Cerebrospinal Fluid. (Bacterium coli im Liquor Cerebrospinalis.) W. Hartwich.
41 Operative Cure in Case of Epigastric Hernia. J. Gottschlich.
42 Senile Atrophy of Skull in Dogs. L. Pick.
43 The Urine After Salicylic Medication. (Ueber den Harn nach Salicylsäuregebrauch.) C. Neuberg.
44 *Contrast Color Test in Study of the Blood, etc. (Die Kolorimetrie mittels der Kontrastfarbe, speziell in ihrer Anwendung auf die Hämometrie.) E. Schlesinger and E. Fuld.
45 *Treatment of Incontinence and Pyelitis. M. Klotz.
46 *Prophylaxis of the Plague. (Pest und Pestbekämpfung.) A. Worster.

May 8, No. 19, pp. 828-876

47 *The Psychic Condition Immediately After an Accident. (Der psychische Zustand frisch Verletzter.) E. Meyer.
48 *Tuberculous Peritonitis in Children: Forty-Five Cases. J. Cassel.
49 Policlinic Experiences with Albumin Milk in Infant Feeding. (Erfahrungen über Ernährung mit Eiweissmilch.) L. Rollet.
50 Intermittent Dyskinesia of Arm as Symptom of Sclerosis of Arch of the Aorta. A. Bretschneider.
51 Technic for Intravenous Injection of Salvarsan. S. L. Bogrow and H. Mayer.

36. **Injurious Action of Salvarsan on Nervous System.**—Finger here gives the detailed histories of three cases of optic neuritis after salvarsan, which have already been mentioned in these columns. He states that there have been quite a number of cases with peculiar and occasionally severe nervous manifestations with which the neurologists are not familiar, among the 250 patients who have been given intravenous injections of salvarsan at his clinic. He is convinced that in some of these cases the trouble was not a neurorecurrence but the result of toxic action from arsenic, similar to the phenomena frequently observed at once after the injection, such as headache, vertigo, tinnitus, dryness in the throat, prostration, palpitations, vomiting and diarrhea which all have their analogies in acute arsenic intoxication. The inefficacy of antisyphilitic measures applied against them confirms this assumption. In other cases they seem to be manifestations of the syphilis, assuming unusual forms under the influence of the salvarsan. Rusch has suggested that salvarsan may sensitize the virus, but the spontaneous retrogression of the manifestations in many cases testifies against their being of a syphilitic nature. In conclusion, Finger remarks that while convinced that salvarsan has an undoubted neurotropic action, yet he does not think that this is often displayed and the injury to the nerve seldom impairs its function completely, and the disturbance has a tendency to spontaneous retrogression, although in his first two cases permanent damage resulted. He regards it as his task at present to learn more about the new remedy before he combines it with the old and tried ones.

39. **Cerebrospinal Fluid in Tuberculous Meningitis.**—Hohn reports the findings in four cases out of a much larger number in his experience in which the puzzling diagnosis was cleared up by the findings in the cerebrospinal fluid which he regards as characteristic for tuberculous meningitis. These findings are very little sediment and very high albumin content in the cerebrospinal fluid, with lymphocytosis either pure or accompanied with a few polynuclear leukocytes. The latter are always in degenerative forms. In the case described, one or two tubercle bacilli were also found in the fluid soon after the disease had been differentiated by the above findings.

40. **Colon Bacilli in the Cerebrospinal Fluid.**—Hartwich reports the case of a man of 42 who had suffered from melancholia for over a year and was much debilitated, but the organs seemed to be intact until symptoms suggesting acute miliary tuberculosis developed, to which the patient succumbed. Necropsy revealed tuberculous ulceration in the small intestines which possibly explained the finding of colon bacilli in the cerebrospinal fluid twice during the last week of life.

44. **Contrast Hemoglobin Color Test.**—Schlesinger and Fuld have applied a new principle to determine hemoglobin percentages. It is based on the fact that when fluid of one color is inspected through a screen of another color the thickness of the screen determines whether the color of the screen or the color of the fluid behind it is perceived by the eye. The receptacle containing the blood, diluted to 5 per cent., is inspected through a screen which is a long, hollow tapering wedge, containing green gelatin. This hollow wedge is moved along over the vessel containing the blood, which is readily seen through the thin layer of green in the tapering end of the wedge-vessel, but as the thickness of the layer of green increases, toward the broad end of the wedge, there comes a point where the blood can no longer be seen, the eye perceiving merely the green interposed. In the apparatus constructed for the purpose the screen is covered, except for two slits, and as the screen is moved along it reaches a point where through one slit the red blood is still visible, while through the other slit, 5 mm. beyond, only green can be perceived. The point between the slits is accepted as the index of hemoglobin proportion. This same principle can be applied as a test for the proportion of indican, acetone, acetic

acid, etc., but it is important to select a color for the contrast which is transparent for rays of the same wave-length but which appear to the eye as another color. This method of determining the hemoglobin percentage is proving accurate and free from the influence of the personal equation.

45. **Treatment of Enuresis.**—Klotz has noticed that children inclined to enuresis sleep unusually heavily, and even when awakened in the night the bladder is liable to empty iself spontaneously before the child is fully aroused. In institutions the person on duty in the night can systematically wake the child and thus forestall the enuresis, but in the family the better plan is to prevent such heavy sleep by having the child take a nap morning and afternoon, for two hours. This is particularly important for lively, active children, and it is this class who are so exhausted at night that their sleep is abnormally heavy. By this means, with a little training, the children soon learn to awake and attend to Nature spontaneously. He has another method for less nervous children which has been found very effectual—inducing a psychic shock which seems to cure the tendency to enuresis. The child sits naked on a stool, the seat of which is cut out and has an arrangement below by which a strong jet of cold water can be turned against the anal and genital region. A single application of this method generally sufficed. If it has to be repeated he alternates the cold with warm water. He has found this douche a valuable aid in institutional cure of enuresis. In treatment of anal incontinence he trains the child to systematic defecation by the regular use of glycerin suppositories, twice a day, soon substituting cocoa butter suppositories and omitting both at the earliest moment when defecation proceeds without them, after rhythmic functioning of the bowels has been secured. In inflammation of the bladder and kidney pelvis, with acid urine, he has long been using potassium citrate with excellent results. He gives to infants from 0.5 to 1 gm. (7.5 to 15 grains) two or three times a day, increasing the dosage if the urine has not become alkaline by the second or third day. Larger children require larger doses to bring an alkaline reaction at once. The cure is generally complete in three or four weeks. This vegetable alkali, he says, is non-toxic and more effectual than sodium bicarbonate.

46. **The Plague.**—Worster refers to the experiences at Java in effectual warding off of cholera last year, and urges the adoption of similar measures in China. These are the establishment of a central bacteriologic station, where natives are trained in disinfection and vaccination and are then sent out to do the work among their compatriots, others taking their places in the training stations. The native assistants can do far more effectual work among the people than foreigners.

47. **The Psychic Condition After Accidents.**—Meyer has been devoting special attention to investigation of the psychic conditions immediately after severe accidents. In twenty-five of the thirty-seven patients examined, abnormal psychic conditions were evident and in five they were quite severe, prolonged or permanent. The psychic disturbances had no special features, but resembled closely those observed in infectious diseases, etc., including a slight tendency to delirium by the first or second day after the injury. It was a surprise to find on close examination so much disturbance, of which the patient himself was not aware, and which would have escaped superficial examination.

48. **Tuberculous Peritonitis in Children.**—Cassel reviews his experiences with fifty-two cases; in seven the tuberculous origin of the ascites was not certain but in the others there was no doubt of this. Eight of the children were under 2 years old, thirty between 2 and 6, and six between 7 and 11. Of the thirty-one without operative treatment eight of the children are cured, nine have died and the fate of the others is unknown. Only six of the fourteen given operative treatment are in good health to date, six others dying in a few weeks after the operation. The better the environment the greater the chances for recovery after the operation for tuberculous peritonitis, and he advocates an operation when the condition is still febrile after several weeks of medical measures. At the same time, when change of climate is possible and conditions are favorable, he clings to expectant treatment a little longer.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

April 28, XIV, No. 6, p. 209-240

52 *Deep-Lying Goiter. (Struma intrathoracica.) S. Kreuzfuchs. Commenced in No. 3.

52. **Intrathoracic Goiter.**—Kreuzfuchs reviews 116 articles bearing on this subject, grouping the findings and discussing the history, the relations between intrathoracic goiter and neighboring organs, its prevalence, the symptoms it induces, especially those on the part of the lungs, heart or mediastinum in general, and the differential diagnosis. The prognosis of the affection has much improved with the possibility of early diagnosis and perfected operative technic, but still the inaccessibility of the intrathoracic goiter renders its removal frequently difficult, pneumonia or mediastinitis having followed in Simon and Bouilly's two cases. Kocher has not lost any of his twenty-two patients of this class. The prognosis is graver if the operation on the goiter has been preceded by tracheotomy. Kolaczek has reported a cure after removal of a goiter protruding into the thorax and showing signs of malignant degeneration. The radical operation is preferable to all other measures of treatment, but an attack of suffocation might be combated by an appropriate position of the head and application of ice to the neck if the goiter has suddenly increased in size, giving morphin or codein, in case of spasm of the glottis, or a general anesthetic if the goiter has become incarcerated as occurred in Wölfler's case. Internal or external iodin treatment has given good results in some cases but Kocher warns that this is liable to be of service only for parenchymatous goiters, acute swelling of the thyroid in pregnant women or new-born infants while it is useless with old fibrous goiters and is directly dangerous with exophthalmic goiter.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 1, XLI, No. 13, pp. 449-496

53 *The Exudative Diathesis and Mountain Climate. A. v. Planta.
54 Increasing Prevalence of Urinary Calculi in Switzerland. E. Lardy.
55 Wassermann Reaction in Diagnosis of Syphilis. E. Sonntag. Commenced in No. 12.

53. **The Exudative Diathesis and Mountain Climate.**—Planta practices at St. Moritz in Switzerland and he states that the climate there has a remarkable action on the exudative diathesis and especially on one of its principal manifestations, bronchial asthma. The general health improves, the blood-picture shows marked benefit and the nervous system gains tone. It is a familiar fact, he says, that the constitutional diseases are much rarer among the inhabitants of mountain districts than elsewhere, and when they occur they are of a milder type. His sixteen child patients with bronchial asthma, brought up into the mountains as the last resort after failure of all other measures, had no further attacks. Only two of them had a mild recurrence in the first two weeks after an intercurrent severe "cold." But on return to the lowland the asthma returned, and it did not yield so readily during a second sojourn in the mountains. His experience confirms the necessity for making the most of the first stay, lengthening it out to a year if possible. The task is to transform the exudative diathesis, and this cannot be accomplished in two or three weeks. It requires a year at least. Arrangements should be made for the schooling of children, and for this and other reasons a children's sanatorium in the mountains offers the best chances for the children's outgrowing the tendency. Eight of his sixteen asthma children had obstinate eczema and four of these frequently had fleeting urticaria. All were extremely nervous children; three had convulsions and spasms —all this confirms the assumption of the underlying diathesis.

Deutsche medizinische Wochenschrift, Berlin

May 4, XXXVII, No. 18, pp. 817-864

56 Treatment of Wandering Kidney. (Wanderniere.) P. Fürbringer.
57 *Weil's Disease. A. Hecker and R. W. Otto.
58 *Percussion of One Apex when the Other is Muffled. (Neue Methode zur Perkussion der Lungenspitzen.) J. Plesch.

59 Serodiagnosis of Syphilis. (Syphilisdiagnostik und das Syphilisdiagnosticum nach v. Dungern.) J. Schereschewsky.
60 The High Frequency Electric Current in Medicine. (Hochfrequenzströme in der Medizin.) W. Telemann.
61 *Psychogenic Vulvar Pruritus. M. Walthard.
62 *Operative Treatment of Cerebral Apoplexy. (Hirnschlag.) H. Iselin.
63 Disturbances in the Circulation After Muscular Effort in Incipient Tuberculosis and Their Diagnostic Importance. (Frühtuberkulöser Kreislaufstörungen unter dem Einfluss von Muskelarbeit.) V. Hufnagel.
64 *Acute Syphilitic Nephritis and Salvarsan. (Akute luetische Nephritis im Zusammenhang mit einem durch Salvarsan geheilten Fall.) H. Nador.
65 Nitrite Poisoning from Fertilizer. (Ueber die Chilisalpetervergiftung und den spektroskopischen Nachweis des Nitrits im Blute.) K. Wind.

57. **Weil's Disease.**—Hecker and Otto describe the acute infectious disease characterized by jaundice, muscular pain, fever and enlargement of the liver and spleen, as they have observed it in army circles. Their data include 200 cases and show that the disease occurs almost exclusively during the heated term and that it is not contagious. Very mild and atypical forms of the disease are observed especially at the beginning and end of epidemics. The typical complete syndrome was encountered only at the height of the epidemic, and only in those who during the period of incubation were subjected to unusual physical stress, such as swimming.

58. **Percussion of the Sternum for Apex Findings.**—Plesch states that as the apices lie close to the first ribs, percussion is especially instructive when it is applied to the manubrium, with one hand laid over one apex of the lung, thus muffling the resonance here. This enables the resonance from the other lung to be perceived with unusual clearness.

61. **Psychic Pruritus.**—Walthard refers especially to vulvar pruritus and gives the particulars of two severe cases typical of the psychogenic pruritus. As soon as examination has shown that the parts are anatomically normal, notwithstanding the intense pruritus or neuralgia, he refrains from all local measures and merely by moral suasion convinces the patient of the harmlessness and baselessness of the pruritus. When he has brought the patient to the "Well, what of it?" point of view, the battle is won, and the patients are cured not only of their pruritus, but their whole mode of thought is transformed. This psychotherapy is efficient in all forms of psychogenic algias, hypersecretion of the genital glands and functional disturbances of the musculature of the genital organs.

62. **Operative Treatment of Apoplexy.**—Iselin comments on Franke's suggestion for operative treatment of apoplexy (mentioned in THE JOURNAL, Sept. 3, 1910, page 895), and states that he recently performed an operation of the kind, but on a mistaken assumption. The patient was a man of 62 who had fallen on a stone step and a subdural hematoma had developed. Iselin trephined three hours later. The immediate result was good, but after the brain had begun to pulsate again and consciousness had returned there was renewed hemorrhage, and necropsy showed that the trouble had been an apoplectic hemorrhage into the internal capsule. He reviews the literature on the subject, urging further discussion of Franke's suggestion.

64. **Salvarsan in Syphilitic Nephritis.**—Nador reports a case of acute syphilitic nephritis in a woman of 26 in which differentiation was long difficult. By the third week the entire body was swollen, vision reduced and there was much headache, with nausea and dyspnea. The Wassermann reaction cleared up the diagnosis, and after a single dose of salvarsan all the symptoms subsided within a month, without leaving a trace. The case teaches the importance of suspecting syphilis in every acute nephritis not otherwise explained. Except for a week of violent intestinal catarrh, there were no by-effects that could be attributed to the salvarsan; it was injected into the gluteal muscle in the dose of 0.5 gm.

Medizinische Klinik, Berlin

May 7, VII, No. 19, pp. 721-760

66 Phagocytosis and Virulence. T. J. Bürgers.
67 Successful Removal of Intradural Spinal Tubercle. (Intraduraler Konglomerattuberkel des Rückenmarks; Operation; erhebliche Besserung.) M. Bönniger and S. Adler. Commenced in No. 18.
68 Metabolism in Myxedema. A. Gigon.
69 Favorable Influence of Injection of Blood from Patient with Polycythemia in Case of Pernicious Anemia. E. Walter.
70 Relations Between Myoma and Diabetes Mellitus. E. Neisser and H. Koenigsfeld.
71 Advantages of Combined Mercury-Salvarsan Treatment of Syphilis. M. Loewenberg.
72 *Salicylates in Prevention and Treatment of Chronic Disease, and Especially of Nephritis. (Bemerkungen über Krankheiten und Krankheitsbehandlung und Besonderes über Nierenentzündung.) F. Weitlaner.
73 Importance of Dietetic Treatment in Disease of Upper Air Passages. M. Senator.
74 Relations Between Artificial and Natural Means of Cure at Health Resorts. (Verhältnis der künstlichen Kurmittel zu den natürlichen des Kurortes.) J. G. Siebelt.
75 Lipoid Droplets in Urine Sediment. F. Falk and L. v. Siebenrock.

72. **Salicylates and Long Life.**—Weitlaner comments on the importance and frequency of infection in affections hitherto considered as purely functional, and in the flaring up of old chronic processes. He thinks that death in the elderly is almost invariably due to some acute infection, generally with the pneumococcus. Without infection he thinks that men might live to be 150 years old. He even suggests that the old saying should be modified to "A man is as old as he is sensitive to pneumococcus infection." To attain a ripe old age infection must be avoided, and as this is practically impossible, the next best is to fight infection. He declares that after reaching the age of 50 or 60 years, the systematic ingestion of salicylates, combating besides every fresh infection at once energetically with sodium salicylate, will unquestionably prolong life materially, barring accidents. He advises for this to take a powder twice a day, the prescription being 30 gm. (463 grains) sodium salicylate and 3.6 gm. (57 grains), powder of ipecac and opium; to make xx powders. This internal disinfection strikes at the root of the infection which is responsible for the neurasthenia, nephritis, appendicitis or other morbid conditions. Among the arguments presented to sustain this advocacy of a systematic chronic course of salicylic medication, is that membranous enteritis, a pre-eminently chronic affection, flares up afresh with every febrile sore throat. He regards nephritis as a pneumococcus or staphylococcus infection reaching the kidneys from the throat, and bases treatment thereon, giving salicylates and scrupulously avoiding new infection. His prescription with nephritis is the same, with addition of 6 gm. (90 grains) of hexamethylenamin and having from three to five pills taken each day. The treatment has to be chronic, the same as for appendicitis, but his success in this line, he says, speaks for the logical basis for making the salicylates the panacea for warding off the evil effects of infection in the elderly. The efficacy of many of the new drugs is due to their salicylic content, and strive as we may after new directions for therapeutics, we always come back to the drugs which act as internal disinfectants. Progress will be realized, he thinks, when instead of drugs to act on certain diseases, we classify drugs according to their action on pneumococci, streptococci and other microparasites.

Münchener medizinische Wochenschrift

May 2, LVIII, No. 18, pp. 937-992

76 *Oxygen-Poor Air in Therapeutics. (Therapeutische Verwendung sauerstoffarmer Luft beim Menschen.) A. Schmidt and O. David.
77 Cholera a Nitrite Poisoning. (Neue Beweise für die Verursachung der Cholera durch salpetrige Säure.) R. Emmerich.
78 Fascia Flap to Close Defect in Trachea. (Neues Verfahren zur Deckung von Trachealdefekten.) Hofmeier.
79 Improved Technic for Proctoclysis. (Die rektale kontinuierliche Kochsalzinfusion; der "Tröpfcheneinlauf" unter Kontrolle des Auges.) E. Martin.
80 High Irrigation of the Intestine. (Die hohe Darmspülung und ein Mastdarmrohr für Sphinkterschwäche—Doppelballonsonde.) W. Kausch.
81 *Experiences with Salvarsan. M. Neuhaus.
82 An Immediate Plus a Tardy Reaction to Vaccination. (Die Doppelreaktion bei der Kuhpockenimpfung.) C. v. Pirquet.
83 Post-Mortem Cesarean Section. (Kaiserschnitt an der Toten.) R. Stern.
84 Multiple Mercury Poisoning During Shooting-Match Indoors. (Eine seltene Entstehungsart von Quecksilberintoxikation.) C. Boesl.
85 Infant Dispensaries and Infant Mortality. (Wirksamste Bekämpfung der Säuglingssterblichkeit.) A. Vidal.

76. **Oxygen-Poor Air in Therapeutics.**—Schmidt presents evidence to prove that all the bad effects of high altitudes are due to the lessened atmospheric pressure, while the favorable effects on the blood-producing apparatus and on the respira-

tion are due to the lessened oxygen partial pressure in the lungs. Reduction of the oxygen pressure permits its better absorption by the epithelium of the alveoles. He has consequently constructed an apparatus in which the person breathes. While the atmospheric pressure is maintained at the ordinary level, the air within has only about 12 per cent. of the ordinary proportion of oxygen. In the twenty cases in which he has systematically applied this method of treatment, anemic conditions have shown remarkable improvement, even pernicious anemia, and asthma and chronic bronchitis have also benefited to a notable degree. Chlorosis and bronchitis with emphysema have also responded well to the treatment, he adds.

81. **Salvarsan in Syphilis.**—No unfavorable experiences were encountered in the seventeen cases of syphilitic and parasyphilitic affections of the nervous system in which salvarsan was given by Neuhaus. In another case a patient was admitted to the hospital in an unconscious condition with exophthalmos and choked disk. As a syphilitic factor was surmised, the Wassermann test was applied, but before the finding was learned the patient suddenly died. The reaction was positive; if this had been known in time salvarsan would certainly have been given, but the trouble proved to be a tumor in the hypophysis cerebri, with not a trace of syphilis apparent in any organ. The case teaches that a positive Wassermann reaction alone is not sufficient basis for indicating salvarsan treatment. Neuhaus made five injections in one case, at intervals of about a month, the doses ranging from 0.3 to 0.5 gm. of salvarsan, injected into the gluteal muscles or high in the back.

Therapeutische Monatshefte, Berlin

May, XXV, No. 5, pp. 269-340

86 *Treatment of Acute and Chronic Intestinal Catarrh in Children. L. F. Meyer.
87 *Treatment with Anions. (Ueber Anionen-Behandlung.) P. Steffens.
88 *Foreign Bodies in Bronchi. (Zwei bronchoskopische Fälle von Fremdkörperextraktion.) W. Uffenorde.
89 Hemostyptic Action of Heart Tonics. (Hämostyptische Wirkung von Kreislaufmitteln.) R. von den Velden.
90 Influence of Salvarsan on Intensity of Antibody Production in the Rabbit. E. Friedberger and N. Masuda.
91 Connection Between Ductless Glands and Lymph Spaces. (Beziehungen der Blutdrüsen zu den Lymphräumen, mit bes. Berücksichtigung der Hypophysis und der Gehirnventrikel als Teile des Wärmeregulationsapparates.) C. Jacobi.

86. **Acute and Chronic Intestinal Catarrh in Children.**—Meyer remarks that the diarrheas of children are the daily bread of the general practitioner, and declares that the practice of restricting the children to "flour soup" (browned flour with butter and water to make a soup) after a day of restriction to tea alone, is what often transforms a harmless acute enteritis into a chronic catarrh. He is convinced that excessive carbohydrate fermentation is the primary cause of severe dyspeptic disturbances, both in infants and older children. The physiologically weak intestine of the infant and the intestine of the older child, after it has been weakened by severe disease, behave alike in respect to carbohydrates. Schmidt says that at all ages disturbances in the digestion of carbohydrates entail most readily intestinal catarrh, as the starch waste in the bowel putrefies so easily. Meyer also strikes milk from the diet in the diarrheas of children for at least a week after the stools are normal once more. The albuminous type of foods, with fat, but very little carbohydrates, should be the main reliance. The food should all be put through a hair sieve for infants and through an ordinary sieve for older children. He allows by the second day two tablespoonfuls of white cheese with a slice of white bread, mixed with a little warm saccharin water and put through a sieve; the third day bouillon with one or two tablespoonfuls of boiled or raw meat, all sieved. By the fourth day he permits addition of two tablespoonfuls of spinach or turnip with a banana. The above is the diet for a child of 4 or 5; it represents about 1,204 calories, which is not much below the normal ration of 1,380 calories for a child of this age, but the proportion of carbohydrates is scarcely a tenth of that in the ordinary ration. In his extensive experience this albuminous type of diet has proved its usefulness in acute cases and is far superior to the "flour-soup" diet in the subacute and chronic cases. He has never known it to fail to date.

87. **Anion Treatment of Rheumatism and Neuralgia.**—Steffens applies treatment with the negative pole of an electric current with high tension and reports successful clinical experience with it. He believes that the efficiency is due to the same elements as in the radio-active mineral waters, as he describes in detail.

88. **Foreign Bodies in the Bronchi.**—Uffenorde reports two instructive cases to impress on general practitioners the importance of suspecting a foreign body as the cause of the disturbances in puzzling cases and the importance of immediate visual inspection of the region; every moment's delay is dangerous. Everything should always be prepared for tracheotomy at once when the attempt to extract the foreign body has not proved successful. In one of the cases reported the presence of the foreign body was not suspected for three months. The mother had mentioned at one time that the child might have "swallowed" part of a hook-and-eye fastening, but this had been disregarded. The foreign body changed its position occasionally, sometimes causing suffocation, and then would follow a period free from symptoms. The diagnosis had been tracheobronchitis or diphtheria. When the foreign body was finally recognized it was planned to extract it with the use of the big magnet used for the eye, but an emergency tracheotomy had to be done before this was practicable. The other child had aspirated a bean into the bronchus and it had swelled so that the vocal cords did not permit its extraction and tracheotomy had to be done. The healing of the wound was delayed by a phlegmonous complication, and during the fourth week fatal convulsions developed. In future, Uffenorde says, he will not attempt the removal by the mouth of a foreign body that can swell if it has been in the air passages over twenty-four hours.

Therapie der Gegenwart, Berlin

May, LII, No. 5, pp. 193-240

92 Medical Education: President's Address at Internists' Annual Meeting. (Eröffnungsrede des 28. Kongresses für innere Medizin.) L. Krehl.
93 *Hemorrhagic Purpura After Injections of Fibrolysin. K. Friedmann.
94 Epidemic Poliomyelitis. (Akute epidemische Kinderlähmung.) P. Krause. Commenced in No. 4.
95 *Salvarsan in Recent Syphilis. (Was leistet das Salvarsan bei der Behandlung der frischen Syphilis?) A. Blaschko.

93. **Hemorrhagic Purpura After Injections of Fibrolysin.**—Friedmann's patient was a woman of 67, healthy until a rheumatic affection developed in the shoulders and hip joints, which proved rebellious to the salicylates. In the course of the third month she was given a course of baths, superheated air and massage, supplemented by injections of fibrolysin, according to directions, every second day. After 10 ampoules of fibrolysin had been injected, the patient was much improved and left the institution. She returned in less than a month with recurrence of the chronic rheumatism, and after a course of 10 ampoules of radiogen, with scarcely any benefit, the fibrolysin was resumed. Each injection was followed by headache and some malaise, and this became quite severe by the tenth injection of the second course, and severe hemorrhagic purpura developed the next day with the general condition much impaired, and blood perceptible in the urine and stool, but the rheumatic trouble had permanently disappeared. The purpuric symptoms kept up severely for nearly two weeks, but then all subsided. A total of nineteen injections of fibrolysin had been made, the last one four months after the first.

95. **Present Status of Salvarsan in Treatment of Recent Syphilis.**—Blaschko declares that the time is still too short to determine whether the syphilis apparently cured by the salvarsan has been actually conquered by the abortive treatment, but it certainly in many cases puts an end to all the visible symptoms of early syphilis. Its disadvantages are the rapid letting up of its action, as evidenced in the early development of secondary symptoms, and the injury of the nervous system, especially of the optic and auditory nerves, observed in some cases. He advocates a combination of salvarsan and mercury as early as possible after infection, but states that there is no compelling reason for giving salvarsan at all except where mercury is not applicable.

Wiener klinische Wochenschrift, Vienna

May 4, XXIV, No. 18, pp. 619-654

96 Physiologic Action of Mountain Climate. A. Durig.
97 Pathogenesis of Cretinism. A. Flinker.
98 Case of Tetany After Injection of Adrenalin (Epinephrin) in Osteomalacia. R. Marek.
99 Pigmented Blood-Cells in Urine; the "Heart Defect Cells." (Vorkommen von "Herzfehlerzellen" im Harn.) E. Koller.
100 The Meiostagmin Reaction in White Rats After Removal of Both Suprarenals. F. Cattoretti.

Zentralblatt für Chirurgie, Leipsic

May 6, XXXVIII, No. 18, pp. 629-660

101 *Cause of Inguinal Hernia. (Zur Aetiologie des Leistenbruches.) A. Hagentorn.

101. **Etiology of Inguinal Hernia.**—Hagentorn has made a practice of examining the other side in operating for inguinal hernia of late, and states that in four out of ten cases he has found a pouch of peritoneum on the sound side exactly like the hernial sac, only much smaller and of course empty. He regards this as a congenital peritoneal process which merely awaits favoring conditions to develop into a typical hernia. The size and shape of the pouch exclude a mechanical origin for it.

Zentralblatt für Gynäkologie, Leipsic

May 6, XXXV, No. 18, pp. 673-696

102 Treatment of Eclampsia by Excising the Breasts. (Die Heilung der Eklampsie durch die Entfernung der Brüste.) A. Herrenschneider.
103 Raising the Pelvis or Knee-Elbow Position for Delivery in the Home. (Beckenhochlagerung oder Knie-Ellbogenlage bei Entbindungen im Privathaus.) W. Liepmann.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 27, XXXII, No. 51, pp. 539-546

104 Traumatic Tuberculosis. A. Salomoni.

April 30, No. 52, pp. 547-562

105 Etiology of Pellagra. (Le critiche di L. W. Sambon alle teorie maidiche.) M. V. Carletti.
106 Familial Hemoglobinuria from Quinin in Malaria. M. Angelo.

May 2, No. 53, pp. 563-570

107 Asthenia of Connective Tissue in Origin of Hernia. (Sulla astenia connettivale con speciale riguardo alla patogenesi dell'ernia.) P. Leonardo.

Policlinico, Rome

April 30, XVIII, No. 18, pp. 553-584

108 Case of Brocq's Parapsoriasis. E. Toscani.
109 Two Cases of Oriental Sore. (Due casi di Bottone di Oriente.) F. Miceli-Capurbano.

April, Surgical Section No. 4, pp. 145-192

110 Experimental Research on Changes in Kidney Functioning with Disease of One Kidney. (Variazioni della funzionalità renale, nelle nefropatie unilaterali.) S. Marinacci.
111 *Origin of Neoplasms. (Sui recenti contributi alla dottrina dei neoplasmi.) G. Fichera. Commenced in No. 3.

111. **Origin of Neoplasms.**—Fichera has continued his research on this subject, especially with embryonal and fetal tissue grafts. He thinks it is significant that spontaneous malignant tumors are extremely rare in young rats, and that preceding ingrafting of embryonal or neoplastic tissue frequently protects susceptible rats against inoculation of cancer tissue; also that subcutaneous or local injection of autolyzed homogeneous cancer or fetal tissue determines the involution of ingrafted cancer tissue which, under other circumstances, gives 100 per cent. of positive results. His experiences in these various lines have convinced him that the cancer-producing property can be corrected, at least temporarily, by supplying the cellular products of secretion and histolysis, the lack of which is the cause of the cancerous growth, and he describes his work in this line.

Riforma Medica, Naples

April 24, XXVII, No. 17, pp. 449-476

112 *The Tourniquet Sign of Hemorrhagic Disease. (Sul valore clinico e sulla patogenesi di un nuovo segno del prof. Grocco—segno del laccio.) C. Frugoni and Giugni.
113 Action of Chloroform on the Glycogen of the Muscles. (Azione della cloroformizzazione sul glicogeno muscolare.) P. Colace.
114 *Two Cases of Primary Tuberculosis of the Striated Muscles. G. Spelta.

May 1, No. 18, pp. 477-504

115 Experimental Research on Influence of Quinin on Regeneration of the Blood in Anemia from Venesection. (Influenza della chinina sulla rigenerazione del sangue nelle anemie da sottrazioni sanguigne.) D. De Sandro.
116 *Cardioptosis. (Morbo del Rummo.) G. Fiorito.

112. **The Tourniquet Sign of Disease with Hemorrhagic Manifestations.**—Frugoni and Giugni discuss the mechanism and significance of the local phenomena which develop in an affection with a tendency to hemorrhagic manifestations when a slightly constricting band, a lacet, is applied to the limb above, as described in THE JOURNAL, Feb. 18, 1911, page 545.

114. **Primary Tuberculous Lesion in Muscle Tissue.**—In the first of the two cases reported the lesion developed in the abdominal wall of a boy of 8, in the rectus, and was excised about a month after it had been first noticed. It contained numerous tubercle bacilli. The other patient was a man of 40, and the lump was below the left axilla, about the size of a hen's egg, in the serratus magnus. There did not seem to be any other manifestations of tuberculosis in either case, and both patients were apparently cured by excision of the lesion.

116. **Cardioptosis.**—Fiorito analyzes a typical case of downward dislocation of the heart, the anomaly to which Rummo called attention in 1900. The patient was a man of 22 with pronounced neurasthenia and symptoms on the part of the heart after exercise, pulsation in the epigastrium and discomfort when the food passed from the esophagus into the stomach. He found that this discomfort could be avoided by bending forward as he swallowed the food; this evidently removed the pressure of the sagging heart from the lower part of the esophagus. There were also signs of gastro-intestinal atony. The apex beat was in the sixth interspace and very weak.

Hospitalstidende, Copenhagen

April 19, LIV, No. 16, pp. 417-440

117 Care After Radical Operation on the Middle Ear. (Efterbehandlingen af Radikaloperationen af Mellemøret.) J. Boysen.
118 *The Wassermann Reaction with Serum from Patients Under Influence of Chloroform or Ether. H. Boas and T. Petersen.

April 26, No. 17, pp. 441-472

119 *Return Cases of Diphtheria. J. Sørensen.
120 The Cerebrospinal Fluid in Syphilitics. (Undersøgelser af Spinalvæsken ved Syfilis uden Nervesymptomer.) H. Boas and H. Lind.

118. **Wassermann Reaction in General Anesthesia.**—Boas and Petersen obtained a positive reaction in three out of sixty patients tested while under the influence of general anesthesia. In all the cases chloroform had been used, and a week later the reaction was negative again. All the patients tested were free from any history or signs of syphilis.

119. Summarized in THE JOURNAL, May 6, 1911, page 1370.

Hygiea, Stockholm

April, LXXIII, No. 4, pp. 385-512

121 Treatment of Dislocation of the Lens. (Linsluxation uti främre kammaren.) K. Stålberg.

Norsk Magazin for Lægevidenskaben, Christiania

May, LXXII, No. 5, pp. 529-624

122 Treatment of Fractured Radius. H. Schilling.
123 Technic of Sclerotomy for Glaucoma. (Om min teknik i Sclerectomia limbalis for glaukom.) S. Holth.
124 Rupture of Small Intestine from Contusion. (Ruptura intestini tenuis, frembragt ved ytre stump vold.) C. Johannessen.

Ugeskrift for Læger, Copenhagen

April 20, LXXIII, No. 16, pp. 545-580

125 *Rheumatic Symptoms in Muscles and Fibrous Tissue and Massage. (Om reumatiske Lidelser i Muskler og fibrøst Væv og deres Behandling med Massage.) C. Heyerdahl.

April 27, No. 17, pp. 581-630

126 *Trauma in Origin of Cancer from Standpoint of Insurance. (Den forsikringsmæssige Bedømmelse af Traume som Aarsag til ondartede Svulster.) E. A. Tscherning.
127 Motor Gastric Disturbances with Intestinal Disease. (Retention i Ventriklen ved Tarmlidelser.) R. W. Kiær.
128 Treatment of an Inoperable Lymphosarcoma with Coley's Fluid. P. H. Perch.

125. **Massage in Treatment of Muscular Rheumatism.**—Heyerdahl reviews the Danish literature on this subject in the last five years, and reports excellent results from moderate massage. The rheumatic affection is localized both in muscle and fibrous tissue, the main symptoms being pains, tenderness and functional disturbances. They differ from nervous disturbances in the hindrance to the movements of the part, and in the fact that the rheumatic pains are most severe in the morning or after rest and are improved by work, contrary to what is observed in neuritis. The rheumatic pain in the head radiates from the back of the neck upward, while the neurasthenic headache spreads sideways over to the forehead, back of the eyes and thence upward to the top of the head. The

rheumatic pains also occur only with certain movements, while the nervous accompany any movement. The lumps and nodules felt by some in the muscles, the seat of the rheumatism, he thinks are merely the natural contraction of the muscle under the influence of the palpation. Local tenderness is not a reliable means of differentiating between nervous and rheumatic affections, he declares, as there are so many points which are sensitive in every one. Rest is useful in nervous and periosteal affections, while the muscular profit by a certain amount of exercise.

126. **Trauma in Origin of Cancer.**—Tscherning reviews ten cases in which cancer developed at the point of a trauma, and a claim was made for industrial insurance money. In only a few of the cases was a causal connection probable. In one case the trauma caused a fracture of the femur at a point which proved to be already the site of a sarcoma and the limb was exarticulated—the trauma in this case revealed the malignant disease long before it would otherwise have been detected. In the case of a man of 36, previously healthy until a block of ice fell against the lumbar region, a sarcoma gradually developed in the right kidney and the kidney was removed the fourth month, but the patient succumbed to metastasis nine months after the accident. An insurance indemnity was awarded in this case, the death being regarded as the result of the injury, but this was accepted in only one of the other cases.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A PRACTICAL MEDICAL DICTIONARY of Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanic, Electric, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive Lists and Synonyms. By T. L. Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine" and the *Medical Record*. Leather. Price, $5. Pp. 1,000. New York: William Wood & Co., 1911.

GOLDEN RULES OF PEDIATRICS. Aphorisms, Observations and Precepts on the Science and Art of Pediatrics. Giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant-Feeding and the Principles of Scientific Treatment. By J. Zahorsky, A.B., M.D., Clinical Professor of Pediatrics, Medical Department Washington University, St. Louis. With an Introduction by E. W. Saunders, M.D., Emeritus Professor of Diseases of Children and Clinical Midwifery, Medical Department Washington University, St. Louis. Cloth. Price, $2.50. Second Edition. St. Louis: C. V. Mosby Co., 1911.

A TUBERCULOSIS DIRECTORY. Containing a List of Institutions, Associations and Other Agencies Dealing with Tuberculosis in the United States and Canada. Compiled for the National Association for the Study and Prevention of Tuberculosis. By Philip P. Jacobs, Ph.D., Assistant Secretary. Cloth. Price, 50 cents. Pp. 331. New York: National Association for the Study and Prevention of Tuberculosis,105 East Twenty-Second St., 1911.

YEAR-BOOK (1911) MAIMONIDES HOSPITAL. History, Achievement, Prospects. Published by the Maimonides Hospital Association for the Information of its Members and to Enlist the Cooperation of the General Public. Paper. S. Neveleff, Managing Director, 1145 Blue Island Ave., Chicago.

YELLOW FEVER AND ITS PREVENTION. A Manual for Medical Students and Practitioners. By Sir Rubert W. Boyce, M.B., F.R.S., Holt Professor of Pathology, University of Liverpool. Cloth. Price, $3.50 net. Pp. 380, with 61 illustrations. New York: E. P. Dutton & Co., 1911.

LE SECRET DE L'UNIVERS DEVANT LA SCIENCE OFFICIELLE. La Mécanique Universelle Dévoilée d'après Clémence Royer et Mise à la Portée de Tous. Par Emile Hureau. Paper. Price, 3 francs 50. Pp. 200. Paris: Jules Rousset, 1 rue Casimir-Delavigne, 1911.

PRECIS D' AUTO-SUGGESTION VOLONTAIRE. Education Pratique de la Volonté. Par le Dr. Géraud Bonnet, d'Oran, Officier de l'Instruction publique. Second Edition. Paper. Price, 3 francs 50. Pp. 302. Paris: Jules Rousset, 1 Rue Casimir-Delavigne, 1911.

FOURTEENTH ANNUAL REPORT OF THE BOSTON INFIRMARY DEPARTMENT OF THE CITY OF BOSTON. For the Year Ending Jan. 31, 1911. Cloth. Pp. 52, with illustrations. Charles E. Donlan, Superintendent.

TWENTY-FOURTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO. For the Year Ending Dec. 31, 1909. Cloth. Pp. 479. C. O. Probst, Secretary, Columbus, Ohio.

SANITARY SURVEY FOR SCHOOLS AND DIAGNOSTIC TABLE. Paper. Pp. 15. Price, $1 per dozen. San Francisco: Whittaker & Ray-Wiggin Co., 1911

New Patents

Recent Patents of Interest to Physicians

970781. Appliance for treatment of spinal affections. Joseph W. Battershall, Attleboro, Mass.
970877. Stretcher for hospital and other purposes. William F. Bernstein, Philadelphia.
970883. Obtaining ammonia. Nikodem Caro, Berlin, Germany.
970612. Knockdown tent. Michael H. Cummings, Minneapolis.
970480. Sputum cup. George D. Eddy, Burlington, Vt.
970898. Chemical compound. August Eklund, Spokane, Wash.
970907. Hot water bandage. James E. Forbes, Kopple, and B. A. Darr, McKees Rocks, Pa.
970909. Making ammonium chlorid. Francis A. Freeth, Great Crosby, and H. E. Cocksedge, London, England.
970497. Attachment for crutches. Kathryn D. Harding, Evanston, Ill.
970623. Producing pure or mixed aeriform environment. Henry J. R. Hemming, Washington, D. C.
970825. Making formates and formic acid. Henry Howard, Brookline, Mass.
970961. Abdominal and pelvic supporter. Edward F. Small, Atlanta, Ga.
970662. Oleic-acid derivatives containing a phenyl group. Nathan Sulzberger, New York.
970767. Water bottle. Angeline L. Swingle, Putney, S. D.
970576. Atomizer. Martha von Trautmann, New York.
971244. Apparatus for ozonifying. Charles S. Bradley, New York.
971359. Eucalyptus oil solution and manufacture thereof. Amos M. Cox, Los Angeles.
971259. Apparatus for distributing liquids in measured quantities. Stanislas Effantin, St. Cloud, France.
971499. Optometer. Ivan Fox, Media, Pa.
971368. Treating dolomite. Jean J. Gathy, Mons, Belgium.
971501. Production of ammonia. Fritz Haber and R. Le Rossignol, Karlsruhe, Germany.
971373. Device for removing facial lines and defects. Estelle Hanning, San Mateo, Cal.
971198. Manufacture of metallic sodium. Paul L. Hulin, Grenoble, France.
971381. Invalid bed. John M. Keller, Youngstown, Ohio.
971206. Producing hydrogen. Anton Messerschmitt, Frankfort-on-the-Main, Germany.
971144. Preparing caustic soda. Heinrich Reitz, Griesheim-on-the-Main, Germany.
971145. Preparing caustic potash. Heinrich Reitz, Griesheim-on-the-Main, Germany.
971149. Catalytic body and making same. Karl Schick, Griesheim-on-the-Main, Germany.
971227. Device for dampening the air in closed rooms. Karl Ulrich, Zweibrusken, Germany.
971516. Nozzle. Isaac K. Beaver, Wilburton, Pa.
972100. Bed for invalids. Arthur F. Crandall, Beresford, S. D.
971099. Bed. Arthur F. Crandall, Beresford, S. D.
971681. Making artificial ointment bases. Samuel Knopf, Vienna, Austria-Hungary.
971916. Non-refillable bottle. John Missall and A. Sommer, New York.
971783. Surgical appliance. Adolph J. Petter, Los Angeles.
971798. Optical instrument. Truis A. Somdal, Springfield, Ill.
972137. Cooler and soda fountain. George W. and H. A. Wise, Cleveland, Ohio.
972318. Inhaler. Edward S. Balthrop, Jackson, Tenn.
972746. Combined rinser and sterilizer. Benjamin W. Beach, Georgetown Station, N. Y.
972337. Vibrating propeller. Barton H. Coffeyl, Boston.
972755. Mortuary refrigerator. Victor A. De Canio, Union Hill, N. J.
972345. Preparation of a fat-like substance from the bodies of bacteria. Georg Deycke, Constantinople, Turkey.
972523. Iron albumin-glycerophosphate and making same. Ernst Fischer, Gronau, near Hanover, Germany.
972686. Applicator. Albert D. Foster, Chicago.
972201. Syringe. Jacob Kussart, Greeley, Colo.
972207. Ventilating canopy. James Moody, South Boston, Va.
972464. Cellulose ester and treating same. Harry S. Mork, Boston.
972711. Adjustable couch-hammock. Isaac E. Palmer, Middletown, Conn.
972712. Head and shoulder rest or support for couch and other hammocks. Isaac E. Palmer, Middletown, Conn.
972713. Head and shoulder support for couch hammocks. Isaac E. Palmer, Middletown, Conn.
972269. Detachable sanitary covering for toilet seats. Max R. Slough, Covina, Cal.
972289. Hand cultivator. Robert I. Teter, Ellis, Minn.
972414. Operating table for the use of physicians and surgeons. Bernard D. Thorner, New York.
972983. Dilator. Richard S. Arthur, Newark, N. J.
973099. Non-refillable bottle. Arnest B. Barner, Elkhorn, Ore.
973336. Producing metal salts and metals. John W. Beckman, Niagara Falls, Ontario, Canada.
973157. Incandescent lamp. Delo H. Bering, Pittsburg, Pa.
973158. Ear bandage. Katherine Berthel, New York.
973164. Obtaining ammonium salts from gas. Karl Burkheiser, Aix-La-Chapelle, Germany.
973270. Apparatus for heating water, milk and other liquids for sterilizing or other purposes. John S. Forbes, Philadelphia.
973427. Combined pencil holder and inhaler. Jesse W. Hayes, Baltimore.
972878. Embalmer's injecting and aspirating apparatus. Bert Leon, Toledo, Ohio.
973283. Adjustable crutch. William H. Loftin, Jacksonville, Fla.
973445. Breast douche apparatus. Alexis Mantelet, Paris, France.
973062. Optical instrument. Benjamin F. Mayo, Salem, Mass.
973375. Moistener. Joseph M. Molloy, Lewiston, Idaho.
973456. Vaginal syringe. Frank A. Neveu, Salt Lake City, Utah.
973296. Surgeon's scissors. George H. Peddler, Parry, N. Y.
973307. Thermometer case. Francis Ruddy, Watertown, N. Y.
972954. Making hypochlorous acid. Henry V. Walker, Brooklyn.
973328. Emulsifier. Joseph Willmann, Derby, Conn.

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DIET IN ACUTE INFECTIOUS DISEASES

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Feeding the sick is both a science and an art; a science in so far as it takes cognizance of the great laws of supply and demand in a physiologic sense; an art in so far as it affects the application of these laws to the individual.

All matter is endowed with a certain amount of energy, which manifests itself differently, under different conditions. Certain chemical substances, by virtue of the nature of the elements that compose them and their relationship to each other, that is, their structure, have the power to produce one or more manifestations of energy. They are said then to have potential energy.

To give rise to the manifestations of energy, these substances must have a certain degree of instability or lability; that is, must be capable under definite conditions of undergoing changes in structure, disruptions, etc., all of which give rise to motion.

The substances of which our bodies are composed and food on which they continue to exist are chemical substances of a highly labile character, possessing potential energy, which in the process of catabolism or breaking down, give rise to motion, which conveyed to other bodies is manifested as work or is expressed as heat, to neglect the lesser forms of energy in the human body, such as the electrical.

Energy is as indestructible as matter itself. It can be transformed from one kind into another, but it cannot be destroyed nor yet created anew. Different manifestations of energy have definite quantitative relationships to each other, as Joule's great experiments on the mechanical equivalent of heat showed. He demonstrated that the amount of work necessary to raise 1 gm. of water through 1° C. was that required to raise 42.55 gm. through 1 cm. of distance.

I have said that the conversion of the potential energy of the body or of the food into one or the other manifest forms of energy occurs under definite conditions. The definite condition in the body which gives character to its manifest energy is the "vitality" of the cell. Moore[1] calls the living cell an "energy transformer," and without entering into the controversy about the significance of "vitalistic phenomena," I shall quote his idea, which is as follows:

> The living cell is not a peculiarly constructed membrane obeying, even where it seems most directly not to obey, the physical laws of diffusion and osmosis; but is an energy machine or transformer by virtue of the operation of which a form of energy appears, peculiar in its manifestations and phenomena to living matter.

The kind of energy that this transformer, the living cell, produces out of the potential energy of the body and its foodstuffs is almost entirely thermokinetic, that of work and heat, and as we can express work in terms of heat, we may reduce the total activities of the body to terms of heat and express them as equal to so many "calories" or heat units.

The "calorie" is a term used to express that amount of heat which is required to raise 1 c.c. or gm. of water through 1° C. More properly, this is termed a "small calorie," while the term "large calorie" is used for the amount required to raise 1 kilogram or 1 liter of water through 1° C., i. e., 1 large calorie equals 1,000 small calories.

THE CALORIC BALANCE OF THE HUMAN BODY

As has just been said, the human body (the cells collectively) is an energy transformer; or to put it in other terms, the human body is like a steam-engine, consuming fuel for the purpose of doing work and producing heat; but the human body differs from a steam-engine in this, that, lacking fuel, it will consume its own structure up to the point of a complete collapse of the mechanism; so that, to maintain the integrity of the transformer or engine, it is necessary that the output by it of work and heat shall be exactly met by the fuel afforded it. To know the amount of food the human body requires, then, we must know the amount of work it does and the amount of heat it elaborates in a given time.

Now Nature has given to the individual a most amazing regulator to adapt the supply to the demand on which no device of man can ever improve; that is, appetite. When one thinks that day after day and year after year, the body retains a fixed or approximate weight, under the most varying demands of work, and consequently of food, under the guidance of this monitor, one is lost in admiration; but as there are times, in the stress of disease, that this regulator fails or by the dictates of false theories, is disregarded, we need to know what the demands actually are, in order that we may guarantee that they may be met.

The determination of the caloric output in man has been made possible by the use of the calorimeter chamber of Pettenkofer and Voit, elaborated and perfected by Atwater and Benedict, whose work in this field has been the most extensive and accurate ever done, and whose studies of food-values have been accepted by the government as standards; and by the study of the respiratory quotient determined by the simpler apparatus of Zuntz.

Still another way to determine the caloric needs of man is to determine the heat values of the foods habitually taken by normal individuals in different callings.

1. Recent Advances in Physiology and Biochemistry, edited by Leonard Hill, London, 1908.

These analyses of the average intake and output agree wonderfully well. For men doing light or sedentary work, clerks, professional men, literary men, the requirements are between 2,400 and 2,600 calories; for those whose work is a little more arduous, as machinists, shoemakers and the like, 2,900 to 3,100 calories; for those doing hard muscular work, smiths, masons, etc., 3,300 to 3,600 calories, while those doing very hard work run up much higher, the Maine woodsmen demanding some 7,000 to 8,000 calories. Football players require nearly as much.

What concerns us most is the requirement of a man at rest, for this is the condition in which we find our patients. Rest, too, is a relative term, and as used here means that degree of activity which obtains when a patient is put to bed, which is a very different state from complete muscular relaxation or that prevailing in sleep. At rest the demands are about 2,300 calories or 33 calories per kilo of body weight, the average man weighing 70 kilos or 150 pounds.

A fact of prime importance to us as practitioners is that educed from the work of Magnus-Levy,[2] namely, that the total metabolism is the same in the sick man as in health, so far as the demands of muscular effort and heat production go; but, as we shall see, fever and toxemia increase these demands.

The caloric requirement of an individual depends not only on the amount of work he does, but also on the size or bulk of his body; and while we have spoken of the requirements of a man at rest as 2,300 calories, it is meant for a man of average weight, while such wide variations as a man of 200 pounds and a woman of 100 pounds are common in our every-day experience. The requirements are best thought of in units of weight, as so many calories per kilo—for a man at rest 33 calories per kilo.

Here, too, certain modifications have to be made, as in the excessively obese, whose fat is hardly to be considered in the same light as the more actively metabolizing tissues.

The figures "33 calories per kilo" obtain only for adults. In the young the growth has to be taken into consideration, which in certain periods is more intensive than in others; e. g., in the first three months of life the demands are about 110 calories per kilo; in the second three months, 100; in the last half of the first year 90; at the end of the second year, 75 to 80; at 10 years, 60, and at 14 years, 52. Indeed, as Cohnheim observes, the boy of 10 requires as much food as the adult who does not do muscular work, while the youth of 14 to 16 must eat 3,000 calories, about one-fourth more than his father who leads an intellectual life.

In consideration of the fact that in all warm-blooded animals the production of heat is the most imperative function of metabolism, and further that the dissipation of it is largely a function of the skin, there stands a relationship between these two, closer than that between metabolism and weight. In a small sphere the surface is greater, proportionally to the contents, than in a large one, for the contents increase as the cube of the radii, while the surfaces increase as the squares, so that in the smaller bodies the radiation is relatively greater and the heat production must be relatively more intense.

So it is that we find in the infant a requirement of 100 calories against 33 in the adult, but when the surfaces are compared, it is found that reckoned in calories per square decimeter, it is about the same from 10 weeks to adult life, 13 to 14 calories per square decimeter (Pfaundler and Schlossmann). The unit of weight, is, however, so much more readily obtained that we use it in preference.

Metabolism experiments carried on during rest have shown that whether reckoned on the one unit or the other they are always the same for all individuals, men or women, sick or well. It must be remembered, however, that the conditions of the experiment produce more nearly real rest than obtains in the sick-room. Differences of temperament determine very different degrees of muscular activity, while certain phases of an acute infection, like delirium, become a matter of serious import in the consideration of rest.

As has been said, all this energy manifested as work and heat by the body, resides potentially in and is derived from the food. The food, then, must furnish periodically just what the body has expended in order to keep the latter intact, for if the food is deficient, the deficit will be made up out of the body itself, as long as it can stand the drain. Our patient at rest, then, must have 2,300 calories of food a day.

CALORIC VALUE OF FOODSTUFFS

The foodstuffs are divided into three classes, fats, carbohydrates and proteins. Strictly speaking, salts and water are foodstuffs, but they have no caloric value.

Rubner's figures for the caloric value of foodstuffs still stand to-day, such slight modifications as have been made having but little practical significance. They are as follows:

1 gm. of fat furnishes 9.3 calories.
1 gm. of carbohydrate furnishes 4.1 calories.
1 gm. of protein furnishes 4.1 calories.

With these figures and a table of the average composition of the common foods, like those of Atwater, published by the U. S. Department of Agriculture, it is no difficult task to arrange a dietary.

The first step, then, in arranging a diet in acute infectious diseases, is to provide, as a minimum, as many calories as are demanded by the individual when at rest in health, 33 calories per kilo, or 2,300 in the average man.

A diet must not only contain sufficient heat units, it must also be properly balanced with reference to the three foodstuffs, and of these three, the most important is protein.

PROTEIN NEEDS

Two facts of great importance are to be kept in mind, which differentiate protein from the other foodstuffs; first, in the adult, under normal circumstances, the daily demand for protein is fixed and does not vary with the amount of work done, as is the case with the other two foodstuffs; and second, there is no provision for a storage of an excess of protein, as is the case with fats and carbohydrates. Therefore, any excess must be catabolized and eliminated.

This daily amount of protein amounts to about 100 gm., or 16 gm. of nitrogen. Voit's figures are 118 gm. of protein as ingested, which, allowing for the amount found in the stools, gives about 100 gm. net. The analysis of dietaries the world over has given a remarkable unanimity of results, which have confirmed Voit's figures.

That a man may perform hard work for months and remain in excellent condition on an amount of protein far less than this, one-half and even less, has been demonstrated by Chittenden in the most elaborate and

2. Quoted from Otto Cohnheim: Die Physiologie der Verdauung und Ernährung

extensive set of experiments ever carried out on this subject. Physiologists, however, though they must accept the possibility of this low protein need as a fact, are not yet inclined to argue from this demonstration that such an intake would subserve the interests of the organism in the long run to the best advantage.

FUNCTIONS OF PROTEIN

Protein subserves three important functions. First, it furnishes substance, building material, to the body. This is spoken of as the "storage" of nitrogen. Second, it repairs the daily waste of the body, the wear and tear of the machine. Third, it furnishes heat in its combustion, that is, is a fuel.

It is only in early life that the first of these functions, storage, is of prime importance. At that time it is one of the most imperative of physiologic functions. The continuance of growth in length, when weight may be stationary or regressive, is a familiar phenomenon to the pediatrist, expressive of the fact that the protein is seized on with avidity even when the fuel-value of the food is insufficient for body needs. It is a curious fact that the actual amount of protein ingested in infancy is about the same month after month, but the amount devoted to storage decreases, while that used for wear and tear increases. In the first two weeks over 75 per cent. is stored; at two months 40 per cent.; at five months 23 per cent. When an individual has attained his growth, storage ceases, except on special occasions; these are during pregnancy and lactation, in the establishment of hypertrophy of groups of muscles, as in the training of an athlete, and during convalescence from wasting disease or after a long fast.

The second function, repair of wear and tear, is the important one in adult life. This has to do with maintaining the integrity of the machine as a whole and has nothing to do with the amount of muscular work, so it is a daily constant, regardless of the amount of exertion the body has been put to. It is for this purpose that the food should contain 100 gm. of protein a day in the adult diet.

The third function is incidental. Protein does furnish heat, but it is not an economical source of supply. In the infant the proper amount of protein furnishes about 7 per cent. of the calories; in the adult about 14 per cent.

The reason that protein is not an economical fuel lies in that peculiar property known as its "specific dynamic action." When food is ingested, the physiologic processes sequential to it produce heat. The amount of such heat induced by fat and sugar is slight and negligible, but not so protein. The ingestion of this substance gives rise to a production of heat equal to a trifle more than 30 per cent. of its caloric value.

The source of this heat is a matter of dispute, but it would seem to be due to the work of the glands of secretion and to cell activities with which we are less acquainted. Lusk has intimated that in the case of protein it may be in part due to the denitrogenization of the amidobodies. This heat is lost to the body, is waste heat, under the conditions of temperature and physical regulation of heat in which man lives. He cannot utilize this heat for purposes of cell-life.

This loss of heat by the specific dynamic action of protein may be expressed in this way: that to get the caloric value of 100 gm. of protein one must ingest 140 gm. of the food. It is this increased heat that must be dissipated that has led naturally to a limitation of meat diet in hot weather and to its general elimination from the diet of fever.

The second step, then, in arranging a diet in the acute infectious diseases, is to provide enough protein to replace the wear and tear, an amount which hardly differs from the general demand in health. It may be placed at 65 to 80 gm.

Fat and carbohydrates differ from protein in two very striking ways as articles of diet; first, when utilized by the body the oxidation is complete and they are eliminated as carbon dioxid or water, while the nitrogenous moiety of the protein is not completely oxidized and entails work on the part of the kidney to eliminate it, which the other foodstuffs do not require; second, an excess of fat and sugar beyond immediate needs is stored in the body as fat and does not demand prompt elimination like the excess of protein.

The proportions of the three foodstuffs in an average dietary is protein 100 gm., fat 50 gm., and carbohydrates 400 to 500 gm., giving in the neighborhood of 3,000 calories.

MILK

No food in infectious diseases has been used so much as milk, and frequently to the exclusion of all others.

An excellent milk will show on analysis about 4 per cent. of fat, 4.5 per cent. of sugar and 3.5 per cent. of protein, or, to the liter, 40 gm. of fat, 45 gm. of sugar and 35 gm. of protein. Using Rubner's caloric values as given above, we see that the caloric value of a liter of milk is 700; reduced to quarts, there are about 640 calories to the quart or 20 to the ounce—a convenient figure as a mnemonic.

A liter contains 35 gm. of protein.

It will be seen presently that a low estimate of the caloric needs in fever of an average individual is 3,000. To meet this one would have to administer over a gallon of milk, which would contain over 140 gm. of protein.

These figures sufficiently demonstrate how ill adapted an exclusive milk diet is to meet the needs of an individual suffering from an acute infection.

STANDARD PORTIONS

When one comes to study the tables of composition of foodstuffs, it is plain that the establishment of a dietary to respect the caloric requirements and the protein needs of a patient is a task outside the time and patience of an active practitioner. It was with an appreciation of this fact that Professor Irving Fisher,[3] of Yale, published his tables of standard portions.

It will be seen from the table representing a few of these articles selected how remarkably the ordinary servings of common articles of food, or at least multiples or simple fractions of them, amount to just 100 calories.

In some of our hospitals the nurses are now instructed to bring food to the patient in these portions, so that the estimate of the daily intake can be easily made with a degree of accuracy that answers all practical purposes, and because the daily exhibition of these portions is an education to both the medical and nursing staffs. It soon becomes an easy matter to think of the ordinary articles of diet in terms of units of 100 calories.

The object of our consideration is a patient suffering from an acute infectious disease. So far I have discussed only the food requirements of a man in health at rest. Such a discussion is relevant to this subject, however, because the requirements of the patient are the same plus a certain additional need determined by the infection itself.

3. Fisher, I.: THE JOURNAL A. M. A., April 20, 1907, p. 1316.

TABLE OF FOOD-VALUES IN UNITS OF 100 CALORIES	Protein in Gm.
Milk, 5 oz.	5.
Cream, 16 per cent. (2 oz.)	1.5
Buttermilk, one and one-half glasses (9.5 oz.)	8.
Koumis, one glass (7 oz.)	5.
Whey, two glasses (13 oz.)	3.5
Eggs, one and one-half	10.
Whites of eggs, 6	24.
Yolks of eggs, 2	4.5
Oatmeal, one and one-half serving (5.5 oz.)	4.25
Boiled rice, ordinary cereal dish (3 oz.)	2.5
Hominy, large serving (4.2 oz.)	2.5
White bread, home made, one thick slice (1.25 oz.)	3.2
One small Vienna roll (1.25 oz.)	3.2
Butter, one pat (1.5 oz.)	0.0
Sugar, three teaspoonfuls, one and one-half lumps (0.8 oz.)	0.0
Oil, one-third ounce	0.0
Codfish, two servings (5 oz.)	23.
Halibut steaks, one serving (2.8 oz.)	15.
Mackerel, Spanish, one serving (2 oz.)	12.2
Shad, one serving (2.1 oz.)	11.2
Salmon, small serving (1.5 oz.)	7.3
Oysters, 12	12.
Roast beef, ordinary serving (1.8 oz.)	10.
Small sirloin steak (1.4 oz.)	7.5
Leg of lamb or mutton, ordinary serving (1.8 oz.)	10.
Lamb chop, one, small (1 oz.)	6.
Bacon, small serving, medium fat (0.5 oz.)	1.5
Chicken, broiler, edible portion, large serving (3.2 oz.)	19.
Turkey, large serving (1.2 oz.)	7.
Potato, baked, one, good size (3 oz.)	3.75
Potato, sweet, baked, one-half average potato (1.7 oz.)	1.5
String beans, five servings (16.66 oz.)	3.75
Spinach, two ordinary servings (6.1 oz.)	3.7
Peas, green, one serving (3 oz.)	5.7
American or Swiss cheese, 1.5 cubic inches (0.75 oz.)	6.
One baked apple, 3.3 ounces	0.5

There are four factors that enter into the problem of feeding in acute infectious diseases that render it distinct. They are (1) gastro-intestinal disorders; (2) pyrexia; (3) toxemia; (4) starvation. The last of these it is the plea of this paper to prevent.

Starvation in fever has been a tradition in medicine that has lost but little authority with the passage of time and finds wide acceptance to-day. The legitimacy of such practice I wish to examine.

DISTURBANCE OF GASTRO-INTESTINAL FUNCTION

It cannot be denied that the gastro-intestinal tract is not indifferent to the effects of the infection. We are all familiar with the dry mouth, the coated tongue, the anorexia and the tympanites of many of the patients.

One feels little inclined to urge food on so unwilling a receptacle and this feeling has plead potently with many practitioners to establish insufficient, often starvation dietaries.

Investigation has shown that the salivary secretion is lessened, that the output of hydrochloric acid is diminished and the motility of the distal portion of the intestine is impaired. It has been claimed that the motility of the stomach, too, is prejudiced (von Leyden and Klemperer), but von Noorden maintains that that has not been the case in the patients he has studied.

More important still, assimilation seems to be good, and von Leyden and Klemperer[4] found that in different patients with high fever 89 per cent. to 94 per cent. of easily digestible fat was absorbed and 91 per cent. of protein. Moreover, they found no carbohydrate in the stools unless excessive amounts had been ingested or diarrhea prevailed.

Taking these data and what I have seen of liberal feeding in febrile conditions, I am convinced that the ability of the alimentary tract to perform its normal functions in fevers has not been duly appreciated and the withholding of food on the supposition that this organ is crippled is unjustifiable.

I do believe that in the incipiency of an acute infection these functions are more in abeyance than later, but that they quickly become competent. I also believe that the state of the mouth and digestion is due in no small measure to an insufficiency of water and is greatly aggravated, not by the giving of food, but by the withholding of food, which entails a destruction of body tissue and sets on foot abnormal metabolic processes.

4. von Leyden and Klemperer: Handbuch d. Ernährungs-Therap., 1904, ii, 332

FEVER

The term "fever," as ordinarily used, connotes the sum of two distinct factors: (1) pyrexia and (2) toxemia. I wish to discuss them separately, and when, under pyrexia the word "fever" is used, it is to be taken in the sense of an elevated temperature alone, i. e., pyrexia.

PYREXIA

There has been an endless controversy from remote times as to the significance of fever, it being contended on the one hand that it was a deleterious factor in the disease, on the other, that it was beneficial and had a meaning that was to be respected; purposeful, the teleologist would say.

This is not the place to discuss at length fever and its relation to disease, but I am in agreement with the conclusions of careful students of the subject that "fever is a specific reaction against injurious materials which affect the tissues"; that it "is in its essentials a protective reaction," to quote from the excellent article on fever by Dr. W. G. MacCallum.[5]

There has been a wealth of work done to prove this statement, which one will find set forth in detail in the article just referred to and in a critical review of the subject by Hermann Ludke.[6]

Pyrexia below 104 F. is to be let alone; it is useful; above that figure it adds an element of harm and then antipyretic measures are indicated, but not till then. It must be remembered that many so-called antipyretic measures, such as the cold baths, are directed not toward the temperature, but to the circulatory and nervous system, and are of the highest value when these systems are in distress. The phenomena of fever lead rapidly to the assumption that there is a great increase in heat production and a marked retardation of heat dissipation, in other words, a great accumulation of heat in the body. This is not so. The actual increase in the oxidative processes is relatively small, while the relation between heat production and heat dissipation is but little interfered with. What seems actually to take place is the regulation of these processes on a higher level, so to speak; what level, that is, at what temperature, depending on the effects of the toxins on the heat-regulating mechanism. This mechanism, however, under such conditions, does not display the same degree of stability as in the normal individual, but a lability that characterizes the temperature curve in infections, and, indeed, gives their individual stamp to them.

I have said that the increase of heat production in fever is relatively small. The figures vary; sometimes there is no increase, but on the average it amounts to about 25 per cent. This might seem considerable did we not pause to consider that in strenuous muscular exercise the increase of heat amounts to several hundred per cent.; for example, the 8,000 calories of the Maine woodsman to the 2,300 at rest.

The fact that such great increase in heat in the normal man causes no rise of temperature shows that the elevated temperature of fever has quite another origin than that of heat production; that it is the result of the toxins and not the heat. However, as our patient is at rest,

5. MacCallum, W. G.: Arch. Int. Med., 1909, ii, 569, and the Harvey Lectures, 1908-1909.
6. Ludke, H.: Ergebn. d. Inn. Med. u. Kinderh., iv, 493.

this 25 per cent. increase has to be added to the 2,300 calories allowed him, in order to make good his daily losses, *so that it may be said that the requirement of the febrile patient is 40 calories per kilo or 2,800 calories, near enough to 3,000 to make that our guide.*

One other effect of pyrexia I wish to mention; that is, its destructive action on protein. As Lusk says "Infectious fevers are characterized by a toxic destruction of body protein"; but there are three factors concerned in the loss of nitrogen during an acute infectious process; (1) pyrexia, (2) toxins, (3) starvation.

The study of non-toxic fevers, such as are induced by exposure to heat or by puncture of certain parts of the brain, show that the pyrexia can induce protein catabolism, but it seems to demand a temperature of 102 F. or over to bring about this protein loss, and experimentation has shown that a sufficient feeding can control this loss.

TOXEMIA

It was recognized that apart from the effect of pyrexia and apart from starvation, or at least in the presence of food sufficient to meet all the theoretical considerations we have so far set forth, there still continued to be a considerable loss of protein in the acute infectious diseases. This loss came to be accepted as inevitable by the ablest investigators in the field and was attributed to the effects of the toxins and was called the "toxic destruction" of protein. Just how the toxins brought about this protein loss was and is a matter of conjecture. It has been attributed by Krehl to actual cell destruction; by others to an exciting effect on metabolism by the toxins; by others to an expression of the production of antibodies and other protective substances. Certain it is that is it dissociated from the pyrexia, as such; for it is often intense when there is no rise of temperature. Taken with this destruction it has been suggested that a weakened power of regeneration exaggerates the difference between catabolism and anabolism.

STARVATION

This does not belong to the acute infections as a rule, except as it is inflicted on the patient by an insufficient dietary. Energy must be supplied to the body each day and when the food does not do it, the body substance does and the protein is called on to do its share at the sacrifice of cell integrity.

At the present moment one of the most intensely interesting fields of medical research is that devoted to metabolism, the building up and breaking down, anabolism and catabolism, the storage of energy and its dispersion; what one writer has called the "most fundamental characteristic of life, energy-traffic." The intimate processes of protoplasm yield their secrets stubbornly, but we know what they have to work on and we know what they yield back; we know the fuel and the ash, the intake and the output, and from the knowledge of these two, we deduce much that has occurred in the process of the change.

Nitrogen is the basic substance on which the body structure is erected. It is ingested with the food and it is expelled in the urine, the stools and in lesser measure by the skin. In health the intake and output balance each other, and the nitrogen eliminated is divided among a number of combinations which maintain a pretty constant relationship to each other. These nitrogen combinations are spoken of as the "nitrogen partition."

In disease the balance of intake and output is disturbed and the relationship of the combination undergoes a change, so that the study of the nitrogen partition in disease is a tree that bears much fruit.

I have said that the nitrogen elimination is divided among three organs, the kidneys, the intestine and the skin. As for the skin, its output is negligible except when made to functionate in an unusual manner, as in very profuse perspiration. Under such circumstances it has been known to yield as much as 0.75 to 1 gm. of nitrogen.

The stools, however, contain an appreciable amount of nitrogen. Some very curious ideas prevail even among physicians about the feces; e. g., that they represent the residue of the food; that the amount depends entirely on the amount of food ingested; that if there be no food taken there should be no feces. The stools do not represent the residue of food so long as the food is free from indigestible matter. Stools occur in fasting people and a comparison of these stools with those ordinarily passed shows that there is no difference in their composition or relation of constituents, no matter whether there be much or little food taken, and no matter whether that food be protein, carbohydrate or fat. The amount increases but little with the food and in no sense in proportion to the amount ingested. If excesses of food are eaten, a minimum residue may appear and, of course, cellulose or other indigestible substance is found.

The stools are made up of the residues of the digestive juices, mucus, desquamated epithelium, bacteria, the products of bacterial action, salts and water. Of the salts, it must be remembered that the intestine is the excretory organ for iron and calcium and for the most part of phosphorus and magnesium.

The nitrogen content varies from 1 to 2 gm., but on the whole is so constant that it has been considered as furnishing a definite per cent. of the nitrogen ingested (15 per cent.) without prejudice to the accuracy of the metabolism study.

It is to the urine that we turn, however, to derive important information; for 80 per cent. to 90 per cent. of the nitrogen is excreted by the kidney as urea, uric acid, ammonia, xanthin bases, creatinin and amido-bodies.

The study of the total excretion and of its individual constituents is of importance.

TOTAL NITROGEN

It has been invariably found that the amount of nitrogen excreted far exceeds the amount ingested, and so much the more, the more severe the process.

It is common enough to find losses of 8 gm., 12 gm., 16 gm., and more of nitrogen a day; that is, in excess of the intake; and, that, too, when on a diet usually considered satisfactory. This latter figure is the amount of nitrogen demanded in Voit's standard dietary, and if it were interpreted in terms of muscle tissue would mean a loss of a pound of such tissue.

Such figures will be found repeatedly in the tables of Shaffer and Coleman's studies on metabolism in typhoid fever,[7] and those of Wolf and Lambert[8] on pneumonia, to mention some of the most elaborate of the recent investigations.

The study of the total nitrogen and the determination of the "negative nitrogen balance," as it is called, tells us that there has been loss of substance to the body, but it does not tell us what tissues are suffering this loss, nor yet whether the metabolic processes are carried out in a qualitatively normal manner. Such scant information

7. Shaffer and Coleman: Arch. Int. Med., 1909, iv, 538.
8. Wolf and Lambert: Arch. Int. Med., 1910, v, 406.

as we have along these lines is derived from the study of the parts that go to make up the total; that is, the nitrogen partition.

It is the small portions that in the past excited but little interest that are now yielding us the most information. One of these portions is the substance creatinin. When Folin[9] published his classical analyses of thirty normal urines, he called attention to the fact that this substance creatinin remained practically constant, no matter what the amount of protein ingested. On this fact he elaborated the theory that this substance was an indicator of "tissue" or "endogenous" metabolism in contradistinction to "intermediate" or "exogenous" metabolism, of which urea is the chief representative. Another representative of this "constant" or "endogenous" metabolism is neutral sulphur,[10] and to a lesser extent, uric acid and ethereal sulphates.

Folin showed that this substance was constant in the individual, but varied in different individuals according to body weight. He spoke of it as an "index to the amount of a certain kind of protein metabolism occurring daily in any given individual,[9] but defined that kind of "protein metabolism" no further.

Shaffer,[11] however, added to our information a little further, by showing that not only was the output of creatinin in an individual constant from day to day, but also from hour to hour, amounting from 7 to 11 mg. of creatinin nitrogen for every kilogram of body weight per twenty-four hours; this he called the "creatinin coefficient." He, moreover, gave reason to believe that the substance was an index, not of total tissue metabolism, as Folin thought, but of one tissue metabolism, that of the muscle, as its output seemed to show a parallelism to the muscular efficiency or strength of the individual. It has nothing to do with the muscular work, but rather with the machine, the muscle itself. He suggests that it is an index of muscle tone. If one may use an analogy without too close adherence to details, one might consider the creatinin to represent the friction, the daily wear of the muscle machine, not at all the product of its work.

Here was an important clue to follow up. Any substance that showed the ravages of disease in so important a tissue as muscle was worth looking after. Already studies on the substance in pathologic conditions had assisted to suggest the above view of its significance and further work confirmed it.

It was found that creatinin was diminished in conditions of muscular inefficiency, such as amyotonia congenita, myasthenia gravis, muscular dystrophy,[12] exophthalmic goiter, and in the as yet undeveloped muscles of the infant.[13]

How is it affected by acute infectious fevers?

There is a pretty constant agreement among the investigators that it is increased during the height of the fever and is most marked when the nitrogen loss is the greatest, but there is no numerical relationship between the two. During convalescence and even before, there is a diminution in the excretion which may be attributed to muscular weakness. It must be interpreted in the sense that the febrile condition increases the wear and tear of the muscle tissue. This increase in creatinin was determined for typhoid fever,[14] for pneumonias, for erysipelas—to call attention to some of the most recent work.

So much for increased wear and tear of the protein constituents of the body during the acute infectious process; but is there anything that bespeaks by its presence actual destruction of a definite tissue? There is a substance in the tissue closely allied to creatinin, which differs from it only by the presence of one molecule of H_2O in its structure (creatinin is a dehydration product of creatin), which does not appear normally in the urine, or appears only in traces. This is called creatin.

Creatin is to be found in the urine only in abnormal conditions. It is found in wasting diseases, such as the cachexia of carcinoma, in starvation, and in fevers. It is derived from the muscle and its presence in the urine means destruction of the substance of that structure. It is very striking during the involution of the uterus after childbirth. It was found in all the studies on fevers referred to, and sometimes ran over into convalescence. Its disappearance from the urine is looked on as a good omen, and what interests us as dietitians is that when made to appear in starving animals it has disappeared under a pure carbohydrate diet.

Besides the creatinin, neutral sulphur and uric acid are both increased and may be looked on as further expressions of increased endogenous metabolism.

So far we have considered quantitative changes rather than qualitative in the nitrogen metabolism. Qualitative changes might be taken as evidence of metabolic inefficiency.

Evidence of this is to be looked for in the so-called "rest nitrogen." This "rest nitrogen" or "undetermined nitrogen" is that nitrogen which is left of the total nitrogen when the nitrogen of urea, ammonia, uric acid and creatinin have been subtracted. If the "rest nitrogen" increases it may be considered as being at the expense of the urea, the most important nitrogenous substance, and so indicate a defective desamidation. The amido-bodies are, indeed, the most important of the substances included in the "undetermined nitrogen." There are, besides leucin and tyrosin, indol, skatol, glycocol, proteic acids and albumoses, as well as xanthin bases.

Shaffer and Coleman found but little increase in the "rest nitrogen" in typhoid fever and the same was true of pneumonia investigated by Wolf and Lambert (there was absolute increase, but not in disproportion to total nitrogen). It may be said, then, that as a rule the urea-forming function is but little impaired, an important conclusion in considering the ability of the liver to handle the products of protein digestion.

In grave cases, such as were observed in the study of typhoid metabolism by Ewing and Wolf, the "rest nitrogen" did become high and the urea low.

These authors looked on the phenomenon as indicative of inefficiency of the liver urea formation, recalling the high "rest nitrogen" found in acute yellow atrophy.

Such patients probably suffer from an auto-intoxication in addition to the toxemia of the disease.

A high "rest nitrogen" may occur in the period of convalescence and it is believed by the investigators mentioned that the disturbances arising at times from the administration of meat early in convalescence called "febris carnis," may be due to the inability of the

9. Folin: Approximately Complete Analysis of Thirty Normal Urines; Laws Governing the Chemical Composition of Urine; A Theory and Protein Metabolism, Am. Jour. Physiol., 1905, xiii, 45, 66, 117.

10. The importance attributed by Folin to neutral sulphur as an expression of "endogenous" metabolism has more lately been called into question.

11. Am. Jour. Physiol., 1908, xxiii, 1.

12. Spriggs: The Excretion of Creatinin and Uric Acid in Some Diseases Involving the Muscles, Quart. Jour. Med., 1907-1908, i, 63.

13. Amberg and Rowntree: The Excretion of Creatinin in the Infant, Bull. Johns Hopkins Hosp., February, 1910.

14. Klercher: Ueber Ausscheidung von Kreatin und Kreatinin in fieberhaften Krankheiten, Ztschr. f. klin. Med., 1909, lxviii, 22.

metabolic functions at this time to carry on their work efficiently.

Patients may be profoundly toxic, however, without any evidence of hepatic inefficiency as determined by a high "rest nitrogen." It would seem, then, as Ewing and Wolf suggest, that the amount of "rest nitrogen" has prognostic significance.

All this shows that in acute infectious diseases there is a loss to the intrinsic structure of the body and that while such loss is entirely compatible with a perfect urea-forming function—and, indeed, the latter is but rarely impaired even in severe cases—there are yet a certain number of grave cases in which the liver has apparently through grave changes in its structure found itself incapable of desamidation and abnormal metabolic processes are in evidence.

With this knowledge it should be the effort of the therapeutist to prevent this loss and perversion of function, or at least to mitigate them. Can the administration of food accomplish this, and, if so, how shall it be ordered?

It would seem natural to conjecture that if the body was losing 10 gm., 15 gm., or 20 gm. of nitrogen a day over the intake, such a loss could be made good or prevented by increasing the intake of nitrogen to that amount. The truth of the matter is that neither the amount of the loss nor any other amount, without the help of the other foodstuffs, can bring about a nitrogenous equilibrium in man.

The recent work of Folin and Chittenden, showing the small amount of nitrogen which is really needed to establish an equilibrium, would lead us rather to use the smallest amount of protein necessary and avoid the breaking down and elimination of the superflous nitrogen radicles, by organs burdened with disease, and increasing the heat to the fevered organism by the "specific dynamic action" of the protein.

Shaffer and Coleman were able to establish nitrogen equilibrium in typhoid fever on from 10 gm. to 15 gm. of nitrogen, when sufficient carbohydrate was used. This amount will be seen to be less than the Voit standard demands, by a considerable margin.

Fat and carbohydrate both spare protein; not, of course, replacing it, for they are both nitrogen-free. Fat spares the combustion of protein to furnish heat; and weight for weight furnishes, as has been shown, over twice as many calories as carbohydrates. The fat of the body is utilized in this manner as a protein-sparer. Emaciation, which bespeaks its disappearance, makes the sufficiency of food intake all the more imperative to prevent destruction of the body protein.

Carbohydrate is a very much more efficient sparer of body protein than fat. Probably much of the demand on protein in the underfed body is for the carbohydrate moiety of its structure. Carbohydrate is imperative to life and must be had at any cost. This the ingested carbohydrate furnishes, so that it both furnishes heat as does the fat, but also subserves other functions which the fat cannot do.

Nitrogen equilibrium has been struck and the subjects kept at from 5 gm. to 8 gm. days and weeks with comfort and apparent health, when enough carbohydrate and fat are taken.

The above statements hold for the protein-sparers in health. In acute infections their influence is not so marked quantitatively. Von Noorden says that in experimentally induced pyrexia the protein metabolism is not limited to the same amount in the presence of carbohydrates as when the temperature is normal.

It would seem possible, then, by covering the caloric needs of a resting patient and adding the 25 per cent. increase induced by pyrexia, to keep a patient in nitrogenous equilibrium. In an average man this would mean, as before stated, about 3,000 calories. In practice, however, it is not true; and it was for this very reason that protein loss still continued in acute infections, when the theoretical food-needs had been liberally met, that investigators in general were convinced that this loss was due to destruction of the cell substance by the poisons of the disease—"toxic destruction"—and that no diet could prevent it.

That this loss can be prevented and that such a fact impairs the theory of "toxic destruction," the elaborate observations of Shaffer and Coleman show. They prevented nitrogenous loss and the elimination of creatin and increase of neutral sulphur, which are taken as the expression of cell destruction. They found that from sixty to ninety calories per kilo were needed to effect such a result in typhoid fever. Of this amount forty to fifty or even more calories per kilo must be furnished by carbohydrates. They point out that a loss of 10 gm. of nitrogen or 62.50 gm. of protein can furnish but 250 calories, and have no explanation to offer for the fact that 2,000 calories of carbohydrate are needed to prevent this loss.

It has been proved, then, that in some men suffering from severe acute infectious disease, the usual protein loss can be stayed by the administration of a large quantity of foods; but whether this fact could be wisely used as a basis of procedure in practice is a debatable question.

In this paper I have dealt only with those laws that constitute the science of dietetics; the application of these laws to the individual; the appreciation of those factors that make every individual deviate from the type; the adjustment of theory with conditions, constitute the art of dietetics.

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GASTRIC AND DUODENAL ADHESIONS IN THE GALL-BLADDER REGION, AND THEIR DIAGNOSIS BY THE ROENTGEN RAYS *

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Until recent years the Roentgen rays have proved of little or no value in the demonstration of pathologic conditions in the region of the gall-bladder. Even at present the demonstration of gall-stones will depend first on the presence of more or less lime salts in the stones and second on a very careful technic,[1] so that only the positive diagnosis of gall-stones is of value. However, when a cholecystitis is associated with a pericystitis leading to adhesions of the stomach, duodenum or bowel, the effects of such adhesions can be demonstrated. Isolated observations have been made from time to time, but this subject has received careful attention chiefly during the past year. In January, 1910, Schürmayer gave a demonstration of diapositives in Berlin,[2] showing the effects of adhesions of the stomach. During February, 1911, Cole demonstrated the effects of such adhe-

* Read and illustrated with lantern-slides before the Medical Section of the College of Physicians, Philadelphia, March 27, 1911.

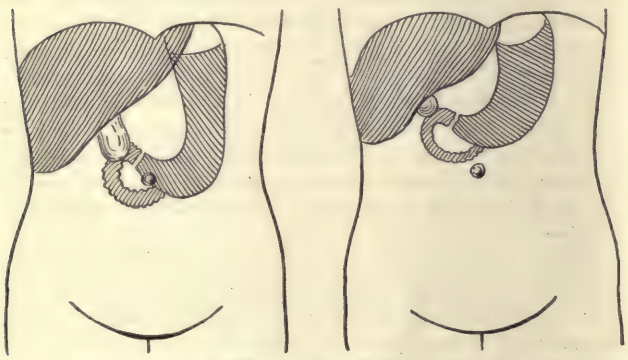
1. Pfahler: Proc. Am. Roentgen Ray Soc., 1910.
2. Fortschr. aus dem Gebiet d. Roentgenstrahlen, xv, 6.

sions on the peristaltic waves of the stomach, cinematographically, but paid little or no attention to the displacement, which I think is far more constant and more important.[3]

Schürmayer based his report on a study of hundreds of cases. He quotes Riedel as saying that the symptoms known as biliary colic in general are due not to gall-stones, but to the pulling of adhesions incident to an inflamed and attached gall-bladder, with which statement Schürmayer is in full accord.

If adhesions in the gall-bladder region have taken place, we have in the Roentgen rays a means of diagnosis which is distinctly more valuable than the direct examination for gall-stones. The recognition of the effects of these adhesions will explain the indefinite symptoms in many of these cases. This recognition depends on a modification of the normal position of the stomach and duodenum.

The normal stomach is located in the left side of the abdomen and seldom extends more than an inch beyond the median line in the standing posture. The pylorus is located about an inch above the umbilicus. The lower



Figures 1 and 2

Fig. 1.—Stomach in normal position, but the liver and gall-bladder swollen and thereby approaching more closely the stomach and duodenum, and more easily permitting the formation of adhesions to these organs.

Fig. 2.—Liver and gall-bladder returned to their normal position, the stomach and duodenum drawn upward and to the right by adhesions.

pole of the ideally normal stomach is on a level with the lower border of the pylorus, but the lower pole of the average healthy adult is distinctly lower, and in gastroptosis may extend to the crest of the pubes.

In chronic cholelithiasis and cholecystitis the associated swelling of the liver and gall-bladder brings them nearer to the duodenum and stomach. The pericystitis permits and leads to adhesions to these organs. Then when the swelling is reduced spontaneously, or as a result of medicinal treatment, these adhesions pull the stomach and duodenum upward and to the right. It is the recognition of this change of position of these organs which can be made visible, and enables us to definitely make a diagnosis.

In these cases the clinical symptoms appear during that period of digestion when the motor function of the stomach and duodenum are at their height, and especially when these adhesions interfere with the emptying of the gall-bladder, either directly or because the gall-duct has been drawn abnormally high. If the effects of these adhesions are kept clearly in mind it can be understood why symptoms develop in these patients after they have eaten an abnormally large meal, which at least will produce a dragging.

3. Address before the Academy of Medicine, New York, Feb. 16, 1911, at which I demonstrated by lantern-slides the effects of adhesions in twenty-six cases.

During active peristalsis these adhesions are being pulled on each time that a wave passes, and if there is associated inflammation a constant aching pain is the result. If the inflammation has subsided, then of course, the pain is less, and an increase in the inflammation as a result of errors of diet or other cause will be associated with an exacerbation of the pain.

THE EXAMINATION

In these cases, I first make an examination directly of the gall-bladder region to detect, if possible, the presence of stones, since such an examination is valueless after the stomach examination has been begun.

I then give the usual bismuth mixture (bismuth subcarbonate 1 ounce to a glass of buttermilk). This is carefully observed as it enters the stomach and is carried to the pylorus. Instead of dropping quickly to the lower pole as it does normally and in gastroptosis, it is carried more slowly to the right of the median line and distinctly above the umbilicus. This is observed on the fluoroscopic screen in the standing posture.

Great care must be taken to avoid error. The stomach is ordinarily a very movable organ, therefore, pressure will influence its position very much. On this account the position of the stomach must be studied with varying degrees of pressure, and with all pressure removed. This study is possible only under fluoroscopic examination, which I regret very much, since all who know recognize it as a dangerous procedure. It may be dangerous even under the best protection, but should be entirely avoided if the operator is exposed to any appreciable amount of rays.

The plates are, I believe, equally important, and I always make one or more after I have completed my fluoroscopic work. The plate gives more detail, and permits of less hasty study. On it one can often trace the course of the duodenum when it cannot be followed fluoroscopically. While a plate alone may give a certain amount of information, I believe that it can seldom be depended on alone to determine the position of the stomach. This is especially true when the plate is made with the patient lying on the abdomen, in which the effect of pressure and position almost certainly will lead to error.

The position of the stomach and the duodenum will, of course, vary with the location and the extent of the adhesions. In some cases the pyloric end can be traced directly to the gall-bladder, and makes a picture very similar to that shown in the older text-books as the normal position of the stomach. In this connection, it must be borne in mind that while these old illustrations are accurate, in that they represent the position of the stomach as studied in the anatomic and surgical rooms, in which the subject is lying on the back, they are entirely inaccurate as representing the living subject in his normal upright position.

In some cases the duodenum only is involved by these adhesions and the position of the stomach itself is influenced only secondarily and slightly. The duodenum, however, is drawn out of place, is irregular in shape and there may be some interference with the passage of food.

Schürmayer recommends that in order to eliminate error the knuckles of the index and middle fingers of the left hand be pressed strongly against the duodenum and pylorus and an effort made to hold these parts down while the liver moves upward during expiration. This is a dangerous procedure to the Röntgenologist, and, while it can be done with carefully planned protection,

in my experience there has nearly always been too much tenderness to permit of sufficient pressure. Of course when this can be done, it gives valuable confirmatory evidence.

Conclusions as to the position of the stomach are of no value unless they are based on a full knowledge of the normal position of the stomach and the conditions which influence it, such as pressure, varying degrees of filling, the tonicity of the stomach wall, etc.

In addition to the study of position one should observe carefully the effects of the adhesions on the peristaltic waves. This is best done by a careful fluoroscopic examination. If adhesions involve the stomach wall they are likely to interrupt or modify the peristaltic wave. This interference is most often seen in the wave on the lesser curvature.

At times it is extremely difficult to differentiate between simple adhesions and those due to carcinoma. Usually a more or less characteristic encroachment on the lumen of the stomach will serve to diagnose carcinoma, but at times this is impossible. We should bear in mind the general history and other clinical evidence, and finally we may have to resort to an exploratory operation in order to make the diagnosis.

The material on which this paper is based consists of about thirty cases, most of which show the effects of adhesions incident to gall-bladder disease, others due to tuberculosis, and finally a group due to carcinoma. Most of the patients have been operated on and the diagnosis confirmed. The others I hope to see operated on since this is the only treatment.

CONCLUSIONS

1. Gall-bladder disease is liable to give rise to adhesions.

2. These adhesions cause a definite displacement of the stomach and duodenum which is recognizable by the Roentgen rays.

3. The evidence of adhesions is best obtained fluoroscopically in the upright position, in which the errors of pressure must be eliminated, but plates should also be made in every case for record and for more detailed study.

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A NEW AND APPARENTLY SUCCESSFUL METHOD OF TREATING METABOLIC OSTEO-ARTHRITIS

SO-CALLED ARTHRITIS DEFORMANS

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In the last[1] of a series of papers on the so-called rheumatoid diseases, I briefly outlined a method of treatment for one, the most serious, condition usually included in this group. This method of treatment I have now used for four years, and as it has proved efficacious in nearly all cases, and especially so in those usually considered hopeless, I consider it worthy of detailed description.

The greatest difficulty in judging the results of a given form of treatment in the so-called rheumatoid diseases is due to our extremely indefinite and faulty nomenclature; the majority of the reports of the treatment give only a vague idea of the nature of the disease under treatment; and in by far the majority of instances a number of evidently diverse conditions are treated in exactly the same way. For this reason, as the condition to be discussed here is a distinct pathologic and clinical entity, I must, in order to avoid confusion, briefly recapitulate what was said in the previous papers on the classification of the so-called rheumatoid diseases in general and the diagnosis of metabolic osteo-arthritis (so-called arthritis deformans) in particular.

Chronic rheumatism, rheumatoid arthritis, arthritis deformans, osteo-arthritis, and various other less familiar appellations, are used to designate a group of dissimilar diseases, variations of the same disease, entirely distinct conditions, or something involving a joint with which the observer is entirely unfamiliar. No two investigators seem to be able to agree exactly on a clinical or pathologic entity for which one or more of these terms shall be definitely applicable. Under these circumstances, an attempt to acquire a definite understanding of these joint conditions must fail if these names are retained. It is much simpler, and we are much more likely to attain definite results if we ignore all the previous attempts at classification entirely, begin afresh, and consider the joint diseases just as we would those of other organs under similar circumstances, i. e., according to the principles of pathology.

Pathologists divide the diseases of the organs generally into two classes, viz., the inflammations and the degenerations. As there is no reason to believe that the mesenchymal tissues of the joints are fundamentally different from those in other organs, there should be no necessity to prove that these mesenchymal tissues react similarly to pathogenic influences. As a matter of fact, the conscientious and enlightened pathologist will find that the pathologic changes are exactly analogous. Hence a discussion of the pathology, which would lead us too far, is omitted.

What is true of the pathology is also true of the clinical phenomena. Indeed, as the joints are superficial and their functions purely mechanical, the local symptoms—pain, loss of motion, muscular atrophy, deformity, etc.—are rarely characteristic of a particular disease. The presence of some or all of these joint symptoms simply indicates that there is joint abnormality, but gives absolutely no clue to the nature of the condition. For this reason, it is quite impossible to formulate a practical or scientific classification of the joint disease with the deformity, the character of the effusion, or any of the other intrinsic joint symptoms as the starting-point. In fact, all the previous attempts to classify the joint diseases have failed just because these symptoms have been used as the basis of differentiation.

In the joint diseases, therefore, even more than in those of the other organs, the fundamental differentiation must depend not on the specific reaction of the affected organ but on the clinical phenomena, induced by the fundamental pathologic condition. As soon as this is appreciated, all the difficulties of classifying the polyarticular joint diseases are practically overcome.

Thus the characteristic symptoms of the inflammations are abrupt onset, more or less constitutional reaction, a definite course with a marked tendency to resolution; those of the degenerations, insidious onset, a gradually progressive course without tendency to a definite termination. And, leaving other considerations aside, it will be found that joint diseases naturally divide themselves into two great classes according to these clinical characteristics. Thus we have, (1) a class of joint diseases which begin more or less acutely, with, usually, a definite onset (rise in temperature, general

1. Am. Jour. Med. Sc., June, 1909.

constitutional disturbance), local signs of inflammation, followed by remissions or intermissions, and a definite termination in complete recovery or permanent but never progressive joint disability; and (2) a group in which the disease comes on insidiously, without acute constitutional reaction, running a gradually progressive course, leading gradually and progressively to joint disability.

The first are the inflammations; the second are the degenerations.

Just as in the other organs, the inflammations are due to infection or trauma. In the polyarticular infections, the causative microorganism is demonstrable in some cases; so, for instance, in so-called sepsis, gonococcal or pneumococcal infections, etc. In a large number of cases, isolation of the offending microorganism is not attempted, because it is impractical, or fails. But these cases present the same clinical and pathologic phenomena, as those in which the microorganism is demonstrable. The fact that the organism is not demonstrable should therefore be no reason for grouping these cases under a separate head.

As a matter of fact, the majority of the advanced clinicians recognize and so classify the polyarticular infections. The misinterpretation of these conditions does not occur so frequently during the acute stage. The confusion arises when such patients are seen after the acute stage has subsided. As has been said, one of the cardinal signs of an inflammatory or infectious process is its tendency to run a definite course. This is as true of infections involving joints as it is when other organs are affected. Though the tendency to recover is always present, however, it does not necessarily follow that resolution is perfect. In a great many cases, though the active disease subsides, the patient is left with a varying number of weak or deformed joints. When he attempts to use these weak or deformed joints, he finds it impossible because of the pain or deformity, or both. It is then that he begins his wandering as a subject of chronic rheumatism, rheumatoid arthritis, arthritis deformans, etc. He is sent to springs, massaged, baked, or subjected to various forms of mechanical treatment. If he has only weak joints, he may recover in spite of the treatment. If he has bony ankylosis or limitation of motion from tendon or cicatricial contraction, he does not improve, and he frequently grows worse.

What the majority of investigators and clinicians have failed to appreciate is that such an individual is not suffering from an active disease at all. He has simply the results of a disease. It is therefore useless to attempt to study the pathologic changes or to seek the etiology of the disease in such cases; not only useless but actually harmful to subject these patients to treatment for constitutional disease by internal medication and diet. What these patients need is surgery, intelligently applied. In those cases in which nothing can be done, the recognition of the condition will at least save the patient the additional suffering of the treatment usually proposed.

It is not my object to speak of the treatment of the polyarticular infections in this paper. However, this may be said: in a great many cases much can be done to alleviate suffering, and remedy the disability which results from these conditions. To help such patients, we must, however, be conversant with the joint physiology, mechanics and pathology. One must at least be able to make a diagnosis, i. e., must first of all differentiate active disease from disability, and polyarticular infection or its results from degeneration.

Few indeed seem able to do this. Dissimilar as are the infections and the degenerations, the treatment they receive, from the average practitioner and the orthopedic surgeon alike, is the same in either case; this in spite of the fact that in many cases the failure to differentiate one from the other is disastrous to the patient, and that such differentiation is nearly always a very easy matter.

Though there are other characteristic differences, the most definite differential feature between the degenerative and the inflammatory joint diseases is the course of the disease. In the inflammations, the onset and the course are definite, terminating in recovery or more or less permanent damage. In the degenerations, the onset is insidious, and the course is gradually progressive. The joints gradually become deformed and the deformity and disability gradually increase. In the infections, after the subsidence of the acute attack, whether one or more joints are affected, the disability remains the same, and no more joints are involved unless there is an actual recrudescence of the original infectious process. In the degenerations, not only are the onset and course insidious, but new joints, in which the disease runs the same course, are gradually and progressively involved.

If only these few fundamental differences are appreciated, it seems to me almost impossible to confuse the inflammatory or infectious diseases with the degenerations. And this accomplished, all the difficulty of classifying the polyarticular joint diseases disappears. For, with the recognition of the difference between the two fundamental conditions, instead of the unscientific and misleading classification of the joint diseases into several groups, one of which, having a single name or two or three meaningless names, comprises all forms of the infections, degenerations and deformity, we have the natural and scientific division of the joint diseases into two definite classes, with names which at least suggest the clinical and pathologic phenomena.

Moreover, if these two fundamental classes are each subdivided, according to the location of the disease in the joint—arthritis when the soft parts are involved, osteo-arthritis when the articular ends of the bones are involved—we can suggest the clinical and pathologic condition and the location of the disease by a single name. Thus:

1. Inflammation or infections:
   A. Infectious arthritis.
   B. Infectious osteo-arthritis.
2. Degenerations, i. e., trophic diseases:
   A. Trophic arthritis.
   B. Trophic osteo-arthritis.

Within the subgroups we can still more definitely classify the conditions when the etiology is known. With the infections, this is often possible, for the offending organism can often be isolated or recognized by the special clinical phenomena it produces.

When we come to etiologic grouping of the degenerations, however, the task is somewhat more difficult because it is often impossible to determine the underlying cause. We know, for instance, that degenerative joint changes appear as the result of senility (senile arthritis, senile osteo-arthritis) and in the course of certain organic nervous diseases (neurotic osteo-arthritis, tabes, syringomyelia, etc.). These are usually monarticular conditions, and are easily recognized and classified.

In the generalized or polyarticular degenerations, on the other hand, the etiology is unknown in the majority of instances and therefore cannot be specified. In my previous paper I suggested that these be termed "metabolic," which in this instance is intended to designate

not a known chemical abnormality but the pronounced general disturbance of the nutrition so characteristic of these conditions; and which, as shown in my last paper[1] is the direct cause of the joint abnormality. By far the majority of cases of the polyarticular degenerations are osteo-arthritides. Metabolic arthritis is a comparatively rare condition. Thus the joint degenerations are grouped as follows:

Degenerative joint diseases:
- A. Trophic arthritis.
  - (1) Metabolic arthritis.
- B. Trophic osteo-arthritis.
  - (1) Senile osteo-arthritis.
  - (2) Neurotic osteo-arthritis.
  - (3) Metabolic osteo-arthritis.

It is with the treatment of metabolic osteo-arthritis that the present communication deals. I briefly describe its principal features. For a complete exposition of the pathology and etiology I must refer the reader to my previous paper.[1]

This is the disease generally called arthritis deformans, or rheumatoid arthritis. Only a few writers, however, have described it as a distinct disease. Bäumler reserved the name "arthritis deformans" for it alone, and Schuchardt described the clinical phenomena more or less accurately and called it "arthritis nodosa." With the exception of a few of the older writers, Adams, Charcot, and Virchow, who at least more or less completely differentiated it, these are the only writers who do not to some extent affiliate the condition with the polyarticular infections or their sequelæ.

Metabolic osteo-arthritis, as the name suggests, is a polyarticular joint degeneration, which involves the articular ends of the bones primarily, and which is due to a disturbance of the nutrition. The condition, being due to a general anomaly, is invariably polyarticular and the joint involvement is nearly always symmetrical. It attacks the peripheral joints first, and a number of joints are usually affected simultaneously. The onset is invariably insidious. Not only is the onset insidious, but in cases uncomplicated by mechanical irritation the course is gradually progressive. In some cases, it is true, the disease advances more rapidly than in others, but even in the most malignant forms the disease advances gradually, and there is never an abrupt onset with acute local and general reaction. In the majority of cases the disease progresses slowly and gradually. Gradually increasing weakness (called stiffness by patients), and passive motion limited only by the muscular contraction are the more characteristic joint symptoms. Joint swelling may be entirely absent throughout the course of the disease. As far as my experience goes, the swelling from effusion, when present, is nearly always due to a mechanical irritation (i. e., the use of the affected parts); and the nodular swelling, said to be characteristic, is purely suggestive, being most often due to the atrophy of the periarticular structures which make the articular ends of the bones appear more prominent. Pain is also most variable, though in some it is very severe, in others it is slight or entirely absent.

Preceded by more or less decided subjective symptoms —pain, formication, feeling of weakness, etc.—a number of peripheral joints (fingers, toes, wrists, ankles) gradually become weak, or, as the patient says, stiff. This weakness or stiffness gradually increases and, with or without pain or swelling, is followed by deformation. The deformity, which, as I showed in my previous paper,[1] is due to muscular contraction during the early stages and bone absorption in the later stages, gradually increases; and though passive motion is not entirely limited, the deformity gradually and progressively leads to crippling. In the meantime, other joints become involved in the same insidious and progressive manner, and in the severer cases, beginning in the periphery and proceeding toward the trunk, all the joints, including those of the spine, may become involved. Though there are never true intermissions, even in the severer forms of the disease, there are times when the disease progresses less rapidly or apparently remains stationary for a variable length of time. The periods of quiescence may even continue for a number of months, or, in rare cases, a year or more; but in the severer forms the disease ultimately resumes its relentless course and the individual finally becomes a helpless cripple. In the milder cases, the disease advances very slowly, and though ultimately a number of joints becomes involved, years may elapse before there is marked disability.

The differential diagnosis should occasion no difficulty. With one exception (polyarticular form of senile osteo-arthritis—Heberden's nodes), there is no other form of polyarticular osteo-arthritis in which the joints are symmetrically or progressively involved. As has been said, metabolic osteo-arthritis is usually confused with the polyarticular infections or the deformity resulting therefrom. The history of the case—acute onset, a definite course, the irregularity of the joint involvement, and the inertia after the general condition has subsided—as compared with the insidious onset, symmetrical joint-involvement, and progressive character of metabolic osteo-arthritis, should make the diagnosis easy.

In many of the cases, moreover, the character of the joint changes is significant. In the infections, the condition being inflammatory, there are, when there is not complete recovery, adhesions in arthritis, and bone ankylosis or bony outgrowths, limiting both active and passive motion in osteo-arthritis; in metabolic osteo-arthritis, passive motion is limited only by tendon contraction. But, as has been said, one should never make the diagnosis from the intrinsic joint symptoms alone, for though complete ankylosis or marked limitation of motion is a fairly sure sign that we are *not* dealing with metabolic osteo-arthritis, the fact that there is deformity and free joint motion does not absolutely signify that we are dealing with it. Though this is rather unusual, the polyarticular infections sometimes leave nothing behind but short tendons or a certain amount of capsular thickening or bony outgrowth, which may not limit the motion to any great extent. When, however, we have passive motion limited by tendon contraction or deformity alone, and a history of an insidious onset, more or less symmetrical involvement, and a gradual progressive course, the diagnosis is unmistakable. Even when there is a more or less continuous fever, say 100 to 101 F. (rectal), or occasional signs of joint irritation (i. e., effusion and pain), these signs are absolutely pathognomonic.

Besides these definite clinical phenomena, we have still another aid to diagnosis in the radiograph. Good radiographs, particularly of the smaller joints of the extremities, show very characteristic pictures. Even before there is deformity, they show a characteristic rarefaction of the anterior ends of the bones. At this time, the rarefaction is confined to small circumscribed areas in the epiphyses, just beneath the bone cartilage. As the disease advances, the areas become gradually larger and larger, and in the smaller joints of the very severe cases the articular ends of the bones may finally become completely absorbed. The rarefaction of meta-

bolic osteo-arthritis, as shown by radiography, differs radically from that of infectious osteo-arthritis. In the latter, the rarefaction is extreme and diffuse, often extending to the shaft in the smaller bones at the very beginning; and when recovery is not complete there is nearly always bony outgrowth and at times complete bony ankylosis. The differentiation of the monarticular forms need not concern us here.

With such definite clinical signs, and the radiograph as an adjunct, it seems almost impossible to mistake metabolic osteo-arthritis, or to confuse or affiliate it with any other condition. It is with treatment of this condition, and this condition only, that the present communication is concerned.

In my paper on metabolic osteo-arthritis[1] it was shown that while metabolic osteo-arthritis is a definite and perfectly characteristic joint condition, both clinically and pathologically, the general conditions with which it is associated vary within wide limits. In some cases there are absolutely no definite general symptoms at all; in others, they are sometimes characteristic of one general anomaly, and sometimes of another. Moreover, it was shown that the perfectly typical symptom-complex appears in the course of diseases of an evidently dissimilar character—for instance, Basedow's disease, chronic pulmonary tuberculosis, congenital syphilis, etc. At first sight, such a condition of affairs would lead us to doubt the propriety of considering the joint diseases as a definite clinical entity; but it was further shown that these diseases and conditions, no matter how exceedingly they may differ otherwise, have at least one thing in common, i. e., a gradually (varying from an apparently insignificant to a very definite) deterioration of the general nutrition. And, as it was found that the peculiar form of degeneration which is characteristic of metabolic osteo-arthritis is exactly what, theoretically, we would expect such a nutritive anomaly to induce, it was concluded that metabolic osteo-arthritis is not due directly to the organic or constitutional conditions with which it is associated, but to the disturbance of the nutrition caused by them.

After reaching this conclusion some years ago, I decided that the only way to attack the problem of the treatment of this condition was either to find some means of removing the cause of the nutritional disturbance, or, as the cause of it in the majority of cases, being unknown, cannot be removed, to find some way of improving the general nutrition empirically.

In order to succeed in this, however, it was first necessary to discard all the previous methods of treatment in their entirety. If the joint condition is due to a deterioration of the nutrition, the usual diet and the internal administration of iodids and so-called antirheumatic remedies, by disturbing digestion, etc., are harmful. I, therefore, discarded all these procedures, all medicines, and permitted the patients who were still able to be about to use a nutritious mixed diet—as much to eat as they could digest, and even a moderate amount of alcohol to those accustomed to it.

I then, in order still further to improve the nutrition, experimented with various forms of special foods—olive oil, fatty foods, excess of starch, etc.—without apparently making any impression on the joint disease. The nutritious diet led to some improvement of the general condition, and the pain, when present, was somewhat relieved by rest, but the condition remained otherwise the same, or in many cases continued to progress.

About four years ago, led by Basch's experiments, demonstrating the influence of the removal of the thymus on the growth of the skeleton, I began the use of the dried thymus gland in metabolic osteo-arthritis. My first attempts in this direction were not encouraging. I found no immediate benefit from small doses, and had it not been for some conscientious patients who lived at a distance and continued to take the gland for a long time I should probably have discontinued its use. But thanks to these, I found that the continuous administration of thymus extract sooner or later led to definite and, in some cases, striking improvement. The pain and joint disability do not immediately disappear as soon as it is administered; on the contrary, the intense pain which is characteristic of some of these cases may persist for weeks, unabated, while thymus is being taken. It is only when the thymus is continued for months, despite the discouraging outlook, that the general nutrition begins to improve, and only with this improvement does the joint disability gradually disappear. That this improvement in the condition is due to the thymus I have been able to demonstrate in some of my patients, for in them the symptoms reappeared after the thymus was discontinued.

Nor must it be expected that thymus alone will bring about complete recovery. In the early stages, and in the mild slowly progressive cases, before muscular contraction and deformity have appeared, the disease will be arrested if all other treatment and joint irritation of other kinds are discontinued.

In the severer cases, the use of the diseased joints or the methods of treatment—massage or other mechanical measures—have usually already led to joint irritation when the patient comes under treatment. It must be remembered that the cardinal principle of putting all diseased joints at rest is equally important in metabolic osteo-arthritis as in other joint diseases. The doctrine advanced by many writers, namely, that rest is dangerous in so-called arthritis deformans because it leads to stiff joints, has done almost as much harm as has the disease itself. Indeed, I am convinced that a large proportion of the individuals suffering from this condition would never have been so completely disabled had they been left to themselves rather than submitted to the mechanical procedures ordinarily employed.

It is true, however, that as the disease advances slowly and is never nearly so active as in the inflammations, it is rarely necessary to immobilize the joints completely. Splinting is rarely necessary, but patients with active disease should not engage in manual work, and they should not be about when the disease is active in the lower extremities.

A short period of rest in conjunction with thymus and a nutritive diet will nearly always relieve the more active symptoms in the milder cases. The period of rest must, however, be prolonged in the severer ones. In the severer forms, particularly those of patients who have had the more active treatment, it requires months, or as long as a year, to bring the condition to quiescence.

When all signs of active disease have disappeared for some time, and no more joints have become involved, i. e., when the disease has become quiescent, and only then, more active treatment should begin. This more active treatment consists, at first, solely in the very gradual return to function. The patient is allowed on his feet, or to use his hands for a short time, and gradually, when there is no return of the signs of the active disease, the periods are increased. Those who have not had the disease in a severe form must, as a rule, be restrained from overtaxing themselves. On the other hand, in the severe cases, that is, in those of the patients

who have been bedridden for a long time, it is usually no easy task to bring about locomotion. The patients are nervous and timid, and only after much encouragement and the reiterated assurance that they can walk if they try, can they be induced to make the effort. Here tact in handling chronic invalids plays an important rôle. I am quite certain, and the results I have obtained bear me out, that even in those bedridden for a long time (several years) persistence and intelligent effort will ultimately lead to surprisingly good results.

Moreover, in the long-standing cases and in those of the very severe forms of the disease, there is always more or less muscular and tendon contraction, which, in the majority of the cases, remains after the disease has become quiescent. In the upper extremities, these contractures, with the exception of those affecting the fingers, which are difficult to remove or overcome, do not interfere with function to any great extent. But in the lower extremities, deformities, when they exist, must be corrected, if locomotion is to be perfectly reestablished. It is difficult to say exactly when this should be done, but if the patient is able to get around fairly well in spite of the deformity, I consider it better to wait until it is quite certain that the disease is quiescent before I proceed to corrective measures.

In the lower extremity, flexion and adduction of the hip, flexion of the knee and equinovalgus of the foot are the more common deformities. These are easily corrected. But it must be remembered that epiphyseal ends of the bones are soft and friable, and any attempt to correct the deformity by force will not only be unsuccessful, but will often increase instead of diminish the disability. I have, indeed, seen two cases in which attempts at forcible correction of flexion of the knee resulted in fracture above and below the knee-joint—an irreparable injury.

If under profound anesthesia the deformity resists gentle manipulation, tenotomy, which is harmless and in skilful hands is always successful, should be resorted to. Cutting the adductors is all that is necessary to correct the adduction and flexion of the hip in the majority of cases. Only in the very severe cases of long-standing disease will there be coxa vara, which prevents correction of the adduction deformity, and which can only be obviated by osteotomy.

Flexion at the knee is a very common deformity. In a few cases I have seen it disappear without operation. In a large number of cases, gentle manipulation, at either one or two sittings, will correct it. In the long-standing cases, tenotomy of the hamstrings will be necessary. In some cases the valgus deformity is difficult to correct without tenotomy of the heel-cord.

As soon as the joint irritation which, to some extent, always follows these operative procedures has subsided, the patient, with the limb held in the corrected position by plaster of Paris or other means, is encouraged to be about. Some require only a few days, and only a few require more than two weeks of rest in bed. The bandages are retained for about a month, with variations either way to suit the individual case. As soon as they are removed, active and passive motion is begun, very gently at first, and very gradually increased. There is some pain at first, and the extent to which the efforts to regain active and passive motion should be pushed is a matter of judgment. Any attempt to increase the arc of motion should immediately cease on the advent of joint irritation (effusion and severe pain). Rest and renewed attempts, repeated time and again, will finally result in practically complete return of both active and passive motion.

It must be apparent that the treatment here advocated not only takes considerable time but requires good judgment and the most careful attention to detail if it is to be successful. Patience, tact and a careful study of each individual case are absolutely necessary.

There is absolutely no necessity for restricting the diet. Patients in bed must of course receive more easily digested food than those about; but all that is required, in the vast majority of cases, is a nutritious mixed diet. I allow a small quantity of alcohol in suitable cases, and I have never yet seen harm come of it. Digestion is unimpaired in the majority of these patients, and in many of them the bowels move naturally. In the bedridden and sedentary patients there is, of course, a tendency to constipation, but this is usually relieved by mild laxatives. I have seen absolutely no indication for drastic eliminative treatment, and I have seen no case of true metabolic osteo-arthritis in which such measures were not harmful.

It must again be emphasized that the cause of metabolic osteo-arthritis is not uniform, and that the treatment must always be adapted to the general conditions which may exist. He who is the most careful observer and possessed of the rare talent for taking pains will be most successful.

That the treatment, when properly carried out, is successful, is proved by records of my own cases which here follow:

I have records of 186 cases which were under observation for three months or longer. I have not considered the hospital and dispensary patients, or the cases in which the results could not be verified. Of these 186, 103 cases were seen early, and though the diagnosis was made to my own satisfaction and the results excellent in the majority of them, for fear that there should be any question as to the large percentage of good results, I leave these out of consideration. We then have left eighty-three severe cases; all of the patients were in good circumstances and had been unsuccessfully treated by the usual methods, and all of them, under ordinary circumstances, were doomed to hopeless crippledom.

Of these eighty-three patients, eighteen were bedridden and were considered hopeless by the numerous medical men who had seen and treated them. Fourteen were more or less helpless, and were for the most part being wheeled in chairs, etc., and almost all were entirely incapacitated from walking. The remaining fifty-one showed decided deformation but could walk with more or less difficulty and pain.

Of the eighteen bedridden patients, eight are now walking without cane or crutch, and have no pain. Three are walking with a cane and are gradually discarding it; two are walking with crutches, and will gradually discard these when the deformities of the lower extremity are corrected; two, though still in bed, are beginning active and passive motion. Three died of an intercurrent or the underlying pathologic conditions. Of the fourteen wheel-chair patients: the results unknown in four; three are walking without assistance of any kind; two are walking with a cane; two, joints quiescent; three died.

Of the remaining fifty-one, practically all improved under treatment. As many of these patients live at a long distance from the city, they were very difficult to trace. Thus, eleven of these, all doing well while still under observation, could not be traced and the final result is therefore unknown. Of the remainder, thirty-

three patients, all of whom had decided signs of metabolic osteo-arthritis—deformation, pain, difficulty in walking and using the hands, with frequent periods of more or less complete disability—are and have been for a year or more practically well. Of these, fourteen are men who, for periods varying from six months to two years, were unable to attend business, but are now actively engaged at their former occupations. In only seven patients, three of whom did not properly carry out the treatment, has the treatment proved unsuccessful.

These results in a disease which was considered hopeless, speak for themselves. Moreover, it must be remembered that these results were obtained in patients who had been treated by the usual methods and continued to grow worse up to the time they came under observation.

I have always used a certain brand of thymus extract, giving from two to four tabloids of 5 grains each three times a day, either before or after meals. I suppose that put up by any reliable therapeutical house would be suitable; but that put up by beef-packers is practically inert.

How the thymus acts on the joints I do not pretend to know, nor do I believe it a specific. What is certain —and I think that my results prove this—is that when the thymus is conscientiously taken for a long time and the patient is otherwise judiciously handled, marked improvement, if not perfect cure, can always be expected.

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ABDOMINAL PAIN AND TENDERNESS, MUSCULAR RIGIDITY AND PSEUDOPERFORATIVE OR PSEUDOPERITONITIC SYMPTOMS IN THORACIC DISEASE—PNEUMONIA AND PERICARDITIS

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For a long time we have known that in thoracic affections such as pneumonia and pleurisy, pain may be reflected from the chest to the abdomen, thereby simulating abdominal disease. (Andral, 1836; Watson, 1871; Fagge and others.) In discussions of this not infrequent occurrence, attention has been directed chiefly to the pain alone, and it has been stated that such abdominal reference of pain of thoracic origin may be differentiated directly by the absence, in thoracic disease, of abdominal tenderness and other intrinsically abdominal findings.

The object of this paper is to establish clearly the existence of deep abdominal tenderness, muscular rigidity, collapse and the Hippocratic abdominal symptoms of rupture and peritonitis in purely thoracic affections.

CASE REPORTS

CASE 1.—Case of right lower lobe pneumonia, in which abdominal pain, tenderness, rigidity and retraction, in association with collapse, precisely simulated perforative peritonitis; in which operation disclosed no abdominal abnormality, and in which the appropriate findings of fibrinous pneumonia appeared.

History.—In June, 1907, a man aged 32, entered the hospital in partial collapse, having been taken ill some four hours earlier with severe pain in the lower abdomen. The temperature was 101 F., the pulse 106 and small, and the respirations 22. The skin was grayish, particularly about the mouth, and the expression indicated intense anxiety and suffering. The thoracic examination was negative. The abdomen was considerably retracted on both sides and above, as well as below. Palpation elicited marked tenderness, more on deep than on superficial pressure, particularly below the umbilicus. The least movement, as turning the patient on his side to test for free fluid and to explore the posterior chest, gravely accentuated the abdominal distress. The rectal and urinary examinations were negative and the white count was 17,000. In the entire absence of any previous abdominal or other history, the shock and abdominal picture was interpreted as perforation and peritonitis and the only speculation concerned the origin of the perforation. The examining surgeons and physicians coincided in the indication for immediate laparotomy, which was performed by Dr. E. Wyllis Andrews. The peritoneum, appendix, stomach, bowel and gall-bladder were explored carefully, but with completely negative results. In just twenty-four hours after admission the fever rose to 103 F. and the breathing to 26 to 28; the pulse remained stationary, a catching but unproductive cough appeared and crepitant râles were determined over the right lower lobe, and in twelve hours more, dulness and bronchial breathing. In five days from the onset, a typical crisis ensued.

CASE 2.—Case of pericarditis with effusion, pain and tenderness over the entire abdomen, muscular defense, abdominal retraction and later left upper-lobe pneumonia.

History.—In June, 1907, a boy, aged 14, of robust appearance and high color entered the hospital, complaining of languor, headache and anorexia. His previous history was negative, save for measles, whooping-cough and varicella, early in life. Abdominal distress appeared after two days of low fever (99.8 to 101.2 F.), a pulse-rate of 100 to 115 and normal breathing rate (18 to 20). The abdomen was equally sensitive to superficial and deep palpation, its walls were generally retracted, it did not participate in the respiratory movements and the patient lay quiet because movement increased his abdominal pain, as by the efforts of urination, defecation, etc.

The tongue, chest, glands, urine, etc., were negative and the white count showed 15,400 leukocytes. It seemed perfectly clear that there was peritonitis from some cause. This patient immediately followed the one first described; four other patients admitted to the surgical service and operated on under the erroneous diagnosis of peritonitis or appendicitis developed pneumonia and these experiences excited an unusual reserve, both among the surgical and medical staffs. Another day later a typical to-and-fro pericarditic friction was noted and effusion gradually gave the typical pyriform precordial dulness, buried the heart tones and masked the apical and cardiac pulsations. As the effusion appeared, all abdominal symptoms remitted. The fever rose to 101 to 103 F., the pulse to 120 and the breathing to 30 to 36. One week after admission crepitant râles, dulness, bronchial breathing, increased vocal fremitus and bronchophony developed over the left upper apex, chiefly behind, which findings seemed pneumonic rather than from pressure by the pericardial exudate, although the latter interpretation was considered. In ten days after admission, convalescence was established by a slow crisis.

SYMPTOMS

To me the particular interest of these cases consists in the initial severe and diffuse abdominal symptoms. This pseudoperitonitic or pseudoperforative symptom-complex is remarkable in two ways: (1) that no thoracic symptoms of any kind coexisted with the symptoms of onset; and (2) that the abdominal symptoms in their completeness left no doubt, in the opinion of all observers, as to the existence of peritonitis or perforation.

Systematic treatises on pneumonia and pleurisy, particularly in pediatrics, give due mention of pain referred to the abdomen, thereby simulating acute abdominal inflammation, and many special articles have considered these conditions. It is usually and properly stated that

differentiation is possible, by noting that tenderness is absent over the subjectively painful abdominal area and that thoracic examination or respiratory symptoms give some clue to the nature of the affection. Indeed, the clinician customarily, in instances of abdominal pain, halts till he can exclude the triad of confusions—tabetic crises, respiratory infections and vertebral disease.

The *pain* is variously depicted. Some, as Henoch, speak of it as superficial only, yet Raillet describes the pain as deep and over McBurney's point. Dieulafoy has found that pain in appendicitis does not begin with full intensity, as it does in perforation, e. g., of a gastric ulcer, but this dictum certainly does not always hold. Melchior[1] places special differential reliance on the contrast between the slight local findings and the severe general symptoms, as the sharp pain, the high fever, the involvement of the sensorium, involuntary evacuations, etc.; he cites the analogous early appendix symptoms of typhoid as an example. It is held that pain and other abdominal symptoms of this pseudoperitonitic group cease suddenly and characteristically, which is considered differential from appendicitis. Against this statement, a strong protest must be made, inasmuch as every clinician has learned to dread the sudden treacherous improvement witnessed in appendicitis, when gangrene or rupture relieves the tension of the part involved.

Tenderness and *rigidity* are frequently described. It may be local or general. Richardson[2] speaks of rigidity and universal tenderness. Arron finds that the muscular defense is less than in perityphlitis. Mignon found generalized abdominal rigidity, and Barnard's[3] patient exhibited almost spasmodically hard abdominal muscles. Melchior's patient exhibited tension of the abdominal walls. In my experience moderate abdominal tension is common in pneumonia.

Immobility in bed is also described by Mirande. In Griffith's[4] and Richardson's[2] reports the knees were drawn up.

Collapse is seldom described. In Martens'[5] three pneumonias, the symptoms at first resembled perforation, but operation was suspended till the pneumonic signs cleared the diagnosis. In Barnard's[6] report, the patient collapsed on the street; epigastric rigidity, pain and tenderness, the rapid thready pulse, and a history of gastric ulcer led to operation which revealed neither ulcer nor peritonitis; the autopsy disclosed bilateral lower-lobe pneumonia. Barnard comments on the relaxation of the abdominal walls between respirations, which was lacking in our cases.

The general symptoms generally in some way suggest a general infection or respiratory localization. The significance of fever, higher than is usual in appendicitis, is emphasized by Griffith, Barnard, Richardson and Sprengel. The gray color (*teint plombé*) of the skin in appendicitis is important, in Kirmisson's opinion. Anxiety is especially remarked in one of Griffith's patients and in my first one. Headache, severe cerebral toxemia, chills, cough, rate and character of the breathing are important. Obstinate constipation is not uncommon, and initial vomiting, especially in children, or even renewed emesis, may be confusing.

Confusions arise not merely in pleurisy, empyema and lower-lobe pneumonias, but also in bronchopneumonia, upper-lobe hepatization (Bennecke[7] and Herrick[8]) and, as in my second case, pericarditis with effusion.

In conclusion, it is not my object to canvass the entire literature of this subject or to claim that the clinical picture described is wholly unique, since doubtless many have experienced the same situation. It is proper, however, to insist on the following points:

1. Pneumonia, pleurisy and pericarditis, at their very onset, may present absolutely no symptoms other than the abdominal findings.

2. These phenomena of invasion may completely resemble appendicitis, peritonitis of other etiology, or even the collapse of perforation.

3. Diagnostic errors and unnecessary operations may be unavoidable. Immediate operation is imperative and the small percentage of error is negligible in comparison with the benefits of early operation in genuine indications (particularly as 80 per cent. of patients operated on under a mistaken diagnosis, recover).

4. The tenderness does not always remit with deep, flat pressure, and that relaxation of the abdominal parietes, between respirations, is not invariable.

5. The general symptoms do not invariably overshadow the local, the latter at times being the more salient.[9]

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THE HISTORICAL COLLECTION OF MEDICAL CLASSICS IN THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE *

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In any library of size the problem of what to do with its rarer and costlier books is usually solved by stowing them either in or out of sight, in show-cases, drawers, cupboards and coffers, and in the Surgeon-General's Library at Washington this policy has been in force for some years so far as its incunabula, elephantines, erotica and curiosa are concerned.

The recent plan of the librarian, Col. Walter D. McCaw, to put the more important medical classics under glass, for purposes of safe keeping, has resulted in a collection of unique interest and value, for the nation's medical library is singularly rich in these literary treasures, the accumulation of which is mainly due to the untiring zeal and vigilance of Dr. Billings and Dr. Fletcher in the past. The fact that nearly every volume in this exhibit is a first edition should interest the medical bibliophile, and at the same time an arrangement of the classics in strictly chronological order affords a bird's eye view of the textual history of medicine to the student and casual visitor, while giving the specialist chapter and verse, as it were, by enabling him to put his finger on the particular *locus classicus* in each case. Then, many of these old medical classics are fine specimens of typography in themselves, bearing on title-page or colophon the stately names of the great printers of the past.

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In preparing this chronological exhibit, which will, when completed, be provided with a suitable *catalogue raisonné,* it was thought best that the historical collection proper should begin with Greek medicine, for the reason that, apart from the works of the Jewish and Arabian physicians in the Middle Ages, Oriental medicine has mainly an anthropologic or esoteric interest. The leading monuments of pre-Hippocratic medicine, including the Ebers Papyrus, the Code Hamurabi, the Charaka Samhita and the Suruta, are, of course, on exhibition in the library hall, and no one will challenge the importance of these documents. From the hieratic writings of the papyri we get a clear idea of the priest-like dignity of the ancient physician's calling, the various diseases and the extensive materia medica known to the ancient Egyptians. From the Code Hamurabi we sense the importance attached to physicians' fees even 2,200 years before Christ. From the Suruta, the great storehouse of Aryan surgery, we learn that to their lofty Brahminical code of ethics the ancient Hindu physicians united a highly specialized knowledge of operative procedure and of surgical instrumentation that was not improved on by the Greeks and Romans who came after them. Aryan skill in surgery has been an unbroken tradition, even through the Dark Ages, when surgery was most under a ban. But with this single exception and in the face of the researches of savants like Ebers, Joachim, von Oefele, Jolly, Preuss and Bartels, it is doubtful whether the records of Egyptian, Indian, Chinese, Mesopotamian and Babylonian medicine can be ranked with the classic texts. Cuneiform, hieroglyphic, runic and palm-leaf inscriptions all point to one fact, that ancient medicine and the medicine of primitive peoples, whether Accadian or Scandinavian, Slavic or Celtic, Roman or Polynesian, has been the same throughout space and time—in each case an affair of charms and spells, plant lore and psychotherapy, to stave off the effect of supernatural agencies. It may interest us vastly to know that the āaā disease of the Egyptian papyri was identical with hookworm infection; that the Chinese had a pulse-lore and practiced acupuncture; that Finsen's red-light treatment of small-pox was known to ancient Japanese physicians as it was to John of Gaddesden; that an early Persian manuscript pictures a permanent gastric fistula like Alexis St. Martin's; that Machaon and Podalirius were the first naval surgeons, and so forth. Yet these are after all only waifs and estrays of information, and as information is not knowledge, so disconnected facts do not make a scientific record. Such a record implies not only the isolation and collation of facts, but their interpretation and the induction of the general laws behind them, and, in this sense, pre-Hippocratic medicine has not the slightest claim to be called scientific. Few will dissent, therefore, from the wise (if somewhat Olympian) view of Goethe that Eastern antiquities have only a casual interest: "Chinesische, indische, ägyptische Alterthümer sind immer nur Curiositäten."

I. THE GREEK AND GRÆCO-ROMAN PERIOD (460 B. C.-476 A. D.)

European medicine began in the age of Pericles and its scientific advancement centers in the figure of Hippocrates (460 to 370 B. C.), who crystallized the loose knowledge of the Coan and Cnidian schools into systematic science, dissociated medicine from theurgy and philosophy, and developed the art of grouping and coordinating symptoms so that the clinical picture of a disease began to emerge of itself as a definite entity.

The Surgeon-General's Library possesses an unusually rich collection of some 900 volumes relating to the Hippocratic Canon, including fifty-two different editions of the *Opera Omnia,* 441 separate treatises, and 408 commentaries and critical compendiums. Of these, the following are on exhibition:

1. The folio Latin text of the *Opera Omnia,* translated and edited by Fabius Calvus, the friend and patron of Raphael, and published at Rome under the auspices of Pope Clement VII in 1525. This was the first complete edition of Hippocrates to be printed.

2. The folio *editio princeps* of the Greek text, published the following year (1526) by Aldus at Venice.

3. The Basel *Opera Omnia* edited by Janus Cornarius and printed by Froben (1538), highly prized on account of its textual and critical accuracy.

4. The Greek text and Latin translation of Hieronymus Mercurialis, printed by the house of Giunta at Venice in 1588.

5. The Frankfort edition of 1595, containing the valuable translation and commentary of Anutius Foesius, the most learned, industrious and able of the Hippocratic commentators before the time of Littré.

6. The first Latin text of the aphorisms, edited by François Rabelais (Lyons, 1532).

7. The tiny Leyden editions of the aphorisms (1607 and 1628), the first a Plantin imprint, the second a vest-pocket Elzevir.

The greatest scientific name after Hippocrates is that of "the master of those who know," the Asclepiad Aristotle (384 to 322 B. C.), who gave to medicine the beginnings of zoölogy, comparative anatomy and embryology and the use of formal logic as an instrument of precision. A worthy successor of the Stagirite was his friend and pupil Theophrastus of Eresos (370 to 286 B. C.), also a physician and called the "protobotanist," because he did for the vegetable kingdom what Hippocrates had previously done for surgery and clinical medicine, by collating the loose plant-lore of the woodmen and "rhizotomi" into a systematic treatise. The "De Historia Plantarum" of Theophrastus, the foundation-stone of European botany, is represented by the Aldine Greek text of 1497 and the Greek and Latin text of Stapel (Amsterdam, 1644).

The colonization of Greek medicine in Egypt led to brilliant developments in anatomy and surgery, but our knowledge of the two great Alexandrian anatomists, Herophilus and Erasistratus, the originators of dissecting, is not based on any textual record of their writings, but was pieced together by the scholarship of Marx and Hieronymus. The principal relics of the empirical poison-lore of the second century B. C. are the two hexameter poems of Nikander on poisonous animals ("Theriaca") and plants ("Alexipharmaca") which have been preserved in the two Aldines of 1499 and 1523, and the French versification of these poems by Jacques Grevin (Plantin imprint, Antwerp, 1568).

After the destruction of Corinth (146 B. C.), Greek medicine may be said to have migrated to Rome. Before the Greek invasion, the Romans, as the younger Pliny tells us, "got on for 600 years without doctors," relying mainly on medicinal herbs and domestic simples, superstitious rites and religious observances. The proud Roman citizen, who had a household god for nearly every physiologic function, looked askance on the itinerant Greek physician, despising him as a mercenary for accepting compensation for his services and otherwise distrusting him as a possible poisoner or assassin. Apart from the writings of a private litterateur like Celsus, the principal Roman contribution to medicine was the splendid sanitary engineering of the architect

Vitruvius. Greek medicine was finally established on a respectable footing in Rome through the personality, tact and superior ability of Asclepiades of Bithyna (124 B. C.) whose fragments are presented in Gumpert's Greek text (Weimar, 1794).

Although Roman medicine was almost entirely in Greek hands, the best account of it that we have was the work of Aurelius Cornelius Celsus, a private gentleman who lived during the reign of Augustus Cæsar, and wrote encyclopedic treatises on medicine and other subjects for the benefit of the Admirable Crichtons of his day. To moderns, Celsus is the leading authority on Græco-Roman medicine and Alexandrian surgery. Under the Romans military and gladiatorial surgery attained a degree of perfection which the general art was not to reach again before the time of Ambroise Paré. Celsus is also the standard authority for the weights and measures used by the Romans, and the *Proœmium* of his "De Re Medica" contains the first history of medicine. Of the 105 different editions of Celsus, the Surgeon-General's Library possesses sixty-five. The show-case exhibit includes the Florentine *editio princeps* of 1478, the Milan imprint of 1481, the rare Giunta of 1524, the Aldine of 1525 and the handsome Elzevir of 1657.

Pedacius Dioscorides, a Cicilian Greek, was an army surgeon during the reign of Nero (*circa* 64 A.D.) and utilized his opportunities of travel in the study of plants. His work is the authoritative source on the materia medica of antiquity, of which he describes about 600 plants and plant-principles, over a hundred more than Theophrastus. Up to the beginning of the seventeenth century, the best books on medical botany were still simply commentaries on the treatise of Dioscorides, which is preserved as the Aldine of 1499 (Greek text), the Stephanus of 1516 (Latin text), the rare bilingual text of Cologne, 1529, and the Italian commentary of Mattioli (Venice, 1544), also excessively rare.

Aretæus the Cappadocian, who also lived in the reign of Nero, comes nearer than any other Greek to the spirit and method of Hippocrates and is on this account more readily appreciated by modern men. As a clinician, he ranks next to the Father of Medicine for the graphic accuracy and fidelity of his pictures of disease, of which he has given the classical, first-hand accounts of pneumonia, asthma, diabetes, leprosy, diphtheria (ulcera Syriaca) and the first clear differentiation between cerebral and spinal paralysis. His work is preserved in the faulty Greek text of 1554 and in Wigan's valued Clarendon Press edition (Oxford, 1723).

Another great eclectic was Rufus of Ephesus, who lived in the reign of Trajan (98 to 117 A. D.), and whose literary remains and fragments have been preserved in the Paris text of 1554.

Soranus of Ephesus, a methodist of the second century, A. D., is our leading authority on the gynecology, obstetrics and pediatrics of antiquity. His treatise on midwifery and diseases of women, represented by Dietz's Greek text (Königsberg, 1838), was the original of such famous books a Röslin's "Rosegarten" (1513) and Raynalde's "Byrthe of Mankynde" (1545), and most of the supposed innovations in these books, such as the obstetric chair or podalic version, have been traced back to Soranus. After Soranus, there were no real additions to obstetrics before the time of Paré, some 1,500 years later.

The ancient period closes with the name of the greatest Greek physician after Hippocrates—Galen (131 to 201), the founder of experimental medicine. Galen's youth and old age were those of a peripatetic. His life was one long *Wanderjahr.* This roving disposition undoubtedly did much to develop that cocksure attitude of mind which made his writings the fountain-head of ready-made theory, or what the Germans call "polypragmatism." He had an answer ready for every problem, a reason to assign for every phenomenon. How the followers of Galen imposed his authority on European medicine for ages is one of the commonplaces of medical history. Up to the time of Vesalius, European medicine was one vast *argumentum ad hominem* in which everything relating to disease and its treatment was referred back to Galen as a final authority, from whom there could be no appeal. After his death European medicine remained at a dead level for nearly fourteen centuries. Galen's true greatness lies in the simple fact that he gave to medicine that method of putting questions to Nature and arranging matters so that Nature may answer them which we call experiment. His experiments on the physiology of the nervous and respiratory systems are truly classical and the only thing of the kind before Harvey. Of Galen's *Opera Omnia,* the Surgeon-General's Library possesses the ten different Giunta editions, selected volumes of which are on exhibition, together with the Aldine of 1526, Linacre's translations of the "De Sanitate Tuenda" (Paris, 1517), and "De Temperamentis" (1527); and the Simon Colinaeus imprint of the "De Usu Partium" (Paris, 1528), the prototype of all subsequent "Bridgewater treatises."

II. THE BYZANTINE PERIOD (476 TO 732 A. D.)

The solitary thing the Eastern Empire did for European medicine was to preserve something of the language, culture and literary texts of Greece. Although the Byzantine power lasted over a thousand years (395 to 1453 A. D.), medical history is concerned only with the names of four remarkable men who were prominent physicians in the first three centuries of its existence. Of these the courtier Oribasius (326 to 403 A. D.), a friend and physician-in-ordinary to Julian the Apostate and sometime quæstor of Constantinople, is chiefly remarkable as a torch-bearer of knowledge rather than as an original writer, but his compilations are highly valued by scholars in that he always gives his authorities and, so far as is known, quotes them exactly. Medicine is indebted to him for a remarkable anthology of the works of his predecessors, many of whom (the great surgeon Antyllus, for instance) might otherwise have been lost to posterity. A representative work of Oribasius is the epitome of medicine which he made for the use of his son ("Synopseos ad Eusthasium Filium"), of which a rare large paper Aldine (Venice, 1554) is exhibited; but the student of medical history will read Oribasius to best advantage in Daremberg's splendid six-volume edition, with the French translation (Paris, 1851-1876).

Aetius of Amida, who lived in the sixth century A. D., was also a royal physician and *comes obsequii* at the court of Byzantium. His work, represented in the Aldine of 1534, is principally remarkable for the introduction of such far-Eastern drugs as cloves and camphor into the pharmacopeia.

Alexander of Tralles (525-605), who is regarded by many historians as the most remarkable of the Byzantine compilers on account of the originality of his therapeutic procedure, is represented by the Lyons *editio princeps* of his "Practica" (1504).

Paul of Ægina (625-690), the last of the Greek eclectics and compilers, is represented by the Aldine Greek text of 1528. We may judge how low medicine had sunk at this time by his apologetic statements in regard to any lack of originality on his part. He frankly

admits that the ancients have said all that could be said about medicine and that he is only a humble scribe. Paul was, however, a very capable surgeon and the seventh book of his "Epitome" was the standard work on the subject up to the time of Albucasis.

III. THE MOHAMMEDAN AND JEWISH PERIODS (732-1096 A. D.)

By the swords of Mohammed and his emirs the wild outlaw clans of the Asian and African deserts were converted into nations capable of acting as military and social units, but it was not until long after his death when the mighty empire which he founded was subdivided into caliphates, that the sciences and arts were permitted to develop. We call the medical authors of the Mohammedan period "Arabic" on account of the language in which they wrote, but in reality most of them were Persian- or Spanish-born, and many of them were Jewish. The leading physicians of the Eastern (or Bagdad) Caliphate were the three Persians, Rhazes, Haly Abbas and Avicenna.

Rhazes (860-932), a great clinician, ranks with Hippocrates, Aretæus and Sydenham as one of the original portrayers of disease. His descriptions of small-pox and measles is the first authentic account in literature, a classic text. It is preserved in the original Arabic, with parallel Latin translation, in Channing's edition (London, 1766). Rhazes' great encyclopedia, the "El Hawi" or "Continens," which Haller preferred to any other Arabic treatise, is shown in the Latin translation of Feragus (Brescia, 1486).

Haly ben Abbas, a Persian mage, who died in 994, was the author of the "Almaleki" or "Liber Regius," a text-book which was the canonical treatise on medicine for a hundred years, when it was superseded by the "Canon" of Avicenna. It has never been printed in the original Arabic, but is preserved in the Latin translations of 1492 and 1523.

Avicenna (980-1036), called "the Prince of Physicians," a convivial Omarian spirit, eminently successful in practice as court physician and vizier to different caliphs, was one who trod the primrose path at ease and died in the prime of life from the effect of its pleasures. The "Canon" of Avicenna, a huge, unwieldy storehouse of knowledge, which Haller styled a *methodica inanitas,* but which was none the less a great medical text in its day, is preserved in the original Arabic text (Rome, 1593) and in the Latin texts of 1479, 1483 and 1486. The Giunta edition of 1608 contains some striking plates which show that Avicenna knew and practiced the method of treating spinal deformities by forcible reduction which was reintroduced by Calot in 1896. The collection of pharmacologic treatises by the eponymous or pseudonymous Mesue junior is of interest as one of the earliest known incunabula (Venice, 1471).

The leading medical authors of the Western or Cordovan Caliphate were the surgeon Albucasis and the Jewish physicians Avenzoar and Moses Maimonides. Albucasis, a native of Cordova, who died there in 1106, was the author of a great medico-chirurgical treatise called the "Altasrif" (or "Collection"), of which the surgical part is exhibited in Channing's Arabic text (Oxford, Clarendon Press, 1778). It is remarkable as containing the first pictorial representations of surgical instruments and was the leading text-book on surgery in the Middle Ages up to the time of Saliceto. The greatest of the Jewish physicians during the Arabic period was the Cordovan Avenzoar, who died in 1161. He was one of the few men of his time who had courage enough to tilt against Galenism and by his description of the itch-mite (*Acarus scabia*) he may be accounted the first parasitologist. His "Teisir," or "Rectification of Health" is preserved in the Latin translation of 1490. The Rabbi Moses ben Maimon, called Moses Maimonides (1139-1208), was court-physician to Saladin, and his "Tractatus de Regimine Sanitatis" was written for that Sultan's personal use. The copy on exhibition, the Florentine imprint of 1478, is one of the rarest of books.

IV. THE MEDIEVAL PERIOD (1096-1438)

Medieval medicine began in the School of Salernum, which was founded by the Benedictine Monks in the ninth century, and survives in its principal document, the "Regimen Sanitatis," written in hexameter verse (1840), and in the "Antidotarium" of Nicolaus Præpositus, the first formulary and one of the first medical books to be printed (Venice, 1741). The principal outcome of the School of Salernum was the work of two surgeons, Roger and Roland of Parma, who, as Allbutt says, "stand like twin brethren in the dawn of modern medicine, bearing the very names of romance." Roger's "Practica," written in 1180 and reedited by Roland, is preserved in the library collection as a rare and interesting manuscript of the fourteenth century, together with Daremberg's classical edition of the "Glossulæ Quatri Magistrorum," vilely printed, "on gray paper with blunt type" (Naples, 1854). Roger, Roland and the Four Masters were succeeded by Hugh of Lucca, who left no record of his work behind him, and his disciple Teodorico Borgognini (1205-96), whose treatise is preserved in the surgical anthology of Articella (*editio princeps,* Venice, 1490). Hugh and Theodoric contradicted the pseudo-Galenist dogma of "coction" or "laudable pus" and stand out in their day as pioneers of a rational asepsis. The ablest Italian surgeon of the thirteenth century was Guglielmo Salicetti, called Saliceto, a man well educated in hospital and on the battlefield, as well as in respect of university training. His "Cyrurgia," exhibited in the *editio princeps* of 1476, stands out as a great landmark or seamark in the history of the craft, to be followed by the "Chirurgia magna" of his pupil Lanfranchi of Milan (*editio princeps,* Venice, 1490). Lanfranc, also a university man, was driven by banishment to Paris, where he became the founder of French surgery and made a resolute and valiant stand against the medieval schism between surgery and medicine. The effect of the work of these great surgeons, coincident with the development of the medieval universities—Bologna (1110), Montpellier (1137), Paris (1176), Oxford (1200), Padua (1222)—and the brilliant false dawn of culture and liberalism in the thirteenth century, did much to further the growth of surgical talent in France, England and Flanders. The "Cirurgia" of Pietro Argelata (Venice, 1480), the reproductions of the text of Henri de Mondeville by Pagel (Berlin, 1892) and Nicaise (Paris, 1893), the "Cirogia" of Guy de Chauliac, written in the *lingua franca* (Venice, 1480), a rare and curiously illustrated fourteenth century manuscript of John of Arderne, and the facsimile of the "Chirurgie" of Jean Yperman (1295-1351) by Carolus (Ghent, 1854), are the principal landmarks of the period.

Hand in hand with the medieval development of surgery, there necessarily went some effort to improve the status of human anatomy. Dissecting, at first rigorously proscribed by law and sentiment, became more and more a matter of course, following the decree of Emperor Frederick II in 1240. Payne had divided medieval anatomic teaching into three periods: First, the Salernitan

(from the ninth to the twelfth century), in which instruction was based on the dissection of animals as set forth in the "Anatomia Porci" of Copho, one of the Jewish instructors at Salerno. Second, the Arabist period (thirteenth century), in which such dissections were superseded by books and lectures. The leading authorities of this time were Richard, canon of Wendover, called Richardus Anglicus (1252), whose work is preserved in Töply's text (Vienna, 1902); and Henri de Mondeville, who, long before Ambroise Paré, prefixed an anatomic treatise to his surgery, and who improved on Wendover's teaching by the use of pictures, diagrams and a model of the skeleton. The interest of the third period centers in the revival of human dissecting by Mondino de' Luzzi, called Mundinus (1250-1325), whose "Anathomia" is exhibited in the Leipsic edition of Dr. Melerstat (1493). This little horn-book of Mundinus, although full of Galenical errors in regard to the structure of the human frame, was yet the sole text-book on anatomy for over a hundred years.

Internal medicine during the Middle Ages was essentially scholastic and monastic; that is, its votaries were either monks or schoolmen of the type of the great intellectual leaders of the thirteenth century—Roger Bacon, Thomas Aquinas, Duns Scotus and Albertus Magnus. The medieval logicians did good service in sharpening men's minds and teaching them how to use dialectics as an instrument or weapon, but science itself could not advance so long as the pitfalls of syllogism were preferred to inductive demonstration of fact. The medieval writers on practice of medicine are commonly described as Arabists on account of their unswerving fidelity to Galenical dogma as transmuted through Mohammedan sources. Characteristic Arabist texts are the "Liber Aggregationis" of Jacopo de Dondis (1298-1358), the earliest known of medical incunabula, printed at Strasburg, *circa* 1470 by Adolf Rusch (the "R" printer); the "Conciliator Differentiarum" (Venice, 1476) of the heretic Peter of Abano (1250-1315), the "Breviary of Practice" (Pavia, 1488) of Arnold of Villanova (1235-1312), and the "Lilium Medicinæ" of Bernard de Gordon (Venice, 1496), also exhibited in a rare manuscript of 1349. Nowise classical, these works are typical of the Middle Ages in scholastic subtlety and rigid adherence to dogma. Two books of this group are of special interest to English-speaking people—the "Compendium Medicinæ" (London, 1510) of Gilbertus Anglicus, the leading spirit of Anglo-Norman medicine, and the "Rosa Anglica" (Pavia, 1492) of John of Gaddesden, a prebendary of St. Paul's, whom some think the original of Chaucer's Doctor of Physic. The former is remarkable for its account of leprosy and as containing the first reference to the contagiousness of small-pox. The latter has a remarkable reference to the red-light or Finsen treatment of the same disease, but is otherwise a farrago of Arabist quackeries and countryside superstitions.

V. THE PERIOD OF THE RENAISSANCE. THE REVIVAL OF LEARNING AND THE REFORMATION (1438-1600)

In the transition of civilized mankind from medieval to modern conditions many forces were operative, but undoubtedly the most potent were the invention of gunpowder, which gave the *coup de grâce* to feudalism, and the discovery of printing, the greatest agent in uplifting mankind by self-education. The effect of the revival of Greek culture by the Byzantine scholars who poured into the Italian peninsula after the fall of Constantinople (1453) was to substitute the spontaneous receptive attitude of Plato and Hippocrates for the dialectics and logic-chopping of Aristotle and the Galenists. Prime movers in this change for medicine were the great printers of the Renaissance and the so-called medical humanists. The printing houses of the Aldi and Giunti in Venice, Stephanus and Colinæus in Paris, Herbst (Oporinus) and Froben in Basle, Wynkyn de Worde and Wyer in London, Plantin at Antwerp, Elzevir in Leyden, vied with each other in the issue of stately folios and beautiful texts, while such editors and translators as Niccolo Leoniceno at Ferrara; Rabelais at Meudon, Gunther of Andernach at Strasburg, Hagenbut (Cornarus) at Marburg, and Anutius Foesius at Metz did for Hippocrates what Linacre and Caius in England did for Galen. Linacre's translations of Galen in particular made it clear to physicians of the day that for centuries the profession had relied on garbled and second-hand versions of their favorite author.

Some time after the invention of printing, Germany entered the field of medicine with a remarkable array of semi-popular treatises, most of them written, contrary to custom, in the vernacular, the language of the people. The earliest of the German incunabula on exhibition is the "Regiment der jungen Kinder" of Bartholomæus Metlinger[1] (Augsburg, 1473), a little book on infant hygiene which would be the first Renaissance contribution to pediatrics were it not preceded by Paolo Bagellardo's "De Ægritudinibus Infantum" (Padua, 1472). The "Artzneibuch" of Ortollf of Bavaria (Nuremburg, 1477) was an important German text of popular medicine in its day, and followed, about 1500, by Ortolif's quaint little "Frauenbuchlein," or popular hand-book for lying-in women. A few years later (in 1513), there appeared at Worms the "Rosegarten" of Eucharius Röslin, a work which bears the same relation to Renaissance obstetrics that the "Anathomia" of Mundinus did to medieval anatomy. Although mainly a compilation from Soranus of Ephesus as filtered through the manuscript codices of Moschion, it was still the only text-book in the field after a lapse of fourteen centuries. Three first editions were issued simultaneously, all extremely interesting for their quaint cuts (already faintly outlined in the Moschion codices), for the *réchauffé* of podalic version as originally described by Soranus and for the fact that Röslin's text was miserably plagiarized by Walther Reiff[2] in 1545, and also translated and reissued by William Raynalde as "The Byrthe of Mankynde" (London 1545). The ordinance issued by the city of Ratisbon in 1555 for the direction of midwives ("Regensburger Hebammenbuch") has been proved by Mr. Felix Neumann[3] to be the earliest public document of this kind in the vernacular.

The foundations of medical jurisprudence were laid in its earliest European text, the "Caroline Criminal Constitutions" (*Peinliche Gerichtsordnung*) issued by Emperor Charles V in 1533 and exhibited in Schmid's Middle-High German text (1835). Interesting relics of the great medieval pandemics of syphilis and bubonic plague are preserved in the curious tracts of Widman (1497), Conrad Schelling (1502), Grünpeck (1503), Ulrich von Hütten (1514) and Schmaus (1518). Early German botany survives in the wood-engravings of the "Hortus Sanitatis" (1491) and the herb-books of Brunfels (1530) and Bock or "Tragus" (1539); early German surgery begins with Haeser's reproduction of the "Bündth-Ertzeney" (1460) of Heinrich von Pfols-

1. An earlier German incunabulum is the Hochenburg "Regimen Sanitatis," printed at Augsburg in 1472. (See Sudhoff's "Deutsche Medizinische Inkunabeln," Leipsic, 1908, p. 8.

2. The plagiarist Reiff should not be confused with the Swiss obstetrician Jacob Rueff (1500-58), author of the "Trostbüchle" (Zürich, 1554), a midwifery of sterling character.

3. Arch. f. Gesch. d. Med., Leipsic, 1911, v.

peundt, which contains the first reference to gunshot-wounds as "powder-burns"; the "Buch der Cirurgia" of Hieronymus Brunschwig (Strasburg, 1497) and the Fieldbook of Military Surgery by Hans von Gersdorff (Strasburg, 1517), both containing some of the most instructive pictures of early surgical procedure in existence, the latter including unique plates of diseases like leprosy and St. Anthony's fire. The same thing is true of the Οφθαλμωδουλεία, *das ist, Augendienst* of the court oculist Georg Bartisch (Dresden, 1583), the striking illustrations of which give us a complete purview of Renaissance eye surgery. The earliest work in this field was the "De Oculis, Eorumque Egritudinibus et Curis" of Benvenuto Grassi (Ferrara, 1475), and in the vernacular group may be mentioned the little eye book of Walter Bailey (London, 1586) and the "Traité des Maladies de l'Œil" by Jacques Guillemeau (Paris, 1585).

The effect of these vernacular writings was to get men's minds away from scholasticism and turn them toward realities. This Renaissance tendency reached its highest development in the earliest of the medical leaders of the sixteenth century, Paracelsus, Vesalius and Paré—three strong men of aggressive temperament, who by shouldering past other men, literally "blazed the way," not only for the general advance of medicine, but for keen and liberal thinking in all its branches.

Aureolus Paracelsus (1493-1541), the founder of chemical pharmacology and therapeutics, was neither the refined, supersubtle mystic of Browning's poem, nor yet the roystering, lying, tippling blackguard and quack-salver of tradition. His influence was far-reaching and his real services were great. Far in advance of his time, he discarded Galenism and taught men to accept chemistry as a science; he attacked witchcraft and the strolling mountebanks who butchered the body in lieu of surgical procedure, and he did away with the silly uromancy and uroscopy; almost the only asepsist between Mondeville and Lister, he taught that Nature (the "natural balsam") and not officious meddling heals wounds; he introduced mineral baths and was the first to analyze them; he made mercury, opium, arsenic, antimony and lead a part of the pharmacopeia, and discovered zinc; his "doctrine of signatures" survives in the essence of homeopathy; and in comparing the action of the "arcana" or intrinsic principles of drugs to a spark he grasped the idea of catalytic action. As a theorist, he believed in the descent of living organisms from the *Urschleim* or primordial ooze, and some credit him with anticipating Darwin in his observation that the strong war down and prey on the weak—a fact, unfortunately, within the range of any beggar or footman. But none of these things can outweigh the influence which Paracelsus exerted on his time through his personality. In an age when heresy often meant death, he wasted no time in breaking butterflies on wheels, but drove full tilt at many a superstition, risking his neck with the recklessness of a border reiver. The importance attached to his name may be gathered from the line in Shakespeare's comedy which brackets it with that of Galen[4]. Paracelsus was great in respect of his own time. He does not seem particularly great in relation to our time.

The works of Paracelsus on exhibition are his manual introducing the use of mercurials in syphilis (Frankfurt, 1553), the treatise "De Gradibus" (Basel, 1568), which contains most of his innovations in chemical therapeutics, and his monographs on miners' diseases ("Von der Bergsucht," Dilingen, 1567) and mineral baths (Basel, 1576), the former one of the few original contributions of his time to internal medicine. In this connection we should mention Baillou's account of whooping-cough (1578) and the original description of the syndrome "mountain sickness" by the Jesuit traveler Joseph d' Acosta (1590)[6].

After the time of Mundinus, there appeared a number of anatomic treatises containing the first rude attempts at pictorial representation of dissected parts. These are the so-called "graphic incunabula" of anatomy, of which appropriate woodcuts from Ketham (Venice, 1493), Peyligk (Leipsic, 1499), Hundt (Leipsic, 1501), Friesen (Strasburg, 1519), Berengario Carpi (Bologna, 1521, 1522), and Dryander (Marburg, 1537) are displayed. These tentative efforts at representation, rare and curious as they are, pale almost into obscurity beside the cartoons, *écorchés* and chalk drawings of the great artists of the period—Luca Signorelli and his pupil Michael Angelo, Raphael and Leonardo da Vinci. Of chief interest are the reproductions of Leonardo's red-chalk drawings from the Ambrosian Library at Milan and the Royal Library at Windsor. Startlingly modern in their accuracy and display of physiologic knowledge, these impromptu sketches, made beside the dissected subject, reveal such acquaintance with muscular anatomy as was possible only to the Greek sculptors, and fully justify William Hunter's claim that their author was "the greatest anatomist of his epoch." The marginal notes, which Leonardo has recorded in mirror-writing lest others appropriate his ideas on the physiology of locomotion, reveal the cautious, secretive spirit of the time. The exhibit of pre-Vesalian anatomy includes, of course, the *editio princeps* of Albert Dürer's treatise on human symmetry (Nuremberg, 1532).

Thoroughly as the great artists of the Renaissance may have studied external anatomy, yet dissecting for teaching purposes was still hampered by the theologic idea of the sanctity of the human body as the image of Godhead and the anatomy of the schools was the anatomy of Galen. How far such teaching had progressed may be gathered from the quaint cut on the title-page of the Melerstat Mundinus (1493), in which the scholastic instructor in long robe and barretta, wand in hand, gravely expounds Galen by the book from his pulpit-chair, while below the long-haired barber-servant makes a desperate shift at demonstrating the viscera of the subject before him. The Faust who was to release the science from these trammels and revive the doctrine of the *visum et repertum* was Andreas Vesalius (1514-64), the most commanding figure in European medicine after Galen and before Harvey. There were plenty of dissectors and dissections before Vesalius, but he alone made anatomy what it is to-day—a living, working science. It was the effect of his strong and engaging personality that made dissecting not only viable but respectable. His career is one of the most romantic in the history of medicine. Flemish born, but of German extraction, a pupil of the ardent and bigoted Galenist, Jacobus Sylvius, Vesalius, in his graduating thesis, showed at first the conventional tendencies of the scholiast, but his mind was too active, his spirit too keen and independent, to feed long on the dust of ages, and he soon established a reputation for first-hand knowledge of the dissected human body, even teaching himself the difficult art, so

4. In All's Well that Ends Well, Act II. Sc. 3, where Lafeu refers to the king's case as incurable, "to be relinquished of the artists," and Parolles replies: "So, I say, both of Galen and Paracelsus"—meaning, of course, that neither the Galenical nor the alchemical school of physicians could help him in any way.

6. d'Acosta, Joseph: Historia natural y moral de las Indias, Sevilla, 1590.

essential to surgeon and gynecologist, of recognizing the palpable structures by an educated sense of touch. Five years' experience as public prosector at Padua, where he made students dissect and inspect the parts *in situ*, culminated in the magnificent "De Fabrica Humani Corporis" (1543), a work which marks an epoch in breaking with the past and throwing overboard Galenical tradition. The effect of a publication so radical on a superstitious and forelock-pulling age was immediate and self-evident. Sylvius, his old teacher, turned against his brilliant pupil with acrimony and coarse abuse, while his own pupil Columbus, an intellectual upstart, sought to cast discredit and derision on him by sharp practice. Others were inclined to "damn with faint praise" or joined in a conspiracy of silence, and, as a last straw, he was subjected to subterranean persecution at the instance of authority. Those things were not without their effect on Vesalius. His portrait suggests a doughty, swarthy, shaggy, full-blooded nature, like some of Lucas Cranach's worthies—a man ready to give no odds and take none, so long as his opponents confronted him in the open; but nowise intended for the spiritual rôle of a martyr. In a fit of indignation he burned his manuscripts, left Padua and accepted the lucrative post of court physician to Emperor Charles V. He married, settled down, became a courtier, and gave up anatomy so completely that, during the long tedious years in Madrid, "he could not get hold of so much as a dried skull, let alone the chance of making a dissection." He paid the penalty of *il gran rifiuto*, when his favorite pupil, Gabriele Falloppio, came to the front as a worthy successor and rumor began to make it clear that he himself was fast becoming the shadow of a great name—

> "Vesalius, who's Vesalius? This Fallopius
> It is who dragged the Galen-idol down."

On receiving the Fallopian "Observationes Anatomicæ" in 1561, all the aspirations of his youth revived, if we may trust his own burning, enthusiastic words, language which fully justifies the implications of Edith Wharton's poem:

> "At least
> I repossess my past, am once again
> No courtier med'cining the whims of kings
> In muffled palace-chambers, but the free
> Friendless Vesalius, with his back against the wall,
> And all the world against him."

In the year 1563, Vesalius set out on a pilgrimage to Jerusalem, as a penance, some say, for an accidental human vivisection, more probably, others think, as a pretext for getting away from his tiresome surroundings. On his way back in 1564, he received word of an invitation to resume his old chair at Padua, just vacated by the death of Fallopius. But his highest wish, to "once more be able to study that true Bible, as we count it, of the human body and of the nature of man," was not to be realized. The sudden access of an obscure malady left Vesalius to die, solitary and unfriended, on the island of Zante.

The exhibit of Vesalius includes his graduating dissertation, the "Paraphrasis" (Basel, 1537); Sir William Sterling Maxwell's facsimile reprint of the "Tabulæ Anatomicæ Sex" (Venice, 1538); the "Epitome" (Basel, 1542), an advance specimen abstract of the "Fabrica," remarkable for the plates representing two handsome specimens of the human race, usually ascribed to Titian; finally the "Fabrica" itself (1543), a superb example of the beautiful typography of his friend Oporinus at Basel, sumptuously illustrated by Titian's pupil, Johan von Calcar. While written in Latin, the "Fabrica" is truly vernacular in the sweeping scorn and violence of its language in dealing with Galenical or other superstitions. Although it completely disposes of Galen's osteology for all time, and indeed recreates the whole gross anatomy of the human body, it has never been translated.

The heretic Servetus (1509-53), whom Calvin caused to be burned at the stake for a mere juggling of verbiage, a theological quibble, was one of the great martyrs for "the crime of honest thought." The discoverer of the *vraie vérité* about the pulmonary circulation, he ranks with Ramon y Cajal as a leader of Spanish medicine. The discovery is recorded in his book "The Restitutio Christianismi" (1553), the foundation stone of Unitarianism, of the original of which only three copies are known to exist. The rare Nuremberg reprint of 1790 on exhibition is probably the only copy in the United States.

The exhibit of anatomic works contemporaneous with Vesalius includes the "Isagoge" (1555) of his teacher Sylvius, to whom the discovery of the Sylvian aqueduct and fissure have been wrongly ascribed, but who discovered the valves in the veins before Fabricius and did good work in the obscure province of descriptive nomenclature; the treatises of Fallopius (1561), Varolius (1573), Vidius (1611), and Eustachius (1714), whose names have been eponymically preserved in the structures they discovered; the monographs "De Formatu Fœtu" (1600) and "De Venarum Ostiolis" (1603) by Harvey's teacher, Fabricius ab Aquapendente; and the examples of French and Spanish anatomic illustration by Stephanus (1546) and Valverde (1556).

The effect of Vesalius on Renaissance surgery is seen in the life-work of Ambroise Paré (1510-90), who made the "Fabrica" popular and accessible to surgeons by writing an epitome of it in the vernacular. Paré's greatest contribution to surgery hinges on the baneful effect which the Hippocratic aphorism that "diseases not curable by iron are curable by fire" exerted on the treatment of gunshot wounds, the new feature of Renaissance surgery. Giovanni di Vigo, physician to Pope Julius II, had taught in his "Practica" (1514), that such wounds were poisoned burns and therefore should be treated with a first dressing of boiling oil. How Paré's supply of boiling oil gave out one night in camp and how he profited by the experience to the extent of letting well enough alone in future is well known. Had it not been for his "fat of puppy-dogs," a lard or salve, which, from some tenacity of superstitition, he continued to apply, he would have been a true asepsist. As it is, his relation to the healing power of nature is summed up in the famous inscription on his statue "Je le pansay, Dieu le guarit." Paré invented many new surgical instruments, made amputation what it is to-day by reintroducing the ligature which had fallen into abeyance since the time of Celsus; was the first to popularize the use of the truss in hernia and described fracture of the neck of the femur. In obstetrics, it was his description and use of podalic version that made the procedure viable and practicable. In dentistry, he introduced reimplantation of the teeth, and his little treatise on medical jurisprudence (1575) was the first work of consequence on the subject prior to the "Methodus Testificandi" of Codronchi (1597).

Paré is represented by his essay on podalic version (1550), his treatise on gunshot wounds (1552), the first edition of his collective works (1575) and his discourse

on the mummy and the unicorn (1582), which successfully disposed of an ancient therapeutic superstition.

In connection with Paré, let mention be made of the works of his predecessors, Marianus Sanctus Barolitanus, who gave the original account of the "Marian operation" or median lithotomy (1535); the Provençal surgeon Pierre Franco, who (1561) rehabilitated the operations for hernia, lateral lithotomy and cataract, which had previously been in the hands of strolling mountebanks or hereditary in certain families, like the Collots and Brancas; the "Practica" (Basel, 1563) of the Swiss surgeon Felix Würtz, a follower of Paracelsus in the simple treatment of wounds; Rousset's treatise on Cesarean section (1581) and Tagliacozzi's revival of rhinoplasty (1597). Wilhelm Fabry of Hilden (1560-1634), whose statue was unveiled last year in his native town, is usually regarded as the father of German surgery. He was a bold and resourceful operator and is fairly represented by his treatise on gangrene (Cologne, 1593), a condition for which he was the first to recommend amputation above the diseased part.

At a respectful distance from the great Renaissance pathbreakers may be grouped the works of a quartette of original thinkers—Benivieni (1502), Cornaro (1467-1566), Fracastoro (1484-1553) and Valerius Cordus (1515-54). The "De Abditis" of the distinguished Florentine Antonio Benivieni (Giunta edition, 1507), has been described by Malgaigne as "the only work on pathology which owes nothing to any one," and as far as mere priority goes its author may be regarded (Sir Clifford Allbutt thinks) as a founder of pathology before Morgagni. Luigi Cornaro's "Trattato della vita sobria" (first edition, Padua, 1558) is probably the best treatise on personal hygiene and the "simple life" in existence. Girolamo Fracastro, the kindly Veronese, who practiced in the Lago di Gardo region, was at once a physician, poet, geologist, astronomer and pathologic theorist, and shares with Leonardo de Vinci the honor of being the first geologist to see fossil remains in the true light. He was also the first scientist to refer to the magnetic poles of the earth (1530). His medical fame rests on that most celebrated of medical poems, "Syphilis sive Morbus Gallicus" (Venice, 1530), which gave the disease its present name[7], and his treatise "De Contagione" (1546), in which he states with wonderful clairvoyance, the modern theory of infection by microorganisms (*seminaria contagionum*).

Valerius Cordus, the gifted Prussian youth, whose early death robbed science of one of its most promising names, is known to medicine for his discovery of sulphuric ether (*oleum dulce vitrioli*) in 1540; but botanists revere him as the young Marcellus of their science. Greene styles him "the inventor of phytography" and points out that the field-work and taxonomy of a well-equipped modern botanist were actually done "almost four centuries ago by a German boy in his teens."[8] His posthumous commentary on Dioscorides, edited with pious hand by Conrad Gesner, not only describes some 500 new species of plants, the ardent search for which eventually cost him his life, but recreates the species listed by Dioscordides in terms of modern botany. The "Dispensatorium" of Cordus is of interest as the first real pharmacopeia to be published (Nuremberg, 1546).

A striking feature of Renaissance medicine was the publication of a large number of encyclopedic treatises by many authors, not unlike the "up-to-date" works written on the cooperative plan in our own time. Of these we may mention the Aldine "Medici Antiqui Omnes" (1547), the "Medicæ Artis Principes" of Stephanus (1567), the Venetian anthology on mineral waters ("De Balneis," 1553), the Gesner collection of surgical treatises (Zürich, 1555), the Basel encyclopedias of gynecology (1566, 1586) and the medical dictionary of Stephanus (1567).

No account of sixteenth-century medicine would be complete without a passing reference to "The Metamorphosis of Ajax" (1596) of Sir John Harington (1561-1612), the witty graceless godson of Queen Elizabeth, who was banished from her court for writing it. The work introduces an important and indispensable improvement in sanitary engineering, but our author's treatment of his theme is entirely in the manner of Aristophanes, Rabelais or the Zähdarm epitaph in "Sartor Resartus." Those who can read the garrulous whimsical old knight as they would the writers of Elizabethan comedy will smile over his facetious pages.

Army Medical Museum.

7. Fracastorius takes the name from Syphilus, a shepherd in the poem, who was stricken with the disease for blaspheming Apollo (liber iii, 329-332):

> "Syphilus ostendit turpes per corpus achores,
> Insomnes primus noctes convulsaque membra
> Sensit et a primo traxit cognomina morbus.
> Syphilidemque ab eo labem dixere coloni."

8. See the chapter on Valerius Cordus in "Landmarks of Botanical History" by Dr. Edward Lee Greene (Smithsonian Misc. Collect., v, 54, Washington, 1909, pp. 270-314), Charming in style and irreproachable in scholarship, this work is cordially recommended to physicians as the best history of early botany and materia medica that has yet appeared.

REPORT OF A CASE OF TRAUMATIC RUPTURE OF THE UMBILICAL CORD WITHIN THE ABDOMINAL WALL AT BIRTH; RECOVERY

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This case is reported with the hope that it will prove of interest on account of its rarity revealed by a search through the literature. The fact, also, that there was an uneventful, uncomplicated recovery, though death from hemorrhage or shock might be expected, is worthy of notice.

Labor was normal; presentation right occipito-anterior. As the head was born it was noticed that the cord was tightly wound about the child's neck. Employing the usual amount of force, an attempt was made to loosen the cord, but it did not yield and ruptured. The body was quickly delivered and an examination revealed a rupture of the umbilical cord within the abdominal wall. The edges of the cord were so retracted into the abdomen that they could not be grasped with forceps. Hemorrhage was not very profuse. The child continued crying.

Under the circumstances, the procedure that seemed most logical and most easily executed was compression. A hard roll of cotton was hastily applied with an abdominal band rather tightly secured.

The cord measured 35 cm. in length, which probably explains why it could not be unwound from about the child's neck.

No blood being detected through the abdominal band, same was not disturbed for eight hours. There was no further hemorrhage but only a slight oozing for a time.

The entire quantity of blood lost was not more than about 6 drams. The umbilicus healed in the usual manner.

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[COMMENT.—The case reported is not extremely rare. Rupture of the cord intra partum has been observed frequently, rarely in spontaneous labors, more often in

precipitate labors, and also as a result of manipulation to loosen the cord wound round the neck of the fetus and to slip it over its head. The force necessary to tear the cord differs in different cases; some cords are more resistant than others. The average cord will resist a pull of 5 to 20 pounds, when applied gradually. If applied suddenly, as by letting the weight fall the length of the cord, it will generally break with a weight of 1 to 4 pounds.

The cord generally tears near the fetus and not seldom at the place of insertion. The mode of the tear is interesting and explains why serious bleeding after a tear is not very common—at least much more rare than after the cutting of the cord. The tear is irregular and oblique through the amnion, which ruptures first. Then the arteries tear, and lastly the vein. The intima of the arteries rolls in and the muscularis contracts, which causes a rapid closure of the vessels. Because of this tendency to spontaneous arrest of hemorrhage, compression is generally efficient, as in the case recorded above. Seizure of the vessels with the forceps and the use of a small catgut ligature would be easy and more surgical.

This case might serve to justify Shultze's method of managing cases of winding of the cord around the neck. He objects to any attempt to slip the cord over the head as being unnecessary and likely to rupture the cord or to cause a separation of the placenta. As soon as the head is born there is no longer danger of compression of the cord. If the cord is long, the birth of the body will follow without trouble. If it is absolutely or relatively too short, then it is better to apply a double ligature and cut the cord between the ligature.—ED.]

A LARGE LIPOMA OF THE LARYNGOPHARYNX: REMOVAL EXTRAORALLY UNDER COCAIN *

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CHICAGO

The extreme rarity of fatty tumors in the pharynx, the size of the one under discussion, the comparative safety and simplicity of its removal through the mouth, and the improvement in weight, general health and comfort of the patient due to its extirpation, are reasons for placing this case on record. So extremely rare are lipomata in this region that I finally abandoned searching the literature and accepted the statement in the 1909 edition of Dr. D. Braden Kyle's "Diseases of the Nose and Throat" that but one pharyngeal lipoma had at that time ever been reported. That patient was eighty years of age; the tumor originated from the left side of the epiglottis and from the pharyngeal wall; and the symptoms were those of a movable foreign body.

History.—In October, 1907, when I first saw Mrs. C., she was a rather small woman of 27 years. She had lived in central Wisconsin and had never succeeded in obtaining an explanation of her symptoms. For an indefinite number of years the patient had experienced a vague feeling of "something growing in the throat" and of difficulty in swallowing, requiring an effort to get the bolus started, and sometimes actual inhibition of the swallowing act at its inception. A tendency for food to lodge somewhere and be recovered after some hours or even two or three days had existed. Breathing was quite decidedly interfered with, noticed most on exertion, and a noise in breathing was present a part of the time, especially at night. But like most instances of similar slow onset of obstructive tumors, the patient seems to have accommodated herself well to the advancing growth; for, aside from slight nervousness, she was apparently in good health, and yet certainly the nutritive processes were being interfered with more than was at the time realized, as shown by the great increase in body weight following removal. Nothing of moment bearing on the condition was apparent in her medical history; she had had goiter at 13, which had receded, rheumatism, measles, acute appendicitis and acute tonsillitis, and moderate nasal occlusion, found to be due to chronic intumescence.

Examination.—Some enlargement of the glands at the angles of the jaw was noted; this had been present for some time. But the external surface of the neck gave no indication of any abnormality within, even on palpation, except that inward pressure slightly below the angle of the jaw on the right produced dyspnea. Thus the external structures of the neck gave not the slightest indication of involvement by the neoplastic process. The tumor could be seen on the posterior and right lateral wall of the pharynx on depressing the tongue. Its uppermost margin reached to the height of the base of the uvula when the soft palate was at rest. From here it extended downward until its broadened lower portion lay over the laryngeal opening half an inch above the arytenoid cartilages. Thus air in passing in and out of the larynx had to take a markedly twisted course, around the overhanging growth. The tumor was much broader at its base, tapering gradually toward its upper end; its shape at any one time was probably modified by the effect of gravitation, due to changed position, for it seemed capable of considerable movement; at its lower part the growth extended more than two-thirds the distance across the laryngopharynx from right to left and gradually this breadth lessened until at the upper part the lateral extent was only one-third the way across. It was covered by healthy-appearing mucous membrane, without evidence of congestion or of enlarged vessels. On palpation the tumor seemed remarkedly soft and yielding, not firm enough for an ordinary solid, easily mistaken for a fluid, as if a somewhat flexible-walled sac were only partially distended with a liquid, thus permitting the contents to be pressed from one part of the sac to another. Being not at all tender, and, besides, of long standing, it was thought at this stage of the examination, both by two other experienced laryngologists who examined it and by myself, to be a cyst. The aspirating needle passed through a thick wall and then the distal end could be moved freely about, as if in a cavity; but no fluid could be obtained; the needle was plunged in straighter and entered a soft substance, thought possibly to be viscid fluid, but nothing could be aspirated. A trocar having a much larger bore than that of the needle was then employed, but with an identical experience. Incision then was made and this disclosed fatty tissue, which could easily be separated from what was evidently the capsule of a tumor. The needle and trocar had shoved the tumor away from its capsule, thus creating a cavity, easily mistaken for a fluid sac. The microscope served to confirm the lipomatous appearance of the growth. Thus the examination had proved an encapsulated lipoma superficially placed in the fascia beneath the mucous membrane and with no indication of a vascular supply different from lipomatous growths generally. Clearly the indication was to attempt removal in the simplest manner possible.

Operation.—Ten per cent. cocain with full commercial strength suprarenalin (epinephrin) were applied over the surface of the growth, and cocain was applied also to the operative field during the act of removal. An incision through the mucous membrane and the capsule of the tumor was made vertically, near the center of the swelling, from about the level of the tip of the uvula to a point slightly below the level of the tip of the epiglottis, a distance of 3 inches. The tumor was seized above through this incision with forceps and the process of enucleation carried on. Pulling on the mass brought the hyoid bone plainly into the pharyngeal space. Mostly with blunt instruments, including the finger, but occasionally with tonsil scissors and knives set at an angle in long handles, for the heavier binding threads, the growth was shelled out of its capsule. It was not always easy to see clearly whether

* Read before the Chicago Laryngological and Otological Society, April 18, 1911.

one was working within or without the capsule and considerable time was wasted at first through this fact, but no more than moderately severe difficulty was experienced at any time. In the course of the enucleation a thick plate-like mass of tissue fell out into the wound and was cut off. This was apparently the overdeveloped fascia that ordinarily exists between the mucous membrane and the constrictor muscles. The hemorrhage was slight and the wound could be kept quite free from blood. It was found unnecessary to ligate any vessel. After removal the edges of the incision lay an inch apart. They were easily brought together and three stitches taken. The fourth was prevented by the breaking of the edges of the mucous membrane; this left the lower angle of the wound open for about three-quarters of an inch in a vertical direction and three-eighths of an inch in width and this was the only provision made for drainage. But moderate pain was experienced until the last stitch was taken.

Postoperative History.—Feeding was carried on through the mouth, using small swallows of milk; the stitches held. The temperature reached 101 F. on the following day. Only moderate reaction occurred, with very little edema. After the third day the temperature did not reach higher than 99.5 F. and the hyperemia then became slight; a gland on the outside opposite the incision became a trifle tender, but quickly disappeared. On the eleventh day the wound was scarcely visible and the pain entirely gone.

Specimen.—The tumor was characteristically lobulated, and, as it lay flat on the table, measured 3¼ inches long, 2¼ inches broad and 1 inch thick, its shape altering with its position. Since the patient immediately left the city, I did not see her for three years, although rumors of great increase in weight reached me. When I did see her, I was somewhat astonished to note the remarkable change in physique, the patient having altered in type from a somewhat small to a much larger woman. The weight had increased from 124 to 156 pounds. After the operation, the husband had felt alarm at the quietness of his wife's breathing, and the patient would find her food well down the esophagus before she realized the act of swallowing had begun. Excepting for two or three small obscure patches of thin, shiny scar tissue, the pharynx appeared normal.

15 East Washington Street.

GLASS TUBE IN THE MALE URETHRA

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History.—Some time since a man aged 27 came to my office saying there was a piece of glass tubing in his urethra which he was unable to remove. He gave no satisfactory information as to how it came there.

Examination.—A few drops of blood appeared at the meatus and there could be felt in the perineum just behind the scrotum a firm body in the line of the urethra; this proved to be the end of the glass tube. By digital examination of the base of the bladder through the rectum the deeper end of the object could be felt lying within the cavity of the bladder and pushing the posterior wall of the bladder backward on the rectum. The anterior end of the object could be felt by introducing a urethral sound.

Removal.—It occurred to me that the tube might be removed through the lumen of an endoscope or urethroscope. Accordingly, I introduced an endoscope, size 26 F., till it came in contact with the forward end of the glass tube, and after removing the obturator I was able to feel the tube slip into the opening of the endoscope. Then with one finger in the rectum I was able to force the tube forward still farther into the endoscope, until finally it was easily removed within the instrument. No anesthesia was used.

There was little tenderness of the parts after the manipulation. The tube was 3/16 of an inch in diameter and between 5 and 6 inches in length. At both ends the tube was rough broken. The patient recovered without further difficulty.

631 Second Avenue, South.

THE STATUS OF SALVARSAN IN PELLAGRA, BASED ON THE REPORTS OF TWENTY-ONE COLLECTED CASES

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MOBILE

The occasional beneficial effects following the administration of various forms of arsenic in pellagra has led several physicians to employ salvarsan in pellagra. In an effort to obtain an early opinion of the therapeutic results we have collected the reports of sixteen unpublished cases, and these together with three cases reported by Nice, McLester and Torrance,[1] and two cases of our own, form the basis of this report. This includes, as nearly as we can ascertain, all the cases of pellagra treated with salvarsan up to May 1, 1911.

We take pleasure in thanking the following physicians for the reports of the sixteen unpublished cases that make this report possible: Dr. Rufus T. Dorsey, Atlanta, Ga., two cases; Dr. E. H. Martin, Hot Springs, Ark., one case; Dr. W. J. Love, Opelika, Ala., one case; Dr. Wilmer L. Allison, Ft. Worth, Texas, three cases; Dr. C. C. Bass, New Orleans, La., one case; Dr. J. Edgar Paullin, Atlanta, Ga., seven cases; Dr. J. D. S. Davis, Birmingham, Ala., one case.

The fact that all the patients have been recently treated precludes any positive conclusions as to any permanent beneficial effects resulting from the use of salvarsan in this disease. All types and stages of the disease have been treated. There has been no uniformity in the manner of administration or the quantity or frequency of the dose. The drug has been given both intramuscularly and intravenously, in amount from 0.1 to 0.69 gm. Most of the cases had a single dose, one had two doses and two were given three doses.

Hospital residence and the coincident administration of other forms of arsenic has to be considered in the reported beneficial results of at least four of the improved cases. To what extent the saline solution administered with the drug intravenously has bearing on some of the cases improved, it would be difficult to say, though it is worthy of consideration. There was an untoward effect in one case, a profuse diarrhea following the drug administration. The physician having this experience administered salvarsan in seven cases and noted no improvement whatsoever in any of the seven cases.

Type of case treated: mild acute, three; mild chronic, four; severe acute, four; severe chronic, seven; type unknown, three; total, twenty-one.

No improvement was noted in ten cases, 47.6 per cent.; improvement noted for at least seven days with no relapse, seven cases, 33.3 per cent.; temporary improvement followed by relapse (death in one), four cases, 20 per cent.

Improvement was noted in the following type of cases: severe chronic, six cases; severe acute, two cases; type unknown, three cases.

CONCLUSIONS

Any administration of salvarsan in this disease of unknown etiology must be considered as empirical when we recall that this drug is considered specific for the *Spirochæta pallida.*

The well-known dangers of administering salvarsan to patients suffering from cardiac and renal lesions

1. Nice, C. M., McLester, J. S., and Torrance, G.: THE JOURNAL A. M. A., March 25, 1911, p. 896.

should contraindicate its use in many cases of pellagra because of their well-known tendency to myocardial and renal degenerations. If given at all it should be given in broken and repeated doses and preferably by the intramuscular method.

The clinical evidence brought forth in this report shows only 33.3 per cent. of improvement lasting seven or more days. Considering that this includes the treatment of all the types of the disease and that no patients are reported cured, we feel that thus far salvarsan offers no better results than other methods of treatment.

202 Conti Street.

EXPERIMENTS ON THE TRANSMISSION OF SCARLET FEVER TO MONKEYS *

LUDVIG HEKTOEN, M.D., AND GEORGE H. WEAVER, M.D.
CHICAGO

In view of recent reports of the successful inoculation of monkeys with scarlet fever it was thought of interest to relate some experiments made in the interval from Dec. 10, 1909, to September, 1910. Materials from the throats and mouths of children with scarlet fever were collected on cotton swabs and the swabs washed off in milk. The milk thus infected was fed to monkeys. Thirteen monkeys (*Macacus rhesus*) were fed in this way; ten remained well, showing no fever or leukocytosis, and three died. The three monkeys which died may be designated as Nos. 1, 2 and 3.

No. 1 was fed the infected milk on Dec. 10, 11, 13 and 14, 1909, became sick December 20, and died December 21. The autopsy showed a fibrinous peritonitis. The peritoneal exudate and the heart's blood contained colon bacilli; no streptococci or other bacilli could be demonstrated by microscopic or cultural methods.

No. 2 was fed the same materials on the same days as No. 1. On Jan. 7, 1910, he became sick and died Jan. 17, 1910. At the autopsy there was a moderate general edema with fluid in the pericardium, and the urine in the bladder which was clear gave a marked zone of albumin with nitric acid, but no tube casts were found in it. Microscopically there were some parenchymatous changes in the kidneys.

No. 3 was fed infected milk on Jan. 26, 27 and 29, 1910. January 29 he became sick and died on January 31. Shortly before death the blood showed a leukocytosis of 38,800. At the autopsy no macroscopic lesions were found other than hemorrhage in the right adrenal. The pharynx was normal. Cultures from the heart's blood were sterile; no streptococci were found anywhere. Blood removed from the heart of this animal immediately after death was mixed with sterile milk, and fed to a healthy monkey (4) on Feb. 1, 2 and 3, 1910. On February 5, it became sick and refused food. Its temperature was 103.8 to 104.1 F. and the leukocyte count was 52,000. The leukocytes persisted for five days and disappeared, as the temperature subsided and the appetite returned.

We do not attempt to decide whether Monkeys 1, 2 and 3 really had scarlet fever, or whether the one which was fed the blood from Monkey 3 had this disease. The course of the sickness in this last animal, coming on four days after the feeding, running a short course accompanied by fever and leukocytosis, is very suggestive. We were, however, unable to observe any cutaneous eruption. If monkeys are susceptible to infection with scarlet fever, the susceptibility would seem to be rather slight and there must be a good deal of natural resistance as in man. We had hoped to add further observations before making a report, but as this matter is interesting so many just now, these experiments may be of use to others and are therefore reported.

* From the Memorial Institute for Infectious Diseases.

THE CULTIVATION OF TISSUES IN SALT SOLUTIONS *

MARGARET REED LEWIS AND WARREN H. LEWIS, M.D.
BALTIMORE

The introduction by Harrison[1] of the important method of the study of the growth of small pieces of living tissues of cold-blooded animals transplanted into lymph and the later extension of this method by Burrows and Carrel[2] to warm-blooded animals by transplanting into plasma marks the beginning of a new epoch in experimental anatomy.

The result of the observations given below, that embryonic chick tissue will grow in various salt solutions, further broadens the field of work in that tissues can be studied in media all the constituents of which are known and the reaction of the cells to different substances can be more definitely determined.

After the cultivation of embryonic chick tissues in nutrient agar and bouillon media,[3] it was found that such tissues would grow nearly as well in Locke's solution to which small amounts of certain of the polypeptids and amido-acids had been added. Later it was discovered that these tissues grow nearly as well in various salt solutions. Over one hundred combinations have been tried with sodium chlorid, calcium chlorid, potassium chlorid and sodium bicarbonate, with and without sugars, and in the great majority of the solutions growth takes place. A more extended account of the growth of tissues in the salt solutions will appear in the *Anatomical Record* for June, 1911.

Locke's solution, first obtained from Dr. D. R. Hooker of the Physiological Laboratory of the formula, NaCl .9 per cent., $CaCl_2$ .025 per cent., KCl .042 per cent., and $NaHCO_3$ 0.02 per cent. to which was added 0.25 per cent. dextrose has given quite satisfactory results in that the growths nearly equal those in plasma. Of three series containing eighty cultures in this medium, all showed growth, which reached its maximum in from twenty-four to seventy-two hours and lasted from three to eight days.

Good growth has been obtained, however, in the salts alone without the dextrose or other sugar. Sodium chlorid seems to be the one essential salt, as growth did not take place in the various combinations of the other salts without the sodium chlorid, while growth did take place in a pure sodium chlorid solution of 0.75 per cent. and 0.9 per cent. Growth took place in solutions of sodium chlorid with the other salts in which the percentage of sodium chlorid varied from 0.225 per cent. to 1.695 per cent. There might also be great variation in the percentages of the other salts. Evidently tissues will grow in solutions of varying osmotic pressures.

The character of the growth in these salt solutions is similar to that of tissues in plasma but the growth is not so extensive. Radiating and migrating cells, reticular formations, various types of membranes and both mitotic and amitotic cell division are found in the cultures. The intestine, for example, often shows membrane growth, reminding one very much of peritoneum. Sympathetic nerve fibers grow in various salt solutions and also in such solutions plus dextrose. Their mode

* From the Anatomical Laboratory, Johns Hopkins University.

1. Harrison: Anat. Rec., 1907, i; 1908, iii; Jour. Exper. Zool., 1910, ix.

2. Compt. rend. Soc. de biol., 1910; THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379; Dec. 10, 1910, p. 2057; Jan. 7, 1911, p. 33; Jour. Exper. Zool., January, 1911; Jour. Exper. Med., No. 3, 1911; No. 4, 1911.

3. Lewis and Lewis: Bull. Johns Hopkins Hosp., April, 1911.

of growth is very similar to that observed by Harrison in amphibia and by Burrows in the chick when the material was taken from the central nervous system and transplanted into lymph or plasma. Since such growth does take place in fluid media, it is evident that the fibrin network is not essential for the outgrowth of the nerve fiber, nor is it necessary for the growth of other cells or the formation of long slender processes of various kinds. The under side of the cover-glass often seems to act as a support for the outgrowing cells and fibers. This adhesion of the growths to the cover-slip makes it possible to study the cultures to better advantage than otherwise since most of the growth is often in one plane.

The material which gave the best results was from embryo chicks less than ten days old. The cultures were grown in hanging drops.

THE EFFECT OF INJECTIONS OF INDOL AND TYROSIN IN EXPERIMENTAL ANIMALS

A PRELIMINARY REPORT *

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CINCINNATI

During the past year we commenced a series of experiments on rabbits and white rats, the object of which was to discover what relation chronic intoxications with some of the lower derivatives of protein decomposition bore to changes in the adrenals and kidneys. We had a suspicion that indol might have, in the process of secretion, or in the process of transformation into indican, or both, an effect in producing changes in the organs which would indicate hyperactivity of certain organs (the liver, and perhaps the adrenals) or irritative changes in others (the kidneys). There seemed to be some basis for this suspicion in the fact that indicanuria, especially when it is of well-marked degree, is accompanied by albuminuria and cylindruria. It seemed useful to discover, therefore, whether injections of indol would produce any noticeable changes in the kidneys; and, since the liver has been supposed to be the site of transformation into indican, it seemed possible that some changes in that organ might be expected. The tyrosin series had a different basis. We were interested in the physiology of the adrenal glands and had been led to suspect that the pigmentation of Addison's disease might be a result of variation in either the content of the chromaffin tissues in tyrosinase, or in the overabundance of tyrosin or some related substance in the body. This was indicated by the suggestion of von Fürth that melanin and related bodies are the result of the action of tyrosinase or related oxydases on the aromatic constituents of the protein molecule, a suggestion which, as Adami says, has been supported by Halle, who demonstrated that tyrosin is converted into epinephrin by a ferment in the adrenal. Adami suggests that pigmentation in Addison's disease is produced when this ferment is deficient—when, in other words, the tyrosin is not converted into epinephrin by the adrenal, but into melanin in the skin. All of which induced us to attempt to discover whether tyrosin would stimulate the adrenals to increased activity or whether large excesses of tyrosin would produce melanosis in experimental animals. If the former were the case, we might expect to find as a result of increased epinephrin production, either arterial changes or renal changes or both.

Finally, because of the similarity in origin of indol and tyrosin, we ran parallel series, each with its control.

We have no definite knowledge of the manner of action or of the effects of tyrosin in the organism. We know but little more concerning indol. We are led to think that massive doses of the latter may be consumed with no, or but little, ill effects in normal man (Nesbitt). Such effects are headache, insomnia, confusion and irritability (Herter), and, with decreased activity of the cells in disposing of such substances, intoxications are possible (Richards and Howland). It is, however, possible that comparatively small doses given over long periods of time may, even without producing symptoms, cause changes in the organs which may lead to very serious results.

Our series of experiments deal with the possibilities of such results.

In performing these experiments we used rabbits and white rats. Originally we used intravenous injections. Later we resorted to intraperitoneal injections. We used saturated aqueous solutions of Kahlbaum's indol and tyrosin.

For the sake of brevity we shall at this time merely summarize our results by saying that after these injections we have found the medullas of the adrenals hyperplastic and apparently hypertrophic, and that the evidences of chromaffin activity increased in proportion to the number of injections. The chrome reaction is similarly increased. We also found very slight interstitial changes in the kidneys.

We had, at the commencement of our experiments, a suspected relation between tyrosin and adrenal changes; a suspicion of a possible relation between indol and renal changes; and the possibility of a relation between adrenal and renal changes.

From our incomplete results, the small importance of which we realize, we are not justified in drawing any conclusion, but we might suggest for the sake of perspective that, provided it be true that a true hyperactivity of the chromaffin is produced by one or other, or both of the substances we have used, or by other substances of the same chemical order, that is to say, belonging to the aromatic series, it might be suspected that such an hyperactivity, extending over a considerable period of time, may be a cause, perhaps the cause, of the symptom-complex known as diabetes. This would result from a change in the chromaffin-pancreas equilibrium.

Eppinger, to whom the idea possibly was suggested by Boinet, has remarked that tuberculin may be a substance which of itself produced inactivity of the chromaffin tissues of the body, and that by means of tuberculin the pancreas-adrenal equilibrium can be upset on the adrenal side; that is to say, in the Addisonian direction. In other words, under the influence of tuberculin the glycolytic function of the organism is increased.

Our experiments in this direction have led us already to a temporary belief, at least, in Eppinger's conception. We have found that seven injections, each of 0.5 mg., of tuberculin led to an increase of sugar consumption in rabbits. A normal rabbit after 50 gm. of glucose (by mouth) showed 0.43 gm. of glucose in the urine (1.72 per cent.). The same rabbit after seven injections of tuberculin showed 0.07 gm. (0.35 per cent.). These results with tuberculin, especially in view of the fact that the medulla of the glands shows atrophy after tuberculin treatment, are interesting if considered with

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* From the Laboratories of the Cincinnati Hospital.
* Read before the Cincinnati Society of Medical Research, April 6, 1911.

the fact that in the diagnosis of Addison's disease tuberculin should be used with the greatest circumspection. Our final suggestion is that it seems possible that tuberculin injection may be of value in the treatment of diabetes, because of its influence on the chromaffin, and, through that influence, because of its tendency to bring back—to correct—the adrenal-pancreas equilibrium. We are continuing our work by carrying out a careful series of physiologic experiments.

CONJUGAL TABES DORSALIS *

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PHILADELPHIA

Recent discoveries have thrown a strong light on certain hitherto suspected but not definitively demonstrable relations of syphilis. The view that tabes dorsalis and paretic dementia are essentially of syphilitic origin has been finally established by the results of the serum-complement reaction. For the purposes of this discussion tabes and paresis may be looked on as expressions of the same morbid process, in the one instance affecting especially the spinal cord, and in the other especially the brain. Not rarely the two affections are associated in the same patient. Of the large number of persons infected with syphilis, however, only a comparatively small proportion become tabetic or paretic. Negroes, although frequently syphilitic, rarely develop tabes or paresis. Perhaps they possess an inherent racial immunity. An explanation for the disparity in the incidence of the two diseases must be sought in some special factor, whether on the part of the infected individual or on the part of the infecting virus. This may reside in a lowering of the resistance of the nervous system as a result of previous disease, or intoxication or traumatism, or other debilitating or exhausting influence; or in a particular and peculiar activity of the syphilitic infection. These forces may operate separately or jointly.

Occasionally tabes or paresis appears in several members of the same family, simultaneously or consecutively. Thus, husband and wife may be affected; sometimes in addition a second husband or wife, or one or more children. Under such circumstances syphilis is quite invariably the common etiologic factor. Each of those affected may present the same form of disease of the nervous system, or one may suffer from one and the other from another form. The association is not common, although probably more so than is apparent, as inquiry is not, as a rule, directed toward this point. Moreover, the disease of the nervous system does not usually appear simultaneously in those affected, and the association may for this reason be overlooked. That tabes and paresis are more prevalent among men than among women is most likely due to the fact that both affections are so often secondary to syphilis, and that this disease is usually acquired through illicit intercourse, an infected woman inoculating several men.

The occurrence of paretic dementia in husband and wife appears to have been recognized only since 1863, when Kjellberg[1] reported the first instances. Tabes dorsalis in husband and wife was first recorded by Voigt[2] in 1885. Both patients presented evidences of syphilis, and the venereal disease, as well as the disease of the nervous system, appeared the earlier in the man. Strümpell,[3] in 1888, reported a similar association and sequence. A comparatively small number of cases of like character have been reported since, largely from German sources. American literature contains a case recorded by F. Savary Pearce[4] from the practice of S. Weir Mitchell, and refers to four other cases observed by Dr. Mitchell; a case recorded by A. P. Francine[5] in a negro barber and his wife; and three cases of conjugal paretic dementia recorded by Richard Dewey.[6] Mendel,[7] in 1895, reported sixteen cases of conjugal tabes and paresis, and came to the conclusion that under such circumstances paresis occurs more commonly than tabes, and that the husband is almost invariably attacked first. Raecke,[8] in 1899, was able to tabulate sixty-nine cases of conjugal tabes and paresis, including seventeen of his own. In twenty-seven there was paresis in both; in twenty-two, tabes in both; in fourteen, paresis in husband and tabes in wife; in six, paresis in wife and tabes in husband. It thus appears that the husband is the more commonly paretic, the wife the more commonly tabetic. The former was generally attacked first.

Moenkemoeller,[9] in 1900, reported eighteen additional cases and referred the usual occurrence of the disease in the husband first to the fact that he is generally syphilitic and infects his wife.

Idelson[1] considers the incidence as more than accidental; else other disorders of the nervous system might be expected to occur in husband and wife with equal frequency. He reports the simultaneous appearance of paresis in husband and wife, both syphilitic at the same time. He was impressed by a certain uniformity in the course of the disease in the persons affected.

Erb[10] concurs, from an abundant experience, in the view that the tabetic husband and wife are almost invariably syphilitic, the former generally infecting the latter, less commonly the wife the husband, and both becoming tabetic or paretic in succession.

Suntheim[11] has made a comprehensive study of conjugal tabes and paresis, reporting twenty-three previously unrecorded cases among 255 carefully studied patients seen in the course of six or seven years. Among 101 cases of tabes in men there were five in which the wife was similarly affected; among fifty-one cases in women there were nine in which the husband also was affected. In sixty-one cases of paresis in men there were five in which the wife also was affected, and among forty-two cases in women there were four in which the husband also was affected. Suntheim points out that while at the beginning the disease of the nervous system, as a rule, pursues the same course in husband and wife, there are differences in its subsequent evolution, the development being more rapid and the symptoms more pronounced in the second person attacked. Often the interval between the syphilitic infection and the appearance of the symptoms of the disease of the nervous system is the same in both. Suntheim found that the syphilitic infection was conveyed through the husband in ten instances as against one in which it was conveyed through the wife (and in this instance the disease was acquired by accident); symptoms of the nervous disorder appeared first in the husband in seven instances

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* Read before the Association of American Physicians, May 9, 1911.

1. Cited by Idelson: St. Petersburg. med. Wchnschr., 1901, xlii, 473.
2. Centralbl. f. Nervenh., Psychiat. u. gericht. Psychopathol., April 15, 1885, viii, 169.
3. Neurol. Centralbl., 1888, xvii, 122.
4. Jour. Nerv. and Ment. Dis., 1895, xx, 8.
5. Am. Jour. Med. Sc., 1900, cxix, 543.
6. Chicago Med. Recorder, October, 1893, p. 233
7. Neurol. Centralbl., 1895, xiv, 335.
8. Monatschr. f. Psychiat. u. Neurol., 1899, vi, 266.
9. Monatschr. f. Psychiat. u. Neurol., 1900, viii, 421.
10. Berl. klin. Wchnschr., 1904, iii, 64.
11. Inaugural Dissertation, Leipsic, 1909.

and in the wife in three instances. In the majority of instances both husband and wife suffered from the same form of nervous disease. The interval between the syphilitic infection and the development of the disease of the nervous system varied between two and thirty-five years, averaging fifteen years, in the husband 17.7 years and in the wife 13.3 years. The duration of the nervous disorder was longer in the secondary than in the primary cases, although when tabes developed in the second person the course of the disease was less rapid than when paresis developed.

I have had under observation the case of a husband and wife with tabes dorsalis, symptoms of the disease appearing in both at about the same time. No history of syphilis was elicited, although infection may have occurred. The woman presented herself in July, 1907, when she was 40 years old, complaining for one year of a sense of burning on the anterior aspect of the chest and in the sacral region, and of general weakness. She was neurotic and perspired freely, and she did not appreciate distinctly pricking the flesh of the abdominal wall. There was some dyspnea and a feeling of suffocation. The bowels were constipated and the stools contained mucus. At times there was headache, and sleep was variable. The action of the heart was rhythmic and the sounds were clear. Menstruation had been absent for a year. Three years previously the woman had fallen in alighting from a street-car, and she had made a settlement with the company. At this time her husband was 55 years old, and he was said to be "rheumatic" and not strong. He had been married previously and his first wife had borne three healthy children; five other children had died from various causes. The second marriage had resulted in the birth of eight children and one miscarriage; five of the children were well and three had died (chicken-pox, cholera infantum, circumcision). In January, 1908, the woman complained of a sense of constriction about the waist, together with headache, vertigo, weakness in the lower extremities and partial incontinence of urine, but the knee-jerks were preserved, as they were also a month later.

In January, 1910, there was difficulty in walking, with ataxic gait and swaying station, weakness of the anal sphincter after the use of laxatives, and difficulty in expulsion and retention of urine. The knee-jerks were now absent and they could not be elicited even with reinforcement. Coordination in the upper extremities also was somewhat impaired. The pupils were of moderate size and reactive to light and in accommodation.

The husband came under observation in August, 1909, when he was 57 years old. He had been complaining for eighteen months of a lack of feeling and of numbness in the lower extremities, with difficulty in locomotion. His gait was awkward, though not characteristically ataxic, the feet being lifted high, somewhat as if to avoid pain, and station was unsteady. There was also some want of control of the bladder. The pupils were of moderate size, but not reactive to light. The knee-jerks were absent, and could not be elicited on reinforcement. There was a history of "rheumatism" nineteen years and also five years previously.

It is a little difficult to decide whether in these two patients the symptoms of tabes did or did not develop simultaneously, the woman complaining of constriction about the waist, weakness of the lower extremities and partial loss of control of the sphincter of the bladder, but with preservation of the knee-jerks, at about the same time as the man was complaining of numbness in the lower extremities, with difficulty in walking. The disease of the nervous system was recognized earlier in the man.

Through the courtesy of the late Dr. Wharton Sinkler, of Dr. Morris J. Lewis and of Dr. John K. Mitchell, I have been permitted to examine the dispensary records at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, and among 244 cases of tabes dorsalis seen during sixteen years I have been able to find only two instances in which the disease occurred in husband and wife. One of these is that of the colored man and woman already reported by Francine.[5] The other is herewith reported:

A woman, 45 years old, came to the clinic of Dr. John K. Mitchell June 12, 1905, complaining of pain in the lower extremities of three years' standing, incontinence of urine for two years, difficulty in walking for one year, paresthesias of the lower extremities, with swaying station, ataxic gait, incoordination in the upper extremities, abolition of knee-jerks, ankle-jerks and elbow-jerks, pin-point pupils, reacting neither to light nor in accommodation, and grayish coloration of the optic disks. Her husband, who did not apply for treatment and insisted that there was nothing wrong with him, but admitted having had a chancre earlier in life, presented markedly contracted pupils, apparently reacting in accommodation but not to light, swaying station and abolition of knee-jerks. He was able to go on with his work as a pattern-maker.

CONCLUSIONS

Syphilis is a common disease. It is the most important, if not the essential, cause of tabes dorsalis (and of paretic dementia). Tabes and paresis may be considered expressions of the same morbid process, in the one instance affecting especially the spinal cord, in the other especially the brain. Sometimes they occur together in the same patient. The disparity in incidence of the two affections may be due to individual predisposition or to some peculiarity of the syphilitic virus. Negroes rarely, if ever, develop tabes, though they are frequently syphilitic. Sometimes several members of a family develop tabes or paresis, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents, together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first, the latter subsequently. A moderate number of cases have been recorded in the literature.

1019 Spruce Street.

THE GASTRIC WEAK LINE IN WOUNDS OF THE ABDOMINAL WALL*

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After operations on the stomach the wound of the abdominal wall sometimes opens unexpectedly a few days after operation. There is no evidence of sepsis, and primary union appears to have taken place in advance of the accident.

If the patient survives, tardy repair follows, with little tendency to free granulation and suppuration. The discharge from the wound surface at first is sero-sanguinolent. Such cases have occurred in my own practice from time to time, and conversation with surgeons indicates that all of us are more or less familiar with the subject, but no one seems to have an explanation for the frequent occurrence of this complication after stomach operations, which is out of proportion to somewhat similar failures of union noted after operations elsewhere in the body, and in some cases explainable, no doubt, along the lines to be noted presently.

Recently I had one such case at the Post-Graduate Hospital after separation of pyloric adhesions. and

* Read at the fourteenth annual meeting of the American Gastro-Enterological Association, Philadelphia, April 19, 1911.

another in the Plant Pavilion at St. Luke's Hospital following a pyloroplasty. The house surgeons at both hospitals informed me of two other similar cases at the same time in the practice of other surgeons.

These four cases, coming to my knowledge simultaneously, made it desirable to seek for an explanation for an accident which would seem to call for special description.

Dr. Edward Preble was engaged to study the literature on the subject at the library of the New York Academy of Medicine, and reported that nothing relating directly to the subject could be found.

REPORT OF CASE

History.—The case on which the following remarks are based was that of the patient at the Post-Graduate Hospital, C. J., aged 45, a baker, well nourished, except that he had lost 11 pounds in weight during five weeks before his coming to the hospital. He had suffered from epigastric pain, constipation, morning vomiting, and acid dyspepsia. He was admitted to the service of Dr. Edward Quintard on Jan. 16, 1911. Dr. Ludwig Kast made a series of examinations of the stomach with the aid of the fluoroscope and bismuth solution in the stomach, and reported interference with stomach motility at the pylorus; he thought that the patient very likely had at that point a scar of an old ulcer. A certain shadow at one time suggested the presence of a tumor, but no tumor was palpable. My own impression was that he had a case of adhesions of the bile-tract region, engaging the pylorus. The patient under medical treatment while at the hospital gained seven pounds in weight, but symptoms continuing, he was transferred to my service on February 1.

Operation.—I made a mid-line incision and separated the extensive adhesions about the pylorus, of the type which I have described as "cobwebs of the attic of the abdomen," due apparently to the influence of toxins excreted by the liver, or to local infection. A sheet of Cargile membrane was applied to the area from which adhesions had been separated, to prevent recurrence.

Postoperative History.—The wound was dressed for the first time February 3, and primary union reported. Four days later the wound suddenly opened for a distance of four inches through the skin and superficial fascia. There was no local evidence of inflammation. The patient left the hospital a month later with a wound which had tardily progressed toward repair.

Shortly after the wound opened it occurred to me that evidence of some trophic fault was sufficient for investigation along the lines suggested by Head,[1] relating to certain superficial zones which are known to be irritated in connection with irritation of different viscera. Ross and Sherrington had previously shown that with certain kinds of visceral disturbance an impulse was sent along afferent nerves to definite segments of the spinal cord, and referred along the somatic nerve distribution from such parts of the cord, giving areas of skin tenderness.

Head arranged these areas in zones, and showed that when we have ulcer of the stomach sensory nerves of the skin are irritated in a zone which forms a triangle, the base of which is at the linea alba, extending between the ensiform cartilage and the navel, with its apex at the ninth intercostal space.

It seemed to me we might assume that trophic nerve disturbance or neurovascular disturbance would occur in the same superficial area along with disturbance of the sensory nerves, and that could account for the failure of repair in the area of the stomach zone of Head. On examining the right Head zone of this patient with the point of a pair of dressing forceps I found instead of hyperesthesia a distinct lessening of sensation in the right Head zone, but in the left zone two small points of hyperesthesia.

On the following day one of my assistants, Dr. Freudenthal, made an independent examination, not knowing of mine, and said that he seemed to find diminished sensation in the right Head zone, and no point of hyperesthesia.

At this time the patient was rapidly recovering from the source of irritation at the pylorus, and it is probable that we had in the superficial zone a disturbance different from that which might have been found just in advance of the operation, or immediately afterward.

Subsequent examination of this patient by Dr. Freudenthal, Dr. Kast, and myself indicated that sensation in the stomach Head zone was practically normal. We seem, however, to have rather good evidence that the trophic nerves, which are distributed along with the sensory nerves of the superficial area, are irritated simultaneously with the sensory nerves, and this leads to failure of repair in these wounds after stomach operations.

Dr. Kast suggested that contributory testimony would be furnished by applying cantharides cerate on a point within the Head zone and on a near-by part of the body in order to note the comparative character of reactions. Shortly afterward he applied cantharides cerate for six hours at a point in the Head zone of a case of gastric ulcer in a chlorotic young woman, and in a case of angina pectoris in a man, 57 years of age.

There was a distinct difference between cutaneous reaction within the Head zone and at the distant test area. Reaction was more intense within the Head zone and lasted twenty-four hours longer than in the distant test area.

A third case in which Dr. Kast experimented showed no difference in reaction at two test points, but the two positive cases seem to offer definite testimony in support of my theory that the failure of repair in wounds of the abdominal wall after stomach operations is due to trophic or neurovascular disturbance associated with sensory nerve disturbance in the stomach zone of Head.

616 Madison Avenue.

1. Head: Brain, vols. xvi, xvii, xix, 1893, 1894, 1896.

CHRONIC LEAD-POISONING: REPORT OF A CASE

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RANDOLPH, N. Y.

The following case which occurred in my practice is, I believe, fairly typical, the source very plain, and readily illustrates that ignorance plays a prominent part in the causation of lead-poisoning.

The patient in my case, who had no idea that lead was poisonous, was one of sixteen girls working at the same occupation of sealing tin cans. More cases were undoubtedly averted by the recognition of this case and explanation to the others of the cause of their companion's illness.

The circulation of printed information among employees where the various preparations of lead are used would probably eliminate a certain per cent. of cases. Medical inspection, as Hamilton[1] says, would of course be ideal.

History.—E. F., aged 16, employed in a milk condensery, sealing cans, complained of cramps and vomiting and weakness

1. Hamilton, Alice: Lead-Poisoning in Illinois, THE JOURNAL A. M. A., April 29, 1911, p. 1240.

of arms and hands, which began about two months previously, the first symptoms being more or less loss of appetite, constipation and bad taste in the mouth, especially in the morning. She consulted a physician and was treated for stomach trouble but failed to get any relief and steadily grew worse. "Cramps" in the stomach began to appear and later were accompanied by vomiting. About a week before being seen by me, the patient began to notice that her hands and arms were weak and she could not handle the soldering-iron as well as usual. This weakness progressed until she became unable to dress herself; appetite was practically lost and constipation was marked.

On questioning I found that another girl "dropped" the solder, and it was not until next day that she told me about "playing with the solder," as she expressed it, by which she meant that she kept three or four of the smaller pieces in her mouth and chewed them nearly all the time during working hours. Occasionally she swallowed some of the smaller particles.

Physical Examination.—The patient was a fairly well-nourished and developed girl, although there has been a constant loss of weight, and marked pallor was present. The teeth were in fairly good condition; breath sweet and foul; tongue coated white; gums along gingival border showed marked redness and sponginess, although no blue line was present. With arms extended there was marked "wrist-drop," especially on the right. (The patient used the right hand to hold the soldering-iron.) The left hand could be extended so as to bring it in line with the forearm, but no more, and this with difficulty. No extension was possible in right hand. The thumbs of both hands could be abducted and some supination was possible, showing that there was little involvement of the extensor longus pollicis and the supinator longus. The reflexes were practically normal. The lungs were normal.

The heart showed slight enlargement of left border; no thrills or murmurs; arteries palpable; blood-pressure 130; slight tenderness over the epigastrium; otherwise the abdomen was negative. Urine was acid, specific gravity 1,016, albumin, slight trace; no sugar; occasional hyaline cast. Lead test not made.

Blood: Hemoglobin, 70 per cent.; red cells, 3,100,000; white cells, 7,000. Differential practically normal. Basic degeneration of red cells was rather marked.

Treatment.—The patient was placed in bed and given a soft diet. Free catharsis was obtained with magnesium sulphate, the bowels moving two to three times daily. Copious quantities of fluids were given by mouth. Warm baths were given daily. No other medicines or medicinal measures were used for about a week. During this time the temperature remained subnormal. The pulse averaged between 60 and 70. The paralysis of the forearms remained stationary, with very little muscular atrophy, but the extensors of the toes and peronei of both sides became involved. I could make out no paralysis of the tibialis anticus. The stomach symptoms had improved markedly, so the patient was placed on potassium iodid, 30 gm. three times a day, after meals. The improvement was marked and a steady gain followed. The legs cleared first, then the arms. Faradism, massage and an elixir of iron, arsenic and strychnin materially aided the convalescence. At the time of making this report the patient is well, has gained 15 pounds in weight and has been working in her old position nearly two months.

A few words of instruction at the beginning of her employment might have saved several months of poor health and a period of confinement.

Toleration for Nicotin.—In a paper read before the Philosophical Society of Cambridge, England (abstracted in *Nature*, March 16), after noting that one form of toleration for chemical substances is associated with their oxidation and destruction, W. E. Dixon showed that normal animal tissues have the power to destroy a small amount of nicotin, but this is considerably increased by an acquired tolerance. There is evidence, he said, to show that this is not due to chemical combination with the tissues, but that, on the contrary, it is caused by ferment action

A NEW METHOD OF DIAGNOSIS OF ACUTE INTESTINAL OBSTRUCTION BY THE STOMACH-TUBE

HARRY G. WATSON, M.A., M.D.

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NEW YORK

When the physician is called to a patient with a history of vomiting, the vomited material has usually been thrown away, its character being unnoted. The patient cannot always vomit in the physician's presence, and if she does it may not be characteristic. These facts were recently impressed on me when called by Dr. Charles F. Hunt to see a patient. The case illustrates forcibly the value of the stomach-tube in making a diagnosis of acute intestinal obstruction.

History.—A married woman, aged 45, had been in perfect health, except that twelve years previously she had an abdominal operation for some pelvic inflammation, for which it was necessary to use drainage-tubes for several weeks, thereby causing many adhesions, which, no doubt were the cause of the present trouble. She had been in Philadelphia on a visit, had eaten a good German dinner, which she fully enjoyed, and returned Sunday evening about 9 o'clock. She felt so nauseated and distended with gas that she took two enemas with good results. But the pain in the abdomen increased and she began to vomit. Her family physician was called at 11 o'clock and gave treatment for acute indigestion. The patient was no better on Monday, was worse on Tuesday, and I saw her at 11 o'clock Wednesday morning. She was in good condition, temperature 99 F., respiration 30, pulse 100. The diagnosis was still acute indigestion. She complained of considerable pain in the abdomen, was so full of gas, as she expressed it, that she could hardly breathe. She had been vomiting at times, but none of the vomitus was saved. There had been no fecal vomiting, so far as the physician and nurse had noticed. The stomach was thought to be empty.

Examination.—I obtained a splashing sound down to the pubes. Diagnosis was acute dilatation of the stomach. I passed a stomach-tube, and to my surprise expressed over two quarts of a dark brown fluid with a fecal odor. On examination it was found to be fecal. A diagnosis was then given of acute intestinal obstruction and a surgeon advised to be called in immediately, which was done.

Operation.—Dr. Henry M. Silver saw the patient at 1 o'clock with Dr. Hunt and myself. He concurred in the diagnosis, and the patient was operated on that evening. It was found at operation that the ileum was being strangulated by a small band of adhesions about the size and shape of a mouse's tail. The intestines were very much distended, and it was difficult to relieve the constriction, owing to the many adhesions, which were due to the previous operation twelve years before.

The patient was back home again in two weeks, and feels perfectly well to-day.

I would therefore suggest, as an aid to diagnosis in these acute abdominal disorders, that the stomach-tube be passed from hour to hour, and the contents carefully examined. If they are of a dark brown color with a fecal odor, ruling out peritonitis and other acute conditions mentioned above, then a definite diagnosis of acute intestinal obstruction can be made, and immediate operation should be advised. By this means the terrible mortality would be lessened, many patients would be spared, and they would rise up and call him blessed—the physician with his stomach-tube.

78 Irving Place.

Therapeutics

ACUTE DYSENTERY

Acute dysentery is an inflammation of the large intestine, throughout either the whole or a portion of its extent. Sometimes the lower part of the small intestine is coincidently inflamed. The disease is generally caused by bacteria, two of which have been specifically isolated, a bacillus and an ameba. The disease is, therefore, more or less infectious, and may be transmitted to others. In other words, it is communicable, as is typhoid fever.

The disease is characterized by mucus, blood and purulent discharges from the rectum, accompanied by much straining, colicy pains, and tenesmus.

Predisposing causes to dysentery are hot climate, the summer and autumn seasons, filth, defective hygiene of all kinds, overcrowding in camps and prisons, combined perhaps with high temperature and fatigue, with impure and insufficient food and an impure water-supply.

More males suffer from this disease than females, probably because they are more exposed to the conditions which develop it. Bacillary dysentery especially is likely to occur in epidemics, although sporadic cases are not infrequent. When dysentery occurs sporadically it is generally more amenable to treatment.

The general symptoms of acute dysentery are mild fever, a variable pulse, at times rapid or weak from exhaustion, with a tendency to collapse turns; the movements are frequent and exhausting. The nearer the rectum the inflammation is, the more intense is the tenesmus and the more constant the desire to strain, with resulting small movements and but little relief. The higher up the inflammation is in the large intestine, the more frequent the griping and abdominal pain. The stools consist of large masses of mucus mixed with feces, and later mucus, more or less blood-streaked, perhaps without any fecal matter at all. Later, slight hemorrhages occur, depending on the amount of ulceration or erosion of the membrane, and finally pieces of membrane are passed similar to diphtheritic membrane. The tongue is coated, but generally moist, unless a large amount of fluid is lost. If the progress of the disease is unfavorable, the temperature is likely to rise higher; otherwise it remains low. If the disease long continues and the movements are frequent and profuse, a typhoid state develops.

BACILLARY DYSENTERY

The so-called bacillary dysentery may apparently be caused by different strains of bacilli which, while resembling each other in many important particulars, still are distinguished by certain differences in reaction. The most common variety of bacillus found in the stools of bacillary dysentery are distinguished as the bacillus of Shiga and the bacillus of Flexner.

The objects of treatment are to reduce the frequency of the movements, to stop hemorrhage, to soothe and heal the inflamed surfaces, to add no new irritant to the inflammation such as maldigested food, to reduce peristalsis, to give the patient as well as the intestine rest, and to support the heart. In estimating our success in accomplishing these ends, it must be remembered that the duration of a mild case is from eight to ten days, but the disease may last three weeks. Relapses are not frequent. Complications are not to be expected, and most deaths are due to prostration and collapse.

The treatment may be subdivided into general and local. By general treatment is meant rest, general care of the patient, the diet, and the care of the bowels.

Absolute rest in bed, physical and mental, should be insisted on from the beginning until convalescence is completely established. Sitting up or walking about will make a mild case serious, and if allowed too soon in convalescence may cause relapse.

Daily hot water sponging is of benefit, and if there is the slightest tendency for the patient to be cold, the extremities, and especially the feet, should be kept warm with hot water bags. The bed-clothing should be heavy enough to protect the patient from cold, and should include a woolen blanket. The same amount of fresh air and sunlight should be given these patients as is advised in typhoid fever.

The food should be of such a character as to be easily digestible and to leave but little residue to be passed on through the intestines and into the large intestine. While many times milk may be one of the most satisfactory diets, perhaps the best food consists of meat broths with egg albumin or, if the patient has but little fever, small portions of scraped, broiled beef, which leaves but little débris for the large intestine. In other words, a diet of a little easily digested meat, one or two eggs, and a small portion of milk is better than a great deal of milk alone. Also, milk frequently causes an undesirable amount of intestinal gas. Milk predigested by the use of pancreatin may obviate this tendency. If milk is desirable but is distasteful, it may be diluted with Vichy; or the milk may be given hot and salted. The milk given must be known to be pure and uncontaminated. If there is doubt, it must be pasteurized. Tea and coffee may be allowed at such times of the day as not to disturb the sleep. While large amounts of water are inadvisable and iced water should not be given, still, if much water is lost by the stools, the amount must be equaled by that which is ingested; otherwise the patient's tissues lose water, the blood-vessels lose water, the urine becomes concentrated, the skin dry, and the patient suffers from this deprivation of water, and such a condition alone may be the cause of death. Preferably, liquids or foods should be given hot, as anything cold entering the stomach is likely to start peristalsis. It may be advisable to give some thin cereal gruel once a day, at least if the disease lasts more than a week.

As soon as convalescence is established, broiled lamb chops, roast beef, and the white meat of chicken may be added to the diet. All solid food should be thoroughly masticated and the digestion may be hastened by giving a few drops of hydrochloric acid directly after meals. As convalescence progresses favorably, toast, stale bread, and boiled rice may be added to the diet, and later baked potatoes. The first fruit that is allowable is either lemon or orange juice.

Most of these patients need alcohol, not only for its beneficial effect in dilating the peripheral blood-vessels, but as a nutriment. The amount should not be large, not more than one or two teaspoonfuls once in three hours, and brandy is probably the best form in which to administer it.

Strychnin should be avoided, if possible, as tending to increase peristalsis, and it should be remembered that strychnin is not a cardiac stimulant. It is a stimulant to the nervous system, and the decision should be carefully made whether that action from strychnin is desired. This is the age of the over-use of strychnin, and such use of it should be abated.

The care of the bowels other than the local treatment of the inflammation or the treatment of the disease itself is important. A calomel purge should be administered in the beginning, followed by a saline, as Rochelle salt or something similar, this to cause a clean small intestine and a complete evacuation of the large intestine. Subsequently there is probably little necessity for administering a laxative. However, it is often well to give a dose of castor oil once in several days, not only for cleaning out the bowel and then having subsequent rest, but for its actual soothing effects. If it is deemed best not to give the full dose of calomel (and it is better to give one sufficient dose of calomel than small divided doses) the sulphate of magnesium may be used, given in doses of 4 grams (1 dram), and repeated every two hours until the movements become odorless and watery.

There can be no question of the advisability and necessity, as soon as the bowels are known to be thoroughly emptied, of stopping the movements for a certain number of hours by morphin, best given hypodermatically. The frequency of its administration is determined by its action and by the amount of pain.

Locally the condition is a surgical one. There is an inflamed, perhaps ulcerating, mucous membrane, a large sinus, which we can in a way treat satisfactorily. It should be remembered, however, that this sinus has great absorptive powers; therefore, medicaments must not be used too strong, nor should we use poisonous antiseptics. Whether high colon washings will go as far as the ileocecal valve is not now under discussion, but certainly the ascending colon and perhaps the transverse colon may be washed and cleansed of irritants. This large sinus (colon) may be irrigated with plain boiled water to which a small amount of salt has been added, as a teaspoonful to the pint, with or without a teaspoonful of boric acid, and this solution should be used either tepid or warm, if there is prostration. If but a small amount is used and there is much fever, it may be used cold. After the fecal matter and mucus have been washed away and the returned solution is clean, the colon may be treated with a weak permanganate of potash solution, as 1 to 10,000; or a 1 part to 8 of peroxid of hydrogen solution may be used. The frequency of such irrigation depends entirely on the case. Once a day in the first part of the disease is generally sufficient, and later such colon washing may be done once or twice a day, depending on the amount of benefit resulting. These washings will sometimes stop the movements of the bowels for hours, even without morphin. If followed by a hypodermatic injection of morphin rest, both of the patient and of the intestine, is prolonged.

If the disease progresses and immediate healing of the inflammation does not occur, and actual ulceration seems to have developed, as shown by the amount of bleeding, an occasional irrigation of nitrate of silver, 1 part to 1,000 (not more than one pint at any one time, viz., 0.50 gram (7½ grains) to a pint of water) is of benefit. Such an injection should be given but once in four or five days, and if the liquid does not immediately flow out of the colon a solution of salt should be immediately injected. The salt forming an insoluble sodium chlorid, will prevent any poisonous absorption of nitrate of silver.

Sometimes injections of bismuth subcarbonate solutions or suspensions, or starch water are of benefit. Certain it is that properly used colon washing will cause the number of movements to be reduced to at least one where there were three or four before.

If there is severe rectal tenesmus, small injections of one or two ounces of ice-water are of value. Or the insertion of small pieces of ice will relieve; or, of course, a suppository of morphin may be used.

If one believes that bismuth administered by the mouth will medicate the colon in any soothing way, he may give the subcarbonate of bismuth in 1 gram (15 grain) doses, at two, three, or four hour intervals. Very large doses have been recommended, but smaller doses frequently repeated are probably of as great advantage. However, as just stated, unless there is coincident small intestine inflammation, it seems perfectly valueless to give bismuth by the mouth for sedative effect in the colon.

If there is fermentation in the small intestine, and there is no congestion of the kidneys, salol, given in 0.20 gram (3 grain) doses as a dry powder or as a dry powder in a capsule, once in from four to six hours, will prevent such fermentation.

As above stated, morphin should be given in sufficient doses to give the patient more or less intestinal rest. Whether or not this morphin is combined with atropin depends on the frequency of its administration. Atropin should not be repeated so frequently as morphin may need to be. Also, if there is any idiosyncrasy to atropin it, of course, should not be repeated.

If the pain is not severe and the frequency of the movements not great, and the stomach is in good condition, instead of administering morphin hypodermatically, a small dose may be administered by the mouth, or codein or the tincture of deodorized opium may be substituted and given by the mouth.

Various external applications to the abdomen are often useful. These may consist of hot flannel applications, dry or moistened with a small amount of alcohol or turpentine. Sometimes a hot water bag, partially filled and not too heavy, is agreeable to the patient. At times, a counter-irritant action as produced by a weak mustard paste composed of three parts of flour or linseed meal with one part of mustard is useful; or a hot flaxseed poultice may give considerable relief from intestinal pain.

One would be guilty of neglect who left this subject without saying a few words in regard to the prevention of the spread of the disease. As the bacilli which cause the disease are found in the feces, it is very necessary that great care should be used in disposing of these as they come from the patient. They should be disinfected with equal, if not greater, care than the fecal discharges from typhoid patients. Any clothing, either personal or connected with the bed, which becomes contaminated with fecal discharges, should be disinfected and boiled before it is handled.

It has been found that some patients who have had dysentery retain the ability to disseminate the bacilli long after the acute symptoms have passed away, as do some patients who have passed through an attack of typhoid fever. These individuals are called dysentery carriers. It has been found that these patients are chiefly those who have ceased treatment early during convalescence and who have never completely recovered from the disease, but who have been subject to relapses at more or less frequent intervals after passing through the acute stage of the disease. This indicates the urgent necessity of keeping convalescents from dysentery under close observation and careful treatment until they have thoroughly recovered, and of impressing on the patient the necessity of taking care of himself and preventing any possible relapse.

(To be continued)

TREPHINING FOR APOPLEXY

JOHN D. MILLIGAN, M.D.
PITTSBURG

There has never been a time in the history of man when certain morbid conditions affecting both sexes were not classed as incurable. The list grows less, however, and there is every reason to believe that by careful and patient work an epoch may yet be reached when we may be able to successfully attack many, if not all, of these affections with reasonable hope of retrieving the sufferer and restoring him to the normal.

Until recently, among these conditions much was left to medicine alone, but the list is growing less by the intervention of the art of surgery, which has reduced the list very materially.

Prominent among those of frequent occurrence is hematocele of the brain (apoplexy) due to rupture of Charcot's "artery of cerebral hemorrhage," accompanied by hemiplegia, aphasia, etc., producing pressure symptoms rather than destruction of brain tissue. We know that if we can remove this morbid focus, we shall relieve the pressure symptoms, and restore the condition to the normal.

Shall we sit idly by and trust to have absorption take place with the result that a brain scar or an unabsorbed brain cyst may remain, and the patient have hemiplegia and aphasia for life? Were this a case of intestinal perforation or rupture in tubal pregnancy, or injury to the heart itself by stab or other wound, the promptness of the surgeon's activity would decide the fate of the patient. And with the now established success of the various operations which even in our short lives have become standardized, shall we stop and debate the question as to whether we shall trephine and remove the clot? Reasoning that in the hematoma of the brain the first seventy-two hours is likely to decide the fate of the apoplectic, granting that he survives the shock, the patient will be found generally in better condition for operation than the patient in the usual case of traumatism of the head. The clot has already become firm and the serum has fairly well separated; the likelihood of further hemorrhages is lessened; the ruptured vessel has been well plugged, and the clot will not be detached without careless handling. Each day thereafter for a limited time, say ten days from the attack, it is still more favorable, and the surgeon can elect the time for operation. As the technic improves, and as the proper time to operate becomes more definitely known, the percentage of fatal cases will become less.

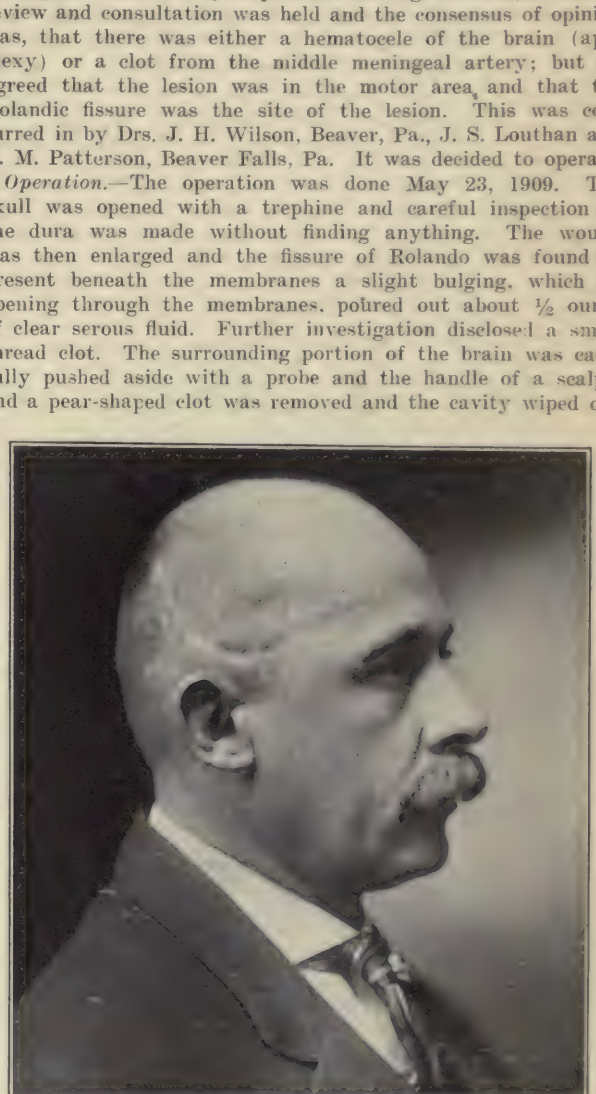
CASE REPORT

History.—E. N. S., freight conductor, aged 42, right-handed, was in the act of stepping from the step of the engine to the ground at Ellwood Junction, May 12, 1909, about 12:50 p. m., when he fell in a heap and rolled over. As the tender passed, it was believed that he was struck by the axle box on the right temple. He was picked up and found to be unconscious, and was at once taken to the Beaver Valley General Hospital, Rochester, Pa., and came under the care of Dr. J. S. Louthan and Dr. R. M. Patterson, of Beaver Falls, Pa. This was 3 p. m., May 12, 1909.

Examination.—The following symptoms were present: The patient was semicomatose, could be roused with an effort, but was incoherent, with aphasia and hemiplegia of the left side present. A slight redness, not even sufficient to be classed as a contusion, was found on the scalp above the ear on the right side and no other marks of injury; sphincters were relaxed, and urine voided unconsciously; stupor increased, with stertorous breathing; following along for three or four days, there was some muttering delirium. The patient made many attempts to get up, or rather to roll out of bed, but was restrained easily. The Babinski sign was present in the left foot; vision affected; hemianopsia present. No fracture of the skull could be found. I saw him with the other physicians May 16, 1909.

Eleven days after the patient was admitted, May 23, 1909, no improvement of any importance having occurred, a careful review and consultation was held and the consensus of opinion was, that there was either a hematocele of the brain (apoplexy) or a clot from the middle meningeal artery; but all agreed that the lesion was in the motor area, and that the Rolandic fissure was the site of the lesion. This was concurred in by Drs. J. H. Wilson, Beaver, Pa., J. S. Louthan and R. M. Patterson, Beaver Falls, Pa. It was decided to operate.

Operation.—The operation was done May 23, 1909. The skull was opened with a trephine and careful inspection of the dura was made without finding anything. The wound was then enlarged and the fissure of Rolando was found to present beneath the membranes a slight bulging, which on opening through the membranes, poured out about ½ ounce of clear serous fluid. Further investigation disclosed a small thread clot. The surrounding portion of the brain was carefully pushed aside with a probe and the handle of a scalpel and a pear-shaped clot was removed and the cavity wiped out carefully. At about the location of Charcot's "artery of cerebral hemorrhage" was found a small firm clot adhering to the side of the cavity, which was carefully left. A small wick of iodoform gauze was placed as a drain and the wound carefully closed and antiseptically dressed. The drain was removed on the fourth day and the wound healed without any symptoms.



E. N. S., trephined for apoplexy; from photograph taken March 23, 1911, twenty-two months after the operation and sixteen months after resuming his duties as a freight conductor.

Result.—After the operation there was slow improvement for the first week and then improvement was more rapid, the patient regaining consciousness June 6, 1909, twenty-five days after the accident and fourteen days after trephining. Paralysis was first to disappear in the left leg, then the arm. The Babinski sign was not observed after the end of the first week. Aphasia slowly disappeared by the time he left the hospital.

The hemianopsia was present for some time, and after examination Dr. Robeson reported that the apparent atrophy due to pressure was likely to remain for a long time. But improvement was steady and at the end of six months the patient had been restored to perfect vision. He was in the hospital fifty-nine days and went back to work Nov. 23, 1909, six

months after the operation, and has been continuously at work ever since. He had no recollection of anything from 10 p. m., May 11, 1909, which was about fifteen hours before the accident, until June 6, 1909, which was twenty-six days.

A SIMPLE TECHNIC FOR SALVARSAN INJECTION *

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The following technic for preparing and injecting salvarsan has been followed to date (April 25) in twenty-seven intramuscular and forty-four intravenous injections in forty-seven cases, mostly in the military service. There will be required two, or better three, 50-c.c. glass cock burettes and stand, 10-c.c. glass syringe for intramuscular use, and large and small flasks as indicated. The other accessories will be found in the well-equipped office or dressing-room or may be improvised.



Position of patient in intravenous injection.

The burettes are wrapped in gauze and sterilized in the kitchen oven, keeping a gauze stopper in the open end. The other articles that require it are sterilized according to the means at hand. The sodium hydrate solution should not be heated but prepared under aseptic precautions. A 50-gm. specific gravity flask with solid glass stopper and containing glass beads is used for dissolving and titrating as a mortar or other open vessel is more or less of an invitation to infection. Hot water should not be used in dissolving the powder, as it is an unstable compound which depends for its efficiency on this unstable formula and it is certainly not logical to provoke chemical action by applying heat. Dissolving in water at room temperature, the entire procedure of an injection need not take over one-half hour.

The alkaline solution is preferred for both injections; it is dissolved in 10 c.c. sterile water with constant rotary motion of flask and titrated slowly with normal sodium hydroxid solution, using same motion, carrying it just beyond the faint orange red tint to the point at which only one or two minute flocculi remain. No acid is used nor has litmus or phenolphthalein been found necessary since the first few times. As the sodium hydrate solution is not stable, dependence cannot always be placed on using a definite quantity of this solution. The titrated solution is diluted with sterile normal salt solution (physiologic) to 20 c.c. for intramuscular injection and about 250 c.c. for intravenous use. Should the latter solution not remain clear, a few more drops of sodium hydrate solution will be required.

Capt. R. H. Pierson, Medical Corps, U. S. A., has most kindly assisted in the intravenous injections, using his method, which I have not seen otherwise described. The patient is placed as shown in the illustration; tincture of iodin is applied to the flexor surface of the forearm; a tourniquet is placed above the elbow and with an ethyl chlorid spray the selected vein is frozen to the skin (better one away from the exact bend of the elbow), when no difficulty or pain is ordinarily experienced in passing a 3-inch 17-gauge needle directly into the vein. Without freezing the vein may evade the needle. Blood flows from the needle when the vein is entered and with the salvarsan or salt solution flowing gently from the small rubber catheter attached to the burette, the connection is established, the tourniquet is removed and the warmed solution is allowed to enter in from five to ten minutes. The burette should have been previously warmed.

Cutting down on the vein is a more painful and tedious process, the point of incision remains tender longer and following the manipulation and ligation it would seem that there is more possibility for untoward results. The solution should not be brought into contact with the subcutaneous tissues or healing will be delayed. Following this injection the patient is caused to lie down for a few hours and is returned to duty the following day. In this manner 0.5 to 0.6 gm. doses have been given with no ill effect throughout this entire series. Reactions may be expected in a certain number, and consist of malaise and even chills, fever, vomiting or diarrhea but will pass away in four or five hours. Others show no after-effects. Urticaria has appeared two times during injection and lasted two hours. The blood-pressure should not be high from recent exercise, and with marked arteriosclerosis some attention should be previously paid the matter of blood-pressure.

The intramuscular injections should be made slowly and with all aseptic precautions in the upper and outer parts of both gluteal regions. The reaction appears later and may last longer. The average time in bed for twenty-four patients was five and one-half days. It would be somewhat less in civil life. The patient should stay in bed until the local reaction has subsided. In the seventy-one injections to date only one untoward result has occurred and that among the intramuscular series. A woman went to her home and on the third day rode a long distance in a wagon over rough roads and bruised the buttocks. One abscess developed, which was very slow in healing.

It is not believed that either of the two methods should be used to the exclusion of the other and both should frequently be used on the same person. The Wassermann reaction will indicate the necessity for repeated injections.

* Portion of paper delivered before Portland City and County Medical Society, April 5, 1911, Portland, Ore.

THE HOME OF THE ASSOCIATION

A BRIEF HISTORY OF THE MATERIAL PROGRESS OF THE ASSOCIATION AND ITS PLANT



Fig. 1.—View of the Association buildings. A comparison of the new and old buildings will give a slight indication of the growth of the work of the Association. Fig. 2.—The vestibule with the marble stairway and wainscoting. Fig. 3.—The main hall on the first floor, showing the passenger elevator, the stairway and the door to the printing department. Through this door all employees of the mechanical department enter; access is had through it to the composing-room on the second floor, to the bindery on the first floor and to the pressroom in the basement. The mechanical department is thus completely separated from the business and editorial departments.

CHAPTER IV.—THE EQUIPMENT

The story of "The Home of the Association," three chapters of which were printed last fall, was discontinued on account of delay in the completion of the new building at the time set. The building was practically completed and ready for occupancy in January last, when the commencement of the transfer of the plant was made; this transfer was completed in February.

In the last article, published Nov. 12, 1910, the important structural features of the new building were described, although some of the features had not been mentioned.

The building, as completed, is fire-proof, and sufficiently strong to support practically any weight that may be placed on any floor. Fire protection for the contents is provided by standpipes running from the basement to the roof, with connections on every floor, to which is kept attached fire hose sufficient to reach any part of the floor, ready for instant use by anyone. There are both front and back stairs, each absolutely fireproof. The front stairway is made of marble, slate and steel; the back stairway of steel and concrete. The doors and windows leading from both front and back stairways are of wire-glass and metal, no wood whatever being used.



Fig. 4.—A view of one corner of the pressroom, showing flat-bed perfecting press in the foreground.

One enters the building (Fig. 1) through a terra-cotta doorway in the northwest corner of the Dearborn avenue front, and finds a beautiful white-marble vestibule and stairway (Fig. 2). From this one enters the main hallway (Fig. 3) in which is the passenger elevator and from which starts the main stairway to the floors above.

In this main hall, also, is the "employees' entrance" leading into another hall from which entrance is made to the bindery and mailing room on the first floor, to the composing and stereotyping rooms on the second floor, and to the press-room in the basement. In this way the mechanical or printing department is completely separated from the office part of the building.

Basement

PRESSROOM

The pressroom is the largest room in the building, since it includes space underneath the sidewalk on the west and south. The floor area of this room, exclusive of the boiler- and coal-rooms, is 80 by 140 feet. The ceiling is 14 feet high. Mr. Frank Counihan is in charge. The room is splendidly lighted; in fact, it is the best-lighted pressroom in the city, if not in the country. In this pressroom there are eight large presses. Two of these are rotary perfecting presses (Fig. 6), and one is a large flat-bed perfecting press (Fig. 4), each of which prints thirty-two JOURNAL-size pages at a time. In addition there are five ordinary cylinder presses (Fig. 5). The flat-bed perfecting press, mentioned above, was the first large press bought and was considered, at the time—ten years ago—as being quite an advance in our equipment. Attached to it is an automatic feeder: it will print from 1,500 to 1,800 thirty-two-page signatures (that is, sheets which will be folded to make that number of pages) an hour.



Fig. 6.—One of the two magazine cylinder presses; each will print and fold 5,000 thirty-two-page signatures an hour, or 10,000 sixteen-page signatures.



Fig. 5.—View of the east end of the basement, showing the row of cylinder presses for reprint and pamphlet work.

The two most important additions to the pressroom are the rotary presses. One of these was bought about five years ago. The other has just been installed. Each of these presses prints and folds 5,000 thirty-two-page signatures an hour, or 10,000 sixteen-page signatures an hour. The new rotary press is the most perfect of its kind. Formerly, half-tones and fine illustrations had to be printed on flat-bed presses; now this kind of work can be done on the new rotary press.

The sizes of the sheets that can be printed by the five cylinder presses vary from 26 by 41 inches to 37 by 53 inches. Each of these will print from 1,800 to 2,000 impressions an hour. They are hand-fed.

In addition to these presses there are three platen presses on the second floor (Fig. 18). On these are printed the smaller pieces of work, such as stationery, record cards, small circulars, small reprints, the covers of reprints and pamphlets, etc.

In one corner of the pressroom is an electroplating plant. Here the stereotyped plates, after they come from the stereotyping room, are plated with nickel. The stereotyped plates have a soft face and are good for only about 20,000 impressions; by nickel-plating them, the type-face is hardened so that 100,000 impressions might be made from them.

In the basement is the storage-room for paper. To print THE JOURNAL and the various other publications, nearly twenty-five tons of paper are used each week, the weekly issue of THE JOURNAL alone averaging about twenty-two tons. Special numbers require much more: the Los Angeles number, for instance, required over forty-two tons of paper. Of course it is necessary to be prepared for strikes, railroad wrecks, and other troubles by keeping in stock a fairly good supply of paper; this requires considerable storage room. The amount of paper kept in stock varies between fifty and one hundred tons.

ELECTRIC POWER

Electric power is used to run the machinery and is supplied by a public lighting-plant. Each press and machine and elevator has its own motor. There are ninety-one individual motors used in the building. The average cost of electricity a month is about $325.



Figs. 7 and 8.—Two views of the combined gathering, stitching and covering machines, in the bindery. On these three machines, which act together as one, the signatures of THE JOURNAL are gathered and stitched and the covers applied. It occupies a floor space of about 40 by 10 feet. The inventor, Mr. Charles Juengst, is the second man from the right in the upper picture. The metal fingers in the gathering machine are so delicately adjusted that if one signature contains too many or too few pages, or if they miss for any reason, the machine is automatically stopped. An iron ball on the end of a short lever flies up—one is up in the picture—and indicates where the fault is. The attendant corrects the error—thus, through the almost human agency of this device, THE JOURNAL'S readers are protected from receiving incomplete copies. The lower picture shows the covering machine. On the right are seen the journals gathered and stitched, leaving the stitcher and just entering one end of the covering machine. To the left the machine is delivering and dropping the covered journals into a trough on a moving belt, which carries them back toward the trimming table. Beyond this table are the two powerful trimming machines. After leaving these machines THE JOURNAL is ready to be mailed, as shown in Fig. 9. The bindery floor is in charge of Mr. Charles Garrett, in the upper picture the fourth person from the end of the machine on the right.

HEATING-PLANT

The coal- and boiler-rooms join the basement pressroom and extend across the court between the new and old buildings to the alley. The floor of the boiler-room is depressed ten feet below the level of the basement floor and contains two sixteen-foot high-pressure tubular boilers with a capacity sufficient for heating both the new and old buildings. In addition there is a smaller high-pressure boiler for supplying live steam to the stereotyping and other rooms. In this sub-basement are also the water-filtering and cooling system, which has recently been installed, the boiler-feeding pumps, the summer heating-plant, etc. The coal-bins are ample to accommodate 175 tons of coal, and are in close proximity to the battery of boilers.

First Floor

BINDERY AND MAILING ROOM

The bindery and mailing-room occupy the first floor. The machinery in this room (Figs. 7 to 11) will show that the Association is well equipped for doing this branch of the work. Among the interesting pieces of machinery is a group of three machines (Figs. 7 and 8) connected and working together as one, on which the "forms" making THE JOURNAL are gathered together into one book, stitched and covered. This machine includes the gathering-, the stitching- and the covering-machines. The gathering-machine is a long one, on which the various printed signatures of the publication



Fig. 9.—The mailing division of the bindery. Copies of THE JOURNAL are being wrapped and placed in mail sacks. About 900 mail sacks are used each week.

to be bound are placed in consecutive piles. When the machine is set in operation a device which acts very similarly to the human thumb and finger reaches out and grasps a signature from the bottom of a pile, drops it onto a moving belt and, as it passes on, the succeeding sections are dropped on it, each in its proper place; when the end of the machine is reached all of the sections of THE JOURNAL have been gathered together; each group passes on directly to the stitching-machine, which inserts the three wire staples. Without stopping in its forward movement. THE JOURNAL, now stitched, but coverless, travels on to the covering-machine, which applies the glue to the back, presses on the cover, counts and delivers it (Figs. 7 and 8), complete except for trimming, on a rack, from which it is removed by hand and placed on the trimming-table. This combined machine will gather, stitch and cover 4,000 books an hour, equaling the work of between forty and fifty people. This combined machine was the invention of one man. He first developed the gathering-machine, then the stitching-machine, and combined the two. This gathering- and stitching-machine was bought by the Association about five years ago and was one of the first made. The covering-machine was only recently invented and has just been obtained.

The only thing remaining to complete THE JOURNAL for mailing (Fig. 9) is the trimming of the edges.

Among the other machines in this room are two power paper cutters (in the background, Fig. 7), four folding-machines (Fig. 10) each having a capacity of 2,500 sheets an hour, one "smashing"-machine, two wire stitching-machines, one thread sewing-machine (Fig. 10), and proof-presses on which are printed the nine hundred galleys constituting the mailing-lists of THE JOURNAL, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children*. An average of nine hundred sacks of mail are shipped from this room each week.

Second Floor

The main portion of the second floor (Figs. 12 to 17) is occupied by the composing-room with its advertising, job, book and journal departments, with the linotype machines, job presses and the cases for hand setting, proof-presses, etc.

In the southwest corner of this floor are three well-lighted rooms for the use of the six proof-readers and copy-



Fig. 10.—Another view of the bindery. In the immediate foreground at the left is a sewing-machine which, when the picture was taken, was sewing together the Official Program for the Los Angeles session. To the right are the folding-machines which fold the sheets that are delivered from some of the presses. Some of the folding-machines are automatically fed, a process that always interests visitors.

holders. In the southeast corner is the stereotyping room (Fig. 12) where the type, after it is put in forms, is used to cast stereotype plates. Among the machines in this room are melting-kettles, flat and circular casting-boxes, various saws, bevelers, planers, finishing- and trimming-machines; in short, a thoroughly up-to-date, perfect stereotyping plant.

There are six linotype machines, but as there are certain kinds of typesetting that cannot be set on these machines, this is done in the old-fashioned manner by

hand. There are twelve make-up stones on which the type is assembled and the pages made up into the forms. Three job presses occupy an alcove (Fig. 18) in this room as stated elsewhere.

With the periodicals, the reprints, the various books and other publications printed by the American Medical Association, this is a very busy department and already is crowded for room.

Third Floor

Stepping from the elevator on the third floor, the visitor enters the reception room in which he finds chairs and tables, a telephone, writing materials, directories, copies of the publications of the Association, and some current magazines. Here, at a convenient window, one may pay dues and subscriptions, or purchase publications and transact other business with the cashier's department. At another window is the telephone operator and information clerk, who answers questions, calls members of the editorial staff to the reception room to greet visitors, makes appointments for interviews, etc.



Fig. 11.—General view of the bindery.

ing typewriter, an electrically operated adding machine, a burglar-proof safe, and a commodious fire-proof vault filled with filing cases and other conveniences.

The membership department maintains a card index of the membership of the Association, and closely associated with it is the subscription department. Here are card index files of the subscribers to THE JOURNAL, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children;* also mailing-lists of the entire circulation of the various publications are kept in this department and are gone over each week, additions and eliminations being made.

Advertising copy is also prepared and edited in this room. There are the usual cloak and toilet-rooms, and a stationery storage-room, steel lockers for the clerks, desks, typewriting machines, etc. The telephone switchboard connects each room in the building with the city and long-distance systems.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

On this floor is the room of the Council on Health and Public Instruction. This Council has charge of work that, until 1910, was divided among several standing and special committees. Here is preserved all material on questions of hygiene and sanitary science and on all questions regarding the relations of the profession to the public and to legislation. Pamphlets and reprints of interest to the public are prepared and sent out under the direction of this Council. State and federal laws and court decisions regarding public health matters, reports of state boards of

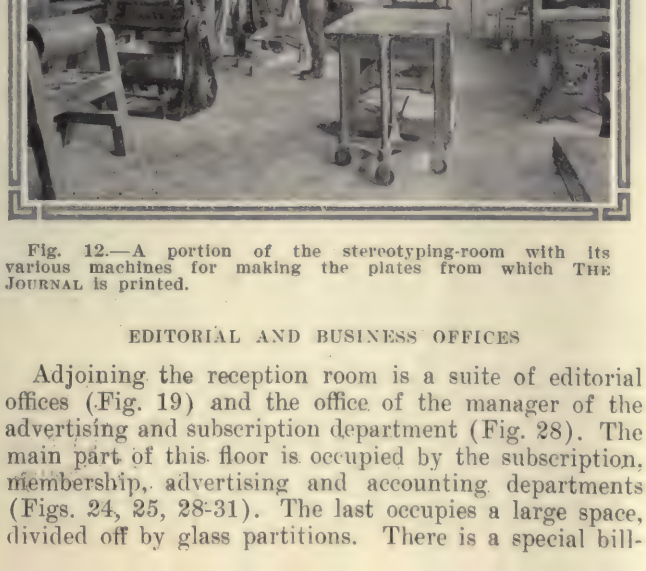


Fig. 12.—A portion of the stereotyping-room with its various machines for making the plates from which THE JOURNAL is printed.

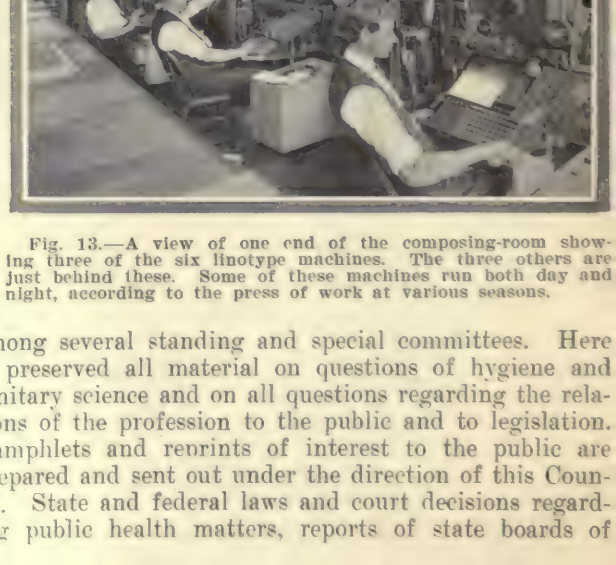


Fig. 13.—A view of one end of the composing-room showing three of the six linotype machines. The three others are just behind these. Some of these machines run both day and night, according to the press of work at various seasons.

EDITORIAL AND BUSINESS OFFICES

Adjoining the reception room is a suite of editorial offices (Fig. 19) and the office of the manager of the advertising and subscription department (Fig. 28). The main part of this floor is occupied by the subscription, membership, advertising and accounting departments (Figs. 24, 25, 28-31). The last occupies a large space, divided off by glass partitions. There is a special bill-

health, bulletins and pamphlets issued by state boards, etc., are secured and preserved for reference. A press bureau sends out bulletins on medical and scientific questions to newspapers and magazines. This Council is preparing a series of public health pamphlets and it hopes in the near future to be able to supply lists of speakers, stereopticon slides, moving-picture exhibits and other means of public health education, for the use of societies.

Fourth Floor

On the fourth floor are the Council on Medical Education and its subsidiary directory and biographic departments, the exchange and abstract room, the manuscript-editing room, the propaganda department and the office of the assistant to the secretary.

EDUCATIONAL DEPARTMENT

Licensed Physicians.—During the last seven years reports have been regularly received from the various licensing boards throughout the country, on blanks prepared for the purpose. These reports are bound in a book at the end of each year so that at the present time there are seven books, each containing the official data regarding physicians registered by all the licensing boards of the country. In addition to these files a complete list of those previously licensed was obtained from each state. Thus here may be found a fairly complete list containing the record of every man licensed in every state of the Union, so that in the case of the destruction of the records of any state by fire or otherwise, the American Medical Association would be able to supply the loss.

Medical College Graduates.—The Council has also received each year reports on those who have graduated from the various medical colleges of the country. These reports are also on blanks furnished by the Council, and are kept in book form, one book for each college year. In addition to these reports the Council obtained complete lists of their alumni from all the existing colleges, and also from the majority of the colleges which have long since been extinct, comprising, therefore, fairly complete files of the graduates of the medical colleges of the country. The Council thus has an official record regarding all graduates of existing medical colleges and of the majority of the graduates of colleges long since extinct; in fact, from these data the Council is in a position to verify the credentials of practically every college graduate, in case the records of his alma mater should be destroyed by fire or otherwise.



Fig. 14.—View of main portion of the composing-room, with the linotype machines in the rear. The make-up stones contain piles of type pages, and others made up into page forms, one of which is just being "locked up."

Fig. 15.—A view of the composing-room, showing several of the twelve make-up stones in this room, and that portion of the room containing the hand-set cases.

The information contained in these files has been secured from official sources in every instance and some of it at considerable expense. For instance, in order to obtain a complete list of those licensed to practice medicine in Pennsylvania, it was necessary to send to the prothonotary's office of every county in the state and have the records copied. The fact that a large majority of the colleges organized during the last twenty-five years are now extinct proves the importance of these permanent records kept by the Council. Medical schools come and go, and when they go, very often their records go too.

The Biographic Card Index.—In addition to the official data regarding licensed physicians and medical college graduates, the Association now has an alphabetically arranged, biographic card index of practically all the physicians in the United States. The information contained on these cards is based on official information

so far as the graduation and licensing are concerned. The other information has been supplied by the physician himself. The information on these cards is constantly becoming more and more complete, since there is added to them day by day any information relating to the individual which may be received. These cards show not only where a physician may have been located in the past, provided he has had more than one location, but also other information of importance to the individual physician, as well as to the profession at large.

Of course, the initial expense of establishing these files of valuable data has been rather heavy; but to maintain them will be little more than a matter of ordinary department routine. Each year a card is prepared for every new graduate and the information regarding him is added to from year to year. In like manner, it becomes easy to add the data regarding licensing, etc.

This year the Council on Medical Education is securing the names of medical students from all the colleges which will cooperate—about a hundred at the present time. Hence, the physician hereafter will have a card before he graduates, and it is hoped that in the near future the record of every physician may be kept in this biographic index from the time he enters the freshman year. A record such as this is kept of every medical student in nearly all European countries.

THE AMERICAN MEDICAL DIRECTORY

The information referred to above is entirely independent of, but at the same time forms the basis for, the information published in the American Medical Directory. For the directory an additional card index has been prepared. This card index, however, is arranged geographically. With these cards changes of address are easily made by simply removing a physician's card from one town and placing it under the town to which he removes. These cards constitute the copy for each subsequent edition of the directory. It is always ready and can be sent to the compositors to be put in type on a moment's notice.



Fig. 18.—An alcove in the composing-room showing the three platen presses for printing stationery and other small jobs.

Fig. 17.—A section of the composing-room showing—at the window of his room—the superintendent of the mechanical departments, Mr. Edward D. Harris, and—at the desk—the foreman of the composing-room, Mr. George J. Harris. Looking beyond, toward the west, one sees part of the make-up stones, that part of the room containing the hand-set cases.



Fig. 16.—The American Medical Association special combination drinking fountain, on each floor. This fountain is specially designed for the American Medical Association. At the right is the sanitary bubbling cup, which flows when the lever at the right is pressed down; at the left is the ordinary faucet. The water supplying these fountains is filtered and cooled by the ammonia process.

MEDICAL COLLEGES

A large alcove in the Educational Department is devoted to information regarding the medical institutions of the world. This consists of extensive files comprising the announcements and catalogues of medical colleges in the United States and of nearly all of the medical teaching institutions of the Old World. These files are constantly being added to, not only as new announcements are issued, but also by back numbers of the announcements of medical schools, both existing and extinct. Here also are extensive files of educational reports, medical council reports and other pamphlets bearing on medical education. There are also files of catalogues, reports and pamphlets giving information in regard to secondary schools and colleges of liberal arts.

A CLEARING-HOUSE OF MEDICAL EDUCATION

Thus, the Council on Medical Education is carrying out one of the chief functions for which it was created, namely, the

establishment of a clearing-house for all matters pertaining to medical education. Probably nowhere else can be found such a vast amount of data relating to medical education in all parts of the world.

EXCHANGE AND ABSTRACT DEPARTMENT

A prominent and valuable feature of THE JOURNAL is that department devoted to Current Medical Literature, in which is published, each week, abstracts of the leading articles of interest appearing in the principal medical journals of the world. A large room is devoted to this and here are files for the various medical journals. There are received, approximately, three hundred and thirty-five different journals, each one of which has a special compartment in the file as will be seen by the illustration (Fig. 34). These files are numbered crosswise and lettered up and down. A large card contains the list of journals with the letter and number of reference which makes it possible for one to go direct to the periodical wanted.

MANUSCRIPT-EDITING ROOM

Adjoining the exchange room is a large room (Fig. 32) in which all manuscript is edited. Into this room



Figs. 19-23.—A group of editorial offices. In the center is the office of the editor and general manager. The upper left view shows the room of Dr. Frederick R. Green, secretary of the Council on Health and Public Instruction. The upper right view is of the room of Dr. E. E. Hyde, the assistant to the editor. At the right below is the room of the department which investigates nostrums and quackery, in charge of Dr. A. J. Cramp. This room contains the "fake" files and the testimonial file, which together form the most complete collection of information concerning proprietary drugs, "patent medicines," "fake" cures, etc., to be found anywhere. The other view is a stenographers' room connected with the editorial suite; here are the stenographers of the editors and of the advertising manager, and here are kept card indexes of all articles received, accepted or published in all publications of the Association. On several of the pictures on this page will be noted a considerable number of baskets for correspondence. These baskets are emptied every hour by a clerk who carries the contents to the designated departments on the various floors of the building, this facilitating prompt action on letters, proofs, etc.

go all the manuscripts and material for all the publications of the Association, to be edited for the printer.

The subject of editing manuscript is too large a one to receive full treatment here. Few readers have any idea of the amount of work necessary to prepare for the printer the manuscript of even careful writers. Elaborate schemes of subheadings have to be translated into typography; tables have to be rearranged to make them practicable for the compositor and intelligible to the reader; the varying styles of individual writers have to be unified in conformity with the style of the Association press. (THE JOURNAL publishes a pamphlet* in which are explained some of the principles of style followed here.) The manuscript-editing room, of course, is supplied with dictionaries of English and other languages, books on style, diction and grammar, works of reference for various technical subjects, files of data, bound volumes of the various publications of the Association, a set of the Index-Catalogue of the Library of the Surgeon-General's Office, etc.



Figs. 24 and 25.—Two views of the accounting department. The lower view shows the cashier's office with Mr. E. C. Shelly, cashier, seated at his desk, and above is another view showing the mail opening department with the billing machines and the electric adding machine, etc. All of the mail is opened by one bonded clerk. It amounts to something like 750 pieces a day at ordinary times, and from 1,000 to 2,000 pieces of mail a day at busy seasons. This applies to first class mail only. The exchanges, marked copies, newspapers, books, etc., come in sacks and are opened in another department. There are about 45 feet of high desking supplied with cupboards and drawers surrounding three sides of the room. The open door gives a view of a store room. In this room is kept the supply of pamphlets, reprints and other publications of the Association, and daily orders are filled from this stock. There is a large vault which is not shown in the pictures which contains files with the canceled voucher checks, ledgers and other records of the accounting department. There is also a fireproof and burglar-proof safe.

NEWS DEPARTMENT

In the main room on this floor is the news department. The "Medical News" feature of THE JOURNAL is not the least important and to glean the news for each weekly issue is quite a task. The sources of supply are personal communications, letters from occasional and regular correspondents and press clippings. In this department are kept, in envelopes, alphabetically, biographic records of physicians,



Fig. 26.—A view of the uncompleted library. The cases at the side of the room are shown, but the metal stacks are not yet in place.



Fig. 27.—A committee room on the fifth floor where are held meetings of the Board of Trustees and of the Council on Pharmacy and Chemistry, and of other committees. Heads of departments are occasionally called together here to discuss some question of importance to all.

* A copy will be sent on receipt of 10 cents.

each bearing an individual's name. Into these envelopes are placed clippings and biographic notes. On the appointment of a physician to some important office, or in case of his death, the information contained in the envelopes is valuable in writing the appropriate notices.

ASSISTANT TO THE SECRETARY

The assistant to the secretary occupies the northwest corner of the fourth floor. In this room is kept information regarding the personnel of the organization. This information includes lists of members of all the component county societies of the country, kept by the card index method, arranged by counties and states.





Figs. 28 to 31.—Four views in the business office on the third floor. The upper view shows the office of the manager of the advertising and subscription departments, Mr. W. C. Braun. The view on the right is of the subscription and membership departments. The one on the left is a corner of the general office showing the house telephone exchange and operator, the office boy, the house mail-delivering clerk, and the letter filing and correspondence mailing departments. Just beyond the glass partition is the waiting-room. The glass door straight ahead leads to the editorial suite. A feature of the letter mailing department not shown in this picture is an electric machine which seals, stamps and counts 150 letters a minute, another of the time saving devices of the office. It is especially important as a check on the number of postage stamps used. The lower picture is a general view of the subscription, membership and advertising departments, with the accounting department on the right in the background.

NOSTRUMS AND QUACKERY

In addition to the amount of publicity to which it has subjected the so-called proprietaries, through the Council on Pharmacy and Chemistry, the Association devotes considerable effort to the investigation of those medical evils which affect the people more directly—"patent medicines" and quackery. During the past year alone, over one hundred "patent medicine" products or quack institutions have been critically discussed in THE JOURNAL. Many of the these articles have been elaborated, profusely illustrated and reprinted in pamphlet form for distribution to the laity. That this work has awakened great interest in the subjects discussed is evidenced by the large number of inquiries that have been received on the subject. Hundreds of queries come in and are answered each month. A very large proportion of these have been answered by personal letter because of lack of space in THE JOURNAL.

The department in which this work is done (Fig. 23) has an exceedingly comprehensive file—usually referred to colloquially as the "Fake File"—containing a vast amount of data on medical and pharmaceutical fakes. The size of this file is steadily increasing and it probably contains more information on the subjects dealt with than is to be found in any other one place. Adver-

tising matter, both old and new, is to be found here: "follow-up letters" from quacks, "patent medicine" labels, reams of testimonials — these and the other paraphernalia that form the stock in trade of the nostrum exploiter and the quack are to be found classified and arranged in this file. Nor is this all; the names of the individuals who are behind many of the widely advertised "patent medicine" concerns, medical institutes etc., are included in the information that is here available. A comprehensive card index of over fifteen thousand cards is kept in connection with this file and an elaborate system of card indexing makes the information contained therein available in a moment.

The "Testimonial File," which is in the same department, contains the names of those physicians who make a practice of writing testimonials for proprietary products. There are over sixteen thousand cards in this file, and while most of the names it contains are for testimonials each to a single product, a large number have more than one. Some individuals have as many as twenty-five or thirty preparations against their names. The number of new names added each year, fortunately, is steadily decreasing.

The "Drug File," also compiled in this department, contains the names of all new drugs — proprietary and otherwise—whose use is described in current medical literature. Well-known non-proprietary drugs, when used in any uncommon way, are also listed in this file. In each case the reference and data are given. The value of this file of over 3,000 cards is appreciated when information is wanted on the probable therapeutic value of proprietary mixtures containing one or more obsolescent drugs. Ordinary textbooks contain practically no reference to drugs of that kind.

To look over even a fraction of the material collected in this department is to have overwhelmingly driv-





Figs. 32 to 34.—View of the main room, fourth floor, showing, in the foreground, the desk of Dr. S. C. Stanton, the news editor; in the center, the directory department; and, in the rear, the extensive files of the Council on Medical Education, and the office of Dr. N. P. Colwell, secretary of that Council. The view on the left shows a part of the manuscript editors' room, in which all copy is prepared for the printer; on the right is the exchange and abstract room.



Fig. 35.—This, the main room of the chemical laboratory, is 30 by 40. The director, Mr. W. A. Puckner, is seated at his desk in the west end of the room, and his assistant chemists, Messrs. W. G. Hilpert and L. E. Warren, are standing.

en home to one the fraud, the deceit and heartlessness that are inseparable from quackery and nostrum exploitation.

On the fifth floor are the chemical laboratory, the library, and the trustees' and committee rooms.

CHEMICAL LABORATORY

From many points of view the chemical laboratory (Fig. 35) is one of the most important institutions in the Association building. It was established in 1906 to assist the Council on Pharmacy and Chemistry in its investigations, its function being to examine medicines to determine the truth or falsity of the claims of manufacturers. Gradually, however, the work of our chemists broadened out, and not only so-called "ethical" proprietaries, but the ordinary "patent medicines" became subject to investigation.



Fig. 36.—Another view of the chemical laboratory. Opening off from the main room to the right of the picture will be seen the fume room, in which many of the chemical procedures are carried on. This room is equipped with a powerful exhaust fan to carry off the fumes. Another room for the stenographers opens off from this room in the northeast corner. It also contains some of the files.

Here also are samples of old and new proprietary preparations and of the great majority of "patent medicines." The laboratory is thoroughly equipped in every particular; the new apparatus includes a microscope, a polariscope, a spectroscope, a Carius furnace, a combustion furnace, etc. It has a library of about 500 volumes on chemistry and pharmacy, and practically all the leading chemical and pharmaceutical journals of the world, thus making accessible to the medical profession, which the laboratory represents, every advance in pharmacy and chemistry. The laboratory personnel includes the director, who is an expert chemist, two other chemists, two clerks.

The sixth floor at present is used for storage purposes.



Fig. 37.—Group of the day force of the employees. The number of employees varies from 140 to 185. In addition there is a night force in the mechanical department which varies from eight to fifteen. The numbers designate the following: 1, Dr. George H. Simmons, editor and general manager; 2, Dr. E. E. Hyde, assistant to the editor; 3, Mr. W. C. Braun, manager of advertising and subscription department; 4, Mrs. E. P. Cushing, foreign current medical literature; 5, Mr. W. A. Puckner, secretary Council on Pharmacy and Chemistry and director of the Association Chemical Laboratory; 6, Dr. Fred C. Zapffe, domestic medical literature; 7, Dr. S. C. Stanton, news department; 8, Dr. Frederick R. Green, secretary Council on Health and Public Instruction; 9, Dr. N. P. Colwell, secretary Council on Medical Education; 10, Dr. A. R. Craig, assistant to the Secretary of the Association; 11, Dr. A. J. Cramp, department of propaganda for drug reform; 12 and 14, Drs. J. H. Salisbury and J. B. Champion, of the editorial staff; 13, Mr. E. C. Shelly, cashier.

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[*For other information see second page following reading matter*]

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THE PERMEABILITY OF THE MENINGES

In the treatment of cerebrospinal fever by specific antiserum, the contention of Flexner and others, that without intrameningeal administration little or no effect is to be observed, has been amply confirmed clinically. A partial experimental basis for this conclusion was furnished by observations which showed that the meninges are normally quite impervious to certain foreign substances, but such observations have until lately been limited entirely to crystalloids. Recently, however, Lemaire and Debré[1] have investigated the permeability of the meninges to antitoxins, and they have obtained results that confirm in a very striking manner those of the clinical work.

Their method was to administer to dogs, subcutaneously, large doses of tetanus antitoxin obtained from a horse. After allowing three days for complete diffusion of the antitoxin, cerebrospinal fluid was withdrawn with all possible precautions against admixture with blood, and this was then tested both for its protective power against tetanus toxin in white mice, and, by precipitation tests, for the presence of horse-serum. In no case were the investigators able to obtain any evidence of the latter, but some slight protective power—so slight as to be almost negligible—was observed. The blood, tested similarly, had a protective power about five hundred times as great as that of the cerebrospinal fluid, and gave a very strong precipitation reaction.

In view of the possibility that alteration of the rate of circulation might influence the permeability of the meninges, Lemaire and Debré tried the effect of administration of morphin shortly before the meningeal paracentesis. As before, no precipitation test for horse-serum was obtainable in the cerebrospinal fluid, but this now had a protective power two to three times as great as before. Strangely enough, the antitetanic power of the blood was diminished to almost one-tenth of its former value; and inasmuch as any direct action of the morphin on the antitoxin could be eliminated, they believe that the explanation lies in a generally greater diffusion of the antitoxin into the tissues.

1. Lemaire and Debré: Jour. de physiol. et de path. gén., 1911, xiii, 233.

Setting aside, however, these minor considerations, this work serves to demonstrate strikingly the resistance to penetration offered by the envelopes of the brain and spinal cord. And it is quite possible that in this direction is to be sought, at least in part, the explanation of the relative insusceptibility of certain diseases of the central nervous system to indirect medication.

THE OLDEST PRESCRIPTION IN AMERICA

What is undoubtedly the oldest prescription in America is listed under Accession Number 988 at the New York Metropolitan Museum of Arts. Its date is probably not later than 1500 B. C., some time during the nineteenth dynasty. It is written on a small piece of limestone, about three and one-half by three inches in its present somewhat injured condition, carefully smoothed for the purpose, forming what is called an "ostracon." The writing was done with a brush and some sort of black ink or paint, for pens did not come into use in Egypt until the Roman time. The substance employed was well adapted to its purpose, for the writing is still quite plain, except near the edges of the stone where fragmentation has occurred. The inscription is in the old cursive hieratic writing, somewhat similar to that of the Ebers papyrus, which dates from about 1600 B. C. It is written on both sides of the stone, with what Egyptologists would probably call typical old Egyptian neglect of such details, from above down on the longer measurement of the stone on one side, but across on the other side, as some ladies of the present day, after having written down one sheet of letter-paper, then turn it over and write crosswise on the back of it. Unfortunately it is not known whence this specimen comes. It was noticed in the museum some years ago by Mr. Max Müller, who recognized its medical character and translated the inscription, though rather unsatisfactorily.[1] An effort was then made to find the place of its origin, but the specimen had come with a number of other antique finds of many kinds gathered from various portions of Egypt and its exact provenience, to use the archeologic term, could not be determined.

The prescription as written seems to be a copy, because portions that in the ordinary medical writings of the time are abbreviated are here written out completely, just as copies of prescriptions written out by druggists to-day have the abbreviations enlarged. The ingredients called for in the prescription are mainly precious stones. These were to be ground up to be used for fumigation. Professor von Oefele, an authority on ancient Egyptian medicine, suspects that the case was one of hysteria, though there is no indication of this on the prescription itself. Ground precious stones were favorite remedies for hysterical manifestations. They were used for fumigation whenever the ball in the throat, our globus hyster-

1. An Ostracon in the Metropolitan Museum, New York. Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes, xxii, 103.

ious, was a prominent symptom. This was supposed to be due to a crowding of the other organs by a dislocation of the uterus upward.

Indications on the prescription show that various classes of precious and semiprecious stones were used for patients of differing degrees of wealth. For the very wealthy, a valuable stone like sapphire was used. For those of moderate wealth a more modest stone would do. For the poor, malachite, which was rather common, sufficed. The remedies which cure the nervous affections of ordinary people seem never to have been capable of producing the same effect on the neurotic symptoms of the wealthy, for whom something quite different, and above all, much more costly is required. Further study of the specimen will doubtless bring out more interesting details with regard to the medicine of the time.

THE PUBLIC DRINKING-CUP

The "cup of death" is rather gruesomely pictured in the *Cup-Campaigner* as a skull, with its top sawed off (as in autopsies), a handle fashioned to the occiput, a chain attached to the handle, the other end being fastened to a drinking-fountain. A campaign against the public cup is now being conducted throughout the Union. Several states have already taken action, Kansas being the first to abolish the common drinking-cup; Michigan, Wisconsin, Mississippi, New Jersey, New York, however, have fallen in line. Pennsylvania, through the secretary of her state board of health, warns her people that "the cup used in common in public places must inevitably be the constant medium of communication of diseases such as tuberculosis, diphtheria and other infections." In Illinois it is declared that "the public drinking-cup is as antiquated as the ducking-stool and the inquisition; people never think of eating from public plates or wearing public clothes or smoking public cigars."

Illinois has just passed a bill abolishing the use of the public drinking-cup. Chicago, through its health department, supported by the newspapers, has waged an active campaign against it. The city bacteriologists have collected drinking-cups from various school buildings, hotels, railway stations and stores in the city of Chicago and have made microscopic examinations and bacterial cultures from these cups. The most frequent varieties of germs found are various pus germs, also, specimens of pneumonia and diphtheria bacilli have been found. Guinea-pigs have been inoculated with these cultures and the results of these tests, according to the city bacteriologists, prove the deadly nature of these bacteria. All the pigs inoculated with the bacteria of the pus infections developed fatal abscesses. The tests with the diphtheria culture were also positive, as proved by the occurrence of the disease.

In Connecticut (as also in other states) private banking-houses, hotel managers, department-stores and other corporations are cooperating with the health authorities for the protection of their employees and their patrons and for the installation of the bubbling drinking-fountain in railway trains and stations, in parks and other public places. Many cities are moving in the same direction. New York City, after October 1, will make illegal the use of the public drinking-cup in any public institution, hotel, theater, factory, hall, school, railway station or ferry house; already some of the public schools of New York City have been equipped with a jet apparatus, so arranged that the child's lips do not touch any part of the machinery.

A large number of railroads have adopted a paper cup, supplied to the thirsty on putting a penny in the slot, which may be used for the entire trip. In trains, of all places, is this a necessary measure, both for disease prophylaxis and for elementary decency. Again, in barrooms, glasses, after being used, often receive no more attention than a dip in cold water and a perfunctory wipe with a towel that has already seen considerable service. At soda-water fountains also, "a lick and a promise" by way of apology for washing, are much in evidence. Such glasses may look clean, but often the invisible pathogenic bacteria remain to enter any abrasion of the lips, or possibly to penetrate an intact mucous membrane.

Elimination of this means of spreading disease, especially those most unfortunate cases of lues innocentium, should receive support, and might well be extended to cover a number of other public uncleanlinesses.

THE TREATMENT OF NEURALGIA WITH INJECTIONS OF ALCOHOL

The treatment of neuralgia by means of superficial or deep injections in the vicinity of the trunk of the affected nerve of sterile water or of saline solution or of various medicinal substances, anesthetic or otherwise, in solution is no new procedure, and good results have been obtained in this way. As our readers know, it is, however, only within the last decade that injections of alcohol, 70 per cent., 80 per cent., 90 per cent., into the sheath of a nerve have been made with the same object in view, and more particularly for the relief of trigeminal neuralgia.

In the hands of those who have had the largest experience the results have been most satisfactory.[1] Especially in the case of the branches of the fifth nerve the operation requires special skill and special apparatus by reason of the deep and concealed situation of the structures. Here the object is to reach the trunk of the first division in the sphenoidal fissure, or the second division in the round foramen, or the third division in the oval foramen, and these may be approached either from the side of the

1. See the index of THE JOURNAL for the past four and one-half years for articles by Patrick, Hecht and others on this subject, among which the following may be mentioned: Blair, V. P.: Notes on Trifacial Neuralgia Treated by Deep Injections, THE JOURNAL A. M. A., Feb. 4, 1911, p. 335. Patrick, H. T.: Seventy-Five Cases of Trifacial Neuralgia Treated by Deep Injections of Alcohol, THE JOURNAL A. M. A., Dec. 11, 1909, p. 1987.

face or from the interior of the mouth. The operation is attended with some pain or a sense of burning, but the majority of operators do not use general or even local anesthesia, although some do. If the injection be properly made relief from pain follows within an hour or so in association with anesthesia or numbness of the parts supplied by the nerve subjected to treatment, and in many cases paresthesia in the skin or mucous membrane. The anesthesia, numbness or paresthesia gradually wears off, while the pain usually remains absent for months or even for years. Sometimes, perhaps because the injection does not thoroughly reach the nerve, the relief is but slight, and the injection must be repeated in a day or two or a week. Occasionally, several injections may be required, and it may be necessary to inject several branches of the fifth nerve on one or on both sides. The operation is comparatively free from danger, although circumscribed edema or a hematoma may develop, or a blood-vessel may be penetrated or a motor nerve injured. The technic can be readily acquired.

The procedure is indicated when the usual measures—medicinal, climatic, hygienic, physical—have failed, and it may be employed even after operations on the Gasserian ganglion have been unattended with success. Further, failure with this expedient does not preclude other surgical intervention. Endoneural injection of alcohol for the relief of neuralgia is applicable only to sensory nerves, inasmuch as serious muscular paralysis might result from infiltration of a motor nerve. Deliberate injection of a motor nerve may, however, be practiced in the presence of tonic or clonic muscular spasm.

THE SUPREME COURT ON THE FOOD AND DRUGS ACT

The Supreme Court's interpretation of the Food and Drugs Act in the case that is technically known as the United States *vs.* O. A. Johnson, has already been commented on in THE JOURNAL.[1] This week we reproduce in "The Propaganda for Reform" the full text of both the majority and the dissenting opinions of the court. A careful reading of these two documents will prove both interesting and instructive. Without desiring to criticize the findings of the highest court in the land, we believe that a careful study of the majority opinion will lead to the inevitable conclusion that the court had to strain the meaning of the English language and flounder far afield in order to find points on which to reach a decision that would uphold the lower court. On the other hand, we believe that all open-minded persons will declare that Justice Hughes' dissenting opinion is as superior in logic and common sense to the majority opinion as it is in composition and clearness of expression.

On analyzing the majority decision, it is found that the court admits that the claims made by Johnson for the curative effect of his nostrum were "false, or, at least, misleading." The court holds, however, that the words in the act which prohibit "any statement . . . which shall be false or misleading in any particular," mean "false or misleading" in *certain* particulars, namely, those relating only to the composition of a drug product or its place of manufacture. The court admits further that while "logically" interpreted the law probably prohibits the making of false statements regarding curative effects of drugs, interpreted "idiomatically it does not" prohibit. It appears then, that not only have Dr. Wiley and his assistants, in the past, interpreted the Food and Drugs Act in the interest of the sick who might be swindled, but they have interpreted it "logically." The Supreme Court, on the other hand, interprets the words of the act in an "idiomatic" sense— and incidentally in the interest of as cruel a gang of swindlers as ever operated under the protection of the law.

One point more is worth noting while discussing the majority decision: In the closing paragraph, while the court does not explicitly state that in its opinion Congress has no constitutional right to prohibit false statements regarding the curative effect of drugs, yet it is hard to read into that paragraph any other meaning. The court apparently holds that should Congress specifically prohibit false claims for curative effect, it would, in so doing, "distort the uses of its constitutional power" by establishing criteria "in regions where opinions are far apart." We believe that it is not necessary for a man to be learned either in law or in medicine to be able to see on the face of it that the claims made by Johnson the cancer cure quack and by those of his kind, are false *per se*, and in determining the falsity it is not necessary to wander into "regions where opinions are far apart."

In his dissenting opinion, which was concurred in by Justices Harlan and Day, Justice Hughes, in referring to the limitations which the majority of the court has placed on the meaning of the act, said:

> "I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect."

Mr. Hughes says further that to limit misbranding to mere statement of composition and place of manufacture is to "ascribe an altogether undue weight to the wording of the clause and to overlook the context." He says that, as must be evident to anyone:

> "If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so."

Moreover, it is pointed out that when the question was before Congress, that body refused "so to limit the statute." To the argument that the curative properties of drugs are matters of opinion and that there are conflicts of opinion both between different schools of medicine and between individuals of the same school, he delivers this common-sense, knock-out blow:

> "Granting the wide domain of opinion and allowing the broadest range to the conflict of medical views, there still

1. THE JOURNAL A. M. A., June 3, 1911, p. 1660, and June 10, 1911, p. 1725.

remains a field in which statements as to curative properties are downright falsehoods and in no sense expressions of judgment. This field, I believe, this statute covers."

The dissenting justices hold that where a nostrum has been represented to be a cure, when as a matter of fact it is "absolutely worthless and an out-and-out cheat, the act of Congress can be said to apply to it." Finally, Justice Hughes sums up the whole question in one pointed and pertinent sentence:

"WHY SHOULD NOT WORTHLESS STUFF, PURVEYED UNDER FALSE LABELS AS CURES, BE MADE CONTRABAND OF INTERSTATE COMMERCE—AS WELL AS LOTTERY TICKETS?"

We believe that the country is asking the same question. Congress should answer it!

PROPHYLAXIS OF FOURTH-OF-JULY TETANUS

We have every reason to hope that the annual crop of tetanus cases will not be so large after this Fourth-of-July celebration as in previous years, for the "sane Fourth" movement seems to show a healthy growth, and tetanus occurs only in those places that still tolerate an insane Fourth. In 1909 there were reported 1,225 blank-cartridge wounds with 150 cases of tetanus, while in 1910, largely as a result of improved control of celebration by municipalities, only 450 blank-cartridge wounds were inflicted—a mere trifle—causing but seventy-two cases of tetanus, of which about sixty-seven were fatal. Even though this great improvement has taken place, we are still of the opinion that such comfort, joy and patriotic fervor as may be yielded by the primitive custom of celebrating Independence Day by explosives, is not worth the 131 lives and 2,792 injuries of greater or less severity which it cost last year. Enough others seem to be of the same opinion to assure a decreased expenditure of life, blood and cuticle for the 1911 celebration, but not enough to reduce this to zero.

It is still necessary to impress on practicing physicians the fact that, however many accidents may occur, the loss of life from tetanus is almost entirely preventable. Sixty-seven deaths from tetanus last year means that at least sixty-five lives might have been saved by prompt injection of antitoxin immediately after the wound was received. Undoubtedly in many cases this failure was caused by the neglect of the patient or his parents; but not a few failures, we regret to say, rest on the shoulders of the attending physician. Surely, after all the years in which the danger of tetanus from blank-cartridge wounds and the efficiency of tetanus antitoxin as a prophylactic have been heralded in the medical press, there is no reasonable excuse for such neglect. It should be remembered that the percentage of deaths from blank-cartridge wounds received in last year's celebration was greater than from bullet wounds, only 10.2 per cent. of the latter causing death, while 12.7 per cent. of the blank-cartridge wounds were fatal. The experience of each year, as to both Fourth-of-July injuries and ordinary traumas, strengthens the standing of tetanus antitoxin as a prophylactic agent, especially when given immediately after the wound is received. We would particularly emphasize, however, that antitoxin is not a substitute, but an accessory to thorough surgical cleansing, and also that the most thorough surgical care without antitoxin is not proof against tetanus when blank-cartridge wounds are under consideration. It must be realized that the cleansing of these wounds is a major operation, which can be performed only under complete anesthesia. The few recorded cases in which antitoxin has failed to prevent tetanus after suspicious injuries have usually occurred when a local infection has permitted the tetanus bacilli to live in the tissues until such time as the antitoxin has been eliminated or destroyed; hence in cases in which suppuration takes place in the wound, repetition of the prophylactic injection should follow at intervals of from eight to twelve days until complete healing has taken place. Neither should antitoxin be omitted when patients are not seen until the wound is several days old, but rather it should then be given in large doses, for although not certain to prevent tetanus when given this late, yet if tetanus does arise the prognosis is decidedly better if antitoxin has been used.

As to the curative treatment of tetanus, there still fails to be any decided step in advance. The magnesium sulphate treatment contains an element of danger which should limit its use for the present to large clinics and hospitals, where all conditions can be controlled, and where expert consideration can be given to the procedure. Unsparing use of antitoxin is apparently advisable after symptoms of tetanus have manifested themselves, and a review of the world's literature on the use of antitoxin gives strong indication that the intraspinal route is the method of choice. Not only is it theoretically advisable on the ground that antibodies injected into the blood are not secreted into the cerebrospinal fluid in large amount, but also because the clinical reports show a distinctly higher percentage of recoveries in cases in which the antitoxin has been given in this way.

Current Comment

GREAT IS MAMMON

Over a month ago we called attention to the fact that the referee board had upheld Dr. Wiley's contention that saccharin was injurious and, on the strength of this decision, the Secretary of Agriculture had declared that after July 1 of this year saccharin-containing foods would be regarded as adulterated under the Food and Drugs Act. Of course, a protest at once was made by those whose pocketbooks would be hurt by the decision; namely, the manufacturers of saccharin and those "food dopers" who think more of dividends than of public health. They pointed out that vast sums of money had been invested in the saccharin business

and that the order issued by the government would practically destroy this business. The wail was heeded, and the sale of foodstuffs that are adulterated with "a poisonous and deleterious substance" instead of being prohibited after July 1, 1911, has been permitted to continue until May 1, 1912. The fact that saccharin is a harmful substance, and that in the interest of the public health its use in foods should be prohibited, counts as nothing when the almighty dollar is at stake. According to the Charleston (S. C.) *News-Courier*, Secretary Nagel, of the board of review, takes this attitude in cases of this kind:

"Where the question about these foods is a close one, every consideration should be shown to the man who has invested his money in a business."

In other words, when the question between public health and individual profit is not clearly defined, decide in favor of individual profit! As the Charleston *News-Courier* says:

"Here the lines were plainly drawn. This man's dollar was up against that man's health. The man for the dollar was there to speak for himself. The man whose health was to be placed in jeopardy was not there. The man with the dollar won, of course."

LINGER IN LOS ANGELES

The Los Angeles Committee on Arrangements most cordially invites all who attend the annual session to remain over the following Sunday. The rules restrain entertainments during the time the sections are holding their meetings. The committee, therefore, plans most elaborate entertainments on Friday and Saturday. A considerable amount of money has been raised and the committee would be sorry not to have its guests present to enjoy the good things which have been provided. A list of entertainments was given in THE JOURNAL May 20. It includes a Spanish luncheon in the beautiful sunken gardens, Roman chariot races and a midsummer night carnival. There will be trips to the orange-groves, to the beautiful bay of Avalon on Catalina Island and to San Pedro Harbor, Long Beach and other suburban beaches and resorts. It ought not to be hard to grant such a request as this. The reputation of California for hospitality adds a most delightful flavor of sincerity and cordiality to the urging of the committee, and we pass the invitation on to all of our readers with hearty endorsement.

THE TUBERCULOUS PATIENT AFTER SANATORIUM TREATMENT

Pennsylvania is one of the states that have made considerable advance in the institutional treatment and after-care of tuberculous patients. In addition to a number of state sanatoriums, there are distributed throughout the state some one hundred and fifteen tuberculosis dispensaries. The health commissioner of that state, Dr. Samuel G. Dixon, has prepared instructions to aid physicians and nurses in charge of these dispensaries in systematically following up these patients after they have left the sanatoriums. This is done principally by the trained nurses connected with the dispensaries. Under these instructions, the nurse in her visits to these patients is required to note details of their physical condition, not of course making such an examination as the physician makes, but observing whether a patient is improving, holding his own or going backward; the patient's general living condition; if employed, how many hours he is able to work, and conditions surrounding his work; facts as to the patient's present and previous earnings; family income; habits in regard to the use of alcohol and tobacco; number of hours the patient is able to rest; amount of sleep he takes; general sanitary conditions of his home, etc. The nurse also investigates particularly whether tuberculosis has developed in the patient's immediate family or among his relatives, and whether any connection exists between the new and the old cases. The institutional treatment of tuberculosis is now regarded as most effective. One of the difficulties connected with it, however, is the fact that most of the patients leave the institutions before they are cured. This is true as regards private sanatoriums, but especially of the state or municipal institutions, where there is such a large demand for admission, making it seem almost necessary to limit the time the patients may remain in such institutions. Hence it is most wise, if permanent results are to follow, that attention be given to the patients after they leave the institutions; and this not alone for the individual patient's good, but that he may not become a source of infection to his family and the community. The after-supervision is recognized by all as of great importance, and the system followed in Pennsylvania offers valuable suggestions that might wisely be followed in other states.

INDUSTRIAL LABORATORY SECRECY

It is a principle of the medical scientist working in the fields of chemistry, therapeutics, physiology, bacteriology, etc., or the surgeon in his special field, in originating an improved or new surgical procedure or instrument, immediately to give the world the benefit of his discovery or invention, without reservation and without material reward. In this age the discoveries of research workers and experimenters are seized on with avidity and applied in industry for commercial profit. So enterprising have industrial firms become that many of them maintain finely equipped laboratories and competent staffs of workers to invent and improve processes and substances which may be exploited for profit, taking advantage of every revelation of science. This is particularly true of discoveries in chemistry and biology, which may be applied in the treatment of disease. Many of these laboratories develop independently products of great value and in their work attain results or establish facts which cannot be utilized by them, but which might, if given to the world, lead to other discoveries of the highest scientific importance, perhaps in an entirely different direction. In making a plea for a more generous publication of scientific results in industrial laboratories, Prof. William H. Walker, of the Massachusetts Institute of Technology, in a recent address[1] says that there is a heavy moral obligation on the part of large industrial organizations maintaining fully equipped laboratories to contribute their share to the

1. Walker, William H.: Scient. Am., April 29, 1911, p. 422.

advancement of the world's knowledge, and that they could do much in this way without harm to themselves. In this respect he compares the attitude of the industrial establishments of Germany with those of this country, to the distinct advantage of the former. There are some notable exceptions to the rule, however, as in the instances of a few of the large commercial biologic laboratories of this country. But Professor Walker rightly deprecates the spirit which would have these laboratories remain the secret chambers of the alchemists, as it were, wherein to improve their methods of changing baser metals into gold without regard to their larger obligations to humanity. He rightly demands that they should join in the work of the special laboratories endowed by philanthropy and aid more largely in the general advancement of science.

THE PASSING OF THE SMOKY CHIMNEY

Portraits of the literal, inartistic kind, when many years old, often have a ludicrous appearance, owing to changes in style of dress. Similarly, years hence, some of our present customs will invite a supercilious smile from the rising generation, for surely they are fated to become obsolete, and when they have become so it will be hard to understand why they were ever tolerated. The smoking chimney is a sample. We have before us the letterhead of the "Department of Public Safety, Office of the Superintendent of Hospital," of one of the largest cities of our country. A very carefully executed engraving of the hospital and grounds adorns the letterhead. In the background a smokestack rises from the heating plant. The artist, knowing that a smokestack was meant to smoke, does his duty nobly. The smokestack belches forth a black cloud. Such an exhibit on the letterhead of a Department of Public Safety will be absurd twenty-five years hence. This conception of the artist — namely, that a chimney should smoke — has been a source of amusement before now. Health resorts, steamboat lines and railroad companies often portray on their advertising matter a steamboat or engine belching out a veritable cloud; and the apparent besmirching and discomfort of all who are within reach cannot be said to be a first-class advertisement for the resort or the railroad. Customs change. Although a moving railroad train without a cloud of smoke would seem to be as much of an anomaly now as a horseless carriage would have seemed a short time ago, in the future the anomaly—and a most discreditable one—will be the smoking stack, at least within urban limits.

Symptoms of Phlegmon of the Larynx.—If seen during the first twenty-four hours, writes J. Harper in the *Practitioner*, the local appearance of acute phlegmon of the pharynx is that of follicular tonsillitis, but the general symptoms are out of all proportion to that disease. The disease is usually ushered in by severe shivering. In a short time the slight discomfort in the throat has developed into severe pain, and almost from the commencement the temperature is high, ranging between 103 and 106 F. The pulse at first is full and bounding though rapid, but soon becomes feeble. In a remarkably short time the patient's condition becomes extremely weak, in some cases going on to delirium and coma.

Medical News

ILLINOIS

University of Illinois Gets Appropriation.—Governor Deneen has signed the bill providing for an appropriation of over three and a half million dollars for the immediate support of the University of Illinois and for a mill tax each year for the future. Another item in the bill provides $60,000 per year for two years for the College of Physicians and Surgeons of Chicago, which will hereafter be known as the College of Medicine of the University of Illinois.

Chicago

Personal.—Dr. and Mrs. Clarendon Rutherford have started for Europe.——Dr. Newton D. Lee is said to have narrowly escaped drowning at Gray's Lake, June 4.——Dr. P. J. H. Farrell has recovered from his recent illness and resumed practice.

Home for Nurses.—Plans for a home for the nurses of Mercy Hospital have been started by the sisters in charge. It is proposed to erect a building to cost $100,000 and to accommodate 120 nurses. The urgent necessity for this lies in the fact that seventy of the nurses will soon be obliged to leave their present quarters on account of a decision of the city building department.

Medical Reserve Men Organize.—On June 6, the third meeting of the members of the Medical Reserve Corps, U. S. Army, was held in Chicago. Lieut. Charles Adams, surgeon-general of Illinois, presided, and Lieut. Samuel C. Stanton was secretary. After remarks by Col. L. Mervin Maus, M.C., U. S. Army, and Surgeon George B. Young, U. S. P. H. and M.-H. Service, on the scope and object of the medical reserve corps, a constitution was adopted and the Association of the Medical Reserve Corps, U. S. Army, Illinois Division, was formally organized and the following officers were elected: president, Lieut. Frank Billings; vice-president, Lieut. Edmund J. Doering; secretary and treasurer, Lieut. J. Allen Hornsby, and councilors, Lieuts. Charles Adams, Junius C. Hoag, Daniel A. K. Steele and Albert E. Halstead. Votes of thanks were given to Colonel Maus and Capt. James F. Hall, M.C., U. S. Army, for their aid in organizing the association, and these gentlemen, with Surgeon George B. Young, U. S. P. H. and M.-H. Service, and Brig.-Gen. Robert M. O'Reilly, M.C., U. S. A., retired, were made honorary members of the association.

Hospital Notes.—A free tuberculosis clinic was opened at St. Elizabeth's Dispensary, Blackhawk Street and North Ashland Avenue, June 2. Dr. Stephen R. Pietrowicz is attending physician and the clinic will be open on Mondays and Thursdays from ten o'clock until noon.——Plans are being prepared for the initial building for the Chicago Fresh Air Hospital at 7528 North Western Avenue. A three-story administration building, 50 by 150 feet, is first to be erected.——Property near Michael Reese Hospital has been purchased by the trustees of that institution on which the Sarah Morris Hospital for children, for which $300,000 was provided in the will of the late Mr. Nelson Morris, will be erected.——The Danish Hospital Association has been incorporated and proposes to build a Danish hospital on the south side of Chicago in honor of the late Dr. Christian Fenger, to be known as the Fenger Memorial Hospital.——By the sale of eight cornerstones and other privileges, $5,000 was raised, May 28, for the Maimonides Kosher Hospital which is now in course of construction at California Avenue and Rebecca Street.

INDIANA

Birth and Death-Rate.—During 1910 the birth-rate for Indianapolis was 20.03 per 1,000 and the death-rate 17.28 per 1,000. The rate for 1909 was 18.35 per 1,000 for births and 12.67 per 1,000 for deaths.

Sanitary Advancement in Public Schools.—The Indianapolis public schools have discarded the individual drinking cups and have placed bubbling fountains in every school building, and the use of sanitary tissue-paper towels is now being tried in place of the old-fashioned roller towel.

KENTUCKY

Dean Resigns.—Dr. Thomas C. Evans, Louisville, who, since the consolidation, has been the dean of the medical department of the University of Louisville, has resigned on account of ill health and Dr. William E. Grant has been selected as his successor.

Society Meetings.—At the annual meeting of the Southwestern Kentucky Medical Association, held in Paducah, May 17-18, the following officers were elected: president, Dr. William G. Kinsolving, Eddyville; vice-presidents, Drs. T. Atchison Frazier, Marion, and Claude E. Kidd, Paducah; secretary, Dr. Henry G. Reynolds, Paducah (reelected); treasurer, Dr. Vernon Blythe, Paducah (reelected), and historian, Dr. Robert T. Hocker, Arlington (reappointed). The next session will be held in Clinton, October 31.——Eagle Valley Medical Association, at its annual meeting held in Sanders, elected the following officers: president, Dr. Edward E. Bickers, Henry County; vice-president, Dr. C. H. Duval, Warsaw, and secretary and treasurer, Dr. John W. Botts, Owenton.

LOUISIANA

St. Luke's Guild Organized.—At a meeting held at the residence of Archbishop Blenk, New Orleans, May 27, an association of Roman Catholic physicians and dentists was organized, the design of the association being to open free clinics for the Catholic poor, not only in New Orleans, but in the centers of population all over the state. Among the officers elected are Drs. Lucien M. Provosty, New Orleans, and Charles M. Menville, Houma, vice-presidents, and Dr. Albert E. Fossier, New Orleans, treasurer.

State Railway Surgeons Organize.—On May 29 the Louisiana Railway Surgeons' Association was organized at Shreveport by surgeons of the Louisiana Railway and Navigation Company, Vicksburg, Shreveport and Pacific Railway, Alabama and Vicksburg Railway, and New Orleans and Northeastern Railway. The following officers were elected: president, Dr. Hermann B. Gessner, New Orleans; and vice-presidents, Drs. James B. Guthrie, New Orleans, and Stuart L. White, Ruston; secretary, Dr. J. D. Martin, Shreveport, and treasurer, Dr. Daniel W. Kelly, Winnfield.

MARYLAND

New County Society Officers.—At the annual meeting of the Howard County Medical Society, Dr. W. Rushmer White, Baltimore, was elected president; Dr. W. B. Gambrill, Ellicott City, vice-president, and Dr. Frank O. Miller, Ellicott City, secretary and treasurer.

Personal.—Dr. Claude C. Smink has resigned as surgeon on charge at the Bayview Hospital and has settled for practice at Lauraville.——Dr. Ira J. McCurdy, Frederick, has been detailed to make the preventive typhoid inoculation of the First Infantry, Md. N. G.

Baltimore

Personal.—Drs. William S. Halstead, William A. Fisher, Walter F. Sowers and Claude A. Stonecipher have sailed for Europe.——Dr. Nathaniel G. Keirle was given the degree of LL.D. by Dickinson College, Pa., June 7.

Antityphoid Vaccination.—Dr. Warren P. Morrill, superintendent of Sydenham Hospital for Infectious Diseases, advises general vaccination against typhoid, and the adjutant general of the state urges that all the militia going into camp this summer be so protected.

Faculty Changes.—The following appointments are announced in the University of Maryland: Dr. Harry Adler has been made professor of therapeutics and clinical medicine; Dr. Gordon Wilson, professor of clinical medicine; Dr. Joseph E. Gichner, associate professor of physical therapeutics and professor of clinical medicine; Dr. I. H. Davis, professor of operative and clinical dentistry, and Dr. B. Merrill Hopkinson, professor of oral hygiene and dental history.

Hospital and School for Crippled Children Opened.—The James Lawrence Kernan Hospital and Industrial School for Crippled Children at Radnor Park was dedicated, June 10. The property contains 63 acres and has on it a colonial mansion which, after having been remodeled, now contains thirty rooms. A modern cottage adjoins it, which contains twelve rooms, is to be used as a nurses' home. This institution will take the place of the City Hospital which it has occupied for the last fifteen years.

MASSACHUSETTS

Opium Seller Arrested.—Louis Quay, said to be the only Chinese doctor in Chinatown of Boston, was arrested June 1, charged with having opium in his possession. Another Chinaman was arrested at the same time, charged with being present when opium was found.

Personal.—Dr. Elmer E. Southard, Boston, secretary of the Section on Nervous and Mental Diseases, has been forced to give up his trip to Los Angeles because of an infection obtained at an autopsy on one of the patients in the strange tonsillitis epidemic which has been raging in and near Boston for some weeks. His assistant, Dr. Mooers, was infected by the same material and died from streptococcus septicemia and meningitis.

Harvard Post-Graduate Courses.—The post-graduate courses which have been held at Harvard Medical School for many years, have been organized into a definite school or department of the faculty of medicine so that the faculty, hereafter, will consist of the medical school, the dental school, and the graduate school in medicine, each presided over by a dean and administrative board, in addition to a dean of the faculty of medicine. Besides this, there is a division of medical sciences in the faculty of arts and sciences by which is administered master of arts, doctor of science, and doctor of philosophy degrees in medical subjects. This graduate school is to go into operation with the beginning of the academic year, 1912-1913. The proposed courses are: first, all-day courses, consisting of a general course in a variety of subjects for general practitioners, continuous throughout the school year, or special courses on single subjects for practitioners, teachers or specialists; second, interrupted courses or courses in special subjects for those who want instruction for a part of one or more days in the week; and third, research courses for men who wish to do original research work.

MINNESOTA

Detention Hospital Opened.—The formal opening of the new isolation hospital, erected by the village of Hibbing at a cost of $10,000, took place May 3. There are no cases of communicable disease in the hospital.

Personal.—Dr. and Mrs. William W. Lewis, St. Paul, have started for Europe.——Dr. Arthur W. Whitney, St. Paul, has been made chairman of the charter commission.——Dr. Roy J. Heron has resigned from the medical staff of the Soldiers' Home, Minneapolis, to enter private practice in North Dakota.——Dr. Homer F. Peirson has been elected chairman of the board of health of Austin.

MISSOURI

Hospital Directors Named.—Drs. Norman F. Terry, Theodore A. Coffelt, John R. Boyd and Robert L. Pipkin will serve as the directors of the Springfield Hospital Association for the ensuing year.

County Society Election.—Lafayette County Medical Society, at its annual meeting held in Lexington, May 11, elected the following officers: president, Dr. Caius T. Ryland, Lexington; vice-presidents, Drs. Ferdinand Schreiman, Concordia, and William A. Braecklein, Higginsville, and secretary and treasurer, Dr. Paul B. Clayton, Odessa.

Maternity Service and Nursery.—The trustees of the German Hospital, Kansas City, have set apart one floor of their new building for a maternity service and nursery. A modern equipment is being installed throughout. Dr. George C. Mosher has been elected obstetrician and director of the department and Dr. Frank C. Neff has been made pediatrist for the hospital.

St. Louis

Presentation to Health Commissioner.—On the retirement of Dr. H. Wheeler Bond as health commissioner, May 22, the officials and employees of the health department presented him with a silver punch bowl, ladle and tray.

Personal.—Drs. Walter H. Fuchs and James B. Pritchard have been appointed members of the board of health.——Dr. George A. Johns has been confirmed by the council as superintendent of the sanitarium and Dr. Michael J. Dwyer as superintendent of Robert Koch Hospital.——Dr. G. Alexander Jordan has been reappointed assistant health commissioner.——Dr. John B. Coryell has been elected grand medical examiner of the Knights and Ladies of Honor.——Dr. William Engelbach sustained painful injuries in a collision between his automobile and a work train of the United Railway Companies, May 19.

Memorial Services.—At a meeting of the St. Louis Medical Society, May 28, the nine members of the society who had died during the year were made the subject of eulogies by members. Dr. Gustav Baumgarten was eulogized by Dr. Washington E. Fischel; Dr. John E. Faber by Dr. Frederick W. Abeken; Dr. Theodore F. Fienup by Dr. Arthur N. Curtis; Dr. Robert Q. Gray by Dr. Paul Y. Tupper; Dr. John A. Leavy by Dr. James M. Scott; Dr. Julius F. Menestrina by Dr. Edward Horace Johnson; Dr. Bernard W. Moore by Dr. Edward W. Saunders; Dr. Edwin M. Nelson by Dr. Aaron J. Steele and Dr. Warren B. Outten by Dr. Frank J. Lutz.

NEW YORK

Jenkins Medical Association.—At the annual meeting of Jenkins Medical Association, held in Yonkers, May 11, the following officers were elected: president, Dr. L. B. Goldhorn, Mount Vernon; vice-president, Dr. Albert C. Benedict, Yonkers; secretary and treasurer, Dr. Frank W. Shipman, Mount Vernon; and trustees, Drs. Archibald M. Campbell and William F. Greene, Mount Vernon, and Edgar M. Hermance and Nathan A. Warren, Yonkers.

Personal.—Dr. Burt G. Wilder, Ithaca, emeritus professor of neurology and vertebrate zoology of Cornell University, Ithaca, has moved to Brookline, Mass.——Dr. Ambrose Beach, Coxsackie, underwent operation for appendicitis in the Albany Hospital June 3.——A building in Schagticoke, owned by Dr. James H. Lyons, Troy, was burned, May 26, with a loss of $3,000.——At the semiannual meeting of the Seneca County Medical Society, held in Seneca Falls, Dr. Elias Lester, Seneca Falls, who has been a member of the medical profession for more than fifty years, was the guest of honor.

New York City

Cholera Death on Ocean Liner.—The passengers on the steamship *Berlin* from Naples were held in quarantine on arrival at New York City on account of a death from cholera on board.

Personal.—Dr. Walter H. Conley has been appointed first deputy medical superintendent of Bellevue and Allied Hospitals, vice Dr. George O. Hanlon, promoted to general medical superintendent.——Dr. and Mrs. Louis Kast sailed for Europe, June 6.

New Polyclinic Hospital.—The New York Polyclinic Hospital will be completed about October 1. Dr. John A. Wyeth was the founder and is the secretary and moving spirit of the institution and the chief promoter of this new enterprise. The building is said to be the tallest hospital building in the country. The main building will be ten stories in height, with a solarium on the roof. On the ground floor will be the dispensary, rooms for the visiting staff, patients, trustees, etc.; on the second floor the medical and surgical amphitheater, four wards, examination rooms, *x*-ray and laboratory, and minor operating room; the mezzanine floor will be given over to diseases of the eye, ear, nose and throat; the fourth floor will be occupied by a children's ward, maternity ward, and museum; sleeping rooms for nurses and servants are located on the fifth floor; the sixth, seventh and eighth floors are to be devoted to private patients; the ninth floor to private operating rooms and wards; the tenth floor contains an isolation ward, and the dining rooms of the officers, nurses and servants, while the roof will be used as solarium for all patients. The legend over the entrance of the hospital is: "For the sick without regard to race or creed." The main building will cost about $650,000 and, with the adjoining ambulance station, training school for nurses, and cost of ground, will represent, altogether, an investment of about $1,000,000. About half of this is available at the present time.

OHIO

Personal.—Dr. Henry G. Meek, Bellaire, has been elected president of the Bellaire Board of Health, and Dr. Dixter W. Boone, health officer.

New Officers for State Board.—At the annual meeting of the State Board of Health, Dr. Frank Warner, Columbus, was elected president; Dr. Oscar Hasencamp, Toledo, first vice-president; Dr. Frank Boudreau, Cleveland, epidemiologist, and Dr. Charles O. Probst, Columbus, was reelected secretary-treasurer.

Cincinnati

Visiting Nurse for Eye Cases.—The board of health has accepted the offer of the Cincinnati Society for the Welfare of the Blind to give $1,000 a year for the employment of a visiting nurse to look after cases of affected vision in children, with especial reference to ophthalmia neonatorum.

Health Department Experience for Advanced Students.—The board of health of Cincinnati has voted that junior and senior students of the College of Medicine of the University of Cincinnati may have a practical course in public health and sanitation. The work will include the usual chemical and bacteriologic work of health departments, the questions of water-supply, sewage disposal, disposal of dead, sanitary tenement and house inspection, meat, vegetable and dairy inspection, school inspection and vaccination, tuberculosis field work (including dairy work), actual epidemiologic work (including tracing of cases and sources of infection), and finally, statistical work and methods of making and filing reports.

PENNSYLVANIA

Personal.—Dr. Francis H. Brobst of Reading has sailed for a two-year trip around the world.——Dr. Samuel S. Woodburn has been appointed a member of the council of Pittsburg.

Philadelphia

Personal.—Drs. Alexander C. Abbott and D. Braden Kyle have been reappointed members of the board of health.——Dr. James A. Erwin and Mrs. F. M. Erwin sailed for Europe, June 10.——Dr. J. Louis Borsch, formerly of Philadelphia but now of Paris, has been elected ophthalmic surgeon to the Trinity Lodge Hospital in that city to fill the vacancy left by the death of Dr. Bull.——Dr. H. Brooker Mills has been elected physician to the Northern Home for Friendless Children at Philadelphia.——Dr. George Hudson-Makuen was elected president of the American Laryngological, Rhinological and Otological Society at the meeting in Atlantic City, June 3.——Drs. Ferdinand Lessing and Albert P. Brubaker have sailed for Europe.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, received the degree of LL.D. at the exercises attending the opening of the Medical School Building of McGill University.——Dr. Milton B. Hartzel received the degree of LL.D. at the commencement exercises of the State College.——Dr. Charles E. G. Shannon has been appointed assistant attending ophthalmologist to the Philadelphia General Hospital.

RHODE ISLAND

Library Cornerstone Laid.—In the presence of a notable gathering of the medical fraternity of Rhode Island, the cornerstone of the new library of the State Medical Society was laid June 1. Addresses were made by Dr. G. Alder Blumer, New Haven, Conn., and the presiding officer, Dr. Frank L. Day, Providence, who laid the cornerstone.

State Society Meeting.—The ninety-ninth annual meeting of the Rhode Island Medical Society was held in Providence, June 1, and the following officers were elected: president, Dr. Frederick T. Rogers, Providence; vice-presidents, Drs. Alexander B. Briggs, Ashaway, and John W. Keefe, Providence; secretary, Dr. Stephen A. Welch, Providence (re-elected), and treasurer, Dr. Winthrop A. Risk. Dr. G. Alder Blumer delivered the annual address entitled "A Plea for the Medical Library." At the annual dinner of the society, Dr. Arthur Hollingworth, Providence, acted as toastmaster and Dr. Shattuck, Boston, made an eloquent appeal to arouse interest and support for the library.

GENERAL NEWS

Honors to Surgeon-General.—Surgeon-General Charles F. Stokes, U. S. Navy, delivered the valedictory address at the commencement exercises of Jefferson Medical College, Philadelphia, June 5. On this occasion the college conferred on Surgeon-General Stokes the degree of LL.D. and on the following day Columbia University, New York City, gave him the degree of D.Sc.

Orthopedists Elect Officers.—At the annual meeting of the American Orthopedic Association, held in Cincinnati, May 15-17, under the presidency of Dr. Albert H. Freiberg, Cincinnati, the following officers were elected: president, Dr. Virgil P. Gibney, New York City; vice-presidents, Drs. George B. Packard, Denver, and T. Halsted Myers, New York City; secretary, Dr. Ralph R. Fitch, Rochester, N. Y.; and treasurer, Dr. Gwilym G. Davis, Philadelphia. The next meeting will be held in New York City in May, 1912.

Southern Railway Surgeons Meet.—The sixteenth annual meeting of the Association of Surgeons of the Southern Railway was held in Charlotte, N. C., May 29-30, and the following officers were elected: president, Dr. John H. Mitchell, Mount Vernon, Ill.; vice-presidents, Drs. Robert L. Gibbon, Charlotte, N. C., Reuben T. Ramsey, Elba, Va., Francis A. Webb, Calvert, Ala., and Walter R. McKinley, Columbus, Miss., and secretary and treasurer, Dr. Jacob U. Ray, Woodstock, Ala. Surgeon Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, delivered an address on "Railroad Sanitation."

Medical Milk Commissions.—The fifth annual meeting of the American Association of Medical Milk Commissions was held in Philadelphia, May 23-24, under the presidency of Dr. Milton J. Rosenau, Boston, coincident with the Philadelphia Milk Show, May 20-27, and the meeting of the Certified Milk Producers' Association, May 22-23. Louisville was selected as the place of meeting for 1912. Dr. Henry Enos Tuley, Louisville, was elected president, Dr. Samuel McC. Hamill, Philadelphia, treasurer, and Dr. Otto P. Geier, Cincinnati was reelected secretary.

Award of Marie Feodorovna Prizes.—The American Red Cross announces, in connection with the International Conference of the Red Cross, which will be held in Washington, D. C., May, 1912, that the Marie Feodorovna prizes will be awarded. These prizes represent the interest on a fund of $51,000 which the Dowager Empress of Russia established about ten years ago for the purpose of diminishing the suffering of the sick and wounded in war. Prizes are awarded at intervals of five years and at present are of the following value: one of $3,600; two of $1,530 each; and six of $510 each. The topics selected for the competition are:

1. Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers.
2. Surgeon's portable lavatories for war.
3. Methods of applying dressings at aid stations and in ambulances.
4. Wheeled stretchers.
5. Support for a stretcher on the back of a mule.
6. Easily portable folding stretcher.
7. Transport of wounded between men of war and hospital-vessels and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen-ray apparatus, permitting utilization of *x*-rays on the battle field and at the first-aid stations.

The chief prize will be awarded for the best solution of any of the subjects in question. Further information may be obtained by addressing the chairman of the exhibit committee, American Red Cross, Washington, D. C.

Circular on Acute Epidemic Poliomyelitis.—The American Orthopedic Association and American Pediatric Society have issued a circular addressed to health authorities and boards of health on anterior poliomyelitis. This circular states that the disease is communicable from one patient to another, and also by a third person; that it occurs in epidemics and tends to spread along the lines of travel; that there is reason to believe that it is prevented from spreading by quarantine and that in the opinion of the associations it should be a reportable disease. It further stated that abortive cases are of particular significance; that they are, undoubtedly, a source of infection and that their study is of much importance. In cases of infantile paralysis, other cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as suspicious. All kinds of infantile paralysis should be strictly quarantined, the sputum, urine and feces being disinfected, and the same rigid precautions adopted as in scarlet fever. The quarantine should last four weeks, in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is raised. The transportation or transfer of patients in the acute stage of the disease in public conveyances should be strictly forbidden. It would be desirable to adopt provisional quarantine measures as regards suspicious cases when an epidemic prevails in a community. All cases should be reported to the public health authorities and all deaths from this cause properly described and registered. The committee, in conclusion, advises that public health authorities make a careful study of epidemics.

FOREIGN NEWS

Physiology at High Altitudes.—The scientific laboratories on Monte Rosa, named after the late Prof. A. Mosso, of Turin, will be opened for scientific research on and after July 15, this year. There are sections devoted to physiology, botany, physics and microbacteriology, and there are nineteen posts open to research workers from all the countries or institutions which contribute to the support of the institution. Applications for reservation of a place must be sent to the director, Dr. A. Aggazzotti, Corso Raffaello 50, Turin, Italy, not later than July 1, with specifications as to the subject of research and the credentials from the government or institution.

Influence of Occupation on Development of Female Diseases.—The *Staatsministerium* in Bavaria has issued an official appeal to physicians suggesting that in all case-histories hereafter the occupation and the special trade, in particular, shall be briefly noted. It states that the influence of the occupation on development of female diseases must be studied more closely as women are becoming wage-earners in constantly larger proportions. The data accessible on this subject are not sufficient at present on which to base general conclusions. The appeal is signed by Dr. Koelsch of Munich, the medical official in the *Staatsministerium* in charge of industrial matters in Bavaria. He adds that the material already on hand to date in the various university clinical institutions might be utilized for graduation theses, and he offers his services to supply the writers with social-technical information as desired. The appeal is being published in the current German gynecologic and general medical journals, as, for instance, in the *Monatsschrift für Geburtshülfe und Gynäkologie*, April, 1911, p. 514.

Pneumonia and Phthisis in the Transvaal.—According to a report by Dr. G. D. Maynard, an inspector of the health department, Johannesburg, on the mortality among natives employed in the mines and on other work in the Transvaal, the most frequent causes of death are pneumonia and pulmonary tuberculosis. The fact is also revealed that the death-rate from these diseases among the natives recently arriving from the northerly or more tropical regions is considerably higher than among those coming from south of latitude 22 degrees S Among the East Coast natives who have not completed one month at work, pneumonia accounts for 443 per 1,000 of all deaths during the first month, while only 97 per 1,000 deaths are due to tuberculosis. At the end of a year, however, tuberculosis accounts for approximately 300 per 1,000 deaths. The conclusions of the report are that the general death-rate among all natives, tropical and others, shows a marked decrease during the first eighteen months at work. The pneumonia death-rate is at least three times as high during the first six months as it is in the second year. Tuberculosis becomes relatively more important as the length of residence in the mining districts is increased, but in spite of this, the general death-rate shows a marked falling off in magnitude.

Deaths Abroad.—In addition to those mentioned by our foreign correspondents, the following are among the prominent men who have recently died: Major Lamb, I.M.S.; University of Glasgow, Scotland, 1890, whose work in connection with the investigations of the action of Indian snake venoms has brought him just renown; died in Edinburgh, Scotland, April 13, aged 42.——V. Cozzolino, professor of ear diseases at the University of Naples, died April 18, aged 58. He has taken a leading part in late years in the campaign against tuberculosis and in the training of deaf-mutes, his last work being on this subject. He offered a prize to be awarded at the next International Congress on Otology, which is to meet at Boston in 1912, for the best work on the various aspects of lesions of the middle ear, inducing insidious, progressive deafness and tinnitus.——R. Binswanger, of the Kreuzlingen, Switzerland, sanatorium for mental diseases, founded by his father and now carried on by his sons, recently succumbed to coronary sclerosis, at the age of 61. The Binswanger family has always stood as pioneers for the principle that occupation and intercourse with the well are most important elements in treatment of mental disease. Binswanger also took a prominent part in local and national politics when matters of public moment were involved.——H. Naegli-Akerblom, privat-docent of the history of medicine, died at Geneva, Switzerland. He was born at Rio de Janeiro but has spent his life in Switzerland.——E. Hagnauer, a leading ophthalmologist at Valparaiso, Chili, of Swiss parentage, succumbed recently to angina pectoris, aged 48.——Don J. Aparici, director of the army hospital at Alcala in Spain, recently succumbed to blood poisoning from a scratch during an operation.——G. Haarmann, mayor of Witten, Prussia, since 1890, who had served several terms as member of the imperial and national legislatures, died at Witten, aged 63.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, June 3, 1911.

National Insurance Bill

In my last letter to THE JOURNAL I stated that the profession was thoroughly roused to the great danger to its interests of the national insurance bill. Evidence of this fact is increasing on all sides. Both the medical and the lay press are deluged with letters from angry physicians. A special representative meeting of the British Medical Association lasting two days and sitting on the first day from 10 a. m. until midnight has been held. Absolute unanimity obtained on all important points. The representatives agreed that there must be no control of the physicians by the friendly societies, that there must be a free choice of physicians, that a wage limit for medical attendance of $10 per week must be adopted, and that medical representation must be adequate on the controlling bodies. On the second day the Chancellor of the Exchequer, Mr. Lloyd-George, attended at the morning session for the purpose of hearing the views of the representatives and conferring with them. The proceedings were of the nature of a running conversation. He declared that the whole-hearted support of the profession was necessary for the success of the bill. He was quite in favor of the free choice of physicians. He said that an advisory committee to assist the insurance

commissioners would be set up after the passage of the bill when regulations would be framed for medical serviee, and there would then be ample time for consideration of details. At least one of the insurance commissioners will be a doctor. He was in favor of the freedom of physicians from control by the friendly societies, and for vesting all charges for medical benefits in the local health committees. With regard to the rate of payment, the bill did not dictate this and it would be dealt with by the insurance commissioners. With regard to the income limit he held out no hope that the proposal to fix the limit at $10 per week could be accepted by the House of Commons. Large bodies of skilled workers such as coal-miners and engineers had wages above that and at present were admitted to the friendly societies. No member of the House of Commons, unless a representative of one of the universities, would dare to propose their exclusion. It is on this question of a wage limit that the government will have the greatest difficulty in coming to an agreement with the profession. Probably all other questions can be settled by arrangement, but the wholesale conversion of private into contract practice is abhorrent to the profession, which is thoroughly united on this point. The British Medical Association has 22,000 members, which is somewhat more than half of the profession, and it represents the whole profession in the stand which it is making against the objectionable provisions of the bill. In response to a circular physicians are joining the association in unprecedentedly large numbers for the purpose of fighting the bill. Following the meeting of the representatives of the divisions of the association a mass-meeting of the profession, members and non-members, was held in London. It was attended by about 1,500 doctors and was the largest meeting ever held to consider a medico-political question. On the platform were many of the leaders of the profession; Mr. Butlin, president of the association, and also president of the Royal College of Surgeons, Sir Thomas Barlow, president of the Royal College of Physicians, Sir Victor Horsley and others. The meeting was most enthusiastic, and heartily endorsed the program of the representatives of the association. It was pointed out that if physicians presented a united front all the threatened dangers of the bill could be averted, for no matter what laws were passed their consent to the working of them was essential. Great hostility was displayed to any scheme that would place the profession under the heel of the friendly societies and one speaker was loudly cheered when he went much further and declared that the opportunity had now arisen for abolishing the system of contract practice entirely. A resolution was carried unanimously not to take part in the working of any scheme which had not previously been accepted by the British Medical Association. The only resolution on which there was any difference of opinion was that fixing the wage limit at $10. A small minority voted against this because they would have liked to go still further and fix the limit at $6. The chancellor seems to have made the mistake of imagining that because the contract system was already in vogue all it had to do was to fix the rate a little higher and be regarded as a benefactor by the profession. He was not alive to the fact that the contract system is strongly disliked and is merely tolerated. This bill has done one thing which seemed previously impossible—thoroughly united the whole profession.

Removal of Physicians from the Register for Working with Unqualified Persons

Sandow, who started as a strong man, has undergone an evolution not altogether respectable; he has passed through the stages of teacher of gymnastics and physical culture and finally has become a quack. He has established a most successful business termed the Sandow Curative Institute, to which patients are attracted by all the unscrupulous arts of the nostrum exploiter. Whole-page advertisements filled with the usual blatant humbug promising to cure all sorts of diseases have secured for him the subservience of our venal press, evidenced in disguised puffs in the form of leading articles. Even certain doctors of some standing have, I regret to say, been induced to write articles on the benefits of physical culture in general and Sandow's system in particular. But Sandow has at last gone too far. He engaged three doctors at a salary for the purpose of examining patients to ascertain whether they were fit to undergo the exercise. These doctors have now been prosecuted before the General Medical Council by the British Medical Association for associating themselves in a professional capacity with an institution which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or attendance, treatment for disease under the personal direction of Mr. Sandow, who is an unqualified person. For the defense it was put forward that the accused doctors took no share of the profits and had no part in the management of the institute. The examinations which they conducted were for the purpose of protecting the public. Sandow also said that, if the doctors should be held to have transgressed the standard of medical ethics so as to render them liable to removal from the register, he was prepared to entrust the prescribing of the treatment according to his methods to the physicians and to cease advertising in the lay press that the Sandow Institute undertakes to cure disease. The Council found the three doctors guilty, but removed the name of only one from the register, and postponed judgment in the case of the other two, giving them time to reconsider their position.

A short time ago I reported the case of a man suffering from tuberculosis of the knee who was treated by Mr. Barker, the well-known bone-setter, under an anesthetic and was obliged subsequently to have his leg amputated. The Council found the doctor who administered the anesthetic guilty and ordered the removal of his name from the register.

The Seventeenth International Congress of Medicine

Particulars as to this congress, which will be held in London, Aug. 6-12, 1913, have been given previously in THE JOURNAL, April 8, 1911, p. 1047, May 13, 1911, p. 1404, June 10, 1911, p. 1733. The following officers have been elected: president, Sir Thomas Barlow; secretary-general, Dr. W. P. Herringham, 40 Wimpole St. W.; treasurers, Sir Dyce Duckworth and Mr. G. H. Makins.

The International Association of Medical Museums

At a meeting of pathologists interested in medical museums this organization was discussed. Its objects are the interchange of museum specimens and material for research, the elevation of the medical museum as a teaching medium, and the improvement of museum technic. It maintains an exchange department and an experience department for the interchange of information. The membership is ninety-eight. After discussion the following resolutions were passed: (1) That a meeting of the association be arranged in conjunction with the International Congress on Medicine in 1913; (2) that the three great English medical societies, the Pathological Society, the Anatomical Society and Royal Society of Medicine, be requested to cooperate with special reference to the publication in their journals of news of the department of exchanges, and short reports of meetings; (3) that correspondents be appointed in London to act as local secretaries.

Total Abstinence and Longevity

The seventieth annual report of the United Kingdom Temperance and General Provident Institution is a record of continued progress. The number and amount of new policies are the largest ever issued in one year. In the general section the expected mortality for the quinquennium 1906-1910 was 2,282, and the actual mortality was 1,900 while in the temperance section (confined to total abstainers) the expected mortality was 2,291 and the actual mortality only 1,504. The surplus allows of a reversionary bonus on whole life policies with full profits at the rate of 2.1 per cent. in the temperance section and 1.7 in the general section. The report of the Sceptre Life Association shows a similar result favorable to total abstainers. For the twenty-seven years 1884-1910 the expected deaths in the general section were 3,352 and the actual deaths 2,674 (79.7 per cent.); in the temperance section the expected deaths were 2,311 and the actual deaths 1,124 (52.5 per cent.). But not only here are the figures of the temperance insurers superior over the whole period, but for every quinquennium since 1893 they show an increasing superiority. Thus for the quinquenniums 1894-98, 1899-1903, 1904-08, and the two years 1909-10 the percentage which actual deaths form of expected deaths were in the general section 79.3, 76.9, 80.8 and 80.9, while in the temperance section they were only 54.4, 52.5, 48.4 and 48.4. Thus, while the mortality in the general section shows no decline, the mortality in the temperance section shows a steady fall from 1894 to 1908. This is attributed to a larger number of the assurers in the temperance section being life abstainers and to an increasing number being the children of abstainers.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 26, 1911.

The New Codex and the Physician's Right of Prescription

The new codex the use of which was made obligatory in 1909 (THE JOURNAL, Aug. 29, 1908, p. 772) has modified on a great number of points the old formulas that we were accustomed to use and of which we understood thoroughly the mode of action. Thus, in most of the heroic medicaments our old

formulas for tinctures of 1/5 have been modified to 1/10. Other products have been more modified. Thus, in Sydenham's laudanum, two centuries old, wine has been replaced as a solvent by alcohol. Thus it has become a kind of composite tincture which has no longer the same properties as true laudanum. The tincture of iodin, which physicians have been accustomed to employ in the dilution of 1 to 13, has been made 1 to 10, which makes a very caustic drug, all the more that the old tincture was prepared with 90 per cent. alcohol while the new is to be made with 95 per cent. However this may be, these modifications would not at all inconvenience the physician if he were able to prescribe and to obtain for his patient the old preparations, the activities of which he understood perfectly and from which he could obtain therapeutic results. But this is precisely the point of difficulty. The Société de thérapeutique appointed a commission to study the matter. Dr. Albert Robin, who submitted the report of the commission, protested energetically against the narrow and Draconian way in which the new formulas have been made the standard to the exclusion of the old; in fact, the pharmacist has no right to keep in stock the products the formula of which has been modified, and honest pharmacists have several times been criminally prosecuted for merely having in stock, for example, laudanum made according to the old formula. The codex preparation is the one which the pharmacist ought to employ whenever the physician has not specified "old codex;" but if the prescriber has thought it best to give a formula of his own, the pharmacist ought to have the right to prepare in advance the products which enable him to fill prescriptions suitably and rapidly. At the end of this discussion, the society unanimously resolved to request the appointment on the commission of two members of the Société de thérapeutique who would be competent to appreciate the therapeutic properties of drugs.

The Hospital of Beaune

The fine Hôtel-Dieu of Beaune in the department of the Côte-d'Or, founded in 1443, is a magnificent specimen of the art of the fifteenth century. In spite of restorations executed during the last few years by the commission of historic monuments, new and important repairs must be made very soon if this unique monument is to be preserved. A public subscription has, therefore, been opened to cover half of the sum ($20,000 or 100,000 francs) required for the repairs, the other half being furnished by the hospital itself.

Deaths

The deaths are reported of Dr. Arthur Fallot, professor of hygiene and of legal medicine at the Ecole de médecine de Marseille, and of Dr. Bressard, professor of internal pathology at the Ecole de médecine de Poitiers.

Cytodiagnosis in Gastric Diseases

In one of the last sessions of the Société médicale des hôpitaux de Paris, Dr. Maurice Loeper, *agrégé* professor at the Faculté de médecine de Paris, communicated the results of investigations which he made in collaboration with Dr. E. Binet of Vichy, on the cellular elements contained in the lavage liquid of the fasting stomach. In the normal state, except during digestion, one finds in this liquid hardly anything except cellular detritus and ill-characterized nuclear and protoplasmic débris. In cases of gastric ulcer there are found in the same liquid, even in the intervals between hemorrhages, red globules, epithelial cells and leukocytes. In gastritis, one finds white globules of every kind, glandular elements which are quite recognizable and some of which are very granular. The lavage liquid from gastric cancer is rich in large and average-sized cells, strongly colored, very resistant, often multinucleated and very rich in glycogen. Among aerophages and sialophages, one finds a great number of pavement cells from the superior tract. Cytodiagnosis, therefore, is of interest, not only to practical pathology, but also to general pathology, since it permits of the isolation of all latent gastric conditions and even of true mild gastritis from the confused group of the dyspepsias.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 27, 1911.

Personal

Professor Fritsch, the renowned gynecologist of Bonn, will resign his position, October 1, on account of sickness.

Professor Abderhalden, professor of physiology at the Berlin veterinary college, has received a call to Halle to fill the chair of Professor Bernstein.

Professor Pohl of Prague has been appointed director of the institute of pharmacology at Breslau in place of Professor Filehne.

The successor of Professor Hensen at Kiel is Professor Bethe, first assistant at the institute of physiology at the university of Strasburg. He assumes his duties as director of the institute of physiology at Kiel during the summer semester. This appointment does not lack special interest. It has been a subject of repeated complaint in the *Deutsche medicinische Wochenschrift* that original investigators in physiology received no recognition in the appointments to regular professorships, and that therefore physiology lagged behind in the German universities as compared with those of foreign countries, particularly when compared with the laboratories of America. Among other things the complaint was made that such an investigator as J. Loeb had been allowed to remove to a foreign country and that a talented scientist like Bethe would apparently stay as privat-docent in Strasburg all his life. There is little doubt that this promotion to Kiel has made an impression; at any rate it is a source of satisfaction that an investigator like Bethe has been called to an independent position. He is at present 39 years old.

A few days ago the curator of the university of Marburg, Professor Schmidtmann, died suddenly at the age of 60. Up to April 1 of last year he was a distinguished councillor in the medical section of the Prussian state department of education, and his call to Marburg excited some comment because it was the first time that the position of curator of a university which heretofore has always been in the hands of the management, has been given to a medical man. Schmidtmann belonged to the medical section fifteen years. According to report he left the position on account of his health, but others intimate that he was worsted in a dispute with the head of the medical section and with a colleague in the department. He had performed special services in his ministerial position in connection with water supply and sewage disposal. He was instrumental in founding a government testing laboratory for this department; this employed almost thirty physicians, chemists, botanists, zoologists and experts in water-supply engineering. Among his many literary works is a handbook of legal medicine (*Handbuch der gerichtlichen Medizin*).

Professor E. Remak died suddenly, May 26, at the age of 62. He was the son of the renowned physiologist and neurologist, Robert Remak, one of the most notable pupils of J. Müller and Schönlein. Ernst Remak received his training in neurology as assistant of Professor Westphal at the Berlin Charité. In his special field he published a series of noteworthy articles, on the clinical aspects of tabes, muscle atrophy, and the reaction of degeneration. His larger works include one on the principles of electrotherapy and electrodiagnosis and a monograph on neuritis and polyneuritis in the Nothnagel Collection.

Privy Councillor H. Rehn, the senior of German pediatrists, of Frankfurt a. M., a brother of the well-known surgeon of the same place, celebrated his eightieth birthday, May 20.——Privy councillor Dr. Götz, of Leipsic, who has won great distinction in the development of German gymnastics, was made an honorary doctor of philosophy at Kiel on the occasion of his eighty-fifth birthday.

Bill for Optional Cremation

This bill the fate of which I reported to be very dubious has, contrary to expectations, received the small majority of two votes in the Prussian lower house of parliament. An important factor in this result was the attitude of a part of the conservatives who although they are in other matters noted for their obstructive tendencies in religious affairs, voted for this bill because, as their representative with remarkable candor announced, they were of the opinion that cremation was not opposed to the teachings of the Christian religion or to the principles of the conservative party and had nothing to do with politics. For the final passage of the law it is still necessary that the upper house should approve it and a majority of the members are conservative. Still from the action of the lower house the hope may be entertained that the vote will also be favorable to the bill.

Pay Ward in Charlottenburg

Like Berlin, the city Charlottenburg is contemplating the erection of a pavilion in the city hospital for paying patients of the second class. The expenses of building a ward with fifty beds is estimated at $135,000 (540,000 marks). The charges for care will be placed at $2.00 a day for citizens of Charlottenburg and $2.50 (10 marks) for strangers. The physicians in charge will have the right to fees according to the prices fixed by the medical societies.

International Congress for Infant Welfare

The third international infant welfare congress will assemble this year at Berlin September 11-15. It is under the protection of the empress who has shown the liveliest interest in the movement to combat the mortality of infants. The imperial chancellor has accepted the honorary presidency of the congress and the chairman of the committee on organization is Dr. Bumm, the head of the imperial health office. The various departments include instruction and teaching, practical measures, legislation and general management, guardianship, and statistics. The following papers are provided for the different sections: instruction of physicians in the field of hygiene and diseases of children; instruction and postgraduate education of midwives in the care and treatment of infants; training of nurses for institutions, families and communities; instruction of the people in the care and feeding of infants; care for pregnant and puerperal women; hygienic stations and nursing dispensaries; milk stations and their results; crêches; closed hospitals for the care of infants; asylums and homes; rural infant hygiene; infant hygiene in legislation and administration; motherhood insurance; care of foundlings and illegitimate children; isolation of syphilitic children; production and control of milk for infants; the international relations of guardianship and the Hague convention; the legal procedure to establish the rights of illegitimate children in foreign countries; their legal position in the most important European countries; mortality, morbidity and birth statistics in various countries, and formulation of a uniform scheme for collecting international statistics of infant mortality and statistics of the success of hygienic measures.

No Change in the Vaccination Law

The renewed attempt of our antivaccinationists to secure a change in the vaccination law and especially the introduction of a conscience clause or at least the appointment of a committee to investigate the vaccination question, again has woefully miscarried. After a final debate, a few days ago, all of the proposals were settled by laying them on the table (passing to the order of the day). This was done in spite of the fact that speakers from almost all the political parties expressed themselves in favor of the propositions of the antivaccinationists. But it may be remarked with satisfaction that the majority of our popular representatives took the standpoint of genuine science on this question and did not yield to the agitation of an unscrupulous antivaccination party. That the latter will not be reconciled to this defeat but will continue their agitation and as soon as possible appear before the Reichstag with a new petition, may be regarded as certain.

Protest Against the Principle of "Tag Days"

A number of distinguished persons, prominent in social charities, have made a serious protest against setting aside a day for aid of children's philanthropies by means of the sale of flowers, which I have mentioned in the previous letter. This protest contains the following considerations: "Such arrangements cause more injury than wholesome effect, whatever may be their financial success, for they weaken the sentiment for intentional and well-planned charity and hinder the well-to-do classes, who are able to help, from receiving the education necessary to a deeper understanding and more serious conception of our social relations. The charitable organizations, whose duty it is above all others, to awaken and sharpen the conscience of all classes regarding the evils with which they are especially acquainted, neglect this duty when they use external incitements to arouse a disposition to give which is prompted by no knowledge of the evil itself; they help to lessen the social sense of responsibility rather than to deepen it. For the young girls who assist, the flower day signifies a confusion of their moral and social ideas since it can have no material success without some sort of festivity. Social obligation should mean to them a serious matter which requires the internal devotion of their personality and not a feast which cannot dispense with external excitements and satisfaction. The attempt is being made to prohibit street selling by children. How can we urge this, if in the service of social needs young girls, perhaps even school children, are exposed to these dangers, and especially in the metropolis. Those who need our help will be injured by this kind of alms-collection. We ought to meet their needs with holy earnestness and the help that we wish to bring them should not be made dependent on public appeals which are not conducted with similar seriousness. The giver also is led astray in a certain sense. He ought to give from an honorable sympathy and appreciation of social aid, not in a jovial, festive mood, following the impulse of the moment. In our time with its social trend, the lust for pleasure, frivolity and ambition ought not to be awakened or nourished in securing the necessary means for philanthropic purposes. Other methods must be sought and in the course of experience ways will be found by which the more serious purpose will be awakened and strengthened and will be led to blessed social accomplishments." The justness of these views, in general, certainly cannot be controverted, but how then can the money for the private assistance of public charity be collected, money which is indeed necessary as the state alone cannot support charity, and other methods of getting money, such as bazaars and similar arrangements, are not only objectionable on the same grounds, but have become exhausted in consequence of too frequent employment. For this reason we do not believe that the protest will result in any interruption of the success of the flower days.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, May 29, 1911.

Medical Wishes for New Laws

Just now a committee of medical men, comprising the representatives of the various Austrian medical organizations, is working in Vienna against the proposed new "public law act," which will be the first thing for the new parliament to deal with. The efforts of the profession are directed towards the elimination of certain clauses and articles contained in the old Codex and taken over into the new act. The following resolutions have been accepted unanimously by the committee and will be forwarded to the government: 1. The profession objects, both in its own interest and in that of the general public, to the obligation to render medical aid in all instances (*Berufszwang*). 2. The profession protests against being dependent on the opinion of lay persons in affairs pertaining to the art of caring for its teaching and its practicing. 3. Physicians protest against the obstacles placed in their way by certain inhuman laws, when they treat and cure patients; especially do they protest against the grotesque condition of absolute professional secrecy imposed by one law, which condition is nullified by other clauses of the same law; also to the law which, under certain conditions, requires a doctor to report to the police a patient who, perhaps, has called the doctor in fear of death. Such a state of affairs converts the doctor into a police agent, and is absolutely abominable and unacceptable for the profession. The special and distinguished position of the medical profession requires a special and distinguished handling of its relations to the public in general. The profession also urgently requests a suitable law against quackery and patent medicine fakes.

The committee resolved to establish central archives for the collection and study of all decisions of a juristic, social, economical and ethical nature, pertaining to the members of the profession or its art. All doctors of the empire will be requested to collaborate in this work and to communicate with this institute also in case of an unjust assessment of rates and taxes of a doctor.

Hypnotic Experiments in Vienna

A series of lectures on hypnotic experiments and similar conditions was delivered some time ago before a lay audience, until the experiments resulted in serious mental derangement of a few persons. The lecturer, a non-medical man, invited those present to come up and allow him to throw them into the state of hypnotic sleep. Whilst he succeeded in doing so, on one night he was unable to remove the spell from one woman. His anxiety caused several other women to faint, and the police had to interfere to prevent further mischief. A similar incident occurred a year or two ago in Budapest, where a young woman died as a result of a hypnotic experiment. Public indignation, as well as scientific protests against such demonstrations, has prompted the police to stop all such lectures. In medical circles it was a matter of severe criticism that no medical association had been asked to pass on the admissibility of lectures of such a nature. The woman referred to above had to be taken into a hospital for nervous diseases for prolonged treatment.

A Remarkable Judgment in Favor of Medical Opinion

Some time ago a patient suffering from caries of the tibia was advised by a surgeon to undergo an operation. He was willing, but on advice of a friend, he declined to do so. The patient died soon afterward, and necropsy revealed that death was due to thrombosis of veins, originating from the affected part. The good friend thereupon was charged with having wilfully prevented the patient from obtaining help and was

sent to prison for two months; the judge said that the friend's action was very near intentional murder. The incident will, no doubt, give vantage-ground against quacks, who hitherto have enjoyed a fair amount of indulgence with our courts.

Association News

THE LOS ANGELES SESSION

Other Medical Alumni Reunions

The following announcements have been received, in addition to those already given in THE JOURNAL:

A banquet for all University of Pennsylvania Alumni, who may be visiting Los Angeles, during the sessions of the American Medical Association, June 27-30, will be held at the Hotel Alexandria, corner Spring and Fifth Streets, at 6:30 o'clock, Tuesday, June 27. The price for each plate will be $5.00. All "Pennsylvania men" are asked to notify the undersigned immediately of their intention to attend the banquet, and if possible, to send check or money order, inasmuch as some definite idea must be obtained of the exact number for whom provision is to be made.

The banquet will be addressed by some of America's greatest physicians and surgeons, graduates of "Old Penn", and an enthusiastic and worth-while time is promised. It is further suggested that each alumnus forward the year of his class.

T. PERCEVAL GERSON, M.D.
1011 W. P. Story Building, Los Angeles.
Secretary and Treasurer, University of Pennsylvania Alumni Society of the Pacific Southwest.

The alumni of Rush Medical College will meet at a smoker and reunion on alumni night, June 27, 1911, at Casaverduga at Glendale. Special cars will convey the alumni to the place of meeting. Further information will be furnished at the place of registration.

B. M. LINNELL, M.D., 32 N. State Street, Chicago.

Miscellany

Qualities of Chinese Medical Students.—Jeffreys and Maxwell, in their book on "Diseases of China," state: "The native Chinese has many qualifications for making a worthy practitioner of scientific medicine, and, like the Japanese, may be depended on to enhance the honor of our great profession by adding the strength of native talent to the sum total. We find the following characteristics exemplified among our students and assistants and have reason for believing that they represent the average of the best: excellent memory for facts and detail; faithfulness in carrying out methods once adopted; marked powers of observation; and the most extraordinary devotion to the principle of hard work that we have ever seen among any people; great delicacy in all operations involving the use of the hands, and particular fitness for, and adaptability to, the intricate and time-consuming problems of original investigation, and especially the use of the microscope. We have had students to whom the microscope became the recreation of life and to whom the power of observation was apparently a part of Nature. On the other side of the account we must write down a considerable shortage in the matter of professional judgment and in ability to organize, control and discipline their own subordinates; a tendency to do the operation as laid down in the book without balanced application to the individual; and an overwhelming tendency on the part of some to adopt the methods of quackery and charlatanism. But we must guard this statement by emphasizing the fact that this is only applicable to individuals and that it is merely more prominent as a fault than among our own fellow-countrymen. We have the highest respect for our own assistants, who never fail in courtesy, in loyalty or in application. The day will come when they must take their place as chiefs, as colleagues on an equal footing with ourselves, when they must take on themselves the burden of directing the ministry of medicine among their own people; and we face it with considerable confidence."

Heredity and Epilepsy.—The field workers of the New Jersey State Village for Epileptics (Thirteenth Annual Report, Oct. 31, 1910) in a canvass of thirteen counties of the state, found in the families of 137 patients, 328 epileptics, or an average of 2.4 for each family. The total number of defectives charted was 1,253. Inheritance was found as follows: alcoholic, 69; blind, 18; Bright's disease, 22; cancer, 27; criminal, 5; deaf, 25; epileptic, 57; feeble-minded, 29; insane, 37; migraine, 12; neurotic, 30; paralysis and apoplexy, 43; suicide, 9; syphilis, 4; and tuberculosis, 75. Of 30 children whose fathers or mothers are patients at the institution, 6 are epileptic, 2 feeble-minded, 2 insane, 3 died in infancy, 3 neurotic, 1 tuberculous, 4 undetermined and 9 normal, some of whom may develop epileptic seizures later in life, or have a mental breakdown under stress of harsh conditions. The charts also show that in instances in which the parents are both epileptic or feeble-minded, or one epileptic and one feeble-minded, all the children will be either feeble-minded or epileptic. A study of the charts of the most completely known pedigrees indicates that the normal parents of epileptic offspring have come from families with defective ancestry. With the fact established that heredity plays a large part in the production of these defectives, the report emphasizes the fact that the state should protect itself by the passage of laws that will prevent reproduction of other epileptics. This may be accomplished in one of two ways: either by placing under permanent custodial care, or by sterilization of all epileptics. Concerning the use of the continuous bath in the institution, it is stated that the cases selected for treatment in the continuous bath were those of status epilepticus, serial attacks, postepileptic mania, circular insanity and hysteria major. The results obtained have been gratifying, and were obtained more rapidly than when medicinal agents were employed, and without the after-effect and depression which accompany the use of drugs. The patient usually went into a natural sleep, and awakened refreshed in body and mind, and without digestive disturbances, which generally follow medicinal treatment. In brief, it might be said of the use of the continuous bath, that it has the following advantages over medicinal remedies: It is applicable to all cases; the results are rapidly and uniformly obtained; it is always under control; it is easily administered; it has no bad after-effects; the respiratory system is unaffected; the digestion is not disturbed; the circulatory system retains its equilibrium, and the bath may be continued over a long period of time without depression.

Civil Responsibility of the Surgeon.—"Whatever you do, don't leave a sponge or anything else in the abdomen of your patient," exclaims P. Raugé in an article quoted in the *Gazette Médicale Belge*. "That is the unpardonable sin from the standpoint of the public," he declares, "and it may lead to the direst consequences, as witness the case of Professor Bazy, the irreproachable clinician, the skilled operator and the most conscientious of men." (The case was mentioned in the Paris Letter, Jan. 14, 1911, page 130.) "If he had made a mistake in diagnosis or blundered in operating, no one would have complained, but to leave two compresses in the abdomen! The patient, the crowd, the daily papers, the lawyers and finally the judge all take up the cry and condemn the surgeon. If they didn't, what might not surgeons leave in the abdomens of their patients! It is not to be taken into account, naturally, that the operation saved the life of the patient and that she has been in excellent health since and that the passage of the compresses never caused her the slightest disturbances during their alleged silent progress into the intestine and alleged final evacuation. But here they are at last, and Bazy is confounded. The operation was done at the public hospital, free of charge, and the fine of $1,000 imposed on the surgeon was not for damages but to serve as a lesson to him and to all surgeons to 'go and sin no more. And consider yourself fortunate to get off so easily.' The decision in this case is a slap in the face for the entire medical profession. It says plainly that our skill and our con-

scientiousness no longer suffice to guide us in our professional conduct. We need judges to warn us of our deviations from the straight path of rectitude and show us the right road." "No, and never," he exclaims in conclusion, "do we need such warnings from outside. Our conscience is our guide and mentor, and the public, holding us to such a strict account, can never know the anguish we experience over a dubious diagnosis, a difficult decision, an emergency operation, hoping against hope. And the judges who condemn us might be less severe if they stood beside a sick or dying man with their bistoury in hand. They would appreciate then what medical responsibility really is, and they would understand then, perhaps, that we have to sustain and guide us in our practice something better and higher than the dread of a suit for malpractice."

Diploma Mill Wanted.—The following amusing letter is quoted from the *Rush Alumni Association Bulletin:*

Dr. Christian Fenger, Dear Sir:—Please accept of My hand writting though I hav'nt been in touch with you as to write you before.

But at this time I write you for a Diploma of being a family Doctor. I have purchased a family Medical Book from Sears Roebuck and I have Studied it for two (2) years and I have been Examined by Doctor ——— and I Desires to Give Rush Medical College Honor for what I know, and that is why I asked for a Diploma from that College. I have been Teaching for twelve (12) years and I believe I am Prepaired to do the work. I will give you One Dollar and a half ($1.50) for the Diploma if you will Except of My request Please let Me hear from you by return Mail.

Two Facts Regarding Vaccination.—In the Philadelphia *Public Ledger*, May 21, is a letter from Dr. W. W. Keen, in which he presents some facts regarding vaccination against small-pox and typhoid fever. What he states regarding small-pox vaccination is worth quoting: "One of my old students at the Jefferson Medical College, Dr. Victor G. Heiser, is in charge of the sanitation of the whole of the Philippine Islands. He has accomplished there a work which can be favorably compared with that of Colonel Gorgas on the isthmus. When in this city about eighteen months ago he told me that in seven provinces in and around Manila there were annually about 6,000 deaths from small-pox, which would mean 25,000 to 30,000 cases every year. But in the twelve months following the completion of the vaccination of all the population, there was not a single death from small-pox in the same provinces. Could there be a better demonstration of its value as a preventive? Moreover, he stated that in over 5,000,000 vaccinations in the Philippines, in spite of their frequent neglect of the slight sores which are necessarily produced by the operation, and of the uncleanly habits of a large number of the inhabitants, not one single death had occurred, the finest record of any similar wholesale vaccination in the world. In your issue for May 7, also, in the first page of the Magazine Section in Professor Turner's paper on the 'Abolition of Slavery in Pennsylvania,' are published facsimiles of some advertisements which appeared in Philadelphia before the days of vaccination. Among them is one which to-day would be utterly absurd. It reads 'Lately imported from Antigua (as though they were cigars or coffee) and to be sold . . . a parcel of likely negro women and girls from 13 to 21 years of age, who have all had the small-pox.' Such an advertisement at the present day would be unthinkable. It added to the value of a slave in those days to have had small-pox. To-day nobody thinks of any one ever being liable to small-pox, except those who neglect vaccination. I commend this experience of Dr. Heiser in the Philippines and this advertisement from your paper to the attention of our antivaccination friends."

Arteriovenous Anastomosis for Senile Gangrene.—J. Abalos adds another to his previously reported case of this kind. In his first patient the disturbance reappeared three weeks after the anastomosis, and amputation became necessary. In the present case the patient was a man 68 years old, free from morbid antecedents but a great smoker. One leg had been amputated, six months before, for gangrene commencing in the foot, and one toe of the remaining leg was now developing gangrene. The femoral vein and artery were then sutured, end-to-end, under local anesthesia. The blood poured at once into the vein but was arrested by a coagulum. The vein was consequently opened 1 cm. below the anastomosis, the coagulum presenting in the slit, and it was promptly expelled by the pressure of the blood behind, after which the vein was sutured. The functional results have been perfect to date of writing, twenty-four days after the anastomosis. The gangrene seems to have been arrested and the toe will soon be amputated. The case is reported in the *Semana Medica*, 1911, xviii, 629.

Disease and Longevity.—"Man's constitution shows that he is a long-lived being. For his development there must have been a period when the natural span of life was more fully realized than in the recent past. Disease in its present forms is a result of historic conditions. Especially is this true of the great epidemics that have so much shortened life. Filth comes mainly through overcrowding; contagious diseases could not have antedated it. When the world was sparsely populated and the natural surplus large, a mature old age must have been the general expectation. Infant mortality was doubtless large; but this would not have much influence on social organization if this dangerous period was followed by a long period of vigorous manhood. Old age would also, as with animals, quickly lead to death. The young and vigorous would thus set the pace and shape social and religious usage. Then youth and vigor were long and old age short; now, youth is but a passing moment and old age an enduring, hopeless epoch. With us the senile hand is on every institution and influences every social event. It is not to be wondered that religion has reflected this change and has become a thing of age and grief." (From Patten's "The Social Basis of Religion," New York, 1911.)

Poisoning from Bite of Spider.—S. Mazza of Buenos Aires has made a special study of the nervous and cutaneous manifestations of poisoning from the bite of spiders or arachnoidism, and in the *Semana Medica* (1911, xviii, 641), reports a case in which there were eruption and desquamation resembling that of scarlet fever. The syndrome was differentiated principally by the necrotic lesion at the point of the bite and the intense pain that accompanied it. In some points the syndrome resembled malignant pustule, while the hemorrhagic jaundice and prostration in some cases suggested yellow fever at first. There was no epistaxis or hematuria in his last case, as in infectious purpura, and the spleen was not enlarged, while there was a 3 per cent. eosinophilia. The patient was a boy of 10 who had had scarlet fever some years before. Pino's patient was a man and besides the eruption, fever and vomiting there were also hematuria and jaundice. Both patients recovered. The case reported here with numerous illustrations is Mazza's fourth case of severe arachnoidism.

Syphilis and Tuberculosis.—When a consumptive is already much reduced by the mixed infection of advanced phthisis, his constitution is too greatly undermined to endure the addition of still another infectious process. He is, moreover, in no condition to stand vigorous antisyphilitic medication. When, on the contrary, a person in the third stage of lues becomes smitten also with tuberculosis, his lungs resist the destructive tendency of the latter process because probably of the tendency to fibrosis manifested in the late period of lues. In many cases the general health does not seem seriously impaired in this stage, or at all events so reduced as to render it incapable of offering some degree of resistance to the tuberculosis.—R. H. Babcock, in *Interstate Medical Journal.*

Treatment of Neurasthenia in Children.—The treatment of the neurasthenic boy or girl resolves itself, according to C. Riviere, in the *Practitioner*, into the removal of the cause, whether over-pressure or want of sleep, or both. Change to country air and country pursuits, with cheerful company and a quiet life, will generally complete the cure in these cases unless the damage done is of considerable extent. An open, dry locality should be chosen, with much sun and little foilage, so that abundant time may be spent out of doors. Long hours in bed must be provided, cold bathing is useful, and the work of the digestive organs must be studied. In cases in which nutrition is very low a full Weir-Mitchell treatment may be advisable or necessary.

Skin Fixation in Cancer of the Breast.—H. M. Rigby states in the *Practitioner* that of the physical signs the most important, in his opinion, is the tethering of the skin at some point overlying the tumor. When this is present the diagnosis of cancer, he believes, is almost certain. The skin need not actually be dimpled or retracted. The abnormal fixation of the subcutaneous tissues can often be detected some time before the growth has actually approached the surface of the breast. An acute inflammatory condition may certainly cause some fixation of the skin due to infiltration of the subcutaneous tissue. But with this can generally be seen other signs of inflammation, some discoloration of the skin, edema and local heat. Actual dimpling of the skin is diagnostic of cancer.

Annular Stricture of Rectum.—This type of stricture is usually due to traumatism, simple ulceration, tuberculosis or dysentery; it begins abruptly and usually surrounds the entire rectum; it is movable when the patient is squatting or in a semiprone position; there is a sulcus around it into which a probe or bougie is much more liable to pass than into the caliber of the stricture; there is always mucous discharge, ulceration and secretions which are less than in tubular strictures. It is this type of stricture that follows acute or tuberculous ulceration of the rectum chiefly.—J. P. Tuttle, in *Boston Medica' and Surgical Journal.*

"Are Soon Parted."—One is reminded of the old proverb ending in these words on reading that the board of health at Mannheim, Germany, has felt obliged to issue a warning to the public not to send 75 cents in response to certain advertisements in the lay papers offering a cure for snoring. The applicant receives for his money merely a strip of gummed paper with the directions to glue it over his mouth.

Marriages

CHARLES R. MITCHELL, M.D., Paterson, N. J., to Miss Kathleen O'Meara of Fallowfield, Ont., in New York City, April 26.

WILLIAM EDWARD BANNEN, M.D., New Albia, Ia., to Miss May James of LaCrosse, Wis., June 1.

JAMES LINCOLN HUNTINGTON, M.D., Boston, to Miss Sarah Higginson Pierce of Brookline, Mass., June 1.

AUGUST FERDINAND RIES, M.D., Baltimore, to Miss Fannie Morris Gardner of New Rochelle, N. Y., February 16.

CHARLES F. KUHN, M.D., to Miss Ella Meinke, both of Detroit, May 31.

FRANK CLIFFORD ARD, M.D., Plainfield, N. J., to Miss Idah Catherine Chappelle of Rivervale, N. J., June 5.

WALTER ESTELL LEE, M.D., Philadelphia, to Miss Margaret Gordon of Germantown, Philadelphia, June 14.

EARL JOHN BYERS, Chicago, to Miss Ruth Birge of Grand Rapids, Mich., May 24.

ALBERT M. DUNLAP, M.D., to Miss Eva Wyman, both of Boston, June 1.

Deaths

Joseph Price, M.D., a pioneer in American gynecology and abdominal surgery and one of the most prominent specialists of Philadelphia; died, June 6, four hours after an operation for acute suppurative appendicitis, aged 58. He was born in Rockingham County, Va., Jan. 1, 1853; took his medical course in the University of Pennsylvania and was graduated in 1877. From the time of his graduation he devoted himself to surgery and gynecology and, with Dr. Penrose, founded the Gynecean Hospital and later on succeeded Dr. William Goodell as head of the Preston Retreat. He was a member of the American Medical Association and of the American Gynecological Society, and was a very powerful and trenchant contributor to the literature of his specialty. Although an invalid and confined to the house for two weeks, as the result of overwork, he rose from his bed and operated on a girl patient for appendicitis at the Price Private Hospital. Four hours after this operation he collapsed and, although immediate appendectomy was performed, he did not rally and died four hours later.

Samuel Erskine Maynard, M.D. University of Vermont, Burlington, 1891; a member of the American Medical Association and New England Association of Railway Surgeons; formerly president of the Burlington Clinical Society; one of the best-known practitioners of Burlington, Vt.; division surgeon of the Rutland Railroad and surgeon of the Central Vermont System; professor of gynecology in his alma mater and formerly adjunct professor of theory and practice of medicine and physical diagnosis in the same institution; surgeon to the Mary Fletcher and Fannie Allen Hospitals; died in the Mary Fletcher Hospital, May 26, a day after an operation for appendicitis, aged 42.

Edwin R. Phillip, M.D. University of Michigan, 1861; College of Physicians and Surgeons, New York City, 1866; emeritus professor of gynecology in Hamline University; a member of the Minnesota State Medical Association; surgeon of the Vermont Volunteers during the Civil War; for more than forty years a practitioner of Minneapolis; died in St. Barnabas Hospital in that city, May 31, aged 78.

Everard A. S. Carrington, M.D. College of Physicians and Surgeons, Boston (Mass.), 1907; McGill University, Montreal, 1909; afterward a student in the Liverpool School of Tropical Medicine; a member of the staff of the Public Hospital, Georgetown, Barbadoes, W. I.; died Oct. 15, 1910, after an operation for appendicitis, aged 30.

Augustus J. Lyons, M.D. Baltimore (Md.) Medical College, 1896; since 1901 superintendent of the Second Hospital for the Insane of West Virginia, Spencer; local surgeon of the Baltimore and Ohio System; formerly chairman of the committee of health of Parkersburg; died at his home in Spencer, June 1, from quinsy, aged 38.

Albert Stead Green, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; consulting physician to the Rockford, Ill., Hospital; died at his home in that city, June 1, from heart disease following an attack of influenza, aged 58.

Horace Brand Cole, M.D. Baltimore (Md.) Medical College, 1893; a member of the Missouri State Medical Association; for six years a member of the Sedalia Board of Education and staff physician of the Maywood Hospital; died in that institution, June 3, from typhoid fever, aged 49.

James A. Hall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; a veteran of the Civil War; for twenty-five years a practitioner of Miltonvale, Kan., and postmaster of that city for ten years; died at his home, May 30, from chronic interstitial nephritis, aged 65.

Marcus Ray Peck, M.D. New York University, New York City, 1890; of Colville, Wash.; surgeon to Stevens County Hospital; formerly local pension examining surgeon, and surgeon of the San Francisco and Northern Railroad; was found dead in his bed, May 19, aged 43.

Emma Wilson Mooers, M.D. University of Michigan, Ann Arbor, 1884; a member of the American Medical Association; curator of the neuropathologic department of Harvard Medical School, Boston; died, May 31, from septicemia due to an autopsy wound.

Henry Clay Angell, M.D. Hahnemann Medical College, Philadelphia, 1853; for twenty years professor of ophthalmology in Boston University and the author of several text-books on diseases of the eye; died at his home in Boston, May 27, aged 81.

Abram Miller Henkle, M.D. University of Pennsylvania, Philadelphia, 1873; formerly of Winchester, Va., but for the last twenty-eight years a practitioner of Winter Park, Fla.; died recently at his home in that place, from heart disease, aged 64.

T. G. Greer, M.D. Atlanta (Ga.) Medical College, 1869; one of the oldest practitioners of Roswell, Ga.; mayor of that town for several terms and president of the school board for fifteen years; died at his home, May 21, aged 74.

Charles Herbert Moore, M.D. New York University, New York City, 1888; president of the village of Oakfield, Wis., and, until very recently, president of the school board; died at his home, June 2, from tuberculosis, aged 41.

Washburn Tilson, M.D. Chicago Homeopathic Medical College, 1890; of Lafayette, Ind.; at one time coroner of Tippecanoe County; died at St. Elizabeth's Hospital, Lafayette, May 26, from angina pectoris, aged 45.

John Law, M.D. Northwestern University Medical School, Chicago, 1868; formerly local surgeon for the Colorado Midland Railway, and Surgeon to St. Luke's Hospital, Leadville Colo.; died in Denver, May 28, aged 66.

Seabron Edward York, M.D. Kentucky School of Medicine, Louisville, 1876; for many years a practitioner of Limestone County, Ala., and for nine years postmaster of Athens; died at his home in that place, May 26.

Ellis G. Roberts, M.D. University of Pennsylvania, Philadelphia, 1884; a member of the American Medical Association; died at his home in Fair Haven, Vt., May 29, from disease of the stomach, aged 61.

Benjamin M. Bond, M.D. Missouri Medical College, St. Louis, 1855; surgeon of volunteers during the Civil War; for many years a practitioner of Bellingham, Wash.; died February 28, from senile debility, aged 84.

Henry M. Crouse, M.D. Western Reserve University, Cleveland, 1856; surgeon of the Fifty-Seventh Indiana Volunteer Infantry during the Civil War; died at his home in Knightstown, May 29, aged 81.

William Nathan Wickwire, M.D. University of Edinburgh, Scotland, 1864; for twenty-five years chief medical officer of the Port of Halifax, N. S.; died at his home in that city, March 31, aged 72.

James C. Holland, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; formerly of Des Moines County, Ia.; died at his home in Denver, Colo., May 26, aged 70.

Benjamin Perrine Marsh, M.D. Hahnemann Medical College, Chicago, 1875; a member of the U. S. Sanitary Commission during the Civil War; died at his home in Bloomington, Ill., May 30, aged 70.

James Hunter Sale, M.D. University of Nashville (Tenn.), 1870; for many years a practitioner of Galloway County, Ky.; died suddenly at his home in Murray, June 2, from heart disease, aged 74.

Daniel Smith Anderson, M.D. New York University, New York City, 1889, a member of the Medical Society of the State of New York; died at his home in Owego, May 21, aged 45.

Norman Rhinehart Hook, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; died at his home in Oskaloosa, Ia., June 3, from heart disease, aged 67.

David Smith Hunnewell, M.D. Medical School of Maine, Brunswick, 1866; for twenty-nine years a practitioner of Madison, Me.; died at his home in that city, May 31, aged 71.

Nelson B. Wilson, M.D. Cleveland University of Medicine and Surgery, 1865; in 1870 lecturer on pathology in his alma mater; died at his home in Cleveland in March, aged 87.

Samuel Marmaduke Dent, M.D. Baltimore (Md.) Medical College, 1902; of Riversville, W. Va.; died at the home of his parents in Granville, May 31, from tuberculosis, aged 34.

Henry N. Fair, M.D. Reform Medical College of Georgia, Atlanta, 1870; died at his home in St. Matthews, S. C., May 24, from cerebral hemorrhage, aged 61.

Francis J. Weller, M.D. Harvard Medical School, Boston, 1892; a throat and ear specialist of South Boston, Mass.; died at his home, May 29, aged 49.

Edgar C. Parsons, M.D. Hahnemann Medical College, Philadelphia, 1877; a practitioner since 1874; died at his home in Meadville, Pa., June 1, aged 63.

Van E. De Sashmutt, M.D. University of Maryland, Baltimore, 1854; since 1871 a practitioner of Shelburn, Ind.; died at his home, May 25, aged 79.

James Benjamin Rice, M.D. Detroit (Mich.) College of Medicine, 1901; died in his apartments in Flint, Mich., May 31, from heart disease, aged 46.

Henry E. Walet, M.D. Tulane University, New Orleans, 1890; died at his home in Loreauville, La., April 15, from pneumonia, aged 43.

J. E. Jewell, M.D. College of Physicians and Surgeons, Baltimore (Md.) 1881; of Portland, Ore.; died suddenly at Mount Tabor, Ore., May 24.

John S. Crabtree, M.D. Medico-Chirurgical College of Kansas City, Mo., 1903; died at his home in Collinsville, Okla., May 31.

Theodore L. Myers, M.D. University of Alabama, Mobile, 1870; died at his home in Biloxi, Miss., Sept. 17, 1910, aged 65.

William Delker, M.D. Jefferson Medical College, 1884; died at his home in South Philadelphia, May 31, aged 59.

Jesse L. Conant, M.D. Detroit Medical College, 1881; died at his home in Weiser, Idaho, January 8, aged 80.

David W. Collins, M.D. University of Louisville, 1882; died at his home in Pueblo, Colo., May 25, aged 56.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE SUPREME COURT AND THE FOOD AND DRUGS ACT

The Full Text of the Majority and Dissenting Opinions

MAJORITY DECISION

The United States, Plaintiff in Error, vs. O. A. Johnson. — In Error to the District Court of the United States for the Western District of Missouri.

[May 29, 1911]

Mr. Justice Holmes delivered the opinion of the Court.

This is an indictment for delivering for shipment from Missouri to Washington, D. C., packages and bottles of medicine bearing labels that stated or implied that the contents were effective in curing cancer, the defendant well knowing that such representations were false. On motion of the defendant the District Judge quashed the indictment (177 Fed. Rep. 313), and the United States brought this writ of error under the Act of March 2, 1907 (c. 2564, 34 Stat. 1246).

The question is whether the articles were misbranded within the meaning of Section 2 of the Food and Drugs Act of June 30, 1906 (c. 3915, 34 Stat. 768), making the delivery of misbranded drugs for shipment to any other State or Territory or the District of Columbia a punishable offense. By Section 6 the term "drug" includes any substance or mixture intended to be used for the cure, mitigation or prevention of disease. By Section 8 the term "misbranded" "shall apply to all drugs, or articles of food, . . . the package or label of which shall bear any statement, design or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the state, territory or country in which it is manufactured or produced, . . . An article shall also be deemed to be misbranded: In case of drugs: First. If it be an imitation of or offered for sale under the name of another article. Second. (In case of a substitution of contents) or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances contained therein."

It is a postulate, as the case comes before us, that in a certain sense the statement on the label was false, or, at least, misleading. What we have to decide is whether such misleading statements are aimed at and hit by the words of the Act. It seems to us that the words used convey to an ear trained to the usages of English speech a different aim; and although the meaning of a sentence is to be felt rather than to be proved, generally and here the impression may be strengthened by argument, as we shall try to show.

We lay on one side as quite unfounded the argument that the words "statement which shall be misleading in any particular" as used in the statute do not apply to drugs at all—that the statements referred to are those "regarding such article," and that "article" means article of food, mentioned by the side of drugs at the beginning of the section. It is enough to say that the beginning of the sentence makes such a reading impossible, and that "article" expressly includes drugs a few lines further on in what we have quoted, not to speak of the reason of the thing. But we are of opinion that the phrase is aimed not at all possible false statements, but only at such as determine the identity of the article, possibly including its strength, quality and purity dealt with in Section 7. In support of our interpretation the first thing to be noticed is the second branch of the sentence: "Or the ingredients or substances contained therein." One may say with some confidence that in idiomatic English this half, at least, is confined to identity, and means a false statement as to what the ingredients are. Logically, it might mean more, but

idiomatically it does not. But if the false statement referred to is a misstatement of identity as applied to a part of its objects, idiom and logic unite in giving it the same limit when applied to the other branch, the article, whether simple or one that the ingredients compose. Again, it is to be noticed that the cases of misbranding, specifically mentioned and following the general words that we have construed, are all cases analogous to the statement of identity and not at all to inflated or false commendation of wares. The first is a false statement as to the country where the article is manufactured or produced; a matter quite unnecessary to specify if the preceding words had a universal scope, yet added as not being within them. The next case is that of imitation and taking the name of another article, of which the same may be said, and so of the next, a substitution of contents. The last is breach of an affirmative requirement to disclose the proportion of alcohol and certain other noxious ingredients in the package—again a matter of plain past history concerning the nature and amount of the poisons employed, not an estimate or prophecy concerning their effect. In further confirmation, it should be noticed that although the indictment alleges a wilful fraud, the shipment is punished by the statute if the article is misbranded, and that the article may be misbranded without any conscious fraud at all. It was natural enough to throw this risk on shippers with regard to the identity of their wares, but a very different and unlikely step to make them answerable for mistaken praise. It should be noticed still further that by Section 4 the determination whether an article is misbranded is left to the Bureau of Chemistry of the Department of Agriculture, which is most natural if the question concerns ingredients and kind, but hardly so as to medical effects.

To avoid misunderstanding we should add that, for the purposes of this case, at least, we assume that a label might be of such a nature as to import a statement concerning identity, within the statute, although in form only a commendation of the supposed drug. It may be that a label in such form would exclude certain substances so plainly to all common understanding as to amount to an implied statement of what the contents of the package were not; and it may be that such a negation might fall within the prohibitions of the act. It may be—we express no opinion upon that matter—that if the present indictment had alleged that the contents of the bottles were water, the label so distinctly implied that they were other than water as to be a false statement of facts concerning their nature and kind. But such a statement as to contents, undescribed and unknown, is shown to be false only in its commendatory and prophetic aspect, and as such is not within the act.

In view of what we have said by way of simple interpretation we think it unnecessary to go into considerations of wider scope. We shall say nothing as to the limits of constitutional power, and but a word as to what Congress was likely to attempt. It was much more likely to regulate commerce in food and drugs with reference to plain matter of fact, so that food and drugs should be what they professed to be, when the kind was stated, than to distort the uses of its constitutional power to establishing criteria in regions where opinions are far apart. See *School of Magnetic Healing v. McAnnulty*, 187 U. S. 94. As we have said above, the reference of the question of misbranding to the Bureau of Chemistry for determination confirms what would have been our expectation and what is our understanding of the words immediately in point.

DISSENTING OPINION

Mr. Justice Hughes dissenting: I am unable to concur in the judgment in this case, for the following reasons: The defendant was charged with delivering for shipment in interstate commerce certain packages and bottles of drugs alleged to have been misbranded in violation of the Food and Drugs Act of June 30, 1906, Chapter 3915, Stat. 768.

The articles were labeled respectively "Cancerine tablets," "Antiseptic tablets," "Blood purifier," "Special No. 4," "Cancerine No. 17," and "Cancerine No. 1,"—the whole constituting what was termed in substance "Dr. Johnson's Mild Combination Treatment for Cancer." There were several counts in the indictment with respect to the different articles. The labels contained the words "Guaranteed under the Pure Food and Drugs Act, June 30, 1906;" and some of the further statements were as follows:

"Blood Purifier. This is an effective tonic and alterative. It enters the circulation at once, utterly destroying and removing impurities from the blood and entire system. Acts on the bowels, kidneys and skin, eliminating poisons from the system, and when taken in connection with the Mild Combination Treatment gives splendid results in the treatment of cancer and other malignant diseases. I always advise that the Blood Purifier be continued some little time after the cancer has been killed and removed and the sore healed.

"Special No. 4. . . . It has a strong stimulative and absorptive power; will remove swelling, arrest development, restore circulation and remove pain. Is indicated in all cases of malignancy where there is a tendency of the disease to spread, and where there is considerable hardness surrounding the sore. Applied thoroughly to a lump or to an enlarged gland will cause it to soften, become smaller and be absorbed.

"Cancerine No. 1. . . . Tendency is to convert the sore from an unhealthy to a healthy condition and promote healing. Also it destroys and removes dead and unhealthy tissue."

In each case the indictment alleged that the article was "wholly worthless," as the defendant well knew.

In quashing the indictment the District Court construed the statute. The substance of the decision is found in the following words of the opinion: "Having regard to the intendment of the whole act, which is to protect the public health against adulterated, poisonous, and deleterious food, drugs, etc., the labeling or branding of the bottle or container, as to the quantity or composition of 'the ingredients or substances contained therein which shall be false or misleading,' by no possible construction can be extended to an inquiry as to whether or not the prescription be efficacious or worthless to effect the remedy claimed for it." And the question on this writ of error is whether or not this construction is correct. *United States* v. *Keitel*, 211 U. S. 370.

What then is the true meaning of the statute?

Section 8 provides:

> "SEC. 8. That the term 'misbranded,' as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced."

The words "such article" in this section, as is shown by the immediate context, refer to "drugs" as well as to "food."

"Drugs" are thus defined in Section 6:

> "SEC. 6. That the term 'drug,' as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopeia or National Formulary for internal or external use, *and any substance of mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals.*"

Articles, then, intended to be used for curative purposes, such as those described in the indictment, are within the statute, though they are not recognized in the United States Pharmacopeia or the National Formulary. And the offense of misbranding is committed if the package or label of such an article bears any statement regarding it "which shall be false or misleading in any particular."

But it is said that these words refer only to false statements which fix the identity of the article. According to the construction placed upon the statute by the court below in quashing the indictment, if one puts on the market, in interstate commerce, tablets of inert matter or a liquid wholly worthless for any curative purpose as he well knows, with the label "Cancer Cure" or "Remedy for Epilepsy," he is not guilty of an offense, for in the sense attributed by that construction to the words of the statute he has not made a statement regarding the article which is false or misleading in any particular.

I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect.

It is strongly stated that the clause in Section 8,—"or the ingredients or substances contained therein,"—has reference to identity and that this controls the interpretation of the entire provision. This, in my judgment, is to ascribe an altogether undue weight to the wording of the clause and to overlook the context. The clause, it will be observed, is disjunctive. If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so. To a draftsman with such a purpose the language used would not naturally occur. Indeed, as will presently be shown, Congress refused, with the question up, so to limit the statute.

Let us look at the context. In the very next sentence, the section provides (referring to drugs) that an article shall "*also*" be deemed to be misbranded if it be "an imitation of or offered for sale under the name of another article," or in case of substitution of contents or of failure to disclose the quantity or proportion of certain specified ingredients, if present, such as alcohol, morphin, opium, cocain, etc.

It is a matter of common knowledge that the "substances" or "mixtures of substances" which are embraced in the act, although not recognized by the United States Pharmacopeia or National Formulary, are sold under trade names without any disclosure of constituents, save to the extent necessary to meet the specific requirements of the statute. Are the provisions of the section to which we have referred, introduced by the word "*also*," and the one relating to the place of manufacture, the only provisions as to descriptive statements which are intended to apply to these medicinal preparations? Was it supposed that with respect to this large class of compositions, nothing being said as to ingredients except as specifically required, there could be, within the meaning of the act, no false or misleading statement in any particular? If false and misleading statements regarding such articles were put upon their labels, was it not the intent of Congress to reach them? And was it not for this very purpose that the general language of Section 8 was used?

The legislative history of the section would seem to negative the contention that Congress intended to limit the provision to statements as to identity. The provision in question as to misbranding, as it stood in the original bill in the Senate (then section 9) was as follows:

> "If the package containing it, or its label, shall bear any statement regarding the ingredients or the substances contained therein, which statement shall be false or misleading in any particular."

The question arose on this language whether or not it should be taken as limited strictly to statements with respect to identity. It was insisted that the words had a broader range and the effort was made to procure an amendment which should be so specific as to afford no basis for the conclusion that anything but false statements as to identity or constitutents was intended. An amendment was then adopted in the Senate making the provision read:

> "any statement as to the *constituent* ingredients, or the substances contained therein, which statement shall be false or misleading in any particular."

With this amendment the bill was passed by the Senate and went to the House. There the provision was changed by striking out the word "constituent" and inserting the word "regarding," so that it should read:

> "any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular."

Finally, it appears, that in conference the bill was amended by inserting the words "*design, or device*," and also the words "*such article, or;*" and thus the section became a part of the law in its present form—containing the words:

> "any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular."

It is difficult to suppose that, with the question distinctly raised, Congress would have rejected the provision of the Senate bill and broadened the language in the manner stated if it had been intended to confine the prohibition to false statements as to identity. Reading the act with the sole purpose of giving effect to the intent of Congress, I cannot escape the conclusion that it was designed to cover false and misleading statements of fact on the packages or labels of articles intended for curative purposes, although the statements relate to curative properties.

It is, of course, true, that when Congress used the words "false or misleading statement" it referred to a well-defined category in the law and must be taken to have intended statements of *fact* and not mere expressions of opinion.

The argument is that the curative properties of articles purveyed as medicinal preparations are matters of opinion, and the contrariety of views among medical practitioners, and the conflict between the schools of medicine, are impressively described. But, granting the wide domain of opinion, and allowing the broadest range to the conflict of medical views, there still remains a field in which statements as to curative properties are downright falsehoods and in no sense expressions of judgment. This field I believe this statute covers.

The construction which the District Court has placed upon this statute is that it cannot be extended to any case where the substance labeled as a cure, with a description of curative properties, is "wholly worthless" and is known by the defendant to be such. That is the charge of the indictment.

The question then is whether, if an article is shipped in interstate commerce, bearing on its label a representation that it is a cure for a given disease, when on a showing of the facts there would be a unanimous agreement that it was absolutely worthless and an out-and-out cheat, the act of Congress can be said to apply to it. To my mind the answer appears clear. One or two hypothetical illustrations have been given above. Others may readily be suggested. The records of actual prosecutions, to which I am about to refer, shows the operation the statute has had and I know of no reason why this should be denied to it in the future.

Our attention has been called to the construction which was immediately placed upon the enactment by the officers charged with its enforcement in the Department of Justice and the Department of Agriculture. It is true that the statute is a recent one, and, of course, the question is one for judicial decision. But it is not amiss to note that the natural meaning of the words used in the statute, reflected in the refusal of Congress to adopt a narrower provision, was the meaning promptly attributed to it in the proceedings that were taken to enforce the law. And this appears to have been acquiesced in by the defendants in many prosecutions in which the defendants pleaded guilty. We have been referred to the records of the Department of Agriculture showing nearly thirty cases in which either goods had been seized and no defense made, or pleas of guilty had been entered. Among these are found such cases as the following:

"No. 29. Hancock's Liquid Sulphur, falsely represented, among other things, to be 'Nature's Greatest Germicide. . . . The Great Cure for . . . Diphtheria.' Investigation begun Nov. 22. 1907. Plea of guilty."

"No. 180. Gowan's Pneumonia Cure, falsely represented, among other things, that it 'Supplies an easily absorbed food for the lungs that quickly effects a permanent cure.' Investigation begun Nov. 22, 1907. Criminal information. Plea of guilty."

"No. 181. 'Eyelin,' falsely represented, among other things, that it 'Repairs and Rejuvenates the Eye and Sight.' Investigation begun Feb. 13, 1908. Plea of guilty."

"No. 261. 'Sure Thing Tonic,' falsely represented, among other things, to be 'Sure Thing Tonic. . . . Restores Nerve Energy, Renews Vital Force.' Investigation begun June 3, 1909. Pleaded guilty."

"No. 424. 'Tuckahoe Lithia Water,' falsely represented, among other things, to be 'a sure solvent for calculi, either of the kidneys or liver, especially indicated in all diseases due to uric diathesis, such as gout, rheumatism, gravel stone, incipient diabetes, Bright's Disease, inflamed bladder, eczema, stomach, nervous and malarial disorders.' Investigation begun July 9, 1908. Plea of guilty."

"No. 427. 'Cancerine,' falsely represented, among other things, to be 'A remarkably curative extract which if faithfully adhered to will entirely eradicate cancerous poison from the system. . . . A specific cure for cancer in all its forms.' Investigation begun about April 12, 1909. Criminal information. Plea of guilty."

I find nothing in the language of the statute which requires the conclusion that these persons who have confessed their guilt in making false and misleading statements on their

labels should be privileged to conduct their interstate traffic in their so-called medicines, admittedly worthless, because Congress did not intend to reach them.

Nor does it seem to me that any serious question arises in this case as to the power of Congress. I take it to be conceded that misbranding may cover statements as to strength, quality and purity. But so long as the statement is not as to matter of opinion, but consists of a false representation of fact—in labeling the article as a cure when it is nothing of the sort from any point of view, but wholly worthless—there would appear to be no basis for a constitutional distinction. It is none the less descriptive—and falsely descriptive—of the article. Why should not worthless stuff, purveyed under false labels as cures, be made contraband of interstate commerce,—as well as lottery tickets? *Champion* v. *Ames*, 188 U. S. 331.

I entirely agree that in any case brought under the act for misbranding,—by a false or misleading statement as to curative properties of an article,—it would be the duty of the court to direct an acquittal when it appeared that the statement concerned a matter of opinion. Conviction would stand only where it had been shown that, apart from any question of opinion, the so-called remedy was absolutely worthless and hence the label demonstrably false; but in such case it seems to me to be fully authorized by the statute.

Accordingly, I reach the conclusion that the court below erred in the construction that it gave the statute, and hence in quashing the indictment, and that the judgment should be reversed.

I am authorized to say that Mr. Justice HARLAN and Mr. Justice DAY concur in this dissent.

Correspondence

Knots

To the Editor:—In THE JOURNAL, April 8, is an article entitled, "An Efficient and Time-Saving Method of Tying the Square Knot." In the *South Carolina Medical Journal*, October, 1909, appeared an article in which I described a method of tying knots identical with the one described by Drs. Castle and Ryfkogel. The maneuvers are reversed, however, that is to say, the first turn of their knot is brought down by my second maneuver, etc. Their description also refers to carrying out these maneuvers with both hands simultaneously in order to tie the friction knot. Strange to say, I also anticipated them in describing this one.

B. B. STEEDLY, Spartanburg, S. C.

To the Editor:—Being interested in knots, I attempted to tie this one according to the directions and discovered an error. If the first half of the knot is tied as directed and as shown in Figures 1, 2, 3, 4, I do not get the result as shown in Figure 5. Instead, hands A and B must be crossed to make this half of the knot lie down flat so that it will hold while the second half is tied. This is an awkward position for pulling up the first half which must be snug. This can be obviated by starting with ligature C in hand B and ligature D in hand A. This change will cause the first half of the knot to lie down flat while the second half when tied as given in the directions will come into place properly when the hands are crossed. This is not such an inconvenience in the case of the second half as it does not need to be pulled so snugly.

W. H. BAILEY, Kansas City, Mo.

To the Editor:—In March, 1909, I presented in *Surgery, Gynecology and Obstetrics* an original method of tying surgical knots rapidly and accurately. I have used the method continuously since 1901. The "one-finger" principle described by Drs. Castle and Ryfkogel is identical with mine. The method of application differs merely in the fact that they make first the knot I described as the second, while their second half is my first knot. (Practically, it depends entirely on the manner the hand happens to catch the ligature, whether the one knot is made first or last.) For these reasons I respectfully claim priority in devising and publishing this rapid-tying method. I am very much in accord with Drs. Castle and Ryfkogel in their arguments. This method of making knots will do all they assert and more.

Slight errors are unquestionably due to the artist and not to the surgeon. The context makes this clear. For instance, Figure 4 does not represent any part of a knot. In Figure 5 the hands are shown as having interchanged ends. If this were not done, the hands must be held crossed to show this step in making the knot.

E. P. QUAIN, Bismarck, N. D.

[The above extracts from letters were referred to Drs. Castle and Ryfkogel. The former replies.]

To the Editor:—The principles of producing the square knot which Drs. Quain and Steedly published are identical with those we recently gave. Our application of these, which by the way is merely composed of the movements which have long been employed to form the well known "crochet knot," is less cumbersome than Dr. Quain's. Further, we have given the information necessary to obtain a knot which has two turns in each half, which some surgeons deem very important.

The article that appeared in THE JOURNAL, April 8, 1911, was written over three years ago, since which time it has been lying on the shelf. It was devised, written, and published without the slightest knowledge of any other person's work. I compliment these other authors on their ingenuity and ask your pardon if this occurrence has caused you any embarrassment.

As to Dr. Bailey's criticism: The principle of tying the knot is vividly shown. It would be confusing to mention the end of the ligature that should be held in the grasp of either hand. That is too obvious. If the person tying is the surgeon and if he retains his needleholder in his right hand, thereby using his left hand to tie the free end, one can readily understand that the conditions will be different from those wherein the assistant ties the free end of a continuous suture.

If any one desires to learn to tie this knot by these movements he will have no trouble in learning the method from the article as it stands. He will soon learn to adjust his ligatures in accordance with the conditions governing the situation, i. e. if he is tying with his right or left hand or with both hands, whether he is tying the free end of a continuous suture from the assistant's side of the table or from the surgeon's, or if he is tying ligatures.

H. EDWARD CASTLE, San Francisco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF COAL-OIL POISONING

To the Editor:—Please give the treatment of poisoning from coal-oil. I do not remember having noticed a description of this particular form of poisoning in any of the text-books.

F. S. SPEARMAN, M.D., Whiting, Iowa.

ANSWER.—The treatment of coal-oil poisoning consists in washing out the stomach or administering emetics and using purgatives. In cases of collapse, warm baths with cold effusions are recommended; the usual respiratory and cardiac stimulants are also indicated.

DIGESTIBILITY OF SOUR AND SWEET MILK

To the Editor:—Kindly give me information concerning the relative digestibility of sour and of sweet milk, both for adults and for infants.

C. B. PURVIS, M.D., Brookline, Mass.

ANSWER.—Sour milk may be consumed in two different forms. The one is the naturally soured milk, the other buttermilk. The difference between the two is, first, that sour milk contains the full amount of butter-fat, and, second, that the coagulated casein is not churned in sour milk. The churning of the casein undoubtedly adds to the digestibility, since the more solid curd of sour milk has to be broken up in the stomach. Both sour milk and buttermilk may be considered to be partially predigested as compared to sweet milk and both are therefore more easily digestible, buttermilk to a higher degree than sour milk.

The acidity in milk is produced by the action of bacteria, the acid being chiefly lactic acid. The milk-sugar is decomposed by the activity of these bacteria. Often sugars give rise to fermentations in the digestive tract of man, and in such cases buttermilk or sour milk is preferable to sweet milk because of the reduction of the amount of milk-sugar contained in sweet milk.

In the digestive tract of infants the conditions are emphasized. Infants are more subject to sugar fermentations than are adults and for this reason and, also, because of the somewhat predigested casein, buttermilk has frequently given favorable results. The fat in milk is probably responsible for more digestive troubles in infants than any other constituent in milk. Buttermilk, whether from the churn or made from separator milk by means of "starters," usually contains less than 1 per cent. fat, often as low as 0.1 per cent. Infants with white stools are therefore benefited by the reduction in fat content in buttermilk as compared with sweet milk.

The same principles apply if fermented milks are used, such as kumiss, kefir, Bulgarian milk, etc. Bulgarian milk has an additional advantage over the other fermented milk, inasmuch as the curd formed by the Bulgarian bacillus is smooth and needs hardly any churning.

The claim that the presence of lactic acid in buttermilk, sour milk, and fermented milks is of advantage has not been sufficiently substantiated.

THERAPEUTIC EFFICIENCY OF VARIOUS KINDS OF YEAST

To the Editor:—Please discuss the therapeutic efficiency of the various forms of yeast—brewers', Fleischmann's compressed and "Yeast Foam" dry. Can one be substituted for another?

W. A. WOMER, New Castle, Pa.

ANSWER.—The different forms of yeast are prepared from the upper or top yeast of the brewer and their activity will vary somewhat, according as the yeast is in active growth or in the resting stage. Aside from this there appears to be no distinction between the varieties mentioned.

The Public Service

Medical Department, U. S. Army

Changes for the week ending June 10, 1911.

Siler, Joseph F., captain, and Davis, William R., captain, ordered to remain on duty at the U. S. military academy, West Point, N. Y., until June 14, 1911.

Murray, Wilson, M.R.C., ordered to accompany field artillery from Fort Snelling, Minn., to Sparta, Wis., and then return to station Fort William H. Harrison, Mont.

Blodgett, Harry H., M.R.C., recently appointed, ordered to active duty, and assigned to duty at Fort Riley, Kan.

Fisher, Henry C., major, June 5, left Columbus Barracks, Ohio, on ten days' leave of absence.

Reno, William W., major, ordered to inspect hospital corps, New Hampshire militia, at encampment near Wilton, N. H., June 12 to 17, 1911.

Long, Charles J., D.S., ordered to several posts in the Department of the East for temporary duty.

Jackson, Thomas W., M.R.C., granted one month and ten days' leave of absence, about June 10, 1911.

Morse, Charles F., captain, granted leave of absence for two months and fifteen days, about Aug. 15, 1911.

Brechemin, Louis, colonel, ordered to proceed to St. Louis, Mo., and relieve Lieutenant-Colonel Snyder as medical supply officer in that city.

Snyder, Henry D., lieut.-col., on being relieved from duty in charge of the medical supply department, St. Louis, Mo., by Col. Louis Brechemin, M.C., will proceed to New York City and assume charge of the medical supply department in that city, as heretofore ordered.

Appel, Aaron H., colonel, relieved from active service after more than thirty-one years' service.

Reynolds, Royal, lieut., left Cienegas, N. Mex., en route to Denver, Colo., for duty.

Reynolds, Charles R., major, is assigned to duty as inspector, sanitary troops organized militia, State of New York, encampment, Peekskill, N. Y.

Love, Joseph W., M.R.C., reported for temporary duty at Fort Andrews, Mass.

Woodbury, Frank T., major, relieved from duty at Fort Assiniboine, Mont., and from temporary duty at Fort D. A. Russell, Wyo., and ordered to Fort Screven, Ga.

O'Connor, R. P., major, relieved from duty at Fort Screven, Ga., to take effect on return from Galveston, Texas, and ordered to Fort Huachuca, Ariz., for duty.

Medical Corps, U. S. Navy

Changes during the week ended June 10, 1911.

Holcomb, R. C., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Pleadwell, F. L., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Backus, J. W., P. A. surgeon, detached from the *Pennsylvania* and ordered to the *Iris*.

Davidson, A. B., asst.-surg., detached from the *Iris* and ordered to the Pacific torpedo fleet.

Downey, J. O., P. A. surgeon, detached from the *Prairie* and ordered to the *Chester*.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Jenness, B. F., P. A. surgeon, detached from the naval hospital, Portsmouth, N. H., and granted sick leave for three months.

Derr, E. Z., medical director, on being placed on the retired list, June 10, detached from the Navy recruiting station, Providence, R. I., and ordered home.

Ohnesorg, K., surgeon, detached from the Navy yard, New York City, and ordered to duty at the naval hospital, Philadelphia.

Dorr, E. Z., medical director, transferred to the retired list from June 10, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 7, 1911.

Pettus, W. J., asst. surg.-gen., granted nine days' leave of absence from June 2, 1911.

Kerr, J. W., asst. surg.-gen., granted twenty-two days' leave of absence from July 10, 1911.

Long, J. D., asst. surg.-gen., granted one month's leave of absence from July 1, 1911.

White, J. H., surgeon, granted twenty-one days' leave of absence from June 1, 1911, without pay.

Carrington, P. M., surgeon, granted fourteen days' leave of absence from June 23, 1911.

William, L. L., surgeon, detailed to attend the thirty-eighth annual meeting of the National Conference of Charities and Corrections, to be held in Boston, June 7-14, 1911.

Wertenbaker, C. P., surgeon, detailed to attend the annual meeting of the Association of Surgeons of the Norfolk & Western Railway, to be held in Richmond, Va., June 15-16, 1911.

Young, G. B., surgeon, granted nineteen days' leave of absence from June 1, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from May 24, 1911, on account of sickness.

Blue, Rupert, surgeon, detailed to represent the service in the Section on Preventive Medicine and Public Health of the American Medical Association, to be held in Los Angeles, Cal., June 26-30, 1911.

Rucker, W. C., P. A. surgeon, directed to proceed to Victor, Mont., and report to Passed Assistant Surgeon T. B. McClintic for duty in the investigation of Rocky Mountain spotted fever.

Smith, F. C., P. A. surgeon, detailed to represent the service at the annual meeting of the National Association for the Study and Prevention of Tuberculosis, to be held at Denver, Colo., June 20-21, 1911.

Hunt, Reid, professor of pharmacology, detailed to represent the service at the sixty-second annual meeting of the American Medical Association, to be held at Los Angeles, Cal., June 26-30, 1911.

Rodman, J. C., A. A. surgeon, granted twelve days' leave of absence from June 13, 1911.

Slamberg, N. L. A. K., A. A. surgeon, granted twenty-five days' leave of absence from June 2, 1911.

Brown, F. L., pharmacist, relieved from temporary charge of South Atlantic quarantine station and ordered to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters; granted fifteen days' leave of absence from June 1, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

EDITORIAL COMMENTS ON PUBLIC HEALTH PROBLEMS

This department has occasionally reprinted extracts from newspaper editorials, with a view to showing the position of the representative newspapers of the country on public health matters. The amount of space given to such questions by the better class of newspapers is steadily increasing. This is one of the many evidences of constantly growing public interest in better health conditions. Here are a few extracts from a large number of newspaper clippings received in the past few weeks:

The Peoria (Ill.) *Transcript*, commenting on the decision of the United States Supreme Court in the case of the government against O. A. Johnson of Kansas City, says:

The "patent-medicine" business has grown to stupendous proportions in this country. Viewed from the standpoint of "vested interests" it is one of the largest in investment and profits. While there are doubtless many legitimate preparations sold, it is true that the great bulk of consumption, rheumatism and cancer "cures" are rank frauds. If the medicine-makers cannot tell the truth about their product with-

out breaking their business up, it is not legitimate business. The first duty of the government is to protect its citizens from fraud and medical frauds are the least excusable of any.

The Akron (O.) *Beacon-Journal*, after quoting at length from *Collier's* editorial on the National League of Medical Freedom, expresses its opinion as follows:

Health regulation should be no more a matter of individual choice than should burning one's own home in a crowded city. It is doubtful if more hypocrisy could be created into two words than in the single phrase of "medical freedom" which has been exploited by a league of late, whose workings are hidden to the average man except that it is evidently well provided with money. . . . The era of health regulation, pure food, pure drugs, etc., has fallen heavily on those who formerly made their living from the gullible public by means of pretensions of false science and by dealing in adulterations. Little wonder they have subscribed liberally to frustrate one of the greatest movements of the day.

The *Daily Chronicle* of Orange, N. J., discussing the compulsory vaccination law for school children, says:

Whatever the plea made in support of the opposition to vaccination, it must be admitted that the vast preponderance of argument and evidence is in favor of the practice. It can hardly be credited to a natural coincidence that smallpox is practically eliminated where vaccination is systematically and generally enforced and the occasional cases of blood-poisoning, tetanus or scrofula that might be authentically traced to the inoculation are too remote a danger to justify the abolition of the precaution that is entirely successful in such a vast majority of cases. Vaccination is required as a preventive and not as a cure. . . . A rule requiring it must be enforced without exceptions if it is to be effective and a single exception in its application would open the way to others of equal merit and it might as well be rescinded entirely.

Commenting on the work of physicians in reducing disease, the Leavenworth (Kan.) *Times* says:

Doctors are the queerest people in the world. Men in other business use means to increase their business. The doctors use means to make theirs less. It is to their interest that there should be sickness in the community, yet they are constantly advising their patients how to avoid sickness and they are constantly urging the communities in which they live to take precautions to prevent epidemics.

These thoughts were suggested by the action of the Leavenworth County Medical Association in determining to bring the state tuberculosis exhibit to the city again.

Last year the association brought the exhibit here, hired a room and paid nearly all the expense themselves, and all in order to teach the people the danger of contagion from the dread disease and how to avoid it. Hundreds of people visited the exhibit while it was here and the doctors of the city reported afterward that there was a distinct effort being made by many people to take proper precautions to avoid the disease.

It was a great thing to do for the city and the city should have paid the expense. The commissioners felt, however, that they had no right to use the public money in that way, but each one of them went down into his pocket and gave a contribution to assist in paying for the exhibit.

This year the doctors will ask the commissioners to pay at least a part of the expense out of the city treasury and we see no reason why it should not all be paid that way. The exhibit is for the benefit of all—unless the doctors may be excepted. We do not see why they should bear the burden of lessening their own business.

The Des Moines (Ia.) *Register* commenting on the resignation of two members of the state board of health who, according to newspaper reports, were discouraged over the efforts of the board to carry on effective work with the meager appropriation allowed by the state, says:

It is doubtful if the doctors who are hastening to resign from the state board of health because the legislative appropriations for its work were inadequate are acting altogether temperately. It is true they have occasion to feel dissatisfied. The legislature has treated the matter of conserving the public health as though it were of no consequence. The medical men of the state are, no doubt, getting tired of "nagging the public into taking care of itself." . . .

But, granting the provocation and all else, the fact still remains that the public health must be cared for as best it may. The fact remains that the State Board of Health must continue to do its work in spite of every obstacle. The fact remains that doctors must continue to do the very best they can to interest the public in conserving its health. Why shouldn't the members of the board of health make the best of the situation and give the state the best service they can under the circumstances? Why is not the need of large, capable men on the state board even greater now than it might be otherwise?

Public service always calls for some sacrifice. Even under the most favorable conditions there would be disagreeable things about membership on the State Board of Health. There are merely a few more to contend with now, that is all. The interests of the state at large ought to be considered worth working for in spite of comparatively small annoyances. It is not always the best time to quit when impatient or when there is work ahead.

And yet if the same physicians, who the *Register* says "must continue to do the very best they can" to protect the public health, should ask the legislature for more stringent laws to exclude the ignorant and vicious from trifling with the lives of citizens, or even for the enforcement of existing laws, they would be denounced as endeavoring to establish a "doctors' trust."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

COLORADO: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

CONNECTICUT: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11, Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

INDIANA: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

MAINE: State House, Augusta, July 6-7. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

NEW HAMPSHIRE: State House, Concord, July 6-7. Regent, Mr. Henry C. Morrison.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW MEXICO: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, July 5. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

OREGON: Portland, July 4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

RHODE ISLAND: State House, Providence, July 6-7. Sec., Dr. Gardner T. Swarts.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

UTAH: State House, Salt Lake City, July 5-6. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Burlington, July 11-13. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WASHINGTON: Tacoma, July 4. Sec., Dr. F. P. Witter, Traders Block, Spokane.

WEST VIRGINIA: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

New Requirements in Arkansas

At the recent meeting of the State Medical Board of the Arkansas Medical Society, a new schedule of requirements for medical colleges was adopted. Beginning with the session of 1911-12, every matriculant in the medical colleges of Arkansas

must obtain a matriculation certificate from the board. These certificates will be issued on either (a) acceptable credentials or (b) successful passing of an examination before the State Superintendent of Public Instruction.

The minimum preliminary education is given as that required for entrance to the University of Arkansas. For the next college session this minimum must represent 13 units of secondary school work, 7 of which must be in prescribed subjects as follows: English, 3 units; algebra, 2 units; plain geometry, 1 unit, and United States history, 1 unit. The remaining 6 units may be taken in elective subjects.

To be in good standing, each medical college must require for graduation not less than four courses of lectures of at least thirty weeks each, and must require regular attendance on these courses, no allowance to be made for absence except when due to sickness and such absences must not exceed 20 per cent. of the course. Attendance of at least two years in well-equipped laboratories and two years of clinical and hospital instruction is also required. No medical school will be considered in good standing if it issues a catalogue or announcement containing misrepresentations regarding its teaching facilities, courses of instruction or number of students matriculated.

Minnesota April Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, April 4-7, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 13, of whom 10 passed and 2 failed. One candidate did not complete the examination. Fourteen candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1909)	82.1; (1910) 81.3
Hamline University	(1908)	75.3, 84.6
Univ. of Minn., Coll. of Med. and Surg.	(1910)	80.7, 86.5, 92
McGill University, Quebec	(1909)	81.7, 87.3
Laval University, Montreal	(1899)	77
FAILED		
Louisville and Hospital Medical College	(1908)	58.5
Hamline University	(1907)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Northwestern University Medical School, (2, 1910) Illinois.	(1908)	Wisconsin;
College of Physicians and Surgeons, Chicago	(1909)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1891)	Wisconsin
Johns Hopkins University	(1904)	Illinois
St. Louis University	(1910)	Illinois
Kansas City Medical College	(1902)	Nebraska
University Medical College, Kansas City	(1908)	Kansas
Western Pennsylvania Medical College	(1900)	N. Carolina
Wisconsin College of Physicians and Surgeons	(1908)	Wisconsin
Marquette University	(2, 1910)	Wisconsin

Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 1-3, 1911. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed, including 1 osteopath. Six candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
National Medical University, Chicago	(1898)	81.9
Univ. of Michigan, College of Med. and Surg.	(1885)	91.9
University of Michigan, Homeopathic College	(1897)	86.2
Columbia Univ., Coll. of Phys. and Surgs.	(1892)	89.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1901)	Illinois
Indiana University School of Medicine	(1909)	Indiana
Marion-Sims Beaumont Medical College	(1902)	Nebraska
University of Nebraska	(1906)	Nebraska
Miami Medical College	(1902)	W. Virginia
Western Pennsylvania Medical College	(1908)	Illinois

Book Notices

A TEXT-BOOK OF GYNECOLOGIC SURGERY. By Comyns Berkeley, M.A., M.D., B.C.Cantab., Gynecologist and Obstetrician to the Middlesex Hospital, and Victor Bonney, M.S., M.D., B.Sc.Lond., Assistant Gynecologist and Assistant Obstetrician to the Middlesex Hospital. Cloth. Price, $5 net. Pp. 720, with 392 illustrations. New York: Funk & Wagnalls Co., 1911.

The purpose of this work is to set forth the detail and technic of the various gynecologic operations. No attempt has been made to discuss the etiology, pathology, symptoms and diagnosis in each condition, but rather the indications and contra-indications for operation have been considered, together with comparisons of the various methods at the operator's disposal in a given case. The descriptions of the various operations are unusually clear and complete, and in many instances each step of the procedure is illustrated. The book is very fully supplied with cuts. After a discussion of general considerations, the writers take up the consideration of vaginal operations, then the gynecologic operations performed by the abdominal route, together with a description of other abdominal operations which, while not strictly of a gynecologic nature, yet frequently are imposed on the operator; for instance, intestinal resection and anastomoses, repair of wounds of bladder and ureter, etc. The subjects are discussed in a systematic, lucid and forceful manner, showing a long familiarity with the work and a keen appreciation of the needs of the occasional operator and the beginner. The chapters devoted to the consideration of the operative complications and after-treatment are to be commended as the usual text-book either passes over them lightly or omits them entirely.

ESSENTIALS OF BIOLOGY PRESENTED IN PROBLEMS. By George William Hunter, A.M., Head of the Department of Biology, De Witt Clinton High School, New York. Cloth. Price, $1.25. Pp. 448, with illustrations. Chicago: American Book Co., 1911.

A LABORATORY MANUAL FOR THE SOLUTION OF PROBLEMS IN BIOLOGY. By Richard W. Sharpe, Instructor in Biology in the De Witt Clinton High School, New York. Cloth. Price, 75 cents. Pp. 352, with 86 illustrations. Chicago: American Book Co., 1911.

Professor Hunter has prepared a text-book, which is issued in company with Mr. Sharp's laboratory manual, the two forming a logical inductive method for the study of biology. The authors have presented their subject by means of a series of "problems" in biology rather than by the more conventional didactic method, seeking to arouse the interest and reasoning power of the pupil by presenting a series of physiologic problems, accompanied by directions for laboratory demonstrations and practical questions for the student to investigate and answer. Copious references to other authors accompany each chapter, many references being to articles in current magazines, government reports, etc. These books form admirable guides for the study of biology and give ample opportunity for the development of topical methods, it being the aim of the authors to show that methods of study which induce thinking are of far more importance than mere memorizing.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medicolegal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Price, $3. Pp. 365. Cincinnati: Harvey Publishing Co., 1911.

This is probably the most complete treatise on inebriety by an American author. The whole subject is considered scientifically, not sensationally, as so often in treatises on inebriety. The author's recommendations of treatment are judicious and will l helpful to all who need aid in the management of this disease. No subject is more important but, unfortunately, like other common diseases, it interests many practitioners less than the uncommon. What can be done for the inebriate by prope medical advice and guidance is not as universally appreciated as it should be. Moreover, institutional treatment is not a necessity in every case and all practitioners should equip themselves properly to guide patients to recovery o past the hazards which beset the path of so many. A careful study of this book will reward those who do not feel fully equipped for the care of the inebriate.

BISMUTH PASTE IN CHRONIC SUPPURATIONS. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago. With an Introduction by Carl Beck, M.D. And a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M.D. Cloth. Price, $2.50. Pp. 237, with 90 illustrations. St. Louis: C. V. Mosby Co., 1910.

The use of bismuth paste in the treatment of chronic suppurations and the use of bismuth in various forms of suspension for diagnostic purposes have become recognized procedures of value. With these, as with most operative procedures, however simple they may appear, it is necessary in order to attain the highest degree of success to carefully follow the correct technic. Many of the failures in the use of bismuth paste have been due either to faulty technic or to use in unsuitable cases. In this volume is found a careful description of the technic by the originator of the method as well as a review of the cases in which it has proved of value. Attention is also directed to the fact that severe and even fatal poisoning may follow the injudicious use of bismuth. This method, therefore, should be used only after one is thoroughly familiar with its possibilities and its dangers; hence a careful perusal of this little volume is almost essential to those who expect to use the method.

TRUTHS: TALKS WITH A BOY CONCERNING HIMSELF. By E. B. Lowry, M.D., Author of "Confidences." Cloth. Price, 50 cents. Pp. 95. Chicago: Forbes & Co., 1911.

This little book, dedicated "To the Man of To-Morrow," is an effort to impart instruction to boys on sexual hygiene. It is interestingly written in the form of talks to a boy by his uncle. Beginning with a description of plant life and the method of plant reproduction, the reader is gradually led through the lower forms of animal life, with which he is naturally familiar, to the chapter on "The Mechanism of Our Bodies," the needed information being imparted in a natural and unsensational manner. Chapters containing needed warnings to boys on the dangers of listening to the advice of advertising fakers and a chapter on "Sowing Wild Oats," containing advice to the boy about to leave home, are particularly good. The tone of the book is excellent and it can be safely recommended to parents and others who wish to instruct children in this important subject.

THE SERPENT'S TRAIL, OR, MEMOIRS OF HAROLD BAGOTE, PHYSICIAN. A Tale of the South and of Cuba. By F. B. Cullens. Cloth. Price, $1.25. Pp. 168. New York: Broadway Publishing Co.

This is a melodramatic story of the adventures of a physician with a band of smugglers the leader of whom is the villain of the book. Under strange circumstances the hero was able to render great service to a beautiful woman. He was also enabled to foil the villain's wicked designs on another young and beautiful girl. The villain's machinations, however, resulted in the death of several characters including himself. The physician was later rewarded by the hand of the beautiful Spanish widow of the smuggling villain. Being written by a physician, concerning a physician, the book may be of interest to physicians who like this kind of literature.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition. Cloth. Price, $4 net. Pp. 715. Philadelphia: W. B. Saunders Co., 1911.

According to the preface of the first edition this book is based on the questions asked by state medical licensing boards during several years. Duplicate questions have been eliminated and condensed answers follow. An exhaustive index makes it possible to find the reference to any subject readily. The evident purpose of the book is to provide a convenient compend for those who wish to prepare for state board examinations.

PLASTER OF PARIS AND HOW TO USE IT. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital. Second Edition. Cloth. Price, $1.25. Pp. 101, with 90 illustrations. New York: Surgery Publishing Co., 92 William Street, 1911.

Following out the suggestions contained in the criticisms of the first edition the author has revised and rearranged this book. New matter and new illustrations have been added and marginal notes in red have been employed.

Medicolegal

Hospital for Treatment of Bone Tuberculosis Not a Nuisance

The Court of Chancery of New Jersey, in Board of Health and certain residents and property holders of Ventnor City vs. North American Home (78 Atl. R. 677), denied a preliminary injunction to prevent the defendant from conducting a sanitarium for the treatment of bone tuberculosis.

The court says that it was disclosed by affidavits filed in behalf of the defendant that the sanitarium was for the free treatment of poor children afflicted with said disease, and was not maintained for profit. Notwithstanding, however, the great public good which would necessarily result from the work of an institution of that nature, it was manifest that, if the health of the residents of Ventnor City was jeopardized by its maintenance, a court of equity might grant such relief as would afford adequate protection to the residents of that city from the threatened danger; but, if no real danger of that nature existed, the mere fact that uninformed people who were unacquainted with the true conditions might or probably would assume such a danger to exist could not be made the basis of equitable relief.

The answer which was filed in behalf of the defendant was accompanied by affidavits of a great number of physicians and surgeons of eminence in their profession and who had given special study to the various forms of tuberculosis. They testified that while pulmonary tuberculosis is undoubtedly contagious, bone tuberculosis is neither contagious nor infectious, and cannot be transferred from one to another; and that cases of bone tuberculosis are freely admitted to all the hospitals and treated in the same wards as other surgical cases. If that was true, it was manifest that no danger to the health of the inhabitants of Ventnor City was threatened by the maintenance of the sanitarium in question and the grievance asserted by the complainants was based on an assumed danger which did not in fact exist.

It was urged that the New Jersey legislature had declared bone tuberculosis to be a communicable disease, and an act of 1910 concerning tuberculosis contains this sentence: "Tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health." But an examination of the several provisions of that act, especially when considered in connection with the testimony touching the difference between pulmonary and bone tuberculosis, renders it at least doubtful whether the portion of the act above quoted was intended to include bone tuberculosis. If any truth was to be found in the affidavits of the physicians who had testified touching the nature of bone tuberculosis, it was entirely manifest that the legislature had not intended the section making it a misdemeanor for "any person having tuberculosis" to dispose of his sputum in a manner contrary to the directions of the act, to control the disposition of the sputum of persons afflicted only by bone tuberculosis. Whether any of the provisions of that act were intended to include bone tuberculosis it was not necessary to consider here; but the court is convinced that the legislation referred to could not properly be deemed operative to render the institution conducted by the defendant a nuisance *per se*, or in and of itself.

Wide Range of Evidence Admissible in Support of Defense of Insanity

The Supreme Court of Washington in granting a new trial in the case of State vs. Flanney (112 Pac. R. 630), where the defendant, a half-breed Indian, was convicted of the murder of his wife, says that it deems the question presented as to the admissibility of evidence in such a case to be one of more than usual interest and importance. The question was raised by a rejection by the trial court of an offer by the defendant to prove that his wife had taken up with what is known among the Indians as the Shakers; that the man of whom

the defendant was jealous, and whom he charged with having weaned his wife away, was a Shaker; that the Shaker society is an Indian religious organization which teaches and practices promiscuous, illicit intercourse among its members, and that it is the duty of a member having a spouse who is not one of that faith to secure a divorce; that the defendant knew of his wife's faith, and, suspecting her of lewd conduct, was so greatly distressed in mind that for the time his reason was dethroned. The Supreme Court holds that this evidence was admissible.

The Supreme Court says that it has made an earnest research of the authorities, and finds that it is a first principle of the law that in all cases involving mental responsibility, whether it be in regard to contracts, wills, etc. or crimes, every fact which tends to show that the mental condition of the subject was abnormal at the time of the execution of the instrument or commission of the crime is competent. For the mind diseased cannot be measured by the mind of another. Neither the moving cause nor the limit of its aberration is to be calculated by any standard fixed by the law or medical science. Each case fixes its own relation to the law. What may unbalance one mind and lead it to act on its criminal impulses may have no bearing on another. Therefore it is important that all things which may bear on the subject of inquiry should be submitted to the jury, that it may say whether, from all the facts and circumstances leading up to the act complained of, the accused was, in fact, capable of distinguishing right from wrong when he committed the act.

The leading case on this subject is that of People vs. Wood, 126 N. Y. 249, which establishes the principle that "a party is entitled to the benefit of any competent evidence he may offer which bears on a controverted question of fact embraced in the issue."

A delusion of marital infidelity is acknowledged as a type or symptom of homicidal insanity by alienists. Mr. Clevenger, at pages 650, 651, 653, 658 and 1074, cites instances to confirm this theory. So that, whether the accused had a belief grounded in fact or born of imagination, the evidence which was rejected was proper as tending to throw light on the defendant's mental attitude toward the victim of his deliberate physical act. Under all authority, it seems clear that, having laid a foundation by showing some evidence of mental aberration, the defendant could show that his wife's conduct had been such as to account for the state of his mind, and that his plea was not feigned. The testimony does not prove or disprove the crime, but it is a circumstance to be considered by the jury, as is a blow on the head, or a drug habit, etc. Nor does it introduce a collateral issue to be tried out. The inquiry should not go beyond such limit as will disclose the fact to the jury that there was a cause which might have moved the mind of the accused, and which it may consider as evidence tending to sustain his plea.

Such testimony should go to the jury under careful instructions. Its purpose and the limit of its application should be carefully guarded; so that the jury will not take it, if true, as in itself a justification or as an excuse for the crime, nor to prove justification for anger, hatred, revenge or an uncontrolled passion, or the momentary impulse of a sane mind, but for just what it is intended; that is, whether, considering all the facts and circumstances offered to show an insane act, it tends to strengthen the testimony by showing an adequate cause accounting in some degree for the alleged mental condition of the accused at the time the murder was committed.

It may be assumed that no man can measure the torment which a doubting husband tells o'er. If in the telling his reason so far fails that he cannot distinguish the right or wrong of his act, he is indeed an object of pity and compassion; but, on the other hand, if, with mental power to distinguish right from wrong, he takes the life of his victim, he should be made to feel the heavy and unflinching hand of the law. It is for the jury to say whether the defendant is a felon, or the victim of an unfathomed nature. That it may make no mistake, the defendant is entitled to submit such evidence as he may, providing only that it is relevant and competent to sustain his plea.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-39.

American Academy of Medicine, Los Angeles, June 23-26.
American Medico-Psychological Association, Denver, June 19-20.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
North Carolina, Medical Society of State of, Charlotte, June 20.
Oregon State Medical Association, Los Angeles, Cal., July 10.

FLORIDA MEDICAL ASSOCIATION

Thirty-Eighth Annual Meeting, held at Tallahassee, May 10-12, 1911

The President, DR. J. D. LOVE, in the Chair

The officers elected were named in THE JOURNAL, June 3, 1911, page 1660.

House of Delegates

The report of the secretary showed 316 members in twenty-two counties.

Joint Examining Board

DR. J. H. PIERPONT, chairman of the Committee on Public Policy and Legislation, made his report in regard to an effort to have the regular, homeopathic and eclectic examining boards agree to consent to a joint board of examiners; that the homeopathic so far were not favorable to the proposition, and that the eclectic would not consent. Many irregularities in the method of appointment by the last-mentioned body were reported on the floor of the house. One of the prominent eclectics, Dr. S. F. Smith of Lakeland, a member of the association, promised his earnest support in bringing about favorable action on the proposed legislation. It is probable that the 1913 legislature of Florida will be asked to combine the three boards.

The Owen Bill

The Owen Bill, Senate Bill No. 1, providing for a national department of health, was endorsed, by resolutions, and its adoption urged.

The house adopted a resolution asking the legislature to place licensed physicians, who wished to practice pharmacy, on the same basis as graduates of pharmacy; i. e., requiring an examination before the board of pharmacy; except that this should not prevent a practicing physician from dispensing his own drugs.

Organization and Advancement of the Profession

DR. J. N. MCCORMACK, chairman of the Committee on Organization of the American Medical Association, addressed the association as to the value of organization, mutual cooperation and assistance in an effort to elevate the standard of the practice of medicine. On Thursday evening, his excellency, Albert W. Gilchrist, governor of Florida, presiding, Dr. McCormack, before a public audience, consisting of the state officials, members of the legislature, the medical association, and citizens of Tallahassee, delivered an address on the advantage of good health, how it can be obtained and maintained, the needs of the citizenship from a sanitary standpoint, and outlined the methods which should be followed in obtaining a closer cooperation between the profession and the public.

Some Needs of To-Day

DR. J. D. LOVE, Jacksonville: The growth of the Association has been very gratifying and I would urge that careful selection be made in admitting members and that the older members of the profession take a more active interest in the scientific work and exercise their mature thought in the lead-

ership of the profession. The modesty is unfair and injurious that leads an older physician to withhold his valued teachings in the mistaken assumption that only that which is new and as yet unproved appeals to the profession. As for the charlatans and medical imposters who every year invade the state, proper influence should be used to have the legislature define "the practice of medicine." The examining board should have statutory authority, probably with the consent of the governor in eash instance, to revoke for good and sufficient reason, the license of a physician. The practice of applicants, when having failed before the regular examining board, going before other boards of examiners and securing a license to practice medicine should be condemned. Legislation to secure proper compensation for expert medical testimony should be secured.

Surgical After-Treatment of Anterior Poliomyelitis

DR. R. C. TURCK, Jacksonville: Fully 90 per cent. of all cases of poliomyelitis in children are certain to terminate with some permanent paralysis and muscular atrophy. Every case of infantile paralysis is a law unto itself. Practically no two cases are alike. Until there has been perfected a specific as uniform and as undoubted as diphtheria antitoxin, for instance, we must face the consequences of infantile paralysis, and direct efforts first, to the minimization, and second, to the relief of the inevitable end results. Much can be done in the subacute stages by prophylactic treatment. Massage, joint manipulation. passive and active muscle stretching, with corrective and retention apparatus, if indicated, will prevent contracture deformity in practically all cases. The ideal treatment of deformity in poliomyelitis is prophylactic. In neglected cases, of those in which contracture occurs, in spite of preventive measures, deformities, especially of the ankle and knee, may be corrected by several means: tenotomy is most widely employed and most valuable if used with due regard to end results.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: Notwithstanding the very best medical treatment we can give, sooner or later, with rare exceptions, the surgeon's knife must be resorted to for relief. With increased knowledge of benefits derived from early treatment, a diminution of extreme deformities should result. Early recognition of the condition is necessary, and I hope that soon we will have a serum for general use.

Traumatic Tetanus

DR. E. N. LIELL, Jacksonville: A male, aged 10, was injured by a blank pistol cartridge, Dec. 24, 1908. On the ninth day following, symptoms of rigidity of lower jaw muscles developed, with slight convulsive seizures; subsequently the muscles of the neck, chest and back became implicated. On the twelfth day he was admitted to the hospital. A decided convulsion was repeated an hour later. The wound, of charred character, partly healed, was thoroughly excised and a bichlorid dressing was applied. At 4:30 p. m. 5,000 units of antitetanic serum were injected into the muscles over the right shoulder blade; an enema of normal salt solution was given. Next day 5,000 units were injected at 11 a. m. Repeated convulsions lasting from a few seconds to two minutes occurred throughout the night; nourishment was refused, but he took water through a tube; 4:30 p. m., 3,000 units, 1 pint enema salt solution; January 7, 11 a. m., 3,000 units were injected; muscles contracted but not as rigid; four convulsions during past twelve hours. Five p. m., light convulsion; January 8, numerous convulsive seizures during night; refused nourishment, and chloral and sodium bromid, 10 grains each dose, but would take water; 3,000 units injected 11 a. m.; 3,000 units injected 7 p. m. after several convulsions, one lasting eight minutes though not formidable. January 9, noon, 3,000 units; 7 p. m., 3,000 units; muscles of jaw and neck relaxed somewhat, so that teeth could be separated an inch. January 10, 11 a. m., 3,000 units; 8 p. m., 3,000 units. January 11, 3,000 units. January 12, 11 a. m., 3,000 units; 7 p. m., 3,000 units. January 13, 11 a. m. and 8 p. m., 1,500 units. January 14 and 15, 1,500 units each. January 15 and 16, chloral, 20 grains. Patient discharged well, January 24. Temperature ranged from 99 to 101 F.; pulse 84-122; respiration 20-46; 55,000 units antitoxin total given.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: In a case reported to the association in 1908, intraspinal injections of magnesium sulphate were successful in treatment.

DR. G. L. WINTHROP, Mobile: Of eight patients with traumatic tetanus four were not given antitoxin. They died. Four were given antitoxin after symptoms developed and recovered. In one case chloroform, in two cases intraspinal injections of magnesium sulphate, were given to control convulsions. The question of whether antitoxin given after the onset of symptoms has been beneficial or harmful is unsettled, but in all cases where tetanus develops, the antitoxin should be given.

Rabies in a Human Being with Necropsy

DR. HENRY HANSON, Jacksonville: Patient, male. 9 years of age, was seen in consultation. Physician was called March 12, 1911, found patient suffering with severe throat symptoms and inability to swallow. Examination excluded diphtheria. Forcible depression of tongue temporarily enabled patient to swallow a little medicine. On attempting to drink water, it was forcibly expelled through the nose and mouth with general convulsion. After a few hours the attending physician found the patient much worse, nervous, respiration interfered with, muscles of deglutition paralyzed. The suspicions of the physician were aroused and inquiry was made as to the possibility of the patient having been bitten by an animal. It was found that three weeks previously a stray dog bit the boy severely on the calf of each leg. The patient was in bed three days before a physician was called, refusing food and drink, except small quantities of milk. During the course of the disease the thirst increased, but when water was brought, the patient would strike the glass from the hands of the attendant, or would jump out of bed in various directions, as though frightened. Death occurred on the afternoon of the fourth day, March 15. Permission for an autopsy was obtained. Post-mortem findings were characterized by their negativeness.

Microscopic examination, Anna Williams method: Bodies found within protoplasm of the large ganglion cells as described by Negri in 1903. Three rabbits inoculated, two subdurally (one dying from the operation), one intravenously. The two rabbits died with typical rabies on nineteenth and twenty-third days respectively. The brains of both rabbits showed Negri bodies in smears from Ammon's horn.

The Operative Treatment of Fractures

DR. CLARENCE HUTCHINSON, Pensacola: I do not advocate the operative treatment in every form and type of fracture. It is with the fractures of the shafts of the long bones that we have most to deal, and these fractures, with their marked displacement, with their consequent impaired or lost economic efficiency, have made and are making woeful commentaries on our so-called surgical skill.

The operative technic is comparatively simple and due care reduces the risk practically to nil. Rigid asepsis is the key note to success in fracture cases. Moderate cleanliness is not sufficient. Special care must be exercised in the preparation of the field of operation. Large moist compresses of green soap applied to the field for several hours and even days if the skin is thick or horny, followed by a germicide. The incision should be along a line where there is a minimum chance of damage to important structures. The incision should be adequate to expose the site thoroughly. Avoid unnecessary handling of sponges and instruments and never introduce anything into the wound except instruments necessary for handling fragments. Remove all clots and keep wound dry. Do not burden tissues with unnecessary ligatures and suture material—one tier of sutures is usually suffi-

cient. Put on strong plaster cast after operation and do not disturb wound unless indications are very positive for interference. Age is no barrier to operation; often the procedure is most strongly indicated in old persons. The shock is trivial. It is my rule to operate in all cases of fracture of the shaft of long bones in which there is marked displacement, especially where the economic efficiency of the individual is likely to be impaired from a questionable result.

Spontaneous Amputation of the Leg at Lower Third

DR. HENRY E. PALMER, Tallahassee: A negro male, aged about 70, three years before had an ulcer come under the fourth toe of the right foot; it resisted all treatment for a while and then remained without treatment five months; the foot began to swell and gangrene followed. He was in a semi-conscious state afterward from pain and morphin, which was liberally supplied. Several weeks later the foot suppurated at the ankle and he cut the few tendons with scissors. The flesh sloughed from the lower third of the leg, leaving the bone exposed 4 to 6 inches. In crawling down the steps the crippled leg caught and he fell, breaking the bone above the line of demarcation. A very good stump remains. This unusual termination illustrates the wonderful recuperative powers of some individuals under adverse conditions.

Huntington's Chorea

DR. RALPH N. GREENE, Chattahoochee: The patient, a negro male, entered the hospital for the insane twelve months ago with a diagnosis of Huntington's chorea. He had sustained a severe cranial wound in a railway accident, also gave a history of syphilis twelve years before.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: Cases of chorea major are of sufficient rarity to warrant their exhibition. The occurrence of the condition in the negro race is of particular interest. Of five cases seen by me, only two, including this one, occurred in negroes. The majority of cases reported, are in males. Very little is known as to the etiology of the disease, although attention has been called to the possibility of its being an infectious disease of rheumatic origin.

DR. R. N. GREENE: This is the second case observed at the hospital. The other was a young white man who had had syphilis some years previous, was in the battle of San Juan and was injured by a fragment of a shell. Chorea developed after his return. In the present case the convulsive movements developed almost immediately after the injury, according to the statements of the patient. The convulsive movements are more marked now and have increased in severity.

DR. R. L. GOODBREAD, Mayo: I have a case of chorea major under observation at this time. Patient is a male, age about 30, has been an officer of the law, wounded twice seriously; at times is a hard drinker; denies having had syphilis. His spasmodic movements are confined to one side. The mind is not affected, so far as can be seen now. His present employer says his work is satisfactory. In recovering from the attacks of the spasmodic movements he takes no morphin; but when sobering up from a drunken "spree" morphin is taken. He resents persons not familiar with him noting the spasmodic movements.

Purpura Fulminans, Complicating Malaria

DR. F. CLIFTON MOOR, Tallahassee: There is considerable doubt in my mind as to the relationship between the purpuric symptoms exhibited and a very definite coexisting malarial infection. Most recent authorities give their opinion that the different types of purpuric disease depend on the severity of the affection or the anatomic position of the hemorrhages rather than on any essential difference in the etiology or pathology of the disease itself. As to the etiology of the condition or whether there is any definite etiologic factor operating in all cases, there is a decided difference of opinion. My patient is a male, aged 4, of good physical development, but rather rachitic head. Family history negative, except for a slight hemophilic tendency in the mother and maternal grandmother. Two cases of malaria occurred in the family the previous summer. During the three months preceding the present attack, the patient has had two attacks of remittent fever lasting five to ten days at intervals of two or three weeks. Coincident with a rise of temperature, the child exhibited a decided convulsive tendency. Attacks were acute and marked by sudden rise of temperature to 103½-104 F., accompanied by convulsions or vomiting, or both. Remissions, and sometimes intermissions, of a few hours occurred. Examination of the blood showed the estivo-autumnal type of malarial parasite. During one of the attacks, after the administration of quinin, the examination was negative; Widal, negative. Fourteen days after last attack, at 2 p. m., there was a sudden rise of fever, vomiting and convulsion within an hour. Six grains of quinin had been given daily, up to a week before, for seven days. A smear taken immediately after the convulsion showed crescents in considerable numbers. The disease progressed, following Henoch's classical description, death occurring at midnight of the second day, without convulsions. Deaderick describes several irregular types of pernicious malaria due to actual clogging of the small vessels of the brain with plasmodia and blood cells, mentioning particularly an aphasic, hemiplegic and amaurotic type and states that the pathologic condition as noted above has been definitely demonstrated. If this is the case, a simular condition existing in the cutaneous circulation might well account for the particular symptoms of the case. The treatment was symptomatic.

Other Papers Read

The following papers were also read: "Rupture of the Uterus," by Dr. E. W. Warren; "Review of the Treatment of Epithelioma," by Dr. J. Lee Kirby-Smith; "Diagnostic Value of Lumbar Puncture," by Dr. James H. Randolph, Jacksonville; "Pellagra," by Dr. R. L. Goodbrad; "Preliminary Report on Latent Malarial Carriers," by Dr. Hiram Byrd; "Malarial Infection, Diagnosis and Prophylaxis," Dr. Henry Hanson; "Medical Inspection of Schools in Florida," by Dr. L. A. Bize; "The Eye and Its Relation to Medical Inspection of Schools," by Dr. F. P. Hoover; "Congenital Stenosis of the Pylorus," by Dr. D. C. Thompson; "Contract Practice," by Dr. M. L. Crum, Bowling Green; "Strangulated Inguinal Hernia in the Female," by Dr. H. A. Royster, Raleigh, N. C.; "Pellagra," by Dr. J. J. Watson, Columbia, S. C.; "Thoracic Surgery and Demonstration of Intratracheal Insufflation," by Dr. B. Merrill Ricketts, Cincinnati, Ohio; "The End-to-End Anastomosis of Blood-Vessels," by Dr. G. J. Winthrop, Mobile, Ala.; "Relation of Medical Examiner and Insurance Company," by Dr. R. H. McGinnis, Jacksonville.

ILLINOIS STATE MEDICAL SOCIETY

Sixty-First Annual Meeting, held in Aurora, May 16-18, 1911
(Concluded from page 1748)

The Abuse of Local Treatment in Gynecology

DR. HENRY T. BYFORD, Chicago: I wish to condemn the inadequacy of college instruction, and to criticize the different kinds of local treatment taught and used in a routine indiscriminate manner by many general practitioners. Iodin and phenol are applied to the cervix when not indicated, and are therefore useless in a large proportion of instances. Abstraction of blood from the cervix to relieve chronic hyperemia of the uterus and adnexa is useless and injurious. Glycerin and ichthyol tampons are of homeopathic efficacy and sometimes act as irritants. As a support the tampon is apt to do more harm than good. The copious high temperature douche accomplishes nothing, except to clean out vaginal discharges and give the patient unnecessary trouble. Medicated douches have a certain value when used intelligently and in a thorough way. I advise the judicious omission of all local treatment not based on definite rational indications. Patients who cannot and will not avail themselves of operations or who do not urgently need them, do better under a regulation of their habits and a correction of pathologic or abnormal conditions of the system in general than to depend on the routine indiscriminate local treatment. Some are made worse by it. Medical knowledge is as necessary for the gynecologist as surgical training; the exclusively surgical gynecologist is only half a gynecologist.

DISCUSSION

DR. THOMAS J. WATKINS, Chicago: I would like to subscribe to what Dr. Byford said about the inefficiency of most topical applications in gynecology.

DR. O. B. WILL, Peoria: The American people are to-day busy in ferreting out and trying to rectify abuses of every kind. The medical profession is never backward in that line,

but when it comes to placing blame on the general practitioners for abuse in this line, I would like to have it understood that specialists are to blame for these abuses, if such there are, in this line of treatment. The specialist changes his ideas with such rapidity that the ordinary practitioner is unable to keep up with him.

Functional Kidney Diagnosis

DRS. L. E. SCHMIDT and H. L. KRETSCHMER, Chicago: The phenolsulphonephthalein test has apparently been of distinct value in a large series of cases, permitting or aiding in selecting cases suitable for operation. It has been found to be of great value in cases in which there were lesions of the lower urinary tract and the mixed specimens of urine were used: it is equally valuable where the urines have been collected separately and where a consideration of the functional activity of one or both kidneys is to be considered. The carrying out of this test repeatedly on one and the same patient at intervals of three or four days has shown an increase in the rapidity of elimination of the drug as well as an increase in the percentage of drug excreted, both in the first and second hours; and accompanying this, a distinct improvement of the patient clinically during the period of time that preparatory treatment was given. To us this seemed of paramount importance—in fact, no other functional test has ever given us the same opportunity to make similar comparisons. Considering the ease and accuracy with which the test can be carried out —in connection with the ordinary modes of examination—it is by far the most adaptable, as well as accurate, of any of the functional tests in use at the present time.

The Euglobulin Reaction in the Urine

DR. ARTHUR R. ELLIOTT, Chicago: Euglobulin in the urine is demonstrated by treating the urine, diluted with distilled water, with 50 per cent. acetic acid in the cold. A diffuse cloudiness, intensifying on standing denotes the presence of euglobulin or nucleoproteid. Physiologic chemists are not agreed as to the exact nature of the proteid precipitated by acetic acid, some claiming it to be nucleoproteid, others euglobulin. It may be that under differing conditions either one or the other may exist in the urine or both occur simultaneously, although nucleoproteid is much rarer and of secondary clinical importance to euglobulin. The clinical conditions in which the reaction occurs are reviewed and attention directed to the value of the test in differentiating certain harmless forms of albuminuria (cyclical, orthostatic, residual) are characterized by the occurrence of euglobulin in the urine, associated with serum-albumin, and such urines give the acetic acid reaction. This reaction is not observed in the urine in chronic nephritis. When these two facts are placed together the test becomes of value as a means of differentiating harmless from serious organic albuminuria. As a rule the more abundant the reaction, the better the prognosis. The cases giving rise to perplexity in diagnosis are those in which albumin in the urine constitutes the only or almost the only symptom. It is in such cases that the acetic acid reaction may prove of value.

Diagnosis and Treatment of Infections of the Renal Pelvis

DR. L. W. BREMERMAN, Chicago: A number of years ago I was treating these patients entirely by lavage of the renal pelvis, and eradicated the infection in the majority of cases, yet there were a small number that would not clear up so that the urine would be entirely free from bacteria. During the last two or three years I have been using, in combination with lavage, injections of autogenous vaccines, and my results have been nearly perfect. I have found that the cases all clear up much more rapidly this way than with either lavage alone or vaccines alone. The lavage is carried out about once every five days by injection, through the ureteral catheter, of a solution of one of the silver salts; silver nitrate solution is preferable. It is well, when using silver nitrate, to lavage the bladder with salt solution, leaving some in that viscus after the treatment to the kidney pelvis. If this precaution is not taken, the silver is apt to produce frequency of urination with tenesmus. The catarrhal and mild purulent forms will clear up very rapidly in some of the cases. I have seen cases in which from one to ten treatments were sufficient, the urine remaining quite bacteria-free, the symptoms all disappearing. These cases, however, are the more difficult to diagnose, and unless special care is taken the condition will be overlooked and will not be recognized until it becomes purulent, whereas if recognized early the pelvic infection may be eradicated absolutely.

Unilateral Pyelonephritis

DR. E. MAMMEN, Bloomington: It is of the utmost importance that an early diagnosis be made; hence it is necessary to make frequent urinalyses when a kidney is suspected. Thoroughness will lead to the right solution of a puzzling condition. It is never wise to dismiss the patient with the assurance that his kidneys are all right. To do this will lead to error. Recently I removed a kidney containing 40 ounces of pus and a large calculus from a man whose urine was examined six weeks before, and the assurance given him that his kidneys were all right. If these kidneys can be detected early it becomes possible to treat them successfully by incision and drainage or decapsulation, or removal of the calculus. If, however, the diagnosis is not made until the parenchyma of the organ has degenerated, then nothing short of complete nephrectomy will suffice.

The Clinical Determination and Significance of Some of the Peripheral Signs of Aortic Insufficiency

DR. FREDERICK TICE, Chicago: Of 124 cases observed by me clinically, the collapsing pulse was present in 118 (95 per cent.); the visible artery pulsation in ninety-five (76 per cent.); the capillary pulse in 112 (90 per cent.): the venous pulse in eight (7 per cent.); hepatic pulse in fifteen (14 per cent.); femoral snap in forty-three (45 per cent.); delayed arterial pulse in fifty (48 per cent.); double femoral murmur in 100 (88 per cent.), and in the femoral tones in twenty-six (24 per cent.). The typical collapsing pulse *per se* is not pathognomonic of aortic insufficiency. The collapsing character is not due directly to the amount of regurgitated blood, but is the result of vasomotor dilatation. Aortic insufficiency may exist without a collapsing pulse. A typical collapsing pulse may occur with perfectly normal and competent aortic valves, as is not infrequently observed in exophthalmic goiter and other diseases with vasomotor dilatation. The degree of the collapse of the pulse in an aortic insufficiency is no indication of the amount of regurgitated blood or the extent of the valvular defect.

Visible arterial pulsations, while very suggestive, are not pathognomonic of aortic insufficiency. The chief factor in their production consists of the arterial and capillary changes; the aortic valves may be normal and competent. Visible arterial pulsations are observed clinically in pseudo-aortic insufficiency of Lennhoff, v. Weissmayer and Huber, in exophthalmic goiter and other diseases associated with a high pulse-pressure. The capillary pulse is not pathognomonic of aortic insufficiency. Its presence depends on a disturbance of the capillary flow, in most instances a vasomotor dilatation and loss of arterial elasticity.

The double femoral murmur *per se* is not pathognomonic of aortic insufficiency. It is an artificially produced phenomenon. The essential portion of the phenomenon, the cardiodiastolic or arteriosystolic results from the backward flow of blood produced chiefly by the vasomotor dilatation. Aortic insufficiency may exist without a double femoral murmur. The phenomenon is observed in other diseases, with perfectly normal and competent aortic valves.

The Liberal Diet in Typhoid

DR. J. L. MILLER, Chicago: The general use of the milk diet in typhoid is due to the fear of injuring the ulcerated surfaces in the ileum. Milk, however, when it reaches the stomach, rapidly assumes a semisolid state on account of the action of the milk curdling ferment. Certain foods, as well-cooked cereals, soft-boiled or poached eggs, mashed potatoes, custards, jellies, gelatin, steam-cooked fruits, etc., are finely divided and cannot form hard masses on reaching the stomach. It has been shown that the typhoid patient's power

of digestion and assimilation is only slightly impaired, and he can therefore properly dispose of food. The proteid loss in typhoid is very great and may exceed ½ pound of muscle daily. It has been shown that this muscle waste can be avoided by a proper diet. Carbohydrates and fats offer the best protection to the body proteids, and these must be given in large amounts, as in order to make up for the excessive waste the typhoid patient requires twice as much food as the normal individual. It is practically impossible to give these patients sufficient food to entirely prevent the destruction of the body proteid. They should receive, however, at least 3,000 calories daily. If this were administered in the form of milk between 4 and 5 quarts would be needed. The milk, furthermore, does not contain a sufficient amount of carbohydrates, as about two-thirds of the food should consist of carbohydrates. A suitable diet consists of 1 quart of milk and 1 pint of good cream (1,650 calories), four or five eggs (350 calories), 8 ounces of sugar (1,000 calories), making a total of 3,000 calories. The cream and milk may be given as cream soups, with cereals, as ice cream, etc. The sugar may be added to cereals, cooked fruits, or lemonade, or taken in the form of jellies, honey, etc. With the above as the basis of the diet, any soft foods may be added for variety. With such a diet the extreme emaciation and anemia can be much lessened and convalescence shortened. There is abundance of statistical evidence to show that the mortality danger of perforation and hemorrhage is considerably less on the liberal diet than on a pure milk diet. The only unfavorable results reported are the somewhat greater frequency of relapses.

Cancer in Domestic Animals

DR. MAXIMILIAN HERZOG, Chicago: Popularly, all malignant tumors are generally called cancers; scientifically the term ought to be limited to the carcinomata, the atypical epithelial neoplasms. These in domestic animals, on the whole, show the same histologic and clinical properties as in man. However, they vary more in their clinical characters as to malignancy. They may assume a large size without necrotic and ulcerative changes. They may exist for a long time without producing metastases. On the other hand, they may early lead to necrosis and to metastatic formation. The connective tissue matrix in which they grow may show a very profound reaction or there may be practically no reaction at all. The epithelial cells of the carcinomata in domestic animals frequently go through their normal changes, such as cornification, colloid formation, etc., or they may exhibit metaplastic transformation. Calcareous deposits in carcinoma in domestic animals are more frequent than in man; osseous tissue is likewise frequently found. This may be due to early invasion of bone, with subsequent osteoplastic processes or to embryonic inclusions of osteogenetic tissue. While carcinoma in man among the civilized races is undoubtedly on the increase, we are unable to state whether the same is true of these malignant tumors in domestic animals. We do not possess up to date any reliable vital statistics concerning this point in domestic animals. Carcinomata in the latter frequently develop after a so-called precancerous state represented by long-continued irritation or inflammatory or other hyperplasias, catrices, etc.

The Present Status of the Etiology of Cancer

DR. F. ROBERT ZEIT, Chicago: It is known that absolute failure accompanies any attempt to inoculate animals with malignant tumors from other than the same or nearly related species of animals. The inoculation tumors may grow to such a size as to exceed the weight of the animal. The tumor cells of the successfully transplanted tumors are descendants of the implanted cells and retain the characteristic histology of the primary growth for many generations, as shown by Loeb. Transplantation can be carried on for many generations with increasing virulence. Rapidity of the growth of these transplanted tumors cannot be influenced by mechanical stimuli. Metastases do not occur; at least, they are very rare. In rare cases the transplanted carcinoma stroma may become sarcomatous.

Other Papers Read

The following papers were also read: "The Health Conscience and the Drink Problem," by Dr. C. B. Johnson, Champaign; "The Diagnosis of Acute Poliomyelitis," by Dr. L. H. Mettler, Chicago; "Double Hernial Sacs," by Dr. D. D. Lewis, Chicago; "Intestinal Toxemia," by Dr. M. H. Mack, Chicago; "A New Theory as to the Mechanism of Skull Fractures, and an Analysis of One Thousand Cases," by Dr. F. A. Besley, Chicago; "Arteriosclerosis," by Dr. M. A. Marcy, Peoria.

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-Fifth Annual Meeting, held at Cincinnati, May 15-17, 1911

The President, DR. A. H. FREIBERG, Cincinnati, in the Chair

Officers Elected

The officers elected are named in THE JOURNAL, this issue, under General News.

Standardization in Orthopedic Instruction and Practice

DR. ALBERT H. FREIBERG, Cincinnati: Orthopedic surgery is the surgery of chronic conditions. For this reason, changes for the better or the worse are the more difficult to appreciate. For instance, witness the great difference in opinion regarding the progress made in the correction of scoliosis. This is due less to the inequality of results than to variation in methods of mensuration and recording. I wish to plead for a recognition and determination of standard methods in mensuration and treatment, and in methods of instruction to patients. It would also be well to look for a plan by which every new method should be granted a careful trial by experienced, reliable men, to be made, if possible, with the cooperation of the proposer of the innovation. This might be accomplished by the establishment of a standing committee, to whom such questions might be referred. Perhaps another field of usefulness for such a committee would be in giving an expression of opinion as to the ideal preparation of the graduate who expects to specialize.

Use of Tuberculin in Joint Tuberculosis

DR. GEORGE B. PACKARD, Denver: In many cases in which there had been discharging sinuses for a long time, and in which there was mixed infection, the results were excellent without an autogenous vaccine. Though cultures were not made, it is probable that in these cases the active organism was the staphylococcus. If there was the slightest question as to the diagnosis, the Moreau or the v. Pirquet test was made, and always found positive. Skiagrams and microscopic examination of the material obtained by curettement confirmed the diagnosis, also in a case in which the secondary infection was severe and the reaction marked from tuberculin alone, without an autogenous vaccine. I would not use tuberculin as a routine treatment in all cases of joint tuberculosis. When either children or adults are doing well, and there is no evidence of the disease being active or progressive, and when the general condition is satisfactory, I would not use it; but when the disease is progressive and painful, in spite of protection and other general measures, I consider tuberculin to be a valuable adjunct to the treatment.

Spengler's I. K. Serum in Joint Tuberculosis

DR. JOHN L. PORTER, Chicago: Our present knowledge in regard to calculating the dosage is inadequate. Better results can be obtained when the dosage has been perfected. The giving of but one dose in seven or eight days has been found to be more satisfactory than more frequent dosages. Marked disturbance of the patient's comfort is the best guide for a reduction of the dosage. Too great a desire to hasten the cure will usually result disastrously. Contamination must be guarded against. The posterior exterior surface of the forearm, while the arm is held in flexion, is the most convenient and least painful site for the injection. Children seldom complain of the procedure, if the solution is injected

slowly. Tincture of digitalis and strophanthus should be administered throughout the entire treatment. Patients with severe or advanced heart lesions should not be treated with I. K. solution until complete compensation has been restored; and then only while in bed and with the greatest care and careful dosage. Jumping to a ten-fold dosage is both dangerous and unnecessary; and it is seldom that patients can tolerate this increase. When rapid immunization is desired, it is better to begin with a small dose of a higher dilution. Then, after an interval of ten days, this can be increased, up to lysis. A relatively small daily liberation of antitoxic immune substance could be better calculated by the physiologic blood force. I believe that I. K. serum has some curative properties and a constitutional effect on patients with tuberculous joints, and that it is worthy of further trial.

Joint Tuberculosis in Children

DR. LEONARD W. ELY, Denver: The orthopedic surgeon is responsible for part of the confusion that exists as to the treatment of joint tuberculosis. In the past, there has been a tendency to dwell too much on the non-essentials and to magnify points of difference. There are three reasons for the confusion, and three main rules of treatment on which one may unite, based on clinical experience and on laboratory study: First, deprivation of function; second, avoidance of secondary infection; third, fresh air and good food. In addition let us always emphasize the fact that radical operations are out of place in children's tuberculous joints.

DISCUSSION

DR. HERBERT H. GALLOWAY, Winnipeg: What support is there for the contention that the focal reaction produced by the subcutaneous injection of old tuberculin is dangerous? I feel that it is exceedingly valuable in doubtful cases, and have never had occasion to regret its use.

DR. WILLIAM S. BAER, Baltimore: I do not like the use of the Calmette reaction, because cases have been reported in which serious damage has been done to the eye by it; and it gives no information that the v. Pirquet does not afford. I use the latter first, to see whether there is tuberculosis anywhere in the system, and then employ the injection method, if the v. Pirquet is positive, in order to get a local reaction.

DR. JAMES K. YOUNG, Philadelphia: Under certain precautions, there is no danger in the Calmette test. The eye should not be diseased at the time, and should subsequently be protected.

DR. EDWIN W. RYERSON, Chicago: The great value of the Calmette and v. Pirquet reactions is when they are negative. I have seen a case in which after the injection of one milligram of old tuberculin a tuberculous peritonitis occurred. It resulted in such speedy death that I thought the injection had been instrumental in producing it.

DR. SYDNEY M. CONE, Baltimore: It is true that negative reactions are more valuable than positive. I prefer the v. Pirquet test to the others.

DR. G. G. DAVIS, Philadelphia: I do not believe in using the Calmette reaction. There is no more obstinate affection in childhood than tuberculous inflammation of the eye; and when an inflammation is started in the eye of a tuberculous child, no one knows when it will stop. The v. Pirquet test is absolutely without objection.

Treatment of Hip Disease

DR. EDWARD H. BRADFORD, Boston: Hip disease tends to deform the limb with destruction of the head and widening of the acetabulum. Thorough treatment should overcome this tendency. The threatened deformities are most effectively combatted by the employment of traction during the deforming stages of the disease.

The Conservative Treatment of Hip Disease

DR. JAMES K. YOUNG, Philadelphia: The treatment of hip joint disease should be based on the pathology as shown by the clinical symptoms confirmed always by the skiagram and where possible by exploratory puncture. Mechanical treatment, to be thorough and efficient, should combine absolute fixation of the pelvis and entire lower extremities, including the foot and combined with moderate traction.

DISCUSSION

DR. B. E. MCKENZIE, Toronto: I think Dr. Bradford could have used the Bradford frame to secure fixation and prevention of deformity. Through its use, one may bring down a femur that has risen up into the pelvis. I believe that the greatest force in the treatment of tuberculous bone-disease is the proper use of the sun's rays. I have given up the use of a brace for any kind of hip disease, except during the period of convalescence.

DR. CLARENCE L. STARR, Toronto: In my treatment by means of traction and extension, I encountered the difficulty of atrophy of the bone. I should like to know whether Dr. Bradford's apparatus does not produce this, as does plaster of Paris. My experience is that the atrophy is no worse in the case of patients subjected to treatment in bed than in those that have been allowed to be up and around, and that it disappears to a great extent subsequently. I should also like to know whether Dr. Bradford gets correction of the flexion deformity with that apparatus.

DR. E. H. BRADFORD, Boston: I use my frame in the acute stages for a short time, but the other method of treatment allows the child to walk around. The trouble with Dr. Young's apparatus is that the child cannot sit down well with it on. I have given up peroneal straps, because either the child or the nurse can loosen them. A skiagram would show that there is not the amount of traction that there should be, and the child cannot move the upper part of the body freely. I do not get much atrophy. The muscles, of course, do not develop as well as those of the leg in use; but they do increase somewhat with the splint on. You can get as much abduction with my apparatus as you wish.

DR. J. K. YOUNG, Philadelphia: I think my splint affords the combination of traction and fixation.

Cyst of the Upper End of the Femur, Simulating Hip Disease

DR. DAVID SILVER, Pittsburg: A boy, aged 5 years, presented a limp, limitation of motion, trochanteric thickening and atrophy of the thigh. A radiogram showed a cyst with fracture of the inner wall of the neck. At operation a cavity was found filled with sterile fluid and no lining membrane was seen. At a second operation, nearly two years later, for return of the limp, a dense lining membrane was present; and examination showed changes characteristic of osteitis fibrosa.

DISCUSSION

DR. HENRY L. TAYLOR, Montclair, N. J.: I operated in a case of cyst of the base of the neck of the femur in which the symptoms were a little obscure, but entirely different from beginning hip disease. The skiagram cleared up the diagnosis, showing a spot about the size of a dime, with enlargement of the bone inward over this area. A later observation showed that the cyst was about to perforate. I cut out a piece the size of a nickel, and the boy is perfectly well now, three years after the operation.

DR. G. G. DAVIS, Philadelphia: Dr. Silver has described the growth as osteitis fibrosa. There is nothing indicative of malignancy in that diagnosis. I have had a case of cyst of the end of the ulna, in which, after breaking in the thin wall (there being no proper lining membrane) I found some bloody clot; and up in one corner was a small amount of granulation tissue, which, when submitted to the microscope, showed beautiful myeloid giant cells. Therefore, you could call it a giant-cell sarcoma; yet the amount of new growth was extremely small. It is a question whether these two classes are not simply slight variations of the same kind of growth, those in which there is much proliferation being called myeloid sarcoma, and the others osteitis fibrosa.

DR. B. E. MCKENZIE, Toronto: I had a similar case in a woman 40 years of age. The cyst contained a bloody serous fluid and had no lining membrane. No curetting was done. Two years and a half have elapsed since the operation, and there is no indication of a reappearance. I also had a case that proved to be a chondroma of the hip. Though not a

cyst, it was regarded for a long time as a case of hip disease. The growth was removed by curettement. I adjusted the leg in a fully abducted position, allowing the ends of the bone to overlap and good union was obtained.

DR. W. S. PAER, Baltimore: I think that the treatment has to be followed out according to the pathology in each particular. On the whole, I wonder whether curettage is better in the long run. When there is any chance that the cyst is epitheliomatous in character, amputation should be done, and no attempt made to save the member.

DR. ALEXANDER R. COLVIN, St. Paul, Minn.: I have had two cases in which cysts not operated on have practically obliterated themselves.

The Prevalence of Infantile Paralysis in Missouri

DR. JAMES A. O'REILLY, St. Louis: The disease is sporadic over the entire state, but the great majority of the cases are in the northwestern and western portions. The greater number of patients live in the country, and away from railroads or electric lines. Comparing the cases in 1911 with those in the five years previous to 1910, it is seen that the disease is becoming much more prevalent, and that it amounted to an epidemic in 1910.

DR. ROBERT B. OSGOOD, Boston: During the last year, Dr. Lucas and I have been making some transmission experiments in regard to poliomyelitis. We were able to transmit the disease from the tonsils and adenoid tissues of monkeys as late as five months and a half after the attack was over. We also tried to transmit the disease from the nasopharyngeal mucosa of a monkey that had been kept alive by careful nursing, and found the germs present at the end of five and a half months. Later, we obtained the tonsils and adenoid tissue removed from a little girl six months and ten days after having had a spastic paralysis from this disease. The preparation from these was injected in various amounts into three monkeys. One of these animals developed typical signs of the disease accompanied with paralysis. This shows that human adenoid and tonsillar tissue can preserve the virus while no other symptoms of acute diseases are present.

The Operative Treatment of Knee Derangement

DR. NATHANIEL ALLISON, St. Louis: In spite of the fact that the diagnosis is usually easy, some cases that present the symptoms and signs of internal derangement at the knee show nothing abnormal when the joint is opened; and some cases have typical derangements in the knee, but do not present symptoms or signs tallying with any recognized picture. In these cases, exploratory arthrotomy is advisable and useful. A careful, clean operative technic, however, is absolutely essential. Conservatism must have been responsible for many old chronic knees, which might have been saved for joint function by simple arthrotomy.

DISCUSSION

DR. S. M. CONE, Baltimore: In regard to arthrotomy, we should be guided a good deal by what is found to be the cause of the trouble at the joint. Different organisms produce different conditions, of varying seriousness.

DR. H. L. TAYLOR: Most authors claim that imperfect extension is one of the cardinal signs of a chronic derangement of the semilunar cartilage, and we have also been used to looking at tenderness over the semilunar cartilage as a sign of this condition. I had a patient who had neither.

DR. J. E. GOLDTHWAIT, Boston: I have never seen a case of semilunar derangement in which complete extension was limited and in which it was not possible to relieve the condition by manipulation, unless the anterior third of the cartilage had been turned on itself, so that the section of it lay directly between the condyles. This is a very common thing to find.

DR. R. B. OSGOOD, Boston: The communication between the anterior and the posterior portions of the capsule is normally very narrow; and a foreign body in the posterior portion cannot be removed by means of an anterior incision unless one cuts through the lateral ligaments. In such cases, it is much better to make a posterior incision.

DR. CHARLES F. PAINTER, Boston: Exploratory arthrotomy and abdominal operations should be very rarely done.

DR. W. G. STERN, Cleveland: Lately, many surgeons have been injecting a solution of formaldehyd and glycerin into the knee-joint, with the idea of preventing infection and rendering operations on the knee-joint less dangerous. I have had patients treated in this way in whom severe infection had taken place, and I do not think that the method renders these operations less dangerous.

DR. JOHN J. NUTT, New York City: I do not think that brace treatment can be considered good, unless it relieves the patient's apprehension.

DR. G. G. DAVIS, Philadelphia: My experience with formaldehyd and glycerin is that unless the patient is anesthetized, the injection is an exceedingly painful procedure. One may open the knee-joint to remove synovial fringes, and fail to obtain motion again. In a great many of these apparently traumatic cases, if the joint be opened, a condition that, just for convenience, I would term rheumatic supervenes; and the patient is left with a more or less permanently crippled joint, in spite of the fact that primary union has occurred with no evidence of infection.

DR. N. ALLISON, St. Louis: With the absolutely necessary careful technic, the knee can be opened without any more fear on the part of the surgeon than he would feel in opening the abdomen. If the patient can be relieved in three weeks' time by means of operation, this is better than the wearing of a brace. I am not in favor of exploring knees when no symptoms have been made out; but in many cases the typical symptoms are not seen.

Tendon Transplantation and Silk Ligaments

DR. E. W. RYERSON, Chicago: If possible, the skin incisions should be so placed that the line of suture will not lie directly over the insertion of the silk. Strong braided silk is much better than several strands of finer silk, which tend to cut through. The value of silk ligaments in suspending the foot at a right angle in cases of drop-foot has undoubtedly become firmly established. The method is safer, easier and far more rational than the excision of a diamond-shaped piece of skin from the front of the joint. In the technic I have used for some time, the chief advantage is that the cords are passed beneath the annular ligament of the ankle, instead of merely beneath the skin. Plain corrosive-sublimate silk is apparently free from disadvantages. It seems advisable to omit drainage entirely. It is a good idea to apply a coating of sterile petrolatum to the skin wound and the surrounding skin. After the cast has been applied, a window is cut out over each incision, in order to allow the wound to dry and to facilitate dressing and the removal of the stitches, which should not be removed before the end of two weeks.

The Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in the Residual Paralysis of Anterior Poliomyelitis

DRS. BERNARD BARTOW and WILLIAM W. PLUMMER, Buffalo: The intention, by this plan, is to secure closer approximation of the loose articular surfaces, and to limit motion in certain directions, by placing check ligaments within the joint. These excite reactive inflammation, followed by organization of exudates, as a further limiting process. Resistance is thereby supplied to diminish or prevent deflection of the limb from the weight-bearing axis.

The Treatment of Paralytic Outward Rotation of the Foot

DR. GWILYM G. DAVIS, Philadelphia: In the treatment of infantile paralysis external rotation of the foot is often a troublesome feature. To overcome it I use, in some cases, straps or bands passing from a pelvic band to an apparatus fastened to the foot. In other cases, make an incision in the region of the greater trochanter, and while the foot is rotated strongly inward, sew, with silk sutures, the overlying fascia fast to the posterior edge of the greater trochanter beneath. In cases in which the tensor fasciæ femoris muscle is not paralyzed, this muscle can be loosened and its lower end turned posteriorly and sewn posteriorly on the greater trochanter and upper portion of the shaft of the femur.

What is to be the Attitude of the Orthopedic Surgeon with Regard to the Child with Congenital Ptosis of the Abdominal Viscera?

DR. JOEL E. GOLDTHWAIT, Boston: The type of child I wish to consider is the one who stands in an incorrect attitude, with the stomach out, etc. Such children have the arrangement of the visceral supports that is found in quadrupeds. One person in every five is born before the embryologic changes that differentiate the human species from the quadruped have taken place, as these occur in the latter part of embryonic life. The results are not appreciated until the children begin to walk. They have bilious attacks and difficulty in their nutrition, and later have round shoulders and various other deformities. The viscera slip down, and it is impossible to put in new supports. If, however, we can save the strain on a ligament, it will contract, though it may have been stretched considerably. If we can give a little support to the viscera, the children will stand better. We must use the force of gravity in such a way that instead of its constantly making the position worse, it pulls the parts to where they should be. The retroperitoneal fat, which is absorbed when the organs are dragged down, must be replaced in order to get the shelf of sufficient size to hold the viscus. Making the patients lie in bed with supports properly arranged will do much to accomplish this. They should assume this position two or three times a day.

DISCUSSION

DR. COMPTON RIELY, Baltimore: If the pelvis is tilted forward, it is a mechanical impossibility to get the ribs separated and the lungs expanded. In the treatment, one should make an effort to have the patient tilt the pelvis backward. This has to be done largely by means of exercise, especially of the leg muscles, doing away with heels on shoes, if possible.

DR. H. L. TAYLOR: A physical trainer in New Jersey who has had considerable success with neurasthenics devotes almost his entire attention to cultivating the abdominal muscles. One of his favorite exercises is standing on the head. The old knee-chest posture of gynecology might be a good one to have the patient assume. I have seen many neurasthenics who had none of these faults in posture, and numbers of persons who had them were not neurasthenics and had no arthritis deformans.

DR. JOHN DUNLOP, Washington, D. C.: I have found the stomach of such patients in the knee-chest position to be 5 or 6 inches higher than when they were trying to stand.

DR. J. E. GOLDTHWAITE, Boston: A good exercise is to have the patient crawl off the edge of the bed, letting his head hang to the floor, keeping this attitude long enough for the muscles to tire and the organs to sag back. Exercise should be kept up almost indefinitely. These people are not all invalids, and many have a reasonable degree of efficiency; but many tuberculous patients are poorly nourished for the reason that the machinery is not working right on the inside. The knee-chest position has the disadvantage of causing an additional sacro-iliac strain.

The Prevention and Cure of Foot-Strain

DR. ROBERT B. OSGOOD, Boston: The most common predisposing cause is abnormal muscle balance and the most common exciting cause, the modern ready-made shoes. An important point in reaching the diagnosis is the examination of the patient's well-worn shoes. If the muscle balance is nearly or quite normal, the symptoms being due to bad foot-wear, various flexible-shank shoes may be used. In other cases, rest in some form is the most rational immediate treatment. Persons beginning occupations that require a greater number of hours on the feet should take precautions against foot-strain by employing proper shoes.

A Removable Plaster Corset for Structural Scoliosis

DR. DAVID SILVER, Pittsburg: The advantages of the removable plaster corset are cleanliness, freedom from pressure, allowing the opportunity for frequent inspection, and permitting of the use of corrective exercise (in recumbency), either during the entire period of treatment, or in the later stages. The neck portion comes well up on the base of the neck. Instead of carrying the plaster up to the neck, it may be stopped at the shoulders and a metal neck and shoulder attachment used. The plaster corset may be reproduced in leather or metal.

DISCUSSION

DR. W. TRUSLOW, Brooklyn: If we begin the use of the corset before proper correction has been obtained, we have to meet the problem of the lack of symmetry of the form to mold the material over. The neckpiece is extremely uncomfortable, and patients do not like to wear it. I prefer a corset made of celluloid, with a simple opening in front. It can be reinforced with strips of metal.

DR. W. G. STERN, Cleveland: Celluloid is objected to by many on account of the danger of fire. If crystals of the chlorid of iron are added to the celluloid for the middle layer of the jacket, the material will be made practically non-inflammable.

DR. D. SILVER, Pittsburg: I do not think the neck-piece is uncomfortable, especially the metal one, because it can be bent until it fits comfortably.

An Unusual Pathologic Condition of the Sacro-Iliac Joint, Causing Sciatica

DR. SYDNEY M. CONE, Baltimore: I had two interesting cases, one a case of osteophytic growths following a railroad accident to a healthy man, aged 34. The patient injured his left pelvic region, and after a long period of invalidism was treated for sciatica and sacro-iliac loose joint for several years. *X*-ray examination and physical examination showed bony growths about sacro-iliac joint. At operation several bony growths were removed at this joint and about the great sacro-sciatic notch. Patient was promptly relieved. The second case was treated for a year or more for loose sacro-iliac joint. *X*-ray showed thickening of tissues above the acetabulum of left hip. Exploratory operation showed the joint to be normal, but periosteum thickened and chronically inflamed. Operation revealed thickened periosteum and a small osteophytic growth at the great sacro-sciatic notch. Curetting of this resulted in complete relief from all symptoms.

Peroneal Spasm

DR. CHARLES F. PAINTER, Boston: The rigidity of the peroneal muscles is very difficult to overcome, and no satisfactory explanation has been offered as to the cause of this phenomenon. I found in the tendon sheath, just where it began to play into the groove, an articular facet, which was not a part of the groove; and in the tendon there was a body that could be felt distinctly, causing the tendon to expand in both directions. I dissected this body out, and left the tendon intact. I left the foot entirely free. The second day after the operation, I could move the foot in any direction. The patient has had no recurrence. I performed the operation later in a series of similar cases, all but one of which resulted satisfactorily. In this case, it was difficult to tell how much of the rigidity was due to bony deformity, and how much to peroneal spasm. In view of the anomalies that anatomists have found to exist in the tarsus, I think that this might be a possible explanation of the condition.

Mutton Tallow and Iodin as a Substitute for Bismuth Paste

DR. DAVID SILVER, Pittsburg: Mutton tallow was used because it was felt that an animal substance would be better material to inject into the body than a mineral. It is generally supposed that mutton tallow becomes rancid easily, but a specimen that I had for a long time failed to show any evidences of this. The sinuses in which this substance is used are distinctly drier than are those injected with bismuth paste. This fact also makes the tallow better than petrolatum.

A Simple Splint for Snapping Knees

DR. A. J. STEELE, St. Louis: In this condition, in which the epiphysis is separated from the diaphysis, I presume that the ligaments are too long, so that the bone slips out and is forced back again. It occurred to me that if the tibia and

the femur slipped at all, it must be a lateral slip, and that it would be a simple matter to put a small brace that would not interfere with motion on each side of the knee. I devised this, which is a small sole-leather affair, slit at the back, and with straps going around the front. My patient has worn it continually for five or six months, and the snapping has pretty much passed away.

Pott's Paraplegia of One Year's Standing; Laminectomy; Almost Complete Recovery

DR. EMIL S. GEIST, Minneapolis: The location was the third and fourth dorsal vertebræ. Laminectomy was done, and an extradural abscess communicating with the posterior mediastinum was found. Drainage was allowed to remain in for three months. A beginning return of sensibility was noted four months after the operation. Motion and sensibility has entirely returned by the end of nine months after the surgical procedure. A brace was applied, and walking begun. The patient had an attack of pneumonia and pleurisy two months later, which ended in death. I have here the pathological specimens, gross and microscopic.

Other Papers Read

The following papers were also read: "Use of Tuberculin in Orthopedic Surgery," by Dr. W. G. Stern, Cleveland; "Treatment of Flexion and Abduction Deformity of the Thigh by Changing the Angle of the Femoral Neck," by Dr. J. A. O'Reilly, St. Louis; "Case of Coxa Vara," by Dr. J. Ridlon, Chicago; "Prognosis in Chronic Arthritis," by Dr. C. P. Painter, Boston; "Results of Treatment of Scoliosis at the Boston Children's Hospital," by Drs. R. W. Lovett and J. W. Sever, Boston; "The Anterior Heel," by Dr. A. G. Cook, Hartford, Conn.; "The Operative Approaches to the Hip-Joint," by Dr. E. G. Brackett, Boston; "Further Study of the Lumbo-Sacral Articulation," by Dr. J. E. Goldthwait, Boston; "Dyschondroplasis," by Dr. C. E. Coon, Syracuse; "Pathogenesis of Spur Formation on the Os Calcis," by Dr. R. G. Meisenbach, Buffalo; "Results of Muscle Group Isolation in the Treatment of Spastic Paralysis," by Dr. M. Allison, St. Louis; "Further Experience with Volkmann's Ischemic Paralysis by the Method of Robert Jones," by Dr. R. H. Sayre, New York City; "Exercise Treatment of Paralysis," by Dr. C. H. Bucholz, Boston; "X-Ray Studies of Arthritis Deformans," by Dr. G. R. Elliott, New York City; "Treatment of Scoliosis," by Dr. E. H. Bradford, Boston; "Orthopedic Treatment of Fractures of the Humerus," by Dr. F. E. Peckham, Providence, R. I.; "Suggestions as to Notes and Records in an Orthopedic Hospital," by Dr. D. B. Gibney, New York City; "A Modified Genuclast," by Dr. P. Hoffmann, St. Louis; "Bilateral Congenital Dislocation of the Lower End of the Ulna," by Dr. S. F. Jones, Denver; "Psoas Abscess from Retroperitoneal Lymph Glands," by Dr. M. H. Rogers, Boston; "Traumatic Arthritis as a Late Complication of Fractures of the Upper Extremity," by Dr. P. LeBreton, Buffalo; "Skiagraphic Study of Brittle Bones," by Dr. R. Hammond, Providence, R. I.; "The Adolescent Tibial Tubercle," by Dr. J. Dunlop, Washington, D. C.; "An Operation for Severe Grades of Claw Toes," by Dr. P. Hoffmann, St. Louis; "Correction of Relapsed and Untreated Cases of Equino-Varus," by Dr. M. Hoke, Atlanta, Ga.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(Concluded from page 1751)

Renal Decapsulation in Chronic Nephritis in Children

DR. HENRY KOPLIK, New York: The number of patients operated on so far is limited; the operation is not curative, but undertaken only in cases in which relief from the symptoms of nephritis has failed by all other means, medicinal and dietetic. The operation itself does not endanger life. The improvement in the symptoms after operation has been striking in spite of the persistence of urinary signs of marked disease of the kidney. The freedom from symptoms is combined with a status of well-being lasting in some of the cases for a period of years. Exposure or indiscretion will not exempt the operated case from recurrence of edema and other symptoms, but the patients, as in one of the cases reported, recover promptly and remain well for a time, showing that the operation has not crippled the recuperative powers of the kidney.

DISCUSSION

DR. G. L. PEABODY, New York: I have had a number of these patients operated on with satisfactory results, as a rule. In one case the operation was done four successive times in a period of two years; after each operation a recurrence of symptoms took place, with a marked degree of anasarca closing the boy's eyes so he could not see and after each operation the improvement was marked and lasted for a number of months. He would disappear from the hospital and then come back again with headache, vomiting and almost complete suppression of urine, and in four instances the symptoms were relieved by removing the capsule which reformed after each operation.

DR. JAMES TYSON, Philadelphia: Recovery is not always prompt. It was quite delayed in two cases, but it occurred none the less. A marked symptom following operation was enormous diuresis, going to show that something must have occurred consequent on freeing the kidney from pressure or obstruction.

DR. LEWIS A. CONNER, New York: In one case of severe bichlorid poisoning with complete aneuria absolutely no impression was made on the kidney by the operation. That bears out Dr. Koplik's contention that the acute cases are not necessarily the most favorable.

DR. JAMES TYSON, Philadelphia: It has been questioned whether there is any advantage in operating on both kidneys. In the first, and, perhaps, the most prominent case, the kidney was operated on. Four weeks later the second kidney was operated on, but without any particular improvement.

Fever, Its Nature and Significance

DRS. V. C. VAUGHAN, JAMES G. CUMMING and JOHN H. WRIGHT, Ann Arbor, Mich.: In 1909 Vaughan, Wheeler and Gidley showed that continued fever can be induced in rabbits by repeated subcutaneous injections of egg-white and certain other proteins. This work has been continued, and it has been demonstrated that by varying the dose and the intervals between doses one can induce an acute, an intermittent, a remittent or a continued fever in rabbits by injections of foreign protein. Furthermore, it has been shown that by repeated intra-abdominal injections of various bacteria, acute fever, followed by immunity, will be produced. The authors hold that fever results from the parenteral digestion of proteins, and that fever must be regarded as a conservative process, although, like many of Nature's processes, it often leads to disaster. Its purpose is the disposal of foreign, dangerous material, and, therefore, it must be regarded as beneficent.

Effects on Blood-Pressure of the Various Anatomical Components of the Hypophysis

DRS. JOSEPH L. MILLER, DEAN D. LEWIS and S. A. MATTHEWS, Chicago: We have been able to demonstrate that the anterior lobe also contains a pressor substance, but its action is usually masked by excessive amount of depressor substance present. By first removing the depressor substance by extracting with alcohol, it was possible to demonstrate a pressor substance in the anterior lobe. It was determined that this pressor substance is confined chiefly to that portion of the anterior lobe adjacent to the cleft and which histologically is pars intermedia. Both portions of the posterior lobe contain a pressor substance. Cysts of the pars intermedia and colloid from the cleft, the secretion from the pars intermedia, have a distinct pressor effect. It is scarcely probable that the tissues so entirely different as the pars intermedia and pars nervosa should contain a pressor substance. Herring's theory that the secretion from the pars intermedia passes into the pars nervosa would explain these findings.

Failure to detect any pressor substance in the infundibular process, or stalk, might be interpreted as unfavorable to the view that the pressor substance passes through the stalk to the third ventricle.

Sporadic Elephantiasis

DR. W. GILMAN THOMPSON, New York: I saw four cases of elephantiasis occurring in persons who had never been in foreign countries and therefore were never exposed to filaria. Neither filaria nor plasmodia were revealed by blood examination. There was nothing to throw light on the etiology. There was found considerable hypertrophy of the entire skin. The fibrous tissue was enormously increased. There was the usual corneal edema. There was great enlargement of the sweat glands, and the lymphatics and blood-vessels were considerably increased in size. Only one of the four cases did not give a history of periodical febrile exacerbations.

DR. F. C. SHATTUCK, Boston: The conclusions which I came to in a recent paper on elephantiasis was that none of the theories in regard to the etiology of this disease is adequate. I believe the cause is either multiple or else entirely unknown in its basic principles. In a number of cases I believe that chronic infection is an element in the causation.

An Experimental Study of the Pain Sense in the Pleural Membranes

DR. JOSEPH A. CAPPS, Chicago: In hydrothorax the presence of fluid frequently so retracts the lungs and flattens out the diaphragm that the conditions are favorable for testing the sensation of the pleural membranes. This experiment was carried out by means of a long wire inserted through the hollow cannula after thoracentesis. Thirty-five cases were thus explored with the following results: The visceral pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura and a margin 1 to 3 inches broad near its peripheral attachment responded with pain over the lower thorax and abdomen. The remaining portion of the diaphragm when irritated was characterized by pain in the neck region. The pain elicited from the pericardial pleura was also referred to the neck. The neck pain was sharp and localized in a small area of skin, usually situated over the ridge of the trapezius muscle, an area which receives its sensory innervation from the third and fourth cervical segments. This pain is true referred pain and is transmitted from the diaphragm to the posterior cervical cord by the phrenic nerve. These experiments make it possible to map out quite definitely the portion of the diaphragmatic pleura which receives its sensory supply from the phrenic nerve, and the portion which receives its supply from the intercostal nerves.

Is There a Specific Treatment for Diabetes Mellitus?

DR. HENRY SEWALL, Denver: Evidence has been presented that in a certain proportion of diabetics beyond middle age the metabolism and general symptoms may be improved and the sugar removed from the urine, at least temporarily, through the administration of an infusion of lean meat acidulated with hydrochloric acid. In a single case of youthful diabetes, though neither beef infusion nor pancreatic infusion was alone efficacious, when the one followed the other, or a mixture of the two, after an interval of some hours, the urine became sugar-free. After the disease had persisted for some months this happy result could no longer be obtained. Nevertheless, the treatment, especially with the beef infusion, seemed to improve the subjective condition of the patient. No good results attended the use of the commercial pancreatic powder employed.

DISCUSSION

DR. S. J. MELTZER, New York: The fact is dwelt on by Dr. Sewall that if you add sugar to muscle extract and pancreas the sugar disappears. Recent work in the Rockefeller Institute shows that the sugar does not disappear at all, but is simply converted into higher sugar. Therefore, can it be said that in Dr. Sewall's case a cure has been effected simply because the sugar disappeared from the urine?

The Blood in Diseases Commonly Designated "Of the Nervous System"

DR. JOSEPH COLLINS and DR. D. M. KAPLAN, New York: There is no disease of the nervous system dependent on definite and unvarying disease of the blood. There are definite forms of secondary anemia that result from diseases of the nervous system, especially those due to toxic causes. There are definite blood conditions associated with perversion of function of some of the ductless glands, such as the thyroid. The alteration of the blood in anemias resulting from or coincident with certain chronic nervous diseases is not constant. The alteration may be in size, color, shape and distribution of the hemoglobin in the various cells, or in additions to the cells, such as granules. The white cells do not carry the burden of chronic disease as much as the red ones, although often here, as in conditions in which much degeneration takes place, even the white cells begin to show a darker protoplasmic body than is usually encountered in normal cells. The changes in size in the red corpuscles are usually encountered in the small cell or in extraordinarily large ones. The changes in color vary from a very pale pink to that of the bright red, and may change in very much degenerated cells to a grayish green. The contour of the cell may change from round to a cell that can be hardly recognized as an entity, and it may present the changes from an oval and a crescent to mere fragments of a cell. The abnormal enclosure are usually the granules. In the white blood-corpuscles the changes are due to the influence of invasion by morphologic or toxic elements. The great predominance of uninuclear neutrophils direct the attention of the observer to an invasion by bacteria. In an acute disease, irrespective of the number of white blood-corpuscles per cubic millimeter, the white cells show a pronounced uninucleosis. Lead produces changes in the blood that are recognized even by the beginner. Of great importance in connection with the red cells are the granules that appear in lead poison and disappear with proper therapy. In this instance it is essential to know the number of cells affected and the degree of granulation; meaning thereby, coarse granulation or fine granulation. The more pronounced and overwhelming the affection the larger are the granules and the more numerous the cells affected by them. In proper therapy not only do the granules become smaller but the percentage of affected cells noticeably diminishes. It seems at present possible to regard patients who show a relative lymphocytosis with a preponderance of large lymphocytes and diminution or absence in the eosinophils as cases approaching the hyperthyroid type. On the other side blood-smears that present the lymphocytosis with a preponderance of the small lymphocytes and coexistent increase in the eosinophils as types of hypothyroidism. The latter blood findings were found in cases clinically diagnosed as colitis with mucus in the dejecta, bronchial asthma with eosinophils and mucus in the sputum and in endometritis and membranous dysmenorrhea with mucus and blood in the discharged membrane.

DISCUSSION

DR. E. LIBMAN, New York: I have watched for the last two years disturbed states of the blood in ductless gland diseases and believe they are much more common than has been hitherto believed. It is well known in certain conditions in which the pituitary has been displaced in some way or the ovary has been removed, there has been a lymphocytosis. I have made it a routine practice when I see a patient with general nervous symptoms to look for lymphocytosis, and if I find it I take the case out of the functional group. I think we make a mistake in looking always for thyroid disease. I think we should look for lymphemia.

DR. F. C. WOOD, New York: I have seen a number of cases of high eosinophilia. In one there was 58 per cent. of eosinophils.

DR. W. B. JAMES, New York: For a number of years I have been in the habit of recognizing a marked lymphocytosis as common in cases of neurasthenia, particularly where there appeared to be a sexual element in it. I have watched a number of these patients through to recovery without permanent impairment and have therefore satisfied myself that it is a transitory secretion, that this lymphocytosis is temporary, associated with a depleted state of health, with neurasthenic symptoms, usually with some disturbance of the sexual organs.

DR. R. C. CABOT, Boston: I do not believe Dr. Collins meant to put it quite so strongly as he did about the relation of lead to the changes in the blood. Certainly we have the same changes in the blood without lead and we have lead without such characteristic changes in the blood. I suppose we all believe that this change in the blood is a valuable aid in the diagnosis of doubtful cases of lead poisoning, but we could not say that it had anything comparable at all to malaria parasites. Dr. Collins did not speak about an autopsy in the last case. Without that I do not think any of us would accept it as leukemia, or a new disease. This type of blood, such as pictured, is one of the variations around the leukocytosis and around the normal states which is familiar enough in a variety of conditions, but does not deserve to be placed as a new disease, or as leukemia.

DR. ALFRED STENGEL, Philadelphia: In view of what I have observed in regard to lymphocytosis it would hardly be proper to attach very far-reaching deduction to the occurrence of that condition. My opinion agrees entirely with that of Dr. James.

DR. LOUIS B. WILSON, Rochester, Minn.: The Kochers are at present going so far as to diagnose hyperthyroidism by lymphocytosis. We have made 800 examinations, and we find no evidence on which to base any such inference. We find lymphocytosis in a great many cases of syphilis, of liver disease, but in exophthalmic goiter, conversely, it is absent.

The Work of the Heart in Aortic Insufficiency

DR. W. G. MACCALLUM, New York: By means of an arrangement of the circulation in which the aorta is replaced by a long rubber tube the outlet of which is placed at varying heights and empties into a reservoir from which the blood is reconducted into the aorta, the output of the aorta may be studied and compared with the output of the ventricle per beat of the heart. The heart thus acts against controllable pressure and is unaffected by vasomotors. When the tension of the vessel wall is low, there is a systolic fling which distinguishes such a pulse wave from that made in a vessel whose walls are under high tension. In the former there is a high pointed up-and-down curve before the dicrotic notch is reached—in the pulse of high tension there is not. In the first the notch is low, in the second high. No change could be produced in any given pulse wave by the escape of the systolic quantity of fluid which produced that wave upon its expulsion from the heart. The character of the wave in aortic insufficiency depends rather upon the lax condition of the wall which meets the systolic impact and which is due to the partial emptying of the vessel by regurgitation during the preceding diastole. If we subtract the actual output per beat from the aorta, from the calculated amount expelled by the ventricle per beat we find very little residual blood when the heart is intact. The amount is great after the production of aortic insufficiency. The ventricle relaxes very widely and contracts as completely. Its work is greatly increased by its being forced to receive and churn out into the aorta and back that quantity of blood which regurgitates in addition to its usual normal output.

Percussion Signs of Persistent and Enlarged Thymus

DR. THOMAS R. BOGGS, Baltimore: This is recognized by medium percussion in the first and second interspaces to the left of manubrium, sometimes on both sides; rarely on right side alone. Differentiated from enlarged mediastinal glands by: (a) Superior and more superficial position. (b) Common position to left of manubrium. (c) By a special maneuver which depends on the movable character of the thymus and its attachments to the lower pole or poles of thyroid. (d) The maneuver. Patient in sitting posture, chin depressed. Outline lower border of thymus dulness. Then while pleximeter fingers are kept exactly in place, sharply retract head to fullest extent. Thymus dulness rises upward toward neck, leaving clear percussion resonance. Mediastinal adenitis, aneurysms and neoplasms do not give this shifting dulness.

DR. A. JACOBI, New York: I always find that I can with great facility diagnosticate about the size of the thymus. A good many of them at birth weigh only a few grams, 10, 13 and 15. They are not easily recognized when the babies are sitting up or lying down, but they are recognized when the baby is bent over. I have been teaching this method for the last fifteen years.

The Effect of Some General Hydrotherapeutic Procedures on the Blood-Flow in the Arm

DRS. A. W. HEWLETT, J. G. VAN ZWALUWENBURG and MARK MARSHALL, Ann Arbor, Mich.: Warm procedures increase the flow from two to ten times the original rate. Cold procedures usually lessen the flow, but the exercise and friction given in an ordinary cold shower may cause a moderate acceleration of the flow. The chief cause of the acceleration of blood-flow in an arm not directly exposed to the heat is a vasomotor reflex initiated by the stimulation of cutaneous sense organs, but the rise of body temperature accompanying hot procedures tends to prevent an excessive contraction of the peripheral vessels with chilling when the individual is exposed to cold. If the body temperature is subnormal an immediate reaction may follow cold procedures which are accompanied by friction and exercise, but the individual is liable to become chilly later. The chilliness which indicates a failure to react is accompanied by a slow rate of blood-flow in the arm. Reactions are usually but not necessarily accompanied by normal or moderately increased rates of flow.

DR. S. SOLIS-COHEN, Philadelphia: My observations have shown that brief application of cold will raise the body temperature in febrile conditions.

A Case of Pseudochylous Ascites

DR. F. P. HENRY, Philadelphia: The patient was a man aged 60 but looking at least 70. His most prominent ailment was ascites. From the time of his admission until his death, a period of about four months, he was tapped eight times, six to eight quarts of milky fluid being removed at each tapping. After tapping, a mass could be felt in the abdomen a little above and to the right of the umbilicus. It was about the size of an egg, hard and not tender on pressure. At the autopsy this mass proved to be a non-obstructive carcinoma of the pyloric end of the stomach. There was no enlargement of lymp-glands or dilatation of lymphatic vessels. The liver parenchyma was quite normal. No obstruction of the portal vein was found, although the complete dissection of this vessel and of the bile-ducts was rendered impossible by the tumor mass. As the patient was never jaundiced it is certain that there was no destruction of bile-ducts and, probably, that there was none of the portal vein. The most remarkable property of pseudochylous effusions is their resistance to putrefaction. A sample of the effusion obtained on February 18 and kept in an ordinary living-room at a temperature of 65 to 70°, is now, May 10, perfectly "sweet," in fact as devoid of odor as the purest spring water. This property is undoubtedly due to lecithin as proved by the fact that where this substance is extracted from it the fluid rapidly putrefies.

Further Studies on Sensitization in Tuberculosis

DR. V. C. VAUGHAN, JR., Detroit, Mich.: Since May, 1909, thirty-nine persons have presented themselves for examination at the Tuberculosis Clinic who have failed to react to a primary instillation of tuberculin into the conjunctival sac but have reacted to a second instillation in the same eye after an interval of ten to twenty-one days; only two presented any signs or symptoms suggestive of pulmonary tuberculosis. This conclusion was arrived at after careful physical exami-

nation and accurate observations of temperature and pulse for a period of one week. Among thirty-three apparently uninfected children, or at least children free from manifestation of active disease, ten gave a reaction of sensitization, while among twenty-three children of tuberculous parents, or associated with tuberculous cases who failed to react primarily none subsequently developed a sensitized reaction.

DISCUSSION

DR. F. T. LORD, Boston: We have injected a number of healthy guinea-pigs intravenously and intraperitoneally with tuberculin and afterward applied the ophthalmic test, but with negative results, indicating that non-tuberculous pigs are not capable of reacting from the standpoint of sensitization.

DR. LAWRASON BROWN, Saranac Lake, N. Y.: Some experiments have been carried on in the Saranac laboratory to try to produce sensitization in animals by the inoculation of various things. It has been found impossible to produce sensitization to eye test and subcutaneous test in animals which have not received previously very large doses of dead tubercle bacilli or living tubercle bacilli, and I cannot but feel that the fact that tuberculin tests may be negative the first time and if repeated in the same place show a reaction, is due to the fact that the patient has had a tuberculous infection at some time. It may never have shown clinically. I do not believe you can sensitize an individual who has not been infected with tuberculosis.

Tricuspid Stenosis, with Report of Five Cases

DR. THOMAS B. FUTCHER, Baltimore: Mine was a case of tricuspid, aortic and mitral stenosis, with autopsy, in which the diagnosis was made during life. In the autopsy records of the Johns Hopkins Hospital there have been only four other cases of tricuspid stenosis out of a total of 3,500 autopsies. There have been only eight cases in the medical wards, out of a total of 26,000 admissions, in which a diagnosis of tricuspid stenosis was made either from the physical examination or autopsy findings. Positive diagnosis by autopsy was made in only five cases.

NEW HAMPSHIRE MEDICAL SOCIETY

The One Hundred and Twentieth Annual Meeting, held at Concord, May 11-12, 1911

Under the presidency of DR. A. S. WALLACE, Nashua

Officers Elected

The following officers were elected: President, Dr. George W. McGregor, Littleton; vice-president, Dr. John W. Staples, Franklin; secretary, Dr. D. E. Sullivan, Concord.

The next meeting will be held at Concord, May 8 and 9, 1912.

The report of the secretary showed the total membership to be 538. The society is in excellent financial condition, a balance of $4,556.75 being available. Five hundred dollars was placed at the disposal of the Committee on Legislation, for legitimate purposes before the next legislature and the county societies were advised to appoint auxiliary committees of legislation to cooperate with the committee of the state society.

Dr. I. A. Watson, chairman of the Committee on History of Medicine in the State, reported that 1,000 copies of the complete manuscript records of the society from 1791 to 1854 had been printed and were ready for distribution.

Child Welfare

DR. Z. L. STRAW, Manchester: I wish to make a strong plea for the welfare of the child from the standpoint of the physician as well as the state, medical science and educational science joining hands that the physical health and energy might be conserved and nourished and developed equally with the mental in the hope of a uniform and well-balanced result. The commingling of children from all families and conditions for long periods largely increases the danger of contagious and filth diseases and renders their management more difficult, and if the schools are to continue for all children they must be kept morally and physically clean and safe. The state compels the child to attend school, and it is thereby bound to take cognizance of its physical welfare. The school is the only governmental department that directly assumes control of children's lives. At least nine out of every ten of all American children are subject to this control. Such control is maintained for the most part during the critical years from seven to fourteen. The open air school is an outgrowth of the work for better medical supervision of scholars, especially such as from any cause are interrupted or retarded. Approximately 16 per cent. of all who drop out do so on account of ill health; it is wasteful to the state and inhuman to the child to curtail its opportunities for future usefulness. This work cannot be thoroughly done without the school nurse supplementing the work of the physician.

DISCUSSION

DR. CLARENCE O. COBURN, Manchester: The most important thing in the inspection is the vaccination which has been a state law for a number of years and has never until now been enforced in Manchester. Fully one-third had not been vaccinated. Eighty per cent. had decayed teeth. Several were discovered blind in one eye without knowing it. We keep a card system and examine pupils who need it weekly.

DR. D. M. CURRIER, Newport: I wish to plead for the introduction of instruction of sex hygiene in schools, lady physicians to teach girls. Ignorance is exceedingly dangerous. Knowledge of this subject would be a safeguard to them.

Tetanus Following Accidental Injuries

DR. M. E. KEEN, Manchester: In one case tetanus was anticipated but did not occur, in the other it did occur though not anticipated. A boy, trampled on by a horse, received eight compound fractures of the skull, four being comminuted. The usual treatment, 1,500 units of antitetanic serum, was given the next morning. There were never any symptoms of tetanus and only a few drops of pus at any time. Patient was discharged well in just one month from date of injury. A boy, aged thirteen, was injured in coasting by colliding with a post. He did not lose consciousness; walked home. Examination: marked pallor of entire body surface; no abrasion; no discoloration. Temperature, 98; pulse, 84. Complained of slight pain in left hypochondrium. Slight vomiting. Some dulness in left upper quadrant extending toward axillary line. Probable rupture of spleen diagnosed and operation advised. Examination disclosed multiple rupture of the spleen, the upper end reduced to a pulp and the external and internal surfaces were fissured from end to hilum. Lower portion of left lobe of liver badly torn. It was necessary to utilize the diaphragm to hold in apposition the numerous fragments of spleen. On the eleventh day tetanus developed, and 1,500 units of antitetanic serum were administered and 20 grains of chloral by rectum. Salt solution, per rectum, one pint per hour and continued two weeks. There were fifteen spasms in sixteen days, to control which 21,000 units antitetanic serum were used. The method of entrance of the germ of tetanus is not known in this case.

DISCUSSION

DR. W. H. LYONS, Manchester: It is remarkable how very great internal injuries there may be with very slight evidence of it. The most interesting point in connection with the second case was the occurrence of the tetanus following the internal injury with no external lesion, not even the smallest abrasion to be seen.

DR. W. A. THOMPSON, Manchester: I wish to draw attention in the first case to the possibility that later on, perhaps in ten years, there may be signs of epilepsy, and it is a question whether it is necessary to close in the defects by putting back the flap over the wound or whether it is advisable to close the defect by artificial means, such as where an external lesion of the skull can be put over to prevent adhesion to the brain and prevent hernia. Whether it is advisable for this boy to undergo that again is a question in my mind. In

regard to the second case, I was greatly impressed with the difficulty of operating on the spleen in its sheltered position underneath the diaphragm. No doubt the boy owed his life to the early diagnosis made and the care taken of him.

Clinical Experiences With Serums and Vaccines

DR. W. GILMAN THOMPSON, New York City: While some of these preparations are now universally admitted to outrank all older therapeutic measures in potency and reliability, others are as yet in a purely experimental stage. Some have proved disappointing, and all present many unsolved problems as to details of technic. The wards of Bellevue and the Presbyterian Hospitals and the out-patient medical clinic of the Cornell Medical College afford abundant material for the study of these remedies. Flexner's anti-meningococcus serum is certainly miraculous in its curative effect in cerebrospinal meningitis of that origin and is injected at the same time the first tapping of the spinal canal is made. There are no untoward symptoms, even when used in a case due to the pneumococcus. The antitetanus and antirabic serums have also a fixed place in our therapy. The antityphoid vaccine is used successfully everywhere. The Hodenpyl anticarcinoma serum does not appear to have justified the hopes which were at first entertained of its effects. Tuberculin injections have proved strikingly beneficial. Colon bacillus vaccine in pyelitis gives very favorable results but does not remove the bacilli from the urine. Pneumococcus vaccine had no marked effect in ordinary cases but in a number of cases with retarded resolution there seemed to have been some moderate betterment. With modified technic it may sometime yield more beneficial results. In chronic gonorrheal joints infections antigonococcus serum and vaccine is very satisfactory. Three cases of streptococcal endocarditis in which the germ was derived from the patient's blood terminated in recovery. Stock vaccines gave uniformly negative results. The Rogers-Beebe exophthalmic goiter serums in an extensive experience have given many very remarkable results.

DISCUSSION

DR. JOHN G. W. KNOWLTON, Exeter: I am interested to know that Dr. Thompson feels pretty certain that the epidemics of meningitis are being affected by serum. That, of course, has had a good try-out for the last three years, and it is encouraging to feel that we have something to use in the treatment of meningitis. I believe in serum, and I tell my patients it is the thing to use in epidemic meningitis.

Rational Medical Treatment

DR. E. A. LANDMAN, Plaistow: The tendency of the day is to return to the simpler therapeutic methods and the few reliable drugs that have stood the test of time—to accept that only which can be proven and to discard that which is doubtful. As we grow older we become less and less disturbed by the new discoveries, unless they seem rational and in accord with known scientific facts. Is it not time that the physician of this new era of scientific therapeutics should reexamine his methods and subject them to the test of approved modern investigations? I criticize the too frequent use of the expensive trade-mark preparations, which are taken up with great enthusiasm only to be discarded on the introduction of newer ones; the day has gone by when one can bluff his way in practice. The general practitioner has no right to do major surgery when a skilful surgeon is available. The results of treating diphtheria by antitoxin and epidemic cerebrospinal meningitis by serum are striking instances of rational treatment. It is the height of folly to use vaccines as in pneumonia to stimulate an already over-stimulated system; when most needed they are useless, and when useful are not needed.

DISCUSSION

DR. HENRY L. SWEENEY, Kingston: I believe it possible to obtain good results by the intelligent use of drugs and I have faith in them when needed, carefully chosen, rationally given and pushed to effect.

DR. JOHN W. PARSONS, Portsmouth: Rational medical treatment is the use of reasonable, judicious treatment, based on theory or facts which we possess, although meager, concerning disease and its management, even if no positive or scientific explanation can be given for the action of the remedy.

Ophthalmia Neonatorum

DR. LOUIS W. FLANDERS, Dover: Five minutes' attention at the critical moment will save seventy years of blindness. Credé's method is now followed in practically all public institutions, but not in private practice to the extent that it should be. All physicians should employ it as a routine practice in obstetrics. Our last legislature passed a fairly stringent law relative to this disease. Every obstetric bag should contain one-half dozen soft gauze sponges and one dark amber Stearns dropper-bottle, filled with a 1 per cent. solution of nitrate of silver. Successful treatment demands skilled nursing and perfect technic—no condition in which the services of a trained nurse are more to be desired. The eyes must be cleaned of pus every hour, day and night; the warm boric acid solution is probably as good as any for this purpose. Every two hours let the nurse instill two drops of a 25 per cent. solution of argyrol freshly prepared, and once a day let the physician thoroughly apply to the everted lids a solution of nitrate of silver not stronger than 2 per cent. Allow the solution to stay on thirty seconds, then swab with normal salt solution. If you got a gonorrheal infection in an eye and the sight is lost where you did not use prophylactic treatment, public sentiment would hold you responsible and in a suit for malpractice, it would go hard with you.

DISCUSSION

DR. CHARLES F. NUTTER, Nashua: The non-gonorrheal cases are worthy of attention, as it is not necessary for the mother to have gonorrhea and the infant extremely sore eyes. The infection may come from the hands of the attendant. The nurse should be instructed to report to the attending physician the very first evidence of congestion.

DR. D. M. CURRIER, Newport: A certificate of health should be demanded of those about to marry. There should be a law in this state requiring every physician treating a venereal disease to report it to the board of health.

Anal Fissure

DR. CHARLES S. GILMAN, Boston: In sixty-eight cases referred by other physicians as hemorrhoids, anal fissure was found to be the primary disease for which relief was sought; in twelve cases hemorrhoids were present as a coexisting condition. In forty-six cases the physician had neglected to examine the parts. There is probably no pathologic condition so limited in extent which causes so much discomfort and distress; in most cases a single ulcer is present. It is more common in men—not rare in young children. Anything which weakens the anal tissues, thus rendering them liable to abrasions, will act as a predisposing cause while the passage of hardened fecal masses with or without foreign bodies in them is nearly always the exciting cause. The pathologic changes vary from a very slight abrasion to quite extensive ulceration. The chief and constant symptom is pain, always increased by defecation, thus encouraging constipation; in women often reflex irritation of the bladder, tenesmus and uterine disturbance. The earliest symptom may be a morning diarrhea. A thrombotic hemorrhoid often develops as a result of straining. Palliative treatment of little value. Operative treatment by incision and excision. Forcible dilatation of the sphincter may be followed with incontinence of feces; also an oblique incision of the muscle may cause this unpleasant complication.

DISCUSSION

DR. C. S. ABBOTT, Laconia: The lesson to be learned by the general practitioner from this paper is greater care and more frequent examinations of these patients.

DR. W. E. LAWRENCE, North Haverhill: I wish to report a case with symptoms of appendicitis. Operation gave no relief. Later fissure of the anus was discovered, incised, and the previous symptoms disappeared. There is always indigestion in these cases.

Drinking-Water as a Medium of Lead-Poisoning

DR. GEORGE A. WEAVER, Warren: I wish to report eight cases in which the symptoms did not, as a rule, appear until the water had been used about six months. Children were afflicted less often than adults and women were much more susceptible than men. It is more frequent in rural communities in this state than malaria, syphilis and alcoholism combined. In thirty samples of water from lead-conducted sources examined at the state laboratory all but one showed a considerable percentage of lead. Acute poisoning is rare. No symptoms are constantly present that may be considered pathognomonic. One group will show a predominance of gastro-intestinal symptoms; another interstitial nephritis and associated arteriosclerosis; a third may present sclerosis of the brain and cord; a fourth, multiple arthritis. In the case of a child, three years old, vomiting blood and having bloody stools, rectal feedings were resorted to for one week with complete recovery. In another case, a woman aged 30, the menstrual flow was scanty and finally stopped altogether; on discontinuing the water-supply, the color improved and menstruation became normal after six months suppression. Several patients when first seen were comatose; no motor paralysis; relieved by venesection and purging. In one instance there was complete hemiplegia; the patient recovered under appropriate treatment. In any obscure case in which the drinking-water runs through lead pipes, examine the water for lead.

Injury of Scalp

DR. WILLIAM E. LAWRENCE, North Haverhill: A young lady was thrown from an automobile, dragged beneath the machinery and a portion of the scalp, 6¾ by 7¾ inches, was torn from the top of her head. It was placed in normal salt solution after thorough cleansing, hair shaved and edges trimmed and sewed on, using a continuous suture, gauze dressing applied. On the third day, the center seemed dead and was dissected off, about one-third of the piece, and the wound dressed with a solution of chlorinated soda, 1 dram to the pint. At the end of one week only a strip of tissue, one-half inch wide, extending half way round the scalp, was left. The cranial bones were kept covered with petrolatum and the scalp dressed with compresses of normal salt solution. Granulations appeared, and by the fifth week covered the greater part of the vault; skin grafting was then commenced (Thiersch's method) and continued every other day for eight weeks. The new granulation tissue is firmly attached to the cranium and is quite immovable. There are no sweat or oil glands and this need must be artificially supplied.

The Treatment of Medical Subjects by the Lay Press

DR. HENRY O. SMITH, Hudson: The schools and the press have most to do with education. The monthly magazines, the metropolitan press and the local newspaper influence greatly the minds of their readers. How important then that the medical articles in the lay press be safe and sane in character? The *Youth's Companion* for many years has printed commendable articles on hygiene and medical subjects. *Life* and the *Cosmopolitan Magazine* pursue a far different course. We still read of sure cures for consumption—of soothing oils for cancer and unfailing remedies for conditions which shall be nameless. The public has a right to demand that the news columns shall be free from such misleading material. Intelligent people outside of the profession are realizing the need of work along these lines. Recently the president of the University of Minnesota exclaimed, "Would that Mr. Carnegie's next gift of $10,000,000 might be devoted to publishing in newspapers authoritative bulletins on hygiene and sanitation."

DR. EVA M. LOCKE, Nashua: There is a large class of people who are influenced by the advertisements of patent medicines to their own injury, sometimes irreparable. Cannot attractive articles be put before the public giving them accurate and valuable knowledge on diet, sex hygiene and sanitation? Let these appear in the press, in leaflets and in the fiction of the day. The text-books in the public schools on physiology should be carefully scrutinized. The women's clubs are doing a grand work in these matters.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

May

1 Personal Experience with Salvarsan. J. T. Geraghty and A. Keidel, Baltimore.
2 Cholecystitis: Its Complications and Sequelæ. A. M. Willis, Richmond.
3 *Diagnostic Value of Reflexes. A. Gordon, Philadelphia.

3. **Diagnostic Value of Reflexes.**—The diagnostic value of only such reflexes as the general practitioner can elucidate and estimate is discussed by Gordon. He says that apart from Babinski's sign and the paradoxical reflex, a certain apparently abnormal condition of any of the other reflexes by itself does not necessarily imply an organic disease of the nervous system. For example, an increased or diminished knee-jerk alone will not determine the diagnosis. A patient free from all other possible symptoms has no tabes, if there is only a markedly diminished knee-jerk or even absence of it. It is true that in 99 per cent. of normal cases the knee-jerk is never absent; nevertheless, Gordon has observed individuals in whom the knee-jerk could not be elicited even with Jendrassik's method. A much diminished knee-jerk in normal persons is not so rare as absence of it. However, such cases should be looked on with suspicion and thoroughly investigated. The same remarks are applicable to exaggerated knee-jerks. As a rule, such a reflex is the clinical expression of an involvement of the motor pathway in the brain or spinal cord. Nevertheless increased patellar tendon reflex is observed in normal individuals whose nervous systems are at the time of the examination in a state of tension; also in hysteria and neurasthenia. In hysterical hemiplegia the exaggerated knee-jerk may lead to errors of diagnosis and an incurable organic disease instead of a curable functional affection may be made out.

One symptom alone, therefore, is not reliable enough, no matter how evident it may be. In this latter case, for example, it will be essential to determine whether the palsy, gait, attitude, the state of tonicity of the musculature, etc., are those observed in genuine paralysis of cerebral origin; besides the presence or absence of other reflexes, such as Babinski and paradoxical. It is the association of symptoms that determines a diagnosis, but not one particular phenomenon. On the other hand, in the presence of manifestations which are apparently contradictory and difficult of interpretation, the presence of an exaggerated knee-jerk and of a much diminished knee-jerk or else of absent reflex will render considerable assistance in the determination of a given affection. Ankle-clonus in association with a plus knee-jerk is a good indication of an involvement of motor tract and therefore of an organic disease. It must not be forgotten, that to be a sign of organic disease, ankle-clonus must be prolonged, but not brief, as it is seen in hysteria or other functional disturbances of the nervous system. The exceptions to this rule are very few. If the condition of the knee-jerk and ankle-clonus present sometimes difficulty of interpretation, the same cannot at all be said with reference to Babinski's sign and the paradoxical reflex. They are always and invariably indications of an organic disease of the spinal cord or brain. Finally the state of pupillary reflexes is of great diagnostic importance inasmuch as they may lead to the proper diagnosis and therefore to proper therapeutic measures, when other symptoms are so slight that a diagnosis can be made with great hesitation.

Southern Medical Journal, Nashville, Tenn.

May

4 Increase of Insanity. J. T. Searcy, Tuscaloosa, Ala.
5 Influence of Uncinariasis on the Apparent Age of Children in the Cotton Mills. C. W. Stiles, U. S. P. H. and M.-H. Service.
6 Effects of Some Diseases, Habits and Heredity on Longevity. L. Sexton, New Orleans.
7 Surgery Outside of the Hospital. J. W. Alsobrook, Plant City, Fla.

8 Results with Gonococcic Vaccine. G. R. Livermore, Memphis, Tenn.
9 Five Hundred Cases of Gonorrheal Infection Treated with Gonococcic Vaccine. C. W. Shropshire, Birmingham, Ala.
10 *Treatment of Trachoma. H. H. Martin, Savannah, Ga.
11 Surgery of the Tonsils. H. Wood, Nashville, Tenn.
12 *Scientific Infant Feeding. M. O. Davis, Nashville, Tenn.
13 Case of Elephantiasis Caused by the Streptococcus Erysipelatus, Associated with the Bacillus Prodigiosus. W. M. McCabe, Nashville, Tenn.

10. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1920.

12. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

Journal of the Tennessee State Medical Association, Nashville

May

14 *The Physician in Public. J. A. Witherspoon, Nashville.

14. Abstracted in THE JOURNAL, May 6, 1911, p. 1354.

New Orleans Medical and Surgical Journal

June

15 Diagnosis and Treatment of Diseases of the Mitral Valve. F. M. Thornhill, Arcadia, La.
16 Intermittent Claudication (Painful Spasmodic Limp). E. M. Hummel, New Orleans.
17 *Extradural Injections by Sacral Puncture in Genito-Urinary Neuroses. S. P. Delaup, New Orleans.
18 *Case of Tuberculous Meningitis with a Remarkable Ante-Mortem Rise of Temperature. H. D. King, New Orleans.
19 Thoracoplasty by Schede's Method. W. M. Perkins, New Orleans.
20 The Roentgen Ray in the Diagnosis and Prognosis of Pulmonary Tuberculosis. A. Henriques, New Orleans.
21 Prevention of Typhoid. W. F. Sibley, Robeline, La.

17. **Sacral Puncture in Genito-Urinary Disease.**—Delaup has done a sacral puncture and injection in seven cases. Only one patient was not benefited in any way. The author's experience has convinced him that extradural injections with normal salt solution, or any mild analgesic solution, offer the most promising results in abnormalities of urination due to faulty vesical innervation. Incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions), can at least be ameliorated, if not cured, by extradural injections. The immediate effects of extradural injections are very rarely even disagreeable, and, when cautiously performed, the injections are in no wise dangerous to the patient, and no more painful than any other hypodermatic injection with a mild solution.

18. **Tuberculous Meningitis.**—Aside from the difficulty encountered in making a diagnosis, the most interesting feature of King's case was the accompanying temperature. The caprices exhibited by the temperature were puzzling and inexplicable. At times there would be distinct remissions, only to be followed by a spurt upward, and then a sudden downward plunge. Often the temperature oscillations were as much as 2 degrees within as many hours; one morning the temperature would be very high, and the evening temperature low. The next day conditions would be entirely reversed. The day following the withdrawal of spinal fluid the temperature dropped nearly to normal, only to rise very high the next day. The pulse was not always commensurate with the febrile reaction. On the fourteenth day of illness, the temperature began to maintain a more definite course, the ascensions and declinations were not as freaky. The temperature on the fifteenth day reached 105.2 F., with a pulse of 110 and respiration 46. Within the next two hours there was a decline of two degrees, though the pulse-rate was increased to 128 and respiration had dropped to 36. For five hours temperature (103 F.), pulse (128) and respiration (36) remained unchanged, and then within the short interval of three hours the temperature leaped to 106.5 F., pulse 140, respiration 48. This sudden change was noted at 6 a. m. and three hours later the temperature was 107 F., pulse 145, respiration 60. From this hour the temperature kept mounting higher. To avoid the chances of error in observation, several thermometers were used, all with the same result. At 1 p. m. the temperature was 107.8 F., pulse 170, respiration 76, and at 5 p. m. the temperature had reached 110.8 F. Forty minutes after this record the patient expired. A complicating terminal pneumonia hastened the end.

Journal of the Missouri State Medical Association, St. Louis

May

22 The Hodgen Suspension Splint: A Reliable Apparatus in Fractures of the Femur. N. W. Sharpe, St. Louis.
23 Cheilitis Glandularis Apostematosa with Associated Cheilitis Exfoliativa. R. L. Sutton, Kansas City.
24 Complete Traumatic Aniridia, with Injury to the Lens: Recovery with Useful Vision. J. Green, St. Louis.
25 Six Hundred Cases of Fracture of the Skull. E. A. Babler, St. Louis.
26 Pellagra. A. J. Vance, Harrison, Ark.
27 A Case of Nasal Polypi. R. S. Magee, Topeka, Kan.

American Journal of the Medical Sciences, Philadelphia

June

28 *Myoma of the Uterus, with Special Reference to Degenerative Changes. J. B. Deaver and D. B. Pfeiffer, Philadelphia.
29 *Cerebral Forms of Poliomyelitis and Their Diagnosis from Forms of Meningitis. H. Koplik, New York.
30 *Abscess of the Liver Occurring in Association with or Following Typhoid. E. M. von Eberts, Montreal.
31 *Irregularity of the Heart and Auricular Fibrillation. A. R. Cushny, London, England.
32 *Perforated Ulcer of the Stomach and Duodenum. G. G. Ross, Philadelphia.
33 *The Cellular Elements of the Blood in Tuberculosis. B. L. Wright and R. W. King, Las Animas, Colo.
34 *Relaxation of the Sacro-Iliac Joints as a Cause of Sciatica and Backache. R. L. Pitfield, Philadelphia.
35 Pneumococcus Peritonitis. G. Woolsey.
36 Freud's Psychology in Its Relation to the Neuroses. T. Burrow, Baltimore.
37 *Fluoroscopy of the Gastro-Intestinal Tract. E. H. Skinner, Kansas City, Mo.

28. **Myoma of the Uterus.**—Hyaline degeneration was noted as present in a marked degree in thirty-seven cases, or about 11 per cent. of 345 cases operated by Deaver and Pfeiffer. This does not represent the true incidence of the condition, since early hyaline change was not specially noted. They found nine instances of myxomatous change and three pronouncedly cystic, twelve in all (3.6 per cent.). Necrosis occurred twelve times, or 3.6 per cent. Calcareous degeneration occurred eight times (2.4 per cent.). Adding together all noteworthy benign degenerations occurring in this series there is a total of thirty, or 9.6 per cent. This is not to be interpreted to mean that approximately 10 per cent. of all fibroids will show such degenerative changes, but that of a series of cases which are considered under present standards to require operation, about 10 per cent. are causing trouble largely as a result of degenerative changes which have occurred in them. Four cases, 1.2 per cent., were diagnosticated pathologically as sarcoma. There were eleven instances of carcinoma associated with myoma (3.1 per cent.). Of these, six (1.7 per cent.) involved the body, and five (1.4 per cent) were situated in the cervix.

29. **Cerebral Forms of Poliomyelitis.**—The condition described by Koplik is one which he says is constantly mistaken for meningitis of the cerebrospinal acute suppurative or subacute tuberculous form. The onset of the illness is acute; it begins with a previous history of absolute health. After the acute symptoms set in, there may be in some cases an abatement and then a recurrence of symptoms of a cerebral nature, which gradually deepen. If the case is one resembling an acute meningitis, the symptoms are more active, with neck rigidity, pain in the neck, headache and delirium. If the case resembles the tuberculous form of meningitis, the patient lies more quiet, exhibits palsies of the cranial nerves and may even have marked hydrocephalus with distinct Cheyne-Stokes respiration and unconsciousness. In both sets of cases the delirium, sopor or coma lightens, the patients after a week or more of illness becoming brighter, and recovery proceeds. Lumbar puncture in all the cases reveals a clear or slightly flocculent fluid, without bacteria, and a cytology of 90 per cent. to 100 per cent. lymphocytes. An examination of the blood shows a leukocytosis at first of pronounced degree of polynuclear type. The onset of the disease may be ushered in by fever, which rapidly subsides to within a fraction of a degree of the normal and the major part of the illness runs its course with this temperature, which is practically normal. The diagnosis is made from the points of clinical course laid down in this paper. The prognosis is for the most part good, except in those cases which involve the nuclei of the nerves controlling respiration. In such cases the outlook is that of an acute bulbar paralysis when the extent of the lesion will

decide the fate of the case. The main point is to have in mind the great similarity of a certain set of these cases to those of tuberculous meningitis, and the absolute futility of a positive diagnosis without study of the case, lumbar puncture and all the clinical aids at our command.

30. **Abscess of the Liver and Typhoid.**—The thirty cases studied by von Eberts are divided into two groups, the first including those in which the presence of the *B. typhosus* as an etiologic factor was confirmed by bacteriologic examination; the second, those cases in which abscess occurred in association with or following typhoid infection, but in which the *B. typhosus* was not isolated. He concludes, as the result of his study, that abscess of the liver occurring as a complication or sequel of typhoid may arise independently of typhoid lesions of the gall-bladder or ducts, pylephlebitis, or the presence of suppuration elsewhere in the body. The recognition of solitary abscess is important because of the fact that only such cases are suitable for surgical treatment. Age and sex have no bearing on the incidence of liver abscess apart from their relation to typhoid generally. As predisposing factors, the virulence of the primary infection, traumatism, and pre-existing disease would appear to have been established. The frequency of liver abscess in relation to typhoid reported from hot climates may be accounted for (a) by the high incidence of typhoid infection in European drafts, and (b) by the pre-existence or occurrence during convalescence of amebic infection. The onset of the symptoms of liver abscess may occur early in the course of the primary infection, after a fever-free interval of days or weeks, or as a remote sequel.

The relation of typhoid carriers to the last class is a subject for further investigation. Of the symptoms of enlargement of the liver, fever, local pain and tenderness are the most characteristic. Jaundice is present in about 15 per cent. of the cases only. In about 50 per cent. of the cases the focus of suppuration is located in the right hepatic lobe. The occurrence of chills is apparently without relation to the organism or organisms found in the local lesion. There would appear to be ground for the assumption that foci of suppuration in the liver due to the *B. typhosus* may occasionally undergo spontaneous resolution. Pleuritis, either serous or purulent, not infrequently occurs as an associated complication. The only safe method of treatment is by incision and drainage, the route selected, either abdominal or transpleural, depending on the location of the abscess. Preliminary transperitoneal puncture should not be practiced owing to the danger of leakage and peritonitis. In future observations on such cases, von Eberts urges that the scope of bacteriologic investigations should include the use of media especially suitable for the cultivation of *B. typhosus*, as well as careful search for amebæ.

31. **Irregularity of the Heart.**—As regards the treatment of this condition, Cushny says that no disease of the heart responds so satisfactorily to digitalis and its allies as auricular fibrillation. But not all cases of fibrillation react thus brilliantly to digitalis; the slow irregular heart in which fibrillation is accompanied by impaired conduction is comparatively little improved. The condition which responds to digitalis most readily and satisfactorily is the rapid irregular heart of old rheumatic disease, in which fibrillation is present along with good conductivity through the bundle of His and a readily responding ventricle. Here digitalis reduces the pulse-rate rapidly from 120 to 150 to 60 to 70, and as the pulse falls the whole of the symptoms improve. If the drug be pushed the pulse continues to fall and may reach 40 to 50. Beyond this, digitalis generally induces other symptoms from the gastro-intestinal tract so that its dose has to be reduced. If it is abandoned altogether the previous condition soon returns, often in a less marked degree, and it is advisable to continue the treatment for several months. Digitalis does not arrest the fibrillation of the auricle, but it certainly reduces the number of impulses which reach the ventricle and thus lessens the rate of that chamber.

Cushny is not convinced that this reduction of rate, which is undoubtedly mainly inhibitory in nature, is the only effect of digitalis, though it is the only one which can be ascertained with certainty at present, and undoubtedly plays an important rôle in the action. When digitalis is administered in auricular fibrillation and the pulse is slowed, the rhythm becomes more regular and the beats more equal in strength, though complete regularity is not attained unless complete block is induced. If the drug is pushed, a curious new form of irregularity often presents itself in coupled beats or continued bigeminus in which each beat of the ventricle that arises in the normal way from an auricular impulse is followed by a contraction arising from the ventricle itself. In connection with the treatment of fibrillation with digitalis, Cushny calls attention to the fact that an attack of this condition may in certain circumstances be precipitated by this drug.

32. **Perforated Ulcer of Stomach and Duodenum.**—In the first of Ross' four cases the second perforation had occurred ¾ of an inch from the first one, and when the duodenum was opened, it was discovered that both perforations had occurred in the same ulcer, which was horseshoe-shaped, corresponding to the curve of the duodenum. In the second case, five months after the date of operation a piece of gauze 1 inch wide by 5 inches long was passed through a suprapubic sinus, which had persisted since the removal of the glass drainage tube. It was a piece of gauze of the tube dressing which had been cut thin at one place and had become separated, and at the next dressing had been pushed through the tube and left there when the tube was withdrawn. The third case illustrates several important aspects of peptic ulcer: (1) The combined peptic ulcer of the stomach and duodenum; and (2) a primary perforation of a gastric ulcer and a subsequent perforation of a duodenal ulcer. Here again the value of a gastro-enterostomy presents itself. The fourth case did not present any special points of interest, except a difficulty in diagnosis.

33. **The Blood in Tuberculosis.**—Wright and King found that in uncomplicated cases of tuberculosis the average number of red cells is normal or above, excepting during a short time prior to death. The hemoglobin percentage averages about 85 per cent. excepting during a short time prior to death. The red cells exhibit an increased resistance to the hemolytic action of salt solutions, this resistance, as a rule, being increased directly as the progress of the disease. Resistance to hemolysis will probably be found of diagnostic value. The prognosis becomes less and less favorable as the hemolytic index falls. The hemolytic index and the lymphocyte percentage bear a direct relationship in prognosis. The total white count increases directly as the disease progresses. In most instances the stage of the disease, in uncomplicated cases, can be more or less accurately determined by the total white count. The polymorphonuclear neutrophils have but little if any phagocytic action in this disease. A high polymorphonuclear percentage makes a bad prognosis. It is strongly probable that the lymphocytes are markedly phagocytic in tuberculosis. A high percentage of lymphocytes is a very favorable prognostic index. The authors claim that the following blood findings are positive proof of improvement in any given case: (a) Decreasing white count; (b) falling polymorphonuclear percentage; (c) rising hemolytic index; (d) rising lymphocyte percentage.

34. **Relaxation of the Sacro-Iliac Joints.**—Pitfield reports eight cases of this kind where the patients were relieved by postures, exercises and fixative apparatus, consisting of a specially constructed leather belt. He points out that these cases illustrate the futility of treating at least a portion of sciatica cases with drugs or any other measures save orthopedic ones. Having seen within two years twenty such cases in general practice and in hospitals, Pitfield believes that true neuritis or neuralgia (idiopathic) of the sciatic nerve is a rare clinical entity. It may be due to reflex causes, such as constipation, pelvic tumors, etc., but he finds it hard to believe that actual degeneration of the sciatic nerve is a common thing.

37. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1582.

Journal of the Indiana State Medical Association, Fort Wayne

May

38 Arteriosclerosis. H. R. Lowder, Bloomfield.
39 *Bacteriology, Pathology and Diagnosis of Typhoid. W. Shimer, Fort Wayne.
40 Probable Direction of the Progress of Gynecology in the Immediate Future. B. C. Hirst, Philadelphia.
41 *Differential Diagnosis of Labyrinthine Suppuration and Cerebellar Abscess. J. J. Kyle, Indianapolis.
42 Endotheliomatous Cyst of the Omentum. M. A. Austin, Anderson.
43 *Hygiene of Menstruation. J. M. Ketcham, Indianapolis.
44 Treatment of Club-Feet. J. L. Porter, Chicago.

39, 41 and 43. Abstracted in THE JOURNAL, Nov. 26, 1910, pp. 1924, 1927 and 1928.

Washington Medical Annals, Washington, D. C.

May

45 Results of Treatment at the Starmont (Tuberculosis) Sanatorium. G. M. Sternberg, U. S. Army.
46 Case of Cyst of Appendix. G. T. Vaughan, Washington, D. C.
47 Premature Separation of Placenta. A. L. Stavely, Washington, D. C.

Boston Medical and Surgical Journal

June 1

48 *Acute Inflammation of Long Bones, with Special Reference to Excision of the Diaphysis. R. G. LeConte, Philadelphia.
49 Action of Salvarsan on the Wassermann Reaction. H. Fox, New York.
50 Early Diagnosis of Pulmonary Tuberculosis from the Standpoint of Physical and Fluoroscopic Examinations. J. A. Honeij, Boston.
51 Neurology of Apraxia. G. V. N. Dearborn, Cambridge, Mass.
52 Accurate Optics. I. Hartshorne, Poughkeepsie, N. Y.

48. **Acute Inflammation of Long Bones.**—Sixty cases form the basis of LeConte's study. His findings are summarized as follows: The mortality and the extent of the necrosis following acute inflammation of bone depends not only on the promptness of surgical interference, but also on its thoroughness. Suppuration beneath the periosteum does not exclude an infection of the medulla, the presumption being that after three days the medullary cavity is also involved. Within seventy-two hours of the onset of the disease osteoperiostitis is localized usually in the cortex of the bone, and incision, disinfection and drainage are sufficient to bring about a cure. If there is no marked diminution of the symptoms in twenty-four hours after incision and drainage, the medullary cavity should be opened. When the medullary cavity is opened and found healthy, the dangers from infecting it are slight. In the majority of Le Conte's cases osteomyelitis was due to a neglected osteoperiostitis. In operations after the third day, where systemic symptoms are pronounced, the medullary cavity should always be opened and the opening should be sufficiently long to expose healthy marrow, and sufficiently broad and long to expose healthy bone. The mortality of 10 per cent. was directly due to delay in operations, and to inefficient surgery at the primary operation. In five of these cases Le Conte says the surgery was at fault, and had a radical operation been done he believes that all of the patients would have recovered. In one case the delay in operation was perhaps more responsible than the surgery for its fatal termination. It is but fair to say, he continues, that in collecting these sixty cases, perhaps forty more were rejected for various reasons, none of which terminated fatally, so that a mortality of 6 per cent. is nearer the truth.

Cleveland Medical Journal

May

53 Measurement of the Rate of Flow of Blood in Man. G. N. Stewart, Cleveland.
54 Gynecologic Problems of Interest to the General Physician. B. C. Hirst, Philadelphia.
55 Common Fractures and Results of Treatment. F. J. Cotton, Boston.
56 Relation of Liver to Diabetes. J. J. R. Macleod, Cleveland.
57 Drug Exanthemata in Relation to Anaphylaxis. H. N. Cole, Cleveland.
58 Case of Icterus Gravis Following Confinement at Term. H. J. Lee, Cleveland.

Journal of Experimental Medicine, Lancaster, Pa.

June

59 *Adenomata Originating from the Islands of Langerhans. R. L. Cecil, New York.
60 Relation of the Reactive Stroma Formation to the Transplantability of the Cancers of the White Rat. I. Levin, New York.
61 The Micrograph. A. C. Crehore and F. S. Meara, New York.
62 *An Experimental Study of the Question of Aspiration of Foreign Material into the Air Passages During Intratracheal Insufflation. T. S. Githens and S. J. Meltzer, New York.
63 *Action of Salvarsan on the Irritability of Nerve and Muscle. D. R. Joseph, New York.
64 *Bacteriology of Sputum in Common Non-Tuberculous Infections of the Upper and Lower Respiratory Tracts, with Special Reference to Lobar and Bronchopneumonia. T. W. Hastings and W. L. Niles, New York.
65 Resistance of the End-Piece and Mid-Piece of Complement Inactivated by Distilled Water. H. K. Marks, New York.

59. **Adenomata Originating from Islands of Langerhans.**—Cecil records a third tumor of the pancreas of the type reported by Nicholls and by Helmholtz. It occurred in the pancreas of a man sixty-three years old. For a year previous to his admission he had not been in good health. He was suffering from pain in the right lower quadrant of the abdomen, constipation, anorexia, loss of weight and some edema of the feet and ankles. The heart and lungs were normal; the abdomen soft and symmetrical. To the right of the umbilicus a mass 2 by 3 inches could be felt, somewhat tender and fixed to surrounding parts. The skin over the tumor was freely movable. The patient lost ground rapidly. On November 1 he passed about 10 ounces of blood per rectum. The urine contained no albumin or sugar. The patient died November 7. At the autopsy, there was found a large tumor, in the ascending colon, which extended up to the hepatic flexure. It was annular in shape. The outer surface was smooth and hard; the inner surface was papillomatous, with large necrotic ulcerated areas and covered with mucus. The lymph-glands in the mesocolon were not enlarged. Microscopic sections from the tumor showed it to be an adenocarcinoma. The pancreas was firm and pale. The pancreatic ducts were patent. At one point in the caudal portion, near the surface, but completely surrounded by pancreatic tissue, there was a small spherical tumor, the size of a French pea. On section, the cut surface measured 4 by 3.5 millimeters. The tumor was well circumscribed and enclosed by a delicate capsule within which it was freely movable. Cecil believes it is safe to conclude that the tumor developed from islands of Langerhans. Small encapsulated tumors of the size of peas, or even smaller, are occasionally found in the pancreas. These tumors are benign, and have a structure similar in all respects to that of an hypertrophied island of Langerhans. The distinctions between adenomata and forms of regenerative hypertrophy, sometimes so difficult to make in the breast, prostate, liver and other organs, is not easily drawn in the present case. The fact that one may encounter all gradations in the size of islands, from that of the normal island to that of the tumors, suggests that it is more reasonable to consider such tumors merely as hypertrophied islands rather than as adenomata originating from islands.

62. **Aspiration of Foreign Material Into the Air Passages.**—The authors' experiments seem to justify the conclusions that intratracheal insufflation protects the respiratory tract very efficiently against any invasion from the pharynx. The filling up of the pharynx with extraneous material, whether it be from the stomach or from the mouth, brings no danger to the trachea and bronchi. This holds true even if the animal is under deep anesthesia. On the other hand, the presence of a tube in the trachea or larynx without the protection of an effective current air stream, definitely facilitates the entrance of foreign material from the pharynx into the trachea. Anesthesia, which removes the protective action of deglutition, greatly increases the danger from aspiration in these cases.

63. **Action of Salvarsan on Nerve and Muscle.**—Joseph's experiments show that salvarsan is a comparatively inactive drug when applied directly to nerve and muscle tissue of the frog. In perfusion experiments with alkaline solutions, no detrimental action whatever was to be seen either on direct or indirect irritability. In bathing experiments, in which the concentration of salvarsan in the various solutions was surely much higher than that in which it reaches the peripheral tissues in the human subject through the circulation, the loss of irritability occurred only after a long period of exposure to the drug.

64. **Bacteriology of Sputum in the Respiratory Tract.**—In their examinations the authors found only 38 per cent. of the infections of the respiratory tract below the glottis pure, and this percentage was reached only by carefully following Kitasato's method of handling sputa. They believe that lobar pneumonia may produce sputum free from pneumococci, and may undoubtedly be caused by organisms other than the pneumococcus. There is found a marked yearly variation in the organisms which excite inflammation of the respiratory tract. *M. catarrhalis* is usually considered a common secondary invader; but it may, and probably frequently does, assume pathogenic properties.

Western Medical Review, Omaha, Neb.

May

66 Tendon Transplantation and Tendon Separation for the Reduction of Congenital and Acquired Deformities. F. Borglum, Lincoln, Neb.
67 Local Versus Diffuse Peritonitis. C. Lieber, Omaha, Neb.
68 Pathologic Basis of Uterine Hemorrhage. P. Findley, Omaha, Neb.
69 Clinical Aspect of Uterine Hemorrhage. W. O. Henry, Omaha, Neb.
70 Lactic Acid and Milk. C. W. Melick, Lincoln, Neb.

Journal of Cutaneous Diseases, New York

June

71 *Epithelioma of the Upper Lip in a Pure Negro. H. H. Kerr and H. H. Hazen, Washington, D. C.
72 A Comparative Study of Dermatitis Repens and Acrodermatitis Perstans. R. L. Sutton, Kansas City, Mo.
73 A Case of Lichen Planus Bullosus. J. W. Miller, Cincinnati.
74 *Eosinophilia in Scabies. J. A. Kolmer, Philadelphia.

71. **Epithelioma of the Upper Lip in a Pure Negro.**—In a rather careful search through the literature at the Surgeon-General's Library, the authors have been unable to find the record of any case of epithelioma of the upper lip occurring in a pure negro. The entire left side of the upper lip and the outer third of the left side of the lower lip were involved. There were two deep ulcers, one at the middle of the upper lip, and one at the corner of the lower lip. The two were connected by a mass of fungoid, sloughing tissue. The bases of the ulcers were sloughing and dirty. The inner edge of the fungus mass, where it was invading the face, was stony hard and deep seated. The whole inner surface of the upper lip was involved as far as the gums. The muscles of the cheek were slightly invaded. The submental and submaxillary glands were much enlarged. A portion of the hypertrophic tissue was removed for diagnosis. Sections showed typical epithelioma; the cells were of the squamous type, and there were many downgrowths that were more or less united, and there were numerous epithelial pearls.

74. **Eosinophilia in Scabies.**—Eighteen cases of scabies were studied by Kolmer during an outbreak of scabies in an institution for children. All were well-marked clinical cases and were under treatment by means of hot baths and sulphur ointment. With the exception of scabies the children were otherwise healthy and represented the usual institutional type. During the first week the disease was characterized by a well-marked uniform eruption and numerous scratch marks. By the third and fifth weeks a few cases were practically recovered. The larger number, however, were quite refractory to treatment, suffered with many relapses, and during the sixth and eighth weeks the lesions were well defined. The disease was accompanied by a mild leukocytosis, according to the degree of severity, which reaches normal as the disease is cured. The eosinophils were relatively and absolutely increased in a fairly well-marked degree. Kolmer believes that this eosinophilia probably bore a relation to the severity of the disease, being highest during the acne of the eruption, and gradually reaching normal as the disease is controlled. The highest leukocyte count was 13,700; the highest eosinophil count 9 per cent.; the lowest 3 per cent.

Iowa Medical Journal, Des Moines

May

75 Syphilis from the Standpoint of the Gynecologist and Obstetrician. G. N. Ryan, Des Moines.
76 Anesthesia During Labor. A. H. McCreight, Fort Dodge.
77 School Life and Its Influence on the Development of the Future Mother. A. Crawford, Mount Vernon.
78 Postoperative Intestinal Ileus. C. Burnside, Des Moines.
79 Macroglossia. E. E. Harris, Grinnell.
80 Hematomyelia. A. D. Woods, Melbourne.
81 Symptoms and Differential Diagnosis of Tuberculous Hip-Joint Disease. C. M. Jacobs, Chicago.
82 A Case of Pellagra. W. E. Sanders, Baltimore.

Pennsylvania Medical Journal, Athens

May

83 *Observations of Mitral Stenosis. J. C. Wilson, Philadelphia.
84 *Treatment of Cardiac Irregularities and Cardiac Weakness. A. Stengel, Philadelphia.
85 *Blood-Pressure in Hypertrophy and Dilatation of the Heart. J. H. Barach, Pittsburg.
86 *The So-Called Nodal Rhythm of Mackenzie. J. Sailer, Philadelphia.
87 *Diagnosis of Hay Fever in Children. W. C. Hollopeter, Philadelphia.
88 *Treatment of Hemorrhage in Tuberculosis of the Lungs. J. Walsh, Philadelphia.
89 Surgery as a Prophylactic Measure Against Intestinal Complications in Typhoid Fever. L. J. Hammond, Philadelphia.
90 Pennsylvania State Pilots. W. C. Posey, Philadelphia.
91 Detachment of the Retina. G. B. Jobson, Franklin.
92 The Artefacts of Insanity. W. K. Walker, Pittsburg.
93 Total Blindness from the Toxic Action of Wood Alcohol, with Recovery of Vision Under Electricity. S. L. Ziegler, Philadelphia.
94 Diagnosis and Treatment of Eczema. M. B. Hartzell, Philadelphia.

83, 84, 85, 86. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1581.

87. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

88. **Treatment of Hemorrhage in Lung Tuberculosis.**—Walsh considers Epsom salts one of the most important remedies in connection with hemorrhage. It usually has the revulsive effect of the emetic without producing emesis. In addition to its irritant action it dilates the intestinal blood-vessels and removes a certain amount of liquid from the circulation, thereby thickening the blood. It, therefore, practically takes the place of aconite, venesection, tincture of veratrum viride, emetics and table salt. It even takes the place of ligation of the extremities unless the hemorrhage is severe and continuous. A half ounce should be given at once and may be repeated in two hours, especially if the bleeding continues. If it appear necessary, in order to reassure the patient, to give something every few minutes, a half ounce of Epsom salts may be given at once and 10 grains in a teaspoonful of water every fifteen minutes thereafter. In the great majority of cases absolute rest in bed and Epsom salts are sufficient to control the hemorrhage. All the agents employed for this purpose are discussed by Walsh.

Colorado Medicine, Denver

May

95 Neurasthenia and Psychasthenia. E. W. Lazell, Denver.
96 Five Hundred Blood Observations According to Arneth's Method. W. W. Williams, Colorado Springs.
97 Medicolegal Aspect of Fractures and Dislocations from a Roentgen-Ray Standpoint. S. B. Childs, Denver.
98 A Case Illustrating the Value of Cesarean Section in Eclampsia. T. M. Burns, Denver.

Laryngoscope, St. Louis

April

99 This issue contains a complete index-medicus of oto-laryngology for 1910 and abstracts of the important papers published.

Virginia Medical Semi-Monthly, Richmond

May 12

100 Hematocele. G. T. Harrison, New York.
101 Prevalence and Prevention of Uncinariasis in Virginia. A. W. Freeman, Richmond.
102 Relation of Hookworm to Other Diseases. R. L. Raiford, Sedley, Va.
103 Other Work for Boards of Health—Added Laws if Necessary. S. G. Slaughter, Lynchburg, Va.
104 Lesions of the Sacro-Iliac Synchondrosis. J. Dunlop, Washton.
105 Pupillary Reaction in Health and Disease. C. W. Banner, Greensboro, N. C.

Lancet-Clinic, Cincinnati

May 27

106 *Treatment of Pernicious Anemia Associated with Achylia Gastrica. A. C. Croftan, Chicago.
107 Nitrous-Oxid-Oxygen Anesthesia in Surgery. H. J. Whitacre, Cincinnati.
108 State Requirements for Entrance to Medical Colleges. P. G. Woolley, Cincinnati.

June 3

109 *Interesting Gastric and Intestinal Cases. J. E. Greiwe, Cincinnati.
110 Data Concerning Rabies and the Efficiency of Pasteur Immunization. A. P. Cole, Cincinnati.
111 Methods of Teaching Practical Obstetrics. G. B. Booth, Toledo, Ohio.

106. Abstracted in THE JOURNAL, October, 1911, p. 1221.

109. **Gastric and Intestinal Cases.**—Three cases are reported by Greiwe. One deals with ulcer of the stomach and the development of the pyloric obstruction following. The skiagram showed a marked retention of the bismuth mixture eight hours after feeding. The second deals with a case of obstinate constipation, which by means of the skiagram was demonstrated to be due to a sharp angulation both at the hepatic and the splenic flexures of the colon. In the third case a calcareous mass completely filled the pelvis of the kidney and extended in a branched fashion into the right kidney substance itself.

Medical Record, New York

June 3

112 Present Status of Inoculation Therapy. M. J. Synnott, Montclair, N. J.
113 *Method of Diagnosing and Following a Fistulous Tract. J. M. Lynch, New York.
114 *Are Pneumonia and Rheumatism Specific Infections? T. G. McConkey, San Francisco.
115 *The Cause of Belching. D. Roberts, Brooklyn, N. Y.
116 Acute Gonorrheal Epididymitis. C. M. Walson, St. Louis.
117 Mental Suggestion as a Substitute for Anesthetics in the Removal of Tonsils and Adenoids from Children. F. D. Gulliver, New York.

113. **Method of Diagnosing a Fistulous Tract.**—The tracer Lynch has used for the past eight years (not before published) is a mixture of peroxid of hydrogen and a saturated solution of methylene blue. He has learned to appreciate the value of this method as a means of diagnosis, and of its almost unvarying reliability in those very complicated fistulous tracts where the communication between two fistulæ was so narrow as to make it impossible for any probe to pass no matter how fine, especially when the angle between the transverse and longitudinal fistulous tracts was very acute. He says that the peroxid of hydrogen will carry the methylene blue into the finest ramifications of the tract, the methylene blue stains the tract, and when the surgeon comes to operate it is a very simple thing to follow it.

114. **Are Pneumonia and Rheumatism Specific Infections?**—Briefly, McConeky's paper may be summarized as follows: (1) Pneumonia and rheumatism are not specific infectious diseases like typhoid or small-pox, but each is a mere symptom-complex dependent on and secondary to tuberculous vegetations or lesions on the pleura, pericardium, endocardium or periarticular tissues. (2) The streptococcus normally present in the mouth and nasal cavities is the most frequent secondary invader of this abnormal itssue; but staphylococci, Friedländer's bacillus and the specific microorganisms of typhoid, diphtheria, gonorrhea, etc., may also be secondary invaders as well. (3) Whether the symptom-complex called pneumonia or the one called rheumatism occurs, depends on the accident of the location of this damage of tuberculous causation. (4) If situated on the pleura, pneumonia is the diagnosis, provided consolidation occurs; otherwise it is called pleurisy. If situated on the joints alone or in connection with the endocardium or pericardium, it is diagnosed rheumatism. If situated on the endocardium alone and not followed by consolidation of the lung, as it frequently is, it is called endocarditis; but if consolidation occurs it is erroneously called pneumonia complicated with endocarditis.

115. **The Cause of Belching.**—Belching and fermentation are in no way dependent one on the other etiologically, says Roberts. Gas in the stomach, he says, is rarely anything but swallowed air, as true fermentation takes place in the stomach only as a result of actual stasis. Slight, unobtrusive eructation of gas after a full meal is not to be looked on as a morbid phenomenon. Any slight epigastric sensation and occasional eructation are readily exaggerated in the mind of the hypochondriacal. Belching is really a voluntary act, either attempted, permitted or performed in a more or less exaggerated manner to give relief from a real or fancied distress referred to the stomach. The sensation of distress may arise from any organ adjacent to the stomach. The most exaggerated form of belching results from temporary or habitual emotional states, the air not being raised from the stomach but merely gulped into the pharynx and brought up again. If belching gives actual relief from distress it is fair to presume, Roberts says, that the presence of air in the fundus of the stomach is at least a contributing factor in causing the discomfort. Belching, which originally has relieved, may be carried to extremes, particularly in the emotionally excitable. Such a reasonably produced aerophagia often obscures grave underlying disturbances of the circulatory system and the upper digestive tract, the belching being continued after all air has been forced from the fundus. Gas is complained of in a variety of abdominal abnormalities when careful questioning shows belching is practiced. The patient presumes the distress is due to gas. This is particularly common in the discomforts associated with disease of the biliary tract, appendix and colon.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 20

1 Nature of the Immunity Reaction. C. J. Bond.
2 The Hulton Colliery Explosion. W. A. Hatton.
3 Two Cases of Severe Injury Near the Knee. R. Parker.
4 *Vaginal Hysterectomy for Endometritis. F. P. Sturm.
5 A Case of Traumatic Pneumothorax and Pleural Effusion Successfully Treated by Resection. F. S. Rhodes.
6 The Standardization of Preparations of Indian Hemp. C. R. Marshall and J. H. Wigner.
7 *Duodenal Obstruction as Shown by Radiography. A. C. Jordan.

4. **Vaginal Hysterectomy for Endometritis.**—The following case is recorded by Sturn because an unusual, not to say heroic, method of treatment for a fairly common and very troublesome condition has resulted in a measure of success which, he says, is not often attained by the less drastic procedures usually carried out in cases of equal severity. A married woman, 39 years of age, who had been a hard worker all her life, and was the mother of a large and healthy family, complained of constant dragging pains in the groin and back, dysuria, menorrhagia and a profuse semipurulent discharge which was occasionally offensive. For several years she had been practically a chronic invalid, and so profoundly was her general health undermined by the constant pain and discomfort that both she and her relatives were convinced of the presence of malignant disease. She said that she had undergone several operations. Examination revealed a large "boggy" uterus, extremely painful on pressure, freely movable in every direction, with the fundus well above the pelvic brim. The sound passed 4 inches. The cervix, which was the size of a Tangerine orange, was studded with innumerable small semitransparent nodules and was very friable to the touch. The nodules were soft, there was no ulceration, and the general appearance was not that of malignancy. Pressure on the uterus caused quantities of muco-pus to pour through the cervical canal. The possibility of specific infection was excluded by repeated microscopic examinations for the gonococcus, which was never found. The chronic course of the disease and the very gradual deterioration of health from the long-continued pain and discharge were also points which were against the probability of malignant disease. On the other hand, the uselessness of any more scraping operation was so evident and the danger of ultimate malignant degeneration so real that Sturm had no hesitation in suggesting hysterectomy. The uterus was removed by the vaginal route. Sturm saw this patient only a few days ago—that is, about ten months after the operation. She was enjoying perfect health for the first time in many eyars. She is able to perform all the onerous household duties which fall to the lot of women of her class, even including the weekly washing. Sturm claims, therefore, that she is cured in the fullest sense of the term.

7. **Radiography in Duodenal Obstruction.**—A very careful radiographic study by Jordan has convinced him of the existence of the so-called Lane's kink. He found that duodenal obstruction is frequently associated with obstruction at the lower end of the ileum or in the large intestine. Many of the patients exhibit dropping, not only of the stomach, but

also of the large intestine. There is frequently great delay in the passage of feces through the large intestine, and in some cases there is considerable delay in the last portion of the ileum. However, the duodenal obstruction is often the most marked abnormality, and may be the only one which calls for active treatment. In such cases, Jordan says, the operation of gastrojejunostomy relieves all symptoms, and this operation may be expected to do more than place the duodenum at rest by cutting it out of the circuit. As Mr. Lane has pointed out, the jejunum, when attached artificially to the stomach, is supported in such a way that it cannot drop and cause kinking at the duodenojejunal junction.

Lancet, London

May 20

8 *Postoperative Lung Complications. W. Pasteur.
9 Mental Disorders and Suicide. G. H. Savage.
10 *Treatment of Malignant Growths by Radium. C. M. Moullin.
11 *Radium Treatment of Cancer. N. S. Finzi.
12 Diffuse Lipoma and Animals. Sir J. Hutchinson.
13 A Case of Thrombosis of the Superior Vena Cava and Great Veins. F. C. Davis.
14 Our Inability to Diagnose Gross Lesions of the Appendix. E. M. Corner.
15 A Case of Ovarian Cyst in a Nyasaland Woman. H. S. Stannus.

8. **Post-Operative Lung Complications.**—Pasteur endeavors to prove that deflation of the pulmonary bases, resulting from reflex inhibition of diaphragmatic movement, is an essential, if not the chief, factor in the causation of post-operative pneumonia, and that the rôle of the anesthetic is only a very secondary one.

10. **Radium Treatment of Malignant Growths.**—So far as our present knowledge is concerned, with the small quantities that we have at our command, Moullin has come to the conclusion that radium can only be relied on, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignancy relatively slight. On the other hand, it is of the greatest value in what may be called the pre-malignant stage; that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and, what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we get them, will prove equally successful in circumstances of greater difficulty.

11. **Radium Treatment of Cancer.**—Finzi has treated, or has under treatment, excluding rodent ulcer, altogether 177 patients with cancer. All except four of these were inoperable. He excludes three patients subsequently operated on, four cases treated for prophylaxis only, eight cases in which sufficient treatment was refused, and three cases not treated long enough to judge the result—in all eighteen cases. This leaves ninety-nine cases. Of the cases (twelve) in which growths have disappeared, two patients have died from intercurrent disease—one from cardiac disease and cerebral embolism, and the other from a strangulated umbilical hernia. In the first no necropsy was obtained, but there were no symptoms of recurrence; in the other there was a necropsy, and there were deep recurrences in the liver. In one case (lip) there is no local recurrence, but the marked cachexia (18 months after treatment commenced) leads Finzi to suspect deep recurrences; no definite sign of these is present, however. In two other cases there are recurrences. Many of the patients were treated for relief only, without any possibility of cure, but even then complete local disappearance took place in about 12 per cent., and there are several others well on their way to disapear. Very great relief was secured in twenty cases, substantial relief in forty-two, and no relief in twenty-five. Finzi's results show that in patients who would otherwise be doomed, complete local disappearance of the growth occurs in 12 per cent., relief of pain or other symptoms in 62 per cent., and no relief in 25 per cent. He claims that every local inoperable growth of suitable type should be treated with radium, and that prophylactic treatment should be used after every operation for cancer. It is necessary, however, to use large quantities of radium and metal filters at least 1.5 mm., thick of lead or platinum. Since Finzi has used 200 mg. of radium in his later cases his results are showing promise of being very much better than when he used 50 mg.

Clinical Journal, London

May 10

16 Recent Developments in Methods of Diagnosis. Sir W. H Allchin.
17 Fibroids of the Uterus and Their Complications. C. Berkeley

May 17

18 Ocular and Visual Conditions in Medical Cases. J. Taylor.
19 Medical Cases in Ophthalmology. P. Flemming.

Glasgow Medical Journal

May

20 *Acute Pneumonia: Its Prognosis and Treatment. G. A Gibson.
21 Enucleation of the Tonsil for Chronic Disease. W. S. Syme.
22 The Roentgen Rays in Treatment. J. R. Riddell.

20. **Acute Pneumonia.**—The local treatment or use of external applications in pneumonia is decried by Gibson, although he admits that when there is pain, due to any pleurisy accompanying acute pneumonia, external applications of heat are extremely soothing. It is better, he says, under such circumstances, to employ small poultices, and change them frequently, than to envelop the patient in an extensive application. In certain cases of early acute pneumonia, in strong, robust individuals, the employment of cold, either in the form of the icebag or the cold water coil, will be found decidedly beneficial; and, lastly, when there is a high degree of pyrexia (and, still more hyperpyrexia), the use of sponging and the wet pack—and even the cold bath—may be absolutely necessary.

Medical Press and Circular, London

May 10

23 Clinical and Experimental Observations on Malignant Syphilis and Salvarsan. A. Buschke.
24 Acute Pancreatitis with Pancreatic Pseudocyst. R. A. Stoney.
25 Ionization by Salicylate of Soda as a Treatment for the "Rheumatic" Knees of Middle-Aged and Elderly Women F. Hernaman-Johnson.
26 Present Condition of Vaccino-Therapy. H. Pritchard.
27 Dilatation of the Os Uteri in Labor. G. DeG. Griffith.

May 27

28 Treatment of Cysts and Pseudocysts of the Pancreas. W. Korts.
29 Hyperemic Treatment in Dermatology. W. K. Sibley.
30 One Hundred and Fifty-One Cases of Appendicitis Treated During the Past Three Years. R. W. Murray.

British Journal of Children's Diseases, London

May

31 A London School Clinic. M. D. Eder.
32 *Inherited Syphilis and Blue Sclerotics. J. D. Rolleston.
33 Acute Pyelitis Due to Bacillus Coli Communis as a Complication of Congenital Hydronephrosis. F. Langmead.
34 A Case of Stokes-Adams' Disease in a Boy Aged Fifteen. A. J. Cleveland.

32. **Inherited Syphilis and Blue Sclerotics.**—The principal features of interest in Rolleston's case are (1) the extra-genital infection of the mother; (2) the spontaneous fracture of the humerus of the child; and (3) the condition of blue sclerotics in three generations. Although no Wassermann's reaction was performed, the history of the case and the position of the scar made it practically certain that a lesion on the lip of the mother had been a chancre. When three weeks old the baby lost all power in his left arm, but recovered the use of the limb in the course of a month without specific treatment, and when six weeks old had "thrush at both ends," which was probably mucous tubercles in the mouth and round the anus. Both sclerotics show a uniform pale blue coloration; irides grey, embryontoxon at the margin of each cornea. During the child's stay in the hospital the blue coloration of the sclerotics was more obvious on some days than on others. The mother, aged 27, a woman of fair complexion, presented an almost identical condition of the sclerotics, but the coloration was somewhat deeper, more nearly approaching a leaden hue. An arcus senilis was present in each eye. Beyond occasional smarting on exposure to wind and lacrymation following prolonged accommodation, her eyes had not caused her any trouble. She stated that her sister, a fair-haired girl, aged 16 years, presented the same condition, as did also their grandmother, now dead. Their two brothers, aged 37 and 22 years, respectively, were not affected.

Annales de l'Institut Pasteur, Paris

April, XXV, No. 4, pp. 289-368

35 Can Oxyhemoglobin Act as a Peroxydase? J. Wolff and E. de Stoecklin.
36 Fate of Components of Pancreatic Juice in the Course of Its Activation. M. Nicolle and E. Pozerski.
37 Bacterial Flora of Large Intestine of Horse. J. Choukévitch. Commenced in No. 3.

Bulletin de l'Académie de Médecine, Paris

April 25, LXXV, No. 17, pp. 523-544

38 *The Dangers in Treatment of Obesity. (Les écueils des cures d'amaigrissement.) M. de Fleury.
39 *Practical Treatment of Obesity. (Traitement pratique de l'obésité fondé sur l'étude des échanges organiques.) A. Robin.

38. **Dangers in Treatment of Obesity.**—De Fleury has often found a history of inherited taint or of trouble years before, suspicious of tuberculous glandular, pleural or bronchial disease, in persons with a tendency to obesity in adult life. He has also known of six or seven cases in which too vigorous treatment of the obesity was followed by development of active tuberculosis, probably the flaring up of long latent disease. In other cases the benefit of the anti-obesity measures was but transient. He insists on the importance of careful examination of the patient for signs of tuberculosis before attempting treatment of obesity, and not allowing the treatment to be such as to debilitate the patient, and on the necessity for keeping the patient under supervision during the entire course. The measures should aim not only to reduce the fat and ensure its more perfect oxidation but also to restore nerve and muscle force, modifying the diet completely without rendering it distasteful, with exercise and with plenty of water between meals, and one small tumblerful with the meals, one on rising and retiring, with another at 9, 10 and 11 a. m. and again at 4, 5 and 6 p. m. A half hour of out-of-door exercise three times a day, and especially in the evening, is excellent in toning up the muscular system; but still better, he declares, is a course of systematic muscular exercises according to F. Heckel's method of "morphogenetic myotherapy" or Bergonié's method of prolonged and frequently repeated faradization of a whole group of muscles at once. De Fleury has also obtained great benefit from very small daily doses of thyroid extract; but even greater effect can be obtained by stimulating the ductless glands to increased secretion by repeated subcutaneous injection of small amounts of a hypertonic artificial serum, such as a solution of 8 parts sodium sulphate, 4 parts sodium phosphate, 2 parts sodium chlorid and 100 parts water. This serotherapy stimulates the internal secretions and this in turn promotes the metabolism and the appetite increases while the food is utilized better, muscular tone is regained and the patient feels better in every way. If the urine shows traces of albumin with urobilin or indican and tube casts, he restricts the patient for three days to a glass of milk mixed with an alkaline water or skimmed, taken every hour. After this he discards milk entirely as well as all fattening foods and those that putrefy readily, as he believes that intoxication from the food is frequently the source of the obesity. He emphasizes repeatedly the importance of slow eating and long chewing, bradyphagia, he calls it, remarking "the American sect of Fletcherites does not include any obese members."

39. **Treatment of Obesity.**—Robin's method is based on study of the individual organic interchanges, especially the respiratory interchanges. Five small meals are allowed with a walk immediately after the first three, of half an hour at least, avoiding sauces and all beverages except very weak tea. The lunch at 11 a. m. of one or two soft boiled eggs and a little bread, followed by a walk, prevents the patient's being very hungry for the midday meal; the large cup of very weak tea at 5 p. m. and a cracker also reduces the appetite for dinner. He has the twenty-four hours' urine measured; if the amount increases under this régime the outlook is very encouraging. If it does not increase, more fluids should be ingested. The obese patient eating in this way will not feel the restrictions irksome but the total of calories is much below the physiologic amount for the weight. He gives the details of the menu and cites a number of examples to show the benefit from this method in the 200 cases in which he has applied it.

Bulletins de la Société de Pédiatrie, Paris

April, XIII, No. 4, pp. 153-218

40 Direct Lymphocyte Count in the Cerebrospinal Fluid Preferable to Centrifuging. (La numération directe des éléments figurés dans le liquide céphalo-rachidien, par la méthode de Jean Nageotte.) M. Nageotte-Wilbouchewitch.
41 *Hypertrophy of the Thymus. V. Veau. (Valeur de l'examen radioscopique et radiographique dans le diagnostic de l'hypertrophie du thymus.) M. Ferrand and C. Chatelin. (Hypertrophie du thymus; spasme de la glotte; tétanie et rachitisme chez un enfant de 8 mois.) C. Chatelin.
42 *The Biuret Reaction in Examination of the Stools. (Un détail de coprologie dans les états infectieux fébriles. La réaction du biuret.) H. Triboulet.
43 *Influence of Thyroid Treatment on Growth in Rachitis. G. Variot and Pironneau.

41. **Hypertrophy of the Thymus.**—Veau reports the case of a child with a suppurating gland, one each side of the trachea, behind the innominate vein, which he opened and drained and the child can now be regarded as cured. He advises operating in such cases if tuberculosis can be excluded. He also calls attention to the spasm of the glottis with general convulsions, accompanying brain lesions or other cause, and for which the thymus is not responsible, even though it may be unduly large. Thymectomy in these cases has no effect on the spasm of the glottis, as he has demonstrated by personal experience. In the idiopathic spasm of the glottis, a manifestation of tetany, removal of the thymus may cure the tendency, and he has reported a case of the kind, the child having no further spasms after the thymectomy although he had had twenty-seven attacks the day before and had been regarded as moribund.

Ferrand and Chatelin give skiagrams of a number of cases to show the great value of radioscopy to detect or exclude hypertrophy of the thymus, comparing the findings with the normal picture and with glandular disease. With the latter the outline of the shadow is knobby instead of the comparatively smooth outline of the enlarged thymus, blending with the heart shadow below. In their cases the glandular shadows were on the right side, while with the enlarged thymus the shadow was more in the center or protruding more on the left side of the spine, the whole looking like a large pear in some cases; in others the shadow is wider at the top than in the heart region. With glandular lesions the shadow is less opaque at the edges than at the center, while with hypertrophied thymus the shadow is of a uniform depth throughout. The shadows of the glands sometimes show as a chain and sometimes the scalloped outline on the right extends very high. When there are both a hypertrophied thymus and glandular lesions, differentiation is naturally difficult. Four typical cases are described in detail. Veau thinks that the possibility that the thymus may secrete a toxin which normally the parathyroids neutralize, is another argument in favor of thymectomy in case of tetany with suspicion of enlargement of the thymus. Chatelin reports a case of tetany and spasm of the glottis in a rachitic child in which nothing otherwise seemed to indicate the presence of an unduly large thymus but necropsy revealed a very large thymus with almost complete degeneration of the parathyroids. In the discussion that followed, Netter called attention to the importance of systematically examining for Chvostek's sign not only in infants but in children of all ages, and, when found, administering lime salts. He has found them very effectual in reducing the abnormally nervous condition of such children.

42. **The Biuret Reaction in Estimation of Intestinal Functioning.**—Triboulet has found that the biuret reaction may be observed as the manifestation of the non-assimilation of certain heterogeneous albumins, especially the casein of milk, but as a rule it is encountered only with intestinal catarrh. This catarrh may occur during the incubation or as a symptom or sequel of acute infection, and with the biuret reaction its progress can be traced. Intestinal catarrh is far more frequent in acute infections than has hitherto been recognized; it explains the loss of appetite and of weight. The inability to assimilate fats and casein which results from this intestinal catarrh confirms the importance of dieting in the course of the acute infections. Patients sick with typhoid, measles, pneumonia, etc., may be unable to digest even small amounts of milk; their ability in this line is instructively demonstrated by the biuret reaction in the stools: About 2 c.c. of stool is stirred into 4 c.c. of a 5 per cent. solution of sodium

carbonate and filtered. Then 2 c.c. of sodium hydrate is added to the filtrate and into this is added, a drop at a time, 5 or 6 drops of a 2 per cent. solution of copper sulphate. A blue disk forms with normal stools, while the tint is a reddish violet with intestinal catarrh or non-assimilated casein.

43. **Thyroid Treatment in Rachitis.**—Variot and Pironneau gave the thyroid extract merely to hasten the growth of the children, which was abnormally backward. In the five cases reported the effect was marked, the children rapidly increasing in height under the influence of the mild organotherapy, and without displaying any evidences of intolerance. They seemed to benefit in every way by the thyroid treatment, becoming more intelligent and lively during the two-weeks' and six-weeks' courses with an interval of two months.

Presse Médicale, Paris

May 6, XIX, No. 36, pp. 361-376

44 *Vestibular Nystagmus. M. Lermoyez and A. Hautant.

May 10, No. 37, pp. 377-384

45 The Domain of Psychiatry. G. Ballet.

44. **Vestibular Nystagmus.**—Lermoyez and Hautant discuss the mechanism of nystagmus under the influence of cold or heat, showing how the features of the nystagmus are able to localize the seat of the trouble in the semicircular canals. It is possible by this simple temperature test for the general practitioner to determine whether the labyrinth is becoming involved in case of middle ear disease, as injection of hot or cold water into the ear induces the characteristic nystagmus. They give illustrations of the technic.

Revue de Chirurgie, Paris

May, XXXI, No. 5, pp. 513-648

46 *Arteriovenous Anastomosis for Endarteritic Gangrene. E. Quénu.

47 Isolated Fracture of the Lesser Trochanter. A. Binet and A. Hamant.

46. **Arteriovenous Anastomosis for Endarteritic Gangrene.**—Quénu reports a case of arteriovenous anastomosis which, he says, brings to twenty-eight the total on record. He reviews them all, his final conclusions not being at all favorable in regard to the ultimate outcome; the results obtained in operations on dogs can not be applied to conditions in the clinic where the diseased vessels render an inverse circulation scarcely possible. He knows of only one case (Wieting) in which the gangrene was permanently arrested by the anastomosis, and in this case the gangrene had been merely threatened. Quénu says that the best means to combat the chilliness and local asphyxia is by cutting the nerve-trunks and shutting off the nerve-supply from the limb. When the limb becomes warm again after the arteriovenous anastomosis this indicates, he thinks, that the arterial blood finds its way down through the vein, but only mixed with venous blood and incapable of nourishing the tissues efficiently.

Semaine Médicale, Paris

May 10, XXXI, No. 19, pp. 217-228

48 *Thrush in the Lungs. (Le muguet pulmonaire et ses rapports avec la dothienentérie.) C. Garin.

May 15, No. 20, pp. 229-240

49 *The Diagnostic and Therapeutic Importance of the Knee-Chest Position in Internal Disease. (La position genu-pectorale dans les maladies internes.) L. Cheinisse.

48. **Pulmonary Thrush.**—Garin reports the case of a woman aged 41, convalescing from typhoid, when mycotic stomatitis developed with general symptoms and albuminuria, moist râles at the apices and dulness over the supraspinous fossæ, with profuse thick sputum, suggesting that of pneumonia, but found to contain the fungus causing thrush. The patient succumbed a week later in progressive cachexia. The necropsy findings showed actual thrush of the lungs but guinea-pigs inoculated with the parenchyma of the lungs did not seem to be affected. Artault has reported a similar case, likewise in a typhoid patient after defervescence, but his patient recovered. It is possible that such cases are comparatively frequent. Thrush should be suspected when physical signs develop at the apex during convalescence from typhoid fever. It may prove possible to obtain unexpected recoveries by iodid treatment. In the case reported the naked-eye aspect of the lung suggested ordinary tuberculosis except for the absence of tubercles and of enlarged glands; the liver and spleen were both abnormally large.

49. **Knee-Chest Posture as an Aid in Diagnosis and Treatment of Internal Disease.**—Several French writers have recently published cases of effusion in the pericardium in which the patients found relief only when the knee-chest position was assumed. This was observed with pericarditis following rheumatism or scarlet fever, and kidney disease, and Hirtz even asserts that when relief from the symptoms on the part of the heart is obtained only in the knee-chest position, this testifies to the existence of pericarditis with effusion. In a case reported by Cheinisse, however, there could be no question of pericarditis, and yet the patient instinctively sought relief in the knee-chest position during recurring attacks of severe pain above and to the right of the umbilicus, radiating to the epigastrium, and certain features of the anamnesis suggested the possibility of a duodenal ulcer. Umber reported last year a case of duodenal ulcer in which the patient found relief only in the knee-chest position; the ulcer in this case was in the posterior wall of the duodenum and was adherent to the pancreas. Duodenal ulcer is sometimes accompanied by a reflex dyspnea, suggesting pericarditis, and Wynter has recently called attention to the absence of abdominal respiratory movements as an indication of pericarditis. On the other hand, in some cases with symptoms ascribed to a perforated gastric ulcer or peritonitis, they proved to be the manifestations of a pericarditis, and Voelcker has recently reported the case of a child with supposed pericarditis or pneumonia who proved to have diffuse peritonitis from appendicitis. Fellenberg's case, in which the disturbances from a wandering kidney were kept under control by assuming the knee-chest position during the attacks, was recently mentioned in these columns, page 1135. Occlusion of the intestine from kinking or distention changes, with traction on the root of the mesentery, the so-called arteriomesenteric duodenal occlusion, has been repeatedly effectually combated by having the patient assume the ventral decubitus or the knee-chest position, and Tarnier used to take advantage of the mechanical conditions in the "Mohammedan prayer attitude" as a systematic means of treating certain displacements of the uterus.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXXII, No. 3, pp. 581-818

50 Transduodenal Drainage of Hepatic Duct with Plastic Operation on This and the Common Bile Duct. F. Voelcker.

51 *Indications for Operative Treatment After Contusion of the Kidney. (Indikationsstellung zu operativem Eingreifen bei subkutanen Nierenverletzungen.) F. Voelcker.

52 Myotomy of Gluteus Maximus for Snapping Hip Joint. (Offene Myotomie des Musculus glutaeus maximus bei schnellender Hüfte.) F. Voelcker.

53 *Technic for Extraperitonization of Inflammatory Foci. (Extraperitonisierung entzündlicher Herde.) F. Voelcker.

54 *Sacral Excision of the Rctum. F. Voelcker.

55 *Pararectal Prostatectomy in Ventral Decubitus. (Konservative Enukleation der hypertrophischen Prostata auf pararectalem Wege in Bauchlage.) F. Voelcker.

56 Cystoscopic Views of the Bladder Portion of the Prostate. (Cystoskopische Skizzen des Blasenanteiles der Prostata.) F. Voelcker.

57 *Excision of Tuberculous Seminal Vesicles with Temporary Displacement of the Rectum. (Excision tuberkulöser Samenblasen mit temporärer Verlagerung des Rectum.) F. Voelcker.

58 *Successful Arsenic Therapy of Apparently Inoperable Sarcoma of the Spine. (Heilung scheinbar inoperabler Wirbelsarkome durch Arsentherapie.) E. Manheimer.

59 *Injuries of the Kidneys. (Ueber Nierenverletzungen.) E. Keuper.

60 *Plastic Operations on Kidney Pelvis and Ureter. F. Weinberg.

51. **Indications for Operative Treatment with Contusion of the Kidney.**—Voelcker comments on the recent statistics of traumatic lesions of the kidney showing a mortality of 14.6 per cent. in 143 cases with a conservative operation and of 16.7 per cent. in 131 nephrectomies, while 20.6 per cent. of the 427 patients not given operative treatment died. This comparative mortality is the more striking when we reflect that only in the severest cases is operative treatment applied. The main points are to determine whether the vessels and the kidney pelvis are torn and whether there is infection. The nature of the accident does not answer these questions, and the intensity of the hematuria is not always an index of the severity of the injury. None of the symptoms is absolutely reliable, but cystoscopy, supplemented possibly by catheterization of the ureters, throws a flood of light on conditions at

once, and he advises this as the routine procedure when there is any doubt. Even mere cystoscopy will show whether the urine is being regularly expelled in a strong jet from the ureter mouth. If the urine is blood-stained, this shows which kidney is injured and that the pelvis and ureter are not torn, and that the passage from the pelvis to the bladder is open. This knowledge excludes the fear of infiltration of the urine and shows that the functioning of the kidney is not materially impaired. The closer to normal the conditions in the secretion, the greater the liability that the injury is confined to the cortex. Chromocystoscopy, that is, inspection of the stained urine after giving indigo carmin, illuminates conditions still further. Fresh blood is red, and if the blood in the urine is brownish, it shows clotting of the blood in the pelvis or bladder. Catheterization of the ureter answers the question as to the presence of infection. If the bloody urine is expelled in approximately normal amounts and rhythm, conservative treatment is indicated, but if no blood or urine enters the bladder from the injured kidney and none can be obtained through the introduced ureter catheter or there is merely blood or a few clots, there is evidently some laceration of the pelvis permitting escape of the urine into the surrounding tissues, or the kidney has been destroyed to such an extent that the secretion of urine is arrested. In either case operative treatment is imperative. If stagnating urine is found in the pelvis, this excludes laceration; the obstruction to the outflow of the urine is probably pressure from some hematoma nearby, with edematous swelling of the mucosa of the pelvis and ureter. Even with these findings, if the pelvic urine is aseptic, conservative treatment is indicated. In case of infection, operative measures should not be delayed. A case reported shows that stagnation of urine in the pelvis may cause the most intense pains, even without direct injury, and evacuation of the urine relieves at once.

53. **Extraperitonization of Inflammatory Foci in the Abdomen.**—Voelcker strives to wall off the focus after its evacuation by inducing what he calls extraperitonization. He accomplishes this with a series of pieces of gauze spread out flat over the walls of the cavity in such a way as to form a funnel, from the center of which project the stumps of the organ or the tissues whose necrosis is dreaded. The irritation from the gauze causes the throwing up of adhesions, soldering the peritoneal surface together, so as to bury completely the cavity. By this method of tamponing, the field is thus extraperitonized from the rest of the peritoneum, and he relates a number of cases in which this technic proved a safe reliance. The list includes some infected abdominal wounds, gangrenous hernia, abscesses, resection of the cecum, tuberculous fistula into the intestine, and for extraperitoneal drainage of retroperitoneal cellular tissue.

54, 55, 57. **Pararectal Operations.**—Voelcker lauds the advantages of the sacral route for excision of the rectum, having found that, with the patient in the ventral decubitus, unusually favorable conditions for the operation were obtained after drawing the rectum to one side and dividing the gluteus maximus, the levator ani and the pelvic fascia. His experience with excision of the rectum by this technic was so encouraging that he has applied it also in removal of the enlarged prostate, permitting retention of the prostatic portion of the urethra. He calls this conservative enucleation, and describes the technic with which it is possible to do prostatectomy by the sacral route, giving eight case histories in which the outcome was excellent, except in the one case of malignant disease. He also describes two cases in which he removed tuberculous seminal vesicles with this technic, drawing the rectum to one side.

58. **Cure of Spinal Sarcoma Under Arsenic.**—After an incomplete operation on an osteoid spindle-celled sarcoma with myxomatous giant-celled parts, growing from the transverse process of the second lumbar vertebra, the patient was treated with intravenous injections of atoxyl. She was a girl of 16 and during the month after the operation before the atoxyl was begun, she seemed to be going down, but at once began to recuperate under the atoxyl and in a month seemed to be quite restored to health. There have been no signs of recurrence during the five months since. Sick has also observed great improvement under Fowler's solution or atoxyl after an incomplete operation for sarcoma, but one patient has since succumbed to recurrence; the other is still in good health, as is also a patient with sarcoma of the skull. In still another case the sarcomatous nodules of the skull retrogressed under intravenous injection of atoxyl. The elderly patient was in good health for two years but then recurrence was observed, which was refractory to further injections. The sarcomas in these cases all had the same histologic features, the sudden stormy onset, the involvement of muscles and bones, preventing a complete removal, and the remarkably favorable influence of the arsenic after an incomplete operation.

59. **Contusions of the Kidney.**—Keuper discusses the points on which the indications for treatment are based, and reports twenty cases, including fourteen with an isolated injury of the kidney; the others were complicated by fractures or the bursting of a hydronephrosis.

60. **Plastic Operations on the Kidney Pelvis and Ureter.**—Weinberg reviews the present status of these operations, adding forty-nine new cases to Kroiss' 102 from the literature, thus bringing the total to date to 151. This includes five unpublished cases from Voelcker's clinic, which he reports in detail. Among other points brought out is that the general condition is not sufficiently accurate for estimation of the ultimate outcome of these operations; cystoscopic examination years after will sometimes reveal unsuspected conditions when the outcome is supposed to be favorable in every respect.

Berliner klinische Wochenschrift

May 15, XLVIII, No. 20, pp. 877-924

61 *Action of Combinations of Drugs. (Untersuchungen über die Wirkung von Arzneigemischen.) E. Bürgi.
62 Melanosis of Mucosa of Large Intestine. (Melanose der Dickdarmschleimhaut.) L. Pick. Commenced in No. 19.
63 Inoculation of Monkeys with Malignant Syphilis. E. Tomasczewski.
64 *The Wassermann Reaction in the Asylums of Denmark. O. Thomsen, H. Boas, R. Hjort and W. Leschly.
65 Transplantation of Fascia. F. Rehberg.
66 Atropin and Vaccines in Treatment of Gonorrhea. (Neuere Gonorrhoebehandlung.) H. Hecht and E. Klausner.
67 Cultivation of the Leishman-Donovan Bodies. (Kultur und Modalitäten der Entwicklung der Leishman-Donovan'schen Körperchen.) G. Franchini.
68 Centrifuge in Determination of Uric Acid in Urine. (Ueber Harnsäurebestimmungen mittels der Zentrifuge.) A. Stephan.
69 Diagnostic Importance of Acquired Disturbances in Color Perception. (Erworbene Farbensinnstörungen.) H. P. Köllner. Commenced in No. 19.

61. **Combinations of Drugs to Enhance Potency.**—Bürgi has made over 1,500 experiments on rabbits with combinations of different drugs in eleven groups, mostly narcotics, and has discovered several laws regulating the action of the various combinations. Among the laws thus discovered is that a mixture of two drugs, especially of two narcotics, has an action which is merely the sum of the action of its two components when both belong to the same group, as, for instance, to the fatty series, or when both are alkaloids of opium. On the other hand, the potency of the action of both is much enhanced when the two components belong to different groups. He has also found that the action of a drug is enhanced when the dose is halved and given at an interval of from five to fifteen minutes. He is inclined to attribute this enhancing of the potency to the fact that the combined drugs act on more points than one drug alone, and also that even when they act on the same points, they act at different times, thus prolonging the medicinal action on these cells. The latter explanation applies also to the enhancing of the effect by halving the dose; this duplicates the action on the cells before the drug is swept away by the blood. Another point he has discovered is that an extremely minute amount of one drug will, in some cases, materially enhance the potency of another; for instance, scopolamin in the rabbit will not induce central anesthesia, even in large doses. The effect is exclusively peripheral. Given in amounts to kill the animals, they die but without preceding general narcosis. But even a tenth of a mgm., when combined with another narcotic, has the desired effect. This suggests that possibly the constituents in mineral waters which may be present only in minute amounts, may be of decisive importance for the general effect, and they should not be disregarded in the artificial production of mineral waters.

64. Summarized in THE JOURNAL June 3, 1911, p. 1698.

Deutsche medizinische Wochenschrift, Berlin

May 11, XXXVII, No. 19, pp. 865-912

70 Acute Gangrene of the Gall-Bladder With or Without Cholelithiasis. (Akute Gallenblasengangrän, mit und ohne Steinbefund in der Gallenblase.) P. L. Friedrich.
71 Cellular Anaphylaxis. (Enteritis anaphylactica, Conjunctivitis und Rhinitis anaphylactica—Heufieber—und deren sogen. spezifische Heilung.) A. Schittenhelm and W. Weichardt.
72 Instantaneous Roentgen-Ray Pictures. (Ueber den Begriff "Röntgen-Momentaufnahme" und über Prüfung der Röntgenapparate auf ihre Fähigkeit, Momentaufnahmen sich bewegender innerer Organe zu liefern.) E. Stuertz.
73 *Measurement and Importance of Abdominal Pressure. P. Engelen.
74 Hydrogen Dioxid in Hyperacidity. (Zur medikamentösen Therapie der Hyperazidität.) R. Roubitschek.
75 Case of Traumatic Hysteric Pseudo-Aphasia. T. Becker.
76 Intra-Uterine Fetal Breathing Movements. (Intrauterine Atembewegungen des Foetus.) K. Reifferscheid.
77 Evils of Introduction of Foreign Bodies Into the Uterus to Prevent Conception. E. G. Liek.
78 Gunshot Wounds of Long Bones. (Gelenkschüsse und Schussfrakturen der langen Röhrenknochen im sudwestafrikanischen Feldzug 1904-1907.) A. Franz.
79 Gunshot Wounds of the Abdomen Without Injury of Organs. A. Wagner.
80 Bridging Gap in Urethra with Flap of Fascia. (Ueberbrückung eines ausgedehnten Harnröhrendefektes durch freie Faszien-Plastik.) F. Hohmeier.
81 Technic for Intravenous Injection of Salvarsan. P. Sonnenberg.

73. Importance and Measurement of the Intra-Abdominal Pressure.—Engelen expatiates on the importance of the intra-abdominal pressure as a factor in various disturbances, especially those of a cardiac neurosis and with arteriosclerosis, etc. The influence of the intra-abdominal pressure on the circulation in the viscera and throughout the abdomen is obvious, as the functioning of the lungs is so dependent on the correct functioning of the diaphragm and this in turn is dependent on the pressure prevailing in the abdomen. To estimate this correctly, Engelen has devised a simple little appliance based on the principle that a thin elastic membrane serving as a wall between two spaces bulges out into the space in which the pressure is lower. When the pressure is exactly alike on both sides of the membrane wall, the membrane stretches straight, without bulging in or out. He uses a large glass bell with thin rubber tissue tied over the mouth of the bell. The bell is placed on the abdomen to which it adheres airtight; the abdominal wall, and the rubber tissue clinging close to it bulge upward slightly into the glass bell. Air is then pumped into the bell until the rubber membrane and with it the abdominal wall are pushed downward by the pressure until they lie flat. The pressure within the bell required to push down the wall until it is flat is recorded by an index fastened perpendicularly in the center of the rubber tissue; the upper end of the index rides up and down in a graduated glass tube projecting downward from the top of the bell. He comments on the fact that while the disturbances resulting from enteroptosis are familiar, those resulting from abnormally high intra-abdominal pressure have been generally overlooked. Unduly high pressure by impeding the excursions of the diaphragm makes respiration shallower and forces extra work on the heart, especially on the right ventricle, while the excessive pressure also hinders normal circulation in the abdominal organs. When the excessive pressure is due to accumulation of fat, abdominal massage and swimming baths have aided in restoring conditions to normal in Engelen's experience. With abnormally low pressure, as with enteroptosis, the use of abdominal binders, electric stimulation of the abdominal muscles and forced feeding all help. In both conditions, gymnastic exercises, abdominal straining, exercises in deep breathing and inculcation of a correct attitude are of prime importance.

Deutsche Zeitschrift für Chirurgie, Leipsic

April, CIX, Nos. 3-4, pp. 205-424

82 Relations Between Hip-Joint Disease and Coxa Vara. (Zur Frage der Coxitis, Coxa vara und sog. Osteoarthritis deformans juvenilis—richtiger Coxa vara capitalis.) R. Levy.
83 Papilloma of the Thyroid. (Zottenkrebs der Glandula thyreoidea.) M. Plessner.
84 Etiology of Inflammatory Stenosis of the Rectum. (Zur Kenntnis der Aetiologie der entzündlichen Mastdarmstenosen.) A. Exner.
85 *Lymphosarcoma of the Tongue. (Beitrag zur Dauerheilung der Lymphosarkome.) J. Schleinzer.
86 Dermoids of Pelvic Connective Tissue. (Zur Kenntnis der Dermoide des Beckenbindegewebes.) L. Arzt.
87 *Roentgen-Ray Examination After Gastro-Enterostomy. F. Härtel.
88 Meckel's Diverticulum. K. Doepfner.

85. Lymphosarcoma of the Tongue.—Schleinzer reports the case of a woman of 54, previously healthy, who suddenly began to experience pains in the neck and difficulty in swallowing, accompanied by the end of two weeks with *fetor ex ore*, copious expectoration and a smarting and burning in the throat. A lump could be palpated in the neck below the angle of the jaw and an ulcer with wall-like edges soon developed on the right margin of the tongue. On the diagnosis of cancer, the glands in the right side of the neck were excised after ligation of the lingual artery; then the lower jaw was temporarily resected and the growth removed. It extended to the epiglottis and arch of the palate. A suspicious enlarged gland on the left side was also excised a few weeks later. The glands showed signs of metastasis, but the patient has had no evidences of recurrence of the lymphosarcoma during the five years to date. The similar cases of sarcoma of the tongue on record are reviewed and compared with this one which seems to be the second case of a histologically verified lymphosarcoma of the tongue and the only one in which the operation proved permanently successful.

87. Radioscopic Examination Years After Gastro-Enterostomy.—An interval of from four months to nearly three years has elapsed since the gastro-enterostomy in the twenty-two cases reported by Härtel from the university surgical clinic at Berlin in charge of Bier, and he gives the Roentgen-ray pictures taken before the operation and soon after and again after an interval of a year or so. This is only about half the total cases of gastro-enterostomy for non-malignant disease done during this period, but late after-examination was not possible in the others. There has been recurrence of trouble in three cases and three other patients were only improved by the operation, but the sixteen others were cured. The details of the cases are given, the monograph filling eighty pages. Radioscopy shows that the stomach evacuation proceeds after a gastro-enterostomy not merely by the laws of gravity but by a kind of physiologic sphincter process. The cases teach further that when the new opening is made on account of anatomic stenosis, it answers the desired purpose completely from the practical point of view. When the stenosis was merely spastic the gastro-enterostomy overcomes the tendency to contraction and the pylorus becomes permeable once more. On the other hand, an ulcer in the middle part of the stomach is not much influenced by the gastro-enterostomy; most of the food still passes out through the pylorus instead of through the new opening. One or more internal courses of treatment for the ulcer should follow every gastro-enterostomy. He regards a gastro-enterostomy as contra-indicated with negative findings as to ulcer or stenosis.

Medizinische Klinik, Berlin

May 14, VII, No. 20, pp. 761-800

89 Physiologic Action of Carbonated Baths. H. Winterberg.
90 Spontaneous Healing of Appendicitis. E. Ruge.
91 Salvarsan in Pregnant and Parturient Women. (Die Salvarsantherapie bei Schwangeren und Wöchnerinnen.) E. Langes.
92 *Resection of Spinal Roots for Gastric Crises in Tabes. (Förstersche Operation bei tabischen gastrischen Krisen.) J. Becker.
93 Vibratory Massage in Treatment of Bronchial Asthma and Allied Conditions. W. Siegel.
94 *Urine Findings with Cancer. (Ueber einen Harnbefund bei Karzinomatösen.) O. Gross and M. Reh.

92. Resection of Posterior Spinal Roots in Tabes.—Förster's operation was done in Becker's case to relieve intolerable gastric crises in a woman of 54 with advanced tabes, the crises returning so often, accompanied by vomiting, that the woman was unable to retain food and was suffering from progressive inanition. The seventh to the tenth dorsal roots were resected on both sides, and the gastric crises never returned afterward, but both legs and the bladder became paralyzed for a time. These symptoms gradually subsided and by the end of three months the patient was restored to the previous condition, except that the gastric pains had been completely cured. The patient lost with them all sense of fulness of the stomach, so that she is liable to eat too much but vomits up the excess afterward. Some after-hemorrhage, compressing the spinal

cord, may have been responsible for the paraplegia, but more probably, Becker thinks, it was the result of injury of the lumbar cord from the raising of the foot of the bed after the operation. It might have been wiser to have raised the region of the field alone, as after a kidney operation, instead of slanting the whole spine. Or the dural sac might have been tied off above and below the field by the Sick method; or the Guleke technic for extradural interruption of the roots might have been better.

94. **Reaction in the Urine of Cancer Patients.**—Gross and Reh have applied the Salomon and Saxl technic, described in THE JOURNAL May 27, 1911, page 1593, in eighteen cases of cancer and in thirty-three patients with other serious affections. This experience has convinced them that the reaction is not pathognomonic of cancer but is dependent on certain disturbances in the metabolism which may accompany cancer but are also liable in other morbid conditions entailing liver trouble or cachexia. It is possible, however, that the pronounced reaction in cases suspicious of gastric cancer may differentiate gastric carcinoma from other stomach trouble in some cases, especially if the technic is further perfected.

Münchener medizinische Wochenschrift

May 9, LVIII, No. 19, pp. 993-1056

95 *Orthostatic Albuminuria and Tuberculosis. H. Lüdke and J. Sturm.
96 Menstruation. (Ursache und Bedeutung der menstruellen Blutung.) G. Klein.
97 Sensitizing Roentgen Rays by Heat. (Experimentelle Untersuchungen über die Sensibilisierung der Röntgenstrahlen mittels Wärmedurchstrahlung.) F. Bering and H. Meyer.
98 *Test for Presence of Salvarsan in the Body. (Neue Methode, das Salvarsan nachzuweisen.) J. Abelin.
99 Influence of Thyroid Extract on Coagulation of Blood. (Einfluss von Schilddrüsenpresssaft auf die Blutgerinnung.) P. Mathes.
100 Radical Plastic Operation for Femoral Hernia with Pectineus Flap. (Radikaloperation des Schenkelbruchs durch Pektineusplastik.) P. Sick.
101 Connection Between Integument and Suprarenals. (Zusammenhang zwischen Hautorgan und Nebennieren.) E. Meirowsky.
102 Action of Chloromorphid on Man. G. Grund.
103 *Typhoid in Children. (Typhusepidemie in einer Kindererziehungsanstalt.) G. Brückner.
104 Pneumonic Plague in Northern China. (Die Lungenpest in Nordchina.) Schreyer.
105 Pyemia After Acute Staphylomycotic Spermatocystitis. G. B. Gruber.
106 Floating Cartilages in the Knee-Joint. (Auf den Recessus subfemoralis beschränkte Gelenkkörperbildung.) E. Ruge.
107 Gall-Stone Disease. (Allgemeine Grundsätze für die Diagnostik, Indikationsstellung und Therapie des Gallensteinleidens.) R. Glaser.

95. **Orthostatic Albuminuria and Tuberculosis.**—Lüdke and Sturm have examined the urine of 140 tuberculous individuals, including sixty in the first stage, fifty in the second and thirty in the third, all afebrile and up and about, and all over 20 years old. In 103 of the 140 a positive reaction for albumin was obtained after the individuals had been on their feet for an hour, the proportion being about the same in each of the three groups. No trace of albuminuria could be detected in the eight healthy controls examined. In a further series of tests the tuberculous individuals giving a negative albumin reaction were injected with a minute dose of tuberculin, not large enough to induce fever, and then albumin was evident in the urine when they had been on their feet for an hour. They also found tubercle bacilli in the urine in the positive cases of tuberculous orthostatic albuminuria. All these facts indicate that the orthostatic albuminuria in these cases is the result of the action of the tuberculous toxins on the kidneys. They suggest further that auto-intoxication may in some cases be responsible for orthostatic albuminuria. The most important practical conclusion, however, from the research reported is that orthostatic albuminuria may reveal incipient tuberculosis in some cases when other causes for the albuminuria can be excluded. The pulse-pressure was lower during the period of orthostatic albuminuria in their experiences.

98. **Test for Salvarsan in the Body Fluids.**—Abelin has applied the Ehrlich diazo reagent to salvarsan and obtained a characteristic color reaction. The urine of patients after treatment with salvarsan may thus give a deceptive diazo reaction. A reaction characteristic of the presence of salvarsan can also be obtained in other organic fluids by adding three or four drops of dilute hydrochloric acid, cooling, and then adding three or four drops of a 0.5 per cent. solution of sodium nitrite, which results in production of a diazo body with lively greenish-yellow fluorescence. This diazo solution of the salvarsan fluid is then added, a drop at a time, to an alkaline 10 per cent. solution of resorcin or other phenol. There follows a red color reaction. The solution must always be alkaline, as free acid checks the color reaction. The reaction is apparent in two hours after an intravenous injection of salvarsan. Using 7 or 8 c.c. of urine with 5 or 6 drops of dilute hydrochloric acid, adding 3 or 4 drops of the 0.5 per cent. sodium nitrite solution and dropping the mixture into 5 or 6 c.c. of the alkaline colorless resorcin solution, it at once turns red.

103. **Typhoid Epidemic in Children's Asylum.**—Brückner's experience with an epidemic of typhoid affecting three-fourths of the 102 boys in the institution confirms the importance of unsuspected typhoid in children as a factor in the dissemination of the disease. It also demonstrates the great value for prophylaxis of systematic taking of the temperature of all in the environment of a case of typhoid and isolating those with the slightest tendency to fever.

Virchow's Archiv, Berlin

May, CCIV, No. 2, pp. 161-320

108 The Plasma Cells in Disease of the Ears, Nose and Larynx. G. Alagna. Commenced in No. 1.
109 Endocarditis Due to Influenza Bacillus. G. Porrini.
110 Pathologic and Anatomic Study of Diabetes Mellitus. K. A. Heiberg.
111 Histologic Study of the Musculature of the Heart. S. Wideröe.
112 Stain for Fibrin. (Ueber Färbung mit Bestschem Karmin, speziell zum Nachweis von Fibrin.) E. Fraenkel.
113 Some Cases of Carcinoma of the Body of the Uterus with Much Glycogen. H. E. De Bonneville.
114 Intermuscular Ossification. K. Kawashima.
115 Histology of Hypertrophy of the Prostate. M. Lissauer.
116 Epithelium and Tumors of the Cerebral Ventricles. (Ueber das Epithel und die Geschwülste der Hirnkammern.) P. Vonwiller.
117 Case of a Leukemic Malignant Lymphoma with Special Changes in the Liver. T. Tsunoda.
118 Experimental Study of Myeloid Metaplasia. A. Werzberg.

Wiener klinische Wochenschrift, Vienna

May 11, XXIV, No. 19, pp. 655-694

119 *Chorio-Epithelioma. F. Hitschmann and R. Cristofoletti.
120 *Paravertebral Liver Dulness. (Ueber vertebrale und linksseitige paravertebrale Leberdämpfung.) P. Grocco.
121 Coincidence of Herpes Zoster and Psoriasis. G. Gjorgjevic.
122 Injury of Skin by Light and Protection Against It. (Lichtschädigungen der Haut und Lichtschutzmittel.) L. Freund.
123 Technic for Puncture and Intravenous Infusion. R. Bauer.

119. **Chorio - Epithelioma.**—Hitschmann and Cristofoletti review the literature on the subject—all the evidence showing that it is impossible to distinguish between normal trophoblast tissue and malignant chorio-epithelioma, and also that it is impossible to determine by the structure which of the chorio-epitheliomas is going to run a malignant course and which will subside harmlessly. They expatiate on the peculiar conditions with chorio-epithelioma tissue burrowing into the uterine vessels and thus offering the most favorable conditions for embolism when subjected to any mechanical strain. This mechanical strain is supplied by any operation on the uterus, even curetting, and they believe that the operation for removal of chorio-epithelioma is in many cases the direct cause of the malignant metastasis which follows. They tabulate from the literature eighteen cases and report a similar one from their own experience in which on suspicion of chorio-epithelioma the uterus was removed, and at once malignant metastases developed, which proved fatal in less than three weeks. The operation evidently forced the proliferating tissue deeper into the vessels and the emboli were then scattered all through the body, with immediate metastases in nearly all the internal organs, while there had been no signs of metastasis before the operation. In another case in their experience this rapid metastasis followed simple diagnostic curetting. They also tabulate thirty cases in which the patients died during or soon after the operation and necropsy showed the internal organs free from metastases in nearly every instance. In forty-six other cases in which the patients died without any operation having been attempted, the internal organs were free from metastasis in nearly every case except in the lungs and sometimes in the vagina. Three hundred

cases from the literature are reviewed and the practical conclusion drawn that the operation for chorio-epithelioma must be by the abdominal route and with as little manipulation of the uterus as possible and only after ligation of the veins and hypogastric artery. If curetting is deemed necessary, its dangers should be borne fully in mind.

120. **Left Paravertebral Percussion of the Liver.**—Grocco calls attention to the valuable information obtainable by systematic percussion of the region of the last thoracic vertebræ and of the zone to the left in regard to the size and condition of the liver. The facts in regard to the liver dulness from the rear differ, he declares, from the descriptions in the textbooks, and the latter need revision. He says that the vertebral and paravertebral area of dulness of the liver changes its position in case the liver is abnormally high or low or enlarged. The best technic to determine this is by percussing along a perpendicular line a little to the right of the spine, then along the spine, and then along four other parallel lines to the left of the spine until one line coincides with the left margin of the liver, marking the points where the liver dulness commences. The outer limit of the left portion of the liver dulness is determined by percussing horizontally, from the axillary line inward to the mark corresponding to the left margin of the liver. The distance between this outer limit of dulness and the spine, along a horizontal line, if more than 4.5 or 5 cm., indicates enlargement of the left lobe of the liver. In one case recently, percussion by this technic showed that the left upper margin of the area of liver dulness was irregular and displaced, thus permitting the diagnosis of a circumscribed abscess in the liver which gave no other topographic hints of its presence. This percussion technic also shows the point where an exploratory puncture of the thorax can be made without danger of piercing liver tissue. Grocco thinks that this percussion technic should be adopted as an instructive and reliable routine diagnostic procedure.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 5-6, pp. 377-576. Last indexed May 6, p. 1371

124 Etiology of Paroxysmal Hemoglobinuria. L. Fejes.
125 *Diagnosis of Liver Disease. (Leberkrankheiten.) W. Frey.
126 Influencing of Lipoid Hemolysis by Albuminoids. (Die Beeinflussung der Lipoidhämolyse durch die Eiweissstoffe.) J. Kentzler.
127 Antitryptic Properties of Diabetic Blood. (Studien über das antitryptische Vermögen diabetischen Blutes.) E. Neisser and H. Koenigsfeld.
128 Cancer of the Pancreas. (Zur Klinik des Pankreaskarzinoms.) K. A. Heiberg.
129 Experimental Research on Kidney Fatigue. (Ueber Nierenermüdung.) L. d'Amato and V. Faggella.
130 *Experimental Coma. R. Ehrmann, P. Esser and A. Loewy.
131 *Serodiagnosis of Pregnancy. (Serumdiagnose der Schwangerschaft.) E. Rosenthal.
132 Non-Perforated Duodenal Ulcer. (Diagnose und Behandlung des Nichtperforierten Duodenalgeschwürs.) S. Kemp.
133 Unreliability of Serodiagnosis in Tuberculosis. (Die klinische Verwertung der serologischen Untersuchungsmethoden bei der Tuberkulose.) H. Lüdke and F. Fischer.
134 Determination of Total Stomach Content. Ueber die Bestimmung des Gesamtmageninhaltes.) A. Galambos.
135 *Standards for Estimating Size of Heart. (Einfache Massstäbe für die normale Herzgrösse im Röntgenbilde.) M. Levy-Dorn and S. Möller.

125. **Diagnosis of Disease of the Liver.**—Frey devotes fifty pages to discussion of this subject, tracing the fate of the carbohydrates in the body, the nitrogenous bodies, especially urea, ammonia and amino-acids, in connection with disease of the liver, or in pathologic conditions with the liver apparently intact. The metabolic findings in twenty-five patients with liver disease and eleven with healthy livers are tabulated. The general conclusions are to the effect that urobilinuria is frequent with liver affections but that it does not point to functional injury of the liver unless it is possible to exclude an abnormally low proportion of urobilin in the stools and an increased influx of urobilin-producing substances from destruction of blood. Alimentary levulosuria occurs in 10 per cent. of persons with sound livers and in 50 per cent. of those with diseased livers. It is especially frequent with cirrhosis of the liver, but does not constantly accompany it. The proportion of urea in the urine throws no light on conditions in the liver. The ammonia output is high with liver disease and very high in every case of cirrhosis, without exception, and when much meat has been eaten, or there is fever or disease of any kind tending to acidosis. The behavior of the amino-acids is an important aid in determining the functional capacity of the liver. With cirrhosis they are regularly increased (over 0.5 gm. N). The importance of this finding is enhanced by the fact that this anomaly was encountered, besides in cirrhosis, only in a case of amyloid liver and one of pronounced stasis in pneumonia, in typhoid, and in pancreas-diabetes in the dog. The patients with other liver disease seem to be able to take care of the ingested amino-acids as perfectly as the healthy.

130. **Experimental Coma.**—Ehrmann and Esser found that it is possible to induce coma similar in every respect to diabetic coma by feeding dogs with butyric acid or injecting it into a vein. Ehrmann discusses in particular the relations in this respect between sodium butyrate and the isobutyrate, and Loewy and Ehrmann the alkalinity and carbon dioxid content of the blood.

131. **Serodiagnosis of Pregnancy.**—Rosenthal presents evidence to prove that the antitrypsin reaction is merely the index for increased transformations of albumin. He examined the serum of fifty pregnant women to study this index and declares that the antiproteolytic action of the serum from otherwise normal women will reveal the presence or absence of pregnancy. He was unable to find a single case in which the antitryptic index was not abnormally high with existing pregnancy and a living fetus. This occurs almost with the onset of pregnancy, so that it is possible by this means to affirm the existence of pregnancy if the woman is healthy. The antitrypsin reaction is always positive with carcinoma, exophthalmic goiter, nephritis, also with fever, with certain gynecologic affections, for two or three weeks after childbirth and for a week after abortion; but if all these can be excluded then the positive reaction speaks for a pregnancy.

135. **Determination of the Size of the Heart.**—Levy-Dorn and Möller give the findings in 225 persons examined with a view to learn some simple physical standards for approximate estimation of the size of the heart in the individual. They found that the heart measures one and a half times the width of the fist across the joints. It also equals the width of the hand plus the length of the first phalanx of the middle finger. These measurements were always found a trifle less than 1 cm. larger than the heart. Fifty of the persons examined were under 20.

Zentralblatt für Chirurgie, Leipsic

May 13, XXXVIII, No. 19, pp. 661-692

136 Iodin Disinfection for Laparotomies. (Zur Joddesinfektion des Operationsfeldes bei Bauchoperationen.) C. Propping.
137 Cystoscopic Diagnosis of Bladder Syphilis. J. P. Haberern.

Zentralblatt für Gynäkologie, Leipsic

May 13, XXXV, No. 19, pp. 697-736

138 Myoglia Staining in Study of Structure of Myomas. F. Heimann.
139 Operative Treatment of Vesico-Vaginal Fistula. N. Wolkowitsch.
140 Vaginofixation. A. Uthmöller.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 4, XXXII, No. 54, pp. 571-578

141 *Suprarenal Syndromes. T. Silvestri.

May 7, No. 55, pp. 579-594

142 Comparative Tests of Tuberculin Reactions. R. Mosti.

141. **Suprarenal Syndromes.**—Silvestri reports the case of a boy of 5 with convulsions after apparent recovery from diphtheria. Following the convulsions was a condition of extreme weakness, the child being unable to stand, with much dizziness. Ascribing the trouble to insufficiency of the suprarenals, Silvestri gave epinephrin, hoping thus to counteract the influence of the diphtheria antitoxin on the suprarenals. The symptoms presented by the child resembled in many points the syndrome he had evoked in experimental research by abrupt suspension of suprarenal functioning. The results confirmed the accuracy of this view as rapid recovery followed. The analogy was striking between the cerebellar symptoms in this little patient and those in his laboratory animals after monocapsulectomy. In conclusion he mentions similarly successful organotherapy in a case of uncontrollable vomiting of pregnancy, although in this condition the entire system of ductless glands may be involved.

Policlinico, Rome

May 7, XVIII, No. 19, pp. 585-616

143 *Physiopathology of Atrioventricular Conduction. A. Ceconi.

May, Medical Section, No. 5, pp. 193-240

144 Exploratory Craniotomy for Pathologic Localizations in the Zone of Rolando. G. Finzi.
145 *The Signs of Organic Lesions in Epilepsy. F. Agosti.

143. **Normal and Abnormal Atrioventricular Conduction.**—Ceconi reviews the present status of knowledge in regard to the bundle of His.

145. **Signs of Organic Lesions in Epilepsy.**—Agosti reviews the ten different signs of special deficiency or disturbances in the cordination of movements liable to be observed in epilepsy, the special morbid reflexes, of which he cites eleven types, and the eleven types of phenomena showing involuntary associated movements with the voluntary. He then reviews his own experience with thirty epileptics. In ten there were unmistakable signs of a preceding brain affection, but in eighteen no trace of the kind could be discovered. In five others the epilepsy came on with some morbid condition and subsided with it later; there were no evidences of mental trouble in this group, but such were evident in thirteen other cases in which no causal factor could be discovered. He gives the details of six from this last group; in some the epilepsy was of recent onset and yet no signs indicating an organic lesion in the nervous system could be discovered. In one case the epilepsy developed at puberty and the seizures accompanied the menstrual periods. This patient's father had been a hard drinker and had died at 50 of heart disease.

Riforma Medica, Naples

May 8, XXVII, No. 19, pp. 505-532

146 *Ascites and Collateral Circulation. (Del circolo venoso suppletivo nei suoi rapporti colla comparsa dell'ascite, durante il decorso della cirrosi epatica.) S. Livierato.
147 Epinephrin Lesions of Blood-Vessels and Other Organs. (Studio delle lesioni adrenaliniche dei vasi sanguigni e di altri organi.) G. Vincenzo.

146. **Collateral Circulation in the Cure of Ascites.**—Livierato gives the history of a case of cirrhosis of the liver under observation for fifteen years with necropsy after intercurrent pneumonia. The patient was a man of 43 with much ascites and enlarged spleen but the liver was of normal size. Under restriction to milk, urea and potassium iodid the ascites was spontaneously reabsorbed and he had no further disturbances for nearly nine years, when the dropsy reappeared but subsided again under the same treatment. Necropsy disclosed an extensive deep collateral circulation, the mesenteric veins and others being much enlarged and amply draining away the effusions. The case teaches that ascites is not inevitable with interstitial hepatitis but that it may develop under the influence of an intercurrent pneumonia or other infection, from weakness of the heart, and disappear again as the heart regains tone.

Ugeskrift for Læger, Copenhagen

May 4, LXXIII, No. 18, pp. 631-662

148 *Obesity as Sign of Disease in Hypophysis Cerebri. A. Friedenreich.

148. **Obesity as a Symptom of Hypophysis Disease.**—Friedenreich reports two cases of extreme obesity and discusses the share of the hypophysis in it. The first patient was a woman of 42 who had complained for a year of pain in the head and back of the neck with other symptoms suggesting a tumor near the base of the brain, although there were no signs of restriction of the field of vision. The Roentgen-ray findings also suggested a tumor but necropsy showed that the atrophy of the sella turcica was the result of metastasis in the dura from a tumor in the frontal lobe. The hypophysis itself was not enlarged. The second patient was a young man, an imbecile from birth, very short and extremely obese. There were no indications of myxedema but there were other signs of infantilism and femininism, with hypoplasia of the genitals—all suggesting some disturbance in the functioning of the ductless glands. In eunuchs there is generally increased growth in height, and in only twelve of the thirty-two cases of hypophysis disease with obesity with necropsy findings on record is there any mention of atrophy of the genitals. His patient is in good physical health otherwise, and no changes in the sella turcica are apparent by radioscopy. The data cited, however, confirm the assumption that universal obesity may sometimes point to disease of the hypophysis. Radioscopy may prove misleading as the affection responsible for destruction of the sella turcica may be merely a consequence or complication of disease elsewhere.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

MERCK'S MANUAL OF THE MATERIA MEDICA. A Ready-Reference Pocket Book for the Physician and Surgeon. Containing Names of the Chemicals and Drugs Usual in Modern Medical Practice . . . Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage, Incompatibles, Antibodies, Precautionary Requirements, etc.; A Table of Therapeutic Indications. . . . and Miscellany, Comprising Poisoning and Its Treatment; a Comprehensive Dose Table of Chemicals, Drugs and Galenicals; Urinalysis and Examination of Urinary Deposits; Approximate Metric Equivalents and Various Useful Tables, etc. Fourth Edition. Cloth. Sent on receipt of 10 cents, in stamps, to physicians or medical students in United States. Pp. 493. New York: Merck & Co., 1911.

THE EYE, EAR, NOSE AND THROAT. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Volume III, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and C. L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 365, with illustrations. Chicago: The Year-Book Publishers.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery. By Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Volume VIII. Cloth. Price, $7. Pp. 1146, with 406 illustrations. New York: William Wood & Co., 1911.

STRUCTURE AND FUNCTIONS OF THE BODY. A Handbook of Anatomy and Physiology for Nurses and Others Desiring a Practical Knowledge of the Subject. By Annette Fiske, A.M., Graduate of the Waltham Training School for Nurses. Cloth. Price, $1.25 net. Pp. 221, with 83 illustrations. Philadelphia: W. B. Saunders Co., 1911.

AN INQUIRY AS TO AMEBIC DYSENTERY. An Inquiry as to Disturbing the Public Mind. Dysentery Statistics of the Philippine Islands. Filipino Emigration to the Territory of Hawaii. Some Philippine Diseases. The Most Congested Agricultural Population Known, Five Visayan Islands, P. I. By L. E. Pinkham, Manila. Paper. Pp. 46.

EIGHTEENTH AND NINETEENTH ANNUAL REPORTS OF THE BOARD OF MANAGERS AND SUPERINTENDENT OF THE SOUTHWESTERN INSANE ASYLUM, SAN ANTONIO, TEXAS. For Fiscal Years Ending Aug. 31, 1909, and Aug. 31, 1910. Paper. Pp. 118. Dr. J. R. Nichols, Superintendent, 413-414 Scarbrough Building, Austin, Texas.

THE UNCAUSED BEING AND THE CRITERION OF TRUTH. To Which is Appended an Examination of the Views of Sir Oliver Lodge Concerning the Ether of Space. By E. Z. Derr, M.D., Author of "Evolution versus Involution." Cloth. Price, $1 net. Pp. 110. Boston: Sherman, French & Co., 1911.

MEDICAL REVOLUTION. A Plea for National Preservation of Health Based on the Natural Interpretation of Disease. By Sydney W. Macilwaine, M.R.C.S., L.R.C.P. (Retired). Cloth. Price, 2 shillings 6 pence. Pp. 162. London: P. S. King & Son, Orchard House, Westminster, 1911.

SPIROCHETES. A Review of Recent Work with Some Original Observations. By W. Cecil Bosanquet, M.A., M.D., Fellow of the Royal College of Physicians, London. Paper. Price, $2.50 net. Pp. 152, with 90 illustrations. Philadelphia: W. B. Saunders Co., 1911.

EIGHTY-FOURTH ANNUAL REPORT OF THE DIRECTORS OF THE GENERAL HOSPITAL SOCIETY OF CONNECTICUT. For the Year 1910. Presented at the Annual Meeting, Jan. 26, 1911. Paper. Pp. 48. New Haven: The Tuttle, Morehouse & Taylor Co., 1911.

THE EVOLUTION OF URINE ANALYSIS. An Historical Sketch of the Clinical Examination of Urine. Lecture Memoranda, American Medical Association, Los Angeles, 1911. Leather. Pp. 248, with illustrations. New York: Burroughs Wellcome & Co.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By Gwilym G. Davis, M.D., Universities of Pennsylvania and Göttingen. Third Edition. Cloth. Price, $1 net. Pp. 128, with 164 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

MEMORIAL PAMPHLET. Published by Dr. Shiugo Hashimoto, San Francisco, in honor of his Ancestor Koshoken, an Explorer, Surgeon and Physician of Japan During the Period of Seclusion. Paper. In Japanese. Illustrated.

THIRTY-THIRD ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH, AUGUSTA, GA., 1911. For the Fiscal Year Ending Nov. 30, 1910. Paper. Pp. 80. S. C. Wilson, Secretary, Augusta, Ga.

PROCEEDINGS OF THE CANAL ZONE MEDICAL ASSOCIATION. For the Half-Year, 1910. April, 1910, to September, 1910. Paper. Pp. 150, with illustrations. Dr. John W. Ross, Secretary.

EDUCATION AND PREVENTIVE MEDICINE. By N. E. Ditman, Ph.D., M.D. Paper. Price, 25 cents. Pp. 73. New York: Lemcke & Buechner, 1911.

ACCESSORY AFTER THE FACT. By William A. Hobday. Cloth. Price, $1. Pp. 153, with illustrations. Boston: C. M. Clark Publishing Co., (1911).

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THE MENINGEAL FORMS OF EPIDEMIC POLIO-ENCEPHALOMYELITIS

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Much has been written about the recent epidemic of poliomyelitis. Attention has been directed to many anomalous and rare types, and our general knowledge of the disease has received a tremendous extension. At the same time, however, not enough emphasis has been laid on certain forms which are probably much more frequent than has been supposed, and which in many individuals run a mild course, and are frequently overlooked, or entirely misinterpreted.

These are the meningeal types. When severe, they are mistaken for epidemic cerebrospinal meningitis, and their occurrence has in large part given rise to the notion that poliomyelitis epidemics follow those of cerebrospinal meningitis. Wickman[1] has discussed this supposed relationship in a thoroughly critical manner. Many are fatal, while again, others may be grouped with the abortive types of poliomyelitis, concerning which latter we have much to learn.

The Report of the Poliomyelitis Committee[2] has little to say regarding the rarer and anomalous types. Being a general report from practitioners, it would not be apt to represent the more intensive study of the disease, as has been done by E. Müller[3] in his recent monograph, or by Wickman[4] in his excellent series of studies of the Swedish epidemic.

The clinical foundations laid down by Medin in his unusually careful study of the disease have only recently received their full recognition by his fellow countryman Wickman.



SOME OF THE SECTION OFFICERS

The latter author recognizes with reason at least eight fairly definite types of the disease, all of which have come under my observation. These types are as follows:

1. *The Spinal or Poliomyelitic Form.*—This is the usual type with its rich and varied symptomatology.

2. *The Acute Ascending or Descending Types.*—These correspond to the Landry paralysis type, also seen in

1. Wickman: Bull. et mém. Soc. méd. d. hôp. de Paris, 1909.

2. Epidemic Poliomyelitis, Report of New York, 1907, Epidemic, Nervous and Mental Disease Monograph, No. 6.

3. Müller, E.: Die spinale Kinderlähmung, 1910.

4. Studien über Poliomyelitis, 1905; Ueber die Prognose, Ztschr. f. klin. Med., 1907; Beitrag. zur Kenntnisse der Heine-Medinsche Krankheit, 1907; Ueber die akute Poliomyelitis, Jahrb. f. Kinderh., 1908; Sur les prétendues relations entre le poliomyélite, etc., Bull. et mém. Soc. méd. d. hôp., 1909; Weitere Studien, Deutsch. Ztschr. f. Nervenkr., 1910; Ueber akute Poliomyelitis und Polyneuritis, Ztschr. f. d. ges. Neurol. u. Psychol., 1910; 82 Versamml. d. Königsberg, 1910; Die akute Poliomyelitis, Handbuch der Neurol., 1911.

some hydrophobias and certain neuritides, and which are usually, though not invariably, fatal.

3. *The Bulbar or Pontine Forms.*—In these the bulbar or pontine nuclei are most prominently affected. Here belong many central facial palsies, isolated eye palsies, palsies of the larynx and pharynx. Many of the fatal cases are such because of the medullary involvements. Medin and Oppenheim, respectively, have studied the bulbar and pontine forms.

4. *The Encephalitis Form.*—Strümpell has studied this type in particular. While apparently rare in our New York epidemic, nevertheless it occurred.

5. *The Ataxic Form.*—This is usually a predominantly cerebellar type, and has been seen in only a few instances.

6. *Neuritic or Neuritis-Like Form.* — This is an admittedly difficult type to diagnose, but inasmuch as neuritis is usually rare in children—excepting diphtheria —its occurrence at the time of an epidemic should throw light on the diagnosis.



7. *The Meningitic Form.*—This will form the subject-matter of this short communication.

8. *The Abortive Forms.*—Wickman roughly estimates that these constitute 15 to 20 per cent. of all the cases, and Müller regards them as occurring more frequently than all the other forms. If Müller's position be true, we have an intensely practical problem before us. It will be imperative for us to devise rapid and accurate methods of diagnosis of these abortive cases if an epidemic is in progress, and prophylactic measures must be put into operation to prevent the spread of the disease through these abortive cases. That they can be the direct means for the communication of the disease has been abundantly proved by most modern students of the disorder, more particularly by Wickman and by Müller.

THE MENINGITIC FORM

In epidemic poliomyelitis of the spinal type the spinal and cranial meninges are almost invariably affected. This one fact has come out with striking prominence in all of the recent studies. The notion that the disease is a toxemia affecting the anterior horn cells, taught by Charcot and repeated in our text-books, must be absolutely dismissed. Poliomyelitis is an acute infectious disease with a meningomyelitis as its most fundamental pathologic foundation.

Hence, practically all of the patients will show some signs of meningeal involvement in their early stages. Irritative phenomena of the spinal nerves, with hyperesthesia, tenderness, irritability, restlessness, etc., are the most frequent signs of this spinal meningitis, whereas photophobia, hyperacusis, headache, somnolence indicate the implication of the cerebral meninges.

Those patients, however, who show much more marked meningeal symptoms than spinal, and in whom both exist, with greater prominence of the former, may be said to be suffering from the meningeal form of the disease.

SYMPTOMS

The chief signs in the meningeal forms vary, in their initial stages, from those of the spinal type, only in the matter of greater severity. There is headache, nausea and vomiting, slight photophobia with hyperacusis, pains in the neck and back, stiffness of the neck, rigidity of the muscles of the vertebral column, opisthotonos of milder or severe grade, Kernig's sign, tonic or clonic convulsive movements; somnolence and even unconsciousness. The temperature runs a non-characteristic course.

While in the ordinary spinal type the disease develops in classical fashion, in the meningitic form it may recede rapidly, and beyond the possible occurrence of transitory or permanent eye palsies nothing remains. In some cases death ensues with the development of stormy symptoms.

In the Vienna epidemic of 1908-1909, Spieler observed at least eight meningeal forms in a series of forty-four cases; in four of these the picture resembled tuberculous meningitis so very closely as to be diagnosed only late in the disease. Spieler describes some of his cases in a very characteristic manner. The cases very frequently have a comparatively lengthy prodromal period, with beginning change in mood, fatigue, nightly unrest with frequent outcries, occasional vomiting with obstipation,

suggestive of a beginning basilar meningitis. Then, in children, convulsions suddenly occur, marked stiffness of the neck, irregular pulse, Kernig's sign, increasing patellar reflexes which usually diminish later, facial pareses, strabismus, general hyperesthesia, vasomotor disturbances and atypical facies cerebralis. At this period the lumbar puncture will show lymphocytosis, but no purulent exudate. In the favorable cases the symptoms then begin to recede, the temperature falls to normal, the irritative phenomena diminish, and there may develop a number of the palsies characteristic of the spinal form.

Netter found the meningitic form comparatively frequent in the Paris epidemic, and it is not at all unlikely that in the epidemic of cerebrospinal meningitis of 1905-6 in New York many cases of poliomyelitis went under the guise of a meningitis.

The following case history is representative of a group of cases which have been observed by me in the recent epidemic. I am indebted to Dr. F. C. Lewis of Lakewood for the privilege of seeing the patient in consultation.



CASE REPORT

History.—The patient, Mrs. H. C., aged 29, a healthy, strong woman, mother of three healthy children, had been perfectly well all summer. August 31 she was attending a county fair in upper New York. Toward the latter part of the afternoon she began to feel tired, found it difficult to walk, and complained of a severe headache. On the way home from the fair she was very tired. Notwithstanding some headache the patient slept fairly well that night on arriving at home. The next day she felt ill, was very dizzy, had some nausea and vomiting, and toward evening noted that she could not see so well as formerly. She had severe headache, her neck felt very stiff, she had nausea and vomiting and considerable hyperesthesia. The next day she saw double, was very dizzy, could not stand up, was nauseated and vomited, had much pain in the head and back of the neck and was very stiff in the neck and shoulders. The bladder and rectum were uninvolved. She was first seen by Dr. Lewis, Sept. 4, 1910. She then had grown steadily worse. The temperature was 100 F., pulse 120, small and regular. The headache was intense, chiefly suboccipital. There was a marked nystagmus, and palsy of the external rectus.

Examination.—I saw the patient the next day. She was then confined to bed, had a severe headache, head painful on percussion, and on movement. She was nervous and irritable, had marked photophobia, hyperacusis, some lethargy and drowsiness. The temperature was 102 F., pulse 120. Examination of the cranial nerves was negative, save in the following particulars. The movement of the eyes to the right was limited; the left eye was in a slightly external and upward position, and the left eyelid showed slight ptosis, and moved slowly. There was distinct nystagmus. There was distinct miosis, and the pupillary light and accommodation reactions were markedly diminished. The pupils were almost immobile. There were no other palsies, save at times a slight flattening of the right nasolabial fold. The upper extremities showed no atrophy, hypertrophy, spasm or hypotonus. The reflexes were present and equal, and there were no sensory disturbances. The trunk showed no abnormalities, the reflexes were present. The lower reflexes showed no anomalies save weakness, slight diminution in the knee-jerks, the left being absent, and no sensory disturbances. No positive Kernig. The vomiting had ceased.

Course of Disease.—The day following the temperature had dropped to normal, and improvement began. There was some loss of power of convergence, and the patient's attempts to look at her nose—and also psychic attempts to look at close objects—developed nystagmus.

September 7, pains and nystagmus had diminished: eye palsies about the same. There was muscular twitching this day and thereafter, and marked dizziness on looking downward.

From September 8 to 12 improvement was gradual. The head remained heavy but did not ache. The temperature remained normal. She still had diplopia and occasional nausea and vomiting.

September 16, the patient was able to be up and about for a time. She was easily fatigued. The ocular palsies were somewhat improved but still remained evident. Vision was normal for either eye alone.

Whereas the chief palsies here belonged to the oculomotor group, the appearance of the patient strongly resembled that of a meningitis patient. It was at first thought that this was the disorder, since it was learned that about seven to ten days previously the family had been visited by a male acquaintance who had been visiting a family across the mountain, four miles distant, where there were reported to be two children suffering from epidemic cerebrospinal meningitis.

Later investigation revealed that the children had poliomyelitis, being two links in the chain of epidemic extension of this disease in its ascent up the Hudson river and Champlain valleys.

The diagnosis, I believe, was one of the meningeal forms of poliomyelitis, the permanent or semipermanent palsies being those of the mid-brain. Had it not been for the marked meningeal signs one could just as well arrange it with the mid-brain types so well written on by Williamson, or the oculomotor types described by Stephenson.

THE URINE IN A CASE OF ACROMEGALY

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In a female patient suffering from well-marked and typical acromegaly of four years' duration, a constant excretion of creatin has been observed. The excretion varied from a minimum of 52 mg. to a maximum of 500 mg., the average excretion being between 100 and 150 mg. a day. The great variation in the amount of daily excretion is undoubtedly largely due to the impossibility of obtaining satisfactory twenty-four-hour samples, the patient being up and about during the whole period of observation.

TABLE 1.—TOTAL DAILY OUTPUT OF NITROGEN, CREATININ AND CREATIN

Date	Diet	Quantity in 24 Hours, c.c.	Total N, gm.	Creatinin, mg.	Creatin, mg.	Creatin, % of Total Creatinin
2/2	Bread and milk..	630	7.258	380	105	21.68
2/3	Bread and milk..	660	8.767	343	112	24.61
2/6	Bread and milk..	980	.....	559	500	47.21
2/7	Bread and milk..	385	.....	385	104	21.27
2/8	Bread and milk..	425	.....	391	86	18.03
2/22	Full diet	1,170	9.589	866	164	15.92
2/23	Full diet	585	4.011	369	87	19.08
2/24	Full diet	1,040	6.811	572	52	8.32
2/25	Full diet	1,010	7.000	626	111	15.06
2/26	Full diet	800	7.200	544	176	24.44
2/27	Full diet	900	3.843	333	63	15.91
2/28	Full diet	765	5.076	434	91	17.31
3/1	Full diet	290	2.977	287	80	21.80
3/2	Full diet	600	3.990	462	*	.....
3/20	Full diet	1,250	.....	463	399	43.97
3/23	Full diet	500†	.....	375	120	25.00

* Not estimated. † Six-hour sample.

The daily output of total nitrogen, creatinin and creatin is given in Table 1. The creatinin and creatin were both determined by the Folin method; total nitrogen by the Kjeldahl method.

From these figures it can be seen that there was a constant excretion of creatin during the period in which the patient was under observation; that this excretion, while not constant, tended to constitute about 20 per cent. of the total creatinin determined, and that the average output was not influenced by the change from a bread-and-milk to a full diet.

Three determinations of the distribution of the total nitrogen excreted were also made, the first two with the patient on a bread-and-milk, the third on full diet. The results are given in Table 2. The only abnormalities noticed are the low figures obtained for creatinin and the apparent tendency to a high value for the undetermined nitrogen.

The observation of the excretion of creatin in a case of acromegaly seems particularly interesting in view of the recent finding by Krause[1] of a constant excretion of creatin in human diabetes mellitus and in phlorhizin glycosuria in dogs. Krause is inclined in these cases to associate the excretion of creatin with the deprivation of carbohydrates in the food, a condition which Cathcart[2] has shown leads to creatin in the urine. Cushing[3] has recently drawn attention to the close relation of the secretion of the posterior lobe of the pituitary gland to the storage of carbohydrates. The frequency of glycosuria in acromegaly, a condition resulting probably from the hyperactivity of this gland, has long been known. In our patient there was, however, no lack of carbohydrate in the food, nor was there apparently any diminished tolerance for carbohydrates, the ingestion of 100 gm. of glucose on two occasions leading to no appearance of sugar in the urine.

Other conditions in which creatin has been discovered in the urine are starvation, carcinoma of the liver, pro-



1. Krause, R. A.: The Excretion of Creatin in Diabetes, Quart. Jour. Exper. Physiol., 1910, iii, 289; Jour. Physiol., Proc. Physiol. Soc., July 9, 1910.
2. Cathcart, E. P.: Jour. Physiol., 1910, xxxix, 311.
3. Cushing, H., and Goetsch, E.: Am. Jour. Physiol., 1910, xxvii, 60.



John B. Murphy

PRESIDENT AMERICAN MEDICAL ASSOCIATION, 1911-1912.

gressive muscular dystrophy and pregnancy. All these conditions, except the last, are associated with varying degrees of emaciation and loss of muscle-tissue, which may well be the cause of the creatinuria. My patient, during the two months she has been under observation, does not appear to have lost weight, but, on the contrary, is, in her own opinion, stouter.

Benedict and Myers[4] have pointed out the possibility of the changing of creatinin into creatin by the action of bacteria in the urine. As I had already found in this urine organisms capable of changing nitrates into nitrites and hippuric acid into benzoic acid and glycocoll, I thought it possible that the presence of creatin was due to such a bacterial action. Such an origin for the creatin was, however, eliminated, as samples of the urine incubated at 35 c. for twenty-four hours showed no increase in the creatin present, nor did inoculation with the patient's urine and subsequent incubation produce creatin in creatin-free urine.

There was also found in the urine of this patient a reducing substance, the nature of which I have as yet been unable to determine. This substance reduces Nylander's solution in a typical manner, Haines and Fehling's atypically. It does not ferment and never yields an osazone. The orcein and phloroglucin reactions are negative, as is also Bial's test for pentoses. On several occasions a furfurol reaction was obtained, but this was never sufficiently strong to justify the assumption that the reduction was due to glycuronic acid compounds. The reducing substance is completely precipitated by basic, partially by neutral lead acetate. On extracting the urine with ethyl acetate it entirely disappears, neither residue nor distillate showing any reduction. The urine is faintly levorotatory.

Whether the excretion of creatin in acromegaly is a constant occurrence, and what its significance may be, remains, of course, still to be determined. I have, however, thought its occurrence in this one case worth recording.

TABLE 2.—DISTRIBUTION OF TOTAL NITROGEN EXCRETED ON A BREAD-AND-MILK DIET AND ALSO ON A FULL DIET

Date	Diet	Amount, c.c.	Total N. gm.	Urea N.	N as NH_3	Uric Acid N.	Creatinin N.	Undetermined N.
2/2	Bread and milk..	940	7.258	5.705 gm.	0.309 gm.	0.151 gm.	0.204 gm.	0.889 gm.
				77.76 %	4.21 %	2.05 %	2.79 %	12.39 %
2/9	Bread and milk..	980	8.767	7.467 gm.	0.455 gm.	0.194 gm.	0.177 gm.	0.474 gm.
				85.16 %	5.19 %	2.22 %	2.02 %	5.23 %
2/22	Full diet	1,170	9.589	7.405 gm.	0.654 gm.	0.255 gm.	0.322 gm.	0.953 gm.
				77.22 %	6.80 %	2.65 %	3.36 %	9.97 %

I wish to express my thanks to Dr. Graham Chambers for his kindness in allowing me to examine the urine of his patient, and to Prof. J. B. Leathes, under whose direction this work has been carried on. The clinical excerpts of the case will be reported independently.

4. Benedict, F. G., and Myers, V. C.: Am. Jour. Physiol., 1908, xviii, 397.



A CASE OF PRIMARY ENDOTHELIOMA OF THE GREAT OMENTUM *

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The occurrence of primary sarcoma of any form in the omentum is so rare that Bonamy and Bonamy[1] in 1908 were able to collect reports of but sixteen well-authenticated cases. In these, eleven of the tumors were spindle-celled, one was round-celled, three were myxosarcomata and one a fibrosarcoma. Cobb[2] two years earlier had been able to collect reports of fourteen cases, four of which were not in the list given by the Bonamys. Since then reports by Conforti[3] (four cases), Marcialis,[4] Lichkus[5]

* Presented before the Pathological Society of Philadelphia, March 23, 1911.

1. Bonamy, R., and Bonamy, E.: Rev. de gynéc. et de chir. abd., 1908, xii, 285.
2. Cobb: Ann. Surg., 1906, xliv, 16.
3. Conforti: Centralbl. f. allg. Path., 1906, xvii, 817.
4. Marcialis: Riforma med., 1909, xxv, 1328.
5. Lichkus: Russk. Vrach, 1909, viii, 39.

and Frew[6] have been made. Many of the earlier reports are lacking in detail and it is difficult to draw conclusions from the few in which important differential points are mentioned.

Clinically the condition appears to affect the white race most commonly, only one exception being recorded, the case of Frew occurring in a Chinaman. In twenty-eight cases sex has been mentioned, twenty-one being in females, seven in males. In twenty-seven cases in which age was indicated, two patients were in the first decade, one in the third, ten in the fourth, seven in the fifth, six in the sixth, one in the seventh. Even with this small number of cases it seems safe to say that the disease affects females more commonly than males and appears particularly in the fourth, fifth and sixth decades of life, that is, between 31 and 60 years of age. Sacconaghi and Plitek[7] give the symptomatology very concisely. I enlarge somewhat in view of the details found in individual reports. The onset is insidious, the duration variable (indefinite reports, but about three months to three years), cachexia not marked, anemia moderate,



Fig. 1.—Drawing with Spencer No. 8 ocular and 4 mm. objective, showing large cells with large vesicular nuclei and a protoplasm which often takes the stain so poorly as to appear vesiculated. Note the perivascular "combing" of the cells.

wasting gradual and not severe, vague gastro-intestinal disturbance sometimes closely simulating chronic intestinal obstruction, occasionally adherence of omental mass to liver simulating enlarged liver, moderate ascites (usually clear but sometimes blood-tinged), slight edema of lower extremities, occasionally distention of superficial abdominal veins, vague abdominal discomfort rather than pain, death from asthenia.

Sacconaghi says that "it is impossible from the literature to make any pathologic-anatomic distinctions" and I agree to this. It may be said, however, that grossly the tumor is often massive, although occasionally it is flat, "platelike" in character. The case of Hasbrouck[8] was cystic. Metastasis is uncommon and invasion of other structures by direct extension is not wide-spread. The histologic reports show all varieties of sarcoma but in the later reports the large round-cell and endotheliomatous sarcomata seem to be more frequent and show much the same richness in blood-vessels and perivascular arrangement seen in the subject of the present communication. The rich blood-supply, however, is not confined to these types of tumor but is also seen in the spindle-cell forms and in two instances true perithelioma (perithelial angiosarcoma has been seen.[3], [9] In this respect it is interesting to note that one of the earliest records, that of Fränkel and Kaufmann,[10] was diagnosed as myxosarcoma telangiectodes hæmorrhagicum.

The purpose of this report is to add one more case to a number at the present time too small for satisfactory and conclusive statistical study.

REPORT OF CASE

Patient.—Mrs. P. B., female, white, married, aged 64. Private patient of Dr. George Lewis Smith, of Germantown, to whom I am much indebted for the privilege of using the clinical notes. Family history is negative throughout. Previous personal history shows little except the occurrence in early adult life of pulmonary tuberculosis which, however, was cured. The illness from which she died appeared to have its origin about four months before her death. She complained of indigestion and discomfort in the abdomen. The discomfort became a pain of moderate severity and the indigestion later was accompanied by nausea, vomiting and alternating attacks of severe constipation and moderate diarrhea. The constipation when present was so marked that the patient insisted that she had intestinal obstruction.

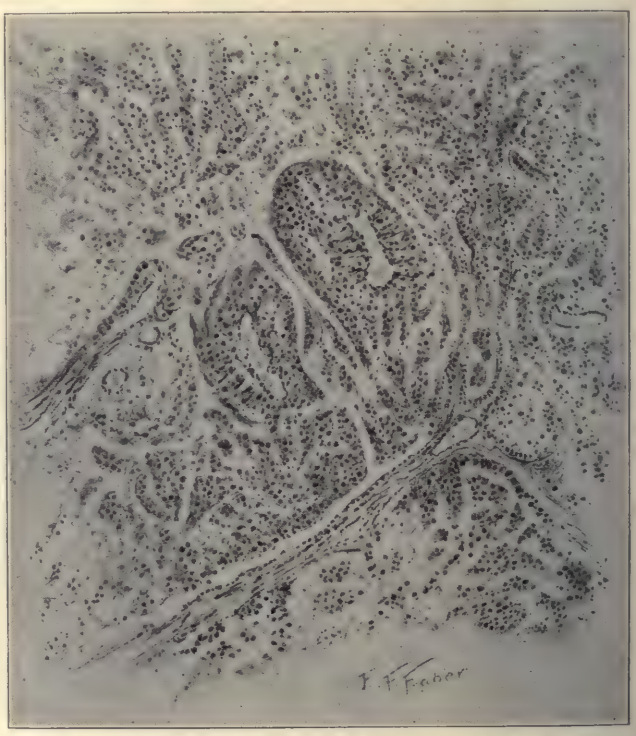


Fig. 2.—Drawing with Spencer No. 8 ocular and 16 mm. objective, showing general arrangement of vascularized trabeculæ and central cellular masses which also are vascularized.

Physical Examination.—This showed moderate wasting but no definite appearance of cachectic color. The chest examination was negative. Examination of the abdomen showed slight diminution in the size of the liver and a distinct but moderate ascites. The lower extremities were negative except for slight

6. Frew: Transvaal Med. Jour., 1907-8, iii, 127.
7. Sacconaghi and Plitek: Anleitung zur Diagnostik der Abdominaltumoren, Berlin, 1910.
8. Hasbrouck: Washington Med. Ann., 1907-8, vi, 364; Ann. Surg., 1908, xlviii, 206.
9. Nash: Lancet, London, 1911, i, 17.
10. Fränkel and Kaufmann: Arch. f. Gynäk., 1889, xxxxi, 399.

edema toward the termination of the disease. These findings were concurred in by Dr. Smith and Dr. J. H. Musser.

Examinations of Urine, Blood and Feces.—By Dr. George Morris Piersol. Urine: Amber, cloudy, flocculent, acid, 1.022; faint trace of albumin by Heller test and ferrocyanid test; faint trace of albumose; no sugar; excess of indican; no bile pigments; trace of urobilin; no acetone or diacetic acid. Microscopically there were many leukocytes and epithelial cells; no casts.

Blood: Hemoglobin 70 per cent. (Tallquist); 3,830,000 erythrocytes; 7,200 leukocytes.

Feces: Thin, watery, light brown, offensive, faintly acid, hydrobilirubin, well-digested muscle fiber, no muscle nuclei, small amount vegetable fiber, much mucus and pus, no blood, occult blood or parasites. Further examination gave negative results.

Sputum: Negative for tubercle bacilli.

Necropsy.—This (by H. T. K.) was performed six hours after death. With the aid of the subsequent histologic examination, the following anatomic diagnoses have been made: Vesicular emphysema, healed tuberculosis, passive congestion of lungs; chronic focal fibrous pericarditis; brown atrophy of heart, chronic interstitial myocarditis; sclerotic-aortic, mitral, tricuspid valvulitis; simple (non-luetic) arteriosclerosis; perilobular fibrosis, passive congestion, fatty degeneration of liver; chronic fibrous cholecystitis, cholelithiasis (not demonstrably obstructive); chronic atrophic gastritis; chronic catarrhal enteritis; senile atrophy of spleen; chronic interstitial nephritis, nephrolithiasis, chronic catarrhal pyelitis; chronic interstitial pancreatitis with slight fat infiltration; endothelioma of omentum. The abdominal cavity contained about one liter of clear limpid yellow fluid; intestines were much distended with gas; transverse colon was markedly ptosed. The great omentum was densely adherent in the pelvic cavity and was diffusely thickened throughout its entire extent by the presence of a large number of spherical, generally discrete but sometimes confluent, mottled red, gray and purple, relatively firm nodules measuring from 3 mm. to 15 mm. in diameter, and averaging about 1 cm. The omentum formed a flat mass measuring 17 by 14 by 2 cm., and showing a smooth, glistening, transparent surface except where adherent to bladder, rectum and small intestine. The cut surface showed the nodules to be mottled red, purple and white, generally firm, slightly bulging, slightly bleeding, and with a few pin-head-sized areas of necrosis. Extension of the process to the gastrocolic omentum, gastrosplenic ligament, to a slight degree to the small intestine and mesentery and to the colon, especially in the epiploic appendages, was noted.

Histologic Examination.—There is found a network of connective tissue, giving the tumor a somewhat alveolated appearance. This is richly vascularized and apparently serves as the basis for outgrowth of the cells into the spaces. They are arranged in chains and multiple layers. As a rule, there is extensive necrosis in the center of the alveoli, but in numerous fields the central areas are found to have thin-walled blood-vessels from which the cells "comb out" in a typically sarcomatous fashion. The tumor cells are large, polygonal, rich in protoplasm and contain as a rule a single, large, vesicular round or oval nucleus. In some cases the nuclei are multiplied within a cell so as to overlap one another. Some few of the cells show apparent vacuolation of their protoplasm, which on more careful study is seen to be simply a lack of condensation in contrast with other areas of greater density.

The various features are illustrated in the accompanying drawings.

Diagnosis: Endothelioma of great omentum.

The Entry of Bacteria into the Lungs.—In a report made to the Philosophical Society, Cambridge, England, on experiments as to the entry of bacteria into the lungs (abstract in *Nature*, March 16), Drs. Cobbett and Graham-Smith announced that if *B. prodigiosus* were placed in the mouths of very young guinea-pigs it could be detected in the lungs examined a few minutes later. They assume that this affords an explanation of tuberculosis in animals fed with tubercle bacilli in many experiments, and invalidates certain conclusions which have been deduced as to the usual path of infection in this disease.

A NEW AIR-WATER SPHYGMOMANOMETER

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Realizing the excessive number of sphygmomanometers already on the market, I felt some trepidation in designing the sphygmomanometer to be described. It was only after I had convinced myself that the very multiplicity of types was due to their faults and limitations, that I had the present model constructed.

Sphygmomanometers are mainly of two types: (1) the mercury manometers; (2) the spring manometers.

1. The disadvantage of the mercury manometer is chiefly the loss or distortion of the pulse-wave during transmission to the instrument. Either no pulsation is obtained, or at best there is a slow oscillation, entirely distorted in both character and duration by the inertia of the mercury. The truth of this statement can be readily proved by connecting rubber-tubing to the

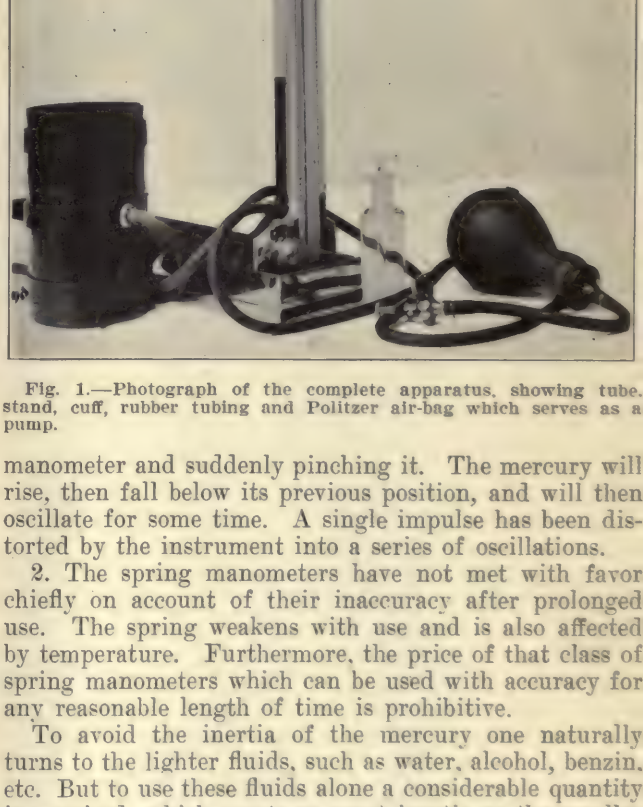


Fig. 1.—Photograph of the complete apparatus, showing tube, stand, cuff, rubber tubing and Politzer air-bag which serves as a pump.

manometer and suddenly pinching it. The mercury will rise, then fall below its previous position, and will then oscillate for some time. A single impulse has been distorted by the instrument into a series of oscillations.

2. The spring manometers have not met with favor chiefly on account of their inaccuracy after prolonged use. The spring weakens with use and is also affected by temperature. Furthermore, the price of that class of spring manometers which can be used with accuracy for any reasonable length of time is prohibitive.

To avoid the inertia of the mercury one naturally turns to the lighter fluids, such as water, alcohol, benzin, etc. But to use these fluids alone a considerable quantity is required, which exerts as great inertia as the smaller quantity of the heavier liquid, mercury. Consequently, to use only a few cubic centimeters of these lighter fluids, we must use them working against some resistance. The simplest and most elastic resistance obtainable I believe to be air compression. This principle—the compression of an enclosed column of air by a few cubic centimeters of water—is utilized in my instrument.

A glass tube of the shape shown in Figure 2 is used. The tube is filled with water until the level indicated in the illustration is reached. The stop-cock is then closed and we have an enclosed column of air above the fluid. This column of air

can be compressed by the fluid and the degree of compression can be ascertained from the scale. Pressure from the cuff is exerted on the fluid at *A*, which causes the fluid at *B* to rise until the air-pressure in the tube *C* is equal to the pressure in the cuff. This pressure may be then read off on the scale.

The bulb *A* acts as a reservoir for the fluid, while the bulb *D* acts as a reservoir for the compressed air, allowing the liquid to rise the entire length of the tube in recording pressures up to 300 mm. of mercury. These two bulbs allow of the use of a larger and hence more accurate scale than if straight tubes were used.

The rest of the apparatus is as simple as possible.

1. The cuff consists of a cloth reenforced rubber bag 12 cm. wide, closed by three rapid adjustable straps. A metal plug joins the bag with the rubber tubing.

2. The pump consists of an 8-ounce Politzer bag.

3. A metal "T" tube with stop-cock and needle-valve escape for gradually releasing the pressure. The stop-cock allows the air-pump to be disconnected, giving direct communication between the cuff and the instrument.



Fig. 2.—Diagram showing the glass tube of the water sphygmomanometer. A, bulb partially filled with water on which pressure is exerted by a column of air in the tube leading from the cuff. B, level of water in upright calibrated tube C, which contains air above. D, bulb in the tube C to contain the air as the water rises. At the top of the tube is a cock for closing the tube after the water is put in below.

4. The rubber tubing is heavy enough to prevent any loss of pulsation by distention of the rubber.

The advantages of the instrument are:

1. Sensitiveness. A few c.c. of water constitute the only moving part; hence there is practically no inertia. The transmission of the pulse-wave is immediate and its character is unchanged. Irregularities of the pulse are readily seen and the pulse-force may be estimated. Systolic pressure can usually be read off directly by merely watching the change in pulsation of the fluid as the pressure is gradually lowered. Furthermore, by feeling at the wrist the pulse can be sooner detected by feeling the first few throbs occurring synchronously with the pulsation in the tube. Higher, but more accurate, systolic readings are thus obtained. Similarly, the diastolic pressure can be obtained by observing at what pressure maximal pulsations occur in the tube.

2. Simplicity. Air and water constitute the only moving parts. There is nothing to wear out, hence the apparatus is permanent.

3. Accuracy. Each manometer is individually calibrated against a mercury manometer.

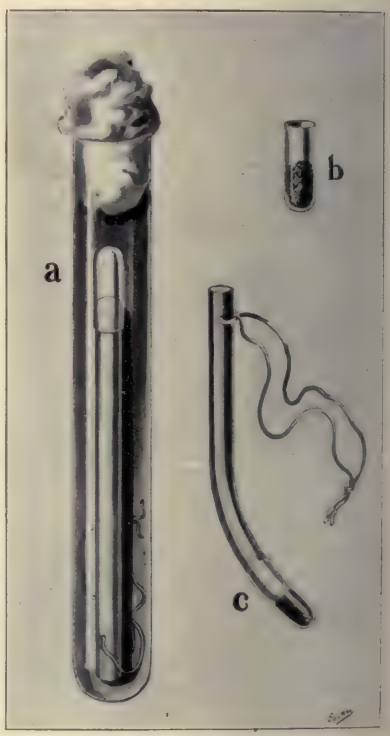
103 West Eighty-First Street.

Heredity, Growth and Decay.—"Heredity is a reality, but is not so definite or so mechanical as is generally supposed. Nutrition is responsible for much that passes for heredity. Only after its effects have been definitely ascertained can the real mechanism of heredity be understood. Why, for example, does each organism reach maturity and finally sink into old age? Is there a determent in the germ cell that when active checks growth? Does the mechanism of life run progressively to a certain point and then refuse to act? Or is maturity merely a state of maximum nutrition and old age a running down because nutrition fails? To state the problem in another way: Does a given organ cease to grow because the possibilities of its inherited mechanism have become exhausted, or does growth end because nutrition fails when the energy of the organism is turned in other directions? The latter is, I believe, the sounder view." (From Patten's "The Social Basis of Religion," New York, 1911.)

THE COMBINED USE OF TENTS AND INTRA-UTERINE MEDICATION

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Dilatation of the uterus by means of tents and treatment by intra-uterine applications made up a very large part of the gynecologic therapeutics of a former generation. Both of these measures have fallen into almost universal disuse; the tent, although of great diagnostic and therapeutic value, having been discarded because of the frequent disabling, not to say, fatal metritis, salpingitis, and peritonitis, which, even under the most careful and judicial handling, occasionally followed its use. The old routine intra-uterine applications as used in the office or in the patient's house were condemned, not only because they were generally useless, but also and more especially because they were dangerous and sometimes destructive. Since these measures have been relegated to the dark ages of gynecology, we have for the most part put in place of them forcible dilatation by means of steel instruments, and curettage under anesthesia. Forcible dilatation popularized by our late fellow, Goodell, and others, undoubtedly has wide usefulness when used with care and judgment. Even in the hands of the incompetent and careless practitioner it will be less hazardous than the old routine treatment, because it rises to the dignity of a surgical operation and is, therefore, presumably always undertaken with aseptic conditions and because it is not so frequently repeated. Forcible dilatation is transient in its effect, and, therefore, not always adequate; furthermore, if carried far enough to permit intra-uterine digital touch, which is often desirable, serious rupture of the uterus might result. The intra-uterine application of iodin or other substances usually, since it does not reach thoroughly the uterine mucosa, especially the uterine glands, gives disappointing results. Any measure, therefore, that will safely prolong the dilatation and bring the application effectively in contact with the mucosa and muciparous glands should be of value.



Device for prolonged dilatation of the uterus in conjunction with thorough intra-uterine medication: *a*, a tupelo tent with gelatin half-capsule attached kept sterile in a test-tube; *b*, a gelatin half-capsule, containing two parts of potassium iodid and one part of iodin crystals; *c*, a curved tent on the distal end of which has been placed the half-capsule containing iodin one part and potassium iodid two parts, this being soluble in water.

The sole purpose of this paper is to describe a simple means which has the double purpose of relatively safe prolonged dilatation of the uterus by means of tents and

in conjunction therewith thorough intra-uterine medication. The device consists in the use of a tupelo sponge or sea-tangle tent over the distal end of which has been attached half of a gelatin capsule filled with whatever medicinal substance may be desired for intra-uterine application.

The diagram, with its explanation, shows, first the sterile tent over the end of which has been placed the gelatin half capsule. The tent should be kept sterile in a test-tube stopped with cotton until used. The drawing shows also another tent slightly curved to facilitate introduction and a half-capsule partly filled with a medicinal substance. Any form or size of tent may be used.

It is perhaps well to lay stress on the necessity of thorough disinfection of the tent and of keeping it aseptic until used. In my service at St. Luke's Hospital the tents are exposed to a heat of 240 F. on two consecutive days and again to the same degree of heat before using.

There is a possible defect in the iodin tent as above described, that is, in the gelatin capsule which, although subject in the manufacture to considerable heat, is not aseptic and may be a source of infection. The difficulty may be practically and perhaps wholly obviated by placing the half-capsule filled with iodin on the end of the tent two days before it is to be introduced; then the iodin permeates the capsule and renders it probably safe.

The only medicinal substance I have used so far is a combination of iodin crystals, one part, and potassium iodid, two parts, this being a proportion which dissolves readily in water. Therefore, after introduction, the expanding tent stimulates uterine secretions which dissolve, first, the capsule, and second, the iodin and potassium iodid, making at once a prolonged application to the endometrium; at the same time the iodin permeates the tent and renders it continuously antiseptic. Should the half-capsule not hold enough iodin other half capsules may be filled and placed each over the end of the preceding capsule until a sufficient quantity has been secured.

This iodin combination dissolves readily in less than one-half its weight of water; therefore, the uterine secretions stimulated by the tent are quite sufficient to effect a solution. The solution, like Churchill's caustic solution, undoubtedly would have a very escharotic effect and might, if applied, cause stenosis of the uterine ends of the Fallopian tubes. It is also possible that if the tubes were open uterine contractions might force it into the tubes with possible disastrous cauterization. Such an accident evidently would be more likely to occur in consequence of the cervical canal being tightly plugged by the tent. I have not applied more than three or four grains of this combination and would hesitate to increase this amount except in case of a very flabby hemorrhagic uterus. Manifestly it might be desirable to dilute the iodin combination in such a way as to insure the mucosa against destructive action. Such a dilution could be made with magnesium silicate, that is, talcum powder, this being comparatively an inert substance with which the iodin combined would have no chemical reaction.

This procedure is more efficacious than the obsolete one of passing an applicator armed with medicated cotton into the uterus. The explanation is, first, in the conjunction of prolonged dilatation and the continuous application of the medicinal substance; second, this application is made during a period when the uterine wall is thinned by dilatation, and the muciparous glands are correspondingly shortened and opened, and, therefore, are more accessible to treatment.

I suggest a trial of this method in such cases of uterine catarrh, uterine hemorrhage, dysmenorrhea, and sterility as may furnish an indication for dilatation and intra-uterine application. For obvious reasons it should not be undertaken at the office; but should be surrounded by all the safeguards of a surgical operation in the patient's house, or preferably in the hospital. The iodized tent may be introduced as a supplement to the forcible dilatation with steel instruments under anesthesia, in which case a somewhat larger tent may be used. If no general anesthetic is given, I suggest the following technic:

1. Cleanse the vagina to a degree as near sterilization as may be practicable.
2. Introduce into the uterus an applicator wound with absorbent cotton saturated with a 10 per cent. solution of cocain. Ten minutes usually will suffice for practical local anesthesia.
3. Carefully and moderately dilate the uterus by means of a Palmer or very small Goodell dilator.
4. Introduce the tent.
5. In about twelve hours remove the tent and follow it by a larger one if additional dilatation is desired.

In the older experience of dilatation by means of tents the dangerous infections usually followed the use of the second or third tent, seldom the first. Under aseptic conditions one might safely apply two tents in immediate succession; but if more dilatation were required I would advise it to be begun forcibly under anesthesia and then continued by one or two tents.

My estimate of the value of the device is based for the most part on general principles. I have used it only a few months and, therefore, cannot report the remote results in concrete cases. In one case a moderate pelvic inflammatory reaction followed which subsided in a few days apparently without serious results. This case serves to emphasize the necessity for extreme care in the use of any method of uterine dilatation and intra-uterine application.

I make no extreme claim relative to the value or safety of the method I have described. So far I have found it quite satisfactory. I offer it in a tentative way, hoping it may prove useful in selected cases as a supplement or a substitute for the more radical forcible dilatation. At any rate, it is about all I have been able to rescue from the ancient wreck of routine intra-uterine therapeutics, which filled a large and melancholy place in the gynecologic therapeutics of the last century.

Uterine dilatation by means of tents fell under merited condemnation before the time of antiseptic and aseptic surgery. Perhaps under modern conditions it may be found that the danger was dependent not on the tent itself, but on the unclean conditions in which it was applied. Comparing the relative value of the earlier tent dilatation with the later forcible dilatation by means of steel instruments, and eliminating the septic results which so frequently followed the use of the tent, which now possibly we may avoid, it is more than possible that forcible dilatation might suffer by comparison; clearly, it might be well to give the latter method a fair trial under the favorable conditions of antisepsis and asepsis.

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TRAUMA AS A CAUSE OF AMYOTROPHIC LATERAL SCLEROSIS

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The following cases have been studied with a view to estimating the correct relation of the trauma which in each case preceded the symptoms of amyotrophic lateral sclerosis.

CASE 1.—I examined a mechanic, aged 44, in the dispensary of the University Hospital in 1909. Five years before that date he had fallen 12 feet and injured his back sufficiently to keep him in a hospital for two months. After four years of normal health he caught his right hand in the machine which he tended, badly tearing the soft tissues, and again was forced to spend two months in a hospital. On resuming work, he immediately felt that the injured hand was weak, awkward and easily fatigued. The lameness and ensuing atrophy spread up the limb to the shoulder, so that within twelve months the right upper extremity was nearly useless, while the left hand had begun to show the early symptoms of the disease. The picture of amyotrophic lateral sclerosis rapidly developed and the patient died early this year with bulbar paralysis.

CASE 2.—A railroad engineer recently in Professor Soiller's service at the University Hospital attempted just a year ago, after a day's work, to jump on a moving train. He lost his grip and for a moment was in danger of being killed; but by a great effort he regained his hold and managed to get on the car. He lay for the rest of the two-mile run much agitated and violently trembling in his legs. Next day, however, he was able to walk and returned to work, and for two weeks all went well. Then he felt stiff and sore in the muscles of the lower limbs, and this condition progressed as time passed. Five months later, again while returning home from work, he tripped on a cross-tie and fell on a bridge, striking his left shoulder as he passed through, finally lighting on a girder five feet below. He was able, nevertheless, to draw himself back to the track and to walk home. The next day he felt dizzy and nauseated. After a few days, weakness and lameness developed in the left arm, followed by atrophy, the symptoms increasing from day to day until by October, 1910, the patient was forced to give up work. He has now the cardinal symptoms of amyotrophic lateral sclerosis.

Among the records at the Philadelphia General Hospital I find but few case histories in which the diagnosis of this disease has been made. Among the symptoms in several cases of spinal muscular atrophy are recorded spasticity of the legs, and some cases of lateral sclerosis showed muscular wasting in the arms. In two out of the whole list accident had preceded the disease:

CASE 3.—Two years before onset the patient had fallen from a moderate height. His first discomfort was a stinging paresthesia in the toes, felt several months after the injury. Later general muscular wasting appeared, together with spasticity of both legs.

CASE 4.—The patient five months before the onset had fallen from a height of 25 feet and been rendered unconscious.

CASE 5.—The case reported by Dr. George Price[1] happens to be exactly apposite. A middle-aged acrobat made a false step and sprained one ankle. Shortly afterward he sustained a slight injury from a fall. Within a short time muscular wasting appeared with some stiffness and slightly exaggerated tendon reflexes in both legs.

Gelma and Stroehlin in a report[2] on this subject tell of a workman who received a severe strain of the vertebral column while trying to support a 700 kg. stone which was slipping from the hold of a derrick. He felt weakness at once. Stiffness and atrophy succeeded and the disease went on to bulbar paralysis within three years.

Kirk Mendel[3] discusses the etiologic relation of trauma to amyotrophic lateral sclerosis, and reviews the cases reported up to that time. A patient of his, a woman, had fallen from a height of ten feet, striking her left side. Seven months later she again fell, this time from a hay-wagon, bruising her left breast. Two months later marked fatigue was felt, followed by numbness of the left upper extremity and atrophy. The symptoms were earliest and throughout most marked in the left upper extremity.

Valentiner's patient showed symptoms shortly after a fall during a violent athletic effort. Goldberg tells of a workman who fell on his buttocks from a scaffolding, and whose right foot was crushed by an after-falling tool-box. The symptoms started in the right foot and were always more severe in the right leg. Hauck's patient received a deep cut in the left forearm and right leg, and here also the injured limbs showed earliest and most severe signs of the disease. The man reported by Ottendorf had hung suspended by arms and chin for several minutes from a beam. Seven months later the disease commenced in the arms and progressed to bulbar palsy. Pagenstecher almost duplicates this history, except that his patient showed immediate symptoms. An electric shock preceded the onset in a 6-year-old boy examined by Hoehl. Oppenheim, in his text-book on nervous diseases, tells of a man who after an accident on the water was compelled to row violently to save his life.

Gowers[4] deals with spinal muscular atrophy and amyotrophic lateral sclerosis without distinction. In a few cases, he says, he has known the complex to develop after a concussion "as if it had set up a perverse nutrition of the nerve elements. Still more rarely a fall injuring one limb has been followed by muscular atrophy commencing in this limb."

Amyotrophic lateral sclerosis has been reported as following parturition.

It thus appears that many patients in whom this relatively rare spinal degeneration has occurred refer it back to some kind of trauma. If these accidents had been of the slight kind which most workmen suffer every year or so, the question of causal relation might be dismissed. But the injuries were in each case unusual, so that it is difficult to dismiss them as mere incidental antecedents. Mendel calls attention, as did Gowers, to the fact that the disease often develops first and persists most markedly in the injured member, or if not in the same limb, then on the same side of the body. In Mendel's opinion the interval elapsing between injury and early symptoms is sufficiently constant to merit consideration.

Many writers on this disease do not even mention trauma as an etiologic factor. Winterscheid thinks it possibly a proximal cause, and this is Mendel's conclusion, who feels that some congenital defect must be invoked to explain the tendency to the degeneration. The question comes up, What is there about the circumstances attending such accidents that could thus operate on the spinal cord? Two possible mechanisms suggest themselves. If the blood-supply to certain tracts and cells were congenitally precarious, a severe concus-

1. At the session of the Philadelphia Neurological Society at which this paper was read.
2. Gelma and Stroehlin: Gaz. d. hôp., March 23, 1911.
3. Mendel, Kirk: Umfall in der Aetiologie der Nervenkrankheiten, Berlin, 1911.
4. Gowers: Text-Book on Nervous System, i, 473.

sion might completely cut off part or all the nutrition of the parts involved. It must also be remembered that violent exertion usually accompanies the accidents above described, and, as Edinger has suggested in regard to tabes dorsalis, overfunctioning might undo an already weakened tract. In the various forms of professional neuritis overstimulation of nervous cells is the most obvious cause of the changes in structure.

Before attempting to reach a conclusion from these cases as to the causative value of trauma, there is another possible relationship between the disease and the accident that is worthy of consideration. The accident might be the result of the disease. A mechanic whose hand was gradually losing its wonted deftness through an incipient central degeneration in the cervical cord one day fails to remove his hand in time from his machine; an engineer, unconscious as yet of weakness in hand and leg, tries the muscles too far in the effort to jump on a moving train. The workman whose stiffness has not shown itself in ordinary walking has the defect painfully emphasized when a slight misstep throws him from a beam in midair. Siccard in discussing one of the cases above reported took a non-committal position because he could not decide from the evidence that the preexisting disease had not caused the trauma.

Patients suffering from any insidious disease are apt to overlook the early dawning of their trouble. Close questioning often enables the physician to place the onset weeks or months earlier than the patient had dated it. Very often, too, the patient assigns some unusual event as the starting-point, or even as the cause, of his illness—explaining malaria as a result of a wedding; or apoplexy, of a comet. If patients with half of each retina totally blind can walk the streets and do daily work for months oblivious of the defect until a collision with a street-car calls it to their attention, it is not hard to believe that slight, incipient lateral tract disease may escape notice until it produces sufficient awkwardness of movement to cause an accident.

The gradually developing maladroitness would be accentuated by weariness and thus increase the liability to mishap at such times. Furthermore, rest, such as is enforced for a period after the accident, would render the beginning motor defect less noticeable, while resumption of work after the immediate effects of the injury had disappeared would fix attention on the injured member and call into prominence its defect in power and dexterity. This accounts for a somewhat definite period that elapses between the trauma and the early symptoms supposed to result from it.

But after giving due weight to this reversal of causative relationship, and having subtracted all cases in which uncertainty remains, a certain number of cases lie before us in which no agency in producing the accident can be charged to the patient himself. The trauma acting on parturient women, the electric shock received by the boy, and the injuries received by the member first striking the ground, in patients who fell from buildings, cannot be charged to preexistent disease in the sufferers. Here we must conclude either that the trauma called forth the disease, or that the trauma preceded it merely as a chance antecedent. The attendant circumstances in some of the cases are such as to make the theory of chance improbable, though a much larger number of cases must be presented before it can be definitely eliminated.

The histories here presented admit, therefore, of one conclusion: A reasonable presumption exists, but no definite proof, that trauma is a proximate (evoking) cause of amyotrophic lateral sclerosis. If previously weakened cells and tracts exist in the spinal-cord, severe concussion or over-innervation (strain) can become the last straw that shatters the structure. Possibly congenital defect will some day be shown to be the ultimate cause (*causa sine qua non*) predisposing to the breakdown.

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SALVARSAN

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I. PREPARATION FOR INTRAVENOUS ADMINISTRATION

The cells of every living organism are adjusted to a certain osmotic tension and any variation of this tension in the fluids surrounding the cell injures it; therefore, the concentration of solutions of salvarsan injected intravenously is a matter of some importance. The practice seems to be to dissolve the salt in a variable amount of water and then to neutralize with sodium hydroxid, the exact osmotic tension of the resulting solution being a neglected factor. This is then brought up to a volume of 200 or 300 c.c. by adding, in some cases, physiologic salt solution, and in others distilled water. The statement is frequently made that 0.6 gm. of salvarsan neutralized and dissolved in 250 c.c. of distilled water approaches closely the osmotic tension of the fluids of the body. The fallacy of this can easily be shown.

We ordinarily accept a solution of sodium chlorid containing 9 gm. of the salt to one liter of distilled water as most nearly approaching physiologic osmotic pressure. The molecular weight of a given salt expressed in grams is said to be one "gram molecule." The molecular weight of sodium chlorid being 58.5, that amount of this salt, expressed in grams (58.5 gm.), dissolved in one liter of water is one "gram molecule," or, as suggested by Ostwald, 1 "mol." Any fraction of 58.5 gm. of sodium chlorid dissolved in a liter of water is that fraction of a mol. Consequently physiologic salt solution has an osmotic pressure of $9 \div 58.5$, or 0.15 mol. Thus we see that any solution intended for intravenous administration in order to be physically harmless must have a concentration of 0.15 mol.; the number of grams to the liter must be expressed by the formula, "0.15 $\times$ molecular weight of the dissolved salt."

Salvarsan as an acid salt ($HCl.NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2.HCl$) has a molecular weight of 421. For its complete neutralization with NaOH two HCl radicles are dropped and two atoms of Na are substituted for two atoms of H, thus giving a salt of less molecular weight—412. When a given amount of a salt with a molecular weight of 421 is changed to another salt with a molecular weight of 412, a proportionate loss in grams must at the same time take place. When 0.6 gm. of the acid salvarsan is used, 0.58 gm. of the sodium salt results. In this reaction, however, two molecules of NaCl are liberated. Using the above figures it can be seen that the amount of NaCl in this solution is 0.16 gm.

Supposing this reaction takes place in a liter of water, the osmotic tension of the resulting solution can be summed up as follows:

$$\text{For salvarsan } \frac{.58}{410} = .0014 \text{ mol.}$$

$$\text{For NaCl } \frac{.16}{58.5} = .0027 \text{ mol.}$$

$$.0041 \text{ mol.}$$

Knowing the molecular concentration of a given amount of these two salts dissolved in a liter of water to be .0041 mol., we compute the amount of water necessary to hold the same salts in a solution of 0.15 mol. (the osmotic tension required) as follows:

$$\frac{.0041}{.15} = .027 \times 1000 = 27 \text{ c.c.}$$

As isotonic solutions have the same freezing-point, this solution should theoretically freeze at 0.56, the freezing-point of the blood.

An ampulla of salvarsan was dissolved in distilled water, 4.4 c.c. normal sodium hydroxid added, and the resulting clear solution brought up with water to a volume of 27 c.c. The freezing-point of this was found to be 0.50. This variation from the theoretical can perhaps be partly explained by dissociation of the salt, and by the fact that, purposely, as is commonly the practice, the ampulla was not washed out to remove the small remaining powder adhering to it.

This error, however, becomes negligible when the volume is increased to 200 or 300 c.c. by the addition of an isotonic fluid such as physiologic salt solution.

Thus, the volume of a solution containing 0.6 gm. of salvarsan prepared for intravenous administration should approximate 25 to 35 c.c. in order to approach physiologic osmotic pressure. This considers only the physical, not the pharmacologic properties of the drug, and a consideration of the latter causes us to greatly increase the volume by the addition of an isotonic solution of some other salt.

II. THE IDENTITY OF THE WATER-SOLUBLE SODIUM SALT

It is commonly supposed that the following reactions take place in the preparation of salvarsan for intravenous administration:[1]

1. $HCl.NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2HCl + 2\ NaOH = NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2 + 2\ NaCl + 2\ H_2O$.

2A. $NH_2.OH.C_6H_3.As:As.C_6H_3ON.NH_2 + 2\ NaOH = NH_2.ONa.C_6H_3.As:As.C_6H_3.ONaNH_2 + 2\ H_2O$.

For 0.6 gm. of salvarsan in Formula 1, 0.114 gm. of NaOH would be required; that is, 2.8 c.c. normal sodium hydroxid solution.

To redissolve the salt, as expressed by Formula 2A, it is manifest that the same amount of sodium hydroxid would be required, using 5.6 c.c. for the entire process (1 and 2A). As a matter of fact, less is found to suffice.

Notwithstanding the known unstability of such a monosodium salt, it would appear that in place of 2A, the following occurs:

$H_2.As:As.C_6H_3OH.NH_2 + H_2O$.

2B. $NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2 + NaOH = NH_2.ONa.C_6$

Supposing that Formula 2B expresses the true reaction, one-half the amount of alkali used in Formula 1 would be required for this second reaction, i. e., 1.4 c.c. normal sodium hydroxid, or 4.2 c.c. in all. In practice 4.3 c.c. to 4.5 c.c. normal sodium hydroxid is actually used to precipitate the neutral and redissolve the sodium salt; which suggests the formation of a monosodium salt as in Formula 2B.

1. THE JOURNAL A. M. A., Dec. 31, 1910.

THE PRODUCTION OF ANTIBODIES TO PNEUMOCOCCI IN AN INSUSCEPTIBLE HOST*

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With the pneumococcus, as with most bacteria, the bulk of immunologic studies has been made with animals possessing a relatively high susceptibility to that organism. On the other hand, the general studies concerning the formation of antibodies have shown that specific antibody production is not directly dependent on any pathogenic value of the substance injected: Thus the precipitins to innocuous proteins; the agglutinins and hemolysins, to red blood-corpuscles; and, indeed, certain antitoxins themselves, namely, those resulting from toxoid injections, are all produced by the employment of antigens having no disease-producing power.

Starting from this point, I have tested the possibility of obtaining antibodies to pneumococci and their products, by the systematic inoculation of a relatively insusceptible animal with extreme doses of virulent pneumococci. The animal selected for this purpose was the common barn-yard fowl, birds in general being insusceptible to pneumococcus infection.

The pneumococci employed in the following experiments were from a human lung involved in acute lobar pneumonia. Throughout the period of immunization, the pneumococci were transferred each third day to fresh blood-agar (rabbit) slants. From time to time, the organism was passed through mice and rabbits, the virulence not being allowed to drop below the point at which a single inoculation of rabbits produced death. For convenience in obtaining large quantities for inoculation, the organism was grown on blood-agar slanted in flasks, the twenty-four hour growth equalling by count the number of organisms growing on twenty test-tube slants in the same time.[1] From the surface of each twenty-four-hour slant the organisms were washed by employing 5 c.c. of 0.85 per cent. sodium chlorid and the several suspensions were brought together immediately prior to inoculation. In all instances the growths were checked for contaminations. All inoculations were made intramuscularly into the breast, very slowly.

The following protocol gives the history of the inoculation of Fowl D, a white Leghorn rooster, weighing 2,000 gm.

INOCULATIONS OF FOWL D.

I. July 9, 1910: Received 60 c.c. emulsion of pneumococcus R'M", containing twenty-four hour surface growth of twelve flasks (=240 tubes).

II. July 16: Received 60 c.c. emulsion from twelve flasks (=240 tubes).

III. July 17: Received 30 c.c. emulsion from six flasks (=120 tubes).

IV. July 26: Received 85 c.c. emulsion from seventeen flasks (=340 tubes).

V. August 23: Received 80 c.c. emulsion from sixteen flasks (=320 tubes).

VI. August 30: Received 80 c.c. emulsion from sixteen flasks (=320 tubes).

VII. September 11: Received 40 c.c. emulsion from eight flasks (=160 tubes).[2]

VIII. October 11: Received 90 c.c. emulsion from eighteen flasks (=360 tubes).

* From the Department of Pathology and Bacteriology, the University of Chicago.

1. Direct counts showed approximately 1,000,000,000 organisms in each such tube and 20,000,000,000 in each flask. These figures correspond closely to those for the streptococcus given by Weaver and Tunnicliff, Jour. Infect. Dis., 1908, v, 589.

2. Relatively small inoculation given because of marked progressive emaciation resulting from previous injections.

IX. November 12: Received 100 c.c. emulsion from twenty flasks (=400 tubes).

X. December 12: Received 100 c.c. emulsion from twenty flasks (=400 tubes).

XI. Jan. 15, 1911: Received 100 c.c. emulsion from 20 flasks (=400 tubes).

XII. February 3: Received 80 c.c. emulsion from fifteen flasks (=300 tubes).

As indicated above, Fowl D received twelve inoculations of pneumococci, the inoculations being distributed over a period of eight months, and representing 180 flask cultures (=3,600 tubes). Following each of the first two injections, there was a period of about twelve hours during which the animal was distinctly sick, and a similar but longer period (thirty-six hours) occurred immediately following the eighth injection. Throughout the immunization there was a progressive loss of weight. Other than for this, the animal appeared normal at all times.

February 20, or seventeen days subsequent to the final inoculation, the animal was bled to death, and the serum recovered for a series of tests as to its antibody content.

The bacteriolytic, agglutinating and bactericidal powers were tested as follows: An emulsion of the homologous strain of pneumococci was so made that each cubic centimeter represented the growth of two twenty-four hour blood-agar test-tube slants. One c.c. of the emulsion was added to each of five tubes of two series. To each of the tubes of one of the series, were added also decreasing amounts of normal fowl serum; to the tubes of the other series were added the corresponding amounts of the serum from Fowl D. The tubes were incubated at 39° C. for two hours, and then allowed to stand at 12° C. for eighteen hours. The readings given in Table 1 were made at the end of that period.

TABLE 1.—SHOWING RESULTS OF TESTS OF BLOOD-SERUM OF FOWL D FOR ITS BACTERIOLYTIC, AGGLUTINATING AND BACTERICIDAL POWERS, WITH CONTROL TESTS

1 c.c. of Serum Dilution Used.	(a) Serum of Normal Fowl.	(b) Serum of Fowl D.
1/5	Cloudy—no agglutination	Clear—no sediment.
1/25	Cloudy—no agglutination	Clear—agglutinated sediment.
1/50	Cloudy—no agglutination	Somewhat cloudy—sediment.
1/125	Cloudy—no agglutination	Cloudy — agglutination (?).
1/250	Cloudy—no agglutination	Cloudy—no agglutination.
Control without serum.	Cloudy—no agglutination	

Table 1 shows that Serum D, in contrast to the normal serum, produced distinct changes of the bacterial suspension. These changes are to be interpreted as caused by bacteriolysin and agglutinins. Immediately following the readings above recorded, the contents of each of the tubes of the two series was injected into a white mouse (15 gm.) to test the lethal action of the several mixtures. Table 2 gives the results of the inoculations.

TABLE 2.—RESULTS OF INOCULATIONS IN WHITE MICE WITH THE CONTENTS OF THE TUBES IN TABLE 1

Mouse Receiving Emulsion Containing Serum; Dilution Used.	(a) Normal Serum Series.	(b) Serum D Series.
1/5	† Within 36 hours.	Lived; no distress.
1/25	† Within 36 hours.	† Between 60 and 62 hours.
1/50	† Within 36 hours.	† Within 36 hours.
1/125	† Within 36 hours.	† Within 36 hours.
1/250	† Within 36 hours.	† Within 36 hours.
Control; emulsion containing no serum.	† Within 36 hours.	

In Table 2 and the following tables, the dagger (†) stands for "died."

Table 2 shows that in contrast to the normal fowl serum, the immune serum, when present in sufficient concentration, modified or destroyed the lethal action of the pneumococci for mice.

Following this demonstration of the action *in vitro* of the immune serum on pneumococci, tests were made as to its action *in vivo*. To standardize the dosage for these tests, preliminary experiments were made as follows: The twenty-four-hour growth of pneumococci from one blood-agar flask was suspended in 5 c.c. of salt solution and this suspension was tested in duplicate, as to its lethal action for mice (Table 3).

TABLE 3.—RESULTS OF INOCULATION OF MICE WITH PNEUMOCOCCUS EMULSION TO STANDARDIZE THE DOSAGE

1 c.c. Pneumococcus Emulsion; Strength.	Mice Weighing Approximately 15 Gm. (a) Series I.	(b) Series II.
Full	† After 36 hours...	† After 35 hours...
1/10	† After 35½ hours.	† After 36 hours.
1/50	† After 36 hours...	† After 38½ hours.
1/75	† After 39 hours...	† After 40 hours.
1/100	† After 46½ hours.	† After 47 hours.
1/150	† After 95 hours...	† After 104 hours.
1/300	Lived	Lived.
1/600	Lived	Lived.

These experiments indicated the approximate dosage for mice. The results showed that 1 c.c. of a 1/100 dilution of the suspension as prepared, served to kill mice within forty-eight hours; that the same amount of a 1/150 dilution killed only after four days; and that smaller doses were non-lethal. Further to test the forty-eight-hour lethal dose, however, a suspension similar to that used above was prepared from a second twenty-four-hour flask-culture of the same strain and this was tested on mice as follows: six mice were injected with 1 c.c. of a 1/100 dilution, and an equal number with 1 c.c. of a 1/150 dilution. All six mice receiving the 1/100 dilution died within forty hours, while all those receiving the 1/150 dilution survived three and one-half days or longer.

The above results showed that for the pneumococcus, as then growing, the forty-eight-hour lethal dose was approximately 1 c.c. of a 1/100 dilution of the standard suspension. On the basis of this dosage, the therapeutic value of the immune serum D was tested. This test was performed in triplicate, and consisted of two procedures. These procedures were, (1) the injection of the immune serum into mice coincidently with an inoculation with 100 times the forty-eight-hour lethal dose of pneumococci, and (2) the injection of the immune serum eighteen hours subsequent to the bacterial inoculation. All experiments in which there was an injection of the immune serum, were duplicated by controls in which normal fowl serum was substituted for the immune serum. In no instance did the normal serum display a protective action. The immune serum displayed a distinct protective action in all instances. Following is the protocol of the experiments:

Standard suspension of pneumococci was made as in previous experiments and employed undiluted in 1 c.c. doses, representing 100 times the forty-eight-hour lethal dose.

GROUP I (Control).—Each of two mice received 1 c.c. of the emulsion + 1 c.c. of salt solution, and each of two other mice received 1 c.c. of emulsion + 1 c.c. normal fowl serum; with results as shown in Table 4.

TABLE 4—RESULTS OF CONTROL INOCULATION OF MICE WITH PNEUMOCOCCUS SUSPENSION, NORMAL FOWL SERUM AND SALT SOLUTION

Mouse.	1 c.c. Pneumococcus Suspension + 1 c.c Normal Fowl Serum.
Red head	† In 20½ hours.
Red neck	† In 21 hours.
	1 c.c. Pneumococcus Suspension + 1 c.c. Salt Solution.
Red back	In 23½ hours.
Red tail	In 22½ hours.

GROUP II.—Coincidently with the above injections each of three mice received 1 c.c. of the suspension subcutaneously and at once 1 c.c. of immune serum D in same site. Three control mice received the same inoculation, but with normal serum in place of the immune serum. These controls all died within twenty-four hours. The mice receiving the immune serum survived as shown in Table 5.

TABLE 5.—RESULTS IN MICE RECEIVING 1 C.C. PNEUMOCOCCUS SUSPENSION AND AT ONCE 1 C.C. IMMUNE SERUM

	Time After Inoculations.				
Mouse.	10 Hrs.	23 Hrs.	42 Hrs.	67 Hrs.	3 Wks.
Red l. ear	Slightly sick	Normal	Normal	Normal	Normal.
Red r. ear	Slightly sick	Normal	Normal	Normal	Normal.
Red ears	Slightly sick	Normal	Normal	Normal	Normal.

Three controls distinctly sick; all three †.

GROUP III.—Coincidently with the above inoculations, each of three mice received 1 c.c. of the pneumococcus suspension subcutaneously and eighteen hours later, when very sick, received the first of a series of subcutaneous injections of immune serum D, three control mice receiving normal fowl's serum. All died within twenty-four hours after inoculation. The course of the infection in the mice receiving the immune serum was as shown in Table 6.

The above experiments show that the immune serum D in contrast to normal fowl serum possessed a distinct protective power against the pneumococci inoculated. In those instances in which the serum was injected coincidently with the organisms, the protection was complete (Group II). In those instances (Group III) in which the serum was injected after the mice were definitely sick, the protection was marked; and in the one instance in which the serum treatment was pushed in an attempt to actually save the mouse, the protection was complete. It is to be noted that the length of survival of the mice of Group III was directly proportional to the amount of serum injected: The three controls without serum, died within twenty-four hours; the mouse receiving 1 c.c. of immune serum died after thirty-two hours; the mouse receiving 3.5 c.c. of serum died after two and two-thirds days; and finally, the mouse receiving 6 c.c. of serum recovered completely. In all, four of the six mice receiving the immune serum, were saved; and the life of the remaining two was lengthened. Equally striking was the temporary, but almost immediately beneficial, influence of each injection of the immune serum. It must be realized that the mice of Group III were practically moribund (within six hours of death, as indicated by the controls) when given the first injection of serum; within a short time, after the initial injection of the immune serum, however, they were apparently normal, running about the jar, and jumping away when touched. The same rapid recuperation occurred in the case of the two mice receiving the second injection of serum.

I am well aware that contentions have heretofore been made concerning an efficient serum producing immunity to the pneumococcus under experimental conditions. In general, however, the evidence has been inconclusive, in that the dose of organisms used in the inoculation has been relatively small, or the serum has been injected before the infection was definitely established, or that the host employed in the test was one of relatively slight sus-

TABLE 6.—MICE RECEIVING 1 C.C. PNEUMOCOCCUS SUSPENSION AND SUBSEQUENTLY IMMUNE SERUM

	Time After Pneumococcus Inoculation									
Mouse.	18 Hours.	26 Hours.	30 Hours.	32 Hours.	44 Hours.	50 Hours.	64 Hours.	4 Days.	20 Days.	
Red head and neck.	Very sick, flat on belly. Given 1 c.c. immune serum.	Running about jar and jumps when touched. Possibly a little slow in movements, but otherwise normal.	Now somewhat sick. Has been growing less active.	Received † in all 1 c.c. serum.						
Red head and back.	Very sick and stirs but little; flat on belly. Given 1 c.c. immune serum.	Same as mouse above; apparently normal.	Same as mouse above. Given 1.5 c.c. immune serum.	Again apparently normal; running about jar.	Seems somewhat sick; only fairly active. Given 1 c.c. immune serum.	Seems sick; flat on belly much of time and quiet.	Received † in all 3.5 c.c. serum.	Perfectly normal.	Has remained perfectly normal. Received in all 6 c.c. serum.	
Red head and tail.	Very sick; flat on belly. Given 1 c.c. immune serum.	Same as mouse above; apparently normal.	Also has become sick again, as above mice. Given 2 c.c. immune serum.	Apparently normal; running about jar.	In very good condition, but possibly a little sick. Given 2 c.c. immune serum.	Not sick, but moving about jar; jumps when touched.	Not sick; is possibly a little sluggish, but seems normal and eats well. Given 1 c.c. immune serum.			
3 control mice.	All very sick. Given 1 c.c. normal serum.	All † within 24 hours.								

ceptibility to the pneumococcus, and the possibility of spontaneous recovery, therefore, not eliminated. In the present instance it is to be emphasized that a very highly susceptible species was inoculated with 100 times the acutely lethal dose, and that in the therapeutic test the animals protected were prostrated with the infection prior to the first injection of serum.

My conclusions are that it is possible by inoculation of fowls with extreme doses of pneumococci to obtain a serum with specific antibodies and possessing distinct protective action against pneumococci within certain hosts.

Work now in progress, which is corroborative of the above results, will be reported at a later date.

THE THERAPEUTIC EFFECT OF HIGH NITRATES IN DRINKING-WATER *

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In the course of an examination of the waters brought to this laboratory some are occasionally found which are suspected by the owners of the wells to have peculiar properties, from the fact that they seem to produce diuretic effects on strangers using the water. In every case these suspicious waters have been found to be high in nitrates.

Formerly it was supposed that the organic substances held in solution in water had an injurious effect *per se,* but at the present time nitrates in a water in the absence of nitrites and considerable amounts of free ammonia are considered to indicate that the agents in nature that purify a water have done their work, and that all nitrogenous organic matter has been oxidized to a harmless condition, so that an unfavorable environment for pathogenic organisms has been set up. From the observations which follow it seems probable that this process of oxidation in water may be carried on to such an extent that the nitrates themselves may reach such quantities as to have a disagreeable effect, to say the least, on the system.

The authorities[1] state that the diuretic action of potassium nitrate and sodium nitrate is well known, and a special diuretic action has been attributed by many writers on therapeutics to the nitrate ion itself. In summing up this subject Sollmann says:

> The action is essentially a salt action. This appears to produce more specific irritation, which must be referred to the ion. The former is explained by its ready penetration and being foreign to the animal body; the latter is asserted on mucous membranes and results in gastritis at the place of entrance and in diuresis.

The dose prescribed by most writers is 0.30 gm., given as potassium nitrate in very dilute solution, an added action being affected by the potassium ion.

In well-waters which seem to have caused this marked diuretic effect, an excess of nitrate was found. The results of the examination of eight waters, the history of whose action was obtained at first hand, are given below.

TABLE 1.—EXAMINATION OF EIGHT WATERS FOR NITRATES

Specimen	Source	NO_3 equivalent to KNO_3 Gm. per liter
1	Tecumseh	0.288
2	LaCygne	0.346
3	Lawrence	0.433*
4	Lawrence	0.462*
5	Lawrence	0.382
6	Lawrence	0.361
7	Baldwin	0.346
8	Lawrence	0.505

* Complete analysis.

TABLE 2.—ANALYSES OF SPECIMENS 3 AND 4 *

Specimen 3		*Specimen 4*	
NaCl	0.0825	NaCl	0.2970
$NaNO_3$	0.3272	$NaNO_3$	0.2487
KNO_3	0.0438	KNO_3	0.1556
$NaHCO_3$		$NaHCO_3$	0.0978
$CaSO_4$	0.2813	$CaSO_4$	0.9301
$CaCO_3$	0.0916	$CaCO_3$	0.1167
$MgCO_3$	0.1031	$MgCO_3$	0.2157
SiO_2	0.0328	SiO_2	0.0178
Fe_2O_3 Al_2O_3	0.0036	Fe_2O_3 Al_2O_3	0.0042
Total solids	0.9659	Total solids	2.0836

*Results are expressed in grams per liter, and the constituents are calculated to the most probable combinations.

By a glance at the tables it will be seen that a person drinking one gallon of water a day, would, by a conservative estimate, receive approximately four doses of nitrate, and although the maximum diuretic effect might not be reached, it is possible that a marked irritation would be set up. It is true that the system might adjust itself to this continued irritation after a time, although in at least two of the cases in which this kind of water has been used for many years, the effect is still noticed.

Sample 1, Tecumseh, Kan.—In this case the patient always on returning home from a protracted stay noticed the very marked diuretic effect produced by the water.

Sample 2, La Cygne, Kan.—In this case the man after years of absence from home returned, and on taking up the drinking of this water noticed a marked diuretic action and at times gastritis.

Sample 3, Lawrence, Kan.—Four students attending the university had rooms where this water was used as the only source of drinking water. All noticed a marked diuretic action with almost constant irritation.

Sample 4, Lawrence, Kan.—An elderly woman who lived for two weeks at the place where this water was used, and alternately two weeks in the country, noticed that this water whenever she began to use it had a marked diuretic action, sufficient, in fact, to make it decidedly inconvenient. This woman's husband has also had kidney trouble for years.

Sample 5, Lawrence Kan.—A physician stated that he suspected that this water, taken from a well at his home, might be the cause of a continual desire to pass urine.

Sample 6, Lawrence, Kan.—Two young men rooming at this place complained that the water was causing a marked diuretic action.

Sample 7, Baldwin, Kan.—A farmer moving to the farm where this well was located, complained that his whole family had, since beginning the use of this water, been afflicted with "kidney trouble."

Sample 8, Lawrence, Kan.—A family of six persons who were continually using this water complained of the great inconvenience which it caused, on account of the difficulty experienced in retaining their urine. Two members of the family were afflicted with chronic kidney trouble. After an examination of the water was made, on the advice of their family physician, they were immediately placed on distilled water, and a marked improvement was shown within a very short time. One member of this family is afflicted with chronic gastritis. After the city water was used in the house the whole family soon reached a normal condition.

In this paper I have not attempted to claim definitely that the amount of nitrates present was the absolute cause for the physiologic conditions mentioned above.

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* Read before the American Chemical Society, Kansas City Section.

1. Sollmann: Action of Nitrate Ion, Text-Book of Pharmacology, p. 565. Patten: Materia Medica—Diuretics, KNO_3; Butler: Materia Medica and Therapeutics—Diuretics, KNO_3; Cowperthwaite: Materia Medica, p. 385.

The evidence, however, seems to point very strongly to this conclusion. I very much hope that these facts will be brought to the attention of some one who has an opportunity for physiologic experiments on water-drinking, and that this may lead the way to experiments that will show definitely whether or not nitrates in water can reach a proportion sufficiently great to be in themselves harmful.

THE DIAGNOSTIC SIGNIFICANCE OF THE URINARY METHYLENE-BLUE REACTION WITH SPECIAL REFERENCE TO MALIGNANCY

PRELIMINARY REPORT

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In searching for the presence in the urine of abnormal products of elimination in cases of malignant disease, we observed that methylene-blue was decolorized by the urine taken from these patients. Repeated examinations and more extensive investigations demonstrated that urines in cases of rheumatism, nephritis, meningitis, etc., were also sometimes decolorized, but generally to a minor and variable degree. In most instances the latter conditions could be easily differentiated and eliminated, so that it appears as if this reaction may have considerable value in the diagnosis of malignant disease.

It is for this reason deemed justifiable, at this early stage, to make this brief preliminary report, so that other observers may investigate the value of this test by experimenting on a larger number of cases.

So far, this test has been positive in every well-established case of malignant disease. Many of these cases have been corroborated by operations and post-mortem and pathologic diagnosis. Though this test is not specific for malignant disease, occurring as it does with great constancy, particularly in pregnancy, also sometimes in nephritis, rheumatism, meningitis and in other conditions, it has proved already of considerable practical value in the diagnosis of malignant disease. As this test is extremely simple, and as no special apparatus or skill is required, it can be readily and quickly carried out by anybody anywhere. The decided and striking change of color leaves no doubt as to the presence or absence of the reaction.

TECHNIC OF TEST

Methylene-blue—we generally use 3 to 5 drops of Löffler's methylene-blue—is added to a test-tubeful of fresh urine; sufficient anilin dye is used to give it a decided blue color. The urine is shaken and then allowed to stand at room temperature for from twelve to twenty-four hours. A control fresh specimen of normal urine similarly treated is made. At the end of said time the blue color of the urine disappears; the upper layer, however, which is in contact with the air, still remains more or less blue. The control specimen, on the other hand, remains unchanged, retaining its uniform blue color.

More detailed investigations have already been instituted so as to further augment the scope of this test. For many tests made we have to thank the interns of the following hospitals: Dr. C. Breitman of the Brooklyn Jewish Hospital, Dr. W. Phipard of the Long Island College Hospital and Dr. C. R. Hutchins of St. Catherine's Hospital.

The accompanying table illustrates the above points.

URINARY METHYLENE-BLUE REACTIONS

No. of Cases.	Diagnoses.	Positive.	Negative.
34	Carcinoma (well established)	34	0
1	Sarcoma (well established)	1	0
5	Tumor (type unknown)	5	0
1	Fibroid?	0	1
1	Intraligamentous cyst	0	1
1	Hydatid cyst of liver	0	1
1	Small glandular swelling of breast	0	1
2	Hodgkin's disease	2	0
1	Banti's disease	0	1
23	Pregnancy (all cases in late stage)	22	1
1	Incomplete abortion	0	1
16	Post partum	6	10
3	Miscarriage	2	1
2	Complete abortion	0	2
2	Pyelitis of pregnancy	0	2
1	Post-partum sepsis	0	1
5	Nephrolithiasis	3	2
11	Nephritis	4	7
4	Hematogenous infection of kidney	3	1
3	Uremic coma and chronic nephritis	1	2
3	Chronic catarrhal gastritis	0	3
7	Gastric ulcer	0	7
2	Pyloric ulcer with induration	1	1
4	Duodenal ulcer	0	4
1	Intestinal ulcerations	0	1
1	Amebic dysentery	0	1
2	Enteroptosis with excessive peristalsis	0	2
1	Peritonitis	0	1
2	Chronic catarrhal colitis	0	2
2	Appendicitis	0	2
1	Catarrhal jaundice	0	1
11	Cholelithiasis	0	11
1	Acute cholecystitis	0	1
1	Chronic cholecystitis	0	1
1	Cholecystitis and mitral stenosis	0	1
4	Acute endocarditis	2	2
4	Pericarditis	0	4
3	Senility with arteriosclerosis	2	1
1	Acute bronchitis	0	1
17	Lobar pneumonia	1	16
3	Empyema	1	2
22	Articular rheumatism	1	21
1	Gonorrheal rheumatism	0	1
6	Typhoid fever	0	6
2	Brill's disease	1	1
2	Influenza	0	2
1	Pyemia	0	1
4	Diabetes (two with gangrene)	2	2
1	Gout	0	1
1	Encephalitis	1	0
5	Tuberculous meningitis	2	3
1	Anterior poliomyelitis	1	0
1	Temporal neuralgia with mitral stenosis	1	0
2	Acute salpingitis	0	2
1	*Bilharzia hæmatobia* (bladder)	0	1
1	Hernia	0	1
2	Hemorrhoids	1	1
5	Lacerated cervix and perineum	1	4
70	Various surgical conditions other than malignancy	0	70
19	Disease not determined	4	15
26	Normal urines	0	26
363			

In most cases other than those of malignancy in which the test was positive, it became negative usually in subsequent examinations, as the condition from which the patient was suffering improved.

871 Park Place—907 St. Mark's Avenue.

A CASE OF STRANGULATED HERNIA PRESENTING UNUSUAL SYMPTOMS

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Patient.—A Chinaman, aged 64, a laborer, for the past fifteen years had been troubled by a rupture which had gradually increased in size. On several occasions there had been difficulty in reducing the contents, but he had always finally succeeded. He had never used a truss. Four days previous to his admittance to the hospital, the swelling had increased in size and he had been unable to reduce it. He had suffered considerable pain. The bowels had moved once. According to the patient's statement, which was corroborated by that of his friends and relatives, he had not vomited at all.

Physical Examination.—The patient was a fairly well-nourished man; pulse was 120; temperature 101; respiration embarrassed. The abdomen was greatly distended and tympanitic. The right inguinal region showed a tense, tender swelling involving the right side of the scrotum. The skin over the swelling was reddened and edematous. There was no impulse on coughing. Rectal examination was negative.

Operation.—The usual incision disclosed a tense sac adherent to scrotum and containing a loop of gangrenous intestine, and the cavity of the sac filled with fluid feces. Gas and fecal material were seen to be escaping from two openings in the bowel. The sac was irrigated, the constriction relieved, and the gangrenous bowel wrapped in moist gauze. The loop of intestine was then brought well outside of the abdominal cavity and the distended bowel divided at a safe distance above the gangrenous area. This division allowed the escape of a large quantity of fluid feces and considerable gas. The gangrenous intestine 12 cm. in length was removed, together with a wedge-shaped piece of mesentery, and an end-to-end anastomosis effected with sutures. The spermatic cord was found to be flattened out by pressure and pulsation was absent in the vessels. The right testis was greenish-black in color and did not bleed on incision. Accordingly the cord was ligated off and removed together with the testis. The sac, very much thickened and adherent, was removed and the neck sutured at the internal ring. The closure of the inguinal canal was then effected in the usual manner. Drainage was provided for at the lowest end of the wound.

Except for a slight discharge from the drainage tract, the wound healed by primary union. The patient made an uneventful recovery and was discharged in three weeks in good general condition and with a firm wound.

COMMENTS

Vomiting has long been regarded as an essential symptom of intestinal obstruction caused by strangulated hernia and is so taught to students. A review of the literature at my disposal produces the following opinions: Vomiting at first of stomach contents and later of fecal material is evidently considered as an essential symptom in the following systems: Keen's "Surgery," "International Text-Book," "American Text-Book," Dennis' "System of Surgery," Von Bergmann's "System"; also in the surgical works of Ashhurst, Erichsen, Jacobson, Pick, Walsham, Tillmann, Spencer and Gask, and DaCosta. Sir James Paget in his "Clinical Lectures" says, "If I were asked which of the signs of strangulation I would most rely on as commanding the operation, I should certainly say the vomiting." The only exception made is by Treves who writes in his System, "Vomiting appears early, is a marked and *almost* constant symptom. . . ."

The gangrenous condition of the testis was evidently caused by pressure of the sac and contents on the spermatic cord. This must be a very unusual occurrence, as no mention is made of it in any of the above text-books.

HUGE HYDRONEPHROSIS (TWO GALLONS CAPACITY)

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CINCINNATI

Hydronephrosis is not an unusual lesion, and a distention of the pelvis of the kidney to a capacity of one or even two pints is perhaps not rare. A distention of the pelvis, however, to produce a cyst occupying the greater part of the abdominal cavity and containing more than two gallons of fluid is sufficiently unusual to justify a record of the case.

History.—Mrs. W., aged 68, gives a report of very good health previous to her present trouble, which began about twenty years ago. Her first symptom was a very peculiar sensation in the right leg, while walking, which extended from the thigh downward, and within half an hour she could not raise the foot from the floor. There was no pain elsewhere. One month later she had a second attack of sharp pain which commenced in the back on the right side and extended downward into the lower abdomen and into the thigh and leg in precisely the same manner as the first attack. There was very great nausea at this time, but no urinary symptoms. Similar attacks recurred until sixteen years ago, when she suffered from a severe attack of "gastric disturbance," which was characterized by very intense pain in the lumbar and right iliac region. Her physician diagnosticated her condition at the time as one of gas accumulation and obstruction. (It seems to me that a stone must have become lodged in the ureter at this time to cause a permanent total obstruction of the ureter.) The acute symptoms promptly subsided, but the swelling remained as a soft tumor mass in the right side of the abdomen. During the next several years the patient suffered frequently from stomach and liver attacks, as she designates them. The tumor remained about stationary in size during this period and could always be felt. Four years ago she had a very severe attack of abdominal trouble associated with gastric irritability and severe pain in the right side, particularly in the region of the liver. During the past four years the tumor has increased greatly in size and she had many attacks of pain. She has never suffered from bladder irritability, passes a normal amount of urine, and has never noticed anything abnormal in the appearance of the urine. Her main symptoms seems to be referable to the stomach. There have been no symptoms referable to the genitalia.

Physical Examination.—When seen for the first time on March 20, 1911, the patient appeared to be very well nourished and in fairly good health. The examination was negative, except for the abdomen, which showed a symmetrical enlargement equal to that of a seven or eight months' pregnancy. On palpation a distinct cystic tumor occupying the greater part of the abdominal cavity could be easily made out, but the right half of the abdomen and the right flank was distinctly more tensely filled out than the left. A fluid wave was easily determined. The middle of the abdomen—indeed the greater part of the abdomen—was flat on percussion and a tympanitic note was given on the left side and above the cyst. (No great importance was given before operation to the fact that a tympanitic note was not elicited on the right side because all other physical signs seemed to point so definitely to a large ovarian cyst.) Bimanual examination showed the uterus to be normal and the fluid wave was easily communicated from the tumor above to the examining finger below. A diagnosis of ovarian cyst was made.

Operation.—A midline incision below the umbilicus demonstrated at once that the cyst was not attached to either ovary and that it was retroperitoneal. The peritoneum was then divided over the cyst, and a large ovarian cyst trocar inserted to draw off the fluid. Two gallons of fluid were withdrawn and perhaps one pint remained in the cyst, which was not measured. The cyst was then delivered by a blunt dissection, which extended as far upward as the liver, without much hemorrhage. A large artery and a large vein were cut between clamps and later found to be the renal artery and vein. An examination now revealed no kidney on this side and a hurried examination demonstrated no special lesion in this ureter. The incision in the peritoneum was closed by continuous suture and abdomen closed without drainage. When the cyst was filled out with cotton the kidney could be easily demonstrated flattened out to a brown-paper thinness on one side of the cyst and the ureter, renal artery and vein could be seen.

This patient made a perfect recovery and is now entirely well.

108 East Auburn Avenue.

Aneurysm and Edema.—An aneurysm may compress and obstruct the flow of blood through one of the large veins and thereby produce edema.—J. B. Murfree, in *Southern Medical Journal.*

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[*For other information see second page following reading matter*]

SATURDAY, JUNE 24, 1911

SALICYLATES IN ACUTE ARTICULAR RHEUMATISM

That there is a prevailing tendency in medicine of late years to minimize the empirical use of drugs, and to rely more largely on intelligent aid to Nature by physical means, cannot be denied. But even the most ardent "therapeutic nihilist" as a rule acknowledges the value of certain drugs at times, and among these the salicylates as a remedy in acute articular rheumatism have occupied a prominent place. Recently, however, Menzer[1] has published an article, based on his experiences as a German army surgeon, which contradicts quite forcibly our prevalent conceptions on this subject. He does not dispute the fact that the judicious administration of salicylates may alleviate the symptoms to a marked degree, and so furnish relief to the sufferer and satisfaction to the physician. But in his experience, patients so treated were much more subject to recurrences, and in particular to deforming arthropathies, than were those handled without the use of salicylates. In all, he summarizes the results of his personal observation on 141 patients, of whom eighty-six were given the drug, and fifty-five treated without. Of the former group, eighteen, or 21 per cent., were incapacitated for further military service, and of the latter, four, or only 7 per cent. On the other hand, severe cardiac complications were about half again as frequent in the absence of salicylate treatment, pleuritis was almost four times as frequent, and the average length of treatment was increased from forty-six to seventy-four days. In addition to his own figures, Menzer cites those of several others, notably of Badt[2] (324 cases), which support to some extent his position.

Menzer's explanation for the greater frequency of recurrences and persisting deformities is as follows: Acute articular rheumatism, according to his conception, is the result of the localization on various serous surfaces of a generalized streptococcus infection, and the inflammatory processes giving the symptoms of the disease are curative reactions, and purely beneficial in character. The salicylates, he believes, act by producing a general vasodilatation, thereby relieving the local hyperemia and alleviating the suffering of the patient, but incidentally delaying the prompt absorption of the toxic products, and so increasing the liability of permanent damage.

The figures given by Menzer, and quoted above, would seem to indicate that such permanent damage does occur more frequently after the use of salicylates than without them. But neither the number of his cases, nor of those of Badt is sufficient to establish such a point beyond reasonable doubt; and it may be pointed out that Menzer found that cardiac and pleuritic complications were considerably more frequent when salicylates were not used, which by a style of reasoning similar to his might be interpreted as showing the beneficial action of the salicylates in preventing these complications—an action that is almost universally acknowledged not to exist. It is true that Menzer maintains that all the serous surfaces that may present inflammatory symptoms are already infected at the time of onset of the disease. But there is absolutely no way of proving or disproving such a contention.

The article serves to illustrate admirably a method of reasoning more frequently demonstrated on the converse proposition—the advocacy of new remedial agencies—than on the condemnation of old. *Post hoc, ergo propter hoc* has long been a stumbling-block to medical progress; and while it is quite possible that Menzer's assertions may be fully confirmed by farther observation, it would be as yet somewhat premature to discard agents as efficacious in affording relief as are the salicylates in rheumatism, on the strength of the evidence so far presented.

1. Menzer: Ztschr. f. Hyg. u. Infectionskr., 1911, lxviii, 296.
2. Badt: Vergleichende Statistik der Salizyl- und indifferenten Behandlung beim Gelenk-Rheumatismus: Diss., Berlin, 1883.

THE PRESENT STATUS OF ANTITYPHOID VACCINATION

The last report of the Surgeon-General of the Army adds more evidence to the already overwhelming testimony in favor of the protective value of antityphoid vaccination. The figures given for the fiscal year ending June 30, 1909, showed an incidence of typhoid fever sixteen times greater among the unvaccinated than among the vaccinated troops.[1] Up to Oct. 1, 1910, only five cases had developed among the immunized, as against 418 among the non-immunized. Moreover, of these five cases four were so mild as to leave doubt as to the diagnosis, and there were no bad effects of any kind as a result of the vaccination.[2]

The practice was introduced into our army in March, 1909, and although the taking of the treatment is entirely voluntary, over 17,000 officers and enlisted men had availed themselves of the opportunity to become immunized before the present mobilization of troops on the Mexican border.[3] Since that time the evidence concerning the procedure has been increasingly favorable. With the memory of Camp Chickamauga still fresh in our minds we are the better able to appreciate the great strides which have been made in preventive medicine

1. Annual Report, Surgeon-General, U. S. Army, 1910.
2. Keefer, F. R.: Mil. Surg., March, 1911.
3. Naval Med. Bull., April, 1911, p. 195.

since the days of the Spanish war. During that campaign there were 20,738 cases of typhoid with 1,580 deaths, and all within three and a half months. One man in every six had the disease and this was increased to one in every five among those regiments which were left in the United States.[4] Now, among the 18,000 men who have been mobilized on the southwest border for over two months, living under the usual camp conditions where rain and mud prevail, the only case of typhoid fever which has developed has been that of a single teamster who was unprotected by vaccination.[4] The results of vaccination practiced in the Army (12,000 cases up to Oct. 1, 1910) have been more fully described in THE JOURNAL by various army officers.[5]

Like most medical discoveries, the final perfection of the practice of antityphoid vaccination has resulted only after years of experimentation and apparent failures. To Prof. A. E. Wright of the British Army Medical School at Netley is due the honor of having first conceived and put in practice the idea of antityphoid vaccination.[6] This was before the Boer war. The results were rather unsatisfactory in South Africa during that campaign and it was only after further experimentation that the technic was finally perfected. One of the chief troubles had been in the fact that it had not yet been fully demonstrated that the best results were to be obtained only after the repetition of the process three times at intervals of ten days. The German army next took up the investigation and as a result the medical officials succeeded in cutting the typhoid fever rate in half by vaccination of a portion of the troops in Southwestern Africa in the campaign against the Hereros in 1904 and 1907. By this time the English were beginning to get better results, and in India, in 1908, among 12,000 soldiers stationed there, 6,000 were vaccinated, and 6,000 under similar conditions were left unvaccinated and maintained as controls. They found that seven times as many of the controls contracted typhoid and eleven times as many died of it.[2]

The trial has now been made long enough and with such uniformly good results that it is time the procedure should be seriously considered in civil life. A step has already been taken in this direction by the Public Health and Marine-Hospital Service. According to instructions recently issued, officers are required to practice antityphoid vaccination on all beneficiaries of the service who may desire it.[7] Speaking in general terms, these beneficiaries include all seamen or persons employed in any capacity on any licensed vessel of the United States except enlisted men in the Army and Navy. Sailors on both inland waters and the high seas are, from the roving nature of their calling, especially liable to exposure to typhoid infection. Thus they frequently become carriers of the disease and a menace to the general public. In view of these facts the recent action of the Public Health and Marine-Hospital Service should be regarded as a measure directly calculated to preserve the public health. It would seem as though the next logical move would be to place the antityphoid vaccine at the disposal of the civilian practitioner, as has been done already with the vaccine for the treatment of rabies.[8]

4. Address of President Taft, delivered to the Medical Club of Philadelphia, THE JOURNAL A. M. A., May 13, 1911, p. 1399; Current Comment, p. 1399.
5. Hartsock, Frederick M.: Antityphoid Vaccination; Result of 1,100 inoculations, THE JOURNAL A. M. A., June 25, 1910, p. 2133. Gosman, George H. R.: The Present Status of Antityphoid Inoculation, ibid., Oct. 1, 1910, p. 1169. Foster, George B.: Antityphoid Vaccination; an Instance Illustrating Its Efficacy, ibid., Nov. 19, 1910, p. 1808.
6. Smith, F.: Jour. Trop. Med., Sept. 1, 1904.
7. Pub. Health Rep., P. H. and M.-H. S., May 19, 1911.

EXPERIMENTAL MEASLES IN THE MONKEY

No recent experimental work has been reported on measles, but the almost universal prevalence and high mortality of the disease in the first two years of life on account of complications render any new facts regarding it of interest and importance.

Up to the present time, it has been believed that only human beings are susceptible to measles, and in recent text-books, the statement is made that attempts to transmit the disease to monkeys have never been successful, although Hektoen[1] has reported the successful inoculation of human beings with measles. Grünbaum experimented with chimpanzees but got apparently negative results.[2]

Anderson and Goldberger of the Public Health and Marine-Hospital Service, working in the Hygienic Laboratory, have just reported the successful transmission of measles from human patients to rhesus monkeys, and conclude that they have demonstrated the susceptibility of the rhesus monkey to inoculation with human measles through blood drawn from the general circulation early in the eruptive stage.[3]

A rhesus monkey inoculated by them April 28, 1911, had a slight rise of temperature on the tenth day after inoculation, and a sparse papular eruption which faded four days later, being accompanied by a fine branny scaling. This experiment was successfully repeated, other monkeys being used, and experiments were also made to test the immunity of a monkey that had previously been inoculated.

Not only have these workers succeeded in transmitting the infection from human beings to monkeys, but they also report the successful transmission of the infection from monkey to monkey.[4] The blood from each human patient was tested for sterility, as was also the monkey blood used for passage, and in no instance was a growth obtained. The transfers of the infection from monkey to monkey excluded the possibility of the symptoms observed being due to a toxin, and demonstrate that the symptoms noted were caused by a living virus. This

8. Ann. Rep. Surgeon-General, P. H. and M.-H. S., 1910, p. 24.
1. Hektoen, L.: Jour. Infect. Dis., 1905, ii, 256.
2. Grünbaum: Brit. Med. Jour., April 9, 1904.
3. Public Health Reports, June 9, 1911.
4. Public Health Reports, June 16, 1911.

work is another evidence of the rapid advances being made in investigations of contagious and infectious diseases generally, and while the reports referred to are only of a preliminary character, it is presumed that detailed reports will appear later and include the results of further experimental studies of the disease. In connection with this work on measles it is interesting to note that recent experiments by Cantacuzène[5] and Bernhardt,[6] and possibly also those by Hektoen and Weaver,[7] indicate that scarlet fever as well is transmissible to monkeys. Landsteiner and Levaditi[8] appear to have transmitted scarlet fever to chimpanzees. It would seem then that we are on the verge of advances in our knowledge as to the etiology and nature of these two diseases that so long have refused to yield up the secret of their causation.

THE INDEX

The index to the first volume of THE JOURNAL for 1911 will be found in this issue. Again we wish to call attention to a few of its valuable features. The index consists of three parts—the General Index, the Index to Current Medical Literature Subjects and the Index to Authors. In the General Index will be found all the matter, original and otherwise, including the abstracts, which appear in all of the various departments of THE JOURNAL (except ephemeral news matter), indexed by subjects and analytically, with numerous cross-references. In this department, also, will be found under the head of "Deaths" a list of the physicians who have died during this period, and under the head of "Book Notices" the titles of all books, with the names of their authors, which have been reviewed during the six months.

In the Index to Current Medical Literature will be found the titles of all articles appearing in nearly four hundred of the leading medical journals of the world; in this index also appear in a separate list the names of all authors of papers appearing in these various periodicals, as well as in THE JOURNAL.

This index is also bound in separate enlarged pamphlet form, called the "Guide to Current Medical Literature." It may be had from the Association office, either in single copies or by annual subscription. In this convenient form the physician or author desiring to look up the literature that has appeared during the previous six months has an almost complete index medicus of the literature relating to medicine. We urge our readers to give more attention to this index and to accustom themselves to depend on its aid. They will be surprised to find how completely it will fulfil their needs in looking up current literature.

5. Cantacuzène: Compt. rend. de la Soc. biol., 1911.
6. Bernhardt: Deutsch. med. Wchnschr., 1911, xxxvii, 791.
7. Hektoen, L., and Weaver, G. H.: THE JOURNAL A. M. A., June 17, 1911, p. 1795.
8. Landsteiner and Levaditi: Presse méd., May 3, 1911, p. 357.

Current Comment

THE INDEPENDENT PRESS

We have before us a news item from which we learn that Mrs. Murray of Roxbury, Mass., is asking $2,000 damages for the loss of her hair. About a year ago, so the newspaper says, the lady had auburn hair that reached to her waist; she used Birt's Head Wash and now has to wear a wig. We have before us, also, a large advertisement of Birt's Head Wash. These two facts considered individually would hardly be worth comment; the element of interest lies in their relation. The news item and the advertisement both appeared in the same issue of the newspaper—the Boston *Herald!* In these days when it is commonly reported that news is modified, softened or repressed to meet the real or supposed wishes of the big advertisers it seems worth while to call attention to what might otherwise be but uninteresting facts. Such episodes help to restore public confidence in the press; they also make for optimism and hopefulness. Verily, "the world do move."

THE DECLINING BIRTH-RATE IN RURAL NEW YORK STATE

Some rather unwelcome facts are brought to view by recent statistics[1] from New York state. During the month of March of the present year, there were altogether 18,693 births in an estimated population of 9,273,954. During the same period there were 14,227 deaths. It should be added, however, that during the month of March of this year, New York had the highest death-rate that it has had in a long time. The number of deaths for the month has never before been approximated in any month except March, 1904 and 1910, and even then not exceeded or even equaled. Of the births, 11,643 occurred in New York City, while there were only 8,353 deaths. In second-class cities from 50,000 to 175,000 inhabitants there were 1,104 births and only 847 deaths. In third-class cities down to 10,000 inhabitants there were 1,398 births and 1,237 deaths. As population becomes scantier, births and deaths approximate in number until in third-class cities (those under 10,000) the births and deaths are exactly equal, forty-five each. In the country places away from cities, however, there were 3,745 deaths and only 3,275 births. The reason for the more favorable balance of births and deaths in the cities is doubtless that the young people are moving into the cities rapidly, leaving the sterile older population in the country. Even taking into account this factor, however, it would appear that the number of births varies directly with the proportion of the foreign population. In New York City, where the foreign-born population is most numerous, the births exceeded the deaths by 4,617. In the other cities of the state the excess of births over deaths was only 313 for an estimated population of about a million and a half. In the country, however, where the native population is the largest and where there are the greatest opportunities for healthful living, in an estimated population

1. Bull. New York State Department of Health, April, 1911, New Series, vi, No. 4.

of nearly 2,500,000 there were actually 470 more deaths than births. Outside of New York City, in a population of about 4,500,000, there was a net loss of more than 150 in population during the month. While, of course, it would be rash to draw sweeping conclusions from the figures for a single month, these statistics certainly invite study of the problem thereby presented. The birth-rate, of course, must be studied over an extensive field and a considerable period of time, and in connection with many other factors, some of which cannot be found in statistical tables. Meanwhile, a safe deduction seems to be that we should give our attention most seriously to developing the attractions of rural life for young people. A land where the rural population cannot hold its own, and the only increase is in the cities, comes very near being one "where wealth accumulates and men decay."

Observations on Low Blood-Pressures.—W. Edgecombe (*Proc. Roy. Soc. Med.*, March, 1911) has seen a number of patients suffering from no particular disease, but complaining of general slackness and want of tone, in whom the blood-pressure was abnormally low, the systolic reading being frequently below 100 mm. of mercury. In the majority of such cases there was no heart lesion discoverable, but the first sound at the apex was usually lacking in vigor; in others there were definite signs of dilatation. Improvement in the subjective sensations and objective physical signs almost always followed a rise in blood-pressure, and this led Edgecombe to seek for the most certain means of procuring this result. He therefore made a long series of observations, extending over two years, on a subject aged 40, normal in other respects, but with a persistently low blood-pressure, supplemented by serial observations on another subject and by routine observations on patients. Among the types of disorder in which he found low blood-pressures were subjects with cold hands and feet, with poor circulation, neurasthenia, tobacco poisoning, dilated heart, fibrositis, phosphaturia and arthritis deformans. Edgecombe made observations to find the effect on the blood-pressure of exercise, mental work, excitement and worry, altitude, constipation and various drugs, as aperients, alcohol, tea, caffein, tobacco, calcium chlorid and lactate, strychnin, digitalis, pituitary extract, glycogen, several proprietary preparations, including one of ergot and one from opium. He found three forms of baths that produced satisfactory results in raising the blood-pressure—the Vichy douche, the aerated Nauheim bath at temperatures on or below the indifferent point (90 F.) and the needle bath graduated from warm down to cool or cold. The Vichy douche consists of a needle douche projected downward on the patient throughout the duration of the bath while massage is administered to the whole body by attendants. After about twenty minutes' rubbing a separate needle douche is given in the erect posture and the bath terminates. The immediate effect is a rise of from 10 to 15 mm. pressure, and after a series of baths the rise in pressure becomes permanent. These measures, together with diet, exercise, change of air, etc., are to be preferred to drug treatment. As to diet, an excess of meats should be prescribed, with a corresponding diminution of the starchy elements. If drugs are required pituitary extract has the most powerful and rapid effect. Edgecombe has had no experience in giving it over long periods of time and would hesitate to continue such a powerful drug. Next in potency would be caffein, given only if the patient were not an excessive tea or coffee drinker. Calcium lactate appears to be only moderately effective; strychnin is disappointing; digitalis should be reserved for cardiac cases. The other drugs experimented with are apparently of little value.

Medical News

COLORADO

New Building for Hospital.—St. Joseph's Hospital, Denver, announces that it is about to erect a new building with capacity for fifty patients.

Nurses' Association Opens Day Camp.—The Visiting Nurses' Association of Denver has opened a day camp for babies on the grounds of the Bryant school. The undertaking is financed by the *Rocky Mountain News*.

Boulder Offers Sanatorium Site.—The city of Boulder has offered a 40-acre site for the national sanatorium for consumptives contemplated by the Foresters of America. The sanatorium, as planned, will cost $250,000.

ILLINOIS

Isolation Hospital for Sheridan.—Contract has been awarded for the erection of an isolation hospital at Fort Sheridan, to cost $21,000.

Memorial to Dr. Craig.—Members of the Rock Island County Medical Society honored the memory of the late Dr. George Gorgas Craig of that city, June 13, by holding a memorial meeting at the Manufacturers' Hotel, Moline. The program of the evening was in charge of a committee consisting of Drs. E. M. Sala, Carl Bernhardi and Joseph De Silva.

Personal.—Dr. and Mrs. Merritt C. Bragden, Evanston, have started for Europe.——Dr. George Steely has been transferred to the surgical staff of St. Elizabeth's Hospital, Danville; Dr. Raymond L. Hatfield has been appointed a member of the surgical staff, and Dr. Fred A. Baumgart has been made a member of the medical staff of the hospital.——Dr. Clinton Helm, Rockford, who is more than 80 years of age, saved his granddaughter from drowning in Rock River, June 2, diving for the body and resuscitating her after he brought her to shore.——Dr. Lee Smith, Bloomington, a member of the McLean County Medical Society for fifty-six years, has been appointed a life member.

Chicago

Class Reunion.—The class of 1899 of Rush Medical College held its annual reunion and dinner at the Bismarck Garden, June 15. Dr. William D. Byrne, the president, and Dr. John D. Ellis, the secretary, announce that they will be glad to hear from out-of-town members of the class who may be visiting Chicago.

Personal.—Dr. George E. Shambaugh, secretary of the Section on Laryngology, Otology and Rhinology, who has been ill with typhoid fever for three weeks, is reported to be improving, but he will not be able to go to the Los Angeles Session.——Dr. Thomas J. O'Malley was cut by broken glass in the hands and arms, June 13, when a runaway team ran into the platform of a car on which he was riding.

Memorial to Dr. Hyde.—Memorial services in honor of the late Dr. James Nevins Hyde were held at Rush Medical College, June 12, and a tablet presented by the alumni of the institution, and commemorating the work of Dr. Hyde, was unveiled. Charles Cheney Hyde made the presentation speech on behalf of the alumni, and the gift was accepted in the name of the student body by the dean, Dr. Frank Billings. Dr. James B. Herrick delivered the memorial address.

Diarrheal Diseases.—The health department, in its *Bulletin*, requests the cooperation of the medical profession and the hospitals of Chicago in the matter of reporting statistics of diarrheal diseases which come to their notice. The application of effective measures for prevention must be guided by statistical data which can be obtained only through this cooperation. Unless specially requested, it is not the purpose of the department to visit a patient under a physician's care, but, if the physician indicates that inspection should be made of the surrounding sanitary conditions of the foodstuffs, including milk furnished the family, the department will give immediate attention to the situation. Postal cards for these reports will be furnished free to physicians and hospitals.

INDIANA

Tent Colony for Terre Haute.—The tuberculosis committee of the Terre Haute Society of Organizing Charity has opened a tuberculosis colony on the Deming Camp, southwest of the city and on the river. Several shacks are now on the site and other shacks will be erected to accommodate the patients.

Personal.—Dr. Tilman O. Armfield, Ellwood, asks for information regarding his son Jesse T. Armfield, sometimes known as "Jack" Armfield, who is reported to be in the northwestern states and is most likely located on a claim or ranch or at a

mill or lumber plant. He suggests that some of his friends who go to Los Angeles might perhaps learn something of the lad while in the West.——Dr. James V. Nelson, Logansport, has been appointed coroner of Cass County.——Dr. Charles Rea, Falmouth, who was recently operated on for the removal of gall-stones at the Sexton Sanitarium, Rushville, is much improved.——Dr. Calvin W. Burket, Warsaw, sustained painful injuries in a fall down stairs, June 7.——Dr. Leida Powers Leasure, Auburn, has been appointed superintendent of schools of De Kalb County.——Dr. T. Victor Keene has qualified as a member of the Indianapolis Board of Health.——A verdict of $5,000 has been given Dr. Ernest E. Wishard, Noblesville, in his suit for damages against the Central Indiana Railroad Company.

KENTUCKY

Personal.—Dr. J. T. Wallingford, health officer of Covington, is reported to be seriously ill with rheumatism, and Dr. Cleon C. Owens is temporarily in charge of the department. ——Dr. William M. Dwyer, Louisville, was struck by a street car while driving recently, and suffered a dislocation of his right arm.

Equipment of Sanatorium.—Provided there are no legal obstacles in the way, the Louisville Hospital Commission will appropriate $25,000 for use in equipping Waverly Hill Sanatorium for the treatment of all tuberculosis patients. In order to convert the present buildings into a permanent institution, it is estimated that $27,600 will be required, and it is planned to build four additional wards, each to accommodate sixteen patients. Work will be begun in a few days on the building selected by the commission for use as a temporary city hospital.

LOUISIANA

Health Exhibit Train to Los Angeles.—The Health Exhibit Train of the Louisiana State Board of Health is to be taken to California to be exhibited at the meeting of the American Medical Association, Los Angeles. The train will go via El Paso and will return via Ogden, Omaha and Chicago.

New Parish Society.—The physicians of West Carroll met in Pioneer recently and organized a parish medical society, electing Dr. Thomas N. Pulley, Floyd, president; Dr. Charles W. Smith, Oak Grove, vice-president; Dr. I. R. Fowler, secretary and treasurer, and Dr. John J. Flake, Pioneer, delegate to the state medical society.

Seeking Leprosy Serum at Tulane.—At a recent lecture Dr. Charles W. Duval, professor of pathology at Tulane University, described the experiments that he and his assistants had been making in leprosy and spoke of the preparation of a serum, which, it was hoped, might prove beneficial in the disease as it has already proved successful in test cases.

The Picayune Cup Presented.—The *Picayune* loving cup, given to Dr. Sarah Tew Mayo because of her splendid activities in behalf of the Woman's Dispensary, New Orleans, was presented May 26, in the presence of members of the Progressive Union, the Orleans Parish Medical Society, various women's clubs, etc. The presentation was made by Mr. M. J. Saunders.

Councilors of State Society.—The Louisiana State Medical Society, at its thirty-second annual meeting, elected, in addition to the officers mentioned in THE JOURNAL of June 10, the following councilors: First district, Dr. Paul E. Archinard, New Orleans; second district, Dr. Hermann B. Gessner, New Orleans; third district, Dr. Henri L. Ducrocq, La Fayette; fourth district, Dr. Randall Hunt, Shreveport; fifth district, Dr. Isaac J. Newton, Monroe; sixth district, Dr. Louis G. Stirling, Baton Rouge, and seventh district, Dr. Ladis Lazaro, Washington. Dr. Clarence J. Edwards, Abbeville, is the new chairman of the House of Delegates, and Dr. Laurence R. DeBuys, New Orleans, was reelected secretary. The House recommended to the governor the names of Drs. Homer DuPuy or Edward L. McGehee, New Orleans, for appointment to the State Board of Medical Examiners.

MAINE

State Society Meeting.—The Maine Medical Association will hold its annual meeting in Augusta, June 28-30.

Subscription for Children's Hospital.—The Children's Hospital, Portland, has raised by popular subscription more than $25,000 for maintenance expenses.

Personal.—Dr. William L. Cousins, Portland, has sailed for Europe.——Dr. and Mrs. Gustav A. Pudor leave for Germany next month.——Dr. Alfred Mitchell has resigned from the faculty of the Medical School of Maine, after forty-two years' service, and Dr. Frederic Henry Gerrish has resigned from the chair of surgery after a service of twenty-nine years.——Major Bial B. Bradbury, M. C. N. G., Me., Norway, has been relieved from duty with the coast artillery and assigned to the second infantry.——Captain Charles L. Cragin, M. C. N. G., Me., Portland, has been promoted to major and Lieutenants Harry W. Sampson and William L. Haskell, M. R. C., Me., have been commissioned first lieutenants in the medical corps of the state ——Dr. James B. Cochrane, Dover, has been appointed a member of the local board of health.

MARYLAND

Bequests.—By the will of the late Dr. Charles M. Ellis, Elkton, $18,000 is bequeathed to the Medical and Chirurgical Faculty of Maryland and $5,000 to the Union Hospital of Cecil County.

Baltimore

Emergency Ward.—The Methodist Hospital Association, which is now in charge of the Maryland General Hospital, will establish on the first floor a ward for accidents and emergencies.

College to Move.—It is announced that the Maryland Medical College will be moved to buildings which it owns adjoining the Franklin Square Hospital, and that the old college building on Park Street will be sold.

MISSOURI

Compulsory Vaccination.—Beginning with next September, by order of the board of curators, all students in the University of Missouri, Columbia, will be required to be vaccinated.

Home for Physicians Planned.—At the recent meeting of the Missouri State Medical Association, the president, Dr. Herman E. Pearse, Kansas City, recommended that a committee be appointed to consider plans for either a home or pensions for indigent, infirm and aged physicians, and their wives or widows.

Southwest Missouri Physicians Meet.—The annual meeting of the Southwest Missouri Medical Association was held in Springfield, May 25-26, and the following officers were elected: president, Dr. Oscar N. Carter, Republic; vice-presidents, Drs. Francis S. Stevenson, Aurora, and Theodore A. Coffelt, Springfield; secretary, Dr. Herbert S. Hill, Springfield, and treasurer, Dr. Lee Cox, Springfield.

Ambulance Surgeons in Kansas City.—At a joint meeting of the police commissioners of Kansas City with the members of the hospital and health board, it was agreed that Dr. Eugene Carbaugh, Kansas City, the new police surgeon, is to have no authority whatever over the surgeons attached to the automobile ambulances. It was also agreed that these surgeons shall be called, not police surgeons, but ambulance surgeons.

NEW JERSEY

Personal.—Dr. Berthold S. Pollack, medical director of the Hudson County Tuberculosis Sanatorium, Snake Hill, has been reappointed for a term of five years.——Dr. Gordon K. Dickinson, Jersey City, visiting surgeon to the city hospital, has been given leave of absence and is going abroad. Dr. Charles H. Finke, Jersey City, has been promoted from assistant visiting physician to visiting physician.——Dr. Robert R. Armstrong, Passaic, sustained a fracture of the right arm in a collision between his automobile and a wagon, May 31.——Dr. Stewart Maul, intern in the Atlantic City Hospital, has resigned.

Society Meetings.—At the annual meeting of the Salem County Medical Society, held in Salem, Dr. Henry Jackson, Salem, was elected president; Dr. Frank B. Husted, Quinton, vice-president; Dr. Henry Chavanne, Salem, secretary and treasurer; Dr. John F. Smith, Salem, reporter, and Dr. Wm. H. James, Pennsville, censor.——Hunterdon County Medical Society has elected the following officers: president, Dr. Isadore Topkins, Califon; vice-presidents, Drs. Henry H. Miller and Samuel B. English, Glen Gardner; secretary, Dr. Obadiah H. Sproul, Flemington, and treasurer, Dr. Edw. W. Closson, Lambertville.——Camden County Medical Society at its annual meeting held in Camden, April 25, elected Dr. Aahab Haines Lippincott, Camden, president; Dr. John K. Bennett, Gloucester City, vice-president; Dr. Daniel Strock, Camden, secretary; Dr. Alexander S. Ross, Camden, assistant secretary. ——A meeting was held, May 12, in the lecture room of the Newark Free Public Library, under the auspices of the New Jersey State Pediatric Society. The evening was devoted to a symposium on the "Hygiene of Childhood" which was divided into the hygiene of development, environment and school life, and prophylactic hygiene.——At the annual meeting of Sussex County Medical Society, held in Newton, May

10, Dr. Albert N. Jacobs, Sparta, was elected president; Dr. Edward A. Ayers, New York City, vice-president; Dr. Frederick P. Wilbur, Franklin, secretary; Dr. Ephraim Morrison, Newton, treasurer, and Dr. Harvey D. Van Gassbeek, Sussex, reporter.——Bayonne Medical Society at its annual meeting elected Dr. Ernest Thum, president; Dr. J. Stucky Smith, vice-president, and Dr. Frank, secretary-treasurer.——The Society for the Relief of Widows and Orphans of Medical Men of New Jersey, at its annual meeting held in Newark, elected the following officers: president, Dr. Archibald Mercer; vice-president, Dr. Edward J. Ill; secretary, Dr. Charles D. Bennett, and treasurer, Dr. Harold A. Tarbell, all of Newark.——The Physicians' and Surgeons' Club of Jersey City held its eighth anniversary meeting in New York City June 6. Dr. Daniel B. Street was elected president; Dr. John M. B. Wainwright, vice-president, and Dr. James G. Enright, secretary and treasurer.

NEW YORK

Alumni Meeting.—The annual meeting of the Alumni Association of the medical department of the University of Buffalo was held May 30 and the following officers were elected: president, Dr. Charles L. Preisch, Lockport; vice presidents, Drs. Nellie V. Chappell, Buffalo; Eugene B. Horton, Niagara Falls; Edgar A. Forsyth, Buffalo; Jacob E. K. Morris, Olean, and Benjamin F. Rogers, Buffalo; secretary, Dr. Descum C. McKenney, Buffalo; treasurer, Dr. William F. Jacobs, Buffalo, and trustee, Dr. Marshall Clinton, Buffalo.

New York City

Cornell Commencement.—The thirteenth annual commencement of Cornell University Medical College was held at the college, June 14.

Epidemic Diseases on Steamer.—On the arrival of the steamer *Carpathia* at quarantine, June 6, fifty cases of measles were reported on board, and the passengers were detained at quarantine until those affected had been transferred to Hoffman Island.——*La Bretagne* from Havre was detained at quarantine several hours June 7 on account of a case of small-pox on board.——The Italian steamship *Europa*, which arrived from Genoa and Naples June 14, reported that a steerage passenger was suffering from cholera, and the steamer, with its passengers, was detained at quarantine.

Infants' Milk Station.—The health commission announced on June 6 the formation of an association of infants' milk stations of the borough of Manhattan, consisting of all the agencies engaged in this particular work. The objects of the association are to avoid duplication of effort and overlapping of territory, to establish an identical system of records, to provide full cooperation of existing forces, and educational publicity, and to gain the fullest efficiency in results. Dr. Sara J. Baker, director of child hygiene of the department of health, has been elected chairman of the association and the following have been selected as members of the executive committee: New York Milk Committee, Mr. Paul E. Taylor; New York Diet Kitchen Association, Miss M. L. Daniels; Nathan Strauss Laboratories, Dr. Arthur R. Green; Nurses' Settlement, Miss Lillian Wald; Babies' Dairies, Dr. Renel A. Benson, and Morningside Milk Dispensary, Mr. Allen McCurdy. At present there are sixty-five stations in the borough of Manhattan and this number will, probably, be increased during the summer. In practically all of them nurses are in attendance every day to instruct the mothers in the proper modification and care of milk, and physicians hold conferences at stated intervals during the week, at which the mothers are given general instruction as to the care of babies, and sick babies are treated.

NORTH CAROLINA

Society Meeting.—At the annual meeting of the Rockingham Medical Society, held in Wentworth, May 26, the following officers were elected: president, Dr. Thomas G. Taylor, Leaksville; vice-president, Dr. Andrew F. Tuttle, Spray; secretary and treasurer, Dr. John W. McGehee, Reidsville; delegates to the state association, Drs. Charles R. Wharton, Ruffin, and R. C. Matheson, Madison, and alternates, Drs. Samuel G. Jett, Reidsville, and Samuel Ellington, Wentworth.

New Hospitals.—Drs. James K. Hall and Paul V. Anderson, physicians on the resident staff of the State Hospital for the Insane, Morganton, N. C., with Dr. E. M. Gayle of Burna Brae Sanatorium, Philadelphia, have purchased the Westbrook Place near Richmond, Va., and will open it as a hospital for the treatment of mild cases of insanity and drug habits about September 1, 1911.——The Forsyth County Medical Society is said to contemplate erecting a hospital at Winston-Salem, to cost from $75,000 to $100,000.

NORTH DAKOTA

Personal.—In honor of Dr. Archibald L. McDonald, instructor in the College of Medicine, Grand Forks, for the last seven years, who is about to sever his connection with the institution, a banquet was given by the Gamma Phi fraternity recently.——Dr. Homer A. Smith has succeeded Dr. George A. Carpenter as health officer of Fargo.——Dr. Albert M. Fisher, Bismarck, sailed for Europe, May 19.——Dr. Fred A. Bordwell, Marmarth, sustained severe injuries to the spine in a runaway accident recently.——Dr. and Mrs. Charles L. Chambers, Bismarck, have returned from Europe.

PENNSYLVANIA

Statue to Physician Unveiled.—A bronze statue of Dr. Traill Green, Easton, first president of the American Academy of Medicine, was unveiled May 30. The statue was erected by the Eastern Cemetery Company, of which Dr. Green was first president, as a tribute to his memory, his great service to the association, to science, education, medicine and Christianity. The statue is designed by an Easton sculptor, Harry Lewis Raul.

State Milk Law.—By the terms of the Piper Pure Milk bill, approved by the governor June 8, the state is given the same standards for milk as those of the United States Government. The bill prohibits watering of milk, and provides that no substance may be added to increase its consistency, but allows the sale of skimmed milk under that name. The standard for milk is fixed at 3¼ per cent. butter fats and 12 per cent. solids, and for cream 18 per cent. butter fats, with the proviso that cream which is treated, condensed or evaporated may be sold as such if so labeled. The penalty for violation is a fine between $25 and $50, or imprisonment from 30 to 90 days, either or both. The Dairy and Food Commissioner is charged with the enforcement of the act.

Philadelphia

Free Lunches Beneficial.—The luncheon committee of the Home and School League completed on June 9 its experiment, which had been carried on for ten weeks with fifty children of the Woods School for the purpose of proving that the 3-cent lunch was beneficial as well as economical. Tests show that the children have gained in weight, that their hand grip has increased from 50 to 100 per cent. and that they have gained in lung capacity from 20 to 40 per cent.

Typhoid at State Institution.—For over two months the Health Department of this city and the state health authorities have been working to locate the source of typhoid contagion in the Pennsylvania Institute for the Deaf and Dumb, Mount Airy. Two new cases have just been reported, making a total of thirty cases and two deaths during the last two months. Tests have been made of the milk supply, butter and other foods, also a careful examination of the inmates and attendants to learn if there were typhoid carriers among them, but all without result.

Pure Food Crusade.—It has been announced by the agent of the State Dairy and Food Commission, that exposure of meat, chickens, cakes and other foodstuffs of like character to contamination from flies and dust will be followed by prosecution of the dealers under the pure food laws of Pennsylvania.——On June 6, warrants for over a dozen bakers, charged by Harry P. Cassidy, special agent of the commission, with using coal-tar dyes and bad eggs in their cakes and pies, were served by constables from Magistrate Beaton's office. A chemical analysis of the pastry sold by these bakers was made by Professor LaWall and in one pie enough yellow dye was found to stain a yard of cotton cloth.

Catholic Physicians' Guild.—The Roman Catholic Physicians of Philadelphia have organized a branch of the Guild of St. Luke, St. Cosmos and St. Damian. The first meeting was held May 26, in the hall of the American Catholic Historical Society and the following temporary officers were chosen: president, Dr. Lawrence F. Flick; vice-president, Dr. Ernest La Place; secretary, Dr. William T. Dempsey, and treasurer, Dr. Austin O'Malley. The aim of the guild is to facilitate intercourse between Catholic members of the medical profession for the discussion of medical questions relating to philosophy, morals, ethics, theology, histology and law, and the upholding of the principles of Catholic morality as against an unscientific materialism.

TENNESSEE

Medical Department Moves.—It was announced June 1, that the Vanderbilt medical and dental departments would be transferred to the old Peabody College grounds at the beginning of the next session.

Donation Toward Hospital.—It is reported that Mr. Andrew Carnegie has agreed to give $10,000 toward the completion of the new Hubbard Hospital of the Meharry Medical College, Nashville, Tenn., on condition that the college secures $10,000 additional. The work of raising this amount has already commenced.

Hospital Staff Named.—At a meeting of the Nashville City Hospital Commission, June 7, the following hospital staff was named: general surgeon, Dr. Frank P. Head; obstetrics, Dr. McPheeters Glasgow; medicine, Dr. C. Bailey Bell; genito-urinary diseases, Dr. William F. Glenn; diseases of the eye, ear, nose and throat, Dr. Marvin M. Cullom, and abdominal surgery and gynecology, Dr. Rufus E. Fort.

VIRGINIA

Epileptic Colony Opened.—The new State Epileptic Colony in Amherst County, opposite Lynchburg, has been formally opened. Ninety patients have been admitted and there is still room for ten more.

Hospital Chartered.—Grace Hospital corporation, Richmond, has been chartered with a minimum capital stock of $50,000 and ground has been broken for the building at Grace and Monroe streets. Dr. Robert C. Bryan is president of the company and Dr. H. Stuart McLean, secretary and treasurer.

Medical College Elects Officers.—At the annual meeting of the faculty of the Medical College of Virginia, Richmond, June 3, all the officers were unanimously reelected, with the exception of Dr. J. McCaw Tompkins, librarian, who was made professor of diseases of children, vice Dr. Charles A. Blanton. Among the changes in the adjunct faculty are the promotion of Dr. St. George T. Grinnan, from senior lecturer on pediatrics to chief of clinics in the practice of medicine, and the succession of Dr. Douglas Vanderhoof to Dr. Grinnan as senior lecturer on pediatrics.

Child Welfare Conference.—A child welfare conference was held at Richmond, May 22-25, under the auspices of the State Conference of Charities and Correction, and presided over by Dr. R. K. Flannagan, Charlotteville. The work of the conference was taken up under the three general heads of philanthropy, education and health and civics. The main topics of discussion were "Infant Mortality," "The Normal Child," "Education," "The Dependent and Neglected Child," "The Need of Vocational Training for Girls," "The Dependent Child in Placing-Out Work," "The Delinquent Child," "Instruction of Children in Sex Hygiene," "Cooperation and Education."

WASHINGTON

Hospital Note.—Dr. Hiram M. Johnson, mayor of Toppenish, has disposed of his interest in the Toppenish Hospital.

Personal.—Dr. Edward R. Northrup, Spokane, is convalescent after a surgical operation.——Dr. Mary A. Latham is critically ill at the home of her son in Spokane.——Dr. James H. McDonald, Puyallup, is recovering after an operation performed at the Fannie Paddock Hospital, Tacoma, recently.

WEST VIRGINIA

Antituberculosis Work.—The members of the Ohio County Antituberculosis League have received $6,000 in pledges toward the erection of a sanatorium for tuberculosis.

College of Medicine Closed.—The 1910-11 catalogue of the West Virginia University contains the statement that the college of medicine of that institution has been discontinued.

WISCONSIN

Tuberculosis Commission.—The mayor of Milwaukee has appointed a commission to decide on preventive and relief measures against tuberculosis. The commission includes H. A. Wagner, Miss Katherine R. Williams, Drs. Hoyt E. Dearbolt and Alfred N. Baer, and Mrs. Thomas Spence.

State Society Meeting.—The sixty-fifth annual meeting of the Wisconsin State Medical Society was held in Waukesha June 7-9, and the following officers were elected: president, Dr. John M. Dodd, Ashland; vice-presidents, Drs. Theodore J. Redelings, Marinette; Charles A. Armstrong, Boscobel, and Hoyt E. Dearholt, Milwaukee; secretary, Dr. Charles S. Sheldon, Madison (reelected); assistant secretary, Dr. L. Rock Sleyster, Waupun (reelected), and treasurer, Dr. Sidney S. Hall, Ripon. The next meeting of the society will be held in Wausau.

GENERAL NEWS

Personal.—Jefferson Medical College conferred on Dr. Victor G. Heiser of the Philippines, the degree of doctor of science, at the recent commencement exercises.

Railroad Hospital System Planned.—The Illinois Central Railroad and its allied lines announced that the Illinois Central Hospital department will be inaugurated July 1. The proposition is to build up the hospital system, slowly, on an extensive basis until it has reached such proportions as to make it possible to establish division hospitals along the lines of the roads interested, with the entire medical staff under the control of the chief surgeon of the road.

Genito-Urinary Surgeons Hold General Meeting.—At the twenty-fifth annual meeting of the American Association of Genito-Urinary Surgeons, held in New York City, May 31-June 3, Philadelphia was selected as the next place of meeting and the following officers were elected: president, Dr. Edward Martin, Philadelphia; vice-president, Dr. Edward L. Keyes, Jr., New York City; secretary and treasurer, Dr. J. Bentley Squier, New York City, and councilors, Drs. Charles L. Gibson and Robert H. Greene, New York City.

Albany Alumni Meet.—The thirteenth annual meeting of the Albany Medical College Alumni Association of New England was held in Springfield, Mass., May 23, under the presidency of Dr. Walter G. Murphy, Hartford Conn. The following officers were elected: president, Dr. Aaron L. Newton, Northfield, Mass.; vice-president, Dr. George H. Janes, Westfield, Mass.; secretary, Dr. Edgar C. Collins, Springfield, Mass.; treasurer, Dr. Harvey W. Van Allen, Springfield, Mass.; members of the board of governors, Dr. Elmore S. Allbee, Bellows Falls, Vt.; the treasurer, Dr. Creighton W. Skelton, Providence, R. I.; Dr. Frederick T. Clark, Westfield, Mass., and Dr. C. W. Crowthers, Springfield.

Tropical Diseases.—Dr. John R. McDill, Manila, professor of surgery in the College of Medicine and Surgery, University of the Philippines, announces that the institution is contemplating the publication of a work on the most common and frequent diseases in the tropics, and asks physicians to forward any reports or statistics of institutions, reprints or publications and personal observations for use in this work. To this request is appended a numbered list of the subjects on which information is desired. An especial request is made for information concerning the relative frequency or absence of certain diseases among the native population, as compared with diseases familiar to the observer in his home land; as, for instance, hypertrophy of the prostate which is common in the United States but has not been observed in a single instance in Manila, and Hodgkin's disease, which is comparatively rare in the United States but is very common in the Philippines. Varicose conditions are relatively uncommon in the Philippine Islands. Ludwig's angina is regularly encountered there, and unless treated early and promptly is very fatal. Photographs of interesting cases, with data, are requested; the English, German, Spanish or French language may be used.

Gynecoiatry and Gynecology.—According to its derivation, gynecology signifies the science that treats of the normal functions peculiar to women and it does not include pathologic conditions and treatment for them. For the science of treating the affections peculiar to women, the scientific term is "gynecoiatry," constructed like the term "psychiatry." At the recent South American medical congress a resolution presented by A. d'Alessandro, of Buenos Aires, advocating the use of the term gynecoiatry as the name for the specialty, was formally adopted. The *Semana Medica* reproduces the resolution as written out, with the signatures of all the members of the congress present, including Pozzi, Dührssen and Doléris from Europe, all going on record as favoring "gynecoiatry." The resolution stated in its preamble that men of science should reject terms that are the products of empiricism and should adopt rational terms, and that the ending "iatry," meaning treatment, is more suitable for the specialty than "ology," which means merely the science or physiology of women.

Congress of Tropical Medicine.—The Far Eastern Association of Tropical Medicine announces that the Second Biennial Congress will be held at Hongkong, China, Jan. 20-27, 1912, under the presidency of Dr. J. Mitford Atkinson, Hongkong. The general classification of the work of the congress is included in the following groups of subjects:

1. Protozoology—helminthology.
2. Cholera—plague—leprosy—tuberculosis.
3. Tropical Fevers—malaria—beri-beri—dysentery.
4. Surgery—obstetrics—infantile diseases.
5. Climate—hygiene—sanitation.

It is requested by Dr. Francis Clark, secretary-treasurer general, Hongkong, that abstracts in English or papers be forwarded to him as soon as convenient. Papers may be read in English, French or German.

FOREIGN NEWS

Chinese Aids University Hospital.—The University of Pennsylvania Medical School and Hospital in Canton, China, has received a gift of $500 from a Chinese patient who had been treated in that institution. This is the first large gift from a native resident to the work of the university in China.

Damages for Misuse of Plaintiff's Name.—The proprietors of a German patent medicine sent a package of their product, Rad-Jo, to the physician of the Queen of Holland with a guarantee that it would facilitate her impending accouchement. The physician in question, Professor Kouwer of Amsterdam, paid no attention to the package, but when the newspapers announced the normal childbirth of the queen, the proprietors of Rad-Jo at once advertised extensively that it was responsible for the satisfactory accouchement and cited an alleged interview with Professor Kouwer to that effect. He at once sued the firm for damages for this false statement, and the last mail brings word that the German court has decided in his favor, also imposing a penalty of $375 for each of the circulars distributed in future with possibly six months' imprisonment additional.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, June 10, 1911.

Onchocerciasis

Dr. A. W. J. MacFadden, inspector of the local government board, has made an important report on onchocerciasis—nodules recently found in the frozen quarters of Australian meat, due to a parasitic worm formerly called *Spiroptera reticulata*, which occurs in Australian cattle. The nodules were at first thought to be merely a surface affection and easily capable of removal, but later they were found more deeply situated, especially in the intermuscular fat. Careful examination of many quarters showed that to secure freedom from the nodules, it would be necessary either to examine in detail every forequarter or else cut off from it those parts, namely, the briskets, to which they are chiefly confined. As the first course was impracticable, the second was adopted. The meat was kept in cold storage until all the flanks and briskets had been sawn off. These alone were detained for further examination, subject to the wish of the importer to utilize them further. If he gave notice that they were required only for industrial purposes, they were allowed to be removed after being rendered unfit for food. If on the other hand, they were to be used for food, they were thawed out, cut up and examined. As hindquarters were affected only around the stifle-joint, all that was necessary was to make an incision into it while frozen to pass or reject the pieces.

A report on the structure and bionomic characters of the parasite has been made by Dr. R. T. Leiper, F.Z.S. He considers that it should be included in the genus *Onchocerca* and not in that of *Spiroptera*. He has therefore proposed the name onchocerciasis. The parasite was first observed by Morris of Sydney in 1880 and since then has been found in different parts of Australia. It has also been observed in cattle from the United States, the Malay States, Java and India. The parasites are long thread-like worms and, so far as is known, cannot develop to sexual maturity within the body of the host in which they are born, without passing outside. At present nothing is known of their extra-corporeal life or of the mode of entry or exit from the host, but analogy with other members of the Filariidæ suggest that they take up their abode in some arthropod, probably a biting insect. The worms and their young do not appear to survive the death of the cattle more than a few hours. The health authorities do not agree with the view expressed by some that the nodules are of no importance to the consumer and merely interfere with the appearance of the meat. They are the product of changes in the tissues, resulting from some active toxin excreted by the worms.

Paper-Bag Cookery

Considerable attention is being given in the press to a new method of cookery in paper bags which has been devised by a well-known chef, M. Soyer. The food, whether meat, fish, fowl, vegetables or even stews, is inserted into a specially prepared paper bag, which is generally greased and placed in the oven. It is claimed that the result is simply perfect, as the natural flavors of the food are preserved, and that a great saving of time and trouble is effected, as the cleansing of numerous pots and pans becomes unnecessary. Moreover, the objectionable smell of cooking throughout the house is avoided.

Japanese Mice for Cancer Research

Three hundred and sixty waltzing mice have just arrived for the National Cancer Research Fund. They were sent to Dr. E. F. Bashford, the director, by Professor Higuchi of Tokio, who recently completed a course of research work in the Fund's laboratories. The mice will be used to determine the effects of acclimatization and dieting in increasing or decreasing the susceptibility of mouse-tissues to mouse cancer. It has already been found in the laboratories that if living cancer tissues from English mice are implanted on recently imported foreign mice, there is a certain amount of resistance to growth. Only a small percentage of the inoculated mice develop tumors, but after a time this protection wears off and finally foreign mice become as susceptible as English mice.

The Mine Accidents Act

In a previous letter to THE JOURNAL the recent act to prevent accidents in mines has been described. The Home Secretary has now issued the following order. Rescue brigades consisting of not less than five persons employed at the mine who have been selected on account of their knowledge of underground work, coolness and powers of endurance, and who have been trained in first aid, shall be maintained at every mine. Where the number of workers is less than 250, one brigade is to be formed; when from 250 to 500, two brigades; when from 500 to 800, three brigades; and when over 800, four brigades. Where the total number of underground workers is less than 100 the manager of the mine shall have the privilege of calling for a brigade from a central rescue station. No person unless authorized by the management or by the official present at the surface, shall be allowed to enter a mine after an explosion of firedamp and coal-dust, or after the occurrence of a fire, for the purpose of engaging in any rescue work. No rescue brigade shall be deemed competent unless it undergoes a course of training approved by the secretary of state. At a mine which maintains a rescue brigade there shall be kept two or more small birds or mice for testing carbon monoxid, two electric hand lamps for each brigade, one oxygen reviving apparatus, a safety lamp for each member of the brigade for testing for firedamp, and an ambulance box. At each central rescue station not less than fifteen complete sets of breathing-apparatus shall be maintained with the necessary number of hand-lamps and oxygen reviving apparatus, and a motor car in constant readiness. Special rules for sidings and for the installation and use of electricity in mines are also proposed. The use of electricity is to be prohibited in any part of a mine where it would be dangerous on account of the risk of explosion of gas or coal-dust. Provision is also made for cutting off the supply of current to the mine at the surface, in order to prevent danger.

Disease as an Aid to Natural Selection

At the Eugenics Education Society the new president, Major Leonard Darwin, one of the three sons, all eminent in science, of the great evolutionist, said that disease produced beneficial results in preventing sickly stock from reaching maturity and reproducing. Any improvement in environment of mankind lessened disease, and every success in the efforts toward its curb would tend to prevent natural selection. The campaign against disease, of which all warmly approved, was in some ways having anti-eugenic effects, and it was necessary to see that it was accompanied by other reforms tending to counteract its evil influences. There was an inevitable temptation of social reformers to concentrate the attack on those points where the results seemed to be most obvious and immediate. The misery and disease which surrounded us seemed to demand immediate attention and it needed a distinct effort to divert our thoughts to the no less real needs of unborn generations. A less creditable loadstone, the voting power of the people, acted in the same direction. Both the philanthropist and the politician always found themselves under the temptation, if not actually to turn a deaf ear to the eugenic reformer, at all events to devote their whole energies to securing immediate results. He urged that one group of societies should be maintained which was pledged to put aside all other objects, in order to improve the racial qualities of future generations. The most obvious and crying need for reform was the segregation of the feeble-minded, with a view to diminish their now alarming rapid reproduction. A similar need existed with regard to lunatics, criminals, habitual drunkards and the unemployable, but the difficulties were greater because segregation, to be effective, involved the imprisonment of those apparently in possession of their faculties. The need for some action, however, was urgent. Another method of benefiting future generations was the introduction of further

safeguards, with the object of lessening the probabilities of marriages being contracted with one party ignorant that the life-history of the other contained heritable defects capable of appearing in the next generation. Another important subject for the consideration of the eugenist was the incidence of taxation so far as it tended to force the intelligent and thrifty to support the mentally feeble and wastrel. It was probable that every increase of rates or taxes tended to diminish reproduction. The more the self-respecting and prudent sections of the community were hit by taxation, the greater the anti-eugenic effect produced. Every increase in the burden thus thrown on the nation must harm the race, unless those who were not exposed to it, because considered incapable of bearing it, were prevented from reproducing. Arrangements are being made for an International Congress on Eugenics in London next year.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 9, 1911.

First Annual French Medicolegal Congress

This congress was held in Paris, May 29 and 30. Up to the present, medical jurists have had no other organization to bring them together than the Société de médecine légale, which is attended especially by Parisians, and the international medical congresses, in which the little section of legal medicine was almost lost among the sections representing the more numerous and more prominent other branches of medicine. The annual congress of legal medicine will admit as members, in the first place, physicians of France or French-speaking countries who are interested in any way in legal medicine, also physicians of foreign non-French-speaking countries, French, the official language, being used exclusively. In exceptional instances, scientists who are not physicians, but whose researches apply to legal medicine, may be admitted as members. In the second place, the members will be jurisconsults (magistrates, lawyers, etc.) of France or French-speaking countries, or foreigners of non-French-speaking countries under the previously defined conditions. Questions of exclusively national interest may be voted on only by members of the congress who are physicians of the country in question. The congress will hold its annual session at the end of May in a city of France or some French-speaking country, to be designated at the session of the previous year. The next congress will be held at Paris under the presidency of Dr. Lacassagne, professor of legal medicine at the Faculté de médecine de Lyon. The question which will form the subject of a paper at the next congress is "Cerebral Traumatic Hemorrhages," by Dr. Etienne Martin, *agrégé* professor at the Faculté de Lyon, and Dr. Paul Ribierre, physician of the hospitals of Paris.

Vacant Chairs at the Paris Medical School

The minister of public instruction has just declared vacant the chair of history of medicine and surgery at the Faculté de médecine de Paris, which was occupied by Dr. Chauffard, recently appointed professor of clinical medicine.

This makes three chairs at the Faculté de médecine which are vacant at present, including the chair of medical physics, vacant through the retirement of Professor Gariel, and that of medical pathology through the nomination of Dr. Dejerine as clinical professor of diseases of the nervous system.

Subscription for the Beyrouth Medical School

The Syndicat de la Presse parisienne has just opened a national subscription for the French hospital and the Faculté de médecine de Beyrouth to obtain the necessary funds for the working and the development of the services of the two institutions which have become insufficient (THE JOURNAL, April 15, 1911, p. 1122). More than $20,000 (100,000 francs) have already been subscribed.

The most eminent professors of Paris, Lyons, Bordeaux, Toulouse, Montpellier, Lille and Nancy, without distinction of party or creed, have called attention to the situation of the Faculté catholique et française de Beyrouth.

Personal

On May 30, the Académie de médecine elected Dr. Lermoyez, who is a physician of the Hôpital Saint-Antoine, and especially well known as a specialist in diseases of the larynx, nose and ears, as a member in the section of therapeutics and medicine, in place of Dr. Huchard, who died last December.

M. Lapicque has been appointed professor of general physiology at the Muséum d'histoire naturelle in place of Dr. Nestor Gréhant, who died March, 1910.

Dr. Chauffard, professor of the history of medicine and surgery at the Faculté de médecine de Paris, has been appointed, at his request, professor of clinical medicine at the same institution.

Inauguration of the Institute of Infantile Hygiene

On March 8, at the Hospice des Enfants-Assistés, the new Institut de puériculture (THE JOURNAL, Jan. 28, 1911, p. 283) was inaugurated, Dr. Variot being the initiator and director.

Altitude in the Treatment of Infantile Eczema

Dr. Marfan, professor of therapeutics at the Faculté de médecine de Paris, on May 30 called attention before the Académie de médecine to the good results which he had obtained in certain serious forms of infantile eczema, which were resistant to all the usual means of treatment, by sojourn in the mountains at a height of over 3,000 or 4,500 feet (1,000 or 1,500 meters). Having observed, empirically, such results, Dr. Marfan employed altitude in the treatment of fifteen serious cases of infantile eczema, and the treatment failed completely in only one case. The course was uniformly favorable in all the others. During the first four or five days, the situation does not change. Sometimes the pruritus and insomnia even seem to increase, then in a week or less, improvement sets in, the eruption grows pale and becomes drier, the pruritus diminishes, agitation disappears and sleep returns. After a couple of weeks there remain some spots of dry and somewhat squamous eczema and the pruritus is almost gone. Then the weight increases and growth resumes its normal course. This improvement continues during the entire sojourn in the mountains. The return to the lowlands takes place usually after a month or six weeks. In three cases the improvement or cure was maintained without relapse. In seven infants there were slight relapses but the disease never attained the intensity it had before the treatment. In three cases there were, after return, rather serious attacks which did not last long and were not accompanied by serious disturbances of the general condition. Sojourn in the country or by the seaside undoubtedly may have a favorable influence on infantile eczema, but in its serious forms this influence does not seem comparable to that of altitude. The latter treatment may, however, be reserved for serious and inveterate forms of infantile eczema with loss of sleep and weight and should not be employed until after the failure of ordinary means. It should be understood that all the general rules for the treatment of eczema should be observed during the altitude treatment. The latter may be carried on in all seasons; it is, perhaps, more effective in winter than in summer.

The Determination of Sex

At one of the last sessions of the Académie des Sciences, Dr. R. Robinson made a report on observations tending to establish a relation between insufficiency of the adrenals and determination of sex. Fifteen women presenting evident signs of insufficiency of the adrenal glands gave birth to fifteen daughters. Robinson believes that this fact has a scientific bearing on the theory or law of crossed heredity, according to which sex is determined, not by the more vigorous of the parents, but oppositely. Schenk, who has published a work on the means of influencing the sex of the embryo at will, attributes the inferiority or the difference of the two parents to the incompetency of organic metabolism in one or the other of the latter. Robinson believes that, at bottom, Schenk is right, but that there remains to be shown to what the disturbances of the nutritive metabolism are due and what are the means of regulating them. Robinson thinks that the ductless glands, in general, and the adrenals, in particular, are the only causes of these functional disturbances. Since a woman who presents disturbances of nutrition, vomiting, pigmentation, etc., is rendered inferior by her adrenals, and since such women have given birth to daughters fifteen times out of fifteen, there is only one means of producing a different sex. That is opotherapy by epinephrin.

Cremation

The Société pour la propagation de l'incinération has just held its annual meeting presided over by M. Barrier, member of the Académie de médecine. The secretary-general reported that the number of cremations in 1910 was 473, an increase of 20 per cent. over the number of 1909. The total number of cremations since 1899 when the crematory furnace was opened in the cemetery of Père-Lachaise in Paris amounts to 106,096. This number includes the bodies from the hospitals.

Gift to the Academy of Medicine

Lieutenant Kelsch, son of the *médecin inspecteur* of the armies, who recently died, has donated to the Académie de médecine the medical library and scientific papers of his father.

Measures Against Opium

One hundred and fifty senators, belonging to all political groups of the senate, have just offered a bill for the regulation of the importation, the sale, the storage and the use of opium and its extracts. The bill emphasizes the extent of social danger present from the use of opium. There are, at present, in Brest, Toulon, Marseilles and Paris, opium-joints like those in China and Cochin-China, frequented every night by a constantly increasing clientele.

The Stature of French Women

Up to the present there have been no definite data furnished in regard to the average characteristics of the French woman. The women measured by anthropologists have been, according to their own statements, organically inferior; in fact, they were the subjects used for dissection at the Faculté de médecine. Certain classes of the population do not come to the dissecting tables. Therefore, Dr. A. Marie, physician of the Asile Villejuif, and Dr. Leon Mac-Auliffe have studied about 250 Frenchwomen, aged from 21 to 50, coming from various parts of France, and belonging to all social classes, as far as possible in equal proportion. Fifty were agricultural laborers, fifty Parisian working women, fifty women of the bourgeoisie without professions, and fifty belonging to the old aristocracy, some of whom were members of liberal professions; fifty were measured at the Asile de Maison-Blanche. These measurements, of which Drs. Marie and Mac-Auliffe have just communicated the results to the Académie des sciences, show that the stature of the French woman is not 1.54 meters (about 5 feet ½ inch), as has been thought hitherto, but 1.57 meters (about 5 feet 1½ inches).

The tables drawn up by Drs. Marie and Mac-Auliffe seem likely to be serviceable, not only to anthropologists, but to criminologists and medical jurists. They will make it possible, in fact, by the measurement of a segment of a member to estimate the approximate height of the body and the principal dimensions.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, June 1, 1911.

Personal

The well-known neurologist, Professor Eulenburg of Berlin, celebrated the semi-centennial of his doctorate May 31.

Professor v. Esmarch of Göttingen has resigned the direction of the hygienic institute on account of illness and has been relieved from giving lectures.

The Imperial Insurance Bill

At the final third reading of the national insurance bill the majority party at the last moment adopted two amendments which involve a deterioration of the economic status of the medical profession and consequent injury to the hygienic conditions of the country districts. The first amendment provides that the provisions of the insurance law shall extend to those whose incomes amount to $625 (2,500 marks) instead of $500 (2,000 marks), that is, $12 a week, instead of under $10. By this vote hundreds of thousands of employees will be withdrawn from private practice and transferred to contract practice, and in this way the field of the general practitioner will be still further restricted and his income reduced. It is easy to understand, therefore, that the German medical profession will raise a vigorous protest against this measure and will try so far as is possible by legal means to avert the damage that is likely to arise from it. The amendment affecting the hygienic status of the rural districts consists in a provision which permits the Krankenkassen in the country to allow assistance to a lying-in woman for only four weeks instead of eight, as is required of the Krankenkassen in the cities. The danger of illness and death for both mother and child are thus increased by the shortening of the time during which the mother can devote her time to the care of herself and the child, on account of the lack of state aid. This is the more to be regretted since the infant mortality is much higher in the country districts than it should be. The attempt to induce mothers to nurse their offspring receives little encouragement from this measure, which is also of importance since an investigation reported by me last year has shown that the peasants often sell the good milk and save milk of inferior value for their own use. It will require the aid of private charity to compensate for the damage that will result from this resolution of the Reichstag.

Vacation Open-Air Schools in Charlottenburg

The marked success which has attended open-air public schools in the lower grades has led to the establishment of a similar school for pupils able to pay, during the long vacation. The children remain during the day under the care of their teachers, but return at evening to their parents. For care which consists of lunch, dinner and milk in the afternoon, each child pays 50 cents per day.

Prize for Essay on Racial Hygiene

A popular periodical published in Frankfurt a. M. has offered a prize of $250 (1,000 marks) for the best essay on the theme, "What is the Cost of the Degenerate Elements of the Race to the State and to Society?" In the announcement the following interesting observations are made: The laboring, wealth-producing portion of the population is obliged to support not only itself, but also all those who either cannot or will not work. In this way a heavy burden is laid on their shoulders. From a part of this burden they can never be freed. Always those who are at an age in which they are able to work must expect to replace in the care of the aged and the upbringing of children the amount which their own upbringing has cost. But the laboring population could be freed from a large part of this burden. For they must devote their efforts not only to the support of the children and the aged, but also to the support and care of the sick and defectives who are temporarily or permanently unfit for work or are unwilling to work. Immense sums in money, time and labor could be saved if by improvement of the environment in the widest sense the production of sick, crippled, insane, criminals and paupers unable to work could be prevented. But all efforts at betterment of our surroundings will fail so long as there are congenital and inherited disease and defectiveness, and the workers can be freed from this avoidable burden only by preventing the production of the sick and defective as far as possible. They are not harmful merely because they produce nothing, but also from the actual damage that they do to persons and property either consciously or unwittingly. Hindrance of the production or reproduction of those below par (*Minusvarianten*) is becoming a constantly more pressing demand in our time which is devoting itself constantly more conscientiously and more successfully to preserving the life of those who have been already born.

In all publications that have to do with the improvement of the race, reference is made to the sums which the state, the community and the private citizen must expend directly and indirectly for persons who had much better never have been born. How many thousands of worthy citizens must leave useful labor in order to devote themselves to the care of these individuals as nurses, physicians and officials! Unfortunately no critically examined, numerical data have hitherto been available in this matter which have been collected by a thorough investigation of a smaller or larger territorial division, such as a country or municipal district, a governmental division or even a province. It is only by the collection of such statistics that other communities can be aroused to the importance of this matter. An estimate of the entire cost of the defectives in a large government district should first be secured. Then the part which is contributed to this sum by the care of those affected by congenital and hereditary defect can be determined so far as the available material permits.

The competition for the prize is open to every one, but the article must be written in the German language or be accompanied by a translation into German.

Flower Tag Days

The flower days of which I have spoken have been very successful in some of the cities in which they have been held. In Bremen, $21,000 (82,000 marks), in Hanover, $22,500, in Breslau, $42,500, and in Hamburg, $100,000, were received in one day. These facts substantiate the prediction which I made in a previous letter, and I believe that a similar success will be achieved in Berlin.

Tuberculosis as a Housing Disease

The investigations carried out by the tuberculosis hygiene station in our neighboring city, Schöneberg, have confirmed the fact emphasized by Robert Koch that tuberculosis is largely dependent on the housing conditions. From April to June of last year, 400 unselected dwellings in which 439 tuberculous patients lived, were systematically inspected. Fifteen of the

affected families occupied merely a kitchen and in 245 cases the dwelling consisted of a kitchen and bedroom only. In 7 per cent. of all the dwellings the space of the room occupied by the patient as a bedroom was not equal to 10 cubic meters per person; 386 patients slept in the same rooms with 749 persons not recognizably tuberculous, 570 of whom were children. Only 46 persons had a bedroom separate from the healthy; in 13 of these cases the kitchen was used as the bedroom. On the ground of these results the director of the tuberculosis dispensary (*Fürsorgestelle*) comes again to the conclusion that the removal of patients with open tuberculosis to hospitals and sanatoriums is the best way to counteract the evils arising from the conveyance of infection by the dwelling. At least the severely sick should be removed. Gratuitous disinfection is necessary after death and also periodically during the life of the patient—measures which are not enforced by law in Prussia.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, June 6, 1911.

Gifts for a Cancer Hospital and a Scarlet Fever Ward

The newly formed society for cancer research in Austria has just now received a substantial grant of 1,000,000 kronen ($250,000) for the purpose of pursuing its scientific research on human cancer. A lady in private life, who was during her lifetime an anonymous benefactor of numerous charitable institutions in this city—the municipality of Vienna conferred on her a special mark of distinction as "an anonymous benefactor of mankind"—devoted her large estate and residue to the benefit of the poor sick. Her trustees convoked a jury of medical men, and it was decided, after some discussion, to hand over the above-mentioned sum to the society for cancer research, while half that sum has been given to the children's hospital in the tenth district. There a large pavilion or two will be erected solely for cases of scarlet fever, and in various other children's hospitals similar wards will be established as long as the funds permit. The cancer society, of which Professor von Eiselsberg is the president, will erect a hospital for 100 beds, for neoplasmas alone. This most welcome addition to the research outfit of science will no doubt prove a most valuable and indispensable weapon in the fight against malignant disease. Like Czerny's cancer hospital, it will form a center of learning and investigation, and perhaps of renewed hope. In this country we are not used to wealthy persons giving such large gifts for charity or science; the more one must appreciate the clear insight of a woman.

A Fresh Case of Cholera

Owing to the strict measures taken against cholera in Austria-Hungary last autumn, the disease was stamped out half a year ago from our empire. But a few days ago a person in Graz, the capital of mountain-bound Styria, 100 miles from Vienna, was taken to a hospital in a most suspicious condition and died there. Asiatic cholera was diagnosed beyond doubt. The infection of the victim was traced to Venice. Strictest disinfectant and prophylactic measures were adopted at once; a quarantine was imposed on all persons known to have been in touch with the deceased man within the last week. At present there is every reason to hope that the outbreak will be suppressed very quickly. There has been no case of cholera reported on in Italy for several months, and in spite of the International Cholera Convention nothing was known of any such case being reported in Venice. It remains to be seen how it was possible for this patient to contract the disease in Venice.

Scarcity of Dwellings and Decline of Consumption of Meat in Vienna

Within the last few years the cost of living has increased in this city by more than 25 per cent. as a consequence of two facts pointed out in the report of the health bureau of Vienna. These are: the increase of the rent for lodgings and the general increase of the price of food, chiefly of meat. These two facts tend to hamper seriously the hygienic progress of the poorer classes. The report shows that the number of empty dwellings (including those in new houses, for which permission for inhabiting had not yet been given) was 5,420 in the year of 1906, while last year only 2,900 such dwellings were counted. The rent has gone up from 10 to 15 per cent. for the larger flats and tenements (four to eight rooms), from 15 to 25 per cent. in the medium-sized lodgings (two to four rooms), and to more than 30 per cent. for the smaller lodgings—the workingmen's lodgings. The price of meat has gone up from 30 to 40 per cent. during the last five years, and the consumption has promptly declined. The average consumption of this proteid food per head was 75 kilos (150 pounds) yearly some twelve years ago. It was between 75 tnd 72 kilos until 1905, and since then a constant fall was noticed until in 1910 it stood at 66 kilos (133 pounds), indicating a decrease of 9 per cent. in five years. In vain the medical circles and also the military authorities pressed for permission to import frozen meat. The influence of the agrarian landowners has kept the duty on meat so high as to make importation impossible. The effect on general health and on national physique will not be marked until some more years pass; meanwhile the deterioration will go on until public investigation compels a change of legislation.

Dentistry for Women

With the increase in the number of female medical students, the question of appropriate employment of the women physicians had to be answered. In our country people are not yet accustomed to calling on a lady in case of illness, and the majority of those women who are practicing hold appointments in a club or a "Krankenkasse." A memorandum by a private medical association requests the faculty of the Austrian universities to point out to female physicians and students that dentistry would be a good field for their abilities. The exactness and neatness of the work required from the standpoint of a dental treatment, the openings in medium-sized towns, where hitherto only dental technicians are working on and in the patients' mouths, and, perhaps, the lesser trouble make this branch of our art really advisable for the female physicians. In this country, each dentist must be a fully qualified M.D., and a law is in preparation which will do away with the dental technician of the present times who is no doctor, but still practices dental surgery. A number of ladies are now employed by some of our well-known dentists, and it must be stated that, for instance, in the dentistry schools, the female physicians are preferred by the patients of their own sex. Therefore, the recommendation of dentistry has been received with great approval by those interested in the question.

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 17, 1911.

Kellam, F. C. A., M.R.C., ordered to active duty and will proceed to the Walter Reed General Hospital, Takoma Park, D. C., for duty.

McCaw, Walter D., lieut.-col., detailed as instructor in hygiene and sanitation at the school for officers of the Medical Corps, National Guard of New York, Pine Camp, N. Y., Aug. 5 to 13, 1911.

Reynolds, Charles R., major, detailed as instructor in map reading, sanitary units and allied subjects, at above camp, at Pine Camp, N. Y.

Norman, Seaton, M.R.C., relieved from duty in the Department of Texas on return of Major Robert B. Grubbs, Medical Corps, and then return to Fort Leavenworth, Kan. Lieutenant Norman will proceed to his home and on arrival will stand relieved from duty in the Medical Reserve Corps.

McMillan, C. W., lieut., left Base Hospital, Fort Sam Houston, Texas, on fifteen days' leave of absence.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will then proceed, November 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: Major A. W. Morse, First Lieut. J. R. Barber, First Lieut. E. G. Huber, First Lieut. A. D. Parce and First Lieut. J. A. Wilson.

Cullen, C. W., M.R.C., returned to Fort D. A. Russell, Wyo., from temporary duty at Fort Duchesne, Utah.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will proceed, December 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: Lieut.-Col. C. E. Woodruff, Major C. C. McCulloch, Major W. E. Purviance, Captain J. R. Bosley and First Lieut. J. B. H. Waring.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will proceed, December 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: First Lieuts. V. E. Watkins, A. M. Guittard and F. J. Conzelmann.

The following named officers of the Medical and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Nov. 5, 1911: Major R. N. Winn, M.C.; Major F. C. Baker, M.C.; Captain H. F. Pipes, M.C.; First Lieut. E. G. Worthington, M.C.; First Lieut. J. P. Fletcher, M.C.; First Lieut. E. A. Anderson, M.R.C., and First Lieut. G. Newlove, M.R.C.

The following named officers of the Medical and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Dec. 5, 1911: Major J. H. Ford, M.C.; Major J. W. Van Dusen, M.C.; First Lieut. L. S. Hughes, M.C.; First Lieut. A. S. Bowen, M.C.; First Lieut. J. A. Burket, M.C.; First Lieut. F. R. Hill, M.C.; First Lieut. H. Priest, M.R.C.; First Lieut. A. H. Eber, M.R.C., and First Lieut T. S. Lowe, M.R.C.

Thomason, H. D., captain, will proceed to Nashville and Memphis, Tenn., for purpose of assisting in reorganization of sanitary troops of state, and on completion of this duty return to his proper station.

Clayton, George R., M.R.C., ordered to duty with Battery F, 5th Art., camp instruction, Sparta, Wis.

Birmingham, H. P., lieut.-col., Straub, P. F., major, and Darnell, Carl R., major, appointed members of board to meet at San Antonio, Texas, to consider defects in field organization for the Hospital Corps and to make recommendation for their betterment and to prepare a provisional manual for the management of field hospitals and ambulance companies.

Hall, James F., captain, ordered to Fort D. A. Russell, Wyo., for temporary duty.

Worthington, Joseph A., lieut., ordered to the Presidio of Monterey, Cal., for temporary duty.

Snyder, Howard M., lieut., left Fort D. A. Russell, en route to Fort Leavenworth, Kan., on detached duty.

Clayton, George R., M.R.C., ordered to duty with Battery F, 5th Artillery, camp at Sparta, Wis.

Ruddy, William P. J., M.R.C., reported for temporary duty at Washington Barracks, D. C.

Purnell, Harry S., captain, left Madison Barracks, N. Y., with troops en route to Pine Camp, N. Y., for duty.

Connor, C. H., captain, left San Antonio, Texas, en route to Fort Sill, Okla., to accompany troops to San Francisco.

Skelton, Robert, M.R.C., left Fort Jay, N. Y., en route to target range, Rensselaer, N. Y., for duty.

Lynch, Charles, M.C., is ordered to proceed to Los Angeles, Cal., thence to San Francisco, thence to Chicago, on official business pertaining to the American Red Cross.

Woodbury, Frank T., major, relieved from further duty at Fort Assiniboine, Mont.

Davis, William T., captain, left Washington, D. C., on ten days' leave of absence.

Appel, D. M., colonel, relieved from duty at Atlanta, Ga., to take effect July 1, 1911, and will report for duty to commanding officer, Fort Sam Houston, Texas.

Perley, Harry O., colonel, relieved from duty at Denver, to take effect July 1, 1911, and will report to the commanding officer, Fort D. A. Russell, Wyo., for duty.

Gray, William W., colonel, relieved from temporary duty at Omaha, and further duty at St. Paul, Minn., to take effect July 1, 1911, and will proceed to San Francisco and assume charge of the medical supply depot, that city.

Davis, William B., colonel, order to report to commanding general, Department of Texas, revoked, and on expiration of leave of absence to proceed to Fort Leavenworth, Kan., and report in person to commanding officer for duty at that post.

The following named officers of the Medical Corps are relieved from further duty at the Army medical school and will comply with orders from the commanding general of troops, San Diego, Cal.: First Lieuts. William T. Cade, Jr., Herbert H. Sharpe, Francis X. Strong, Alleyne von Schrader, Robert C. McDonald, Harry G. Ford, James F. Johnston, Paul W. Gibson, Bert R. Huntington.

Medical Corps, U. S. Navy

Changes during the week ended June 17, 1911.

Harlan, T., asst.-surg., detached from the *Quiros* and ordered to duty at the naval hospital, Canacao, P. I.

Pratt, L. L., and Omelvena, F. G., asst.-surgs., ordered to duty at the naval hospital, Canacao, P. I.

O'Malley, J. J., asst.-surg., ordered to the *Quiros*.

Reed, T. W., P. A. surgeon, detached from the *Wolverine* and ordered to the *Maine*.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 14, 1911.

Oakley, J. H., surgeon, granted seven days' leave of absence from June 7, 1911, under paragraph 191, Service Regulations.

Lumsden, L. L., P. A. surgeon, directed to proceed immediately to North Yakima, Wash., and investigate an outbreak of typhoid.

Wille, C. W., P. A. surgeon, granted seven days' leave of absence from June 13, 1911.

McCoy, G. W., P. A. surgeon, detailed to attend the annual meeting of the American Medical Association to be held in Los Angeles, Cal., June 27-30, 1911.

Ridlon, J. R., asst.-surg., granted thirty days' leave of absence from June 12, 1911.

Hotchkiss, S. C., asst.-surg., detailed to join "mine rescue car" for duty in Colorado in connection with Bureau of Mines.

Stiles, C. W., professor of chemistry, directed to proceed to Wilmington, N. C., on special temporary duty.

Brice, J. W., A. A. surgeon, granted thirty days' leave of absence from July 1, 1911, with pay, and two months' leave of absence from Aug. 1, 1911, without pay.

Light, S. D. W., A. A. surgeon, granted thirty days' leave of absence from June 6, 1911.

Wetmore, W. O., A. A. surgeon, granted nine days' leave of absence from May 22, 1911, on account of sickness.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 11. Chairman, Dr. W. H. Sanders.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

COLORADO: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

CONNECTICUT: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11, Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

INDIANA: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

MAINE: State House, Augusta, July 6-7. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, July 11-13. Sec., Dr. Edwin B. Harvey.

NEW HAMPSHIRE: State House, Concord, July 6-7. Regent, Mr. Henry C. Morrison.

NEW MEXICO: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, July 5. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

OREGON: Portland, July 4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

RHODE ISLAND: State House, Providence, July 6-7. Sec., Dr. Garner T. Swarts.

SOUTH DAKOTA: Mitchell, July 12-13. Sec., Dr. F. W. Freyberg, Mitchell.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

UTAH: State House, Salt Lake City, July 5-6. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Burlington, July 11-13. Sec., Dr. W. Scott May, Underhill.

WASHINGTON: Tacoma, July 4. Sec., Dr. F. P. Witter, Traders Block, Spokane.

WEST VIRGINIA: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 11-13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Massachusetts March and May Reports

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examinations held at Boston, March 14-16 and May 9-11, 1911. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. At the examination held in March the total number of candidates examined was 64, of whom 42 passed, including 2 undergraduates and 22 failed, including 9 undergraduates. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Georgetown University	(1907)	76.5
Howard University, Washington, D. C.	(1907)	75
Yale University	(1908) 75; (1910)	80.2
Medical School of Maine	(1886) 75; (1898) 75; (1908)	75
Johns Hopkins University	(1903)	77.8
College of Physicians and Surgeons, Baltimore	(1909)	77.9
Harvard University Medical School (1908) 84.2; (1909) 75, 75, 84.5; (1910) 75, 78.2, 79.4; (1911) 75, 76.1.		
Tufts College Medical School (1906) 75.2; (1910) 75.2, 77, 77.5.		
College of Physicians and Surgeons, Boston (1908) 75, 75; (1909) 75; (1910) 75.8.		
Dartmouth Medical School	(1909)	83.5
New York University Medical College	(1884)	80
Albany Medical College	(1910)	76
Columbia University, College of Physicians and Surgeons (1908) 76.9; (1909) 83.2.		
Cornell University Medical College (1910) 78.3, 78.6, 82.1.		
University of North Carolina	(1910)	76
University of Vermont	(1908) 77.1; (1909) 81; (1910)	75
McGill University, Canada	(1910)	79.3
University of London, England	(1905)	80.6
Undergraduates		75.6, 75.8
FAILED		
Kentucky University	(1904)	60.6
University of Maryland	(1909) 72.1; (1910)	69
Maryland Medical College	(1906)	69.9
Baltimore University	(1906)	71.8
Tufts College Medical School (1910) 69.4, 71.3, 72.9.		
College of Phys. and Surgs., Boston	(1908) 64; (1910)	72.2
Harvard University Medical School	(1910)	72.7
University College of Medicine, Richmond	(1907)	68.2
University of Naples, Italy	(1909)	60.7
Undergraduates, 16.7, 32.5, 42.8, 50.5, 60.4, 69.7, 71.7, 71.8, 73.6.		

At the examination held in May, the total number of candidates examined was 31, of whom 19 passed, including 5 undergraduates, and 12 failed, including 2 osteopaths and 3 undergraduates. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Maryland	(1909)	75
Tufts College Medical School (1910) 75, 75, 75.8.		
Harvard University Medical School (1908) 76.2; (1909) 80.2; 1910) 75.5, 80, 81.2.		
College of Phys. and Surgs., Boston	(1909) 75.7; (1910)	75
Dartmouth Medical School	(1910)	81.9
Columbia University, College of Phys. and Surgs.	(1905)	86.1
University of Helsingfors, Finland	(1907)	78
Undergraduates, 75, 75, 75.3, 77.1, 78.		
FAILED		
College of Physicians and Surgeons, Boston (1908) 68.2, 69.5; (1909) 71.6; (1910) 70.6, 72.		
Columbia University College of Phys. and Surgs.	(1900)	70.7
University College of Medicine, Richmond	(1907)	72.2
Undergraduates, 68.5, 71.1, 72.3.		

Marriages

FRANCIS HAMILTON REDEWILL, M.D., Phoenix, Ariz., to Miss Helena Munn of Ann Arbor, Mich., in Paris, France, May 18.

FRANCIS MARION MURRAY, M.D., Delaware, O., to Miss Jessie Gertrude Browning of Columbus, O., May 24.

EDMUND E. RYAN, M.D., Ashland, Wis., to Mrs. Amy Carlin Shores of Welcome, Wis., at Ripon, June 5.

HERBERT EDWARD WHEELER, M.D., to Miss Beulah Madailene Smith, both of Spokane, Wash., June 7.

JAMES ALLMOND DAY, M.D., Jacksonville, Ill., to Miss Frances E. Wilmot of Chicago, May 6.

GEORGE R. CARSON, M.D., San Francisco, to Miss Grace M. Northgraves of Chico, Cal., June 17.

ALFRED ROY WARNER, M.D., to Miss Anna Zeh Flansburg, both of Gallupville, N. Y., June 14.

HENRY SHERRY, M.D., Pasadena, Cal., to Miss Gertrude Paine of Redlands, Cal., June 22.

HARRY TAYLOR MARSHALL, M.D., to Miss Nancy Lee, both of Ivy, Va., June 9.

HENRY B. ERDHAUS, M.D., to Miss Louise Sebastian, both of St. Louis, March 15.

ELI A. MILLER, M.D., to Miss Ethel Block, both of Cincinnati, June 6.

Deaths

Carl Beck, M.D., a prominent surgeon of New York City; died at his summer home, Pelham Heights, N. Y., June 8, from pneumonia, aged 55. He was born at Neckargemuend, Germany; received his academic education at the universities of Heidelberg and Berlin, and his medical degree from the University of Jena in 1879. Three years later he came to the United States and soon became prominent as a specialist in surgery. He was a member of the American Medical Association, Society of Medical Jurisprudence, New York Academy of Medicine, and had been president of the American Therapeutic Society and German Medical Society of New York. He was also an active, honorary and corresponding member of many scientific societies, both here and abroad. He was visiting surgeon and, at one time, president of St. Mark's Hospital and surgeon to the German Polyklinik, and professor of surgery at the New York Post-Graduate Medical School and Hospital. He was the author of several monographs on surgical subjects. He had been in failing health for several months and on that account had resigned the presidency of St. Mark's Hospital.

Charles Manly Ellis, M.D., of Elkton; one of the most widely known practitioners of Maryland; died in Johns Hopkins Hospital, Baltimore, June 3, several weeks after an operation for appendicitis, aged 73. He was born at Elkton; entered the University of Pennsylvania and graduated in 1861. During the Civil War Dr. Ellis served as assistant surgeon of the Sixth Pennsylvania Volunteer Cavalry (Rush's Lancers). He was taken prisoner and his devoted attention to the wounded soldiers of the Confederate Army won for him the esteem of the South. In 1863 Dr. Ellis resigned and returned to Elkton to take up practice. He was a member of the American Medical Association; a member and former president of the Medical and Chirurgical Faculty of Maryland; president of the Cecil County Medical Society; a director of the Union Hospital of Cecil County and, until his health failed, local surgeon of the Pennsylvania Railroad.

Thomas Davis Strong, M.D. University of Buffalo, N. Y., 1851; a member of the American Medical Association; in 1894 president of the New York State Medical Association, and formerly president of the Chautauqua County and Fourth District Medical Associations; a member of the American Academy of Medicine; for twenty-five years curator of the medical department of the University of Buffalo; surgeon of the Sixty-Eighth New York Volunteer Infantry throughout the Civil War; one of the commissioners who located the present state hospital, Buffalo; died at his home in Westfield, June 6, aged 88.

Charles Henry Dixon, M.D. Missouri Medical College, St. Louis, 1878; of St. Louis; a member of the American Medical Association, Association of Military Surgeons of the United States, and St. Louis Obstetrical and Gynecological Society; clinical lecturer on surgery and professor of rectal surgery of the medical department in Washington University; consulting surgeon and chief of staff to Bethesda, and surgeon to the St. Louis City and St. Louis Female hospitals; died at his home, June 5, from carcinoma of the liver, aged 55.

John Quincy Adams, M.D. New York University, New York City, 1853; of Los Angeles; surgeon of the One Hundred and Seventy-Second New York Volunteer Infantry during the Civil War; who, while a resident of Pasadena, presented his medical library of 700 volumes to the public library of that city; died at the Good Samaritan Hospital, Los Angeles, May 23, aged 84.

Michael Thomas Pendergast, M.D. University of Pennsylvania, Philadelphia, 1882; of Philadelphia; a member of the Medical Society of the State of Pennsylvania; consulting physician to St. Joseph's Hospital; a fellow of the College of Physicians of Philadelphia; died in Ocean City, N. J., June 3, from paralysis of the throat, aged 57.

Harris Howey, M.D. St. Louis Medical College, 1845; a physician of Louisa County, Ia., since 1841; one of the California Argonauts; surgeon of the Twentieth Iowa Volunteer Infantry during the Civil War; for several years a member of the local pension board; United States gauger in 1873 and 1874; died at his home in Wapello, May 13, from senile debility, aged 94.

William Edgar Lindley, M.D. Cooper Medical College, San Francisco, 1885; of Miami, Ariz.; a surgeon of Arizona Volunteers during the Spanish-American War; formerly demonstrator of anatomy in the medical college of the University of Southern California, Los Angeles; died in Globe, Ariz., Nov. 20, 1910, from rheumatism, aged 48.

Julian E. Wood, M.D. Washington University, Baltimore, Md., 1869; for many years acting assistant surgeon U. S. P. H. and M.-H. Service, and surgeon of the Norfolk & Southern Railroad; health officer of Pasquotank County, N. C.; died at his home in Elizabeth City, June 1, aged 66.

Frederick Lemuel June, M.D. University of Buffalo (N. Y.), 1876; a member of the American Medical Association; for several terms coroner of Orleans County, N. Y., and for ten years postmaster of Waterport; died at his home in that village, June 6, from heart disease, aged 56.

Edwin Ray Humiston, Jr., M.D. University of Minnesota, Minneapolis, 1903; a member of the American Medical Association; for several years a member of the Minnesota State Board of Pharmacy; died at his home in Worthington, Minn., May 10, from lobar pneumonia, aged 43.

Henry Humphries (license, Twenty-Seventh Judicial District Board, Texas, 1896); for several years a member of the Santa Fe System hospital force with headquarters in Temple; later physician of the State Convict Camp, Bonus; died at the home of his sister in Temple, June 4.

William Smeltzer Derrick, M.D. College of Physicians and Surgeons, Atlanta, Ga., 1908; a member of the Mississippi State Medical Association and president of the Holmes County Medical Society; died at his home in Goodman, May 27, from typhoid fever, aged 28.

Henry Conant Prentiss, M.D. Berkshire Medical College, Pittsfield, Mass., 1857; for forty-five years an employee of the Massachusetts State Board of Health, Lunacy and Charity; died at his home in Somerville, May 26, from heart disease, aged 79.

Joseph J. Selbach, M.D. College of Physicians and Surgeons, Chicago, 1888; of Eau Claire, Wis.; formerly secretary and treasurer of the Intercounty Medical Society; died in the Sacred Heart Hospital in Eau Claire, May 25, from heart disease, aged 46.

Paul L. Bellenger, M.D. Memphis (Tenn.) Hospital Medical College, 1896; a member of the Louisiana State Medical Society; of Lake St. John; died near that place from the effects of gun-shot wounds received in an altercation with a tenant, aged 42.

Edmund Montgomery, M.D. University of Würzburg, Germany, 185—; for six years a practitioner in Madeira, Mentone and Rome; since 1873 a resident of Hempstead, Tex.; died at his home near Hempstead, April 17, from paralysis, aged 75.

Austin B. Chamberlin, M.D. University of Nashville (Tenn.) 1869; of Galveston; secretary-general of the Supreme Council of the Southern Jurisdiction of Scottish Rite Masons; died in Washington, D. C., June 7, from cerebral hemorrhage.

William T. Rose, a practitioner of Wichita, Kan. in the early seventies; a veteran of the Mexican and Civil Wars; coroner of Sedgwick County from 1885 to 1887; died at the home of his daughter in Wichita, May 28, aged 90.

William Henry Bertram, M.D. College of Physicians and Surgeons, Boston, 1891; Tufts College Medical School, Boston, 1895; of East Boston; died in the East Boston Relief Station, June 4, from cerebral hemorrhage, aged 61.

David W. Thompson, M.D. Eclectic Medical University, Kansas City, 1902; of Kansas City, Kan.; a member of the Kansas Medical Society; died in Seattle, Wash., January 12, from endothelioma of the cerebrum, aged 53.

William Henderson Nickles, M.D. Ohio-Miami Medical College, Cincinnati, 1910; an intern in the Cincinnati City Hospital; died in that institution, May 29, six days after an operation for appendicitis, aged 23.

Alfred Thorley Hamilton, assistant surgeon of the 148th Pennsylvania Volunteer Infantry during the Civil War, and health officer of Lewistown, Pa.; died at his home, May 9, from chronic nephritis, aged 75.

George Hazard Perry, M.D. New York Medical College, New York City, 1865; a member of the Riley County (Kan.) Medical Association; died at his home in Manhattan, April 20, from senile debility, aged 81.

Bolivar Antrobus, M.D. Medical College of Cincinnati, 1876; a veteran of the Civil War; coroner of Mitchell County, Kan., from 1890 to 1892; died at his home in Beloit, June 3, from pneumonia, aged 75.

Orlando M. Edwards, M.D. Medical College of Ohio, Cincinnati, 1859; a member of the Neosho County (Kan.) Medical Society; died at his home in Chanute, April 26, from heart disease, aged 74.

Benjamin F. Stultz, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1888; a member of the American Medical Association; died at his home in Moweaqua, Ill., May 24, from nephritis, aged 56.

Oliver Broadbent, M.D. Cincinnati College of Medicine and Surgery, 1868; for forty years a resident of Madison County, Ind.; died at his home near Anderson, June 3, from heart disease, aged 69.

William A. Reid, M.D. University of Louisville (Ky.), 1890; of Muskogee, Okla.; was instantly killed in a collision between his automobile and a Frisco passenger train near Muskogee, May 11, aged 41.

David Lewis Walmsley, M.D. University of the Victoria College, Coburg, Ont., 1866; of Detroit; formerly a member of the American Medical Association; died, January 22, aged 69.

Henry M. Fowler (license, Illinois); a practitioner for forty-five years; for several years postmaster of Scales Mound, Ill.; was found dead in his room in that place, June 2, aged 77.

Allen H. Galloway, M.D. Tulane University, New Orleans, 1874; a member of the State Medical Association of Texas; died at his home in Laneville, June 4, aged 61.

Alexander Bethune, M.D. Queen's University, Kingston, Ont., 1858; a member of the Ontario Medical Council from 1869 to 1880; died at Emo, Ont., April 8, aged 77.

John Thompson Biggs (license, Indiana); who retired from active practice in 1884; died at his home in Mitchell, May 16, from valvular heart disease, aged 86.

Edward Galbraith Darling, M.D. University of Maryland, Baltimore, 1882; died at his home in Lauraville, Md., June 6, from pulmonary tuberculosis, aged 52.

Julius Patterson Trotti, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1910; died at his home in Atlanta, May 9, from heart disease, aged 23.

Walter T. Sanders, M.D. Medical College of Georgia, Augusta, 1886; of Bluffton, S. C.; died in a hospital in Savannah, Ga., May 26, from paralysis.

Homer Lee Woldridge, M.D. Washington University, St. Louis, 1901; died at his home in Breckenridge, Mo., May 27, from tuberculosis, aged 33.

Richard Daniel King, M.D. University of Nashville (Tenn.) 1853; died at his home in Whiteright, Texas, April 22, from senile debility, aged 83.

Charles J. Foscue, M.D. Medical College of Alabama, Mobile, 1900; died at his home in Walnut Springs, Tex., June 5, aged 35.

William Wallace Holloway (license Tenn., 1889); died at his home in Union City, February 5, from pneumonia, aged 69.

David F. Knott, M.D. Southern Medical College, Atlanta, Ga., 1883; died at his home in Carrollton, Ga., May 12.

Stephen E. Hazen (license, Vermont, 1896); died at his home in East Wallingford, May 5, aged 68.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

CONVICTIONS UNDER THE FOOD AND DRUGS ACT

The government officials continue to bring to task those exploiters of drugs that are guilty of adulterating or misbranding their products. We have, at different times, given brief abstracts of the Notices of Judgments which the government issues in all cases of convictions under the Food and Drugs Act. A few more of the latest violations of this law are here appended.

Some of these decisions take on an added interest in view of the fact that the Supreme Court of the United States has recently so interpreted the Food and Drugs Act as greatly to limit its scope. The court holds that the law does not apply to statements, false or otherwise, regarding the curative effects of medicinal preparations but that it governs only misstatements regarding composition or place of manufacture

Under the new interpretation it is a question whether the government could again—on the same grounds—secure a conviction of the exploiters of Londonderry Lithia Water, for instance. This water, as the Notice of Judgment makes clear, contains such an infinitesimal quantity of lithia as to be absolutely valueless for producing any of the therapeutic effects of lithium. The officials entrusted with the enforcement of the pure food law held that a water containing an amount of lithium so small as to be therapeutically negligible was misbranded if it was called a "lithia water." Probably under the new interpretation, the exploiters of this pseudo-lithia water could operate unmolested.

In the case of the "California Waters of Life," there is no question that under the new interpretation of the law no conviction could be secured. "California Waters of Life" is simply ordinary spring water; no more, no less. Yet it has been advertised as a cure for nearly every disease in the calendar. As it is not a cure, a conviction was obtained—but this was before the Supreme Court had limited the meaning of the law. The case against "Hair's Asthma Cure" would also have fallen to the ground had the Supreme Court's decision been rendered earlier.

LONDONDERRY LITHIA WATER

This product was sent out by the Londonderry Lithia Spring Water Company, Nashua, N. H., and was recommended "for Rheumatism, Neuralgia, Dyspepsia, Eczema, Malarial Poisoning, Gout, Gravel, Bright's Disease, Diabetes, Dropsy and all diseases of the Kidneys and Bladder." While labeled a "lithia water," the government chemists found it to contain "only a faint spectroscopic trace, insufficient to give a therapeutic action of lithia when a reasonable quantity of the water was consumed." The attorneys for the government claimed that the product was misbranded in that, while it was sold as a "lithia water" it "did not contain any appreciable amount of lithium and was not a lithia water."

The government chemists found that the amount of lithium in 4 quarts of this water was so small as to be unweighable. As chemical balances will register weights as small as 1/1200 of a grain, there was evidently less than that amount of lithium in 4 quarts. The average therapeutic dose of the salt of lithium said to be in this water is 6 grains. A person who wished to get one average dose of lithium, therefore, would have to consume, at the very lowest estimate, more than 225 barrels of Londonderry lithia water.

The government analysts also found in some of the samples examined that sodium chlorid (common salt) and sodium bicarbonate had been added to the water. As the presence of neither of these added substances was mentioned on the label and as the purchaser would believe that he was getting a natural water, the addition of these two substances was deemed misbranding. The product was condemned and for-

feited and the United States marshal was ordered to destroy it. The cost of the proceedings was assessed on the company. [*Notice of Judgment No. 822.*]

KICKAPOO COUGH CURE

This nostrum was shipped in interstate commerce by the Kickapoo Indian Medicine Co., Clintonville, Conn. Samples of the shipment were analyzed by the government chemists and found to be a "solution of sugar, glycerin, vegetable extractive, aromatic bodies, inorganic salts and undetermined matter" in water and alcohol. The stuff was declared misbranded, first, because although it contained a certain percentage of alcohol, the package or bottle failed to bear a statement on the label to that effect; second, in that while it was labeled a "cough cure," it was not a cough cure, and, third, in that while it was claimed to possess properties recognized by the medical profession as necessary to the proper treatment of diseases of the lungs, it did not, in fact, possess such properties. A fine of $25.00 and costs was imposed. [*Notice of Judgment No. 826.*]

CALIFORNIA WATERS OF LIFE

This impudent fake was shown up by Mr. Adams in the "Great American Fraud." After a period of retirement it is, apparently, again being brought to the attention of the gullible. Several hundred bottles of this stuff were shipped by N. C. and E. J. Foster of La Pressa, Cal., to Tennessee. The labels bore the following statements:

"Original California Waters of Life, formerly known as Isham's Sweet Water Springs, San Miguel Mts., San Diego, Calif. The most salubrious spot on earth. Just as it flows from nature's laboratory. Famous for its miraculous power to destroy diseases and actually rejuvenates humanity by dissolving and evacuating calcareous old age matter and microbes. The worst form of kidney, stomach, blood and skin diseases yield to its marvelous power. Cures rheumatism, Bright's disease, diabetes, gallstones, acute dyspepsia, insomnia, and gives new life. Makes the blood pure and postpones old age. No other water performs such wonderful cures. Requires less than one-half the amount of other medicinal waters to derive the desired results. Some physicians have requested that the precipitation, if any occurs, be saved for their own use as it is pronounced by chemists to be iron and silica and in no manner is the value of the water lessened or deteriorated."

Samples of the product were analyzed by the government chemists and the "California Waters of Life" was found to contain no ingredients beyond those found in ordinary spring water. The government attorneys insisted that the stuff was misbranded under the Food and Drugs Act and the courts, of course, upheld their contention. [*Notice of Judgment No. 830.*]

"TEMPERINE," "DOCTOR FIZZ," AND "CREAM ALE"

These three products were alleged to be temperance drinks and were shipped from Paducah, Ky., to Tennessee by one H. Friedman, who does business as A. M. Laevison & Co. These products were labeled respectively:

"Drink Laevison's Temperine Special Brew, The great Temperance Drink; Guaranteed under the Food and Drugs Act non-intoxicating. A. M. Laevison & Co., Paducah, Ky."

"The Great Temperance Beer, Laevison's Original Doctor Fizz Special Brew; Guaranteed by A. M. Laevison & Co., Paducah, Ky., under the Food and Drugs Act, June 30, 1906."

"The Great Temperance Beer, Laevison's Original Cream Ale Special Brew; Guaranteed by A. M. Laevison & Co., Paducah, Ky., under the Food and Drugs Act, June 30, 1906."

Samples were analyzed in the Bureau of Chemistry and each was found to contain approximately 4 per cent. of alcohol. As ordinary beer contains about the same amount of alcohol, the government officials declared these "temperance" drinks misbranded. In the case of the "Cream Ale" it was declared to be not only misbranded but adulterated in that fermented beer had been substituted in part for the "cream ale." The defendant pleaded not guilty to the charges, but the jury disagreed with him and he was fined $50 and costs. [*Notice of Judgment No. 834.*]

HAIR'S ASTHMA CURE

This nostrum was shipped by Margaretta R. Cochran and Westanna McClelland—who are known to the public as Dr. B. W. Hair—and by Robert Cochran, their agent and manager from their headquarters at Hamilton, O., to the District of Columbia. It was labeled and sold as a cure for asthma. Analyzed by government chemists, it was found to contain:

Alcohol	Glycerin
Potassium iodid	Water

As such a mixture is not a cure for asthma, the product was declared misbranded. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 837.*]

BRUNNER'S GREASELESS PEROXID CREAM

John Brunner and Fred T. Barrett, who do business as the Peroxid Specialty Co., shipped from their headquarters at Cincinnati, O., into Indiana, a drug product labeled in part as follows:

"Brunner's Greaseless Peroxid Cream."

"An ideal bleach for the skin."

"Brunner's Peroxid Cream produces a rich white skin and a complexion admirably fair."

"There is nothing more beneficial to the skin where blemishes or impurities exist than peroxid of hydrogen."

"Only the purest and best of this product is used in making Brunner's Peroxid Cream."

The stuff was analyzed by the government chemists and while, borax, glycerin and spermaceti were found, no peroxid could be discovered. As the purchaser would doubtless believe that in purchasing "peroxid cream" he was getting something containing peroxid of hydrogen, the absence of this substance from Brunner's preparation was deemed misbranding. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 840.*]

GERMAN SEIDLITZ SALTS

This stuff was made by the American Granule and Tablet Co. of Cincinnati, O., and was sold under the following claims:

"Promotes longevity, strengthens the nerves, cures headache after over-indulgence."

"Purifies and decarbonizes the blood."

"Cures chronic and sick headache."

"Genuine Seidlitz must not be confounded with Seidlitz powders."

"The salt is the same as the salts from Seidlitz Springs, Germany."

"Cures hemorrhoids, constipation, bad breath, weak stomach . . ."

"Positively prevents appendicitis, varicocele, apoplexy, tendency to paralysis."

"Old age can be attained by taking small doses daily."

When analyzed by the government chemists, the product was found to contain the following composition:

Sulphur trioxid	41.49
Magnesium oxid	21.18
Water	37.22

As the label and the statements on the label were evidently intended to give the impression that this drug was of German origin and was derived from the Seidlitz Springs in Bohemia, it was declared misbranded for, as a matter of fact, it was manufactured in Cincinnati. The falseness of the therapeutic claims also constituted misbranding. The defendant pleaded guilty and was fined. [*Notice of Judgment No. 843.*]

EGYPTIAN DEODORIZER AND GERM KILLER

This was sold by the Paul Manufacturing Co., of Boston, Mass., as a "perfect fumigator and destroyer of disease germs." When analyzed it was found to consist of wood, apparently cedar, perfumed with essential oils. Experiment showed that the burning of this "germ killer" in a small, closed room did not kill germs after four hours exposure. The stuff was declared misbranded and a fine imposed. [*Notice of Judgment No. 856.*]

PAINEASE

The Jordan Company, which is the style under which Louis W. Jordan does business in Boston, sold a product called Painease. Some of the virtues assigned to this nostrum were:

"Stops all pain such as rheumatism, neuralgia, periodicals, backache, headache, etc., in fact it is for aches and pains of every description."

"It is a sure and very effective remedy for excessive dissipation of any kind."

"Contains no poisonous drug or opiate of any nature."

As this nostrum *would not* stop all pains and as it was *not* a sure, safe and effective remedy for excessive dissipation of any kind and as, further, it *did* contain a poisonous drug, namely, acetanilid (5 grains in each powder), Painease was declared misbranded. The defendant pleaded guilty. [*Notice of Judgment No. 860.*]

PHILLIPS' FACE LOTION

Phillips' Face Lotion was shipped by the Phillips Medical Company, Omaha, Neb., into Colorado. It was labeled in part as follows:

"A radical cure for any or all diseases of the skin."
"Restores it to its natural condition."
"Imparts a feeling of freshness."
"Cures Pimples, Blackheads, Barber's Itch, Eczema and any itching or burning of the Skin."

Analysis showed it to contain:

Methyl (wood) alcohol..	11.2	per cent.
Ethyl (grain) alcohol...	38.56	per cent.
Ash	0.03	per cent.
Resins, etc.	1.17	per cent.
Water	49.04	per cent.

The claims for curative effects made for this preparation being falsehoods and the fact that the amount of alcohol it contained was not correctly given on the label, caused the government officials to declare it misbranded. Under the Food and Drugs Act as it now stands, unfortunately, no cognizance can be taken of the fact that this preparation contained so dangerous a product as wood alcohol. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 862.*]

H. H. H. MEDICINE

"D. Dodge Tomlinson's Celebrated H. H. H. Medicine" was the name of a nostrum shipped from Philadelphia into the District of Columbia. The number of diseases that this "celebrated" medicine was said to cure was remarkable. Not only would sprains, bruises, headache, toothache, rheumatism, neuralgia, sore throat, cholera morbus and cramps yield to its power, but spavins, windgalls, sweeny, contracted hoof, ringbone and poll-evil would disappear like magic. Analyzed by the government chemists, the product was found to be "a dark-colored liquid containing 52.30 per cent. of alcohol by volume, free ammonia, ammonium salts, camphor, salicylic acid, iodin in combination, soap and alkaloid-bearing drug extractives resembling cinchona, volatile oils and water." The labels on the bottles of this stuff stated that it contained 68 per cent. of alcohol; in the circulars that accompanied it, it was said to contain 57 per cent. of alcohol; as a matter of fact it contained only 52.30 per cent. of alcohol. According to the label, also, "it is entirely vegetable;" according to the government analysis, it is not. As the claims for therapeutic effects were false and the claims for the composition also were false, "D. Dodge Tomlinson's Celebrated H. H. H. Medicine" was declared misbranded. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 863.*]

Morbidness and Its Relation to Disease.—Morbidness is primarily an overflow of energy; senility a loss of vital power. The one leads to disease, the other to decay. They are both found in abnormal persons, because an overflow of energy in one direction leads to its diminution in others. The marks of the two, however, are so distinct that they can be readily separated and studied. Of the two, morbidness is more closely allied to defective heredity, and hence the stigmata of the two are practically the same. Defective heredity is the more deep-seated; the morbidness of overnutrition shows itself in a stunted development of the higher faculties. Its cause is an arresting of the normal diversion of surplus energy from the lower to the higher organs. Morbidness ends in disease when the local surplus becomes unmanageable; it creates mental abnormalities through indirect effects on the higher powers. Disease, hysteria and insanity are its most pronounced manifestations; but it has so many minor symptoms that its abnormal effects cannot be related to their cause without the most careful study. (From Patten's "The Social Basis of Religion," New York, 1911.)

Correspondence

Sanitary Features of the Maneuver Camp at San Antonio

To the Editor:—Since President Taft has given prominence to the excellent health report of the maneuver camp (here at San Antonio, Texas, where I am at present), the reasons for it have been sought. The antityphoid inoculation undoubtedly stands preeminent. This is given in three inoculations, ten days apart; 0.5 c.c. the first time and 1 c.c. at each succeeding dose.

The results have been marvelous. Never in the history of the world has a military camp been so free from typhoid fever—only a civilian teamster and a mild case in a recruit, both incurred before reaching here. The reaction from the inoculation is nominal; merely a sore arm as though one had been vaccinated and it was taking.

The other contributory causes for the excellent health have been the pure water, the intense sunshine and the elimination of flies. The latter was the hardest problem of all, but was solved by Colonel Birmingham, the chief surgeon, by destroying the larvæ of the flies, burning off the picket lines with hay and oil once per week, the daily burning out of the latrines with crude oil and hay, the use of fly-proof box-seats to the latrines and the discontinuance of the old garbage-cans. Immediately in the rear of each kitchen an open incinerator was built, according to plans furnished by the medical department, by sinking a shallow trench which was filled up with small boulders and rock; this was banked on three sides by rock and the outside plastered with mud. Here a continuous fire from 6 a. m. to 7:30 p. m. consumes 23 cubic feet of solid garbage, and 100 gallons of liquid slops dripped along the sides for each one-sixteenth of a cord of wood consumed. Garbage is not allowed to stand, but is consumed at once as soon as produced. At some of the incinerators, as at Field Hospital No. 3, Major H. L. Gilchrist commanding, the heat of the burning garbage is utilized for boiling all the water used by the hospital, as well as for sterilizing the bedding and clothing of the patients. At the same hospital the kitchen is double-screened, a vestibule being screened at both ends so that if a fly enters it can be killed in transit without getting into the kitchen proper.

Though an average of over 12,000 troops have been encamped on the same ground for over three months, yet the sick report is about one-half what it was at their home stations. Of the eight deaths here but two have been from diseases developed here, both appendicitis of the fulminating type with general peritonitis. The remaining deaths were: two from drowning, one from pneumonia following measles, the patient dying before being brought into camp; one from cerebral hemorrhage following traumatism incurred before arriving; one from empyema, the patient being already sick on arrival here, and one case of chronic Bright's disease.

In an experience with military camps extending back to 1894 through the Spanish-American War, the Philippine insurrection and the Boxer rebellion in China, this is the first large maneuver camp that I have seen that can be called sanitary in the fullest sense of the word.

FRANK W. FOXWORTHY, Indianapolis.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF HIP-JOINT DISEASE

To the Editor:—It is strange how two persons reasoning from the same facts can reach conclusions diametrically opposite. This apropos of Dr. Nutt's very interesting description of a case of adult hip-joint disease (THE JOURNAL, June 10, p. 1718). To one who studies his joints in the laboratory this case teaches, not the advisability of prolonging conservative treatment through many long, tedious years, but the absolute futility of conservative treatment of joint tuberculosis in the adult. Three "different surgeons, all excellent men of high standing," had attempted the impossible task for perhaps ten years, the fourth tires of it, the fifth now tries it again, and expects "that frequent examinations will determine a dis-

appearance of the signs." I venture the prediction that No. 5 will have as good success as the other four.

LEONARD W. ELY, Denver.

POSTGRADUATE STUDY ABROAD

To the Editor:—Can you give me any information in regard to visiting hospital clinics in Ireland, England, Germany, Italy and France? Where can I spend time with the most profit? If you can direct me to any sources of information it would greatly accommodate me.

E. H. ROSS, St. Johnsbury, Vt.

ANSWER.—This subject was taken up at some length and detailed information was given for various countries in THE JOURNAL, April 8, 1911, p. 1056.

MOTHERSILL'S SEASICK REMEDY IN THE INDEX

To the Editor:—Will you kindly inform me if any report has been made by the Chemical Laboratory of the American Medical Association concerning "Mothersill's Seasick Remedy," which I have frequently had brought to my notice by patients returning from abroad.

W. O. J., Indiana.

ANSWER.—Mothersill's Seasick Remedy was the subject of a contribution from the chemical laboratory that appeared in THE JOURNAL, July 2, 1910. This article is indexed both under the word "Mothersill" and under the word "Seasick," not only in the General Index but also in the Index to Current Medical Literature. We do not wish, in calling attention to this matter, to discourage our readers from writing to us for information. This we are always glad to supply. We receive so many inquiries of the character of the one just answered, however, that we feel it incumbent on us to remind our readers that they may often find a desired item of information more expeditiously by consulting the index of THE JOURNAL than by writing to us.

ABDOMINAL MASSAGE IN CONSTIPATION

To the Editor:—Please refer me to literature on abdominal massage for the cure of constipation.

L. J., Arizona.

ANSWER.—We find the following references in which the title indicates that massage is one of the remedies discussed. There is a considerable number of other articles on the treatment of constipation, many of which undoubtedly consider the subject of massage, although it is not indicated by the title.

Teachnor, W.: The Mechanical Treatment of Habitual Constipation, *Ohio Med. Jour.*, 1908, vi, 268.

Juettner, O.: Physical Treatment of Constipation, *St. Louis Med. Rev.*, 1908, lvii, 187-190.

Gant, S. G.: Treatment of Mechanical Constipation and Obstipation, *New York Med. Jour.*, September, 1909.

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BACTERICIDAL EFFECTS OF ALCOHOL

To the Editor:—I note that in THE JOURNAL, June 10, page 1740, in reply to a query concerning the bactericidal effects of alcohol, you say that it would require several hours for 94 per cent. alcohol to kill pus-producing organisms, and that the stronger the alcohol the more efficient it is. May I call your attention in this connection to the experiments of Harrington and Walker (*Boston Med. and Surg. Jour.*, May 21, 1903), who found that 95 per cent. alcohol was no more bactericidal than 70 per cent., and in the absence of moisture was distinctly less efficacious. This conclusion is in accord with that of numerous other authors, for instance: Rideal ("Disinfection and Preservation of Food," third edition, page 322) quotes the experiments of Minervini, in which it was shown that with 70 per cent. alcohol the *Staphylococcus pyogenes aureus* was killed in ten minutes, but survived three days' exposure to 99 per cent. alcohol. Similar figures were obtained with other organisms.

HORATIO C. WOOD, JR., Philadelphia.

To the Editor:—On page 1740 of THE JOURNAL, June 10, 1911, are statements indicating that the strongest solutions of alcohol have greater bactericidal effects than solutions of moderate strength, e. g., 60 per cent., and that the strong solutions are the most efficient bactericides both on the skin and in glass containers. This opinion differs from statements in our recent text-books and certainly is at variance with the following quotations from Harrington and Walker (*Boston Med. and Surg. Jour.*, cxlviii, 548-552, May 21, 1903):

"Against dry bacteria, absolute alcohol and ordinary commercial alcohol are wholly devoid of bactericidal power, even with twenty-four hours' direct contact, and other preparations of alcohol containing more than 70 per cent. by volume are weak in this regard, according to their content of alcohol—the stronger in alcohol, the weaker in action."

"The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria, such as the pus organisms, in the dry state, are those containing from 60 to 70 per cent. by volume, which strengths are equally efficient against the same organisms in a moist condition."

"The stronger preparations of alcohol possess no advantage over 60 to 70 per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin."

W. A. SAWYER, Berkeley, Cal.

TREATMENT OF BROMIDROSIS

To the Editor:—Please give me some treatment for bromidrosis. Some time ago I saw an article in reference to the treatment of this condition and was under the impression it was in THE JOURNAL, but cannot find it.

D. E. LITTLE, Eufaula, Okla.

ANSWER.—We find no references to this subject in recent current literature. The treatment should be the same as for hyperidrosis to check the sweating. Appropriate regulation of diet and treatment for general conditions should be instituted. Salicylic acid in 5-grain doses has been used internally with success. Locally the following may be used: Chromii trioxidum (40 parts in 500) or liquor formaldehydi (10 parts in 500) or potassium permanganate (1 to 3 parts in 500) or equal parts of salicylic acid and starch as a dusting powder. (See "Physicians' Manual of the Pharmacopeia and National Formulary," p. 180). Applications should be made twice daily, and should be followed by thorough dusting of the parts with boric acid, which also should be dredged on the stockings and into the shoes if the feet are the parts subject to the perspiration. Stockings may be soaked in a saturated solution of boric acid and dried. Radiotherapy is reported efficient.

LITERATURE ON FLIES

To the Editor:—Please inform me of any literature respecting the house-fly.

V. F. MARSHALL, Appleton, Wis.

ANSWER.—Pamphlets for the instruction of the public regarding flies have been published and distributed by the state boards of health of California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Mississippi, Montana, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Virginia, Washington and Wisconsin. Copies can be secured by writing the secretary of the State Board of Health of any of these states, addressing him at the capital city. Pamphlets and leaflets have also been issued by the Merchants' Association's Committee on Pollution of the Waters of New York, of which Edward Hatch, Jr., is chairman, and by the Anti-Fly Crusade of Detroit. Dr. S. J. Crumbine, secretary of the Kansas State Board of Health has been especially active in promoting this campaign. The Chicago Department of Health has also taken the subject up in its bulletin.

One of the most comprehensive surveys of the subject yet published is contained in "The House-Fly—Disease Carrier," by L. O. Howard, chief of the Bureau of Entomology, U. S. Department of Agriculture. The book is published by Frederick A. Stokes Company, New York; price, $1.60.

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LEGAL DEFINITION OF THE PRACTICE OF MEDICINE

To the Editor:—Please inform me if there has been given an authoritative judicial opinion as to the definition of the "practice of medicine." There has been much discussion on this subject in our county society. A. I. LAWBAUGH, Calumet, Mich.

ANSWER.—There are a great many supreme court decisions on this point, but they are mainly decisions interpreting the definition found in the medical practice act in force in the state at the time the decision was rendered. This question is one of the most important questions to be considered in framing a medical practice act.

There are two alternatives. One is to include no definition whatever in the law and to leave the courts to determine what is the practice of medicine in accordance with common usage, standard dictionaries, etc. The other is to include a definition of the practice of medicine in the law and thus make the definition a part of the statute. This, of course, has the advantage of being explicit; but, on the other hand, if the definition is a part of the statute, then the courts will refuse to recognize anything as being the practice of medicine that is not included in the definition found in the law.

The laws in the different states vary greatly. There are also a great many supreme court decisions involving the definition of the practice of medicine, probably forty or fifty in all. These decisions, however, bear principally on the question whether a certain specific act on the part of a person accused of violating the medical practice act is or is not included in the definition. For instance, the law in Michigan makes the use of the letters "M.B." or "M.D." or of the title "Doctor" or "Dr.," or any other sign or appellation, prima facie evidence of practicing medicine and surgery within the meaning of the law. In Illinois the practice of medicine is defined as "treating or professing to treat, operating on or prescribing for, any physical ailment or any physical injury to or deformity of another person." Here the courts have held (People *v.* Lehr, 196 Ill. 361; 63 N. E. 725) that the sale of a device or mechanical appliance is not the practice of medicine. The supreme court has also held (People *v.* Smith, 208 Ill. 31; 69 N. E. 810) that the sale of spectacles for a visual defect is not the practice of medicine; that nursing an invalid is not the practice of medicine. (Oswald *v.* Nehls, 233 Ill. 438; 84 N. E. 619). On the other hand, the supreme court has held (People *v.* Gordon, 194 Ill. 560; 62 N. E. 858) that manipulation and rubbing is the practice of medicine. These examples might be multiplied indefinitely. Unfortunately, there is no uniformity on this point. For instance, in fifteen states the courts have held that osteopathy is the practice of medicine, while in twenty they have held that it is not.

These illustrations show that it is impossible for the courts to render an "authoritative" decision on this question, since the courts exist to interpret the laws which are enacted by the legislatures but cannot go beyond them. If the state legislature passes a medical practice act without a definition of the practice of medicine in it, then the courts can use their own discretion in deciding what is or what is not the practice of medicine; but if the legislature includes a definition in the law, then the courts must confine their decisions to an interpretation of such a definition; and naturally their decisions vary in accordance with the terms of the definition as it is found in the law. As we have something like forty-eight different state laws and as each one has a different definition of the practice of medicine, it will readily be seen that the decisions on this question are somewhat varied.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

OPTOMETRY BILL DEFEATED IN PENNSYLVANIA

The optometry bill introduced into the legislature in Pennsylvania has been indefinitely postponed by unanimous vote of the committee to which it was referred. In a letter to the Westmoreland County Medical Society, published in the bulletin of the society for June, Dr. James Thorington, chairman of the state committee on optometry, calls the attention of the physicians of Pennsylvania to the necessity of having more physicians to do refraction work. He says, "If physicians in certain counties do not prescribe glasses for their patients then the patients will naturally drift into the hands of the jeweler or optician. If one physician in each one thousand population in any community would take a postgraduate course in ophthalmology and have the assurance of other physicians in his town or city that they would refer their patients for refraction, then the . . . so-called optometry question would be solved and the eyesight of the citizens would be correctly cared for."

LEGISLATION IN ILLINOIS

Since the last notice regarding Illinois legislation appeared in this department, Governor Deneen has signed the bill appropriating $60,000 a year for the medical department of the University of Illinois. By this act the College of Physicians and Surgeons of Chicago becomes the medical department of the state university. The law also provides a fixed rate of taxation for university purposes, thus making the University of Illinois, with its various departments, to a certain extent independent of the legislature, as the amount of the income for educational purposes is now definitely fixed by law.

Governor Deneen has vetoed House Bill 608, which provided for the appointment by local boards of education or school directors of one or more school nurses to have general oversight and supervision of the health of the pupils in public schools. This bill was introduced by Representative Carter of Champaign. In vetoing the bill, Governor Deneen says, "Under this measure the superintendency of the general health of pupils of public schools and the fitness of school buildings for occupancy may be placed in the hands of persons lacking knowledge of the anatomy of the human body and the conditions existing in disease and ignorant of the rudiments of sanitary science, as no qualifications whatever are required in the school nurses to be appointed. If these matters are to be entrusted by school directors to nurses it should be demanded at least that the nurses appointed should possess qualifications which will enable them to perform intelligently the duties with which they are charged as is required of school teachers."

While the intent of this bill may have been praiseworthy, the bill itself was open to many objections and its passage was opposed by the State Board of Health, which asked Governor Deneen to veto it. The bill was never approved by the physicians of the state and the action of the governor in vetoing it is entirely satisfactory to them.

Medicolegal

Admissibility in Malpractice Case of Evidence of Conveyance of Property to Wife—Damages Recoverable

The Appellate Court of Indiana, Division No. 1, in Harrod vs. Bisson (93 N. E. R. 1093), an action brought to recover damages alleged to have resulted from the negligent and unskilful manner in which the defendant reduced and treated the plaintiff's fractured and injured wrist and hand, where it affirms a judgment for $1,000 in the plaintiff's favor, holds that it was admissible to ask the defendant, on cross-examination, whether he conveyed his real estate to his wife after this action was brought or just before. The court says that, as an independent fact, this conveyance by the defendant of his real estate to his wife was foreign to any issue in the case, and it could be competent and material, if at all, but for one purpose, namely, it might disclose inculpatory facts and circumstances, or an admission by way of acts and conduct proper to be submitted to a jury, as tending to show that the defendant himself was conscious of having failed and neglected to treat the plaintiff's injured arm in that skilful and careful manner which the law required under such circumstances, and feared that he might be required to respond in damages on account of such neglect and lack of skill. The court assumes that it was on this theory that the court below admitted the evidence. The defendant testified in chief to his treatment of the broken arm, and in effect denied any act of omission or commission that in any way tended to show any lack of professional skill, care or attention, but said in effect that he did everything that a careful, attentive and skilful surgeon would have done under the same circumstances. This being the effect of his testimony, it was proper on cross-examination for the plaintiff to elicit from him any admission, by way of words or conduct, that tended to contradict, destroy, weaken or discredit his said evidence in chief, and the court thinks the evidence, or admission elicited by the question objected to, tended, in some degree, to have that effect, or at least was a question necessarily preliminary to other questions which might elicit answers having such tendency and effect, and that for that reason the evidence, if competent and proper at all, was proper in cross-examination. There seems to be some conflict in the authorities in different states as to the admissibility of this character of evidence, but the court thinks the weight of authority and the better reasoning of the same favors its admission. However, after this question and an affirmative answer, the defendant was entitled, on a redirect examination, to a full explanation and statement of all the facts and circumstances of the conveyance to the end that the jury might draw no improper inference from the admitted evidence. He also had the further protection that the law affords of defining the application and purpose of the admitted evidence by tendering an instruction on the same.

It was objected that an instruction authorized the jury to take into account, in estimating damages, the worry and annoyance of the plaintiff, on account of contemplation of her deformity. There was no doubt but that counsel were supported by the weight of authority in their contention that any annoyance, worry or mental pain resulting merely and solely from the contemplation of a deformed member of the body, and the humiliation of going through life in such a crippled condition, were too remote to be considered as elements of damage. On the other hand, it is well settled in Indiana that personal disfigurement or deformity resulting from negligent injury is a proper element to be considered in estimating damages, and such "anxiety and distress of mind as are fairly and reasonably the plain consequences of the injury complained of" are proper elements of damages. And it was entirely proper that the jury, in estimating the damages in this case, should take into account any personal deformity resulting to the plaintiff from her injuries, and it was proper also that they might consider any mental pain, suffering, "worry" or "anxiety" experienced by her in the actual use of the injured wrist and hand that was the direct result of the deformed condition. It was in this sense that the jury were authorized by the instruction to take into account such elements of "worry" and "anxiety," and not that the jury should consider any "anxiety" or "worry" resulting from the humiliation that came from the contemplation of the deformed condition.

What are Covered by Questions as to "Former Illnesses"—Tuberculous Laryngitis

The Supreme Court of Minnesota holds, in Gruber vs. German Roman Catholic Aid Association of Minnesota (129 N. W. R. 581), that a general question, in an application for life insurance, calling for information concerning "former illnesses" of the applicant, does not require the disclosure of an illness or ailment of a trifling, temporary or unimportant nature, but only those of a serious, dangerous or permanent character, although the rule no doubt is otherwise where the questions are specific.

The insured in this case in January, 1907, made an application for membership in the defendant association. His answer to the question: "Former illnesses and injuries?" was, "Small-pox in 1904. Complete recovery." But the evidence tended to show that during parts of the year 1905-06 he was treated by his physician for a throat trouble, the nature and character of which did not seem to have been disclosed to him. He was advised to make a change of climate, in the expectation that the difficulty would disappear. Acting on that advice, he went to Colorado in the spring of 1906, and remained there until August of that year, when he returned to his home in Minnesota, being pronounced cured, by the physician. He was about 24 years of age. In January, 1907, he made the application and answer therein stated above. In the fall of 1908, he was again taken ill, and died of tuberculous laryngitis in the spring of 1909. The association contended that the evidence was practically conclusive that he was suffering from that disease during the time of his treatment in 1905 and 1906, and that his failure to disclose it was fatal to his beneficiary's right to recover the insurance. Not so, however, is the legal decision.

In affirming a judgment in favor of the plaintiff beneficiary, the court holds that the jury were properly instructed that if the illness was of a serious, dangerous or permanent character, or of a nature continuous and not readily recovered from, it was the applicant's duty to make it known, and if he failed to do so no recovery could be had; but if the illness was merely temporary in its character, something that was unattended with any serious consequences, or from which serious consequences were not to be apprehended, something that passed away, from which he recovered and which was forgotten, the failure to disclose it would not avoid the contract. It is also held that the question whether the application in this case failed to disclose a prior serious or permanent illness was one of fact for the jury, and that the evidence sustained the verdict that it did not. Controlling effect was not to be given the advice of the physician. Suggestions that a change of climate would be beneficial are often made by physicians, when no serious ailment or disease is present. It was clear from the evidence that the man had no thought that he was suffering from a serious ailment, fully believed that his throat trouble had disappeared, and had apparently forgotten about it, while the physician also testified that the disease resulting in death might well have originated and come on after the man had become a member of the society.

Death from External Injury by Accidental Means—Susceptibility to Disease

The Supreme Court of Minnesota, in Ludwig vs. Preferred Accident Insurance Company (130 N. W. R. 5), affirms a judgment for the plaintiff for indemnity for the death of her husband, on a policy of accident insurance. It appeared that during the fifth or sixth inning in a game of baseball, in which the insured was engaged, he attempted to "steal second," and slid head foremost on his stomach the last nine or ten feet of the distance, stopping with his stomach over and on the second base, which consisted of a piece of a cement sidewalk paving block or slab, about 2 inches thick and 12

inches square, rough on one edge and smooth on the others. He indicated that he was hurt, and where; but continued to play until the end of the game. A day or two later he called a physician. His condition grew gradually worse, until he was taken to a hospital and operated on for appendicitis. His death was caused by septic peritonitis. The autopsy revealed a gangrenous condition of the appendix. Two enteroliths or concretions of the stony formation composed of a hardened fecal matter were found to be where the appendix was ruptured. His written application for insurance stated that he never had had physical infirmities or defects, and had not received medical or surgical attention within seven years immediately preceding. But it appeared that he had consulted a physician once or twice somewhat more than a year previous to his death; that the physician found some tenderness over the region of the appendix on pressure, and some soreness, and that he was suffering from a mild case of appendicitis, catarrhal in nature; that the physician prescribed a laxative, and never heard him complain after that.

The court holds that the evidence was sufficient to justify the jury in finding that the insured was injured by accidental means, and that the injury so received was the proximate cause of his death. It also holds that there was no reversible error in instructing the jury: "If you find that Ludwig had at some previous time suffered from an attack of appendicitis, and he had fully recovered therefrom, so that immediately before the external accidental injury at the ball game, if you find that there was such an injury received by him, there was then no appendicitis present, but because of such previous attacks Ludwig was more susceptible to the disease, and such an injury started it, there may be a recovery, although the external accidental injury would not have produced the appendicitis if his appendix had never been previously impaired by disease. . . . But if, because of the former attack, there was not merely a susceptibility to a further attack, but the actual disease itself existed, liable to be rendered active and virulent by Mr. Ludwig, in that event the active disease which resulted in death would not be regarded as the result of the fall alone, but as joint result of the fall and the latent disease, and there can be no recovery."

Essentials to Conviction of Rape on Insane Person

The Supreme Court of Missouri, Division No. 2, says that in the rape case of State vs. Warren (134 S. W. R. 522) there was ample evidence to support a finding that at the time of the defendant's alleged act of intercourse with the prosecutrix she was so mentally deranged as to be incapable of understanding the moral nature of the act, or of giving assent thereto. To sustain the conviction, however, the state must go further, and give some evidence tending to show that the defendant knew of and took advantage of this mental infirmity of the prosecutrix, or that he intended to have carnal knowledge of her body by force, if necessary, and regardless of her consent. As to the latter proposition, there was no evidence that such was his intent. All that the defendant did was with her apparent assent and approval. Whether there was any testimony from which knowledge of her incapacity to consent could be imputed to the defendant was a question not free from difficulty. Reason and authority suggest the following principles as guides in the solution of this question: (1) Carnal intercourse with a woman incapable from mental infirmity of giving consent is rape, unless the man is ignorant of her infirmity and its extent, believes he has her consent, and has no intention to have intercourse without her consent. (2) Where the woman in point of fact yields an apparent assent to the act, the burden is on the state to prove that at the time of the act she was incapable, because of mental disease, of assenting to or dissenting from the act, and that the defendant knew of such incapacity. It was therefore error to instruct the jury that mere insanity of a character to be recognized by a person of ordinary intelligence was enough to convict. There were two objections to this instruction: (1) Mere insanity, even if known, does not make the act rape. The insanity must totally destroy the capacity to consent. (2) The defendant must know that there is no capacity to consent. This knowledge may be inferred from facts and circumstances in evidence, but the jury must find as an ultimate fact that the defendant did know.

Remedy for Refusal of License is Appeal, Not Mandamus

The Supreme Court of Washington says that it was conceded in State ex rel. Brunn vs. State Board of Medical Examiners (112 Pac. 746) that no appeal was taken from the order of the board refusing the relator a license, and the controlling questions before the court were whether the relator had a complete and adequate remedy by appeal from the order of the board, and, if he had, whether mandamus would lie to compel the issuance of a license. There could be no doubt but that the first question must be answered in the affirmative. The right of appeal was expressly granted by section 8399 of the Code, the same to be taken within thirty days after the filing of the decision of the board. Then, it is a well-established doctrine, repeatedly recognized and announced by this court, that mandamus will not lie in favor of a relator who has an adequate remedy at law, by appeal or otherwise. Section 8399 above mentioned provides for a trial *de novo* (anew), on appeal from the order of the board, and such a trial *de novo* would secure to a complaining party as complete an investigation and as adequate a remedy as could possibly be obtained in a mandamus proceeding. It is manifest that the relator was afforded an adequate remedy by appeal, had he sought the same within the statutory period. This being true, he would not obtain relief by mandamus. Nor does the court agree with the contention that because the time for appeal had expired, and no remedy by appeal remained to the relator, he should obtain a writ, he insisting that his license was illegally refused. The adequacy of his remedy by appeal could not be affected by his failure to avail himself of such remedy within the statutory period.

Consent Required for Delivery of Bodies to Medical Colleges

A trial term of the Supreme Court of New York, New York County, says, in Newman vs. Stewart (127 N. Y. S. 866), that, under section 2213 of the New York Law, dissection of a human body may be performed with the consent of the husband, wife, or next of kin. This is extended, by section 316 of the Public Health Law, so as to permit hospitals to deliver corpses to medical colleges with the assent of "relatives or friends." A reasonable construction of this provision is that the consent of relatives must be obtained if they can be found, and that reasonable inquiry must be made to find them. Only in case they cannot be found will the assent of "friends" suffice. The evidence in this case did not disclose what, if any, effort was made to discover the relatives of the deceased, beyond the fact that the name of a woman was entered as "friend" in the hospital records. Her consent was obtained, and the post-mortem examination made in reliance on it. This was not a compliance with the law.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Michigan State Medical Society, Battle Creek

June

1 Hospital Construction with a View to Economy in Maintenance. J. N. Holcomb, Grand Rapids.
2 Etiology of Anterior Poliomyelitis. T. Klingmann, Ann Arbor.
3 The Short Anesthetic, the Least and the Shortest Operation. B. Holmes, Chicago.
4 Genu Valgum, with Observations on Corrective Osteotomy. S. C. Graves, Grand Rapids.
5 *Diagnosis of Incipient Pulmonary Tuberculosis, with Special Reference to the Use of Tuberculin. T. D. Gordon, Grand Rapids.

5. **Tuberculin.**—Of forty-one patients, seen by Gordon, giving negative cutaneous tests, only one reacted to a subcutaneous injection, while of forty cases positive to the skin reaction thirty-six reacted to a subcutaneous injection; four were doubtful, due partly to the fact that it was not possible to

give subsequent injections. The patients who gave definite cutaneous reactions almost invariably proved very sensitive to subcutaneous injections. As an indication of sensitiveness to tuberculin, Gordon believes that the use of graded strengths of tuberculin applied by the technic of von Pirquet is as sensitive as any other test, and shows fairly well the cases that would react to the subcutaneous test. In view of the fact that a certain proportion of apparently healthy adults react to all the tests and that some of the worst cases fail to react, we should not allow any test of this sort to interfere with a careful history and examination of every case in which tuberculosis is suspected. Tuberculin alone cannot give a diagnosis A patient who fails to react to a series of tests carefully made with a good fresh preparation very probably does not have incipient tuberculosis. A patient who gives a reaction may have a latent or healed lesion, or the lesion which caused the reaction may be in a part of the body far remote from the disease which is causing the signs and symptoms of the patient's present trouble.

New York Medical Journal

June 3

6 Practical Treatment of Nervous People. J. J. MacPhee, New York.
7 *Tuberculosis of the Kidney in Women. H. N. Vineberg, New York.
8 Acute Hematogenous Infections of the Kidney and Pyelitis of Pregnancy; Their Medical Treatment. L. Louria, Brooklyn.
9 *Influence of Pregnancy on Diseases of the Eye. D. K. Shute, Washington, D. C.
10 *Immediate or Deferred Operation in Tubal Pregnancy? E. McDonald, New York.
11 *Relation of Uterine Myomata to Heart Disease. J. A. McGlinn, Philadelphia.
12 Acetone in Inoperable Cancer of the Uterus. A. Samuels, Baltimore.
13 Carcinoma of the Abdominal Wall in a Boy of 17 Years. J. P. Grant, New York.
14 *The "Liquor Bellostii" Test in Paresis. G. S. Amsden, White Plains, N. Y.

7. **Tuberculosis of the Kidney.**—According to Vineberg's observations, operative renal tuberculosis is more frequently met with in women than in men.

Renal tuberculosis in women is seldom or never associated with tuberculosis of the genital organs.

It is frequently overlooked in women and wrongly diagnosticated as catarrhal cystitis.

From the fact that it is oftener unilateral in women than in men, and that it is seldom or never associated in the former with genital tuberculosis, the prognosis of operative interference is much better in women than in men.

Nephrectomy for a tuberculous kidney in women is no bar to marriage or to bearing children.

9. **Pregnancy and Eye Diseases.**—Shute pleads for systematic and careful examination of the eyes of pregnant women by obstetricians with the view of safeguarding their vision and even their lives. He has found that albuminuric retinitis may exist for weeks, and even months, without pregnant women complaining of impairment of vision. The retinitis can exist for some time independently of, as well as in association with, symptoms of renal disease; also, independently of, as well as in association with, albuminuria. The presence of this retinal inflammation indicates a far advanced condition of the toxemia of pregnancy; or of that manifestation of the toxemia known as the kidney of pregnancy. The presence of this disease, in a larger number of cases than is realized, indicates a very grave prognosis as to the life of the patient, for the kidney of pregnancy may be followed by chronic interstitial nephritis. As long as the albuminuric retinitis lasts there is danger of vision being irretrievably ruined at any moment and in any month. The ophthalmoscope is the only means by which the earlier and relatively much less serious stages of toxemic retinal involvement can be detected. Also, it is the only means by which we may know that albuminuric retinitis even exists. Should the earlier stages of retinal involvement be detected, as they can, by the use of the ophthalmoscope, such remedial procedures can be adopted as may prevent the development of so sinister a disease as albuminuric retinitis; and, also, the necessity of inducing premature labor, in order to safeguard vision, may be obviated. When uranalyses are negative, the presence of pathological arterial tension and pathologic leukocytosis are invaluable symptoms of the toxemia of pregnancy. If increased arterial tension is persistent, as indicated by an abnormally accentuated second sound of the heart in association with a tense and wiry pulse, or as revealed by the sphygmomanometer, an ophthalmoscopic examination of the eyes ought by all means to be made at stated intervals.

10. **Operation in Tubal Pregnancy.**—The best treatment according to McDonald seems to be immediate operation without precipitation.

11. **Uterine Myomata and Heart Disease.**—From McGlinn's report a definite entity of a fibroid heart cannot be sustained. He found in a study of 113 post-mortem records of women dying with uterine myomata that such tumors occurring during middle and advanced life, are practically always associated with sclerotic heart lesions. These lesions are part of a general process and bear no relation to the fibroid. McGlinn is positive that many of the symptoms referable to the cardiovascular system found in fibroids are due to secondary anemia and occur just as frequently in anemia due to other causes. He notes that in fibroids there were found twelve normal hearts whereas in the cases without fibroids there were eighteen normal hearts. Again in the fibroid cases there were 195 lesions of the heart which were purely sclerotic in character and the same number of like lesions were found in the cases other than fibroids. These lesions expressed in percentage of the total lesions found were for the fibroids 80.9 and for the other cases 84.1.

While the total heart lesions in the fibroid cases were practically double those found in the non-fibroid ones, the normal hearts found in the latter exceeded the former by one. The sclerotic lesions found in the fibroid cases numbered fifty-one while those found in the non-fibroid cases were twenty-three. This would seem to show that fibroids did produce sclerotic changes in the cardiovascular system. This inference, however, is not justified, says McGlinn. He had no difficulty in collecting an equal number of cases, all under the age of 30 years, in which the total sclerotic lesions far outnumbered those found in the fibroid cases. Such a comparison would, he believes, be justified, as one must consider the fibroids selected cases as far as heart changes are concerned. In view of these considerations the verdict of not proved is a proper one.

14. **"Liquor Bellostii" Test in Paresis.**—Liquor Bellostii is prepared by dissolving mercury nitrate ($Hg_2(NO_3)_2$) in water slightly acidified with nitric acid. Pulverize 10 gm. of the salt in a mortar and very gradually add to this 86.6 c.c. of water to which 24 drops of a 25 per cent. solution of nitric acid has been added. If the acid water is not added slowly an insoluble precipitate results. The solution when right should be clear. The test is done as follows: To a few cubic centimeters of acid urine, which has been boiled, add 10 to 15 drops of liquor Bellostii. The urine is then boiled again two or three times. In negative cases there is a heavy white or chalky yellow precipitate formed; in positive results the precipitate is gray, almost black, and the supernatant fluid is yellowish. Of the urines thus examined by Amsden at Bloomingdale, thirty are included in the following note, of which fifteen were from cases of unquestioned paresis. The remaining fifteen control cases included the normal, paranoid, dementia præcox, manic depressive insanity and Bright's disease.

Of the paretics, four were positive, five so nearly negative that they were doubtful, and six frankly negative. Of the positive cases, three were clinically active; one stationary, bed ridden and entirely demented. In one of the active cases, two days before death, the reaction changed from doubtful to very positive. Of the doubtful cases, two were in the early stages of the disease and excited; the other three were in excellent states of remission and very intelligent. Of the negative cases, two were active and the others stationary, but decidedly demented.

Of the fifteen remaining cases, certainly not paretics, four were positive, three doubtful and eight negative. These results, says Amsden, need no comment as to the trustworthiness of

this test as a diagnostic measure, whatever value it may have from a metabolic standpoint.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

June 1

15 *Abnormal First Dorsal Rib Simulating Cervical Rib. J. Hvoslef, Minneapolis.
16 Polio-Encephalitis. E. King, Fulda.
17 Appendicitis with Complications. J. W. Little, Minneapolis.
18 Anatomic and Clinical Relationship of Nasal Accessory Sinuses to Diseases of the Eye. W. R. Murray, Minneapolis.
19 Hay Fever; Its Name and Nature. W. N. Porteous, Minneapolis.

15. **Abnormal First Dorsal Rib Simulating Cervical Rib.**—In Hvoslef's case a young man, employed in a railway freight office, complained of pain and disability of his left arm, which had commenced the previous summer. It was mainly the elbow that troubled him. He had a steady pain there, radiating to his forearm and hand. He also had some difficulty in extending his forearm, and complained of a tingling sensation in his fingers. The pain was almost steady, both night and day. He had also noticed that his left hand would become very cold and pale, almost white at different times. Otherwise he was in good health. On examination of the arm the elbow-joint was found normal, with the exception of a spasmodic contraction of the biceps muscle, preventing complete extension of the forearm. Some atrophy of the muscles of the forearm was also present. There was a bony prominence slightly above the clavicle, about at the junction of its inner and middle third. The skiagram showed that the abnormal rib was not a cervical rib, but an abnormally developed first dorsal rib, originating, as its normal mate on the other side, from the first dorsal vertebra and ending with a jointed attachment to the second rib. The end of the rib was found articulating with the inner upper surface of the second rib, and the cervical plexus rested on top of this joint which, with its capsule, formed the bulk of the prominence felt above the clavicle before the operation.

Boston Medical and Surgical Journal

June 8

20 *Classification of Diabetes Mellitus. A. E. Austin, Boston.
21 *Prognosis and Treatment of Tuberculosis of the Ankle in Adults. M. H. Rogers, Boston.
22 Problems of School Inspection. W. P. Coues, Boston.
23 *Tuberculous Meningitis with Leukocytosis and a Purulent Exudation Containing Many Bacilli. I. C. Walker, Boston.
24 The Public Health Laboratory. B. L. Arms, Boston.
25 Pregnancy as a Possible Relief for Visceral Ptosis. L. T. Brown, Boston.

20. **Diabetes Mellitus.**—From a number of instances of varied sugar metabolism studied by Austin, he thinks that a plus utilization indicates a hopeful outcome of the disease and though the patient may have to maintain a moderate deprivation of carbohydrate food for a long period, and possibly for life, yet after a time a diet in which sugar alone is eliminated may be possible. In a restricted diet, however, he says, too strong a warning cannot be given against the so-called gluten breads, which are always exploited as containing a large protein content, but nothing is ever stated in regard to the amount of starch contained, or at least the term "practically starch free" is used. If the amount of protein is worthy of being accurately stated in terms of per cent., certainly the starch is worthy of the same treatment and such breads could then be much more intelligently employed, for it would be easy to add the amount of carbohydrate ingested in this way to that taken in other ways, so that a basis for our calculation of utilization could be had. It has been Austin's experience in the use of every diabetic bread, but one, and that not particularly palatable, that even their restricted use causes an increased elimination of sugar when the utilization factor is 0, which can be determined either by the collection of the urine after twenty-four hours fasting or comparing elimination with the intake; three possibilities are always present, either that the tolerance will remain stationary, that it will increase, or that it may diminish. By complete removal of starch and sugar for a period during which the urine should be carefully watched for sugar and particularly for diacetic acid, we can soon determine in which direction the indications with reference to tolerance point and govern ourselves accordingly. If the utilization is minus and the body cannot even oxidize the amount of sugar that theoretically ought to be derived from proteid containing not more than 10 gm. of nitrogen daily, then tolerance has reached its lowest ebb and there is very little likelihood that restoration will take place. Such individuals usually die from steadily increasing acidosis.

21. **Tuberculosis of the Ankle in Adults.**—This paper is a study of the results in the treatment of tuberculosis of the ankle-joint in adults, and is based on the cases (23) at the Massachusetts General Hospital during the last seven years. From a study of these cases it is clear that fixation is not sufficient to control tuberculosis of the ankle-joint in adults in a large percentage of cases, and even in mild cases it requires a long period of time. Chronic invalidism, meaning by that a certain mental condition that these people are sure to reach, when they are of no use to society, should be avoided. This can be done by an early diagnosis, and by outlining the treatment so that the end-result is obtained within one or two years. Rogers holds that a complete operation, a radical removal of the focus, should be performed before there is much involvement of the various joint-surfaces, and it should not be undertaken only because fixation has failed. Better results can, undoubtedly, be obtained if this is done as soon as the diagnosis is established, and seems justifiable since fixation is not sufficient.

Amputation has been necessary in over 50 per cent. of these cases. Rogers would advise it when the process has invaded several joint-surfaces especially posterior to the astragalus. The results of amputation are good from the patient's point of view, and an artificial leg is preferable to long-continued dressings and sinuses. The length of time of treatment should be diminished to within two years.

23. **Tuberculous Meningitis with Leukocytosis.**—A young adult with physical signs of meningitis, fever and leukocytosis showed on lumbar puncture turbid spinal fluid, containing 98 per cent. of polymorphonuclear leukocytes and very many bacilli, with the morphologic and tinctorial peculiarities of the tubercle bacilli, yielding by animal inoculation the typical lesions of tuberculosis. The case is reported by Walker to emphasize the fallacy of diagnosing meningitis as due to pyogenic cocci from obtaining a turbid spinal fluid containing a large excess of polymorphonuclear leukocytes.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

May 27

1 *Points of Clinical Interest Connected with the Exanthemata. S. Phillips.
2 *Fifty-Six Cases of Cleft Palate Treated by Operation. J. Ulrich.
3 *The Pressor Bases of the Urine. W. Bain.
4 *Nature of Connection Between Erythemata and Lesions of Joints. A. E. Garrod.
5 Salvarsan in Syphilis. G. Stopford-Taylor and R. W. Mackenna.
6 A Case of Spontaneous Fracture of the Leg Bones, Possibly Due to Mycotic Infection. E. W. H. Groves.
7 Acute or Paroxysmal Pulmonary Edema. A. E. Carver.
8 *A Case of Gastro-Enterostomy After Fifteen Years. R. Bevan.
9 Pneumothorax Complicating Bronchopneumonia in a Child Aged 2 Years. A. E. Sanderson.

1. **Exanthemata.**—The decrease in mortality of all the exanthemata in Great Britain is shown by Phillips to have been 73 per cent. in fifty-eight years. Of the individual diseases typhus has all but completely disappeared; small-pox occurs only occasionally as an epidemic, and is trivial in mortality as compared with that of by-gone years. As to scarlet fever, the mortality has fallen from 890 deaths annually per 1,000,000 persons living in the decade 1861-70 (1861 was the first year in which scarlet fever was classified by the registrar separately from diphtheria), to 80 deaths per 1,000,000 living in 1908—a decrease of 91 per cent. in forty-eight years. The deaths from measles per 1,000,000 living fell from 412 annually in the decade 1851-60, to 362

annually from 1901 to 1905. Measles is still, however, the most fatal of exanthems, causing three deaths to every one from scarlet fever, and to every two deaths from diphtheria; whooping-cough alone approaches it, causing 300 deaths to every 380 from measles. Since typhoid was first separated from typhus in the registrar's returns in 1870, the annual mortality from it has fallen from 390 per 1,000,000 persons living to 75 per 1,000,000 in 1908, a reduction of 80 per cent. Comparing the notifications of the disease with the number of deaths annually since the year 1890, the case fatality has fallen very little, if at all, from 16.9 per cent. to about 16 per cent. (it was 16.8 in 1908). It would, therefore, appear that the lessened number of deaths from typhoid is due in far greater degree to its lessened frequency of occurrence than to its lessened danger in individual cases.

2. **Cleft Palate.**—In the worst cases of cleft palate Ulrich operates, if necessary, on the alveolar process by the unilateral method with a Duplay's operation, by the double method after Bardeleben, and prefers to operate as early as possible. He operates subsequently for harelip at the age of from 4 to 6 months. The cleft in the palate will then, as a rule, diminish successively; but if it is, at the age of from 2 to 3 years, still very broad, he abandons the patient to the prothesis treatment. Ulrich thinks that there are cases in which a prudent squeezing of the jaws of the newly-born child will make the operation easier later. In the other cases, in which the cleft is narrower, he operates, if necessary, on the alveolar process also as soon as possible; on the harelip at the age of from 4 to 6 months, and for the cleft palate, he prefers Langenbeck's operation at the age of about 2 to 3 years, with a preference for the latter age.

3. **Pressor Bases of Urine.**—Pressor bases were found by Bain to be absent from the urine of children between 10 and 12 years of age, and apparently begin to be excreted about the age of 14. A vegetable diet considerably reduces the amount formed. Eggs and fish reduce the quantity to some extent, but if chicken is taken the amount is but little less than one obtains on an ordinary mixed diet containing butcher's meat. The bases are either absent or considerably diminished in cases of high blood-pressure. Doubtless the diminution in some cases is partially attributable to low dietary, but in most of the cases recorded in this paper the only possible explanation is that the bases are retained in the system and produce the rise in pressure. In gouty patients with normal blood-pressure the pressor bases are excreted in normal amounts.

4. **Erythemata and Joint Lesions.**—There is little doubt in Garrod's mind that erythematous and urticarial rashes are usually of toxic origin, as witness their development in some individuals after taking certain articles of diet or drugs, or as the results of stings of insects or of nettles, or of contact with caterpillars of certain species. One must suppose, therefore, that the lesions of joints which accompany them are likewise due to toxic influences working at a distance rather than to bacterial invasion of the articular structures.

8. **Gastro-Enterostomy.**—Commenting on his report, Bevan says it is pretty obvious that for at least the last five years the operation opening has more or less ceased to act, compelling food once more to find its way through the pyloric opening as best it could. Judging by the symptoms, although there has been more or less pain accompanying the passage of food through the pylorus into the duodenum, yet compared with the urgent symptoms in the pre-operated period of fifteen years before, digestion and nutrition were carried on with comparative ease and efficiency. This must by inference be due to some alteration in the capacity or patency of the pyloric orifice. No doubt, Bevan says, during the time that the operation orifice was patent, the lack of irritation allowed of the subsidence of a good deal of the inflammatory swelling, and, possibly, spasm around the sphincter. He suggests that possibly some alteration may have taken place in the character and situation of the original contraction scar. Again, in the vertical position, the shadow of the greater curvature in the stomach showed far below the umbilicus, and although peristalsis was seen it was ineffectual in reaching the pylorus. No adhesions were found at the subsequent operation.

Australasian Medical Gazette, Sydney

April

10 The Medical Profession in New South Wales. J. A. Dick.
11 Conductive and Spinal Anesthesia. C. MacLaurin.
12 *Endothelioma at the Base of the Brain, Producing Symptoms of Acromegaly. C. Reissmann.
13 *Bacteriology of Typhoid. H. Tebbutt.
14 Use of Thyroid Extract in Dementia Præcox. A. Danvers.
15 Outbreak of Arsenical Poisoning at an Isolated Farm Near Mullewa, Western Australia. J. H. L. Cumpston.

12. **Endothelioma at the Base of the Brain.**—The pituitary body with its stalk appeared to be healthy in this case, but the stalk arose from the lower surface of a large cystic swelling of grass-green color, which occupied the base of the brain and extended into the right optic thalamus. The swelling had almost completely severed the optic chiasma, and had thus caused blindness in the temporal field of vision. It bulged into the lateral ventricle and no doubt caused such great intraventricular tension that this led to the observed dementia. It pressed likewise on the lateral capsule, and thus gave rise to the spastic gait. Reissmann thinks that the circulation within the pituitary body was probably interfered with by the pressure of the cyst, and if so, the symptoms of acromegaly may have arisen from deficient internal secretion of the active principle of this gland. In the forward portion of the swelling, immediately in front of the pituitary body, was a hard nodule. In the transverse section of the brain this appeared to be a malignant growth. On microscopic examination the solid portion of the cyst was seen to be composed of round cells which clustered most densely round the small blood-vessels. There was no stroma. In many parts of a section it could clearly be seen that these round cells formed the actual walls of the small blood-vessels, from which it cannot be doubted that they arose. In some places the appearance presented was as if the capillary walls had been blasted and endothelial cells were scattered in all directions. The growth was, therefore, in Reissmann's opinion, an endothelioma. It contained much mucoid substance, some of which was structureless; in other parts it was confined within the bodies of cells, some of which it had distended to the point of bursting. The more solid part of the growth was arranged in circles or probably spheres, which carried the mucoid substance in the center. The growth may, therefore, be named a myxo-endothelioma annulare.

13. **Bacteriology of Typhoid.**—In all, fifty cases of enteric fever were examined by Tebbutt by the blood-culture method; thirty-six were positive, fourteen negative. In thirty-five the *B. typhosus* was found; in the remaining one an unidentified Gram-negative, feebly motile bacillus, with feeble fermenting properties. In a fifty-first case, Schottmuller's paratyphoid bacillus was found in both blood and urine. The average day on which both culture and Widal were done was the fourteenth day, and thus it is found in this series that, on an average, about 70 per cent. of cases still show bacilli in the blood-stream on the fourteenth day. Of course, the percentage is much higher in the first week of the disease (90 per cent. according to some writers). In only four cases were the bacilli found after the twenty-first day, and a bad prognosis may usually be given in these cases. Three of the four died, two from perforation and one from toxemia. In only one undoubted case were bacilli absent from the blood when the culture was made before the tenth day. This was a case which began very mildly, so that paratyphoid was suspected, the Widal developed slowly, but the temperature fell quite early, only to be followed by a much more severe relapse. In no case of relapse were bacilli found in the blood-stream, though no special attention was paid to this point. Recovery was more delayed in those cases in which bacilli were found after the fourteenth day than when they were found before this day associated with a positive Widal reaction. The early appearance of agglutinin is undoubtedly of good omen. Some cases suggest that the different reactive and immunizing substances produced by the infection are not always developed *pari passu*. For example, several cases showed an absence of blood infection at a stage of the dis-

ease when the Widal reaction was negative or only partially positive. This seemed to Tebbutt to be explained in some cases by the occasional production of bactericidin in much larger amount than agglutinin.

Journal of Obstetrics and Gynecology of the British Empire, London

April

16 Pathology of Tumors of the Corpus Uteri. R. F. C. Leith.
17 *Method of Radical Extirpation of the Cancerous Uterus Based on a Series of Forty-Nine Cases. E. H. Tweedy.

17. **Radical Operation for Uterine Cancer.**—The point of greatest interest in these cases of uterine carcinoma centers around the question of operability and inoperability. It is apparent from the description given that Tweedy does not consider fixation of the uterus, pain, purulent discharge, infiltration of the broad ligaments, and cachexia, contra-indications to operation. In patients with serious involvement of the rectum and involvement of the bladder with pyuria, recovery from immediate operation is not likely to give relief to symptoms or prolong life. These alone are the cases Tweedy refused to operate. Extreme fatness is a hindrance but not an absolute contra-indication to the abdominal operation. Cachexia may point to involvement of the liver, but not necessarily, and even were the liver involved to a slight extent he does not see that it constitutes an insuperable barrier to the removal of a cancerous growth. Contrary to the popular belief cancer may be almost the least painful of mortal ailments. At necropsies, he has seen most extensive malignant disease undiagnosed during life and causing an absolutely painless death. When cancer ulcerates it causes pain, horrible fetor and destroys the appetite by absorption of toxins. The result is the most dreaded form of disease. To save such pain and distress is to Tweedy a justification for operation even if metastases are already present. Tweedy is a strong advocate for the use of buried fine silk ligatures and sutures prepared after Kocher's method. He says they are perfectly safe in early cases but have no place whatever in advanced cancer. Catgut should be used here even for the abdominal wall and in the latter situation he reenforces by silkworm gut mattress sutures through the skin and aponeurosis, tied on the skin over buttons at each side of the incision.

Archives Générales de Chirurgie, Paris

March, V, No. 3, pp. 241-360

18 *Rational Operative Treatment of Breast and Superficial Cancers. (La thérapeutique chirurgicale rationelle du cancer du sein et des cancers cutanés en général.) P. Nadal.
19 *Industrial Electric Burns. A. Besson.
20 Cystic Epitheliomas of the Breast. F. Jacoulet and P. Moure. Commenced in No. 2.

18. **Treatment of Cancer of the Breast.**—Nadal remarks in regard to the propagation of cancer that mechanical laws propose but the soil disposes, and that some of the mechanical laws involved have been overlooked hitherto. Among the points to which he thinks greater attention should be paid is the traumatism from the preparation of the field for the operation. The lymphatic circulation in the region is affected by these preliminaries and the diffusion of cancer cells promoted by the mechanical injury before the operation is even commenced. Cancer cells are not closely coherent to each other and by the manipulations before and during the operation are actually forced out into the efferent vessels. They are thus carried in suspension in the blood and lymph and when blood and lymph exude into the wound they bring cancer cells back with them, even when the actual cancer has been removed in a single mass into sound tissue. The retraction of the tissues after they are cut forces out the blood and lymph bearing the cancer cells, forcing them both outward into the wound and inward into the efferent veins and lymphatics. Before the patient reaches the surgeon he has felt of his cancer innumerable times, and the neoplasm should be covered with a protecting dressing and even the surgeon should refrain from all but the lightest palpation and the skin should be prepared for the operation without friction. Nadal advocates removing the cancerous focus alone, and only after this wound has healed, that is, not until fifteen to twenty-five days later does he cut out all the scar and adjacent tissue forming the bed of the tumor. In a cancer of the breast, for instance, he cuts out the nipple, the cancer focus and the intervening tissue in one mass in the first operation. At the second operation, he removes with the bed of the tumor all the cancer germs that have been poured out into the wound. An additional advantage of thus operating at two sittings is that if the supposed cancer proves to be non-malignant, there is no need for further mutilation of the patient. In case of recurrence, he emphasizes the fact that even advanced cancer is merely a multilocal affection and the surgeon should attack every accessible metastasis as if it were the only localization of the disease.

19. **Industrial Electric Burns.**—Besson reports two severe cases and gives the details of eight others from French literature. They confirm the assumption that in an electric accident there is first primary inhibition of the respiration; the arrest of the heart action is secondary. The burning of the tissues serves as an "interrupter" and allows the organism to gain time before succumbing to the effect of the current, so that artificial respiration in time will resuscitate the patient just as after apparent death from drowning or under chloroform. Instead of the Silvester technic, he compresses the chest with his hands applied flat on each side, then suddenly releasing the pressure. The tongue should be drawn out and occasionally the depths of the throat may be touched with a tampon wound on a forceps. He quotes in conclusion Jellinek's advice in regard to cold enemas, venesection, lumbar puncture, possibly brief reapplication of the same current, and keeping the head high, as supplementary measures. But artificial respiration is the main reliance.

Bulletin de l'Académie de Médecine, Paris

May 16, LXXV, No. 20, pp. 553-576

21 *Prophylaxis of Hereditary Transmission of Syphilis. (L'Hérédosyphilis.) C. Leroux and A. Pinard.
22 *Radium Ions in Therapeutics. (Introduction de l'ion radium dans les tissus pathologiques, sans effraction de l'enveloppe tégumentaire.) A. Béclère.

21. **Inherited Syphilis.**—Leroux has been studying conditions in 136 syphilitic families; there were 413 pregnancies, with only 207 children born alive. He has charge of a dispensary and he urges careful search for signs of inherited syphilis in every infant seen at a dispensary. From the infant it is easy to trace out the syphilis in the parents which would otherwise escape detection. It should be sought for as tuberculosis is now hunted out, and the parents should be educated in their duty to their offspring, especially the four things which they should avoid, as Fournier has proclaimed, namely, begetting children at all, failing to watch over the health of their offspring from birth, failing to institute treatment for the inherited syphilis, and failure to keep up this treatment in the same way and for as long a period as for acquired syphilis. Pinard corroborated Leroux' statement in regard to the necessity for keeping continuous moral and therapeutic control over the family, but he emphasized still more the preponderant part played by the father in the transmission of syphilis to the children. When derived from the mother, the inherited syphilis is more harmful and more tenacious, but in his experience the infection is derived from the father in the majority of the cases, and the mother may escape. He adds that no person having contracted syphilis, whatever the interval since or the courses of treatment, is ever absolutely certain of being cured, from the standpoint of offspring, and physicians should impress on their syphilitic male patients that to have healthy children they must take a special, additional systematic course of treatment, *la cure de l'hérédité*.

22. See Paris Letter in THE JOURNAL, June 10, page 1735.

Journal de Chirurgie, Paris

March, VI, No. 3, pp. 249-364

23 Technic and Indications for Decortication of the Lung, According to Delorme, for Chronic Empyema. R. Picqué.

April, No. 4, pp. 365-468

24 Treatment of Crushing Injuries of the Legs. (Les écrasements du membre inférieur.) L. Impert.

May, No. 5, pp. 469-616

25 *Rhizotomy for Tabetic Gastric Crises. (L'opération de Förster dans le traitement des crises gastriques du tabes.) R. Leriche and G. Cotte.

25. **Resection of Posterior Spinal Roots for Tabetic Gastric Crises.**—Leriche and Cotte report a case and summarize ten others from the literature, giving an illustrated description of the technic. Two of the eleven patients died from infectious complications, but in all the other cases the operation seems to have conquered the gastric crises. In six of the surviving nine patients the result was a complete success and the others were cured for a time at least. Study of the cases shows that the operation should be reserved for cases in which the gastric crises are due to a lesion in the sympathetic nerve, with little inflammation of roots and meninges. When the latter are involved there is liability of some recurrence of symptoms after a few months, as occurred in the case reported. One of the eleven operations cited was done in Holland, two in France and the others in Germany.

Lyon Médical, Lyons

April 9, CXVI, No. 15, pp. 633-676

26 Absorption of Sugar by Kidney Tubules. (Résorption du sucre par les tubes du rein.) R. Lépine.

April 16, No. 16, pp. 677-732

27 Interpretation of Radiologic Findings in Lungs, Bronchi and Adjacent Vessels. F. Barjon.

April 23, No. 17, pp. 733-776

28 Abdominal Hysterectomy for Uterine Myoma; 400 Cases. Albertin.

29 *Analogies Between Epidemic Pneumonia in Institutions and Pneumonic Plague. (Analogie entre la peste mandchourienne et les épidémies hospitalières de pneumonie. Traitement. Prophylaxie.) H. Rondet.

29. **Fixation Abscess in Pneumonic Plague.**—Rondet has been impressed with the analogies between the pneumonic plague as it is described in reports from the Orient and epidemics of pneumonia which he has observed in an institution at Lyons. Cold, dampness, lack of sunshine and overcrowding favored the spread of epidemic pneumonia, but it did not spread outside the institution. Rondet does not think there is danger of the spread of the plague in Europe. His experience with fixation abscesses in pneumonia has been so favorable that he urges a trial of Fochier's aseptic turpentine abscesses as liable to be useful in plague. It is stated that the disease generally runs a milder course when a bubo suppurates.

Presse Médicale, Paris

May 13, XIX, No. 38, pp. 385-400

30 *Distribution of Cancer in France. (Statistique du cancer d'après des documents nouveaux.) J. Bertillon.

31 *Traumatism and Tuberculosis. J. Ribera y Sans.

May 17, No. 39, pp. 401-408

32 *Subarachnoid Meningeal Hemorrhage. A. D'Espine.

33 *Fixation of Tube in Larynx. (Fixation des tubes d'O'Dwyer dans le larynx par le procédé de Polverini et Isonni.) A. Bonain.

May 20, No. 40, pp. 409-424

34 *Albumin Reaction in Pulmonary Tuberculosis. H. Roger and Lévy-Valensi.

35 Streptothricosis. (Quelques remarques sur les oosporoses.) L. Bory.

36 Mucilaginous Laxatives. A. Mathieu.

30. **Distribution of Cancer.**—Bertillon's article was summarized in the Paris Letter in THE JOURNAL, April 8, page 1050. The diagrams and maps show further that among forty-nine French cities with over 30,000 inhabitants, of the sixteen in which comparatively little meat is consumed per capita, only two of the cities are in regions where cancer is prevalent. His tables also show the relative rarity of cancer among Jews in Algeria and at Amsterdam, and the increasing frequency of cancer of the stomach and rectum, according to the French statistics; the number of cases of malignant disease of other organs has kept about stationary year after year since 1876.

31. **Traumatism and Tuberculosis.**—Ribera has been paying special attention to the coincidence of trauma and development of tuberculosis in a joint in his 606 operative cases. In sixty-four of the 141 cases of tuberculous processes of the larger joints there had been some preceding local trauma. This coincidence is too frequent to be merely casual, and he reports experiments on over 135 rabbits or guinea-pigs to determine the connection between the trauma and the following tuberculous process. The results show that the synovial membrane protecting the joints is endowed with remarkable resisting powers, so that it proved impossible to induce a primary tuberculous synovitis in the animals by intravenous or direct injection of tubercle bacilli into the joint. On the other hand, the experiments demonstrated that the tubercle bacilli have a special predilection for the bone marrow. In the various inoculation experiments they seemed to pass constantly into the bone marrow; even when they did not induce any lesions, inoculation of guinea-pigs with the bone marrow gave positive results. In man, from some minute focus in a gland the bacilli may pass to the bone and be ensconced there, without giving rise to any pathologic process; then if a joint near by is injured in some accident the synovial membrane is no longer able to protect the joint against the invasion of the bacilli. In his experiments he was never able to induce a tuberculous joint process except when the joint had been previously injured by direct injection of staphylococci; then, when tubercle bacilli were injected into a vein or into a joint, they were liable to locate in the joint and set up a white swelling. Mixed infection is thus probably the explanation for the positive results obtained in experimental research by others which have been accepted as proving the possibility of pure primary tuberculous joint lesions.

32. **Subarachnoid Meningeal Hemorrhage.** — In D'Espine's case a boy of nearly 11 had an attack of apoplexy with unconsciousness, convulsions, left hemiplegia and other symptoms indicating considerable hemorrhage in the lower subarachnoid space. The next day 16 c.c. of turbid and hemorrhagic cerebrospinal fluid under strong pressure was evacuated by lumbar puncture and the child regained consciousness. Exacerbation of symptoms prompted a second and third puncture the sixth and fifteenth days, after which all the symptoms gradually subsided. Nine days before the stroke the boy had fallen on the back of his head while skating, but he had not seemed to suffer from the fall. Bollinger has related a similar case of tardy post-traumatic apoplexy in a girl of 13 who died in less than two hours after the onset of the apoplexy which occurred a few weeks after a fall while skating. Others have reported similar cases, but D'Espine's is the only one of which he knows in which the patient recovered, and he is certain that the three lumbar punctures contributed to the favorable outcome.

33. **To Fasten the Laryngeal Tube in Place.**—Bonain commends from practical experience the Polverini and Isonni method of holding the tube in place by a stout silk thread introduced through the thyrohyoid membrane with a curved needle passed out through the pharynx. The thread is tied to the tube and the upper end of the thread is brought out through the mouth while the lower end, where it projects from the neck, is fastened around a roll of gauze.

34. **Albumin in Tuberculous Sputum.**—Roger and Lévy-Valensi reiterate that the presence of albumin in the sputum is the best means to trace the course of pulmonary tuberculosis, to determine when the process has been arrested and finally to affirm the cure. A few drops of acetic acid are added to the diluted sputum; it is then filtered, a little salt added and the whole heated to coagulate out any albumin that may be present. They tabulate the findings in 1,374 tuberculous patients or suspects from their own practice and that of eighteen other clinicians. The findings were negative in twenty-five of the forty clinically cured patients and in five of their own series of 141—their negatives including three suspects, one patient with acute miliary tuberculosis and one cured patient. The findings were negative in only seventy-six of the total 1,374 cases.

Deutsche medizinische Wochenschrift, Berlin

May 18, XXXVII, No. 20, pp. 913-960

37 *Prophylaxis and Treatment of Scarlet Fever. J. Lange.

38 Reciprocal Relations Between Lung and Chest with Emphysema. (Wechselbeziehungen zwischen Lunge und Thorax bei Emphysem.) H. Loeschcke.

39 Tincture of Soap and Alcohol in Disinfection of the Hands. W. Schumburg.

40 Serodiagnosis of Syphilis. (Auswertung des Antigen-Extraktes.) H. Hecht.

41 Elimination of Diastatic Ferment in the Urine. A. Rosenthal.

42 Treatment of Hay Fever. (Heufiebertherapie.) R. Hoffmann.

43 Experimental Syphilis. (Syphilitische Allgemeinerkrankung beim Kaninchen durch intrakardiale Kulturimpfung.) J. Schereschewsky.

44 *Glycerin Treatment of Pernicious Anemia. Muktedir Effendi.

45 Water-Jet Massage. (Die Verwendung der Wasserdruckmassage in der Gynäkologie, Odontologie, Rhinologie, Otologie, Neurologie, internen Medizin, Dermatologie und Urologie.) W. H. Dreuw.
46 Tests for Milk. (Die Säurebestimmung und die Labhemmprobe der Milch.) K. Schern.

37. **Scarlet Fever.**—Lange declares that isolation is necessary for at least five weeks in case of scarlet fever, up to ten weeks or more. No child should return to school without a certificate from a physician that desquamation is over. It seems evident that scarlet fever is not contagious during the first twenty-four hours; this permits isolation in time. He insists that every case belongs in the hospital. In treatment, cautious tepid baths are of advantage but even more important is it to keep the mouth, nose and throat thoroughly cleaned without irritating the mucosa. Weak salt solution is perhaps the best rinsing water for the purpose, syringing out the mouth and nose. Even if this does not prevent the dreaded mixed infection, it is an advantage to have the child accustomed to such measures when mixed infection does develop. The scarlatinal diphtheria once installed, he injects 0.5 gm. of 3 per cent. phenol, twice a day, into the pillars of the fauces. He has often seen children with the severest general symptoms of sepsis with purulent discharge from mouth and nose and enormously swollen glands, with bad, rapid pulse, somnolency and cool feet and hands, recover completely under the influence of these systematic injections. The diet should be carefully regulated for weeks after a severe scarlet fever. He reviews the various complications, and remarks in conclusion that the old saying is still true that a mother can never be entirely happy in her child until it has successfully passed through scarlet fever.

44. **Glycerin in Pernicious Anemia.**—In Muktedir's case the patient was a man of 30 infected with syphilis four years before; the anemia continued to progress even under mercury and iodid until there were only 970,000 red and 4,000 whites, with 20 per cent. hemoglobin. Death seemed impending when a course of glycerin was commenced last February. A tablespoonful of glycerin was given three times a day at first, and later up to 70 gm. The man began to improve at once and by the end of a month the reds numbered 4,200,000, the whites 5,300, with 100 per cent. hemoglobin. This confirms Tallquist's experience in a similar case. Both patients seem to be permanently cured. Muktedir's patient is still taking a little glycerin and seems strong and well. It is possible, he adds, that the glycerin may benefit only in the cases of anemia of intestinal origin. The only by-effect in his case was a brief transient diarrhea.

Medizinische Klinik, Berlin

May 21, VII, No. 21, pp. 801-838

47 *Treatment of Tuberculosis of Joints. (Die moderne orthopädische Behandlung der Gelenktuberkulosen.) E. Klose.
48 The Electrocardiogram. H. Winterberg. Commenced in No. 20.
49 *Treatment of Gastric Ulcer. (Kritisches zur Behandlung des Magengeschwürs.) H. Strauss.
50 Determination of Temperature of Infants' Food. (Die Wärmemessung der trinkfertigen Säuglingsnahrung.) H. Roeder.
51 The Glycerin Tampon in Gynecology. F. Kermauner.
52 Radium Emanations in Therapeutics. A. Fürstenberg.
53 Case of Acute Hemorrhagic Encephalitis. M. Ulrich.
54 Colored Glass Wedges for Hemoglobinometer. (Verwendbarkeit von Goldrubinglaskeilen zu kolorimetrischen Bestimmungen von Hämoglobin und Eisen im Blute.) Charnass.

47. **Joint Tuberculosis.**—Klose regards conservative treatment as indicated in every case of tuberculous hip joint disease, except where there is direct vital danger, as with neglected suppuration with high fever and anemia. Under all other conditions conservative treatment is to be preferred and no considerations, such as the length of the course of treatment or the poverty of the patient, should deter from it. The poor functional results speak strongly against resection. In over 21 per cent. of his cases, the conservative immobilization of the hip joint in a cast, permitting the patient to be up and about, restored an ideal function to the joint with normal gait. Alapy has reported a similar outcome in over 21 per cent. of his 122 cases. The same applies to tuberculous knee lesions. General measures to supplement the local are indispensable, and the walking casts are very valuable in this respect, the patient not being confined to bed or room. Klose also advocates systematic tuberculin treatment, as this has a marked curative action on the local process, besides the benefit on the general health. The combination of tuberculin treatment with orthopedic measures for joint tuberculosis is one of the greatest triumphs of modern medicine, he thinks.

49. **Gastric Ulcer.**—Strauss cites some recent statistics which show that only about 50 per cent. of patients with gastric ulcer are permanently cured by internal treatment. It was formerly assumed that fully 90 per cent. of the non-hemorrhagic ulcers heal. He does not approve of some of the later diagnostic measures advocated as he makes it a principle to avoid all mechanical or other irritation of the interior of the stomach. He urges the importance of a course of internal measures when there is the slightest suspicion of an ulcer, as it can scarcely ever do harm, while the lack of it may do irreparable damage in case of an actual ulcer. He advocates prolonging the course of dieting even after the patient has apparently recovered. After considerable hemorrhage, he permits no food by the mouth, believing that the blood thus poured out into the gastro-intestinal tract will serve to nourish the patient for a time; even were this not the case he would be deterred from feeding by the mouth through fear of detaching some thrombus and thus starting the hemorrhage again. Hunger is borne better than thirst, and by proctoclysis, the "drop enema," the patient can be supplied with fluids besides the nutrient enemas, which he likes to give also by the drop method. Radioscopy has shown that the empty stomach keeps contracted, which is an aid in the healing of an ulcer. Operative treatment is the only means of cure for callous ulcer, but it is not indicated with ordinary simple ulcer unless the latter is refractory to repeated and prolonged internal courses or there is recurring hemorrhage. In the last year he has had three cases in which symptoms of ulcer recurred after an apparently successful operation. This confirms the importance of internist care long continued after every operation on the stomach, to prevent recurrence. The question now is to determine the other factors inducing ulceration, besides the factor of excessive secretion.

Münchener medizinische Wochenschrift

May 16, LVIII, No. 20, pp. 1057-1112

55 *Self-Infection in Obstetrics. (Zur Frage der Selbstinfektion in der Geburtshilfe.) M. Hofmeier.
56 Volvulus of Sigmoid Flexure and Hirschsprung's Disease. A. Heller.
57 Importance of the Etiology in Estimating Mild Melancholia. (Bedeutung der Aetiologie bei der Beurteilung leichter Depressionszustände.) G. L. Dreyfus.
58 *Fatalities After Injection of Salvarsan in Cardiovascular Disease. (Ueber Todesfälle nach Salvarsaninjektionen bei Herz- und Gefässkrankheiten.) K. Martius.
59 Technic for Intravenous Injection of Salvarsan. H. Ploeger.
60 Source of Error in Serodiagnosis of Echinococcus Disease. A. Brauer.
61 Plastic Operation for Prolapse of Rectum. (Zur dauernden Beseitigung des Mastdarmvorfalles mittelst Beckenbodenplastik.) P. T. L. Hackenbruch.
62 *Functional Hypersecretion of Glands in Bladder Mucosa. (Funktionelle Hypersekretion der Blasenschleimhautdrüsen.) R. Oppenheimer.
63 Treatment of Uncomplicated Breech Presentation. J. Rothschild.
64 *Pessary Treatment of Prolapse of Rectum. A. Hofmann.

55. **Self-Infection in Obstetrics.**—Hofmeier has recently had two cases of acute sepsis after a normal and spontaneous delivery in previously healthy women of 17 and 28. These are the only cases of sepsis after normal delivery in his service during twenty years with over 11,500 obstetric cases. The necropsy in both revealed purulent plugs in the tonsils and the glands in the neck were enlarged in one case, but there had been no signs of tonsillitis at the time in either patient. He ascribes the sepsis to the arousing of virulent germs in the throat by the stress of the birth process, and their flocking to the wound left by separation of the placenta; they also evidently passed into the intestines and set up a local inflammatory process at various points. In the first case hemolytic streptococci could be cultivated from the lochia and the following day from the blood and yet the uterus wall was found normal throughout, the interior merely coated with a turbid secretion, the surface a reddish gray. In the other case the slight reaction in the cellular tissue of the uterus and the lack of inflammation in the veins and lymphatics seemed to exclude the possibility of infection from without; otherwise

the typical local reaction would have been much more serious. One tube contained pus and the fatal peritonitis had developed from this. He adds that it is evident that hysterectomy would have been useless in both cases, although everything at the time seemed to point to the uterus as the seat of the infection. If the cases had occurred outside of a well equipped and well managed maternity, the physician or the midwife might have been assumed to be responsible for the infection. Hofmeier ascribes it to self-infection from some practically latent focus elsewhere.

58. **Fatalities After Injection of Salvarsan in Syphilitics with Cardiovascular Disease.**—This communication issues from Ehrlich's institute and in it are analyzed all the cases of this kind on record, with those that have occurred in the institute, and those of which Ehrlich has been informed personally by letter or telegraph. Eighteen cases are thus listed, including three from his own experience and seven from the literature. The other eight fatalities have never been published. Martius concludes from his analysis of the cases that in only seven can there be any question as to the connection between the fatality and an injurious action of the drug on the heart. He states that in five of this group of seven, necropsy revealed the triad: syphilitic aortitis, coronary sclerosis and myocarditis or myodegeneration of the heart. In the sixth case there was hypoplasia of the heart and aorta, and in the seventh, in which the patient died in collapse, such severe changes were found in other organs as to offer a plausible explanation for the fatality, aside from the medication. In four of the total seven no objective signs of trouble in the heart or vessels had been apparent on clinical examination, and in three of these four there had been nothing to call attention to the heart in any way. The experiences related demonstrate, he says, that the above triad of aortitis, coronary sclerosis and myocarditis should absolutely contra-indicate the use of the drug. No unfavorable influence on the sound heart from salvarsan need be anticipated, he says, even with intravenous administration, if the dose is small, not over 0.3 gm., and if it is copiously diluted and care is taken that the reaction of the solution is not acid. Other experiences which he relates show, he adds, that angina pectoris, without complications on the part of the heart, is influenced by the salvarsan in the most favorable manner.

62. **Nervous Hypersecretion of Bladder Mucosa.** — Oppenheimer has encountered five cases in which tenacious masses of mucus were seen in the bladder and the patients complained of a smarting during micturition and unusually frequent desire to urinate during the day—not at night. The cystoscopic findings were approximately normal but the patients were extremely nervous and easily fatigued, and distressed by their symptoms which suggested chronic cystitis. Treatment should aim to convince the patients that the trouble is merely a harmless functional hypersecretion of the mucous glands. No local treatment is required; the aim should be to divert the attention away from the bladder and tone up the nervous system in general.

64. **Pessary Treatment of Rectal Prolapse.** — Hofmann's patient was a woman 70 years old, with extensive prolapse both of rectum and vagina. He introduced a pessary into the rectum and another into the vagina, fastening them together with a wire through the septum between. The prolapse was cured and the patient has worn her pessaries for several months without disturbance.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 11, XXXII, No. 57, pp. 603-610

65 Oculomotor Paralysis from Peripheral Trauma. T. Di Guiseppe.

May 14, No. 58, pp. 611-626

66 *Cacodylic Poisoning from Medicolegal Standpoint. E. Di Mattei.

May 16, No. 59, pp. 627-634

67 *Pelvic Fixation of Uterus for Retroflexion. (Retroflessione uterina e cura alla Pestalozza.) U. Ragusa.

May 18, No. 60, pp. 635-642

68 Fixation of Complement in Pellagra. (Ricerche sulla fissazione del complemento nei pellagrosc.) L. Lucatello and M. Carletti.

66. **Cacodylic Acid from Medicolegal Standpoint.**—Cacodylic acid and salts are said to be free from toxicity, but Di Mattei's experiments with ten guinea-pigs, four rabbits and four dogs showed that sodium cacodylate is liable to induce symptoms and lesions showing great analogy with those from poisoning with mineral arsenic, both in the acute and chronic cacodylic poisoning. There was evidently an inflammatory process in both, differing only in its course, the parenchyma of the different viscera suffering the most. The liver and kidney parenchyma showed fat degeneration and necrotic lesions but the suprarenal capsules suffered most, the multiplicity and gravity of the lesions testifying to the fact that the suprarenals have less resisting power than the other organs to the injurious action of the drug. The conditions of the experiments were made to resemble those of the therapeutic administration of the cacodylic acid in the chronic cases, while the other animals were given from 0.15 to 3 gm. of sodium cacodylate at one time, which always proved fatal in less than twenty-four hours after the subcutaneous injection. The symptoms of the acute poisoning corresponded to those from poisoning with organic arsenic.

67. **Intrapelvic Fixation of the Uterus for Retroflexion.**—Ragusa reviews fifty-seven cases in which Pestalozza's technic has been applied to correct retroflexion, and with the best results, by half a dozen gynecologists in Italy and at Pestalozza's clinic. The main feature of the technic is fastening the uterus in its normal position by suturing to the fundus a flap of peritoneum slit from the reflection on the inferior segment of the uterus. The flap includes, besides the strip of peritoneum and the connective tissue connected with it, a few muscular fibers from the external musculature of the bladder. The uterus is thus held in normal position without interfering with its physiologic expansion. All the patients on record have been free from disturbances since, and a number have passed through normal pregnancies.

Policlinico, Rome

May 14, XVIII, No. 20, pp. 617-648

69 *Lumbar Puncture in Treatment of Trauma of the Head. (Terapia dei traumatismi cranio-encefalici per mezzo della puntura lombare.) B. Prampolini.

70 Salvarsan in Syphilis. I. Ullmann. Commenced in No. 19.

71 Intravenous Mercurial Injections in Septicemia. S. de Rossi and others.

May 21, No. 21, pp. 649-680

72 Frambesia. (Frambœsia tropicale, buba brasiliana e malattia del Breda.) F. Rho.

73 *Influenzal Ear Lesions. T. Mancioli.

69. **Lumbar Puncture After Trauma of the Head.**—Prampolini reviews twenty-six cases on record in Italian literature in which lumbar puncture was applied in treatment of traumatic lesions of the head, and then reports a case from his own experience which illustrates anew its advantages. His patient was a man of 30 who had fallen on his back, hitting the right parietal-temporal region of the skull. Periods of great agitation alternated with extreme drowsiness and the pupils did not react to light or in accommodation, while the mind did not seem quite clear. There was intense headache in the right parietal region and the spine was tender, but there were no signs indicating fracture of the skull. Lumbar puncture released about 20 c.c. of a turbid, cherry-red fluid, under high pressure, and benefit was soon apparent. A second and third puncture were made the following and the third day, and by the end of nine days after the accident the patient was entirely restored. The trouble had evidently been a contusion of the brain with hemorrhage inducing abnormally high pressure on the brain. The headache and symptoms of irritation subsided completely after the second puncture, and by the third the cerebrospinal fluid was clear and colorless, showing that the extravasated blood had been reabsorbed.

73. **Influenzal Ear Lesions.**—Acute catarrhal otitis media was remarkably frequent, Mancioli states, during the epidemic of influenza at Rome this year, but it generally subsided without suppuration. Primary mastoiditis without involvement of the middle ear was also frequent; he operated in thirty cases of the kind. In each the trouble was a diffuse osteomyelitis rather than an abscess, and in nearly all healing was by primary intention after complete evacuation, removing all the bone involved.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Oregon State Medical Association, Los Angeles, Cal., July 10.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting held at Atlantic City, N. J., May 23-25, 1911

(*Continued from page 1747*)

The Frequency and Clinical Significance of Funnel Pelves

DR. J. WHITRIDGE WILLIAMS, Baltimore: In typical funnel pelves the distance between the tubera ischii is reduced to 8 centimeters or less, while the usual measurement remained unchanged. Such pelves were noted in 6.1 per cent. of 2,215 consecutive full-term labors, are of equal incidence in white and black women, and sometimes give rise to serious dystocia. The funnel pelvis is the most common abnormality in white women, in whom it constitutes 44 per cent. of all deformed pelves. In colored women on account of the incidence of the more usual types, it is relatively less important, and stands forth in order of frequency. The prognosis depends not so much on the actual narrowing of the pubic arch or on the distance between the tubera ischii, as on the relation between it and the posterior sagittal diameter. Moderate degrees of dystocia can frequently be overcome by placing the patient in an exaggerated lithotomy or an exaggerated Sims' position. In either event, the antero-posterior and posterior sagittal diameters undergo an average increase of 1.62 cm., which so increases the available space as to make spontaneous labor possible. Such an enlargement affords an explanation for the successful outcome of certain low-forceps operations which appear theoretically impossible from the measurements taken in the usual position. Pubiotomy is the operation of choice in cases of pronounced dystocia, as it not only affects the delivery of the child, but leads to a permanent increase in the size of the outlet, which may be further enlarged by the softening of the fibrous union under the influence of the hyperemia incident to pregnancy, and thus make possible the spontaneous termination of subsequent labors.

DISCUSSION

DR. EDWARD REYNOLDS, Boston: The inferior strait of the pelvis is of vastly more importance than the gynecologist has supposed, and is probably of more importance than the superior strait.

DR. EDWARD P. DAVIS, Philadelphia: In cases of dystocia from funnel-shaped pelvis, when the obstetrician is called in consultation because the family physician cannot secure expulsion of the child, or finds it difficult to extract it, the instrument slipping, and the head of the child being low down, it is the duty of the practitioner to perform craniotomy, as the patient cannot be treated safely in any other way.

Diagnosis and Treatment of Contracted Pelves

DR. J. M. MUNRO KERR, Glasgow, Scotland: The diagnosis of contracted pelvis is not difficult, and the greater the deformity the easier the diagnosis. A careful measurement of the pelvis both by the hand and by a pelvimeter should be made. An estimate of the size of the child's head should be attempted both by palpation and cephalometer. The relative size of the head and pelvis should be estimated, and that should be the basis of treatment. Whenever possible this examination should be made in the thirty-sixth week, and again at the beginning of labor, if the pelvic deformity is of medium degree. One of the most striking features in connection with the treatment of contracted pelvis is the prominence given by all recent writers to spontaneous delivery. Spontaneous delivery is quite frequent with a conjugata vera of 9.3 cm. I have twice seen a child born spontaneously even with a pelvis of 7.5 cm., but no such case has occurred in my clinic during the last two and a half years. In 130 cases of contracted pelvis treated by forceps, the fetal mortality was 50 per cent., with a conjugata vera of 7.5 cm., 33 per cent. with a conjugata vera of 8.1 cm., and 15 per cent. with a conjugata vera of 8.7 cm. I have performed craniotomy seventeen times in the last two and a half years. I have done a pubiotomy three times, and symphyseotomy once. All these patients did well, and all the children did well. I consider pubiotomy an excellent operation, but it has a very limited field. Cesarean section is dangerous in suspect cases. In these cases the maternal mortality is 17.3 per cent., and if frequent examinations have been made it runs up to 34 per cent. If Cesarean section is performed in the suspect cases, undoubtedly the best results have been obtained by removing the uterus. What will lower the mortality and morbidity, both maternal and fetal, more than anything else is a more thorough training of students and young graduates to appreciate the importance of an early diagnosis of pelvic deformity and the limitations of every operation which may be employed.

DISCUSSION

DR. J. WHITRIDGE WILLIAMS, Baltimore: In the 2,200 cases which I discussed in my paper on funnel-shaped pelves, there were 16 per cent. of spontaneous deliveries in all classes of inlet contractions in white women as compared with 81 per cent. in black women.

DR. A. LAPTHORN SMITH, Montreal: The tendency to hurry matters in these cases is a curse rather than a blessing, and it comes about very largely from conditions peculiar to this country. In America the doctor is told to hurry up or the woman will get somebody else, and it is this hurry-up spirit which makes it difficult to instill into the mind of the young doctor the important point that he must not hurry delivery until the time comes for it to be effected.

DR. RICHARD C. NORRIS, Philadelphia: My attitude toward inducing labor in properly selected cases not more than two or three weeks before the calculated term will add to the table of spontaneous deliveries of the essayist. It is in this class that induced labor should be considered. The question of transperitoneal and intraperitoneal Cesarean section has never appealed to me. I believe that craniotomy is yet a conservative operation, which must be used in certain instances. I have twice in the past year been called on to perforate the head of the living child.

DR. HENRY D. FRY, Washington, D. C.: In Washington we have a large colored population, and I have noticed in examining a large number of pelves that fully 50 per cent. of the women have justo minor pelves. It is rather unusual for me to find in colored women a rachitic flat pelvis. In the white woman the justo minor pelvis is rather unusual, and the simple flat and rachitic flat pelves are more common. As to spontaneous labor, in the cases I have seen it has occurred in 60 or 70 per cent. of them.

DR. JOHN O. POLAK, Brooklyn: My results from premature labor have been unsatisfactory. The fetal mortality has been considerable, and it has subjected my patients to the possibilities of infection. My associate and I have done Cesarean section in sixty-one cases without a death, and many of these patients were handled and brought in off of the ambulance after several attempts at delivery with forceps had been made. We have had no difficulty in delivering these women, and they have had no marked morbidity, and no mortality.

DR. ROBERT L. DICKINSON, Brooklyn: There is a large field for the induction of labor. I do not allow primiparæ to run overtime unless they have been well starved. Starvation and early delivery have given me successful results so far as the fetal death-rate is concerned.

DR. EDWARD P. DAVIS, Philadelphia: With reference to Cesarean section, when a woman has had the test of labor and has a contracted pelvis, one need not necessarily wait for labor, but should resort to Cesarean section and in clean cases one will get good results.

Salpingostomy in Pregnancy

DR. GEORGE GELLHORN, St. Louis: The occluded tubes are extirpated by the majority of operators. In a minority of instances, however, where the patient desires offspring, salpingostomy may be performed with safety. I operated in a case removing the left adnexa and splitting open the right tube. The patient gave birth to a healthy child three and a half years later and is about to be confined for the second time.

To prevent the recurrence of occlusion after salpingostomy, appropriate after-treatment is necessary, mainly the use of high degrees of dry heat. If the plastic operation is thus restricted, the patient will suffer no ill effects, even though a certain percentage of the tubes may again become sealed.

DISCUSSION

DR. THOMAS J. WATKINS, Chicago: I have recently been interested in the technic of salpingostomy, having had trouble in making an artificial opening in the tube to avoid constricting it. Even in cases where the incision is made parallel, where the mucous membrane is turned over into the serosa and stitched, after the operation is completed, the opening is surprisingly and disappointingly small. Of late I have modified the technic, making a longitudinal incision, beginning at the distal end of the tube and suturing the mucous membrane on either side of the ovary, and in that way offering hope of not constricting the tube and of its not becoming occluded. I recall one case of opening the tube where pregnancy took place. This was a case of infection due to induced miscarriage. Gonorrhea was excluded. Examination of the husband proved there were spermatozoa. These tubes were both opened through an anterior vaginal incision. The woman bore a child afterward, and had a tubal pregnancy later, and at the time of the tubal pregnancy the opposite tube was found normal, except that there were a few adhesions about the fimbriated end.

DR. FRANKLIN H. MARTIN, Chicago: For three or four years, instead of doing salpingostomy in these slightly sacculated cases, I have been in the habit of employing a method of opening the tubes and rendering them patulous by means of hydrostatic pressure. Any tube that will hold from ten minims to half an ounce of fluid should be treated in this way. The tube is brought to the surface, and, after being liberated from adhesions, is placed on a thick laparotomy gauze sponge, and then the tube is milked in the direction of the fimbriated end. Almost every one of these tubes will rupture at the fimbriated end, opening up the tube along the fimbria, and at the same time causing evacuation of the tube.

DR. J. WESLEY BOVEÉ, Washington, D. C.: I have done several salpingostomies. I have had one case of pregnancy, and this was ectopic.

DR. ROBERT L. DICKINSON, Brooklyn: I have spread the tube on the ovary in sixteen or eighteen cases and dropped it.

Salpingitis

DR. FRANK T. ANDREWS, Chicago: Salpingitis is not a disease by itself. It is a part of a general pelvic inflammation. The field of action is not the pelvis alone. Pelvic inflammation, in the majority of cases, begins as an acute vulvar or vaginal or uterine infection with a tendency to spread through the tubes to the pelvic peritoneum. The infecting agent may be the gonococcus, streptococcus, members of the colon bacillus group, pneumococcus and staphylococcus. Each variety has many grades of virulence and varies in the intensity of its virulence. Patients differ in their power to resist or combat infection, and this resistance is not a fixed state, but changes constantly during the progress of the disease. If, with reasonable certainty, within a reasonable time, we can cure by vaccines, then operation is criminal. It is understood that vaccines are contra-indicated in the acute stages of this or any other pyogenic process. The toxins are already in excess in the tissues, and to add more would be folly. Furthermore, no efficient antitoxin has as yet been produced for the toxins of the pyogenic organisms. This leaves, then, the chronic form to be considered, and it is known that chronic gonorrhea and other pyogenic infections are often cured by vaccines. Then why may we not use autogenous vaccines in cases of salpingitis? One limitation to their use is to be found in the anatomic relations of the Fallopian tube to the pelvic peritoneum. Each injection is followed by a decided reaction. Such reaction is marked by an increase in the intensity of inflammation in every infected part, meaning much local peritonitis with its usual results, and perhaps a diffuse peritonitis with death. Another danger in cases such as these in which spontaneous auto-inoculations are taking place is that the spontaneous inoculation or rupture of the tube may occur soon after an inoculation with autogenous vaccine. The effect of this will be the same as of a greatly increased dose of the toxin in a patient with acute exacerbation of the pelvic trouble. That is, the effect of the vaccine will be greatly to increase the severity of the acute attack. I believe that treatment by immunization has almost infinite possibilities for the future, but that the present state of our knowledge does not warrant us in experimenting on our patients. The battle will be won only when we can produce immunity with impunity.

DISCUSSION

DR. SETH C. GORDON, Portland, Me.: Pyosalpinx was very much more common years ago than it is now. I operated on most of these cases through the vagina, making a thorough incision and establishing drainage, and nearly all those patients got well.

DR. EDWARD REYNOLDS, Boston: In many cases of chronic vaginal discharge, as soon as the tubes are dealt with, the vaginal discharge decreases. I am inclined to believe it is due to the probability that in chronic salpingitis there is a passage downward of small quantities of discharge or of a ferment, which, on emerging into the uterus or vagina, keeps up a much more profuse discharge in the larger passages, the tubes acting as reservoirs for the ferment, and that increasing the vaginitis, and after its removal the tubes are clear. It is difficult for me to see how we can expect any very large percentage of cures in these chronic cases of salpingitis by vaccination, when one remembers the physical state in which most of these tubes are left.

DR. T. J. WATKINS, Chicago: Dr. Andrews' paper is along the line of developing immunity, and he has said that a patient does not get well because the local disease gets better, but the local disease gets better because the patient develops a general immunity. And this has been the idea in the treatment of pelvic infections. Now, the gynecologist does everything he can to develop immunity. He has found that if he drains a pus tube or takes it out in the most surgical manner without spilling the pus, the patient's temperature is not shortened. The patient runs a fever for two or three weeks, probably a little longer with an operation than without it, because the amount of bacteria and poison removed by the operation is less than the amount of physiologic resistance cut down as the result of the operation. So in these cases the surgeon has very much to be thankful for in this contest between physiologic resistance and bacterial invasion.

Double Ovarian Dermoids in Pregnancy

DR. WALTER P. MANTON, Detroit: In the total number of cases collected there were twenty-seven double tumors noted in the non-gravid, and seventy-three single, and nineteen double, associated with pregnancy. In the non-gravid, twenty-three tumors were situated on the right side, and sixteen on the left. In the pregnant, of the single growths, eleven were on the right and ten on the left side. From the fact that, even with double tumors, menstruation is unaffected, or shows only slight disturbances late in the disorder, it appears that these growths have little influence on that function, and from the number of reported pregnancies do not, as a rule, prevent conception. On the other hand, their existence is always a menace to the health and even life of the mother during pregnancy, and especially following delivery, from the peculiar liability of dermoids to twisting of the pedicle, and in occasional instances during gestation, to the pressure caused by the size and position of the associated cyst. The coincidence of other new growths of the pelvic organs and dermoid cysts adds still greater danger to the maternal host, the two morbid products not infrequently becoming formidable complications in pregnancy, labor, or the puerperium. In thirty-one selected cases, there are noted as associated conditions: ovarian cyst in

seven; par-ovarian cyst in two; ovarian fibroids of the opposite side in one, and uterine fibroids in seven. Malignancy was found present in the walls of the dermoid itself in twenty-four cases, a number sufficient to warrant a more careful investigation of these growths in the future. Moreover, suppuration is exceedingly liable to occur in these cysts, and fatal termination from infection has been reported in not a few cases.

DISCUSSION

DR. GEORGE GELLHORN, St. Louis: I know of an interesting case which occurred in the practice of Dr. Ehrenfest, which I would like to relate briefly. A young married woman, during her first pregnancy, had to be examined, and the presence of a tumor was determined. Laparotomy was performed during the fourth month of pregnancy, and a cyst removed, which was found to be a dermoid. On the other side there was a smaller cyst of exactly the same nature. But, as experience has taught that the removal of both ovaries during pregnancy threatened to terminate pregnancy, the second smaller ovarian dermoid was left behind. The family desired more children, and so the second ovary was not removed. The first pregnancy terminated normally, but the woman is kept under constant control. This woman has borne a second child since, and is now being watched closely to see if she may possibly have a third child, after which the dermoid cyst will be removed to prevent the possibility of carcinomatous degeneration.

DR. T. J. WATKINS, Chicago: With a double dermoid it would seem very feasible simply to leave a part of the tumor which retains the corpus luteum, and this probably will prevent the interruption of pregnancy.

DR. BROOKS H. WELLS, New York: The removal of these ovaries during pregnancy does not interrupt pregnancy. I recall a case in which there were two dermoid cysts of both ovaries, which were removed, the patient being advanced four months in pregnancy and went on to term.

DR. W. P. MANTON, Detroit: I have never had a case in which I have operated on both sides during pregnancy, removing the dermoids. In all reported cases in which the dermoid is on one or both sides, pregnancy has gone on uninterrupted. The majority of operators advocate leaving behind a portion of an ovary.

The Blood-Supply of Uterine Myomata

DR. JOHN A. SAMPSON, Albany, N. Y.: The main intrinsic uterine arteries, to which the name arcling may be given, penetrate the anterior and posterior uterine walls and lie between the outer and middle third. Their course is horizontal in the lower portion of the body of the uterus and obliquely horizontal (upward), as one approaches the fundus. Each arcling artery terminates in a medial, radial or centripetal and peripheral branch, the latter often anastomosing with a similar branch of the opposite arcling artery, thus establishing a communication between the two main arteries. All along the course of each arcling artery, radial branches arise which terminate in the endometrium, and also peripheral branches arise which nourish the myometrium. Sections of injected uteri containing myomata show that all tumors of an appreciable size have an arterial blood-supply which varies greatly in different specimens and in the larger tumors is frequently greater than that of the myometrium. The same sections fail to demonstrate any veins in many of the tumors; in others a few small veins may be seen throughout the tumor or about its periphery, while occasionally they are quite evident, but never as abundant as in the myometrium. The extrinsic and intrinsic arterial supply of these tumors explains many of the clinical phenomena. I can readily understand why these tumors may be shelled out from the uterine wall with slight bleeding occurring only in a few places. Tumors in which veins are found in their substance and about the periphery suggest that the change between arterial and venous blood occurs within the tumor; in those in which veins are not found it is impossible to demonstrate where this takes place. The regressive changes in these tumors, calcareous deposits, and necroses, are in many instances due to alterations in the vascularity of the tumor as a whole or a portion of it.

(*To be continued*)

Book Notices

PUERPERAL INFECTION. By Arnold W. W. Lea, M.D., Lecturer in Obstetrics and Gynecology, the University, Manchester. Cloth. Price, $9. Pp. 384, with illustrations. New York: Oxford University Press, 1910.

The author has undertaken to describe the etiology, bacteriology and pathology of puerperal infection with as great scientific accuracy as possible and at the same time to keep in mind the practical and clinical aspects of the various types of infection, giving with clearness and fulness the modern methods of diagnosis and treatment. In this attempt he has succeeded in giving a clear picture of this complex subject and has inspired confidence in his practical direction for treatment by his conservative views. After a short historical review and a short chapter on definitions, follows a brief discussion on frequency, mortality and morbidity in England, Germany and the United States. Unnecessary operative interference is rightfully blamed for the continuance of a high morbidity and mortality.

The difficult subject of etiology is concisely but well handled. The bacteriology of the female generative tract, during both normal pregnancy and the puerperium and in infection, is followed by a discussion of the conditions predisposing to infection and the important question of heterogenous versus autogenous infection. The influence of examinations and operative procedures in increasing the danger from the vaginal organisms is spoken of, while the slight pyrexias in the early days of the puerperium following well-conducted labor is attributed to autogenetic infection. The chapters on general pathology and pathologic anatomy are brief but clearly written and profusely illustrated. The uncertain state of our knowledge concerning toxemia and septicemia and the importance to be attributed to the hemolytic function of streptococci is shown by the author in his treatment of this unsatisfactory subject in the chapter on symptomatology. He gives correctly what is known, but the impossibility of distinguishing clearly between toxemia and septicemia is shown. The localized infections are satisfactorily pictured.

In the important chapter on prophylaxis the subject of the disinfection of the vagina is thoroughly discussed and while the author agrees with the majority of teachers in omitting the vaginal douche in normal cases he advises it in prolonged labor, in cases of purulent vaginitis, in cases of intrapartum fever and in all operative deliveries. Good rules for hand disinfection are given. Unfortunately, he seems to discourage the general use of gloves by emphasizing the drawbacks attending their use. He gives observations of Ahlfield and Walthard concerning the favorable influences on the puerperium of a long third stage of labor, but unwisely admits that it is quite impossible to wait one hour in private practice for the delivery of the placenta. The advice to remove portions of retained placenta is not carefully enough limited to avoid risk from the dangerous manipulation. The recommendation of a 2 per cent. solution of liquor cresolis compositus for an intra-uterine douche is dangerous advice.

Nearly one-third of the book is properly devoted to treatment. The general principles of isolation, rest, drainage and non-interference, except when absolutely necessary, are inculcated. In carrying out the latter in local infection the author does not take a decided stand, but, after stating the position of Kronig, Winter and others who abstain from all local treatment, he describes the various means of using antiseptics by douche and other topical treatment, likewise the technic of tamponade, finger curettage, *écouvillonage*, which is favored by the author, and curettage is fully described. The conclusions reached concerning the latter procedure are in general fairly conservative. Hot vaginal douches and hot air are preferred to cold applications in localized pelvic inflammation.

Some criticism might be made of certain details of the measures of general treatment which are not free from exploded ideas that have been handed down from uncritical times. We cannot agree that beef teas and meat extracts are of great value. Enemas of milk, eggs and beef tea cannot be given every four hours for any considerable period of time. The term "high enema" is bad if it implies the com-

mon but often refuted error that the rectal tube can be inserted into the colon. "Firm pressure" to check the secretion of milk is not necessary and of doubtful efficiency.

In the section on methods of destroying organisms and neutralizing toxic products in the blood and tissues of the body, the author is favorable to the collargol treatment and advises its general use. He seems to be ignorant of the investigation of the Council on Pharmacy of the American Medical Association. Phagocytin is unnecessarily given some space, since at the end of the paragraph the author says that further experiments failed to show that it exerted any favorable therapeutic influence.

The present state of the therapeutic use of the abscess of fixation is given without any recommendation by the author concerning its value. The intravenous injection of dilutions of formaldehyd solution is mentioned as having been tried in America with apparent success. A little further investigation of American literature would have shown that this dangerous experiment had a very ephemeral success. Serotherapy is judiciously discussed and the conclusion reached that its value is very questionable. Immunization by vaccines is likewise described and a more favorable view of its value obtained.

The indications for and the method of operative treatment of localized pelvic infection and of peritonitis are given with sufficient fulness. Hysterectomy is found indicated in cases of injury with infection and in some localized infections with abscess, in infected myoma and rarely in retention of fetus or placenta. Ligation of the pelvic veins is rarely indicated.

The book closes with a summary of treatment of both localized and general infection. It is a concise statement of the views of the author and worthily closes a laudable undertaking.

THE DAWN OF THE HEALTH AGE. By Benjamin Moore, D.Sc., M.R.C.S., L.R.C.P. Cloth. Price, $1.40 net. Pp. 204. London: J. & A. Churchill (Philadelphia: P. Blakiston's Son & Co.), 1911.

This book is another evidence of the growing popular interest in health topics. While written by an Englishman, it applies to conditions in the United States as well as in Great Britain. The author endeavors to demonstrate the necessity for an entire remodeling of the present system of medical service in the interest of the whole community, by showing that thousands of lives and millions of money can be saved every year if disease is attacked on scientific principles "instead of being dallied with as at present." Dr. Moore advocates a system of state medicine by which competent physicians are made officers of the state for the suppression of disease, as police officers are employed for the suppression of crime. The author has evidently a strong tendency toward state socialism. Great Britain is apparently farther advanced along this line than the United States, as is shown by existing British laws regarding invalidity insurance, employers' liability, care of the sick by the state, workingmen's insurance, etc. While one may not agree with all of the conclusions, the book is interesting and suggestive. Chapters on the follies of present public health service, the doctor and his patient in private practice and in state practice, the evils and abuse of hospital systems and the evolution of a national medical service contain the basic facts and theories from which the proposed system of the writer is developed. Evidently the advocates of public health reform in England have encountered the same opposition as that met in this country, as is shown by the comments of the author on the objection that such a plan would be an invasion of personal liberty. He says, "Let us next look at the matter from the point of view, so often called in evidence by opponents, of the sanctity of the home and the intrusion on it of an army of officials. This is an ancient bogey which was taken out of its cupboard, carefully dusted and filled with fresh straw to alarm the British workman and voter when free education was granted him for his children. He was then told that his hereditary castle was gone forever and that he would have no peace or quiet with his wife and family on account of the unwelcome and prying visits of the school attendance officer haling poor little Johnnie away to school as to some prison or torture chamber. Now is it so in fact, after a good many years of reign of the school board? Is this reign really a reign of terror? Is the school attendance officer an irksome person in constant attendance at the poor man's home? No; he is only a terror to those, and they are but a small percentage, to whom he ought to be a terror and to whom we would all wish him to be a terror, who would neglect their children in a wicked and criminal way. . . . These officers, although they visit homes, have no more terrors for honest people than either the policeman or the gas-meter inspector." In another chapter he says, "Under the new regime, medical treatment will be as free to everyone as is the school and education to-day and everyone must accept medical treatment in his own interest and that of the community just as he must to-day accept education for his child whether he wants it or not." Dr. Moore has presented an interesting argument for advanced constructive health legislation.

PUBLIC HYGIENE. By Thomas S. Blair, M.D., Neurologist Harrisburgh, Pennsylvania, Hospital. Assisted by Numerous Contributors. In Two Volumes. Volumes I and II. Cloth. Price, $10 net. Pp. 644, with 158 illustrations. Boston: Richard G. Badger, (1911).

The growing interest in public hygiene would seem to warrant the preparation and publication of a comprehensive work on this subject, adapted to the needs of the general practitioner and the lay worker in sanitation reforms. Such a book is greatly needed and on first inspection Dr. Blair's book seems to meet the indications. More careful examination, however, arouses the suspicion that the material for this work was hastily put together and that too little time has been given to the processes of digestion and condensation. Frankly, the impression left on the mind of the critical reader is that material for a single, compact volume has been padded out to form two and that much material has been given place in full, which could better have been summarized or abstracted and that undue haste has been used in getting the work out. The two volumes are copiously illustrated, the plates being well executed from a mechanical standpoint, but not always having a discernible connection with the text. For instance, it is difficult to see the value in a work on public hygiene of a photograph of the elevator entrance to the rest-room of the Waldorf Astoria Hotel. Large photographs of the exteriors of public and private institutions are also of no discernible value. The binding is lacking in stability.

A BRIEF TEXT OF PHYSIOLOGY. For Dental, Pre-Medical, and College Students. By Carl J. Wiggers, M.D., Department of Physiology, University of Michigan. Cloth. Price, $1.50. Pp. 207, with 47 illustrations. Ann Arbor: George Wahr.

This manual was originally intended for the use of dental students at the University of Michigan. It is an effort to cover the essentials of human physiology within the limits of the physiologic course given in dental schools. Only subjects of the greatest general interest have been included and discussions on debatable questions have been largely supplanted by statements of that side which to the author seemed to have the preponderance of evidence. It is rather more elaborate than a quiz-compend and is really a digest of present physiologic knowledge. A supplement contains directions for a number of experiments of use in demonstrating physiologic principles, space being left between the directions for each experiment, for the student to use in writing up laboratory notes.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-Book of Treatment and Practitioner's Index. 1911. Twenty-Ninth Year. Cloth. Price, $3.50. Pp. 748. New York: E. B. Treat & Co.

This year-book, in its twenty-ninth year, is fully up to the standard of former editions. In it is given a comprehensive review of the year's work in treatment, covering practically the whole field of medicine and surgery in all their branches. A new feature is an index of the matter contained in the section on "Therapeutics" under the names of diseases in the section "Dictionary of New Treatment." This prevents the reader from missing new remedies (largely proprietaries, by the way) or a particular form of treatment which has not found its way into general use. The book is well illustrated, having a number of good colored plates.

GENERAL INDEX

All *reading matter* in THE JOURNAL from January to June, 1911, inclusive, is indexed here. (For Current Medical Literature Index see pages 1948 to 2000). "Deaths," "Book Notices," and "Society Proceedings" are indexed under these titles at the ends of the letters "D," "B" and "S." Matter pertaining to the Association is under "American Medical Association." With the above exceptions, all matter is indexed under the most important word of the heading that was used in THE JOURNAL, and also under the subject heading. For instance, abscess of brain will be found indexed under "abscess" as well as under "brain." Such titles as "ocular manifestations, etc.," have been indexed under "eye." Cross-references have been made wherever this was possible. It is also well to remember that, in looking up a certain subject, related words should be consulted, for example, chest, thorax; skull, cranium; bowel, intestines. The letters used to explain in which department the matter indexed appeared are as follows: "E" editorial; "O" original article; "C" correspondence; "T" therapeutics; "Ml" medicolegal; "P" pharmacology; "M. E." medical economics, and "ab" denotes an abstract of an article that has appeared in full elsewhere. *Names of authors* of original articles appearing in THE JOURNAL are not given in this index, but are included in the Index of Authors.

A

Abdomen, characteristic painful point in, with sciatica, 1622—ab
drainage of spina bifida and hydrocephalus into, 311—ab
penetrating wounds of, 1603—ab
Abdominal and pelvic outlet operations, combined, position for, 73—ab
and pelvic surgery, peritonization in, 1141—ab
conditions, acute, rarer causes of, 382—ab
diphtheria, 199—O
diseases, acute emergencies of, 1362—ab
diseases, colon bacillus as principal cause of, 1754—ab
diseases, pain in, 300—ab, 1601—ab
incision, closure of, 1421—ab
incision, new, to facilitate intra-abdominal operations, 1004—ab
injuries, treatment of, 696—ab
manifestations of syphilis, acute, 1511—ab
myomectomy for myomata of uterus, 847—ab
pain, 1601—ab
pain and loose sacro-iliac joint, 885—ab
pain and tenderness muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, 1784—O
parietes, arrested development of, 804—O
position for drainage in suprapubic prostatectomy, 778—ab
pressure, measurement and importance of, 1863—ab
respiratory movement, absence of, as indication of pericarditis, 929—ab
Section: See Laparotomy
structures, intestinal malignant growth requiring removal of unusual number of, 141—ab
symptoms, acute, pneumothorax with, 1000—ab
tenderness with pain due to thoracic lesions, 1606—ab
viscera, developmental defects of, their surgical significance, 1506—ab
viscera, injuries of, without external signs of violence, 718—O
viscera, ptosis of, in child, congenital, what is to be attitude of orthopedic surgeon toward? 1847—ab
viscera, traumatic perforation of, 1286—ab
wall, desmoid tumors of, after operation, 65—ab, 1684—ab
wall, wounds of, gastric weak line in, 1751—ab, 1798—O
Abortifacient nostrums, Chichester's pills, 1591—P
ready made mixtures, 1670—P
Abortion and hemorrhages during early pregnancy, 705—ab
criminal, proper cross-examination of medical expert, 452—Ml
induced, 1364—ab
medical, induced, professional responsibility in, 1364—ab
septic, 1517—ab, 1520—ab
septic, irrigation in, 1000—ab
Abscess and immediate pain following administration of salvarsan by alkaline solution method, cause of, 1262—O
appendiceal, drained by rectal puncture, 1649—O
appendiceal, pure phenol and iodoform for, 1297—ab
appendiceal, ulceration of external iliac artery from pressure of drain in, 308—ab
Abscess, breast, during pregnancy, 617—ab
cavities, sterilization of, 1300—ab
cerebellum and labyrinthin, differential diagnosis of, 1856—ab
fixation, in bronchopneumonia in infants, 227—ab
ischiorectal, and suppurative bubo, melted iodoform ointment in, 846—ab
liver, with or following typhoid fever, 1855—ab
mastoid, and acute otitis media, in children, 73—ab
of kidney, urogenous, multiple, acute, resembling acute unilateral hematogenous nephritis, 1145—ab
of liver, amebic, aspiration and injection of quinin in, 384—ab
or tumor formation in temporosphenoidal lobes, diagnosis of, 1639—O
splenic, 260—O
Absorption from intramuscular tissue, 1146—ab
Abstinence, total, and longevity, 1826
Academy of Medicine, Belgian, prizes offered by, 523
of medicine, election of Dr. Sébileau to, 523
of sciences, candidacy of Mme. Curie and election of Dr. Branly to, 522
of sciences, feminine candidacy for, 53
of sciences of France and Madame Curie, 516—E
Accident, fatal, from toy pistol means of securing sane Fourth-of-July ordinance, 1345—C
psychic condition immediately after, 1766—ab
railway, heroism of physician in, 359
Accidents during anesthesia, drugs as stimulants in, 73—ab
electric, 229—ab
industrial, clinics of, 1122
railway, factors in, 1113—E
railway, with special reference to cerebral fat embolism, 1515—ab
street, great increase of, due to motor traffic, 601
Accommodation: See also Eye
Accouchement: See Delivery
Acetanilid poisoning and nitrate, similarity between, 1054—P
poisoning, chronic, 1677—ab
Acetonuria, its influence in diabetes mellitus, 707—ab
Achylia gastrica and pernicious anemia, treatment of, 1858—ab
Acid: See Acids
Acid, acetic seroreaction, clinical importance of 2 precipitates in, 468—ab
acetic, test and tryptophan test in early diagnosis of gastric cancer, 463—ab
acetyl-salicylic, poisoning after small doses of, 780—ab
acetyl-salicylic, unusual action of, 302—ab
benzoic, and its salts as food preservatives, 1493
butyric, test, Noguchi, in cerebrospinal fluid, diagnostic value of, 1171—O
camphoric, 1759—ab
Carbolic: See Phenol
glycuronic, in urine of infant, diagnostic importance of, 706—ab
hydrochloric, estimation of, in stomach content, 1690—ab
hydrochloric, free in stomach content, blotting-paper test for, 857—ab, 1698—ab
hydrochloric, in typhoid, 1422—ab
Intoxication: See also Acidosis
intoxication in cholera, 736—ab
Acid intoxication, postanesthetic, death
tribasic salts of, 1760—ab
phenolphthalic, laxative properties of tribasic salts of, 1760—ab
picric, its surgical application, 412—O
picric, test for seminal fluid, 783—ab
Salicylic: See also Salicylates, and Sodium Salicylate
sulphuric, in industrial preparations of food, 390—ab
Uric: See Uric Acid
Acids: See also Acid
Acids, amino, as culture media in cultivation of leprosy bacillus from human tissues, 1146—ab
Acidosis and acute phosphorus poisoning, 383—ab
and burns in children, 245—ab
and diabetic coma, 1516—ab
diabetic, treatment of, 785—ab
index, 1003—ab
postanesthetic, 1002—ab
treatment of, 917
Acne vulgaris, treatment of, 1147—ab
Aconite, standardization of, 606—P
Acromegaly, endothelioma at base of brain producing symptoms of, 1906—ab
from fright, 1302—ab
nature of skeleton changes in, 1425—ab
urine in, 1870—O
Actinic rays and orange red underwear, 1740
Actinomycosis, rapid, 702—ab
Adams-Stokes' syndrome with heart-block, 1002—ab
Addison's disease and status lymphaticus, 463—ab
Adenitis, cervical, acute, and peritonsillar infiltration, meningismus from, 1443—O
cervical, study of human and bovine bacilli isolated from 11 consecutive cases of, 457—ab
cervical, tuberculous, primary, tubercle bacillus cultivated from 9 consecutive cases of, 1511—ab
mediastinal, and persisting thymus, 1300—ab
Adenoid and tonsil operation, 878—O
Adenoids and tuberculosis, 1691—ab
Adenomata originating from Islands of Langerhans, 1856—ab
Adhesions, gastric and duodenal, in gall-bladder region, x-rays for diagnosis of, 1777—O
Adhesive plaster, gasoline for removal of, 688
plaster, removal of, 988
Adiposis Dolorosa: See also Obesity
Administrator, corroboration in action against, admissibility in evidence of physician's account books, 692—Ml
Adnexa, Uterine: See Ovaries and Fallopian Tubes
Adnexitis: See Oöphorosalpingitis
Adolescents, idiopathic curvature of neck of femur in, 308—ab
Adonidin, 964—T
Adrenal: See also Adrenals
Adrenal and nephridial tissues, embryology of, and histology of hypernephromata, 540—ab
body, hematoma of, 1125—ab
secretion, stimulation of, by emotional excitement, 742—O
Adrenalin and epinephrin, 901—E, 910—P
preparation of, nomenclature of, 910—P
saline infusion and chill, 163—ab
Adrenals: See Adrenal
Adulterant, saccharin as, 1395—E
Adult: See also Adults
Adult intussusception in, 140—ab, 1004—ab
noma in, 1449—O
Adults, enteritis of, acute, 1556—T
enteritis of, chronic, 1654—T
Advertisers' Protective Association, 1723—E
Advertising for patients, validity of statutes forbidding, and special ability to treat or cure chronic and incurable diseases, chronic and incurable defined, consultation of medical works by boards, 452—Ml
honest, 1459—ab
honest, Governor Osborn for, 1041—E
lay and medical, 819—E
newspaper, black plague in, 1261—ab
nostrum, lay and medical, 425—E
reform in, 274—E
Agar-agar in constipation, 445
Age and tuberculosis, 1406
old, dyspepsia of, 457—ab
Aged, sterility in, cured by Wylie drain, 1190—O
Agglutination, influence of ether and ether anesthesia on, 1147—ab
intravascular, transfusion and question of, 1225—ab
test, typhoid, macroscopic, quick, 156—ab
Agglutinins, typhoid, human and animal, 155—ab
Ailments: See also Diseases
Air and ether, anesthesia by intratracheal insufflation of, 775—ab
cold, in acute respiratory conditions, 224—ab
Compressed: See Compressed Air
embolus during operation under air-inflation urethroscopy, 419—O
impure, and medicine, 1392—E
inflation urethroscopy, air embolus during operation under, 419—O, 586—ab
inhaled, cooling of, in ether anesthesia, 1011—ab
injection of, in sciatica, 1125—ab
oxygen-poor, in therapeutics, 1767—ab
Passages: See Respiratory Tract
superheated, inhalation of, in bronchitis, 550—ab
superheated, in skin diseases, 1623—ab
Swallowing: See Aerophagia
Alabama medical news, 50, 598, 750, 820, 1269, 1336
optometry bill, Governor O'Neal vetoes, 1347—ME
state board January report, 690
state board July report, 370
Albarran, statue to, 601
Albumin, fetal, eclampsia possibly anaphylaxis from, 309—ab
in sputum, differential importance of, 702—ab
in urine of normal children, frequency and significance of, 697—ab
milk in infant feeding, 785—ab, 934—ab
reaction in pulmonary tuberculosis, 1908—ab
reaction in sputum, 1619—ab
reaction in sputum in early diagnosis of tuberculosis, 1621—ab
simple method for detection of minute quantities of, in urine, 662—O
Albuminuria, orthostatic, 465—ab
orthostatic, and school hygiene, 467—ab
orthostatic, and tuberculosis, 1864-ab
Albumose in urine, test for, 1697—ab
Albumosuria, multiple myeloma with, 1092—O, 1423—ab
Alcohol, bactericidal effects of, 1749, 1900
denatured, 1055
for poisoning from jellyfish stings, 1346

Alcohol injection of internal branch of superior laryngeal nerve, analgesia of larynx by, 458—ab
injections in neuralgia, 1818—E
literature given libraries, 432
tannin for sterilization of hands and field of operation, 1076—ab
wood, poisoning, 1341
Alcoholism and heredity, 350—E
and tuberculous peritonitis, 1624—ab
parental, influence of, on physique and ability of offspring, 460—ab
Alienist as expert witness, 225—ab
Alimentary: See also Gastro-intestinal
Alimentary canal, importance of tonus in mechanical activities of, 1606—ab
tract, is pellagra a disease primarily of? 1753—ab
Alkalies, tolerance for, in Asiatic cholera, 695—ab
Alkaptonuria, 626—ab
Allergy in tuberculosis, experimental study of, 616—ab
Almanac, reformed, as health evangelist, 1115—E
Altitude, effect of, on aviators, 1586
Altitudes, high, gastric secretion at, 906
high, physiology at, 1825
Alveolitis and cementum, treatment of, 109—O
Amaurosis: See Blindness
Amboceptors and complements, various, comparative merits of, in serodiagnosis of syphilis, 378—ab
Amebas, pellagra due to, 223—ab
Ameboid activity of megaloblasts, 925—ab
movement of sarcoma cells growing in vitro, migration by, 791—O
Amenorrhea, complete, with heredity as probable etiologic factor, 1069—ab
etiology of, 1013—ab
American achievements in tropics, 831
Indians, cancer among, 44—E
American Medical Association, 1401—ab
alumni reunions during Los Angeles Session, 1829
arrangements being perfected for Los Angeles Session, 605
central routes to Los Angeles, 686
class and college reunions at Los Angeles, 1524
commercial exhibit, 1525
dermatology, no program of section on, 1052
description of Los Angeles, 1464-1469
Eastern rates to Los Angeles Session, 1052
entertainments for Los Angeles Session, 605
entertainments, program of, at Los Angeles, 1479
final announcement of rates by railroads for Los Angeles Session, 1521
genito-urinary section program not to be given at Los Angeles, 1345
home of the Association, 1805
hotel accommodations available for Los Angeles Session, 981
hotel rates at Los Angeles, 1521
hotels, section, and meeting places for Los Angeles Session, list of, 760
Los Angeles number, 1126
Los Angeles Session, 527, 1464, 1589, 1671, 1829
Los Angeles Session, more details of railroad plans for trip to, 686
meeting places and section hotels for Los Angeles Session, list of, 760
of Vienna, excursion of, 683
official call for annual Session, 1464
public health exhibits under supervision of, 294—O
railroad routes, northern, to Los Angeles Session, 760
Rates at Los Angeles hotels, 527
Rates to Los Angeles, 528
registration at Los Angeles, 1481
Scientific Exhibit, 981
section meeting places and hotel headquarters at Los Angeles Session, 1521
section programs, 1469
trains to Los Angeles Session, 907
tribute to efforts of, 1155—ab
Amidoazotoluol and scarlet red for stimulation of epitheliation of granulating surfaces, 1684—ab
Amyotonia congenita, 462—ab
Amyotropic lateral sclerosis due to trauma, 1876—O
Anaerobes, intestinal, 1482—E
Analgesia: See also Anesthesia
Analgesia of larynx by alcohol injection of internal branch of superior laryngeal nerve, 458—ab
Analgesic formula, correction in, 1055—C
Anamnesis: See History
Anaphylaxis, 1199—E, 1232—ab
after serotherapy, 626—ab
after spinal serotherapy, its prophylaxis, 624—ab
and asthma, 376—ab
and infection, 746—E
and serotherapy, 1594
and serous meningitis after spinal serotherapy, 78—ab
physiologic studies in, reaction of smooth muscle from guinea-pigs rendered tolerant to large doses of serum, 539—ab
probable case of, 419—O
Anarthria and lenticular zone, 155—ab, 747—E
Anastomat, Noble, modified, 301—ab
Anastomosis, arteriovenous, and mechanical theory of arteriosclerosis, 378—ab
arteriovenous, for endarteritic gangrene, 1861—ab
arteriovenous, for senile gangrene, 1830—ab
end-to-end, of abdominal aorta, absorbable magnesium rings for, 1615—ab
intestinal, new method of, 847—ab
ureterotubal, 265—O
venous, for varicose veins, venovenostomy, 1447—O
Anatomist and physiologist, what internist wants them to teach, 1066—ab
and physiologist, what surgeon wants them to teach, 1066—ab
Anatomy, visceral, teaching of, 1544—O
Anemia, fatal, widal reaction obtained in, 226—ab
pernicious, and achylia gastrica, treatment of, 1858—ab
pernicious, family, 1315—O
pernicious, glycerin in, 1909—ab
pernicious, jaundice in, 1511—ab
severe, injections of blood in, 1630—ab
severe, peculiar elongated and sickle-shaped red blood-cells in, 699—ab
splenic, nature and treatment of, 74—ab
splenic, splenectomy in, 226—ab
Anencephalus, 1382—O
Anesthesia, alleged harmless methods of, 81—ab
by intratracheal insufflation of air and ether, 775—ab
drugs as stimulants in accidents during, 73—ab
electric, and electric resuscitation after heart failure under chloroform or electrocution, 478—O
ether, and ether, influence of, on bacteriolysis, agglutination and phagocystosis, 1147—ab
ether, cooling of inhaled air in, 1011—ab
ether, primary, major operations under, 163—ab
general, 701—ab
general, uses and limitations of, as produced by subcutaneous and intravascular injections, 1677—ab
influence of Trendelenburg position on quantity of urine excreted during, 457—ab
in gynecology, local and general, 230—ab
in traumatic surgery, 138—C
insufflation, intrathoracic, apparatus and cases, 1290—ab
local, for major operations on breast and thorax, 1155—ab
local, operations for inguinal and femoral hernia under, 1358—ab
local, with quinin and urea hydrochlorid, 1141—ab
nitrous-oxid-oxygen, 1749—ab
nitrous oxid-oxygen, advantages of especially for ultimate recovery, 499—O
quinin and urea, 1346
sacral, in gynecology and obstetrics, 229—ab
spinal, and blood-pressure, 386—ab
spinal, and shock, 813—ab
suggestion, and hypnosis, 230—ab
surgical, and blood-pressure, 778—ab
vein, modified, 859—ab
Anesthetic acidosis, 1002—ab
local, with inoculation of tuberculin for modifying its effect, 780—ab
lung infections after, 512—E
vs. carbon dioxid, 687—C
Anesthetics, general, administration of, with special reference to ether and chloroform, 1312—O
Anesthetist, 897—ab, 1742—ab
Aneurysm and edema, 1783—ab
of aorta, 153—ab, 1686—ab
of external plantar artery, 964—O
Aneurysm of heart, 846—ab
of internal carotid, pulsating exophthalmos due to, 1552—O
popliteal, of unusual size, 301—ab
with new method of ligation of left subclavian artery, 1144—ab
Aneurysms in army medical museum, 455—ab, 698—ab
treatment of, 1504—ab
Angina pectoris, 227—ab
pectoris, gastric origin of, 1150—ab
Angiocholecystitis, typhoid, operative treatment of, 931—ab
Angioma of brain, large removal of, 1692—ab
Angiosarcoma of liver in infant, 873—O
Animal body, resistance and ultrasensitiveness of, to chemical agents, 1155—ab
experimentation, 816—E, 1285—ab
experimentation and obstetrics, 1159—O
experimentation by clergyman scientist, 1114—E
experimentation, value of, shown in recent advances in study of syphilis, 1244—O
experiments, Puck on, 674—E
Animals, domestic, cancer in, 1844—ab
Anions, treatment with, 1768—ab
Ankle joint, relaxation of annular ligament of, cause of weak and flat-foot, 926—ab
tuberculosis of, in adults, prognosis and treatment of, 1905—ab
Ankylosis of hip, operation for, use of Baer's membrane, 1147—ab
of knee, treatment of, 229—ab
of patella, treatment of, 935—ab
Ankylostomiasis: See also Uncinariasis
Ankylostomiasis, uncinariasis, or hookworm disease, 1107—T
Anorectal: See also Anus, and Rectum
Anthrax and felt manufacturer, 1586
bacillus, infection with, 1214
Antibodies, production of, to pneumococci in insusceptible host, 1878—O
specific, formation of, and complement fixation, 936—ab
Antidysenteric serum, 591
Antiformin, 43
Antiperistalsis and spastic constipation, 1693—ab
Antipneumococcus serum, 591
Antipyrin, calomel and sodium bicarbonate, incompatibility of, 287—P
Antiquackery bill, discussions of Reichstag committee on, 1051
Antisepsis, intestinal, scientific evidence of possibility of, 1147—ab
value of tincture of iodin for, 931—ab
Antiseptic, mercury cyanid or mercury oxycyanid as, 609
Antiseptics, intestinal, action of, on gastric digestion, 1609—ab
new principle in action of, 218—ab
osmosis as important factor in action of, 1069—ab
Antiserum, specific, in exophthalmic goiter, 263—O
Antitoxin, diphtheria, use of, 1725—E
in asthma, 458—ab
Tetanus: See also Serotherapy of Tetanus
Antitrypsin reaction, importance of, in diagnosis and prognosis of cancer, 463—ab
test, improved technic for, 627—ab
Antityphoid inoculation as introduced into certain training schools for nurses in Massachusetts, 221—ab
vaccination, 601
Antivivisectionists' prayers, 1733
Anuria, calculous, reflex, 853—ab
Anus: See also Anorectal and Rectum
Anus, entero-uterine, 1760—ab
fissure of, 1852—ab
Aorta, abdominal, absorbable magnesium rings for end-to-end anastomosis of, 1615—ab
aneurysm of, 153—ab, 1686—ab
syphilis of, 1371—ab
Aortic insufficiency, clinical determination and significance or peripheral signs of, 1843—ab
insufficiency, work of heart in, 1850—ab
Aphasia, 1149—ab
in children, congenital, 2 cases of, 1763—ab
Marie's theory of, 747—E
Apocynum cannabinum, 964—T
in chronic cardiac insufficiency, 628—ab
Apoplexy, cerebral, operative treatment of, 1767—ab
suprarenal, 1006—ab
trephining for, 1803—O
Apparatus: See also Instrument
Apparatus, drum-spinning attachment for ordinary kymographion, 1705—O
for fracture fixation, 302—ab
for intrathoracic insufflation anesthesia, 1290—ab
for keeping patient dry after suprapubic cystostomy, 1612—ab
for passive hill-climbing during bed rest cure for heart disease, 1302—ab
for preparation of bacterial suspensions, 115—O
for proctoclysis, 114—O, 873—O
for treatment of scoliosis at night, 153—ab
gravity, improved, for intravenous injection of salvarsan, 732—O
home-made electric centrifuge, 404—O
improved, for estimating pressure in cerebrospinal system, 962—O
miniature exercise machine for infantile paralysis, 1259—O
new air-water sphygmomanometer, 1873—O
simple, for intravenous injection of salvarsan or other drugs, 1194—O
Appendicealgia, the word, 688
Appendices, 2, in one person, 195—O, 528—C
Appendicitis, 1668
and disturbance in gastroduodenohepatico-pancreatic physiologic system, 72—ab
bilharziasis with, 68—ab
chronic, 1507—ab
clinical significance of leukocytosis and neutrophile blood picture in, 1012—ab
distribution of, and diet, 306—ab
how shall it be treated after first 48 hours? 779—ab
ileus with or following, 1365—ab
Operations: See also Appendectomy
peritonitis consecutive to, treatment of, 454—ab
reflex nervous phenomena in genito-urinary tract in, 544—ab
suppurative, acute, 298—ab
suppurative, acute, operative technic of, 847—ab
tertian malaria simulating, 1639—O
unusual, 1511—ab
with concurrent typhoid, 1356—ab
Appendicostomy, cecostomy instead of, for colon lavage, 1147—ab
technic of, 72—ab
Appendix abscess drained by rectal puncture, 2 cases of, 1649—O
abscess of, pure phenol and iodoform for, 1297—ab
and omentum, gangrene of, 34—O
cancer of, 122—E
clinical and pathologic significance of obliteration, carcinoma and diverticulum of, 1069—ab
inflammatory changes in, during early infancy, 1228—ab
palpability of, 1690—ab
possibility of duplication of, 1412
removal of, and fixation of cecum, technic for, 564—O
sarcoma of, primary, 217—ab
Appetite, importance of, in estimation of stomach function, 935—ab
loss of, in tuberculosis, 831—ab
Appliance: See Apparatus, and Instrument
Arc light, favorable influence of exposures to, on respiration in heart disease, 1698—ab
Are soon parted, 1831
Arhovin, 591
Arizona medical news, 50, 276
state board January report, 1596
Arkansas and Louisiana and Texas, reciprocity between, 368
health legislation in, 1595—ME
medical news, 598, 674, 1269, 1336, 1486
new requirements in, 1837
state board November report, 63
Arm, effect of general hydrotherapeutic procedures on blood-flow in, 1850—ab
loss of power in, and stiff and painful shoulders, 1148—ab
paralysis of, and dislocation of shoulder with falling of humerus, 1362—ab
paralysis of, due to nerve injury, 1415—ab
Arms, septic infections of, prevention and treatment of, 1513—ab
Army, experience of, with vaccination as prophylactic against small-pox, 1415—ab
maneuver camp, sanitation at, 1899
medical corps examinations, 1664
medical museum, aneurysms in, 455—ab, 698—ab
medical officer, ethics, scope and prerogative of, 1071—ab
on border, hygiene in, 271—E

Army sanitation, demonstration of, 819—E
United States, prophylaxis of venereal diseases in, 154—ab
Arrhythmia, digitalis in, 549—ab
Arsenic and mercury, organic, comparative value of, in syphilis, 78—ab
antihemolytic action of, 543—ab
compounds, dose and value of, 289
in syphilis, 588—O
poisoning, fatal, after administration of salvarsan in cerebral syphilis, 1155—ab
therapy of apparently inoperable sarcoma of spine, 1862--ab
Arsenobenzol: See Salvarsan
Arsen-Phenol-Amin: See Salvarsan
Arteries, coronary, disease of, sodium cacodylate in, 1055—C
rigid, in children, 784—ab
surgical, large, occlusion of, with removable metallic bands to test efficiency of collateral circulation, 233—O
Arteriosclerosis, diet in, 846—ab
mechanical theory of, and arteriovenous anastomosis, 378—ab
or cardiovascular disease, 1415—ab
of uterine blood-vessels, 239—O
Poehl's spermin in, 1132
psychic etiology and treatment of, 1430—ab
Arteriosclerotics, significance of transient cerebral crises and seizures in, 304—ab
Arteriovenous anastomosis and mechanical theory of arteriosclerosis, 378—ab
anastomosis for senile gangrene, 1830—ab
Artery, iliac, external, ulceration of, from pressure of drain in appendiceal abscess, 308—ab
plantar, external, aneurysm of, 964—O
renal, experiments on, 379—ab
subclavian, left, new method of ligation of, in aneurysm, 1144—ab
subclavian, technic for ligation of, 308—ab
ulnar, determination of diastolic blood-pressure by palpation of, 784—ab
Arthritis, bacteriology and pathology of, 381—ab
chronic, principles underlying study and treatment of, 220—ab
deformans, treatment of, 1779—O
deforming, and flat-foot disturbances, 1427—ab
gonorrheal, acute, Bier's hyperemia in, 381—ab
rheumatoid, and mouth disease, 1072—ab
rheumatoid, vaccines in, 623—ab
uses and limitations of vaccine therapy in management of, 926—ab
Arthrodesis, subcutaneous, experiences with, 782—ab
Articulation, lumbosacral, 999—ab
Arts, lost, 1266—E
Ascaris lumbricoides, 813—T
Ascites: See also Dropsy and Edema
Ascites, acute hydramnios complicated with, 1609—ab
and cirrhosis-of-liver in children, due to splenomegaly with recurrent jaundice, 1150—ab
and collateral circulation, 1866—ab
clinical study of, 1604—ab
drainage of, into subcutaneous cellular tissues, 930—ab
implantation of internal saphenous vein in peritoneum in, 163—ab
lymphangioplasty in, 1515—ab
pseudochylous, 1850—ab
supposed case of, echinococcus cysts? 1295—ab
with valvular defect, omentopexy for, 707—ab
Asparagus, odor from, 916, 1056
Asphyxia, traumatic, 77—ab
Aspiration of foreign material into respiratory tract during intratracheal insufflation, 1856—ab
Aspirator, hydraulic, 244—O
Aspirin, idiosyncrasy to 261—O
poisoning after small doses of, 780—ab
unusual idiosyncrasy to, 1262—O
Association-tests for detection of simulation of insanity, 1296—ab
Asthenia, congenital, universal, 1618—ab
Asthma, 1667
and anaphylaxis, 376—ab
antitoxin in, 458—ab
bronchial, and pulmonary tuberculosis, combination of, 390—ab
cure fake, Tucker's, 1495—P
cure, Hair's, misbranded, 1898—P
remedies, formulas for, 1130
specific, Tucker's, 1495—P
Asylum, bequest by physician for founding of, 601
Asylums, insane, medical direction of, 360
Ataxia: See also Tabes Dorsalis
Ataxia, familial, 161—ab
tabes dorsalis without, 194—O
treatment of, 162—ab
Athletics at Berlin university, 602
in naval academy, 597—E
Atony, gastric, acute, 1302—ab
Atrophy, muscular, progressive, childbirth in, 1697—ab
of hand, neural, thenar and hypothenar types of, 619—ab, 11256—O
of optic nerves, cases resembling, which recovered under treatment, 852—ab
of thenar muscles, neural, peripheral, 1256—O
tabetic, of optic nerve, 1077—ab
Auricle fibrillating, reaction of heart to digitalis with, 76—ab
Auricles, digitalis in heart disease and dropsy with fibrillation of, 927—ab
Auriculoventricular bundle-of-His, normal and pathologic anatomy of, 390—ab
Auscultation, cough during, in diagnosis of pulmonary tuberculosis, 245—O
findings in gastro-intestinal tract, diagnostic importance of, 1368—ab
of cough, 1506—ab
of joints, 623—ab
sign of glandular disease in chest, 932—ab
Auscultatory signs of respiratory system, 70—ab
Authority and standards in medicine, 894—O
Authors, hint to, easy writing versus easy reading, 750—E
Autodrainage for elephantiasis, 467—ab
Autolysis of crystalline lens, 807—O
Automobile data wanted, 212
names, key to, 1041—E
number, 275—E
number of Journal, following page 1078
speed question, 1055
traffic, regulation of, in Germany, 756
Automobiling, cerebral neurasthenia from, its depressing influence on sexual sphere, 1519—ab
Autopsy: See Necropsy
Aviation, some medical aspects of, 438—ab
Aviators, effect of altitude on, 1586
Axilla, pubes and breast, chronic itching papular eruption of, 174—O

B

Babies Dispensary and Hospital of Cleveland, 3 years experience of, in education of mothers, 224—ab
Baby: See Infant
Baby, rescue of, 1052
Bacilli: See also Bacillus
Bacilli, colon, in cerebrospinal fluid, 1765—ab
diphtheria, tests of virulence of, 809—O
hiccup not atributed to, 836
human and bovine, study of, isolated from 11 consecutive cases of cervical adenitis, 457—ab
in healed tuberculous lesions, 1333—E
lepra, human, culture of, 349—ab
tubercle, discharged, average number of, 1594
tubercle, examination of feces of 40 cattle for, conclusions therefrom, 540—ab
tubercle, in cerebrospinal fluid of tuberculous meningitis, 304—ab
tubercle, in stools, diagnostic importance of, 1623—ab
tubercle, in tissues, comparative tests for, 1156—ab
tubercle, subsequent health of children who drank milk containing, 1322—O
typhoid, daring experiment of physician on himself with, 601
Bacillus aerogenes capsulatus infections, 959—O
carrier of atypical bacillus typhosus, house epidemic of typhoid due to, 1425—ab
carriers and public health, 1755—ab
carriers, diphtheria, 621—ab
carriers, diphtheria, treatment of, 627—ab
carriers, typhoid, 1391—T
carriers, typhoid, in insane asylums, 80—ab
carriers, typhoid, operative treatment of, 386—ab
Bacillus, colon, infection of urinary passages with, 1012—ab
colon, principal cause of abdominal diseases, 1754—ab
colon, pyelocystitis in infants and children, 1418—ab
dysenteriæ (Flexner) and bacillus typhosus (Eberth Gaffky), identification of, 1007—ab
gas, in stools associated with diarrhea in infants, 846—ab
of leprosy, biology of and immunity against, 926—ab
of leprosy, cultivation of, from human tissues, special reference to amino-acids as culture media, 1146—ab
tubercle, cultivated from 9 consecutive cases of primary tuberculous cervical adenitis, 1511—ab
typhosus and bacillus coli isolated from water-supply, typhoid epidemic with, 1100—O
typhosus, atypical, bacillus carrier of, cause of house epidemic of typhoid, 1425—ab
typhosus (Eberth Gaffky) and bacillus dysenteriæ (Flexner), identification of, 1007—ab
typhosus, variations of fermentation properties of, 76—ab
Back, contusion of, complications, 74-ab
Backache due to relaxation of sacroiliac joints, 1855—ab
Bacteria, acid-fast, points of difference in, 1503—ab
capsulated, in body fluids, simplified method of staining, 1189—O
entry of, into lungs, 1873—ab
gas-forming, in water, liver broth as medium for determination of, 1361—ab
method of staining, 1345—C
resistance of, to calcium hypochlorite, 1002—ab
simplified method of staining, 1189—O
variation among, 157—ab
Bacterial capsules, new stain for, with special reference to pneumococci, 418—O
cultures, bureau for distributing, 678
suspensions, apparatus for preparation of, 115—O
vaccines a factor in therapeutics, 305—ab
vaccines in suppurative otitis media, scarlatinal, 1088—O
Bacteriemia, intravenous injection of magnesium sulphate in, 617—ab
puerperal, intravenous injections of magnesium sulphate in, 1759—ab
Bacterin, staphylococcus, 151—ab
Bacterins in suppurative otitis media, scarlatinal, 143—ab, 1088—O
standardization of, 1616—ab
Bacteriology, intestinal, 1084—O
of colds, 917
of pellagra stomatitis, 302—ab
of sputum in non-tuberculous infections of upper and lower respiratory tracts, 1857—ab
Bacteriolysis, influence of ether on, 1147—ab
Bacteriuria, tuberculous, and renal tuberculosis, 1689—ab
Baer's membrane used in operation for ankylosis of hip, 1147—ab
Bag, new, for hydrostatic dilatation of cervix uteri in pregnant and parturient women, 1069—ab
Balneology, 32nd congress of, at Berlin, 1123
Baltimore, typhoid situation in, 1608—ab
Bandage, rubber, for mobilization of joints, 710—O
Bands, metallic, removable, occlusion of large surgical arteries with, to test efficiency of collateral circulation, 233—O
Banti's Disease: See also Splenic Anemia
Banti's disease, 1751—ab
Barium chlorid, 964—T
sulphate and seriodiagnosis of syphilis, 1331—ab
Bars, steel, buried, attached to vertebrae for support of spondylitic spine, 153—ab
Baths, carbonated, 1123
carbonic acid, in heart disease, 1418—ab
cold, influence of, on glycogen content of man, 1005—ab
hot plunge, brief, 1123
insufficiently appreciated, two, 1359—ab
oxygen, use of, 1226—ab
sand, sterile, suction treatment of infectious or suspicious wounds by, 1372—ab
Belching, cause of, 1858—ab
Benefits, medical, 1665
Benetol, 1128—P
Benzidin test for occult blood in digestive organ diseases, 1752—ab
Benzine explosive engine, carbon monoxid poisoning from, 434
Bequests, large, to scientific institutions, 1122
Beriberi among Japanese, President Taft on, 1497—C
and unpolished rice in Philippines, 1237—O
bran of rice in prevention and treatment of, 1074—ab
disappearance of, from Philippine scouts, 1513—ab
pathogenesis and treatment of, 931—ab
Berlin letter, 53, 131, 207, 284, 361, 435, 523, 602, 681. 755, 827, 906, 977. 1050, 1122, 1207, 1274, 1340, 1406, 1493, 1587. 1666, 1735, 1827
medical society, presidency of, 682
university, athletics at, 602
Beverages, alcoholic, comparative toxicity, 1680—ab
Bile duct, common, catheterization of, for enteroclysis in toxic biliary cases, 141—ab
duct, common, cysts in, 1369—ab
duct, common, or ureter, severed, physiologic implantation of, into intestine, 397—O
ducts, perforation of, 1231—ab
formation and jaundice, rôle of portal circulation of liver in, 1780—ab
human, bacteriologic study of, 1618—ab
in therapeutics, 1668
pigment in blood serum, its clinical significance, 786—ab
proportion of sodium glycocholate and sodium taurocholate in, 139
therapeutic use of, 1690—ab
Bilharziasis with appendicitis, 68—ab
Biliary cases, toxic, enteroclysis in, catheterization of common duct for, 141—ab
fistula, normal saline solution given through, 1071—ab
infections, acute, hexamethylenamin in, 1075—ab
Tract: See also Cholelithiasis
tract and gall-bladder, disease of, and gastric functions, 457—ab
tract, cancer of, and gall-stones, 1000—ab
tract, importance of preserving gall-bladder in operations on, 1004—ab
Bill for optional cremation, 1827
tuberculosis, in Colorado, 1741—ME
Bills, requisites for holding brothers and others for, inadmissible evidence, 1139—M1
Binder, abdominal, improved, visceroptosis as, 1618—ab
Biology of and immunity against bacillus of leprosy, 926—ab
Birds, shore, vanishing, 1658—E
Birth, energy metabolism of mother and child just before and just after, 925—ab
rate and death-rate, lowest, on record in Great Britain, 680
rate and death-rate, lowest on record in Scotland, 1405
rate and racial stability, 45—E
rate, declining in rural N. Y. state, 1785—E
rate, diminishing, 512—E
rate, German, decreasing, 355—E
rate, reduction of, in Prussia, 208
Bismuth iodo-resorcin sulphonate, 441—P
opium and phenol, tablets of, 1344—O
paste in chronic tuberculous sinuses, 1414—ab
paste in rectal fistula, 774—ab
paste, mutton tallow and iodin instead of, 1847—ab
paste, praised, 1668
Blackmail, near, 1218—C
Black Man: See Negro
Black Plague: See Syphilis
Blackwater Fever: See Fever, Hemoglobinuric
Bladder and prostate, 1353—ab
and kidney tuberculosis, operative and specific treatment of, 388—ab
aspiration drainage of, 83—ab
atony of, without obstruction or signs of organic nervous disturbances, 859—ab
best method of exposing, for aggressive operations by suprapubic route, 68—ab
best method of exposing interior of, in suprapubic operations, 379—ab
exstrophy of, operation for, 83—ab, 848—ab
extroversion of, extraperitoneal transplantation of ureters into rectum for, 1617—ab

Bladder findings in early tabes dorsalis, 1420—ab
glycerin for relaxation of, 552—ab
male, calculus in, operations for, 851—ab, 928—ab
mucosa, functional hypersecretion of glands in, 1910—ab
paralysis of, 743—O
paralysis of, local, 536—ab, 777—ab
prostatectomy by perineal route without opening of, with immediate suture, 301—ab
sequelæ of hysterectomy and salpingo-oöphorectomy, 380—ab
suprapubic drainage of, satisfactory method of, 538—ab
tabetic, care and management of, 68—ab
tabetic, care and management of, 221—ab
technic for high incision of, 1426—ab
technic of immediate closure of, following suprapubic cystotomy, 74—ab
tumors, clinico-pathologic data on, 694—ab
tumors, intravesical operations for, 695—ab
tumors, myomatous, 544—ab
tumors, transperitoneal and suprapubic approach to, 694—ab
x-ray examination of, 264—O
Blastomycosis, 1685—ab
systemic, 1095—O
Blepharospasm a nasal reflex, 529
case of, information wanted, 366—C
Blind, deaf mutes and epileptics of Denmark's asylums, Wassermann reaction in, 1698—ab
sense of direction among, 1492
Blindness: See also Ophthalmia Neonatorum
Blindness, color, and color vision, 780—ab
partial, temporary, causes and treatment of, 551—ab
preventable, 1002—ab
prevention of, 52, 1748—ab
progressive, and choked disk due to sarcoma of brain, 1380—O
Blood and potassium cyanate, 139
and urine, test of kidney functioning by comparison of urea content of, 1516—ab
bacteriology of, in early life, 1068—ab
catalytic activity of, in toxemias of pregnancy, 156—ab
cells, red, sickle-shaped and elongated, peculiar, in severe anemia, 699—ab
cells, red, volume index of, 540—ab
cellular elements of, in tuberculosis, 1855—ab
changes, secondary, congenital pulmonary stenosis with special consideration of nature of, 543—ab
changes under influence of thyroid and thyroid treatment, 386—ab
charcoal as clearing agent for urine containing glucose, 1756—ab
chemical composition of, in Asiatic cholera, 695—ab
circulating, of man, sexual cycle of estivo-autumnal parasite in, 775—ab
circulation of, and gaseous metabolism, influence of radium emanations on, 1368—ab
coagulation time, clinical method of estimating, 70—ab
collateral, new, and lymph routes, opening of, 785—ab
contrast color test in study of, 1765—ab
Corpuscles: See Blood Cells
counting, Arneth's method of, its prognostic value in pulmonary tuberculosis, 1510—ab
determination of catalytic activity of, clinical value of, 1294—ab
direct transfusion of, in hemorrhage of new-born infant, 379—ab
direct transfusion of, new method, 1143—ab
diseases, 702—ab
findings in lymphatic leukemia, 1223—ab
flow in arm, effect of general hydrotherapeutic procedures on, 1850—ab
human, normal, erythrocytic nuclei of, 540—ab
human, X bodies in, 700—ab
importance for prognosis of invasion of, by germs, 935—ab
in diseases of nervous system, 1840—ab
injections of, in severe anemia, 1630—ab
Letting: See Venesection
occult, in diseases of digestive organs, benzidin test for, 1752—ab
Blood of mother, abstraction of calcium salts from, by fetus cause of puerperal eclampsia, 192—ab
picture, neutrophile, and leukocytosis, clinical significance of, in appendicitis, 1012—ab
pipettes and solutions, handy pocket case for, 737—O
platelets and megalokaryocytes in Hodgkin's disease, 1294—ab
platelets, new method of counting, for clinical purposes, 1457—O
pressure and pulse, effect of exercise on, 1111—E
pressure and spinal anesthesia, 386-ab
pressure and surgical anesthesia, 778—ab
pressure, arterial, high, and morbid changes in eye, 1147—ab
pressure, auscultatory method of determining, clinical studies in, 1512—ab
pressure, diastolic, determination of, by palpation of ulnar artery, 784—ab
pressure, effects of various anatomical components of hypophysis on, 1848—ab
pressure, effects of various forms of exercise on, 1005—ab
pressure, estimation of, by sphygmooscillometer, 76—ab
pressure, high, 1512—ab
pressure, high, long-continued, its results and prevention, 150—ab
pressure, high, significance and therapy of, 1504—ab
pressure in acute nephritis of children, 1761—ab
pressure in hypertrophy and dilatation of heart, 1857—ab
pressure in nephritis, 1668
pressure in normal children, 617—ab, 1228—ab
pressure in tuberculosis, 1360—ab
pressure, low, 1299—ab
producing organs, diagnosis of disease of, by exploratory puncture of bone marrow, 389—ab
serum, blue pigment in, its clinical significance, 786—ab
test for lead in, 1056
test, van Deen, improved technic for, 705—ab
transfused, action of, 385—ab
transfusion, direct, by suture of blood vessels, successful, 1156—ab
transfusion of, by new method, allowing accurate measurement, 35—O
uric acid in, quantitative determination of, 1368—ab
variations in phagocytic and coccidal power of, in pneumonia and scarlet fever, 1361—ab
vessels, direct transfusion of blood by suture of, 1156—ab
vessels, mesenteric, obstruction of, 935—ab
vessels, muscles and organs, preservation of anatomic dissections with permanent color of, 882—O
vessels, uterine, arteriosclerosis of, 239—O
viscosity of, in health and disease, 378—ab
Blotting-paper test for free hydrochloric acid in stomach content, 857—ab, 1698—ab
Blushing, emotional, treatment of dread of, 1010—ab
Board and nursing and professional service for wife at hospital, liability for, 535—M1
Bodies, consent required for delivery of, to medical colleges, 1903—M1
foreign, in bronchi, 1768—ab
X, in human blood, 700—ab
Body, dead, evidence which it cannot be made to furnish, 1289—M1
exhibition of, and proof of probability of life, 615—M1
Bone clamps of aluminum wire, 153—ab
grafting, recent literature on, 1498
human, living, transplantation of, present status of, 463—ab
lesions of small-pox, 1685—ab
marrow, diagnosis of disease of blood-producing organs by exploratory puncture of, 389—ab
marrow, exploratory puncture of, 786—ab
marrow, injection of gelatin for functional test of, 858—ab
transplantation, 1357—ab
transplantation for depressed deformities of nose, 1259—O
tuberculosis, hospital for treatment of, not a nuisance, 1839—M1
Bones, long, fractures of, operative treatment of, 1418—ab
Bones, long, inflammation of, acute, special reference to excision of diaphysis, 1856—ab
Bonesetter successfully sued for negligence, 825
Books, carbo-gasoline method for disinfection of, 538—ab
disinfection of, 1406
Bornyval, 43
Bottle, circular around, 748—E
makers cataract, case of, 804—O
Braces, advantages of, over plaster jackets in Pott's disease, 153—ab
Brain complications of otitis media, 380—ab
decompression, indications and technic of, 380—ab
endothelioma at base of, producing symptoms of acromegaly, 1906—ab
hemorrhage of traumatic, without fracture, obscure case of, 956—O
large angioma of, removal of, 1692-ab
lenticular zone of, and anarthria, 747—E
lesions, 644—O
puncture of corpus callosum to relieve pressure on, 162—ab
sarcoma of, choked disk and progressive blindness due to, 1380—O
sarcoma of, large-celled, 36—ab
surgery, improved technic in, 1684—ab
syphilis of, salvarsan in, fatal arsenic poisoning after, 1155—ab
tumor or abscess, diagnosis of, 1639—O
tumor, symptoms suggestive of, relieved by correction of refractive error, 347—O
tumors, 718—ab, 1233—ab
tumors, removal of, 1180—O
Bran of rice in prevention and treatment of beriberi, 1074—ab
Brandy, fine for methyl alcohol adulteration of, 601
Bread, gluten, gluten and carbohydrate contents of, 526—P
revolution in, 601
Breakfast, test, for study of stomach functioning in children, 1301—ab
test, new, 1752—ab
test, versus fasting stomach contents, 1617—ab
Breast abscess during pregnancy, 617—ab
and superficial cancers, rational operative treatment of, 1907—ab
and thorax, local anesthesia for major operations on, 1155—ab
axilla and pubes, chronic itching papular eruption of, 174—O
cancer of, 1287—ab
cancer of, differential diagnosis of, 1552—ab
cancer of, operative treatment of, 315—O
cancer of, skin fixation in, 1831—ab
catarrh of, chronic, 859—ab
cystic disease of, with carcinoma, 1208—ab
Feeding: See also Infant Feeding
gland and skin, extensive leukemic infiltration of, 417—O
gland of, as source of eclampsia toxin, 230—ab
of expectant mother, its care before and during lactation, 157—ab
tumors, diagnosis of, 793—O, 1063—ab
Breasts, excessive enlargement of, at puberty, 1151—ab
Breathing, Biot's, 849—ab
Breslau university, centennial, 1050
Bright's Disease: See Nephritis
British Guiana, 3 unusual necropsy reports from, 1619—ab
Medical Association and metric system, 1586
Medical Association, committee of, for investigation of treatment of fractures, 1492
Bromatotherapy, 1676—ab
Bromidrosis, treatment of, 1900
Bronchi, foreign bodies in, 1768—ab
slight dilatation of, in children, 1009—ab
Bronchial Asthma: See Asthma
Bronchial glands, tuberculosis of, diagnosis of, 457—ab
obstruction, results of, 157—ab
plexus, 688
Catheterization and cystoscopy of double ureter, 1689—ab
Cattle, 40, examination of feces of, for tubercle bacilli, conclusions therefrom, 540—ab
imported, repeal of tuberculin tests for, 1341
Bronchitis, inhalation of superheated air in, 550—ab
pneumococcus, 1425—ab
Broncho-esophagoscopy, direct, for removal of foreign bodies, 707—ab
Bronchopneumonia, creosote in, 332—ab
in infants, fixation abscess in, 227—ab
showing positive Brudzinski neck and collateral signs, 1382—O
Bronchoscopy, 1695—ab
and stenosis of trachea, 1620—ab
direct, 1515—ab
Bubo, suppurative, and ischiorectal abscess, melted iodoform ointment in 846—ab
Bubonic Plague: See Plague
Budapest letter, 757, 1341
Bufo agua, poisons of, 1531—O
Bundle-of-His, auriculoventricular, normal and pathologic anatomy of, 390—ab
Bunion, painful, radical cure of, 1418—ab
Burns and acidosis in children, 245—ab
electric, industrial, 1907—ab
picric acid in, 412—O
Bursitis, tuberculous, 1612—ab
Butter, certified, in California, 834—C
Butterine, poisoning by, 435, 546—ab
Buttermilk for infants with acute indigestion, 160—ab

BOOK NOTICES

Abdominal Operations, Study of After-Results of, on Pelvic Organs, 1219
Adam, C., Handbook of Treatment for Diseases of Eye (Ophthalmic Therapeutics), 1219
Alcoholism and Drug Narcotism, Modern Treatment of, 372
Allen, W. H., Civics and Health, 613
Alsberg, C. L. and O. F. Black, Determination of Deterioration of Maize, with Incidental Reference to Pellagra, 614
American Year-Book, 1137
Anästhesie, Lokalen, Praxis der, 149
Anatomy, Descriptive and Applied, 148
Anatomy, Practical, and Dissection of Head and Neck, Manual of, 533
Anatomy, Racial, of Philippine Islanders, 1137
Anemia, Vol. I, 372
Animal Parasitology, Blood Work and Practical Bacteriology, 772
Anthropology, History of, 1220
Atlas der Rectalen Endoskopie, 150
Atlas of Microscopic Diagnosis in Gynecology, 1598
Atlas und Grundriss der Verbandlehre für Studierende und Aertze, 373
Automobile Encyclopedia, Dyke's, (1911), 1061
Bacteriology, General, Text-Book of, 215
Bacteriology, Practical, Blood Work and Animal Parasitology, 772
Ball, J. M., Andreas Vesalius, Reformer of Anatomy, 293
Bandler, S. W., Vaginal Celiotomy, 1288
Bassler, A., Diseases of Stomach and Upper Alimentary Tract, 148
Bean, R. B., Racial Anatomy of Philippine Islanders, 1137
Beck, E. G., Bismuth Paste in Chronic Suppurations, 1838
Beck, J. C., Photographic Atlas of Radiography of Mastoid Region and of Nasal Accessory Sinuses, 1288
Beddoes, T. P., Syphilis: Its Diagnosis, Prognosis, Prevention and Treatment, 841
Berkeley, C., and V. Bonney, Text-Book of Gynecologic Surgery, 1838
Berliner, Medizinischen Gesellschaft, Verhandlungen der, aus dem Gesellschaftsjahre 1910, 1675
Bier, A., Bier's Text-Book of Hyperemia as Applied in Medicine and Surgery, 450
Biology, Essentials of, Presented in Problems, 1838
Bishop, H. D., Motherhood, 615
Bismuth Paste in Chronic Suppurations, 1838
Black, O. F. and C. L. Alsberg, Determination of Deterioration of Maize, with Incidental Reference to Pellagra, 614
Blair, T. S., Public Hygiene, 1914
Blood Work, Animal Parasitology and Practical Bacteriology, 772
Boas, H., Wassermann'sche Reaktion, 292
Body, Human, Landmarks and Surface Markings of, 1744
Bonney, V., and C. Berkeley, Text-Book of Gynecologic Surgery, 1838
Brain Disease, Mental Symptoms of, 841

Brain, Emanuel Swedenborg's Investigations in Natural Science and Basis for His Statements Concerning Functions of, 614
Bregman, L. E., Diagnostik der Nervenkrankheiten, 1219
Bright's Disease, Anatomic Histologic Processes of, and Their Relation to Functional Changes, 1743
Briscoe, C. F. and W. J. MacNeal, Tuberculosis of Farm Animals, 1288
Brugsch, T., Diätetik innerer Erkrankungen zum Praktischen Gebrauche für Aerzte und Studierende, 692
Bryant, J. D. and A. H. Buck, American Practice of Surgery, Vol. VII, 451
Buck, A. H. and J. D. Bryant, American Practice of Surgery, Vol. VII, 451
Bureau of Science (Manila), Eighth and Ninth Annual Reports of, To Honorable Secretary of Interior, 1909-1910, 1598
Buttner, J. L., Fleshless Diet, 1220
Byrd, H., Hookworm Disease, 1598
Cabot, R. C., Differential Dignosis, 1288
Caldwell, J. S. and J. W. Ritchie, Primer of Hygiene, 614
Cancer and Induced Cell-Reproduction, 840
Case Histories in Pediatrics, 1500
Casper, L., Lehrbuch der Urologie, mit Einschluss der Männlichen Sexualerkrankungen, 534
Cautley, E., Diseases of Infants and Children, 691
Celiotomy, Vaginal, 1288
Cell-Reproduction, Induced, and Cancer, 840
Charaka Club, Proceedings of, Vol. III, 1136
Chemistry, Physical, 372
Chemistry, Physiological, Practical, 1219
Chemotherapie der Spirillosen, experimentelle, (Syphilis, Rückfallfieber, Hühnerspirillose, Frambösie), 64
Childhood and Infancy, Hygiene of, and Underlying Factors of Disease, 772
Childhood, Surgery of, 149
Children, Care and Training of, 692
Children, Diseases of, 372
Children, Diseases of, for Nurses, 1598
Children, Handbook of Surgery of, 842
Children, Health Index of, 1219
China, Diseases of, Including Formosa and Korea, 1138
Cholera, Treatment of, 1744
Civics and Health, 613
Clemach, J., Differential-diagnostische Tabellen der inneren Krankheiten, 534
Clinical Pathology in Practice, 450
Colds, Cause and Cure of, 64
Collected Papers by Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1905-1909, 1138
Cooper, A. P., Anatomical and Surgical Study of Fractures of Lower End of Humerus, 1138
Cosmetic Treatment, Lectures on, 451
Crossen, H. S., Diagnosis and Treatment of Diseases of Women, 534
Crothers, T. D., Inebriety, 1839
Cullens, F. B., Serpent's Trail, 1839
Cystoscopy as Adjuvant in Surgery, 534
Cystoscopy, Manual of, 1744
Dairy and Food Commissioner of Wisconsin, Biennial Report of, June 1910, 614
Dawn of Health Age, 1914
De-Giovanni, A., Clinical Commentaries Deduced From Morphology of Human Body, 450
DeLorme, M. F., Manual of Pharmacy for Physicians, 450
Dental Metallurgy, Notes on, 772
Department of Health of City of Chicago, Report of, 1907-1910, 1598
Descomps, P., Le Tronc Coeliaque, 1220
Despard, L. L., Text-Book of Massage, 1599
Deutsches Arzneibuch 1218
Diagnosis, Differential, 1288
Diagnostic and Therapeutic Technic, 1675
Diätetik innerer Erkrankungen zum Praktischen Gebrauche für Aerzte und Studierende, 692
Diet, Fleshless, 1220
Differential-diagnostische Tabellen der inneren Krankheiten, 534
Digestive Glands, Work of, 1349
Disease-Producing Microorganisms, Text-Book on, 1137
Dissection and Practical Anatomy of Head and Neck, Manual of, 533
Donahoe, M. F., Manual of Nursing, 692
Drug Narcotism and Alcoholism, Modern Treatment of, 372
Drugs and Solutions, Nurses' Handbook of, 614
Dyke, A. L., Dyke's Automobile Encyclopedia (1911), 1061
Dyspepsia: Its Varieties and Treatment, 148
Eden, T. W., Manual of Gynecology, 1744
Ehrlich, P. and A. Lazarus, Anemia, Vol. I, 372
Ehrlich, P. and S. Hata, Experimentelle Chemotherapie der Spirillosen (Syphilis, Rückfallfieber, Hühnerspirillose, Frambösie), 64
Einführung in Moderne Kinderheilkunde, 451
Embryology, Human, Manual of, Vol. I, 215
Embryology, Vertebrate, Introduction to, 920
Ethics Social, and Allied Subjects Guide to Reading in, 373
Euthenics, 216
Evans, W. A., Report of Department of Health of City of Chicago, 1907-1910, 1598
Evolution and Heredity, Phases of, 373
Eye, Diseases of, Handbook of Treatment for, 1219
Eye, Lessons on, 1138
Eye, Treatise on Diseases of, 64
Faeces des Säuglings und des Kindes, 534
Fein, J., Hints for General Practitioner in Rhinology and Laryngology, 293
Fenwick, W. S., Dyspepsia: Its Varieties and Treatment, 148
Fever-Nursing, 772
Foges, A., Atlas der Rectalen Endoskopie, 150
Food and Feeding in Health and Disease, 293
Foods and Drugs, Microscopical Examination of, 293
Forchheimer, F., Prophylaxis and Treatment of Internal Diseases, 1061
Fordyce, A. D., Hygiene of Infancy and Childhood and Underlying Factors of Disease, 772
Fortescue-Brickdale, J. M., Practical Guide to Newer Remedies, 292
Fothergill, W. E., Manual of Diseases of Women, 1417
Fractures and Their Treatment, 373
Fractures of Lower End of Humerus, Anatomical and Surgical Study of, 1138
Freud, S., Three Contributions to Sexual Theory, 841
Galbraith, A. M., Personal Hygiene and Physical Training for, 1599
Gehirn und Rückenmark, 293
Giles, A. E., Study of After-Results of Abdominal Operations on Pelvic Organs, 1219
Gleason, E. B., Manual of Diseases of Nose, Throat and Ear, 373
Goepp, R. M., State Board Questions and Answers, 1839
Goodhart, J. F., Diseases of Children, 372
Gray, H., Anatomy, Descriptive and Applied, 148
Greenish, H. G., Microscopical Examination of Foods and Drugs, 293
Gynecologic Surgery, Text-Book of, 1838
Gynécologie Opératoire, 65
Gynecology, Atlas of Microscopic Diagnosis in, 1598
Gynecology, Manual of, 1744
Haddon, A. C., History of Anthropology, 1220
Hare, H. A., Modern Treatment, Vols. I and II, 1349
Hart, D. B., Phases of Evolution and Heredity, 373
Hartmann, H., Gynécologie Opératoire, 65
Hata, S. and P. Ehrlich, Experimentelle Chemotherapie der Spirillosen (Syphilis, Rückfallfieber, Hühnerspirillose, Frambösie), 64
Hauptgrundgesetze der Epidemiologischen Typhus und Choleraforschung, 373
Hawes, A. T., Care of Patient, 373
Hay Fever and Paroxysmal Sneezing (Vasomotor Rhinitis), 534
Health and Civics, 613
Health, Family, 216
Health Index of Children, 1219
Health, Public, Principles of, 1500
Heart and Aorta, Diseases of, 691
Hecht, A. F., Faeces des Säuglings und des Kindes, 534
Henderson, F. L., Lessons on Eye, 1138
Hepburn, W. B., Notes on Dental Metallurgy, 772
Hereditary Characters and Their Modes of Transmission, 451
Hernia, 1220
Herzog, M., Text-Book on Disease-producing Microorganisms, 1137
Hewlett, R. T., Serum and Vaccine Therapy, 1288
Hinsdale, G., Hydrotherapy, 149
Hirschfelder, A. D., Diseases of Heart and Aorta, 691
Histology, Normal, with Special Reference to Structure of human Body, 216
Hoag, E. B., Health Index of Children, 1219
Hoeve, H. J. H., Manual of Dissection and Practical Anatomy of Head and Neck, 533
Hoffa, A., Atlas und Grundriss der Verbandlehre für Studierende und Aertze, 373
Hollander, B., Hypnotism and Suggestion in Daily Life, Education and Medical Practice, 216
Hollander, B., Mental Symptoms of Brain Disease, 841
Hommon, H. B. and A. Lederer, Preservation of Sewage by Aid of Chloroform and Cold Storage, 1599
Hookworm Disease, 1598
Horder, T. J., Clinical Pathology in Practice, 450
How To Cook For the Sick and Convalescent, 373
Hunter, G. W., Essentials of Biology Presented in Problems, 1838
Hydrotherapy, 149
Hygiene of Infancy and Childhood and Underlying Factors of Disease, 772
Hygiene, Personal, and Physical Training for Women, 1599
Hygiene, Primer of, 614
Hygiene, Public, 1914
Hyperemia as Applied in Medicine and Surgery, Bier's Text-Book of, 450
Hypnotism and Suggestion in Daily Life, Education and Medical Practice, 216
Infancy and Childhood, Hygiene of, and Underlying Factors of Disease, 772
Infants, Acute Intestinal Toxemia in, 451
Infants and Children, Diseases of, 691
Inneren Medizin, Theorie und Praxis der, 615
Insanity in Every-Day Practice, 149
Internal Diseases, Prophylaxis and Treatment of, 1061
International Medical Annual, 1914
Intestinal Toxemia, Acute, in Infants, 451
Intestines and Stomach, Diseases of, 1675
Invalid Occupation, Studies in, 772
Jefferys, W. H., and J. L. Maxwell, Diseases of China, including Formosa and Korea, 1138
Jellett, H., Manual of Midwifery, 292
Joints and Spine, Diseases of, 1598
Jolly, R., Atlas of Microscopic Diagnosis in Gynecology, 1598
Jordan, E. O., Text-Book of General Bacteriology, 215
Kassowitz, M., Praktische Kinderheilkunde in 36 Vorlesungen für Studierende und Aerzte, 692
Keibel, F. and F. P. Mall, Manual of Human Embryology, Vol. I, 215
Kelly, A. O. J., and J. H. Musser, Handbook of Practical Treatment, Vol. I, 992
Kerr, L., Care and Training of Children, 692
Kidd, F., Urinary Surgery, 992
Kindborg, E., Theorie und Praxis der inneren Medizin, 615
Kinderheilkunde, Praktische, in 36 Vorlesungen für Studierende und Aerzte, 692
Kirmisson, E., Handbook of Surgery of Children, 842
Kolle, F. S., Plastic and Cosmetic Surgery, 1219
Krankheiten der Männlichen Sexualorgane und Urologie Lehrbuch der, 842
Landmarks and Surface Markings of Human Body, 1744
Lazarus, A., and P. Ehrlich, Anemia, Vol. I, 372
Lea, A. W. W., Puerperal Infection, 1913
Lederer, A., and H. B. Hommon, Preservation of Sewage by Aid of Chloroform and Cold Storage, 1599
Lederer, A., Influence of Storage and Preservatives on Dissolved Oxygen in Waters, 1417
Lehrbuch der Urologie und Krankheiten der Männlichen Sexualorgane, 842
Lejars, F., Urgent Surgery, Vol. II, 373
Lewandowsky, M., Handbuch der Neurologie, 215
Longyear, H. W., Nephrocoloptosis, 214
Lowry, E. B., Truths: Talks With a Boy Concerning Himself, 1839
Lumsden, L. L., Report of Outbreak of Typhoid Fever at Omaha, Neb., (1909-1910), 1218
McBride, C. A., Modern Treatment of Alcoholism and Drug Narcotism, 372
McCombs, R. S., Diseases of Children for Nurses, 1598
MacNeal, W. J., and C. F. Briscoe, Tuberculosis of Farm Animals, 1288
Maize, Determination of Deterioration of, with Incidental Reference to Pellagra, 614
Mall, F. P., and F. Keibel, Manual of Human Embryology, Vol. I, 215
Manquat, A., Principles of Therapeutics, 613
Marie, A., Pellagra, 691
Marsh, H., Diseases of Joints and Spine, 1598
Marshall, F. H. A., Physiology of Reproduction, 533
Martindale, W. H., and W. W. Westcott, Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol), 451
Massage, Text-Book of, 1599
Mastoid Region and Nasal Accessory Sinuses, Photographic Atlas of Radiography of, 1288
Materia Medica, Modern, 1349
Maxwell, J. L., and W. H. Jefferys, Diseases of China, including Formosa and Korea, 1138
Medical Directory, 1911, 1599
Medicine, History of, Vol. I, 150
Medicine, Hughes' Practice of, 1220
Melting-Point Determinations, Study of, 149
Men, Young, 920
Menge, G. A., Study of Melting-Point Determinations, 149
Mental Diseases, Text-Book of, 149
Microorganisms, Disease-Producing, Text-Book on, 1137
Midwifery, Manual of, 292
Miles, A., and A. Thomson, Manual of Surgery, Vols. I and II, 841
Mississippi State Medical Association, History of, 1500
Moore, B., Dawn of Health Age, 1914
Morison, R., Introduction to Surgery, 1417
Morphology of Human Body, Clinical Commentaries Deduced from, 450
Morrow, A. S., Diagnostic and Therapeutic Technic, 1675
Morse, J. L., Case Histories in Pediatrics, 1500
Motherhood, 615
Mumford, J. G., Practice of Surgery, 691
Murphy, J. K. and D. Power, System of Syphilis, Vol. VI, 840
Murray, R. W., Hernia, 1220
Musser, J. H., and A. O. J. Kelly, Handbook of Practical Treatment, Vol. I, 992
National Society for Study of Education, Ninth Year-Book of, 1500
Nephrocoloptosis, 214
Nervenkrankheiten, Diagnostik der, 1219
Nerven-systems, Technic der Mikroskopischen Untersuchung des, 1674
Nervous Diseases, Text-Book of, for Physicians and Students, Vols. I and II, 1136
Neuburger, M., History of Medicine, Vol. I, 150
Neurologie, Handbuch der, 215
North, S. N. D., American Year-Book, 1137
Nose, Throat and Ear, Manual of Diseases of, 373
Nurses' Handbook of Drugs and Solutions, 614
Nursing, Manual of, 692
Oertel, H., Anatomic Histologic Processes of Bright's Disease and Their Relation to Functional Changes, 1743
Ophthalmic Operations, System of, Vols. I and II, 1499
Ophthalmic Therapeutics, 1219
Opie, E. L., Disease of Pancreas, 992

Oppenheim, H., Text-Book of Nervous Diseases for Physicians and Students, Vols. I and II, 1136
O'Reilly, B. R., Manual of Physical Diagnosis, 1539
Osteology and Syndesmology, 149
Oxygen, Dissolved, in Waters, Influence of Storage and Preservatives on, 1417
Oxypathie, 1061
Pancreas, Disease of, 292
Patient, Care of, 373
Pavlov, I. P., Work of Digestive Glands, 1349
Pediatrics, Case Histories in, 1500
Pellagra, 691
Pellagra, Determination of Deterioration of Maize with Incidental Reference to, 614
Pembrey, M. S., Practical Physiology, 920
Percival, A. S., Prescribing of Spectacles, 772
Pharmacy, Chronicles of, Vols. I and II, 534
Pharmacy for Physicians, Manual of, 450
Philip, J. C., Physical Chemistry, 372
Philippine Islanders, Racial Anatomy of, 1137
Physical Diagnosis, Manual of, 1599
Physiology, Brief Text of, 1914
Physiology, Manual of, 533
Physiology of Reproduction, 533
Physiology, Practical, 920
Piersol, G. A., Normal Histology, with Special Reference to Structure of Human Body, 216
Plaster of Paris and How to Use It, 1839
Plimmer, R. H. A., Practical Physiological Chemistry, 1219
Poisons, Memoranda on, 1599
Poliomyelitis, Akute, bzw. Heine-Medinsche Krankheit, 1744
Power, D., and J. K. Murphy, System of Syphilis, Vol. VI, 840
Preservatives and Storage, Influence of, on Dissolved Oxygen in Waters, 1417
Pringle, J. H., Fractures and Their Treatment, 373
Psyche, 216
Psychiatry, Outlines of, 1598
Puerperal Infection, 1913
Radiography of Mastoid Region and of Nasal Accessory Sinuses, Photographic Atlas of, 1288
Radium: Its Physics and Therapeutics, 920
Ramstrom, M., Emanuel Swedenborg's Investigations in Natural Science and Basis for His Statements Concerning Functions of Brain, 614
Rawling, L. B., Landmarks and Surface Markings of Human Body, 1744
Reed, B., Diseases of Stomach and Intestines, 1675
Reese, A. M., Introduction to Vertebrate Embryology, 920
Remedies, Newer, Practical Guide to, 292
Reproduction, Physiology of, 533
Rhinology and Laryngology, Hints for General Practitioner in, 293
Richards, E. H., Euthenics, 216
Ritchie, J. W., and J. S. Caldwell, Primer of Hygiene, 614
Rogers, L., Cholera and Its Treatment, 1744
Ross, H. C., Induced Cell-Reproduction and Cancer, 840
Rothschild, A., Lehrbuch der Urologie und Krankheiten der Männlichen Sexualorgane, 842
Rumpel, O., Cystoscopy as Adjuvant in Surgery, 534
Saalfeld, E., Lectures on Cosmetic Treatment, 451
Sachse, H. V., How To Cook for the Sick and Convalescent, 373
Sadler, W. S., Cause and Cure of Colds, 64
Sadler, W. S., Science of Living, or Art of Keeping Well, 373
Salge, B., Einführung in Moderne Kinderheilkunde, 451
Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol), 451
Schlesinger, A., Praxis der Lokalen Anästhesie, 149
Science of Living, or Art of Keeping Well, 373
Scott, R. J. E., Hughes' Practice of Medicine, 1220
Senn, N., Principles of Surgery, 451
Serpent's Trail, 1839
Serum and Vaccine Therapy, 1288
Sewage, Prevention of by Aid of Chloroform and Cold Storage, 1599
Sexual Diseases, Prevention of, 992
Sexual Theory, Three Contributions to, 841
Sexualerkrankungen Männlichen, Lehrbuch der Urologie, mit Einschluss der, 534
Slocum, C. E., Tobacco and Its Deleterious Effects, 149
Social Evil in Chicago, 1743
Solis-Cohen, M., Family Health, 216
Spectacles, Prescribing of, 772
Spielmeyer, W., Technik der Mikroskopischen Untersuchung des Nerven-systems, 1674
Spine and Joints, Diseases of, 1598
Squier, J. B., Manual of Cystoscopy, 1744
State Board Questions and Answers, 1839
Stewart, G. N., Manual of Physiology, 533
Stimson, J. C., Nurses' Handbook of Drugs and Solutions, 614
Stitt, E. R., Practical Bacteriology, Blood Work and Animal Parasitology, 772
Stoeltzner, W., Oxypathie, 1061
Stomach and Intestines, Diseases of, 1675
Stomach and Upper Alimentary Tract, Diseases of, 148
Storage and Preservatives, Influence of, on Dissolved Oxygen in Waters, 1417
Strong, R. P., Eighth and Ninth Annual Reports of Bureau of Science (Manila) to Honorable Secretary of Interior, 1909-1910, 1598
Suggestion and Hypnotism in Daily Life, Education and Medical Practice, 216
Suppurations, Chronic, Bismuth Paste in, 1888
Surgeon-General of Public Health and Marine-Hospital Service of United States, Annual Report of, 1910, 1598
Surgery, American Practice of, Vol. VII, 451
Surgery, Introduction to, 1417
Surgery, Manual of, Vols. I and II, 841
Surgery of Children, Handbook of, 842
Surgery, Orthopedic, Treatise on, 216
Surgery, Plastic and Cosmetic, 1219
Surgery, Practice of, 691
Surgery, Principles of, 451
Surgery, Urgent, Vol. II, 373
Surgery, Urinary, 992
Sutton, H. A., Osteology and Syndesmology, 149
Swedenborg's, Emanuel, Investigations in Natural Science and Basis for Statements Concerning Functions of Brain, 614
Syndesmology and Osteology, 149
Syphilis: Its Diagnosis, Prognosis, Prevention and Treatment, 841
Syphilis, Rückfallfieber, Hühnerspirillose, Frambösie, experimentelle Chemotherapie der Spirillosen, 64
Syphilis, System of, Vol. VI, 840
Talmey, M., Psyche, 216
Tanner, T. H., Memoranda on Poisons, 1599
Tanzi, E., Text-Book of Mental Diseases, 149
Therapeutics, Principles of, 613
Thompson, W. H., Work of Digestive Glands, 1349
Thomson, A., and A. Miles, Manual of Surgery, Vols. I and II, 841
Tobacco and Its Deleterious Effects, 149
Tracy, S. E., Studies in Invalid Occupation, 772
Treatment, Modern, Vols. I and II, 1349
Treatment, Practical, Handbook of, Vol. I, 992
Tronc Coeliaque, 1220
Truths: Talks With a Boy Concerning Himself, 1839
Tuberculosis of Farm Animals, 1288
Turner, D., Radium: Its Physics and Therapeutics, 920
Tuttle, T. D., Principles of Public Health, 1500
Typhoid Fever at Omaha, Neb., Report of Outbreak of, (1909-1910), 1218
Urinary Surgery, 992
Urologie, Lehrbuch der, mit Einschluss der Männlichen Sexualerkrankungen, 534
Urologie und Krankheiten der Männlichen Sexualorgane, Lehrbuch der, 842
Vaccine Therapy and Serum, 1288
Vaginal Celiotomy, 1288
Vecki, V. G., Prevention of Sexual Diseases, 992
Vesalius, Andreas, Reformer of Anatomy, 293
Villiger, E., Gehirn und Rückenmark, 293
Vincent, R., Acute Intestinal Toxemia in Infants, 451
Walker, C. E., Hereditary Characters and Their Modes of Transmission, 451
Ware, M. W., Plaster of Paris and How To Use It, 1839
Wassermann'sche Reaktion, 292
Watson, C., Food and Feeding in Health and Disease, 293
Weeks, J. E., Treatise on Diseases of Eye, 64
Wegener, H., We Young Men, 920
Westcott, W. W. and W. H. Martindale, Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol), 451
White, W. A., Outlines of Psychiatry, 1598
Whitman, R., Treatise on Orthopedic Surgery, 216
Who's Who, 1911, (British), 1599
Wickman, I., Akute Poliomyelitis bzw. Heine-Medinsche Krankheit, 1744
Wiggers, C. J., Brief Text of Physiology, 1914
Willard, D. Surgery of Childhood, 149
Wilson, J. C., Fever-Nursing, 772
Wolter, F., Hauptgrundgesetze der Epidemiologischen Typhus und Choleraforschung, 373
Women, Diseases of, Diagnosis and Treatment of, 534
Women, Diseases of, Manual of, 1417
Women, Personal Hygiene and Physical training for, 1599
Wood, C. A., System of Ophthalmic Operations, Vols. I and II, 1499
Wood, T. D., Ninth Year-Book of National Society for Study of Education, 1500
Wooton, A. C., Chronicles of Pharmacy, Vols. I and II, 534
Yonge, E. S., Hay Fever and Paroxysmal Sneezing (Vasomotor Rhinitis), 534
Younger, E. G., Insanity in Every-Day Practice, 149

C

Cactus grandiflorus, 26—O, 964—T
Caffein, 1328—T
Calcaneum, sarcoma of, 1366—ab
Calcium hypochlorite, resistance of certain bacteria to, 1002—ab
salts, abstraction of, from mother's blood by fetus cause of puerperal eclampsia, 1292—ab
Calculi in lower ureter, 1013—ab
and Calculus, Vesical
Calculi in loyer ureter, 1013—ab
reflex anuria due to, 853—ab
Renal: See also Nephrolithiasis
renal, chemical composition and mode of formation of, 1362—ab
urinary, remarkable, 546—ab
Calculus in kidney, 1689—ab
in kidney or ureter in children, 1426—ab
in male bladder, operations for, 851—ab, 928—ab
in ureter, 140—ab, 848—ab
in ureter, operative treatment of, 930—ab
renal, diagnosis and treatment of, 1616—ab
California medical news, 50, 126, 276, 428, 598, 674, 750, 820, 973, 1203, 1270, 1336, 1486, 1581, 1728
state board August report, 448
state board December report, 532
waters of life, misbranding of, 1898—P
Calls by newcomer, etiquette of, 988
Calmine, 137—P
Calomel, antipyrin and sodium bicarbonate, incompatibility of, 287—P
forgotten use of, 1503—ab
Campbell, syphilis cure, 864—P
Camphor in large doses in pneumonia, 454—ab
Canada medical news, 130, 522, 825, 977, 1492, 1733
Canadian Medical Association, journal of, 353—E
Canal Zone sanitation, 1664
Cancer: See also Carcinoma, and Malignant Growth
Cancer, 157—ab, 1506—ab
among American Indians, 44—E
and injury, causal relationship between, 142—ab
and leprosy, 463—ab
and sigmoiditis, 854—ab
and ulcer of stomach, symptoms and pathologic findings in, 1751—ab
arsenic, and salvarsan, 1618—ab
body fluids and cancerous ascitic fluid in, 1383—O
cases, why do we get them late? 1609—ab
Cancer, cause of, 220—ab
cells, culture of, in vitro, 139
cells, human, non-destructive action of placenta serum and serum of pregnant women on, 859—ab
clinical diagnosis of, 82—ab
committee, 1064—ab
cure quack, O. A. Johnson, 1202—E
distribution of, in France, 1908—ab
etiology of, 1844—ab
gastric, 706—ab
gastric, and female genitalia, 80—ab
gastric, diagnosis of, by cleavage of polypeptids, 1150—ab
gastric, glycyl-tryptophan reaction in, 1656—E
gastric, in youth of 19, 700—ab
gastric, pain in diagnosis of, 310—ab
gastric, tryptophan test and acetic-acid test in early diagnosis of, 463—ab
gastric, tryptophan test of, 626—ab, 1370—ab
gastro-intestinal, antitryptic index for serodiagnosis of, 701—ab
gastro-intestinal, reliability of meiostagmin and hemolytic tests of, 629—ab
hemolytic reaction with, 1429—ab
immunity by method of culivating tissues outside of body, 1512—ab
immunity in its present status, 1506—ab
importance of antitrypsin reaction in diagnosis and prognosis of, 463—ab
in Bavaria, 1013—ab
in domestic animals, 1844—ab
in fish, 670—E
in tar workers, 223—ab
injury as causative factor in, 1224—ab, 1683—ab
investigation, 1125—ab
involving stomach and spleen, 706—ab
is it contagious? 846—ab
non-operative treatment of, 1235—ab
of appendix, 122—E
of biliary tract and gall-stones, 1000—ab
of breast, 1287—ab
of breast, differential diagnosis of, 1552—ab
of breast, operative treatment of, 315—O
of breast, skin fixation in, 1831—ab
of cervix-uteri, inoperable, treatment of, 1174—O
of esophagus, excision of, 382—ab
of gastro-intestinal-tract, diagnosis and treeatment of, 380—ab
of kidney in children, 1299—ab
of larynx, early diagnosis and radical treatment of, 313—ab
of liver, primary, 628—ab
of pylorus, sign of metastasis with, 707—ab
of rectum, male, resection for, (67) 71
of rectum, operability of, 77—ab
of rectum, treatment of, 623—ab
of Stomach: See Cancer, Gastric
of stump of cervix-uteri, 1013—ab
of uterus, 380—ab, 465—ab, 1611—ab, 1682—ab
of uterus and rectum in women, abdomino-perineal technic for removal of, 854—ab
of uterus, necessity for microscopic examination of assumed recurrences of, 1696—ab
of uterus, non-operative treatment of, 384—ab
of uterus, participation of tissues adjacent to uterus and of pelvic lymphatics in, 101—O
of uterus, rectum and colon, abdominal hysterectomy in, 854—ab
of uterus, results from radical abdominal operation for, 96—O
of uterus, treatment of, 1157—ab
patients, sulphur reaction in urine of, 1593
postoperative x-ray treatment in, 195—T
preliminary report on mortality of, in United States, given by census of 1910, 58—C
preoperative x-ray treatment in, 197—T
prize articles on early clinical diagnosis of, 1050
radium in, 1859—ab
salvarsan in, 1695—ab
serum, not prepared to furnish, 544—C
statistics in Baden, 827
statistics in Bavaria, 827
statistics of, in France, 1050
sulphur reaction in urine with, 1371—ab, 1697—ab
theory of cause of, 528—O

Cancer, trauma in origin of, from standpoint of insurance, 1770—ab
unreliability of tryptophan reaction in stomach content in, 1621—ab
urine findings in diagnosis of, 311—ab, 1371—ab, 1864—ab
Cancers, classification and nomenclature of, 437—ab
of white rat, immunity in, 1512—ab
superficial, and breast, rational operative treatment of, 1907—ab
Cancrum oris in adult, 1449—O
Cannabis, 606—P
Cannula, 35—O
Caput epididymis an excretory organ, 536—ab
Carbo-gasoline method for disinfection of books, 538—ab
Carbohydrate and gluten contents of gluten bread, 526—P
equivalents, table of, for treatment of diabetes mellitus, 1422—ab
Carbon-dioxid snow and kaolin in therapeutics, 160—ab
dioxid snow, cold cautery, 143—ab
dioxid snow, removal of birth-marks by, 1414—ab
dioxid vs. anesthetic, 687—C
monoxid intoxication, chronic, 384—ab
monoxid poisoning, discovery of, long after death, 53
monoxid poisoning from benzine explosive engine, 434
monoxid poisoning resulting in gangrene of both legs, 1455—O
Carbonic acid baths in heart disease, 1418—ab
Carcinoma: See also Cancer and Malignant Growth
Carcinoma and diverticula of lower intestine, 775—ab
and sarcoma cultivated in vitro, characteristics of growth of, 1512—ab
cystic disease of breast with, 1208—ab
mouse, morphologic changes in, 1124—ab
obliteration and diverticulum of appendix, clinical and pathologic significance of, 1069—ab
of cardia, operative treatment of, 386—ab
of cecum, 404—O
of cervix-uteri, diagnosis of operability of, 91—O
of cervix-uteri, use of cautery in, 94—O
of ileum with unusual symptoms, 455—ab
of thyroid, 468—ab
of uterus, advanced, conservative treatment of, 1611—ab
Carcinosis, acute, 1692—ab
Card system of dairy inspection, 608—C
system of rating dairies, 594—E
Cardia, carcinoma of, operative treatment of, 386—ab
Cardiolysis or precordial thoracectomy, 1764—ab
Cardioptosis, 1769—ab
Cardiospasm, 1438—O, 1607—ab
impermeable, operative treatment of, 1607—ab
impermeable, thoracotomy and esophagoplication for, 1437—O
in infants, 858—ab, 1607—ab
Cardiovascular and kidney disturbances, dietetic treatment of, 625—ab
disease and syphilis, 1115—ab
disease or arteriosclerosis, 1415—ab
disease, salvarsan in, deaths after, 1910—ab
disease, sudden death in, 1761—ab
diseases, general principles for estimating and treating, 1367—ab
states and treatment of failing heart, 1614—ab
Carelessness vs. misrepresentation, 427—E
Carel's benetol, 1128—P
Cargentos, 1460
Caries, spinal, mechanical treatment of, 1006—ab
Carnegie foundation for live-saving, 284
foundation report on medical education in Montreal, correction of, 445—C
Carnot, hemopoietic serum of, 1681—ab
Carotid, internal, aneurysm of, pulsating exophthalmos due to, 1552—O
Carriers, duties of, to sick passengers when not liable for unusual pain, 535—M1
Cartilage transplantation for prevention of perforation in submucous resection, 542—ab
Cartilages of knee, semilunar, displaced, surgical treatment of, 459—ab
Cartoon, dietetics taught by, 1659—ab
Casein curds in infants stools, biologic proofs of their casein origin, 857—ab
Castration and thyroidectomy, 231—ab
Casts, granular, method of staining, 812—O
Cat, domestic, versus domesticated serpent, 1727—E
Catalytic activity of blood, clinical value of determination of, 1294—ab
Cataract: See Lens
Cataract, couching for, 856—ab
extraction in capsule, 154—ab
extraction in capsule, points in technic in Henry Smith's method of, 455—ab
in bottle-makers, case of, 804—O
lens, immature, extraction of, improved method for, 1757—ab
Cataracts, uncinariasis in, 1602—ab
Catarrh in children, intestinal, chronic and acute, treatment of, 1768—ab
of breast, chronic, 859—ab
of large intestine, chronic, treatment of, 934—ab
suffocative, acute, originating from pneumococcus, fatal, 1425—ab
Catgut, iodin, dry, 305—ab
Catheter accident, peculiar, 1685—ab
Catheterization and cystoscopy of double ureter, 1689—ab
Cattle, 40, examination of faces of, for fubercle bacilli, conclusions therefrom, 540—ab
imported, repeal of tuberculin test for, 1841
Cautery, cold, carbon-dioxid snow, 143—ab
use of, in carcinoma of cervix-uteri, 94—O
Cavities, pulmonary, value of surgical treatment of, 1424—ab
Cecostomy versus appendicostomy for colon lavage, 1147—ab
Cecum and colon, hyperplastic tuberculosis of, 955—O
carcinoma of, 404—O
fixation of, and removal of appendix, technic for, 564—O
movable, 932—ab, 1588
volvulus of, 142—ab
Celiotomy: See Laparotomy
Cell: See also Cells
Cell animal and vegetable, difference between, 1214
count in 50 examinations of cerebrospinal fluid, 621—ab
division, physiology of, 303—ab
findings in spinal fluid in various meningeal conditions, non-specificity of, 1068—ab
free filtrate, transmission of malignant new growth by means of, 198—O
inclusion, new type of, not parasitic, and disseminated granuloma lesions, 1681—ab
Cells, Blood: See Blood
Cells, cancer, culture of, in vitro, 139
eosinophil, and vernal conjunctivitis, 952—O
interstitial, of Leydig and production of internal secretion by mammalian testicle, 1146—ab
interstitial, of testicle and its internal secretion, 221—ab, 1146—ab
sarcoma, growing in vitro, migration by ameboid movement of, 791—O
Cementum and alveolitis, treatment of, 109—O
Census, Austrian, 362
German, 1275
of Great Britain, 1734
Centigrade and Fahrenheit scales, 211
Centrifuge, electric, home-made, 404—O
Cerebellum, abscess of and labyrinthine suppuration, differential diagnosis of, 1856—ab
Cerebral: See also Brain
Cerebrospinal fluid, approximate estimation of protein contained in, 151—ab
fluid, colon bacilli in, 1765—ab
fluid, diagnostic value of Noguchi butyric acid test in, 1171—O
fluid, 50 examinations of, with special reference to cell-count, 621—ab
fluid in chorea in children, lymphocytosis in, 1620—ab
fluid, method for determining absolute pressure of, 829—ab
Cerebrospinal fluid of tuberculous meningitis, tubercle bacilli in, 304—ab, 1765—ab
Meningitis: See Meningitis
subarachnoid spaces, lavage of, in meningitis, practicability of, 76—ab
system, improved apparatus for estimating pressure in, 962—O
Cerumen, impacted, removal of, from ear, 762, 916
Cervix-uteri and body of uterus, placenta implanted between, Cesarean section for, 310—ab
atresia of, hematosalpinx with, 803—O
cancer of, inoperable, treatment of, 1174—O
cancer of stump of, 1013—ab
carcinoma of, diagnosis of operability of, 91—O
carcinoma of, use of cautery in, 94—O
hydrostatic dilation of, in pregnant and parturient women, new bag for, 1069—ab
Cesarean-section by small median incision above umbilicus, 157—ab, 1759—ab
cicatrix after, and later pregnancies, 551—ab
conditions favorable for, 1019—ab
elective, conservatism of, 1357—ab
extraperitoneal, and pubiotomy, 627—ab
for dystocia due to ventrofixation of uterus, 628—ab
for placenta implanted between body of uterus and cervix-uteri, 310—ab
high operations in, 305—ab
indications for and technic of, 1425—ab
modified and classic, 854—ab
plea for, based on report of 53 cases performed in Indiana, 1357—ab
post-mortem, legal aspects of, 296—ab
pregnant uterus being within umbilical hernia, 305—ab
time and technic for, 140—ab
time of operation and its technic, 709—O
vaginal, 227—ab
vaginal, for fulminating pulmonary edema, 629—ab
vaginal, in eclampsia, 1—O, 16—O, 390—ab
vaginal, in Russia, 230—ab
with unusual complications, 1033—O
Chancre, 186—ab
Chancres, nasal, 113—ab
Chancroids due to mercury bichlorid, 69—ab
Character, 1446—ab
Charities, public, budget of, in France, 360
Charity, German, flower days for, 1736
Charlottenburg, pay ward in, 1827
Cheiloplasty, 931—ab
Chemical agents, resistance and ultrasensitiveness of animal body to, 1155—ab
Chemicals, medicinal, and drugs, imports and exports of, in Germany, 524
Chemistry of nucleins, 817—E
recent achievements and problems of, 1156—ab
Chest: See also Thorax
Chest, auscultation sign of glandular disease in, 932—ab
Chichester's diamond brand pills, 1591—O
Chick tissues, embryonic, growth of, in artificial media, agar and bouillon, 1294—ab
Chicken gizzard, nail in, 1129—C
Child and mother, duty of country physician to, 1355—ab
and mother, energy metabolism of, just before and just after birth, 925—ab
and school system, 923—ab
labor in Austria, 284
physical development of, index of, 807—ab
thorax of, anatomic features of, their practical application in physical diagnosis, 304—ab
welfare, 1851—ab
welfare exhibits, 1395—E, 1490
Childbirth, death and disability resulting from, 778—ab
in progressive muscular atrophy, 1697—ab
Childhood, syphilitic factor in hemiplegias and diplegias of, 1618—ab
tuberculosis in, tuberculin in, 545—ab
Children, acute otitis media and mastoid abscess in, 73—ab
Children, aphasia, congenital, in, 2 cases of, 1763—ab
blind, deaf and dumb, education of, 1341
burns and acidosis in, 245—ab
calculus in kidney or ureter in, 1426—ab
cancer of kidney in, 1299—ab
care of teeth of, 1123
catarrh, intestinal, in, acute and chronic treatment of, 1768—ab
chorea in, lymphocytosis in cerebrospinal fluid in, 1620—ab
colon bacillus pyelocystitis in, 1418—ab
comparative value of cutaneous and conjunctival tuberculin tests in, 159—ab
crippled, schools for, 1493
diabetes mellitus, traumatic, in, 616—ab, 848—ab
diathesis in, 1667
diseases of, malaria as difficulty in, 1610—ab
dwelling and health of, 159—ab
enteritis, acute, in, 1719—T
epilepsy in, early signs of, 387—ab
gastro-intestinal disturbances in, from standpoint of tropical pathology, 307—ab
hay fever in, 1857—ab
heart disease in, acute, 161—ab
infection of urinary tract in, by coliform organisms, 1687—ab
influencing shape of skull in, further experiences in, 628—ab
in Hungary, state protection of, 757
intracranial surgical lesions in, 644—O
leukocytes in, normal percentages of different varieties of, 154—ab
Meningitis in: See also Meningitis
meningitis, acute, in, 300 cases of, 304—ab
nephritis, acute, in, blood-pressure in, 1761—ab
nephritis, chronic, in, renal decapsulation in, 1848—ab
nephritis in, 224—ab
neurasthenia, in 1106—ab, 1125—ab
neurasthenia in, treatment of, 1830—ab
non-specificity of cell findings in spinal fluid in various meningeal conditions in, 1068—ab
normal, blood-pressure in, 617—ab, 1228—ab
normal, frequency and significance of albumin in urine of, 697—ab
obese, 551—ab
older, enteritis of, acute, 1556—T
papilloma of larynx in, 1230—ab
peritonitis, tuberculous in, 1766—ab
pneumonia, acute in, 1229—ab
pneumonia in, serotherapy of, 1422—ab
precordial dulness in heart disease in, 930—ab
predisposed to nervousness, management of, 850—ab, 1616—ab
rheumatic manifestations in, 1425—ab
rheumatism of, rarer occurrences in, 382—ab
rights of father of family over, 1365—ab
rigid arteries in, 784—ab
saving them from milk-borne diseases, 1002—ab
school boards may employ suitable persons to ascertain physical condition of, 773—M1
school, left-handed, 933—ab
School, Medical Inspection of: See Medical Inspection of Schools
school, slight general enlargement of thyroid in, 1298—ab
school, vaccination of, 1285—ab
scrofulous, 228, cutaneous tuberculin and Wassermann reactions in, 314—ab
scrofulous, Wassermann and cutaneous tuberculin reactions in, 856—ab
sepsis, acute, in, 707—ab
several, early mortality of in one family, 857—ab
sick, protection of, in Hungary, 979
slight dilatation of bronchi in, 1009—ab
spasmophilia in, lime in, 163—ab
splenomegaly with recurrent jaundice ending in hepatic cirrhosis and ascites in, 1150—ab
stomach functioning in, test breakfast for study of, 1301—ab
subnormal, and public school, 438—ab
summer diarrhea in, 1719—T
syphilis, congenital, in splenomegaly of, 1150—ab
syphilis in, 405—O
tachycardia in, 1688—ab

Children, tetany in, parathyroids not responsible for, 390—ab
tuberculin tests in, cutaneous and conjunctival, comparative value of, 159—ab
tuberculosis, acute, in, curable forms of, 853—ab
tuberculosis in, 1011—ab, 1070—ab
tuberculosis in, recalcification treatment of, 1152—ab
tuberculosis, joint, in, 1845—ab
tuberculosis, pulmonary, in, diagnosis and epidemiology of, 462—ab
typhoid in, 785—ab, 1864—ab
venous murmurs heard at root of neck in, 1151—ab
who drink milk containing tubercle bacilli, subsequent health of, 1322—O
with eczema, after-history of, 548—ab
Chill and adrenalin-saline infusion, 163—ab
Chimney, smoky, passing of, 1822—E
China, pneumonic plague in, 444—C
Chinese do not pay physicians to keep them well, 917
medical students, qualities of, 1829—ab
physicians, native, qualifications of, 1595—ab
Chlorid and water tolerance in nephritis, 1756—ab
Chlorids, estimation of, in stomach contents from normal and atrophic infants, 154—ab
Chloroform accidents, 930—ab
and ether, administration of, 1312—O
and ether, danger of, in eclampsia, 5—O
bactericidal effects of, 1740
for strychnin poisoning, 1685—ab
heart failure under, electric analgesia, and electric resuscitation after, 478—O
influence of, when repeatedly given in small doses, 543—ab
poisoning, apparently fatal, direct massage of heart in, 549—ab
poisoning, fatal, tardy, 1012—ab
poisoning, liver necrosis of, 1124—ab
postoperative nausea and vomiting from, open-air treatment of, 1293—ab
Wassermann reaction with serum from patients under influence of, 1769—ab
Chloroma, myeloid, 704—ab
Choked disk and progressive blindness due to sarcoma of brain, 1380—O
Cholangiocystostomy, 1431—ab
Cholecystitis, 887—O
diagnosis and treatment of, 74—ab
effects of, on heart, 1144—ab
typhoid, 299—ab, 1617—ab
Cholelithiasis, 1305—ab
diagnosis and pathogenesis of, 1696—ab
jaundice not pathognomonic in, 181—ab
pathogenesis and treatment of, 1621—ab
Cholera, acid intoxication in, 736—ab
Asiatic, analysis of 326 cases, 1297
Asiatic, chemical composition of blood in, 695—ab
Asiatic, tolerance for alkalies in, 695—ab
in Hawaii, 678
in Russia passes hundred thousand mark, 52
present status of, 854—ab
prophylaxis of, in Finland, 1076—ab
senile, 934—ab
situation, 1392—E
Cholesterin and sodium glycocholate tests for syphilis, 1131
in blood of pregnant women, 1623—ab
Chondrotomy for apical disease, 1236—ab
Chorea, constant motor symptom of, dysdiadokokinesia, 1620—ab
Huntington's, 1842—ab
Huntington's, with spinal fluid findings, 941—O
in children, lymphocytosis in cerebrospinal fluid in, 1620—ab
influence of salicylates on heart lesions of, 1688—ab
minor, salvarsan in, 626—ab
Chorio-epithelioma, 1864—ab
Chorio-epitheliomata and ovarian teratomata, origin of, and parthenogenetic development of ova in mammalian ovary, 1327—O
Chorioid plexuses of cerebral ventricles, function of, and function of pituitary gland, 265—O
Christian science healer practitioner of medicine amenable to law, 1062—M1
Chromium sulphate, uses of, in medicine, 367
Chromo-ureteroscopy, value of, in functional kidney diagnosis, 1420—ab
Circular around bottle, 748—E
Circulation, alterations of, in goiter, 698—ab
and diaphragm, 1519—ab
collateral, occlusion of large surgical arteries with removable metallic bands to test efficiency of, 233—O
drugs acting on, 420—T, 508—T, 591—T
fetal, 1131
important factor in, 1617—ab
peripheral, unusually few parasites in, in masked tertian malaria, 1227—ab
therapeutic action of shutting off part of, 782—ab
Circulatory System: See Cardiovascular
Cirrhosis-of-liver, 782—ab, 922—ab, 1072—ab
and ascites in children due to splenomegaly with recurrent jaundice, 1150—ab
diagnosis and medical treatment of, 74—ab
experimental, 200—E
venous hum in epigastrium in, 848—ab
Cistern, filter wanted for, 1282
Civilization and mental disease, connection between, 858—ab
and sanitation, 988
Panama an object-lesson to, 1728—E
standard of, and death-rate in Germany, 682
Clamp, new, for end-to-end intestinal anastomosis, 1445—O
Clamps, bone, of aluminum wire, 153—ab
Glaucosuria: See Diabetes Mellitus
Claudication, Intermittent: See Limping
Clavicle, congenital defect of, 1003—ab
fracture of, 740—O
sarcoma of, end-results following total excision, 72—ab
Cleft Palate: See Palate
Climate in treatment of tuberculosis, 1423—ab
tropical, effect of, on white men, 1049
Clinical years, medical education, instruction and equipment of, 764—ab
Clinics, surgical, postgraduate, in America, 1054—C
Clippings from lay exchanges, 439, 1500
Coal mining, bill to insure greater safety in, 1120
oil poisoning, treatment of, 1835
tar derivatives, poisoning following use of, 1070—ab
Cocain intoxication, chronic, psychic disturbances with, 1155—ab
intravenous use of, 537—ab
removal of large lipoma of laryngopharynx extraorally under, 1793—O
Codex, new, and physician's right of prescription, 1826
Cold, action of external application of, on temperature of stomach, 388—ab
chamber treatment, experiments on, 1297—ab
of business man, 698—ab
Colds and draughts, 459—ab
bacteriology of, 917
common, 1423—ab
common, hexamethylenamin for, 1718—O
Colectomy in chronic intestinal stasis, 1692—ab
Coley's toxins in leukemia, 1677—ab
toxins in sarcoma of nose and throat, 1615—ab
Colic, biliary, hemorrhage in gallbladder as source of, 1690—ab
intermenstruation, 1516—ab
kidney, and herpes zoster, 933—ab, 1694—ab
Colica mucosa, 1141—ab, 1295—ab
Colitis, 415—O
chronic, surgical treatment of, 1424—ab
chronic, syncopes in, 544—ab
hemorrhagic, 544—ab
mucomembranous, 544—ab
mucous, 1748—ab
College hygiene, 1253—O
Colles' Fracture: See Fracture.
Collodion sac, administration of diphtheria toxin in, 456—ab
Colon and cecum, hyperplastic tuberculosis of, 955—O
anomalies of, shown by x-rays, 1147—ab
cancer of, abdominal hysterectomy in, 854—ab
lavage and massage-lavage of, 853—ab
lavage, cecostomy versus appendicostomy for, 1147—ab
non-malignant stenosis of left flexure of, 1694—ab
stenosis of splenic flexure of, 1694—ab
Colophonium for differentiating eosin-methylene-blue and other stains, 345—O
Color, convenient method of testing visual fields for, without use of perimeter, 1106—O
test, Schürmann's, for syphilis, 621-ab
Colorado medical news, 355, 674, 750, 1116, 1270, 1486, 1728
state board April report, 1596
state board January report, 1060
state board October report, 291
tuberculosis bill in, 1741—ME
Colostomy, iliac, restoration of fecal continence after, 776—ab
Colpotomy, 1621—ab
Columbus Academy of Medicine, report of committee on division of fees of, 1595—ME
Coma, experimental, 1865—ab
Comments, editorial, on public health problems, 1836—ME
Commission evil, 49—E, 59, 725—O, 748—E, 770—ME, 916—C, 987—C
evil, secret, action of society on, 288—C
Commissions: See Medical Fees
and division of medical fees, 219-ab
Communities, respective, influence of hospitals on, 1420—ab
Complement Binding: See Serodiagnosis
effects of mechanical agitation on, 1124—ab
Fixation: See also Serodiagnosis
fixation and formation of specific antibodies, 936—ab
fixation test in diagnosis of gonococcus infections, 1510—ab
Complements and amboceptors, various, comparative merits of, in serodiagnosis of syphilis, 378—ab
Complications due to operative procedures, 140—ab
Compressed-air illness, its prevention, 968—E
Conception, how soon after delivery may it occur? 529
measures against propaganda for prevention of, 602
Concrements, formation of, in urine and means to influence it, 1428—ab
in body, laws regulating formation of, 1429—ab
Conductivity in nerve and muscle, effects of pressure on, 303—ab
Conference, sanitary, international, at Paris, 826
Congress on Tuberculosis, Austrian, first, 1736
Conjunctiva, foreign bodies in, removal of, 1131
lymphoid degeneration of, 220—ab
Conjunctivitis, diphtheritic, classification of, 1454—O
vernal, and eosinophil cells, 952—O
Connecticut medical news, 428, 1203
regular, homeopathic and eclectic March reports, 1348
state board homeopathic November report, 214
state board November report, 214
Conscience, corporation with, 597—E
Constipation, abdominal massage in, 1900
agar-agar in, 445
and epilepsy, 360
chronic, heart and kidney disturbances with, 1305—ab
chronic, paraffin injection in, 313—ab
chronic, surgical pathology of, 219-ab
habitual, psychotherapy in, 1602—ab
spastic, and antiperistalsis, 1693—ab
symptoms and complications of, 219—ab
Consumption cure fake in Jackson, Mich., 134—P
cure fake, J. L. Hill, 134—P
cure fake, Nature's Creation, 364—P
cure fake, Tuberclecide, 1409—P
cure fakes, 125—E
Contract Practice: See Practice
practice, proposed solution for certain phases of, 225—ab
Contracture, muscular, ischemic, and gangrene, origin and treatment of, 547—ab
Contusion of back, complications, 74—ab
Convalescence from diphtheria, gangrene of limb during, 460—ab
Convallaria, 964—T
Convergence insufficiency, its importance to practitioner, successful modern treatment, 1070—ab
Conviction of rape on insane person, essentials to, 1903—M1
Convictions under food and drugs act, 1897—P
Convulsions after orthopedic operations, 1623—ab
in infants, cause of, 1281
psychogenetic, simulating epilepsy, 1357—ab
puerperal, or eclampsia, 623—ab
Cord, spermatic, varicocele of, 778—ab
Cordite, eating of, 825
Cornea, salvarsan does not act on, clinical and experimental evidence of, 1623—ab
Cornil, Prof., dedication of monument to, 977
Corporation with conscience, 597—E
Corporations, largest, smallest medical fees paid by, 446—ME
Corpse, persistence of strychnin in, 697—ab
Corpus callosum, puncture of, to relieve pressure on brain, 162—ab
luteum, function of, 79—ab, 595—E
luteum, galactagogue action of, 924—ab
Corpuscles: See Blood Cells
Corrosive Sublimate: See Mercury, Bichlorid
Corset, meralgia paresthetica due to pressure of, 925—ab
plaster, removable, for structural scoliosis, 1847—ab
Corsets, good and bad, *1444
Cotton-seed oil, physiologic action and therapeutic uses of, 1498
Cough, auscultation of, 1506—ab
cure, Kickapoo, misbranded, 1808—P
during auscultation in diagnosis of pulmonary tuberculosis, 245—O
in pulmonary tuberculosis, treatment of, 1441—O
Council on Pharmacy and Chemistry, report of, 441—P, 1278—P
Court decision on food and drugs act, 1819—E
Courts and public health, 123—E
Cows, uninspected, milk from, cities may require annual tuberculin test and authorize summary seizure and destruction by health departments of, 374—M1
Coxitis, tuberculous, spontaneous fractures in, 1232—ab
Cramp, player's and writer's, treatment of, 1623—ab
Cranial Cavity, Cranium: See Skull
Cream ale, misbranding of, 1898—P
Creatinin, sources of error in Folin method for estimation of, 923—ab
Credentials, forged, presented, 991
valuation of, 765—ab
Cremation bill in Germany, 1274
in France and abroad, 283
in Prussia, new bill on, 978
optional, bill for, 1827
Creosote in bronchopneumonia, 332—ab
Crepitation, pulmonary, reversible, in cardiac failure, 1687—ab
Criminal type and criminal class, 201—E
Cripple aid, international exposition of, 284
Cripples, self-supporting, 1268—E
Crises, cerebral, transient, in arteriosclerotics, significance of, 304—ab
Crystals, typical, technic of substance giving rise to, 926—ab
Cultures, bacterial, bureau for distributing, 678
Cup of death, 1818—E
Curds, hard, in infants stools, etiology and nature of, 1682—ab
Cure, fresh-air, technic for, 934—ab
no implied contract to, counterclaim wrongly allowed in action for medical services, 903—M1
Curet, frontal sinus, 1653—O
Curie, Madame, and academy of sciences of France, 516—E
candidacy of, and election of Dr. Branly to academy of sciences, 522
Cyanosis: See Acrocyanosis
Cyst: See also Cysts
Cyst, mediastinal, producing compression of trachea, atal, in infant of 9 months, 1145—ab
ovarian, unusually large, 141—ab
Cysts: See also Cyst
Cysts, in common bile duct, 1369—ab
ovarian, large, 847—ab
ovarian, small, unusual complication of, 1616—ab
pancreatic, treatment of, 1303—ab

Cystocele and prolapse of uterus, plastic operation for, 1013—ab
operation for, and pelvic fascia, 1147—ab
operative treatment of, 1518—ab
Cystoscopy and catheterization of double ureter, 1689—ab
in diagnosis of pregnancy pyelitis, 1303—ab
Cystostomy, suprapubic, device for keeping patients dry after, 1612—ab
suprapubic, technic of immediate closure of bladder following, 74—ab
Cytodiagnosis in gastric diseases, 1827

D

Dairies, card system for rating of, 594—E, 608—C
Dairy inspection, 124—E
inspection, card system of, 594—E, 608—C
Damages recoverable in malpractice case with conveyance of property to wife, 1902—M
Datura alba seeds, poisoning from, 1001—ab
Day, Bertha C., Co., mail-order medical fake, 971—E, 982—P
Deaf mutes, blind and epileptics of Denmark's asylums, Wassermann reaction in, 1698—ab
Deafness, deafmutism and mutism from, differential diagnosis between, 387—ab
exercise of ear in, 1231—ab
Death after injection of salvarsan in cardiovascular disease, 1910—ab
after injection of salvarsan in paralytic dementia, 164—ab
and disability resulting from childbirth, 778—ab
apparent, rhythmic compression of heart in, 81—ab
certificates, uniformity in, 1114—E
discovery of carbon-monoxid poisoning long after, 53
from being blown into air, 1120
from chloroform poisoning, tardy, 1012—ab
from external injury by accidental means, susceptibility to disease, 1902—M1
from postanesthetic acid intoxication, 2 cases of, 928—ab
how fact of, is established in France, 435
in infections due to hypo-adrenia, treatment of, 1678—ab
proof of, 842—M1
rate and birth-rate, lowest, on record in Great Britain, 680
rate and birth-rate, lowest on record in Scotland, 1405
rate and standard of civilization in Germany, 682
sudden, from myocarditis in scarlet fever, 545—ab
sudden, in cardiovascular disease, 1761—ab
Deaths abroad, 1825
of physicians in 1910, 47—E
Decay, growth and heredity, 1874—ab
Decompression, cerebral, indications and technic of, 380—ab
Decubitus, ventral, pararectal prostatectomy in, 1862—ab
Deformities, congenital, 847—ab
Deformity of female genitalia, 2 uncommon forms of, 1229—ab
Delaware medical news, 674, 1270
state board December report, 371
Delhi Boil: See Oriental Sore
Delirium cordis, transitory, clinical significance of, 70—ab
Delivery, allowing patients to get up early after, 860—ab
how soon after, may conception occur? 529
of first arm in podalic version of breech presentation, modification of usual technic in, 380—ab
rapid, with undilated os-uteri, 227—ab
spontaneous, and paroxysmal tachycardia, 1157—ab
Dementia, paraplegic, from chronic cortical encephalitis, 159—ab
praecox, mental mechanisms in, 156—ab
praecox, nature and conception of, 156—ab
Dengue, nature of virus of, 773—ab
Denmark asylums, Wassermann reaction in, 1802—ab
Dental students boycott school, 54
surgery, agitation among students in, 765
Dentist found guilty of manslaughter of patient who bled to death after extraction of teeth, 423
Deodorizer and germ killer, Egyptian, misbranding of, 1898—P
Depilation, electrolytic, improved technic for, 629—ab
Depopulation, measures against, in Belgium, 1050
Dermatitis among flower-pickers in Scilly Islands, so-called lily rash, 158—ab
chemical, from incompatible external applications, 1389—O
eczematoid, infections, 1005—ab
Dermatology, diatheses in, 1667
Dermatoses, pregnancy, serotherapy of, 1157—ab
Desiccation, vacuum, effect of, on virus of rabies, 456—ab, 538—ab
Desmoid tumors of abdominal wall after operations, 65—ab
Development, physical and mental, and carpal ossification, 697—ab
physical, of child, index of, 307—ab
Diabetes mellitus, 465—ab
acidosis due to, treatment of, 785—ab
among negroes, 303—ab
and tumors in female genitalia, 463—ab
changes in pancreas in, 785—ab
classification of, 1905—ab
coma due to, and acidosis, 1516—ab
dietetic treatment of, 619—ab
dyspnea in, 1425—ab
fatal, in 5 brothers and sisters between ages of 4 and 11, 783—ab
from surgical standpoint, 1677—ab
functions of stomach in, 143—ab, 497—O
gangrene due to, and glycosuria, surgical aspect of, 226—ab, 929—ab
in children, traumatic, 616—ab, 843—ab
increase of mortality from, in France, 1121
influence of acetonuria in, 707—ab
is there specific treatment for? 1849—ab
medicinal treatment of, 619—ab
oatmeal in, 1667
pathologic chemistry of, 143—ab
renal and traumatic, 1302—ab
soy bean as food in, 70—ab
speculation on, 1072—ab
table of carbohydrate equivalents for treatment of, 1422—ab
Diagnosis, surgical, of gastric and duodenal ulcer, why studied by practitioner, 85—O
surgical, reflexes in, 537—ab
Diamond brand pills, Chichester's, 1591—P
Match Co., 597—E
Diaphoresis, continuous and persistent, in acute pneumonia, 701—ab
Diaphragm and circulation, 1519—ab
reflex, 1014—ab
Diarrhea and eczema in infants, chronic, and chemical composition of human milk, 781—ab
infantile, prevention of, 850—ab
infectious, 845—ab
infectious, proctoscopy and sigmoidoscopy in infancy as applied to, 620—ab
in infants and gas bacillus in stools, 846—ab
in infants, eosinophil, 1305—ab
in infants, infectious, silver nitrate irrigations in, 845—ab
summer, in children, 1719—T
summer, in infants under 2, 1759—ab
Diastase and pepsin in urine, 1357—ab
Diatheses, 1666
in children, 1667
in dermatology, 1667
therapeutics in, 1667
exudative and mountain climate, 1766—ab
Diet and distribution of appendicitis, 306—ab
in acute infectious diseases, 1771—O
in cardiovascular and kidney disturbances, 625—ab
in diabetes mellitus, 619—ab
in heart disease and arteriosclerosis, 846—ab
in neurasthenia, attractive, 874—ab
in typhoid, 538—ab, 1735
in typhoid, liberal, 1843—ab
influence of, on formation and healing of acute gastric ulcer, 225—ab
regulation of, 1258—ab
restricted, value of, in certain acute inflammatory diseases of skin, 158—ab
test, in estimating digestion, 931—ab
very restricted, of rice in acute inflammatory disease of skin, 454—ab
Dietetics taught by cartoon, 1659—E
Digestion disturbances in infants, pathogenesis of, 706—ab
gastric, action of intestinal antiseptics on, 1609—ab
of fat in infancy, physiology and pathology of, 1068—ab
of vegetables, 1154—ab
rôle of spleen in, 1668
test diet in estimation of, 931—ab
Digestive disturbances, surgical treatment of, 1602—ab
organs, diseases of, benzidin test for occult blood in, 1752—ab
Digipuratum in heart disease, 1360—ab
Digitalis, 421—T, 508—T
and allies, therapeutics of, 1143—ab
group, 606—P
group, standardization of, 1606—P
in arrhythmia, 549—ab
reaction of heart to, when auricle is fibrillating, 76—ab
standardization of, 1198—E
tonic use of, 457—ab
Diphtheria, abdominal, 199—O
and public health, 37—O
antitoxin, use of, 1725—E
bacilli, tests of virulence of, 809—O
bacillus-carriers, 621—ab
bacillus-carriers, treatment of, 627—ab
chronic, 618—ab
conjunctivitis due to, classification of, 1454—O
gangrene of limb during convalescence from, 460—ab
in institution, 1615—ab
paralysis of velum due to, electricity in, 1235—ab
quarantine, bacteriologic vs. clinical control of, 288—C
repeated, and postdiphtheritic paralysis, 229—ab
return cases of, 1370—ab, 1769—ab
serotherapy of, 779—ab
toxin, administration of, in collodion sac, 456—ab
unrecognized, 1074—ab
Diplegias and hemiplegias of infancy and childhood, syphilitic factor in, 1618—ab
Diplobacillus, morax-axenfeld, simple method for cultivation of, 1106—O
Diplococcus, gram-negative, pneumonia due to, 1298—ab
Diploma factory, 839
mill wanted, 1830—ab
Direction, sense of, among blind, 1492
Disability and death resulting from childbirth, 778—ab
Disease and longevity, 1830—ab
and man, 1355—ab
and shellfish, 1339
internal, diagnostic and therapeutic importance of knee-chest position in, 1861—ab
internal, radiotherapy of, 1430—ab
prophylaxis of, and state hygiene, bulletin on, 274—E
susceptibility to, after external injury by accidental means, death from, 1902—M1
Diseases, chronic and incurable, validity of statutes forbidding advertising for patients and special ability to treat or cure, chronic and incurable defined, consultation of medical works by boards, 452—M1
communicable, relation and attitude of public to and obligation of physician in development of, 75—ab
Disinfectants, method for bacteriologic standardization of, 455—ab
Disinfection of books, 1406
of books, carbo-gasoline method for, 538—ab
of hands and field of operation, 1587
Dislocation of hip, its reduction by method of Biglow, 845—ab
of shoulder and elbow, prognosis of, 1368—ab
of shoulder and paralysis of arm with falling of humerus, 1362—ab
of shoulder, ultimate outcome of, 931—ab
Dispensaries, free, for uncinariasis, 1485—E
Dissections, anatomic, preservation of, with permanent color of muscles, blood-vessels and organs, 882—O
District of Columbia medical news, 428, 1729
Diuretic, choice of, 779—ab
Diuretics, action of, 549—ab
Diverticula of lower intestine, their development and relationship to carcinoma, 775—ab
Diverticulitis of rectum, 1225—ab
Diverticulum, carcinoma and obliteration of appendix, clinical and pathologic significance of, 1069—ab
in esophagus, 932—ab
Doctor Fizz, misbranding of, 1898—P
Documents, public, not free, 1345
Dogs, metabolism of, with functionally resected small intestine, 618—ab
training of, for sanitary service, 1433
Door, locked, 969—E
Drain, Wylie, for cure of sterility in aged, 1190—O
Drainage, aspiration, of bladder, 83—ab
in elephantiasis, 467—ab
in suprapubic prostatectomy, abdominal position for, 778—ab
of ascites into subcutaneous cellular tissues, 930—ab
of bladder, suprapubic, satisfactory method of, 538—ab
position, in suprapubic prostatectomy, 535—ab
proper, of water courses and lowlands, imperative necessity for, 1678—ab
Drains, cotton, and cylindrical gauze used in discharging ears, 262—O
Draughts and colds, 459—ab
Dreadnaughts and physicians, 820—E
Dreams, mechanism and interpretation of, 776—ab
role of, in etiology, 1373—O
Drinking-cup, public, 1818—E
Dropsy: See also Ascites and Edema
Dropsy and heart disease, digitalis in, with fibrillation of auricles, 927—ab
Drug addiction in United States, present status of, 695—ab
addiction, treatment of, 503—O
adulteration, judicial view of, 597—E
adulteration, state laws against, 1212—P
dissolving in stomach, insufficiency of means employed for prevention of, 1274
useful, what constitutes it, should its preparation be limited to one or two? 924—ab
Drugs: See also Drug
Drugs, acting on circulation, 420—T, 508—T, 591—T
action of, combinations of, 1862—ab
and medicinal chemicals, imports and exports of, in Germany, 524
and poisons, physical factors in action of, 1152—ab
as stimulants in accidents during anesthesia, 73—ab
combinations of, in therapeutics, 782—ab
elimination of, by diseased lungs, 389—ab
hematoporphyrinuria not due to, 851—ab
injection of, into lumbar muscles, 1067—ab
new tax on dispensing of, in Austria, 361
physical properties of, in syphilis, 934—ab
physiologic assay of, report of committee of Philadelphia branch of American Pharmaceutical Association on, 606—P
should Pharmacopeia contain only those which are useful and efficient? 924—ab
value of, in circulatory diseases, 1748
Druggist and physician, 442—O
Druggists Circular, attitude of, on nostrums, 287—P
Duct, bile, common, catheterization of, for enterocolysis in toxic biliary cases, 141—ab
Ductus botalli, patent, 847—ab
Dulness, application of dorsal percussion of heart in interpretation of Grocco's paravertebral triangle of, 1010—ab
precordial, in heart disease in children, 930—ab
Duodenal and gastric ulcer, why practitioner should study surgical diagnosis of, 85—O
and gastric ulcers, perforation of, 1691—ab, 1855—ab
obstruction shown by radiography, 1858—ab
ulcer, 232—ab, 1292—ab
ulcer, cause and relief of pain in, 1752—ab
ulcer, chronic, 463—ab
ulcer, diagnosis and surgical indications of, 1352—ab
ulcer, perforating, with fat necrosis, 302—ab
ulcer, treatment of, 314—ab
Duodenojejunostomy, 792—O
Duodenum and stomach, diseases of, from surgical standpoint, 457—ab, 458—ab, 927—ab

Duodenum and stomach, neuromuscular and secretory coordination between, 1752—ab
direct lavage of, 455—ab, 935—ab
function of, 1752—ab
Dust and smoke nuisance, combating, 1123
street, and food, 903—E
Dwarfs, 625—ab
Dysdiadokokinesia in chorea, 1620—ab
Dysentery, acute, 1801—T
bacillary, 845—ab, 1801—T
efficacy of ipecac treatment of, 1510—ab
epidemic in hospital, 388—ab
influence of, on incidence and mortality of pulmonary tuberculosis, 383—ab
in infants, vaccine therapy in prevention of, 1512—ab
magnesium sulphate in, 1593—C
protective inoculation against, 1577—E
treatment of, 1226—ab
Dysesthesias and pain, interpretation of, 787—O
Dysmenorrhea, resection of spermatic plexus for relief of certain forms of, 1104—O
treatment of, 1520—ab
Dispensary, hospital, abuse problem in Philadelphia, 1507—ab
Dyspepsia: See also Indigestion
Dyspepsia, appendicular, diffuse peritonitis in, 1687—ab
of old age, 457—ab
Dyspnea in nephritis and diabetes mellitus, 1425—ab
Dystocia: See also Labor
Dystocia, due to ventrofixation of uterus, Cesarean section for, 623—ab
kidney displacements, congenital and acquired, as etiologic factors in, 455—ab

DEATHS

Abbott, Benjamin T., 684
Abbott, George, 1053
Abé, Hana, 1127
Abernathy, John Clayton, 1408
Adams, John Quincy, 1896
Aiken, Edward R., 1053
Alexander, John W., 1127
Alexander, Samuel, 128
Allen, Ethan P., 1210
Allen, Giles Bertram, 524
Allen, Joel, 980
Allen, Joseph B., 1128
Anderson, Charles Lewis, 363
Anderson, Daniel Smith, 1832
Anderson, William, 1495
Andrews, George W., 981
Andrews, Thomas A., 833
Angell, Henry Clay, 1831
Anthony, Frank, 1126
Antrobus, Bolivar, 1897
Aparici, D. J., 1825
Appley, James Dow, 909
Armitage, Joseph Hartman, 1054
Asbury, Richard, 684
Ash, Henry St. Clair, 1277
Ashley, Edward Fiske, 979
Ashley, G. Lee R., 980
Ashmead, Albert Sydney, 758
Atkins, Riley Allen, 604
Atkinson, Robert, 1738
Austin, Philip A., 1343
Austin, William Hannah, 1127
Ayers, Elihu H., 363
Ayo, Sampson A., 1053
Bacmeister, Theodore, 832
Bacon, Benjamin Bently, 209
Badgeley, Daniel C., 981
Badger, Albert, 1210
Bailey, J. Elmer, 524
Bailey, James Huntington, 1494
Baird, John V., 980
Baird, William Chalmers, 1590
Baker, Albert Rufus, 1209
Baker, Frederick Birdseye, 1277
Baker, Harry H., 1494
Baker, John Francis, 1738
Baldwin, Marion Augustus, 909
Ballou, Charles Olney, 362
Bandera, J. M., 601
Bardwell, Eugene Orville, 833
Bare, Addison Wilson, 833
Barker, Albert B., 363
Barnaby, Gideon, 1128
Barnes, Benjamin Shields, 1127
Barrett, William Harper, 1342
Barry, John William, 981
Bartlett, J. W., 605
Baskerville, John Barbour, 525
Bates, Laura Cowgill, 980
Bayneham, George, 1343
Beach, Platt Ellsworth, 525
Beall, Joseph Alfred, 1277
Bear, Alfred Wesley, 604
Beattie, Thomas, 909
Beck, Carl, 1896
Beckstead, Morris, 1591
Bedford, Franklin, 363
Beeson, Hannibal Amilcar, 759
Behner, Frank B., 759
Bell, James, 1276
Bell, Lester Bomar, 1590
Bell, William D., 1277
Bell, William Henry, 1590
Bellenger, Paul L., 1896
Beltz, George A., 363
Beltz, Thomas H., 1670
Bennett, James William, 980
Bennett, Telemachus N., 1277
Bernstoff, Charles H., 1127
Berry, James S., 363
Bertholf, Charles Merrill, 55
Bertram, William Henry, 1897
Best, Leonidas E., 832
Bethune, Alexander, 1897
Bevan, Andrew J., 1591
Bickford, John Wesley, 524
Bigg, Arthur Henry, 1053
Biggs, John Thompson, 1897
Bill, Albert Henry, 1669
Binder, George A., 363
Binkley, Alexander Franklin, 684
Binswanger, R., 1825
Birdsall, Stephen Tabor, 758
Birney, William Litchworth, 525
Black, James Thomas, 363
Blackwood, Thomas, 833
Blair, Arthur Walter, 440
Blake, Selden LaFayette, 1495
Blanton, John W., 132
Bogert, Edward Strong, 633
Bohr, Christian, 755
Bolton, Isaiah Baker, 979
Bond, Benjamin M., 1832
Bond, Charles Lisle, 832
Bond, John W., 439
Borden, George Thomas, 759
Boston, Arnett Phillip, 1053
Bosworth, Josiah M., 685
Botsford, Llewellyn Thomas, 758
Botts, Edwin H., 286
Bourne, Joseph W., 759
Bouse, John Arthur, 1127
Bowditch, Henry Pickering, 831
Bowie, Robert I., 1408
Bowles, Warren W., 1210
Bowman, William L., 525
Boyd, Donald, 440
Boyd, John S., 832
Boyden, Charles Francis, 363
Bradford, John M., 525
Bradley, Charles Howard, 980
Bradley, Cornelius Cole, 209
Bradley, William Inglis, 1127
Bradshaw, Laban Langstaff, 286
Brainin, Simon M., 1210
Brayton, Asa, 287
Breech, James Oscar, 286
Brengle, William Burgess, 1738
Bressard, 1827
Brethour, Herbert Franklin, 1128
Brewton, Isaac H., 55
Briggs, Thomas E., 759
Brinckerhoff, Walter Remsen, 758
Brink, Henry Jay, 1494
Brittain, James M., 1210
Broadbent, Oliver, 1897
Broadous, Carter Lurton, 604
Brockway, Joseph, 1409
Brooke, Jared E., 1210
Brown, Gabriel A. D., 1343
Brown, John P., 363
Brown, Joseph L., 980
Brown, Lewis S., 1408
Brown, Lonzo F., 981
Brown, Millard F., 981
Brown, Raymond W., 979
Brubaker, A. Grant S., 1670
Bruce, Orpha Desiah Baldwin, 981
Brucker, Charles Magnus, 1494
Buell, Jesse W., 759
Buettner, Adolph, 133
Bull, Charles Stedman, 1276
Bull, George Walker, 1054
Burford, Jonathan Edward, 1495
Burgess, Daniel Maynard, 832
Burgess, William Alfred, 1669
Burke, James Pickens, 684
Burkert, Edwin Franklin, 981
Burnham, John Loring, 684
Burns, Wesley Jones, 1343
Busby, Aaron, 1591
Byington, John Fletcher, 439
Cadwell, Joseph Warren, 1409
Caldwell, Robert, 1408
Caldwell, Washington Jackson, 833
Callaghan, Thomas, 1494
Camp, Daniel Webster, 1277
Campbell, Bertha Hastings, 1737
Cannon, Henry Rutgers, 604
Cannon, Thomas Harris, 439
Carnahan, John David, 1210
Carpenter, Thomas M., 287
Carpenter, William T., 832
Carr, Wallace Deane, 759
Carrington, Everard A. S., 1831
Carter, Edwin H., 758
Casey, Francis P., 285
Cassatt, Massillon, 684
Cassel, Henry E., 1210
Cassels, Daniel A., 440
Cassell, Martin H., 981
Cates, Horace G., 1127
Caviness, Alfred H., 1408
Cessna, Benjamin Franklin, 758
Chace, Nathaniel Ray, 440
Chaillé, Stanford Emerson, 1669
Chamberlain, Elston, 1277
Chamberlain, Raymond W., 133
Chamberlin, Austin B., 1896
Chambers, Rufus, 209
Chapin, Frederick Wilcox, 55
Chassagne, Eugene J., 1343
Cheeseman, George, 133
Chew, Vernon Tillford, 1343
Chilton, L. B., 833
Chisholm, William Palmer, 684
Clark, Adoniram Judson, 1277
Clark, Charles Edward, 363
Clark, Eli Granger, 440
Clayton, James L., 55
Clements, Joseph, 604
Clewell, Augustus Alexander, 1494
Closson, Caleb Horace, 759
Clutter, William H., 1276
Coates, Frank Avery, 209
Coble, Jacob, 524
Coburn, William C., 1590
Cockburn, John Cassilis, 604
Coe, George Delos, 832
Coe, John Williams, 832
Coffin, Isaac Francis, 604
Coggeshall, Frederick, 684
Cole, Horace Brand, 1831
Coleman, Horace, 1669
Collins, David W., 1832
Colvin, Darwin, 208
Conant, Jesse L., 1832
Conger, Frederic Garvin, 684
Conn, William Amos, 440
Connor, Leartus, 1209
Cook, Francis Stephen Winter, 1409
Cook, John B., 1737
Cook, John P., 525
Cook, Joseph L., 525
Cook, Luther Cochran, 55
Cooley, Franklin, 758
Cooper, Andrew Guffin, 1738
Cooper, Horace T., 1409
Cooper, Robert W., 1053
Cooper, William Clark, 1053
Corey, Linn Henry, 981
Corey, Rufus C., 759
Corlett, Christopher E., 440
Corman, George W., 604
Covert, George M., 1409
Cowan, Charles Spinning, 759
Cox, Ira E., 133
Cozzolino, V., 1825
Crabtree, John S., 1832
Craig, George Gorgas, 909
Craig, Lloyd Alexander, 684
Craig, Louis B., 1277
Craighead, Robert David, 979
Cramer, Isaac Smith, 1053
Crandell, Frederick Lowell, 363
Crawford, John N. W., 526
Crawford, Martin Phifer, 1127
Cress, James, 1210
Creveling, William Sloan, 286
Critz, Alfred M., 209
Crosby, Alexander H., 1342
Crosgrove, Thomas, 833
Crouse, Henry M., 1832
Crumrine, Benjamin F., 1670
Culbertson, John Robert, 55
Cummings, Damon Sprague, 132
Cunningham, Richard Maury, 604
Curd, William Edward, 286
Curran, Charles James, 208
Curran, Stanley Douglas, 524
Currie, Daniel Augustus, 831
Cushing, Edward Fitch, 1053
Cushing, Maria J., 1277
Cutler, James, 209
Dakin, Edward Arthur, 1737
Danforth, Isaac Newton, 1407
Dantzler, Frederick W., 981
Darling, Edward Galbraith, 1897
Darling, Herbert Stanton, 1591
David, John C., 605
Davis, Alexander, 1343
Davis, George, 833
Davis, Oscar F., 440
Davis, Roland Augustus, 1409
Davis, Samuel Alonzo, 209
Davis, Sands Macamly, 759
Davis, Thomas Berton, 758
Davis, William F., 209
Dean, George Roswell, 362
Dean, Harry Johnson, 1408
DeCourcy, William Henry, 1210
Deemy, Emmanuel K., 1669
del Arca, E. E., 1339
Delker, William, 1832
Demers, Joseph Fred, 1277
Denham, Alfred Charles, 525
Denham, Henry J., 525
Dennard, John H., 1738
Densmore, Emmet, 759
Dent, Samuel Marmaduke, 1832
Derrick, William Smeltzer, 1896
De Sashmutt, Van Elias, 1832
Devilbiss, David Marshall, 684
DeWitt, John W., 440
Diemert, Joseph A., 440
Dimon, Russell J., 1210
Discus, Hugh C., 287
Dixon, Charles Henry, 1896
Doak, Hubert Pemberton, 604
Doane, George Harvey, 209
Dodd, Edward Francis, 604
Dodds, Susanna Way, 362
Donoghue, James Crawley, 758
Dorval, Charles Eugene Arthur, 601
Doss, George A., 1210
dos Santos, J., 1048
Dougherty, Edwin Neville, 1590
Douglass, Allison O., 286
Dow, Charles E. 440
Doyle, Frank Moore, 685
Doyle, William Jerome, 286
Drake, Matthew B., 363
Draper, Fannie L., 1409
Driscoll, Daniel Michael, 133
Dufault, Albini Joseph W., 209
Duncan, William A., 1494
Dunham, William Russell, 1590
Dustin, Jeremiah B., 759
Dyer, Alexander Stephens, 133
Dyke, R. H., 1343
Edwards, Girard Bryce, 832
Edwards, Maria Stewart Loughborough, 833
Edwards, Orlando M., 1897
Egan, William L., 684
Eichler, J. P., 287
Eider, Charles Stuart, 1343
Eldon, William McKee, 1738
Eliot, Augustus Greely, 1737
Elliott, William S., 55
Ellis, Charles Manly, 1896
Ellis, Dyas C., 1495
Elster, Lester Augustus, 1590
Ely, William, 525
Elv, William Smith, 285
Endris, William R., 1343
Erdman, Albert Joseph, 831
Esrey, Lewis K., 1054
Escherich, 756
Esrev, Lewis K., 1054
Estill, James T., 525
Ethridge, Mark D., 1737
Everhart, Isaiah F., 1737
Ezzard, George L., 133
Fackler, Joshua M., 1343
Fair, Henry N., 1832
Fairchild, Lewis Addison, 833
Faith, James, 440
Fallot, Arthur, 1827
Farnham, Edwin, 1342
Farnum, James Kelley, 758
Fekete, Alexander, 980
Fels, George W., 1127
Ferguson, Hugh L., 55
Ferte, Joseph E., 759
Fienup, Theodore F., 286
Files, Frederick Howard, 832
Filkins, John Wesley, 981
Finch, John Henry, 363
Fishblate, S. Albert, 980
Fisk, Frank H., 604
Fitch, Arthur Case, 1342
Fitch, Harold D., 209
Fitz-Gerald, John A., 525
Fleming, John Bartley, 208
Flewellen, Ewrad A., 1277
Flint, John, 286
Flock, Christopher William, 1053
Follman, Peter, 1738
Fontaine, Felix Dydine, 604
Foreman, Austin W., 55
Foreman, Lincoln D., 604
Forgus, J. A., 1127
Foscue, Charles J., 1897
Foster, Franklin J., 684
Foster, James Milton, 980
Foster, Nathan A., 980
Foulds, Thomas L., 909
Fourguette, Pierre M., 1738
Fowler, Henry M., 1897
Fox, Addison C., 440
Fox, Edward W., 1408
Fox, Harriet E. Magee, 1343
Frazer, Samuel Hamilton, 981
Frederick, Carlton C., 1408
Freeman, Ingraham Bill, 1128
Fritts, Valentine, 833
Frost, James, 55
Fuchs, Gustav, 1409
Fulgham, Fenton L., 1127
Fulkerson, Walter C., 209
Fuller, Horace Smith, 208
Fulton, Lee Washington, 759
Furness, William Joseph, 362
Gaffney, Emory C., 440
Gaither, John Burgess, 55
Gallimore, Elizabeth, 55
Galloway, Allen H., 1897
Galloway, Merrill James, 833
Galton, Francis, 359
Gandier, Augustine, 832
Gardner, Charles Foster, 1210
Gariepy, Joseph Camille, 286
Gaudet, Charles Albert, 525
Gay, William Frederick, 1669

Gee, Darius Cross, 1670
Geiger, Franklin J., 133
Gibson, Edwin Lucy, 909
Gilbert, John Perrine, 286
Glass, William M., 759
Glatfelter, Moah M., 1209
Godshaw, Cain C., 1128
Goetsch, Herman F., 133
Goodpasture, Lloyd E., 133
Goodrich, Roscoe H., 133
Gordon, William Powell, 133
Goudy, Samuel Patterson, 1128
Gould, John Woodward, 363
Gradle, Henry, 1126
Graham, James Monroe, 286
Graham, Thomas, 604
Grainger Joseph Francis, 440
Gray, Alexander R., 980
Gray, George B., 440
Gray, Joseph Preston, 604
Gray, Thomas Hamilton, 1277
Gray, William, G., 133
Green, Albert Stead. 1831
Green, William, 1342
Greene, Charles Alfred. 286
Greene, Francis M., 758
Greenlee, David R. B., 286
Greenwald, Marquis, 1494
Greer, Norman O., 1127
Greer, T. G., 1831
Grier, William, 285
Griffith, Stephen Harrison, 1669
Griffith, William Clark, 286
Grissom, William T., 286
Groves, Abraham R., 1343
Gumberts, Albert Richard, 1127
Gustin, Edmund Roy, 832
Haarmann, G., 1825
Hackwell, Samuel Stuart, 1590
Haden, Hugh Henry, 133
Hafele, George W., 1494
Hager, William Perry, 1669
Haggerty, William, 363
Hagnauer, E., 1825
Haines, George Benjamin, 1127
Hale, John L., 209
Hale, Paul DeWitt, 1590
Hall, Benton M., 1727
Hall, James A., 1831
Hall, Robert, 55
Hall, Samuel, 909
Hamill, Thomas, 1408
Hamilton, Alfred Thorley, 1897
Hamilton, Charles Henry, 1738
Hammer, Andrew F., 1495
Hamnett, Charles Joseph, 684
Hancock, James William Dodd, 1053
Hann, George Valentine, 209
Hapgood, Lowrie Payne, 832
Hardcastle, Alexander, 440
Harding, Hiram William, 1211
Hare, William John, 1054
Hargrove, Jones B., 980
Hargrove, Robert Harris, 1590
Harmon, George W., 1495
Harmon, Reuben, 1277
Harrell, E. B., 759
Harris, Francis Augustine, 363
Harris, James H., 55
Harris, Jane Howell, 604
Harrison, John Wesley 286
Harrison, William Henry, 1590
Hart, Charles Avery, 979
Hart, Edward Patrick Stanley, 1276
Hart, Thomas Benton, 1209
Hart, William B., 833
Hartung, Christian J., 1670
Hartwell, John Bugbee, 1738
Haskins, Frank Henry, 209
Hastings, William Clarkson, 1053
Hawkes, Wilson Levi, 1591
Haworth, Edward Emmitt, 209
Hayes, Albert Hamilton, 1738
Haynes, Thomas Benjamin, 525
Hazen, Stephen E., 1897
Headrick, William Jennings, 1053
Heath, Clarence Wright, 285
Heath, Leroy W., 604
Heath, Newton Emmer, 287
Hebert, Perdelete, 1494
Hempel, J. F., 1339
Hemsteger, John Aloysius, 133
Henderson, Elizabeth Mabel, 1127
Hendrick, Henry Clay, 1590
Hendry, Hugh Campbell, 440
Henkle, Abram Miller, 1831
Hennel, Michael Harvey, 362
Henry, Columbus, 603
Herndon, Cumberland George, 1590
Herrington, Lafayette Washington, 1210
Herrmann, Alfred Augustus, 604
Hertz, John K., 133
Hewlett, William Wheeler, 832
Hibbard, William Edward, 1053
Hickman, Claude Fowler, 1211
Hickok, Eugene P., 439
Hieber, John Henry, 980
Hill, Benjamin, 55
Hill, George Armstrong, 286
Hill, Norman F., 1590
Hill, Robert Louis, 1343
Hillyer, Eben, 132
Hitchcock, Edward, 758
Hoagland, Garrett G. 1670
Hocouart, 360
Hodges, William J., 209
Hoen, Adolph Gustav, 1126
Holbrook, Mary Ann, 286
Holderness, Edward Page Granville, 133
Holifield, John R., 133
Holin, John, 1053
Holland, James C., 1832
Hollingsworth, John B., 833
Holloway, William Wallace, 1897
Holt, King, 832
Holt, N. L., 833
Holtzman, Samuel Eccleston, 1494
Hook, Norman Rhinehart, 1832
Hoover, Jonas, 133
Hoover, Reuben C., 981
Hopkins, James Swinburne. 132
Hopkins, Samuel David, 603
Horn, Emmett Eugene, 1495
Horn, Nellie Knowles, 759
Hoskins, John Robinson, 1277
Howard, Emory E., 1494
Howard, George Canning, 1053
Howard, Lewis Nathaniel, 832
Howe, Arthur John Perry, 980
Howe, Edwin Samuel, 980
Howe, Jonathan A. C., 1127
Howey, Harris, 1896
Hoyt, R. Burdett, 286
Hubbard, Alfred Elisha, 525
Huchard, Henri, 283
Huffman, Lucius D., 1128
Hughes, George L., 525
Hull, Joseph Addison Wright, 684
Humiston, Edwin Ray, Jr., 1896
Humphries, Henry, 1896
Hunnewell, David Smith, 1832
Hunsicker, Charles Heil, 209
Hunt, Joseph Hill, 362
Hunt, Myron Watson, 55
Hurlbert, John Worthing, 1408
Hutchins, John F., 1210
Hutchinson, Edwin Darius, 440
Hutchinson, Frederick Smith, 286
Hutton, Herbert Benjamin, 1343
Hyten, William H., 1343
Ilderton, Flinn Browning B., 981
Inches, Charles Edward, 285
Ingersoll, Isaac Frederick, 1343
Ingram, Nelson, 286
Ireland, Stephen A., 980
Irwin, Emmett Lee, 363
Ivers, Richard W., 1210
Jackson, Adam Lutheran, 1591
Jackson, Arthur Frame, 1048
Jackson, Cornelius Sampson, 1408
Janeway, Edward Gamaliel, 524
Janeway, John H., 1209
Janney, William Smith, 132
Jelks, Nathaniel P., 1277
Jenkins, Mozart, 1053
Jenks, Samuel Michael, 1343
Jennings, Charles Austin, 832
Jewell, J. E., 1832
Johns, Emory, B., 1277
Johns, Jacob Rohrer, 1210
Johnson, Isaac D., 525
Johnson, Richard E., 1408
Johnson, Samuel Micajah, 525
Johnson, Thomas Hodge, 1408
Johnston, John P., 832
Johnstone, James Kennedy, 759
Jones, David W., 981
Jones, Evan, 605
Jones, Henry A., 1591
Jones, Lawrence Ellsworth, 605
Joyner, Robert W., 832
Judson, James B., 832
June, Frederick Lemuel, 1896
Jungels, William Witry, 979
Junkin, Samuel B., 286
Justin, Joel Gilbert, 1276
Kaiser, Frederick William, 1669
Kapp, John, 604
Karsner, William C., 1127
Keables, Benjamin F., 1590
Keckler, Adolphus T., 1495
Keller, John Grimes, 525
Kelley, Thomas Jefferson, 980
Kellogg, David Sherwood, 132
Kelly, Aloysius Oliver Joseph, 683
Kelso, Robert Silvester, 980
Kemble, Lorenia, 1053
Kendall, Arthur L., 1128
Kennedy, Roderick, 1409
Kercheval, James M., 287
Kerr, James, 603
Kimball, Amy Garrison Brown, 759
Kimberlin, Hugh L., 1277
Kimbrough, M. Duke, 832
Kindleberger, William H., 1495
King, John Icilius, 287
King, Richard Daniel, 1897
Kingman, Eugene, 831
Kingsbury, Charles Franklin, 684
Kinmouth, William Rollo, 363
Kinne, A. K., 286
Kinnison, Charles Wesley, 1053
Kinyon, Benjamin, 1494
Kipp, Charles John, 208
Kirk, Lewis H., 1408
Kirkpatrick, Samuel T. F., 525
Kirkpatrick, Theophilus N., 685
Kitzmiller, Frank E., 1277
Klenke, Henry Frederick, 1053
Knapp, Herman, 1342, 1483
Knapp, J. Wiltsie, 1342
Knill, Edwin Gilmore, 603
Kniskern, John Warner, 604
Knott, David F., 1897
König, Franz, 131
Königshöfer, Dr., 1340
Koser, John Jacob, 1276
Koyle, Frank Harcourt, 362
Kraemer, Adolps, 685
Krause, William H., 209
Kroeber, Carl Heinrich, 132
Krollpfeiffer, Henry, 1277
Kuehne, Richard, Jr., 1210
Kuhns, Harry Burton, 980
Kunkel, Henry, 1494
Lake, Norman Powell, 363
Lamb, George, 1825
Lambert, John A. M., 909
Lamson, Justin Worthing, 440
Langton, Daniel J., 1590
Lanier, Berwick Bruce, 286
LaPalme, Leon Adelard, 1127
Largen, Thomas Jefferson, 1408
Larkin, Frederick, 209
Larson, Carl Ludwig, 1343
Lathrop, Henry Allison, 1408
Latson, William Richard Cunningham, 1590
Lave, John P., 286
Law, John, 1831
Leach, Elisha, 1590
Leach, William Harvey, 133
Leboy, Brewerton Munro, 981
Leech, Harry Cheetham, 909
Leidich, Katherine Bohm, 1343
Leidy, Edwin D., 684
Leiter, William S., 286
Lent, Professor, 1587
Leonard, Madison Waldo, 1494
Lesem, William Wolfe, 285
Lewis, Charles Henry, 1127
Lewis, Ledyard Verdine, 1053
Lewis, S. M., 286
Ligon, John, 1210
Lindley, William Edgar, 1896
Littlejohn, Percy Duncan, 684
Locke, George Scott, Jr., 55
Logan, Herschel Josephus, 833
Lonergan, Martin Van Buren, 209
Longino, Thomas C., 1494
Louther, James Martin, 1494
Lovejoy, Jay C., 363
Low, Frank S., 603
Lucae, 1122
Luck, George S., 1210
Lundy, Frank Bostwick, 363
Lustgarten, Sigmund, 439
Lyding, Harrison Andrew, 980
Lynch, Charles James Joseph, 1343
Lyons, Augustus G., 1831
McBride, Isaac M., 833
McCaffrey, Charles Carroll, 684
McCamy, Robert H., 684
McCarthy, Dalton Stewart, 1738
McCarty, William Warder, 133
McClung, John Calvin, 524
McConnell, Charles Wheeler, 980
McCord, Louis A., 1210
McCormack, Reynold James, 1127
McCormick, Charles Elmer, 363
McCormick, Thomas H., 1127
McCormick, William Francis, 363
McCready, Robert, 363
McDonald, Horace J., 209
McDonald, William Henry, 683
MacDonald, Willis Goss, 55
McElwee, John J., 1343
McFadden, Orrel, 684
McGirk, John D., 1738
McGregor, Ernest Robertson, 287
McGuffin, Richard Mentor, 363
McHugh, Francis J. J., 833
McKay, Napoleon B., 759
McKee, Thomas Kerr, 979
McKenzie, Colin Bancroft, 832
McKenzie, Robert Percival, 1127
Mackin, Reynaldo Dorsey, 524
McLain, Alexander McKlveen, 604
McLarty, Alexander Arthur, 1210
McLean, Percy Ray, 1343
McLennan, Edmond James, 1277
McMaster, Alfred D., 1277
McMillan, William, 1276
MacMunn, C. A., 1048
Macomber, Addison Parker, 1342
McQueen, Duncan Dunbar, 1670
MacQuigg, William, 55
Macy, Elbert C., 1738
Madden, Harry Lloyd, 1343
Mahle, George William, 684
Mahon, Aubry Linton, 1211
Malay, Ranny Phelps, 1210
Manahan, Thomas James, 758
Mangold, William G., 759
Manz, Professor, 1493
Marsh, Benjamin Perrine. 1832
Marshall, James Polk, 525
Martin, Claude, 681
Martin, David Dunn, 759
Martin, John Joshua, 133
Martin, Marquis L., 55
Martin, R. Russell, 1409
Maschek, Frank J., 832
Mask, Thomas R., 832
Mason, Augustine S., 1737
Mason, William C., 1210
Massey, Columbus Vallandingham, 980
Masterson, William Thomas, 980
Mathus, Mahlon Kohler, 1210
Mauffette, Samuel, 981
Mayer, Albert Joseph, 286
Maynard, Charles Stuart, 133
Maynard, Samuel Erskine, 1831
Mayo, William Worrall, 758
Meador, Elzie Munro, 133
Menees, George W., 604
Menger, William, 604
Mesny, Gerald, 826
Metcalfe, James Arthur, 605
Michael, John F., 759
Middleton, William J., 759
Miller, Charles Louser, 1127
Miller, David M., 685
Miller, Elbert S., Jr., 1343
Miller, Emery, 1591
Miller, Fred C., 1053
Miller, Helen M., 685
Miller, Hiram Harrison, 1277
Miller, James Lewis, 1277
Miller, John R., 55
Miller, Joseph T., 981
Milliken, James A. C., 604
Milliken, James Atwood Crowell, 132
Moellering, Harrie William, Jr., 133
Monroe, Francis Marion, 363
Monteiro, Aristides, 524
Montgomery, Edmund, 1896
Mooers, Emma Wilson, 1831
Mooney, James, 832
Moore, Albertus Adair, 1210
Moore, Bernard Wise, 439
Moore, Charles Herbert, 1831
Moore, Francis Marion, 833
Moore, George Roberts, 209
Moore, Joseph Gardner, 525
Moore, Maurice Gardner, 440
Morehouse, Charles Lewis, 525
Morgan, James B., 1408
Morgan, James W., 1590
Morton, Joshua R., 363
Morton, T. M., 1495
Moughon, William C., 833
Moulton, John Fairfield, 1343
Muchmore, Walter Howard, 1409
Mudd, Francis Sterling, 981
Munker, Maurice, 980
Murphy, Constantine H., 759
Murphy, Michael Daniel, 1669
Mya, G., 755
Myers, Jacob W., 1591
Myers, Theodore L., 1832
Naegli-Akerblom, H., 1825
Nash, Herbert Milton, 1408
Neer, Henry Crippen, 440
Nelms, John W., 980
Nerv, M., 1048
Newcombe, Vesley Marvin, 1408
Nichols, Lyman Monson, 1409
Nickles, William Henderson, 1897
Nicola, Charles Chesterfield, 524
Niles, Andrew, 685
Niles, Nathaniel Leo, 1053
Noble, Hiram, 909
Noel, Isaac Franklin, 1210
Noriega, T., 601
Norris, Jacob Dimmitt, 1408
Norton, William E., 1127
Norvell, Thomas Floyd, 525
Nottingham, John C., 758
Nowlin, John Bryan Ward, 980
Nugent, William R., 525
Oberle, William Aloysius, 286
O'Brien, Charles A., 1277
O'Brien, Robert Lee, 1737
O'Ferrall, John, 981
Offutt, Thomas Zadoc, 525
Oliver, Charles Augustus, 1209
Oliver, Christopher Charlton, 1276
O'Malley, Thomas F., 909
Osborne, Frank G., 1277
Osborne, George William, 684
O'Shaughnessy, Leo J., 604
Outten, Warren Bell, 909
Padgham, Richard W., 1127
Palmer, Romania H., 1670
Pardee-Disbrow, Emily Virginia, 981
Parker, John Selden, 55
Parker, J. W. F., 55
Parsons, Edgar C., 1832
Parsons, J. A., 832
Patch-Lindquist, Anna Sophia Kenney, 1127
Patron, P., 1339
Patterson, Agnes Christy, 1210
Patterson, Horace Wilbur, 603
Patterson, James M., 759
Paul, C. Almon, 833
Paulding, Edward, 525
Paxson, Cyrus C., 1737
Payne, Selden M., 525

Peabody, Horace Albert, 909
Pearce, Doctor Solomon, 1127
Peck, James Milton, 979
Peck, Marcus Ray, 1831
Peirce, William Palmer, 979
Pendergast, Michael Thomas, 1896
Perine, Oscar Augustus, 133
Perney, Henry Lewis, 759
Perrie, John, 1277
Perry, George Hazard, 1897
Perry, Henry Clay, 1210
Pettijohn, Norman J., 1408
Pfefferkorn, Otto Albert, 525
Phelps, Charles Hamlin, 684
Phelps, Robert Hamilton, 684
Phillimore, Raymond H., 980
Phillip, Edwin R., 1831
Phillips, Charles C., 1343
Pickford, William H., 1838
Piggot, Cameron, 1408
Pilcher, James Evelyn, 1126
Pile, Oscar F., 684
Pindell, Joseph T., 1738
Piper, Oliver Perry, 1277
Pitts, John W., 133
Plant, Benjamin Anthony, 979
Pohl, Emil H., 1669
Pole, William Edward, 287
Polk, Charles G., 440
Pollack, Edward Haddock, 1591
Pollock, James Edward, 755
Poore, Charles Talbot, 1127
Porter, Byron Frank, 1209
Potter, William Warren, 909
Powell, Edwin, 603
Poyner, John Smith, 1670
Pratt, Willis Horton, 132
Prentiss, Henry Conant, 1896
Prentiss, Robert Swayne, 525
Preziosi, Amillio, 286
Price, Joseph, 1831
Priest, Warren G., 286
Prince, Alpheus, 1738
Prince, Francis Marion, 1737
Prince, Isaac, 132
Prince, John Albert, 209
Proctor, William Marsh, 55
Profeta, G., 601
Protzman, William, 1738
Putnam, Frank D., 1210
Quisling, Andreas, 1591
Querner, Lewis A., 285
Quail, Charles E., 363
Racoosin, William, 363
Rademaker, Robert C. H., 1343
Rae, Robert, 1276
Rahlfs, Theodore, 605
Ralph, Arthur B., 759
Ramsey, William Hull, 285
Rand, Leander Dixon, 1343
Randall, Isaac E., 440
Ranshaw, Willis Warwood, 439
Ray, George W., 604
Raymond, Edward F., 363
Rea, Oliver A., 208
Reasoner, Richard W., 1276
Reed, Thomas K., 759
Reeder, Albert, 55
Reeves, John Richard Thomas, 1670
Rehrig, Emanuel T., 1494
Reid, Edward Clay, 759
Reid, William A., 1897
Reilly, William, 1409
Remak, E., 1827
Renninger, John S., 1495
Rerick, John Heaton, 362
Reynolds, Benoni O., 362
Reynolds, Otero Crandall, 1590
Reynolds, Richard Major, 1669
Rice, James Benjamin, 1832
Rich, William M., 525
Richard, Henry R., 133
Richards, William Hutchens, 363
Richards, William Renn, 1670
Richardson, Davis H., 1409
Richardson, John Rayner, 1342
Richmond, John B., 979
Riggan, Coleman E., 1590
Riggs, John Upton, 362
Risque, William T., 1054
Ritter, Albertus T., 684
Ritter, Clement, 525
Ritter, Roscoe H., 1494
Roberts, Ellis G., 1832
Roberts, Oscar Samuel, 209
Roberts, Oscar W., 832
Roberts, Walter T., 440
Robertson, Fenwick, 525
Robillard, Edmond, 1276
Robinson, Foster Fish, 981
Robinson, Frederick T., 1343
Robison, B. Blastus, 981
Rockwell, Cortland Butler, 980
Rodebaugh, Henry A., 979
Rodgers, Frank W., 55
Roebuck, Peter J., 980
Rogers, Alexander J., 1494
Rohr, Frederick William, 440
Roosevelt, Giles R., 55
Rose, William T., 1896
Rosenberry, Harvey Lyman, 285
Rosenthal, Adolph, 525
Ross, Mathew Wilkinson, 759
Rossignol, Henry, 1495
Roth, Austin D., 1591
Rottanzi, Tullio Antonio, 363
Rounsevel, Charles Sedgewick, 981
Rowe, Monmonier, 209
Rowland, James R., 525
Royal, Osman, 133
Ruggles, William Warren, 1054
Rummel, Carl William, 525
Runkel, William Wallace, 1409
Russell, John A., 1670
Rust, William Appleton, 1669
Rutledge, Andrew J., 1670
Ryan, Lawrence, 604
Rynard, John A., 759
Sabin, George Gleason, 1277
Sabin, John Botsford, 1343
Sackrider, John Henry, 980
Sale, James Hunter, 1832
Sanborn, John Henry, 1276
Sanders, Walter T., 1897
Sappington, Richard, 1669
Scearce, Jefferson B., 209
Scheinmann, Hosias, 980
Schmalhausen, Henry, 684
Schmidtman, —, 1827
Schwartz, Charles William, 363
Scott, Alexander Clubb, 1128
Scully, Thomas Peter, 1342
Seabrook, Jesse Mitchell, 1409
Searle, Benjamin W., 604
Seessel, Albert, 759
Selbach, Joseph J., 1896
Sexsmith, William Truman, 1127
Seymour, George W., 759
Shapard, James Richard, 1343
Shaug, Benjamin S., 1494
Shaw, Henry Lyman, 1276
Shedd, Percy Williams, 286
Sheldon, Floyd Preston, 758
Shelmerdine, Edward Kirkland, 286
Sherer, Charles J., 833
Sherwood, Frank Guy, 440
Shober, John Bedford, 1342
Shoemaker, George P. 1738
Shultz, Reuben Conway, 603
Sibley, Leroy Hall, 604
Silverthorn, Lemuel Leake, 525
Simons, Manning, 1342
Slightam, Clarence Howard, 684
Slocum, Fred W., 1053
Slosson, Henry, 1409
Smillie, Joseph, 1210
Smith, Amos S., 133
Smith, Columbus D., 363
Smith, Frank Darwin, 1053
Smith, G. E. Milton, 1738
Smith, George Washington, 55
Smith, Joseph Rowe, 603
Smith, Rebecca Lippett, 133
Smith, Samuel P., 133
Smith, W. Monroe, 440
Smith, William Samuel, 1494
Smoke, Samuel D., 1343
Snively, Addison, 1343
Snow, Walter Howard, 604
Solt, Thomas J., 1343
Sommerhoff, Joseph Frederick, 524
Sommers, John E., 833
Spahr, Clarence, 1409
Spangler, Jacob R., 1053
Speitel, Henry B., 1409
Spinks, John Clark, 286
Spinning, Charles Hadley, 1209
Spooner, Henry Garrettson, 1494
Sprague, Homer Baxter, 758
Sprimon, W. F., 1048
Squires, Lucius A., 1277
Standlee, John Biggs, 833
Stapleton, George W., 133
Steel, John Washington, 1210
Steele, John Andrew, 1343
Steinicken, George Augustus, 604
Stengel, Caroline M., 1210
Stephens, Alonzo R., 759
Stephens, James Balaam, 133
Stern, R., 681
Stevens, Alfred, 525
Stewart, Alexander S., 758
Stewart, Charles More, 1053
Stewart, George Duffield, 832
Stewart, John B., 1127
Stewart, William D., 1127
Stivers, Claiborne C., 286
Stoddard, Philo Kelly, 759
Stoeffhaas, Louis H., 286
Storror, Edward, 132
Stout, Alexander Miller, 1590
Stout, Stephen S., 525
Stranahan, Chester West, 1209
Strickler, Abraham H., 439
Strock, Frederick Gelwicks, 1409
Strong, Thomas Davis, 1896
Stultz, Benjamin F., 1897
Styll, Richard Thomas, 1276
Summers, Lafayette, 684
Sumner, Charles Oliver, 1211
Suter, F. A. 1048
Sutton, John Quarles, 1590
Swain, Clara A., 909
Swander William H., 55
Sweazey, Verge Eugene, 1669
Sweeney, Hilary Tucker, 440
Sweeney, John J., 759
Sweet, Joshua J., 363
Swindell, A. J., 363
Swing, Erasmus Van Meter, 1408
Tabor, Philander, 1054
Taggart, Howard Miller, 1277
Talson, George Washington, 1494
Tam, Silas Springer, 1053
Taylor, Alexander C., 1054
Taylor, Edmund Childs, 1670
Taylor, Frederick Clinton, 980
Taylor, George, 1277
Taylor, Horace Parrish, 133
Taylor, Joseph W., 1277
Taylor, Leonidas C., 1591
Tennell, James B., 209
Terhune, Archibald Alexander, 1409
Terry, Henry Parsons, 55
Thomas, George Bruce, 1408
Thompson, Benjamin, 1053
Thompson, David W., 1897
Thompson, John Lemuel, 1127
Thrasher, Carroll, 758
Thrift, Ernest McCue, 980
Throckmorton, Charles Westley, 759
Tidball, Jasper, 1494
Tillev, Emile Laurent Marie, 1210
Tilson, Washburn, 1831
Tilton, Robert John Richard, 209
Timmons, Hamil Cato, 1343
Tinsley, James Marshall, 604
Todd, David L., 55
Tollington, Gilbert H., 1053
Tomelty, Thomas, 684
Torrey, Bartlett, Norton, 831
Trawick, Andrew Marcus, 1590
Trego, Thomas Markley, 684
Treskow, Hans, 1409
Tribble, Thomas E., 833
Tricnle, Edward Hamilton, 209
Trott, John Ross, 1591
Trotti, Julius Patterson, 1897
Trowbridge, John B., 1494
Trueblood, William Alfred, 1494
Truesdale, Seth H., 604
Tucker, Gustavus Adolphus, 759
Tuthill, James Youngs, 684
Utley, Britton S., 440
Van Beeck, Henry Gregory Charles, 440
van Cauwenberge, C., 1048
Van Deusen, John W., 1127
Van Orsdell, Elbert Goodman, 1053
Van Sickle, Frank A., 980
van 't Hoff, J. H., 978
Vaughan, Cyrenius Benjamin, 604
Vigor, Henry, 55
Villaret, 1735
Vittum, Willis Hall, 209
von Braun, 683
von Galny, Augustine, 604
Von Stein, Leonard. 1495
Vose, Edwin Faxon, 363
Vreeland, Isaac Smith, 1343
Vroom, Charles W., 525
Waddle, Montraville, 55
Wagner, Theodore A., 1209
Wait, Walter J., 133
Wakefield, Adoniram Judson, 1277
Walet, Henry E., 1832
Walker, Edgar T., 1277
Walker, James Buchanan, 603
Walker, Robert A., 1210
Wall, Reuben Alexander, 1590
Wall, William Covington, 1277
Wallace, Harry Ross, 1343
Wallace, Joseph Milligan, 525
Walmsley, David Lewis, 1897
Walters, Charles A., 1495
Walters, George Adelbert, 981
Waltersdorf, Edmon C., 833
Ward, George Whitfield, 684
Ward, Joseph B., 603
Warner, Oswald, 832
Watkins, Charles R., 286
Watkins, James Preston, 209
Way, Joshua, 980
Webb, Joseph Luther, 1670
Webb, William Ezekiel, 1343
Webber, Frank Orlando, 684
Webster, Byron E., 287
Wehlau, Ludwig, 55
Weller, Francis G., 1832
Wellford, John Spottswood, 208
Werth, Alexander, 1210
Westfall, Ashbury, 133
Wetzel, Harry Stephenson, 440
Weyl, Henry J., 759
Whaley, D. L., 55
Wheeler, Charles Salter, 980
Whitaker, Eugene E., 1276
White, John Allen, 1277
White, Mary A., 1670
Whitenack, John H., 1738
Whitford, Daniel H., 1738
Whitlock, William A., 832
Whitman, Frank, 55
Whittemore, Franklin J., 440
Wickwire, William Nathan, 1832
Wilber, George Fisk, 605
Wilder, Louis DeValois, 604
Wilkins, John T., 832
Williams, Benjamin Dudley, 1053
Williams, Charles Baeder, 286
Williams, David Smith, 1277
Williams, George E., 833
Williams, Nathaniel Walton, 759
Williamson, John H., 684
Wills, Joseph Henry, 363
Wilson, Eli, 1343
Wilson, J. S., 1128
Wilson, Nelson B., 1832
Wilson, Pierre, 909
Wilson, William Carson, 1343
Wilson, William E., 1126
Wilson, William Robert Anthony, 1738
Wiltse, Maurice John, 981
Wingate, Uranus Owen Brackett, 603
Winger, Franklin, 1128
Winters, Rose DeL., 1277
Wise, Braxton, 133
Witt, John L., 980
Woldridge, Homer Lee, 1897
Wolfe, Alfred Lewis, 832
Wolff, Herman T., 1210
Wood, Charles Edwin, 524
Wood, Julian E., 1896
Wood, Lonnie Ray, 832
Wood, Robert L., 286
Woodard, F. C., 605
Woodburn, Skiles McKechan, 832
Woodcock, William P., 1343
Woodward, Daniel Buttrick, 286
Woolston, Elijah B., 832
Workman, William Munro, 1277
Wright, Albin Vincent, 363
Wright, Allen V., 1277
Wright, Henry S., 1276
Wright, James C., 685
Wright, John, 1409
Wyroznski, Frank R., 685
Yarnall, William H., 1495
Yeakel, Isaac B., 133
Yeomans, Clarissa Van, 1738
York, Seabron Edward, 1832
Young, William B., 909
Zearing, James Robert, 1276
Zimmermann, Carl Lebrecht Rudolph, 1409

E

Ear: See also Ears
Ear, conditions in syphilitics after administration of salvarsan, 628—ab
curative action and by-effects of salvarsan on, (58) 1621—ab
exercise of, in deafness, 1231—ab
internal, disease of, electric investigation in vertigo from, 1622—ab
internal, disturbances in, with acquired syphilis, 1235—ab
lesions due to influenza, 1910—ab
middle, and sinus disease, vacuum-pump for, 811—O
middle, disease, intracranial complications of, 1555—ab
Middle, Inflammation of: See Otitis Media
Pain in: See Earache
pedunculated exostosis of external auditory meatus, operation for 1555—O
possible effect of salvarsan on auditory labyrinth of, 921—ab
reflex disturbances referable to, 537—ab
region, compression of, for relief of disturbances in swallowing, 1432—ab
removal of impacted cerumen from, 762, 916
Ears, discharging, use of cylindrical gauze and cotton drains in, 262—O
solutions for use in, 1109—T
Eating, rapid, disease of stomach originating from, 1235—ab
Echinococcus cysts, supposed case of ascites? 1295—ab
disease of liver, suppurating, diagnosis of, 1231—ab
disease of spleen, 1432—ab
Eclampsia, atypical, and pregnancy liver, 309—ab
decapsulation of kidneys in, 1371—ab
etiology of, 11—O, 1235—ab
method of Stroganoff for, 784—ab
or puerperal convulsions, 623—ab
possibly an anaphylaxis from fetal albumin, 309—ab
puerperal, 90 cases of, critical review of its treatment, 617—ab
puerperal, compared with venom poison, treatment, 623—ab
puerperal, due to abstraction of calcium salts from mother's blood by fetus, 1292—ab
puerperal, treatment of, 115—O
puerperal, uncinariasis as factor in, 1609—ab
should mothers with, nurse their infants? 304—ab, 620—ab, 1075—ab
surgical treatment of, 13—O

Eclampsia, toxin, mammary gland as source of, 230—ab
treatment of, 5—O, 13—O, 298—ab, 855—ab, 1292—ab
vaginal Cesarean section in, 1—O, 13—O, 16—O, 390—ab
Eczema and diarrhea in infants, chronic, and chemical compositions of human milk, 781—ab
in children, 548—ab, 854—ab
Edema and aneurysm, 1873—ab
localized, in lumbar region following use of salvarsan, 344—O
of lung, diffuse, acute, 1144—ab
peripheral, chronic, 847—ab
pulmonary, localized, or tuberculosis? 1765—ab
pulmonary, paroxysmal, treatment of, 456—ab
pulmonary, vaginal Cesarean section for fulminating, 629—ab
Education, centrifugal, 202—E
Medical: See Medical Education
of mothers, 3 years experience of Babies' Dispensary and Hospital of Cleveland in, 224—ab
preliminary, for admission to medical school, 1579—E
preliminary, should actually be preliminary, 972—E
public, in physiology and hygiene, responsibility of physician for, 224—ab
Effusion, pleural, and other pathologic accumulation of fluids, blowing out of, instead of aspirating them, 312—ab
pleural, right-sided, mechanical effects of, 700—ab
recurring, with neuralgia of joints, 82—ab
Effusions in infancy, pleuritic, diagnosis of, 620—ab
pleural, modification of Holmgren's method for forcing out instead of aspirating, 1232—ab
Eggs, 151—ab
cold storage, 1656—E
Egypt as health resort, 1668
Egyptian deodorizer and germ killer, misbranding of, 1898—P
Egyptians, ancient, and modern medicine, 1110—E
Elastic pressure and elastic traction, use of, in surgery, 75—ab
tissue stain, differential, improved, 1326—O
Elbow dislocation, prognosis of, 1368-ab
sign of scarlatina, 854—ab, 881—ab
Electricity: See also High-Frequency
Electricity, accidents due to, 229—ab
in chronic disorders of stomach, 537—ab
in epithelioma of vulva, 886—O
in intestinal obstruction and postoperative paralysis of bowel, 958—O
in meatus urinarius, 886—O
in post-diphtheritic paralysis of velum, 1235—ab
injuries due to, pathology and treatment of, 780—ab
resuscitation by, after heart failure under chloroform or electrocution, 478—O
Electrocardiograms, significance of, 537—ab
Electrocardiography and phonocardiography, 74—ab
Electrocution, heart failure under, electric analgesia, and electric resuscitation after, 478—O
Electromagnet, removal of two pieces of steel from eye by, 1679—ab
Elephantiasis, autodrainage for, 467—ab
sporadic, 1849—ab
Elimination, cutaneous, of nitrogen, sulphur and phosphorus, 924—ab
Embolism and thrombosis, puerperal and postoperative, premonitory symptoms of, 549—ab
cerebral, symptomatology of, 704—ab
fat, cerebral, railway accidents with special reference to, 1515—ab
fat, prevention and treatment of, 386—ab
fat, with punctate hemorrhages in skin, 1014—ab
Embolus, air, during operation under air-inflation urethroscopy, 419—O, 536—ab
Embryo, tumor, implantations in developing, 741—O
Emmenagogue nostrums, Chichester's pills, 1591—P
ready-made mixtures, 1670—P
Emotions, inhibiting influence of, on gastric secretiton, 464—ab
Emphysema of lungs and wind instruments, 1691—ab
subcutaneous, in new-born infant, 852—ab
Empyema, 1503—ab
bilateral, and pneumococcemia, recovery, 738—O
necessitatis, rare manifestation of, 1327—O
of ureter, 1004—ab
pneumococcus, hexamethylenamin as possible prevention of, 1750—ab
thoracic, treatment of, 1233—ab
Encephalitis, acute, and cerebral thrombosis, 1371—ab
and spastic paralysis, differential diagnosis of cerebrospinal meningitis and epidemic poliomyelitis from, 853—ab
cortical, chronic, paraplegic dementia from, 159—ab
Endaortitis, tuberculous, acute, 923—ab
Endo-aneurysmorrhaphy, reconstructive, 1188—O
Endocarditis, epidemic, 1305—ab
infective, subacute, 672—E
malignant, in New York, 1678—ab
recurring, subacute patches of myelitis with, 1428—ab
Endometritis, vaginal hysterectomy for, 1858—ab
Endometrium, infections of, 169—O
Endothelioma at base of brain producing symptoms of acromegaly, 1906—ab
gastric, 1624—ab
of prefrontal dura mater and cerebellar tumor, 1180—O
of great omentum, primary, 1871—O
Enemas, hot, in sluggish intestinal functioning, 1694—ab
rectal, of normal saline solution, simple drop method of giving, 1097—O
Energometry, 389—ab
Enteritis, from trichocephalus dispar, 743—O
in adults, chronic, 1654—T
in children, acute, 1719—T
of adults and older children, acute, 1556—T
Entero-anastomosis, continuous suture for, 1520—ab
Enteroclysis in toxic biliary cases, catheterization of common duct for, 141—ab
Enterolith, intestinal obstruction due to, spontaneously cured by evacuation through umbilical fistula, 76—ab
Entomology, economic, 906
Entrance examinations into medical schools, 1541—O
requirements and state boards, 224—ab
Enuresis, etiology and treatment of, 698—ab
from thyroid insufficiency, 459—ab
Eosinophil diarrhea in infants, 1305—ab
Eosinophilia in scabies, 1857—ab
Epidemics, progressive prevention of, 973—E
Epidural injections in sciatica, 1012—ab
Epigastrium, venous hum in, in cirrhosis-of-liver, 848—ab
Epilepsy and constipation, 360
and heredity, 1829—ab
in children, early signs of, 387—ab
psychogenetic convulsions simulating, 1357—ab
signs of organic lesions in, 1866—ab
Epileptics, care and treatment of, 458—ab
deaf mutes and blind of Denmark's asylums, Wassermann reaction in, 1698—ab
Epinephrin: See also Adrenalin
Epinephrin and adrenalin, 901—E
glycosuria, pancreatic extract in, 705—ab
nomenclature of, 910—P
Epiphanin reaction in serodiagnosis of syphilis, 228—ab
Epiphysitis of hip, acute, 152—ab
Epithelial conductors and obstructors, 1677—ab
Epithelization of granulating surfaces, scarlet red and amidoazotoluol for stimulating, 1684—ab
Epithelioma of upper lip in pure negro, 1857—ab
of vulva, electricity in, 886—O
of vulva, ionic surgery and plastic operations in, 886—O
superficial, spontaneous retrogression of, 1075—ab
Erb's disease, childbirth in, 1697—ab
Ergot, 606—P
Ergiol, 1670—P
Error, sources of, in Folin method for estimation of creatinin, 923-ab
Eruption, cutaneous, anomalous, 1426-ab
papular, itching, chronic, of axilla, pubes and breast, 174—O
Erysipelas, local applications of iodin in, 1372—ab
and lesions of joints, nature of connection between, 1906—ab
magnesium sulphate in, 701—ab
multiforme iris during typhoid, 923—ab
nodosum following measles, 1424—ab
pellagroid, beriberi associated with, multiple neuritis, 1678—ab
Erythremia with unusual features, 1291—ab
Esophagoplication and thoracotomy for impermeable cardiospasm, 1437—O
Esophagoscope in removing sharp foreign bodies from esophagus, 634, —O
Esophagoscopy, 560—O
Esophagus, diverticulum in, 932—ab
cancer of, excision of, 382—ab
foreign bodies in, 231—ab
stenosis of lower end of, 698—ab
technic of examination of lesions of, 560—O
Ether and air, anesthesia by intratracheal insufflation of, 775—ab
action of, on anaerobic tissue, 539-ab
and chloroform, administration of, 1312—O
and chloroform, dangers of, in eclampsia, 5—O
and ether anesthesia, influence of, on bacteriolysis, agglutination and phagocytosis, 1147—ab
and intratracheal insufflation, control of strychnin poisoning by, 1224—ab, 1427—ab
anesthesia and ether, influence of, on bacteriolysis, agglutination and phagocytosis, 1147—ab
anesthesia, cooling of inhaled air in, 1011—ab
anesthesia, primary, major operations under, 163—ab
postoperative nausea and vomiting from, open-air treatment of, 1293-ab
Wassermann reaction with serum from patients under influence of, 1769—ab
Ethics: See also Medical Ethics
Ethics, applied, in journalism, 1202-E
Eucalyptus oil poisoning, 851—ab
Eugenics, limits of, 224—ab
Euglobulin reaction in urine, 1843—ab
Europe in advance of us, tribute to Hermann Knapp, 1483—E
Evidence admissible in support of defense of insanity, wide range of, 1839—M1
inadmissible, in holding brothers and others for bills, 1139—M1
of conveyance of property to wife, admissibility of, in malpractice case, damages recoverable, 1902—M1
x-ray experiment as, in operating to recover false teeth without sufficient justification, 1600—M1
Examination, vagino-abdominal, method of teaching, 618—ab
Examinations, 766—ab
entrance, 763—ab
physical, when orders for, should not be granted, 1675—M1
Exanthemata, 1905—ab
Excitement, emotional, stimulation of adrenal secretion by, 742—O
Exercise, effect of, on blood-pressure and pulse, 1111—E
effects of various forms of, on systolic, diastolic and pulse pressure and pulse rate, 1005—ab
Exercises in repose, 784—ab
Exophthalmic-goiter, 152—ab, 637—O, 1587
differential diagnosis of, 784—ab
iodin in, 1076—ao, 1153—ab
paralysis of cerebral nerves in, 1012—ab
persisting thymus with, 79—ab
serotherapy of, 263—O
specific antiserum in, 263—O
surgical treatment of, 1505—ab
symptoms and treatment of, 381—ab
symptoms of, in pulmonary tuberculosis, 828—ab
thymectomy in, 1076—ab
thyroidectin for, 1176—O, 1497—C
treatment of, 467—ab
Exophthalmos, common symptom of nephritis, 1506—ab
experimental chronic nephritis with, in rabbit, 540—ab
pulsating, due to aneurysm of internal carotid, 1552—O
Exostosis, pedunculated, of external auditory meatus, operation for, 1555—O
Expert Testimony: See Medical Expert and Testimony
Expert witnesses, when are they entitled to special compensation, 1138—M1
Extract, pancreatic, in epinephrin glycosuria, 705—ab
Extraperitonization of inflammatory foci, technic for, 1832—ab
Extremities: See also Arm and Leg
Extremities, septic infections of, prevention and treatment of, 539—ab, 1513—ab
Eye, action of salvarsan on, 387—ab
disease, rheumatic, 1683—ab
disease, salvarsan in, 1517—ab, 1608—ab
diseases, influence of pregnancy on, 1904—ab
disturbances after salvarsan, 1368—ab
disturbances in pregnancy, 1230—ab
excretion of hexamethylenamin into, 1318—ab
findings in fundus of, in congenital syphilis, 1303—ab
foreign body in, unusual case of, 776—ab
injury of, 464—ab
morbid changes in, and arterial hypertension, 1147—ab
removal of two pieces of steel from, by electromagnet, 1679—ab
symptoms in multiple sclerosis, 224—ab
syphilis, salvarsan in, 360
Eyes, adjustments of, and nervous affections, 1618—ab
inflamed, discoloration of, by fluorescein taken internally, 1370—ab
nervous affections and adjustments of, 454—ab
which are usually removed, method of preserving, 459—ab
Eyestrain and neurasthenia, 674—ab

F

Face and jaws, development of, and teeth, 473—O
lotion, Philip's, misbranding of, 1899—P
Fahrenheit and Centigrade scales, 211
Fake, consumption cure, in Jackson, Michigan, 134—P
Fakes and their imitators, 820—E
consumption-cure, 125—E
Fallibility, human, 1394—E
Fallopian tube sterilization, improved technic for, 1431—ab
torsion of, as factor in etiology of hematosalpinx apart from extrauterine pregnancy, 307—ab
Fallopian tubes and ovaries, autonomic manifestation and peripheral control of pain originating in, 861—O
and ovaries, tuberculosis of, 1231—ab
conservatism in operations on, 157—ab
ovaries or pelvic connective tissue, inflammatory disease of, operative treatment of, 1516—ab
Fascia pelvic, and operation for cystocele, 1147—ab
Fasciculus occipito-frontalis and tapetum, anatomic study of, 850—ab
Fat, digestion of, in infancy, physiology and pathology of, 1068—ab
embolism, prevention and treatment of, 386—ab
embolism with punctate hemorrhages in skin, 1014—ab
necrosis, perforating duodenal ulcer with, 302—ab
Fatality, powder smoke, unusual, 1359—ab
Father of family, rights of, over his children, 1365—ab
Fatigue and hours of labor, 669—ab
and susceptibility to infection, 46—E
as symptom, 507—ab
in neurasthenia, 641—ab
Fats and oils given subcutaneously, utilization of, 1757—ab
feeding of, to infants, difficulties encountered, 329—O
Fear, 658—ab
Feces, continence, restoration of, after iliac colostomy, 776—ab
of 40 cattle examined for tubercle bacilli, conclusions therefrom, 540—ab
Federal Food and Drugs Act, 1202—E
Feeble-mindedness, prevention of, 1002—ab

Fee, wealth of patient cannot be shown to justify license and proof required to recover for medical services, evidence against charge of malpractice, 1417—MI
Feeding in typhoid, 1616—ab
rectal, in stomach diseases, 1749—ab
Fees: See Medical Fees
Fees for services rendered at another's request, circumstances under which patient cannot be charged for, 1744—MI
medical, division of, and commissions, 219—ab
of Columbus Academy of Medicine, report of committee on division of, 1595—ME
Feet, defective, unusual manifestations of, 698—ab
painful, treatment of, 379—ab, 777—ab
Felt manufacture and anthrax, 1586
Female: See Woman
Femur, cyst of upper end of, simulating hip disease, 1845—ab
fracture of neck of, in elderly subjects, abduction treatment of, 1224—ab
fractures of neck of, operative treatment of, 1001—ab
fractures of shaft of, with marked displacement, 1224—ab
idiopathic curvature of neck of, in adolescents, 308—ab
Feodorovna, Marie, prizes, award of, 1825
Ferment, action in pathologic processes, 273—E
Ferments, lactic, suggestions for application of, in genito-urinary work, 1141—ab, 1758—ab
Fetal: See also Fetus
Fetish of precedent, 970—E
Fetus: See also Fetal
Fetus, being quick, evidence of, 1221—MI
circulation in, 1131
hiccup of, 1130
why it does not drown in liquor amnii, 445
Fever, alimentary, 706—ab
gastric, 859—ab
glandular, 1156—ab
hemoglobinuric, and malaria, 514—E
hemoglobinuric, is it manifestation of malaria or disease sui generis? 621—ab
its nature and significance, 1848—ab
premenstrual, and pulmonary tuberculosis, 1239—O
protracted, in infectious diseases, 855—ab
relapsing, American, 538—ab
relapsing, spirilla of, 621—ab
Rocky mountain spotted, 1335—E
swamp, of horses, 540—ab
with malignant kidney and suprarenal tumors, 546—ab
Fibrillation of auricles, digitalis in heart disease and dropsy with, 927—ab
Fibroids and pregnancy, 305—ab, 903—ab, 729—ab
of uterus and loss of cardiac compensation, 1324—O
Fibrolysin, hemorrhagic purpura after injections of, 1763—ab
in ophthalmology, 688
Fibromyoma, bilateral, of broad ligament, 1067—ab
uteri, subtotal hysterectomy for, 460—ab
Fibromyomas of stomach, 545—ab
Fibromyomata of uterus, complicating pregnancy, labor and puerperium, 305—ab
of uterus, intraperitoneal hemorrhage in, 306—ab
Fibromyositis, nodular, everyday affection, 543—ab
Fibrosis, subcutaneous, chronic, clinical symptoms and treatment of, 851—ab
Fiction extolling aims of physicians wanted, 762
Field and fort, sanitary progress in, 1403—ab
Filipino: See also Philippines
Filter wanted for cistern, 1282
Filtrate, cell-free, transmission of malignant new growth by means of, 198—O
Financial problems of physician, 1059—O
Finsen light and lupus vulgaris, 529
First-aid service, public, statistics of, in France, 1050
societies and physicians, 359
to injured credit, 820—E
Fish, cancer in, 670—E
contaminated by sewage, typhoid traced to, 1120
Fissure, anal, 1852—ab
Fistula, biliary, normal saline solution given through, 1071—ab
rectal, bismuth paste in, 774—ab
umbilical, intestinal obstruction due to enterolith spontaneously cured by evacuation through, 76—ab
Fistulas opening out of viscera, plastic closure of, 859—ab
Fistulous tract, method of diagnosing and following, 1858—ab
Flat-foot and tuberculosis, 1152—ab
disturbances and deforming arthritis, 1427—ab
due to relaxation of annular ligament of ankle-joint, 926—ab
treatment of, 926—ab
Flea, slaughtering of, 1282
Fleas, destruction of, by exposure to sun, 1492
in transmission of plague for long distances, 1152—ab
Flies, literature on, 1900
Florida medical news, 429, 1660
state board November report, 291
Flour, bleaching of, 1206
gluten, 517—E
Flower days for German charity, 1736
Fluid, ascitic, cancerous, and body fluids in cancer, 1383—O
spinal, in various meningeal conditions, non-specificity of cell findings in, 1068—ab
Fluids, body, and cancerous ascitic fluid in cancer, 1383—O
body, simplified method of staining capsulated bacteria in, 1189—O
pathologic accumulation of, blowing out of, instead of aspirating them, 312—ab
Fluorescein taken internally, discoloration of inflamed eyes by, 1370—ab
Fluoroscopy of gastro-intestinal tract, 1855—ab
Fly: See also Flies
Fly, contaminated, 1983—C
contamination of, with poliomyelitis virus, 1717—O
Food and drugs act, convictions under, 1897—P
and drugs act, emasculated, 1725—E
and drugs act, supreme court on, 1819—E, 1832—P
and street dust, 903—E
length of sojourn of, in body, 1693—ab
liquid, pre-digested, 1190
preservatives, benzoic acid and its salts as, 1493
preservatives, Price's canning compound, 607—P
production, sanitary, 830—ab
pure, another decision on, 1658—E
queer, that men eat, 1052—ab
reactions in stomach of infant compared with those in vitro, 924—ab
soy bean as, in diabetes, 70—ab
use of sulphuric acid in industrial preparations of, 390—ab
Foot-and-mouth disease in Austria, 979
drafts, magic, 1496—P
drafts rheumatism cure, 1496—P
Flat: See Flatfoot
paralytic outward rotation of, treatment of, 1846—ab
strain, prevention and cure of, 1847—ab
weak and flat, due to relaxation of annular ligament of ankle-joint, 926—ab
Forceps, new, for end-to-end intestinal anastomosis, 302—ab
obstetrics, new technic in use of, 1006—ab
Foreign bodies, direct broncho-esophagoscopy for removal of, 707—ab
bodies, x-ray localization of, by construction, 1650—O
body in eye, unusual case of, 776—ab
expulsion of, 79—ab
in conjunctiva, removal of, 1131
in esophagus, 231—ab
in stomach, 180—O
migrating, inflammatory tumors from, 1372—ab
sharp, in esophagus, esophagoscope for removal of, 634—O
Foreign news, 52, 206, 282, 358, 522, 601, 678, 755, 824, 1047, 1492, 1664, 1825
Formularies, 1672
Formulary, National: See National Formulary
Formurol, 210—P
Fort and field, sanitary progress in, 1403—ab
Fossa, cranial, posterior, cystic serous meningitis of, 857—ab
Foundlings and neglected infants, proper management of, 693—ab
Fourth-of-July, sane, and state societies, 125—E
sane, positive results of agitation about, 902—E
Fourth-of-July, tetanus, prevention of, 352—E, 820—E
Fracture: See also Fractures
Fracture, fixation, apparatus for, 302—ab
isolated, of transverse processes of lumbar vertebrae, 308—ab
of base of skull, 380—ab
of bodies of fourth, fifth and sixth cervical vertebræ, unusual, with injury of spinal cord, 1291—ab
of clavicle, 740—O
of jaw, 1369—ab
of malleoli, 932—ab
of neck of femur in elderly subjects, abduction treatment of, 1224—ab
of patella, 223—ab, 1224—ab
of radius, automobile, 77—ab
of skull, 380—ab, 381—ab
of tarsal bones, 1415—ab
Snow-Shoer's, 1013—ab
traumatic subdural hemorrhage without, obscure case of, 956—O
Fractures: See also Fracture
Fractures, committee of British Medical Association for investigation of treatment of, 1492
common, and results of treatment, 997—ab
hip, artificial impaction in, 1758—ab
of long bones, operative treatment of, 1418—ab
of lower jaw, complicated, simple expedient in treatment of, forbidding intrabuccal prosthetics, 303—ab
of neck of femur, operative treatment of, 1001—ab
of patella, silver wire for, 1616—ab
of shaft of femur with marked displacement, 1224—ab
of tibia, treatment of, 1354—ab
open treatment of, 863—O, 1418—ab
operative treatment of, 1841—ab
plaster of Paris as primary dressing for, 850—ab
repair of, 428—ab
skull, new theory regarding mechanism of, 302—ab
spontaneous, in tuberculous coxitis, 1232—ab
treatment of, 1604—ab
France, distribution of cancer in, 1908—ab
vital statistics in, in 1910, 1734
Freezing of 300 nevi, 700—ab
French Academy of Sciences and Madame Curie, 516—E
Frenkel's reeducative movements, 687
Fresh-air cure, technic for, 934—ab
Fright, acromegaly from, 1302—ab
Fulguration: See also Electricity
Furunculosis, etiologic factors and treatment of, 1099—O

G

Galactagogue action of thymus, corpus luteum, and pineal body, 924—ab
Gall-bladder and biliary tract, disease of, and gastric functions, 457—ab
diseases, complications and sequelæ of, due to delayed diagnosis, 1679—ab
hemorrhage in, as source of biliary colic, 1690—ab
importance of preserving, 67—ab
importance of preserving, in operations on biliary tract, 1004—ab
incision, slanting, 933—ab
region, gastric and duodenal adhesions in, diagnosis of, by x-rays, 1777—O
typhoid infection involving only, 1146—ab
Gall-stone disease, early diagnosis of, 887—O
fake, 688
disease, mitral murmurs in, 1753—ab
Gall-Stones: See also Cholelithiasis
Gall-stones and cancer of biliary tract, 1060—ab
diagnosis of, 1298—ab
innocent, a myth, 1021—O
results of, 1512—ab
Galton, Sir Francis, 359
Gangrene and ischemic muscular contracture, origin and treatment of, 547—ab
diabetic, and glycosuria, surgical aspect of, 226—ab, 929—ab
endarteritic, arteriovenous anastomosis for, 1861—ab
of both legs due to carbon monoxid poisoning, 1455—O
of limb during convalescence from diphtheria, 460—ab
senile, arteriovenous anastomosis for, 1830—ab
Garter, plaster, adhesive, for varicose ulcers, 629—ab
Gas, illuminating, poisoning, treatment of, 1651—O
Gasoline for removal of adhesive plaster, 688
Gasserian ganglion, resection of, for trigeminal neuralgia, 1369—ab
Gastralgia, neurasthenia with, prognosis in, 1167—ab
Gastrectasis, acute, 1611—ab
Gastric and duodenal adhesions in gall-bladder region, diagnosis of, by x-rays, 1777—O
and intestinal cases, interesting, 1858—ab
and intestinal hemorrhages after abdominal operations, 383—ab
atony, acute, 1302—ab
Cancer: See Cancer, Gastric
crises in tabes, resection of posterior spinal roots for, 1908—ab
digestion, action of intestinal antiseptics on, 1609—ab
diseases, cytodiagnosis in, 1827
fever, 59—ab
functioning after gastro-enterostomy and resection of pylorus, 1234—ab
functions and disease of gall-bladder and biliary-tract, 457—ab
juice, hypersecretion of, 1752—ab
mucosa, changes in, with acute infectious diseases, 463—ab
roentgenology, 300—ab
secretion at high altitudes, study of, 906
secretion, inhibiting influence of emotions on, 464—ab
Gastric-ulcer, 312—ab
acute, influence of diet on formation and healing of, 225—ab
and cancer, symptoms and pathologic findings in, 1751—ab
and duodenal, why practitioner should study surgical diagnosis of, 85—O
and pulmonary tuberculosis, 1010—ab
indurated, chronic, possible diagnosis and technic in excision of, 1699—O
operative treatment of, 79—ab
perforated, 2 cases of, 305—ab
perforated, unusual effects of, 1764—ab
prognosis and end-results of treatment of, 948—O
surgical treatment of, 1071—ab, 1695—ab
treatment of, 1909—ab
Gastric-ulcers along lesser curvature of stomach, surgical treatment of, 301—ab
and duodenal, perforation of, 1691—ab, 1855—ab
Gastroduodeno-hepatico-pancreatic physiologic system, disturbance in, and appendicitis, 72—ab
Gastro-enterostomy and resection of pylorus, gastric functioning after, 1234—ab
15 years after, 1906—ab
ulcer in jejunum after, 1695—ab
x-ray examination after, 1863—ab
Gastro-intestinal canal, sensibility of, in health and disease, 1514—ab
cancer, antitryptic index for serodiagnosis of, 701—ab
cancer of, diagnosis and treatment of, 380—ab
cancer, reliability of meiostagmin and hemolytic tests of, 629—ab
cases, lymphocytosis in, 1753—ab
disturbances in children from standpoint of tropical pathology, 307—ab
infection in infants, acute, 622—ab
sensibility of, in health and disease, 1619—ab
surgery, problems in, 1625—O
tract, auscultation findings in, diagnostic importance of, 1368—ab
tract, fluoroscopy of, 1855—ab
Gastrospasm, 548—ab
Gastrostomy, continent, 78—ab
modified technic for, 857—ab
Gastrotomy in acute dilatation of stomach, recovery, 1296—ab
Gate City Medical College, condemned, 58, 839
Gauze, cylindrical, and cotton drains used in discharging ears, 202—O
pads, new technic for keeping count of, 301—ab
Gelatin, injection of, for functional test of bone marrow, 858—ab
General news, 52, 129, 282, 432, 521, 600, 678, 754, 976, 1047, 1119, 1206, 1273, 1339, 1398, 1490, 1584, 1664, 1732, 1824
Generative Organs: See Genitalia
Genitalia, female, and gastric cancer, 80—ab
female, and thyroid, 1686—ab
female, tumors in, and diabetes mellitus, 463—ab

Genitalia, female, 2 uncommon forms of deformity of, 1229—ab
internal, in women, sigmoiditis and infection of, 1299—ab
tuberculosis of, 536—ab
tuberculosis of, x-ray in, 1622—ab
Genito-urinary tract, reflex nervous phenomena in, in appendicitis, 544—ab
work, suggestions for application of lactic ferments in, 1141—ab, 1758—ab
Gentian-violet, anilin, stable, 302—ab
Genus, new, descriptions of, and 3 new species of anopheline mosquitoes, 461—ab
Georgia homeopathic reciprocity report, 1674
medical news, 50, 429, 598, 675, 751, 1116, 1270, 1336
state board October report, 291
German script, substitution of Roman characters for, 1207
seidlitz salts, misbranding of, 1898—P
Germ theory, early exponent of, 1115—E
Germicides, common, in gonorrhea, 529
Germs, importance for prognosis of invasion of blood by, 935—ab
Girls, young, metrorrhagia in, 931—ab
Gizzard, chicken, nail in, 1129—C
Gland, mammary, as source of eclampsia toxin, 230—ab
Glanders in man, chronic, 1379—O
Glands, bronchial, tuberculosis of, diagnosis of, 457—ab
in bladder mucosa, functional hypersecretion of, 1910—ab
mediastinal, tuberculosis of, extensive, 1623—ab
tuberculous, of neck, treatment of, 71—ab
Glandular disease in chest, auscultation sign of, 932—ab
Glasses, fitting of, 203—E
fitting of, by unqualified persons, 367—C
Glaucoma, inflammatory, acute, 1355—ab
recognized by practitioner, 1504—ab
relief of, by subconjunctival sodium citrate injections, 1001—ab
Gloria tonic, 1409—P
Glucose in urine, blood charcoal as clearing agent for, 1756—ab
Gluten and carbohydrate contents of gluten bread, 526—P
flour, 517—E
Glycerin and potassium permanganate cause fire, 906
in pernicious anemia, 1909—ab
to relax bladder, 552—ab
urethral injection of, to facilitate passage of sounds, 785—ab
Glycogen content of man, influence of cold baths on, 1005—ab
distribution of, over liver under various conditions, 618—ab
in placenta, 1765—ab
Glycosuria and diabetic gangrene, surgical aspect of, 226—ab, 929—ab
and surgical intervention, 207
epinephrin, pancreatic extract in, 705—ab
non-diabetic, 1359—ab
Goiter, alterations of circulation in, 698—ab
congenital, 224—ab
distribution of, in Saxony, 1692—ab
exophthalmic, 1622—ab
intrathoracic, 1766—ab
surgical treatment of, 141—ab, 618—ab, 933—ab
Golubinin and sirotinin festchrifts, 432
Gonococcus infections, complement-fixation test in diagnosis of, 1510—ab
vaccines in gonorrhea, its complications, clinical experience with, 459—ab
Gonorrhea, abortive treatment of, 459—ab
acute, treatment of, 459—ab
and marriage, 459—ab
and ophthalmia neonatorum, 288—C, 366—C
and syphilis, report of committee on education of public as to communicability and prevention of, 1359—ab
antigonococcus serum and vaccines in, its complications, clinical experience with, 459—ab
arthritis due to, acute, Bier's hyperemia in, 381—ab
chronic, diagnosis and treatment of, 459—ab
general infection due to, 1078—ab
prophylaxis of, 459—ab
rheumatism due to, 386—ab
Gonorrhea, silver nitrate and common germicides in, 529
treatment of, 1279—ab
Gossypii cortex, action of, on uterine contractions, 1147—ab
Gout and rheumatism, radium in, 700—ab, 782—ab, 1123
diagnosis of, from purin metabolism, 1693—ab
experimental research on pathogenesis and treatment of, 1154—ab
nature of, 1668
Grams, radiographs, in 3 dimensions, 300—ab
Grangrene of appendix and omentum, 34—O
Granuloma lesions, disseminated, and new type of cell inclusion, not parasitic, 1681—ab
pyogenicum, 223—ab
Graves' disease, 637—O
Green extracts, 686—P
Growth and ossification, influence of exophthalmic goiter and analogous conditions on, 84—ab
heredity and decay, 1847—ab
malignant, intestinal, requiring removal of unusual number of abdominal structures, 141—ab
thyroid treatment for, in rachitis, 1861—ab
Guaiac tincture of, must it be freshly prepared? 263—O
Guarana, Brazilian cocoa, 1331—T
Guillotine and alveolar eminence of mandible, tonsillectomy by, 867—O
Guinea-pigs, reaction of smooth muscle from, rendered tolerant to large doses of serum, 539—ab
Gums, disease of, leukemia with, 1681—ab
Gymnastics and massage during pregnancy and puerperium, 1518—ab
Gynecologic problems of interest to practitioner, 1142—ab
Gynecology, abuse of local treatment in, 1842—ab
anesthesia in, local and general, 230—ab
operations, preparation for and care after, 437—ab
sacral anesthesia in, 229—ab
vaginal methods in, 627—ab
value of local treatment in, 305—ab
x-rays in, 1157—ab, 1518—ab

H

H. of medicine, misbranding of, 1899—P
Habeas corpus proceedings, discharge of lunatics by, 489—O
Hair in typhoid, 1463—T
Hair's asthma cure, misbranded, 1898—P
Halux valgus, painful, radical cure of, 1418—ab
Hamlet, oedipus-complex in, 1377—O
Hand, extensive phlegmon of synovial sheaths in, treatment of, 1426—ab
Hands, alcohol-tannin for sterilization of, 1076—ab
disinfection of, and field of operation, 1587
Harelip and cleft palate, modification of Lane's operation for, 1759—ab
Havana, good sanitary conditions in, 679
Hay-fever in children, diagnosis of, 1857—ab
operative treatment of, 161—ab
Head, gunshot wound through, 618—ab
injuries of, 1355—ab
injury, hemiplegia following, 13 cases of, 953—O
trauma of, lumbar puncture in, 1910—ab
Headache from nodules in muscles, 1365—ab
Health agencies, cooperation of school health departments with, 923—ab
and life as national assets, 407—O
and sanitation in Indo-China, 679
bill, new, Senator Owen introduces, 610—ME
bill, public, new, in congress, 293—ME
bill to establish department of, 1208
boards of, in small cities, outline for study and prevention of infant mortality for, 224—ab
bulletins, public, 1039—E
crusade, 432
departments, school, cooperation of, with other health agencies, 823—ab
evangelist, reformed almanac as, 1115—E
exhibits, public, under supervision of American Medical Association, 294—O
infant feeding in, 550—ab
legislation in Arkansas, 1595—MF
Health matters, public, responsibility of state universities in, 767—ab
museum, public, in London, 1274
national department of, newspaper comments on, 144
national department of, Owen bill for establishment of, 1201—E
national, personal hygiene foundation for, 1310—ab
officer, making of, 1293—ab
officers, new regulations for, 434
public, and bacillus carriers, 1755—ab
public, and courts, 123—E
public, and diphtheria, 37—O
public, and physician, 1052—ab
public, personnel bills, 1268—E
public, problems, editorial comments on, 1836—ME
public, report of committee of medical society of state of New York on, 1284—ab
public, service, increase of pay for officers of, 1279
public, state legislation on, 369—ME, 530—ME
public, state medical legislation on, 837—ME
public, viewpoint, relation of bovine to human tuberculosis from, 380—ab
public, water and ice furnished by municipalities for promotion of, 842—M1
resort, century of tuberculosis at, 1691—ab
resorts and spas of France, 601
service, public, United States, 275—E
state board of, powers of, in validity and construction of provision in medical practice act for licensing itinerant vendors of nostrums, 216—M1
subsequent, of children who drank milk containing tubercle bacilli, 1322—O
topics, press bulletins on, 1673—ME
Hearing, development of theory of, 1005—ab
phonendoscope for testing, 1519—ab
Heart action, third sound and "B" wave in, 1688—ab
affections, posture as aid in diagnosis and treatment of, 1291—ab
and blood-vessels during and after typhoid, protective treatment of, 1462—T
and kidney disturbances with chronic constipation, 1305—ab
and lungs, complications of, following surgical operations, 1761—ab
and lungs, operations on, 1588, 1761—ab
and respiratory rate, synchronous, 1757—ab
aneurysm of, 846—ab
behavior of, in pulmonary tuberculosis, 855—ab
block, Adams-Stokes' syndrome with, 1602—ab
block, 2 cases of, 774—ab
chronic disease of, hydrotherapeutic treatment of, 1505—ab
compensation, loss of, and uterine fibroids, 1324—O
complete traumatic avulsion of, 434
conduction, physiopathology of, 1866—ab
defects and pregnancy, 309—ab
diastolic sound and impulse, 382—ab
dilatation and hypertrophy, blood-pressure in, 1857—ab
disease and dropsy, digitalis in, with fibrillation of auricles, 927—ab
disease and syphilis, 1158—ab
disease and uterine myomata, 1904—ab
disease, apparatus for passive hill-climbing during bed-rest cure for, 1302—ab
disease, beneficial effect of ingestion of cane sugar in certain forms of, 1150—ab
disease, carbonic acid baths in, 1418—ab
disease, diagnostic value of orthodiagram in, 925—ab
disease, diet in, 846—ab
disease, digipuratum in, 1360—ab
disease, favorable influence of exposures to arc light on respiration in, 1698—ab
disease in children, acute, 161—ab
disease in children, precordial dulness in, 930—ab
disease of coronary arteries of, sodium cacodylate in, 1055—ab
disease, prevention of, 382—ab
disease, treatment of, 374—ab
diseases of, practical points in treatment of, 300—ab
Heart; dorsal percussion of, its application in interpretation of Grocco's paravertebral triangle of dulness, 1010—ab
effects of cholecystitis on, 1144—ab
failing, treatment of, and cardiovascular states, 1614—ab
failure, 1363—ab, 1423—ab, 1427—ab
failure, reversible pulmonary crepitation in, 1687—ab
failure under chloroform or electrocution, electric analgesia, and electric resuscitation after, 478—O
functional tests of, 1621—ab
hypertrophy of, 774—ab
hypertrophy of, in kidney disease, causes of, 1371—ab
in disease of thyroid, 304—ab
insufficiency, chronic, apocynum in, 628—ab
insufficiency, clinical determination and significance of peripheral signs of, 1843—ab
irregularity of, and auricular fibrillation, 1855—ab
lesions of chorea, influence of salicylates on, 1688—ab
massage, resuscitation by, 1448—O
reaction of, to digitatlis when auricle is fibrillating, 76—ab
resort sanitation, 1027—O
rhythmic compression of, in apparent death, 81—ab
stab wound of, 69—ab
standards for estimating size of, 1865—ab
stenosis of, 1851—ab, 1857—ab
stimulants, 1503—ab
stimulants, action of, 152—ab
strain and dilatation, 77—ab
syphilis of, 1601—ab
syphilis of, congenital, 849—ab
tonics of minor importance, 964—T
valve, defect of, ascites with, omentopexy for, 707—ab
weakness and irregularities, treatment of, 1857—ab
work of, in aortic insufficiency, 1850—ab
Heat, summer, and temperature of home in relation to infant mortality, 1431—ab
Hebosteotomy: See Pubiotomy
Hebosteotomy at clinics of Berlin, Munich and Königsberg, 16 cases of, 1364—ab
Helminths: See also Worms
Hematocolpos fluid, nature of, and character of obstructing membrane, 1764—ab
Hematoma of adrenal body, 1125—ab
subungual, 467—ab
Hematoporphyrinuria not due to drugs, 851—ab
toxic, complicating septic perforation of uterus, fatal, 300—ab
Hematosalpinx apart from extrauterine pregnancy, torsion of Falopian tube as factor in etiology of, 307—ab
with cervical atresia, 803—O
Hemiplegia: See also Paralysis
Hemiplegia following head injury, 13 cases of, 953—O
Hemiplegias and diplegias of infancy and childhood, syphilitic factor in, 1618—ab
Hemoglobin metabolism in malaria, 461—ab
Hemoglobinuria, occasional, hemolytic jaundice with, 855—ab
paroxysmal, 1430—ab
Hemolysis in cancer, 1429—O
Hemophilia, 836
thyroid in, 988
Hemopoietic serum of Carnot, 1681—ab
Hemoptysis, endemic, or tochil, 922—ab
Hemorrhage, cerebral, lumbar puncture in, 1697—ab
from abnormally situated placenta, treatment of, 1689—ab
from stomach or intestines, mechanical measures for arresting, 387—ab
gastro-intestinal, occult, phenolphthalein test for, 546—ab, 1225—ab
in gall-bladder as source of biliary colic, 1690—ab
in new-born infant, spontaneous, 1228—ab
in puerperium, tardy, 389—ab
intra-abdominal, due to tubal pregnancy, immediate versus deferred operation in, 1070—ab
in tuberculosis of lungs, treatment of, 1857—ab
intraperitoneal, in fibromyomata of uterus, 306—ab
meningeal, subarachnoid, 1908—ab
Nasal: See Epistaxis

Hemorrhage, obstetric, Momburg-belt constriction for, 854—ab
occult, in gastro-intestinal tract, phenolphthalein test for, 546—ab
of new-born infant, direct transfusion of blood in, 379—ab
pancreatitis due to, acute, 157—ab
pancreatitis due to, acute, operation, recovery, 1514—ab
post-partum, Momburg-belt constriction for, 81—ab
postpartum, treatment of, 1504—ab
prevention of, in pulmonary tuberculosis by administration of autogenous vaccines, 1359—ab
Pulmonary: See Hemoptysis
subdural, traumatic, without fracture, obscure case of, 956—O
uterine, ovarian origin of, in some cases, 934—ab
uterine, treatment of, 550—ab
uterine, utriculoplasty for, 1764—ab
Hemorrhages during early pregnancy, their relation to abortion, 705—ab
gastric and intestinal, after abdominal operations, 383—ab
punctate, in skin, fat embolism with, 1014—ab
Hemorrhagic manifestations, tourniquet sign of, 545—ab, 1769—ab
Hemorrhoids, 1687—ab
Whitehead operation for, 1608—ab
Hemostasis by high-frequency electric current, 1076—ab
Hemostatic, potassium permanganate as, 1262—O
Hepatic: See Liver
Heredity and alcoholism, 350—E
and epilepsy, 1829—ab
and insanity, 1763—ab
as probable etiologic factor in complete amenorrhea, 1069—ab
growth and decay, 1874—ab
in insanity in light of Mendel's laws, 1683—ab
value of, 680
Hernia, diaphragmatic, 138—C
femoral and inguinal, operations for radical cure of, under local anesthesia, 1358—ab
femoral, plastic closure of opening in, 80—ab
femoral, radical cure of, in aged, 1684—ab
gangrenous, incarcerated, 1369—ab
inguinal, 380—ab, 1611—ab
inguinal, cause of, 1769—ab
inguinal, choice of operation for, 298—ab, 1357—ab
in linea alba, 703—ab
intraperitoneal, 223—ab
pectineal, 1694—ab
perineal, unusual form of, 1072—ab
real or simulated, and volvulus, 775—ab
strangulated, 1498—ab
strangulated, presenting unusual symptoms, 1882—O
traumatic, 1513—ab
umbilical, congenital, rare case of, 1674—ab
umbilical, pregnant uterus being within, Cesarean section, 305—ab
umbilical, unusual case of, 34—O
ventral, 385—ab
vesical, complete, in women, new operation for, 225—ab
Hernioplasty, ventral, new variant for, 922—ab
Herniotomy in youth and old age, 1679—ab
Heroin poisoning, 777—ab
Heroinomania and morphinomania, treatment of, 929—ab
Heroism of physician in railway accident, 359
Herpes zoster and kidney colic, 983—ab, 1694—ab
Hexamethylenamin and salicylic acid, excretion of, in sputum, 1553—O
as possible prevention of pneumococcus empyema, 1750—ab
excretion of, into eye, 1318—ab
for common colds, 1718—O
in acute biliary infections and in typhoid, 1075—ab
in pellagra, 1280—C
pharmacologic and clinical aspects of, 152—ab
Hiccough: See also Hiccup
Hiccup, fetal, 1130
not attributed to bacilli, 836
persistent, 1304—ab
High-Frequency: See also Electricity and Electric Currents
High-frequency electric current, hemostasis by, 1076—ab
Hill, consumption cure, 134—P
Hill, J. Lawrence, 134—P
Hip, acute epiphysitis of, 152—ab
ankylosis of, operation for, Baer's membrane used, 1147—ab
Hip disease, conservative treatment of, 1845—ab
disease, cyst of upper end of femur simulating, 1845—ab
disease, treatment of, 1845—ab
diseases, common, diagnosis of, 1611—ab
dislocation of, its reduction by method of Bigelow, 845—ab
fractures, artificial impaction in, 1758—ab
joint, lesions of, treatment of, 299—ab
Hodgkin's disease, blood platelets and megalokaryocytes in, 1294—ab
histologic changes in, 1265—ab
Holmgren's method, modification of, for forcing out instead of aspiring pleural effusions, 1232—ab
Homes for toilers, official supervision of, 827
Hook, new, for decapitation, 1069—ab
Hookworm: See also Uncinariasis
Hookworm disease, uncinariasis or ankylostomiasis, 1107—T
Horses, swamp fever of, 541—ab
Hospital administration, economic influence of, on medical profession, 1419—ab
and hospital year, educational function of, 1546—O
and young physician, 1419—ab
Cambridge, for special diseases, 1405
dispensary abuse problem in Philadelphia, 1507—ab
facilities, municipal, increased, in Berlin, 1735
for treatment of bone tuberculosis not a nuisance, 1839—M1
intern, 5th year as, in medical education, 902—E
jubilee, in Vienna, 436
liability for professional service, board and nursing for wife at, 535—M1
Moabit City, ward for pay-patients at, 1406
no illegal discrimination against, 1221—M1
of Beaune, 1827
place of, in civilized community, 1618—ab
recompense of, to staff, 1419—ab
St. Louis, 1542—O
teaching, 1548—O
Hospitals, abuse of, by out-patients, 359
and tuberculosis in Germany, 1120
educational function of, 1581—E
Illinois state, medical service of, 1747—ab
influence of, on their respective communities, 1420—ab
municipal, pay wards in, 755
of Paris, reform of internship of, 435
private, validity of city ordinance regulating location of, especially for insane, 150—M1
protection of medical professional secrets in, 361
public and private, importance of, in education of young physicians and nurses, and clinical instruction of practitioners, 305—ab
Hotel-Dieu of Lyons, reconstruction of, 1666
Hotel proprietors and international hygiene exposition, 1341
Hum, venous, in epigastrium in cirrhosis-of-liver, 848—ab
Humerus, falling of, and dislocation of shoulder and paralysis of arm, 1362—ab
Humidity in problem of ventilation, 1125—ab
Hungary, state protection of children in, 757
Hunter, John, his museum, 851—ab
Huntington's chorea, 1842—ab
Hydramnios, acute, complicated with ascites, 1609—ab
Hydremia, determination of, by refractometer, 781—ab
Hydrocephalus and spina bifida, drainage into abdomen of, 311—ab
Hydronephrosis, huge, 1783—O
Hydrophobia: See Rabies
Hydrotherapy of chronic disease of heart, 1505—ab
procedures for infants, dangers of, 1155—ab
Hygiene and physiology, responsibility of physician for public education in, 224—ab
committees, formation and functions of, for universities, 1253—O
exposition, international, and hotel proprietors, 1341
in army on border, 971—E
infant, institute of, 283
infant, society, prizes of, 1274
Hygiene, insanity, of mind, prevention of, 1682—ab
international exposition of, at Dresden, failure of British government to take part in, 907
of menstruation, 1856—ab
personal, foundation for national health, 1310—ab
personal, modern conditions require evolution in, 1263—ab
public, and private practice, 1394—E
sanitation and preventive medicine, books on, 368
school, and orthostatic albuminuria, 467—ab
sex, lectures on, 1497—C
sexual, in Austrian schools, 1659—E
social, federation of women's clubs starts educational campaign in, 760—C
social, in its pedagogic aspects, 828—ab
state, and prophylaxis of disease, bulletin on, 274—E
teaching of, in elementary schools, 1405
universities as object-lessons in, 1269—E
Hygroma of neck, cystic, multilocular, 32—ab
Hyperacidity, larval, 1752—ab
Hyperchlorhydria, its complications, 305—ab
Hyperemesis: See Vomiting
Hyperemia, Bier's, in acute gonorrheal arthritis, 381—ab
in pulmonary tuberculosis, 1011—ab
Hyperextension, new method for applying plaster jackets in, 874—O
Hyperenephromata, histology of, and embryology of nephridial and adrenal tissues, 540—ab
Hypersecretion, chronic, 1616—ab
Hypertension: See also Blood-Pressure
Hypertension, arterial, and morbid changes in eye, 1147—ab
Hyperthyroidism: See also Exophthalmic Goiter
Hyperthyroidism, treatment of, 1223—ab
Hypertrophy of thymus, clinical signs of, 1151—ab
pseudomuscular, 3 cases in one family, 1619—ab
Hypnosis, 1624—ab
and suggestion anesthesia, 230—ab
Hypnotic experiments in Vienna, 1828
Hypo-adrenia as cause of death in infections, treatment of, 1678—ab
Hypophysis-cerebri, effects of various anatomical components of, on blood-pressure, 1848—ab
function of, and function of chorioid plexuses of cerebral ventricles, 265—O
obesity as sign of disease in, 1866—ab
physiology of, and actions of its extracts, 1148—ab
region, tumors of, 628—ab
rôle of, in nutrition, 1621—ab
Hypospadias, autoplastic method of treating, 1075—ab
Hypothenar and thenar types of neural atrophy of hand, 619—ab
Hypothetical questions, latitude allowed in, 993—M1
Hypothyroidism, chronic, 707—ab
Hysterectomy, abdominal, for cancer of uterus, 96—O
abdominal, in cancer of uterus, rectum and colon, 854—ab
and salpingo-oöphorectomy, bladder sequelæ of, 380—ab
for puerperal sepsis, 310—ab
inversion of vagina following, 930—ab
subtotal, for fibromyoma uteri, 460—ab
vaginal, 1356—ab
vaginal, for endometritis, 1858—ab
vagino-sacral, 78—ab
Hysteria and modern psychoanalysis, 776—ab
and neurasthenia, gynecologic aspects of, 1608—ab
remarkable case of, 1004—ab
Hysteropexies, 1292—ab

I

Ice and water furnished by municipalities to promote health, 842—M1
Ichthyol in pulmonary diseases, 377—ab
Icterus, pathogenesis of, 378—ab
Idaho medical news, 973, 1660
state board April report, 1674
Ileocolostomy for advanced tuberculous joints, 1619—ab
Ileum, carcinoma of, with unusual symptoms, 455—ab
Ileum, terminal, intestinal obstruction due to kinks and adhesions of, 298—ab, 1069—ab
Ileus due to oxyuris, 390—ab
gastromesenteric, chronic, 304—ab
mechanical, 6 cases of, 1610—ab
peritonitic, siphonage of stomach content through nose in, 466—ab
with or following appendicitis, 1365—ab
Illinois law, needed changes in, 1042—E
medical legislation in, 1742—ME
medical news, 50, 126, 204, 276, 355, 429, 517, 598, 675, 751, 820, 904, 973, 1043, 1116, 1203, 1270, 1336, 1395, 1487, 1581, 1661, 1729, 1822
state board July and October reports, 690
Illness and unemployment, great state insurance scheme against, 1664
Illnesses, former, what are covered by questions as to, 1902—M1
Immunity against b. leprae, 926—ab
cancer, by method of cultivating tissues outside of body, 1512—ab
cancer, in its present status, 1506—ab
in cancers of white rat, 1512—ab
in tuberculosis, 540—ab, 1682—ab
index, method for obtaining, in simple serodiagnosis for tuberculosis, 306—ab
to scarlet fever, 464—ab
Immunology, 578—O
Impulse and cardiac diastolic sound, 382—ab
Incision, abdominal, new, to facilitate intra-abdominal operations, 1004—ab
median, small, above umbilicus, Cesarean section by, 157—ab
spiral, for varices and leg ulcers, 1372—ab
Income, physician's method for increasing, 687—C
Incontinence and pyelitis, treatment of, 1766—ab
Index, acidosis, 1003—ab
antitryptic, for serodiagnosis of gastro-intestinal cancer, 701—ab
for Volume LVI, 1785
in twenty-seventh number, 49—E
volume, of red blood cells, 540—ab
Indian Ambulance Gazette, 358
Indiana medical news, 51, 355, 429, 598, 751, 904, 974, 1044, 1116, 1270, 1337, 1487, 1582, 1729, 1822
preliminary medical education requirement in, 612
state board January report, 771
Indians, American, cancer among, 44—E
Indigence, large families in, 1340
Indigestion in infants, acute, buttermilk for, 160—ab
intestinal, chronic, in early life, 1761—ab
intestinal, dependence of, on gastric disturbances, 921—ab
painful, surgical aspects of, 1749—ab
Indol and tyrosin, effect of injections of, in experimental animals, 1796—O
Industrial accidents, clinics of, 1122
diseases, 206, 899—E
diseases and physicians, 1132—O
laboratory secrecy, 1821—E
Infancy, early, inflammatory changes in appendix during, 1228—ab
physiology and pathology of digestion of fat in, 1068—ab
pleuritic effusions in, diagnosis of, 620—ab
proctoscopy and sigmoidoscopy in, as applied to infectious diarrhea, 620—ab
tuberculosis in, tuberculin in, 545—ab
Infant anatomic findings in stomach of, 5 months after cure of stenosis of pylorus, 1304—ab
angiosarcoma of liver in, 873—O
feeding, 244—ab, 1300—ab
feeding, albumin milk in, 785—ab, 934—ab
feeding, complemental, as effective aid in maintaining maternal nursing, 326—O
feeding, fats in, 329—O
feeding in health, 550—ab
feeling, scientific, 1854—ab
food reactions in stomach of, compared with those in vitro, 924—ab
hygiene, institute of, 283
hygiene society, prizes of, 1274
leukemia, lymphatic, acute with leukocyte count of 1,330,000 in, 620—ab
mortality, 73—ab, 304—ab
mortality and milk, 39—T

Infant mortality, do medical colleges adequately train students for prevention of, 376—ab
mortality, great fall in, 433
mortality in Germany, 361
mortality in relation to summer heat and temperature of home, 1431—ab
mortality, outline for study and prevention of, for boards of health of small cities, 224—ab
mortality, prevention of, 20—O
mortality, reduction of, in New York, 224—ab
new-born, hemorrhage of, direct transfusion of blood in, 379—ab
new-born, hemorrhagic disease of, 1143—ab
new-born, spontaneous hemorrhage in, 1228—ab
new-born, subcutaneous emphysema in, 852—ab
nursing mother from standpoint of, 924—ab
nutrition, 1682—ab
possible cause of error in hydrostatic test of lung of, 936—ab
radiography for ascertaining whether it has lived or not, 681
urine, glycuronic acid in, diagnostic importance of, 706—ab
welfare, institutes for, 1008—ab
welfare, international congress for, 1828
Infants, abandoned, diminution of number of, in France, 1050
acidity of urine in, 1301—ab
and mothers, state institution for, in Austria, 1051
breast-fed, chronic diarrhea and eczema in, and chemical compositions of human milk, 781—ab
breast-fed, overfeeding in, 953—ab
breast-fed, reaction in urine of, 546—ab
breast-feeding of, 405—ab
cardiospasm in, 858—ab, 1607—ab
casein curds in stools of, biologic proofs of their casein origin, 857—ab
colon bacillus pyelocystitis in, 1418—ab
convulsions in, cause of, 1281
dangers of hydrotherapeutic procedures for, 1155—ab
diarrhea in, and gas bacillus in stools, 846—ab
diarrhea, infectious, in, silver nitrate irrigations for, 845—ab
dysentery in, vaccine therapy in prevention of, 1512—ab
eczema in, 854—ab
eosinophil diarrhea in, 1305—ab
feeding of fats to, difficulties encountered, 329—O
fixation abscess in bronchopneumonia in, 227—ab
formula for estimating general condition of, 548—ab
functional valvular occlusion of intestine in, 1367—ab
gastric capacity of, 258—ab
gastro-intestinal infection, acute in, 622—ab
idiosyncrasy of, to cow's milk, 545—ab
ill-nourished, method of dealing with, 924—ab
insufficiently-fed, 702—ab, 1009—ab
intestinal tuberculosis in, perivascular localization of, 854—ab
intussusception in, 223—ab
leukocytes in, normal percentages of different varieties of, 154—ab
lobar pneumonia in, 1414—ab
meningitis, acute, in, 300 cases of, 304—ab
neglected, and foundlings, proper management of, 693—ab
new-born, metabolism of nitrogen, phosphorus and purin substances in, 1068—ab
new-born, oxygen in resuscitation of, 468—ab
new-born, resuscitation of, 1696—ab
new-born, variations in weight of, 858—ab
normal and atrophic, estimation of chlorids in stomach contents from, 154—ab
papulous tuberculides in, histologic structure and bacillary etiology of, 1431—ab
pathogenesis of digestive disturbances in, 706—ab
pneumonia in, serotherapy of, 1422—ab
purulent infections of urinary tract in, 631—O
scorbutus in, 854—ab
should they be nursed by eclamptic mothers? 304—ab, 620—ab
Infants, should women in eclampsia nurse? 1075—ab
syphilis, congenital, in, salvarsan in, 1301—ab
tuberculosis in, 1691—ab
to save, 1579—E
under 2, summer diarrhea in, 1759—ab
unusual causes for restlessness in, 708—ab
urine reaction in, 933—ab
with acute indigestion, butttermilk for, 160—ab
Infection and anaphylaxis, 746—E
inflammation not complicated or caused by, treatment of, 622—ab
of internal genitalia and sigmoiditis in women, 1299—ab
puerperal, hemolytic streptococci in, 1621—ab
susceptibility of fatigue to, 46—E
what kind of? probably anthrax, 1214
Infections, acute, of unknown origin, 1431—ab
leukocytic extract in, 851—ab
localized, chemo-immunologic studies on, 377—ab
postanesthetic, 512—E
purulent, of urinary tract in infancy, 631—O
septic, of extremities, prevention and treatment of, 539—ab
tropical, common, diagnosis of, 1415—ab
Infectious diseases, acute, changes in gastric mucosa with, 463—ab
diseases, acute, diet in, 1771—O
acute, psychoses in, 72—ab
fallacies regarding transmission of, 829—ab
in London, 1207
in London in 1910, 681
protracted fever in, 855—ab
Infectious materials, danger from transmission of, by mail, 427—E
Inflammation not complicated or caused by infection, treatment of, 622—ab
with leukocytosis, significance for diagnosis and prognosis of, 1516—ab
Inflammations, abdominal, vein sign in, 458—ab
Inflammatory foci, technic for extraperitonization of, 1862—ab
Influenza, chronic, and neuropathy, 619—ab
ear lesions due to, 1910—ab
meningitis due to, 858—ab
meningitis, its experimental production, 304—ab
pleurisy due to, and peritonitis, 630—ab
Inhalation, antiseptic, continuous, in pulmonary tuberculosis, 383—ab
Injection, mercurial, painless, for syphilis, 1654—O
Injections, extradural, by sacral puncture in genito-urinary neuroses, 1854—ab
hypodermic, technic for, 1654—O
intravascular and subcutaneous, uses and limitations of general anesthesia as produced by, 1677—ab
Injuries, accidental, tetanus following, 1851—ab
of abdominal viscera without external signs of violence, 718—O
skill and care required in making tests to ascertain nature of and for treating, error of judgment, 1062—M1
Injury and cancer, causal relationship between, 142—ab
as causative factor in cancer, 1683—ab
external, accidental, death from, 1902—M1
Ink, India: See India Ink
Inoculation, antityphoid, as introduced into certain training schools for nurses in Massachusetts, 221—ab
is kala-azar transmitted by? 231—ab
of tuberculin, possibility of modifying effect of, by combining with local anesthetic, 780—ab
protective, against dysentery, 1577—E
Inoculations, 1,000, chiefly in private practice, 542—ab
Insane asylums, medical direction of, 360
care of, 484—ab
commitment of, in California, 1293—ab
criminal, isolation of, 1856—ab
Florida Hospital for, intestinal parasitic infections among white patients at, 1418—ab
management of, 1335—E
Insane person, essentials to conviction of rape on, 1903—M1
private hospitals for, validity of city ordinance regulating location of, 150—M1
state care of, 74—ab
surgery among, 222—ab
Insanity: See also Nervous, and Mental
Insanity and heredity, 1763—ab
books and journals on, 368
confusional, interesting case of, 179—O
heredity in, in light of Mendel's law, 1683—ab
hygiene of mind, prevention of, 1682—ab
neurasthenia as, 1391—ab
postoperative, diagnosis of, 301—ab
rôle of physicians in prevention of, 1507—ab
simulation of, detection of, by association-tests, 1296—ab
unconstitutionality of statute taking away defense of, 615—M1
wide range of evidence admissible in support of defense of, 1839—M1
Inspection, sanitary, of oyster-grounds in United States, 733—O
Institutes, medical, and physicians, responsibility of, 1493
Institution, diphtheria in, 1615—ab
Institutions, scientific, large bequests to, 1122
Instrument, aspirating device, 244—O
bone clamps of aluminum wire, 153—ab
cannula, 35—O
forceps for end-to-end intestinal anastomosis, 302—ab
frontal sinus curette, 1653—O
improved tonsil-knife, 346—O
improved tonsil snare, 1097—O
new bag for hydrostatic dilatation of cervix uteri in pregnant and parturient women, 1069—ab
new clamp for end-to-end intestinal anastomosis, 1445—O
new form of x-ray penetrometer, 1364—ab
new hook for decapitation, 1069—ab
new tongue depressor, 1361—ab
new tonsil dissector, 953—O
tonsillotome improvement, 1224—ab
Instruments: See also Apparatus
Instruments used by Lt.-Col. Henry Smith, 455—ab
wind, and emphysema of lungs, 1691—ab
Insufflation anesthesia, intrathoracic, apparatus and cases, 1290—ab
intratracheal, and ether, control of strychnin poisoning by, 1427—ab
intratracheal, of air and ether, anesthesia by, 775—ab
Insurance bill, national, 1734, 1825
physician question, proposed settlement of, 1051
scheme, state, against illness and unemployment, 1664
trauma in origin of cancer from standpoint of, 1770—ab
workingmen's, in Europe, 361
Intern, hospital, 5th year as, in medical education, 902—E
Internal secretion, interrelations of organs of, 849—ab
secretion of pancreas, 655—O
secretion, production of, by mammalian testicle and interstitial cells of Leydig, 1146—ab
secretions, effects of, on malignant tumors, 1360—ab
International congress for infant welfare, 1828
congress of medicine, 17th, 1826
Dermatologic Congress, date of, 1664
exposition of cripple aid, 284
exposition of hygiene at Dresden, failure of British government to take part in, 907
exposition of hygiene in Dresden, 1666
medical congresses, permanent commission for, 1733
Internist, stomach disorders requiring intervention from viewpoint of, 1613—ab
what he wants anatomist and physiologist to teach, 1066—ab
Internship of hospitals of Paris, reform of, 435
Internships reserved for women in Paris, 906
Intestinal: See also Gastrointestinal
Intestinal anastomosis, 803—ab
anastomosis, end-to-end, new forceps for, 302—ab
anastomosis, new method of, 847—ab
and gastric hemorrhages after abdominal operations, 383—ab
antisepsis, scientific evidence of possibility of, 1147—ab
bacteriology, 1084—O
Intestinal canal, putrefactive products of, as etiologic factors in certain forms of neuralgia, 694—ab
functioning, sluggish, hot enemas in, 1694—ab
indigestion, dependence of, on gastric disturbances, 921—ab
malignant growth requiring removal of unusual number of abdominal structures, 141—ab
obstruction, acute, stomach-tube for diagnosis of, 1800—O
obstruction, acute, treatment of, 142—ab
obstruction, difficulties in late operations for, 1140—ab, 1758—ab
obstruction due to enterolith spontaneously cured by evacuation through umbilical fistula, 76—ab
obstruction due to kinks and adhesions of terminal ileum, 298—ab, 1069—ab
obstruction due to malignant neoplasm treatment of, 305—ab
obstruction, electricity in, 958—O
obstruction, peculiar cause of, 1389—O
obstruction, unusual case of, 1072—ab
paralysis, postoperative, electricity in, 958—O
parasitic infections among white patients at Florida Hospital for Insane, 1418—ab
resection with technic combining Murphy button, Hartley and Lilienthal methods, 696—ab
secretions, chemical aspect of, 652—O
stenosis, 1233—ab
surgery, progress in, 847—ab
surgery, progress in, with new method of suturing bowel, 617—ab
sutures, 871—ab
tuberculosis in infants, perivascular localization of, 854—ab
worms, 1197—T
Intestine, anaerobes of, 1482—E
anastomosis of, end-to-end, new clamp for, 1445—O
and stomach disease, pathology of, 1690—ab
dangers of diverting urine into, 935—ab
functional valvular occlusion of, in infants, 1367—ab
kinks which develop in, in chronic intestinal stasis, 1692—ab
large, chronic catarrh of, treatment of, 934—ab
large, primary resection of, 1366—ab
lower, diverticula of, their development and relationship to carcinoma, 775—ab
lower, inflammatory diseases of, value of ionization in, 1515—ab
new method for suturing, 617—ab
parasites of North Mississippi, 1503—ab
physiologic implantation of severed ureter or common bile-duct into, 397—O
pneumatic rupture of, new type of industrial accident, 380—ab
small, functionally resected, metabolism of dogs with, 618—ab
stasis of, chronic, short-circuiting or colectomy in, 1692—ab
stenosis of splenic flexure of, 1694—ab
surgeon sued and acquitted for purposely leaving swab in, 434
surgery of, 1436—ab
tuberculosis, treatment of, 1506—ab
Intestines, hemorrhage from, mechanical measures for arresting, 387—ab
pseudotumors in, 163—ab
Intoxication, cocain, chronic, psychic disturbances with, 1155—ab
Intramuscular tissue, absorption from, 1146—ab
Intratracheal insufflation, aspiration of foreign material into respiratory tract during, 1856—ab
Intubation, investigation of postoperative conditions from 5 to 10 years after, 777—ab
peroral, for operations on nose, mouth and throat, 1369—ab
Intussusception in adult, 140—ab, 298—ab, 775—ab, 1004—ab
in infants, 223—ab
Iodid medication, symptoms of thyroid intoxication after, 783—ab
Iodin, action of, on tissues, 1005—ab
and mutton tallow instead of bismuth paste, 1847—ab
as disinfectant of skin before operations, 383—ab
catgut, dry, 305—ab
in exophthalmic goiter, 1076—ab
local applications of, in erysipelas, 1372—ab

Iodin, method of sterilizing skin, 1150—ab
necessity for caution inadministering, 82—ab
preparations, organic, 685—P
solution, new, sterilization of skin by, 1292—ab
stains, sodium thiosulphate for removal of, 704—ab
sterilization of skin, 231—ab
therapy, dangers of, 161—ab
tincture of, in surgery of war, 154-ab
tincture of, value of, for antisepsis, 931—ab
Iodoform and pure phenol for appendiceal abscess, 1297—ab
ointment, melted, in suppurative bubo and ischiorectal abscess, 846—ab
Ionization in inflammatory diseases of lower intestine, value of, 1515—ab
Iowa medical news, 356, 430, 599, 974, 1044, 1117, 1337, 1582, 1661, 1729
state board January reciprocity report, 1416
Ipecac treatment of dysentery, efficacy of, 1510—ab
Iris, tuberculosis of, after chilling, 783—ab
Iritis, 1504—ab
etiology of, 1763—ab
Irrigation in septic abortion, 1000—ab
Isham's waters of life, misbranding of, 1898—P
Islands of Langerhans, adenomata originating from, 1856—ab
Isolation of criminal insane, 1756—ab
Itching papular eruption of axilla, pubes and breast, chronic, 174—O
pruritus, 1034—T
Ivy, poisoning from, not taking of poison, death accidental, visible marks, 1501—M1

J

Japanese, beriberi among, President Taft on, 1497—C
Jaundice and bile formation, rôle of portal circulation of liver in, 1780—ab
family, chronic, 777—ab
hemolytic, 232—ab, 774—ab
hemolytic, with occasional hemoglobinuria, 855—ab
in pernicious anemia, 1511—ab
not pathognomonic in cholelithiasis, 181—ab
recurrent, splenomegaly with, ending in hepatic cirrhoses and ascites in children, 1150—ab
syphilitic, 1426—ab
Jaw, alveolar eminence of, and guillotine, tonsillectomy by, 867—O
fracture of, 1369—ab
lower, fractures of, complicated, simple expedient in treatment of, forbidding intrabuccal prosthetics, 303—ab
lower, slit and soft and hard palate separated for exposing nasopharynx, 1306—ab
tumors of, 142—ab
tumors of, most frequently in negro, 696—ab
Jaws and face, development of, and teeth, 473—O
Jejunum, ulcer in, after gastro-enterostomy, 1695—ab
Jelly-fish, Portuguese man - of - war, sting of, 1213
stings, 1282, 1346
Jew, value in case histories of term, as racial designation, 367—C
Johnson, O. A., cancer-cure quack, 1202—E
Joint diseases from orthopedic standpoint, 381—ab
diseases, tuberculous, 1718—O
diseases, tuberculous, value of tuberculin in, 926—ab
lesions in scarlet fever and measles, 1076—ab
lesions, neurologic features in, 881—ab
operation for stiffening, 1004
sacro-iliac, loose, and abdominal pain, 885—ab
sacro-iliac, unusual pathologic condition of, causing sciatica, 1847-ab
tuberculosis in children, 1845—ab
tuberculosis, Spengler's I. K. serum in, 1844—ab
tuberculosis, tuberculin in, 1844—ab
Joints, auscultation of, 623—ab
lesions of, and erythemata, nature of connection between, 1906—ab
loose, intra-articular silk ligaments for fixation of, in residual paralysis of anterior poliomyelitis, 1846—ab
mobilization of, with rubber bandage, 710—O
neuralgia of, recurring effusion with, 82—ab
Joints, sacro-iliac, relaxation of, cause of sciatica and backache, 1855—ab
tuberculous, advanced, ileocolostomy for, 1619—ab
tuberculosis of, treatment of, 1909—ab
Journal of Canadian Medical Association, 353—E
of Experimental Medicine, issued monthly, 129
of Indian Ambulance Gazette, 358
of meat, milk and hygiene, 207
Journalism, applied ethics in, 1202—E
independent, specialism and rheumatism, 916—C
La Tribune Medical, 203—E
Journals and reprints wanted, 1593—C
medical, of Latin America, 139
medical, premiums with, 131
on obstetrics, 139
on ophthalmology, otology, rhinology and laryngology, 290
on sexual phenomena, 988
pharmaceutical, and nostrum, 516—E
Judgment, error of, in ascertaining nature of and treatment for, 1062—M1

K

Kala-azar in Greece, 1428—ab
is it transmitted by inoculation? 231—ab
Kansas medical news, 51, 204, 277, 599, 675, 117, 1204, 1337, 1582
state board October report, 370
Kantor, Dr., persecution of, foe of quackery, 1486—E
Kaolin and carbon dioxid snow in therapeutics, 160—ab
Kentucky medical news, 127, 204, 277, 356, 430, 518, 675, 752, 1044, 1337, 1661, 1822
state board December report, 371
Kernig's 70th birthday, festschrift for, 282
Kickapoo cough cure, misbranding of, 1898—P
Kidney abscess, urogenous, multiple, acute, resembling acute unilateral hematogenous nephritis, 1145—ab
activity, 541—ab
and bladder tuberculosis, operative and specific treatment of, 388—ab
and cardiovascular disturbances, dietetic treatment of, 625—ab
and heart disturbances with chronic constipation, 1305—ab
artery, experiments on, 379—ab
Calculi, Kidney Calculus: See also Nephrolithiasis
calculi, chemical composition and mode of formation of, 1362—ab
calculus, 1689—ab
calculus, diagnosis and treatment of, 1616—ab
calculus in children, 1426—ab
cancer of, in children, 1299—ab
colic and herpes zoster, 933—ab, 1694—ab
contusion of, operative treatment after, 1861—ab
cystic disease of, multiple punctures in, 786—ab
decapsulation and scarification of, clinical importance of, 1368—ab
decapsulation in chronic nephritis in children, 1848—ab
decapsulation of, in chronic Bright's disease, 1751—ab
diagnosis, functional, 1843—ab
diagnosis, functional, value of chromoureteroscopy in, 1420—ab
disease, causes of hypertrophy of heart in, 1371—ab
disease, nephrectomy in, 544—ab
displacements, congenital and acquired, as etiologic factors in dystocia, 455—ab
Floating: See Kidney, Movable
function in surgery, 1750—ab
functioning, test of, by comparison of urea content of blood and urine, 1516—ab
functioning, tests of, 1692—ab
functioning with chronic vascular disease, research on, 1693—ab
horseshoe, symptomatology, diagnosis and treatment, 314—ab
inflammation of adipose capsule of, 547—ab
left, absence of, 847—ab
living, abnormal movements of, renography, 1363—ab
malignant, and suprarenal tumors, fever with, 546—ab
movable, and neurasthenia, 1350—ab, 1393—E
operations on, and pregnancy later, 853—ab
pain, 382—ab
pathologic changes which develop in, due to occlusion by ligature of one branch of renal artery, 1681—ab
Kidney, pelvis and ureter, plastic operations on, 1862—ab
pelvis, infections of, diagnosis and treatment of, 1843—ab
pelvis, x-ray examination of, 1236—ab
polycystic disease of, 1299—ab
primary suture of subparietal rupture of, 875—O
rupture of, subparietal, primary suture of, 218—ab
Stone: See Kidney Calculus, Calculi
sufficiency, functional, relative value of various methods for determination of, 924—ab
sufficiency, relative value of various methods for determination of, 778—ab
sufficiency, surgical means for estimation of, 1689—ab
supernumerary, 930—ab
tissues, embryology of, and histology of hypernephromata, 540—ab
tuberculosis, advanced, difficulties and limitations of diagnosis in, 1514—ab
tuberculosis and tuberculous bacteriuria, 1689—ab
tuberculosis, diagnosis and treatment of, 88—ab
tuberculosis, early diagnosis and treatment of, 140—ab
tuberculosis in women, 1904—ab
tuberculosis, state of other kidney in, 308—ab
tumors of, malignant, 1506—ab
unilateral hematogenous infection of, rare type of, 776—ab
Kidneys and suprarenals in chronic nephritis, relations between, 860—ab
decapsulation of, in eclampsia, 1371—ab
functional activity of, by means of phenolsulphonephthalein, 1151—ab
injuries of, 1862—ab
injury of, due to salvarsan, 1518—ab
percussion of, 537—ab
state of, in renal tuberculosis, 308—ab
value of sulphonephthalein in estimating functional efficiency of, 380—ab
Kiss of death, 354—E
Knapp, Hermann, tribute to, 1483—E
Knee, ankylosis of, treatment of, 229—ab
cartilages, semilunar, displaced, surgical treatment of, 459—ab
chest position in internal disease, diagnostic and therapeutic importance of, 1861—ab
derangement, operative treatment of, 1846—ab
dovetail method of opening into, 933—ab
elbow position with ptosis of viscera, 1153—ab
jerk, certain and simple method of obtaining, 1705—O
Knees, snapping, simple splint for, 1847—ab
Knots, 1835—C
Knot-tying, 1020—O
Koch, Robert, 228—ab
Koch, Robert, complete edition of works of, 682
Koch, Robert, memorial, 131
Koch, Robert, the father of modern tuberculosis science, 1307—O
Kola, 1331—T
Koplik's spots, 854—ab
Kymographion, ordinary, drum-spinning attachment for, 1705—O

L

Labor and pregnancy, tuberculin reaction during, 1765—ab
Difficult: See also Dystocia
fibromyomata of uterus complicating, 305—ab
graduated, at Bellefield Sanatorium, 384—ab
hours of, and fatigue, 669—ab
test of, in general and hospital practice, 1615—ab
unusual complication of, 77—ab
Laboratory in medical school, 1536—O
limitations of, 1503—ab
work, practical, for practitioner, 1355—ab
years, medical education, equipment and instruction of, 764—ab
Laborie prize, 681
Labyrinth, auditory, possible effect of salvarsan on, 921—ab
suppuration and cerebellum abscess, differential diagnosis of, 1856—ab
Laceration, perineal, complete, secondary repair of, its technic and results, 305—ab
Lactation, 1695—ab
care of breast of expectant mother before and during, 157—ab
disturbances of, 322—O
Laminectomy for Pott's paraplegia of one year's standing, almost complete recovery, 1848—ab
Lane's operation for cleft palate and harelip, modification of, 1759—ab
Lannelongue prize, 130
Laparotomies, gastric and intestinal hemorhages after, 383—ab
to facilitate intra-abdominal operations, 1004—ab
Laryngitis, tuberculous, is it a former illness, 1902—M1
Laryngocele, 386—ab
Laryngology and rhinology, 3rd international congress of, 1207
journals on, 290
Laryngopharynx, large lipoma of, removal extraorally under cocain, 1793—O
Larynx affections, municipal institutions for care of sufferers from, 1341
analgesia of, by alcohol injection of internal branch of superior laryngeal nerve, 458—ab
cancer of, early diagnosis and radical treatment of, 313—ab
fixation of tube in, 1908—ab
neuralgia of, 1420—ab
papilloma of, in children, 1230—ab
papilloma of, unusual case of, 850—ab
paralysis of, diagnostic importance of, 1427—ab
phlegmon of, symptoms of, 1822—ab
stenosis of, 313—ab
La Tribune Médicale (American edition), 203—E
Lavage and massage-lavage of colon, 853—ab
colon, cecostomy versus appendicostomy for, 1147—ab
direct, of duodenum, 455—ab, 935—ab
of cerebrospinal subarachnoid spaces in meningitis, practicability of, 76—ab
Law, Pure Food: See Food and Drugs Act
Law, pure food, Wisconsin, not emasculated, 1483—E
vaccination, no change in, 1828
Laxative, palatable, 57—P
Lay press for treatment of medical subjects, 1853—ab
Lead in blood, test for, 1056
in urine, test for, 1672
metallic, toxic behavior of, in tissues, 1366—ab
poisoning, 229—ab
poisoning, chronic, 1799—O
poisoning, drinking water as medium of, 1853—ab
poisoning from sodawater, 206
poisoning in Illinois, 1240—O
poisoning, Wassermann reaction in, 1093—ab
League for medical freedom, 1741—ME
Leech, artificial, in acute mastoiditis, 1418—ab
Leg: See also Legs
Leg fractured, ambulatory splint for, 930—ab
spontaneous amputation of, at lower third, 1842—ab
ulcer, alternating treatment of, 1622—ab
Legislation, anti-medical, proposed, congress of stomatologists in Graz condemns, 436
medical registration, 825
new, medical wishes for, 1828
proposed, regarding charitable institutions in Austria, protests against, 132
state, on public health, 369—ME, 530
Legislatures, state, progress in, 1282
Legs, experimental transplantation of, 1747—ab
gangrene of, due to carbon monoxid poisoning, 1455—O
lipomatosis of, 871—O
resection of superficial idiopathic varices on, 1300—ab
septic infections of, prevention and treatment of, 1513—ab
varicose veins in, 625—ab
Leishmaniosis, dermal, in native Colombian, 1257—O
Lens, cataract, immature, extraction of, improved method for, 1757—ab
crystalline, autolysis of, 807—O
Extraction of: See also Cataract Extraction
Lenticular zone and anarthria, 155—ab
Leprosy and cancer, 463—ab
bacilli, human, culture of, 349—ab

Leprosy bacillus, cultivation of, from human tissues, special reference to aminoacids as culture media, 1146—ab
biology of and immunity against bacillus of, 926—ab
experimental, and serotherapy, 1514—ab
in monkey, experimental production of, 1146—ab
recent studies of, 1038—E
specific treatment of, 1685—ab
tubercles of, suppuration in, 455—ab
Leucemia: See Leukemia
Leukanemia, 1750—ab
Leukemia, 1303—ab
lymphatic, blood-findings in, 1223—ab
mixed toxins of coley in, 1677—ab
splenic, successfully treated by modern methods, 622—ab
with disease of gums, 1681—ab
Leukocyte count and lumbar puncture, value of, in diagnosis of acute poliomyelo-encephalitis, 1145—ab
Leukocytes in infants and children, normal percentages of different varieties of, 154—ab
Leukocytic extract in infective processes, 851—ab
Leukocytosis and neutrophile blood picture in appendicitis, 1012—ab
and purulent exudation containing many bacilli, tuberculous meningitis with, 1905—ab
with inflammation, significance for diagnosis and prognosis of, 1516—ab
dermal and mammary, 417—O
in infant, lymphatic, acute, with leukocyte count of 1,330,000, 620—ab
Leukorrhea, advantages of dry treatment of, 467—ab
Leyden lectures, 53
Leyden's Disease: See Vomiting
Liability for profession service, board and nursing for wife at hospital, 535—M1
of company requiring injured person to be taken to physician, 1221—M1
Liberty, individual, and public welfare, 1110—E
Library of surgeon-general's office, historical collection of medical classics in, 1785—O
License, remedy for refusal of, is appeal not mandamus, 1903—M
state, to practice, 766—ab
state, to practice, symposium on, 765—ab
Licenses, powers of courts on appeals from board decisions refusing, 1139—M1
Lichen nitidus, 223—ab
Life and health as national assets, 407—O
exhibition of body and proof of probability of, 615—M1
human, duty of state in conservation of, 1611—ab
mortality during early weeks of, 620—ab
President Taft versus, 1394—E
prolongation of, 1274
Life-saving abroad and life-wasting at home, 1394—E
Carnegie foundation for, 284
Life-wasting at home and life-saving abroad, 1394—E
Ligament: See also Ligaments
Ligament, annular, of ankle-joint, relaxation of, cause of weak and flat-foot, 926—ab
broad, anterior, plication of, for retrodisplacement of uterus, 299—ab
broad, bilateral fibromyoma of, 1067—ab
broad, plication of round and anterior fold of, on anterior surface of uterus for retrodisplacement, 469—O
round, operation, 1280—C, 1345—C, 1671—C
Ligaments: See also Ligament
Ligaments, round, intraperitoneal shortening of, for retroversion of uterus, 573—O
round, retroperitoneal shortening of, 553—O
round, shortened in operations for adherent retrodisplaced uterus, 1351—ab
round, ventrosuspension by, for backward and downward displacement of uterus, 1421—ab
silk, and tendon transplantation, 1846—ab
silk, intra-articular, for fixation of loose joints in residual paralysis of anterior poliomyelitis, 1846—ab
Ligation of left subclavian artery in aneurysm, new method of, 1144—ab
Light, colored, and mercury lamp in diagnosis, 162—ab
Lily rash or dermatitis among flower-pickers in Scilly Islands, 158—ab
Limb, gangrene of, during convalescence from diphtheria, 460—ab
Limbs, parts of, and tissues, transplantation of, 1588
Lime, antiphlogistic action of, 464—ab
in pulmonary tuberculosis, 78—ab
in spasmophilia in children, 163—ab
Limping, intermittent, and spinal disturbances from male fern poisoning, 1367—ab
intermittent, in connection with tobacco, 82—ab
Linea alba, hernia in, 703—ab
Lip, upper, epithelioma of, in pure negro, 1857—ab
Lipoids, recent studies on, 799—O
Lipoma of laryngopharynx, large, removal extra-orally under cocain, 1793—O
Lipomatosis of lower extremities, 871—O
Liquor amnii, why fetus does not drown in, 445
Bellosti test in paralysis, 1904—ab
licenses, limitation of number of, in France, 207
Lithia, piperazin and lycetol in nephrolithiasis, 1346
Liver, abscess with or following typhoid, 1855—ab
amebic abscess of, aspiration and injection of quinin in, 383—ab
angiosarcoma of, in infant, 873—O
bloodless operations on, 230—ab
broth, medium for determination of gas-forming bacteria in water, 1361—ab
cancer of, primary, 628—ab
Cirrhosis of: See Cirrhosis
disease, diagnosis of, 1865—ab
distribution of glycogen over, under various conditions, 618—ab
dulness, paravertebral, 1865—ab
functioning, phloridzin test of, 707—ab
necrosis of chloroform poisoning, 1124—ab
percussion findings on left side, 707—ab
pregnancy, and atypical eclampsia, 309—ab
rôle of portal circulation of, in bile formation and jaundice, 1780—ab
suppurating echinococcus disease of, diagnosis of, 1231—ab
syphilis, febrile, 704—ab
syphilis of, 785—ab
Liverpool school of tropical medicine, another expedition despatched by, 825
Living, simplicity of, and study of normal in medicine, 1642—O
London letter, 53, 130, 206, 359, 433, 601, 680, 825, 906, 977, 1048, 1120, 1206, 1274, 1339, 1404, 1492, 1585, 1664, 1734, 1825
Londonderry lithia water, misbranded, 1897—P
Longevity and disease, 1830—ab
and total abstinence, 1826
comparative, of sexes, 1683—ab
Loomis Sanatorium, report of, 830
Los Angeles and Long Beach Session, 1739—C
linger in, 1821—E
Louisiana and Texas and Arkansas, reciprocity between, 368
medical news, 430, 599, 675, 1117, 1204, 1337, 1661, 1729, 1823
L-suprarenin synthetic, 120
synthetic bitartrate, 120
Lumbago, explanation of many cases of, 999—ab
Lumbar puncture and leukocyte count, value of, in diagnosis of acute poliomyeloencephalitis, 1145—ab
puncture in cerebral hemorrhage, 1697—ab
puncture in trauma of head, 1910—ab
Lunatics, discharge of, by habeas corpus proceedings, 489—O
Lung, action of functional rest of, on extent and course of pulmonary tuberculosis, 160—ab
affections, municipal institutions for care of sufferers from, 1341
complications, postoperative, 1859—ab
crepitation, reversible, in cardiac failure, 1687—ab
disease, chondrotomy for, 1236—ab
diseases, ichthyol in, 377—ab
Lung findings in lower lobe, interpretation of, 1691—ab
findings in scoliosis, 855—ab
immobilization of, by rear resection of ribs, 1518—ab
infants, possible cause of error in hydrostatic test of, 936—ab
infections after anesthetic, 512—E
manifestations of syphilis, 1071—ab
mechanical predisposition of parts of, to disease, 1668
percussion findings of, 703—ab
percussion of one apex of, when other is muffled, 1767—ab
pulmonary tuberculosis involving whole or more than one lobe of, prognosis of, 1149—ab
stenosis of, congenital, with special consideration of nature of secondary blood changes, 543—ab
Tuberculosis: See Tuberculosis
tuberculosis, hemorrhage in, treatment of, 1857—ab
tuberculosis, predisposition of apices to, 1153—ab
Lungs and heart, complications of, following surgical operations, 1761—ab
and heart, operations on, 1588
and pleura, tumors in, 1303—ab
diseased, elimination of drugs by, 389—ab
edema of, diffuse, acute, 1144—ab
emphysema of, and wind instruments, 1691—ab
entry of bacteria into, 1873—ab
injurious action of pure oxygen on, 467—ab
surgery of, 857—ab
thrush in, 1861—ab
tuberculous, 1667
tuberculous, curative influences on, 1668
value of surgical treatment of cavities of, 1424—ab
Lupus, campaign against, in Germany, 682
of mucous membranes, treatment of, 783—ab
vulgaris and Finsen light, 529
vulgaris, old tuberculin ointment in diagnosis and treatment of, 306—ab
Lycetol, piperazin and lithia in nephrolithiasis, 1346
Lying, reasonable, permissible, 1660—E
Lymph and collateral blood routes, new, opening of, 785—ab
gland, caseous, solitary, treatment of, 212
nodes, certain lesions of, 1686—ab
Lymphangioplasty in ascites, 1515—ab
Lymphatics, pelvic, and tissues adjacent to uterus, participation of, in uterine cancer, 101—O
Lymphocytosis in cerebrospinal fluid in chorea in children, 1620—ab
in certain gastro-intestinal cases, 1753—ab
Lymphoid degeneration of conjunctiva, 220—ab
Lymphosarcoma of tongue, 1863—ab

M

Machine, exercise, miniature, for infantile paralysis, 1259—O
Mackenzie, nodal rhythm of, 1857—ab
Madelung's Deformity: See Radius
Magic foot drafts, 1496—P
Magnesium peroxid, 591
rings, absorbable, for end-to-end anastomosis of abdominal aorta, 1615—ab
sulphate in dysentery, 1593—C
sulphate in erysipelas, 701—ab
sulphate, intravenous injection of, in bacteriemia, 618—ab
sulphate, intravenous injections of, in puerperal bacteremia, 1759—ab
Mail, danger from transmission of infectious materials by, 427—E
order medical fraud, B. C. Day, 982—P
order medical fraud, Van Bysterveld, 56—P
Maine medical news, 752
state board March report, 1597
state board November report, 371
Malaria, acute, pathology of, 1503—ab
and hemoglobinuric fever, 514—E
as difficulty in diseases of children, 1610—ab
comatose, 289—ab
curative influence of x-rays in, 928—ab
enumerative studies on, 460—ab
hemoglobin metabolism in, 461—ab
in Austria, campaign against, 1906-1909, 602
in Panama, 155—ab, 925—ab
Malaria in Sicily, campaign against, 1013—ab
in white race, 155—ab
latent, 231—ab
or disease sui generis, is hemoglobinuric fever manifestation of? 621—ab
prophylaxis of, 707—ab
purpura-fulminans in, 1842—ab
radical cure of, 847—ab
symposium on, 1612—ab
tertian, masked, with marked mental and nervous manifestations, 1227—ab
tertian, simulating appendicitis, 1635—O
treatment of, 1293—ab
Wassermann reaction in, 860—ab
Malarial fevers and water, 225—ab
pigment, its nature and mode of production, 775—ab
Male fern poisoning, intermittent limping and spinal disturbances from, 1367—ab
Malignancy, significance of urinary methylene-blue reaction in, 1882-O
Malignant Disease: See also Cancer
Malignant Growth: See also Cancer, Carcinoma and Sarcoma
Malignant growths, spontaneous disappearance of, 1422—ab
lesions, x-ray therapy in, 455—ab
Malingering, prevention of, 1665
Malleoli, fracture of, 932—ab
Malpractice, case, admissibility of evidence of conveyance of property to wife in, 1902—M1
evidence against charge of, wealth of patient cannot be shown to justify fee, license and proof required to recover for medical services, 1317—M1
insufficient evidence of, and erroneous rulings, 772—M1
Malta fever, 78—ab, 1008—ab
minor signs of, 159—ab
name of, 755, 1207
Mammary Gland: See Breast
Mammon, great is, 1820—E
Man and disease, 1355—ab
Mandamus, is not remedy for refusal of license, 1903—M1
Mandible: See Jaw
Manila letter, 283, 679, 1049, 1584
Manslaughter of patient who bled to death after extraction of teeth, dentist found guilty of, 433
Marie Feodorovna prizes, award of, 1825
Marriage and gonorrhea, 459—ab
safeguards for, 1659—E
Marriages, 54, 132, 208, 285, 362, 439, 524, 603, 683, 757, 831, 909, 979, 1052, 1126, 1211, 1276, 1342, 1407, 1493, 1590, 1669, 1737, 1831, 1896
Marsden's paste, 609
Maryland medical news, 51, 127, 204, 277, 356, 518, 599, 675, 752, 821, 904, 974, 1044, 1117, 1204, 1271, 1337, 1396, 1487, 1582, 1661, 1720, 1823
state board December report, 371
Massage and gymnastics during pregnancy and puerperium, 1518—ab
cardiac, resuscitation by, 1448—O
in constipation, 1900
in neurasthenia, 559—ab
lavage and lavage of colon, 853—ab
of heart, direct, with apparently fatal chloroform poisoning, 549—ab
of nerves at emerging points, 388-ab
of prostate, 1197—ab
Massachusetts medical news, 127, 356, 518, 676, 752, 821, 974, 1044, 1117, 1204, 1337, 1396, 1488, 1582, 1661, 1730, 1823
state board March and May reports, 1895
Mastitis, acute, vaccines in, 1424—ab
traumatic, chronic, 1071—ab
Mastoid abscess and acute otitis media in children, 73—ab
operation, Heath, 1418—ab
operation, radical, 1695—ab
process, transillumination of, as aid to diagnosis, 1653—O
surgery of, 1610—ab
Mastoiditis, acute, artificial leech in, 1418—ab
double, complicated by septic thrombosis of sigmoid sinus, 924—ab
recurring, 708—ab
Materia medica, 18th century, 1211—P
report of committee on, 906—ab
Matings, fit and unfit, 224—ab
Mattoids, 1513—ab
McGill alumni reunion, 1492
Meals, drinking water with, 1755—ab
Measles and scarlet fever, joint lesions in, 1076—ab
erythema nodosum following, 1424-ab
experimental, 1885—E
prophylaxis of, 744—T
severe epidemic of, in London, 1120
unusual complication of, 1008—ab

Meat juice, raw, and raw meat in tuberculosis and wasting diseases, 383—ab
raw, and raw meat juice in tuberculosis and wasting diseases, 383—ab
Meatus, auditory, external, pedunculated exostosis of, operation for, 1555—O
urinarius, ionic surgery and plastic operations in, 886—O
urinarius, recurrent growth of, electricity in, 886—O
Mechanisms, mental, in dementia præcox, 156—ab
Media, artificial, growth of embryonic chick tissues in, 1294—ab
culture, amino-acids as, in cultivation of leprosy bacillus from human tissues, 1146—ab
Mediastinitis, chronic, 1154—ab
syphilitic, 159—ab
Mediastinum affections, 1006—ab
cyst of, producing compression of trachea in infant of 9 months, fatal, 1145—ab
two weak points in 159—ab
Medical advice given by pharmacist, liability for damages for, 360
borderland experiences, 385—ab
bureau, Prussian, transfer of, from department of education to department of interior, 523
classics, historical collection of, in library of surgeon-general's office, 1785—O
college association standard, 224—ab
college, Beyrouth, present condition and enlargement of, 1122
college, entrance requirements in, 920—ab
college, Gate City, condemned, 58, 839
college inspection, report of committee on, 919—ab
college library, 996—ab
colleges, advantages of state control to, 995—ab
colleges consent required for delivery of bodies to, 1903—Ml
colleges, could the state control and conduct them more efficiently than corporations and private individuals? 994—ab
colleges, do they adequately train students for prevention of infant mortality? 376—ab
colleges, duty of state in control of, 994—ab
colleges, higher entrance standards in, 991
colleges, not more but better-equipped, needed, 49—E
colleges, report of committee of Association of American Medical Colleges on equipment of, 997—ab
colleges, result of state control of, on professional efficiency, 996—ab
colleges, state control of, 994—ab
colleges, subjects included in two years of college work required for admission to, 764—ab
colleges, voluntary closing of, 1726—E
councilor, municipal, salaried, in Berlin, 523
course, entrance requirements for admission to, 918—ab
course, fifth, or hospital year, 1546—O
course of 5 years, 764—ab
course, reorganization of, in France, 360
courts of honor for Bavaria, proposed, 54
curriculum, 224—ab
curriculum, overcrowded, 680
defense, new departure in, 826
education, administration of entrance requirements in, 919—ab
education, American congress on, 50—E
education and medical legislation, conference on, 678
education and medical legislation, joint conference on, 145, 432, 532
education and medical practice act in New York, 1285—ab
education and practice in Japan, 354—E
education and poor boy, 275—E
education and preparatory schools of medicine, 1121
education and state, 767—ab
education, cooperation in establishing standards of, 1529—O
education, equipment and instruction of laboratory years, 764—ab
education, evolutionary spirit for betterment in, 1015—O
education, fifth year as hospital intern in, 902—E
education, fifth year in, 1065—ab
education, Flexner report on, 994-ab
Medical education, free, 1043—E
education, higher preliminary standard of, in Ohio, 596—E
education, higher standards of, and exceptional men, 273—E
education, hospital year of, 1065—ab
education, ideal, for practitioner and specialist, 1070—ab
education, improvement of practical year in, in Germany, 827
education in Montreal, correction of Carnegie foundation report on, 445—C
education, instruction and equipment of clinical years, 764—ab
education, money for, 1201—E
education, more donations for, 673-E
education, preliminary requirements in, 972—E
education, progress and needs in, 763—ab
education, proposition for reform of, in France, 826
education, reform of, 681
education, report of committee on, 1065—ab
education requirement, preliminary, in Indiana, 612.
education, some evils in present system of, 995—ab
education, state control of, and enforcement of medical practice act, 996—ab
educational standards, higher, and Prof. Vincent, 903—E
examinations, reform in, in France, 1121
examiners, state board of, and medical teaching, 1351—ab, 1757—ab
expert evidence without statement of facts and right to show latter, 921—Ml
expert, proper cross-examination of, in criminal abortion, 452—Ml
expert testimony, 1228—ab
expert testimony, weight to be given, 921—Ml
faker, mail-order, specializing on diseases of women, 982—P
fees, and secret commissions, 987—C
fees, division of, and commissions, 219—ab
fees, smallest, paid by largest corporations, 446—ME
fees, splitting of, 725—O, 748—E, 770—ME, 916—C
freedom, league for, 1741—ME
inspection of public schools, 1601—ab
inspection of schools, 1544—ab, 1680—ab
inspection, school, problems of, 1200—E
institutions in Vienna, unexpected help for, 828
journalists, French, first meeting of, 1121
journals of Latin American, 139
legislation and medical education, conference on, 678
legislation and medical education, joint conference on, 145, 432, 532
legislation in Illinois, 1742—ME
legislation, national, 1402—ab
legislation, progressive, 1580—E
legislation, state, on public health, 837—ME
legislation, summary of, 1412—ME
library association meeting, 1584
missionary service, 610
missions, foreign, opportunities of physician in, 1739—C
museums, association on, 1119
officer, army, ethics, scope and prerogative of, 1071—ab
opinion, remarkable judgment in favor of, 1828
organization, 700—ab, 1432—ab
practice act, amended, Utah secures, 1347
practice act and medical education in New York, 1285—ab
practice act for licensing itinerant vendors of nostrums, validity and construction of provision in, powers of state board of health, advertising matter around bottles as evidence, 216—Ml
practice act, Illinois, 1042—E
practice act not invalidated by provision as to prayer, 993—Ml
practice act, state control of medical education and enforcement of, 996—ab
practice act, who accounted physicians now registered under, in Missouri, 1289—Ml
practice acts and public, 768—ab
practice acts, attitude of judiciary in enforcement of, 768—ab
practice, family physician refracting as factor in, its promotion during 1910, 380—ab
Medical practice laws, administration of, 769—ab
problems and phylogenetic association, 542—ab
professional secrets, protection of, in hospitals, 361
profession and President Taft, 1399
profession, economic influence of hospital administration on, 1419—ab
profession in this country, what about it? 986—C
profession in West, overcrowding, 1280—C
profession, is it losing its grip? 923—ab
profession must change its tactics, 138—C, 927—ab
profession, organization and advancement of, 1840—ab
profession, proposed organization of, in Cuba, 679
profession, protest against play derogatory to, 1340
reciprocity, 825
registration legislation, 825
school, examination for admission to, 1541—O
school, laboratory in, 1536—O
school, preliminary education for admission to, 1577—E
school, Stockholm, centennial of, 522
schools, American, German view of 1043—E
schools in Austria, expenditures for, 602
schools, weak, as nurseries of medical genius, 589—O
science and Van 'T Hoff, 818—E
service of Illinois state hospitals, 1747—ab
services, counterclaim wrongly allowed in action for, no implied contract to cure, 993—Ml
services, license and proof required to recover for, evidence against charge of malpractice, wealth of patient cannot be shown to justify fee, 1417—Ml
society, Berlin, on vaccination law, 1122
sociology, recent progress in, 924—ab
specialists, mail-order, 971—E
standards and authority, 767—ab
students, Chinese, qualities of, 1829—ab
students, military facilities for, 1341
students strike in Cracow, 683
subjects, newspaper editorials on, 989—ME
subjects, treatment of, by lay press, 1853—ab
teachers, salaried, full-time, state aid in securing, 995—ab
teaching and state board of medical examiners, 1351—ab, 1757—ab
teaching, Philadelphia idea as to, 608—C, 835—O
treatment, rational, 1852—ab
works by boards, consultation of, validity of statutes forbidding advertising for patients and special ability to treat or cure chronic and incurable diseases, chronic and incurable defined, 452—Ml
Medication, self, 621—ab
Medicine and impure air, 1392—E
and sociology, 1111—E
concentration plan for teaching of, 224—ab
experimental, report of committee of medical society of state of New York on, 1284—ab
France and Belgium agree as to practice of, on common frontiers, 283
illegal practice of, in France, 435, 1405
illegal practice of, unforeseen consequence of prosecution for, 1666
in Philippines, articles on, 212
justifiable prosecution for illegally practicing, 1599—Ml
legal definition of practice of, 1901
mental, preventive principles in field of, 1002—ab
modern, and ancient Egyptians, 1110—E
modern, influence of principle of specificity on, 352—E
one trial for illegally practicing of, not bar to another, 295—Ml
popular, responsibility of author of work of, for typographical error, 1340
practice of, 1600—ab
practice of, by suggestive therapeutics, 772—Ml
practice of, what should be attitude of state toward? 1319—O
practicing, assignee of claim of unauthorized practitioner, 693—Ml
Medicine, practitioner of, amenable to law, christian science healer as, 1062—Ml
preparatory schools of, and medical education, 1121
preventive, 1063—ab
preventive, at Washington University, 276—E
preventive, for venereal disease, 1359—ab
preventive, hygiene and sanitation, books on, 368
profession of, and state, 1502—ab
regulation and practice of, for public good, 768—ab
right teaching of, 1418—ab
17th international congress of, 1826
standards and authority in, 894—O
state regulation of practice of, 1041—E
study of, and simplicity of living, 1642—O
what should attitude of state be toward practice of, 768—ab
Medicines, therapeutically suggestive names for, 1054—P
Mediterranean Fever: See Malta Fever
Medium, culture, emergency, in practice, 1094—O
for determination of gas-forming bacteria in water, liver broth as, 1361—ab
Medulla oblongata and pons varolii, recent progress in topical diagnosis of diseases of, 160—ab
sarcoma of, 624—ab
Megacolon, congenital, uncontrollable vomiting with, 82—ab
in adults, treatment of, 1075—ab
Megaloblasts, ameboid activity of, 925—ab
Megalokaryocytes and blood platelets in Hodgkin's disease, 1294—ab
Meiostagmin and hemolytic tests of gastro-intestinal cancer, reliability of, 629—ab
Melanin, its nature and mode of production, 775—ab
Membranes, Mucous: See Mucosa
Membranes, pleural, pain sense in, 1849—ab
Men, exceptional, and higher standards of medical education, 273—E
in advanced years, sexual excitability in, 1144—ab
Mendel, laws of, heredity in insanity in light of, 1683—ab
Meningeal conditions, non-specificity of cell findings in spinal fluid in, 1068—ab
Meninges, permeability of, 1817—E
permeability of, especially in progressive paralysis, 1156—ab
Meningism, 630—ab
Meningismus from acute cervical adenitis and peritonsillar infiltration, 1443—O
Meningitis, 1145—ab
and tabes dorsalis, 1010—ab
cerebrospinal, 346—O
cerebrospinal, and epidemic poliomyelitis, differential diagnosis of, from spastic paralysis and encephalitis, 853—ab
cerebrospinal, epidemic, 1619—ab
cerebrospinal, epidemic, serotherapy in, 455—ab
cerebrospinal, its etiology, diagnosis, prognosis and treatment, 697—ab
cerebrospinal, serotherapy of, 706—ab
conditions simulating, 1145—ab
diagnosis, new reflex signs in, 114—O
diagnosis of cerebral forms of poliomyelitis from forms of, 1854—ab
influenza, its experimental production, 304—ab
influenzal, 858—ab
in infants and children, acute, 300 cases of, 304—ab
pneumococcus, prognosis and course of, 1693—ab
practicability of lavage of cerebrospinal subarachnoid spaces in, 76—ab
respiratory irregularities in, pneumatographic study of, 1605—ab
serous, and anaphylaxis after spinal serotherapy, 78—ab
serous, cystic, of posterior cranial fossa, 857—ab
serum, manufacture and distribution of, 521
tuberculous, cerebrospinal fluid in, 1765—ab
tuberculous, remarkable antemortem rise of temperature in, 1854—ab
tuberculous, tubercle bacilli in cerebrospinal fluid of, 304—ab
tuberculous, with leukocytosis and purulent exudation containing many bacilli, 1905—ab
typhoid, 882—O, 935—ab

Meningococcus in blood-smear, meningococcus septicemia with demonstration of, 1446—O
Meniscus: See Cartilage, Semilunar
Menstruation and tuberculosis, 70—ab
disorders of obscure origin, 1616—ab
fever and pulmonary tuberculosis, 1239—O
hygiene of, 1856—ab
Mental and nervous diseases, seroreactions in, 224—ab
and nervous manifestations, marked, in masked tertian malaria, 1227—ab
capacity, adjudications and prior and subsequent conditions as evidence of, 1350—MI
disease and civilization, connection between, 858—ab
disease, functional tests of autonomic nervous system in, 388—ab
mechanisms in dementia præcox, 156—ab
medicine, preventive principles in field of, 1002—ab
Mentality, stigma of, 1052
Meralgia paresthetica due to pressure of corset, 925—ab
Mercuric bichlorid, intravenous injection of, in puerperal sepsis, 1684—ab
Mercury and arsenic, organic, comparative value of, in syphilis, 78—ab
and salvarsan, radiologic research on absorption of, 629—ab
bichlorid and serodiagnosis of syphilis, 1125—ab
bichlorid, chancroids due to, 69—ab
cyanid or mercury oxycyanid as antiseptic, 609
deep muscular injections of, in tuberculosis, 1000—ab
in syphilis, 1587
lamp and colored light in diagnosis, 162—ab
nascent, Hubbes', in syphilis, 1055
nascent, in syphilis, 935—ab
oxycyanid or mercury cyanid as antiseptic, 609
succinamid in tuberculosis, 151—ab
treatment of syphilis in nervous system, recurrence after, 467—ab
Mesentery blood-vessels, obstruction of, 935—ab
contiguous, and peritoneum, transfixion of, and perforation of uterus by bone crochet needle 173—O
Mesny, Dr., monument to, 1493
Metabolism, carbohydrate, internal function of pancreas in, 1757—ab
during exclusive milk diet, 705—ab
energy, of mother and child just before and just after birth, 925—ab
gaseous, and circulation of blood, influence of radium emanations on, 1368—ab
hemoglobin, in malaria, 461—ab
in chronic malnutrition, 1682—ab
increase in, due to work of typewriting, 1758—ab
mineral, and tardy rachitis, 1695—ab
of dogs with functionally resected small intestine, 618—ab
purin, diagnosis of gout from, 1693—ab
Metastasis with cancer of pylorus, sign of, 707—ab
Metatarsalgia, anterior, operation for relief of, including Morton's disease, 926—ab
Metchnikoff goes to Southern Russia to study plague, 1664
Methyl alcohol adulteration of brandy, fine for, 601
Methylene-blue and fuchsin test of age of milk, 1009—ab
Metric system and British Medical Association, 1586.
Metrorrhagia in young girls, 931—ab
Mice, growth in vitro of transplantable sarcoma of, 33—O
joint, formation of, and osteochondritis dissecans, 926—ab
Michigan medical news, 51, 204, 277, 357, 518, 599, 821, 904, 1044, 1271, 1396, 1488, 1730
Micrograph, 1549—O
Microscope, diagnosis of early pulmonary tuberculosis without use of, 1511—ab
Midwife problem, remedy for, 1616—ab
situation, review of, 844—ab
Midwives, advertising by, 435
registration of, 1285
signs displayed by, 1340
Milk, albumin, in infant feeding, 785—ab, 934—ab
albumin, use of, 376—ab
and infant mortality, 39—T
Milk campaign, clean, in Great Britain, 359
Casein: See Milk, Albumin
clean, cost of, 749—E
clean, works on production of, 445
commissions, medical, 211—C, 1824
containing tubercle bacilli, subsequent health of children who drank, 1322—O
cow's, idiosyncrasy of infants to, 545—ab
diet, exclusive, metabolic research during, 705—ab
from uninspected cows, cities may require annual tuberculin test and authorize summary seizure and destruction by health departments of, 374—MI
goat's, in Malta, 1042—E
human and cow's, differential reaction in, 782—ab
human, chemical compositions of, and chronic diarrhea and eczema in infants, 781—ab
human, 2 methods for obtaining it for hospital use, 846—ab
inspection Pennsylvania, 1113—E
legislation, 350—E
legislation in Ontario, 1659—E
methylene-blue and fuchsin test of age of, 1009—ab
pasteurization, control of, 713—O
pasteurization of, 200—E
pasteurized, at Randall's Island, 443—C
production, clean, 48—E
pure, problem of, 1485—E
raw and pasteurized, and milk serums, 1358—ab
serums and raw and pasteurized milk, 1358—ab
sugar, 1761—ab
sugar as patent medicine, 685—P
sugar, therapeutic and commercial possibilities in, 685—P
supply, sanitary, for cities from medical standpoint, 1359—ab
sweet and sour, digestibility of, 1835
Mind, prevention of insanity hygiene of, 1682—ab
Mineral water, misbranded, 1897—P
Mine rescue cars, 511—ab
Mines of California, uncinariasis in, 259—O, 272—E
Ministers demand more rigid laws, 1041—E
Minnesota medical news, 204, 278, 599, 676, 904, 974, 1337, 1823
state board April report, 1838
state board January report, 991
Misrepresentation vs. carelessness, 427—E
Mississippi medical news, 205, 1045, 1271
Missouri medical news, 205, 278, 357, 519, 599, 676, 821, 1044, 1117, 1204, 1338, 1488, 1582, 1662, 1730, 1823
state board September report, 213
Mitchell, S. W., 1581—E
Mitral: See Heart
Molluscum fibrosum, etiologic influence of pregnancy on, 617—ab
Momburg-belt constriction for obstetric hemostasis, 854—ab
constriction for post-partum hemorrhage, 81—ab
Money, do not pay it to unauthorized persons, 1660—E
Monkeys, transmission of scarlet fever to, experiment on, 1795—O
Montana medical news, 1582
state board October report, 213
Morbidity and mortality, high, in Vienna, 979
Morphin addiction, treatment of, 933—ab
and scopolamin, 225—ab
solution, disguised, 1278—P
Morphinomania and heroinomania, treatment of, 929—ab
Mortality, adult, in France, 826
and morbidity, high, in Vienna, 979
during early weeks of life, 620—ab
early, of several children in family, 857—ab
from diabetes mellitus, increase of, in France, 1121
infant, 73—ab
Mosquitoes, anopheline, 3 new species of, and descriptions of new genus, 461—ab
Mother and child, duty of country physician to, 1355—ab
and child, energy metabolism of, just before and after birth, 925—ab
expectant, breast of, its care before and during lactation, 157—ab
nursing, from standpoint of infant, 924—ab
nursing, scarlet fever in, 854—ab
Motherhood fund in Germany, 1207
Mothers and infants, state institution for, in Austria, 1051
Mothers, eclamptic, should they nurse their infants? 304—ab, 620—ab
education of, 3 years' experience of Babies Dispensary and Hospital of Cleveland in, 224—ab
schools for, in Great Britain, 206
Motor traffic, great increase of street accidents due to, 601
Mouse: See also Mice
Mouse carcinoma, morphologic changes in, 1124—ab
Mouth and throat, non-syphilitic ulceration of, salvarsan in, 1078—ab
disease and rheumatoid arthritis and other forms of rheumatism, 1072—ab
diseases of, 1755—ab
inefficiency of tuberculin test by, 160—ab
nose and throat, peroral intubation for operations on, 1369—ab
Mucosa, gastric, changes in, with acute infectious diseases, 463—ab
lupus of, treatment of, 783—ab
Mucous Membrane: See Mucosa
Mud therapy, 1580—E
Municipalities, ice and water furnished by, to promote health, 842—MI
liability of, for deaths from typhoid due to negligence in permitting water furnished to become contaminated, 65—MI
Munyon the hopeful, 1042—E
Murmur, presystolic, 1007—ab
Murmurs, mitral, in gall-stone disease, 1753—ab
heard at root of neck in children, 1151—ab
Muscle, action of salvarsan on, 1856—ab
and nerve effects of pressure on conductivity in, 303—ab
smooth, from guinea-pigs, reaction of, rendered tolerant to large doses of serum, 539—ab
weakness and pain, 1758—ab
Muscles, artificial, in early treatment of infantile paralysis, new method, 922—ab
blood-vessels and organs, preservation of anatomic dissections with permanent color of, 882—O
headache from nodules in, 1365—ab
lumbar, injection of drugs, especially salvarsan, into, 1067—ab
striated, tuberculosis of, primary, 1769—ab
thenar, peripheral neural atrophy of, 1256—O
Muscular efficiency and pain, 898—E
rigidity, abdominal pain and tenderness and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, 1784—O
Museum, medical, army, aneurysms in, 455—ab
Mutism from deafness and deafmutism, differential diagnosis between, 387—ab
Mutton tallow and iodin instead of bismuth paste, 1847—ab
Myalgia and urinary hyperacidity, 378—ab
Myasthenia gravis, 1007—ab, 1555—O
Mydriatic action of organ extracts and fluids, 782—ab
Myelitis, acute, thrombotic softening of spinal cord, case of, 76—ab
and polyneuritis during toxic vomiting of pregnancy, 1426—ab
ascending, acute, tetragonus, 630—ab
subacute patches of, with recurring endocarditis, 1428—ab
Myeloma, multiple, with albumosuria, 1092—O, 1423—ab
Myocarditis and sudden death in scarlet fever, 545—ab
mild and curable forms of, 1207
Myoclonia and nystagmus, 1300—ab
Myoma of uterus and degenerative changes, 618—ab, 1854—ab
Myomas, anteflexion of uterus as cause of development of, 1306—ab
uterine, treatment of, 1428—ab
Myomata of uterus, abdominal myomectomy for, 847—ab
uterine, and heart disease, 1004—ab
uterine, blood-supply of, 1913—ab
Myomectomy, abdominal, for myomata of uterus, 847—ab
Myositis ossificans, traumatic, 1229—ab
Myotonia atrophica, metabolic study of, 619—ab

N

Nail in chicken gizzard, 1129—C
Narcosis, Overton and Meyer's theory of, and phosphatids, 539—ab
Nasal: See Nose
Nasopharynx, exposure of, by slitting lower jaw and separating soft from hard palate, 1306—ab
Native strain, encouragement of, 426—E
Nature's creation-sequel, 364—P
Nausea and vomiting, clinical significance of, 1603—ab
and vomiting, postoperative, from chloroform and ether, open-air treatment of, 1293—ab
of pregnancy, 457—ab
postoperative, olive oil in, 1505—ab
Navy, athletics in, 597—E
British, health of, 53
United States, venereal prophylaxis in, 1098—O
United States, venereal prophylaxis in, for benefit of public health officials, 1359—ab
unlearnable vision test card for use in, 305—ab
what can it do with tuberculosis? 154—ab
Nebraska medical news, 278, 430, 752, 1045, 1118, 1488
state board May and August reports, 63
state board November report, 532
Neck, multilocular cystic hygroma of, 32—ab
tuberculous glands of, treatment of, 71—ab
venous murmurs heard at root of, in children, 1151—ab
Necrobacillosis of skin, 75—ab
Necropsies, 19, diagnostic value of tuberculin as shown by, 1067—ab
Necropsy and other pathologic-anatomic examinations, importance of, 729—O
findings in primary sarcoma of stomach, 500—O
Necrosis, fat, perforating duodenal ulcer with, 302—ab
liver, of chloroform poisoning, 1124—ab
of pancreas, progress in knowledge and treatment of, 160—ab
Needle, crochet, bone, perforation of uterus and transfixion of contiguous mesentery and peritoneum by, 173—O
Needles, sewing, removal of, from subcutaneous tissues, 344—O
surgical, eye of, 1364—ab
Needs of to-day, 1840—ab
Negro, epithelioma of upper lip in, 1857—ab
rarity of tabetic and paretic conditions in, 1645—O
tumors of jaw most frequently in, 696—ab
women, insane, tuberculosis among, 1754—ab
Negroes, diabetes mellitus among, 303—ab
Neither clever nor truthful, 902—E
Neoplasm: See also Malignant Growth, Cancer, Tumor
Neoplasm, malignant, obstruction of bowels due to, treatment of, 305—ab
Neoplasms, origin of, 1769—ab
surface and cavity, destruction of, by desiccation, 999—ab
Nephrectomy in kidney disease, 544—ab
pregnancy after, 830—ab
Nephritis, acute, 622—ab
after salvarsan in syphilis, 1519—ab
blood-pressure in, 1668
chemistry of, 1222—ab, 1452—O
chlorid and water tolerance in, 1756—ab
chronic, 622—ab
chronic, and neurasthenia, differentiation of, 528—ab
chronic, experimental, with exophthalmos in rabbit, 540—ab
chronic, relations between kidneys and suprarenals in, 860—ab
chronic, renal decapsulation in, 1751—ab
chronic, unusual complications of, 829—ab
dyspnea in, 1425—ab
exophthalmos common symptom of, 1506—ab
hematogenous, unilateral, acute, acute multiple urogenous abscess of kidney resembling, 1145—ab
in children, 224—ab
in children, acute, blood-pressure in, 1761—ab
in children, chronic, renal decapsulation in, 1848—ab
operative treatment of, 1222—ab
salicylates in, 1767—ab
symptomatology and diagnosis of, 1222—ab
syphilitic, and salvarsan, 523, 1767—ab

Nephritis, syphilitic, secondary, fatal, 1762—ab
Nephrolithiasis, 507—O
piperazin, lycetol and lithia in, 1346
Nephropexy, improved technic for, 785—ab
Nephro-ureterectomy, 1225—ab
Nerve, action of salvarsan on irritability of, 1856—ab
and muscle, effects of pressure on conductivity in, 303—ab
auditory, syphilis of, 1234—ab
cells, recuperation of, after functional activity from youth to senility, 1681—ab
injury, paralysis of arm due to, 1415—ab
laryngeal, recurrent, left, paralysis of, in mitral stenosis, anatomic explanation of, 1510—ab
laryngeal, superior, analgesia of larynx by alcohol injection of internal branch of, 458—ab
optic, irritation of, by salvarsan, 1304—ab
optic, tabetic atrophy of, 1077—ab
roots, spinal, resection of, for spastic paralysis, 550—ab
tissue, affinity of salvarsan for, 1231—ab
transplantation of, from one side to other, 467—ab
vestibular, transient disturbance in, after salvarsan, 229—ab
Nerves, cerebral, paralysis of, in exophthalmic goiter, 1012—ab
cranial, cause of inflammation of, after use of salvarsan, 1433—O
cranial, eventual by-effects on, from salvarsan, 311—ab
fusion of, experimental work on, its practical bearing on infantile paralysis, 1684—ab
massage of, at emerging points, 388—ab
optic, atrophy of, cases resembling, which recovered under treatment, 852—ab
spinal, resection of, for gastric crises in tabes dorsalis, 1863—ab
Nervous affections and adjustments of eyes, 1618—ab
and mental diseases, seroreactions in, 224—ab
and mental manifestations, marked, in masked tertian malaria, 1227-ab
disease, syphilitic and parasyphilitic, salvarsan in, 207
disturbances, organic, atony of bladder without obstruction or signs of, 859—ab
phenomena, reflex, in genito-urinary tract in appendicitis, 544—ab
system and salvarsan, 1668
system, autonomic, functional tests of, in mental disease, 388—ab
system diseases, blood in, 1849—ab
system, functional derangements of, 1762—ab
system, recurrences in, after salvarsan treatment of syphilis, 1428—ab, 1429—ab
system, syphilis in, recurrence after mercurial treatment, 467—ab
system, syphilis of, salvarsan in, 1432—ab, 1668
Nervousness in children, mangement of, 850—ab
Neuralgia and urinary hyperacidity, 378—ab
Facial: See Neuralgia, Trifacial
injections of alcohol in, 1818—E
of joints, recurring effusion with, 82—ab
of larynx, 1420—ab
trifacial, deep injections in, 335—O
trigeminal, resection of gasserian ganglion for, 1369—ab
Neuralgias, putrefactive products of intestinal canal as etiologic factors in certain forms of, 694—ab
Neurasthenia, 380—ab
and chronic nephritis, differentiation of, 528—ab
and eyestrain, 674—ab
and hysteria, gynecologic aspects of, 1608—ab
and movable kidney, 1350—ab, 1393—ab
attractive diet in, 874—ab
cerebral, cured by breathing exercises, 1694—ab
cerebral, from automobiling, its depressing influence on sexual sphere, 1519—ab
fatigue as symptom in, 507—ab
fatigue in, 641—ab
in children, 1106—ab, 1125—ab
in children, treatment of, 1830—ab
massage in, 559—ab
occupation in, 660—ab
organic bases of, 376—ab
Neurasthenia, traumatic differential diagnosis of, 583—ab
with gastralgia, prognosis in, 1167—ab
work in treatment of, 139—ab
Neuritis, and urinary hyperacidity, 378—ab
multiple, alcoholic, obscured, in opium addiction, 1554—O
multiple, probably beriberi associated with pellagroid erythema, 1678—ab
Neurologic features in joint lesions, 381—ab
Neuropathy and chronic influenza, 619—ab
Neuroses, reflex, and reflexes from upper respiratory-tract, 537—ab
traumatic, prognosis of, 630—ab
Neutrophile blood picture and leukocytosis, clinical significance of, in appendicitis, 1012—ab
Nevada medical news, 127, 1045
state board May report, 1838
state board November report, 291
Nevi, 300, treated by freezing, 700—ab
New and nonofficial remedies, entire, part 2 of Journal for April 15th following page 1158
in April issue, 1112—E
Newborn: See Infant
Newcomer, etiquette of calls by, 988
New Hampshire medical news, 430, 753, 1204, 1338, 1662, 1730
state board January report, 690
New Jersey medical news, 278, 431, 753, 1118, 1397, 1489, 1583, 1730
New Mexico state board January report, 1217
Newspaper advertising, black plague in, 1261—ab
comments on national department of health, 144
editorials on medical subjects, 989—ME
New York medical news, 52, 128, 205, 279, 357, 431, 519, 599, 676, 753, 821, 904, 974, 1045, 1118, 1204, 1271, 1338, 1397, 1480, 1583, 1662, 1731, 1824
state board of medical examiners, 1674
Nicotin, toleration for, 1800—ab
Niemeyer's pill, 211—C, 443—C, 916—C
Nipple, Paget's disease of, 313—ab
Nitrates, high, therapeutic effect of, in drinking water, 1881—O
Nitrite and acetanilid poisoning, similarity between, 1054—P
Nitrogen, cutaneous elimination of, 924—ab
metabolism of, in new-born infant, 1068—ab
Nitrous-oxid-oxygen anesthesia, 1749—ab
anesthesia, advantages of, especially for ultimate recovery, 499—O
Nobel prizes, 522
Nodal rhythm of Mackenzie, 1857—ab
Node, sino-auricular, function of, 926—ab
Nodules in muscles, headache from, 1365—ab
Noitol, analysis of, 1056
Noma in adult, 1449—O
North Carolina medical news, 357, 520, 822, 1046, 1118, 1205, 1397, 1489, 1583, 1663, 1731
North Dakota medical news, 280, 357, 1046, 1272, 1489
state board January report, 771
Nose: See also Nares, and Nasal
Nose and throat, sarcoma of, Coley's toxins for, 1615—ab
blepharospasm a reflex of, 529
chancres of, 113—ab
conservative surgery of, 459—ab
deformities, depressed, bone transplantation for, 1259—O
disease of, vacuum-pump for, 811—O
Hemorrhage from: See Epistaxis
mouth and throat, peroral intubation for operations on, 1369—ab
secretion from patients with acute poliomyelitis, inoculations of, 1192—O
septum of, submucous resection of, description of author's special instruments, 922—ab
siphonage of stomach content through, in peritonitic ileus, 466—ab
submucous resection of, cartilage transplantation for prevention of perforation in, 542—ab
suction, 1055—C
Nostrum advertising, lay and medical, 425—E
and pharmaceutical journals, 516—E
evil, encouragement of, by reputable physicians, 761—C
Nostrums, drug journal's attitude on, 287—P
Nostrums, validity and construction of provision in medical practice act for licensing itinerant vendors of, powers of state board of health, advertising matter around bottles as evidence, 216—M1
Nuclei, erythrocytic, of normal human blood, 540—ab
Nucleins, chemistry of, 817—E
Nurses, directory for, 1715—O
importance of public and private hospitals in education of, 305—ab
model rules for, 434
training schools in Massachusetts, antityphoid inoculation as introduced into, 221—ab
Nursing, maternal, complemental infant feeding as effective aid in maintaining, 326—O
Nurslings: See Infants
Nutrition, infant, 1682—ab
role of hypophysis cerebri in, 1621—ab
Nymphomania case, evidence barred in, 842—M1
Nystagmus and myoclonia, 1300—ab
vestibular, 1861—ab

O

Oatmeal in diabetes mellitus, 1667
Obesity as sign of disease in hypophysis cerebri, 1866—ab
dangers in treatment of, 1860—ab
treatment of, 1340, 1860—ab
Obstetric procedures, advantages of Trendelenburg position for, 1157—ab
version, 312—ab
Obstetrics and animal experimentation, 1159—O
forceps, new technic in use of, 1006—ab
journals on, 139
primitive, 812—O
sacral anesthesia in, 229—ab
scopolamin in, review of, 1009—ab
self-infection in, 1909—ab
Obstetricians, Spanish, biennial gathering of, 1664
Occupation, influence of, on development of female diseases, 1825
in neurasthenia, 660—ab
Odontomes, composite, 6 cases of, 165—O
Odor from asparagus, 916
Odynphagia, simple method for relief of certain forms of, 846—ab
Oedipus-complex in Hamlet, 1377—O
Officials, public health, venereal prophylaxis in U. S. navy for benefit of, 1359—ab
Ohio medical news, 52, 206, 280, 357, 520, 600, 822, 1046, 1205, 1397, 1489, 1663, 1731, 1824
state board December report, 371
state board January reciprocity report, 1499
state medical teachers' association, meeting of, 596—E
Oil, camphorated, in prophylaxis of postoperative peritonitis, 385—ab
eucalyptus, poisoning, 851—ab
olive, in postoperative nausea, 1505—ab
Oils and fats given subcutaneously, utilization of, 1757—ab
Ointment, tuberculin, old, in diagnosis and treatment of lupus vulgaris, 306—ab
Oklahoma medical news, 180, 753, 1489
new state board in, 1416
Oleomargarine, wholesale poisoning from, 54
Omentopexy for ascites with valvular defect, 707—ab
Omentum and appendix, gangrene of, 34—O
great, functions of, 847—ab
great, primary endothelioma of, 1871—O
Ontario, milk legislation in, 1659—E
Oöphorectomy: See Ovariotomy
Operating-table, plea for greater care in arranging patients on, for prevention of common postoperative weak back, 642—O
Operation, alcohol-tannin for sterilization of field of, 1076—ab
Operations, allowing patients to get up early after, 860—ab
major, under primary ether anesthesia, 163—ab
orthopedic, convulsions after, 1623—ab
plastic, and ionic surgery in epithelioma of vulva, 886—O
plastic, and ionic surgery in meatus urinarius, 886—O
pulmonary and circulatory complications following, 1761—ab
Operative procedures, complications due to, 140—ab
Ophthalmia neonatorum, 1503—ab, 1852—ab
neonatorum, a reportable disease, 906
neonatorum and gonorrhea, 288—C, 366—C
sympathetic, 153—ab, 778—ab
Ophthalmic cases, unusual, 622—ab
Ophthalmology, fibrolysin in, 688
journals on, 290
teaching of, 224—ab
Opium addiction, obscured alcoholic multiple neuritis in, 1554—O
containing proprietaries, 1268—E
poisoning, 1146—ab
problem, oriental and occidental, 1577—E
production in this country, 427—E
varying susceptibility to, with age, 783—ab
Opsonic counts, simplified method of staining preparations for, 1189—O
index in diagnosis of mixed infection in pulmonary tuberculosis, 1003—ab
Optometry, 1285—ab
bill, Alabama, Governor O'Neal vetoes, 1347—ME
examination questions, 689—ME
report of committee on, 769—ab
Oral: See Mouth
Orange-red underclothing used in tropics, 1484—E
underwear and actinic rays, 1740
underwear, experiment with, 1685—ab
Orchitis, primary, with secondary parotitis, 742—O
Oregon medical news, 677
Organ extracts and fluids, mydriatic action of, 782—ab
Organs: See also Viscera
Organs of internal secretion, interrelations of, 849—ab
Organization, Medical: See Medical
Organization and advancement of medical profession, 1840—ab
Organology, teaching of, 1544—O
Organotherapy of osteomalacia, 1696—ab
Oriental sore in native Colombian, 1257—O
Orthodiagram, diagnostic value of, in heart disease, 925—ab
Orthopedic standpoint, joint diseases from, 381—ab
Orthopedics, standardization in instruction and practice of, 1844—ab
Oscalcis, osteophytes of, 926—ab
Osmosis as important factor in action of antiseptics, 1069—ab
Ossification and growth, influence of exophthalmic goiter and analogous conditions on, 84—ab
carpal, and physical and mental development, 697—ab
Osteitis deformans, 540—ab
Osteo-arthritis, metabolic, treatment of, 1779—O
Osteochondritis dissecans, its nature and relation to formation of joint mice, 926—ab
Osteomalacia, organotherapy of, 1696—ab
Osteomyelitis, non-suppurative, 66—ab
of spine, acute, 1369—ab
Osteophytes of os calcis, 926—ab
Os Uteri: See also Uterus
Os uteri, undilated, rapid delivery with, 227—ab
Otitis media, acute, and mastoid abscess in children, 73—ab
acute, and suppurative disease of nasal accessory sinuses in adults, 619—ab
intracranial complications of, 380-ab
suppurative, bacterins in, 143—ab
suppurative, scarlatinal, bacterial vaccines in, 1088—O
vaccine therapy in, 1647—O
Otology, journals on, 290
Out-house, sanitary, discussion on, 255—O
Ova, parthenogenetic development of in mammalian ovary and origin of ovarian teratomata and chorioepitheliomata, 1327—O
Ovaries and Fallopian tubes, autonomic manifestation and peripheral control of pain originating in, 861—O
and Fallopian tubes, tuberculosis of, 1231—ab
conservatism in operations on, 157—ab
Fallopian tubes or pelvic connective tissue, inflammatory disease of, operative treatment of, 1516—ab
or testicles, hyperfunctioning of, as cause of rachitis, 629—ab

Ovary, autoplastic transplantation of, its clinical significance, 701—ab
cyst of, unusually large, 141—ab, 847—ab
cysts of, small, unusual complication of, 1616—ab
dermoids of, double, in pregnancy, 1912—ab
epitheliomata, 1327—O
mammalian, parthenogenetic development of ova in, and origin of ovarian teratomata and chorioeuterine hemorrhage originating in, in some cases, 934—ab
Ovogal, 1460
Owen Bill: See also Health, National
Owen Bill, 1840—ab
Oxycephaly, 1688—ab
Oxygen baths, use of, 1226—ab
compressed, 813, 820—E, 833—P
compressed, purity of, 833—P
continuous stream of, in diffuse peritonitis, 781—ab
in resuscitation of new-born infants, 468—ab
pure, injurious action of, on lungs, 467—ab
Oxyuris as cause of ileus, 390—ab
vermicularis: pin worms, 745—T
Oyster-grounds, sanitary inspection of, in United States, 733—O

P

Paget's disease of nipple, 313—ab
Pain, abdominal, 1601—ab
abdominal, and loose sacro-iliac joint, 885—ab
abdominal, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, 1784—O
abdominal tenderness with, due to thoracic lesions, 1606—ab
and dysesthesias, interpretation of, 787—O
and muscular efficiency, 898—E
immediate, and abscess following administration of salvarsan by alkaline solution method, cause of, 1262—O
in abdominal disease, 300—ab
in diagnosis of gastric cancer, 310—ab
in sacral region, extradural injections for, 552—ab
kidney, 382—ab
originating in uterus and adnexa, autonomic manifestation and peripheral control of, 681—O
sense in pleural membranes, 1849—ab
Painease, misbranding of, 1898—P
Palate cleft, and harelip, modification of Lane's operation for, 1759—ab
cleft, operation for, 56 cases of, 1906—ab
cleft, operations, 163—ab, 306—ab
soft and hard, separated and lower jaw slit for exposing nasopharynx, 1306—ab
Palsy: See Paralysis
Panama an object lession to civilization, 1728—E
Canal, physicians digging it, 125—E
malaria in, 155—ab
Pancreas, Cammidge Reaction in Diseases of: See Reaction
changes in, in diabetes mellitus, 785—ab
cysts of, treatment of, 1303—ab
disease of etiology of, 1682—ab
disease of, operative treatment of, 932—ab
diseases of, diagnosis of, 75—ab
extracts, danger of, 1657—E
internal function of, in carbohydrate metabolism, 1757—ab
internal secretion of, 655—O
necrosis of, progress in knowledge and treatment of, 160—ab
sufficiency, test for, 1668
Pancreatic extract in epinephrin glycosuria, 705—ab
Pancreatitis, chronic and acute, operative treatment of, 83—ab
chronic, its symptomatology, diagnosis and treatment, 1079—O
hemorrhagic, acute, 157—ab, 1153—ab
hemorrhagic, acute, operation, recovery, 1515—ab
Pantopon rejected, 1278—P
Papilloma of larynx in children, 1230—ab
Papine, 1278—P
Pappataci fever, nature of virus of, 773—ab
Paraffin injection in chronic constipation, 313—ab
Paralysis: See also Hemiplegia, and Paraplegia
Paralysis agitans with parathyroid gland, treatment of, 69—ab
Paralysis and tabes dorsalis in negro, rarity of, 1645—O
Butenko reaction in urine in, 467—ab
difficulties encountered in making diagnosis of, 224—ab
following acute poliomyelitis, treatment of, 1031—O
general, and tabes dorsalis, are they same disease differing only in situation of lesion? 1415—ab
infantile, and fusion of nerves, 1684—ab
infantile, artificial muscles in early treatment of, 922—ab
infantile, miniature exercise machine, for, 1259—O
infantile, prevalence of, in Missouri, 1846—ab
infantile, unusual case of, 1143—ab
intestinal, postoperative, electricity in, 958—O
Landry's, 626—ab
Landry's, in epidemic poliomyelitis, 807—ab
laryngeal, diagnostic importance of, 1427—ab
liquor Bellosti test in, 1904—ab
musculospiral, surgery of, 1071—ab
of anterior poliomyelitis, residual, intra-articular silk ligaments for fixation of loose joints in, 1846—ab
of arm and dislocation of shoulder with falling of humerus, 1362—ab
of arm due to nerve injury, 1415—ab
of bladder, 743—O
of bladder, local, 536—ab, 777—ab
of cerebral nerves in exophthalmic goiter, 1012—ab
of left recurrent laryngeal nerve in mitral stenosis, anatomic explanation of, 1510—ab
of stomach, postoperative, 548—ab
of velum, post-diphtheritic, electricity in, 1235—ab
postdiphtheritic, and repeated diphtheria, 229—ab
progressive, permeability of meninges in, 1156—ab
progressive, treatment and diagnosis of, 311—ab
spastic, and encephalitis, differential diagnosis of cerebrospinal meningitis and epidemic poliomeylitis from, 853—ab
spastic, resection of spinal nerve roots for, 550—ab
Paralytic dementia, death after injection of salvarsan in, 164—ab
Parametritis and peripleuritis secondary to peripheral suppurative processes, 163—ab
Paraplegia, explanation of many cases of, 999—ab
Pott's, 153—ab
Pott's, of one year's standing, laminectomy, almost complete recovery, 1848—ab
Parasite, estivo-autumnal, its sexual cycle in circulating blood of man, 775—ab
Parasites, intestinal, of North Mississippi, 1503—ab
unusually few, in peripheral circulation in masked tertian malaria, 1227—ab
Parathyreopriva tetany, parathyroid grafts in, 1691—ab
Parathyroid gland, paralysis agitans with, treatment of, 69—ab
implantation in tetania parathyreopriva, 1004—ab, 1691—ab
Parathyroids and thyroids, internal secretions of, chemical aspect of, 653—O
not responsible for tetany in children, 390—ab
Parents, can they control at will future sex of family? 1228—ab
Paresis: See Paralysis
Paris letter, 53, 130, 207, 283, 359, 435, 522, 601, 681, 755, 826, 906, 977, 1050, 1121, 1207, 1274, 1340, 1405, 1492, 1586, 1666, 1734, 1820
Parks, city, making room for, 1485—E
public, and physician, 1727—E
Parotitis, secondary, primary orchitis with, 742—O
Parthenogenesis of ova in mammalian ovary and origin of ovarian teratomata and chorioepitheliomata, 1327—O
Passengers, sick, duties of carriers to, when not liable for unusual pain, 585—M1
Pasteur, house where he was born, 53
Institute, portraits at, 528
Pasteurization, control of, 713—O
Patella, ankylosis of, treatment of, 985—ab
congenital displacement of, 466—ab
fracture of, 223—ab, 1224—ab
Patella, fractures of, silver wire for, 1616—ab
Patient, circumstances under which he cannot be charged for services rendered at another's request, 1744—M1
Patients, allowing them to get up early, 860—ab, 1370—ab
plea for greater care in arrangement of, on operating table for prevention of common postoperative weak back, 642—O
treated with salvarsan, 1063—ab
validity of statutes forbidding advertising for, and special ability to treat or cure chronic and incurable diseases, chronic and incurable defined, consultation of medical works by boards, 452—M1
Patriarchs, surgical, two, 1199—E
Pauperism and syphilis, 1109—ab
Pearson, Karl, work of, 1206
Peccavimus, 609—C
Pedagogics, report of committee of Association of American Medical Colleges on, 997—ab
Pediatrics, improvement of instruction in, in Germany, 756
Pedigree showing biparental inheritance of webbed toes, 157—ab
Pellagra, 998—ab, 1354—ab, 1358—ab
discussion on, 251—O
due to amebas, 223—ab
hexamethylenamin in, 1280—C
in Italy, 755
in Italy, old and new theories, report of cases seen in New York, 921—ab
is it a disease primarily of ailmentary tract? 1753—ab
later views on, 1616—ab
originating in Pennsylvania, 998—ab
outside of institutions, 66 cases of, 1511—ab
salvarsan in, 896—O, 1794—O
Sambon's new theory of, its application to conditions in Georgia, 1713—O
skin lesions of, histologic study of, 878—ab
stomatitis of, bacteriology of, 302—ab
transfusion in, 143—ab, 584—O
with analytical study of 55 non-institutional or sporadic cases, 246—O
Pelves, contracted, diagnosis and treatment of, 1911—ab
funnel, frequency and clinical significance of, 1911—ab
Pelvis, contracted, experiences with, 1235—ab
fascia of, and operation for cystocele, 1147—ab
lymphatics of, and tissues adjacent to uterus, participation of, in uterine cancer, 101—O
reflexes in, 305—ab
Penetrometer, x-ray, new form of, 1364—ab
Pennyroyal pills, Chichester's, 1591—P
Pennsylvania medical news, 52, 128, 206, 281, 358, 520, 600, 677, 753, 823, 905, 975, 1047, 1118, 1272, 1338, 1398, 1490, 1583, 1663, 1731, 1824
state board December reports, 449
tuberculosis situation in, in 1909, 339—O
Pepsin and diastase content of urine, 1357—ab
in diabetes mellitus, 497—O
Percussion, dorsal, of heart, its application in interpretation of Grocco's paravertebral triangle of dulness, 1010—ab
findings, apical, 703—ab
liver, findings on left side, 707—ab
with patient leaning against masonry wall, 1157—ab
Pericarditis, 269—T
abdominal pain and tenderness, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in, 1784—O
indicated by absence of abdominal respiratory movement, 929—ab
Pericardium of dog, accessory thyroid tissue in, 1681—ab
Perimeter, convenient method of testing visual fields for color without use of, 1106—O
Perineum, simple technic in gynecologic and obstetric repair of, 1754—ab
Periodicity, functional, in women, 1295—ab
Peripleuritis and parametritis secondary to peripheral suppurative processes, 163—ab
Peritoneum and contiguous mesentery, transfixion of, and perforation of uterus by bone crochet needle, 173—O
Peritoneum complications of scarlet fever, 853—ab
implantation of internal saphenous vein in, in ascites, 163—ab
infections of, measures for protection against, 1516—ab
Peritonitis and influenzal pleurisy, 630—ab
consecutive to appendicitis, treatment of, 454—ab
diffuse, continuous stream of oxygen in, 781—ab
diffuse, in appendicular dyspepsia, 1687—ab
diffuse, results of operative treatment of, 545—ab
general, acute, treatment of, 1184—O
in children, tuberculous, 1766—ab
obscure case of, 158—ab
pneumococcus, 1502—ab
postoperative, camphorated oil in prophylaxis of, 385—ab
postoperative, especially diarrheic form, 1152—ab
streptococcus, 228—ab
tuberculous, and alcoholism, 1624—ab
tuberculous, operation and sunshine in, 1557—ab
ulcer, acute, in typhoid, 1683—ab
Peritonization in abdominal and pelvic surgery, 1141—ab
Peroneal spasm, 1847—ab
Peroxid cream, Brunner's, misbranded, 1898—P
Pessary treatment of prolapse of rectum, 1910—ab
Petechiæ, artificially induced, as sign of scarlet fever, 858—ab
Phagocytosis, influence of ether and other anesthesia on, 1147—ab
Pharmaceutical products, unreliable, 1334—E
Pharmacist and physician, 442—O
liability of, for damages for having given medical advice, 360
vs. physician, 433
Pharmacists, retail, are they waking up? 1054—P
Pharmacopeia, next, scope of, 1269—E
should it contain only useful and efficient drugs? 924—ab
United States, 1910, 696—ab, 1226—ab
United States, revision of, 924—ab
Pharmacy, ancient problems of, their warning, 514—E
Phenol, pure, and iodoform for appendiceal abscess, 1297—ab
subcutaneous injection of, in tetanus, 1372—ab
Phenolphthalein as palatable laxative, 57—P
may cause pink stools, 367—C
test for occult hemorrhage in gastro-intestinal tract, 546—ab, 1225—ab
Phenolsulphonephthalein, functional activity of kidneys by means of, 1151—ab
Phenomena, sexual, journals on, 988
Philippines, health report of, 1119
medicine in, articles on, 212
tuberculosis in, 1685—ab
Philip's face lotion, misbranding of, 1899—P
Phlegmon, extensive, of synovial sheaths in hand, treatment of, 1426—ab
in stomach wal, operative treatment of, 1428—ab
of larynx, symptoms of, 1822—ab
Phonendoscope for testing hearing, 1519—ab
Phonocardiography and electrocardiography, 74—ab
Phosphatids and Overton and Meyer's theory of narcosis, 539—ab
Phosphorus, cutaneous elimination of, 924—ab
in new-born infant, 1068—ab
poisoning, acute, and acidosis, 883—ab
poisoning, industrial, prevention of, 1018—O
white, 1038—E
Phthisiophobia, 1004—ab
Phtisis: See Tuberculosis
Phylogenetic association and certain medical problems, 542—ab
Physician, aged, at Nice, tribute to, 16—
and druggist, 442—O
and public, 1354—ab
and public health, 1052—ab
and public parks, 1727—E
and tuberculosis, 1613—ab
appointed to make examination, information obtained by, not privileged, 993—M1
attending, testimony of, inadmissible in will case, 1350—M1
complete, 447
country, duty of, to mother and child, 1355—ab
daring experiment of, on himself with typhoid bacilli, 991

Physician, employment of, by one member of county board, 843—M1
family, refracting by, as factor in medical practice, its promotion during 1910, 380—ab
fate of, 362
good, 1581—E
good, how to become, 1536—O
good, value of, to public, 1413—ab
has he right to inject non-authorized serum, 1340
heroism of, in railway accident, 359
in public, 1854—ab
insurance, question, proposed settlement of, 1051
is he a workman? 1734
liability of company requiring injured person to be taken to, 1221—M1
method of, for increasing income, 687—C
obligation of, in development of communicable diseases, 75—ab
opportunities of, in foreign medical missions, 1739—C
proof of amount of earnings of, not necessary, 1221—M1
responsibility of, for public education in physiology and hygiene, 224—ab
vs. pharmacist, 433
young, and hospital, 1419—ab
Physician's account books, admissibility in evidence of, corroboration in action against administrator, 692—M1
Physicians and classical studies, 1666
and dissolution of parliament, 1341
and dreadnaughts, 820—E
and first-aid societies, 359
and industrial diseases, 1132—O
and medical institutes, responsibility of, 1493
and surgeons, professional responsibility of, 978, 1364—ab
attending, relative weight of evidence of, 1221—M1
Chinese do not pay them to keep them well, 917
Chinese, native, qualifications of, 1595—ab
contract, strike of, at Halle, 53
deaths of, in 1910, 47—E
debt of country to, 1401—ab
digging Panama Canal, 125—E
fiction extolling aims of, wanted, 762
financial problems of, 1059—O
incomes of, 835—C
legal rights and liabilities of, 1420—ab
legal rights and obligations of, 1215—O
limitation of number of, in France, 826
multiple offices for, 602
now registered under medical practice act in Missouri, who accounted, 1289—M1
of Seine, professional responsibility and organization of, 435
outlook for, in Hungary, 757
President Taft's message to, 1393—E
proportion of, to population in United States, 973—E
removal of, from register for working with unqualified persons, 1826
reputable, encouragement of nostrum evil by, 761—C
risks run by, 972—E
rôle of, in prevention of insanity, 1507—ab
supply and demand of, 986—C
syphilis in, 1341
young, importance of public and private hospitals in education of, 305—ab
Physiologist and anatomist, what internist wants them to teach, 1066—ab
and anatomist, what surgeon wants them to teach
Physiology and hygiene, responsibility of physician for public education in, 224—ab
at high altitudes, 1825
of cell division, 303—ab
Pick's syndrome, 1686—ab
Pilocarpin in pruritus, 1739—C
Pineal body, galactagogue action of, 924—ab
Pin-worms: oxyuris vermicularis, 745—T
Piperazin, lycetol and lithia in nephrolithiasis, 1346
Pipes, copper, for distributing drinking-water, 1666
Pipettes, blood, and solutions, handy pocket case for, 737—O
Pistol, toy, fatal accident from, means of securing sane Fourth-of-July ordinance, 1345—O
Pituitary Gland: See Hypophysis Cerebri
Pix cresol, 1738—O
Placenta, abnormally situated, hemorrhage from, treatment of, 1689—ab
glycogen in, 1765—ab
implanted between body of uterus and cervix-uteri, Cesarean section for, 310—ab
prævia, 1746—ab
prævia, analysis of 40 consecutive cases of, 1746—ab
prævia, best and worst methods of treating, 1746—ab
prævia, treatment of, 1429—ab
prævia, treatment of, at Sloane's Hospital for women, 1745—ab
prævia, unusual case of, 1614—ab
serum and serum of pregnant women, non-destructive action of, on human cancer cells, 859—ab
tuberculosis of, 551—ab
Plague, 827, 1011—ab, 1578—E, 1584
abroad, 824
alleged economic value of, 1584
Black: See Syphilis
bubonic, transmission of, 289—C
deaths in Spokane probably not due to, 678
eradication and rats in India, 644—ab
fleas in transmission of, for long distances, 1152—ab
in Astrachan and Manchuria, 1074—ab
in China, 750—E, 835—C, 987—C
in far east, 358
in India, 825, 906, 1405
in Manchuria, 282
in North China, 737—O
in Shanghai, China, 283
its spread, 977
journey of German crown prince interrupted by, 681
measures against, 755, 1266—E
memorial to Dr. Mesny, victim of, 826
pathogenesis and prophylaxis of, 1371—ab
pneumonic, and epidemic pneumonia in institutions, analogies between, 1908—ab
pneumonic, in China, 444—C
pneumonic, salvarsan in, 1519—ab
present position of treatment of, 624—ab
prophylaxis of, 1766—ab
rat, precautions in London against, 977
situation, present, 425—E
Yersin-Roux serum in treatment of, 332—O
Plantoxine, 685—P
Plants, contact-poisonous, Philippine, 1001—ab
promotion of growth of, by radium emanations, 1368—ab
Plaster, adhesive, easy and painless method of removing, 263—O
adhesive, removal of, 610
garter, adhesive, for varicose ulcers, 629—ab
jackets, advantages of braces over, in Pott's disease, 153—ab
jackets, new method for application of, in hyperextension, 874—O
of Paris as primary dressing for fractures, 850—ab
Play and work, 538—ab
Pleura and lungs, tumors in, 1303—ab
Pleurisy as complication and sequel of lobar pneumonia, its diagnosis and treatment, 70—ab
influenzal, and peritonitis, 630—ab
suppurative, double, 1077—ab
Plexus, spermatic, resection of, for relief of certain forms of dysmenorrhea, 1104—O
Pneumococcemia: bilateral empyema, recovery, 738—O
Pneumococci, new stain for bacterial capsules with special reference to, 418—O
production of antibodies to, in insusceptible host, 1878—O
Pneumococcus, acute suffocative catarrh originating from, 1425—ab
bronchitis, 1425—ab
meningitis, prognosis and course of, 1693—ab
vagaries of, 1143—ab
Pneumonia, abdominal pain and tenderness, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in, 1784—O
acute, continuous and persistent diaphoresis for, 701—ab
acute, prognosis and treatment of, 1859—ab
acute, quinin and urea hydrochlorid hypodermically in, 1605—ab
and phthisis in Transvaal, 1825
and rheumatism, are they specific infections? 1858—ab
Pneumonia, camphor in large doses in, 454—ab
croupous, treatment of, 924—ab
diagnosis of, 375—ab
due to gram-negative diplococcus, 1298—ab
epidemic, 1008—ab
epidemic, in institutions and pneumonic plague, analogies between, 1908—ab
in children, acute, 1229—ab
in infants and children, serotherapy of, 1422—ab
lobar, in infants, 1414—ab
lobar, pleurisy as complication and sequel of, its diagnosis and treatment, 70—ab
lobar, prognosis of, 1683—ab
lobar, symptoms and complications of, 375—ab
lobar, treatment of, 154—ab
lobar, unexpected experiences in, 1294—ab
management of, 459—ab
medical treatment of, 375—ab, 926—ab
question, public and private aspects of, 924—ab
stomach dilatation in, 1680—ab
surgical complications of, 375—ab
treatment of, 928—ab
variations in phagocytic and coccidal power of blood in, 1361—ab
Pneumothorax, artificial, in pulmonary tuberculosis, 159—ab, 544—ab, 1075—ab
artificial, on both sides, 626—ab
induced, in severe unilateral pulmonary tuberculosis, 1078—ab
with acute abdominal symptoms, 1000—ab
Pocket case, handy, for blood-pipettes and solutions, 737—O
Podalic version or breech presentation, modification of usual technic in delivery of first arm in, 380—ab
Poison, venom, compared with puerperal eclampsia, treatment, 623—ab
Poisoning, acetanilid, and nitrite, similarity between, 1054—P
acetanilid, chronic, 1677—ab
after small doses of acetyl-salicylic acid, 780—ab
arsenic, fatal, after administration of salvarsan in cerebral syphilis, 1155—ab
by butterine, 435.
carbon monoxid, chronic, 384—ab
carbon-monoxid, discovery of, long after death, 53
carbon monoxid, from benzine explosive engine, 434
carbon monoxid, resulting in gangrene of both legs, 1455—O
chloroform, apparently fatal, direct massage of heart in, 549—ab
chloroform, fatal, tardy, 1012—ab
chloroform, liver necrosis of, 1124—ab
coal-oil, treatment of, 1835
eucalyptus oil, 851—ab
following use of coal-tar derivatives, 1070—ab
from bite of spider, 1830—ab
from datura alba seeds, 1001—ab
from ivy not taking of poison, death accidental, visible marks, 1501—M1
from jellyfish stings, alcohol for, 1346
heroin, 777—ab
illuminating gas, treatment of, 1651—O
lead, 229—ab
lead, chronic, 1799—O
lead, drinking water as medium of, 1853—ab
lead, from sodawater, 206
lead, in Illinois, 1240—O
lead, Wassermann reaction in, 1694—ab
male fern, intermittent limping and spinal disturbances from, 1367—ab
opium, 1146—ab
phosphorus, acute, and acidosis, 383—ab
phosphorus, industrial, prevention of, 1018—O
rattlesnake, literature on, 1593
strychnin, chloroform for, 1685—ab
strychnin, control of, by intratracheal insufflation and ether, 1224—ab, 1427—ab
wholesale, from oleomargarine, 54
wood alcohol, 1341
Poisons and drugs, physical factors in action of, 1152—ab
of tropical toad, bufo agua, 1531—O
Polioencephalitis, oculo-motor type of, 1515—ab
Polioencephalomyelitis, epidemic, meningeal forms of, 1867—O
Poliomyelitis: See also Paralysis, Infantile
Poliomyelitis, abortive cases of, 663—O
acute, inoculations of nasal secretion from patients with, 1192—O
acute, paralysis following, treatment of, 1031—O
acute, probable cause of, 1358—ab
acute, treatment of, 300—ab
anterior, 1760—ab
anterior, acute, pains of, treatment of, 192—O
anterior, after-care of, 305—ab
anterior, epidemic, 661—O
anterior, intra-articular silk ligaments for fixation of loose joints in residual paralysis of, 1846—ab
anterior, proper method of diagnosis, 916—C
anterior, surgical after-treatment of, 1841—ab
anterior, symptomatology of, 593—ab
cerebral forms of, their diagnosis from forms of meningitis, 1854—ab
epidemic, 462—ab, 704—ab, 1430—ab
epidemic, acute, circular on, 1825
epidemic, acute stage of, 626—ab
epidemic, and cerebrospinal meningitis, differential diagnosis of, from spastic paralysis and encephalitis, 853—ab
epidemic, control of, 1750—ab
epidemic, in Switzerland, 385—ab
epidemic, Landry's paralysis in, 307—ab
important recent contributions to our knowledge of, 671—E
in monkeys, experimental, 585—O
new facts concerning, 926—ab
organism, discovery of, 754
skin eruption in 6 consecutive cases of, 1616—ab
tendon transference in, 276—ab
transmission experiments with virus of, 495—O
virus, contamination of fly with, 1717—O
Poliomyeloencephalitis, acute, value of lumbar puncture and leukocyte count in diagnosis of, 1145—ab
Polycythemia, 625—ab
venesection in, 934—ab
Polyneuritis and myelitis during toxic vomiting of pregnancy, 1426—ab
Polypeptids, diagnosis of gastric carcinoma by cleavage of, 1150—ab
Pons-varolii and medulla oblongata, recent progress in topical diagnosis of diseases of, 160—ab
Population, proportion of physicians to, in United States, 973—E
Pork, danger of trichinosis from, 687—C
Portuguese man-of-war of, 1213
Position, knee-chest, in internal disease, diagnostic and therapeutic importance of, 1861—ab
Posology, 1114—E
Postgraduate course for county societies, 63, 145, 212, 295, 370, 447, 531, 612, 689, 771, 839, 920, 990, 1060, 1134, 1217, 1283, 1347, 1413
study in Europe, 1056
surgical clinics in America, 1054—C
Post-Mortem: See also Necropsy
Postoperative conditions, investigation of, from 5 to 10 years after intubation, 777—ab
Posture as aid in diagnosis and treatment of cardiac affections and dropsical conditions of various origin, 1291—ab
operative, 642—O
orthograde, normal, 157—ab
Potassium cyanate and blood, 139
iodid treatment, acute thyroiditis following, 1304—ab
permanganate and glycerin cause fire, 906
permanganate as hemostatic, 1262—O
Pott's disease, advantages of braces over plaster jackets in, 153—ab
paraplegia of year's standing, laminectomy, almost complete recovery, 1848—ab
sudden onset of, without deformity of vertebrae, 1149—ab
Powder smoke fatality, unusual, 1359—ab
Practice and medical education in Japan, 354—E
of medicine, illegal, unforeseen consequence of prosecution for, 1666
state license to, 766—ab
state license to, symposium on, 765—ab
Practitioner, 1604—ab
gynecologic problems of interest to, 1142—ab
ideal medical education for, 1070—ab

Practitioner, importance of convergence insufficiency to, 1070—ab
of medicine amenable to law, christian science healer as, 1062—M1
practical laboratory work for, 1355—ab
unauthorized, assignee of claim of, 693—M1
vaccine therapy from standpoint of, 1749—ab
value of Wassermann reaction from viewpoint of, 1615—ab
why he should study surgical diagnosis of gastric and duodenal ulcer, 85—O
Practitioners, contract, Hungarian, attempted organization of, 285
importance of public and private hospitals in clinical instruction of, 305—ab
in Austria, statistics about, 1275
license rights of, powers and duties of state board, 1220—M1
titles for, 683
Precedent, fetish of, 970—E
Precipitates, 2, clinical importance of, in acetic-acid seroreaction, 468—ab
Pre-digested liquid food, 1195
Pregnancies, later, cicatrix after Cesarean section in respect to, 551—ab
tubal, bilateral, with triplets, 1690—ab
Pregnancy after nephrectomy, 830—ab
after operations on kidney, 853—ab
and fibroids, 903—ab, 929—ab
and heart defects, 309—ab
and labor, tuberculin reaction during, 1765—ab
and puerperium, massage and gymnastic exercises during, 1518—ab
and status epilepticus, 466—ab
and tuberculosis, 1370—ab
breast abscess during, 617—ab
dermatoses, serotherapy of, 1157—ab
disturbances, serotherapy of, 388—ab
double, in uterus didelphys, 20—ab
double ovarian dermoids in, 1912—ab
early, hemorrhages during, their relation to abortion, 705—ab
effect of, on implanted embryonic tissue, 775—ab
etiologic influence of, on molluscum fibrosum, 617—ab
extrauterine, 1358—ab
extrauterine, advanced, 699—ab
extrauterine and intrauterine, combined, 1004—ab
extrauterine, at Massachusetts General Hospital, review of 214 cases of, 1684—ab
extrauterine, intra-abdominal hemorrhage due to, immediate versus deferred operation in, 1070—ab
extrauterine, torsion of Fallopian tube as factor in etiology of hematosalpinx apart from, 307—ab
extrauterine, uterine pregnancy after, 1230—ab
influence of, on eye diseases, 1904—ab
labor and puerperium, fibromyomata of uterus complicating, 305—ab
liver and atypical eclampsia, 309—ab
myelitis and polyneuritis during toxic vomiting of, 1426—ab
nausea of, 457—ab
ocular disturbances in, 1230—ab
pernicious vomiting of, 158—ab
pyelitis, cystoscopy in diagnosis of, 1303—ab
pyelitis of, 38—O, 1692—ab
salpingostomy in, 1912—ab
serodiagnosis of, 1865—ab
toxemia of, experimental study of anaphylactic theory of, 928—ab
toxemias of, catalytic activity of blood in, 156—ab
toxemias of, serotherapy in, 1154—ab
tubal, immediate or deferred operation in? 1904—ab
tubal, intra-abdominal hemorrhage due to, immediate versus deferred operation in, 1070—ab
tubal, new sign of, 1613—ab
uterine, after extrauterine pregnancy, 1230—ab
x-rays in diagnosis of, 1234—ab
Pregnant and lying-in woman, plea for more intelligent care of, 1512—ab
Prescribing, good sense in, 121—T
Prescription, oldest, in America, 1817—E
physician's right of, and new codex, 1826
unscientific, 985—P
Prescriptions, refilling of, 360, 755
repeated use of, in Austria, 1407
Prescriptions, shot-gun, and shot-gun specialties combined, 834—P
Presentation, breech, or podalic version, modification of usual technic in delivery of first arm in, 380—ab
Preservatives in food, Price's Canning Compound, 607—P
President Taft and medical profession, 1399
versus Life, 1394—E
Press, campaign against sensationalism in, in Germany, 1051
the independent, 1876
Pressor bases of urine, 1906—ab
Pressure, Blood: See Blood-Pressure
Pressure, effects of, on conductivity in nerve and muscle, 303—ab
Pulse: See Blood-Pressure
Prevaricator, predicament of, 203—E
Prevention, foundations of, 224—ab
Price, Laborie, 681
Prices', Mrs., canning compound, 607—P
Primiparæ, old, 232—ab
Prisms: See also Lenses
Privat-docent, woman not admitted as, in Germany, 361
Prize competition, international, of red cross, 682
Lannelongue, 130
Prizes, Marie Feodorovna, award of, 1825
Procidentia Uteri: See Uterus
Proctoclysis, 1097—O
apparatus for, 114—O, 873—O
Proctoscopy and sigmoidoscopy in infancy as applied to infectious diarrhea, 620—ab
Professional responsibility in induced medical abortion, 1364—ab
service, board and nursing for wife at hospital, liability for, 535—M1
Professor, exchange, Prof. Theobald Smith as, 1201—E
Progress forward and backward, 1235—ab
or going backward? 935—ab
Propaganda for prevention of conception, measures against, 602
Property, conveyance of to wife, 1902—M1
Proposition, funny, 1083—ab
Proprietary versus unprotected names, 910—P
Prosecution, justifiable, for illegally practicing medicine, 1599—M1
Prostate and bladder, 1353—ab
enucleation of, 200 cases of, 1363—ab
hypertrophied, care of, 1142—ab
hypertrophied, origin of, 309—ab
hypertrophied, recurring, after prostatectomy, 626—ab
massage of, 1197—ab
Prostatectomy, 455—ab
analysis of 46 cases, 1290—ab
at two sittings, 1010—ab
by perineal route without opening bladder, with immediate suture, 301—ab
pararectal, in ventral decubitus, 1862—ab
recurring hypertrophy of prostate after, 626—ab
suprapubic, position drainage in, 535—ab, 1778—ab
Prostatic utricle, method of treating, 731—O
Prosthetics, intrabuccal, forbidden in simple expedient for complicated fractures of lower jaw, 303—ab
Protein contained in cerebrospinal fluid, approximate estimation of, 151—ab
Pruritus ani, 1036—T
itching, 1034—T
pilocarpin in, 1739—O
vulvae, 1037—T
vulvar, psychogenic, 1767—ab
Pseudohermaphrodites, female, classification of, 1074—ab
Pseudomenstruation, 1157—ab
Pseudotumors in intestines, 163—ab
Psychiatry, emergency, 384—ab
proposal to establish department of, in imperial health office in Germany, 1050
Psychic condition immediately after accident, 1766—ab
disturbances with chronic cocain intoxication, 1155—ab
Psychoanalysis, modern, and hysteria, 776—ab
Psychoneurosis, fundamental states in, 776—ab
Psychopathic states, post-traumatic, and traumatic psychoses, 943—O
Psychopathology of suicide, 1154—ab
Psychoses in acute infectious diseases, 72—ab
puerperal, prognosis of, 628—ab
traumatic, and post-traumatic psychopathic states, 943—O
Psychotherapy, future of, 300—ab
in habitual constipation, 1602—ab
Ptosis of abdominal viscera in child, congenital, what is to be attitude of orthopedic surgeon toward? 1847—ab
Puberty, excessive enlargement of breasts at, 1151—ab
Pubes, axilla and breast, chronic itching papular eruption of, 174—O
Pubiotomy and extraperitoneal Cesarean section, 627—ab
technic of, 629—ab, 786—ab
Public, accidents and negligence of, 1586
advertising salvarsan to, 436
and physician, 1354—ab
documents not free, 1345
health conditions, general, insurance statistics an unreliable basis for study of, 1623—ab
health, institution for improvement of, in Charlottenburg, 827
relation and attitude of, to development of communicable diseases, 75—ab
service, 59, 139, 212, 290, 368, 446, 529, 610, 688, 762, 836, 917, 988, 1058, 1132, 1214, 1282, 1346, 1412, 1498, 1594, 1672, 1836
value of good physician to, 1413—ab
Puck on animal experiments, 674—E
Puerperium and pregnancy, massage and gymnastic exercises during, 1518—ab
fibromyomata of uterus complicating, 305—ab
tardy hemorrhage in, 389—ab
Pulsations in peripheral veins, 1510—ab
Pulse and blood-pressure, effect of exercise on, 1111—E
measurement of horse power of, 389—ab
rate, effects of various forms of exercise on, 1005—ab
values, estimation of, 1519—ab
Pupils, school boards may employ suitable persons to ascertain physical condition of, 773—M1
unvaccinated, law requiring exclusion of, from schools constitutional and must be enforced, 374—M1
Pure Food Law: See Food and Drugs Act
Purin metabolism, diagnosis of gout from, 1693—ab
substances in new-born infants, 1068—ab
Purpura fulminans, complicating malaria, 1842—ab
hemorrhagic, after injections of fibrolysin, 1768—ab
Pyelitis and incontinence, treatment of, 1766—ab
of pregnancy, 38—O, 199—O, 1692—ab
of pregnancy, cystoscopy in diagnosis of, 1303—ab
Pyelocystitis, bacillus, colon, in infants and children, 1418—ab
Pyelonephritis, unilateral, 1843—ab
Pyloroplasty, modified, 1358—ab
Pylorospasm, 142—ab, 696—ab, 782—ab
Pylorus, cancer of, sign of metastasis with, 707—ab
obstruction, partial, symptomatic vagaries of, 1687—ab
resection of, and gastro-enterostomy, gastric functioning after, 1234—ab
Spasm of: See Pylorospasm
stenosis of, anatomic findings in stomach of infant 5 months after cure of, 1304—ab
stenosis of, congenital, 697—ab
stretching of, in benign stenosis, 1607—ab
Pyosalpinx, rupture and perforation of, 1427—ab
surgical aspects of, 1610—ab

Q

Quackery, bill against, in Germany, 978, 1051
Dr. Kantor as foe of, 1486—E
law against, in Germany, 1736
Quarantine, diphtheria, bacteriologic vs. clinical control of, 288—C
Queer things that men eat, 1052—ab
Questions, hypothetical, latitude allowed in, 993—M1
Quinin and urea anesthesia, 1340
and urea hydrochlorid hypodermically in acute pneumonia, 1695—ab
and urea hydrochlorid, local anesthesia with, 1141—ab
aspiration and injection of, in amebic abscess of liver, 384—ab
quinsy in adult, fatal, 850—ab

R

Rabies in patient with necropsy, 1841—ab
virus, effect of vacuum desiccation on, 456—ab, 538—ab
Race: See also Racial
Race suicide in France, 1336—E
white, in tropics, 1727—E
Rachitis as causal factor in curvature of spine, 856—ab
hyperfunctioning of ovaries or testicles as cause of, 629—ab
problem, development of, in last decade, 387—ab
tardy, and mineral metabolism, 1695—ab
thyroid treatment in, 1861—ab
Racial stability and birth-rate, 45—E
Radioactivity of mineral waters, 1693—ab
Radiogram: See Radiograph
Radiographs, grams, in 3 dimensions, 300—ab
Radiography for ascertaining whether or not infant has lived, 681
in duodenal obstruction, 1858—ab
stereoscopic, as aid to surgeon, 379—ab
Radiotherapy: See also Roentgen Ray
Radiotherapy of internal disease, 1430—ab
new procedure in, 1735
Radium, 1286—ab
emanations, influence of, on gaseous metabolism and circulation of blood, 1368—ab
emanations, promotion of growth of plants by, 1368—ab
in cancer, 1859—ab
in gout and rheumatism, 700—ab, 782—ab, 1123
in therapeutics, 1123, 1907—ab
Radius, automobile fracture of, 77—ab
Railroad employees, tuberculin treatment of, in Germany, 907
Railroads and human safety, 1410—C
Railway accidents, factors in, 1113—E
Râles after tuberculin injections not always sign of specific focal reaction, 232—ab
Rape, on insane, conviction for, 1903 M1
Rat sarcoma, cultivation in vitro of, 587—O
Rats and plague eradication in India, 644—ab
campaign against, at Buenos Aires, 824
destruction of, 130
growth in vitro of transplantable sarcomas of, 33—O
Rattlesnake poisoning, literature on, 1593
Raynaud's disease, typical case of, 1679—ab
Rays, Roentgen: See Roentgen Rays
Rays, ultraviolet, for sterilizing water, 49—E
Reaction, albumin, in pulmonary tuberculosis, 1908—ab
albumin, in sputum, 933—ab, 1619—ab
albumin, in sputum in early diagnosis of tuberculosis, 1621—ab
antitrypsin, importance of, in diagnosis and prognosis of cancer, 463—ab
biuret, in examination of stools, 1860—ab
Butenko, in urine in paralysis, 467-ab
Calmette's Tuberculin: See Tuberculin
Cammidge, and substance giving rise to typical crystals, technic of, 926—ab
Cammidge, clinical value of, 70—ab
cutaneous, local, to sodium glycocholate in syphilitics, 587—ab
Diazo, course of error in, 1143—ab
epiphanin, in serodiagnosis of syphilis, 228—ab
euglobulin, in urine, 1843—ab
glycyl-tryptophan, in gastric cancer, 1656—E
hemolytic, with cancer, 1429—ab
immunity, in diagnosis, especially of tuperculosis and syphilis, 928-ab
local, specific, râles after tuberculin injections not always sign of, 232—ab
methylene-blue, urinary, diagnostic significance of, special reference to malignancy, 1882—O
Ocular Tuberculin: See Tuberculin
orcin, 1056
pseudo-tuberculin, 855—ab
quantitative, and multiple infections, modified vaccine therapy based on theory of, 1421—ab
sulphur, in urine of cancer patients, 1566
sulphur, in urine with cancer, 1371—ab

Reaction, tardy, after salvarsan, 311—ab
tryptophan, unreliability of, in stomach content in cancer, 1621—ab
Tuberculin: See also Tuberculin
tuberculin, cutaneous, titration, quantitative, 159—ab
tuberculin, during pregnancy and labor, 1765—ab
urine, in infants, 933—ab
Wassermann, action of salvarsan on, 1353—ab
Wassermann, and salvarsan in syphilis, 1355—ab
Wassermann, clinical value of, 1614—ab
Wassermann, for detecting latent syphilis, 1274
Wassermann, in asylums of Denmark, 1862—ab
Wassermann, in blind, deaf mutes and epileptics of Denmark's asylums, 1698—ab
Wassermann, in detection of criminal responsibility, 1695—ab
Wassermann, in latent syphilis, 1620—ab
Wassermann, in lead poisoning, 1694—ab
Wassermann, in malaria, 860—ab
Wassermann, in syphilis, practical importance of, 1014—ab
Wassermann, simplified technic for, 860—ab
Wassermann, value of, from viewpoint of practitioner, 1615—ab
Wassermann, who should apply it? 1411—C
Wassermann, with serum from patients under influence of chloroform or ether, 1769—ab
widal, obtained in fatal anemia, 226—ab
Reactions, conglutination and complement-fixation, in study of streptococci, 621—ab
differential, specific, with vaccines according to Wright, 856—ab
food, in stomach of infant compared with those in vitro, 924—ab
tuberculin, local, diagnostic value of, 181—O
tuberculin, Wassermann and cutaneous, in scrofulous children, 856—ab
vital, clinical manifestations of, 1369—ab
Wassermann, 47, after injection of salvarsan, 1685—ab
Wassermann and cutaneous tuberculin, in 228 scrofulous children, 314—ab
Reading, easy, and easy writing, hint to authors, 750—E
Recalcification treatment of tuberculosis in children, 1152—ab
Reciprocity between Arkansas and Louisiana and Texas, 368
interstate, 765—ab
Rectum and uterus, cancer of, in women, abdominoperineal technic for removal of, 854—ab
cancer of, abdominal hysterectomy in, 854—ab
cancer of, operability of, 77—ab
cancer of, treatment of, 623—ab
diverticulitis of, 1225—ab
extraperitoneal transplantation of ureters into, for extroversion of bladder, 1617—ab
feeding by, in stomach diseases, 1749—ab
idiopathic congenital dilatation of, 78—ab
prolapse of, pessary treatment of, 1910—ab
stricture of, and venereal diseases, 1646—ab
stricture of, annular, 1831—ab
upper, and sigmoid, extirpation of, Noble anastomat modified, 301—ab
Red Cross, international prize competition of, 682
Reducative movements, Frenkel's, 687
Reflex, diaphragm, 1014—ab
paradoxic, diagnostic value of, 805—O
toe, extensor, new method for eliciting, 1311—O
Reflexes and reflex neuroses from upper respiratory-tract, 537—ab
diagnostic value of, 1853—ab
in surgical diagnosis, 537—ab
pelvic, 305—ab
signs of, in meningitis diagnosis, 114—O
Refraction, symptoms suggestive of brain tumor relieved by correction of error in, 347—O
Refractometer, determination of hydremia by, 781—ab
Regurgitation, intentional and voluntary, 1753—ab
Remedies, new, resolution in premature publication of, 53
new, treatment by, 1129—P
Reporting case of another 138—C
Repose, exercises in, 784—ab
Reprints and journals wanted, 1593—C
Research fellowship, 600
trip, scientific, international, to Canary Islands, 682
Respiration, artificial, improved method of, 1427—ab
in heart disease, favorable influence of exposures to arc light on, 1698—ab
Respiratory and cardiac rate, synchronous, 1757—ab
conditions, acute, cold air in, 224—ab
irregularities in meningitis, pneumatographic study of, 1605—ab
movement, abdominal, absence of, as indication of pericarditis, 929—ab
system, ascultatory signs of, 70—ab
tract, aspiration of foreign material into, during intratracheal insufflation, 1856—ab
tract, upper, reflexes and reflex neuroses from, 537—ab
Responsibility, criminal, Wassermann reaction in detection of, 1695—ab
Rest and movement in tuberculosis, 225—ab
Restlessness in infants, unusual causes for, 708—ab
Resuscitation by cardiac massage, 1448—O
electric, and electric analgesia after heart failure under chloroform or electrocution, 478—O
of new-born infants, 1696—ab
Retina, origin and treatment of detachment of, 81—ab
Retrodeviations of uterus, evolution of surgical treatment of, 487—O
Revolution in bread, 601
Revulsion in modern therapeutics, 1517—ab
Reynolds, J. M., and Nature's Creation fraud, 364—P
Rheumatism, 1064—ab
and chronic rheumatism, 541—ab
and gout, radium in, 700—ab, 782—ab, 1123
and pneumonia, are they specific infections? 1858—ab
articular salicylates in, 1784—E
articular, tuberculous, 547—ab
certain forms of, and mouth disease, 1072—ab
chronic, and rheumatism, 541—ab
cure fake, international, 1496—P
cure, gloria tonic, 1409—P
cure, magic foot dratts, 1496—P
diseases due to, vaccines in, 1763—ab
eye disease due to, 1683—ab
gonorrheal, 386—ab
hypodermic injections of salicylates in, 922—ab
in children, manifestations of, 1425—ab
in children, rarer occurrences in, 382—ab
specialism and independent journalism, 916—C
symptoms in muscles and fibrous tissue, massage in, 1769—ab
what is it? 1143—ab
Rheumatoid arthritis and mouth disease, 1072—ab
Rhinitis, influenzal, chronic, promptly improved by vaccine therapy, 264—O
Rhinology, journals on, 290
Rhinoscleroma, increase of, in Hungary, 1051
Rhode Island medical news, 1824
state board April report, 1596
state board January report, 991
Rib, Cervical: See Cervical-Rib
Rib, dorsal, first, abnormal, simulating cervical rib, 1905—ab
Ribs, cervical, 1617—ab
immobilization of lung by rear resection of, 1518—ab
Rice, bran of, in prevention and treatment of beriberi, 1074—ab
unpolished, and beriberi in Philippines, 1237—O
very restricted diet of, in acute inflammatory disease of skin, 454—ab
Rickets: See Rachitis
Ricketts, Howard T., memorial to, 522
Ringworm of scalp, x-rays in, 1706—O
Risks that physicians run, 972—E
Rockefeller commission for the eradication of hookworm disease, 1332—E
Rocky Mountain spotted fever, 1335—E
spotted fever, time relationships of wood-tick in transmission of, 1361—ab
spotted fever, transmission of, by other than Montana and Idaho ticks, 1361—ab
Roentgenograph: See Radiograph
Roentgenology, gastric, 300—ab
Roentgen-ray, definite knowledge by means of, 1700—O
examination after gastro-enterostomy, 1863—ab
examination and treatment of abdominal viscera, temporary eventration for, 1234—ab
examination of bladder, 264—O
examination of kidney pelvis, 1236—ab
experiment evidence, operating to recover false teeth without sufficient justification, 1600—M1
for ringworm of scalp, 1706—O
in demonstration of anomalies of colon, 1147—ab
in gastric diseases, 300—ab
in genital tuberculosis, 1622—ab
in gynecology, 1157—ab, 1518—ab
in postoperative cases, 1141—ab
injury, professional, 206
localization by construction, 1650—O
penetrometer, new form of, 1364—ab
photographs, sufficient preliminary proof by physicians of, 1675—M1
therapy in malignant lesions, 455—ab
therapy of enlarged thymus, 1420—ab
treatment, postoperative, in cancer, 195—T
treatment, preoperative, in cancer, 197—T
Roentgen-rays, effect of, on thymus, 594—E
for diagnosis of gastric and duodenal adhesions in gall-bladder region, 1777—O
in diagnosis of pregnancy, 1234—ab
in malaria, curative influence of, 928—ab
Roman characters, substitution of, for German script, 1207
Royal Society of Medicine, new house of, 977
Rubber bulbs, preservation of, 367—C, 528—C

S

Saccharin an adulterant, 1395—E
date of prohibition of, extended, 1820—E
Sacrum, pain in, extradural injections for, 552—ab
Safety, human, and railroads, 1410—C
Salicylates, hypodermic injections of, in rheumatism, 922—ab
in articular rheumatism, 1784—E
in chronic disease, 1767—ab
influence of, on heart lesions of chorea, 1688—ab
Saline: See Salt
Saline infusion and venesection in skin disease, 625—ab
infusion, research on, 161—ab
injections in sciatica, 1364—ab
solution infusion, improved technic for, 1428—ab
solution, normal, given through biliary fistula, 1071—ab
solution, normal, simple drop method of giving rectal enemas of, 1097—O
Salpingitis, 1912—ab
and laminaria tents, 309—ab
Salpingo-oöphorectomy and hysterectomy, bladder sequelæ of, 380—ab
Salpingostomy in pregnancy, 1912—ab
Salt and sugar, action of, on infant organism, 1694—ab
Salvarsan, 118—O, 466—ab, 504—O, 566—O, 703—ab, 1063—ab, 1140—ab, 1354—ab, 1414—ab, 1694—ab, 1758—ab, 1877—O
action of, on eye, 387—ab, 1304—ab, 1368—ab, 1517—ab, 1623—ab
action of, on irritability of nerve and muscle, 1856—ab
action of, on Wassermann reaction, 1353—ab, 1685—ab
administration of, 501—O
advertising of, to public, 436, 978
affinity of, for nerve tissue, 1231—ab, 1668
and arsenic cancer, 1618—ab
and arsenic compounds, dose and value of, 289
and eye diseases, 360, 1517—ab, 1608—ab, 1623—ab
and mercury, radiologic research on absorption of, 629—ab
and nervous system, 311—ab, 1231—ab, 1668
and sodium cacodylate, 492—O
and syphilitic nephritis, 523, 1767
Salvarsan and venous thrombosis, 1207
and Wassermann reaction in syphilis, 1355—ab, 1685—ab
as patented product, 1676—ab
by-effects of, 935—ab, 1354—ab, 1765—ab
cause for toxic action of acid solutions of, 1232—ab
cause of immediate pain and abscess following administration of, by alkaline solution method, 1262—O
cause of inflammation of cranial nerves after use of, 1433—O
curative and by-effects of, on ear, 229—ab, 628—ab, 921—ab, 1621—ab
does not act on cornea, clinical and experimental evidence of, 1623—ab
don'ts in use of, 347—O
ear conditions in syphilitics after administration of, 229—ab, 628—ab
eventual by-effects on cranial nerves from, 311—ab
experience with, 650—O, 784—ab, 1768—ab
eye disturbances after, 1368—ab
fate of, in body, 626—ab
few plain truths about, 1353—ab
for specific cure of yawns, 695—ab
given nursing mother for inherited syphilis in infants, 546—ab
improved gravity apparatus for intravenous injection of, 732—O
in body, test for, 1864—ab
in cancer, 1695—ab
in cardiovascular disease, deaths after, 1910—ab
in cerebral syphilis, fatal arsenic poisoning after, 1155—ab
in chorea minor, 626—ab
in congenital syphilis in infants, 1301—ab
in England, 130
in eye disease, 360, 1517—ab
injection, simple technic for, 1804-O
in non-syphilitic ulceration of mouth and throat, 1078—ab
in ocular syphilis, 360
in pellagra, 896—O, 1794—O
in pneumonic plague, 1519—ab
in recent syphilis, 1768—ab
in small-pox, 1695—ab
in syphilis, 83—ab, 87—O, 177—O 186—O, 313—ab, 453—ab, 551—ab, 588—O, 628—ab, 705—ab, 708—ab, 1233—ab, 1353—ab, 1622—ab, 1698—ab
in syphilis, nephritis after, 1519—ab
in syphilis of nervous system, 207, 1432—ab
in syphilis, recurrences in nervous system after, 1428—ab, 1429—ab
in syphilitic and parasyphilitic nervous disease, 207
in therapeutics, 311—ab
in Vienna, 54
injection of, in paralytic dementia, death after, 164—ab
injection of, into lumbar muscles, 1067—ab
injury of kidneys due to, 1518—ab
irritation of optic nerve by, 1304—ab
lack of durable action of, in neutral suspension in syphilis, 783—ab
latest experiences with, 221—ab
lethal dose of, in acid solution, 313—ab
local action of, at point of injection, 388—ab
local and general hypersusceptibility to, 80—ab
localized edema in lumbar region following use of, 344—O
need of caution in use of, 428—E
present status of, 1140—ab, 1694—ab
relapses and complications after injections of, 681
report on therapeutic efficiency of, 801—O
significance of, and therapeutics, 1709—O
simple apparatus for intravenous injection of, 1194—O
situation as regards, 118—O
syphilitic patients treated with, 504—O
tardy reaction after, 311—ab
technical and biologic experiences with, 161—ab
technic for injection and action of, 385—ab, 669, 788—ab, 1353—ab
therapeutics of, 1353—ab
thrombosis after intravenous injection of, 313—ab
transient disturbance in vestibular nerve after, 229—ab
treatment, intravenous, in syphilis, 228—ab
47 Wassermann reactions after injection of, 1685—ab

Sambon's new theory of pellagra, its application to conditions in Georgia, 1713—O
Sanatogen, its food value, 1345—P
Sanatorium: See also Sanitarium
Sanatorium, Loomis, report of, 880
treatment, tuberculous patient after, 1821—E
Sanitariums, tuberculosis, private, as nuisances, 296—M1
tuberculosis, public and private, 762
Sanitary Commission, Ohio River, 521
health resort, 1027—O
organization of navy, 1403—ab
out-house, discussion on, 255—O
progress in fort and field, 1403—ab
progress in Latin America, 1047
sanitation and civilization, 988
and health in Indo-China, 679
army, demonstration of, 819—E
Canal Zone, 1664
conference, international, at Paris, 826
defective, of Russia, danger to Europe in, 1121
hygiene and preventive medicine, books on, 368
international conference on, 1492
municipal, literature on, 1130
of Canal Zone, 754
Santonica, 814—T
Sarcoma and carcinoma cultivated in vitro, characteristics of growth of, 1512—ab
and tuberculosis, 379—ab
cells growing in vitro, migration by ameboid movement of, 791—O
of appendix, primary, 217—ab
of brain, choked disk and progressive blindness due to, 1380—O
of brain, large-celled, 36—ab
of calcaneum, 1366—ab
of clavicle, end results following total excision, 72—ab
of female urethra, 1516—ab
of fowl transmissible by agent separable from tumor cells, 1225
of medulla oblongata, 624—ab
of nose and throat, Coley's toxins in, 1615—ab
of spine, apparently inoperable, arsenic therapy in, 1862—ab
of stomach, primary, with necropsy findings, 500—O
of vagina, 1149—ab
rat, cultivation in vitro of, 587—O
transmissible, of fowl, experiments with, 741—O
transmission of, 198—O
traumatic, 704—ab
under nail of toe, 386—ab
Sarcomas, transplantable, of rats and mice, growth in vitro of, 33—O
Saxony, distribution of goiter in, 1692—ab
Scabies, eosinophilia in, 1857—ab
Scalp, injury of, 1853—ab
ringworm of, x-ray in, 1706—O
Scapula-angle sign of pulmonary tuberculosis, 552—ab
clinical recognition of scaphoid type of, and of its correlations, 74—ab
Scarlatina, bacterins in, 143—ab
Scarlatinal thyroiditis, 858—ab
Scarlet fever, 465—ab
and measles, joint lesions in, 1076—ab
artificially induced petechiae as sign of, 858—ab
atypical, 304—ab
elbow sign of, 854—ab, 881—ab
experimental, 1694—ab
immunity to, 464—ab
in nursing mother, 854—ab
its complications, 704—ab
myocarditis and sudden death in, 545—ab
peritoneal complications of, 853—ab
prophylaxis and treatment of, 1909—ab
prophylaxis of, 389—ab, 667—T
septicemia and glandular lesions in, 1151—ab
tourniquet sign of, 1429—ab
transmission of, to monkeys, experiments on, 1795—O
variations in phagocytic and coccidal power of blood in, 1361—ab
Scarlet red and amidoazotoluol for stimulation of epitheliation of granulating surfaces, 1684—ab
Schauta, a severe examiner, demonstrations against, 1737
School boards may employ suitable persons to ascertain physical condition of pupils, 778—M1
Children: See Children
public, and subnormal children, 438—ab
system and child, 923—ab
Schools, Austrian, sexual hygiene in, 1659—E
Schools, elementary, teaching of hygiene in, 1405
for crippled children, 1493
for mothers in Great Britain, 206
law requiring exclusion of unvaccinated pupils from, constitutional and must be enforced, 374—M1
medical inspection of, 1544—ab, 1601—ab, 1680
public, reform in, 1354—ab
public, ventilation in, 1411
sex instruction in, 968—E
sexual teaching in, 1669
Schwalbe, Prof., honor for, 601
Sciatica, characteristic painful point in abdomen with, 1622—ab
due to relaxation of sacro-iliac joints, 1855—ab
due to unusual pathologic condition of sacro-iliac joint, 1847—ab
epidural injections in, 1012—ab
explanation of many cases of, 999—ab
injection and infiltration treatment of, 1516—ab
injection of air in, 1125—ab
saline injections in, 1364—ab
scoliotic, origin and treatment of, 627—ab
Science, Kaiser Wilhelm Society for advancement of, 361
Sciences, surgical, should universities grant degree of Ph.D. for graduate work in? 923—ab
Sclerosis, disseminated, treatment of, 460—ab
lateral, amyotrophic, due to trauma, 1876—O
multiple, diagnosis and treatment of, in early stages, 1154—ab
multiple, visual disturbances in, 224—ab
Sclerotics, blue, and congenital syphilis, 1859—ab
Scoliosis, apparatus for treatment of, at night, 153—ab
lung findings in, 855—ab
relieved by operation on transverse process of one of vertebræ, 153—ab
structural, removable plaster corset for, 1847—ab
structural, treatment of, 153—ab
with marked structural change and rotation, 1356—ab
Scopolamin and morphin, 225—ab
in obstetrics, review of, 1009—ab
Scorbutus, infantile, 854—ab
Seamen of merchant marine, venereal diseases among, 1359—ab
Secrecy, laboratory, industrial, 1821—E
Secretion, internal, of testicle and its interstitial cells, 221—ab
Seidlitz salts, German, misbranding of, 1898—P
Self infection in obstetrics, 1909—ab
medication, 621—ab
Seminal fluid, picric acid test for, 783—ab
Sensation, disturbance of, in syringomyelia, 539—ab
Sensationalism in press, campaign against, in Germany, 1051
Sensitization in tuberculosis, 1850—ab
Sepsis: See also Septicemia
Sepsis in children, acute, 707—ab
puerperal, hysterectomy for, 310—ab
puerperal, intravenous injection of mercuric bichlorid in, 1684—ab
puerperal, vaccine therapy in, 1290—ab, 1795—ab
puerperal, when shall we operate in? 1357—ab
Septicemia: See also Sepsis
Septicemia and glandular lesions in scarlet fever, 1151—ab
gonorrheal, 1014—ab
hemorrhagica, 383—ab
meningococcus, with demonstration of meningococcus in blood-smear, 1446—O
Septic tank, description of, 529
Septum, Nasal: See Nose
Sera: See Serums
Serodiagnosis of gastro-intestinal cancer, antitryptic index for, 701—ab
of pregnancy, 1865—ab
of pulmonary tuberculosis, 855—ab
of syphilis, 223—ab
of syphilis and mercury bichlorid, 1125—ab
of syphilis, comparative merits of various complements and amboceptors in, 378—ab
of syphilis, epiphanin reaction in, 228—ab
of syphilis, improved, 547—ab
of typhoid, 318—ab
of whooping-cough by hemolytic test, 307—ab
simple, for tuberculosis, method of obtaining immunity index, 306—ab
Seroreaction, acetic-acid, clinical importance of 2 precipitates in, 468—ab
Seroreactions in nervous and mental diseases, 224—ab
Serotherapy, anaphylaxis after, 626—ab
and anaphylaxis, 1594
and experimental leprosy, 1514—ab
in epidemic cerebrospinal meningitis, 455—ab
in gonorrhea, clinical experience with, 459—ab
in syphilis, 707—ab
in toxemias of pregnancy, 1154—ab
of cerebrospinal meningitis, 346—O, 706—ab
of diphtheria, 779—ab
of exophthalmic goiter, 263—O
of pneumonia in infants and children, 1422—ab
of pregnancy dermatoses, 1157—ab
of pregnancy disturbances, 388—ab
of typhoid, 308—ab, 1462—T
of typhus, 1368—ab
spinal, anaphylaxis after, prophylaxis of, 624—ab
spinal, serous meningitis and anaphylaxis after, 78—ab
Serpent, domesticated, domestic cat, 1727—E
Serum and vaccines, antigonococcus, in gonorrhea, its complications, clinical experience with, 459—ab
animal, normal, curative action of, on suppurating processes, 1695—ab
antidysenteric, 591
antipneumococcus, 591
cancer, not prepared to furnish, 444—C
hemopoietic, of Carnot, 1681—ab
meningitis, manufacture and distribution of, 521
non-authorized, has physician right to inject, 1340
placenta, and serum of pregnant women, non-destructive action of, on human cancer cells, 859—ab
reaction of smooth muscle from guinea-pigs rendered tolerant to large doses of, 539—ab
Spengler's I. K., in joint tuberculosis, 1844—ab
Yersin-Roux, in treatment of plague, 332—O
Serums and vaccines, clinical experiences with, 1852—ab
milk, and raw and pasteurized milk, 1358—ab
Services rendered at another's request, circumstances under which patient cannot be charged for, 1744—M1
rendered poor person, manner and time of presenting claim for, 1599—M1
Sewage, typhoid traced to fish contaminated by, 1120
Sex and instruction of young, 746—E, 968—E
future, of family, can it be controlled at will by parents? 1228—ab
instruction in schools, 968—E, 1669
observation bearing on causation of, 1411—C
Sexual excitability in men of advanced years, 1144
phenomena, journals on, 988
sphere, depressing influence of cerebral neurasthenia from automobiling on, 1519—ab
teaching in schools, problem of, 1669
Shellfish and disease, 1339
Shock and spinal anesthesia, 813—ab
new theory of, 424—E
Shoulder, dislocation of, and paralysis of arm with falling of humerus, 1362—ab
dislocation of, ultimate outcome of, 931—ab
dislocation, prognosis of, 1368—ab
Shoulders, stiff and painful, with loss of power in arm, 1148—ab
Sigmoid, acute angulation and flexure of, 74—ab
and lateral sinus, septic thrombosis of, complicating double mastoiditis, 924—ab
and upper rectum, extirpation of, Noble anastomat modified, 301—ab
Sigmoiditis and cancer, 854—ab
and infection of internal genitalia in women, 1299—ab
Sigmoidoscopy and proctoscopy in infancy as applied to infectious diarrhea, 620—ab
Sign, tourniquet, of hemorrhagic disease, 1769—ab
Signs, collateral and Brudzinski neck, positive bronchopneumonia showing, 1382—O
Silver nitrate and common germicides in gonorrhea, 529
Silver, nitrate irrigations in, infectious diarrhea in infants, 845—ab
Sinus: See also Sinuses
Sinus and middle-ear disease, vacuum-pump for, 811—O
curette, frontal, 1653—O
lateral, and sigmoid, septic thrombosis of, complicating double mastoiditis, 924—ab
Sinuses: See also Sinus
Sinuses, accessory, nasal, suppurative disease of, and acute otitis media in adults, 619—ab
Sinusitis, sphenoidal, maxillary and frontal, treatment of, 1622—ab
Sirotinin and golubinin festchrifts, 432
Skeleton changes in acromegaly, nature of, 1425—ab
Skiagraph: See Radiograph
Skin, acute inflammatory disease of, very restricted diet of rice in, 454—ab
and mammary gland, extensive leukemic infiltration of, 417—O
disease, venesection and saline infusion in, 625—ab
diseases, inflammatory, acute, value of restricted diet in, 158—ab
diseases, superheated air in, 1623—ab
diseases, vaccine therapy in, 255—ab
eruption in 6 consecutive cases of poliomyelitis, 1616—ab
fixation in cancer of breast, 1831—ab
graft, Thiersch, extensive, 923—ab
Iodin sterilization of, 231—ab, 383—ab, 1150—ab, 1292—ab
lesions of pellagra, histologic study of, 378—ab
necrobacillosis of, 75—ab
punctuate hemorrhages in, fat embolism with, 1014—ab
reaction, tuberculin in syphilis and metasyphilitic disease, 231—ab
wounds in frog, influence of distilled water on healing of, 1512—ab
Skull fracture, 381—ab
fracture of base of, 380—ab
fractures, new theory regarding mechanism of, 302—ab
gunshot wound of, 1364—ab
of children, further experiences in influencing shape of, 628—ab
Sleeping cars, ventilation of, 622—ab
Sleeping sickness, 461—ab
morphology of trypanosome from, possibly new species (T. rhodesiense), 461—ab
pathogenicity of trypanosome from case of, contracted in Rhodesia, 461—ab
prevention of, 433
Sloane hospital for women, treatment of placenta prævia at 1745—ab
Small-pox and vaccination in Japan, 889—O
bone lesions of, 1685—ab
epidemic in Great Britain, 1049
experience of army with vaccination as prophylactic against, 1415—ab
hospital, liability for waste in use of property for, 1350—M1
in London, 825, 906, 977
salvarsan in, 1695—ab
vaccination against, 1282—ab
Smith, Theobald, Prof., as exchange professor, 1201—E
Smith's gloria tonic, 1409—P
Smoke and dust nuisance, combating, 1123
Soap, white, tincture of, 1214
Societies, state, and sane Fourth-of-July, 125—E
Society: See Medical Society
Society meetings, county and state, recent medical advances with suggestions for improvement of, 1613—ab
safeguarding of, from unfit, 152—ab
Sociology and medicine, 1111—E
medical, recent progress in, 924—ab
Sodawater, lead poisoning from, 206
Sodium bicarbonate, antipyrin and calomel, incompatibility of, 287—P
cacodylate, 59
cacodylate and salvarsan, 492—O
cacodylate in coronary disease, 1055—C
cacodylate in syphilis, 211—C, 641—O, 897—O
cacodylate in tertiary syphilis, 897—O
citrate injections, subconjunctival, for relief of glaucoma, 1001—ab
glycocholate and cholesterin tests for syphilis, 1131
glycocholate and sodium taurocholate, proportion of, in bile, 139
glycocholate in syphilitics, local cutaneous reaction to, 587—ab
Salicylate: See Salicylates, and Acid Salicylic

Sodium salicylate, clinical uses of, 1073—ab
taurocholate and sodium glycocholate, proportion of, in bile, 139
thiosulphate for removal of iodin stains, 704—ab
Soff drinks, misbranding of, 1898—P
Soil pollution by uncinariasis, 831—ab
Solutions and blood pipettes, handy pocket case for, 737—O
Saline: See Saline, and Salt
Sound, diastolic, cardiac, and impulse, 382—ab
Sounds, friction, subscapular, 624—ab
urethral injection of glycerin to facilitate passage of, 785—ab
South Carolina medical news, 976, 1272
South Dakota medical news, 600, 678, 976, 1273
state board January report, 1135
Southern railway surgeons meet, 1824
Soy bean as food in diabetes, 70—ab
Spartein, 964—T
Spasm, conservative treatment of, with hour-glass stomach, 1234—ab
peroneal, 1847—ab
Pyloric: See Pylorospasm
Spasmophilia in children, lime in, 163—ab
Spas of France and health resorts, 601
Specialism, rheumatism and independent journalism, 916—C
Specialist, all-round, 903—E
ideal medical education for, 1070—ab
Specificity, influence of principle of, on modern medicine, 352—E
Spectacles: See Glasses
Spengler's I. K. serum in joint tuberculosis, 1844—ab
immune bodies, 609
Spermin, Poehl's, in arteriosclerosis, 1132
Sphygamomanometer, air-water, new, 1873—O
Stanton, use of, 113—O
Sphygmo-oscillometer, estimation of blood-pressure by, 76—ab
Spider, poisoning from bite of, 1830—ab
Spigelia, U. S. P., 815—T
Spina bifida, 1287—ab
and hydrocephalus, drainage into abdomen of, 311—ab
Spinal Anesthesia: See Anesthesia
Spinal-cord, complete transverse destruction of, 141—ab
site of action of strychnin in, 1224—ab
thrombotic softening of, case of acute myelitis, 76—ab
unusual fracture of bodies of fourth, fifth and sixth cervical vertebræ with injury of, 1291—ab
Spinal disturbances and intermittent limping from male fern poisoning, 1367—ab
fluid findings in Huntington's chorea, 941—O
Spine, caries of, mechanical treatment of, 1006—ab
curvature of, rachitis as causal factor in, 856—ab
deformities, progressive, operation for, 1762—ab
functional, 377—ab
osteomyelitis of, acute, 1369—ab
sarcoma of, apparently inoperable, arsenic therapy of, 1862—ab
spondylitic, support for, by buried steel bars, attached to vertebræ, 153—ab
typhoid, additional cases with bony changes in vertebrae, 923—ab
Spirilla of relapsing fever, 621—ab
Spirochaeta pallida, characteristics of, 403—ab
differentiation of, from non-pathogenic spirochetes, 368
Spirochetes in secretions, what becomes of? 194—O
non-pathogenic, differentiation of spirochaeta pallida from, 368
Spleen, abscess of, 260—O
and stomach, cancer involving, 706—ab
echinococcus disease of, 1432—ab
injury of, diagnosis of, 230—ab
rôle of, in digestion, 1668
Splenectomy in splenic anemia, 226—ab
Splenomegaly of inherited syphilis in children, 1150—ab
with recurrent jaundice ending in hepatic cirrhosis and ascites in children, 1150—ab
Splint, ambulatory, for fractured leg, 930—ab
blanket, 381—ab
Spondylarthritis, 860—ab
Spondylitis, syphilitic, 548—ab
Sponges, keeping track of, 925—ab
Sporotrichosis, 1309—O, 1740
in man, 1312—O, 1719—O
in man and horse, 617—ab
Sputum, albumin reaction in, 933—ab, 1619—ab
albumin reaction in, in early diagnosis of tuberculosis, 1621—ab
bacteriology of, in non-tuberculous infections of upper and lower respiratory tracts, 1857—ab
differential importance of albumin in, 702—ab
excretion of salicylic acid and hexamethylenamin in, 1553—O
Squint: See Strabismus
Stain, elastic-tissue, differential, improved, 1326—O
new, for bacterial capsules, special reference to pneumococci, 418—O
simplified, for bacilli, 1189—O
Stains, colophonium for differentiating, 345—O
Staining granular casts and other tube products, method of, 812—O
Stammering, 703—ab
Standardization of therapeutic measures, report of committee on, 622—ab
Standards and authority in medicine, 894—O
educational, medical, higher, and Prof. Vincent, 903—E
Staphylococcus bacterin, old, new and successful use for, 151—ab
Stasis, intestinal, chronic, kinks which develop in intestine in, 1692—ab
State and profession of medicine, 1502—ab
board, powers and duties of, license rights of certain practitioners, 1220—M1
board statistics for 1910, 1558
board statistics, value of, 1576—E
board work, financing of, 769—ab
boards and entrance requirements, 224—ab
boards and medical teaching, 1757—ab
boards, annual meeting of national confederation of, 145
duty of, in conservation of human life and energy, 1611—ab
what its attitude toward practice of medicine should be? 1319—O
Statistics, cancer, in Baden, 827
cancer, in Bavaria, 827
insurance, unreliable basis for study of general public health conditions, 1623—ab
vital, educational work in, 769—ab
vital, in France in 1910, 1734
vital, in Illinois, 774—ab
vital, Kentucky's opportunity for, how medical profession can aid, 74—ab
Status epilepticus and pregnancy, 466—ab
lymphaticus and Addison's disease, 463—ab
Statutes forbidding advertising for patients, validity of, and special ability to treat or cure chronic and incurable diseases, chronic and incurable defined, consultation of medical works by boards, 452—M1
Steam jet, therapeutic importance of, 1369—ab
Steel, removal of 2 pieces of, from eye by electromagnet, 1679—ab
Stenosis, mitral, paralysis of left recurrent laryngeal nerve in, anatomic explanation of, 1510—ab
of pylorus, congenital, 697—ab
pulmonary, congenital, special consideration of nature of secondary blood changes, 543—ab
Pyloric: See Pylorus
Sterility in aged cured by use of Wylie drain, 1190—O
in women, primary, 693—ab
Sterilization of abscess cavities, 1300—ab
of hands and field of operation, alcohol-tannin for, 1076—ab
of skin, iodin method of, 1150—ab, 1292—ab
of women, temporary, 83—ab
tubal, improved technic for, 1431—ab
Stethoscope, diagnosis of early pulmonary tuberculosis without use of, 1511—ab
Sting of Portuguese man-of-war, 1213
Stockings, elastic, thigh, simple support for, 507—O
Stomach: See also Gastric
Stomach, action of external application of cold on temperature of, 388—ab
acute and subacute dilatation of, 84—ab
acute dilatation of, 84—ab, 304—ab, 627—ab
Stomach and duodenum, diseases of, from surgical standpoint, 457—ab, 458—ab, 927—ab
and duodenum, neuro-muscular and secretory coordination between, 1752—ab
and intestine disease, pathology of, 1690—ab
and spleen, cancer involving, 706—ab
Cancer of: See Cancer, Gastric
capacity of infants, 258—ab
content, blotting-paper test for free hydrochloric acid in, 1698—ab
content, estimation of hydrochloric acid in, 1690—ab
content, free hydrochloric acid in, blotting-paper test for, 857—ab
content in cancer, unreliability of tryptophan reaction in, 1621—ab
content, siphonage of, through nose in peritonitic ileus, 466—ab
contents, fasting, test breakfast versus, 1617—ab
contents from normal and atrophic infants, estimation of chlorids in, 154—ab
diagnostic inflation of, 1305—ab
dilatation, acute, 1611—ab
dilatation, acute, gastrotomy, recovery, 1296—ab
dilatation, acute, in pneumonia, 1680—ab
dilatation, postoperative, acute, 1357—ab
disease originating from rapid eating, 1235—ab
diseases, rectal feeding in, 1749—ab
disorders, chronic, electricity in, 537—ab
disorders requiring intervention from viewpoint of internist, 1613—ab
disturbances, dependence of intestinal indigestion on, 921—ab
disturbances, treatment of, 1751—ab
endothelioma in, 1624—ab
fibromyomas of, 545—ab
foreign material in, 180—O
function, importance of appetite in estimation of, 935—ab
functioning in children, test breakfast for study of, 1301—ab
functions of, in diabetes mellitus, 143—ab, 497—O
gastric ulcers along lesser curvature of, surgical treatment of, 301—ab
hemorrhage from, mechanical measures for arresting, 387—ab
hour-glass, 933—ab
hour-glass, for conservative treatment of spasm, 1234—ab
inflammation of cellular tissue of, 78—ab
inspection of, 1585
insufficiency of means employed to prevent drug from dissolving in, 1274
of infant, anatomic findings in, 5 months after cure of stenosis of pylorus, 1304—ab
operations on, for non-malignant disease, outcome of, 1366—ab
postoperative paralysis of, 548—ab
resection of, 1301—ab
Sarcoma of: See also Cancer, Gastric
sarcoma of, primary, with necropsy findings, 500—O
secretory disturbances in, 856—ab
surgery, 550—ab
syphilis of, 704—ab
tube for diagnosis of acute intestinal obstruction, 1800—O
volvulus of, 932—ab
wall, phlegmon in, operative treatment of, 1428—ab
Stomatitis of pellagra, bacteriology of, 302—ab
Stomatologists, congress of, in Graz condemns proposed anti-medical legislation, 436
Stools, biuret reaction in examination of, 1860—ab
infants, etiology and nature of hard curds in, 1682—ab
normal, criteria of, 1009—ab
tubercle bacili in, diagnostic importance of, 1623—ab
Strabismus operations, indications and age for, 164—ab
Streptococci, hemolytic, in puerperal infection, 1621—ab
study of, with complement-fixation and conglutination reactions, 621—ab
Streptococcus peritonitis, 228—ab
Stricture of rectum, annular, 1831—ab
Strophanthin, 593—T
Strophanthus, 591—T
Strumectomy: See Thyroidectomy
Strumitis: See Thyroiditis
Strümpell, successor of, 828
Strychnin, persistence of, in corpse, 697—ab
poisoning, chloroform in, 1685—ab
poisoning, control of, by intratracheal insufflation and ether, 1224—ab, 1427—ab
site of action of, in spinal cord, 1224—ab
Students, foreign, increase in fees for, at Prussian university, 682
Stuttering: See also Stammering
Stuttering, treatment of, 1168—O
Sublimate, Corrosive: See Mercury, Bichlorid
Subscapular friction sounds, 624—ab
Succus entericus, 1146—ab
Sugar and salt, action of, on infant organism, 1694—ab
cane, beneficial effect of ingestion of, in certain forms of heart disease, 1150—ab
milk, 1761—ab
nutrient intravenous and subcutaneous injection of, 464—ab
therapeutics of, 1363—ab
Suicide in Prussia, 1122
psychopathology of, 1154—ab
Sulpho-hemoglobinemia, 75—ab
Sulphonephthalein, value of, in estimating functional efficiency of kidneys, 380—ab
Sulphur, cutaneous elimination of, 924—ab
reaction in urine in cancer, 1371—ab, 1593, 1697—ab
Sun, destruction of fleas by exposure to, 1492
Sunshine in tuberculous peritonitis, 1557—ab
mountain, substitute for, 1695—ab
Superfetation, unusual case of, 1613—ab
Suppuration in tubercles of leprosy, 455—ab
Suppurations, curvature action of normal animal serum on, 1695—ab
urinary tract in infancy, 631—O
Suppurative processes, peripleuritis and parametritis secondary to, 163—ab
Suprarenal, 607—P
active principle of, nomenclature of, 910—P
apoplexy, 1006—ab
disease, white line sign of, 1152—ab
gland, active principle of, nomenclature of, 910—P
syndromes, 1865—ab
tumors and malignant kidney, fever with, 546—ab
Suprarenalin and suprarenin, 901—E
Suprarenals and kidneys in chronic nephritis, relations between, 860—ab
developmental defects connected with, 702—ab
internal secretions of, chemical aspect of, 652—O
Suprarenin and suprarenalin, 901—E
Supreme court's decision on pure food law, 1819—E, 1832—P
Surgeon, civil responsibility of, 130, 1829—ab
general, honors to, 1824
general's office, historical collection of medical classics in library of, 1785—O
making of, 256—O
orthopedic, what is to be attitude of, toward child with congenital ptosis of abdominal viscera? 1847—ab
sued and acquitted for purposely leaving swab in intestine, 434
what he wants anatomist and physiologist to teach, 1066—ab
Surgeons and physicians, professional responsibility of, 978, 1364—ab
as non-belligerents in war, 124—E
Surgery, brain, improved technic in, 1684—ab
gastro-intestinal, problems in, 1625—O
general, preparation required for practice of, 1758—ab
intestinal, 847—ab, 1436—ab
intestinal, new method of suturing bowel, 617—ab
100 years ago, 529
past, present and future of, 304—ab
renal function in, 1750—ab
traumatic, anesthesia in, 138—C
use of elastic traction and elastic pressure in, 75—ab
Surgical deliberation, 1604—ab
patriarchs, two, 1199—E
Suspensions, bacterial, apparatus for preparation of, 115—O
Suture, continuous, for entero-anastomosis, 1520—ab
efficient and time-saving method of tying square knot, 1020—O
material, new, 1671—C

Suture of subparietal rupture of kidney, primary, 875—O
tendon, 1760—ab
Sutures, enameled copper wire for, 1671—C
intestinal, 871—ab
Swallowing, relief of disturbances in, by compression of ear region, 1432—ab
Swamp fever of horses, 541—ab
Swindlers, easy-money, warning against, 432
Syncopes in chronic colitis, 544—ab
Synovial sheaths in hand, extensive phlegmon of, treatment of, 1426—ab
Syphilis: See also Parasyphilis
Syphilis, acute abdominal manifestations of, 1511—ab
and cardiovascular disease, 1115—ab, 1371—ab, 1601—ab
and gonorrhea, report of committee on education of public as to communicability and prevention of, 1359—ab
and heart disease, 1158—ab
and pauperism, 1109—ab
and pulmonary tuberculosis, 1292—ab
and salvarsan, 504—O
and tuberculosis, 1830—ab
arsenic in, 588—O
as factor in hemiplegias and diplegias of infancy and childhood, 1618—ab
cardiac, 1601—ab
cerebral and spinal, Argyll Robertson sign in, 779—ab
cerebral, salvarsan in, fatal arsenic poisoning after, 1155—ab
cerebrospinal, prognosis of, 1125—ab
comparative value of organic arsenic and mercury in, 78—ab
congenital, 1503—ab
congenital, and blue sclerotics, 1859—ab
congenital, findings in fundus of eye in, 1303—ab
correct name of protozoon of, 1762—ab
epiphanin reaction in serodiagnosis of, 228—ab
Hubbes' nascent mercury in, 1055
hypertrophy of inferior turbinates due to, 1191—O
immunity reaction in diagnosis of, 928—ab
in children, 405—O, 1150—ab
in children, congenital, splenomegaly of, 1150—ab
in infants, congenital, salvarsan given nursing mother for, 546—ab
in infants, congenital, salvarsan in, 1301—ab
in nervous system, recurrence of, after mercurial treatment, 467—ab
in nervous system, recurrences of, after use of salvarsan, 1428—ab. 1429—ab
in newspaper advertising, 1261—ab
inoculation of, in rabbits, 1406
in physicians, 1341
intravenous salvarsan treatment in, 228—ab
jaundice due to, 1426—ab
lack of durable action of salvarsan in neutral suspension in, 783—ab
latent, Wassermann reaction in, 1274, 1620—ab
length of treatment of, 198—ab
liver, febrile, 704—ab
mediastinitis due to, 159—ab
mercury in, 1587
nascent mercury in, 935—ab
nephritis due to, and salvarsan, 523, 1519—ab
nephritis due to, secondary, fatal, 1762—ab
nervous disease due to, salvarsan in, 207
ocular, salvarsan in, 360
of aorta, 1371—ab
of auditory nerve, 1234—ab
of heart, congenital, 849—ab
of internal ear, 1235—ab
of liver, 785—ab
of nervous system, salvarsan in, 1432—ab
of stomach, 704—ab
painless mercurial injection for, 1654—O
physical properties of drugs in, 934—ab
practical importance of Wassermann reaction in, 1014—ab, 1355—ab
prophylaxis of hereditary transmission of, 1907—ab
pulmonary manifestations of, 1071—ab
recent, salvarsan in, 1768—ab
salvarsan and Wassermann reaction in, 1355—ab
Syphilis, salvarsan in, 83—ab, 87—O, 177—O, 186—O, 313—ab, 453—ab, 551—ab, 628—ab, 705—ab, 708—ab, 1233—ab, 1353—ab, 1355—ab, 1622—ab, 1698—ab, 1768—ab
salvarsan in, nephritis after, 523, 1519—ab
Schürmann's color test for, 621—ab
serodiagnosis of, 223—ab, 378—ab, 547—ab, 1125—ab, 1331—ab
serodiagnosis of, and barium sulphate, 1331—ab
serodiagnosis of, and mercury bichlorid, 1125—ab
serodiagnosis of, comparative merits of various complements and amboceptors in, 378—ab
serotherapy in, 707—ab
sodium cacodylate in, 211—C, 641—O
sodium glycocholate and cholesterin tests for, 1131
spondylitis due to, 548—ab
tertiary, sodium cacodylate in, 897—O
treatment of, 1355—ab
tuberculin skin reaction in, 231—ab
value of animal experimentation shown by recent advances in study of, 1244—O
Syphilitics, ear conditions in, after administration of salvarsan, 628—ab
local cutaneous reaction to sodium glycocholate in, 587—ab
Syringomyelia, disturbance of sensation in, 539—ab

SOCIETIES

Abbreviations:
Acad.—Academy.
Am.—American.
A.—Association.
Conf.—Conference.
Cong.—Congress.
Hosp.—Hospital.
Internat.—International.
M.—Medical, Medicine.
Pharm.—Pharmaceutical.
Phys.—Physicians.
Ry.—Railway.
S.—Society.
Surg.—Surgical, Surgery, etc.

Ala. M. A., 1336
Am. A. for Labor Legislation, 1132
Am. A. of M. Milk Commissions, 1824
Am. Climatological S., 1339
Am. Confederation of Reciprocating Examining and Licensing M. Boards, 919
Am. Dermatological A., 1732
Am. Gastroenterological A., 521, 976, 1272, 1606, 1751
Am. Gynecological S., 1732, 1745
Am. Laryngological A., 1732
Am. Orthopedic A., 1824, 1844
Am. S. for Advancement of Clinical Investigation, 1584
Am. S. for Study of Alcohol and Other Narcotics, 976, 1274
Am. S. of M. Sociology, 1339
Am. S. of Tropical M., 1274, 1404, 1664
Am. Therapeutic S., 1273, 1584, 1676
Am. Urological A., North Central Section, 535
Ark. M. S., 598, 1269, 1486, 1595
A. of Am. M. Coll., 282, 678, 843, 918, 972, 996, 1065
A. of Am. Phys., 1490, 1604, 1680, 1750, 1848
A. of M. Officers of the Army and Navy of the Confederacy, 1273, 1664
A. of Surgs. of the Southern Ry., 1824
Austrian Cong. on Tuberculosis, 1736
British M. A., 1492, 1586
Cal. State M. S., 1270, 1336
Canadian M. A., 130, 1339
Chicago Gynecological S., 296
Chicago Pediatric S., 616, 1661
Cleveland Acad. of M., 280, 374, 453, 997, 1142
Coll. of Phys. of Philadelphia, 281, 453
Colo. State M. S., 1673
Cong. for Internal M., 1666
Cong. of Balneology, 1123
Fla. M. A., 1660, 1840
Ga. M. A., 1116, 1270, 1336, 1602, 1753
German M. League, 1666
German Surg. S., 1587
Ill. State M. S., 1270, 1581, 1747, 1842
Internat. M. Cong., 1047, 1404, 1733
Internat. Plague Conf., 1584
Ia. State M. S., 1661, 1720
Kan. M. S., 1582
La. State M. S., 1729
Maryland M. and Chirurgical Faculty, 599, 752, 1117, 1396, 1487, 1502, 1608
Miss. State M. A., 1271, 1413, 1503, 1609
Mo. State M. A., 1338, 1582
Mo. Valley M. S., 521, 976, 1140
Nat. Confederation of State M. Examining and Licensing Boards, 994
Neb. State M. A., 1045, 1488
N. H. M. S., 1338, 1662, 1851
N. Y. M. S., 1271, 1272, 1284, 1351, 1414, 1504
N. C. M. S., 1663
N. Dak. State M. A., 1272, 1489
O. M. A., 280, 1489, 1600, 1748
Okla. M. A., 1489
Paris Acad. of M., 207, 978, 1121, 1587, 1735
Philadelphia Co. M. S., 143, 219, 281, 375, 754, 844, 998, 1222, 1507
Philadelphia M. Club, 754, 975, 1393, 1399
Philippine Islands M. A., 1119
R. I. M. S., 1824
S. C. M. A., 976, 1272, 1678
Southern Surg. and Gynecological A., 67, 140
Tenn. M. A., 1205, 1286, 1354
Texas M. A., 1490
Tri-State M. A. of the Carolinas and Va., 432, 754, 1063
Western Surg. and Gynecological A., 65, 217, 298

T

Tabes dorsalis and general paralysis, are they same disease differing only in situation of lesion? 1415—ab
and meningitis, 1010—ab
and paresis in negro, rarity of, 1645—O
atrophy of optic nerve due to, 1077—ab
conjugal, 1680—ab, 1797—ab
early, cystoscopic findings in, 1420—ab
resection of spinal roots for gastric crises in, 1863—ab, 1908—ab
result of specific treatment, 453—ab
without ataxia, 194—O
Tablet-making, limitations of, 1592—P
Tachycardia in children, 1688—ab
paroxysmal, and spontaneous delivery, 1157—ab
Taft, President, message of, to physicians, 1393—E
Tag days, protest against principle of, 1828
Talent, real, wasted in narrow field, 674—E
Talipes cavus, idiopathic 1691—ab
equinovarus in infancy and early childhood, congenital, treatment of, 1758—ab
Tallow, mutton, and iodin instead of oismuth paste, 1847—ab
Tank, septic, 355—E, 761—C
Tapetum and faciculus occipito-frontalis, anatomic study of, 850—ab
Tarsal bones, fracture of, 1415—ab
Tar workers, cancer in, 223—ab
Teeth and development of jaws and face, 473—O
dentist found guilty of manslaughter of patient who bled to death after extraction of, 433
false, operating to recover without sufficient justification, x-ray experiment evidence, 1600—M1
of children, care of, 1123
Telangiectasia, hemorrhagic, congenital, 786—ab
Temperature, antemortem rise of, in tuberculous meningitis, remarkable, 1854—ab
deep, of human body at rest and after muscular exertion, 1763—ab
of home and summer heat in relation to infant mortality, 1431—ab
Temperine, misbranding of, 1898—P
Tendon regeneration, 1760—ab
suture, 1760—ab
transference in poliomyelitis, 276—ab
transplantation and silk ligaments, 1846—ab
Tennessee medical news, 431, 678, 824, 1205, 1490
state board May report, 146
Tension, arterial, high, 1512—ab
Tents and intra-uterine medication, combined use of, 1874—O
laminaria, and salpingitis, 309—ab
Teratomata, ovarian, and chorioepitheliomata, origin of, and parthenogenetic development of ova in mammalian ovary, 1327—O
Teratoma tests and its derivatives, 1069—ab
Test: See also Reaction, and Tests
Test, acetic-acid, and tryptophan test in early diagnosis of gastric cancer, 463—ab
agglutination, typhoid, macroscopic, quick, 156—ab
Test, antitrypsin, improved technic for, 627—ab
blood, van Deen, improved technic for, 705—ab
blotting-paper, for free hydrochloric acid in stomach content, 857—ab, 1698—ab
butyric acid, Noguchi, in cerebrospinal fluid, diagnostic value of, 1171—O
card, vision, unlearnable, for use in naval service, 305—ab
color, contrast, in study of blood, 1765—ab
color, Schürmann's, for syphilis, 621—O
complement-fixation, in diagnosis of gonococcus infections, 1510—ab
for albumose in urine, 1697—ab
for lead in urine, 1672
for pancreas sufficiency, 1668
fuchsin and methylene blue, of age of milk, 1009—ab
Hemolytic: See also Hemolysis
hemolytic, for tuberculosis, 343—ab
hemolytic, serodiagnosis of whooping-cough by, 307—ab
hydrostatic, of infant's lung, possible cause of error in, 936—ab
liquor Bellosti, in paralysis, 1904—ab
Mandelbaum, in typhoid, 762
phenolphthalein, for occult gastrointestinal hemorrhage, 546—ab, 1225—ab
phloridzin, of liver functioning, 707—ab
picric acid, for seminal fluid, 783—ab
tryptophan, and acetic-acid test in early diagnosis of gastric cancer, 463—ab
tryptophan, for gastric cancer, 463—ab, 626—ab, 1370—ab
tuberculin, present status of, 1605—ib
tuberculin titer, 856—ab, 933—ab
tuberculin titer, tables for ready reference with, 856—ab
tuberculin, vindicating of, 516—E
Wassermann: See Reaction
Testicle, interstitial cells of, and its internal secretion, 221—ab, 1146—ab
mammalian, production of internal secretion by, and interstitial cells of Leydig, 1146—ab
undescended, anatomy and treatment of, 72—ab
undescended, surgical treatment of, 1069—ab
Testicles or ovaries, hyperfunctioning of, as cause of rachitis, 629—ab
Testimonial, 673—E, 1506—E
Testimony, expert, latitude allowed in hypothetical questions, 993—M1
medical expert, 74—ab, 921—M1, 993—M1, 1228—ab
medical expert, weight to be given, 921—M1
Tests, cholesterin and sodium glycocholate, for syphilis, 1131
functional, of heart, 1621—ab
meiostagmin and hemolytic, of gastro-intestinal cancer, reliability of, 629—ab
of virulence of diphtheria bacilli, 809—ab
Tetania parathyreopriva, parathyroid implantation in, 1034—ab
Tetanus following accidental injuries, 1851—ab
Fourth-of-July, prevention of, 352—E, 1820—E
from fuentes, 1002—ab
subcutaneous injection of phenol in, 1372—ab
traumatic, 1841—ab
Tetany from surgical standpoint, 228—ab
in children, parathyroids not responsible for, 390—ab
Texas and Louisiana and Arkansas, reciprocity between, 368
medical news, 129, 432, 521, 678, 824, 1205, 1273, 1490, 1663
state board June report, 146
state board November report, 370
Thenar and hypothenar types of neural atrophy of hand, 619—ab
Theobromin, 1331—T
Therapeutic measures, standardization of, report of committee on, 622
Therapeutics and significance of salvarsan, 1709—ab
bacterial vaccines a factor in, 305—ab
bile in, 1668
combinations of drugs in, 782—ab
in diatheses, 1667
kaolin and carbon dioxid snow in, 160—ab
modern, revulsion in, 1547—ab
optimistic, 268—O

Therapeutics, radium in, 1123, 1907-ab
suggestive, practice of medicine by, 772—M1
Therapy, mud, 1580—E
Thermometers, Centrigrade and Fahrenheit scales, 211
Thigh elastic stockings, simple support for, 507—O
Thiosinamin, effects of, 835
Thoracectomy, precordial, or cardiolysis, 1764—ab
Thoracotomy and esophagoplication for impermeable cardiospasm, 1437—O
Thorax: See also Chest
Thorax and breast, local anesthesia for major operations on, 1155—ab
child's anatomic features of, their practical application in physical diagnosis, 304—ab
empyema of, treatment of, 1233—ab
improved technic for operations on 706—ab
Throat and mouth, non-syphilitic ulceration of, salvarsan in, 1078—ab
and nose, sarcoma of, Coley's toxins for, 1615—ab
nose and mouth, peroral intubation for operations on, 1369—ab
Thrombokinase, preparation and use of, 849—ab
Thrombosis after intravenous injection of salvarsan, 313—ab
and embolism, puerperal and postoperative, premonitory symptoms of, 549—ab
cerebral, and acute encephalitis, 1371—ab
of superior mesenteric vein, 852—ab
portal, suppurative, ligation of veins for, 552—ab
septic, of sigmoid and lateral sinus, complicating double mastoiditis, 924—ab
venous, 1077—ab
venous, and salvarsan, 1207
venous, pulmonary symptoms as premonitory signs of, 1422—ab
Thrush in lungs, 1861—ab
Thymectomy, 1620—ab
in exophthalmic goiter, 1076—ab
Thymol, 1108—T
Thymus and bronchial glands, 1620—ab
effect of x-rays on, 594—E, 1420—ab
enlarged and persistent, percussion signs of, 1850—ab
function of, 898—E
galactagogue action of, 924—ab
hypertrophy of, clinical signs of, 1151—ab, 1866—ab
persisting, and mediastinal adenitis, 1300—ab
persisting, with exophthalmic goiter, 79—ab
serotherapy of, 1368—ab
Thyroid, 606—P
and female generative organs, 1686—ab
and thyroid treatment, changes in blood under influence of, 386—ab
carcinoma of, 468—ab
disease of, heart in, 304—ab
extract, standardization of, 606—P
function, present knowledge of, 658—O
gland, cultivation in vitro of, 1225—ab
human, pathologic anatomy of, 1360—ab
in hemophilia, 988
insufficiency, enuresis from, 459—ab
intoxication, symptoms of, after iodid medication, 783—ab
medication, inaccuracy in, 1724—E
physiology of, 1503—ab
slight general enlargement of, in school children, 1298—ab
tissue, accessory, within pericardium of dog, 1681—ab
treatment and thyroid, changes in blood under influence of, 386—ab
treatment in rachitis, 1861—ab
Thyroids and parathyroids, internal secretions of, chemical aspect of, 653—O
Thyroidectin for exophthalmic goiter, 1176—O, 1497—C
Thyroidectomy and castration, 231—ab
collapse of trachea in, 141—ab, 1418—ab
Thyroiditis, acute, 289
acute, following potassium iodid treatment, 1304—ab
scarlatinal, 858—ab
Tibia, congenital absence of, 153—ab
fractures of, treatment of, 1354—ab
Tinea favosa, 844—ab
versicolor, unusual case of, 381—ab
Tissue, anaerobic, action of ether on, 589—ab
Tissue, cellular, gastric, inflammation of, 78—ab
cultivation, 32—O
embryonic, implanted, effect of pregnancy on, 775—ab
Tissues, action of iodin on, 1005—ab
and parts of limbs, transplantation of, 1588
animal, growing of, outside of body, 1722—E
cultivated outside of body, cancer immunity by method of, 1512—ab
cultivation of, in salt solutions, 1795—O
cultivation of, in vitro, 1300—ab
nephridial and adrenal, embryology of, and histology of hypernephromata, 540—ab
physicochemical regulation of growth of, 1513—ab
sarcomatous and normal, artificial stimulation and inhibition of growth of, 32—O
subcutaneous, removal of sewing needles from, 344—O
Toad, tropical, poisons of, 1531—O
Tobacco, intermittent limping in connection with, 82—ab
Tochil, or endemic hemoptysis, 222—ab
Toe-nail, ingrowing, medical treatment of, 1511—ab
overgrown or ingrown, 1513—ab
Toe reflex, extensor, new method for eliciting, *1311
sarcoma under nail of, 386—ab
Toes, webbed, pedigree showing biparental inheritance of, 157—ab
Tongue depressor, new, 1361—ab
euglobulin reaction in, 1843—ab
geographical, treatment of, 609
lymphosarcoma of, 1863—ab
Tonsil: See also Tonsils
Tonsil and adenoid operation, 878—O
dissector, new, 953—O
Excision of; Removal of: See Tonsillectomy
question, 1502—ab
snare, improved, 1097—O
Tonsillectomy by guillotine and alveolar eminence of mandible, 867—O
complete, simple, 193—O
Tonsillitis, acute, 1131
acute, treatment of, 1682—ab
chronic urethritis and chronic ureteritis due to, 67—ab, 937—O
Tonsillotome improvement, 1224—ab
Tonsils: See also Tonsil
Tonsils, enlarged, treatment of, 1516—ab
Extirpation or Enucleation of: See Tonsillectomy
Removal of: See Tonsillectomy
Tonus, importance of, in mechanical activities of alimentary canal, 1606—ab
Toothache in toothless, 936—ab
Torticollis, colis, congenital, treatment of, 1429—ab
Tourniquet sign of disease with hemorrhagic manifestations, 545—ab
sign of scarlet fever, 1429—ab
Toxemias of pregnancy, catalytic activity of blood in, 156—ab
of pregnancy, serotherapy in, 1154—ab
Toxicity, comparative, of various alcoholic beverages, 1680—ab
Toxin, diphtheria, administration of, in collodion sac, 456—ab
Toxins of coley, mixed, in leukemia, 1677—ab
Trachea, collapse of, while performing thyroidectomy, 141—ab, 1418—ab
compression of, due to mediastinal cyst, in infant, fatal, 1145—ab
stenosis of, and bronchoscopy, 1620—ab
Trachoma, are we in danger of? 847—ab
bodies, nature of, 1681—ab
Coover method in, 305—ab
treatment of, 1854—ab
Traction, elastic, and elastic pressure, use of, in surgery, 75—ab
Transfusion in pellagra, 584—O
Transillumination of mastoid process as aid to diagnosis, 1653—O
Transplantation of tissues and parts of limbs, 1588
Transvaal, pneumonia and phthisis in, 1825
Trauma and tuberculosis, 1908—ab
as cause of amyotrophic lateral sclerosis, 1876—O
in origin of cancer from standpoint of insurance, 1770—ab
Travel study group, 1273
Treatment, refusal to submit to, must be unreasonable to affect verdict, 693—M1
Trees, conservative surgery of, 1211—ab
Trendelenburg position, advantages of, for obstetric procedures, 1157—ab
influence of, on quantity of urine excreted during anesthesia, 457—ab
Trephining, decompressive, successful, 1429—ab
for apoplexy, 1803—O
Treponema Pallidum: See Spirochaeta Pallida
Trichiniasis in Italians, 1030—O
Trichinosis, 348—T
from pork, danger of, 687—C
Trichocephalus dispar, enteritis from, 743—O
Triplets, bilateral tubal pregnancies with, 1690—ab
Tropics, American achievements in, 831
effect of climate of, on white men, 1049, 1727—E
Trypanosoma rhodesiense possibly morphology of trypanosome from sleeping sickness, 461—ab
Trypanosome from case of sleeping sickness contracted in Rhodesia, pathogenicity of, 461—ab
Tryptophan reaction, unreliability of, in stomach content in cancer, 1621—ab
test and acetic-acid test in early diagnosis of gastric cancer, 463—ab
Tube: See also Tubes, and Fallopian, and Eustachian
Tube, fixation of, in larynx, 1908—ab
glass, in male urethra, 1794—O
Tubercle Bacilli: See Bacilli
Tubercles of leprosy, suppuration in, 455—ab
Tuberclecide, 1409—P
Tuberculides in infants, papulous, histologic structure and bacillary etiology of, 1431—ab
Tuberculin, bovine, in pulmonary tuberculosis, 1363—ab
cutaneous, and Wassermann reactions in 228 scrofulous children, 314—ab
diagnostic value of, as shown by 19 necropsies, 1067—ab
in diagnosis of pulmonary tuberculosis, 1141—ab
in incipient pulmonary tuberculosis, 1903—ab
injections, râles after, not always sign of specific focal reaction, 232—ab
in joint tuberculosis, 1844—ab
in pulmonary tuberculosis, 1007—ab
in tuberculosis in infancy and childhood, 545—ab
ointment, old, in diagnosis and treatment of lupus vulgaris, 306—ab
preparations, 813
reaction, bovine, cutaneous, 161—ab
reactions, local, diagnostic value of, 181—O
safe guide for administration of, 1294—ab
skin reaction in syphilis and in metasyphilitic disease, 231—ab
test, annual, cities may require, and authorize summary seizure and destruction by health department of milk from uninspected cows, 374—M1
test for imported cattle, repeal of, 1341
test, inefficiency of, by mouth, 160—ab
test, present status of, 1605—ab
test, validity of city ordinance requiring, in Wisconsin, 1289—M1
test, vindicating it, 516—E
tests in children, cutaneous and conjunctival, comparative value of, 159—ab
titer test, 933—ab
titer test, tables for ready reference with, 856—ab
treatment, experiences with, 467—ab
treatment of railroad employees in Germany, 907
value of, in tuberculous joint diseases, 926—ab
Tuberculins, convenient table in use of, 1252—O
Tuberculosis, albumin reaction in sputum in early diagnosis of, 1621—ab
allergy in, experimental study of, 616—ab
among insane negro women, 1754—ab
and adenoids, 1691—ab
and age, 1406
and flat-foot, 1152—ab
and hospitals in Germany, 1120
and menstruation, 70—ab
and orthostatic albuminuria, 1864—ab
and physician, 1613—ab
Tuberculosis and pneumonia in Transvaal, 1825
and pregnancy, 1370—ab
and sarcoma, 379—ab
and syphilis, 1830—ab
and traumatism, 1908—ab
and tuberculin treatment in infancy and childhood, 545—ab
and wasting diseases, raw meat and raw meat juice in, 383—ab
articular rheumatism due to, 547—ab
at health resort, century of, 1691—ab
at hospitals, notification of, 1339
bill in Colorado, 1741—ME
blood-pressure in, 1560—ab
bone, hospital for treatment of, not a nuisance, 1839—M1
bovine, and human ills, 1761—ab
bovine, control of, 977
bursitis due to, 1612—ab
Calmette Reaction in: See Tuberculin Reaction, Ocular
campaign against, at Budapest, 285
campaign against, in rural districts of Germany, 1736
cellular elements of blood in, 1855—ab
classes, value of, to community, 438—ab
classification of, 58
climatic treatment of, 1423—ab
coxitis due to, spontaneous fractures in, 1232—ab
crusade against, 1586
cure fake in Jackson, Mich., 134—P
cure fakes, 125—E, 134—P
day, national, 673—E
deep muscular injections of mercury in, 1060—ab
endaortitis due to, acute, 923—ab
essentials of campaign against, 745—ab
genital, 536—ab
genital, x-ray in, 1622—ab
Glandular: See Tuberculosis of Glands
healed, bacilli in, 1333—E
hemolytic test for, 343—ab
human and bovine, relation between, from public health viewpoint, 380—ab
human, and experimental tuberculous reinfection, 1267—E
hyperplastic, of cecum and colon, 955—O
immunity in, 540—ab, 1682—ab
immunity reaction in diagnosis of, 928—ab
in Canada, report on, 825
in children, 1011—ab, 1845—ab
in children, acute, curable forms of, 853—ab
in children, aspects of, 1070—ab
in children, pulmonary, diagnosis and epidemiology of, 462—ab
in children, recalcification treatment of, 1152—ab
inheritance of, 227—ab
inherited predisposition to, 708—ab
in infants, 1691—ab
in Philippines, 1685—ab
in Scotland, decline of, 1120
instruction of soldiers on, in Germany, 682
intestinal, in infants, perivascular localization of, 854—ab
intestinal, treatment of, 1506—ab
joint-disease due to, 1718—O
joint, Spengler's I. K. serum in, 1844—ab
joint, tuberculin in, 1844—ab
kidney and bladder, operative and specific treatment of, 388—ab
kidney, diagnosis and treatment of, 83—ab, 1140—ab
kidney, in women, 1904—ab
loss of appetite in, 831—ab
meningitis due to, cerebrospinal fluid in, 1765—ab
meningitis due to, tubercle bacilli in cerebrospinal fluid of, 304—ab
mercury succinamid in, 151—ab
modifying effect of inoculation of, by combining with local anesthetic, 780—ab
need of early diagnosis of, from public health and prognostic points of view, 1635—O
not case of, 120—T
Ocular Reaction: See Tuberculin
of ankle in adults, prognosis and treatment of, 1905—ab
of bronchial glands, diagnosis of, 457—ab
of glands of neck, treatment of, 72—ab
of iris after chilling, 783—ab
of joints, advanced, ileocolostomy for, 1619—ab
of joints, treatment of, 1909—ab
of liver, caseating, disseminated, 1612—ab

Tuberculosis of lungs, 1667
of mediastinal glands, extensive, 1623—ab
of ovaries and Fallopian tubes, 1231—ab
of placenta, 551—ab
or localized pulmonary edema? 1765—ab
Patients: See Tuberculous Patients
peritonitis due to, and alcoholism, 1624—ab
peritonitis due to, in children, 1766—ab
peritonitis due to, operation and sunshine in, 1557—ab
predisposition of apices to, 1153—ab
prevention of, at its fountainhead, 354—E
primary, of striated muscles, 1769—ab
pulmonary, action of functional rest of lung on extent and course of, 160—ab
pulmonary, albumin reaction in, 1908—ab
pulmonary, and bronchial asthma, combination of, 390—ab
pulmonary, and gastric ulcer, 1010—ab
pulmonary, and premenstrual fever, 1239—O
pulmonary, and syphilis, 1292—ab
pulmonary, Arneth's method of blood counting in, its prognostic value, 1510—ab
pulmonary, artificial pneumothorax in, 159—ab
pulmonary, autogenous vaccines in mixed infections in, 1761—ab
pulmonary, behavior of heart in, 855—ab
pulmonary, bovine tuberculin in, 1363—ab
pulmonary, chlorids, phosphates and sulphates of urine in last stage of, 1682—ab
pulmonary, continuous antiseptic inhalation in, 383—ab
pulmonary, cough during auscultation in diagnosis of, 245—O
pulmonary, cough in, treatment of, 1441—O
pulmonary, early diagnosis of, 542—ab, 1304—ab, 1631—O
pulmonary, early, diagnosis without use of microscope or stethoscope, 1511—ab
pulmonary hemorrhage in, treatment of, 1857—ab
pulmonary, hyperemia in, 1011—ab
pulmonary, incipient, diagnosis of, and use of tuberculin, 1903—ab
pulmonary, induced pneumothorax in, 544—ab, 1075—ab
pulmonary, influence of dysentery on incidence and mortality of, 383—ab
pulmonary, investigations on, 541—ab
pulmonary, involving whole or more than one lobe of lung, prognosis of, 1149—ab
pulmonary, lime in, 78—ab
pulmonary, management of, 1263—T
pulmonary, opsonic index in diagnosis of mixed infection in, 1003—ab
pulmonary, prevention of, 1195—T, 1280—C
pulmonary, prevention of hemorrhage in, by administration of autogenous vaccines, 1359—ab
pulmonary, scapula-angle sign of, 502—ab
pulmonary, serodiagnosis of, 158—ab, 855—ab
pulmonary, symptoms of exophthalmic goiter in, 828—ab
pulmonary, theory and practice in treatment of, 542—ab
Pulmonary, Tuberculin in: See also Tuberculin
pulmonary, tuberculin in, 1007—ab
pulmonary, tuberculin in diagnosis of, 1141—ab
pulmonary, typical and atypical, 546—ab
pulmonary, ultra-chronic, 382—ab
pulmonary, unilateral, severe, induced pneumothorax in, 1078—ab
renal, advanced, difficulties and limitations of diagnosis in, 1514—ab
renal, and tuberculous bacteriuria, 1680—ab
renal, state of other kidney in, 308—ab
rest and movement in, 225—ab
sanatorium treatment of, 517—E
sanitariums, private, as nuisances, 296—M1
sanitariums, public and private, 762
Tuberculosis science, modern, Robert Koch the father of, 1307—O
sensitization in, 1850—ab
serodiagnosis for simple, method for obtaining immunity index, 306—ab
sinuses, chronic, bismuth paste for, 1414—ab
situation in Pennsylvania in 1909, 339—O
specific treatment of, 707—ab
statistics of curative treatment of, 756
Tuberculin in: See Tuberculin
what can navy do with? 154—ab
Tuberculous patient after sanatorium treatment, 1821—E
patients, cured, employment for, 427—E
patients, folly of sending them away from medical supervision, 1638—O
reinfection, experimental and human tuberculosis, 1267—E
Tubes, Fallopian: See Fallopian Tube
Tucker's asthma specific, 1495—P
Tumor: See also Tumors
Tumor cells, sarcoma of fowl transmissible by agent separable from, 1225—ab
growth in rats and mice, experiments on inhibition of, empirical treatment in man, 1298—ab
implantations in developing embryo, 741—O
or abscess formation in temporosphenoidal lobes, diagnosis of, 1639—O
Tumors: See also Tumor
Tumors, bladder, clinico-pathologic data on, 694—ab
bladder, intravesical operations for, 695—ab
bladder, myomatous, 544—ab
bladder, transperitoneal and suprapubic approach to, 694—ab
brain, 1233—ab
brain, removal of, 1180—O
breast, diagnosis and treatment of, 1063—ab
breast, diagnosis of, 793—O
desmoid, of abdominal wall after operation, 65—ab, 1684—ab
in cerebello-pontine angle, 718—ab
in female genitalia and diabetes mellitus, 463—ab
inflammatory, from migrating foreign bodies, 1372—ab
in lungs and pleura, 1303—ab
malignancy in, 1513—ab
malignant, 1588
malignant, cultivation in vitro of, 1513—ab
malignant, effects of internal secretions on, 1360—ab
medical and surgical aspects of, 378—ab
of hypophysis-cerebri region, 628—ab
of jaw, 142—ab
of jaw most frequently in negro, 696—ab
of kidney, malignant, 1506—ab
of uterus, benign, 1616—ab
of uterus, fibroid, 57 consecutive operations for, 1603—ab
suprarenal, and malignant kidney, fever with, 546—ab
Turbinates, inferior, syphilitic hypertrophy of, 1191—O
Typewriting, increase in metabolism due to work of, 1758—ab
Typhoid, 1355—ab
agglutination test, microscopic, quick, 156—ab
agglutinins, human and animal, 155—ab
and water storage, 680
and water supplies, 445
angiocholecystitis, operative treatment of, 931—ab
antityphoid vaccine in, 221—ab
bacilli, daring experiment of physician on himself with, 601
Bacillus: See Baccillus
bacillus-carriers, 1391—T
bacillus carriers in insane asylums, 80—ab
bacillus-carriers, operative treatment of, 386—ab
bacterial vaccine in, rational indication for, 1102—O
bacteriology of, 1906—ab
bacteriology, pathology and diagnosis of, 1856—ab
by inoculation, protection from, 1513—ab
cholecystitis, 299—ab, 1617—ab
city's liability for, 49—E
concurrent, appendicitis with, 1356—ab
diet in, 538—ab, 1735
due to contaminated water, liability of municipalities for deaths from, 65—M1
Typhoid, duration of infectivity of, 1072—ab
epidemic with isolation of bacillus typhosus and bacillus coli from water supply, 1100—O
erythema multiforme iris during course of, 923—ab
experimental, 1689—ab
feeding in, 1616—ab
general prophylaxis of, 1389—T
hair in, 1463—T
hexamethylenamin in, 1075—ab
house epidemic of, due to bacillus carrier of atypical bacillus typhosus, 1425—ab
hydrochloric acid in, 1422—ab
in army, control of, by vaccination, 221—ab
in children, 785—ab, 1864—ab
in Des Moines, Iowa, 41—O
infection, 543—ab
infection involving only gall-bladder, 1146—ab
liberal diet in, 1843—ab
liver abscess with or following, 1855—ab
Mandelbaum test in, 762
meningitis, 882—O, 935—ab
nervous, mental and spinal conditions in, 1466—T
perforation, operative treatment of, 853—ab
preventive vaccination against, 1074—ab
protective treatment of heart and blood-vessels during and after, 1462—T
safe and rapid method for administration of vaccine in, 1016—O
serodiagnosis of, 313—ab
serotherapy of, 308—ab, 1462—T
situation in Baltimore, 1608—ab
spine, additional cases with bony changes in vertebræ, 925—ab
traced to fish contaminated by sewage, 1120
ulcer peritonitis in, acute, 1683—ab
vaccination against, 781—ab, 1460—T, 1617—ab, 1679—ab, 1784—E
vaccination against, in France, 906
vaccine therapy of, 1613—ab
Typhus, exanthematous, experimental research on, 1073—ab
fever, complications of, 836—ab
Tyrosin and indol, effect of injections of, in experimental animals, 1796—O

U

Ulceration of mouth and throat, nonsyphilitic, salvarsan in, 1078—ab
Ulcer: See also Ulcers
Ulcer, Duodenal: See Duodenal
Gastric: See Gastric Ulcer
in jejunum after gastro-enterostomy, 1695—ab
leg, alternating treatment of, 1622—ab
of posterior wall of stomach, indurated, chronic, possible diagnosis and technic in excision of, 1699—O
rodent, treatment of, 382—ab
varicose, treatment of, 1070—ab
Zambesi, 461—ab
Ulcers: See also Ulcer
Ulcers, leg, spiral incision for, 1372—ab
varicose, adhesive plaster garter for, 629—ab
Umbilical cord, shortened, and arrested development of abdominal parietes, 804—O
cord, traumatic rupture of, in abdominal wall at birth, recovery, 1792—O
fistula, intestinal obstruction due to enterolith spontaneously cured by evacuation through, 76—ab
Umbilicus, Cesarean section by small median incision above, 157—ab, 1759—ab
surgical diseases of, 391—O
Uncinariasis, 1024—O
ankylostomiasis or hookworm disease, 1107—T
as factor in puerperal eclampsia, 1609—ab
free dispensaries for, 1485—E
in cataracts, 1602—ab
in mines of California, 259—O, 272—E
in students in Texas, 1129—C
microscopic findings in diagnosis of, 1503—ab
Rockefeller commission for eradication of, 1332—E
soil pollution in, 831—ab
treatment of, 1612—ab
what has been done in Georgia against? 1753—ab
Underclothing, orange-red, used in tropics, 1484—E, 1695—ab
Underwear, orange-red, and actinic rays, 1740
Unemployment and illness, great state insurance scheme against, 1664
Unfit, 384—ab
safeguarding society from, 152—ab
United doctors, 1336—E
United States, message of President of, to physicians, 1393—E
Pharmacopeia: See Pharmacopeia
public health service, 275—E
Universities as object-lessons in hygiene, 1269—E
formation and functions of hygiene committees for, 1253—O
Prussian, increase in fees for foreign students at, 682
should they grant decree of Ph.D. for graduate work in surgical sciences? 923—ab
state, responsibility of, in public health matters, 767—ab
University at Frankfort, 978
medical college of Kansas City, voluntary closing of, 1726—E, 1742
study in Germany, 284
Washington, preventive medicine at, 276—E
Unthruthfulness, commercial, passing evil, 1113—E
Uranalyses, farcical fraudulent concern making fake diagnosis by, 56—P
Urea content of blood and urine, test of kidney functioning by comparison of, 1516—ab
Uremia, 1372—ab
Ureter: See also Ureters
Ureter and kidney pelvis, plastic operations on, 1862—ab
calculus in, 140—ab, 848—ab
calculus in, in children, 1426—ab
calculus in, operative treatment of, 930—ab
double, cystoscopy and catheterization of, 1689—ab
empyema of, 1004—ab
lower, calculi in, 1013—ab
lower, surgical approach to, 73—ab
or common bile-duct, severed, physiologic implantation of, into intestine, 397—O
Ureteritis, chronic, and chronic urethritis due to tonsilitis, 67—ab, 937—O
Ureterotubal anastomosis, 265—O
Ureters: See also Ureter
Ureters, extraperitoneal transplantation of, into rectum for extroversion of bladder, 1617—ab
Urethra, female, sarcoma of, 1516—ab
injection of glycerin in, to facilitate passage of sounds, 785—ab
male, glass tube in, 1794—O
Urethritis, chronic, and chronic ureteritis due to tonsilitis, 67—ab, 937—O
chronic, aspiration treatment of, 853—ab
Urethroscopy, air-inflation, air embolus during operation under, 419—O, 536—ab
Uric acid in urine, blood and other serous fluids, quantitative determination of, 1368—ab
Urinary concrements, remarkable, 546—ab
passages, infection of, with colon bacillus, 1012—ab
tract, infection of, in children by coliform organisms, 1687—ab
tract, purulent infections of, in infancy, 631—O
Urine, acidity of, in infants, 1301—ab
and blood, test of kidney functioning by comparison of urea content of, 1516—ab
chlorids, phosphates and sulphates of, in last stage of pulmonary tuberculosis, 1682—ab
containing glucose, blood charcoal as clearing agent for, 1756—ab
dangers of diverting, into intestine, 935—ab
decomposing, experimental research on action of products of, 1304—ab
diagnostic importance of concentration of, 1365—ab
euglobulin reaction in, 1843—ab
findings in diagnosis of cancer, 311—ab, 1864—ab
formation of concrements in, means to influence it, 1428—ab
hyperacidity of, its relation to neuritis, neuralgia and myalgia, 378—ab
in acromegaly, 1870—O
influence of trendelenburg position on quantity of, excreted during anesthesia, 457—ab
in paralysis, Butenko reaction in, 467—ab

Urine, interpretation of gross findings in, 1070—ab
methylene-blue reaction in, diagnostic significance of, especially in malignancy, 1882—O
of breast-fed infants, reaction in, 546—ab
of infant, glycuronic acid in, diagnostic importance of, 706—ab
of normal children, frequency and significance of, 697—ab
pepsin and diastase in, 1357—ab
pressor bases of, 1906—ab
reaction in infants, 933—ab
simple method for detection of minute quantities of albumin in, 662—O
sulphur reaction in, with cancer, 1371—ab, 1697—ab
test for albumose in, 1697—ab
test for lead in, 1672
uric acid in, quantitative determination of, 1368—ab
Utah medical news, 281, 358, 1206, 1273, 1663
state board April report, 1416
state board January report, 1061
Uterus, adherent, gravid, retroflexed, treatment of, 618—ab
and rectum, cancer of, in women, abdominoperineal technic for removal of, 854—ab
anteflexion of, as cause of development of myomas, 1306—ab
anteflexion of, treatment of, 141—ab, 727—O
arteriosclerosis of blood-vessels of, 239—O
autonomic manifestation and peripheral control of pain originating in, 861—O
blood-supply of myomata of, 1913-ab
body of, and cervix-uteri, placenta implanted between, Cesarean section for, 310—ab
cancer of, 380—ab, 465—ab, 1611—ab
cancer of, abdominal hysterectomy in, 854—ab
cancer of, diagnosis of, 1682—ab
cancer of, necessity for microscopic examination of assumed recurrence of, 1696—ab
cancer of, non-operative treatment of, 384—ab
cancer of, participation of tissues adjacent to uterus and of pelvic lymphatics in, 101—O
cancer of, treatment of, 1157—ab
cancerous, method of radical extirpation of, based on, 1907—ab
carcinoma of, advanced, conservative treatment of, 1611—ab
carcinoma of, results from radical abdominal operation for, 96—O
contractions, action of gossypii cortex on, 1147—ab
didelphys, double pregnancy in, 20—ab
dilatation of, by tents, 1874—O
dilatation of, intra-uterine applications for, 1874—
displacement of, backward and downward, ventrosuspension by round ligaments for, 1421—ab
displacements of, significance and surgical treatment of, 1286—ab
dystocia due to ventrofixation of, Cesarean section for, 623—ab
fibroids of, and loss of cardiac compensation, 1324—O
fibromyoma of, subtotal hysterectomy for, 460—ab
fibromyomata of, complicating pregnancy, labor and puerperium, 305—ab
fibromyomata of, intraperitoneal hemorrhage in, 306—ab
hemorrhage of, ovarian origin of, in some cases, 934—ab
hemorrhage of, treatment of, 550—ab
hemorrhage of, utriculoplasty for, 1764—ab
myoma of, and degenerative changes, 618—ab, 1854—ab
myomas of, treatment of, 1428—ab
myomata of, abdominal myomectomy for, 847—ab
myomata of, and heart disease, 1904—ab
pelvic fixation of, for retroflexion, 1910—ab
perforation of, and transfixion of contiguous mesentery and peritoneum by bone crochet needle, 173—O
plication of round and anterior fold of broad ligament on anterior surface of, for retrodisplacement, 469—O
pregnant, umbilical cord being within, Cesarean section in, 305—ab
Uterus, prolapse of, and cystocele, plastic operation for, 1015—ab
prolapse of, round-ligament operation for, 1496—C
prolapse of, severe, modern methods of treatment for, 73—ab
prolapse of, ventrofixation in, 1425—ab
prolapse of, Wertheim-Schauta operation for, 79—ab
prolapsed, abdominal exclusion of fundus for, 299—ab
puerperal inversion of, 858—ab
retrodeviations of, evolution of surgical treatment of, 487—O
retrodisplacement of, adherent, operations for, by shortening round ligaments, 1351—ab
retrodisplacement of, operation for, 481—O, 1280—C, 1351—ab
retrodisplacements of, plication of anterior broad ligament for, 299—ab
retroflexed, easy and rapid mechanical reposition of, 231—ab
retroversion of, intraperitoneal shortening of round ligaments for, 573—O
round-ligament ventrosuspension of, 485—O
septic perforation of, toxic hematoporphyrinuria complicating, fatal, 300—ab
tissues adjacent to, and pelvic lymphatics, participation of, in uterine cancer, 101—O
total rupture of lower segment of, conservative treatment of, 830—ab
tumors of, benign, 1616—ab
tumors of, fibroid, 57 consecutive operations for, 1603—ab
Utricle, prostatic, method of treating, 731—O
Utriculoplasty for uterine hemorrhage, 1764—ab

V

Vaccination, 1501—ab
against small-pox, 1232—ab
against typhoid, 221—ab, 601, 781—ab, 1016—O, 1074—ab, 1102—O, 1679—ab, 1784—E
against typhoid in France, 906
and small-pox in Japan, 889—O
as prophylactic against small-pox, experience of army with, 1415—ab
control of typhoid in army by, 221—ab
effective in Philippines, 1124—ab
in Philippines, 1041—E
insusceptibility to, case of, 928—ab
law, Berlin medical society on, 1122
law, no change in, 1828
movement against, 523
two facts regarding, 1830—ab
of school children, 1285—ab
Vaccinations, primary, 30,000, conclusions from, 1362—ab
Vaccine, antirabic, 1195
antityphoid, safe and rapid method for administration of, 1016—O
bacterial, in typhoid, rational indication for, 1102—O
institute, new director-general of, 1735
therapy, 1676—ab
therapy, chronic influenzal rhinitis promptly improved by, 264—O
therapy from standpoint of practitioner, 1749—ab
therapy in chronic glanders in man, 1379—O
therapy in otitis media, 1647—O
therapy in prevention of dysentery in infants, 1512—ab
therapy in puerperal sepsis, 1290—ab
therapy in skin diseases, 255—ab
therapy, modified, based on theory of multiple infections and quantitative reaction, 1421—ab
therapy of typhoid, 221—ab, 1102—O, 1613—ab
therapy, résúme of, 619—ab
therapy, uses and limitations of, in management of arthritis, 926—ab
Vaccines and serum, antigonococcus, in gonorrhea, its complications, clinical experience with, 459—ab
and serums, clinical experiences with, 1852—ab
autogenous, in mixed infections in pulmonary tuberculosis, 1761—ab
autogenous, prevention of hemorrhage in pulmonary tuberculosis by administration of, 1359—ab
bacterial, a factor in therapeutics, 305—ab
bacterial, in suppurative otitis media, scarlatinal, 1088—O
in acute mastitis, 1424—ab
in puerperal sepsis, what we can expect from, 1759—ab
in rheumatic diseases, 1763—ab
Vaccines in rheumatoid arthritis, 623—ab
specific differential reactions with, according to Wright, 856—ab
Vacuum desiccation, effect of, on virus of rabies, 456—ab, 538—ab
pump for sinus and middle-ear disease, 811—O
Vagina, complete absence of, operation for formation of plastic vagina, 140—ab, 622—ab, 1145—ab
inversion of, following hysterectomy, 930—ab
new, formation of, 140—ab, 1622—ab, 1145—ab
sarcoma of, 1149—ab
Vaginal methods in gynecology, 627—ab
Vagino-abdominal examination, method of teaching, 618—ab
Valve, heart, defect of, ascites with, omentopexy for, 707—ab
Vanadiumism, 1648—O
Van Hysterveld Medicine Company, 56—P
Van 'T. Hoff and Medical Science, 818—E
Varicella, gangrenous and hemorrhagic, fatal, 1617—ab
Varices and leg ulcers, spiral incision for, 1372—ab
idiopathic, superficial, on legs, resection of, 1300—ab
Varicocele, operative treatment of, 777—ab, 778—ab, 1697—ab
Vegetables, digestion of, 1154—ab
Vein anesthesia, modified, 859—ab
mesenteric, superior, thrombosis of, 852—ab
saphenous, internal, implantation of, in peritoneum in ascites, 163—ab
sign in abdominal inflammations, 458—ab
Veins, ligation of, for suppurative portal thrombosis, 552—ab
peripheral, pulsations in, 1510—ab
varicose, in legs, 625—ab
varicose, venous anastomosis for, venovenostomy, 1447—O
Velum, post-diphtheritic paralysis of, electricity in, 1235—ab
Venereal diseases among seamen of merchant marine, 1359—ab
diseases and stricture of rectum, 1646—ab
diseases, preventive medicine for, 1359—ab
diseases, prophylaxis of, in United States army, 154—ab
prophylaxis in United States navy, 1098—O
prophylaxis in U. S. navy for benefit of public health officials, 1359—ab
Venesection and saline infusion in skin disease, 625—ab
in polycythemia, 934—ab
Venom poison compared with puerperal eclampsia, treatment, 623—ab
Venovenostomy for varicose veins, 1447—O
Ventilation, humidity in problem of, 1125—ab
in public schools, 1411
novel doctrine of, 1048
of sleeping cars, 622—ab
Ventricles, cerebral, function of choroid plexuses of, and function of pituitary gland, 265—O
Ventrofixation in prolapsus uteri, 1425—ab
of uterus, dystocia due to, Cesarean section for, 623—ab
Ventrosuspension by round ligaments for backward and downward displacement of uterus, 1421—ab
round-ligament, of uterus, 485—O
Veratrum, 606—P
Vermont medical news, 1273
state board January report, 840
Verruca, etiology of, 1193—O
Vertebræ, bony changes in, in typhoid spine, 923—ab
cervical, fourth, fifth and sixth, unusual fracture of bodies of, with injury of spinal cord, 1291—ab
insufficiency of, 312—ab
lumbar, isolated fracture of transverse processes of, 308—ab
scoliosis relieved by operation on transverse process of one of, 153—ab
sudden onset of Pott's disease without deformity of, 1149—ab
support for spondylitic spine by buried steel bars attached to, 153—ab
Vertigo from disease of internal ear, electric investigation in, 1622—ab
Vienna, hypnotic experiments in, 182
Vienna letter, 54, 132, 284, 361, 436, 602, 683, 756, 828, 979, 1051, 1123, 1275, 1341, 1407, 1493, 1668, 1736, 1828
Virginia medical news, 129, 754, 905, 1273, 1732
state board December report, 839
Virus of yellow fever, dengue and pappataci fever, nature of, 773—ab
Viscera, abdominal, injuries of, without external signs of violence, 718—O
abdominal, temporary eventration of, for x-ray examination and treatment, [illegible]—ab
abdominal, traumatic perforation of, 1286—ab
muscles and blood-vessels, preservation of anatomic dissections with permanent color of, 882—O
plastic closure of fistulas opening out of, 859—ab
ptosis of, knee-elbow position with, 1153—ab
Visceroptosis as improved abdominal binder, 1618—ab
Vision, color, and color blindness, 780—ab
conservation of, 1064—ab
disturbances in multiple sclerosis, 224—ab
test card, unlearnable, for use in naval service, 305—ab
Visual fields, convenient method of testing, for color without use of perimeter, 1106—O
Voice, defective mutation of, cause and treatment of, 420—O
Volvulus and real or simulated strangulated hernia, 775—ab
of cecum, 142—ab
of stomach, 932—ab
Vomiting and nausea, clinical significance of, 1603—ab
and nausea, postoperative, from chloroform and ether, open-air treatment of, 1293—ab
of pregnancy, pernicious, 158—ab
toxic, of pregnancy, myelitis and polyneuritis during, 1426—ab
uncontrollable, with congenital ega-colon, 82—ab
Vulva, epithelioma of, electricity in, 886—O
epithelioma of, ionic surgery and plastic operations in, 886—O
psychogenic pruritus of, 1767—ab

W

Wards, pay, in municipal hospitals, 755
Warning concerning subscription company, 1584
Washington medical news, 281, 358, 1119
state board January report, 1348
state board July report, 213
Washington's birthday, celebration of, in Vienna, 756
Wassermann Reaction: See Reaction
Water allowed to become contaminated, liability of municipalities for deaths from typhoid due to, 65—M1
and chlorid tolerance in nephritis, 1756—ab
and ice furnished by municipalities to promote health, 842—M1
and malarial fevers, 225—ab
distilled, influence of, on healing of skin wounds in frog, 1512—ab
drinking, as medium of lead poisoning, 1853—ab
drinking, copper pipes for distributing, 1666
drinking, studies on, 1360—ab
drinking, therapeutic effect of high nitrates in, 1881—O
drinking, with meals, 1755—ab
supplies and typhoid, 445
supplies, sources of, 1594
supply, epidemic of typhoid with isolation of bacillus typhosus and bacillus coli from, 1100—O
storage and typhoid, 680
ultraviolet rays for sterilizing, 49—E
Waters, mineral and table waters, 283
mineral, radioactivity of, 1603—ab
of life, California, misbranded, 1898-F
Weak back, postoperative, common, care in arranging patients on operating-table for prevention of, 642—O
Weil's disease, 1767—ab
Welfare, public, and individual liberty, 1110—E
West Virginia state board April report, 1596
state board November report, 214
Wet-nurses, directory for, 1715—O

Whitehead operation for hemorrhoids, 1608—ab
White race, malaria in, 155—ab
Whooping-cough, serodiagnosis of, by hemolytic test, 307—ab
serologic differential diagnosis of, 854—ab
Winckel's disease, 1301—ab
Windows, proposed compulsory opening of, in Great Britain, 1404
Wire, aluminum, bone clamps of, 153—ab
enameled copper, for sutures, 1671—C
silver, for fractures of patella, 1616—ab
Wisconsin medical news, 281, 358, 600, 906, 976, 1119, 1273, 1490
pure food law not emasculated, 1483—E
state board January report, 1597
Witness, expert, alienist as, 225—ab
Woman, generative organs of, and thyroid, 1686—ab
not admitted as privat-docent in Germany, 361
pregnant and lying-in, plea for more intelligent care of, 1512—ab
Women, complete vesical hernia in, new operation for, 225—ab
diseases of, influence of occupation on development of, 1825
functional periodicity in, 1295—ab
in academy of sciences, candidacy for, 53
internships reserved for, in Paris, 906
kidney tuberculosis in, 1904—ab
nervous, end-results of surgical operations on, 220—ab
pregnant and parturient, new bag for hydrostatic dilatation of cervix uteri in, 1069—ab
pregnant, cholesterin in blood of, 1623—ab
pregnant, non-destructive action of serum of, on human cancer cells, 859—ab
primary sterility in, 693—ab
sigmoiditis and infection of internal genitalia in, 1299—ab
temporary sterilization of, 83—ab
Women's clubs, federation of, starts educational campaign in social hygiene, 760—C
Word-blindness, congenital, hereditary, 1149—ab
Work and play, 538—ab
conscientious, sad sequel to, 972—E
in treatment of neurasthenia, 139—ab
Workmen, injured, first aid to, 1340
compensation of, 163—ab
Worm, Round: See Ascaris
Worms: See Helminths and Helminthiasis
Wound, gunshot, fatal, medicolegal aspects of, 1594
gunshot, of skull, unusual, 1364—ab
gunshot, through head, 618—ab
stab, of heart, 69—ab
Wounds, breaking down of, following operations, 844—ab
crime not affected by lack of skill in treatment of, 921—M1
infectious or suspicious, suction treatment of, by sterile sand baths, 1372—ab
in vitro, cicatrization of, 1225—ab
medicolegal relations of, 1499—ME
of abdominal wall, gastric weak line in, 1751—ab, 1798—O
Wounds, penetrating, of abdomen, 1603—ab
skin, in frog, influence of distilled water on healing of, 1512—ab
Writing, easy, versus easy reading, hint to authors, 750—E
Wyoming medical news, 824, 1490
state board March report, 1348

X

Xerase, 1460

Y

Yaws, specific cure of, with salvarsan, 695—ab
Yellow fever bulletin, 1732
fever, nature of virus of, 773—ab
Young, sex and instruction of, 746—E

Z

Zambesi ulcer, 461—ab
Zenker's Degeneration: See Muscles, waxy degeneration of
Zomotherapy in tuberculosis and wasting diseases, 383—ab

CURRENT MEDICAL LITERATURE

INDEX TO SUBJECTS

Explanation: The *reading matter which appeared in* THE JOURNAL *is not indexed here*, except the original articles and the abstracts of original articles. This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including THE JOURNAL, during the past six months. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Current Medical Literature Department, and it is to them that references are here made. The figure in parentheses refers to the paragraph; the number following to the page in THE JOURNAL. For instance, "Immunity, Studies on, in Cancers of White Rat, (76) 1512—ab," refers to page 1512 of THE JOURNAL, on which is found, in paragraph 76, the title of the paper and the name of the author, viz., "Studies on Immunity in Cancers of White Rat, I. Levin and M. J. Sittenfield." This title is listed under the journal in which the article appeared, the *Journal of Experimental Medicine*, May, 1911. When "ab" follows a page number it indicates that the article was abstracted in THE JOURNAL; for instance, "Pylorus, Congenital Stenosis of, (85) 697—ab." On page 697, paragraph 85, will be found an abstract of this article, which appeared in *American Journal of Diseases of Children*, February, 1911. Titles of articles which appeared originally in THE JOURNAL are indicated in the index by an asterisk (*) before the page number; for instance, "Breast, Cancer of, Operative Treatment of, *315." refers to page 315 of THE JOURNAL, on which is found the complete original article. The index to authors of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2001 to 2016 of this Index.

A

Abdomen and lungs, similarity between acute conditions in, (14) 1687
carcinoma of right Fallopian tube palpable through, (54) 378
characteristic painful point in, with sciatica, (73) 1622—ab
common diseases of upper quadrant of, differential diagnosis and treatment of, (101) 1293
contusions of, indications with, (80) 1691
contusions of, resulting in injury to contained viscera, (39) 1292
cysts of, liver abscess and suprapubic cystotomy, drainage tube for, (16) 1687
drainage of spina bifida and hydrocephalus into, (96) 311—ab
gunshot wounds of, (71) 303, (85) 457, (69) 1002, (172) 1362
gunshot wounds of, without injury to organs, (79) 1863
inflammatory tumors of, simulating malignant disease, (64) 847
injuries of, (123) 74, (72) 222, (59) 696—ab, (53) 703, *718, (33) 1511
pain as symptom of disease involving right half of, (106) 223
trauma of, favorable significance for prognosis of early meteorism after, (52) 1299
upper, diseases of, differential diagnosis, (95) 154, (147) 1227
upper, diseases of, that may require surgical intervention, (4) 300
upper, diseases of, value of surgical diagnosis in, (121) 1147
Abdominal and pelvic-outlet operations, combined, position for, (87) 73—ab
case, acute, from standpoint of country practitioner, (78) 544
cavity, drainage of, (72) 153, (138) 935
cavity, fluid of, in pregnant rabbits, (10) 1149
cavity from surgical standpoint, (44) 1427
cavity, postoperative protection of, (121) 466
conditions, acute, rarer causes of, (9) 382—ab
contents, injuries of subcutaneous, (168) 382
contusions, (72) 222
contusions, rupture of large blood vessels in, (53) 703
diphtheria, *199
disease, early functional dangers in, (16) 1757
disease, pain in, (28) 152, (24) 300—ab
disease, surgical, determination of viscosity of blood in, (86) 1075
diseases, acute, cooperation of physician and surgeon in treatment of, (27) 151
diseases, acute, emergencies of, (1) 1362—ab
diseases, electricity in, (21) 544
fixation of uterus, technic for, improved, (119) 389
hydatid cyst, ruptured, practical application of symptom-complex in, (26) 383
incision, closure of, (62) 1421—ab
incision, new, to facilitate intra-abdominal operations, (114) 1004—ab
Abdominal infections, pathologic versus physiologic era in surgical treatment of, (42) 1292
inflammations, vein sign in, (81) 458-ab
manifestations of syphilis, acute, (22) 1511—ab
myomectomy for myomata of uterus, (63) 847—ab
pain, (112) 465, (127) 698, (91) 1003
pain and tenderness, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, *1784
position for drainage in suprapubic prostatectomy, (101) 778—ab
pregnancy, (99) 304
pressure, measurement and importance of, (73) 1863—ab
respiratory movement, absence of, as indication of pericarditis, (27) 929—ab
rheumatism, (106) 1615
Section: See Laparotomy
surgical diseases, value of laboratory findings in diagnosis and prognosis of, (136) 779
symptoms, acute, pneumothorax with, (29) 1000—ab
symptoms, referred and reflected, (78) 223
symptoms, severe, unidentified larvæ of dipterous insect developing in deep urethra and bladder of man producing, (42) 1511
trauma, rupture of intestine from, (123) 74
viscera, injuries of, without external signs of violence, *718
viscera, injuries to, due to indirect violence, (169) 1362
wall, carcinoma of, in boy of 17, (13) 1904
wall, cholelithiasis and cancer of gall-bladder involving, (141) 1296
wall, resection of pendulous fat from, and laparotomy for other conditions, (61) 1512
wall, surgical anatomy of, and reference to appendectomy, (15) 220
wall tumors, desmoid, after operation, (64) 1684—ab
wall, wounds of, gastric weak line in, *1798
walls, arrested development of, *804
walls, pathogenesis of rigidity of, (115) 1235
Abdominovaginal operation for carcinoma of rectum, uterus and bladder, (96) 933
Abortion, (29) 307, (112, 119) 1071, (82) 1615
and hemorrhages in early pregnancy, (87) 705—ab
and pathology of embryo, (45) 781
criminal, (101) 698, (8) 1000, (112) 1071
fatal, Staphylococcus aureus hemolyticus sepsis after, (145) 858
induced, (43) 1364—ab, (55) 1427
induced, professional responsibility in, (42) 1364—ab
infection after, treatment of, (92) 458
prevention of, (8) 69
salpingitis after, (111) 465
septic, (47) 1517—ab, (86) 1520—ab
septic, irrigation in, (27) 1000—ab
treatment of, radical, (25) 774, (53) 1759
vaginal Cesarean section in, (143) 854
Abscess and immediate pain following administration of salvarsan by alkaline solution method, *1262
Abscess, appendiceal, and appendicitis, after-treatment of, (91) 1293
appendiceal, and appendicitis, preparation for and operation, (128) 305
appendiceal, drained by rectal puncture, *1649
appendiceal, pure phenol and iodoform for, (4) 1297—ab
appendiceal, ulceration of external iliac artery from pressure of drain in, (63) 308—ab
bone, Moorhof's wax for, (156) 305
bone, posttyphoid, (37) 1224
brain, (143) 225, (88) 303, (97, 99) 777, (119) 850, (45) 853
brain, after trauma, operation, recovery, (45) 853
brain, consecutive to liver abscess, (54) 1300
brain, extradural and subdural, and septic thrombosis of lateral sinus with purulent pachymeningitis complicating chronic suppurative otitis-media, (97) 777
brain, in frontal region, operation, death, necropsy findings, (88) 303
brain, of otitic origin, operative procedure for, (169) 1149
brain, of temporal lobe, was it? (119) 850
brain, with rare eye symptoms, (99) 777
breast, during pregnancy, (4) 617—ab
cavities, sterilization of, (64) 1300—ab
cerebellum, and labyrinth suppuration, differential diagnosis of, (41) 1856—ab
fixation, in bronchopneumonia in infants (52) 227—ab
ischiorectal, and suppurative bubo, melted iodoform ointment in, (22) 846—ab
kidney, urogenous, multiple, acute, resembling acute unilateral hematogenous nephritis, (46) 1145—ab
liver, (70) 153
liver, amebiasis with, in Green Island, (9) 376
liver, amebic, aspiration and injection of quinin in, (38) 384—ab
liver, brain abscess consecutive to, (54) 1300
liver, complicating appendicitis, (32) 929
liver, diagnosis and treatment of, (99) 73
liver, ipecac in, (20) 780
liver, suprapubic cystotomy and abdominal cysts, improved drainage tube for, (16) 1424
liver, symptomatology of, (4) 844
liver, with or following typhoid, (30) 1855—ab
liver, with tertian malaria, (109) 1361
lung, vaccine therapy in, (78) 72
mastoid, and acute otitis media in children, (85) 73—ab
of kidney complicating pregnancy, normal delivery followed by nephrectomy, (57) 1759
of uterus, intramural, (51) 1292
of tumor formation in temporosphenoidal lobes, diagnosis of, 1639
peritonsillar, (53) 847
peritonsillar, new instrument for opening and irrigating, (34) 221
retropharyngeal, (154) 75
rib, proteus, (114) 1077
Abscess, splenic, *260, (41) 1299
subphrenic, (140, 142) 74, (10) 694
subphrenic, chronic, presumably of duodenal origin (146) 314
temporosphenoidal, and otitic meningitis, operation, recovery, (32) 1357
temporosphenoidal, symptoms of, (143) 225
tonsillar, historical note, (39) 307
uterine, and dissecting metritis, (85) 783
Abscesses, Cold: See Tuberculosis
multiple, of nasal submucosa in leukemia, (66) 456
psoas, early operation for, (37) 221
suction treatment of, (40) 383
tuberculous, bismuth paste in, (60) 308
Absorption and digestion of raw starch, (143) 1371
from intramuscular tissue, (71) 1146—ab
Academy of Medicine, New York, work of, during 1910, (5) 617
Acarids among lepers, researches on, (36) 1511
Accident, psychic condition immediately after, (47) 1766—ab
Accidents during anesthesia, drugs as stimulants during, (86) 73—ab
electric, (102) 229—ab
industrial, involving eye, difficulty in estimating extent of injury in, (68) 1300
railway, and cerebral fat embolism, (8) 1515—ab
scalping, treatment of, (57) 71
Accommodation: See also Eye
Accommodation, influence of, on ocular tension in vertebrates, (157) 1296
toxic paralysis of, (111) 1226, (98) 1513
Accouchement: See Delivery
Acetabulum, fracture of, with intrapelvic or central dislocation of femoral head, (95) 848
Acetone in inoperable cancer of uterus, (12) 1904
Acetonuria and acidosis, (12) 306
and diabetes mellitus, (138) 707—ab
and prostration following sea-sickness, (15) 226
Achylia gastrica, pernicious anemia associated with, treatment of, (106) 1858—ab
Acid: See also Acids
Acid, acetic, seroreaction, clinical importance of two precipitates in, (163) 468—ab
acetic, test and tryptophan test in early diagnosis of gastric cancer, (87) 463—ab
acetyl-salicylic, action of, (82, 83) 1519
acetyl-salicylic, for high temperature after labor, (8) 699
acetyl-salicylic, poisoning after small doses of, (7) 780—ab
acetyl-salicylic, unusual action of, (56) 302—ab
amino, content of urine in children, (113) 1694
benzoylacetic, fate of, in animal body, (127) 1361
butyric, test, Noguchi, in cerebrospinal fluid, diagnostic value of, *171
camphoric, action of, (66) 1759—ab
Carbolic: See Phenol
citric, fermentation of, in milk, (72) 697

Acid, d-gluconic, formation of, by bacterium savastanoi Smith, (35) 923
diacetic, in urine and indigestion in children, (107) 1003
fermentation, butyric, anaerobic intestinal bacteria of, (115) 1304
formic, as intermediary substance in catabolism of fatty acids and other substances, (31) 1758
fuchsin, tetanic convulsions in frogs produced by, and problem of inhibition in central nervous system, (50) 539
glycuronic, in infant urine, diagnostic importance of, (108) 706—ab
hydrochloric, alterations of, in gastric juice due to carcinoma of stomach, (26) 1687
hydrochloric, free, in stomach content, blotting-paper test for, (113) 857—ab, (187) 1698—ab
hydrochloric, in stomach content, estimation of, (66) 1690—ab
hydrochloric, in typhoid, (87) 1422—ab
hydrochloric, secretion of, in nephritis, (143) 164
Intoxication: See also Acidosis
intoxication and acidosis in children, (11) 306
intoxication, postanesthetic, death from, (3) 928—ab
intoxication, uncommon forms of, (79) 1293
lactic, and milk, (70) 1857
lactic, ferments, how pure milk cultures of, may be obtained, (13) 300
nucleic, in general paralysis, negative experiences with, (64) 1621
oxybutric, isolation of producers of, in stools, (174) 82
phenolphthalic, laxative properties of tribasic salts of, (69) 1760—ab
picric, a retrospect, (21) 1067
picric, surgical applications of, *412
picric, test for seminal fluid, (79) 783—ab
Salicylic: See Salicylates, and Sodium Salicylate
salicylic, and hexamethylenamin, excretion of, in sputum, *1553
silicic, has it balneotherapeutic action? (131) 1694
solutions of salvarsan, cause for toxic action of, (60) 1232—ab
sulphuric, used in manufacture of cereals and resulting intestinal disease, (131) 1014
sulphuric, use of, in industrial preparations of food, (164) 390—ab, (131) 1014
trichloracetic, as efficient substitute for carbon dioxid snow in skin diseases, (96) 1165
Uric: See Uric Acid
Acidity, gastric, determination of, (109) 934
gastric, effervescence test for, (19) 1000
of urine, total, high, is it pathognomic of cardiac disease? (61) 222
Acidosis and acetonuria, (12) 306
and acid intoxication in children, (11) 306
and acute phosphorus poisoning, (16) 383—ab
and diabetic coma, (29) 1516—ab
and retention of alkali by kidney, (100) 1359
diabetic, (49) 847
diabetic, treatment of, (101) 785—ab
fatty, formic acid as intermediary substance in catabolism of, (31) 1758
index, (87) 1003—ab
postanesthetic, (64) 1002—ab
Acne, juvenile, common, (36) 158
rosacea and sebaceous glands, (72) 924
vulgaris, treatment of, (112) 1147—ab
Aconitin in pneumonia, (74) 1225
Acrodermatitis chronica atrophicans and diffuse scleroderma with associated morphea atrophica, (121) 1514
perstans and dermatitis repens, comparative study of, (72) 1857
Acromegaly, (39) 695, (67) 924, (140) 1226
complicated with glycosuria, (125) 1361
endothelioma at base of brain producing symptoms of, (12) 1906—ab
from fright, (86) 1302—ab
nature of skeleton changes in, (11) 1425—ab
pathogenesis of, (140) 936
urine in, *1870
Acroparesthesia, and Raynaud's symptoms, (7) 927
Actinobacillosis, meningeal form of, (47) 702
Actinomycosis, rapid, (36) 702—ab
Action and emotion, clinical aspects of, (8) 780
Adams-Stokes disease, (32) 383
syndrome with heart-block, (83) 1002—ab
Addison's disease and status lymphaticus, (77) 463—ab
disease and urogenital tuberculosis, (170) 859
Adenin, recovery of, (123) 1361
Adenitis, cervical, acute, and peritonsillar filtration, meningismus from, *1443
cervical, study of human and bovine bacilli isolated from, (67) 457—ab
cervical, tuberculous, primary, tubercle bacillus cultivated from 9 consecutive cases of, (23) 1511—ab
mediastinal, and persisting thymus, (63) 1300—ab
retroperitoneal, tuberculous, connecting by a sinus with duodenum, (7) 1756
tuberculous, tonsil in, (58) 71
venereal, treatment of, (161) 468
Adenocarcinoma and sarcoma in same uterus, simultaneous, (43) 1292
mammary, papilliferous, with papillary metastases in axillary glands, (151) 1696
multiple, (157) 1149
of kidney, (126) 156
of uterus, keratinizing, (21) 928
Adenoidectomy, persistent hemorrhage following, (108) 1861
technic in, (16) 1000
Adenoids, (127) 1004, (125) 1295
and enlarged cervical glands, (3) 459
and enlarged tonsils, (46) 77
and tonsils, operations for, *878, (16) 1000
and tuberculosis, (78) 1691—ab
importance of recognition and treatment of, (86) 457
mental suggestion as substitute for anesthetics in removal of, from children, (117) 1858
operation for, (121) 778, (90) 1147
small, evil effects of, (80) 1422
syphilis as common cause of, (48) 307
temperature in, (59) 924
Adenoma of kidney, papillary, malignant, (57) 1420
Adenomata originating from islands of Langerhans, (59) 1856—ab
Adenomyoma in tuberculous Fallopian tube, (22) 928
of ligament of ovary, (38) 1516
question, contribution to, (152) 1696
Adenopathies, torticollis and initial pruritus, varicella with, (44) 1009
Adenotome, LaForce, (173) 1296
Adhesions, gastric and duodenal, in gall-bladder region, x-rays for diagnosis of, *1777
Adnexa, Uterine: See Ovaries and Fallopian Tubes
Adnexitis: See Oöphorosalpingitis
Adolescence, pathology of coxa vara in, (90) 1076
Adolescents, idiopathic curvature of neck of femur in, (53) 308—ab
Adrenal: See also Adrenals
Adrenal and nephridial tissues, embryology of, and histology of hypernephromata, (76) 540—ab
secretion, stimulation of, by emotional excitements, *742
Adrenalin: See also Epinephrin
Adrenalin, in ascites, intraperitoneal injection of, (145) 459
in cholera, value of, (51) 77
influence of urethane in production of glycosuria in rabbits after intravenous injection of, (34) 923
production of glycosuria by, in thyroidectomized dogs, (84) 303
saline infusion and chill, (120) 163—ab
tetany after injection of, in osteomalacia, (98) 1769
Adrenals: See also Adrenal
Adrenals, bilateral sarcoma of, (90) 1359
internal secretions of, chemical aspect of, *652
Adult: See also Adults
Adult, hernia in, diaphragmatic, (5) 75
intussusception in, (121) 1004—ab
Adults and children, rheumatism in, difference between manifestations of, (25) 1150
young, paralytic deformities in, correction of, (131) 1423
Africa, south, medical notes taken in, (52) 1614
African trip, report on, (146) 1071
Agar-agar, (61) 1689
Age, old, dyspepsia of, (62) 457—ab
Aged, sterility in, Wylie drain for, *1190
Agglutination, influence of ether and ether anesthesia on, (116) 1147—ab
intravascular, transfusion and question of, (100) 1225—ab
test, typhoid, macroscopic, quick, (106) 156—ab
Agglutinins, hemolysins and poisons, distribution of, in fungi, especially amanitas, entolomas, lactarius and inocybes, (23) 1224
typhoid, human and animal, (102) 155—ab
Agraphia, isolated, in brain tumor, (93) 1302
Aguamiel, therapeutic agent of high value, (98) 1147
Ailments: See Diseases
Ainhum, 2 cases of, (7) 1000
Air and ether anesthesia by intratracheal insufflation (46) 775—ab
cold, in acute respiratory conditions, (130) 224—ab
Compressed: See Compressed Air
douche, Politzer's, during deep inspiration, (135) 550
embolus during operation under air-inflation urethroscopy, *419
inhaled, cooling of, in ether anesthesia, (82) 1011—ab
in pneumothorax, (147) 707
liquid, and carbonic acid snow, (10) 69
liquid, in surgery, (4) 999
oxygen-poor, in therapeutics, (76) 1767—ab
Passages: See Respiratory Tract
superheated, in gangrene, (33) 1426
superheated, inhalation of, in bronchitis, (130) 550—ab
superheated, in skin diseases, (86) 1623—ab
Albumin antigen and its antibody, action of ultraviolet rays on, (95) 1623
bodies and albuminoids, action of, on coagulation of blood, (107) 311
fetal, eclampsia possibly anaphylaxis from, (72) 309—ab
in human milk, value of, (90) 627
in sputum, differential importance of, (46) 702—ab
in urine, detection of minute quantities of, *662
in urine of normal children, frequency and significance of, (88) 697—ab
milk in infant feeding, (102) 785—ab, (115) 934—ab, (83) 1429
physiology and pathology of assimilation of, (15) 928
reaction in pulmonary tuberculosis, (34) 1908—ab
reaction in sputum, (35) 1230
reaction in sputum in early diagnosis of tuberculosis, (55) 1621—ab
Albuminoids and albumin bodies, action of, on coagulation of blood, (107) 311
influence of, on lipoid hemolysis, (126) 1865
Albuminuria, albumosuria in, (135) 231
and tube-casts, behavior of, in urine during course of mineral waters at Marienbad, (111) 785, (120) 1156
differential diagnosis in cases of, (1) 927
functional, (36) 1357
orthostatic, (108) 465—ab
orthostatic, and school hygiene, (143) 467—ab
orthostatic, and tuberculosis, (95) 1864—ab
significance of, (79) 1615
Albumose in urine, test for, (175) 1697—ab
Albumosuria in albuminuria, (135) 231
myelopathic, (128) 706, *1092, (106) 1423—ab
Alcohol addiction, significance of history of, (108) 1422
amblyopia, methyl, (111) 1762
and epilepsy, (50) 1158
and soap, tincture of, in disinfection of hands, (39) 1908
as factor in mental diseases, (41) 1358, (22) 1515
coma due to, differential diagnosis of, from other forms of coma, (90) 154
effect of, on heart muscle, (148) 1226
growing disuse of, in therapeutics, (176) 1618
injection in spasticity and muscle group overaction, (38) 301
injection of internal branch of superior laryngeal nerve, analgesia of larynx by, (97) 458—ab
injections in facial neuralgia, (46) 378
Alcohol, iodin superior to, for skin sterilization, (77) 1075
mental defects following use of, (71) 153
physiologic effects of, (21) 306
tannin for sterilization of hands and field of operation, (109) 1076—ab
wood, blindness from toxic action of, recovery of vision under electricity, (93) 1857
Alcoholism and drug addictions and preventive medicine, (88) 1146
and morphinism, Towns-Lambert treatment of, (57) 1684
and tuberculous peritonitis, (108) 1624—ab
cause of disease, (54) 456
medical problems of, (10) 454
parental, biologic and statistical errors in work on, (5) 459
parental, influence of, on physique and ability of offspring, (6) 460—ab
Alcoholization, nerve, technic of, in spasticity and muscle group overaction, (38) 301
Alienist as expert witness, (145) 225—ab
Alimentary: See Gastro-intestinal
Alimentary canal, sensibility of, in health and disease, (1) 1686
tract, lesions of, (18) 1613
Alimentation, rectal, (69) 776
Alizarin indicator for titrating alkali in blood, (158) 1696
Alkali, retention of, by kidney with special reference to acidosis, (100) 1359
titrating, in blood, alizarin indicator for, (158) 1696
Alkalies, tolerance for, in Asiatic cholera, (30) 695—ab
Alkaline treatment in typhoid, (47) 847
Alkaloids, mydriatic, and hyoscin, (28) 226
Alkaptonuria, (72) 626—ab
a degeneration from inbreeding, (69) 463
chemical nature of, (130) 1361
Alkylamines obtained from urine after Kjeldahl digestion, determination of, (122) 1361
Allergy, (103) 925, (89) 1002
Alopecia areata, microsporon, (112) 162
exposure to sun as etiologic factor in, (144) 1005
Alphabet, adequate, need of, (163) 778
Alveolitis and cementum, treatment of, *109
Amaurosis: See Blindness
Amblyopia, alcohol, methyl, (111) 1762
unusual factor in, (135) 105
with strabismus, (58) 1300
Amboceptors and complements, comparative merits of, in serodiagnosis of syphilis, (34) 378—ab
Amebas, determination of, (104) 628
pellagra due to, (108) 223—ab
Amebiasis with abscess of liver in Green Island, (9) 376
Ameboid activity of megaloblasts, (98) 925—ab
Ameboid movement of sarcoma cells growing in vitro, migration by, *791
Amenorrhea, complete, heredity probable etiologic factor, (52) 1069—ab
etiology of, (111) 1013—ab
Ament, the, (36) 781
America, medical impressions of, (66) 782
surgical impressions in, (97) 79
American Medical Association and its constituent bodies, are reforms necessary in? (68) 1615
Medical Association, public health exhibits under supervision of, *294
Medical Association, tribute to efforts of, (106) 1155—ab
Society of Medical Sociology, reason and purpose of, (48) 1420
Amidoazotoluol and scarlet red for stimulating epitheliation of granulating surfaces, (52) 1684—ab
Amino-acids as culture media in cultivation of leprosy bacillus from human tissues, (74) 1146—ab
Amino, aliphatic, method for quantitative determination of, (21) 1758
Ammonia compounds, metabolism of, (77) 855
determination of, in urine, (75) 697
nitrogen, part played by, in production of urea, (62) 931
Ammonium salts and urea, (30) 1758
Amnion and origin of human malformation, (48) 847
Among ourselves, (92) 1147
Amputation, conservative, (78) 1422
linear, (89) 1692

Amputation stumps, quinin anesthesia for prevention of immediate postoperative pain in, (54) 696
Amygdalitis, acute, (37) 846
Amylase, dosage of, in feces in diagnosis of pancreatic functioning, (36) 1151
Amyloid organs, giant cells in, (140) 559
Amyotonia congenita, (126) 224, (60) 462—ab
Amyotrophic lateral sclerosis due to trauma, *1876
Anaerobes, cultivation of, in obstetrical cases, (132) 1157
Anaerobic cultures, necessity for, in obstetrics and gynecology, (154) 390
jar, new form of, (31) 69
Analgesia: See also Anesthesia
of larynx by alcohol injection of internal branch of superior laryngeal nerve, (97) 458—ab
Analgesic, local, quinin and urea hydrochlorate as, (125) 1616
Analysis, gastric, possible source of error in, (164) 1617
Anamnesis: See History
Anaphylaxis, (99) 387, (109) 785, (56) 1232—ab, (50) 1420
and drug exanthemata, (57) 1856
after serotherapy, (74) 78—ab, (56) 626—ab
after serotherapy, prophylaxis of, (42) 624—ab
and asthma, (5) 376—ab
and eosinophilia, (7) 220
and lymph formation, (110) 1370
and serous meningitis after spinal serotherapy, (74) 78—ab
cellular, (71) 1863
eclampsia due to, no evidence from experimental research on, (160) 1696
experimental research on, (89) 1623
from influenza toxins, (132) 163
of pregnancy, (54) 1427
physiologic studies in, (27) 1224
physiologic studies in, reaction of smooth muscle from guinea-pigs rendered tolerant to large doses of serum, (52) 539—ab
possible influence of, in skin reactions, (141) 1005—ab
probable case of, *419
theory of, (69) 160, (98) 311 (77) 546
transmission of, from parents to child, (101) 161
tuberculin, (132) 389
Anarthria and lenticular zone, (105) 155—ab
Anasarca due to kidney disease, surgical treatment of, (121) 926
Anastomat, Noble, modified, (40) 301—ab
Anastomosis after pylorectomy, technic for, (80) 78
arteriovenous, and mechanical theory of arteriosclerosis, (30) 378—ab
arteriovenous, for endarteritic gangrene, (46) 1861—ab
arteriovenous, without interruption of circulation, (49) 1365
between bile ducts and intestines, indications and technic for, (50) 625
end-to-end, of abdominal aorta, absorbable magnesium rings in, (60) 1615—ab
intestinal, and gastrojejunostomy, method of, by single row of sutures, (31) 1072
intestinal, end-to-end, new clamp for, *1445
intestinal, new method of, (62) 847—ab, (31) 1072
ureterotubal, *265
venous, for varicose veins, venovenostomy, *1447
Anatomic material, supplying, (135) 1423
Anatomist, Florentine, Leonardo da Vinci, (2) 1612
Swedenborg as, (147) 232
Anatomists, position of Sir Charles Bell among, (10) 700
Anatomy and morbid anatomy in clinical surgery, (2) 699
visceral, or organology, teaching of, *1544
Anchylostoma duodenale, existence of, in Guam, (78) 1350
Anemia, blood stream in, velocity of, (109) 311
epinephrin for operations on skull and spine, (79) 386
fatal, Widal reaction obtained in, (11) 226—ab
from bleeding varices in upper rectum, (71) 546
from venesection, influence of quinin on regeneration of blood in, experimental research on, (115) 1769
hydrotherapy in, (73) 620
Anemia in animals under quinin, regeneration of blood in, (179) 1697
in children, pseudoleukemic, (153) 1306
in infants and iron content of human milk, (104) 706
inducing action of bacterial hemolysins, (96) 1302
neuroretinitis in, (31) 781
pathology of, (113) 1514
pernicious, (15) 1357
pernicious, associated with achylia, treatment of, (106) 1858—ab
pernicious, changes in stomach with, (154) 1696
pernicious, family, *1315
pernicious, favorable influence of injection of blood from patient with polycythemia in, (69) 1767
pernicious, glycerin in, (44) 1909-ab
pernicious, histology of intestines with, (91) 463
pernicious, jaundice in, (44) 1511—ab
pernicious, mistaken for amebic ulcerative colitis, (100) 154
pernicious, primary, recovery from, (136) 389
pernicious, salvarsan in, (11) 1071
pernicious, subsidence of, after onset of tuberculosis, (137) 389
pernicious, transfusion of blood in, (80) 546, (7) 617
pleural, chronic, surgical treatment of, (30) 781
posthemorrhagic, formation of blood in spleen and liver after, (84) 463
pseudoleukemic, and leukemia, (30) 1230
ring-bodies in blood in, (101) 1302
severe, peculiar elongated and sickle-shaped red blood cells in, (148) 699—ab
splenic, in congenital syphilis, salvarsan in, (132) 1305
splenic, nature and treatment of, (96) 74—ab
splenic, splenectomy for, (8) 226—ab
Anencephalus, *1382
Anesthesia: See also Anesthetic
Anesthesia, alleged harmless methods of, (131) 81—ab
and postpartum hemorrhage, (158) 225
by intratracheal insufflation of air and ether, (46) 775—ab
chloroform, advantages of, in normal deliveries, (76) 783
chloroform and ether, behavior of blood-pressure in, and shock, (29) 781
chloroform and ether, indication and contra-indication for, (83) 1615
chloroform, apparatus for, (55) 461
cocain, appendectomy with, (12) 617
cocain, hyoscin hydrobromid as adjunct to, (131) 74
cocain, in minor surgery, (27) 780
drugs as stimulants in accidents during, (86) 73—ab
during labor, (76) 1857
electric, and electric resuscitation after heart failure under chloroform or electrocution, *478
epidural, high and low, (149) 1306
ether, (126) 1004
ether, cooling of inhaled air in, (82) 1011—ab
ether, influence of, on bacteriolysis, agglutination and phagocystosis, (116) 1147—ab
ether, primary, major operations under, (126) 163—ab, (120) 1235
ethyl-chlorid, general, brief, (76) 546
ethyl-chlorid, open, for minor operations, (27) 1298
from standpoint of anesthetist, (73) 924
general, (89) 73, (24) 695, (21-29) 701—ab, (102) 1147
general and spinal, (25) 780
general, apparatus for positive pressure in lungs during, (119) 162
general, by intravenous injection of anesthetics, (71) 1518
general, chloroform-oxygen, (98) 229
general, combined with narcotics, 300 cases of, (13) 1424
general, conditions found in subjects dying from, in status lymphaticus, (116) 542
general, in operations in pharyngeal region and about neck, (100) 458
general, scopolamin and pantopon in, (104) 1235
general, shutting off part of circulation as aid in, (109) 230
Anesthesia, general, with aid of scopolamin, (166) 552
general, with scopolamin, morphin and ether, (169) 552
hedonal, intravenous, (113) 1077
influence of Trendelenburg position on quantity of urine excreted during, (65) 457—ab
in gynecology, (116) 230—ab, (124) 466
in normal labor, (122) 156
in obstetrics, technic of, (157) 225
insufflation, intrathoracic, apparatus for, (3) 1290—ab
local, (108) 74, (147) 164, (62) 696, (142) 1148, (158) 1228, (139) 1296
local, for appendectomy, (85) 1368
local, for major operations on breast and thorax, (89) 1155—ab
local, in herniotomy, (42) 1358—ab
local, in rectal work, history and indications, (84) 697
local, in tonsillectomy, new method of, (66) 1225
local, in tuberculosis of larynx, (50) 781
local, secret of success in, (32) 152
local, syringe for, in rectal operations, (22) 538
mixed, apparatus for, (57) 1300
mixed, graduated, (40) 1364
mixed, pharmacologic research on, (88) 705
nitrous-oxid-oxygen, advantages of, especially in ultimate recovery, *499
nitrous-oxid-oxygen, in surgery, (107) 1857
pantopon, (12) 780
quinin, for reducing fractures, for rectal operations and for prevention of immediate postoperative pain in amputation stumps, (54) 696
sacral, in gynecology and obstetrics, (86) 229—ab
scopolamin-morphin, in obstetrics and surgery, (3) 622, (106) 1370, (7) 1423
spinal, and blood-pressure, (73) 386—ab
spinal and conductive, (11) 1906
spinal and general, combined, (21) 75
spinal, indications and contra-indications for, (26) 780
spinal, Jonnesco's, auto-observation of auto-operation for inguinal hernia under, (52) 931
spinal, Jonnesco's method of, (106) 1076
spinal, plus scopolamin-morphin, (111) 1432
spinal, status of (32) 618
suggestion, and hypnosis, (112) 230-ab
surgical, and blood-pressure, (108) 778
surgical, extradural, (89) 547
vein, modified, (171) 859—ab
Anesthetic: See also Anesthesia
Anesthetic, general, chlorid of ethyl as, (39) 1688
general, requirements and limitations of nitrous oxid and oxygen as, in major surgery, (21) 377
local, cocain as, (93) 223
local, quinin and urea hydrochlorate as, (62) 302, (165) 1617
local, with inoculation of tuberculin for modifying its effect, (11) 780—ab
short, least and shortest operation, (3) 1903
Anesthetics, administration of, on open mask, (28) 781
general, administration of, special reference to ether and chloroform, *1312
general anesthesia by intravenous injection of, (71) 1518
inhalation, administration of, (159) 225
local, in anorectal surgery, (115) 542
mental suggestion as substitute for, in removal of tonsils and adenoids from children, (117) 1858
Anesthetist, (44) 847
anesthesia from standpoint of (73) 924
plea for trained nurse as, (126) 926
Anesthetizing, most vital point in, (92) 1003
Aneurysm, aortic, (43) 153—ab, (1) 1418
aortic, perforating into pulmonary artery, (108) 856
aortic, symptomatic relief in, by wiring and galvanism, (96) 1147
Matas operation for, (98) 380, (16) 774
of abdominal aorta, (123) 1616
of abdominal aorta, with operation and introduction of wire, (73) 1292
of arch of aorta, (96) 1686—ab
Aneurysm of carotid artery, operative treatment of, (101) 1623
of external plantar artery, *964
of heart, (19) 846—ab
of innominate artery, (5) 1686
of internal carotid, pulsating exophthalmos due to, *1552
of left ventricle, (124) 1370
of splenic artery, (29) 1364
popliteal, of unusual size, (37) 301—ab
popliteal, with report of Matas operation, (98) 380
subclavian, drumstick finger with, '96) 547
with new method for ligation of left subclavian artery, (44) 1144—ab
Aneurysms in Army Medical Museum, (29) 455—ab, (107) 698—ab
Angina in tuberculin treatment, (16) 851
Ludwig's, (46) 456
pectoris, (49) 227—ab
pectoris, gastric origin of, (5) 1150—ab
Vincent's, pseudomembranous, (107) 778
Vincent's, salvarsan in, (85) 160
with pulsus alternans, abnormal forms of breathing in, (12) 1763
Angiocholecystitis, typhoid, operative treatment of, (55) 931—ab
Angioma of brain, large, removal of, (90) 1692—ab
of brain, racemose, successful removal of, (99) 1012
of liver, cavernous excision of, (48) 1427
of parotid, congenital, (64) 1232
venosum or varix of orbit, (108) 1147, (92) 1686
Angiosarcoma of liver in infant, *873
Angiosclerosis, pathogenesis of, and histomechanics of vascular system, (148) 1696
Anilin-stained microscopic preparations, fading of, (14) 1298
Animal body, fate of benzoylacetic acid in, (127) 1361
body, resistance and ultra-sensitiveness of, to chemical agents, (101) 1155—ab
experimentation and obstetrics, *1159
experimentation, value of, shown by recent advances in study of syphilis, *1244
extracts, action of, on intestinal movements, (40) 1224
food, advantages of proper proportion of, tests on vegetarians, (119) 706
tissue, fats and lipoids in, (2) 773, (6) 1223, (6) 1357
Animals and diffuse lipoma, (12) 1859
cold-blooded, behavior of bacillus lepræ in, (84) 1512
domestic, trypanosome diseases of, in Uganda, (14) 544, (16) 701
domestic, tuberculosis among, International Commission on Control of, (88) 848
fasting, after nephrectomy, research on, (154) 1372
infected with rabies, antiformin resistant microorganisms found in brain of, (12) 1357
infected with trypanosomes, experiments on treatment of, by atoxyl, vaccines, cold, x-rays and leukocyte extract, (21) 1298
interstitial gland of ovary found in certain, (74) 546
laboratory, lessening of sensibility to opium with increasing age of, (106) 548
lower, grouped isoagglutination in, (78) 1512
lower, nuchal lipomata in, (9) 1229
syphilis in, (162) 390
tuberculous, immunity of, to tuberculosis infection by inhalation, (63) 159
Anions, treatment with, (87) 1768—ab
Aniridia, traumatic, complete, with injury to lens, recovery with useful vision, (24) 1854
Anisometropia, (60) 776
Ankle joint, relaxation of annular ligament of, as cause of weak and flat-foot, (105) 926—ab
sprained, (42) 1068
tuberculosis of, in adults, prognosis and treatment of, (21) 1905—ab
tuberculosis of, orthopedic treatment of, (106) 161
Ankylosis of hip, Baer's membrane in operation for, (111) 1147—ab
of knee, treatment of, (97) 229—ab
of patella, treatment of, (136) 935—ab
Ankylostoma infection, (13) 1150, (1) 1229, (10) 1298
Ankylostomiasis: See also Uncinariasis
Ankylostomiasis (53) 302, (107) 1076, (13) 1150

Anopheles, crusade against, (105) 698
Anorectal: See also Anus, and Rectum
Anorectal diseases, treatment of simplified, (15) 1967
surgery, local anesthetics in, (115)542
Antelope, may it act as reservoir of virus of sleeping sickness? (25) 1072
Anterior chamber irrigation after cataract extraction, (142) 305
Anthelmintics, betanaphthol and thymol as, (25) 929
Anthrax and fatalism, (5) 1362
precipitin diagnosis of, (77) 1011
pyocyanase in, (44) 624
treatment of, (137) 1078
Anthropology of ancient British races, (14) 1150
Antianaphylaxis, (50) 461
Antibodies, atoxyl does not seem to influence production of, (134) 1371
production of, to pneumococci in insusceptible host, *1878
specific, formation of, and complement fixation in malaria, (144) 936—ab
Antibody production with cell degeneration, chemical identity of, (43) 1516
Anti-enzymes and proteolytic enzymes of blood serum, changes in, produced by substances causing degenerative changes in liver, (39) 377
Antiferment method in suppurations, (51) 1517
Antiformin and picrin methods for microscopic examination of sputum, advantages of, (64) 159
resistant microorganisms found in brain of animals infected with rabies, (12) 1357
tests for tubercle bacilli, (64) 159, (160) 300, (67) 625, (140) 1078, (30) 1613
Antigen, syphilis, biochemical studies on, (32) 377
Antiperistalsis and spastic constipation, (99) 1693—ab
of large intestine in man, (135) 857
Antipyrin, transmission of hypersusceptibility to, to guinea pigs, (110) 628
Antisepsis and sepsis in medicine, (7) 450
drug, internal, (106) 311
intestinal, scientific evidence of possibility of, (95) 1147—ab
tincture of iodin for, value of, (54) 931—ab
Antiseptics, osmosis important factor in action of, (48) 1069—ab
Antiserum, specific, in exophthalmic goiter, *263
Antiserums, antitoxins, toxins and bacterial vaccines, with comparisons, (29) 1357
Antithyroidin for thyroid hyperfunctioning, (119) 1370
Antitoxin, advantages of large doses of, in diphtheria, (107) 548
and tetanus toxin, experimental research on, (39) 624
diphtheria, theory as to untoward effects of, prophylaxis in suspicious cases, (*) 220
in asthma, (84) 458—ab
preparation of, (109) 1294
Tetanus: See also Serotherapy of Tetanus
Antitoxins action of heat on, (40) 624
toxins, antiserums and bacterial vaccines, with comparisons, (29) 1357
Antitrypsin reaction, importance of, in diagnosis and prognosis of cancer, (73) 463—ab
test, improved technic for, (97) 627—ab
Antitryptic action of pathologic urine, slight clinical value of, (107) 856
Antityphoid inoculation as introduced into certain training schools for nurses in Mass., (23) 221—ab
Antivivisectionists and research defence society, (9) 1362
Antrum, maxillary and double radical frontal sinus operation, (51) 222
maxillary, cysts of, (64) 379
maxillary, empyema of, symptomatology, pathology and treatment, (108) 542
maxillary, middle or internal ear, necrosing mastoid without involvement of, (108) 1361
maxillary, sarcoma of nasal wall of, (110) 849
Anuria, calculous, reflex, (41) 853—ab
from concrement in single kidney cured by catheterization of ureter, (43) 853
pathogenesis and treatment of, (43) 77
reflex, from sudden chilling, (80) 1154
Anuria, toxic, due to mercury bichlorid, (65) 303
Anus: See also Anorectal and Rectum
Anus and rectum, diseases of, diagnosis in, (22) 851
and rectum, diseases of, treatment of simplified, (15) 1067
and rectum, surgery of, local anesthetics in (115) 542
artificial, after resection of intestines, improved technic for, (132) 1236
dentero-uterine, (74) 1760—ab
fistula in, submucous, (120) 1295
Aorta, abdominal, end-to-end anastomosis of, absorbable magnesium rings in, (60) 1615—ab
abdominal, aneurysm of, with operation and introduction of wire, (73) 1292
and heart, movability of, in health, evidenced by skiagrams taken in unusual positions, (71) 1684
aneurysm of, (43) 153—ab, (1) 1418
aneurysm of arch of, (123) 1616, (96) 1686—ab
aneurysm of, perforating into pulmonary artery, (108) 856
aneurysm of, symptomatic relief in, by wiring and galvanism, (96) 1147
sclerosis of arch of, intermittent dyskinesia of arm as symptom of, (50) 1765
syphilis of, (145) 1371—ab
valvular disease of, in atheroma, (44) 1073
Apex-beat, significance of, in diagnosis of cardiac conditions, (55) 302
Aphasia, (1) 1149—ab, (82) 1622
congenital, in children, (6) 1763—ab
Aphonia, (134) 1423
Aphthæ, cutaneous, (158) 858
Apocynum in chronic cardiac insufficiency, (114) 628—ab
in spinal meningitis, (90) 1293
Apomorphin hydrochlorate as antispasmodic, (130) 1617
Apoplexy, cerebral, operative treatment of, (62) 1767—ab
hemiplega due to, treatment of, (78) 154
suprarenal, (5) 1006—ab
trephining for, *1803
Apparatus: See also Instrument
Apparatus, complicating, surgical treatment of empyema without, (49) 1420
convenient, for intravenous method of treatment of syphilis with salvarsan, (10) 543
drum-spinning attachment for ordinary kymographion, *1705
enteroclysis, inexpensive, efficient, (75) 847
for administration of ether and chloroform vapor, (144) 225
for chloroform anesthesia, (55) 461
for fracture fixation, (44) 302—ab
for intrathoracic insufflation anesthesia, (3) 1290—ab
for keeping patient dry after suprapubic cystostomy, (8) 1612—ab
for mixed anesthesia, (57) 1300
for passive hill climbing during bed-rest cure for heart disease, (92) 1302—ab
for positive pressure in lungs during general anesthesia, (119) 162
for preparation of bacterial suspensions, *115
for proctoclysis, *114, *873
for treatment of scoliosis at night, (55) 153—ab
gravity, improved, for intravenous injection of salvarsan, *732
home-made electric centrifuge, *404
improved cuff for dosage of constriction hyperemia and blood-pressure, (134) 786
improved, for estimating pressure in cerebrospinal system, *962
lever, for reduction of fractures, (152) 389
medico-mechanical, simple, for practitioner, (67) 385
miniature exercise machine for infantile paralysis, *1259
new, air-water sphygmomanometer *1873
pendulum for interrupting static wave current, (80) 303
portable, for applying plaster jackets in hyperextension, (65) 153
proctoclysis, speedometer for, (76)847
reliable, for fractures of femur, (22) 1854
scale pan for simultaneously weighing and measuring infants, (66) 620
scheme for determining correct relative position of joint of, to anatomic point, (40) 1758
simple, for drawing breast milk, (65) 620
Apparatus, simple, for intramuscular administration of salvarsan at bedside, (14) 1090
simple, for intravenous injection of salvarsan or other drugs, *1194, (15) 1510
table for cystoscopic examinations as well as for general purposes, (79) 1070
transportable, for inhalation of radium emanations, (47) 1427
Appendectomy, incision for, (74) 1021
local anesthesia for, (85) 1368
surgical anatomy of abdominal wall with reference to, (15) 220
with cocain anesthesia, (12) 617
Appendices in one person, *195
Appendicitis, (146) 74, (50) 153, (116) 698, (75) 1075, (112) 1077, (120) 1226
abscess of liver complicating, (32) 929
acute, is it due to inflammation or obstruction? (122) 1304
acute, management of, (119) 1226
acute miliary tuberculosis simulating, phagocytosis of tubercle bacilli by cells in cerebrospinal fluid, (18) 226
and acute intussusception, (15) 1619
and appendiceal abscess, after-treatment of, (91) 1293
and appendiceal abscess, preparation for and operation of, (128) 305
and disturbance in gastro-duodenal-hepatico-pancreatic physiologic system, (63) 72—a b
and gall-bladder, diseased, gastric ulcer due to, (31) 1682
and its moving pathology, (27) 846, (158) 1006
and typhoid, reciprocal relations between, (83) 1233
at Greifswald, 1901-1910, (110) 934
bilharziasis with, (2) 68—ab
cholelithiasis simulating, dislocation of liver, (69) 153
chronic, (132) 927
chronic, and gastric hemorrhage, (97) 698
chronic, high-frequency currents in, (8) 300
clinical significance of leukocytosis and neutrophile blood picture in, (84) 1012—ab
diagnosis of obscure cases of, and protective appendicitis, (53) 696
distribution of, and diet, (2) 306—ab
during pregnancy, (28) 1357
factors influencing mortality in, from medical viewpoint, (98) 849
from medical standpoint, (73) 1358
hidden dangers of, plea for early operation, (15) 1765
how shall we treat it after first 48 hours? (138) 779—ab
ileus with or following, (48), 1365—ab
natural history of, (22) 774
151 cases of, treated in past 3 years, (30) 1859
Operations: See Appendectomy
peritonitis consecutive to, treatment of, (6) 454—ab
perforative, acute, in incarcerated inguinal hernia, (63) 1621
protective, (53) 696
pseudomyxoma in peritoneum after, (122) 466
radical treatment of, 611 cases, (106) 856
reflex nervous phenomena in genito-urinary tract in, (29) 544—ab
reflex epileptic seizures in, (129) 1694
removal of, during laparotomy for other conditions, (67) 1615
review of 130 operative cases, (127) 1423
spontaneous healing of, (90) 1863
suppurative, acute, operative technic of, (36) 847—ab
suppurative orchitis simulating, (41) 545
technic of operative treatment of, (54) 1224
tertian malaria simulating, *1639
treatment of advanced cases of, (128) 1423
unusual, (25) 1511—ab
with complications, (17) 1905
Appendicostomy, advantages of, 2 cases of intestinal obstruction, (38) 544
and cecostomy in ulcerations of intestines, advantages of, (56) 1069
cecostomy instead of, for colon lavage, (110) 1157—ab
technic of, (64) 72—ab
to safeguard excluded colon in Lane's operation for chronic intestinal stasis, (48) 1683
Appendix abscess drained by rectal puncture, *1649
abscess of, and appendicitis, after-treatment of, (91) 1293
abscess of and appendicitis, preparation for and operation of, (128) 305
abscess of, pure phenol and iodoform for, (4) 1297—ab
abscess of, ulceration of external iliac artery from pressure of drain in, (3) 308—ab
adhesions, intestinal obstruction from, (106) 380
and Fallopian tubes, reciprocal relations between inflammatory processes in, (164) 859
and gall-bladder, fistula between, (62) 1366
and omentum, gangrene of, *34
carcinoma of, primary, (21) 157, (95) 1225
clinical and pathologic significance of obliteration, carcinoma, and diverticulum of, (44) 1069—ab
cyst of, (46) 1856
disease of, and duodenal ulcer, (11) 460
dyspepsia, (28) 701
inability to diagnose gross lesions of, (14) 1859
inflammatory changes in, during early infancy, (157) 1228—ab
intussusception of, (14) 69, (5) 1071
lead shot in, (93) 1761
normal, bacteriologic flora in, (141) 163
obliterated, its pathologic and clinical significance, (56) 1225
of infant, pinworms and caraway seed in, (30) 1000
palpation of, (79) 309, (70) 1690—ab
removal of, and fixation of cecum, *564
sarcoma of, primary, (2) 220, (60) 379, (69) 847
transposition of, (23) 1418
Appetite, importance of, in estimation of stomach function, (116) 935—ab
Appliance: See Apparatus, and Instrument
Apraxia, neurology of, (51) 1856
Aqueous humor, non-inflammatory exudates in, (138) 305
Arc light, favorable influence of exposures to, on respiration in heart disease, (181) 1698—ab
Arch, broken, anatomic anomaly causing symptoms of, (46) 1758
Arm, avulsion of, subglenoid dislocation of shoulder, (160) 305
fractures of, in children, (101) 1761
intermittent dyskinesia of, as symptom of sclerosis of arch of aorta, (50) 1765
loss of power in, stiff and painful shoulders with, (148) 1148—ab
paralysis of, dislocation of shoulder, and falling of humerus, (153) 1362—ab
traumatic combined paralysis of, laceration of axillary portion of capsule of shoulder-joint as factor in etiology of, (157) 305
Arms, septic infections of, prevention and treatment of, (86) 1513—ab
Army and national guard from viewpoint of national guard officer, (51) 302
board, United States, for study of tropical diseases as they exist in Philippines, report of, (61) 1358
French, new instrument case of, (79) 154
maneuvers in Texas, medical side of, (114) 1762
medical museum, aneurysms in, (29) 455—ab
medical officer, ethics, scope and prerogative of, (145) 1071—ab
status of medical corps of national guard in relation to, (75) 153
United States, prophylaxis of venereal diseases in, (80) 154—ab
United States, tuberculosis among Philippine scouts of, (3) 68
Arneth's method, 500 blood observations according to, (96) 1857
Arrhythmia and myogenic doctrine of cardiac activity, (93) 848
cardiac, lecture on, (1) 542
digitalis in, (120) 549—ab
prognosis and treatment of, (32) 702
Arrows and arrow wounds in Manbhum, (16) 780
Arsenic and mercury, organic, in syphilis, (68) 78—ab
antihemolytic action of, (6) 543—ab
in syphilis, (157) 82, (148) 164, *888, (97) 705
in syphilis antedating salvarsan, brief summary of, (156) 927

Arsenic, necrosis, (59) 1427
poisoning, fatal, after administration of salvarsan in cerebral syphilis, (86) 1155—ab
poisoning, outbreak of, at isolated farm near Mullewa, Western Australia, (15) 1906
therapy of apparently inoperable sarcoma of spine, (58) 1862—ab
Arsenobenzol: See Salvarsan
Arsenophenylglyzin in sleeping sickness, (94) 933
Arsen-Phenol-Amin: See Salvarsan
Art and science in medicine, (170) 1362
Arterial tension charts, (50) 1009
Arteries, ligation of, for irremovable cancer of pelvic organs, (133) 1295
renal, anomalous, relation of, to hydronephrosis, (65) 71
retinal, spasm of, (144) 305
rigid, in children, (95) 784—ab
syphilitic, histomicrobiology of, (56) 228
testing efficiency of collateral circulation as preliminary to occlusion of, *233, (151) 305
Arteriosclerosis, (38) 1856
and collateral circulation, (146) 1866—ab
and hypertension, control and treatment of, (57) 456
and kidneys, (1) 1423, (3) 1514
arteriovenous anastomosis and mechanical theory of, (30) 378—ab
diet in, (33) 846—ab
etiology and symptoms of, (111) 74
high blood-pressure in, (2) 75
in animals, (129) 1370
nervous symptoms of, removal of state causing them, (106) 1294
ocular manifestations of, their diagnostic and prognostic significance, (132) 851, (70) 1760
of uterine blood vessels, *239
pathology of, (112) 74
psychic etiology and treatment of, (91) 1430—ab
treatment of, (113) 74
Arteriosclerotics, significance of transient cerebral crises and seizures in, (86) 304—ab
Artery, carotid, aneurysm of, operative treatment of, (101) 1623
grafted, (50) 702
iliac, external, ulceration of, from pressure of drain in appendiceal abscess, (63) 308—ab
innominate, aneurysm of, (5) 1686
plantar, external, aneurysm of, *964
pulmonary, aortic aneurysm perforating into, (108) 856
pulmonary, embolism and thrombosis of, (16) 1291
renal, experiments on, (75) 379—ab
splenic, aneurysm of, (29) 1364
subclavian, technic for ligation of, (61) 308—ab, (44) 1144—ab
ulnar, palpation of, determined by diastolic blood-pressure, (93) 784—ab
Arthritis, bacteriology and pathology of, (117) 381—ab
chronic, principles underlying study and treatment of, (18) 220—ab
deformans and intestinal putrefaction, (4) 1143
deformans in children, (51) 924
deformans, treatment of, *1779
deforming, and flat-foot disturbances, (53) 1427—ab
gonorrheal, acute, Bier's hyperemia in, (131) 381—ab
gonorrheal, gonococcus vaccines in, (43) 221, (25) 455
infectious, (110) 156
its varieties and treatment, (45) 77
multiple, after injection of tuberculin, (98) 784
rheumatoid, (10) 1071
rheumatoid, and disease of mouth, (13) 1072—ab
rheumatoid, thyroid in, (22) 75
rheumatoid, vaccines in, (8) 623—ab, (110) 926—ab
Arthrodesis, subcutaneous, experiences with, (61) 782—ab
Arthropathies, ossifying myositis after, (71) 386
Articulation, lumbosacral, (1) 999—ab
Arts and medicine, educational principles involved in combined courses in, (24) 923
Arylarsonates and the eye, (39) 1068
in malarial cachexia, (27) 1619
in syphilis and pellagra, (44) 618
Ascariasis, (18) 780
Ascites: See also Dropsy and Edema
Ascites and cirrhosis-of-liver due to splenomegaly with recurrent jaundice, (22) 1150—ab
and collateral circulation, (146) 1866—ab
drainage of, into subcutaneous cellular tissues, (47) 930—ab
Ascites from cirrhosis-of-liver, salt-poor diet in, (141) 1157
implantation of internal saphenous vein in peritoneum in, (134) 163—ab
intraperitoneal injection of adrenalin in, (145) 459
lymphangioplasty in, (12) 1515—ab
supposed case of, echinococcus cysts? (122) 1295—ab
with valvular defect, omentopexy for, (124) 707—ab
Asepsis in laparotomies and origin of emboli, (154) 467
Ash in brain with spasmophilia, (151) 82
Asphyxia of new-born infant relieved by placental aeration, (11) 617
traumatic, (62) 77—ab
traumatic, optic atrophy from, (154) 1296
Aspiration of foreign material into respiratory tract during intratracheal insufflation, (62) 1856—ab
Aspirator, hydraulic, *244
Aspirin: See also Acid, Acetyl-Salicylic
Aspirin, idiosyncrasy to, *261, *1262
poisoning after small doses of, (7) 780—ab
Association, East Mississippi Four-County Medical, (62) 1069
of individuals in common cause, voluntary, what is key to permanency of? (24) 1418
tests, detection of simulation of insanity by, (145) 1296—ab
Asthenia, congenital, universal, (166) 1618—ab
of connective tissue in origin of hernia, (107) 1769
Asthenopia, phases of, (8) 376
Asthma and anaphylaxis, (5) 376—ab
antitoxin in, (84) 458—ab
bronchial, (76) 1011
bronchial, and allied conditions, vibratory massage in, (93) 1863
bronchial, and pulmonary tuberculosis, combination of, (168) 390—ab
bronchial, respiratory exercises in, (78) 704
bronchial, suprarenal treatment in, (86) 783
eosinophil cells in sputum in, (109) 1431
nervous, and hay fever, climatic treatment of, (110) 1156
physical measures in, (138) 857
results in, following nasal operation, (21) 694, (151) 927
Astigmatism, irregular, mixed, following injury to eye, (110) 1226
Asymmetry, cranial, due to postural causes, (6) 1006
Asystole, ventricular, temporary bradycardia with, (29) 383
Ataxia: See also Tabes Dorsalis
Ataxia, familial, (93) 161—ab, (178) 1618
tabes dorsalis without, *194
treatment of, (108) 162—ab
Ateleiosis, H. Gilford's form of essential infantilism, (32) 226
Atheroma, electrolytic treatment of, (94) 161
insidious development of aortic valvular disease in, (44) 1073
Athetosis, resection of posterior roots of spinal nerves for, (25) 846
Athletics and medical man, (49) 1073
Atmosphere, varying content of, in radium emanations and biologic processes, (141) 389
Atony, gastric, acute, (85) 1302—ab
Atoxyl and its derivatives, (82) 160
does not seem to influence production of antibodies, (134) 1371
for experiments on treatment of animals infected with trypanosomes, (21) 1298
in tuberculosis, (98) 1623
Atresia, body, and choana, congenital, (88) 1359
of bile ducts, congenital, with cirrhosis-of-liver, (31) 624
of choanae, congenital, (12) 75
of small intestine, congenital, operative cure of, (85) 1520
Atrophy, muscular, progressive, childbirth in, (169) 1697—ab
neural, of hand, thenar and hypothenar types of, (55) 619—ab
of liver, yellow, acute, (77) 704, (88) 1002
of optic nerve from traumatic asphyxia, (154) 1296
of optic nerves, cases resembling, which recovered under treatment, (27) 852—ab
of thenar muscles, peripheral, neural, *1256
senile, of skull in dogs, (42) 1765
smooth, of base of tongue, (44) 70
tabetic, of optic nerve, (117) 1077—ab
Atropin and eserin, action of, on ciliary muscle and iris and miosis due to light and convergence, comparative studies of, with remarks on form of pupil, (158) 1296
and vaccines in gonorrhea, (66) 1862
its physiologic and therapeutic effect, (123) 1226
physostigmin and pilocarpin, pharmacologic tests for, (138) 467
Audiometers, improvement in, (6) 693
Auricle fibrillating, reaction of heart to digitalis with, (3) 76—ab, (29) 927—ab
fibrillation of, (37) 1613
left, double, heart with, in girl of 11, (123) 1370
left, graphic registration of action of, (137) 231
pulsation within esophagus, registration of, and electrocardiogram, comparative study of, (134) 935
Auriculoventricular bundle-of-His, normal and pathologic anatomy of, (165) 390—ab
Auscultation, cough during, in diagnosis of pulmonary tuberculosis, *245
findings in gastro-intestinal tract, their diagnostic importance, (79) 1368—ab
of fetal heart sounds, technic for, (103) 1431
of joints, (12) 623—ab
phenomenon, post-mortem, (93) 464
sign of glandular disease in chest, (64) 932—ab
Auscultatory signs of respiratory system, (39) 70—ab
Authority and standards in medicine, *894
Automobiling, cerebral neurasthenia from, its depressing influence on sexual sphere, (75) 1519—ab
Auto-agglutination of red blood cells in trypanosomiasis, (22) 1298
Autodrainage for elephantiasis, (150) 467—ab
Auto-infection or ectogenous infection? (105) 1370
Auto-inoculation, rôle of, in medicine, (15) 623
Auto-intoxication, (94) 154, (64) 1069
from gastro-intestinal canal, (39) 1144
gastro-intestinal, chronic, desiccated liver extract in, (73) 222
with intestinal obstruction, (54) 461
Autolysates of tissues in tumors, (142) 936
Autolysis and internal secretion, (73) 160
and thyroid, (144) 389
of crystalline lens, *807
of spleen and liver, action of quinin on, (133) 231
study of, by physicochemical methods, (40) 923
Autopsy: See Necropsy
Autoserotherapy, (110) 1624
therapeutic use of patient's own serous exudates and transudates, (90) 1225
Autosuggestion, hysterical hemiplegia due to, (150) 927
Axilla, origin of mammary glands in, (163) 1696
pubes and breast, chronic itching papular eruption of, *174
Axis finder, astigmatic, improved, (149) 1423

B

Babies' dispensary and hospital of Cleveland, 3 years' experience of, in education of mothers, (113) 224—ab
dispensary, clinical observations in feeding, (48) 1758
Baby: See Infant
Bacilli: See also Bacillus, Bacterium
Bacilli, acid-fast, comparative research on, (63) 545
bovine and human, study of, isolated from 11 consecutive cases of cervical adenitis, (67) 457—ab
colon, in cerebrospinal fluid, (40) 1765—ab
cultures, tubercle, intoxication from inhaling volatile substances in, (80) 1233
diphtheria, guinea-pig test of virulence of, (135) 1361
diphtheria, tests of virulence of, *809
fusiform, and spirilla, (137) 1361
tubercle, active toxic substance from, (92) 1076
tubercle, advantages of picrin and antiformin methods for microscopic examination of, (64) 159
tubercle, bovine, rarity of, in human sputum, (72) 1011
Bacilli, tubercle, bovine, verrucous tuberculosis of skin and lymphangitis due to, (116) 856
tubercle, determination of, in sputum, (123) 1432
tubercle, examination of feces of 40 cattle for, conclusions therefrom, (72) 540—ab
tubercle, human and bovine types of, comparison of morphologic and cultural characteristics of, (111) 389
tubercle, identification of, by antiformin, (16) 300, (67) 625
tubercle, in cerebrospinal fluid of tuberculous meningitis, (105) 304—ab
tubercle, ineffectual action of preparations of, administered by mouth, (103) 229
tubercle, in stools, diagnostic importance of, (91) 1623—ab
tubercle, in tissues, comparative tests for, (114) 1156—ab
tubercle, in urine, technic for determination of, (139) 1305
tubercle, new technic for determination of, (80) 704, (35) 1613
tubercle, phagocytosis of, by cells in cerebrospinal fluid in appendicitis simulated by acute miliary tuberculosis, (18) 226
tubercle, Spengler's differential staining methods for (48) 1073
tubercle, subsequent health of children who drank milk containing, *1322
Bacilluria, colon, in girl of 12, (18) 1000
Bacillus, acne, isolation and growth of, (45) 696
aerogenes capsulatus infections, (56) 696, (13) 846—ab, *959
carrier of atypical bacillus typhosus, house epidemic of typhoid due to, (12) 1425—ab
carrier, significance of, in spread of Asiatic cholera, (4) 376
carrier, typhoid, discovery of, after investigation of recent outbreaks of typhoid in Adirondack camp, (7) 1067
carriers, diphtheria, (82) 621—ab, (93) 627—ab, (6) 1229
carriers, dysentery, healthy, (88) 229
carriers, human, (166) 1362
carriers, typhoid, in insane asylums, (125) 80—ab
carriers, typhoid, operative treatment of, (81) 386—ab
coli communis as complication of congenital hydronephrosis, acute pyelitis due to, (33) 1859
coli, infection of urinary tract with, (44) 77, (131) 851, (87) 1012—ab
coli group, classification of, (119) 1147
coli infection, serodiagnosis of, (124) 1014
coli toxemias due to, diagnosis of, (102) 849
colon, action of, on kidney, (36) 1426
colon, infection of throat by, cause of acute toxemia, (122) 1423
colon, pyelocystitis in infants and children, (19) 1418—ab
dysenteriæ (Flexner) and bacillus typhosus (Eberth-Gaffky), identification of, (18) 1007—ab
emulsion in renovesical tuberculosis, (6) 773
Friedländer, sepsis from, (129) 466
influenza, endocarditis due to, (109) 1864
lactis aerogenes in pure culture, isolation of from peritoneal exudate, (113) 1294
lepræ, artificial cultivation of, in Hawaii, (44) 1001
lepræ behavior of, in cold-blooded animals, (84) 1512
lepræ, biology of, (136) 699, (100) 926—ab
lepræ, cultivation of, from human tissues, special reference to amino acids as culture media, (74) 1146—ab
lepræ, dissemination of, in disease of respiratory tract, (88) 1154
lepræ, in human body, determination of destruction of, (82) 1154
necrophorus, bacteriology of, (145) 74
nechophorus, gangrenous stomatitis probably due to, (93) 925
paratyphoid, isolation of, from water supply, (47) 461
paratyphoid, ubiquity of, (87) 1234
prodigiosus, elephantiasis due to streptococcus erysipelatus associated with, (13) 1854

Bacillus pyocyaneus, conjunctivitis with ulceration of cornea due to, (107) 1226
tubercle, cultivated from 9 consecutive cases of primary tuberculous cervical adenitis, (23) 1511—ab
tubercle, emulsion of, in tuberculosis, (89) 855
tuberculosis and tubercle of tuberculosis, (114) 622
typhoid, atypical, (83) 1359
typhosus and bacillus coli, isolated from water-supply, typhoid epidemic with, *1100
typhosus, atypical, house epidemic of typhoid due to bacillus carrier of, (12) 1425—ab
typhosus (Eberth-Gaffky) and bacillus dysenteriæ (Flexner), identification of, (18) 1007—ab
typhosus, rôle of, in etiology of typhoid, (18) 1619
typhosus, variations of fermentation properties of, (4) 76—ab
Back, contusion of, its complications, (107) 74—ab
weak, postoperative, common, greater care in arranging patients on operating table for prevention of, *642
Backache, chronic, etiology and treatment of, (8) 1357, (86) 1359
in women, causes and treatment of, (33) 699
possibly due to flat-foot, (52) 302
Bacteria, anaerobic, culture of, (31) 69, (154) 390
and non-specific reactions with complement fixation test for syphilis, (77) 1512
biology and biochemistry of, and therapeutics, (10) 1681
capsulated, in body fluids, simplified method of staining, *1189
capsulated, in production of acute middle-ear affections, (94) 777
factors in toxicity of, (53) 1073
intestinal, anaerobic, especially those of butyric acid fermentation, (115) 1304
gas-forming, in water, liver broth as medium for determination of, (134) 1361—ab
inoculation of, into living cells, technic for, (141) 1361
of normal male urethra, (143) 1306
resistance of, to calcium hypochlorite (79) 1002—ab
simplified method of staining, 1189
typhoid, and paratyphoid, cultural differentiation of, (115) 312
use or harmfulness of, in gastro-intestinal tract, (63) 462
variation among, (7) 157—ab, (3) 1681
Bacterial capsules, new stain for, with special reference to pneumococci, *418
content of infant feces, (103) 706
content of separator cream and separator milk, (95) 1359
flora of large intestine of horse, (37) 1860
hemolysins, anemia-inducing action of, (96) 1302
infection, susceptibility to, (73) 546
suspensions, apparatus for preparation of, *115
therapy, important difference between opsonic negative phase and clinical negative phase in, (137) 1423
vaccines and four leading serums, present status of, (72) 1225
vaccines factor in therapeutics, (172) 305—ab
vaccines, improved method for preparation of, (103) 542
vaccines in suppurative otitis-media, scarlatinal, *1088
vaccines, toxins, antitoxins and antiserums, with comparisons, (29) 1357
Bacteremia, intravenous injection of magnesium sulphate in, (20) 618—ab, (56) 1759—ab
Bactericidal properties of effusions, (86) 546
Bacterin, staphylococcus, old, new and successful use for, (12) 151—ab
Bacterins in suppurative otitis-media, scarlatinal, *1088
standardization of, (108) 1616—ab
streptococcus, in erysipelas, (66) 379
Bacteriologic revision of aseptic operations, (99) 1234
Bacteriology and pathology, advances in, during 1910, (34) 538
intestinal, *1084
of lochia, (47) 1231
of sputum in non-tuberculous infections of respiratory tract, (64) 1856—ab
Bacteriolysis, influence of ether on, (116) 1147—ab
Bacteriotherapy and serotherapy, principles and application of, (149) 1227
in skin diseases, (81) 223
Bacterium of influenza group and meningitis, (35) 1073
savastanoi Smith, formation of d-gluconic acid by, (32) 923
Bacteriuria, tuberculous, and renal tuberculosis, (53) 1689—ab
Baer's membrane used in operation for ankylosis of hip, (111) 1147—ab
Bag, new, for hydrostatic dilatation of cervix uteri in pregnant and parturient women, (55) 1069—ab
Bakeries, sanitation of, (73) 1002
ventilation of, (14) 220
Balneotherapy in neurasthenia, (43) 461
Baltimore city water, bacteriology of, (50) 847
County, medical fathers of, (143) 1617
Banana flour and plantain meal as food in diarrhea in children, (81) 1422
Bandage, elastic, on ununited fractures, illustrating effects of hyperemia, (13) 700
elastic, woven, in simple fracture of patella, (151) 381
head, quickly removable, simple, (22) 1143
rubber, for mobilization of joints, 710
Bands, metallic, removable, occlusion of large surgical arteries with, to test efficiency of collateral circulation, *233
Banti's Disease: See Splenic Anemia
Banti's disease, (121) 1156
Barium sulphate absorption and serodiagnosis of syphilis, (30) 774
Barlow Sanatorium, Los Angeles, Cal., 7th year of, (49) 456
Bars, steel, buried, attached to vertebræ, for support of spondylitic spine, (59) 153—ab
Bath, thermal, postyen as, for rheumatism and gout, (23) 1515
Baths, carbonated, physiologic action of, (89) 1863
carbonic acid, in heart disease, (10) 1418—ab
cold, influence of, on glycogen content of man, (149) 1005—ab
insufficiently appreciated, two, (67) 1359—ab
oxygenated, (80) 160, (144) 1226—ab, (67) 1359—ab
sterile sand, suction treatment of infectious or suspicious wounds by, (150) 1372—ab
Battlefield, treatment of skull wounds on, (56) 931
Beard, pathologic anatomy of, (109) 1624
Bears, wounds inflicted by, (23) 1230
Belching, cause of, (115) 1858—ab
Bell, Charles, position of, among anatomists, (10) 700
Bench, rolling, for use after reduction of congenital luxation of hips, (45) 1758
Benzol, C. P., poisoning by vapors of, (51) 378
Berck-Sur-Mer: city of hospitals for treatment of bone tuberculosis, (105) 380
Beriberi and unpolished rice in Philippines, experiences with, *1237
bran of rice in prevention and treatment of, (54) 1074—ab
disappearance of, from Philippine scouts, (94) 1513—ab
etiology of, (20) 157
hypertrophy of heart in, (111) 162
pathogenesis and treatment of, (61) 931—ab
possible relation of epidemic poliomyelitis to, (25) 1067
Berzelius, (139) 630
Betanaphthol and thymol as anthelmintics, (25) 929
Bier's clinic in Berlin, morning at, (33) 1224
Bile cysts in liver, (138) 163
duct, common, and hepatic duct, plastic operation on, after transduodenal drainage, (50) 1861
duct, common, cysts in, (91) 1369—ab
duct, common, or ureter, severed, physiologic implantation of, into intestine, *397
ducts and gall-bladder, diseases of, exploratory laparotomy in, (19) 1230
ducts and intestines, anastomosis between, indications and technic for, (50) 625
ducts, bilious peritonitis without perforation of, (61) 625
Bile ducts, carcinoma of, (149) 1206
ducts, congenital obliteration of, with cirrhosis-of-liver, (31) 624
ducts, perforation of, (41) 1231—ab
ducts, reconstruction of, (19) 1223
formation and jaundice, role of portal circulation of liver in (68) 1760—ab
human, bacteriologic study of, 172) 1618—ab
pigment in blood serum, its clinical significance, (133) 786—ab
system, total, hydrops of, with chronic occlusion of common bile duct, (138) 1695
therapeutic use of, (73) 1690—ab
Bilharziasis with appendicitis, (2) 68—ab
fistula, normal saline solution given through, (111) 1071—ab
infections, acute, hexamethylenamin in, (69) 1075—ab
Tract: See Cholelithiasis
Biliary ducts, anatomy and surgery of, (84) 1691
tract and gall-bladder, disease of, and gastric functions, (61) 457—ab
tract, cancer of, and gall-stones, (26) 1000—ab
tract, importance of preserving gall-bladder in operations on, (112) 1004—ab
tract, surgery of, (13) 377, (54) 545
Billiard balls and diseases of elephants tusks, (27) 76
Binder, abdominal, improved, visceroptosis as, (173) 1618—ab
Biogenesis and ontogenesis, (73) 704
Biographies of members of Central Kentucky Medical Society and report of last meeting, Nov. 4, 1909, (127) 1071
Biologic processes and varying content of atmosphere in radium emanations, (141) 389
Biology, importance of, to rational medicine, (94) 1147
of and immunity against bacillus of leprosy, (100) 926—ab
of malignant new growths, (83) 1075
Biotherapy and salvarsan treatment of syphilis, (25) 623
Birth, energy metabolism of mother and child just before and just after, (97) 925—ab
registration, importance of, to determine infant mortality, (41) 538
rate, declining, (7) 1514
Births, need of more complete registration of, (128) 224
Bismuth in gastric therapy, (20) 1067
iodo-resorcin sulphonate, *441
opium and phenol, tablets of, *1344
paste, advantages of, in fistulas, (120) 857
paste in chronic suppuration, (34) 455, (132) 935, (30) 1619
paste in chronic suppurative diseases of nose, accessory sinuses, ears, and mastoid process, (55) 71
paste in cold abscesses, (60) 308
paste in mastoid surgery, (140) 1296
paste in rectal fistula, (12) 774—ab
paste in thoracic empyema, (110) 458
paste in tuberculous nasal sinuses, (113) 698
paste, poisoning from injection of, (145) 381
test meal, x-ray with, in diagnosis of gastric conditions, (93) 541
Bites from poisonous serpents, treatment of, (86) 1146
Black Man: See Negro
Black Plague: See Syphilis
Blackwater Fever: See Fever, Hemoglobinuric
Bladder and deep urethra, catheter in, after operation of external urethrotomy, (31) 1224
and deep urethra of man, unidentified larvæ of dipterous insect developing in, producing severe abdominal symptoms, (42) 1511
and kidney tuberculosis, operative and specific treatment of, (108) 388—ab
and urethra, calculus in, in children, (68) 153
and urethra, deep, larvæ in, (139) 381, (42) 1511
aspiration drainage of, (175) 83—ab
atony of, with obstruction or signs of organic nervous disturbances, (168) 859—ab
best method of exposing interior of, in suprapubic operations, (72) 379—ab
calculi, (125) 74, (36) 1144
calculi, x-ray diagnosis of, (46) 384
calculus, conditions governing choice of operation for, (79) 223
Bladder calculus weighing 500 grains, suprapubic lithotomy for, (121) 542
carcinoma of, papillary, with metastasis of tarsus and metatarsus, (106) 1762
catheter in, disappearance of, its subsequent spontaneous passage, (5) 844
complete prolapse of, in 15-months infant, (50) 1689
diverticulum, congenital, importance and treatment of, (97) 545
exstrophy of, extraperitoneal transplantation of ureters into rectum for, (140) 1617—ab
exstrophy of, operation for, (176) 83—ab, (72) 848—ab
female, segregation of urine in, (50) 1299
glycerin for relaxation of, (158) 552—ab
hernia of, (56) 545
in inguinal and femoral hernias, (109) 380
male, calculus in, operations for, (2, 11) 851—ab, (8, 10) 928—ab, (12) 1071
mucosa, functional hypersecretion of glands in, (62) 1910—ab
neck of, and normal and pathologic posterior urethra, (75) 924, (28) 1224, (37) 1420
or urethra, catheters knotted in, (39) 930
ovaries and Fallopian tubes, tuberculosis of, (55) 1420
paralysis of, *743, (86) 777—ab
partially intraligamentary developed, (148) 467
prolapse of, in female infant with pertussis, (115) 1077
prostatectomy by perineal route without opening, with immediate suture, (39) 301—ab
rupture of, (101) 1070
senile, non-prostatic urinary retention of, (155) 305
sequelæ of hysterectomy and salpingo-oöphorectomy, (100) 380—ab
suprapubic drainage of, satisfactory method of, (30) 538—ab
syphilis of, cystoscopic diagnosis of, (137) 1865
tabetic, care and management of, (1) 68—ab, (20, 25) 221—ab
technic for high incision of, (37) 1426—ab
technic of immediate closure of, following suprapublic cystotomy, (124) 74—ab
tuberculosis, operative and specific treatment of, (52) 1420
tumor, (45) 391, (18) 694—ab, (123) 1295
tumor, transperitoneal cystotomy for, (13) 623, (19) 694—ab
tumors, intravesical operations for, (20) 695—ab
tumors, removal of, by natural passages, (55) 308
ulcer, extensive, complicating early pregnancy, (25) 1144
uterus and rectum, abdominovaginal operation for carcinoma involving, (96) 933
x-ray examination of, *264
Blastomycosis: See also Oidiomycosis
Blastomycosis, (80) 1685—ab
immunologic reactions of, in guinea-pig, (118) 1147
systemic, *1095
Bleeding: See Hemorrhage
Blind, deaf mutes and epileptics of Denmark's asylums, Wassermann reaction in, (183) 1698—ab
spot, enlargement of, early symptom in diagnosis of optic-nerve affections, due to disease of posterior nasal accessory sinuses, (80) 621
Blindness: See also Ophthalmia Neonatorum
Blindness absolute, gumma of brain with, complete recovery, (147) 1423
color, and color vision, (9) 700, (5) 779, (9) 780—ab
from toxic action of wood alcohol, recovery of vision under electricity, (93) 1857
partial, temporary, causes and treatment of, (145) 551—ab
prevention of, (127) 74, (47) 152, (68) 1002—ab, (81) 1225
progressive, and choked disk due to sarcoma of brain, *1380
Blistering, extensive, in infant, diagnosis of scurvy, (15) 1298
Blood, alizarin indicator for titrating alkali in (158) 1696
and heart findings with nitro-benzol intoxication, (103) 311
and lochia, diagnosis and prognosis of puerperal infection from bacteriologic findings in, (60) 1010

Blood and lymph routes, collateral, new, opening of, (115) 785—ab
and stools among Igorots at Baguio, Philippine Islands, examinations of, (41) 1511
and urine, comparison of urea content of, as test of kidney functioning, (32) 1516—ab
bacteriology of, in early life, (36) 1068—ab
catalyctic activity of, determination of, clinical diagnostic method, (5) 1756
catalytic activity of, determination pregnancy, (123) 156—ab
cells, auto-agglutination of, in trypanosomiasis, (22) 1298
cells, pigmented, in urine, (99) 1769
cells, red, elongated and sickle-shaped, peculiar, in severe anemia, (148) 699—ab
cells, red, in skin, (142) 550
cells, red, volume index of, (73) 540—ab
cells, vital staining of, (64) 385
cellular elements of, in tuberculosis, (33) 1855—ab
changes in, under influence of thyroid and thyroid treatment, (72) 386—ab
changes, secondary, nature of, in congenital pulmonary stenosis, (9) 543—ab
charcoal as clearing agent for urine containing glucose, (2) 1756—ab
circulation of, influence of radium emanations on, (67) 1368—ab
coagulation, (188) 860
coagulation, action of albumin bodies and albuminoids on, (107) 311
coagulation of, influence of thyroid extract on, (99) 1864
coagulation time, clinical method of estimating, (40) 70—ab
combination of albuminous substances in, with iodin after administration of new iodin preparation, derivative of tannic acid, (139) 231
contamination in organismal diseases, (43) 227
contrast color test in study of, (44) 1765—ab
Corpulscles: See Blood Cells
count technic applied to organized elements in urine, (117) 312
counting, Arneth's method of, its prognostic value in pulmonary tuberculosis, (2) 1510—ab
crisis with primary sarcoma of stomach, (101) 925
culture in typhoid, development and value of, (21) 1224
cultures, anaerobic, in puerperal fever, (164) 1696
cultures in puerperal fever, value of, (20) 1224
cysts in spleen, (140) 163
derivations, Junod's, (70) 620
determination of catalytic activity of, clinical value of, (110) 1294—ab
determination of viscosity of, (100) 1302
determination of viscosity of, in surgical abdominal disease, (86) 1075
diabetic, antitryptic properties of, (127) 1865
direct transfusion of, for hemorrhage of new-born infant, (74) 379—ab
diseases, (33) 702—ab
effect of intravenous injection of saturated solution of chloroform on, (163) 1372
examination, routine, for insurance in West Africa, plea for, (22) 226
extravasation into sclera from indirect violence, (7) 1143
fibrin content of, in connection with thyroid functioning, (143) 389
findings in lymphatic leukemia, (15) 1223—ab
findings in malta fever, (185) 860
findings in scarlet fever, (123) 1694
findings in x-ray treatment of lymphoid and myeloid leukemia, (79) 303
flow in man, measurement of rate of, (53) 1856
formation of, in spleen and liver after posthemorrhagic anemia, (84) 463
frictional resistance of, (147) 389
from patient with polycythemia, favorable influence of injection of, in pernicious anemia, (69) 1767
human, globulins in, (36) 852
human, normal, erythrocytic nuclei of, (77) 540—ab
human, X bodies in, (12) 700—ab
importance for prognosis of invasion of, by germs, (117) 935—ab
Blood in Asiatic cholera, chemical composition of, (32) 695—ab
in certain acute infectious diseases of children, their diagnostic value, (75) 303
in pregnancy, (58) 1010
in puerperal fever, bacteriologic study of, (144) 858
influence of quinin on regeneration of, in anemia from venesection, experimental research on, (115) 1769
influence of sleep and waking state on leukocyte content of, and leukocytosis during digestion, (152) 1306
in typhoid, (102) 1369
influence of thyroid on coagulation of, (142) 389
large mononuclear cells in, (26) 1515
mixed, influence of, on susceptibility to infection in American Indian, (74) 153
mother's, abstraction of calcium salts from, by fetus cause of puerperal eclampsia, (58) 1292—ab
observations, 500, according to Arneth's method, (96) 1857
of infant, sugar content in, (106) 706
of infants, water content of, in health and disease, (89) 627, (131) 857
of man, sexual cycle of estivo-autumnal parasite in circulation of, (36) 775—ab
of pregnant women, cholesterin in, (96) 1623—ab
participation of blood-vessels in movement of, (156) 82
picture, neutrophil, and leukocytosis, clinical significance of, in appendicitis, (84) 1012—ab
pigments in urine in malaria, (58) 462
pigment in urine not pathognomonic of malaria, (176) 1697
pipettes and solutions, handy pocket case for, *737
platelets and megalokaryocytes in Hodgkin's disease, (112) 1294—ab
platelets, new method of counting, for clinical purposes, *1457
pressure, abnormally low, headache with, (68) 1075
pressure, action of ultraviolet quartz lamp light on, (108) 1076
pressure and improved cuff for dosage of constriction hyperemia, (134) 786
pressure and intra-ocular pressure in elderly, (147) 314
pressure and spinal anesthesia, (73) 386—ab
pressure and surgical anesthesia, (108) 778—ab
pressure, arterial, and circulation in kidneys, (138) 1371
pressure, arterial, charts representing, (50) 1009
pressure, arterial, high, and morbid changes in eye, (107) 1147—ab
pressure, arterial, in man, measurement of, (19) 537
pressure, auscultatory method of determining, (53) 1512—ab
pressure, clinical observations on, with effect of prostatic massage, (31) 221
pressure, diastolic, determination of, by palpation of ulnar artery, (93) 784—ab
pressure, effects of various forms of exercise on, (151) 1005—ab
pressure, emotional instability of, (114) 311
pressure, estimation of, by sphygmo-oscillometer, (19) 76—ab
pressure, high, clinical significance of, its causes and treatment, (4) 150—ab, (45) 924, (54) 1512—ab
pressure, high, in arteriosclerosis, (2) 75
pressure, high, kidneys and suprarenals, connection between, (68) 1366
pressure in acute nephritis of children, (100) 1761
pressure in children, (114) 1304, (155) 1228—ab
pressure, in chloroform and ether anesthesia, with special reference to shock, (29) 781
pressure, increased, with prolonged epistaxis, (38) 846
pressure in hypertrophy and dilatation of heart, (85) 1857—ab
pressure in tuberculosis, (98) 1360—ab
pressure, low, (40) 1299—ab
pressure, reduction of, by phlebotomy, (86) 1225
pressure studies, clinical value of, (7) 537
Blood pressure test, scope and value of, (141) 1226
pressure, when should practitioner measure? (123) 1004
pressure with intravenous injection of salvarsan, (90) 1234
producing organs, action of saponin on, (142) 1371
producing organs, diagnosis of disease of, by exploratory puncture of bone marrow, (110) 389—ab
production. thymus not involved in, (138) 1305
quantitative determination of uric acid in, (73) 1368—ab
regeneration of, in anemic animals under quinin, (179) 1697
ring-bodies in, in anemia, (101) 1302
serum, bile pigment in, its clinical significance, (133) 786—ab
serum, dried, preparation of culture medium from, (77) 1359
serum, human, heat-sensitive anti-complementary bodies in, (31) 377
serum, lipoid content of, and Wassermann reaction, connection between, (120) 1013
serum, normal, tint and spectrum of, (118) 1235
stains, medicolegal examination of, (167) 1149
stream, velocity of, in anemia, (109) 311
sugar in, (133) 706
supply of kidney, (68) 1146
test, van Deen, improved technic for, (94) 705
transfusion, direct, by suture of blood-vessels, (123) 1156—ab
transfusion, direct, new method, (13) 1143—ab
transfusion in infants by glass tubes, (17) 1682
transfusion of, (65) 385—ab, (49) 696, (135) 851, (131) 927, (78) 1760
transfusion of, by new method, allowing accurate measurement, *35
transfusion of, in pernicious anemia, (80) 546, (7) 617
transfusion, what are indications at present for? (160) 1228
urobilin in, (92) 229
variations in phagocytic and coccidal power of blood in, (136) 1361—ab
vessel walls, isolated, action of digitalis on, (121) 549
vessels and plasma cells in lymph glands, behavior of, after severing nerves, (136) 550
vessels, direct transfusion of blood by suture of, (123) 1156—ab
vessels, epinephrin lesions of, (147) 1866
vessels, large, rupture of, in abdominal contusions, (53) 703
vessels, mesenteric, embolism and thrombosis of, (35) 1357
vessels, mesenteric, obstruction of, (128) 935—ab
vessels, muscles and organs, preservation of anatomic dissections with permanent color of, *882
vessels, neoformation of, (149) 1696
vessels, parabiosis by direct union of, (93) 79
vessels, participation of, in movement of blood, (156) 82
vessels, surgery of, (181) 860, (82) 1691
vessels, uterine, arteriosclerosis of, *239
viscosity of, (28) 1687
viscosity of, in health and disease, (52) 378—ab, (61) 462
viscosity of, its clinical significance, (65) 309
Blotting-paper test for free hydrochloric acid in stomach content, (113) 857—ab, (187) 1698—ab
Blushing, emotional, treatment of dread of, (52) 1010—ab
Bodies, anticomplementary, heat-sensitive, in human blood serum, (31) 377
cholesterol, in soils, phytosterol, (33) 923
colloid, in central nervous system, (66) 1146
purin, and chlorin in urine, determination of, (47) 70
purin, behavior of, in cirrhosis-of-liver before and after Talma operation, (164) 552
trachoma and conjunctival affections, (77) 621
X, in human blood, (12) 700—ab
Body, gases in relation to, (28) 221, (158) 927, (108) 1513
natural defenses of, (116) 1226
position, respiratory change as affected by, (42) 618
what occurs with tuberculin produced in? (88) 933
Bolus alba for dressings, (94) 1234
Bone abscess, Moorhof's bone wax for, (156) 305
abscess, posttyphoid, (37) 1224
acute and chronic inflammatory lesions of, (17) 544
and cartilage growth, defective, thyroid not responsible for, (88) 627
and joint complications of Malta fever, (46) 930
and joint tuberculosis in children, what Paris does for, (71) 1010
biologic research on origin of, (117) 80
callus around, or ossifying myositis? (124) 857
cavities, obstinate, (69) 1225
cavities, pathologic, osteoplastic operations in, (72) 1292
clamps of aluminum wire, (64) 153
cyst of ethmoid cells, (112) 1361
diseases, x-rays in differentiation of, (106) 74
formation of, in periosteum separated by injury, (4) 1229
human, living, transplantation of, present status of, (66) 463—ab
lesions, multiple, rebellious, from congenital syphilis cured by single injection of salvarsan, (43) 1619
lesions of small-pox (74) 1685—ab
lipoma containing, in tuber cinereum, (125) 935
marrow diagnosis of disease of blood-producing organs by exploratory puncture of, (110) 389—ab, (125) 786—ab
marrow, injection of gelatin for functional test of, (139) 858—ab
marrow, puncture of, technic of, (105) 1013
plastics, (51) 1365
plug, Moorhof, used at University of Minnesota, (51) 1683
regeneration of, after injection of salvarsan, (92) 387
setting, general principles of, (10) 1006
temporal, osteomyelitis of, (49) 71
transplantation, (20) 1357—ab
transplantation for correction of depressed deformities of nose, *1259
tuberculosis, Berck-Sur-Mer a city of hospitals for treatment of, (105) 380
wax, Moorhof's, for bone abscess, (156) 305
wiring with picture wire, (84) 379
Bones, echinococcus disease of, (62) 545
in hand, fracture of, diagnosis and treatment of, (69) 386
long, fractures of, treatment of, (76) 1293, (7) 1418—ab
long, growth of, (42) 1426
long, gunshot wounds of, (78) 1863
long, inflammation of, acute, with excision of diaphysis, (48) 1856—ab
maxillary, effect of readjustment of, on development of nasal chambers and face, (89) 777
metacarpal, substitution of phalanges for (127) 629, (95) 1234
metatarsal, multiple and comminuted fractures of, in child, (10) 1000
Books, carbogasoline method for disinfection of, (44) 538—ab
Bottle-makers, cataract of, *804
Bouillon, lecithin, for differentiation of hemolytic streptococci, (86) 79
Boy, facial hematrophy in, (65) 1146
long-standing nephritis in, (106) 1003
of 13, tobacco psychosis in, (96) 856
Braces and splints, celluloid, non-inflammable, (82) 379
over plaster jackets in Pott's disease, advantages of, (58) 153—ab
Brachial plexus, mild traumatic neuritis of, (67) 1684
Brachydactylia, (105) 79
Bradycardia, puerperal, physiologic (87) 229
temporary, with ventricular asystole, (29) 383
Brain abscess and otitic meningitis, operation, recovery, (32) 1357
abscess and septic thrombosis of lateral sinus with purulent pachymeningitis complicating chronic suppurative otitis-media, (97) 777
abscess consecutive to liver abscess, (54) 1300
abscess in frontal region, operation, death, with necropsy findings, (88) 303
abscess of otitic origin, operative procedure for, (169) 1149
abscess 7 months after trauma, recovery after operative treatment of, (45) 853

Brain abscess, was it? (119) 850
abscess with rare eye symptoms, (99) 777
affections, treatment of, (131) 1148
and meninges, fatal suppurative ethmoiditis in, (160) 1362
angioma of, large, removal of, (90) 1692—ab
ash in, with spasmophilia, (151) 82
case, complicated, with pathologic findings, (56) 71
causes of errors in localization of lesions in, (119) 1235
complication in mastoid suppuration, clinical and bacteriologic study of, (22) 780
complications of otitis media, (90) 380—ab
cortex, lack of phosphorus in centers in, as cause of migraine, (123) 1077
cyst of, operative cure of, (161) 82
decompression and relief of ocular manifestations of increased intracranial tension, (139) 1423
decompression, indications and technic of, (88) 380—ab, (61) 1146
developmental defects of, pituitary extract in, (137) 857
endothelioma at base of, producing symptoms of acromegaly, (12) 1906—ab
gumma of, with absolute blindness and complete recovery, (147) 1423
hemorrhage of, traumatic, without fracture, obscure case of, *956
in dementia præcox, chemical studies of, (67) 1146
lesions, *644
localization of sexual instinct in, (65) 1152
myxosarcoma of, (72) 72
of about one-half average size from white man of ordinary weight and intelligence, (123) 850
operation to expose, (54) 1001
phosphatids and tissue metabolites, (57) 539
phosphatids, function of, in physiologic action of strychnin, (58) 539
puncture of corpus callosum to relieve pressure on, (109) 162—ab
puncture of, technic for, (63) 1366
racemose angioma of, successful removal of, (99) 1012
sarcoma of, choked disk and progressive blindness due to, *1380
suppuration, typhoid, circumscribed, (100) 1076
surgery, (81) 160, (95) 458
surgery, improved technic in, (63) 1684—ab
Swendenborg's conception of functioning of, (148) 232
symptoms with disease of parietal lobe of, (123) 106
tension, increased, operation and recovery (175) 1618
tumor, (41) 158, (53) 1001, (138) 1078, (14) 1229, (81) 1233—ab, (76) 1422
tumor affecting under surface of corpus callosum and filling right ventricle, (16) 623
tumor, cerebral hernia following decompression operation for, (29) 300
tumor, isolated agraphia in, (93) 1302
tumor or abscess formation in, diagnosis of, *1639
tumor, removal of, *1180
tumor, symptoms suggestive of, relieved by correction of refractive error, *347
tumor with impaction in foramen magnum following lumbar puncture, (28) 300
tumors, diagnosis of, (26) 538
Brass, copper isolated from urine and perspiration of worker on, (131) 1305
Breakfast test, for study of stomach functioning in children, (79) 1301-ab
test, versus fasting stomach contents, (163) 1617—ab
Breast abscess during pregnancy, (4) 617—ab
and superficial cancers, rational operative treatment of, (18) 1907—ab
and thorax, local anesthesia for major operations on, (89) 1155—ab
as source of eclampsia toxin, (114) 230—ab
cancer of, (5) 305, (43) 1511, (77) 1760
cancer of, diagnosis and treatment, (91) 380, (40) 1073
cancer of, early diagnosis and early surgical treatment of, (113) 1762
cancer of, operative treatment of, *315
carcinoma of, x-ray in, (91) 1070
chronic catarrh of, (173) 859—ab
cystic disease of, diagnosis and treatment of, (33) 76
Breast, cystic epitheliomas of, (20) 1907
diseases of, (25) 1230
Breast Feeding: See also Infant Feeding
funnel, congenital, behavior of heart with, (118) 1370
gland and skin, extensive leukemic infiltration of, *417
insufficiency, anatomic, (162) 552
malformations of, and tumors, (62) 1074
of expectant mother, its care before and during lactation, (127) 157—ab
papilliferous adenocarcioma of, with papillary metastases in axillary glands, (151) 1696
plastic technic after amputation of, (91) 547
pubes and axilla, chronic itching papular eruption of, *174
secreting, pathology and therapy of, (73) 1429
tumors, diagnosis of, *793. (123) 1423
tumors, epithelial, and chronic cystic mastitis, (114) 1013
tumors of, treatment of, (123) 1423
Breasts, excessive enlargement of, at puberty, (38) 1151—ab
excising of, in eclampsia, (102) 1769
Breathing, abnormal forms of, in angina with pulsus alternans, (12) 1763
Biot's, (92) 840—ab
exercises in cerebral neurasthenia, (120) 1694—ab
movements, fetal, intra-uterine, (76) 1863
nasal, importance of, (27) 1292
Breech presentation or podalic version, modification of usual technic in delivery of first arm in, (86) 380—ab
presentation, uncomplicated, treatment of, (63) 1909
Bright's Disease: See Nephritis
British Guiana, 3 unusual necropsy reports from, (40) 1619—ab
Brocq's parapsoriasis, (108) 1769
Bronchi, direct examination of, (16) 306
foreign bodies in, (88) 1768—ab
slight dilatation of, in children, (48) 1009—ab
syphilis of, (70) 1428
Bronchial affections in children, acute, (21) 1425
Bronchial Asthma: See also Asthma
Bronchial asthma, (76) 1011
concrements, (79) 1233
glands and lungs, tuberculosis of, x-ray diagnosis of, (115) 1432
glands, tuberculosis of, diagnosis of, (63) 457—ab
obstruction, results of, (12) 157, (3) 157—ab
stenosis, (70) 1233
Bronchiectasis, remarkable case of, (85) 855
toxic eruption with, (51) 545
Bronchitis, (33) 1364
acute, exacerbations and remissions, rôle of, in pulmonary tuberculosis, (28) 1292
inhalation of superheated air in, (130) 550—ab
pneumococcus, (19) 1425—ab
vaccine therapy of, (34) 226
Broncho-esophagoscopy, direct, for removal of foreign bodies, (142) 707-ab
Bronchopneumonia, (64) 539
among dependent children of Oklahoma, (62) 539
in child complicated by pneumothorax, (9) 1905
in infants, fixation abscess in, (52) 227—ab
of children, treatment of, (80) 1615
showing positive Brudzinski neck and collateral signs, *1382
Bronchoscopy, (127) 1695—ab
and esophagoscopy, (45) 378, (132) 1004
and esophagoscopy for removal of foreign bodies, (40) 378
and stenosis of trachea, (52) 1620—ab
direct, (10) 1515—ab
Bronchus, carcinoma of, primary, in mediastinum, (104) 698
foreign body removed from, (53) 71
metallic foreign bodies in, (60) 71
removal of open safety-pin from, without closing pin, (141) 225
surgery of, (60) 625
Brothers, Dr. Abram, memorial addresses of, (25) 695
Bubo, suppurative, and ischiorectal abscess, melted iodoform ointment in, (22) 846—ab
Bubonic Plague: See Plague
Budd of Chatham, (66) 222
Buffalo, pellagra in, (10) 1757
Buto agua, poisons of, *1531
Bullets in tissues, localization of, (46) 1152
Bundle-of-His, auriculoventricular, normal and pathologic anatomy of, (165) 390—ab
Bunion, painful, radical cure of, (8) 1418—ab
Burn from molten lead among de-
Burns, electric, industrial, (19) 1907—ab
pendent children of Oklahoma, (62) 539
injury to eye from, (90) 698
of face, severe, plastic operation after, (60) 77
picric acid in, *412
prognosis and treatment of, (85) 1761
Burrell, Herbert Leslie, M.D., (1856-1910), (8) 454
Bursitis, tuberculous, (7) 1612—ab
Butenko's urine reaction not specific for progressive paralysis, (85) 1622
Butterine, poisonous, (82) 546—ab
Buttermilk in infant feeding, (66) 160—ab, (83) 705

C

Cacodylate, sodium, in syphilis (10, 11) 1223
Cactus grandiflorus, *26
Calcaneum, sarcoma of, (50) 1366—ab
Calcium chlorid for twitching of orbicularis palpebrarum, (62) 379
hypochlorite, resistance of certain bacteria to, (79) 1002—ab
metabolism in infantile tetany, (69) 1146
salts, abstraction of, from mother's blood by fetus cause of puerperal eclampsia, (58) 1292—ab
salts, physiologic rôle of, (91) 229
Calculi, Bladder: See Calculi, Vesical and Calculus, Vesical
Calculi, bladder, (125) 74, (68) 153, (79) 223, (46) 384, (75) 546—ab, (115) 778, (36) 1144
kidney, advantages of pyelotomy for removal of, (34) 702
kidney, origin of, (88) 1011
reflex anuria due to, (41) 853—ab
Renal: See also Nephrolithiasis
renal, (64) 303, (148) 381
renal, chemical composition and mode of formation of, (2) 1362—ab
ureteral and renal, diagnosis of, (131) 1004, (172) 1149
urinary, history of theories in, (87) 1301
urinary, increasing prevalence of, in Switzerland, (54) 1766
urinary, origin of various constituents found in, (70) 1421
urinary, remarkable, (75) 546—ab
urinary, x-ray diagnosis of, (46) 384, (30) 1511
Calculus in bladder and urethra in children, (68) 153
in kidney or ureter in children, (35) 1426—ab
in kidney, surgical aspect of, (30) 923
in male bladder, operations for, (2, 11) 851—ab, (8, 10) 928—ab, (12) 1071
renal, (54) 1689—ab
renal, bilateral, (53) 222
renal, diagnosis and treatment of, (121) 1616—ab
ureteral, (70) 847—ab, (146) 927, (37) 930—ab, (102) 1013—ab, (14) 1291
urinary, origin of, (115) 778
vesical, conditions governing choice of operation for, (79) 223
vesical, weighing 500 grains, suprapubic lithotomy for, (121) 542
Callus around bone or ossifying myositis? (124) 857
Calomel as diuretic, (53) 545
Camera, single, stereoscopic photography with, (14) 300
Camphor, behavior of, in infant organism, (105) 706
in large doses in pneumonia, (3) 454-ab
Camp, maneuver, lessons learned at, (49) 302
of Illinois national guard, report of chief sanitary officer of division, at Peoria, Ill., 1910, (50) 302
Wikoff, Montauk Point, New York, in 1898, (143) 1071
Camps, construction, railroad, hospital service for, in Pacific northwest, (169) 382
Canals, semicircular, major portion of, and bony tympanic wall, exfoliation of, (50) 71
Cancer: See also Carcinoma, and Malignant Growth
Cancer, (2, 11) 157—ab, (49) 1001, (28) 1419
and leprosy, (72) 463—ab
and malignant disease of thyroid, (90) 541
and practitioner, (38) 1073
and sigmoiditis, (67) 854—ab
Cancer, and vascular therapy, (120) 1624
arsenic, and salvarsan, (2) 1618—ab
as known to-day, (83) 1225
body fluids and cancerous ascitic fluid for, *1383
cases, dubious, importance of stomach content in, (141) 936
cause of, (100) 229—ab, (14) 694, (93) 1422
cells, human, non-destructive action of placenta serum and serum of pregnant women on, (163) 859—ab
clinical diagnosis of, (167, 168) 82—ab, (32) 310—ab, (87) 1513
distribution of, in france, (30) 1908—ab
esophageal, excision of, (6) 382—ab
esophageal, fenestrated sound for diagnosis of, (167) 82
extract in experimental sarcoma, (85) 229
factors influencing prognosis in operations for, (43) 1144
gastric, (23) 383, (47) 456, (120) 706—ab, (141) 936, (101) 1003, (149) 1296
gastric, and benign subacidities, differential diagnosis of, (151) 1296
gastric, and of female genitalia, (120) 80—ab
gastric, diagnosis and surgical treatment of, (22) 383, (70) 386—ab
gastric, diagnosis of, by cleavage of polypeptids, (17) 1150—ab
gastric, early diagnosis of, (105) 1294
gastric, in youth of 19, (6) 700—ab
gastric, pain in diagnosis of, (82) 310—ab
gastric, partial resection of stomach for, (48) 384
gastric, tryptophan test for acetic-acid test in early diagnosis of, (87) 463—ab
gastric, tryptophan test of, (68.82) 463—ab, 626—ab, (94) 1076, (112) 1370
gastric, with gastrectomy, (172) 1296
gastric, x-ray diagnosis of, (108) 311, (94) 1012
gastro-intestinal, action of thyroid extract on, (78) 1233
gastro-intestinal, antitryptic index for serodiagnosis of, (73) 463—ab, (31) 701—ab
gastro-intestinal, diagnosis and treatment of, (93) 380—ab
gastro-intestinal, reliability of meiostagmin and hemolytic tests of, (122) 629—ab
hemolytic reaction with, (77) 1429—ab
heredity in, (66) 1358
immunity, method of cultivating tissues outside body for study of, (75) 1512—ab
importance of antitrypsin reaction in diagnosis and prognosis of, (73) 463—ab
importance of educating public in regard to, (50) 696
in Bavaria, (97) 1013—ab
in cervix uteri, (116) 706, (108) 1013—ab, (2) 1418
indications for operating in, (88) 1615
injury as causative factor in, (49) 1224—ab, (44) 1683—ab
in neck, (92) 1070
in tar workers, (88) 223—ab
inoperable, radioactive ferments in, (123) 466
involving stomach and spleen, (120) 706—ab
is it contagious? (23) 846—ab
laryngeal, early diagnosis and radical treatment of, (139) 313—ab
new problems in treatment of, (166) 1006
non-operative treatment of, (123) 1225—ab
obligation imposed on practitioner by development of experimental investigation of, (39) 1073
of biliary tract and gall-stones, (26) 1000—ab
of breast, (5) 305, (43) 1511, (77) 1760
of breast, diagnosis and treatment, (91) 380, (40) 1073, (113) 1762
of breast, operative treatment of, *315
of cecum, (158) 1149
of cervix-uteri complicating pregnancy and delivery, (127) 389
of cervix-uteri, inoperable, treatment of, *1174
of face, (27) 1419
of gall-bladder and cholelithiasis involving abdominal wall, (141) 1296
of kidney in children, (51) 1299—ab
of large intestine, improved diagnosis of, (23) 780
of large intestine, resection for, (31) 1067

Cancer of larynx in light of new theory, (19) 226
of liver, primary, (118) 628—ab
of ovary, secondary, (28) 158
of pancreas, (128) 1865
of parturient tract, inoperable, medical treatment of, (129) 1148
of pelvic organs, irremovable, arterial ligation for, (133) 1295
of prostate, fatal complications of, (24) 1764
of prostate, surgical treatment of, (59) 222
of pylorus, sign of metastasis with, (140) 707—ab
of rectum, (16, 20) 544, (22) 623, (18) 1687
of rectum, diagnosis of, (140) 1004
of rectum, treatment of, (63) 77—ab, (7) 622, (24) 623—ab, (134) 1071, (121) 1295, (9) 1687
of Stomach: See Cancer, Gastric
of stomach and intestine, metastasis to nervous system from (1) 376
of throat, (16) 75
of urogenital tract, diagnosis and treatment, (94) 380
of uterus, (92) 380—ab, (110) 465—ab, (130) 698, (88) 925, (32) 1426
of uterus, abdominal operations for, (89) 79
of uterus, advanced, what shall we do with patients with? (126) 74
of uterus and rectum, abdominoperineal technic for removal of, (64, 65) 854—ab
of uterus, diagnosis of, (27) 1682—ab
of uterus, infundibulin in hemorrhage due to, (17) 1143
of uterus, inoperable, acetone in, (12) 1904
of uterus, inoperable, action of radium rays on (66) 1010
of uterus, inoperable, treatment of, (76) 1225
of uterus, necessity for microscopic examination of assumed recurrences of, (165) 1696—ab
of uterus, non-operative treatment of, (57) 384—ab
of uterus, participation of tissues adjacent to uterus and of pelvic lymphatics in, *101
of uterus, rectum and colon, abdominal hysterectomy in, (66) 854—ab
of uterus, results from radical abdominal operation for, *96, (69) 379
of uterus, rubber cap to draw over, during hysterectomy, (176) 859
of uterus, technic of radical abdominal hysterectomy for, (71) 847
of uterus, treatment of, (130) 1157—ab
of uterus with much glycogen, (113) 1864
of vulva, surgical treatment of, (9) 226
of white rat, immunity in, (76) 1512—ab
of white rat, reactive stroma formation and transplantability of, (60) 1856
partial gastrectomy and colectomy for, (23) 383
pathogenesis of, (44) 545
problem, (37) 307, (122) 1156
radium in, (4) 927, (10, 11) 1859—ab
rectal, with colostomy, (134) 1071
research, experimental, (46) 227
research, progress in, (17) 1763
residue, Vaughan, for cancer patients, (71) 1358
salvarsan in, (139) 1695—ab
status of vaccine work in, (50) 1001
stenosis, surgical treatment of, (100) 547
sulphur reaction in urine with, (132) 1371—ab, (178) 1697—ab
transplantation, probable, from use of Gilman vaccine, (55) 1001
trauma in origin of, from standpoint of insurance, (126) 1770—ab
treatment of, based on nature, (161) 1296
unreliability of tryptophan reaction in stomach content in, (61) 1621—ab
urine findings in diagnosis of, (95) 311—ab, (94) 1864—ab
vaginal, primary, (102) 627
x-ray in, (108) 1156, (112) 1762
Cancers, superficial, and breast, rational operative treatment of, (18) 1907—ab
Cancrum oris in adult, *1449
Cannula, *35
Cannulas, antral, set of, (116) 1361
Capsule, cataract extraction in, (86) 154—ab
Caraway seed and pinworms in appendix of infant, (30) 1000
Carbo-gasoline method for disinfection of books, (44) 538—ab
Carbohydrate courses in diabetes mellitus, (83) 1154, (100) 1422—ab
idiosyncrasy in infants, (26) 455
Carbohydrates, digestion of, (158) 468
Carbohydrates with fat in food, importance of, (150) 82
Carbon dioxid snow and kaolin in therapeutics, (71) 160—ab
dioxid snow and liquid air, (10) 69
dioxid snow in skin disease, (134) 466, (20) 537
dioxid snow, practical use of, at West London Hospital, (81) 1359
dioxid snow, trichloracetic acid as efficient substitute for, in skin diseases, (96) 1155
monoxid intoxication, chronic, (52) 384—ab
monoxid poisoning resulting in gangrene of both legs, *1455
Carbonic acid baths in heart disease, (10) 1418—ab
Carcinoma: See also Cancer and Malignant Growth
Carcinoma and diverticula of lower intestine, (48) 775—ab
and sarcoma cultivated in vitro, characteristics of growth of, (74) 1512—ab
and sarcoma, treatment of, (94) 1422
diverticulum and obliteration of appendix, clinical and pathologic significance of, (44) 1069—ab
gastric, x-rays for diagnosis of, (9) 1067
involving rectum, uterus and bladder, abdominovaginal operation for, (96) 933
lupus, development of sarcoma on floor of, (49) 1427
meningitis due to, (100) 464
mouse, and rat sarcoma, transmission of, to new-born animals, (63) 782
mouse, morphologic changes in, in course of long-continued transplantation, (32) 774
of abdominal wall in boy of 17, (13) 1904
of appendix, primary, (21) 157, (95) 1225
of breast, x-ray in, (91) 1070
of bronchus, primary, in mediastinum, (104) 698
of cardia, operative treatment of, (70) 386—ab
of cecum, *404
of cervix uteri, cautery in, *94
of cervix uteri, diagnosis of operability of, *91
of ileum with unusual symptoms, (12) 454—ab
of right Fallopian tube readily palpable through abdomen, (54) 378
of stomach, alterations of hydrochloric acid in gastric juice due to, (26) 1687
of stomach, gall-bladder, pancreas and bile ducts, (149) 1296
of stomach, importance of normal gastric peristalsis in diagnosis of, (162) 1617
of stomach, partial resection in, (48) 384
of thyroid, (164) 468—ab
of ureter, splenomegaly and left hydronephrosis, case of (76) 463
of Uterus: See Cancer
papillary, of bladder with metastasis of tarsus and metarsus, (106) 1762
radiotherapy and electrotherapy of, and palliative operations, (69) 228
thyroid extract in, (6) 927
thyroid, of brook trout and endemic goiter, (102) 1225
Carcinomas, multiple, in liver, primary melanosarcomas in ovaries and metastasis in placenta, fatal eclampsia-like syndrome in pregnant woman at term with, (56) 1010
permanent cure of, after radium exposures, (162) 82
primary, multiple, (150) 1696
Carcinosis, acute, (86) 1692—ab
Cardia, carcinoma of, operative treatment of, (70) 386—ab
Cardiants, minor, (88) 1761
Cardiolysis or precordial theoracectomy, (26) 1764—ab
Cardioptosis, (116) 1769—ab
Cardiospasm, (133) 927, (32) 1144, *1438
cicatricial stenosis of esophagus due to, (48) 781
impermeable, thoracotomy and esophagoplication for, *1437
in infants, (152) 858—ab
Cardio-splanchnic phenomenon of Abrams, (9) 1296
Cardiovascular and kidney disturbances, dietetic treatment of, (63) 625—ab
disease, bearing of old and new facts on conceptions of, (89) 1225
disease, general principles for estimating and treating, (59) 1367—ab
disease, Hippocratic finger with, (46) 545
Cardiovascular disease, ocular affections in, (108) 156
disease, salvarsan in, deaths after, (58) 1910—ab
disease, sudden death in, (91) 1761—ab
disease, syphilis and nicotin as factors in, (25) 377
disease, syphilitic, clinical and anatomic study of, (91) 1302
disorders, recent clinical methods in investigation of, (32) 1073
states and treatment of failing heart, (53) 1614—ab
system, laws regulating balance in, (72) 1300
system, organic diseases of, (141) 459
system, therapeutics of, (145) 927
teaching, English, modern, (25) 1687
tonics, hemostyptic action of, (89) 1768
Carditis, rheumatic, histology of, (11) 1149
Caricature in medicine, (86) 1761
Caries, dental, extensive, in children, tooth extraction in, (11) 700
spinal, clinical evidence and pathologic conditions in, (60) 153
spinal, mechanical treatment of, (3) 1006—ab
Carnot, hemopoietic serum of, (8) 1681—ab
Carotid, internal, aneurysm of, pulsating exophthalmos due to, *1552
Carpus, fracture of, isolated, (93) 1623
resection of, (80) 386
Carriers, insect, of disease, (38) 618
of disease, servants as, (152) 225
Cartilage and bone growth, defective, thyroid not responsible for, (88) 627
transplantation for prevention of perforation in submucous resection, successful case of, (107) 542—ab
Cartilages, arytenoid and thyroid, posttyphoid necrosis of, (179) 1618
costal, fracture of, (164) 1372
floating, in knee-joint, (106) 1864
semilunar, of knee, displaced, surgical treatment of, (1) 459—ab
Casein, composition of certain substances produced by action of pepsin on products of complete peptic hydrolysis of, (28) 1758
curds in infants stools, biologic proofs of their casein origin, (129) 857—ab
hydrolysis of, (33) 1758
in alcohol water mixtures, (78) 697
Casein Milk: See Milk, Albumin
Castration and parathyroidectomy, experimental research on, (106) 1431 and thyroidectomy, (127) 231—ab
or x-ray exposures of ovaries or testicles, behavior of thymus after, experimental research on, (124) 1432
Cast, granular, method of staining, *812
tube, origin of, (159) 390
wire netting for strengthening, (31) 1516
Catabolism of phenylalanin, tyrosin and their derivatives, (129) 1361
Catalysor, conception and definition of term, (77) 697
Catalytic activity of blood, clinical value of determination of, (110) 1294—ab, (5) 1756
Cataract, couching for, (101) 856—ab
extraction, anterior chamber irrigation after, (142) 305
extraction, fatal dementia following, (59) 776
extraction in capsule, (86) 154—ab, (20, 23) 300
extraction in capsule, Henry Smith's method of, (20) 455—ab, (18) 1223
extraction, infection following, vaccines for, recovery, (94) 1686
extractions, lessons from, (102) 1070
lens, immature, improved method for extraction of, (15) 1757—ab
of bottle-makers, *804
operation, old and new, comparison of, (21) 455
operations, (69) 1428
operations and preparation of surgeon, (79) 621
senile, extraction and after-treatment of, (20) 383
Catarrh and colds, (38) 1224
in children, intestinal, chronic and acute, treatment of, (86) 1768—ab
intestinal, chronic, (93) 547
middle-ear, and irritation of mucous membranes throughout body, connection between, (7) 75
of breast, chronic, (173) 859—ab
of large intestine, chronic treatment of, (101) 934—ab
of upper respiratory tract, acute, inhalation of epinephrin in, (85) 933
prevention and treatment of, (101) 311
Catarrh, suffocative, acute, of pneumococcus origin, fatal, (19) 1425—ab
Catgut, (126) 629
dry sterilization of, (112) 1624
iodin, and iodin in surgery, (71) 1512
iodin, dry, (159) 305—ab
preservation of, and improved method for sterilization, (110) 1076
Cathartics: See also Purgatives
Cathartics in acute intestinal obstruction, (147) 381
Catheter: See also Catheters
Catheter accident, peculiar, (69) 1685—ab
Eustachian, possible abuse of, (24) 774
in bladder, disappearance of, its subsequent spontaneous passage, (5) 844
left in deep urethra and bladder after operation of external urethrotomy, (31) 1224
stiff silk, advantages of, with hypertrophied prostate, (144) 1306
Catheterization of ureters, technic of, (121) 1694
urethral, and cystoscopy in young children, (136) 1148
Catheters, knotted in urethra or bladder, (39) 930
sounds and drainage tubes, their selection, care and use, (16) 1357
woven, sterilization of, their aseptic conservation, (133) 1617
Cattle, examination of feces of 40 for tubercle bacilli, (72) 540—ab
physical condition of, and their resistance to cattle plague, (110) 304
Cautery, cold, uses of, (19) 1510
in carcinoma of cervix uteri, *94
Cavities, bone, obstinate, (69) 1225
pulmonary, value of surgical treatment of, (6) 1424—ab
Cecostomy and appendicostomy in ulcerations of intestines, advantages of, (56) 1069
temporary, advantages of, in mucomembranous colitis, (165) 468
versus appendicostomy for colon lavage, (110) 1147—ab
Cecum and colon, hyperplastic tuberculosis of, *955
and ileum, lipoma in submucous tissue of, producing invagination, rotation and obstruction of intestine, (37) 618
carcinoma of, *404, (158) 1149
enlargement of, (82) 932
fixation of, and removal of appendix, *564
movable, (66) 932—ab
Celiotomy: See Laparotomy
Cell: See also Cells
Cell, chemical composition of nucleus of, (110) 548
count, 50 examinations of cerebrospinal fluid with special reference to, (84) 621—ab
degeneration, chemical identity of antibody production with, (43) 1516
division, physiology of, (81) 303—ab
findings in spinal fluid in various meningeal conditions, non-specificity of, especially in children, (38) 1068—ab
free filtrate, transmission of malignant new growth by means of, *198
inclusion, new type of, not parasitic, with disseminated granuloma lesions, (1) 1681—ab
lipoids, (129) 80
Cellase and emulsine, individuality of, (41) 624
Cells, Blood: See Blood
Cells, complete, red corpuscles as, (126) 1078
connective-tissue, interstitial, in testicle, their atrophy, (139) 550
entrance of dyes into, and toxicity of martius yellow and other anilin dyes, (51) 539
eosinophil, and vernal conjunctivitis, *952
eosinophil, in sputum in asthma, (109) 1431
ganglion, in ovarian dermoids, finer structure of, (57) 1152
giant, in amyloid organs, (140) 550
giant, in syphilis, (122) 459
giant, in urine as sign of urogenital tuberculosis, (118) 162
in cerebrospinal fluid, phagocytosis of tubercle bacilli by, in appendicitis simulated by acute miliary tuberculosis, (18) 226
interstitial, of Leydig, and production of internal secretion by mammalian testicle, (72) 1146—ab
interstitial, of testicle and its internal secretion, (40) 221—ab

Cells, living, inoculation of bacteria and other substances into, technic for, (141) 1361
mononuclear, large, in blood, (26) 1515
nevus, nature of, (104) 1013
nucleated, abnormal, in smooth muscle, (55) 1152
oxidation processes in, (154) 858
plasma, and blood vessels in lymph glands, behavior of, after severing nerves, (136) 550
plasma, in disease of ears, nose and larynx, (108) 1864
protecting powers of, (88) 1623
sarcoma, growing in vitro, migration by ameboid movement of, *791
secreting, in small intestine, (76) 309
Cellulitis, pelvic, in women, treatment of, (75) 1293
Cellulose, digestion of, (80) 309
in digestion, does dextrose arise from? (152) 1005
Cementum and alveolitis, treatment of, *109
Centrifuge, electric, home-made, *404
in determination of uric-acid in urine, (68) 1862
Cercomonas hominis, chyluria containing, (7) 773
Cereals, sulphuric acid used in manufacture of, and resulting intestinal disease, (131) 1014
Cerebellopontile angle, operation to expose, (54) 1001
angle, tumor of, 4 cases of, (53) 1001
Cerebellum, abscess and labyrinth suppuration, differential diagnosis of, (41) 1856—ab
Cerebral: See also Brain
Cerebral embolism, symptomatology of, (75) 704—ab
Cerebropathia psychica toxemica, Korsakow's syndrome, (85) 1225
Cerebrospinal fluid, approximate estimation of protein contained in, (5) 151—ab
fluid, colon bacilli in, (40) 1765—ab
fluid, diagnostic value of butyric acid test, Noguchi, in, *1171
fluid, direct lymphocyte count in, preferable to centrifuging, (40) 1860
fluid, 50 examinations of, with special reference to cell-count, (84) 621—ab
fluid in chorea in children, lymphocytosis in, (48) 1620—ab
fluid in syphilitics, (120) 1769
fluid in tuberculous meningitis, (39) 1765—ab
fluid of tuberculous meningitis, tubercle bacilli in, (105) 304—ab
fluid, phagocytosis of tubercle bacilli in, in appendicitis simulated by acute miliary tuberculosis, (18) 226
fluid, unreliability of Mayerhofer's method for differential diagnosis of, (125) 628
Meningitis: See Meningitis
subarachnoid spaces, lavage of, in meningitis, practicability of, (8) 76—ab
syphilis, (11) 1229
system, improved apparatus for estimating pressure in, *962
Cerebrum, tumors of ventricles of, and epithelium, (116) 1864
Cervical rib, (145) 1617—ab
Cervical ribs, complications of, (45) 227
Cervix-uteri, advisability of immediate repair of, after delivery, (139) 699
atresia of, hematosalpinx with, *803
cancer, inoperable, treatment of, *1174
cancer in stump of, (116) 706, (108) 1013—ab
cancer of, complicating pregnancy and delivery, (127) 389
cancer of, treatment of, (2) 1418
carcinoma of, cautery in, *94
carcinoma of, diagnosis if operability of, *91
Cesarean section for placenta implanted between body of uterus and, (84) 810—ab
changes in secretion of, during pregnancy, (143) 707
hydrostatic dilatation of, in pregnant and parturient women, new bag for, (55) 1069—ab
lacerations of, (77) 72, (115) 1423
leiomyoma of, (124) 389
lymph follicles in mucosa of, (115) 706
polypus of, undergoing malignant degeneration, (16) 157
Cervix-uteri, sarcoma of, racemose, primary, metastatic tumor in pleura with, (59) 545
utilization of anterior wall of, in operation for vesicovaginal fistula, (149) 551
Cesalpinia corriaria, pods of, as drug in diarrhea, (81) 1422
Cesarean-section, (70) 854—ab, (67) 1002, (162) 1149, (10) 1425—ab, (117) 1624
by small median incision above umbilicus, (125) 157—ab, (51) 1759—ab
cervical, (93) 705
cicatrix after, and later pregnancies, (155) 551—ab
efforts to improve technic for, (51) 1152
elective, conservatism of, (18) 1357—ab
extraperitoneal, and pubiotomy, (98) 627—ab
extraperitoneal, its scope in modern obstetric surgery, (24) 780
for dystocia due to ventrofixation of uterus, (4) 623—ab
for mechanical obstruction, ovarian fibroma, (36) 301
for placenta implanted between body of uterus and cervix-uteri, (84) 310—ab
high operations in, (119) 305—ab
four cases of, (27) 695
improved technic for, (103) 1624
in eclampsia, value of, (98) 1857
in non-contracted pelvis, 3 cases of, (20) 928
in United Kingdom, (34) 624
in women long in labor and exposed to sepsis, (17) 928, (14) 1007
multiple, results in 39 cases at New York Lying-In Hospital, (37) 1292
natural delivery following, (35) 1688
ovariotomy during delivery by, (170) 1697
plea for, (17) 1357—ab
post-mortem, (83) 1767
post-mortem, legal aspects of, (78) 847
pregnant uterus being within umbilical hernia, (125) 305—ab
report of 7 cases without loss of mother or child, (109) 458
suprasymphyseal, technic of, (175) 859
time of operation, its technic, *709
27 cases without maternal mortality, (38) 1292
under unfavorable conditions, (66) 1002
vaginal, (54) 227—ab, (30) 301
vaginal, for fulminating pulmonary edema, (130) 629—ab
vaginal, in abortion and premature delivery, (143) 858
vaginal, in eclampsia, *1, *16, (155) 390—ab
vaginal, in Russia, (113) 230—ab
with no fetal or maternal mortality, 25 cases of, (94) 1615
with unusual complications, *1033
Cesarean sections, five, in succession on same woman, fifth on twins, (119) 1514
Chamberlens and obstetric forceps, (96) 1615
Chancre, concealed, of male urethra, (5) 454
Chancroid in fossa navicularis, (145) 1306
Chancroids due to mercury bichlorid, (19) 69—ab
Character and medicine, (111) 1514
Charity, medical, disorder of, (6) 226
Chart, test, useful addition to, (152) 1296
Chauffeurs, testing vision in examination of, (162) 858
Cheilitis glandularis apostematosa with cheilitis exfoliativa, (23) 1854
Cheiloplasty, (51) 931—ab
Chemical agents, resistance and ultrasensitiveness of animal body to, (101) 1155—ab
Chemicals, injury to eye from, (90) 698
Chemistry, physical, application of certain laws of, in standardization of disinfectants, (40) 455
recent achievements and problems of, (112) 1156—ab
Chemotherapy of Ehrlich, special reference to trypanosome infections, (6) 1291
of spirilloses, (87) 783
principles of, (66) 1421
Chest: See also Thorax
Chest and lung, reciprocal relations of, to emphysema, (38) 1908
auscultation sign of glandular disease in, (64) 932—ab
diseases of, help of x-rays in diagnosis of, (22) 544
mixed morbid conditions in, (20) 1425
Chest, muscular rigidity of, not necessarily sign of tuberculosis, (75) 1011
wall, increased vibration of, always sign of infiltration of lung, (109) 856
Chichester's diamond brand pills, *1591
Chick tissues, embryonic, growth of, in artificial media, agar and bouillon, (115) 1294—ab
Child and mother, care of, during and after puerperium, (87) 1070
and mother, energy metabolism of, just before and just after birth, (97) 925—ab
and school system, (28) 923—ab
backward, (65) 1512, (20) 1613
bearing, psychoses of, (9) 1291
deaf, very young, education of, (35) 158
diphtheria of vulva in, (10) 220
duodenal ulcer, perforated, in, (43) 307
echinococcus cysts of liver in, (20) 1515
exceptional, value of prophylaxis in early life of, (82) 1422
fed on sterilized milk, infantile scurvy in, (20) 1072
heart block from primary heart tumor in, (98) 1302
hernia in, (45) 1001
influence of dwelling on development of, (65) 462
multiple and comminuted fractures of metatarsal bones in, (10) 1000
nervous, conditions producing, (132) 778
of 1, leukemia with skull tumor in, (109) 548
ovaries, atresia of follicles in, (83) 79
physical development of, index of, (42) 307—ab
sarcoma of tonsil in, (113) 1361
sick, general principles for examination of, (47) 853
thorax of, anatomic features of, their practical application in physical diagnosis, (103) 304—ab
torsion of left broad ligament and Fallopian tube in, (13) 460
transmission of anaphylaxis from father and mother to, (101) 161
trichocephaliasis, fatal, in, (25) 75
welfare and women in industry, (155) 1005
welfare, first measures needed for, on part of municipal and educational authorities in south, (75) 457
Childbirth, death and disability resulting from, (113) 778—ab
in progressive muscular atrophy, (169) 1697—ab
Childhood, disease in, vagaries of, (88) 154
gastro-intestinal disorders of, (119) 381
genesis of hysterical states in, their relation to fears and obsessions, (30) 852
rheumatism of, rarer occurrences in, (2) 382—ab
syphilitic factor in hemiplegias and diplegias of, (4) 1618—ab
tuberculosis in, tuberculin in, (49) 545—ab
Children, aberrated, atypical, (105) 1615
acidosis and acid; intoxication in, (11) 306
acute otitis media and mastoid abscess in, (85) 73—ab
affected with ring-worm of scalp, segregation and education of, (30) 1682
American, dwarf tapeworm in, (151) 75
amino-acid content of urine in, (113) 1694
and adults, rheumatism in, difference between manifestations of, (25) 1150
and infants, new clinic for diseases of, (83) 627
anemia in pseudoleukemic, (153) 1306
aphasia, congenital in, (6) 1763—ab
arthritis deformans in, (51) 924
blood-pressure in, (114) 1304, (155) 1228-ab
bronchial affections, acute, in, (21) 1425
bronchopneumonia of, treatment of, (80) 1615
calculus in bladder and urethra in, (68) 153
calculus in kidney or ureter in, (35) 1426—ab
cancer of kidney in, (51) 1299—ab
catarrh, intestinal, treatment of, (86) 1768—ab
chorea in, lymphocytosis in cerebrospinal fluid in, (48) 1620—ab
Children, colon bacillus pyelocystitis in, (19) 1418—ab
crippled, care and treatment of, (123) 926
cystitis and pylecystitis in, (165) 75
cystoscopy and urethral catheterization in, (136) 1148
delinquent, from medical standpoint, (104) 1615
dental caries, extensive, in, tooth extraction in, (11) 700
dependent, of Oklahoma, bronchopneumonia and burn from molten lead among, (62) 539
diabetes mellitus, traumatic, in, (91) 848—ab
diarrhea in, with pods of cesalpinia corriaria as drug and banana flour and plantain meal as food, (81) 1422
diet, nutrition and growth in, (17) 300
diphtheria in, (68) 1225
diseases of, infectious, acute, blood in, their diagnostic value, (75) 303
diseases of, review of, (34) 781
dwelling and health of, (46) 159—ab
empyema in, clinical study of 86 cases of, (56) 1145
epilepsy in, early signs of, (85) 387—ab
examination of, (85) 925
foreign bodies in oesophagus in, (23) 377
fractures of upper extremity in, (101) 1761
gastro-intestinal disturbances in, from standpoint of tropical pathology, (50) 307—ab
hay fever in, diagnosis of, (87) 1857—ab
heart disease, acute, in, (90) 161—ab
hysteria in, (49) 1292
indigestion, intestinal, chronic, in, (50) 1292
infection of urinary tract in, by coliform organisms, (22) 1687—ab
influencing shape of skull in, further experiences in, (109) 628—ab
intestinal disturbances in, (6) 844
intracranial surgical lesions in, *644
intussusception in, (61) 1684
intussusception, treatment of, (62) 1684
jaundice, emotional, in, (65) 1300
lumbar puncture in, (57) 1001
lung affections, chronic, in, (19) 1515
malaria in, (84) 1422
mechanical injuries of head in, (134) 224
meningitis, acute, in, (104) 304—ab
meningitis in, hexamethylenamin in, (142) 81
mental hygiene in, (86) 1293
mental suggestion as substitute for anesthetics in removal of tonsils and adenoids from, (117) 1858
middle ear infections in, bacterial vaccines in, (31) 1357
myopia of, facts concerning, (58) 222
nephritis, acute, blood pressure in, (100) 1761—ab
nephritis, chronic, primary, in, (36) 307
nephritis, in, (133) 224—ab, (77) 303
nervous, care and treatment of, (30) 617
neurasthenia in, (31) 461
non-specificity of cell findings in spinal-fluid in various meningeal conditions in, (38) 1068—ab
normal, frequency and significance of albumin in urine of, (88) 697—ab
normal percentages of different varieties of leukocytes in, (98) 154—ab
obese, (143) 551—ab
older, chronic gastro-intestinal disorders in, (72) 1069
papilloma of larynx in, (38) 1230—ab
periodic attacks of indigestion in, with presence of diacetic acid in urine, (107) 1003
peritonitis, tuberculous, in, (85) 1422, (48) 1766—ab
pneumonia, acute, in, (17) 1229—ab
pneumonia in, serotherapy of, (99) 1422—ab
poliomyelitis in, manifestations of acute stage of, (63) 1292
precordial dullness in heart disease in, (48) 930—ab
predisposed to nervousness, management of, (120) 850—ab, (116) 1616—ab
psychology, experimental, in, (109) 706
respiratory diseases in, bacteriology of, (128) 857

Children, rheumatic manifestations in, (22) 1425—ab
rights of father over, (44) 1365—ab
rigid arteries in, (95) 784—ab
saving them from milk-borne diseases, (74) 1002—ab
school, and schools, medical inspection of, (25) 1364
school, left-handed, (90) 933—ab
School, Medical Inspection of: See Medical Inspection of Schools
school, thyroid enlargement in, general, slight, (13) 1298—ab
school, who cannot or will not study, classification of, (39) 544
scrofulous, Wassermann and cutaneous tuberculin reactions in, (149) 314—ab, (97) 856—ab
sepsis, acute, in, (121) 707—ab
several, in family, early mortality of, (130) 857—ab
slight dilatation of bronchi in, (48) 1009—ab
spasmophilia in, lime in, (137) 163—ab
stomach functioning in, test breakfast for study of, (79) 1301—ab
subnormal, methods of testing mental status of, (65) 1684
syphilis, congenital, in splenomegaly of, (22) 1150—ab
syphilis in, *405
syphilitic, salvarsan in, (155) 1696
tachycardia in, (33) 1688—ab
tetany in, (135) 74
tetany in, parathyroids not responsible for, (167) 390—ab
tuberculin tests in, cutaneous and conjunctival, comparative value of, (60) 159—ab
tuberculosis, acute, in, curable forms of, (41) 307, (44) 853—ab
tuberculosis, aural, in, (11) 75
tuberculosis in, (73) 1011—ab, (100) 1070—ab, (40) 1152—ab
tuberculosis, intrathoracic, in, therapeutic use of tuberculin in, (31) 617
tuberculosis, pulmonary, in, diagnosis and epidemiology of, (62) 462—ab
typhoid in, (108) 622, (105) 785—ab, (103) 1864—ab
urinary concrements in, (162) 468
venous murmurs heard at root of neck in, (24) 1151—ab
who drink milk containing tubercle bacilli, subsequent health of, *1322
with bone and joint tuberculosis, what Paris does for, (71) 1010
with eczema, after-history of, (108) 548—ab
Chill and adrenalin-saline infusion, (120) 163—ab
Chills in Malta fever, (112) 1013
Chilling, sudden, reflex anuria from, (80) 1154
Chin, receding, operation for correction of, (45) 847
utilization of rib for plastic operation on, (153) 389
China, northern, pneumonic plague in, (104) 1864
septicemic and pneumonic plague outbreak in, (16) 1619
Chipmunk, susceptibility of, to plague, (42) 455
Chlorid and water tolerance in nephritis, (3) 1756—ab
Chlorid-of-ethyl as general anesthetic, (39) 1688
Chlorids in stomach contents from normal and atrophic infants, estimation of, (96) 154—ab
Chlorin and purin bodies in urine, determination of, (47) 70
Chloroform accidents, (43) 930—ab
action of on glycogen of muscles, (113) 1769
and ether, (156) 225
and ether, administration of, *1312
and ether anesthesia, behavior of blood-pressure in, special reference to shock, (29) 781
and ether, comparison of dangers of, in eclampsia, *5
and ether, indication and contraindication for, (83) 1615
and ether, postoperative nausea and vomiting from, open-air treatment of, (83) 1293—ab
and ether vapor, apparatus for administration of, (144) 225
anesthesia, advantages of, in normal deliveries, (76) 783
anesthesia, apparatus for, (55) 461
during second stage of labor, (83) 1146
effect of intravenous injection of saturated solution of, on blood, (163) 1372
Chloroform for strychnin poisoning, (73) 1685—ab
influence of, when repeatedly administered in small doses, (12) 543—ab
or electrocution, heart failure under, electric analgesia, and electric resuscitation after, *478
oxygen general anesthesia, (98) 229
poisoning, apparently fatal, direct massage of heart with, (117) 549—ab
poisoning, fatal, tardy, (85) 1012—ab
poisoning, fibrinogen of blood as influenced by liver necrosis of, (38) 377
Wassermann reaction with serum from patients under influence of, (118) 1769—ab
Chloroma, (24) 306
myeloid, (67) 704—ab
Chloromorphid, action of, on man, (102) 1864
Choana and atresia, congenital body, (88) 1359
Choanæ congenital atresia of, (12) 75
Choked disk and progressive blindness due to sarcoma of brain, *1380
Cholangiocystostomy, (100) 1431—ab
Cholecystenterostomy, Krause's, modification of, (141) 313
Cholecystitis, *887
acute, (39) 1001
diagnosis and treatment of, (98) 74—ab
effects of, on heart, (28) 1144—ab
etiology of, (56) 222
gangrenous, (17) 1687
its complications and sequelae, (2) 1853
purulent, gastro-intestinal hemorrhage with, (71) 1233
typhoid, (159) 1617—ab
Cholecystotomy, technic of, (48) 1224
Cholelithiasis: See also Gall-Stones
Cholelithiasis, (126) 1305—ab
acute gangrene of gall-bladder with or without, (70) 1863
and cancer of gall-bladder involving abdominal wall, (141) 1296
diagnosis and pathogenesis of, (105) 1686, (156) 1696—ab
pancreatitis with, (76) 1429
pathogenesis and treatment of, (62) 1621—ab
pregnancy and delivery, relations between, (45) 158
simulating appendicitis, dislocation of liver, (69) 153
symptoms of, (105) 1686
Cholera, (33) 69
and cholera-like vibrios encountered in Philippines, (33) 695
and typhoid, (154) 1005
a nitrite poisoning, (77) 1767
Asiatic, analysis of 326 cases of, (7) 1297—ab
Asiatic, chemical composition of blood in, (32) 695—ab
Asiatic, diagnosis and treatment of, (58) 1358
Asiatic, effect of concentration of solution in collapse in, (31) 695
Asiatic, significance of bacillus-carrier in spread of, (4) 376
Asiatic, tolerance for alkalies in, (30) 695—ab
diagnosis and treatment of, (140) 1157
diagnosis of sporadic cases of, (145) 467
fowl, in rabbits, action of intrapleural injection of Mellin's food on course of, (38) 852
from modern standpoint, (60) 456
germs from water-closets on trains, danger of sowing, (114) 164
germs in dejecta of convalescents, persistence of, (142) 1157
germs, mutation phenomena in strains of, (93) 1076
hemoglobin culture medium, Esch's, (63) 703
in Finland, prophylaxis of, (111) 1076—ab
in India, (15) 780
in Italy, (133) 381
intoxication, pathogenesis of, (116) 1013
not result of nitrite poisoning, (116) 312
present status of, (61) 854—ab
rapid bacteriologic diagnosis of, (78) 1011, (139) 1078
Rogers' method of infusion of hypertonic saline solution in, (39) 383
value of adrenalin and pituitrin in, (51) 77
vibrio, biologic properties of, (30) 1298
vibriones found in Donau river, (77) 783
Cholera vibriones, vitality of, in water, (111) 1624
Cholesteatoma and mastoiditis, chronic, (108) 380
in ovary, (122) 389
Cholesterinemia in physiologic pregnancy, (137) 1305, (96) 1623—ab
Cholesterol bodies in soils, phytosterol, (33) 923
Chondromas in joints, (81) 932
Chondrotomy for apical disease, (134) 1236—ab
Chorea, constant motor symptom of, (49) 1620—ab
Huntington's, with spinal fluid findings, *941
in children, lymphocytosis in cerebrospinal fluid in, (48) 1620—ab
in malaria, (107) 1431
influence of salicylates on heart lesions of, (27) 1688—ab
minor, (46) 1358
minor, salvarsan in, (76) 626—ab
nature and treatment of, (13) 1229
senile, (107) 934—ab
Sydenham's, a curable encephalopathy, (132) 706
treatment of, (76) 303
Chorioepithelioma, (53) 1292) (119) 1864—ab
and teratoma, ovarian, origin of, and parthenogenetic development of ova in mammalian ovary, 1327—O
brief account of Ludwig Pick's work on, (162) 382
of uterus preceded by vesicular mole and with unusual nervous symptoms, (23) 928
Chorioid and iris, experimental tuberculosis of, in rabbits, (71) 1621
miliary tuberculosis of, (52) 222
plexuses of cerebral ventricles, function of, and function of pituitary gland, *265
rupture of, (143) 305
Christian Science, (168) 1296
Chromocystoscopy in determination of kidney sufficiency, (73) 1519
Chromo-ureteroscopy, value of, in functional kidney diagnosis, (56) 1420—ab
Church and physician, (5) 773
Chyluria containing, Cercomonas hominis, (7) 773
unilateral, caused by Filaria sanguinis hominis, salvarsan for, (8) 921
Cinchonization and roentgen irradiation in filariasis, (166) 382
Cincinnati, tuberculosis problem in, (37) 1758
Circulation, alterations of, in goiter, (126) 698—ab
and diaphragm, (80) 1519—ab
arteriovenous anastomoses without interruption of, (49) 1365
collateral, and ascites, (146) 1866—ab
collateral, occlusion of large surgical arteries with removable metallic bands to test efficiency of, *233, (151) 305
disturbances in after muscular effort in incipient tuberculosis, (63) 1767
local disturbances in, with exercise of limb, (150) 389
important factor in, (161) 1617—ab
in kidneys and arterial blood-pressure, (138) 1371
peripheral, unusually few parasites in, in masked tertian malaria, (150) 1227—ab
shutting off part of, as aid in general anesthesia, (109) 230
therapeutic action of shutting off part of, (59) 782—ab
toxic action of typhoid effusion on, (99) 1623
Circulatory and respiratory systems, interdependence of, (4) 1514
Circulatory System: See Cardiovascular
Circumcision, (166) 82
untoward consequences of, (36) 1683
Cirrhosis-of-liver, (60) 782—ab, (18) 922—ab, (28) 1072—ab, (18) 1230
and ascites due to splenomegaly with recurrent jaundice, (22) 1150—ab
ascites from, salt-poor diet in, (141) 1157
atrophic, recovery in 2 cases of, (52) 781
behavior of purin bodies in, before and after Talma operation, (164) 552
congenital obliteration of bile ducts with, (31) 624
diagnosis and medical treatment of, (97) 74—ab
operated on by Narath's procedure, (101) 1513
venous hum in epigastrium in, (89) 848—ab
Civilization and mental disease, connection between (133) 858—ab
modern, greatest blot of, our care of insane, (117) 778
Civil war, southern surgeons and surgery before, during and after, (42) 1144
Clamp, long, for hemostasis in trephining, (105) 230
Clamps, bone, of aluminum wire, (64) 153—ab
Claudication, Intermittent: See Limping
Clavicle, congenital defect of, (102) 1003—ab
fracture of, *740
sarcoma of, end-results following total excision, (61) 72—ab
Clawson, Dr., 50th anniversary of graduation of, (12) 1757
Cleft Palate: See Palate
Climacteric in man, '44) 384
Climate as curative agent, (11) 151, (52) 1517
in hay fever and nervous asthma, (110) 1156
in neurasthenia, (43) 461
mountain, physiologic action of, (96) 1769
tuberculosis, (118) 1423—ab
Climatology of seaboard air line region, (116) 74
Clinics, German, (51) 456
Clitoris and vagina, congenital absence of, (128) 1226
Cloth, olive-drab and khaki-colored, experiments on relative absorption of solar heat by, (47) 302
Club-feet, treatment of, (44) 1856
Club-foot in infancy, treatment of, (115) 1616
transverse osteotomy to correct torsion of leg with, (92) 1234
Coagulation-promoting action of rabbit serum and organ extracts in acquired hemophilia, (133) 389
Coal-tar derivatives, poisoning following use of, (110) 1070—ab
Cobra venom, activation of, by tuberculous serum, its diagnostic importance, (160) 1372
venom hemolysis in diagnosis, (159) 1372
Cobwebs, should they cover obstetric forceps? (62) 222
Cocain anesthesia, appendectomy with, (12) 617
anesthesia in minor surgery, (27) 780
anesthesia, hyoscin hydrobromid as adjunct to, (131) 74
as local anesthetic, (93) 223
in dental surgery, grave and prolonged cardiac failure following, (7) 1229
intoxication, chronic, psychic disturbances with, (92) 1155—ab
intravenous use of, (14) 537—ab
poisoning, hyoscin hydrobromid as preventive to, (131) 74
removal of large lipoma of laryngopharynx extraorally under, *1793
Cold, action of external application of, on temperature of stomach, (101) 388—ab
chamber treatment, experiments on, (6) 1297—ab
of business man, (122) 698—ab
Colds and catarrh, (38) 1224
and draughts, (4) 459—ab
common, (119) 1423—ab
common, hexamethylenamin for, *1718
Colectomy and partial gastrectomy for cancer, (23) 383
fluid in inoperable lymphosarcoma, (128) 1769
in chronic intestinal stasis, (2) 1514, (83) 1692—ab
toxins in sarcoma of nose and throat, (59) 1615—ab
Colic, biliary, hemorrhage in gall-bladder as source of, (65) 1690—ab
intermenstruation, (35) 1516—ab
kidney, and herpes zoster, (93) 933—ab, (108) 1694—ab
Colica mucosa, (96) 223, (129) 1295—ab
Colitis, (97) 223, *415, (27) 1230
amebic, copper salts and ipecac in, (104) 1513
ascending, and typhlitis, (52) 625
bacteriologic aspects of, (28) 1230
chronic, surgical treatment of, (3) 1424-ab
chronic syncopes in, (26) 544—ab
hemorrhagic, (25) 544—ab
mucomembranous, advantages of temporary cecostomy in, (165) 468
mucous, (139) 157, (33) 544—ab, (138) 1071, (47) 1073
treatment of, (20) 1687
ulcerative, amebic, pernicious anemia mistaken for, (100) 154

Collapse in Asiatic cholera, effect of concentration of solution in, (31) 695
College hygiene, *1253
Colles' Fracture: See Fracture
Collodion filters for colloidal substances, (52) 1073
sac, administration of diphtheria toxin in, (44) 456—ab
substances, collodion filters for, (52) 1073
Colon, (69) 1069
and cecum, hyperplastic tuberculosis of, *955
and mesocolon, tumors in, differential diagnosis between, (105) 849
anomalies of, demonstrated by x-rays, (122) 1147—ab
bacilluria in girl of 12, (18) 1000
dilatation of, idiopathic, (5) 1296
irrigation of, and surgical interference in pellagra, (23) 1613
lavage and massage-lavage of, (51) 853—ab
lavage, cecostomy versus appendicostomy for, (110) 1147—ab
necrosis, (151) 1617
rectum and uterus, cancer of, abdominal hysterectomy in, (66) 854—ab
sigmoid, and rectum, direct inspection of, (8) 617
stenosis of splenic flexure of, (117) 1694—ab
Colonoscopy, technic of, (103) 849
Colophonium for differentiating eosin-methylene-blue and other stains, *345
Color blindness and color vision, (9) 700
perception, diagnostic importance of acquired disturbances in, (69) 1862
ring tests of fluids, improved technic for, (135) 1305
scale for estimation of pigmentation, (120) 934
test, Schürmann's, for syphilis, (85) 621—ab
testing visual fields for, without perimeter, *1106
Colostomy, iliac, restoration of fecal continence after, (50) 776—ab
rectal cancer with, (134) 1071
Colostrum, research on, (72) 1429
Colotomy, hypogastric versus iliac, (117) 1295
Colpotomy, (53) 1621—ab
Coma, common types of, (152) 381
diabetic, and acidosis, (29) 1516—ab
differential diagnosis in, (90) 154, (37) 695
experimental, (130) 1865—ab
experimental, induced by sodium oxybutyrate (129) 389
Commission evil, secret, *725
Commissions: See Medical Fees
Communities, respective, influence of hospitals on, (35) 1420—ab
Complement activity and fixability of guinea-pig serum, variations in, (33) 377
Binding: See Serodiagnosis
complementoid and resistance of mid-piece of, (85) 1512
deviation in Rocky Mountain spotted fever, (139) 1361
effects of mechanical agitation and temperature on, (31) 774
Fixation: See also Serodiagnosis
fixation and formation of specific antibodies in malaria, (144) 936—ab
fixation in pellagra, (68) 1910
fixation, interference of inactive serum and egg-white in phenomenon of, (35) 377
fixation in yaws, (39) 1511
fixation test for syphilis, non-specific reactions with, and certain bacteria, (77) 1512
fixation test in diagnosis of gonococcus infections, (8) 1510—ab
resistance of end-piece and mid-piece of, inactivated by distilled water, (65) 1856
Complements and amboceptors, various, comparative merits of, in serodiagnosis of syphilis, (34) 378—ab
Complementoid and resistance of mid-piece of complement, (85) 1512
Compress, precordial, heart stimulants used during fevers with recommendation of, (18) 69
Conception and menstruation, relations between, and embedding of ovum, (82) 79
and ovulation, connection between, (171) 1697
forensic determination of date of, (118) 1077
Concrements, bronchial, (79) 1233
formation of, in urine and means to influence it, (64) 1428—ab
Concrements, laws regulating formation of, in body, (75) 1429—ab
Conductivity in nerve and muscle, effects of pressure on, (82) 303—ab
Confidences, professional, (94) 1003
Congestion, malarial, (149) 305
Conjunctiva, affections of and trachoma bodies, (77) 621
lymphoid degeneration of, (6) 220—ab
of man and apes, normal, Prowazek and Halberstaedter bodies in, (78) 621
papilloma of, (146) 1423
soft fibroma of, (62) 776
Conjunctivitis, diphtheritic, classification of, *1454
gonorrheal, metastatic, (78) 463, (126) 1295
hemorrhagic, (18) 306
infectious, in Samoan Islands, (64) 782
ophthalmia neonatorum, (148) 1617
Parinaud's, (85) 154, (49) 618
vernal, and eosinophil cells, *952
with ulceration of cornea, due to Bacillus pyocyaneus, (107) 1226
Connective tissue, structure and development of, (57) 461
Constipation and obstipation, rectal, causes and treatment of, (20) 1292
atonic and spastic, (53) 456
causes of, (102) 1686
chronic, heart and kidney disturbances with, (127) 1305—ab
chronic, mechanotherapeutics in, (7) 1149
chronic, paraffin injection in, (131) 313—ab
spastic, and antiperistalsis, (99) 1693—ab
Consultant, obstetric, (70) 1292
Contagion and infectious diseases, (59) 1358
Contract Practice: See also Practice
Contract practice, proposed solution for certain phases of, (160) 225—ab
Contracture, muscular, ischemic, and gangrene, origin and treatment of, (90) 547—ab
spasmodic, mechanism of, (67) 1075
Contractures, prophylaxis and treatment of, (103) 934
Contraindications, surgical, (109) 1616
Contusions, abdominal, (72) 222
abdominal, rupture of large blood vessels in, (53) 703
Contusions of abdomen, resulting in injury to contained viscera, (39) 1292
of back, its complications, (107) 74—ab
of eyeball, (61) 776
Convalescents, persistence of cholera germs in dejecta of, (142) 1157
Convergence insufficiency, its importance to practitioner, its successful modern treatment, (84) 1070—ab
Convulsions after orthopedic operations, (102) 1623—ab
psychogenetic, simulating epilepsy, (9) 1357—ab
puerperal, or eclampsia, (14) 623—ab
tetanic, in frogs produced by acid fuchsin, and problem of inhibition in central nervous system, (50) 539
Copper isolated from urine and perspiration of worker on brass, (131) 1305
salts and ipecac in amebic colitis, (104) 1513
Cord, spermatic, varicocele of, (109) 778—ab
umbilical, prolapse of, (55) 1759
umbilical, treatment of, according to Ahlfeld, (153) 1372
Cornea and skin, pathology of lesions of, in animal experimentally infected with T. rhodesiense, (17) 1298
clinical and experimental evidence that salvarsan does not act on, (84) 1623—ab
congenital pigmentation of, (108) 1226
conjunctivitis with ulceration of, due to Bacillus pyocyaneus, (107) 1226
diseases of, scarlet red in, (124) 778
indolent ulcers and fistulas of, electrolysis in, (141) 305
marginal degeneration of, (93) 622
marginal ring ulcer of, (139) 305
ulcer of, (147) 74, (87) 1146
ulcer of, zinc ions in local treatment of, (134) 857
Corneæ in infants, sloughing, (88) 622
Coroner's bill, proposed, (9) 622
Corpora lutea, use of, in gynecology, (34) 301
quadrigemina, tumor in region of, (41) 158
Corporis ciliaris, extractum, in sympathetic ophthalmia, (90) 1686
Corpse, persistence of strychnin in, (74) 697—ab
Corpus-callosum, cerebral tumor affecting under surface of, and filling right ventricle, (16) 623
callosum, physiology of, (51) 781
callosum, puncture of, to relieve pressure on brain, (109) 162—ab
luteum, formation of, (50) 1231
luteum, galactagogue action of, (74) 924—ab
luteum, histogenesis of, and products of retrogression, (84) 79
luteum, importance of, for periodicity of sexual cycle in mammals, (101) 464
luteum, research on function of, (92) 79—ab
Corpuscles: See Blood Cells
Corpuscles, red, as complete cells, (126) 1078
red, protection of, against hemolysis by dilute solution of formol, (45) 1689
Corrosive Sublimate: See Mercury, Bichlorid
Corset, meralgia paresthetica due to pressure of, (96) 925—ab
Corsets, good and bad, *1444
Cor triloculare biatriatum, (12) 1298
Cough during auscultation in diagnosis of pulmonary tuberculosis, *245
in pulmonary tuberculosis, treatment of, *1441
puerperal, treatment of, (24) 617
spasmodic, and spasmophilia, (147) 82
Court, physician in, (22) 695
Courts, criminal, test of insanity in, (87) 1615
Cows, city-kept, infant feeding with milk from, results of, (134) 156
fed with factory waste, inconvenience and dangers of milk from, (32) 544
Coxa vara and hip-joint disease, (82) 1863
in adolescence, pathology of, (90) 1076
question, (124) 1156
retroflexed, traumatic, (101) 79
Coxitis, tuberculous, spontaneous fractures in, (54) 1232—ab
Coyote, fox and dog, comparative analysis of urine of, (71) 697
nitrogen metabolism of, (70) 696
Cramp, player's and writer's, treatment of, (92) 1623—ab
writer's with Jacksonian epilepsy, (123) 1014
Cramps, heat, on U. S. S. Charleston, 2 cases of, (141) 381
Cranial Cavity, Cranium: See Skull
Craniotomy, exploratory, for pathologic localizations in zone of Rolando, (144) 1866
Cranium, injuries of, pathology of, (32) 455
malformations and optic nerve changes, (4) 220
Cream, separator, and separator milk, bacterial content of, (95) 1359
Creatin, creatinin and sugar in urine, color tests for, (144) 1695
Creatinin, sources of error in Folin method for estimation of, (35) 923—ab
Crepitation, pulmonary, reversible, in cardiac failure, (6) 1687—ab
Cresatin in diseases of nose, throat and ear, (117) 1361
Cresol, non-caustic, in diseases of nose, throat and ear, (117) 1361
Cresyl dyes in clinical staining technic, (96) 627
Cretinism among Jews, (113) 388
pathogenesis of, (97) 1769
Cretins, corporal proportions of, (165) 859
Criminal disregard of law in failure to report communicable disease, (69) 540
habitual, is sterilization of, justifiable? (10) 617
Criminals, juvenile, and attenuated responsibility, (81) 1429
sterilization of, (88) 1070
Crises, cerebral, transient, in arteriosclerotics, significance of, (86) 304—ab
Croup, pseudomembranous, (134) 1226
Cryptophthalmia, (48) 618
Cryptorchid, double inguinal strangulated hernia in, (163) 1296
Crystals, typical, technic of substance giving rise to, (102) 926—ab
Cubitus valgus, pathologic, dislocation of radium with, (88) 1368
Cuff, improved for dosage of constriction hyperemia and blood-pressure, (134) 786
Culicinæ from Amazon region, new genus of, (23) 1298
Cults, non-medical, what should be attitude of medical profession toward? (141) 1071
Culture medium, preparation of, from dried blood serum, (77) 1359
Cultures, anaerobic, necessity for, in obstetrics and gynecology, (154) 390
milk, pure, of lactic acid ferments, how obtained, (13) 300
Curds, hard, in infants' stools, etiology and nature of, (14) 1682—ab
Cure, fresh-air, technic for, (104) 934—ab
Curet, sinus, frontal, *1653
Curettage, indications and contraindications for, (182) 1618
Current, static wave, pendulum for interruption of, (80) 303
Cyanosis: See also Acrocyanosis
Cyanosis, chronic, and enlarged spleen, erythremia or polycythemia with, (42) 70
chronic, with polycythemia, (90) 622
Cyclophoria, (132) 305
Cylinders, cross, scientific versus method by rule for converting them into compound lenses, (150) 1423
Cylindroma, removal of orbital tumors, (138) 1148
Cystadenoma of liver, serodiagnosis of, (84) 933
ovarian, weighing 70 lbs., removal and recovery, (112) 458
supernumerary kidney seat of, (115) 1003
Cyst: See also Cysts
Cyst, bone, of ethmoid cells, (112) 1361
cerebellar, operative cure of, (161) 82
echinococcus, of liver, (111) 156
hydatid, abdominal, ruptured, practical application of symptom-complex in, (26) 383
in kidney, liver and spleen, (54) 703
mediastinal, producing compression of trachea, fatal, in infant of 9 months, (57) 1145—ab
of appendix, (46) 1856
of omentum, endotheliomatous, (42) 1856
of spleen, non-parasitic, splenectomy, (17) 377
ovarian, in Nyasaland woman, (15) 1859
Cysticercus, early changes due to invasion of eye by, (155) 1296
Cystitis and pylecystitis in infants and children, (165) 75
and urethritis, gonorrheal, in women, recognition and treatment of, (6) 537
in female, (86) 1615
Cystocele and prolapse of uterus, plastic operation for, (109) 1013—ab
in parous women, vaginofixation of retroverted uterus in cure of, (51) 1420
operative treatment of, (59) 1518—ab
pelvic fascia with relation to operation for, (109) 1147—ab
Cystoscope and radiograph shadow, (60) 1420
improved, (65) 1621
improvements in optical construction of, (11) 1143
in practice, (69) 72, (137) 699
Cystoscopic examinations, table for, (79) 1070
Cystoscopy and catheterization of double ureter, (52) 1689—ab
and urethral catheterization in young children, (136) 1148
in diagnosis of pregnancy pyelitis, (106) 1803—ab
modified, (74) 855
views of bladder portion of prostate, (56) 1861
Cystomas, lutein, retrogression of, after hydatidiform mole, (151) 551
Cystotomy, control of urinary drainage after, (118) 1003
suprapubic, device to aid in keeping patient dry after, (8) 1612—ab
suprapubic, liver abscess and abdominal cysts, improved drainage tube for, (16) 1424
suprapubic, technic of immediate closure of bladder following, (124) 74—ab
transperitoneal, for tumor of bladder, (13) 623

Cysts: See also Cyst
Cysts, abdominal, liver abscess and suprapubic cystotomy, improved drainage tube for, (16) 1424, (16) 1687
and pseudocysts of pancreas, treatment of, (28) 1859
bile, in liver, (138) 163
blood, in spleen, (140) 163
chylous, of mesentery, (49) 1683
congenital, in genital and perineal regions, (149) 467
dermoid, their metastasis, (69) 309
echinococcus, of liver in child, (20) 1515
in common bile duct, (91) 1369—ab
in kidney and cystic disease of kidney, (60) 931
in tarsal scaphoid, (71) 1366
in uterus, (37) 1516
mesenteric and retroperitoneal, of simple nature, (113) 1003
of antrum, maxillary, (64) 379
of skin, surgery of, (139) 1148
ovarian, large, (67) 847—ab
ovarian, puncture of, (58) 1518
ovarian, small, unusual complication of, (126) 1616—ab
pancreatic, (29) 1072, (104) 1303—ab
retroperitoneal, in or around ovary, (33) 929

D

Dacryocystitis, treatment of, (136) 305
Dacryocysto-rhinostomia, (126) 1514
Dana's Operation: See also Nerves, spinal, resection of
Dana's operation, (25) 846
Darier's disease, (28) 1151
Darkness and light, borderland of, (12) 69, (14) 151
Datura alba seeds, poisoning from, (60) 1001—ab
Dazed conditions, mediocolegal aspect of, (67) 228
Deaf, education of, (12) 928, (4) 1006, (15) 1072
mutes, blind and epileptics of Denmark's asylums, Wassermann reaction in, (183) 1698—ab
teaching them to understand speech by movements of lips, (145) 1695
Deafmutism and mutism from deafness, differential diagnosis between, (87) 387—ab
Deafness and diseases of ear in relation to public services and insurance, (24) 226
common forms of, (34) 1364, (15) 1424
ear, exercise of, (42) 1231—ab
progressive, (133) 1236
Death after injection of salvarsan in cardiovascular disease, (58) 1910-ab
after injection of salvarsan in paralytic dementia, (149) 164—ab
and disability resulting from childbirth, (113) 778—ab
apparent, rhythmic compression of heart in, (138) 81—ab
certificates, as viewed from postmortem room, (119) 622
following gastro-jejunostomy not due to anastomosis, (12) 1687
from continued thrombophlebitis in thrombosis postabortum of left ovarian vein, (85) 379
from ether, (129) 1235
from postanesthetic acid intoxication, (3) 928—ab
rate, high, from diphtheria in United States, (2) 1143
rate in Japanese war, (7) 1291
sudden, during delivery, (163) 552
sudden, following lumbar-puncture for diagnosis, (11) 1000
sudden, in cardio-vascular disease, (91) 1761—ab
sudden, with myocarditis in scarlet fever, (40) 545—ab
tardy, from chloroform poisoning, (85) 1012—ab
typhoid resulting in, from unusual complication with masked symptoms, (88) 457
Debility, senile, (15) 377
Decompression, advantages of, in head injuries, (67) 696
cerebral, and ocular manifestations of increased intracranial tension, (139) 1423
cerebral, indications and technic of, (88) 380—ab, (61) 1146
cerebral, of 5 years standing, (41) 1683
Decubitus, ventral, pararectal prostatectomy in, (55) 1862—ab
Defectives, sterilization of, (88) 1070
Defenses, natural, of body, (116) 1226
Deformities, acquired and congenital, tendon transplantation and tendon separation for reduction of, (66) 1857
congenital, (51) 847—ab
Deformities, function and pain, skeletal alignment and muscular balance in relation to, (47) 1614
of face, cicatricial and congenital, operative cure of, (71) 379, (114) 381
paralytic, in young adults, correction of, (131) 1423
Deformity of female genitalia, 2 uncommon forms of, (8) 1229—ab
of kidney, rare, (51) 1689
Degeneracy and heredity, (129) 1014
law of, and medicine, (4) 69
Degenerative tendencies, prophylactic suggestions in, (119) 778
Dejecta of convalescents, persistence of cholera germs in, (142) 1157
Delhi Boil: See Oriental Sore
Delirium cordis, transitory, clinical significance of, (41) 70—ab
post-typhoid, (102) 1761
tremens, medicinal treatment in 1,106 cases of, (6) 1510
Deliveries, normal, advantages of chloroform anesthesia in, (76) 783
Delivery, allowing patients to get up early after, (174) 860—ab, (88) 1520
and pregnancy, cancer of cervix-uteri complicating, (127) 389
care of pregnant women during, (81) 1146
causes starting, (138) 312
choice of, in moderately contracted pelves, (44) 1292
cholelithiasis and pregnancy, relations between, (45) 158
hospital, of maternity patients, (11) 1757
in home, raising pelvis or knee-elbow position for, (103) 1769
normal, followed by nephrectomy, (57) 1759
of first arm in podalic version or breech presentation, modification of usual technic in, (86) 380—ab
premature, and abortion, vaginal Cesarean section in, (143) 858
protracted, transient retention of nitrogen during, (34) 1426
rapid, with undilated os uteri, (55) 227—ab
spontaneous, and paroxysmal tachycardia (128) 1157—ab
sudden death during, (163) 552
suprasymphyseal, (101) 1369
suprasymphyseal, and subcutaneous symphyseotomy, (120) 466
Dementia, fatal, following cataract extraction, (59) 776
paraplegic, from chronic cortical encephalitis, *(54) 159—ab
paretica, colloid bodies in central nervous system after severe traumatism in, (66) 1146
præcox, (161) 1149
præcox, brain in, chemical studies of, (67) 1146
præcox in military services, (60) 1358
præcox make-up, hereditary and constitutional features of, (65) 539
præcox, nature and conception of, (119) 156—ab, (25) 538
præcox, pupil disturbances in, (94) 387
præcox, thyroid extract in, (14) 1904
Dengue, nature of virus of, (4) 773—ab
Denmark asylum, Wassermann reaction in, (64) 1862—ab
campaign against tuberculosis in, during last 10 years, (119) 1624
Dental arches, widening of, in nasal stenosis, results and possibilities, (90) 777
Dental caries in children, extensive, tooth extraction in, (11) 700
operations, prolonged, administration of nitrous oxid, with or without oxygen for, (13) 780
profession and public health, (139) 927
surgery, cocain in, grave and prolonged cardiac failure following, (7) 1229
Dentist and physician, (26) 1418
Dentition, premature, (80) 1301
Depilation, electrolytic, improved technic for, (124) 629—ab
Dercum's Disease: See Adiposis Dolorosa
Dermatitis among flower-pickers in Scilly Islands, (38) 158—ab
bullous, fatal, (165) 1296
chemical, from incompatible external applications, *1389
eczematoid, infectious, (141) 1005-ab
repens and acrodermatitis perstans, comparative study of, (72) 1857
toxic, unusual case of, (6) 157
vegetans, (85) 223
Dermatol, intoxication from, (99) 79
Dermatology, cold cautery in, (19) 1510
hyperemic treatment in, (29) 1859
observations in, of interest to practitioner, (80) 848
retrospect of, (23) 851
x-rays in, (103) 1076
Dermatoses, pregnancy, serotherapy of, (129) 1157—ab
Dermoids of pelvic connective tissue, (86) 1863
ovarian, (103) 627
ovarian, finer structure of ganglion cells in, (57) 1152
Desamidases, independent, 4, in nuclein fermentation, (132) 1361
Desiccation and sterilization of medicinal plants, (62) 854
vacuum, effect of, on virus of rabies, (43) 456—ab, (43) 538—ab
Development, defects in, and tumors, (110) 162
economics of, (156) 1005
physical and mental, and carpal ossification, (87) 697—ab
physical, child's, index of, (42) 307—ab
Dextrocardia, (113) 1432
Dextrose, does it arise from cellulose in digestion? (152) 1005
Diabetes insipidus, (184) 860
insipidus, differential diagnosis and treatment of, (95) 1076
Diabetes-Mellitus: See also Glycosuria
Diabetes-mellitus, (46) 152, (143) 381, (109) 465—ab
acidosis due to, (101) 785—ab, (49) 847
among negroes, (70) 303—ab
and glycosuria, (157) 390
and liver, (56) 1856
and myoma, (70) 1767
and tumors in female genitalia, (71) 463—ab
antitryptic properties of blood in, (127) 1865
carbohydrate courses in, (83) 1154, (100) 1422—ab
changes in pancreas in, (110) 785—ab
classification of, (20) 1905—ab
coma due to, and acidosis, (29) 1516—ab
desiccated liver extract in, (73) 222
dietetic treatment of, (52) 619—ab
dyspnea in, (17) 1425—ab
fatal, in 5 brothers and sisters between ages of 4 and 11, (80) 783—ab
gangrene due to, and glycosuria, surgical aspect of, (27) 226—ab, (30) 929—ab
glaucoma due to, and operation, (15) 1143
in children, traumatic, (91) 848—ab
influence of acetonuria in, (138) 707—ab
lipemia due to, (111) 311
lipogenous, (115) 1370
medicinal treatment of, (51) 619—ab
methods of study and treatment of, (71) 222
negative influence of santonin on glycosuria in, (60) 1152
pathologic and anatomic study of, (110) 1864
pregnancy, with, (143) 1695
relation of diastase in urine to, (119) 80
soy bean as food in, (38) 70—ab
speculation on, (27) 1072—ab
stomach functions in, *497
table of carbohydrate equivalents in treatment of, (100) 1422—ab
tissue changes cause of lessened resistance to infections in, (89) 1302
traumatic and renal, (99) 1302—ab
value of taka-diastase in, (104) 778
with minimal lesions in pancreas, rapidly fatal case of, (27) 544
Diagnosis, correct, importance of, (112) 622
laboratory, value and limits of, (56) 847
neurologic, making of, (46) 618
of chronic lesions, mistakes in, (18) 1682
of foot troubles, avoidance of mistakes in, (23) 538
phosphatic index as means of, (101) 542
physical, of fetus in management of shoulder presentations, importance of, (118) 542
points in, as revealed by x-ray, (79) 777
recent developments in methods of, (16) 1859
Schönlein's pioneer work in, (151) 389
surgical in diseases of upper abdomen, value of, (121) 1147
surgical, of gastric and duodenal ulcer, why practitioner should study about, *85
surgical, reflexes in, (8) 537—ab
thoughts on, (75) 1070
Diagnosis, treat only after making, (147) 1617
Diaphoresis, continuous and persistent, in acute pneumonia, (22) 701—ab
Diaphragm and circulation, (80) 1519—ab
fetal singultus from contractions of, (129) 629
hernia of, (5) 75, (60) 302
reflex, (125) 1014—ab
Diarrhea and eczema in infants, chronic, and chemical compositions of human milk, (32) 781—ab
choleraic, persistent hiccough as sequela of, (52) 77
chronic, diagnosis and treatment, (119) 926
infantile, (9) 1006, (63) 1069
infantile, pods of cesalpinia corriaria as drug and banana flour and plantain meal as food in, (81) 1422
infantile, prevention of, (117) 850-ab
infectious, (8) 845—ab
infectious, proctoscopy and sigmoidoscopy in infancy as applied to, (68) 620—ab
in infants and gas bacillus in stools, (13) 846—ab
in infants, eosinophil, (130) 1305—ab
in infants, infectious, analysis of 178 cases of, (10) 844
in infants, infectious, silver nitrate irrigations in, (9) 845—ab
summer, in infants under 2, (52) 1759—ab
summer, of infants, fermental form of, (163) 1362
Diastase and pepsin content of urine, clinical studies in, (10) 1357—ab
in urine, quantitative determination of, its relation to nephritis and diabetes, (119) 80
Diathermia, clinical importance of, (102) 464
Diatheses and dyscrasias, present conception of, (74) 1429
exudative and mountain climate, (53) 1766—ab
neuropathic, and heredity in epilepsy, (99) 223
purpuric, revealed by casual trauma, (49) 930
Diet and appendicitis, (2) 306—ab
and kitchen from chemical, physical and physiologic standpoints, (146) 467
and neurasthenia, (39) 461
elimination of uric acid in, (74) 1300
importance of regulating, in disease, (62) 1225
in acute infectious diseases, *1771
in cardiovascular and kidney disturbances, (63) 625—ab
in diabetes mellitus, (52) 619—ab
in disease of upper air passages, value of, (73) 1767
in health resorts and institutions, (141) 81
in heart disease and arteriosclerosis, (33) 846—ab
in typhoid, (18) 538—ab
influence of, on formation and healing of acute gastric ulcer, (3) 225—ab
nutrition and growth in children, (17) 300
preceding, influence of, on respiratory quotient after active digestion has ceased, (41) 618
rest and massage in neurasthenia, (41) 461
restricted rice, in acute inflammatory disease of skin, (1) 454—ab
restricted, value of, in acute inflammatory skin disease, (27) 158—ab
salt-poor, in ascites from cirrhosis-of-liver, (141) 1157
studies in institutions for tuberculous patients in Colorado, (13) 454
test, in estimating digestion, (63) 931—ab
Dietary study in National Swedish Sanatorium, Englewood, Colo., (153) 75
Digestion, active, having ceased, influence of preceding diet on respiratory quotient after, (41) 618
and absorption of raw starch, (143) 1371
determination of alkylamines obtained from urine after, (122) 1361
does dextrose arise from cellulose in? (152) 1005
leukocytosis during, and influence of sleep and waking state on leukocyte content of blood, (152) 1306
nucleus test of, (105) 311
of cellulose, (80) 309
of fat in infancy, physiology and pathology of, (35) 1068—ab
of vegetables, (73) 1154—ab
physiology and chemistry of, (165) 927

Digestion test for estimation of, (63) 931—ab
Digestive: See also Gastrointestinal
Digestive tract, upper, ulcers of, importance of thread impregnation test for recognition of, (69) 1690
Digipuratum, (126) 466
in heart disease, (105) 1360—ab
Digital phalanx, third, removal of, with formation of new joint, (103) 1686
Digitalis, action of, on isolated blood-vessel walls, (121) 549
and its allies, therapeutics of, (145) 1148—ab
in arrhythmia, (120) 549—ab
in heart-block, (17) 382
leaves, preservation of, (93) 1234
need for standardization of, (119) 1017
physiologic action and standardization of, (74) 72
reaction of heart to, when auricle is fibrillating, (3) 76—ab
tonic use of, (58) 457—ab
Dilators, mechanical, for dilatation of male urethra, (132) 1617
Diphtheria, (66) 1615
abdominal, *199
advantages of large doses of antitoxin in, (107) 548
and public health, *37
antitoxin, theory as to untoward effects of, prophylaxis in suspicious cases, (16) 220
bacilli, guinea-pig test of virulence of, (135) 1361
bacilli, tests of virulence of, *809
bacillus-carriers, (82) 621—ab, (93) 627—ab, (6) 1229
chronic, (36) 618
conjunctivitis due to, classification of, *1454
epidemic of, at Vermont industrial school, (160) 927
epidemiology of, (96) 1359
gangrene of limb during convalescence from, (9) 460—ab
high death-rate from, in United States, (2) 1143
in children, (68) 1225
in institution, (72) 1615—ab
in schools, spread of, (27) 69
nasal, (136) 156, (129) 224
of vulva in child, (10) 220
paralysis due to, (72) 303, (134) 927
paralysis of accommodation due to, (12) 694
paralysis of velum due to, electricity in, (116) 1235—ab
prophylaxis in navy, (128) 381
repeated, and postdiphtheritic paralysis, (89) 229—ab
return cases of, (113) 1370—ab, (119) 1769—ab
serotherapy of, (2) 779—ab, (74) 1368
toxin, administration of, in collodion sac, (44) 456—ab
treatment of, (48) 378, (35) 1619
unrecognized, (56) 1074—ab
Diplegias and hemiplegias of infancy and childhood, syphilitic factor in, (4) 1618—ab
Diplobacillus, Morax-Axenfeld, simple method of cultivating, *1106
Diplococcus, Gram-negative, pneumonia due to, (29) 1298—ab
Disability and death resulting from childbirth, (113) 778—ab
physical, in navy, nomenclature for causes of, (82) 1359
Disease and health, evacuating function of stomach in, (35) 1151
and health, influence of mind on, (137) 1226
communicable, failure to report on, criminal disregard of law, (69) 540
communicable, prophylaxis of, in Lyons Schools, (37) 544
general, action of ultraviolet quartz lamp light on, (108) 1076
hints on etiology of, (127) 1148
in infancy and childhood, vagaries of, (88) 154
internal, diagnostic and therapeutic importance of knee-chest position in, (49) 1861—ab
internal, radiotherapy of, (88) 1430—ab
malignant, inflammatory tumors of abdomen simulating, (64) 847
servants as carriers of, (152) 225
simulated, in persons of hysterical or neurotic temperament, (6) 851
spinal concussion, sinusoidal current and freezing in, (96) 1761
suboxidation as cause of, (105) 542
transmission of, in mines, (91) 161
treatment of, (47) 1420
tropical, board, report of, (114) 698
Diseases: See also Ailments
Diseases, communicable, relation and attitude of public to and obligation of physician in development of, (161) 75—ab
contagious, and superstitions of medical profession, (122) 381
contagious, transmission of, (152) 75
general, eye and ear troubles that pertain to, (46) 847
infectious, reportable, in French colonies, (48) 159
in Japan caused by animal parasites, (99) 229
of cardiovascular system, organic, (141) 459
of children, infectious, acute, blood in, their diagnostic value, (75) 303
skin, hyperemia in, (14) 700
tropical, present status of, (70) 545
variability of, (122) 706
Disinfectants, application of certain laws of physical chemistry in standardization of, (40) 455
coal-tar, commercial, germicidal value of, (30) 69
liquid, method for determining germicidal value and penetrating power of, (120) 1147
standardizing of, (39) 455—ab, (69) 620
Disinfection of books, carbo-gasoline method for, (44) 538—ab
quarantine and isolation, (137) 927
skin, (13) 383—ab, (37) 1073
terminal, value of, (40) 538
Dislocation of femur head, central or intrapelvic, acetabular fracture with, (95) 848
of hip, its reduction by Bigelow's method, (2) 845—ab
of hip joint, congenital, reduced by bloodless method, after-treatment of, (34) 544, (23) 1007
of hip joint, spastic, (68) 1518
of joints, mechanism of, with single axis, (76) 1075
of liver, (69) 153
of radius head, anterior, operation for treatment of, (113) 926
of radius with pathologic cubitus valgus, (88) 1368
of shoulder and elbow, prognosis of, (84) 1368—ab
of shoulder and paralysis of arm, falling of humerus associated with, (153) 1362—ab
of shoulder, traumatic, ultimate outcome of, (104) 79, (57) 931
of sixth cervical vertebra forward on seventh, (124) 850
Dispensary evil, its consequences, (41) 1224
Dissections, anatomic, preservation of, with permanent color of muscles, blood-vessels and organs, *882
Distoma pulmonale in Wisconsin, (111) 1294
Distomiasis, hepatic, in man, (5) 1514
pulmonary, (144) 550
Diuretic, calomel as, (53) 545
choice of, (1) 779—ab
Diuretics, mode of action of, (123) 549—ab
Diverticula of intestine, (62) 1615
of lower intestine, development and relation to carcinoma, (48) 775—ab
of rectum, (55) 1225—ab
sigmoid, clinical aspects and importance of, (118) 1295
Diverticulitis, acute, (47) 1683
of sigmoid, (2) 999
sigmoiditis and perisigmoiditis, (131) 1236
Diverticulum, carcinoma and obliteration of appendix, clinical and pathologic significance of, (44) 1069—ab
in esophagus, (74) 932—ab
Meckel's, (54) 924
Meckel's, in congenital inguinal hernia, (67) 463
Meckel's, intestinal obstruction from, (128) 1235
Divi-divi, (81) 1422
Dog, fox and coyote, comparative analysis of urine of, (71) 697
Dogs, metabolism of, with functionally resected small intestine, (40) 618—ab
thyroidectomized, production of glycosuria by adrenalin in, (84) 303
Doing nothing, value of, (117) 1762
Dosage to effect, (39) 1224
Douche, air, Politzer's, during deep inspiration, (135) 550
Drain, Wylie, for sterility in aged, *1190
Drainage, abdominal position for, in suprapubic prostatectomy, (101) 778—ab, (79) 924
abdominal, present status of, (72) 153
and respiration, nasal, obstructed, (47) 539
Drainage aspiration, of bladder, (175) 83—ab
in elephantiasis, (150) 467—ab
of abdominal cavity, (138) 935
of ascites into subcutaneous cellular tissues, (47) 930—ab
of bladder, suprapubic, satisfactory method of, (30) 538—ab
of peritoneum, (151) 1372
of thorax, (105) 1235
transduodenal, of hepatic duct with plastic operation on this and common bile duct, (50) 1861
tube, improved, for suprapubic cystotomy, liver abscess and abdominal cysts, (16) 1424, (16) 1687
urinary, control of, after cystotomy, (118) 1003
Drains, cotton, and cylindrical gauze in discharging ears, *262
flexible, (57) 1689
metal, for central osteitis, (49) 77
Draughts and colds, (4) 459—ab
Dreams, influence of, on waking life, (144) 1296
mechanism and interpretation of, (56, 57) 776—ab
role of, in etiology, *1373
their analysis in reference to psychotherapy, (115) 1762
Dressings, economy in, (139) 81
moist, in surgery, (139) 851
Drilling, khaki-colored and olive-drab, experiments on relative absorption of solar heat by, (47) 302
Dropsy: See also Ascites and Edema
Dropsy and heart disease, digitalis in, with fibrillation of auricles, (2) 927—ab
Drug: See also Drugs
Drug addiction, alcoholism and preventive medicine, (88) 1146
addiction, present status of, in United States, (40) 695—ab
addiction, treatment of, *503
antisepsis, internal, (106) 311
exanthemata and anaphylaxis, (57) 1856
habits in Burmah, (23) 1764
reform, (92) 925
useful, what constitutes it, shall its preparation be limited to one or two? (69) 924—ab
Drugs: See also Drug
Drugs, absorption and excretion of, (41) 1073
action of combinations of, (61) 1862—ab
and poisons, physical factors in action of, (59) 1152—ab
as stimulants in accidents during anesthesia, (86) 73—ab
besides quinin in malaria, (103) 1155
combinations of, in therapeutics, (56) 782—ab
elimination of, by diseased lungs, (134) 389—ab
hematoporphyrinuria not due to, (25) 851—ab
how far can abuse of, be prevented by law? (19) 1363
in gastric therapeutics, (107) 1422
injection of, into lumbar muscles, (6) 1067—ab
physical properties of, in syphilis, (97) 934—ab
should Pharmacopeia contain only useful and efficient ones? (68) 924—ab
Druggist and physician, *442
Drugless healing, (108) 1070
Duct, nasofrontal, accessory, of frontal sinus, (37) 1511
of steno, restoration of, (143) 936
pancreatic, acute hemorrhagic pancreatitis induced by experimental stasis in, (110) 230
pancreatic, occlusion of, importance of dosage of fats in stools as sign of, (91) 1520
Ducts, bile, congenital obliteration of, with cirrhosis-of-liver, (31) 624
Ductus arteriosus botalli, patent, (36) 221, (51) 847—ab
Dulness, application of dorsal percussion of heart in interpretation of Grocco's paravertebral triangle of, (54) 1010—ab
precordial, in heart disease in children (48) 930—ab
v. Dungern's modification and Wassermann reaction, (60) 1621
Duodenal and gastric ulcer, (1) 1223, (71) 1690
and gastric ulcer and hyperchlorhydria, treatment of, (70) 457
and gastric ulcer, perforation of, ment of, (39) 77
and gastric ulcers, perforation of, (81) 1691—ab, (32) 1855
and gastric ulcer, treatment of, (5) 157, (3) 1223
Duodenal and gastric ulcer, why practitioner should study surgical diagnosis of, *85
and gastric ulcers, surgical treatment of, (93) 458, (22) 1000
bucket, Einhorn, and modified thread test, experiences with, (3) 1510
contents in man, (101) 154
obstruction, radiography in, (7) 1858—ab
tube, (106) 849
tube for infants, (15) 1682
ulcer, (17) 226, (145) 232—ab, (92) 627 (2) 1223 (26) 1292—ab, (135) 1296, (165) 1362, (106) 1693
ulcer and disease of appendix, (11) 460
ulcer and gall-stones, differential diagnosis of, Einhorn duodenal pump, (81) 1070
ulcer, cause and relief of pain in, (7) 1510
ulcer, chronic, (70) 463—ab
ulcer, diagnosis of, (116) 388, (90) 848, (125) 850, (102) 1422
ulcer in child, perforated, (43) 307
ulcer, non-perforated, (132) 1865
ulcer, perforating, with fat necrosis, (54) 302—ab
ulcer, surgical treatment of, (126) 850
ulcer, treatment of, (148) 314—ab
Duodenitis, (10) 300
Duodenojejunostomy, *792
Duodenum and stomach, diseases of, from surgical standpoint, (76) 457—ab, (102) 458—ab, (127) 927—ab
and stomach, disorders of, (1) 1223
chronic subphrenic abscess presumably originating in, (146) 314
contusions and traumatic ruptures of, (78) 78
direct lavage of, (15) 454—ab, (119) 935—ab
distention changes in, in chronic intestinal stasis, (45) 1068
intubation of, history of, (67) 1690
stomach and large intestine radioscopic changes in, standing and lying, (33) 1765
surgery of, (59) 625
tuberculous retroperitoneal adenitis connecting by a sinus with, (7) 1756
Dupuytren's and Pott's fractures, operations for, (21) 1687
Dwarf growth, senile type of, possibly of suprarenal origin, (46) 307
pregnancy in, (117) 466
Dwarfism, (7) 305
Dwarfs, (46) 625—ab
Dyes, anilin, toxicity of, and entrance of dyes into cells, (51) 539
cresyl, in staining technic, (96) 627
entrance of, into cells, and toxicity of martius yellow and other anilin dyes, (51) 539
injurious, legislation on, (72) 1366
Dyscrasias and diatheses, present conception of, (74) 1429
Dysdiadokokinesia in chorea, (49) 1620—ab
Dysentery, amebic, (77) 309
amebic, contracted in Arctics of Alaska, (140) 851
bacillary, (7) 845—ab
bacillary, flora of, (11) 844
bacillus-carriers, healthy, (88) 229
efficacy of ipecac treatment of, (21) 1510—ab
epidemic in hospital, (102) 388—ab
in infants, vaccine therapy in prevention of, (73) 1512—ab
in monkeys, spontaneous occurrence of, (38) 1511
in Philippines due to entamœba tetragena, (86) 1002
influence of, on incidence and mortality of pulmonary tuberculosis, (37) 383—ab
institutional, (143) 1361
jail, (29) 1619
schistosomum japonicum in American child, (22) 1764
treatment of, (127) 1226—ab
Dysesthesias and pain, interpretation of, *787
dyskinesia, intermittent, of arm in sclerosis of arch of aorta, (50) 1765
Dysmenorrhea, (115) 156
metranoikter in, (106) 542
pathology and etiology of, (26) 221
resection of spermatic plexus for relief of, *1104
treatment of, (87) 1520—ab
Dyspepsia: See also Indigestion
Dyspepsia and gastritis, (39) 158
appendicular, and treatment of diffuse peritonitis, (11) 1687—ab
appendix, (28) 701
from surgical standpoint, (89) 1293
nervous, of Leube, or neurasthenia gastrica, (65) 1421, (112) 1514

Dyspepsia, of old age, (62) 457—ab
surgical, especially appendix dyspepsia, (28) 701
Dyspnea in nephritis and diabetes mellitus, (17) 1425—ab
Dystocia: See also Labor
Dystocia and kidney displacements, (70) 379
due to ventrofixation of uterus, Cesarean section for, (4) 623—ab
kidney displacements, congenital and acquired, as etiologic factors in, (28) 455—ab
peculiar case of, (126) 1071
Dystrophia adiposa genitalis or hyposecretion of hypophysis cerebri, (67) 776
Dystrophies, syphilitic in origin, (133) 1148

E

Ear: See also Ears
and eye troubles that pertain to general diseases, (46) 847
and nasal passages, syphilis of, (134) 927
and throat department of Royal Infirmary, Edinburgh, reports for 1909 from, (31) 1008
apparatus, clinical pathology of, (87) 1154
brain abscess originating in, operative procedure for, (169) 1149
conditions in syphilitics after administration of salvarsan, (106) 628—ab
curative action and by-effects of salvarsan on, (58) 1621—ab
defect, embryologic study of, (47) 227
disease and deafness in relation to public services and insurance, (10) 75
disease, prevention of, (7) 69
diseases and deafness in relation to public services and insurance, (24) 226
diseases, mechanotherapy in, (67) 1225
diseases, non-caustic cresol in, (117) 1361
exercise in deafness, (42) 1231—ab
external canal of, modified aural speculum for incision of, (101) 458
eye, nose and throat, diseases of accessory sinuses with reference to, (151) 1362
foreign bodies in, (114) 156
gunshot wound of, (134) 927
instrumental re-education of, (73) 1300
internal, disease of, vestibular nerve symptoms in, (79) 463
internal, electric investigation in vertigo from disease of, (70) 1622—ab
internal, in light of recent investigations, (16) 1418
internal, syphilis of, (102) 1235—ab, (09) 1512
lesions, influenzal, (73) 1910—ab
meningitis of, and temporosphenoidal abscess, operation for, recovery, (32) 1357
middle, affections, capsulated bacteria in production of, (94) 777
middle, and sinus disease, vacuum-pump for, *811
middle, care of after radical operation on, (117) 1769
middle, catarrh and irritation of mucous membranes throughout body, connection between, (7) 75
middle, disease, extensive venous infection complicating thoracic empyema, recovery, (6) 1618
Middle, Inflammation of: See Otitis Media
middle, wire saw in radical operation on, (32) 1008
necrosing mastoid without involvement of, (108) 1361
Pain in: See Earache
pedunculated exostosis of external auditory meatus of, *1555
plastics during and after operations on, (143) 81
possible effect of salvarsan on auditory labyrinth of, (2) 921—ab
reflex disturbances referable to, (11) 537—ab
region, compression of, for relief of disturbances in swallowing, (120) 1432—ab
specialist, diagnostic significance of headache to, (92) 73
syphilis of, (94) 1623
tuberculosis of, in children, (11) 75
Earache, treatment of, (88) 783
Ears, common causes of discharge from, treatment of, (5) 225
discharging, use of cylindrical gauze and cotton drains in, *262
Ears, diseases of, plasma cells in, (108) 1864
diseases of, suppurative, chronic, bismuth paste in, (55) 71
Eating, rapid, cause of stomach disease, (121) 1235—ab
Echinococcus cyst, abdominal, ruptured, practical application of symptom-complex in (26) 383
cyst of liver, (111) 156, (47) 1144, (20) 1515
cysts, mediastinal, (35) 1299
cysts of lung, (31, 32, 33, 34) 1299
cysts? supposed case of ascites, (122) 1295—ab
disease, experimental inoculation with, (88) 1075
disease of bones, (62) 545
disease of liver, serodiagnosis of, (28) 544
disease of liver, suppurating, diagnosis of, (43) 1231—ab
disease of spleen, (110) 1432—ab
disease of muscles and skin, (103) 1234
disease, serodiagnosis of, (51) 702
disease, serodiagnosis of, source of error in, (60) 1909
Echis carinatal, fatal snake-bite by, (58) 77
Eclampsia, (96) 1234, (34) 1688
and hemorrhage, emergencies of, (130) 305
and Wassermann reaction, (156) 551
atypical, and pregnancy liver, (70) 309—ab
decapsulation of kidneys in, (131) 1371—ab
due to anaphylaxis, no evidence from experimental research on, (160) 1696
etiology of, *11, (109) 1235—ab
excising breasts in, (102) 1769
in 6th month of pregnancy with hydatidiform mole without fetus, (127) 1157
like syndrome, fatal, at term, with primary melanosarcomas in ovaries and multiple carcinomas in liver and metastasis in placenta, (56) 1010
mothers with, should they nurse their infants? (113) 304—ab, (61) 620—ab, (70) 1075—ab
multiple pregnancy with, (24) 846
or puerperal convulsions, (14) 623—ab
possibly anaphylaxis from fetal albumin, (72) 309—ab
puerperal, (16) 617—ab, (115) 622, (84) 777, (44) 781
puerperal, compared with venom poison, treatment of, (2) 623—ab
puerperal, decapsulation of kidney in, (131) 629
puerperal, due to abstraction of calcium salts from mother's blood by fetus, (58) 1292—ab
puerperal, treatment of, *115, (43) 781
surgical treatment of, *13
toxin, mammary gland as source of, (114) 230—ab, (161) 552
treatment of, *5, (28) 307—ab, (35) 455, (84) 855—ab, (55) 1292—ab, (64) 1420,
treatment of, by method of Stroganoff, (94) 784—ab
vaginal Cesarean section in, *1, *16, (155) 390—ab
value of Cesarean section in, (98) 1857
Economics of development, (156) 1005
social, and public health, (32) 69
Eczema and diarrhea in infants, chronic and chemical compositions of human milk, (32) 781—ab
diagnosis and treatment of (94) 1857
in children, after-history of, (108) 548—ab
in infants, (56) 854—ab
Edema, localized, in lumbar region following use of salvarsan, *344
of glottis, (138) 157
of lungs, diffuse, acute, (29) 1144—ab
of prostate, (124) 381
peripheral, chronic, (51) 847—ab
pulmonary, acute, (140) 459
pulmonary localized or tuberculous, (34) 1765—ab
pulmonary, paroxysmal or acute, (7) 1905
pulmonary, paroxysmal, treatment of, (56) 456—ab
pulmonary, vaginal Cesarean section for fulminating, (130) 629—ab
Education and nervousness, (153) 225
committee, report by, presented to general medical council, (7) 382
in social and sexual hygiene, (107) 1762
Medical: See Medical Education
of deaf, (12) 928, (4) 1006, (15) 1072
Education of mothers, 3 years experience of babies' dispensary and hospital of Cleveland in, (113) 224—ab
of specialist in laryngology, rhinology and otology, (23) 226
of very young deaf child, (35) 158
public, and medical organization, (88) 73
public, in physiology and hygiene, responsibility of physician for, (117) 224—ab
Educational principles involved in combined course in arts and medicine, (24) 923
Educator, physician as, (128) 1071
Effusion, pleural, and other pathologic accumulation of fluids, blowing out of, instead of aspirating them, (122) 312—ab
pleural, right-sided, mechanical effects of, (4) 700—ab
recurring, with neuralgia of joints, (155) 82—ab
Effusions, bactericidal properties of, (86) 546
pleural, chronic, surgical treatment of, (30) 781
pleural, diagnosis and treatment of, (34) 1292
pleural, in infancy, diagnosis of, (62) 620—ab
pleural, modification of Holmgren's method for forcing out instead of aspirating, (55) 1232—ab
tuberculous, antitoxic action of, (165) 552
Egg-white and inactive serum, interference of, in phenomenon of complement fixation, (35) 377
Eggs, (7) 151—ab
Egyptian holy man, (19) 1150
Elastic bag and version, combined, in placenta prævia, (121) 389
pressure and elastic traction in surgery, (1) 75—ab
tissue stain, differential, improved, *1326
Elbow and shoulder dislocation, prognosis of, (84) 1368—ab
fractures of, (9) 1613
sign of scarlet fever, (60) 854—ab
stiff, plastic method for mobilization of, (126) 857
Electric currents, cause of therapeutic action of, (139) 467
currents, certain physiologic action of, (95) 542, (124) 926
thermopenetration, experimental study of, (81) 1011
Electricity: See also High-Frequency
Electricity, accidents due to, (102) 229—ab
and massage for infantile paralysis, (62) 1292
and nervous system, (114) 1423
Cauterization by: See Electrocautery
high-potential, in therapeutics, (64) 1512
in chronic disorders of stomach, (2) 537—ab
in diagnosis and treatment of disease (102) 74
in epithelioma of vulva, *886
in gout, (78) 303
in intestinal obstruction and postoperative paralysis of bowel, *958
in meatus urinarius, *886
in neurasthenia, (42) 461, (5) 851
in poliomyelitis, (91) 1147
in post-diphtheritic paralysis of velum, (116) 1235—ab
in tabes dorsalis, (88) 229
injuries due to, pathology and treatment of, (10) 780—ab
recovery of vision under, after blindness from wood alcohol, (93) 1857
resuscitation by, after heart failure under chloroform or electrocution, *478
value of, in abdominal diseases, (21) 544
Electrocardiogram, (48) 1909
and movements of heart, (67) 160
and registration of auricle pulsation within esophagus, comparative study of, (134) 935
relation of heart sounds and murmurs to, (134) 81
significance of, (1) 537—ab
with displacement of heart, (72) 546
Electrocardiography, present status of, (29) 1230
Electrocution or chloroform, heart failure under, electric analgesia and electric resuscitation after, *478
Electro-ionization in chronic gonorrheal urethritis, (56) 1621
Electrolysis in indolent ulcers and fistulas of cornea, (141) 305
Electrotherapy and radiotherapy of cancer and palliative operations, (69) 228
present status of, (70) 540
Elephantiasis, autodrainage for, (150) 467—ab
due to streptococcus erysipelatus associated, with b. prodigiosus (13) 1854
etiology of, (21) 1150
of eyelids, (145) 1423
Elephants tusks, diseases of, and billiard balls, (27) 76
Elimination, cutaneous, of nitrogen, sulphur and phosphorus, (36) 924—ab
importance of, (118) 850
Emboli, origin of, and asepsis in laparotomies, (154) 467
septic, following acute mastoiditis, (81) 1293
Embolism and thrombosis of mesenteric blood vessels, (35) 1357
and thrombosis of pulmonary artery, (16) 1291
and thrombosis, puerperal and postoperative, premonitory symptoms of, (113) 549—ab
and thrombosis, pulmonary, from obstetric standpoint, (98) 1615
cerebral, symptoms of, (75) 704—ab
fat, cerebral, and railway accidents, (8) 1515—ab
fat, prevention and treatment of, (77) 386—ab
fat, with punctate hemorrhages in skin, (127) 1014—ab
Embolus, air, during operation under air-inflation urethroscopy, *419
Embryo, pathology of, and abortion, (45) 781
tumor implantations in development of, *741
Embryology and obstetrics in ancient Hebrew literature, (3) 1612
Emergencies, surgical, and emergency surgery, (37) 455
Emotion and action, clinical aspects of, (8) 780
psychology and pathology of, (113) 1156
Emotions, inhibiting influence of, on gastric secretion, (88) 464—ab
Emphysema, intestinal, (127) 935
mediastinal, prevention and treatment of, (147) 1306
of lungs and wind instruments, (74) 1691—ab
reciprocal relations of lung and chest to, (38) 1908
spontaneous pneumothorax with, (56) 159
subcutaneous, in new-born, (31) 852-ab
surgical, subcutaneous, (52) 71
ventilation of lungs with, (97) 1692
Employers liability under workmen's compensation act, 1906, (22) 1072
Empyema, (28) 929, (58) 1225
bilateral, and pneumococcemia, recovery, *738
chronic, technic and indications for decortication of lung for, according to Delorme, (23) 1907
in children, 86 cases of, (56) 1145
necessitatis, rare manifestation of, *1327
of antrum maxillary, symptomatology, pathology and treatment, (108) 542
of ureter, (117) 1004—ab
rib resection for, (123) 1071
surgical treatment of, without complicating apparatus, (49) 1420
thoracic, (6) 1618
thoracic, bismuth paste in, (110) 458
thoracic, treatment of, (67) 1233—ab
Emulsine and cellase, individuality of, (41) 624
Emulsions, bacterial, influence of, on phagocytosis, (29) 1687
Encephalitis, acute, and cerebral thrombosis, (140) 1371—ab
and spastic paralysis, epidemic poliomyelitis from, and cerebrospinal meningitis, (52) 853—ab
cortical, chronic, paraplegic dementia from, (54) 159—ab
Encephalopathy, curable, Sydenham's chorea as, (132) 706
Endaortitis, tuberculous, acute, (21) 923—ab
Endo-aneurysmorrhaphy, (47) 77, *1188
Endocarditis, (115) 1071
and rheumatism, influence of glandular pharyngeal tissue in causation of, (144) 927
due to bacillus influenza, (109) 1864
epidemic, (140) 1305—ab
experimental, (122) 1013
gonococcus, (50) 930
malignant, (28) 383, (43) 1073
malignant, vaccine therapy of, (46) 1073

Endocarditis, malignant with recovery, (167) 75
recurring, subacute patches of myelitis with, (58) 1428—ab
with acute rheumatism, history of, (52) 159
Endometritis (62) 1010
septic, treatment of, (14) 454
vaginal hysterectomy for, (4) 1858—ab
Endometrium, infections of, *169
Endoscopy, direct, importance of, in general medical practice, (65) 696, (25) 1144
Endothelioma at base of brain, producing symptoms of acromegaly, (12) 1906—ab
of great omentum, primary, *1871
of ovary with involvement of ileocecal junction, (82) 777
of prefrontal dura mater and cerebellar tumor, *1180
of stomach, (118) 1624—ab
Endotin, unfavorable experience with, (90) 855
Enemas, hot, for sluggish intestinal functioning (105) 1694—ab
rectal, of normal saline solution, simple drop method of giving, *1097
Energometry, (145) 389—ab
Engineers, physicians and other specialists in public health work, proper correlation of, (39) 538
Enophthalmus, traumatic, (156) 1296
Entamœba tetragena as cause of dysentery in Philippine Islands, (86) 1002
Enteritis: See also Typhoid
Enteritis from trichocephalus dispar, *743
membranous, in typhoid, (81) 310
Entero-anastomosis, continuous suture for, (84) 1520—ab
Enteroclysis apparatus, inexpensive, efficient, (75) 847
Enterocolitis in adult, diagnosis and treatment of, (96) 380
Enterolith, intestinal obstruction due to, spontaneously cured by evacuation through umbilical fistula, (37) 77—ab
Entrance examinations to medical schools, *1541
requirements and state boards, (121) 224—ab
Enucleation, extirpation of tonsil by, partly instrumental, partly digital, (4) 1290
Enuresis, etiology and treatment of, (100) 698—ab
from thyroid insufficiency, (137) 459—ab
Enzymes, action of hydrogen dioxid on, (78) 783
proteolytic, and anti-enzymes of blood serum, changes in, produced by substances which cause degenerative changes in liver, (39) 377
Eosinophil cells in sputum in asthma, (109) 1431
count, (116) 162
diarrhea in infants, (130) 1305—ab
Eosinophilia and anaphylaxis, (7) 220
in scabies, (74) 1857—ab
Eosinuria, (18) 1763
Ependymitis, subacute, with hydrocephalus and lesions suggesting syringomyelia, (53) 931
Epidemiologic work, routine, local, plan for establishment of, in Minnesota, (79) 1422
Epidemiology, typhoid, changes in views concerning, (103) 856
Epididymitis, gonorrheal, acute, (116) 1858
gonorrheal, acute, treatment of, (78) 924
gonorrheal, surgical treatment of, (15) 537
Epidural injections in sciatica, (96) 1012—ab
Epigastrium, venous hum in, in cirrhosis-of-liver, (89) 848—ab
Epilepsy, (17) 1619
and alcohol, (50) 1758
and tetany, alternating, (157) 1696
flexure of sigmoid as causative factor in, (109) 74—ab
in children, early signs of, (85) 387-ab
Jacksonian, traumatic, (81) 1002
Jacksonian, writer's cramp with, (123) 1014
medicolegal diagnosis of, (100) 1155
neuropathic diathesis and heredity, (99) 223
psychogenetic convulsions simulating, (9) 1357—ab
signs of organic lesions in, (145) 1866—ab
traumatic, and traumatic insanity, (140) 1148
Epileptic colony, (153) 381
Epileptics, care and treatment of, (79) 457—ab
Epileptics, deaf mutes and blind of Denmark's asylums, Wassermann reaction in, (183) 1698—ab
Epileptiform attacks and psychosis, chronic tetany with, (98) 856
Epinephrin: See also Adrenalin
Epinephrin, action and dosage of, in subcutaneous injection, (97) 387
action of in kidney disease and health, experimental research on, (95) 1302
action of, on unicellular organisms, (101) 1013
glycosuria, pancreatic extract in, (98) 705—ab
inhalation of, in acute catarrh of upper respiratory tract, (85) 933
in operations on skull and spine, (79) 386
in treatment of osteomalacia, (45) 1231
lesions of blood-vessels and other organs, (147) 1866
stimulating and coagulating action of, (90) 705
tetany after injection of in osteomalacia, (98) 1769
vasoconstriction, mechanism of, (160) 390
Epiphanin reaction in serodiagnosis of syphilis, (74) 228—ab, (66) 704
Epiphysis of lower end of femur, overgrowth of, with obliteration of epiphyseal line, (3) 617
separation of, and fracture of neck of femur in young (92) 1368
Epiphysitis, (138) 851
of hip, acute, (35) 152—ab
Epistaxis, prolonged, with increased vascular tension, (38) 846
Epithelial defects, large, radiotherapy of, (96) 705
Epitheliation of granulating surfaces, scarlet red and amidoazotoluol for stimulation of, (52) 1684—ab
Epithelioma of larynx, (31) 455
of upper lip in pure negro, (71) 1867—ab
of vulva, electricity in, *886
of vulva, ionic surgery and plastic operations in, *866
superficial, spontaneous retrogression of, (81) 1075—ab
thorium paste in, (97) 1422
Epitheliomas, non-malignant, mitosis with, (153) 1696
of breast, cystic, (20) 1907
Epithelium and tumors of cerebral ventricles, (116) 1864
development in vaginal portion of uterus, (87) 79
gastric, metaplasia of, (114) 785
intestinal, of new-born infants, behavior of, (55) 1010
metaplasia of, (125) 1370
rectal tumor from non-malignant transformation of, (73) 1075
Eponyms, surgical, (108) 458, (109) 1686
Epulides, congenital, (58) 1420
Eras, geological, tropical and glacial, (97) 161
Erb's disease, childbirth in, (169) 1697—ab
Ergot, (101) 1076
Ergotin, (44) 775
Erosions and pseudo-erosions of vaginal portion of uterus, (88) 79
Error, sources of, in Folin method for estimation of creatinin, (35) 924-ab
Erythemata and lesions of joints, nature of connection between, (4) 1906—ab
Eruption, cutaneous, anomalous, (28) 1426—ab
papular, itching, chronic, of axilla, pubes and breast, *174
toxic, with bronchiectasia, (51) 545
Erysipelas, (74) 1615
local applications of iodin in, (156) 1372—ab
magnesium sulphate in, (15) 701—ab
of larynx, (114) 1361
streptococcus bacterins in, (66) 379
Erythema multiforme iris during typhoid, (20) 923—ab
modosum after measles, (5) 1424—ab
polymorphous, in tuberculous patients, (143) 1157
primary, x-ray, (105) 1303
Erythremia with enlarged spleen and chronic cyanosis, (42) 70
with unusual features, (8) 1291—ab
Erythrodermia, desquamating, (90) 1155
Erythromelalgia, (42) 227
Eserin, action of, on eye, (37) 1619
and atropin, action of, on ciliary muscle and iris, (158) 1296
Escherich, T., work of, (94) 1431
Esophageal and bronchoscopic cases, (45) 378
Esophagoplication and thoracotomy for impermeable cardiospasm, *1437
Esophagoscope in removing sharp foreign bodies from esophagus, *634
Esophagoscopy, (122) 542, *560
and bronchoscopy, (132) 1004
and bronchoscopy for removal of foreign bodies, (40) 378
and tracheobronchoscopy, mishaps in, (54) 71
retrograde, with stenosis, (115) 79
Esophagostomum apiostomum as internal parasite of man in Nigeria, (41) 1619
Esophagus, atony of, (149) 1371
cancer of, excision of, (6) 382—ab
cancer of, fenestrated sound for diagnosis of, (167) 82
cicatricial stenosis of, due to cardiospasm, (48) 781
direct examination of, (16) 306
diverticulum in, (74) 932—ab
foreign bodies in, (141) 231—ab, (23) 377
non-malignant strictures of, gastrostomy as curative measure per se in, (110) 1003
or larynx, resection of, (99) 784
registration of auricle pulsation within, and electrocardiogram, comparative study of, (134) 935
sharp foreign bodies in, esophagoscope for removal of, *634
spasm of, (71) 1300
stenosis of lower end of, (115) 698—ab
stenosis of, retrograde, (115) 79
strictures in, broad button probe for diagnosis of, (63) 1232
technic of examination of lesions of, *560
Ether accident, fatal, (129) 1235
action of, on anaerobic tissue, (53) 539—ab
administration, A-B-C of, (40) 1613
and air, anesthesia by intratracheal insufflation of, (46) 775—ab
and chloroform, (156) 225
and chloroform, administration of, *1312
and chloroform anesthesia, behavior of blood-pressure in, special reference to shock, (29) 781
and chloroform, comparison of dangers of, in eclampsia, *5
and chloroform, indication and contraindication for, (83) 1615
and chloroform, postoperative nausea and vomiting from, open air treatment of, (83) 1293—ab
and chloroform vapor, apparatus for administration of, (144) 225
and ether anesthesia, influence of, on bacteriolysis, agglutination and phagocystosis, (116) 1147—ab
and intratracheal insufflation, control of strychnin poisoning by, (51) 1427—ab
anesthesia, (126) 1004
anesthesia, cooling of inhaled air in, (82) 1011—ab
anesthesia, primary, major operations under, (126) 163—ab
control of strychnin poisoning by, (25) 1224—ab
Wassermann reaction with serum from patients under influence of, (118) 1769—ab
Ethics: See also Medical Ethics
Ethics and organization, medical, (69) 1615
medical, from viewpoint of layman, (84) 1615
Ethmoid cells, bone cyst of, (112) 1361
region, anterior, and diseases of eyes, (93) 1686
Ethmoiditis, (171) 1296
non-suppurative, (98) 458, (133) 1004
suppurative, fatal meningeal and cerebral complications of, (160) 1362
Ethyl chlorid anaesthesia, open, for minor operations, (27) 1298
chlorid general anesthesia, brief, (76) 546
Eucalyptus oil poisoning, (7) 851—ab
Eugenics and vasectomy, (36) 455, (129) 1004
limits of, (116) 224—ab
Eustachian catheter, possible abuse of, (24) 774
tubes and nasopharynx, speculum for direct examination and treatment of, (118) 1361
Evil, social, its prevalence and results, (154) 1617
Evolution and science in medicine, (98) 1293
medical, an interpretation, (90) 1615
Examination, vagino-abdominal, method of teaching, (26) 618—ab
Examinations, practical, by state boards of registration in medicine, need of, (117) 926
Examine, when to, and what to look for, (23) 1072
Exanthem, pustulous, acute, in Brazil, (157) 858
Exanthemata, (1) 1905—ab
acute, ocular complications of, (140) 1423
Excitement, clinical aspects of some varieties of, (10) 1229
emotional, stimulation of adrenal secretion by, *742
Exercise, effects of on pulse pressure and pulse rate, (151) 1005—ab
rest and food in tuberculosis, (10) 151
Exercises in repose, (96) 784—ab
Exfoliation of bony tympanic wall including major portion of semicircular canals, (50) 71
Exhaustion and fatigue in fireroom, (142) 381
Exophthalmic-goiter, (24) 152—ab, *637, (112) 778, (18) 1418, (79) 1622—ab
advantages of early operation in, (80) 1622
differential diagnosis of, (84) 784—ab
incomplete forms of, (157) 1372
influence of, on growth and ossification, (178) 84—ab
iodin in, (97) 1076—ab, (61) 1153—ab
paralysis of cerebral nerves in, (89) 1012—ab
persisting thymus with, (94) 79—ab
removal of faucial tonsils followed by, (9) 69
specific antiserum in, *263
surgical treatment of, (84) 925
symptoms and treatment of, (121) 381—ab
thymectomy in, (89) 1076—ab
thyroid grafting and surgical treatment of, (4) 225
thyroidectin in, *1176
treatment and prognosis of, (31) 76
treatment of, (135) 467—ab
Exophthalmos, experimental chronic nephritis with, in rabbit, (75) 540—ab
pulsating, due to aneurysm of internal carotid, *1552
pulsating, traumatic, cured by orbital operation, (112) 1432
Exostoses of os calcis, (73) 1421
Exostosis and talalgia, (139) 706
pedunculated, of external auditory meatus, operation for, *1555
Expert Testimony: See Medical Expert and Testimony
Extension, nail, in fractures, (87) 546
Extract, pancreatic, in epinephrin glycosuria, (98) 705—ab
Extraperitonization of inflammatory foci, technic for, (53) 1862—ab
Extremities: See also Arm and Leg
Extremities, fractures of, management of, (52) 153
septic infections of, prevention and treatment of, (59) 539—ab, (82) 1070, (86) 1513—ab
Exudate, inflammatory, and scar tissue, neuralgia pain in distribution of nerves pressed on by, (74) 308
peritoneal, isolation of bacillus lactis aerogenes in pure culture from, (113) 1294
Exudates and transudates, serous, of patient, therapeutic use of, (90) 1225
non-inflammatory, in aqueous humor, (138) 305
Exudative diathesis, metabolism of infants with, (105) 548
Eye: See also Eyes, and Eyeball
Eye, action of arylarsonates on, (39) 1068
action of eserin on, (37) 1619
action of salvarsan on, (135) 81, (90) 387—ab, (129) 1514
affections in cardiovascular disease, (108) 156
affections in congenital syphilis, (58) 1512, (99) 1513
and ear troubles that pertain to general diseases, (46) 847
and nasal sinuses, (89) 698
and nervous system, relation between, (145) 1005
and throat, hygiene of, (28) 377
blood extravasation into sclera of, from indirect violence, (7) 1143
cases, surgical, (82) 1293
complications of measles, (79) 1685
conditions in medical cases, (9) 1514
convergent strabismus of, (102) 698
disease and chemistry of metabolism, (138) 1423
disease, local features in, (25) 1298
disease, rheumatic, (38) 1683—ab, (64) 1759
disease, syphilitic, salvarsan in, (73) 228, (95) 229, (45) 1517—ab

Eye diseases and nasal accessory sinuses, anatomic and clinical relation between, (18) 1905
diseases, influence of pregnancy on, (9) 1904—ab
diseases, scarlet red used in, (124) 778
disturbances after salvarsan, (81) 1368—ab
disturbances in dementia præcox, (94) 387
disturbances in pregnancy, (32) 1230-ab
ear, nose and throat, diseases of accessory sinuses with reference to, (151) 1362
ear, nose and throat work, emergency cases in, suggestions for their care by practitioners, (28) 1067
early signs of syphilis in, (57) 1512
excretion of hexamethylenamin into anterior chamber of, (104) 1226
findings in fundus of, in congenital syphilis, (107) 1303—ab
foreign bodies in, (40) 1068, (159) 1149
foreign bodies in, technic for localization of, and their extraction, (128) 1014
foreign body in, unusual case of, (64) 776—ab
foreign body in, x-ray failed to locate it, (105) 1226
headache due to, relief for, (37) 1144
hemorrhages, tuberculosis in etiology of, (105) 1076
industrial accidents involving, difficulty in estimating extent of injury in, (68) 1300
injured, first aid to, (163) 927
injury of, (92) 464—ab
injury to, from burns, scalds and chemicals, (90) 698
in sport, (2) 225
invasion of, by cysticercus, early changes due to, (155) 1296
malarial manifestations in, (55) 847
manifestations of acute exanthemata, (140) 1423
manifestations of arteriosclerosis and their diagnostic and prognostic significance, (132) 851
manifestations of peripheral affections of fifth cranial nerve, (21) 1682
mixed irregular astigmatism following injury to, (110) 1226
morbid changes in, and arterial hypertension, (107) 1147—ab
morbid changes in, and arterial hypertension, (87) 1686
muscles, imbalance of, (104) 1147
muscles, paralysis of, after salvarsan, (99) 464
native gunpowder injuries of, (24) 1230
new method of examination of, for double images, (160) 1296
paralysis of, conjugate, multiple sclerosis with, (182) 1698
pressure and blood-pressure in elderly, (147) 314
principal diseases of, treatment of, (90) 1070
refraction of, and practitioner, (87) 457
simple clinical method for measuring diameter of pupil of, (25) 69
specialist, diagnostic significance of headache to, (91) 73
strain, aftermath of, (17) 157
strain and general health, (13) 851
strain and neurasthenia, (29) 461
strain, disturbances dependent on, (9) 537
strain, life of intense suffering and unrealized aims due to, (70) 72
symptoms, common, what they indicate, (137) 851
symptoms in multiple sclerosis, (125) 224—ab
symptoms of infantile scurvy, (144) 1423
symptoms, rare, brain abscess with, (99) 777
tension of, in vertebrates, influence of accommodation on, (157) 1296
troubles, minor, (118) 1226
tuberculosis, treatment of, (88) 1686
tuberculosis, vaccine therapy and serotherapy in, (146) 305
tunics, chronic low-grade inflammation of, influence on errors of refraction, (168) 1149
ulcer of, zinc ions in local treatment of, (134) 857
what practitioner should know of, (181) 1618
work, untilled field in, (175) 1296
Eyeball, rupture of glaucomatous, (17) 69
injuries of, (78) 626, (61) 776, (110) 778
restoration of contracted sockets after enucleation of, advantages of Thiersch's skin graft over other methods of treatment, (142) 1423
Eyeglasses, telescope, (95) 1686
Eyelid, xanthoma of, (87) 223
Eyelids, elephantiasis of, (145) 1423
Eyes, adjustments of, and nervous affections, (3) 220, (7) 1223, (168) 1618—ab, (97) 1686
and nose, inter-relationship between, (39) 1420
common diseases of, (12) 1362
Crossed: See Strabismus
diseases of, and anterior ethmoid region, (93) 1686
effect of sinus inflammation on, (97) 304
inflamed, discoloration of, by fluorescein taken internally, (99) 1370—ab
nervous affections and adjustments of, (11) 454—ab
protection of, in glass-works, (131) 1078
which are usually removed, method of preserving, (139) 459—ab

F

Face and jaws, development of, and teeth, *473
burns of, severe, plastic operation after, (60) 77
cancer of, (27) 1419
deformities of, cicatricial and congenital, operative cure of, (71) 379, (114) 381
effect of readjustment of maxillary bones on development of, (89) 777
expression of, and posture of disease, (90) 1422
malformation of, and acute infectious diseases, frequent etiologic factor common to, (129) 698
paralysis of, (106) 1513
tetanus of, (15) 1229
Fallopian-tube and left broad ligament, torsion of, in child, (13) 460
atresia and torsion of, (83) 855
or ovary, incarceration of, in hernia in infants, (94) 1368
right, carcinoma of, readily palpable through abdomen, (54) 378
rudimentary, and normally developed uterus, absence of one ovary with, (141) 858
sterilization of, (123) 163, (102) 1431—ab
torsion of, as factor in etiology of hematosalpinx, (27) 307—ab, (19) 928
tuberculosis of, (112) 1423
tuberculous, adenomyoma in, (22) 928
Fallopian-tubes and appendix, reciprocal relations between inflammatory processes in, (164) 859
and menstruation, absence of, and recurrent peritonitis, (5) 622
and ovaries, autonomic manifestation and peripheral control of pain originating in, *861
and ovaries, conservative surgery of, (45) 1292
and ovaries, importance of removing uterus in certain diseased conditions of, (10) 460
and ovaries, inflammatory processes in, (68) 309
and ovaries, tuberculosis of, (48) 1231—ab, (55) 1420
conservatism in operations on, (131) 157—ab
lactation after removal of, (32) 1151
ovaries and bladder, tuberculosis of, (55) 1420
ovaries or pelvic connective tissue, inflammatory disease of, operative treatment of, (33) 1516—ab
Fascia, bridging gap in urethra with flap of, (80) 1863
flap to close defect in trachea, (78) 1767
transplantation of, (65) 1862
Fasciculus occipito-frontalis and tapetum, anatomic study of, (121) 850—ab
Fasciolopsis buski in Natal, (25) 158
Fat content of tuberculous foci, (127) 1370
digestion of, in infancy, physiology and pathology of, (35) 1068—ab
droplets of, in placenta, (44) 1231
embolism, prevention and treatment of, (77) 386—ab
embolism with punctate hemorrhages in skin, (127) 1014—ab
in food, importance of carbohydrates with, (150) 82
necrosis, perforating duodenal ulcer with, (54) 302—ab
pendulous, resection of, from abdominal wall and laparotomy for other conditions, (61) 1512
tissue surrounding kidney, prolapse of, (80) 1075
Fatalism and anthrax, (5) 1362
Fatality after injection of salvarsan in paralytic dementia, (149) 164—ab
powder smoke, unusual, (87) 1359—ab
Father and mother, transmission of anaphylaxis from, to child, (101) 161
rights of, over his children, (44) 1365—ab
Fatigue and exhaustion in fireroom, (142) 381
kidney, experimental research on, (129) 1865
Fats and lipoids in animal tissue, (2) 773, (6) 1223, (6) 1357, (167) 1617
and lipoids in rhinoscleroma, (25) 1000
and oils given subcutaneously, utilization of, (9) 1757—ab
feeding of, to infants, difficulties encountered, 329
importance of dosage of, in stools as sign of occlusion of pancreatic duct, (91) 1520
Favus, (68) 1512
Fear, as manifested in psychoses, its bearing on treatment, (93) 303
Fears and obsessions in relation to genesis of hysterical states in childhood, (30) 852
Febrile Diseases: See Fevers
Feces continence, restoration of, after iliac colostomy, (50) 775—ab
dosage of amylase in, in diagnosis of pancreatic functioning, (36) 1151
examination of, for ova of intestinal parasites, (31) 1619
infant, bacterial content of, (103) 706
of 40 cattle, examination of, for tubercle bacilli, conclusions therefrom, (72) 540—ab
Feeble-mindedness, (165) 1149
prevention of, (72) 1002—ab
Feeding, forced, importance of phosphorus in courses of, (73) 1233
in gastric ulcer, (26) 846
in typhoid, (112) 1616—ab
protein, split, (48) 1292
Fees: See Medical Fees
Feet, (153) 927
defective, unusual manifestations of, (99) 698—ab
painful affections of, (85) 777—ab
painful, treatment of, (76) 379—ab
weak and relaxed, diagnosis and treatment of, (55) 1512
Female: See Woman
Femur, fracture of, (52) 1001
fracture of, disability from, (42) 695
fracture of, 11 successful operations for, (136) 1296
fracture of neck of, and separation of epiphysis in young, (92) 1368
fracture of neck of, in elderly subjects, abduction treatment of, (50) 1224—ab
fracture of neck of, operative treatment of, (42) 1001—ab
fracture of neck of, ununited intracapsular, successfully operated on, (26) 701
fractures of, Hodgen suspension splint for, (22) 1854
fractures of shaft of, with marked displacement, (51) 1224—ab
fracture of, simplest and best treatment for, (149) 1617
head, dislocation of, intrapelvic or central, acetabular fracture with, (95) 848
idiopathic curvature of neck of, in adolescents, (∞) 308—ab
juxta-epiphyseal fracture of upper end of, treatment of, (116) 926
overgrowth of epiphysis of lower end of, with obliteration of epiphyseal line, (3) 617
tubercular osteomyelitis of extremity of, resembling infantile scurvy, (41) 1758
Fergus advancement operation for ptosis, (89) 1422
Ferment: See also Antiferment
Ferment action, trend of modern research on nature of, (76) 72
activity, pathologic, (66) 228
diastatic, in urine, limination of, (41) 1908
peptid-splitting, in saliva, (5) 1612
Fermentation, acid, butyric, anaerobic intestinal bacteria of, (115) 1304
and putrefaction, (164) 1006
Ferments, action of, on tuberculin, (100) 1234
gastric, elimination of, in infant urine, (111) 706
lactic acid, how pure milk cultures of, may be obtained, (13) 300
lactic, in genito-urinary work, (18) 1758—ab, (110) 1762
radioactive, in inoperable cancer, (123) 466
Fertilizer, nitrite poisoning from, (65) 1767
Fetus, abstraction of calcium salts from mother's blood by, cause of puerperal eclampsia, (58) 1292—ab
auscultation of heart sounds of, technic for, (103) 1431
breathing movements of, intrauterine, (76) 1863
eclampsia in sixth month of pregnancy with hydatidiform mole without, (127) 1157
mummified, (73) 153
physical diagnosis of, in management of shoulder presentations, importance of, (118) 542
universal hydrops of, pathology of, (136) 1157
Fever after intake of salt, (87) 627
alimentary, (112) 706—ab
from doubtful or unknown causes, (42) 158
gastric, (159) 859—ab, (99) 1155
glandular, (117) 1156—ab
hemoglobinuric, followed by peculiar relapse without hemoglobinuria or detectable plasmodia, (18) 460
hemoglobinuric, is it manifestation of malaria or disease sui generis? (86) 621—ab
hemoglobinuric, 3 unusual cases of, (55) 77
intermittent, in influenza simulating malaria, (108) 1294
metabolism of matter and energy during, (83) 463, (97) 1302
Mossman, (21) 226
paratyphoid, (29) 1425
premenstrual, and pulmonary tuberculosis, *1239
protracted, in certain infectious diseases, (76) 855—ab
puerperal, (104) 542, (86) 1234,)94) 1293
puerperal, anaerobic blood-cultures in, (164) 1696
puerperal, bacteriologic research in, (64) 1518
puerperal, value of blood-cultures in, (20) 1224
puerperal, work of Oliver Wendell Holmes in establishing contagious nature of, (14) 377
relapsing, American, (21) 538—ab
relapsing, reinfection with, its influence on course of disease, (81) 1519
relapsing, spirilla of, (81) 621—ab
remittent, (114) 1071
retention of water during, (85) 627
sand-fly, in Chitral, (26) 1072
should we fight it? (50) 227
swamp, of horses, (80) 541—ab
tick, or spirillosis and monadenitis of fowls, (18) 701
with malignant kidney and suprarenal tumors (83) 546—ab
Fevers, heart stimulants used during, with recommendation of precordial compress, (18) 69
Fibrillation of auricles, digitalis in heart disease and dropsy with, (2) 927—ab
Fibrin content of blood in connection with thyroid functioning, (143) 389
stain for, (112) 1864
Fibrinogen of blood as influenced by liver necrosis of chloroform poisoning, (38) 377
Fibroid of uterus, (54) 222, (90) 925, (46, 47) 1224
of uterus, and loss of cardiac compensation, *1324
of uterus didelphys, (83) 457
of uterus weighing 95 pounds, removal of, (143) 699
Fibroids of uterus and pregnancy, (96) 542, (125) 698, (34) 929—ab, (128) 1148, (41) 1292, (99) 1615
of uterus, clinical side of, with perfected operation for its cure, (45) 1224
of uterus, complicating pregnancy, labor and puerperium, (128) 1148, (41) 1292, (99) 1615
of uterus, their complications, (17) 1859
Fibrolysin and thiosinamin, clinical experiences with, (130) 786
hemorrhagic purpura after injections of, (93) 1768—ab
in chronic adhesive peritonitis, (131) 786
injections of, in umbilical and epigastric hernia, (69) 932
Fibroma, large, of upper jaw, (44) 930
molluscum, or universal neurofibromatosis (44) 696
ovarian, Cesarean section for mechanical obstruction, (36) 301
soft, of conjunctiva, (62) 776
Fibromatosis, cutaneous, with hypernephroma, (117) 628

Fibromyoma, bilateral, of broad ligament, (11) 1067—ab
of stomach, (42) 545—ab
of uterus complicating pregnancy, labor and puerperium, (121) 305—ab, (54) 1759
of uterus, intraperitoneal hemorrhage in, (26) 306—ab
uterine, subtotal hysterectomy for, (8) 460—ab
uterine, wide range of complication, (154) 382
Fibromyositis, nodular, everyday affection, (11) 543—ab
Fibrosis, subcutaneous, chronic, clinical symptoms and treatment of, (3) 851—ab
Fibrositis, chronic, and chronic rheumatism, treatment of, (105) 458
Filaria loa, (48) 461
sanguinis hominis, unilateral chyluria due to, salvarsan for, (8) 921
Filariasis in Morocco, (23) 158
surgical aspects of, (2) 454
treated by Wherry-McDill method, (166) 382
Filipino: See Philippines
Filters, collodion, for colloidal substances, (52) 1073
Filtrate, cell-free, transmission of malignant new growth by means of, *198
Financial problems of physician, *1059
Finger and toe bones as substitutes for each other, (95) 1234
as aid in complete enucleation of tonsil, (111) 622
drumstick, with subclavian aneurysm, (96) 547
Hippocratic, with cardiovascular disease, (46) 545
use of, in rhinoplasty, (26) 300
Finsen Institute, Copenhagen, in 1910, (52) 456
Fireroom, fatigue and exhaustion in, (142) 381
First aid to injured by laity, (68) 1233
Fish, normal and pathologic thyroid of, (6) 1612
Fissures, painful, high frequency currents in, (94) 223
Fistula, anal, submucous, (120) 1295
between gall-bladder and appendix, (62) 1366
biliary, normal saline solution given through, (111) 1070—ab
in ano, treatment of, (3) 921
rectal, bismuth paste in, (12) 774—ab
umbilical, intestinal obstruction due to enterolith spontaneously cured by evacuation through, (37) 77—ab
vesicovaginal, operative treatment of, (139) 1865
vesicovaginal, utilization of anterior wall of cervix-uteri in operation for, (149) 551
Fistulas, advantages of bismuth paste in, (120) 857
congenital, (26) 1007
of cornea, indolent, electrolysis in, (141) 305
opening out of viscera, plastic closure of, (172) 859—ab
pathology and treatment of, (13) 1687
perirectal and rectal, (116) 1295
stricture of rectum complicating, cure of, (57) 696
tuberculous, derivatives of peruvian balsam in, (76) 228
Fistulous tract, method of diagnosing and following, (113) 1858—ab
Flat-feet and podalgia, (157) 1006
Flat-foot and deformities of toes, prevention and treatment of, (100) 1369
and tuberculosis, (47) 1152—ab
disturbances and deforming arthritis, (53) 1427—ab
due to relaxation of annular ligament of ankle-joint, (105) 926—tb
possible cause of back-ache, (52) 302
treatment of, (108) 926—ab
Flea, rat, as intermediate host of rat tapeworm, (12) 1149
rat, transmission of Trypanosoma lewisi by, (115) 1147
Fleas in transmission of plague for long distances, (48) 1152—ab
Flies: See also Fly
Flies and transmission of infectious diseases, (67) 222
reared in aseptic conditions, (37) 852
Flora, bacteriologic, in normal appendix, (141) 163
of bacillary dysentery, (11) 844
Florida as health resort, (101) 622
Fluid, ascitic, cancerous, and body fluids for cancer, *1383
in abdominal cavity in pregnant rabbits, (10) 1149
Fluid, spinal, in various meningeal conditions, non-specificity of cell findings in, (38) 1068—ab
Fluids, body, simplified method of staining capsulated bacteria in, *1189
organic, isolytic and heterolytic power of, (126) 786
pathologic accumulation of, blowing out of, instead of aspirating them, (122) 312—ab
technic of intravenous injection of large amounts of, (105) 1155
Fluorescein taken internally, discoloration of inflamed eyes by, (99) 1370—ab
Fluorescent substances, photodynamic action of, (140) 467
Fluoroscopy of gastro-intestinal tract, (37) 1855—ab
Fly: See also Flies
Fly, contamination of, with poliomyelitis virus, *1717
green-bottle, development of, at Sierra Leone, West Africa, (24) 158
house, eradication of, (68) 222
Tsetse, and sleeping-sickness, (38) 618
Food and lime metabolism, (103) 784
animal, advantages of proper proportion of, tests on vegetarians, (119) 706
for infants, determination of temperature of, (50) 1909
importance of carbohydrates with fat in, (150) 82
length of sojourn of, in body, (104) 1693—ab
poisoning, facial paralysis from, (137) 312
reactions in stomach of infant compared with those in vitro, (48) 924—ab
rest and exercise in tuberculosis, (10) 151
soy bean as, in diabetes mellitus, (38) 70—ab
standards, (95) 1070
use of sulphuric acid in industrial preparations of, (164) 390—ab
Foods, farinaceous, in infant feeding, digestion of, (112) 1694
Football, American game of, is it factor for good or evil? (17) 220
Foot, broken arch of, anatomic anomaly causing symptoms of, (46) 1758
Foot, Flat: See Flatfoot
troubles, avoidance of mistakes in diagnosis of, (23) 538
weak and flat, due to relaxation of annular ligament of ankle-joint, (105) 926—ab
Foramen magnum, brain tumor with impaction in, following lumbar puncture, (28) 300
Forceps, improved automatic closure of tips of, (74) 386
new, for end-to-end intestinal anastomosis, (43) 302—ab
obstetric, and chamberlens, (96) 1615
obstetric, mistakes in use of, (84) 848
obstetric, new technic in use of, (162) 1006—ab
obstetric, should cobwebs cover? (62) 222
Forearm, tenosynovitis in, (145) 707
Foreign bodies, direct broncho-esophagoscopy for removal of, (142) 707—ab
bodies, esophagoscopy and bronchoscopy for removal of, (53, 60) 71, (141) 231—ab, (23) 377, (40) 378, *634
bodies, evils of introduction of, into uterus to prevent conception, (77) 1863
bodies, expulsion of, (96) 79—ab
bodies in bronchi, (88) 1768—ab
bodies in ear, (114) 156
bodies in eye, (64) 776—ab, (128) 1014, (40) 1068
bodies, inflammatory tumors from migrating, (166) 1372—ab
bodies in stomach, *180
bodies, metallic, in tissues, new telephonic searcher, (15) 1291
bodies, x-ray localization of, (103) 380
bodies, x-ray localization of, by construction, *1650
Formalin, 2 per cent., in glycerin, aspiration and injection of, in joint infections, (100) 1147
Formol, dilute solution of, for protection of red corpuscles against hemolysis, (45) 1689
Formulary, National: See National Formulary
Fossa, cranial, posterior, cystic serous meningitis of, (132) 857—ab
navicularis, chancroid in, (145) 1306
Fossae, ischiorectal, both, spontaneous gangrene of, (110) 1013
Foundlings and neglected infants, proper management of, (1) 693—ab
Fowler position in acute peritonitis, advantages of, (27) 1764
Fox, dog and coyote, comparative analysis of urine of, (71) 697
Fracture: See also Fractures
Fracture, acetabular, with intrapelvic or central dislocation of femoral head, (95) 848
borderland of, after trauma, (140) 1071
coasting, typical, (134) 1305
Colles', (103) 1003
dislocation of shoulder, (62) 153
fixation, apparatus for, (44) 302—ab
isolated, of lesser trochanter, (47) 1861
isolated, of transverse processes of lumbar vertebræ, (62) 308—ab
nail extension in, (125) 857
non-union of, (47) 1001
of base of skull, (89) 380—ab
of bodies of fourth, fifth and sixth cervical vertebræ, unusual with injury of spinal cord, (13) 1291—ab
of bones in hand, diagnosis and treatment of, (69) 386
of carpal bones, isolated, (93) 1023
of clavicle, *740
of costal cartilages, (164) 1372
of femur, (52) 1001
of femur, disability from, (42) 695
of femur, neck, intracapsular, ununited, successfully operated on, (26) 701
of femur, 11 successful operations for, (136) 1296
of humerus, intra-uterine, (147) 858
of internal condyle of humerus, (147) 225
of jaw, (93) 1369—ab
of leg bones, spontaneous, possibly due to mycotic infection, (6) 1905
of malleoli, (73) 932—ab
of neck of femur and separation of epiphysis in young, (92) 1368
of neck of femur in elderly subjects, abduction treatment of, (50) 1224—ab
of patella, (103) 223—ab, (52) 1224—ab, (30) 1425
of patella, simple, woven elastic bandage in, (151) 381
of pubis, (114) 1235
of radius, (55) 545
of radius, automobile, (64) 77—ab
of shaft of femur with marked displacement, (51) 1224—ab
of skull, (41) 152, (59) 302—ab, (148) 305 (120) 381—ab, (25) 1854
of skull, horizontal, (54) 625
of skull, injuries of optic nerve with, (91) 1076
of skull with intracranial injuries, (107) 1361
of tarsal scaphoid, (68) 71
of upper end of femur, juxta-epiphyseal fracture of, (116) 926
of upper jaw, transverse, (103) 79
snow-shoer's, (106) 1013—ab
transverse, of body of ischium in 1893; terminal displacement in 1902; diagnosticated in 1909, (52) 847
traumatic subdural hemorrhage without, obscure case of, *956
vertebral, insertion of wire backstay, (54) 1069
Fractures: See also Fracture
Fractures, (74) 777
care of, (160) 1006
common, treatment of, (55) 1856
cranial, operative treatment of, (105) 74
diagnosis of, (130) 851
double extension for, (77) 228
hip, artificial impaction in, (39) 1758—ab
internal splint in, (102) 380
in tuberculous coxitis, spontaneous, (54) 1232—ab
lever apparatus for reduction of, (152) 389
nail extension in, (87) 546, (101) 705
of elbow, (9) 1613
of extremities, management of, (52) 153
of femur, Hodgen suspension splint for, (22) 1854
of femur, simplest and best treatment for, (149) 1617
of limbs, delayed union of, (166) 305
of long bones, treatment of, (76) 1293, (7) 1418—ab
of lower end of radius, treatment of, (70) 222
of lower jaw, complicated, simple expedient in treatment of, forbidding intrabuccal prosthetics, (69) 303—ab
Fractures of metatarsal bones, multiple and comminuted, in child, (10) 1000
of neck of femur, operative treatment of, (42) 1001—ab
of patella, silver wire for, (111) 1616—ab
of patella, transverse, without separation of fragments, (8) 543
of upper extremity in children, (101) 1761
open treatment of, (74) 847, *863, (6) 1418—ab, (174) 1618
ossifying myositis after, (71) 386
plaster of Paris as primary dressing for, (116) 850—ab
Pott's and Dupuytren's, operations for, (21) 1687
quinin anesthesia for reducing, (54) 696
repair of, (167) 305, (110) 1423
treatment by ancient and modern methods (15) 460
treatment of, (12) 300, (94) 458, (91) 627
ununited, and delayed union, (84) 1146, (3) 1418
ununited, elastic bandage on, illustrating effects of hyperemia, (13) 700
Frambesia: See also Yaws
Frambesia, (142) 1005, (72) 1910
in Brazil, (182) 860
salvarsan in, (8) 851, (93) 1012, (9) 1149
France, distribution of cancer in, (30) 1908—ab
former medical giants of, (18) 152
Franklin, Benjamin, medical side of, (38) 221
Freezing of 300 nevi, (5) 700—ab
Fresh-air cure, technic for, (104) 934-ab
Fright, acromegaly from, (86) 1302—ab
Freud's psychology and neuroses, (36) 1854
Frogs, cardiectomized, distribution of solutions in, (80) 1512
tetanic convulsions in, produced by acid fuchsin, and problem of inhibition in central nervous system, (50) 539
Fulguration: See Electricity
Functional capacity and oxygen requirement with maximal physical labor, (115) 465
Fungi, distribution of hemolysins, agglutinins and poisons in, (23) 1224
lower, pentosans in, (26) 1758
Furuncles, treatment of, (124) 549
Furunculosis, etiologic factors and treatment of, *1099
in infants, treatment of, (149) 82

G

Gait as aid to diagnosis, (19) 544
Galactagogue action of thymus, corpus luteum and pineal body, (74) 924—ab
Gall-bladder, absorption from, (136) 231
acute gangrene of, with or without cholelithiasis, (70) 1863
and appendix, diseased, gastric ulcer due to, (31) 1682
and appendix, fistula between, (62) 1366
and bile-ducts, diseases of, exploratory laparotomy in, (19) 1230
and biliary tract, disease of, and gastric functions, (61) 457—ab, (128) 851
cancer of, and cholelithiasis involving abdominal wall, (141) 1296
carcinoma of, (149) 1296
gangrene of, and rupture as emergency condition, (85) 1615
hemorrhage in, as source of biliary colic, (65) 1690—ab
ileus from dilatation of, (113) 465
importance of preserving, in operations on biliary tract, (112) 1004—ab
incision, slanting, (77) 933—ab
perforations of, and typhoid perforations, (50) 222
region, gastric and duodenal adhesions in, diagnosis of, by x-rays, *1777
typhoid infection involving only, (60) 1146—ab
Gall, Franz J., claims of, on homage of scientific posterity, (9) 694, (39) 846
Gall-stone disease, (107) 1864
Gall-Stones: See also Cholelithiasis
Gall-stones, (39) 227, *887, (114) 1226 (11) 1298—ab, (114) 1616
and cancer of biliary tract, (26) 1000—ab
and duodenal ulcer, differential diagnosis of, Einhorn duodenal pump, (81) 1070
diagnosis of, (50) 1145, (11) 1298—ab

Gall-stones, experimental production of, (67) 1010
formation of, (104) 1686
innocent, a myth, *1021
results of, (72) 1421, (52) 1512—ab
significance of jaundice in, (69) 1421
surgical treatment of, (106) 1686
Galvanism in gynecology, (34) 1613
Galvano-cautery and formol in laryngeal tuberculosis, (65) 1225
Galvanometer, string, and heart sounds, (99) 311
Gamete carriers, (54) 847
Ganglion neurosis, sphenopalatine, syndrome of, (45) 70
Gangrene and ischemic muscular contracture, (90) 547—ab
anemic, and ulceration in intestine due to distention, (124) 312
diabetic, and glycosuria, surgical aspect of, (27) 326—ab, (30) 929-ab
endarteritic, arteriovenous anastomosis for, (46) 1861—ab
of appendix and omentum, *34
of gall-bladder, acute, with or without cholelithiasis, (70) 1863
of intestine from obliteration of mesenteric vessels, (28) 1764
of leg following diphtheria, (23) 306
of legs, due to carbon monoxid poisoning, *1455
of limb during convalescence from diphtheria, (9) 460—ab
spontaneous, of both ischiorectal fossæ, (110) 1013
superheated air in, (33) 1426
Garbage-can-holder, sanitary, (135) 381
Garter, plaster, adhesive, for varicose ulcers, (123) 629—ab
Gas, illuminating, poisoning, treatment of, *1651
in uterus, (119) 466
Gases in relation to body, (28) 221, (158) 927, (138) 1226, (108) 1513
Gasserian ganglion, resection of, for trigeminal neuralgia, (86) 1369—ab
Gastralgia and neurasthenia, (30) 461
Gastrectomy, gastric cancer with, (172) 1296
partial, and colectomy for cancer, (23) 383
Gastric acidity, effervescence test for, (19) 1000
and duodenal adhesions in gall-bladder region, diagnosis of, by x-rays, *1777
and duodenal ulcers, perforation of, (81) 1691—ab
and intestinal cases, interesting, (109) 1858—ab
and intestinal hemorrhages after abdominal operations, (34) 383—ab
atony, acute, (85) 1302—ab
atony and alimentary gastric hypersecretion, (19) 377
Cancer: See Cancer, Gastric
crises in tabes, resection of posterior spinal roots for, (25) 1908—ab
disease, differential diagnosis in, (121) 1071
fever, (159) 858—ab, (99) 1155
functioning after gastro-enterostomy and resection of pylorus, (82) 1234—ab
functions and disease of gall-bladder and biliary tract, (61) 457—ab
hypersecretion, alimentary, and gastric atony, (19) 377
juice, alterations of hydrochloric acid in gastric cancer, (26) 1687
juice, determination of acidity of, (109) 934
motor disturbances, (132) 231
mucosa, changes in, with acute infectious diseases, (86) 463—ab
roentgenology, (11) 300—ab
secretion, inhibiting influence of emotions on, (88) 464—ab
surgery, bearing of recent advances in physiology of digestive glands on, (25) 701
symptoms, chronic, indications from medical standpoint for operative procedures in, (4) 1223
therapy, bismuth in, (20) 1067
therapeutics, drugs in, (107) 1422
Gastric-ulcer, (142) 164, (118) 312—ab, (95) 1003
acute, influence of diet on formation and healing of, (3) 225—ab
and duodenal, (1) 1223, (71) 1690
and duodenal, medical treatment of, (39) 77, (70) 457
and duodenal, surgical treatment of, (108) 80—ab, (93) 458, (22) 1000
and duodenal, treatment of, (5) 157, (3) 1223
and duodenal, why practitioner should study surgical diagnosis of, *85
and pulmonary tuberculosis, (63) 1010—ab
Gastric ulcer, calloused, of posterior wall of stomach, transgastric excision of, (62) 71
callous, x-ray diagnosis of, (159) 82
changes in gastric mucosa with, (65) 932
chronic, in x-ray picture, (99) 161
diagnosis of, (30) 1613
diagnosis of and feeding in, (26) 846
due to diseased gall-bladder and appendix, (31) 1682
hemorrhage, operation, general peritonitis, vaccine therapy, (21) 846
indurated, chronic, possible diagnosis and technic in excision of, *1699
perforated, (117) 305—ab, (42) 1420, (32) 1855—ab
perforated, unusual effects of, (16) 1764—ab
prognosis and end-results of treatment of, *948
round, experimental research on pathogenesis of, (71) 1075
surgical treatment of, (108) 80—ab (139) 1071—ab, (126) 1695—ab
treatment of, (32) 1687, (49) 1909—ab
x-rays in diagnosis of, (94) 1012, (140) 1695
Gastric-ulcers along lesser curvature of stomach, surgical treatment of, (25) 301—ab
of upper gastro-intestinal-tract, importance of thread impregnation test for, (6) 1000
Gastritis and dyspepsia, (39) 158
chronic, (130) 1071
Gastro - duodeno - hepatico - pancreatic physiologic system, disturbance in, and appendicitis, (63) 72—ab
Gastro-enteritis, infantile, lesions of pancreas in, (45) 545
Gastro-enterostomy and resection of pyloris, gastric functioning after, (82) 1234—ab
anterior, posterior gastro-enterostomy 3 years after, (154) 305
15 years after, (8) 1906—ab
indications for, (135) 1148
posterior, 3 years after anterior gastro-enterostomy, (154) 305
preferable technic for, (150) 164
retrocolic, posterior, vertical, (76) 932
ulceration of jejunum after, (42) 930, (133) 1695—ab
x-ray examination after (87) 1863
Gastro - intestinal auto - intoxication, desiccated liver extract in, (73) 222
canal, auto-intoxication from, (39) 144
canal, sensibility of, in health and disease, (6) 1514—ab
cancer, action of thyroid extract on, (78) 1233
cancer, antitryptic index for serodiagnosis of, (31) 701—ab
cancer, reliability of meiostagmin and hemolytic tests of, (122) 629—ab
disease, microbic factor in, treatment of, (12) 1619
disorders of infancy and early childhood, (119) 381, (106) 622—ab, (72) 1069
disturbances in children from standpoint of tropical pathology, (50) 307—ab
hemorrhage with purulent cholecystitis, (71) 1233
irritation, nervous respiratory and cardiac disturbances as consequence of, (127) 1078
surgery, problems in, *1625
symptoms of pellagra, (72) 620
system, x-ray examination of, (33) 226, (55) 703
tract, absorption of soluble and insoluble salicylic preparations in, (124) 1077
tract, auscultation findings in, diagnostic importance of, (79) 1368—ab
tract, cancer of, diagnosis and treatment of, (93) 380—ab
tract, fluoroscopy of, (37) 1855—ab
tract in infants, Finkelstein's classification of diseases of, (23) 1357
tract, phenolphthalein test for occult hemorrhage in, (84) 546—ab
tract, sensibility of, in health and disease, (11) 1619—ab
tract, upper, importance of thread impregnation test for recognition of gastric ulcers of, (6) 1000
tract, use or harmfulness of bacteria in, (63) 462
Gastrojejunostomy, acute postoperative dilatation of stomach following, (63) 1421
and intestinal anastomosis, by single row of sutures, (31) 1072
Gastrojejunostomy, deaths following, not due to anastomosis, (12) 1687
Gastroptosis, (58) 625, (33) 1068
Gastroscope, improved, and its findings, (68) 160
Gastrospasm, (111) 548—ab
Gastrostomy as curative measure per se in non-malignant strictures of esophagus, (110) 1003
continent, (65) 78—ab
in acute dilatation of stomach, recovery, (3) 1296—ab
modified technic for, (122) 857—ab
Gauze, cylindrical, and cotton drains in discharging ears, *262
pads, new technic for keeping count of, (42) 301—ab
Gelatin, injection of, for functional test of bone marrow, (139) 858—ab
Generative organs, female, and thyroid, (83) 1686—ab
Genitalia, ascending tuberculosis of, experimental research on, (61) 1010
cancer of, inoperable, medical treatment of, (129) 1148
congenital absence of, including clitoris and vagina, (128) 1226
female, and gastric cancer, (120) 80—ab
female, operative sensibility of, (119) 786
female, tumors in, and diabetes mellitus, (71) 463—ab
female, 2 uncommon forms of deformity of, (8) 1229—ab
internal, sigmoiditis and infection of, in women, (53) 1299—ab
prolapsed, Wertheim-Schauta operation for, (85) 79—ab
prolapse of, behavior of ureters with, (83) 1368
prolapse of in woman, nature of, (100) 1003
undeveloped, with pregnancy, resulting in birth of unequal monochorial twins, (19) 1007
tract, tuberculosis of, giant cells in urine sign of, (118) 162
tuberculosis of, x-ray in, (77) 1622-ab
Gentian-violet, anilin, stable, (58) 302—ab
Genito-urinary tract, functional sexual disorders from, (116) 1762
tract, reflex nervous phenomena in, in appendicitis, (29) 544—ab
work, application of lactic ferments in, (18) 1758—ab, (110) 1762
Genu valgum, with observations on corrective osteotomy, (4) 1903
Genus glossina, 3 new species of, with description of hitherto unknown male of Glossina grossa, Bigot, (24) 460
new, descriptions of, and 3 new species of anopheline mosquitoes, (25) 461—ab
Geological eras, tropical and glacial, (97) 161
Germophobia, (10) 1613
German clinics, (51) 456
Germs, cholera, from water-closets on trains, danger of sowing, (144) 164
importance for prognosis of invasion of blood by, (117) 935—ab
persistence of, in human body, (1) 1618
Gestation, ectopic, (39) 1683
Girl of 12, colon bacilluria in, (18) 1000
Girls with heart disease, matrimony for, (160) 82
young, metrorrhagia in, (59) 931—ab
Glacial and tropical geological eras, (97) 161
Gland: See also the Special Structures and Glands
Gland, interstitial, of ovary found in certain animals, (74) 546
mammary, as source of eclampsia toxin, (114) 230—ab
salivary, disease of, and hyperplastic muscle, (101) 547
salivary, tumor in, (64) 1690
Glanders in man, chronic, *1379
in physician, case of, (157) 699
Glands, bronchial, and thymus, (50) 1620—ab
bronchial, tuberculosis of, diagnosis of, (63) 457—ab
cervical, enlarged, connection of, with carious teeth, enlarged tonsils and adenoids, (3) 459
digestive, bearing of recent advances in physiology of, on gastric surgery, (25) 701
ductless, and lymph spaces, connection between, (91) 1768
ductless, several, insufficiency of, (186) 860
excessive functioning of, with internal secretion and their constitution, (79) 1519
Glands, lymph, behavior of plasma cells and blood-vessels in, after severing nerves, (136) 550
lymph, enlarged, not always sign of tuberculosis, (96) 387
mediastinal, tuberculosis of, extensive, (90) 1623—ab
of neck, tuberculous, treatment of, (59) 71—ab
sebaceous, and acne rosacea, (72) 924
Glandular disease in chest, auscultation sign of, (64) 932—ab
Glass, permeability of, for ultraviolet rays, (62) 1427
works, protection of eyes in, (131) 1078
Glasses, adjustment of, (10) 773
prescription of, (9) 1762
Glaucoma, (80) 697
diabetic, and operation, (15) 1143
incipient, diagnosis and treatment of, (85) 1686
operation of simple trephining of sclera for relief of, (86) 1686
sclerotomy for, technic of, (123) 1769
subconjunctival sodium citrate injections for relief of, (41) 1001—ab
Gliadin, factors influencing quantitative determination of, (27) 1758
refractive indices of, (20) 1758
Glioma of retina, (32, 33) 1000
Gliosis, central, neuro-epithelioma developing from, after operation on spinal cord, (64) 1146
Globulins in human blood, (36) 852
in syphilitic serums, (113) 785
Glossina grossa, Bigot, hitherto unknown male of, description of, (24) 460
Glossitis, hemorrhagic, (20) 306
Glottis, edema of, (138) 157
Glucose and maltose, combined action of muscle plasma and pancreas extract on, (124) 1361
in urine, blood charcoal as clearing agent for, (2) 1756—ab
Gluteus maximus, myotomy of, for snapping hip joint, (52) 1861
Glycemia, no appreciable influence from simple hyperthermia and febrile infection on, (66) 78
Glycerin as part vehicle for salvarsan, (161) 858
in pernicious anemia, (44) 1909—ab
to relax bladder, (158) 552—ab
urethral injection of, to facilitate passage of sounds, (116) 785—ab
Glycogen, carcinoma of uterus with, (113) 1864
content of man, influence of cold baths on, (149) 1005—ab
distribution of, over liver under various conditions, (39) 618—ab
in placenta, (31) 1765—ab
in thyroid, (122) 1370
of muscles, action of chloroform on, (113) 1769
Glycosuria, acromegaly complicated with, (125) 1361
and diabetes, (157) 390
and diabetic gangrene, surgical aspect of, (27) 226—ab, (30) 929—ab
epinephrin, pancreatic extract in, (98) 705—ab
in diabetes mellitus, negative influence of santonin on, (60) 1152
in head injuries, (23) 1619
in new-born infants, ephemeral, traumatic, (65) 1232
influence of urethane in production of, in rabbits after intravenous injection of adrenalin, (34) 923
non-diabetic, (89) 1359—ab
phloridzin, exaggerated, diagnostic significance of, (136) 1695
production of, by adrenalin in thyroidectomized dogs, (84) 303
serotherapy of, (139) 1157
Goat, inherited immunity of, to ricin, (55) 1073
Goat's beard, poisoning by, (5) 1229
Goethe's poetry, venereal disease in, (81) 783
Goiter, alterations of circulation in, (126) 698—ab
analysis of, with marked intrathoracic extension, (93) 1225
congenital, (135) 224—ab
deep, and accessory goiters, (83) 1691
distribution of, in Saxony, (94) 1692—ab
endemic, and thyroid carcinoma of brook trout, (102) 1225
Exophthalmic: See Exophthalmic Goiter
intrathoracic, (131) 466, (52) 1766—ab
operations, (80) 933—ab

Goiter, surgical aspect of, (24) 377, (102) 542, (45) 618—ab, (119) 698, (148) 1296
treatment of, (71) 72, (136) 851
Goiters, accessory, and deep goiter, (83) 1691
Gonococci, staining technic for, (96) 161
Gonococcus endocarditis, (50) 930
infection in girls, wives and mothers, (48) 1358
infection of kidney, (54) 1420
infections, complement-fixation test in diagnosis of, (8) 1510—ab
survival of, in prostate, (57) 625
vaccine in gonorrhea, (150) 305, (25) 455, (135) 459—ab
Gonorrhea, (41) 847
abortive treatment of, (132) 459—ab, (139) 1226
acute, intravesical irrigation in, (38) 1613
acute, stock vaccines in, (20) 846
acute urethritis due to, treatment of (63) 696
and marriage, (136, 144) 459—ab
and puerperal morbidity, (74) 223
antigonococcus serum and vaccines in, clinical experience with, (135) 459—ab
arthritis due to, acute, Bier's hyperemia in, (131) 381—ab
arthritis due to, gonococcus vaccines in, (43) 221
arthritis originating from, use of gonococcus vaccine, (25) 455
atropin and vaccines in, (66) 1862
chronic, diagnosis and treatment of, (134) 459—ab
chronic, gonococcus vaccine in, (150) 305
complications, vaccination in, (38) 781
conjunctivitis due to, metastatic, (78) 463, (126) 1295
epididymitis due to, acute, (116) 1858
epididymitis due to, surgical treatment of, (15) 537, (78) 924
general infection due to, (133) 1078—ab
gonococcic vaccine in, 500 cases of, (9) 1854—ab
in child-bearing women, clinical peculiarities of, (137) 1617
in male, treatment of, (32) 1511
in women, treatment of, (1) 220
in women, vaccine therapy of, (56) 1518
in women, when is it cured? (141) 699
prevalent misuse of prostate in, (7) 1357
prophylaxis of, (131, 142) 459—ab
pyosalpinx due to, (92) 547
report of committee on education of public as to communicability and prevention of, (91) 1359—ab
rheumatism due to, (84) 386—ab
septicemia due to, (118) 1014—ab
systemic infection due to, (40) 1001
treatment of, (133, 143) 459—ab, (40, 46) 781, (163) 1228
urethritis and cystitis in women due to, recognition and treatment of, (6) 537
vaccine therapy of, (8) 1854
Gopher, pocket, susceptibility of, to plague, (42) 455
Gossypii cortex, action of, on uterine contractions, (97) 1147—ab
Gout and rheumatism, radium in, (3) 700—ab, (57) 782—ab
electricity in, (78) 303
etiology and treatment of, (142) 1226
experimental research on pathogenesis and treatment of, (79) 1154—ab
from purin metabolism, diagnosis of, (102) 1693—ab
indications of inborn proclivity to, (3) 1686
metabolism of nitrogen and urea in, (116) 1624
Postyen, a thermal bath for, (23) 1515
serology of, (66) 1152
tophi due to, influence of radium emanations on, (140) 389
treatment of, (107) 1156
state, its mimicry, (92) 1293
Grafts, ovary, (92) 1520
Gram Stain: See Stain
Granula, Much's, in lupus, (118) 80
Granule, infective, in certain protozoal infections, illustrated by spirochetosis of sudanese fowls, (6) 1362, (39) 1619
Granuloma, infective, (20) 1619
lesions, disseminated, new type of cell inclusion, not parasitic, associated with, (1) 1681—ab
pyogenicum, (89) 223—ab
Granuloma, ulcerating, pathogeny of, (28) 1298
ulcerative, (19) 1619
Greek cross test-object, bilateral partial tenotomy with, for use during operation, (89) 1686
Grippe: See Influenza
Growth and ossification, influence of exophthalmic goiter and analogous conditions on, (178) 84—ab
influence of thyroid treatment on, in rachitis, (43) 1861—ab
nutrition and diet in children, (17) 300
Growths, mental, morbid, (38) 1688
Guaiac, tincture of, must it be freshly prepared? *263
Guillotine and alveolar eminence of jaw, tonsillectomy by, *867
Guinea-pig, anaphylactic lung of, microscopic study of, (27) 1224
immunologic reactions of oidiomycosis in, (118) 1147
reaction of smooth muscle from, rendered tolerant to large doses of serum, (52) 539—ab
serum, variations in complement activity and fixability of, (33) 377
test of virulence of diphtheria bacilli, (135) 1361
transmission of hypersusceptibility to antipyrin to, (110) 628
Gum, fatty tumor of, (135) 1071
Gums, ulcerated and swollen, in Indian native army, (20) 1230
Gumma of brain, with absolute blindness and complete recovery, (147) 1423
Gummata, clinical history and treatment of less obvious types of, (17) 1515, (19) 1687
Gunpowder injuries of eye, native, (24) 1230
Gunshot injuries from medicolegal standpoint, (72) 1621
Gymnastic exercises and massage during pregnancy and puerperium, (57) 1518—ab
Gynecologic lesions, inflammatory, non-operative treatment of (102) 1155
origin, psychic disturbances of, (150) 1306
problems of interest to general physician, (54) 1856
Gynecology and country physician, (103) 1615
and obstetrics, necessity for anaerobic cultures in, (154) 390
and obstetrics, pathology of, (132) 156
and obstetrics, pituitary extract in, (12) 226
and obstetrics, sacral anesthesia in, (86) 229—ab
and obstetrics, significance of anatomic-histologic examination methods in, (17) 617
common affections of, (26) 929
galvanism in, (34) 1613
general and local anesthesia in, (116) 230—ab
glycerin tampon in, (51) 1909
local and spinal anesthesia in, (124) 466
physiologic vs. anatomic results following, (155) 927
plea for more accurate diagnosis in, (65) 1002
probable direction of progress of, in immediate future, (40) 1856
progress of in 1910, (128) 156, (136) 1226
psychology applied in, (79) 229
studies in, (152) 927
use of corpora lutea in, (34) 301
vaginal methods in, (100) 627—ab (61) 1518
value of local treatment in, (115) 305—ab
x-rays in, (135) 1157, (54) 1518—ab, (92) 1692

H

Habeas corpus proceedings, discharge of lunatics by, *489
Halberstaedter and Prowazek bodies in normal conjunctiva, (78) 621
Hallux valgus, postoperative, splint for, (66) 153
valgus, radical cure of, (8) 1418—ab
Hamlet, Œdipus-complex in, *1377
Hand bandage, quickly removable, simple, (22) 1143
extensive phlegmon of synovial sheaths in, treatment of, (41) 1426—ab
fracture of bones in, diagnosis and treatment of, (69) 386
thenar and hypothenar types of neural atrophy of, (55) 619—ab
Hands, alcohol-tannin for sterilization of, (109) 1076—ab
malformations of, familial and congenital, (86) 1011
Hands, sterilization of, (109) 1693
tincture of soap and alcohol in disinfection of, (39) 1908
Handwriting, specimens of, before and after treatment by psychoanalytic measures followed by re-education, (30) 455
Hare-lip and cleft palate, technic for treatment of, (127) 466
modification of Lane's operation for, (62) 1759—ab
operation for, (99) 1431
with cleft plate, (135) 1078
Hay-fever and nervous asthma, climatic treatment of, (110) 1156
cause and treatment of, (76) 1368
in children, diagnosis of, (87) 1857—ab
its name and nature, (19) 1905
operative treatment of, (89) 161—ab
treatment of, (42) 1908
Head, gunshot wound through, (43) 618—ab
injuries, advantages of decompression in, (67) 696
injuries, and nasal diseases, (33) 1008
injuries, glycosuria in, (23) 1619
injury, (83) 777
injury, hemiplegia following, *953
mechanical injuries of, in infants and children, (134) 224
trauma of, and ear findings, (102) 934
trauma of, lumbar puncture in, (69) 1910—ab
Headache and pain in nasal conditions, (41) 77
diagnostic significance of, to eye, ear, nose and throat specialist, (92) 73
diagnostic significance of, to internist, (90, 91) 73
from nodules in muscles, (46) 1365—ab
ocular, its relief, (37) 1144
or migraine, (154) 1149
with abnormally low blood-pressure, (68) 1075
Headaches, syphilitic, (48) 77
with obstruction in nose, (13) 75
Healing after mastoidectomy, secondary efforts to hasten (4) 1067
drugless, (108) 1070
Health activities, present day, (96) 1422
agencies, cooperation of school b. with, (161) 382, (27) 923—ab
and disease, evacuating function of stomach in, (35) 1151
and disease, influence of mind on, (137) 1226
and kidney disease, action of epinephrin in, experimental research on, (95) 1302
and life as national assets, *407
and recreation, west coast of Norway for, (148) 927
boards of, of small cities, outline for study and prevention of infant mortality for, (114) 224—ab
course, public, at university of Pennsylvania, (51) 776
exhibits, public, under supervision of American Medical Association, *294
general, and eye-strain, (13) 851
human, what medicine has done in conservation of, (134) 851
Indiana state board of, year's work of, (36) 538
infant feeding in, (131) 550—ab
interrelation of national organizations working in interest of, (38) 538
laboratory, public, (24) 1905
laboratory, public, functions of, (29) 69
matters, public, in county, how shall we improve them? (115) 1226
movement, public, part of physicians and medical societies in, (26) 377
of Bengal district, (17) 780
of seamen, provisions for, in present-day warship, (124) 1147
officer, making of, (69) 1293—ab
officer, municipal, public health and municipal authorities from standpoint of, (114) 459
officers, city and county, properly selected and compensated, necessity for, (94) 73
officials, public, venereal prophylaxis in U. S. navy for benefit of, (92) 1359—ab
public, and dental profession, (139) 927
public, and diphtheria, *37
public, and municipal authorities, (113) 459
public, and municipal authorities from standpoint of municipal health officer, (114) 459
public, and nurse, (18) 1143
public, and rabies, (129) 851
public, and social economics, (32) 69
Health, public, and water analysis, (28) 69
public, in Alameda county, diseases of domesticated animals affecting, (67) 1292
public, national department necessary for prevention and control of communicable diseases, (160) 75
public, progress in matters of, (170) 1149
public, relative importance of infection and transmission of bovine and human tuberculosis to, (110) 380—ab, (112) 380
resort, century of tuberculosis at, (75) 1691—ab
resort, Florida as, (101) 622
resort sanitation, *1027
resorts and institutions, diet in, (141) 81
resorts, artificial and natural means of cure at, (74) 1767
resorts, British, for foreign invalids, (12) 382
subsequent, of children who drank milk containing tubercle bacilli, *1322
work, public, proper correlation of specialists in, (39) 538
Hearing, development of theory of, (139) 1005—ab
disturbances in, after salvarsan, (117) 388
phonendoscope for testing, (66) 1519—ab
Heart, Abram's method for percussion of, (60) 228
action of strophanthin on, (122) 549
action, slow, third sound and B wave in, (23) 1688—ab
activity, myogenic doctrine of, and arrhythmia, (93) 848
affections, posture as aid in diagnosis and treatment of, (5) 1291—ab
and aorta, movability of, in health, evidenced by skiagrams taken in unusual positions, (71) 1684
and blood findings with nitrobenzol intoxication, (103) 311
and kidney disturbances with chronic constipation, (127) 1305—ab
and lungs, complications in, following operations, (89) 1761—ab
and lungs in horse, capacity and weight of, (116) 465
and nervous respiratory disturbances as consequence of gastro-intestinal irritation (127) 1078
and respiratory rate, synchronous, (8) 1757—ab
aneurysm of, (19) 846—ab
apex, clinical importance of impure first sound at, (13) 1357
arrhythmia in, (1) 542
behavior of, in pulmonary tuberculosis, (91) 855—ab
behavior of, with congenital funnel breast, (118) 1370
block, (100) 304, (21) 774—ab
block, Adams-Stokes' syndrome with, (83) 1002—ab
block, digitalis, (17) 382
block from primary heart tumor in child, (98) 1302
block, vagus, and vagotonie, (30) 1292
block, what is it? (63) 1759
compensation, loss of, and uterine fibroids, *1324
conditions, significance of apex-beat in diagnosis of, (55) 302
conduction, physiopathology of, (143) 1866—ab
congenital abnormality of, (12) 1298
defects and pregnancy, (71) 309—ab
dilatation and hypertrophy, blood-pressure in, (85) 1857—ab
direct massage of, with apparently fatal chloroform poisoning, (117) 549—ab
disease and dropsy, digitalis in, with fibrillation of auricles, (2) 927—ab
disease and syphilis, (145) 1158—ab
disease and uterine myomata, (11) 1904—ab
disease, apparatus for passive hill climbing during bed-rest cure for, (92) 1302—ab
disease, beneficial effect of ingestion of cane sugar in certain forms of, (6) 1150—ab
disease, carbonic acid baths in, (10) 1418—ab
disease, diagnostic value of orthodiagram in, (94) 925—ab
disease, diet in, (33) 846—ab
disease, digipuratum in, (105) 1360—ab
disease, etiology and incidence of, in regard to prognosis, (21) 1515
disease, favorable influence of exposures to arc light on respiration in, (181) 1698—ab

Heart disease in children, acute, (90) 161—ab
disease, is high total acidity of urine pathognomonic of? (61) 222
disease, marriage of patients with, (160) 82, (29) 1151
disease, Nauheim methods in management of, (10) 1067
disease, precordial dullness in, in children, (48) 930—ab
disease, prevention of, (4) 382—ab
disease, prognosis in, (86) 1070
disease, value of combining suggestion with physical measures in treatment of, (120) 312
disease, valvular, chronic, prognosis in, (134) 1148
diseases, diagnosis and treatment of, (15) 1854
diseases, practical points in treatment of, (7) 300—ab
displacement, electrocardiogram with, (72) 546
dorsal percussion of, its application in interpretation of Grocco's paravertebral triangle of dulness, (54) 1010—ab
effects of cholecystitis on, (28) 1144—ab
exstrophy of, (58) 1759
failure, (8, 15) 1363—ab, (2) 1423—ab, (9) 1424—ab
failure, grave and prolonged, following use of cocain in dental surgery, (7) 1229
failure, reversible pulmonary crepitation in, (6) 1687—ab
failure, treatment of, (112) 542, (147) 699, (53) 1614—ab
failure under chloroform or electrocution, electric analgesia and electric resuscitation after, *478
functional activity of, clinical method of diagnosis of, (6) 376, (68) 1621—ab
gunshot wound of, (19) 701
hypertrophy of, (28) 774—ab
hypertrophy of, in beriberi, (111) 162
hypertrophy of, in kidney disease, causes of, (139) 1371—ab
in disease of thyroid, (96) 304—ab
influence of respiration on size and position of, (146) 1371
in lobar pneumonia, treatment of, (18) 300
insufficiency, chronic, apocynum in, (114) 628—ab
insufficiency, treatment of, (135) 699
irregularity of, and auricular fibrillation, (31) 1855—ab
lesions of chorea, influence of salicylates on, (27) 1688—ab
massage, resuscitation by, *1448
movements of, and electrocardiogram, (67) 160
murmur and size of heart, (115) 1156
murmurs, clinical significance of, (61) 1225
muscle, effect of alcohol on, (143) 1226
musculature of, (111) 1864
nutrition, (23) 1143
obesity, röntgen-ray findings with, (112) 388
reaction of, to digitalis when auricle is fibrillating, (3) 76—ab
rhythmic compression of, in apparent death, (138) 81—ab
rhythm and hyperpnea, (25) 1515
senile, prognosis and treatment of, (24) 1420
sino-ventricular connecting system of, (33, 34) 1073
size of, and heart murmur, (115) 1156
sound, diastolic, and impulse, (11) 382—ab
sounds and murmurs, relation of, to electrocardiogram, (134) 81
sounds and string galvanometer, (99) 311
sounds, fetal, auscultation of, (103) 1431
stab wound of, (16) 69—ab
standards for estimating size of, (135) 1865—ab
stenosis of, (83) 1857—ab
stenosis of, diagnosis and treatment of, (119) 1694
stimulants, action of, (15) 152—ab
stimulants, need for standardization of, (119) 1077
stimulants used during fevers with recommendation of precordial compress, (18) 69
strain and dilatation, (34) 77—ab
syphilis of, congenital, (96) 849—ab
temporary excessive contraction of, just after compensation is complete, (123) 231
therapy, suggestions in, (40) 1144
tonics, (163) 382
transposition of, (121) 1762
Heart tumor, primary, heart block from, in child, (98) 1302
valve, defect of, ascites with, omentopexy for, (124) 707—ab
valves, chronic changes in, (137) 550
weak, (16) 1229
weakness and irregularities, treatment of, (84) 1857—ab
weakness, its causes and treatment, (27) 221
with double left auricle in girl of 11, (123) 1370
wounds of, operative treatment of, (111) 1003
Heat, action of, on antitoxins, (40) 624
cramps on U. S. S. Charleston, 2 cases of, (141) 381
direct application of, to interior of uterus, (115) 230
exhaustion, what is it? (61) 847
influence of, on infant organism, (82) 705
in infants, regulation of, (113) 1304
sensitive anticomplementary bodies in human blood serum, (31) 377
sensitizing x-rays by, (91) 1864
solar, experiments on relative absorption of, by olive-drab and khaki-colored drilling, (47) 302
summer, home temperature, relation to infant mortality, (98) 1431—ab
Heating, electric, of deep tissues, (60) 1689
Hebosteotomy: See Pubiotomy
Hebosteotomy from clinics of Berlin, Munich and Königsberg, (24) 1364—ab
Hebrew literature, ancient, embryology and obstetrics in, (3) 1612
Hectine in syphilis, (116) 548, (35) 702
Hedonal anesthesia, intravenous, (113) 1077
Helminths: See also Worms
Helminths and tumor formation, (70) 1010
Hematemesis, fatal, splenomegaly with, (167) 382
Hematocele, (100) 1857
tubo-ovarian, similating extrauterine pregnancy, (102) 223
Hematocolpos fluid, obstructing membrane, nature of, (14) 1764—ab
Hematology, advances in, (33) 158, (50) 384, (26) 851, (29) 1008
of menstruation, (55) 384
Hematoma, iliac, hemophilic, (61) 77
in vulva or vagina, etiology of, (67) 309
of masseter muscle, (56) 1152
subungual, (153) 467—ab
Hematomas, arteriovenous and arterial, treatment of, (58) 931
Hematomyelia, (80) 1857
tardy, clinical and post-mortem findings in, from trauma of spinal cord, (135) 630
Hematoporphyrinuria, metabolic changes in, not of drug origin, (57) 619, (25) 851—ab
toxic, fatal, complicating septic perforation of uterus, (19) 300—ab
Hematosalpinx, acute torsion of normal ovaries and Fallopian tubes with, (19) 928
apart from extrauterine pregnancy, torsion of Fallopian tube as factor in etiology of, (27) 307—ab
with cervical atresia, *803
Hematozoa, certain, of Congo, (43) 624
Hematuria, endemic, or Illawarra red-water in bovines and possibly in man, (26) 1298
Hemiataxia, hemichorea, hemiparesis and dilated pupil, probably due to lesion near nucleus ruber, (89) 622
Hemiatrophy, facial, in boy, (65) 1146
from scleroderma, (56) 1684
Hemichorea, hermiataxia, hemiparesis and dilated pupil, probably due to lesion near nucleus ruber, (89) 622
Hemiparesis, hemichorea, hemiataxia and dilated pupil, probably due to lesion near nucleus ruber, (89) 622
Hemiplegia: See also Paralysis
Hemiplegia due to apoplexy, treatment of, (78) 154
following head injury, *953
hysterical, due to autosuggestion, (150) 927
slight, (40) 702
Hemiplegias and diplegias of infancy and childhood, syphilitic factor in, (4) 1618—ab
Hemlock poison, poisoning due to eating of, (84) 1002
Hemoglobin culture medium, cholera, Esch's, (63) 703
metabolism in malaria, (19) 461—ab
Hemoglobinometer, colored glass wedges for, (54) 1909
Hemoglobinuria after chilling, (127) 857
Hemoglobinuria familial, from quinin in malaria, (106) 1769
hemolytic jaundice with, (78) 855—ab
malarial, (65) 1069
or detectable plasmodia, hemoglobinuric fever, followed by peculiar relapse without, (18) 460
paroxysmal, (92) 1430—ab
paroxysmal, etiology of, (124) 1865
paroxysmal, pathology of, (130) 389
with muscular paralysis, (104) 311
Hemolysins, agglutinins and poisons, distribution of, in fungi, (23) 1224
bacterial, anemia-inducing action of, (96) 1302
Hemolysis, cobra venom, in diagnosis, (159) 1372
in cancer, (77) 1429—ab
lipoid, influence of albuminoids on, (126) 1865
protection of red corpuscles against, by dilute solution of formol, (45) 1689
sublimate, corrosive, action of serum of cachectic patients on, (68) 1010
Hemophilia, acquired, coagulation-promoting action of rabbit serum and organ extracts in, (133) 389
Hemopoietic serum of Carnot, (8) 1681—ab
Hemoptysis, endemic, or tochil, (57) 222—ab
Hemorrhage, accidental, intra-uterine, concealed, in partial detachment of normally situated placenta, (109) 156
and eclampsia, emergencies of, (130) 305
cerebral, lumbar puncture in, (180) 1697—ab
from abnormally situated placenta, treatment of, (43) 1689—ab
from placenta prævia, hysterectomy without opening uterus, (42) 1689
from stomach or intestines, mechanical measures for arresting, (95) 387—ab
gastric, and chronic appendicitis, (97) 698
gastric and duodenal, surgical treatment of, (111) 778
gastro-intestinal, occult, phenolphthalein test for, (70) 1225—ab
gastro-intestinal, with purulent cholecystitis, (71) 1233
infundibulin in, due to uterine carcinoma, (17) 1143
in gall-bladder as source of biliary colic, (65) 1690—ab
in tuberculosis of lungs, treatment of, (88) 1857—ab
intra-abdominal, due to tubal pregnancy, immediate versus deferred operation in, (105) 1070—ab
intracranial, (149) 381
intraperitoneal, in fibromyomata of uterus, (26) 306—ab
meningeal subarachnoid, (32) 1908—ab
Nasal: See Epistaxis
occult, phenolphthalein test for, in gastro-intestinal tract, (84) 546—ab
of new-born infant, direct transfusion of blood in, (74) 379—ab
persistent, following adenoid operation, (108) 1361
post-partum, and anesthesia, (158) 225
post-partum, Momburg-belt constriction for, (130) 81—ab, (71) 854—ab
prevention of, in pulmonary tuberculosis by administration of autogenous vaccines (70) 1359—ab
Pulmonary: See Hemoptysis
spontaneous, in new-born infant, (156) 1228—ab
subdural, traumatic, without fracture, obscure case of, *956
tardy, in puerperium, (126) 389—ab
uterine, and cancer, (130) 698
uterine, clinical aspect of, (69) 1857
uterine, ovarian origin of, (114) 934—ab, (108) 1370
uterine, pathologic basis of, (68) 1857
uterine, treatment of, (134) 550—ab, (12) 1007
uterine, utriculoplasty for, (13) 1764—ab
Hemorrhages during early pregnancy and abortion, (87) 705—ab
gastric and intestinal, after abdominal operations, (34) 383—ab
intra-ocular, proliferating changes in retina and retinal periphlebitis in tuberculous individual, importance of tuberculosis in etiology of, (105) 1076
punctate, in skin, fat embolism with, (127) 1014—ab
Hemorrhagic disease of new-born infants, (51) 1001
Hemorrhagic manifestations, tourniquet sign of disease with, (47) 545—ab
tourniquet sign of, (112) 1769—ab
Hemorrhoids, (31) 158, (8) 1687—ab
high-frequency currents in, (94) 223
inflatable pessary for, (119) 856
operative treatment of, (73) 78, (61) 379
Hemostasis by high-frequency electric current, (84) 1076—ab
in operations on skull, improved technic for, (111) 628
in prephining, long clamp for, (105) 230
Hemostatic, potassium permanganate as, *1262
Hemp, Indian, standardization of preparations of, (6) 1858
Heredity, ancient foundations of, (87) 541
and degeneracy, (129) 1014
and insanity, (11) 1763—ab
and neuropathic diathesis in epilepsy, (99) 223
complete amenorrhea with, as probable etiologic factor, (52) 1069—ab
in cancer, (66) 1358
in insanity in light of Mendel's laws, (42) 1683—ab
Heredo-syphilitics and their detection, (128) 1004
Hernia, asthenia of connective tissue in origin of, (107) 1769
cerebral, following decompression operation for tumor of brain, (29) 300
diaphragmatic, (5) 75, (60) 302
epigastric, operation in, (41) 1765
femoral, (152) 467
femoral and inguinal, operations for radical cure of, under local anesthesia, (42) 1358—ab
femoral, in aged, radical cure of, (46) 1684—ab
femoral, plastic operation for, (114) 80—ab, (155) 858
femoral, radical plastic operation for, with pectineus flap, 1864
gangrenous, incarcerated, (90) 1369—ab
incarcerated, (145) 81
in child, (45) 1001
in cryptorchid, strangulated, inguinal, double, (163) 1296
inguinal, (95) 380—ab
inguinal, auto-observation of auto-operation for, under Jonnesco's spinal anesthesia (52) 931
inguinal, cause of, (101) 1769—ab
inguinal, congenital, Meckel's diverticulum in, (67) 463
inguinal, incarcerated, acute perforative appendicitis in, (63) 1621
inguinal, plastic operation with cremaster muscle in, (134) 231
inguinal, selection of operation for, (21) 1357—ab
inguinal, varices in round ligament during pregnancy simulating, (179) 860
inguino-superficial, bilateral, with bilateral undescended testicle, (138) 381
in infants, incarceration of ovary or Fallopian tube in, (94) 1368
in linea alba, (61) 703—ab
intraperitoneal, (100) 223—ab
in women, vesical, complete, new operation for, (148) 225—ab
of bladder, (56) 545
of lung, (29) 695
of right lung, spontaneous, (29) 695
of stomach into omentum, (75) 386
operation, features of, (112) 698
pectineal, (111) 1694—ab
perineal, unusual form of, (7) 1072—ab
postoperative, and intestinal resection, (81) 777
strangulated, (121) 74, (54) 77, (161) 305, (107) 1070, (55) 1689
strangulated, presenting unusual symptoms, *1882
strangulated, real or simulated, and volvulus, (49) 775—ab
surgical aspects of, (42) 152
traumatic, (119) 542, (90) 1513—ab
tuberculosis due to, (49) 1068
umbilical and epigastric, injections of fibrolysin in, (69) 932
umbilical, congenital, rare case of, (19) 1764—ab
umbilical, operation for, with extensive excision of fat, (107) 1235
umbilical, pregnant uterus with, Cesarean section, (125) 305—ab
umbilical, unusual case of, *34
ventral, (63) 385—ab
Hernias, as they affect employee and employer, (141) 1148
femoral, right-sided, 2, in same patient, (21) 617

Hernias, inguinal and femoral, bladder in, (109) 380
Hernioplasty, ventral, new variant for, (5) 922—ab
Heroin poisoning, (80) 777—ab
Heroinomania and morphinomania, treatment of, (31) 929—ab
Herpes zoster, acute poliomyelitis and zinc phosphid, (118) 1762
zoster after injection of salvarsan, (98) 464, (95) 627
zoster and kidney colic, (93) 933—ab, (108) 1694—ab
zoster and psoriasis, (121) 1864
zoster, generalized, (144) 467
zoster ophthalmicus, (138) 459, (109) 1226
Herpetomonads, new, (115) 1147
Heterophoria and strabismus, indications for operation in, (127) 1514
Hexamethylenamin and salicylic acid, excretion of, in sputum, *1553
excretion of, into anterior chamber of eye, (104) 1226
for common colds, *1718
in acute biliary infections and typhoid, (69) 1075—ab
in meningitis, (142) 81
pharmacologic and clinical aspects of, (26) 152—ab
Hiccough: See Singultus, Hiccup
Hiccough, persistent, as sequela of choleraic diarrhea, (52) 77
Hiccup, persistent, (123) 1304—ab
treatment of, (18) 1510
High-Frequency: See also Electricity and Electric Currents
High-frequency current in medicine, (60) 1767
currents, hemostasis by, (84) 1076—ab
currents in chronic appendicitis, (8) 300
currents in painful fissures and hemorrhoids, (94) 223
Hills in India, sanitation in, (41) 383
Hip, ankylosis of, Baer's membrane used in operation for, (111) 1147—ab
disease, treatment of, based on pathologic mechanics, (88) 1422
dislocation of, congenital, Lorenz's method for, its etiology, (23) 1007
dislocation of, reduction by Bigelow's method, (2) 845—ab
epiphysitis of, acute, (35) 152—ab
fractures, artificial impaction in, (39) 1758—ab
joint disease and coxa vara, (32) 1863
joint-disease, tuberculous, symptoms and differential diagnosis of, (81) 1857
joint, dislocation of, congenital, reduced by bloodless method, after treatment of, (34) 544
joint, snapping, myotomy of gluteus maximus for, (52) 1861
joint, spastic dislocation of, (68) 1518
joint, tuberculosis of, (63) 1690
luxation of, congenital, rolling bench for use after reduction of, (45) 1758
Histidin in pig thyreoglobulin, (126) 1361
History, natural, reasons why it is needed in Ohio, (95) 1422
writing, clinical, advantages of, (44) 152
Hodgen suspension splint, reliable apparatus in fractures of femur, (22) 1854
Hodgkin's disease, (71) 1069
disease and intermittent pyrexia, (38) 1299
disease, aspects of, (39) 1299
disease, blood platelets and megalokaryocytes in, (112) 1294—ab
disease from surgical point of view, (37) 1299
Holmes, Oliver Wendell, his work in establishing contagious nature of puerperal fever, (14) 377
Holmgren's method, modification of, for forcing out instead of aspirating pleural effusions, (55) 1232—ab
Holzknecht's method for measuring dose of x-rays, (28) 1682
Homes, unhealthy, on Tabard Street and Grotto Place, (43) 158
Hook, new, for decapitation, (55) 1069—ab
Hookworm: See also Uncinariasis
Horse, capacity and weight of lungs and heart in, (116) 465
Horses, swamp fever of, (80) 541—ab
Hospital administration, economic influence of, on medical profession, (34) 1419—ab
and hospital year, educational function of, *1546
and young physician, (5) 1143, (31) 1419—ab
Hospital, Boston City, new neurologic service at, (16) 694
cancer and skin, free, Barnard, dedication of, at St. Louis, (86) 925
construction and economy in maintenance, (1) 1903
corps instruction on board ship, (97) 1518
economic influence of, on medical profession, (32) 1419
for ruptured and crippled, autogenous vaccines in, (112) 926
influence of, on communities, (35) 1420—ab
its recompense to staff, (33) 1419—ab
Mayfield-Tyzzer, for men at Laichon Fu, China, (153) 1617
naval, duties of supervising surgeon of, (57) 1358
naval, large, elementary suggestions regarding plans for, (108) 698
naval, medical department at sea in its parallelism to construction and administration of, as seen by fleet surgeon, (56) 1358
naval, new type, (109) 698
Orthopedic, Nebraska, work of, (30) 152
place of, in civilized community, (3) 1618
service for railroad construction camps in Pacific northwest, (169) 382
St. John's Long Island City, historical sketch of, (111) 542
St. Louis, *1542
St. Mary's, of Brooklyn, historical sketch of, (110) 542
surgery outside of, (55) 696, (7) 1853
teaching, *1548
unit in university work, (11) 623
Hospitals, general, army, blank forms for internal administration of, (142) 1071
in Greenland, (151) 164
neurologic, aims and possibilities of, (15) 694
ophthalmic, in Egypt, (82) 154
public and private, importance of, in education of young physicians and nurses, and clinical instruction of practitioners, (118) 305—ab
state, clinical service in, (13) 774
state, of Missouri, plea for merit system in selection of officers and employees for, (88) 925
Housefly, what shall we do with? (78) 1615
Housing conditions in Upsala, (169) 390
Hulton colliery explosion, (2) 1858
Hum, venous, in epigastrium in cirrhosis-of-liver, (89) 848—ab
Humerus, falling of, associated with dislocation of shoulder and paralysis of arm, (153) 1362—ab
fracture of internal condyle of, (147) 225
fracture of, intra-uterine, (147) 858
injuries of lower end of, (9) 1071
Hunter, John, and his museum, (1, 10, 17) 851—ab
Hydatid of lung treated at children's hospital from 1904-1910, (38) 1619
Hydatidiform mole without fetus, eclampsia in sixth month of pregnancy with, (127) 1157
Hydrarthrosis, intermittent, (59) 1420
Hydremia, determination of, by refractometer, (55) 781—ab
Hydrocele, (134) 1617
pathology and treatment of, (99) 1076
Hydrocephalus and lesions suggesting syringomyelia, subacute ependymitis with, (53) 931
and spina bifida, drainage of, into abdomen, (96) 311—ab
external, congenital, (118) 1304
following meningitis, (47) 307, (38) 702
Hydrogen dioxid, action of, on enzyme-producing property of mucosa and on enzymes, (78) 783
dioxid in hyperacidity, (74) 1863
dioxid in hyperchlorhydria, (121) 231, (78) 309
ions in stomach content, proportion of, (146) 164
peroxid, value of, in microchemical determination of iron, (72) 1512
Hydrolysis of casein, (33) 1758
peptic, complete, of casein, composition of substances produced by action of pepsin on products of, (28) 1758
Hydronephrosis, (125) 1423
congenital, acute pyelitis due to bacillus coli communis as complication of, (33) 1859
huge, *1883
intermittent, chronic, in women, (150) 858
Hydronephrosis, left, splenomegaly, and carcinoma of ureter, case of, (76) 463
relation of anomalous renal arteries to, (65) 71
Hydrophobia: See Rabies
Hydrops of total bile system with chronic occlusion of common bile duct, (138) 1695
universal, of fetus, pathology of, (136) 1157
Hydrotherapy in anemia, (73) 620
in sexual neurasthenia, (30) 1224
procedures for infants, dangers of, (104) 1155—ab
Hygiene and physiology, responsibility of physician for public education in, (117) 224—ab
and sanitation, (144) 699
committees for universities, formation and functions of, *1253
communal, new tasks for, (98) 1076
in schools, (63) 1358
mental, in children, (86) 1293
of eye and throat, (28) 377
of menstruation, (43) 1856—ab
of mind, (19) 1682—ab
of public conveyances, (5) 1000
of swimming pool, (26) 69
oral, movement, (171) 305
personal, (36) 69
rural, (136) 927
school, and orthostatic albuminuria, (143) 467—ab
school, teaching of, (98) 1422
sexual and social, education in, (107) 1762
social, and physician, (125) 1004
teaching of, in schools, (166) 75
Hymen, unruptured, and vaginal atresia in pregnancy, (77) 1225
Hyoscin and mydriatic alkaloids, (28) 226
hydrobromid, adjunct to cocain anesthesia preventive to cocain poisoning, (131) 74
Hyoscyamus poisoning, (163) 82
poisoning in 1649, (98) 387
Hyperacidity, hydrogen dioxid in, (74) 1863
Hyperchlorhydria, (94) 698
and gastric and duodenal ulcers, treatment of, (70) 457
hydrogen dioxid in, (121) 231, (78) 309
its complications, (1) 305—ab
Hyperchlorite treatment of water at Minneapolis, (78) 1002
Hypercytosis, mixed, its nature and significance, (63) 302
Hyperemesis: See Vomiting
Hyperemia, (43) 847
as curative agent, (83) 697
Bier's, in acute gonorrheal arthritis, (131) 381—ab
cases illustrating effects of, by elastic bandage on ununited fractures, (13) 700
constriction, improved cuff for dosage of, and blood-pressure, (134) 786
in pulmonary tuberculosis, (74) 1011—ab
in skin diseases, (14) 700
in urethra, technic of, by hot sounds, (76) 924
Hyperextension, new method for applying plaster jackets in, *874
Hyperhidrosis, circumscribed, traumatic, (78) 1368
Hypernephroma, cutaneous fibromatosis with, (117) 628
Hypernephromata, histology of, and embryology of nephridial and adrenal tissues, (76) 540—ab
Hyperphoria and hypophoria, (148) 1423
Hyperpnea and heart rhythm, (25) 1515
Hypersecretion, chronic, (117) 1616—ab
internal, (123) 786
Hypersusceptibility in relation to infection and immunity, (81) 1622
to antipyrin, transmission of to guinea pigs, (110) 628
Hypertension: See also Blood-Pressure
Hypertension and arteriosclerosis, control and treatment of, (57) 456
arterial, and morbid changes in eye, (107) 1147—ab, (87) 1686
treatment of, based on consideration of cause, (18) 75
Hyperthermia, simple, and febrile infection, no appreciable influence from, on glycemia, (66) 78
Hyperthyroidism: See also Exophthalmic Goiter
Hyperthyroidism, (35) 1364
and objective aural tinnitus, (126) 778
diagnosis and treatment of, (128) 926
ligation and partial thyroidectomy for, (27) 300, (14) 774
Hyperthyroidism, operative treatment of, (1) 150, (51) 1001
treatment of, (14) 1223—ab
Hypertonus, arterial, recurring, in granular kidney and migraine, (32) 76
Hypertrophy of thymus, clinical signs of, (39) 1151—ab
prostatic, (126) 1226
prostatic, management of, (17) 922
pseudomuscular, in family, (23) 1364, (28) 1619—ab
Hyphomycetes of tinea imbricata, further researches on, (20) 1150
Hypnosis, (177) 859, (111) 1235, (105) 1624—ab
and suggestion anesthesia, (112) 230—ab
Hypnotism and suggestion in neurasthenia, (45) 461
as therapeutic agent, (107) 380
Hypochlorite plant, emergency, (77) 1002
Hypoderm, nodular tuberculosis of, (125) 381
Hypophoria and hyperphoria, (148) 1423
Hypophysis cerebri, anatomic and surgical desiderata in exposure and removal of, (152) 305
cerebri and obesity, (172) 1697, (148) 1866—ab
cerebri, rôle of, in nutrition, (57) 1621—ab
extracerebral tumor in region of, (17) 1000
function of, and function of chorioid plexuses of cerebral ventricles, *265
hyposecretion of, or dystrophia adiposa genitalis, (67) 776
physiology of, and actions of its extracts, (147) 1148—ab
tumors of, (87) 303, (116) 628—ab
Hypospadias, autoplastic method of treating, (66) 1075—ab
massive destruction of urethra after failure to restore it in, (29) 1224
Hypothenar and thenar types of neural atrophy of hand, (55) 619—ab
Hypothyroidism, chronic, (135) 707—ab
Hysterectomy, abdominal, care of wound after, (137) 935
abdominal, for cancer of uterus, (89) 79, *96, (69) 379
abdominal, for uterine myoma, 400 cases, (28) 1908
abdominal, in cancer of uterus, rectum and colon, (66) 854—ab
abdominal, radical, technic of, for uterine cancer, (71) 847
abdominal, sac removed unruptured by, in interstitial pregnancy, (10) 382
and salpingo-oöphorectomy, bladder sequelæ of, (100) 380—ab
for puerperal sepsis, (88) 310—ab
for thrombosis postabortum of left ovarian vein, death from continued thrombophlebitis, (85) 379
inversion of vagina following, (45) 930—ab
rubber cap to draw over cancerous uterus during, (176) 859
subtotal, for fibromyoma uteri, (8) 460—ab
supravaginal, in double gonorrheal salpingitis, (138) 1617
vaginal, for endometritis, (4) 1858—ab
vagino-sacral, (76) 78—ab
without opening uterus, for hemorrhage from placenta prævia, (42) 1689
Hysteria and allied organic nervous disease, differential diagnosis of, (147) 550
and modern psychoanalysis, (54) 776—ab
and multiple sclerosis, (94) 627
hemiplegia from, due to autosuggestion, (150) 927
in children, (49) 1292
its symptoms, etiology, prognosis and treatment, (117) 1226
leg phenomenon in, (112) 785
nature of, (108) 785
psychopathology of, (146) 1296
remarkable case of, (124) 1004—ab
trophic superficial processes due to, (174) 1697
Hysteric pseudo-aphasia, traumatic, (75) 1863
Hysterical or neurotic temperament, simulated disease in persons of, (6) 851
states in childhood, genesis of, and their relation to fears and obsessions, (30) 852
Hysteropexies, (54) 1292—ab
Hysteropexy and pregnancy, (63) 225
Hysterorrhaphy, resection, laceration of small intestine, uterine perforation, (40) 1292

I

Ichthyol in pulmonary diseases, (16) 377—ab
Icterus, gravis following labor at term, (58) 1856
pathogenesis of, (37) 378—ab
Idiocy, family, amaurotic, (107) 304
Mongolian, (5) 300
Ignorance, (125) 926
Ileal kink, Lane's, radiographic demonstration of, (45) 1299
Ileocolitis, complications of, (96) 1293
Ileocolostomy for advanced tuberculous joints, (13) 1619—ab
Ileum and cecum, lipoma in submucous tissue of, producing invagination, rotation and obstruction of intestine, (37) 618
carcinoma of, with unusual symptoms, (12) 455—ab
significance of Lane kink of, (73) 379
terminal, intestinal obstruction due to kinks and adhesions of, (46) 1069—ab
Ileus, (114) 542
due to oxyuris, (163) 390—ab
from dilatation of gall-bladder, (113) 465
gastromesenteric, chronic, (95) 304—ab
hysterical, (110) 79
intestinal, postoperative, (78) 1857
paralyticus relieved by operation, (146) 1005
peritonitic, siphonage of stomach content through nose in, (128) 466—ab
peritonitic, technic for relief in, (98) 1155
with or following appendicitis, (48) 1365—ab
Illness, outbreak of, due to canned meat in Carlisle, (38) 76
severe recent, evidence of, afforded by nails, (8) 1423
Illuminator, antral and frontal sinus, (114) 849
Images, double, new method of examination for, (160) 1296
Imbalance, vertical, (148) 1423
Imbeciles, Danish, Wassermann reaction in, (122) 1235
Immobilization in tuberculous osteoarthritis, (53) 1009
Immune bodies, Spengler's I. K. in tuberculosis, (22) 377
Immunity against bacillus of leprosy, (100) 926—ab
and infection, hypersusceptibility in relation to, (81) 1622
cancer, method of cultivating tissues outside body for study of, (75) 1512—ab
in cancers of white rat, (76) 1512—ab
index, method of obtaining, in tuberculosis, (9) 306—ab
individual, (28) 1000
inherited, of goat to ricin, (55) 1073
in tuberculosis, (71) 540—ab
reaction in diagnosis, (2) 1006
reaction, nature of, (1) 1858
reactions as products of natural selection, (21) 69
simplicity of theory, (58) 1069
to scarlet fever, (105) 464—ab
to tuberculosis, (9) 1682—ab
Immunization, active, in tuberculosis, (167) 1006
against puerperal infection, (117) 230
natural, versus artificial vaccine therapy, (93) 1513
Immunology, *578
Impetigo contagiosa transmitted by machine oil, (13) 151
Impotentia coeundi and sexual neurasthenia, treatment of, (165) 382
Impulse and cardiac diastolic sound, (11) 382—ab
Inbreeding, alkaptonuria a degeneration from, (69) 463
Incarceration, retrograde, (83) 386
Incision, abdominal, new, to facilitate intraabdominal operations, (114) 1004—ab
fascial, transverse, suprapubic, in gynecology, (4) 1686
for appendectomy, (74) 1621
median, small, above umbilicus, Cesarean section by, (125) 157—ab
spiral, in varices and leg ulcers, (152) 1372—ab
suprapubic, technic for, (34) 1151
transverse, suprasymphyseal, (110) 1235
Incontinence and pyelitis, treatment of, (45) 1766—ab
so-called and real, treatment, (68) 1358
Index, acidosis, (87) 1003—ab
antitryptic, for seriodiagnosis of gastro-intestinal cancer, (31) 701—ab
Index, phosphatic, for diagnosis and aid in treatment, (101) 542
volume, of red blood cells, (73) 540—ab
India-ink method for finding spirochaeta pallida, (117) 459
Indian, American, influence of mixed blood on susceptibility to infection in, (74) 153
Indians, trachoma among, management and treatment of, (38) 1470
Indiana plan, (88) 1070
sketches of medical history of, (104) 223
state board of health, year's work of, (36) 538
Indican from standpoint of practitioner, (23) 695
in urine, (67) 932
in urine, improved test for, (177) 1607—ab
Indices, refractive, of solutions of certain proteids, (20) 1758
Indigestion, (1) 1296
as surgical symptom, (72) 1760
in children, intestinal, chronic, (50) 1292
in children, periodic attacks of, with presence of diacetic acid in urine, (107) 1003
in infants, (163) 699
in infants, acute, buttermilk for, (66) 160—ab
intestinal, chronic, in early life, (99) 1761—ab
intestinal, dependence of, on gastric disturbances, (1) 921—ab
restitution of water after periods of, (84) 627
Individual and social organism, (110) 224
tuberculous, estimation of earning capacity of, (88) 855
Individuals, voluntary association of, in common cause, what is key to permanency of? (24) 1418
Indo-China, French, medical affairs in, (46) 1619
Indol and tyrosin, effect of injections of, in experimental animals, *1796
Industrial accidents involving eye, difficulty in estimating extent of injury in, (68) 1300
diseases, (77) 777
diseases and physicians, *1132
Industry, women in, and child welfare, (155) 1005
Inebriety, (9) 617
treatment and curability of, (7) 454
Infancy: See also Infants
Infancy, difficult cases of palate defect after, operative treatment of, (53) 1069
disease in, vagaries of, (88) 154
early, inflammatory changes in appendix during, (157) 1228—ab
gastro-intestinal disorders of, (119)381
meningitis in, (59) 1684
physiology and pathology of digestion of fat in, (35) 1068—ab
pleuritic effusions in, diagnosis of, (62) 620—ab
proctoscopy and sigmoidoscopy in, as applied to infectious diarrhea, (63) 620—ab
stenosis of pylorus in, (36) 1688
strabismus in, (67) 153
thyroid in, (23) 774
tuberculosis in, tuberculin in, (49) 545—ab
Infant: See also Infants
Infant, anatomic findings in stomach of, 5 months after cure of stenosis of pylorus, (117) 1304—ab
and mortality, (107) 1615
angiosarcoma of liver in, *873
consultations, milk stations, etc., in Munich, (124) 934
dispensaries and infant mortality, (85) 1767
elimination of gastric ferments in urine of, (111) 706
extensive blistering in, diagnosis of scurvy, (15) 1298
feces, bacterial content of, (103) 706
feeding, (59-61) 1300—ab, (22) 1613
feeding, albumin milk in, (102) 785—ab, (115) 934—ab, (83) 1429, (49) 1765
feeding and maternal responsibility, (67) 1512
feeding, artificial, danger of deficient proteids, (131) 698
feeding, buttermilk in, (83) 705
feeding, commercial foods in, (122) 1077
feeding, complemental, as effective aid in maintaining maternal nursing, *326
feeding, digestion of farinaceous foods in, (112) 1694
feeding, fats in, *329
feeding in health, (131) 550—ab
feeding, lactose in, (57) 853
Infant feeding, malt and curdled milk in, (49) 853
feeding, method of, more important than choice of food in substitute feeding of infants, (135) 156
feeding, old truths about, worth repeating (82) 457
feeding, practical, artificial and theoretical, (85) 1070
feeding, present-day view of, (131) 224
feeding, principles of, (57) 1069
feeding, scientific, (12) 1854—ab
feeding, soluble milk albumin in, (16) 226
feeding with milk from city-kept cows, results of, (134) 156
female, with whooping-cough, prolapse of bladder in, (115) 1077
food reactions in stomach of, compared with those in vitro, (48) 924—ab
glycuronic acid in urine of, diagnostic importance of, (108) 706—ab
hydrostatic test of lung of, possible cause of error in, (145) 936—ab
methods of examining stools of, their value, (49) 924
mortality, (84) 73—ab, (91) 304—ab, (7) 1686
mortality and infant dispensaries, (85) 1767
mortality, causes, prophylaxis, (89) 1615
mortality, do medical colleges adequately train students for prevention of, (3) 376—ab
mortality, importance of birth registration to determine, (41) 538
mortality in New York City, (112) 224—ab, (4) 454, (81) 848
mortality, outline for study and prevention of, for boards of health of small cities, (114) 224—ab
mortality, prevention of, *20, (86) 1422
mortality, reduction of, especially in rural districts, (113) 1071
mortality, summer heat and temperature of home in relation to, (98) 1431—ab
mortality, what are we doing to combat? (28) 1008
new-born, asphyxia of, relieved by placental aeration, (11) 617
new-born, hemorrhage of, direct transfusion of blood in, (74) 379—ab
new-born, hemorrhagic disease of, (20) 1143—ab
new-born, metabolism of nitrogen, phosphorus and purin substances in, (37) 1068—ab
new-born, spontaneous hemorrhage in, (156) 1228—ab
new-born, subcutaneous emphysema in, (31) 852—ab
nursing mother from standpoint of, (46) 924—ab
nutrition, (13) 1682—ab
oculomotor paralysis in, (93) 1430
of 15 months, complete prolapse of bladder in, (50) 1689
of 9 months, compression of trachea due to mediastinal cyst in, fatal, (57) 1145—ab
organism, action of sugar and salt on, (114) 1694—ab
organism, behavior of camphor in, (105) 706
organism, influence of heat on, (82) 705
pinworms and caraway seed in appendix of, (30) 1000
pyloric stenosis in, (156) 1149
rachitic, influence of phosphorus-cod liver oil on metabolism of, (110) 706
sugar content in blood of, (106) 706
syphilis transmitted to, at birth, (124) 1235
tetany in, calcium metabolism in, (69) 1146
tetany in, pathologic findings in parathyroids in, (151) 1148
water content in blood of, in health and disease, (131) 857
welfare, institutes for, (39) 1008—ab
Infants, acidity of urine in, (76) 1301—ab
and children, new clinic for diseases of, (83) 627
anemia in, and iron content of human milk, (104) 706
blood transfusion in, by glass tubes, (17) 1682
bottle-fed, elimination of phosphates in urine of, with and without intake of salt, (86) 627
bottle feeding in, management of difficult cases of, (160) 699
Infants, breast-fed, chronic diarrhea and eczema in, and chemical compositions of human milk, (32) 781—ab
breast-fed, physiologic variations in leukocyte count in, (146) 82
breast-fed, reaction in urine of, (69) 546—ab
breast feeding of, management of, (161) 699
bronchopneumonia in, fixation abscess in, (52) 227—ab
carbohydrate idiosyncrasy in, (26) 455
cardiospasm in, (152) 858—ab
colon bacillus pyelocystitis in, (19) 1418—ab
cutaneous thrush in, (50) 545
cystitis and pylecystitis in, (165) 75
dangers of hydrotherapeutic procedures for, (104) 1155—ab
diarrhea in, (9) 1006, (63) 1069
diarrhea in, and gas bacillus in stools, (13) 846—ab
diarrhea in, prevention of, (117) 850—ab
diarrhea, infectious, in, analysis of 178 cases of, (10) 844
diarrhea, infectious, in, silver nitrate irrigations in, (9) 845—ab
diphtheria, nasal, in, (136) 156
diseases of gastro-intestinal tract in, Finkelstein's classification of, (23) 1357
duodenal tube for, (15) 1682
dysentery in, vaccine therapy in prevention of, (73) 1512—ab
dyspeptic, action of sugars in, (107) 706
eczema in, (56) 854—ab
eosinophil diarrhea in, (130) 1305—ab
European and American, mortality among, compared with mortality among Filipino infants, (109) 304
feeding of fats to, difficulties encountered, *329
female, method of collecting urine from, (16) 844
Filipino, mortality among, compared with mortality among European and American infants, (109) 304
formula for estimating general condition of, (104) 548—ab
functional valvular occlusion of intestine in, (60) 1367—ab
furunculosis in, treatment of, (149) 82
gastro-enteritis in, lesions of pancreas in, (45) 545
gastro-intestinal infection, acute, in, (106) 622—ab
healthy and sick, viscosity of blood in, (61) 462
hernia in, incarceration of ovary or Fallopian tube in, (94) 1368
idiosyncrasy to cow's milk in, (148) 82, (52) 545—ab
ill-nourished, method of dealing with, (50) 924—ab
indigestion in, (163) 699
insufficiently-fed, (41) 702—ab, (40) 1009—ab, (59) 1074
intestinal tuberculosis in, perivascular localization of, (54) 854—ab
intussusception in, (98) 223—ab
mechanical injuries of head in, (134) 224
meningitis, acute, in, (104) 304—ab
method of feeding of more importance than choice of food in substitute feeding of, (135) 156
middle ear infections in, bacterial vaccines in, (31) 1357
neglected, and foundlings, proper management of, (1) 693—ab
new-born, behavior of intestinal epithelium of, (55) 1010
new-born, duration, physiologic decline in weight of, (85) 705
new-born, ephemeral traumatic glycosuria in, (65) 1232
new-born, hemorrhagic disease of, (61) 1001
new-born, hemorrhagic septic infection of, (108) 1303
new-born, jaundice in, and hemolysis, (81) 855
new-born, ovaries of, (41) 1689
new-born, oxygen in resuscitation of, (155) 468—ab
new-born, respiratory metabolism in, (84) 705
new-born, resuscitation of, (166) 1696—ab
new-born, syphilitic pemphigus of, (91) 784
new-born, tuberculous meningitis in, (24) 1515
new-born, variations in weight of, (146) 858—ab
normal and atrophic, estimation of chlorids in stomach contents from, (96) 154—ab

Infants, normal, bottle feeding in, (159) 699
normal percentages of different varieties of leukocytes in, (98) 154—ab
papulous tuberculides in, structure and etiology of, (95) 1431—ab
parotitis, suppurative, primary in, (77) 1300
pathogenesis of digestive disturbances in, (102) 706—ab
pneumonia in, serotherapy of, (99) 1422—ab
purulent infections of urinary tract in, *631
pyloric stenosis in, (29) 852, (103) 1293
recent researches in chemical physiology of, (133) 156
regulation of heat in, (113) 1304
scale pan for simultaneously weighing and measuring of, (66) 620
scorbutus in, (58) 854—ab
should they be nursed by eclamptic mothers? (113) 304—ab, (61) 620—ab, (70) 1075—ab
sloughing corneae in, (88) 622
stools, bacteriologic study of, (107) 464
stools, casein curds in, biologic proofs of their casein origin, (129) 857—ab
sudden death of, and tetany, research on parathyroids with special regard to, (96) 1431
summer diarrhea of, fermental form of, (163) 1362
syphilis, congenital, salvarsan in, (83) 1301—ab
tuberculosis in, (76) 1691—ab
under 2, summer diarrhea in, (52) 1759—ab
unusual causes for restlessness in, (149) 708—ab
urine of, chemical study of, (97) 1431
urine reaction in, (91) 933—ab
water-content of blood in, (89) 627
with acute indigestion, buttermilk for, (66) 160—ab
with exudative diathesis, metabolism of, (105) 548
Infantile paralysis, (34) 69
Scurvy: See Scurvy
Infantilism, (121) 1432
essential, H. Gilford's form of, ateliosis, (32) 226
Infection and immunity, hypersusceptibility in relation to, (81) 1622
antepartum, 2 cases of, (23) 617
bacterial, susceptibility to, (73) 546
by schistosomum japonicum, (21) 1764
ectogenous, or acute-infection? (105) 1370
following cataract extraction, vaccines for, recovery, (94) 1686
general, and faucial tonsils, (73) 777
inflammation not complicated or caused by, treatment of, (97) 622—ab
influence of mixed blood on susceptibility to, in American Indian, (74) 153
of indefinite nature in which sodium salicylate appeared to have beneficial action, (75) 1760
of internal genitalia in women, and sigmoiditis, (53) 1299—ab
puerperal, (52) 1292, (74) 1421
puerperal, hemolytic streptococci in, (54) 1621—ab
puerperal, immunization against, (117) 230
puerperal, overlooked source of, (79) 1146
puerperal, treatment of, (56) 1292
self, puerperal, (92) 933
septic, hemorrhagic, of new-born infants, (108) 1303
septic, of intracranial sinuses, (43) 1299
septic, women with contracted pelves exposed to, and long in labor, alternatives for Cesarean section in, (17) 928, (14) 1007
submaxillary, (46) 456
wound, bacillus aerogenes capsulatus, 8 cases of, (56) 696
Infections, acute, of unknown origin, (108) 1431—ab
in minor surgery, (48) 456
intra-abdominal, pathologic versus physiologic era in surgical treatment of, (42) 1292
leukocytic extract in, (4) 851—ab
localized, chemo-immunologic studies on, (29) 377—ab, (76) 1146
of extremities, septic, prevention and treatment of, (59) 539—ab
of urinary tract, vaccines in, value of, (34) 1683
Infections, protozoal, infective granule in, illustrated by spirochetosis of sudanese fowls, (6) 1362
purulent, of urinary tract in infancy, *631
septic, of extremities, prevention and treatment of, (82) 1070
spirochetal, (53) 776
trypanosome, chemotherapy of Ehrlich in, (6) 1291
Infectious disease, forgotten prophecy of microbic theory of, (21) 1072
diseases, acute, and facial malformation, frequent etiologic factor common to, (129) 698
diseases, acute, and psychoses, (75) 72—ab
diseases, acute, changes in gastric mucosa with, (86) 463—ab
diseases, acute, diet in, *1771
diseases and contagion, (59) 1358
diseases, certain, protracted fever in, (76) 855—ab
diseases, necessity for private sanatoria for patients with, (67) 1152
diseases of children, acute, blood in, their diagnostic value, (75) 303
diseases of nervous system, poliomyelitic syndrome in, (155) 1372
diseases, reactions in urine in, (167) 1372
diseases, suggestions for municipal measures for prevention of, (88) 1293
diseases, transmission of, and flies, (67) 222
peritonitis due to, (173) 1697
processes in urinary passages, means to influence, (72) 1519
Infirmary, Royal, Edinburgh, reports for 1909 from ear and throat department of, (31) 1008
Inflammation, abdominal, vein sign in, (81) 458—ab
chronic, origin of, (141) 550
in peritoneal cavity, operative treatment of relics of, (178) 860
leukocytosis with, significance of, (40) 1516—ab
not complicated or caused by infection, treatment of, (97) 622—ab
periosteal, borderland of, after trauma, (140) 1071
Inflammatory foci, extraperitonization of, technic for, (53) 1862—ab
Influenza, (27) 1007, (91) 1155
bacillus, endocarditis due to, (109) 1264
chronic, and neuropathy, (59) 619--ab
ear lesions due to, (73) 1910—ab
group, bacterium of, and meningitis, (35) 1073
intermittent fever in, simulating malaria, (108) 1294
meningitis due to, (151) 858—ab, (153) 1228
meningitis, its experimental production, (106) 304—ab
peritonitis due to, (173) 1697
pleurisy due to, and peritonitis, (137) 630—ab
toxins, anaphylaxis from, (132) 163
Infundibulin in hemorrhage due to uterine carcinoma, (17) 1143
Infusion, intravenous, and puncture, technic for, (123) 1864
Inguinal canal, flap from sartorius for closing of, (129) 163
Inhalation, antiseptic, continuous, in pulmonary tuberculosis, (14) 383-ab
immunity of tuberculous animals to tuberculosis infection by, (63) 159
therapy, improved, (135) 312
Inhibition in central nervous system and tetanic convulsions in frogs produced by acid fuchsin, (50) 539
Injection, mercurial, painless, for syphilis, *1654
Injections, epidural, value of, in idiopathic vulvar pruritus and other sacral neuroses, (82) 1429
extradural, by sacral puncture in genito-urinary neuroses, (17) 1854—ab
hypodermic, technic for, *1654
intravenous, technic for, (90) 1012
Injuries, abdominal, diagnosis and treatment of, (33) 1511
intracranial, fracture of skull with, (107) 1361
mechanical, of head in infants and children, (134) 224
of abdominal viscera without external signs of violence, *718
of first metacarpophalangeal joint, (102) 79
of legs, crushing, treatment of, (24) 1907
Injury as causative factor in cancer, (44) 1683—ab
direct, from extreme tachycardia, (90) 463
near knee, severe, (3) 1858
of head, (83) 777
Ink, India: See India Ink
Inoculation, antityphoid, as introduced into certain training schools for nurses in Mass., (23) 221—ab
is kala-azar transmitted by? (130) 231—ab
of tuberculin, possibility of modifying effect of, by combining with local anesthetic, 780—ab
Inoculations, 1,000 chiefly in private practice, (3) 542—ab
Inquiry beyond isms of times, appeal for, (163) 1006
Insane, commitment of, in California, (65) 1293—ab
general paralysis of, in native of India, (19) 780
hurried bird's-eye view of problem of modern care of, (10) 1143
indigent, of Pennsylvania, urgent need of more adequate care and treatment for, (92) 303
intestinal parasitic infections among white patients at, (9) 1418—ab
more rational and energetic care of, plea for, (30) 1419
of Cook County, commitment and care of, (36) 152
proposed legislation on confinement of, (72) 160
state care of, (101) 74—ab
surgery among, (69) 222—ab
Insanities of puerperal period, (126) 305
Insanity: See also Nervous, and Mental
Insanity, (76) 1760
and alcohol, (22) 1515
and allied conditions, (35) 1758
and heredity, (11) 1763—ab
and neurasthenia, (35) 461, (7) 694
artefacts of, (92) 1857
confusional, interesting case of, *179
detection of simulation of, by association-tests, (145) 1296—ab
heredity in, in light of Mendel's laws, (42) 1683—ab
hints for practitioner on nature, etiology and early diagnosis of, (12) 220
increase of, (4) 1853
manic-depressive, (29) 923
manic-depressive, mixed phase of, (64) 1615
manic-depressive, or recurrent insanity, (8) 220
popular fallacies about, (1) 1067
postoperative, diagnosis of, (32) 301—ab
prevention of, (19) 1682—ab
puerperal, (166) 1149
recurrent, or manic depressive insanity, (8) 220
teaching of, to medical student and practitioner in relation to prevention of mental diseases, (37) 227
test of, in criminal courts, (87) 1615
traumatic, and traumatic epilepsy, (140) 1148
Insect bites, (106) 1147
dipterous, unidentified larvae of, developing in deep urethra and bladder of man, producing severe abdominal symptoms, (42) 1511
Insecticides, further contribution to our knowledge of, (54) 1684
Insects and medicine, (158) 382
Inspection, sanitary, of oyster-grounds in United States, *733
Inspiration, paradoxic bulging of interspaces during, (144) 314
deep, Politzer's air douche during, (135) 550
Institution, diphtheria in, (72) 1615—ab
Institutions and health resorts, diet in, (141) 81
Instrument, aspirating device, *244
bone clamps of aluminum wire, (64) 153—ab
broad button probe for diagnosing strictures in esophagus and rectum, (63) 1232
cannula, *35
case, new, of French army, (79) 154
Einhorn duodenal pump, (81) 1070
electric laryngeal mirror heater, (119) 1361
expensive pocket transilluminator, (112) 1226
fenestrated sound for diagnosis of esophageal cancer, (167) 82
forceps for end-to-end intestinal anastomosis, (43) 302—ab
for opening and irrigating abscess cavity, description of, (34) 221
frontal sinus curette, *1653
Herz sphygmomanometer, (120) 542
improved audiometers, (6) 693
improved gastroscope, (68) 160
improved spirometer, (102) 311
improved tonsil snare, *1097
Instrument, LaForce adenotome, (173) 1296
modified aural speculum for incision of external canal, (101) 458
new bag for hydrostatic dilatation of cervix-uteri in pregnant and parturient women, (55) 1069—ab
new clamp for end-to-end intestinal anastomosis, *1445
new hook for decapitation, (55) 1069—ab
new telephonic searcher for metallic foreign bodies in tissues, (15) 1291
new tongue depressor, (120) 1361—ab
new tonsil dissector, *953, (49) 1614
new tonsil knife, *346, (16) 537
permeability of glass for ultra-violet rays, (62) 1427
practical syringe for intramuscular injections, (110) 74—ab
self-retaining mastoid retractor, (38) 1364
speculum for direct examination and treatment of nasopharynx and eustachian tubes, (118) 1361
spinal needle, (165) 305
syringe for local anesthesia in rectal operations, (22) 538
tonsillotome improvement, (42) 1224—ab
twin scissors for twin sclerotomy, (11) 1006
two well-known tonsil dissectors mounted in convenient form on single handle, (121) 1361
x-ray penetrometer, (39) 1364—ab
Instrumentation, urethral, abuse of, (19) 454
Instruments: See also Apparatus
Instruments, new, antral and frontal sinus illuminator, frontal sinus rasp, compressed air irrigator, (114) 849
non-inflammable celluloid splints and braces, (82) 379
used by Lt.-Col. Henry Smith, (20) 455—ab
wind, and emphysema of lungs, (74) 1691—ab
wind, and longevity, (105) 1003
Insufflation anesthesia, intrathoracic, apparatus for, (3) 1290—ab
intratracheal, and ether, control of strychnin poisoning by, (51) 1427—ab
intratracheal, of air and ether, anesthesia by, (46) 775—ab
Insurance and West Africa, plea for routine blood examination, (22) 226
deafness and disease of ear in relation to, (10) 75
life, effects of tropical life on, (17) 701
relation of deafness and diseases of ear to, (24) 226
scheme, national, Prussian official tariff for medical attendance, (20) 1763
state, compulsory, of employers' liability under workmen's compensation act, 1906, question of, (22) 1072
surgical cases modified by, (20) 623
trauma in origin of cancer from standpoint of, (126) 1770—ab
Integument and suprarenals, connection between, (101) 1864
Internal secretion, excessive functioning of glands with, and their constitution, (79) 1519
secretion, interrelations of organs of, (94) 849—ab, (149) 1148
secretion of pancreas, *655
secretion, production of, by mammalian testicle, and interstitial cells of Leydig, (72) 1146—ab
Internal secretions, (82) 697
secretions, chemical aspect of, *652
secretions, effects of, on malignant tumors, (101) 1360—ab
secretions, reciprocal interaction of, (87) 933
Internist, diagnostic significance of headache to, (91) 73
stomach disorders requiring surgical intervention from viewpoint of, (23) 1000
Interspaces, paradoxic bulging of, during inspiration, (144) 314
Intestinal: See also Gastrointestinal
Intestinal, anastomosis and gastrojejunostomy, method of performing, by single row of sutures, (31) 1072
anastomosis, end-to-end, new forceps for, (43) 302—ab
anastomosis, new method of, (62) 847—ab
and gastric hemorrhages after abdominal operations, (34) 383—ab
antisepsis, scientific evidence of possibility of, (95) 1147—ab

Intestinal bacteria, anaerobic, especially those of butyric acid fermentation, (115) 1304
bacteriology, *1084
catarrh, chronic, (93) 547
disease due to sulphuric acid used in manufacture of cereals, (131) 1014
disease, local therapeutic action of protargol in, (127) 163
disturbances in children, (6) 844
emphysema, (127) 935
functioning, sluggish, hot enemas for, (105) 1694—ab
indigestion, dependence of, on gastric disturbances, (1) 921—ab
indigestion in children, chronic, (50) 1292
juice, normal bactericidal properties of, (78) 1301
lipoma, (53) 625
movements, action of animal extracts on, (40) 1224
obstruction, (51) 153, (113) 622, (109) 1070
obstruction, acute, cathartics in, (147) 381
obstruction, auto-intoxication with, (54) 461
obstruction caused by enterolith spontaneously cured by evacuation through umbilical fistula, (37) 77—ab
obstruction due to kinks and adhesions of terminal ileum, (46) 1069—ab
obstruction due to malignant neoplasm, treatment of, (122) 305—ab
obstruction, electricity in, *958
obstruction from appendiceal adhesions, (106) 380
obstruction from Meckel's diverticulum, (128) 1235
obstruction, peculiar cause of, *1389
obstruction, 6 cases of, (61) 302
obstruction, unusual case of, (19) 1072—ab
paralysis, postoperative, electricity in, *958
parasites, examination of Filipino mess attendants for, (80) 1359
parasites found among crew of U. S. S. South Dakota, (79) 1359
parasites in inmates of Philadelphia General Hospital, (16) 1067
parasitic infections among white patients at Florida Hospital for Insane, (9) 1418—ab
putrefaction and arthritis deformans, (4) 1143
reflex, (23) 75
resection and postoperative hernia, (81) 777
resection with technic combining Murphy button, Hartley and Lilienthal methods, (58) 696—ab
stasis, chronic, distention changes in duodenum in, (45) 1068
stasis, chronic, kinks which develop in our drainage system in, (1) 1514
stasis, chronic, short-circuiting or colectomy in, (2) 1514
stenosis, (74) 1233—ab
surgery, progress in, new method of suturing bowel, (15) 617—ab, (62) 847—ab
syphilitic or cancerous stenosis, surgical treatment of, (100) 547
toxemia, acute retrobulbar neuritis due to, (103) 1226
tuberculosis in infants, perivascular localization of, (54) 854—ab
Intestine anastomosis, end-to-end, new clamp for, *1445
and stomach, disease of, pathology of, (72) 1690—ab
anemic gangrene and ulceration in, due to simple distention, (124) 312
cancer of, metastasis to nervous system from, (1) 376
carcinoma of, x-rays in diagnosis of, (9) 1067
dangers of diverting urine into, (135) 935—ab
diverticula of, (62) 1615
gangrene of, from obliteration of mesenteric vessels, (28) 1764
high irrigation of, (80) 1767
in infants, functional valvular occlusion of, (60) 1367—ab
invagination of, in ileocecal region, (82) 386
invagination, rotation and obstruction of, due to lipoma in submucous tissue of ileum and cecum, (37) 618
kinks which develop in, in chronic intestinal stasis, (87, 88) 1692—ab
large, antiperistalsis of, in man, (135) 857
large, cancer of, improved diagnosis of, (23) 780
Intestine, large, chronic catarrh of, treatment of, (101) 934—ab
large, duodenum and stomach, radioscopic changes in, standing and lying, (33) 1765
large, melanosis of mucosa of, (62) 1862
large of horse, bacterial flora of, (37) 1860
large, primary resection of, (54) 1366—ab
large, resection of, for malignant disease, (31) 1067
large, surgical indications in lesions of, (123) 1147
large, tuberculosis of, peritonitis from perforation in, (48) 853
lower, disease of, (48) 1517
lower, diverticula of, their development and relation to carcinoma, (48) 775—ab
lower, inflammatory diseases of, ionization in, (11) 1515—ab
new method of suturing, (15) 617—ab
obstruction, difficulties encountered in late operations for, (19) 1758—ab
obstruction, acute, stomach-tube for diagnosis of, *1800
perforation of, during curettage of uterus, (121) 786
physiologic implantation of severed ureter or common bile-duct into, *397
pneumatic rupture of, new type of industrial accident, (79) 380—ab
putrefactive products of, as etiologic factors in certain forms of neuralgias, (11) 694—ab
retrograde incarceration of, (139) 163
rupture of, from abdominal trauma, (123) 74
small, atresia of, congenital, operative cure of, (85) 1520
small, functionally resected, metabolism of dogs with, (40) 618—ab
small, laceration of, uterine perforation, resection, hysterorrhaphy, (40) 1292
small, malignant lymphoma of, (80) 379
small, prognosis of extensive resection of, (132) 1695
small, rupture of, from contusion, (124) 1769
small, secreting cells in, (76) 309
stasis of, chronic, short-circuiting or colectomy in, (87, 88) 1692—ab
stenosis of splenic flexure of, (117) 1694—ab
transplanted, artificial vagina made from, (52) 703
tray for necropsies, (85) 1359
typhoid perforation of, successfully operated on, (94) 1761
Intestines and bile ducts, anastomosis between, indications and technic for, (50) 625
hemorrhage from, mechanical measures for arresting, (95) 387—ab
improved technic for artificial anus after resection of, (132) 1236
pseudotumors in, (128) 163—ab
ulceration of, (56) 1427
ulcerations of, advantages of appendicostomy and cecostomy in, (56) 1069
with pernicious anemia, histology of, (91) 463
Intoxication and alimentary toxicoses, (27) 774
cocain, chronic, psychic disturbances with, (92) 1155—ab
from dermatol, (99) 79
from inhaling volatile substances in tubercle bacilli cultures, (80) 1233
nitrobenzol, blood and heart findings with, (103) 311
Intoxications, (70) 78
Intramuscular tissue, absorption from, (71) 1146—ab
Intubation, investigation of postoperative conditions from 5 to 10 years after, (96) 777—ab
of duodenum, history of, (67) 1690
peroral, for operations on nose, mouth and throat, (87) 1369—ab
Intussusception, (15) 844, (161) 1006, (18) 1425
acute, and appendicitis, (15) 1619
in adult, (47) 775—ab, (121) 1004—ab
in children, (61) 1684
in children, treatment of, (62) 1684
in infants, (98) 223—ab
of appendix, (5) 1071
successfully treated by resection, (22) 1619
Invalids, foreign, British health resorts for, (12) 382
Invertase, composition of, (38) 923
Investments, safe, in business career of physician, (66) 924
Iodid medication, symptoms of thyroid intoxication after, (75) 783—ab
Iodin, action of, on tissues, (138) 1005—ab
catgut, dry, (159) 305—ab, (71) 1512
combination of albuminous substances in blood with, after administration of new iodin preparation, derivative of tannic acid, (139) 231
disinfection of wounds, (37) 1357
in exophthalmic goiter, (97) 1076—ab, (61) 1153—ab
in surgery, (139) 779, (71) 1512, (136) 1865
local applications of, in erysipelas, (156) 1372—ab
necessity for caution in administering, (153) 82—ab
regional variability in susceptibility to, (95) 705
stains, sodium thiosulphate for removal of, (71) 704—ab
sterilization of skin, (122) 231—ab, (158) 305, (13) 383—ab, (159) 468, (112) 628, (140) 927, (54) 931—ab, (119) 1013, (18) 1150—ab, (17) 1291—ab, (136) 1865
therapy, dangers of, (92) 161—ab
tincture of, in surgery of war, (76) 154—ab
tincture of, superior to alcohol for sterilization, (77) 1075
Iodism and thyroidism, (100) 933
Iodoform and pure phenol for appendiceal abscess, (4) 1297—ab
ointment, melted, in suppurative bubo and ischiorectal abscess, (22) 846—ab
Iodo-iodid injections in tuberculous peritonitis, (117) 1013
Ionization, value of, in inflammatory diseases of lower intestine, (11) 1515—ab
Ions, oxygen, in stomach content, (94) 1302
Ipecac and copper salts in amebic colitis, (104) 1513
in dysentery, efficacy of, (21) 1510—ab
in liver abscess, (20) 780
Ipecacuanha, (81) 1685
Iris and chorioid, experimental tuberculosis of, in rabbits, (71) 1621
and ciliary muscle, action of atropin and eserin on, (158) 1296
leukosarcoma of, removed by iridectomy and useful vision retained, (92) 622
tuberculosis of, after chilling, (83) 783—ab
Iritis, (9) 157, (75) 223, (124) 1295, (11) 1362
etiology of, (10) 1763—ab
Iron content of human milk and anemia in infants, (104) 706
metabolism of, in myeloid leukemia before and after x-ray exposures, (83) 1011
value of hydrogen peroxid in microchemical determination of, (72) 1512
Irrigation in septic abortion, (27) 1000—ab
intravesical, in acute gonorrhea, (38) 1613
of anterior chamber after cataract extraction, (142) 305
wound, intermittent, improved method of, (143) 1148
Irrigator, compressed air, (114) 849
Ischium, transverse fracture of body of, in 1893; terminal displacement in 1902; diagnosticated in 1909, (52) 847
Islands of Langerhans, adenomata originating from (59) 1856—ab
Isms of times, appeal for inquiry beyond, (163) 1006
Isoagglutination, grouped, in lower animals, (78) 1512
Isohemagglutination, tonicity in, (79) 1512
Isolation, quarantine and disinfection, (137) 927
Itching papular eruption, chronic, of axilla, pubes and breast, *174

J

Jail dysentery, (29) 1619
Janeway, E. G., memorial tribute to, (98) 1234
Janitors, training of, in sanitary care of school premises, (75) 1002
Japan, diseases in, caused by animal parasites, (99) 229
Jar, anaerobic, new form of, (31) 69
Jaundice, (155) 699
and bile formation, rôle of portal circulation of liver in, (68) 1760-ab
after injection of salvarsan, (91) 1234
Jaundice and xanthelasma, (169) 82
chronic, diagnosis of commoner causes of, (3) 1071
emotional, (47) 1620
family, chronic, (70) 777—ab
hemolytic, (48) 227, (142) 232—ab, (18) 774—ab, (30) 1516
hemolytic, congenital, with splenomegaly, (23) 922
hemolytic, with occasional hemoglobinuria, (78) 855—ab
in children, emotional, (65) 1300
in new-born infants, and hemelysis, (81) 855
in pernicious anemia, (44) 1511—ab
interpretation of, (23) 1067
recurrent, splenomegaly with, ending in hepatic cirrhosis and ascites, (22) 1150—ab
severe, with paratyphoid infection, (162) 1372
significance of, in gall-stone disease, (69) 1421
syphilitic, (40) 1426—ab
Jaw, alveolar eminence of, and guillotine, tonsillectomy by, *867
and mouth, tuberculosis in, primary, (81) 626
fracture of, (93) 1369—ab
lower, fractures of, complicated, simple expedient in treatment of, (69) 303—ab
lower, slit and soft and hard palate separated for exposure of nasopharynx, (146) 1306—ab
lower, undeveloped, or receding chin, operation for correction of, (45) 847
tumors of, most frequent in negro, (52) 696—ab
upper, large fibroma of, (44) 930
upper, transverse fracture of, (103) 79
Jaws and face, development of, and teeth, *473
Jejunum, lymphomas of, malignant, multiple, primary, (138) 630
ulceration of, after gastro-enterostomy, (42) 980, (133) 1695—ab
Jenner, Edward, M.D., LL.D., F.R.S., (94) 542
Jews, cretinism among, (113) 388
Johnson, Dr., and medical profession, (50) 1073
Johnson, Life of, Boswell's, medical aspect of, with account of medical men mentioned in book, (26) 226
Joint and bone complications of malta fever, (46) 930
and bone tuberculosis in children, what Paris does for, (71) 1010
disease, tuberculous, *1718
diseases from orthopedic standpoint, (115) 381—ab
diseases, tuberculous, value of tuberculin in, (111) 926—ab
infections, aspiration and injection of 2 per cent. formalin in glycerin in, (100) 1147
lesions in scarlet fever and measles, (85) 1076—ab
lesions, neurologic features in, (116) 381—ab
metacarpophalangeal, first, injuries of, (102) 79
new, removal of third digital phalanx with formation of, (103) 1686
sacro-iliac, injuries to, (59) 1069
Joints, auscultation of, (12) 623—ab
chondromas in, (81) 932
dislocation of, mechanism of, with single axis, (76) 1075
infected, injection treatment of, (173) 305
lesions of, and erythemata, nature of connection between, (4) 1906—ab
mobilization of, with rubber bandage, *710
neuralgia of, recurring effusion with, (155) 82—ab
sacro-iliac, relaxation of, cause of sciatica and backache, (34) 1855—ab
tuberculous, advanced, ileocolostomy for, (13) 1619—ab
tuberculous, vaccines in operative treatment of, (109) 926
tuberculous, treatment of, (47) 1909—ab

K

Kala-azar, hypodermic injection of solution of quinin sulphate in, (30) 1072
in Greece, (60) 1428—ab, (89) 1520
in Sicily, (144) 1157
is it transmitted by inoculation? (130) 231—ab
Kaolin and carbon dioxid snow in therapeutics, (71) 160—ab
Kentucky, Central, Medical Society, biographies of members of, (127) 1071
Keratitis ex acne rosacea, (5) 537
interstitial, of sympathetic or syphilitic aspect, (153) 1296

Keratitis, interstitial, salvarsan in, 2 cases of, (83) 154
phlyctenular, tuberculous factor in, (80) 1070
syphilitic, experimental, (134) 629
Kidney abscess complicating pregnancy, normal delivery followed by nephrectomy, (57) 1759
abscess, urogenous, multiple, acute, resembling acute unilateral hematogenous nephritis, (46) 1145—ab
action of colon bacillus on, (36) 1426
activity, (88) 541—ab
adenocarcinoma of, (126) 156
and bladder tuberculosis, operative and specific treatment of, (108) 388—ab
and cardiovascular disturbances, dietetic treatment of, (63) 625—ab
and heart disturbances with chronic constipation, (127) 1305—ab
artery, experiments on, (75) 379—ab
blood supply of, (68) 1146
calculi, (64) 303, (54) 1689—ab
calculi, advantages of pyelotomy for removal of, (34) 702
calculi, diagnosis of, (148) 381, (131) 1004, (172) 1149, (121) 1616—ab
Calculi, Kidney Calculus: See also Nephrolithiasis
calculi, origin of, (88) 1011
calculus, bilateral, (53) 222
calculus, diagnosis and treatment of, (121) 1616—ab
calculus, surgical aspect of, (30) 923
cancer of, in children, (51) 1299—ab
colic and herpes zoster, (93) 933—ab, (108) 1694—ab
congenital cystic degeneration of, (18) 1291
contusion of, indications for operative treatment after, (51) 1861—ab
cortex of, massive infarction of, (14) 460
cyst formation in, (54) 703, (60) 931
cystic, congenital, (23) 1425
cystic disease of, multiple punctures in, (128) 786—ab
cystic, infected, nephrectomy for, recovery, (41) 775
cystic, necropsy in, over year after nephrectomy, (114) 1432
damage done to, by operation, (116) 1003
decapsulation and sacrification of, clinical importance of, (64) 1368—ab
decapsulation of, in puerperal eclampsia, (131) 629
decapsulation of, in uremia from acute nephritis in girl of 6, (80) 1368
deformity, rare, (51) 1689
diagnosis, functional, value of chromoureteroscopy in, (56) 1420—ab
disease, anasarca due to, surgical treatment of, (121) 926
disease and health, action of epinephrin in, (95) 1302
disease, causes of hypertrophy of heart in, (139) 1371—ab
disease, dietetic and physical measures in, (124) 1304
disease, nephrectomy for, (31) 544—ab
disease, polycystic, (49) 1299—ab
displacements and dystocia, (70) 379
displacements, congenital and acquired, as etiologic factors in dystocia, (28) 455—ab
fatigue, experimental research on, (129) 1865
Floating: See Kidney, Movable
function, phenolsulphonephthalein as test for, before operation, (33) 1683
functioning, changes in, with disease of one kidney, experimental research on, (110) 1769
functioning, test of, by comparison of urea content of blood and urine, (32) 1516—ab
functioning, tests of, (113) 1616, (95) 1692—ab
gonococcus infection of, (54) 1420
granular, its surprises, (3) 1762
granular, recurring arterial hypertonus in, (32) 76
hematogenous infections of, acute, and pyelitis of pregnancy, medical treatment, (8) 1904
horseshoe, symptomatology, diagnosis and treatment of, (150) 314-ab
in children, calculus in, (35) 1426-ab
infection, hematogenous, unilateral, rare type of, (65) 776—ab
inflammation of adipose capsule of, (97) 547—ab
left, absence of, (51) 847—ab
living, abnormal movements of, or renography, (4) 1363—ab
Kidney, malignant, and suprarenal tumors, fever with, (83) 546—ab
malignant papillary adenoma of, (57) 1420
modern surgery of, (148) 1362, (24) 1613
movable, (101) 304
movable, and neurasthenia, (36) 461
movable, chronic, clinical study of, (3) 305
movable, etiology and treatment of, (128) 74, (132) 1423
movable, from medical standpoint, (129) 74
movable, from standpoint of genitourinary surgeon, (130) 74
movable, operation for, after-history of 30 cases, (8) 1296
operations on, and pregnancy later, (40) 853—ab
pain, (3) 382—ab
pathologic changes in, due to occlusion by ligature of one branch of renal artery, (11) 1682—ab
pathology, modern ideas of conceptions of, (162) 1228
pelvis and ureter, plastic operations on, (60) 1862—ab
pelvis, x-ray examination of, (130) 1236—ab
primary suture of subparietal rupture of, *875
prolapse of fat tissue surrounding, (80) 1075
retention of alkali by, special reference to acidosis, (100) 1359
single, anuria from concrement in, cured by catheterization of ureter, (43) 853
state of, in renal tuberculosis, (52) 308—ab
Stone: See Kidney Calculus, Calculi
sufficiency, chromocystoscopy in determination of, (73) 1519
sufficiency, relative value of various methods for determination of, (105) 778—ab, (57) 924—ab
sufficiency, surgical means for estimation of, (47) 1689—ab
supernumerary, (40) 930—ab
supernumerary, seat of cystadenoma, (115) 1003
suppuration after contusion of, (115) 388
tests, functional, present status of, (113) 1616
tissues, embryology of, and histology of hypernephromata, (76) 540—ab
tuberculosis, advanced, difficulties and limitations of diagnosis in, (117) 1514—ab
tuberculosis and tuberculous bacteriuria, (53) 1689—ab
tuberculosis, diagnosis and treatment of, (177) 83—ab
tuberculosis, diagnosis of, (27) 1364
tuberculosis in women, (7) 1904—ab
tuberculosis, operative and specific treatment of, (52) 1420
tuberculosis of, (160) 382, (53) 1420
tuberculosis, state of kidney in, (52) 308—ab
tuberculosis, x-ray diagnosis of, (111) 230
tuberculous, removal of ureter with, (50) 1683
tuberous sclerosis and multiple tumors in, (138) 550
tubules, absorption of sugar by, (26) 1908
tumor, traumatic, (128) 1370
wandering, treatment of, (56) 1766
Kidneys and arteriosclerosis, (1) 1423, (3) 1514
and suprarenals in chronic nephritis, relations between, (180) 860—ab
and ureters, diagnosis of, surgical diseases of, (43) 1358
and ureters, operating on, (10) 1687
anomalous arteries of, their relation to hydronephrosis, (65) 71
circulation in, and arterial blood-pressure, (138) 1371
decapsulation of, in eclampsia, (131) 1371—ab
diseased, functioning of, (89) 463
elimination of mercury through, (190) 860
functioning of, with chronic vascular disease, research on, (96) 1693-ab
gunshot wounds of, (74) 1519
injuries of, (59) 1862—ab
injuries to, with end-results, (65) 847, (137) 1148
injury of, from salvarsan, (50) 1518—ab
of cattle, first changes with tuberculous process in, (126) 1370
percussion of, (4) 537—ab
study of functional activity of, by phenolsulphonephthalein, (78) 380—ab, (33) 1151—ab
Kidneys, suprarenals and high-blood pressure, connection between, (68) 1366
x-ray examinations of, (77) 924
King, Gordon, Dr., biography of, (64) 1225
Kitchen and diet from chemical, physical and physiologic standpoints, (146) 467
Kitchens, ventilation of, (14) 220
Knee, ankylosis of, treatment of, (97) 229—ab
dovetail method of opening into, (78) 933—ab
elbow position with ptosis of viscera, (69) 1153—ab
injury near, severe, (3) 1858
jerk, certain and simple method of obtaining, *1705
joint, diseases and injuries to, treatment of, (48) 1001
joint, floating cartilages in, (106) 1864
joint injuries, common, their consequences, (8) 1071
joint, operation for stiffening, (120) 1004—ab
quadriceps extensor tendon of, and tendo achillis of other leg, simultaneous rupture of, (78) 1070
semilunar cartilages of, displaced, surgical treatment of, (1) 459—ab
subluxation of, (17) 623
traumatic synovitis of, (50) 1358
Knife, tonsil, improved, *346
tonsil, new, (16) 537
Knot-tying, *1020, (144) 1148
Koch, Robert, (70) 228—ab, (11) 377
Koch, Robert, memorial address on, (10) 377
Koch, Robert, the father of modern tuberculosis science, 1307
Koplik's spots, (53) 854—ab
Korsakow's syndrome, cerebropathia psychica toxemica, (85) 1225
Kymographion, ordinary, drum-spinning attachment for, *1705

L

Labor: See also Labors
Labor, analysis of course of, in 100 occiput posterior presentations, (50) 378
and pregnancy, tuberculin reaction during, (29) 1765—ab
anesthesia during, (76) 1857
at term, icterus gravis following, (58) 1856
chloroform during second stage of, (83) 1146
Difficult: See also Dystocia
dilatation of os uteri in (27) 1859
fibromyomata of uterus complicating, (121) 305—ab
graduated, at Bellefield Sanatorium, (51) 384—ab
high temperature after, acetyl-salicylic acid for, (8) 699
infection following, treatment of, (92) 458
management of, in contracted pelvis, (43) 1614
natural delivery following Cesarean section in, (35) 1688
normal, anesthesia in, (122) 156
normal, management of, (170) 75, (77) 1615
obstruction due to retraction ring, (27) 1151
physical, maximal, functional capacity and oxygen requirement with, (115) 465
pregnancy and puerperium, uterine fibroids complicating, (128) 1148, (41) 1292, (99) 1615, (54) 1759
premature, indications for and induction of, (14) 1357
prolapse of inverted uterus during, (6) 622
scopolamin-morphin anesthesia in (3) 622, (7) 1423
test of, in general and hospital practice, (92) 1615—ab
unusual complication of, (56) 77—ab
women with contracted pelves, who have been long in, and exposed to septic infection, alternatives for Cesarean section in, (17) 928, (14) 1007
Laboratories, naval medical school, parasites found at animal necropsies in, during 1910, (84) 1359
Laboratory and practitioner, cooperation of, (56) 1689
diagnosis, value and limits of, (56) 847
findings, value of, in diagnosis and prognosis of abdominal surgical diseases, (136) 779
hygienic, state, opportunities of, (68) 1292
Labratory infection with malta fever, (56) 1300
in medical school, *1536
methods in diagnosis of syphilis, (67) 1421
notes on fats and lipoids in rhinoscleroma and its bacteriology, (25) 1000
oral, (35) 1224
public health, (24) 1905—ab
public health, functions of, (29) 69
section, past performances of, with suggestions for future, (42) 538
versus clinical methods in practice of medicine, (38) 1144
Labyrinth, acute suppuration of, (26) 695
and auditory nerve, syphilis of, (137) 1371
auditory, possible effect of salvarsan on, (2) 921—ab
infectious diseases of, (48) 71, (6) 75
suppuration in, and cerebellum abscess, differential diagnosis of, (41) 1856—ab
surgery of, (93) 777
Labyrinthitis, latent, diffuse, its dangers in radical mastoid operations, (14) 851
suppurative, 5 cases of, (115) 1361
Laceration and expulsion of ring of vaginal wall, (99) 627
perineal, complete, secondary repair of, (124) 305—ab
Lacerations of cervix-uteri, (77) 72
Lacrimal sac, extirpation of, (63) 1225
sac, pneumocele of, (24) 538
Lactation, (124) 1695—ab
after removal of both Fallopian tubes, (32) 1151
care of breast of expectant mother before and during, (127) 157—ab
determination of capacity for, (53) 1152
disturbances of, *322
Lactose in infant feeding, (57) 853
Lane's operation for cleft palate and harelip, modification of, (62) 1759—ab
Lantern slides in color, method of preparing, (81) 72
Laparotomies, asepsis in, and origin of emboli, (154) 467
gastric and intestinal hemorrhages after, (34) 383—ab
iodin disinfection for, (136) 1865
to facilitate intra-abdominal operations, (114) 1004—ab
Laparotomy and resection of pendulous fat from abdominal wall, (61) 1512
exploratory, in diseases of gallbladder and bile-ducts, (19) 1230
gynecologic, general and statistical observations based on 150 consecutive operations in Campbell Hospital, Calcutta, (36) 383
improved technic for, (128) 389
postoperative treatment of, (156) 75
record of 1,400 cases, (21) 383
removal of appendix during, for other conditions, (67) 1615
Larvae in deep urethra and bladder, (139) 381, (42) 1511
Laryngocele, (78) 386—ab
Laryngology and otology, climatic indications of Egypt in, (10) 921
and rhinology, position of, in medicine, (24) 851
rhinology and otology, education of specialist in, (23) 226
Laryngo-otology, plea for graduation in, on broad basis, (4) 157
Laryngopharynx, large lipoma of, removal extraorally under cocain, *1793
Laryngoscopy, straight method of, (140) 225
Larynx, analgesia of, by alcohol injection of internal branch of superior laryngeal nerve, (97) 458—ab
and mouth, pemphigus chronic vulgaris of, (121) 1423
cancer of, early diagnosis and radical treatment of, (139) 313—ab
cancer of, in light of new theory, (19) 226
direct examination of, (16) 306
disease of, plasma cells in, (108) 1864
epithelioma of, (31) 455
erysipelas of, (114) 1361
fixation of tube in, (33) 1908—ab
in anthropoidea, comparative anatomy of, (91) 777
in children, papilloma of, (38) 1230—ab
neuralgia of, (44) 1420—ab, (71) 1760
or esophagus, resection of, (99) 784
papilloma of, (112) 850—ab
paralysis of, diagnostic importance of, (50) 1427—ab

Larynx, spasm of, (117) 1235
stenosis of, (136) 313—ab
tuberculosis of, formol and galvanocautery in, (65) 1225
tuberculosis of, local anesthesia in, (50) 781
tuberculosis of, tuberculin in, (14) 75
tumors of, (96) 458
Lavage and massage-lavage of colon, (51) 853—ab
antiseptic, of vagina in obstetrics, (162) 1696
colonic, cecostomy versus appendicostomy for, (110) 1147—ab
of cerebrospinal subarachnoid spaces in meningitis, (8) 76—ab
of duodenum, direct, (15) 454—ab, (119) 935—ab
value of, in therapeutics, (85) 1146
Law and medical service, (17) 1418
failure to report communicable disease a criminal disregard of, (69) 540
how far can abuse of drugs be prevented by? (19) 1363
Laxatives, mucilaginous, (36) 1908
Layman and physician, mutual relations of, (94) 622
Lead, metallic, toxic behavior of, in tissues, (56) 1366—ab
molten, burn from, among dependent children of Oklahoma, (62) 539
poisoning, (101) 229—ab
poisoning and race, (2) 1762
poisoning, chronic, *1799
poisoning from glazed earthenware preserve jars, (118) 548
poisoning in Illinois, *1240
poisoning, Wassermann reaction in, (107) 1694—ab
Lecithin bouillon for differentiation of hemolytic streptococci, (86) 79, (133) 1157
Leech, artificial, in acute mastoiditis, (4) 1418—ab
Leg: See also Legs
Leg bones, fracture of, spontaneous, possibly due to mycotic infection, (6) 1905
crushing injuries of, treatment of, (24) 1907
fractured, ambulatory splint for, (41) 930—ab
fractures of, treatment of, (12) 300
gangrene of, following diphtheria, (23) 306
phenomenon in hysteria, (112) 785
transverse osteotomy to correct torsion of, with club-foot, (92) 1234
ulcer, alternating treatment of, (77) 1622—ab
ulcers of, chronic, malignant degeneration of, (93) 1003
varices of, idiopathic, superficial, technic for resection of, (32) 1765
verrucous tuberculosis of, after lesion of metatarsus, (45) 1009
with paralyzed quadriceps, mechanism of functioning of, (118) 1156
Legislation on injurious dyes, (72) 1366
Legs, septic infections of, prevention and treatment of, (86) 1513—ab
lipomatosis of, *871
total resection of superficial idiopathic varices on, (70) 1300—ab
varicose veins of, (56) 625—ab
varicose veins of, non-operative treatment of, (103) 1070
Leiomyoma of cervix-uteri, (124) 389
Leishman-Donovan bodies, cultivation of, (67) 1862
Leishmaniosis, dermal, in native Colombian, *1257
Lens, cataract, immature, improved method for extraction of, (15) 1757—ab
cataractous in capsule, traumatic subconjunctival dislocation of, (137) 305
crystalline, autolysis of, *807
dislocation of, treatment of, (121) 1769
Extraction of: See also Cataract Extraction
Lenses, compound, scientific versus method by rule for converting cross cylinders into, (150) 1423
Lenticular zone and anarthria, (105) 155—ab
Leonardo da Vinci, Florentine anatomist, (2) 1612
Lepers, acarids among, researches on, (36) 1511
Leprosy, (83) 541, (134) 778, (96) 1003
and cancer, (72) 463—ab
bacilli, dissemination of, in disease of respiratory-tract, (88) 1154
bacilli in human body, determination of destruction of, (82) 1154
bacillus, cultivation of, from human tissues, amino-acids as culture media, (74) 1146—ab
biology of and immunity against bacillus of, (100) 926—ab
Leprosy, comparative serologic tests in, (97) 1623
experimental, and serotherapy, (124) 1514—ab
in monkey, experimental production of, (63, 75) 1146—ab
in Sicily, present status of, (113) 1013
in United States, historical sketch of, (122) 1514
salvarsan in, (105) 161, (95) 1155, (53) 1231
serodiagnosis of, (98) 933
sociologic aspects of, and question of segregation, (123) 1514
specific treatment of, (75) 1685—ab
suppuration in tubercles of, (41) 455—ab
symptomatology of, (21) 1292
Leptomeningitis and tabes dorsalis, (85) 546
Lesions, chronic, mistakes in diagnosis of, (18) 1682
Leukanemia, (148) 389
Leukemia, (118) 1071, (102) 1303
and pseudoleukemic anemia, (30) 1230
chronic, increased metabolism in, (93) 1692
lymphatic, acute, (46) 1001
lymphatic and myeloid, chronic, 14 cases of, with necropsy in 3, (78) 1519
lymphatic, blood-findings in, (15) 1223—ab
lymphoid and myeloid, x-ray in, blood findings of each, (79) 303
multiple abscesses of nasal submucosa in, (66) 456
myeloid, metabolism of iron in, before and after x-ray exposures, (83) 1011
splenic, (135) 1226
splenic, successfully treated by modern methods, (98) 622—ab
splenomyelogenous, (165) 1006
2 cases of, in 1 household, (166) 390
with skull tumor in child, (109) 548
Leukocyte content of blood, influence of sleep and waking state on, and leukocytosis during digestion, (152) 1306
count and lumbar puncture, value of, in diagnosis of acute poliomyelo-encephalitis, (55) 1145—ab
count in breast fed infants, physiologic variations in, (146) 82
count of 1,330,000 in acute lymphatic leukemia in infant, (64) 620—ab
count, relative, value of, (102) 161
extract for experiments on treatment of animals infected with trypanosomes, (21) 1298
Leukocytes, differential bactericidal properties of, in respect to streptococci, (116) 1304
extracellular action of, (131) 935
in diagnosis, classification and prognosis of pulmonary tuberculosis, (17) 774
in infants and children, normal percentages of different varieties of, (98) 154—ab
Leukocytic extract in infective processes, (4) 851—ab
Leukocytosis and neutrophile blood picture, clinical significance of, in appendicitis, (84) 1012—ab
during digestion and influence of sleep, and waking state on leukocyte content of blood, (152) 1306
tuberculous meningitis with, (23) 1905—ab
with inflammation, significance for diagnosis and prognosis of, (40) 1516—ab
Leukoplakia of uterus, (167) 1696
Leukoplasia and sclerosis of tongue from inherited syphilis in 2 brothers, (41) 1008
Leukorrhea, advantages of dry treatment of, (136) 467—ab
treatment of, (65) 1366
Leukosarcoma of iris removed by iridectomy and useful vision retained, (92) 622
Leyden's Disease: See Vomiting
Library of surgeon-general's office, historical collection of medical classics in, *1785
Lichen planus bullosus, (73) 1857
nitidus, (84) 223—ab
Life and health as national assets, *1407
in man, change of, (44) 384
medical, long, random recollections of, (26) 1682
modern, vs. longevity, (34) 1068
mortality during early weeks of, (60) 620—ab
probable duration of, (22) 69
tropical, as it affects life insurance, (17) 701
Life, waking, influence of dreams on, (144) 1296
Ligament, annular, of ankle-joint, relaxation of, as cause of weak and flat-foot, (105) 926—ab
broad, bilateral fibromyoma of, (11) 1067—ab
broad, large subperitoneal myxoma of, (75) 78
broad, left, and Fallopian tube, torsion of, in child, (13) 460
broad, plication of round and anterior fold of, on anterior surface of uterus for retrodisplacement, *469
round, varices in, during pregnancy simulating inguinal hernia, (179) 860
Ligaments, pelvic, sarcoma of, (135) 163
round, intraperitoneal shortening of, for retroversion of uterus, *573
round, retroperitoneal shortening of, *553
shortening of, for prolapse and retroversion of uterus, (112) 1235, (61) 1421—ab
Ligation of inferior vena cava, experimental, (39) 1230
of left subclavian artery in aneurysm, new method of, (44) 1144—ab
Light and convergence, miosis due to, and action of atropin and eserin on ciliary muscle and iris, (158) 1296
and darkness, borderland of, (12) 69, (14) 151
colored, and mercury lamp in diagnosis, (117) 162—ab
injury of skin due to protection against, (122) 1864
Lily rash or dermatitis among flower-pickers in Scilly Islands, (38) 158—ab
Limb, gangrene of, during convalescence from diphtheria, (9) 460—ab
local disturbances in circulation with exercise of, (150) 389
Limbs, fractured, delayed union of, (166) 305
Lime, antiphlogistic action of, (94) 464—ab
in pulmonary tuberculosis, (71) 78—ab
in spasmophilia in children, (137) 163—ab
metabolism and food, (103) 784
metabolism in rachitis, (86) 705
Limp, spasmodic, painful, (16) 1854
Limping, intermittent, and spinal disturbances from male fern poisoning, (58) 1367—ab
intermittent, in connection with tobacco, (154) 82—ab
Linea alba, hernia in, (61) 703—ab
Lip: See also Lips
Lip, upper, epithelioma of, in pure negro, (71) 1857—ab
Lipemia, diabetic, (111) 311
Lipoid content of blood serum and Wassermann reaction, connection between, (120) 1013
droplets in urine sediment, (75) 1767
of suprarenal cortex, (90) 1430
Lipoids and fats in animal tissue, (2) 773, (6) 1223, (6) 1357, (167) 1617
and fats in lesion of rhinoscleroma, laboratory notes on presence of, (25) 1000
cell, (129) 80
recent studies on, *799
Lipoma, abdominopelvic, retroperitoneal, (27) 701
containing bone in tuber cinereum, (125) 935
diffuse, (28) 76
diffuse, and animals, (12) 1859
in pia mater, (126) 935
in submucous tissue of ileum and cecum producing invagination, rotation and obstruction of intestine, (37) 618
intestinal, (53) 625
malignant, (51) 307
of scrotum, (147) 927
Liquor bellosti test in paralysis, (14) 1904—ab
Lipomata, multiple, and malignant thyroid disease (90) 541
nuchal, in lower animals, (9) 1229
Lipomatosis of lower extremities, *871
symmetrical, (44) 1152
Lipose in urine, diagnostic importance of, (120) 231
Lips: See also Lip
Lips, teaching deaf to understand speech by movements of, (145) 1695
Liquids, crystalline, and solid solutions, (32) 852
of laryngopharynx, large, removal extraorally under cocain, *1793
Lithopedion, (88) 1513
Lithotomy, suprapubic, for vesical calculus weighing 500 grains, (121) 542
Liver abscess, (70) 153
abscess, amebiasis with, in Green Island, (9) 376
abscess, amebic, aspiration and injection of quinin in, (38) 384—ab
abscess, brain abscess consecutive to, (54) 1300
abscess complicating appendicitis, (32) 929
abscess, diagnosis and treatment of, (99) 73
abscess, ipecacuanha in, (20) 780
abscess, suprapubic cystotomy and abdominal cysts, improved drainage tube for, (16) 1424, (16) 1687
abscess, symptomatology of, (4) 844
abscess with or following typhoid, (30) 1855—ab
abscess with tertian malaria, (109) 1361
acute yellow atrophy of, (88) 1002
and diabetes mellitus, (56) 1956
and spleen, autolysis of, action of quinin on, (133) 231
and spleen, formation of blood in, after posthemorrhagic anemia, (84) 463
bile cysts in, (138) 163
bloodless operations on, (106) 230—ab
broth, medium for determination of gas-forming bacteria in water (134) 1361—ab
cancer of, primary, (118) 628—ab
cavernous angioma, excision of, (48) 1427
changes in proteolytic enzymes and antienzymes of blood serum produced by substances which cause degenerative changes in, (39) 377
Cirrhosis of: See Cirrhosis-of-liver
classification of ptosis of, (73) 855
congestion of, passive, chronic, (12) 1681
cyst formation in, (54) 703
cystadenoma of, serodiagnosis of, (84) 933
disease, diagnosis of, (125) 1865—ab
dislocation of, (69) 153
distomiasis in man, (5) 1514
distribution of glycogen over, under various conditions, (39) 618—ab
dulness, paravertebral, (120) 1865—ab
echinococcus cyst of, (111) 156
echinococcus cyst suppurating, enucleation of sac, recovery, (47) 1144
echinococcus cysts of, in child, (20) 1515
echinococcus disease of, serodiagnosis of, (28) 544
enlargements of, (42) 924
extract, desiccated, in diabetes mellitus and chronic gastro-intestinal auto-intoxication (78) 222
functioning, phloridzin test of, (141) 707—ab
in infant, angiosarcoma of, *873
in scarlet fever, (100) 161
multiple carcinomas in, primary melanosarcomas in ovaries and metastasis in placenta, fatal eclampsia-like syndrome in pregnant woman at term with, (56) 1010
necrosis of chloroform poisoning fibrinogen of blood as influenced by, (38) 377
percussion findings on left side, (131) 707—ab
pregnancy, (51) 1231
pregnancy, and atypical eclampsia, (70) 309—ab
ptosis of, (49) 702
resection of left lobe of, (52) 1365
rôle of portal circulation of, in bile formation and jaundice, (68) 1760—ab
rupture of, (46) 1614
special changes in, in leukemic malignant lymphoma, (117) 1864
suppurating echinococcus disease of, diagnosis of, (43) 1231—ab
syphilis of, (65) 704—ab, (106) 785—ab
tuberculosis of, caseating, disseminated, (4) 1612—ab
with floating lobe, (58) 228
yellow atrophy of, syphilitic, acute, (77) 704
Living, simplicity of, and study of normal in medicine, *1642
Lochia and blood, diagnosis and prognosis of puerperal infection from bacteriologic findings in, (60) 1010
bacteriology of, (47) 1231
phagocytosis in, causes and importance of, (79) 855
Longevity and wind instruments, (105) 1003

Longevity, effects of some disease, habits and heredity on, (6) 1853
of sexes, comparative, (29) 1683—ab
vs. modern life, (34) 1068
Love, crime of, (130) 1148
Lumbago, explanation of many cases of, (1) 999—ab
Lumbar puncture and leukocyte count, value of, in diagnosis of acute poliomyelo-encephalitis, (55) 1145—ab
puncture as diagnostic and therapeutic measure, (98) 1147
puncture, brain tumor with impaction in foramen magnum following, (28) 300
puncture for diagnosis, sudden death following, (11) 1000
puncture in cerebral hemorrhage, (180) 1697—ab
puncture in children, (57) 1001
puncture in trauma of head, (69) 1910—ab
puncture, its technic, indications and therapeutic uses, (67) 540
Lunatics, discharge of, by habeas corpus proceedings, *489
Lung abscess, vaccine therapy in, (78) 72
action of functional rest of, on extent and course of pulmonary tuberculosis, (62) 160—ab
affections in children, chronic, (19) 1515
anaphylactic, of guinea-pig and mouse, microscopic study of, (27) 1224
and chest, reciprocal relations of, to emphysema, (38) 1908
and pleura, tumors in, (103) 1303—ab
complications, postoperative, (8) 1859—ab
compression of, in pulmonary tuberculosis, (29) 1511
crepitation of, reversible, in heart failure, (6) 1687—ab
decortication of, for chronic empyema, technic and indications for, according to Delorme, (23) 1907
disease of, chondrotomy for, (134) 1236—ab
disease of, spirometer findings in, (186) 1698
diseases, ichthyol in, (16) 377—ab
echinococcus cysts of, (31) 1299
findings in scoliosis, (94) 855—ab
findings, interpretation of, (77) 1691—ab
functioning of, after release from induced pneumothorax, (114) 856
hernia of, (29) 695
hydatid of, treated at children's hospital from 1904-1910, (38) 1619
immobilization of, by rear resection of ribs, (62) 1518—ab
increased vibration of chest wall always sign of infiltration of, (109) 856
infant's hydrostatic test of, possible cause of error in, (145) 936—ab
manifestations of syphilis, (137) 1071—ab
percussion findings in, (59) 703—ab
percussion of one apex of, when other is muffled, (58) 1767—ab
prognosis of pulmonary tuberculosis involving whole of or more than one lobe of, (153) 1149—ab
right, spontaneous hernia of, (29) 695
sarcoma of, (116) 778, (155) 1149
stenosis of, congenital, and nature of secondary blood changes, (9) 543—ab
suction mask, inadequacy of substitutes offered for, (111) 1156
surgery, recent advances in, (43) 1683
symptoms as premonitory signs of venous thrombosis, (104) 1422—ab
Tuberculosis: See Tuberculosis
tumors of, (103) 1513
Lungs and abdomen, similarity between acute conditions in, (14) 1687
and bronchial glands, tuberculosis of, x-ray diagnosis of, (115) 1432
and heart, complications in, following surgical operations, (89) 1761—ab
and heart in horse, capacity and weight of, (116) 465
and pleura, suppurative infections of, treatment of, (61) 1615
apparatus for positive pressure in, during general anesthesia, (119) 162
bronchi and adjacent vessels, interpretation of radiologic findings in, (27) 1908
cavities of, value of surgical treatment of, (6) 1424—ab
diseased, elimination of drugs by, (134) 389—ab
Lungs, edema of, diffuse, acute, (29) 1144—ab
emphysema of, and wind instruments, (74) 1691—ab
gunshot wounds of, primary operative treatment of, (107) 79
injuries of, treatment of, (106) 79
injurious action of pure oxygen on, (132) 467—ab
predisposition of, to tuberculosis, (71) 1153—ab
radiography of, (68) 545
surgery of, (121) 857—ab
thrush in, (48) 1861—ab
tuberculosis of, hemorrhage in, treatment of, (88) 1757—ab
ventilation of, with emphysema, (97) 1692
Lupus carcinoma, development of sarcoma on floor of, (49) 1427
erythematosus, fatal case of, (150) 75
erythematosus, widespread, with associated papulo-necrotic tuberculide? (125) 1514
Much's granula in, (118) 80
of mucous membranes, treatment of, (74) 783—ab
of nose, Pfannenstil's two-route treatment of, (57) 703
thorium paste in, (97) 1422
vulgaris, old tuberculin ointment in diagnosis and treatment of, (4) 306—ab
vulgaris, zinc ions in, (26) 1230
Luys' segregator, diagnostic value of, (26) 1864
Lying-In Hospital society of New York, outline of history of, (59) 1759
Lymph-adenoid tissue, typical, and primary tumor of lymph vessels, (78) 540
and blood routes, collateral, new, opening of, (115) 785—ab
follicles in mucosa of cervix uteri, (115) 706
formation and anaphylaxis, (110) 1370
glands, behavior of plasma cells and blood-vessels in, after severing nerves, (136) 550
glands, enlarged, not always sign of tuberculosis, (96) 387
glands, regeneration and neoformation of, experimental research on, (134) 1695
vessels, primary tumor of, and typical lymph-adenoid tissue, (78) 540
nodes, lesions of, (98) 1686—ab
Lymphadenitis, (32) 307
Lymphadenoma, aspects of, (39) 1299
in woman aged 63, (14) 1619
Lymphangioplasty in ascites, (12) 1515—ab
Lymphangitis and skin, verrucous tuberculosis of, due to bovine tubercle bacilli, (116) 856
Lymphangiectasia with uterine myoma, (90) 79
Lymphangiectasis multiplex, (90) 223
Lymphocyte count, direct, in cerebrospinal fluid preferable to centrifuging, (40) 1860
Lymphocytosis in cerebrospinal fluid in chorea in children, (48) 1620-ab
Lympho-endothelioma, (127) 1235
Lymphoid degeneration of conjunctiva, (6) 220—ab
Lymphoma, malignant, leukemic, with special changes in liver, (117) 1864
of small intestine, malignant, (80) 379
Lymphomas of jejunum, malignant, multiple, primary, (138) 630
Lymphosarcoma, inoperable, Coley's fluid in, (128) 1769
of tongue, (85) 1863—ab
Lymphosarcomatosis and positive Wassermann reaction, (100) 311

M

Machine, exercise, miniature, for infantile paralysis, *1259
oil, impetigo contagiosa transmitted by, (13) 151
Macroglossia, (79) 1857
Madelung's Deformity: See Radius
Madstone, (73) 1615
Magic and medicine, (12) 69, (14) 151
Magnesium rings, absorbable, in end-to-end anastomosis of abdominal aorta, (60) 1615—ab
sulphate in erysipelas, (15) 101—ab
sulphate in tetanus, (52) 924
sulphate, intravenous injection of, in bacteriemia, (20) 618—ab, (56) 1759—ab
sulphate, local use of, (152) 1362
Magnet cases, unusual, (63) 379
steel removed from eye with, (159) 1149
Magueys and maguey sap or aguamiel, therapeutic agent of high value, (98) 1147
Malaria, (62) 1146
and splenic enlargement and treatment of crescentic stage, (21) 460
blood pigment in urine not pathognomonic of, (176) 1697
blood pigments in urine in, (58) 462
cachexia, value of arylarsonates in, (27) 1619
campaign against, in Sicily, (115) 1013—ab
campaign in Algiers, (53) 461
chorea in, (107) 1431
congenital, (113) 1624
congestion due to, (149) 305
curative influence of x-rays in, (5) 928—ab
drugs besides quinin in, (103) 1155
duration of infection of, (26) 158
enumerative studies on, (17) 460—ab
familial hemoglobinuria from quinin in, (106) 1769
formation of specific antibodies and complement fixation in, (144) 936—ab
grave, with few parasites in peripheral circulation, dangers of intravenous injection of quinin, (108) 1294
hemoglobin metabolism in, (19) 461—ab
hemoglobinuria due to, (65) 1069
in children, (84) 1422
in Panama, (99) 155—ab, (95) 925—ab
in Utah, (103) 1147
in white race, clinical studies of, (99) 155—ab
incubation period in, (117) 706
intermittent fever in influenza simulating, (108) 1294
is hemoglobinuric fever manifestation of, or disease sui generis? (86) 621—ab
latent, (126) 231—ab
manifestations in eye, (55) 847
prophylaxis of, (125) 707—ab
quartan, in Germany, (62) 1232
quinin in, (147) 305, (42) 383
radical cure of, (58) 847—ab
rôle of gamete carriers in etiology of, (54) 847
salvarsan in, (85) 160, (75) 626, (121) 1304
splenectomy after, (109) 79
summary of cases of, (27) 152, (71) 457, (56, 57) 847
tertian, liver abscess with, (109) 1361
tertian, masked, with marked mental and nervous manifestations and unusually few parasites in peripheral circulation, (150) 1227—ab
tertian, simulating appendicitis, *1639
treatment of, (100) 1293—ab
Wassermann reaction in, (183) 860—ab
Malarial fevers and water, (146) 225—ab
pigment, its nature and method of production, (37) 775—ab
Male fern poisoning, intermittent limping and spinal disturbances from, (58) 1367—ab
Malformation, facial, and acute infectious diseases, frequent etiologic factor common to, (129) 698
human, origin of, and amnion, (48) 847
Malformations of breast and tumors, (62) 1074
of hands, familial and congenital, (86) 1011
Malignancy, multiple, primary, (66) 847
significance of urinary methylene-blue reaction in, *1882
Malignant Disease: See also Cancer
Malignant disease as problem of modern surgery, (54) 618
disease, inflammatory tumors of abdomen simulating, (64) 847
disease, resection of large intestine for, (31) 1067
Malignant Growth: See also Cancer. Carcinoma, and Sarcoma
Malignant growths, multiple, primary, (66) 847
growths, spontaneous disappearance of, (101) 1422—ab
lesions, x-ray therapy in, (17) 455-ab
Malingering, its detection, (134) 74
visual, (91) 1686
Malleoli, fracture of, (73) 932—ab
Malpractice in Pennsylvania, law governing suits for, (114) 1147
Malt extract, (77) 1233
and curdled milk in infant feeding, (49) 853
Malta-fever, (69) 78—ab, (37) 1008—ab
blood findings in, (185) 860
bone and joint complications of, (48) 980
chills in, (112) 1013
Malta-fever, laboratory infection with, (56) 1800
methylene blue in, (56) 461
minor signs of, (53) 159—ab
new name for, (55) 1300
pathologic anatomy of, (161) 1372
simulating pernicious anemia, (43) 1152
Maltose and glucose, combined action of muscle plasma and pancreas extract on, (124) 1361
Mammals, importance of corpus luteum for periodicity of sexual cycle in, (101) 464
Mammary glands, origin of, in axilla, (163) 1696
Man, change of life in, (44) 384
Manchuria, septicemic and pneumonic plague outbreak in, (16) 1619
Mandible: See Jaw
Mania, acute, (62) 1512
acute, treatment of, (7) 921
acute, with unusual duration of mental oblivion, recovery, (33) 152
Manners, medicine and men, (117) 1423
Manometer, differential, (61) 1427
findings in induced pneumothorax, (92) 855
Marathon runners, urines of, (4) 1071
Marie's Disease: See Acromegaly
Marine and navy corps, mental examination of candidates for enlistment in, (132) 381
Marriage and gonorrhea, (136, 144) 459—ab
certificates, importance of registration of, (97) 1359
of cardiac subjects, (160) 82, (29)1151
Martius yellow and other anilin dyes, toxicity of, and entrance of dyes into cells, (51) 539
Mask, lung suction, inadequacy of substitutes offered for, (111) 1156
Massachusetts General Hospital, summer service in weld ward of, (120) 1514
Massage and electricity for infantile paralysis, (62) 1292
and gymnastic exercises during pregnancy and puerperium, (57) 1518—ab
cardiac, resuscitation by, *1448
diet and rest in neurasthenia, (41) 461
lavage and lavage of colon, (51) 853—ab
of heart, direct, with apparently fatal chloroform poisoning, (117) 549—ab
of nerves at emerging points, (105) 388—ab
of prostate, (32) 1224
prostatic, effect of, on blood-pressure, (31) 221
urethral, sound for, (76) 1519
vibratory, in chronic pharyngitis, (117) 1432
water-jet, (45) 1909
Masseter muscle, hematoma of, (56) 1152
Mastitis, acute, vaccines in, (4) 1424-ab
cystic, chronic, and epithelial tumors of breast, (114) 1013
operation, radical, (141) 1696—ab
or puerperal sepsis, (150) 1617
traumatic, chronic, (6) 1072—ab
Maternity patients, hospital delivery of, plea for, (11) 1757
Mastoid abscess and acute otitis media in children, (85) 73—ab
cases, interesting, (126) 1423
dressings, hints for, (18) 1067
necrosing, without involvement of antrum maxillary, middle or internal ear, (108) 1361
operation, conservative, for suppurative middle ear and mastoid disease, (23) 544
operation, Heath, (5) 1418—ab
operation, radical, dangers of diffuse latent labyrinthitis in, (14) 851
operation, radical, for chronic suppurative otitis media, (129) 1423
process, transillumination of, as aid to diagnosis, *1653
retractor, self-retaining, (38) 1364
surgery, bismuth paste in, (140) 1296
Mastoidectomy, secondary efforts to hasten healing after, (4) 1067
Mastoiditis, acute, artificial leech in, (4) 1418—ab
acute, recognition and treatment of, (86) 848
acute, septic emboli following, (81) 1293
and cholesteatoma, chronic, (108) 380
double, septic thrombosis of sigmoid and lateral sinus complicating, (53) 924—ab
recurring, (148) 708—ab
report of last year's work, (149) 699

Mastoiditis, suppurative, chronic, bismuth paste in, (55) 71
suppurative, clinical and bacteriologic study of 36 cases of, with 10 cases of intracranial complication, (22) 780
Matas operation for cure of aneurysm, (16) 774
Maternal impressions, (31) 923
Maternity patients, hospital delivery of, plea for, (11) 1757
Matings, fit and unfit, (115) 224—ab
Matrimony for girls with heart disease, (160) 82
Mattoids, (107) 1513—ab
Mayfield-Tyzzer Hospital for men at Laichon Fu, China, (153) 1617
Meal, bismuth test, x-ray with, in diagnosis of gastric conditions, (93) 541
test, diagnostic significance of mucus in, (101) 1147
Measles, (109) 622
and scarlet fever, joint lesions in, (85) 1076—ab
epidemiology of, (96) 1359
erythema nodosum following, (5) 1424—ab
ocular complications of, (79) 1685
treatment and prevention, (13) 1514
unusual complication of, (30) 1008—ab
Meat, canned, outbreak of illness in Carlisle due to, (38) 76
juice, raw, and raw meat in tuberculosis and wasting diseases, (19) 383—ab
Meats, determination of inorganic and organic phosphorus in, (73) 697
urinarius, electricity in, *886
urinarius, ionic surgery and plastic operations in, *886
Meatus, auditory, external, pedunculated exostosis of, operation for, *1555
Mechanisms, mental, in dementia præcox, (118) 156—ab
Mechanotherapeutics in chronic constipation, (7) 1149
Mechanotherapy in diseases of ear, nose and throat, (67) 1225
Meckel's diverticulum, (88) 1863
Media, artificial, growth of embryonic chick, tissues in, (115) 1294—ab
artificial, growth of fungus of tinea imbricata on, (34) 307
culture, amino-acids as, in cultivation of leprosy bacillus from human tissues, (74) 1146—ab
Mediastinitis, chronic, (78) 1154—ab
syphilitic, (50) 159—ab
Mediastinum affections, (1) 1006—ab
cyst of, producing compression of trachea, fatal, in infant of 9 months, (57) 1145—ab
emphysema of, prevention and treatment of, (147) 1306
primary carcinoma of bronchus in, (104) 698
2 weak points in, (55) 159—ab
Medical aspect of Boswell's "Life of Johnson" with account of medical men mentioned, (26) 226
association, southern district (Australia) work of, (24) 1298
borderland experiences, (60) 385—ab
cases in ophthalmology, (19) 1859
cases, ocular and visual conditions in, (10) 1514—ab, (18) 1859
charity, disorder of, (6) 226
classics, historical collection of, in library of surgeon-general's office, *1785
College Association standard, (123) 224—ab
colleges, do they adequately train students for prevention of infant mortality? (3) 376—ab
colleges, state requirements for entrance to, (108) 1857
corps, army, work of, in time of war, (36) 1299
corps, navy, service in, (63) 222, (125) 1147
corps of national guard, status of, in relation to army, navy and Public Health and Marine Hospital service, (75) 153
council, general, report by education committee presented to, (7) 382
course, fifth, or hospital year, *1546
curriculum, (120) 224—ab
department at sea in its parallelism to construction and administration of naval hospitals as seen by fleet surgeon, (56) 1358
education, aims and methods of, in America, (98) 1003
education and medical legislation, (141) 157
education, cooperation in establishing standards of, *1529
Medical education, evolutionary spirit for betterment in, *1015
education, ideal, for practitioner and specialist, (67) 1070—ab
education in United States and Canada, (103) 464
education, objects and aims of, (44) 221
education, plea for higher standard of, (143) 74
education, preliminary, in France, (39) 1426
education, President's address at internists' annual meeting, (92) 1768
education, problems of, in Minnesota, (117) 622
education, surgical aspect of, (35) 618
examiners, medical teaching and state boards of, (13) 1757—ab
expert testimony, (169) 1228—ab
ethics, timely problems in, (117) 698
examination of employees, (18) 851
experiences in Philippines, (164) 927
expert opinion evidence, and proposed law thereon, (130) 1295
fees, splitting of, *725
giants, former, of France, (18) 152
history of Indiana, sketches of, (104) 223
impressions of America, (66) 782
inspection of school children, (87) 925
inspection of schools, (133) 74, (55) 924, (172) 1228
inspection of schools in all countries, (84) 1685
inspection of schools in Boston, (21) 1143
inspection of schools in small towns, (116) 1514
jurisprudence, (91) 925
knowledge, importance of medical organization in diffusion of, (118) 381
legislation and medical education, (141) 157
library, use of, (112) 156
men of orient, (97) 1003
notes from French Indo-China, (111) 304
officer, army, ethics, scope and prerogative of, (145) 1071—ab
officer, sanitary, (110) 698
organization, (1) 700—ab, (70) 1002, (118) 1432
organization and ethics, (69) 1615
organization and public education, (88) 73
organization, better, (23) 701
organization, importance of, in diffusion of medical knowledge and promotion of ethical relations among physicians, (118) 381
organization, onward movement in, (123) 1226
practice, family physician refracting as factor in, its promotion during 1910, (99) 380—ab
practice in future, forecasts of, (35) 846, (132) 1295
practice in Stuart times, (37) 781
problems and phylogenetic association, (98) 542—ab
profession, (126) 1147
profession, advances and improvements of, (99) 1070
profession and community, state and nation, (87) 848
profession and Dr. Johnson, (50) 1073
profession, duty of, (60) 1069
profession, economic influence of hospital administration on, (32, 34) 1419—ab
profession in Minnesota 30 years ago and its standing at present, (154) 699
profession in New Mexico, needs of, (21) 152
profession in New South Wales, (10) 1906
profession, is it losing its grip, (25) 923—ab
profession must change its tactics, (158) 699, (102) 778, (141) 927—ab
profession, myopia of, (72) 1358
profession of America, appeal to all men of honor of, (36) 1224
profession, some problems before, (137) 157
profession, superstitions of, and contagious diseases, (122) 381
profession, value and handicap of, (99) 1147
profession, what is its attitude toward osteopathy? (71) 924
profession, what should attitude of, be to non-medical cults? (141) 1071
reserve corps, inactive, (55) 1358
school, examination for admission to, *1541
school, laboratory in, *1536
school of University of Kansas, (49) 539
Medical schools, weak, as nurseries of medical genius, *589
secret and venereal diseases, (57) 1225
service and law, (17) 1418
services, subordinate and uncovenanted, (14) 780
societies and physicians, part of, in public health movement, (26) 377
societies, county, why physicians should join, (38) 695
society, county, (53) 153, (176) 1296
Society, New Mexico, (20) 152
society, what can we do for betterment of? (170) 1228
sociology, recent progress in, (56) 924—ab
student, teaching of insanity to, and prevention of mental diseases, (37) 227
students and medical practitioners, (7) 226
teaching and state boards of medical examiners, (13) 1757—ab
Medication, intravenous, results obtained with, (35) 221
self, (75) 621—ab
Medicine, anaphylactic and prophylactic, researches in, (4) 1510
and arts, educational principles involved in combined course in, (24) 923
and character, (111) 1514
and insects, (158) 382
and law of degeneracy, (4) 69
and magic, (12) 69, (14) 151
and social problems, (168) 1362
art and science in practice of, (170) 1362
caricature in, (86) 1761
clinical, and pharmacology, (157) 1362
concentration plan for teaching of, (119) 224—ab
conclusive researches of, (9) 773
dawn of, pre-hippocratic period, (98) 1761
economics of, (6) 617
evolution and science in, (98) 1293
high frequency current in, (60) 1767
human and veterinary, tendencies of modern research in, (22) 306
ideals in, (65) 379
in Illinois, pioneer period of, (62) 1358
internal, and special surgery, diagnostic relationship between, (42) 775
internal, salvarsan in, (83) 160
internal, x-ray treatment in, (158) 390
laboratory versus clinical methods in practice of, (38) 1144
Los Angeles, (55) 456
manners and men, (117) 1423
mental, preventive principles in field of, (71) 1002—ab
mental, recent researches in, especially in etiology and treatment of dementia præcox and general paralysis, (25) 538
modern, and health of women, (2) 617
need of more practical examinations by state boards of registration in, (117) 926
of earlier days of Montreal, (48) 222
of to-day and of 30 years ago, (92) 154
position of laryngology and rhinology in, (24) 851
preventive, (85) 1293
preventive, and alcoholism and drug addictions, (88) 1146
preventive, in southwest, its aims and limitations, (80) 1002
preventive, in venereal diseases, plea for applying usual methods of, (94) 1359—ab
profession of, and state, (141) 1617
rational, importance of biology to, (94) 1147
right teaching of, (21) 1418—ab
rôle of auto-inoculation in, (15) 623
scientific, its opponents, (115) 628
sepsis and antisepsis in, (7) 459
social and economic value of efficiency in, (132) 74
standards and authority in, *894
study of normal in, and simplicity of living, *1642
tendency toward nationalization of, (24) 701
victories to be achieved and problems to be solved by, (168) 75
what it has done and what it will do in conservation of human health, (134) 851
what should be attitude of state toward? *1319
year's progress in, (35) 538
Medicolegal and practical considerations of melancholia, (10) 1362
aspect of dazed conditions, (67) 228
Medicolegal examination of bloodstains, (167) 1149
Mediterranean Fever: See Malta Fever
Medium, culture, emergency, for use in practice, *1094
culture, hemoglobin, cholera, Esch's, (63) 703
culture, preparation of, from dried blood-serum, (77) 1359
for determination of gas-forming bacteria in water, liver broth as, (134) 1361—ab
Medulla-oblongata and pons varolii, diseases of, recent progress in topical diagnosis of, (76) 160—ab
sarcoma of, (36) 624—ab
Megacolon, congenital, uncontrollable vomiting with, (152) 82—ab
in adults, treatment of, (65) 1075-ab
Megaloblasts, ameboid activity of, (98) 925—ab
Megalokaryocytes and blood platelets in Hodgkin's disease, (112) 1294—ab
Meiostagmin and hemolytic tests of gastro-intestinal cancer, reliability of, (122) 629—ab
Melancholia, mild, importance of etiology in estimating, (57) 1909
practical considerations of, and medicolegal, (10) 1362
Melanin, its nature and method of production, (37) 775—ab
Melanosarcoma of rectum, primary, (45) 702
Melanosarcomas, primary, in ovaries and multiple carcinomas in liver and metastasis in placenta, fatal eclampsia-like syndrome in pregnant woman at term with, (56) 1010
Melanosis of mucosa of large intestine, (62) 1862
Melena neonatorum, (21) 1619
Mellin's food, action of intrapleural injection of, in course of fowl colera in rabbits, (38) 852
Membranes, Mucous: See Mucosa
Men, manners and medicine, (117) 1423
of advanced years, sexual excitability in, (35) 1144—ab
sexual element in neurasthenia of, (32) 461
Mendel's laws, heredity in insanity in light of, (42) 1683—ab
Meniscus: See Cartilage, Semilunar
Meningeal conditions, non-specificity of cell findings in spinal fluid in, (38) 1068—ab
symptoms, poliomyelitis with, (57) 1074
Meninges and brain, fatal complications of suppurative ethmoiditis in, 8 cases of, (160) 1362
permeability of, especially in progressive paralysis, (119) 1156—ab
Meningism, (133) 630—ab
Meningismus from acute cervical adenitis and peritonsillar infiltration, *1443
Meningitis, acute, hydrocephalus as sequel of, (47) 307
and bacterium of influenza group, (35) 1073
and conditions simulating meningitis, (58) 1145—ab
and tables dorsalis, (51) 1010—ab
carcinomatous, (100) 464
cerebral, (49) 153
cerebrospinal, *346, (86) 697—ab, (104) 1070
cerebrospinal, and epidemic poliomyelitis from spastic paralysis and encephalitis, differential diagnosis of, (52) 853—ab
cerebrospinal, epidemic, (159) 382, (42) 1619—ab
cerebrospinal, epidemic, bacteriologic findings in, (138) 389
cerebrospinal, epidemic, serotherapy of, (14) 306, (24) 455—ab, (29) 617, (100) 706—ab
cerebrospinal, sporadic, (13) 306
conditions simulating, (58) 1145—ab
diagnosis, new reflex signs in, *114
diagnosis of cerebral forms of poliomyelitis from forms of, (29) 1854
epidemic, 25 cases of, (37) 624
hydrocephalus following, (38) 702
in infancy, (59) 1684
in infants and children, acute, 300 cases of, (104) 304—ab
influenza, its experimental production, (106) 304—ab
influenzal, (151) 858—ab, (153) 1228
lavage of cerebrospinal subarachnoid spaces in, practicability of, (8) 76-ab
otitic, and temporosphenoidal abscess, operation, (32) 1357
pneumococcus, prognosis and course of, (101) 1693—ab
serous, and anaphylaxis after spinal serotherapy, (74) 78—ab
serous, cystic, of posterior cranial fossa, (132) 857—ab
spinal, apocynum in, (90) 1693

Meningitis, spinal, purulent, and acute osteomyelitis, diagnosis and treatment of, (123) 857
streptococcus, (14) 844
tuberculosis, in new-born infants, (24) 1515
tuberculous, (19) 157, (105) 1147
tuberculous, cerebrospinal fluid in, (39) 1765—ab
tuberculous, operative treatment of, (28) 623
tuberculous, tubercle bacilli in cerebrospinal-fluid of, (105) 304—ab
tuberculous, with leukocytosis and purulent exudation containing many bacilli, (23) 1905—ab
tuberculous, with remarkable antemortem rise of temperature, (18) 1854—ab
typhoid, *882, (122) 935—ab
urotropin in, (142) 81
Meningococcus in blood-smear and meningococcus septicemia, *1446
Meningomyelitis with complete recovery, (1) 773
Menopause, (82) 1225, (99) 1293
Menstruation, (96) 1864
and conception, relations between, and embedding of ovum, (82) 79
and Fallopian tubes, absence of, and recurrent peritonitis, (5) 622
and multiple sclerosis, pregnancy and puerperium, interrelations between, (46) 1231
and ovulation, chronologic connection between, (59) 1689
and tuberculosis, (43) 70—ab
biology of, (132) 1078
disorders of obscure origin, (93) 1616—ab
fever and pulmonary tuberculosis, *1239
hematology of, (55) 384
hygiene of, (43) 1856—ab
influence of, on neuropsychic sphere of women, (171) 82
Mental and nervous diseases, modern progress in treatment of, (82) 783
and nervous diseases, moving pictures as aid in studying and teaching of, (119) 312
and nervous diseases, seroreactions in, (124) 224—ab
and nervous manifestations, marked, in masked tertian malaria, (150) 1227—ab
case, acute, problem of, (121) 156
defects following use of alcohol, (71) 153
development of young and physician, (85) 848
disease and civilization, connection between, (133) 858—ab
disease, functional tests of autonomic nervous system in, (109) 388—ab
diseases, alcohol as factor in, (41) 1358
diseases, anatomic bases of, (62) 385
diseases in military services, with special reference to dementia præcox, (69) 1358
diseases, prevention of, and teaching of insanity to medical student and practitioner, (37) 227
diseases, reasons why care and treatment of, in Texas state hospitals are not ideal, (118) 778
disorders and suicide, (9) 1859
disturbances following traumatism, medicolegal considerations, (3) 150
examination of candidates for enlistment in navy and marine corps, (132) 381
growths, morbid, (38) 1688
hospital of future, (156) 1362
hygiene in children, (86) 1293
mechanisms in dementia præcox, (118) 156—ab
medicine, preventive principles in field of, (71) 1002—ab
medicine, recent researches in, especially in etiology and treatment of dementia præcox and general paralysis, (25) 538
oblivion, acute mania with unusual duration of, (33) 152
processes, mechanism of, and emotional control, (37) 1364
status of subnormal children, methods of testing, (65) 1684—ab
tests, pitfalls of, (10) 622
therapeutics in neurasthenia, (34) 461
Mentality, disturbed, word tests for complexes in, (151) 225
Meralgia paresthetica due to pressure of corset, (96) 925—ab
Mercury and arsenic, organic, in syphilis, comparative value of, (68) 78—ab
Mercury and salvarsan, combined, in syphilis, (71) 1767
and salvarsan, radiologic research on absorption of, (121) 629—ab
bichlorid and serodiagnosis of syphilis, (29) 774
bichlorid, chancroids due to, (19) 69—ab
bichlorid hemolysis, action of serum of cachectic patients on, (68) 1010
bichlorid, intravenous injection of, in puerperal sepsis, (66) 1684—ab
bichlorid tablets, fatal mercurial poisoning due to vaginal introduction of, (46) 1292
bichlorid, toxic anuria due to, (65) 303
compounds, pharmacologic study of, (130) 706
deep muscular injections of, in tuberculosis, (24) 1000—ab
elimination of, through kidneys, (190) 860
in colloid form, therapeutic advantages for use of, (8) 157
inhalations in thermo-diaphoretic room in syphilis of nervous system, (73) 303
intravenous injections of, in septicemia, (71) 1910
lamp and colored light in diagnosis, (117) 162—ab
metallic, action of injections of, (81) 463
nascent, in syphilis, (123) 935—ab
poisoning, fatal, due to vaginal introduction of mercury bichlorid tablets, (46) 1292
poisoning, multiple, during shooting-match indoors, (84) 1767
reactions in secondary syphilis, (123) 80
succinamid in tuberculosis, (6) 151—ab
treatment of syphilis in nervous system, recurrence after, (130) 467—ab
Mesentery and peritoneum, contiguous, transfixion of, and perforation of uterus by bone crochet needle, *173
blood-vessels of, embolism and thrombosis of, (35) 1357
chylous cysts of, (49) 1683
cysts of, of simple nature, (113) 1003
obstruction of blood-vessels of, (128) 935—ab
Mesocolon and colon, tumors in, differential diagnosis between, (105) 849
Metabolism, calcium, in infantile tetany, (69) 1146
carbohydrate, internal function of pancreas in, (6) 1757—ab
changes of, and obesity, (8) 306
chemistry of, and eye disease, (138) 1423
disturbed, diseases of, few fundamental principles applicable in, (92) 698
during catatonic and paralytic stupor, (90) 1302
during pregnancy, (56) 384, (36) 929
energy, of mother and child just before and just after birth, (97) 925—ab
exogenous and endogenous, (107) 1624
gaseous, influence of radium emanations on, (67) 1368—ab
general, and mineral metabolism in patient with acromegaly complicated with glycosuria, (125) 1361
hemaglobin, in malaria, (19) 461—ab
importance of salt for, (93) 311
in chronic malnutrition, (13) 1682-ab
in milk diet, (89) 705—ab
in myxedema, (68) 1767
in patients with certain skin diseases, problems in, (166) 1296
increased, due to typewriting, (25) 1758—ab
increased, in chronic leukemia, (98) 1692
lime, and food, (103) 784
lime, in rachitis, (86) 705
mineral, and tardy rachitis, (135) 1695—ab
mineral, in patient with acromegaly complicated with glycosuria, (125) 1361
nitrogen, of coyote, (70) 696
nitrogenous, changes in, after parathyroidectomy, (101) 1225
nuclein, in dog, (150) 1005
of ammonia compounds, (77) 855
of dogs with functionally resected small intestine, (40) 618—ab
of infants with exudative diathesis, (105) 548
of iron in myeloid leukemia before and after x-ray exposures, (83) 1011
Metabolism of matter and energy during fever, (83) 463, (97) 1302
of rachitic infant, influence of phosphorus-cod liver oil on, (110) 706
purin, diagnosis of gout from, (102) 1693—ab
purin, influence of radium emanations on, (139) 389
respiratory, in new-born infants, (84) 705
Metabolites, tissue, and brain phosphatids, (57) 539
Metaplasia, experimental, of spleen, (149) 389
myeloid, experimental study of, (118) 1864
of epithelium, (125) 1370
of gastric epithelium, (114) 785
Metastasis in placenta, primary melanosarcomas in ovaries and multiple carcinomas in liver, fatal eclampsia-like syndrome in pregnant woman at term with, (56) 1010
with cancer of pylorus, sign of, (140) 707—ab
Metatarsalgia, (61) 696
anterior, operation for relief of, including Morton's disease, (107) 926—ab
Morton's, (123) 312
verrucous tuberculosis of leg after lesion of, (45) 1009
Metatarsus and tarsus, metastasis of, papillary carcinoma of bladder with, (106) 1762
Meteorism early, after trauma of abdomen, favorable significance for prognosis of, (52) 1299
Methods, better, and passing practices, (164) 305
Methylene-blue and fuchsin test of age of milk, (42) 1009—ab
in malta fever, (56) 461
Metranoikter in dysmenorrhea, (106) 542
Metric system, (146) 1226
system simplified, (13) 1613
Metritis, dissecting, and uterine abscess, (85) 783
Metrorrhagia in young girls, (59) 931—ab
Mice, growth in vitro of transplantable sarcomas of, *33
joint, formation of, and osteochondritis dissecans, (104) 926—ab
Microbic theory of infectious disease, forgotten prophecy of, (21) 1072
Micrococcus catarrhalis, infection by, (26) 1619
Micrograph, *1549, (61) 1856
Microorganisms, resistant, antiformin, found in brain of animals infected with rabies, (12) 1357
Microphotography, (140) 81
Microscope in tuberculosis, (113) 380
or stethoscope, diagnosis of early pulmonary tuberculosis without, (46) 1511—ab
Microscopic preparations, anilin-stained, fading of, (14) 1298
Microsporon alopecia areata, (112) 162
epidemic scalp disease at Vienna, (116) 1156
Microtia, (179) 1618
Micturition, irregular, (91) 458
Midwife, (162) 1296
influence of, on infant and maternal morbidity and mortality, (101) 1615
present status of, (100) 1615
question, remedy for, (102) 1616—ab
situation, review of, (1) 814—ab
Migraine, lack of phosphorus in centers in brain cortex as cause of, (123) 1077
ophthalmic, (103) 458
or headache, (154) 1149
recurring arterial hypertonus in, (32) 76
v. Mikulicz disease, (82) 848
Milk, albumin, in infant feeding, (16) 226, (102) 785—ab, (115) 934—ab
albumin, in infant feeding, experiences with, (49) 1765
albumin, technic for preparing, (59) 308, (83) 1429
albumin, toxic action of sugar after feeding with, (90) 229
albumin, use of, (7) 376—ab
and lactic acid, (70) 1857
breast, simple apparatus for drawing, (65) 620
Casein: See Milk. Albumin
certified, (15) 1418
containing tubercle bacilli, subsequent health of children who drank, *1322
cow's, idiosyncrasy to, in infants, (148) 82, (52) 545—ab
cultures, pure, of lactic acid ferments, how obtained, (13) 300
curdled, and malt, in infant feeding, (49) 853
Milk depots, infants, Nathan Straus, of Washington, D. C., record of first 500 cases cared for at, (81) 1422
diet, exclusive, metabolic research during, (89) 705—ab
examination, (158) 75
fermentation of citric acid in, (72) 697
from city-kept cows, results of infant feeding with, (134) 156
from cows fed with factory waste, inconvenience and dangers of, (32) 544
human and cow's, differential reaction in, 782—ab
human, chemical compositions of, and chronic diarrhea and eczema in infants, (32) 781—ab
human, iron content of, and anemia in infants, (104) 706
human, 2 methods of obtaining it for hospital use, (12) 846—ab
human, value of albumin in, (90) 627
methylene-blue and fuchsin test of age of, (42) 1009—ab
mothers', modification of, (122) 926
number of cellular elements in, (142) 1361
pasteurization, control of, *713
question, pure, economics of, (41) 378
raw and pasteurized, and milk serums, (64) 1358—ab
separator, and separator cream, bacterial content of, (95) 1359
serums and raw and pasteurized milk, (64) 1358—ab
stations, infant consultations, etc., in Munich, (124) 934
sterilized, infantile scurvy in child fed on, (20) 1072
sugar, (103) 1761—ab
supply and prevalent rain-bearing winds of Manchester during 1896-1909, (2) 1071
supply of Manila, effort on part of bureau of health for improvement of, (151) 1227
supply, sanitary, for cities from medical standpoint, (65) 1359—ab
tests for, (46) 1909
Mind cure, new, based on science, have we one? (143) 927
hygiene of, (19) 1682—ab
influence of, on health and disease, (137) 1226
in new-born, beginnings of, (60) 1759
of subnormal child, methods of testing, (65) 1684
Mineral metabolism in patient with acromegaly complicated with glycosuria, (125) 1361
springs, physiologic action and therapeutic use of, (102) 1076
Mines of California, uncinariasis of, *259
transmission of disease in, (91) 161
Minnesota, climate of, (104) 458
forest fires of 1910, service at, (95) 1513
plan for establishment of local routine epidemiologic work in, (79) 1422
Valley Medical Association, (153) 699
Miosis due to light and convergence, (158) 1296
Mirror heater, laryngeal, electric, (119) 1361
Miscarriage, infection following, treatment of, (92) 458
Mitosis with non-malignant epitheliomas, (153) 1696
Mitral: See also Heart
Mitral regurgitation, (22) 152
Mole, hemorrhagic, (19) 306
hyadtidiform, retrogression of lutein cystomas after, (151) 551
vesicular, chorio-epithelioma of uterus preceded by, and with unusual nervous symptoms, (23) 928
Moles, surgery of, (139) 1148
Molluscum fibrosum, etiologic influence of pregnancy on, (18) 617—ab
Momburg-belt constriction for post partum hemorrhage, (130) 81—ab, (71) 854—ab
Monadinitis and spirillosis of fowls, (18) 701
Monkeys, transmission of scarlet fever to, experiments on, *1795
Monster, cyclopean, (57) 1010
Moorhof bone plug, use of, at University of Minnesota, (51) 1683
Moral and social diseases, what is physician's duty in prevention of, (95) 622
Morbidity, puerperal, and gonorrhea, (74) 223
Morphea atrophica, acrodermatitis chronica atrophicans and diffuse scleroderma with, (121) 1514

Morphin addiction, treatment of, (83) 933—ab
and scopolamin, (155) 225—ab
and morphinomania, (13) 1223
Morphinism and alcoholism, Towns-Lambert treatment for, (57) 1684
Morphinomania and heroinomania, treatment of, (31) 929—ab
Mortality during early weeks of life, (60) 620—ab
early, of several children in family, (130) 857—ab
infant, (84) 73—ab
infant, causes, prophylaxis, (89) 1615
Mosquito, is plasmodium malariae conveyed to human system only through? (152) 1228
Mosquitoes, anopheline, 3 new species of, (25) 461—ab
community measures against, (86) 541
new method of making permanent preparations of, (50) 77
Motais operation as performed at eye, ear, nose and throat hospital, New Orleans, (71) 1225
Mother and child, care of, during and after puerperium, (87) 1070
and child, energy metabolism of, just before and just after birth, (97) 925—ab
and father, transmission of anaphylaxis from, to child, (101) 161
expectant, care of breast of, before and during lactation, (127) 157
future, influence of school life on development of, (77) 1857
nursing, from standpoint of infant, (46) 924—ab
nursing, salvarsan given to, for congenital syphilis, (28) 617
nursing, scarlet fever in, (59) 854
Mothers, eclamptic, should they nurse their infants? (113) 304—ab, (61) 620—ab
3 years' experience of babies dispensary and hospital of Cleveland in education of, (113) 224—ab
Mouse, anaphylactic lung of, microscopic study of, (27) 1224
carcinoma and rat sarcoma, transmission of, to new-born animals, (63) 782
carcinoma, morphologic changes in, in course of long-continued transplantation, (32) 774
rat parabiosis, influence of, on growth of rats of transplantable mouse sarcoma, (35) 774
sarcoma, transplantable, influence of mouse-rat parabiosis on growth of rats of, (35) 774
Mouth and jaw, tuberculosis of, primary, (81) 626
and larynx, pemphigus chronic vulgaris of, (121) 1423
and throat, non-syphilitic ulceration of, salvarsan in, (128) 1078—ab
disease of, and rheumatoid arthritis and other forms of rheumatism, (13) 1072—ab
hygiene movement, (171) 305
inefficiency of tuberculin test by, (61) 160—ab
laboratory, (35) 1224
spirochetes of, action of salvarsan on, (113) 311
Mucosa, action of hydrogen dioxid on enzyme-producing property of, (78) 783
buccal, chronic recurring necrotic granuloma of, (48) 696
gastric, changes in, with acute infectious diseases, (86) 463—ab
gastric, histology and functions of, (103) 547
lupus of, treatment of, (74) 783—ab
of cervix uteri, lymph follicles in, (115) 706
uterine, structure and development of, (33) 1230
Mucosæ and middle-ear catarrh, connection between, (7) 75
Mucous disease, (150) 1296
Mucus, diagnostic significance of, in test meal, (101) 1147
Mummification, history of, (13) 1007
Mumps, its complications, (23) 623
Municipality, visiting nurse in, (41) 1420
Murmur, heart, and size of heart, (115) 1156
presystolic, (16) 1007—ab
Murmurs, cardiac, clinical significance of, (61) 1225
heart, and electrocardiogram, (134) 81
venous, heard at root of neck in children, (24) 1151—ab
Muscle and nerve, effects of pressure on conductivity in, (82) 303—ab
cremaster, plastic operation with, in inguinal hernia, (134) 231
Muscde, group overaction and spasticity, technic of nerve alcholization in, (38) 301
hyperplastic, and salivary gland disease, (101) 547
masseter, hematoma of, (56) 1152
pectoralis, defect in, and high shoulder, (98) 1012
peroneus, congenital absence of, (72) 854
plasma and pancreas extract, combined action of, on glucose and maltrose, (124) 1361
pyriform, pseudotumor in small pelvis from contraction of, (152) 551
smooth, abnormal nucleated cells in, (55) 1152
smooth, from guinea-pigs, reaction of, rendered tolerant to large doses of serum, (52) 539—ab
tumor, tuberculous, (163) 305
weakness and pain, (42) 1758—ab
Muscles and skin, echinococcus disease of, (103) 1234
artificial, in early treatment of infantile paralysis, new method, (9) 922—ab
blood-vessels and organs, preservation of anatomic dissections with permanent color of, *882
inflammation in, symptomatic myotonic disturbances with, (64) 228
lumbar, advantages of, as site for injection of salvarsan, (58) 1152
lumbar, injection of drugs, especially salvarsan into, (6) 1067—ab
ocular, imbalance of, (104) 1147
striated, primary tuberculosis of, (114) 1769—ab
thenar, peripheral neural atrophy of, *1256
Muscular action, vicarious, (136) 81
rigidity, abdominal pain and tenderness and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, *1784
Museum, medical, army, aneurysms in, (29) 455—ab
national, United States, and other government scientific collections, (134) 381
Mushrooms, discoloration of urine after eating, (113) 628
Mutism from deafness and deaf-mutism, differential diagnosis between, (87) 387—ab
Myalgia and urinary hyperacidity, (49) 378—ab
Myasthenia gravis, (24) 1007—ab, *1555
with enlargement of thymus, (5) 542
Mycosis due to oidium cutaneum, (43) 545
fungoides, (126) 381
fungoides in negro, (143) 1005
Mydriatic action of organ extracts, (65) 782—ab, (69) 1010
alkaloids and hyoscin, (28) 226
Myelitis, acute, thrombotic softening of spinal cord case of, (26) 76—ab
and polyneuritis during toxic vomiting of pregnancy, (31) 1426—ab
ascending, acute, tetragonus, (136) 630—ab
subacute patches of, with recurring endocarditis, (58) 1428—ab
Myeloma, multiple, with albumosuria, *1092, (106) 1423—ab
Myocarditis, (122) 1071
and pericarditis, tuberculous, (33) 221
and sudden death in scarlet fever, (40) 545—ab
curable, (27) 1515
Myoclonia and nystagmus, (75) 1300—ab
Myogenic doctrine of cardiac activity and arrhythmia, (93) 848
intraligamentary, (81) 777
uterine and degenerative changes, (19) 618—ab
uterine, lymphangiectasia with, (90) 79
Myoma and diabetes mellitus, (70) 1767
of uterus, degenerative changes in, (28) 1854—ab
uterine, abdominal hysterectomy for, (28) 1908—ab
uterine, and heart disease, (11) 1904—ab
Myomas, development of, due to anteflexion of uterus, (148) 1306—ab
Myoglia stain in study of structure of myomas, (138) 1865
uterine, treatment of, (63) 1428—ab
Myomata, of uterus, abdominal myomectomy for, (63) 847—ab
uterine, and parturition, (135) 1004
Myomectomy, abdominal, during pregnancy, (48) 1614
abdominal, for myomata of uterus, (63) 847—ab
Myopathy, congenital, torticollis from, (30) 701
traumatic, (129) 1304
Myopia of children, (58) 222
of medical profession, (72) 1358
ossificans, traumatic, (71) 386, (2, 3) 1229—ab
ossifying, or callus around bone? (124) 857
Myositis ossificans, (36) 1758
ossifying, origin of, (106) 1624
Myotic infection, spontaneous fracture of leg bones possibly due to, (6) 1905
Myotomy of gluteus maximus for snapping hip joint, (52) 1861
Myotonia atrophica, metabolic study of, (58) 619—ab
Myotonic disturbances, with muscle inflammation, (64) 228
Myxedema, congenital, from defect in thyroid development, (48) 702
metabolism in, (68) 1767
Myxoma, subperitoneal, large, of broad ligament, (75) 78
Myxosarcoma of right frontal lobe, extensive degeneration in cord, (72) 72

N

Nail extension in fractures, (87) 546, (101) 705, (125) 857
Nails, biting of, cured by device covering teeth, (68) 854
evidence of recent severe illness afforded by, (8) 1423
Narcosis, Overton and Meyer's theory of, and phosphatids, (56) 539—ab
Narcotics, enhancing action of, by combination with others, (107) 785
general anesthesia combined with, 300 cases of, (13) 1424
organism does not become accustomed to action of, (104) 784
Nasopharynx and Eustachian tubes, speculum for direct examination and treatment of, (118) 1361
exposure of, by slitting lower jaw and separating soft from hard palate, (146) 1306—ab
National guard and army from viewpoint of national guard officer, (51) 302
guard, Pennsylvania, report on 1910 camp of division of, at Gettysburg, Pa., (48) 302
Nausea and vomiting, postoperative, from chloroform and ether, open-air treatment of, (83) 1293—ab
of pregnancy, (72) 457—ab
Naval service, diagnostic methods in otology applicable to, (130) 381
Navy and marine corps, mental examination of candidates for enlistment in, (132) 381
and medical corps, (125) 1147
diphtheria prophylaxis in, (128) 381
hospitals of, medical, as seen by fleet surgeon, (56) 1358
Japanese, outline of organization of medical corps, service in, (63) 222
medical department of, (91) 1513
nomenclature for causes of physical disability in, (82) 1359
status of medical corps of national guard in relation to, (75) 153
United States, venereal prophylaxis in, *1098, (92) 1359—ab
unlearnable vision test card for use in, (131) 305—ab
what can it do with tuberculosis? (81) 154—ab
Neck, general anesthesia in operations about, (100) 458
malignant disease in, (92) 1070
tuberculous glands of, treatment of, (59) 71—ab
venous murmurs heard at root of, in children, (24) 1151—ab
Necrobacillosis of skin, (144) 75—ab
Necropsies, animal, parasites found at, in naval medical school laboratories during 1910, (84) 1359
19, diagnostic value of tuberculin as shown by, (12) 1067—ab
intestine tray for, (85) 1359
Necropsy and other pathologic-anatomic examinations, importance of, *729
findings, death with, from brain abscess in frontal region, (88) 303
findings in primary sarcoma of stomach, *500
in cystic kidney over year after nephrectomy, (114) 1432
with chronic lymphatic and myeloid leukemia, 3 cases of, (78) 1519
Necrosis, arsenic, (59) 1427
fat, perforating duodenal ulcer with, (54) 302—ab
of pancreas, (65) 160—ab, (48) 847
posttyphoid, of thyroid and arytenoid cartilages, (179) 1618
Needle, crochet, bone, perforation of uterus and transfixion of contiguous mesentery and peritoneum by, *173
pericardium penetrated by, (162) 305
spinal, (165) 305
Needles, sewing, removal of, from subcutaneous tissues, *344
surgical, eye of, (21) 1364—ab
Negri bodies in Philippines, priority in demonstration of, (85) 541
Negro, epithelioma of upper lip in, (71) 1857—ab
physical characteristics of, (60) 1225
rarity of tabetic and paretic conditions in, *1645
tumors of jaw most frequent in, (52) 696—ab
Negroes, diabetes mellitus among, (70) 303—ab
Nematode disease of plants, (106) 934
Neoformation of blood-vessels, (149) 1696
Neoplasm: See also Malignant Growth, Cancer, Tumor
Neoplasm, malignant, intestinal obstruction due to, treatment of, (122) 305—ab
Neoplasms, biology of, (83) 1075
etiology of, (165) 1372, (111) 1769—ab
intracranial, diagnosis and indications for treatment, (45) 384
Nephrectomy for infected cystic kidney, recovery, (41) 775
for kidney disease, (31) 544—ab
indications for, (117) 542, (136) 1071, (16) 1223
necropsy in cystic kidney over year after, (114) 1432
research on fasting animals after, (154) 1372
Nephritis, acute, (102) 622—ab
after salvarsan in syphilis, (69) 1519—ab
chemistry of, *1452
chlorid and water tolerance in, (3) 1756—ab
chronic, (103) 622—ab
chronic, experimental, with exophthalmos in rabbit, (75) 540—ab
chronic, puerperal inversion of uterus with, (49) 1231
chronic, relations between kidneys and suprarenals in, (180) 860—ab
chronic, sweat glands in, histologic study of, (104) 154
dyspnea in, (17) 1425—ab
hematogenous, unilateral, acute, acute multiple urogenous abscess of kidney resembling, (46) 1145-ab
in children, (133) 224—ab, (77) 303
in children, acute, blood-pressure in, (100) 1761—ab
in children, primary, chronic, (36) 307
in girl of 6, acute, uremia from, decapsulation of kidney in, (80) 1368
interstitial, chronic, medical treatment of, (77) 223
long-standing, in boy, (106) 1003
relation of diastase in urine to, (119) 80
salicylates in prevention and treatment of, (72) 1767—ab
secretion of hydrochloric acid in, (143) 164
syphilitic, acute, and salvarsan, (64) 1767—ab
syphilitic, secondary, fatal, (4) 1762—ab
treatment of, (16) 1515
Nephrectomy, normal delivery followed by, (57) 1759
Nephrolithiasis, *507
bilateral, left nephrolithotomy, (29) 846
Nephrolithotomy, left, (29) 846
Nephropexy, improved technic for, (117) 785—ab
Nephro-ureterectomy, (53) 1225—ab
Nerve alcoholization, technic of, in spasticity and muscle group overaction, (38) 301
and muscle, effects of pressure on conductivity in, (82) 303—ab
auditory, and labyrinth, syphilis of, (137) 1371
auditory, syphilis of, (101) 1234—ab
cells, recuperation of, after functional activity from youth to senility, (7) 1681—ab
cranial, fifth, eye manifestations of peripheral affections of, (21) 1682
effects of stretching of, on rate of conduction of nervous impulse, (83) 303
laryngeal, recurrent, left, paralysis of, in certain cases of mitral stenosis, anatomic explanation of, (1) 1510—ab
laryngeal, superior, analgesia of larynx by alcohol injection of internal branch of, (97) 458—ab

Nerve, optic, affections, enlargement of blind spot early symptom in diagnosis of, (80) 621
optic, atrophy of, from traumatic asphyxia, (154) 1296
optic, changes and cranial malformations, (4) 220
optic, injuries of, with fracture of skull, (91) 1076
optic, irritation of, by salvarsan, (125) 1304—ab
optic, neuritis of, of obscure origin, use of diagnostic doses of old tuberculin in determining etiology of, (63) 776
optic, neuritis of, salvarsan in, (83) 154
optic, tabetic atrophy of, (117) 1077—ab
pneumogastric, (104) 856
roots and spinal cord, principles underlying surgery of, (8) 1067
roots, spinal, resection of, for spastic paralysis, (132) 550—ab
roots, spinal, technic for resection of, (121) 163
tissue, affinity of salvarsan for, (52) 1231—ab
transplantation of, from one side to other, (151) 467—ab
vagus, influence of, on vascularity of left organ, (68) 1146
vestibular, symptoms in internal ear disease, (79) 463
vestibular, transient disturbance in, after salvarsan, (80) 229—ab
Nerves, behavior of plasma cells and blood-vessels in lymph glands after severing of, (136) 550
cerebral, paralysis of, in exophthalmic goiter, (89) 1012—ab
cranial, effects of salvarsan on, (91) 311—ab, *1433
fusion of, experimental work on, its practical bearing on infantile paralysis, (55) 1684—ab
massage of, at emerging points, (105) 388—ab
optic, atrophy of, cases resembling, which recovered under treatment, (27) 852—ab
partially transplanted, structural changes in, (140) 313
spinal, resection of, for gastric crises in tabes, (92) 1863—ab
spinal, resection of posterior roots of, to relieve pain, pain reflex, athetosis and spastic paralysis, (25) 846
Nervous affections and adjustments of eyes, (3) 220, (7) 1223, (97) 1686
and mental diseases, modern progress in treatment of, (82) 783
and mental diseases, moving pictures as aid in studying and teaching of, (119) 312
and mental diseases, seroreactions in, (124) 224—ab
and mental manifestations, marked, in masked tertian malaria, (150) 1227—ab
disease, organic, allied, and hysteria, differential diagnosis of, (147) 550
disease, salvarsan in, (49) 781
disease, syphilogenous, salvarsan in, (84) 160
diseases, aids in diagnosis of, special reference to reflexes, (122) 1616
diseases, alleged increase of, (5) 1067
diseases and puberty, (129) 778
diseases, functional, etiology of, (25) 1292
diseases, paroxysmal course of, (136) 1078
diseases, physiologic measures in treatment of, (21) 300
disturbances, organic, atony of bladder without obstruction of signs of, (168) 859—ab
exhaustion, (34) 1008
impulse, effects of stretching nerve on rate of conduction of, (83) 303
phenomena in chronic mucous colitis, (47) 1073
phenomena, reflex, in genito-urinary tract in appendicitis, (29) 544—ab
poor, need of colony sanatorium for, (18) 377
respiratory and cardiac disturbances as consequence of gastro-intestinal irritation, (127) 1078
symptoms, unusual, with chorioepithelioma of uterus preceded by vesicular mole, (23) 928
system and electricity, (114) 1423
system and eye, relation between, (145) 1005
system and syphilis, with remarks on Wassermann reaction and salvarsan, (2) 693
Nervous system, autonomic, functional tests of, in mental disease, (109) 388—ab
system, central, colloid bodies in, (66) 1146
system, central, examination of, in case of cured human trypanosomiasis with negative results, (13) 928
system, central, organic disease in, histologic and pathologic study of, (126) 1014
system, central, urine reaction in disease of, (134) 1078
system, diseases of, diagnosis of, (89) 925
system, functional derangements of, (1) 1762—ab
system, growth changes in, (40) 1683
system, infectious diseases of, poliomyelitic syndrome in, (155) 1372
system, inhibition in, and tetanic convulsions in frogs produced by acid fuchsin, (59) 539
system, metastasis to, from cancer of stomach and intestine, (1) 376
system, recurrences in, after administration of salvarsan in syphilis, (93) 1155, (78) 1429—ab
system, reflex symptoms and disease of, (13) 537
system, sympathetic, (113) 934, (77) 1368
system, syphilis of, (119) 459
system, syphilis of, mercurial inhalations in thermo-diaphoretic room in, (73) 303
system, syphilis of, recurrence of, after mercurial treatment, (130) 467—ab
system, syphilis of, salvarsan in, (114) 548, (122) 1432—ab
Nervousness and education, (153) 225
management of children predisposed to, (120) 850—ab
practical treatment of, (6) 1904
Neuralgia and urinary hyperacidity, (49) 378—ab
Facial: See Neuralgia, Trifacial
facial, alcohol injections in, (46) 378
of base of fourth toe, (123) 312
of joints, recurring effusion with, (155) 82—ab
of larynx, (44) 1420—ab, (71) 1760
pain in distribution of nerves pressed on by inflammatory exudate and scar tissue, (74) 303
trifacial, deep injections in, *335
trigeminal, resection of gasserian ganglion for, (86) 1369—ab
Neuralgias, putrefactive products of intestinal canal as etiologic factors in certain forms of, (11)694-ab
Neurasthenia, (97) 380—ab, (66) 1069
and acute insanity, nature of, (7) 694
and associated conditions, (26) 461
and diet, (39) 461
and drugs, (27) 461
and eye-strain, (29) 461
and gastralgia, (30) 461, (112) 1514, (65) 1421
and insanity, (35) 461
and movable kidney, (36) 461
and psychasthenia, (95) 1857
cerebral, cured by breathing exercises, (120) 1694—ab
cerebral, from automobiling and its depressing influence on sexual sphere, (75) 1519—ab
climatic, balneotherapeutic and sanatorium treatment of, (43) 461
educational treatment of, (40) 461
electrical treatment of, (42) 461, (5) 851
gastrica, (112) 1514
gastrica or nervous dyspepsia of Leube, (65) 1421
hypnotism and suggestion in, (45) 461
in children, (31) 461
is there such a disease? (77) 457
mental therapeutics in, (34) 461
minor, (37) 461
nasal phenomena of, (137) 225
of men, sexual element in, (32) 461
of women, sexual element in, (33) 461
organic basis of, (2) 376—ab
physical methods in treatment of, (44) 461
rest, diet and massage in, (41) 461
sanatorium treatment of, and need of colony sanatorium for nervous poor, (18) 377
sexual, and impotentia coeundi, treatment of, (165) 382
sexual, its local and hydrotherapeutic treatment, (30) 1224
Neurasthenia, traumatic, (28) 461
treatment of, (119) 1762
Neurasthenics, surgery of, (74) 1070
Neuritis and urinary hyperacidity, (49) 378—ab
brachial, due to pressure of first rib, (15) 306
multiple, alcoholic, obscured, in opium addiction, *1554
optic, and neuroretinitis of obscure origin, use of diagnostic doses of old tuberculin in determining etiology of, (63) 776
optic, and syphilis, salvarsan in, (94) 1155
optic, mechanical etiology of, (13) 1362
optic, recurrence of syphilis as, after salvarsan, (124) 80
optic, salvarsan in, (83) 154
retrobulbar, acute, due to intestinal toxemia, (103) 1226
traumatic, mild, of brachial plexus, (67) 1684
Neuro-epithelioma developing from central gliosis after operation on spinal cord, (64) 1146
Neurofibromatosis, (3) 773
universal, or fibroma molluscum, (44) 696
Neurologic diagnosis, making of, 46 618
features in some joint lesions, (116) 381—ab
hospital, year's experience in, (128) 1295
hospitals, aims and possibilities of, (15) 694
service, new, at Boston City Hospital, (16) 694
Neurology, inaugural lecture in, (43) 1427
in Zurich, (20) 69
of apraxia, (51) 1856
Neuron, sodium and potassium of, relation of phosphatids to, (55) 539
Neuropathic and psychopathic individuals, improved treatment of, (82) 1368
Neuropathy and chronic influenza, (59) 619—ab
Neuroretinitis and optic neuritis of obscure origin, use of diagnostic doses of old tuberculin in determining etiology of, (63) 776
in anemia, (31) 781
Neuroses and Freud's psychology, (36) 1854
functional, clinically reviewed, (34) 152
genito-urinary, extradural injections by sacral puncture in, (17)1854—ab
reflex, and reflexes from upper respiratory-tract, (10) 537—ab
sacral, epidural injections in, value of, (82) 1429
traumatic, (24) 544
traumatic, more certain control of, (38) 461
traumatic, prognosis of, (142)630—ab
Neurosis, ganglion, sphenopalatine, syndrome of, (45) 70
Neurotic temperament, simulated disease in persons with, (6) 851
Neutrophil blood picture and leukocytosis, clinical significance of, in appendicitis, (84) 1012—ab
Nevi, freezing of, (5) 700—ab
surgery of, (139) 1148
Nevus cells, nature of, (104) 1013
Newborn: See Infant
New-born, beginnings of mind in, (60) 1759
New England Pediatric Society, (2) 1067
New Mexico Medical Society, (20) 152
needs of medical profession in, (21) 152
New South Wales, medical profession in, (10) 1906
Nicotin and syphilis as factors in cardiovascular disease, (25) 377
Nigeria, esophagostomum apiostomum as intestinal parasite of man in, (41) 1619
Nihilism, therapeutic, (38) 152
Nipple, Paget's disease of, (129) 313—ab
tumor of, (95) 1368
Nitrates, high, therapeutic effect of, in drinking water, *1881
Nitrite poisoning, cholera as, (77) 1767
poisoning, cholera not result of, (116) 312
poisoning from fertilizer, (65) 1767
Nitrobenzol intoxication, blood and heart findings with, (103) 311
cutaneous elimination of, (36)924-ab
metabolism, changes in, after parathyroidectomy, (101) 1225
Nitrobenzol metabolism of coyote, (70) 606
metabolism of, in new-born infant, (37) 1068—ab
of ammonia, part played by, in production of urea, (62) 931
transient retention of, during protracted delivery, (34) 1426
Nitrogen and urea, metabolism of, in gout, (116) 1624
Nitrous oxid and oxygen, requirements and limitations of, as general anesthetic in major surgery, (21) 377
oxid, new method of administration of, with or without oxygen, for prolonged dental operations, (13) 780
oxid-oxygen anesthesia, advantages of, especially in ultimate recovery, *499
oxid-oxygen anesthesia in surgery, (107) 1857
Node, sino-auricular, function of, (99) 926—ab
Noma in adult, *1449
Nomenclature in obstetrics, (156) 467
medical, why are we opposing forms in? (108) 1762
medicozoologic, correct name of protozoon of syphilis, (109) 1762—ab
Norway, west coast of for health and recreation, (148) 927
Nose: See also Nares, and Nasal
Nose, accessory sinuses of, and diseases of eye, anatomic and clinical relation between, (18) 1905
and eyes, inter-relationship between, (39) 1420
and ear, syphilis of, (134) 927
and middle-ear disease, vacuum-pump for, *811
and throat, examination of, and general diagnosis, results in asthma following nasal operation, (21) 694
conditions, headache and pain in, (41) 77
conservative surgery of, (2) 459—ab
deflected bony septum of, new and safe method for submucous removal of, (32) 221
depressed, bone transplantation for correction of, *1259
diphtheria, (129) 224
diphtheria in infants, (136) 156
diseases and injuries of head, (33) 1008
diseases, mechanotherapy in, (67) 1225
diseases, non-caustic cresol in, (117) 1361
diseases of, plasma cells in, (108) 1864
diseases, suppurative, chronic, bismuth paste in, (55) 71
effect of readjustment of maxillary bones on development of, (89) 777
eye, ear and throat, diseases of accessory sinuses with reference to, (151) 1362
fibrous polypi of, (100) 542
Hemorrhage from: See Epistaxis
importance of breathing through, (27) 1292
lupus of, Pfannenstiel's two-route treatment of, (57) 703
measurement of permeability of, (103) 1013
mouth and throat, peroral intubation for operations on, (87) 1369—ab
mucosa of, multiple abscesses of, in leukemia, (66) 456
obstructed respiration and drainage of, (47) 589
obstruction in, headaches due to, (13) 75
operation on, for asthma, (151) 927
phenomena of neurasthenia, (137) 225
polypi of, (99) 458, (27) 1854
results in asthma following operation on, (21) 694
secretion from patients with acute poliomyelitis, inoculation of, *1192
septum of, deformities of, their correction, (137) 1296
septum of, removal of floor of, in submucous operations, (11) 1291
septum of, submucous resection of, (109) 849, (14) 922—ab, (114) 1294
septum of, true papilloma of, (108) 849
siphonage of stomach content through, in peritonitic ileus, (128) 467—ab
specialist, diagnostic significance of headache to, (92) 73
stenosis of, widening dental arches in, (90) 777
submucous resection of, cartilage transplantation for prevention of perforation in, (107) 542—ab

Nose, throat, eye and ear work, emergency cases in, with suggestions for their care by practitioners, (28) 1067
Nosology, (159) 927
Now and then, medical profession in Minnesota 30 years ago and its standing at present, (154) 699
Nucleases, (41) 923, (128) 1361
Nuclei, erythrocytic, of normal human blood, (77) 540—ab
Nuclein fermentation, physiologic agents concerned in, special reference to 4 independent desamidases, (132) 1361
metabolism in dog, (150) 1005
Nucleus ruber, hemichorea, hemiataxia, hemiparesis and dilated pupil, probably due to lesion near, (89) 622
Nurse and public health, (18) 1143
school, pays, evidences of, (22) 1292
trained, as anesthetist, plea for, (126) 926
trained, evolution of, (32) 1068
visiting, in municipality, (41) 1420
Nurses for people of limited means, problem of, and physician, (164) 1228
importance of public and private hospitals in education of, (118) 305—ab
of New York hospital, growth and development of training school for, (5) 1223
training schools for, in Mass., antityphoid inoculation in, (23) 221—ab
wet, directory for, its experiences for 12 months, *1715
Nursing, maternal, complemental infant feeding as effective aid in maintaining, *326
maternal, importance of, (21) 1613
mental and sick, (40) 1688
Nurslings: See Infants
Nutrition, diet and growth in children, (17) 300
infant, (13) 1682—ab
rôle of hypophysis cerebri in, (57) 1621—ab
Nystagmus and myoclonia, (75) 1300—ab
labyrinthine, normal, mnemonic tabes for, (25) 226
vestibular, (44) 1861—ab
vestibular, anatomic explanation of, (95) 777

O

Obesity, (42) 1299
and changes of metabolism, (8) 306
and hypophysis cerebri, (172) 1697
as sign of disease in hypophysis cerebri, (148) 1866—ab
dangers in treatment of, (38) 1860—ab
heart, Röntgen-ray findings with, (112) 388
practical treatment of, (39) 1860—ab
Obsessions and fears in relation to genesis of hysterical states in childhood, (30) 852
Obstetric cases at Mercy Hospital, usual care of, (78) 1225
cases, cultivation of anaerobes in, (132) 1157
complications, (79) 1225
consultant, (70) 1292
forceps, mistakes in use of, (84) 848
forceps, new technic in use of, (162) 1006—ab
forceps, should cobwebs cover? (62) 222
practice in India, modern, (22) 1230
procedures, advantages of Trendelenburg, position for, (125) 1157—ab
surgery and secondary repair of lacerated perineum, (60) 539
surgery in private practice, (22) 617
surgery, modern, scope of extraperitoneal Cesarean section in, (24) 780
version, (110) 312—ab
work in country practice, (82) 1146
Obstetrics and animal experimentation, *1159
and embryology in ancient Hebrew literature, (3) 1612
and gynecology, necessity for anaerobic cultures in, (154) 390
and gynecology, pathology of, (132) 156
and gynecology, pituitary extract in, (12) 226
and gynecology, sacral anesthesia in, (86) 229—ab
and gynecology, significance of anatomic-histologic examination methods in, (7) 617
Obstetrics and surgery, scopolaminmorphin anesthesia in, (106) 1370
antiseptic lavage of vagina in, (162) 1696
12 don'ts in, (170) 1296
evolution of, in France, (69) 854
in Munich a century ago, (120) 1370
modern trend of, (63) 539
nomenclature in, (156) 467
operative, present trend of, (41) 1144
practical, methods of teaching, (111) 1857
primitive, *812
problems in, (138) 699
progress of year in, (129) 156
prophylaxis in, (17) 75, (34) 158
self-infection in, (55) 1909—ab
surgical, (124) 163
technic of anesthesia in, (157) 225
use of scopolamin in, review of, (47) 1009—ab
Obstipation and constipation, rectal, causes and treatment of, (20) 1292
Oculomotor paralysis in infant, (93) 1430
Odontoblastomata, (58) 1420
Odontomes, composite, 6 cases of, *165
Odynphagia, simple method for relief of certain forms of, (18) 846—ab
Oedipus-complex in Hamlet, *1377
Ohio national guard, efforts, accomplishment and aim of, (54) 1358
Oidiomycosis, immunologic reactions of, in guinea pig, (118) 1147
Oidium cutaneum, mycosis due to, (43) 545
Oil, camphorated, in prophylaxis of postoperative peritonitis, (59) 385—ab
camphorated, in unencapsulated suppurative peritonitis, (60) 1518
eucalyptus, poisoning by, (59) 77, (7) 851—ab
machine, impetigo contagiosa transmitted by, (13) 151
of pine, Swedish, chemical study of, (140) 231
suspension of salvarsan, (80) 463
Oils and fats given subcutaneously, utilization of, (9) 1757—ab
Ointment, tuberculin, old, used in diagnosis and treatment of lupus vulgaris, (4) 306—ab
Ointments, (159) 1362
therapeutic use of, (158) 1362
Omentopexy, (49) 1144
for ascites with valvular defect, (124) 707—ab
Omentum and appendix, gangrene of, *34
endotheliomatous cyst of, (42) 1856
great, functions of, (68) 847—ab
great, perithelioma of, excision, (15) 382
great, primary endothelioma of, *1871
great, torsion of, (123) 304
hernia of stomach into, (75) 386
intrahernial torsion of, (113) 79
tumors in, inflammatory, postoperative, (42) 702
Ontogenesis and biogenesis, (73) 704
Oöphorectomy: See Ovariotomy
Operating table, greater care in arranging patients on, for prevention of common postoperative weak back, *642
Operation, alcohol-tannin for sterilization of field of, (109) 1076—ab
Lane's, appendicostomy to safeguard excluded colon in, for chronic intestinal stasis, (48) 1683
Lane's, for cleft palate and harelip, modification of, (62) 1759—ab
least and shortest short anesthetic for, (3) 1903
Matas, for cure of aneurysm, (16) 774
talma, behavior of purin bodies in cirrhosis-of-liver before and after, (164) 552
Operations, after-treatment, (29) 1613
allowing patients to get up early after, (174) 860—ab, (88) 1520
aseptic, bacteriologic revision of, (99) 1234
breaking down of wounds following, (11) 1357
common, (32) 158
delayed, and incomplete operations, untoward results of, (131) 1295, (155) 1362
finished, below waist line and within abdominal cavity or its outlets, (15) 1613
general treatment before and after, (98) 79
gynecologic, factors for and against, (49) 1758
infectious, walling off small pelvis after, (157) 467
Operations, major, under primary ether anesthesia, (126) 163—ab, (120) 1235
orthopedic, convulsions after, (102) 1623—ab
plastic, and ionic surgery in epithelioma of vulva, *886
plastic, and ionic surgery in meatus urinarius, *886
plastic, radical, for femoral hernia with pectineus flap, (100) 1864
time element in, (40) 847
surgical, pulmonary and circulatory complications following, (89) 1761—ab
Ophthalmia neonatorum, (61) 539
neonatorum, plea for legislative enactments for its prevention, (87) 154
neonatorum, prophylaxis of, (114) 162, (81) 1225
sympathetic, (45) 153—ab, (123) 778—ab
sympathetic, extractum corporis ciliaris in, (90) 1686
Ophthalmic cases, unusual, (91) 622—ab
expert, eligibility of pension claimants from a standpoint of, (70) 1512
hospitals in Egypt, (82) 154
practice, value of vertical prism in, (148) 1423
Ophthalmologist, early recognition of inherited syphilis from standpoint of, (11) 220
Opthalmology, medical cases in, (19) 1859
review in, (27) 455
salvarsan in, (130) 1514
teaching of, (122) 224—ab
therapeutic possibilities of salvarsan in, (91) 223
Ophthalmoplegia externa, bilateral, with bulbar symptoms, (91) 1615
Opium addiction, obscured alcoholic multiple neuritis in, *1554
lessening of sensibility to, with increasing age of laboratory animals, (106) 548
poisoning, (89) 1146—ab
varying susceptibility to, with age, (68) 783—ab
Opsonic counts, simplified method of staining preparations for, *1189
index in diagnosis of mixed infection in pulmonary tuberculosis, (85) 1003—ab
index, simplified, and vaccine therapy, (11) 1510
technic, (66) 385, (11) 1510
Opsonin treatment of skin diseases, (117) 856, (122) 1077
Opticians, refracting, (150) 225
Optics, accurate, (52) 1856
Oral: See Mouth
Orange-red underwear, experiment with, (72) 1685—ab
Orbicularis palpebrarum, twitching of, calcium chlorid for, (62) 379
Orbit, disease of, points in diagnosis of, (7) 543
operation on, for cure of traumatic pulsating exophthalmos, (112) 1432
small round-cell sarcoma of cellular tissues of, (47) 618
tumors, removal of, (138) 1148
varix or angioma venosum of, (108) 1147, (92) 1686
Orchitis, primary, with secondary parotitis, *742
suppurative, simulating appendicitis, (41) 545
Organ extracts and fluids, mydriatic action of, (65) 782—ab, (69) 1010
extracts and rabbit serum, coagulation-promoting action of, in acquired hemophilia, (133) 389
extracts, fresh and autolyzed, influence of, on experimental tuberculosis, (117) 1147
extracts unable to neutralize toxicity of suprarenal extract, (125) 163
Organization, Medical: See Medical
Organology, teaching of, *1544
Organotherapy of osteomalacia, (161) 1696—ab
Organs: See also Viscera
of internal secretion, interrelations of, (94) 849—ab, (149) 1148
plague-infected, method of preserving them for examination, (51) 461
Oriental sore in native Colombian, *1257
sore, 2 cases of, (109) 1769
Orthodiagram, diagnostic value of, in heart disease, (94) 925—ab
Orthodontia and rhinology, (127) 1295
Orthopedic management of paralysis due to acute anterior poliomyelitis, (27) 1067
standpoint, joint diseases from, (115) 381—ab
surgery and pediatrics, (132) 224
treatment of infantile paralysis, (137) 779
Os calcis, osteophytes of, (106) 926—ab, (73) 1421
Osmosis as important factor in action of antiseptics, (48) 1069—ab
Ossicles and tympanic membrane, partial petromastoid excavation with preservation of, (16) 460
Ossiculectomy in chronic suppurative otitis media, (9) 75
Ossification and growth, influence of exophthalmic goiter and analogous conditions on, (178) 84—ab
carpal, and physical and mental development, (87) 697—ab
intermuscular, (114) 1864
patches of, in skin, (119) 628
Osteitis, central, metal drains for, (49) 77
deformans, (74) 540—ab, (64) 696
fibrous, deforming, with osteomalacia, (35) 544
Osteoarthritis, metabolic, treatment of, *1779
of spine, acute, after trauma in osteoarthritic patients, (78) 1685
tuberculous, immobilization in, (53) 1009
Osteochondritis dissecans, its nature and relation to formation of joint mice, (104) 926—ab
Osteofibroma occupying tonsillar fossa, (127) 850
Osteoma of uterus, (83) 777
Osteomalacia, deforming fibrous osteitis with, (35) 544
epinephrin treatment of, (45) 1231
nature and treatment of, (95) 1012
of tuberculous origin, (54) 384
organotherapy of, (161) 1696—ab
tetany after injection of adrenalin or epinephrin in, (98) 1769
Osteomyelitis, acute, and purulent spinal meningitis, diagnosis and treatment of, (123) 857
infective, acute, vaccine therapy of, (25) 306
non-suppurative, (19) 1067
of spine, acute, (89) 1369—ab
of temporal bone, (49) 71
tubercular, of extremity of femur resembling infantile scurvy, (41) 1758
typhoid, vaccine in, (169) 1617
Osteopathy, what is attitude of medical profession toward? (71) 924
Osteoperiostitis, paratyphoid, (137) 81
Osteophytes of os calcis, (106) 926—ab
Osteoplastic operations in pathologic bone cavities, (72) 1292
Osteoplastics, free, (95) 79
Osteotomy, corrective, genu valgum with observations on, (4) 1903
transverse, to correct torsion of leg with club-foot, (92) 1234
Os-Uteri: See Uterus
Os-Uteri, dilatation of, in labor, (27) 1859
technic of operations for dilating, at or near term, (41) 301
undilated, rapid delivery with, (55) 227—ab
Otitis-media, acute, and mastoid abscess in children, (85) 73—ab
acute, and suppurative disease of nasal accessory sinuses in adults, (56) 619—ab
acute, treatment of, (43) 1068
chronic, radical mastoid operation for, (145) 1362
double, (14) 844
in infants and children, bacterial vaccines in, (31) 1357
intracranial complications of, (90) 380—ab
suppurative, (53) 1145
suppurative, acute, fatal, of 2 days duration in adult, (108) 1361
suppurative, acute, treatment of, (44) 1224
suppurative, chronic, complicated by purulent pachymeningitis with extradural abscess, subdural abscess and septic thrombosis of lateral sinus, (97) 777
suppurative, chronic, ossiculectomy in, (9) 75
suppurative, chronic, radical mastoid operation for cure of, (129) 1423
suppurative, conservative mastoid operation for, (23) 544
suppurative, scarlatinal, bacterial vaccines in, *1088

Otitis-media, suppurative, unusual sequestrum due to, (92) 223
vaccine therapy in, *1647
Otolarnygology, present status of, (136) 225
Otology and laryngology, climatic indications of Egypt in, (10) 921
diagnostic methods in, applicable to naval service, (130) 381
laryngology and rhinology, education of specialist in, (23) 226
retrospect of, 1910, (33) 624, (35) 781
Otosclerosis, (97) 311
Ottawa tent colony, report of work done at, suggestions for improvement, (19) 774
Out-house, sanitary, discussion on, *255
Ovaries and Fallopian tubes, autonomic manifestation and peripheral control of pain originating in, *861
and Fallopian tubes, conservative surgery of, (45) 1292
and Fallopian tubes, importance of removing uterus in certain diseased conditions of, (10) 460
and Fallopian tubes, inflammatory processes in, (68) 309
and Fallopian tubes, normal, acute torsion of, with hematosalpinx, (19) 928
and Fallopian tubes, tuberculosis of, (48) 1231—ab, (55) 1420
and testicles, internal secretion of, (127) 80
and uterus, active substances in, (105) 628
behavior of thymus after castration or x-ray exposures of, experimental research in, (124) 1432
conservatism in operations on, (131) 157—ab
Fallopian tubes and bladder, tuberculosis of, (55) 1420
Fallopian tubes or pelvic connective tissue, inflammatory disease of, operative treatment of, (33) 1516—ab
of child, atresia of follicles in, (83) 79
of new-born infants, (41) 1689
or testicles, hyperfunctioning of, as cause of rachitis, (132) 629—ab
primary melanosarcomas in, and multiple carcinomas in liver and metastasis in placenta, fatal eclampsia-like syndrome in pregnant women at term with, (56) 1010
with constitutional anomalies, (140) 858
Ovariotomy during delivery by Cesarean section, (170) 1697
Ovary, absence of one, with rudimentary Fallopian tube and normally developed uterus, (141) 858
adenomyoma of ligament of, (38) 1516
alveolar sarcoma of, (59) 1010
autoplastic transplantation of, its clinical significance, (20) 701—ab
cancer of, secondary, (28) 158
cholesteatoma in, (122) 389
cyst in, in Nyasaland woman, (15) 1859
cystadenoma of, weighing 70 lbs., removal and recovery, (112) 458
cystic tumors in, origin of, (87) 310
cysts, large, (67) 847—ab
cysts of, small, unusual complication of, (126) 1616—ab
cysts, puncture in, (58) 1518
dermoids of, finer structure of ganglion cells in, (57) 1152
endothelioma of, with involvement of ileocecal junction, (82) 777
fibroma of, Cesarean section for mechanical obstruction, (36) 301
grafts, (92) 1520
hemorrhage of uterus originating in, (114) 934—ab
interstitial gland of, found in certain animals, (74) 546
mammalian, parthenogenetic development of ova in, and origin of ovarian teratomata and chorioepitheliomata, 1327
one, pregnancy following complete removal of, and major portion of opposite one, (47) 1511
or Fallopian tube, incarceration of, in hernia in infants, (94) 1368
retroperitoneal cysts in or around, (33) 929
suppuration, histology of, (54) 1152
therapy of, (121) 934
tumors of, (29) 158, (103) 627
tumors of, complications liable with torsion of pedicle of, (75) 1621
uterine hemorrhage originating in, (108) 1370
Overeating, consequences of, (110) 1361
Ovum, embedding of, and relations between conception and menstruation, (82) 79
Ovulation and conception, connection between, (171) 1697
and menstruation, chronologic connection between, (59) 1689
Owen Bill: See Health, National
Owen, Sir Richard, life and works of, (1) 1612
Oxidation processes in cells, (154) 858
Oxycephaly, (31) 1688—ab
and other conditions with excessive pressure within skull, radiographic diagnosis of, (54) 308
Oxygen, abnormally increased respiration from lack of, its importance for organism, (145) 314
accelerated respiration from lack of, (147) 1371
administering nitrous oxid with or without, for prolonged dental operations, (13) 780
and nitrous oxid, requirements and limitations of, as general anesthetic in major surgery, (21) 377
baths, use of, (144) 1226—ab
continuous stream of, in diffuse peritonitis, (54) 781—ab
in resuscitation of new-born infants, (155) 468—ab
ions in stomach content, (94) 1302
pure, injurious action of, on lungs, (132) 467—ab
requirement and functional capacity with maximal physical labor, (115) 465
Oxyhemoglobin, can it act as peroxydase? (35) 1860
Oxyuris as cause of ileus, (163) 390—ab
Oyster-grounds, sanitary inspection of, in United States, *733
Ozena, question of, (32) 1364
Ozone, (9) 1223

P

Pachymeningitis, purulent, with extradural and subdural abscess and septic thrombosis of lateral sinus, complicating chronic suppurative otitis-media, (97) 777
Paget's disease of nipple, (129) 313—ab
Pain, abdominal, (112) 465, (127) 698, (91) 1003
abdominal, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in thoracic disease, pneumonia and pericarditis, *1784
and dysesthesias, interpretation of, *787
and headache in nasal conditions, (41) 77
as symptom of disease involving right half of abdomen, (106) 223
immediate, and abscess following administration of salvarsan by alkaline solution method, cause of, *1262
in abdominal disease, (28) 152, (24) 300—ab
in diagnosis of gastric cancer, (82) 310—ab
in sacral region, extradural injections for, (160) 552—ab
kidney, (3) 382—ab
neuralgia, in distribution of nerves pressed on by inflammatory exudate and scar tissue, (74) 303
originating in uterus and adnexa, autonomic manifestation and peripheral control of, *861
reflex, resection of posterior roots of spinal nerves for, (25) 846
Palate, cleft, (148) 74, (106) 1235
cleft, and harelip, technic for treatment of, (127) 466, (135) 1078
cleft, modification of Lane's operation for, (62) 1759—ab
cleft, operations, (122) 163—ab, (6) 306—ab, (113) 706, (31) 1000
defect after infancy, operative treatment of difficult cases of, (53) 1069
cleft, operation for, 56 cases of, (2) 1906—ab
soft and hard, separated and lower jaw slit for exposure of nasopharynx, (146) 1306—ab
Palsy: See Paralysis
Panama, malaria in, (99) 155—ab
sanitation in, review of, (3) 300
oriental sore in, (1) 1756
Pancreas, anatomy and experimental pathology, (55) 379
Cammidge Reaction in Diseases of: See Reaction
carcinoma of, (149) 1296, (128) 1865
changes, in, in diabetes mellitus, (110) 785—ab
chronic disease of, diagnosis of, (101) 849
Pancreas, cysts and pseudocysts of, treatment of, (28) 1859
cysts of, (29) 1072, (104) 1303—ab
diabetes mellitus with minimal lesions in, rapidly fatal case of, (27) 544
disease of, etiology of, (20)1682—ab
disease of, operative treatment of, (75) 932—ab
diseases of, diagnosis of, (155) 75—ab
extract and muscle plasma, combined action of, on glucose and maltose, (124) 1361
functions of, dosage of amylase in feces in diagnosis of, (36) 1151
human, physiologic chemistry of, (68) 1690
internal function of, in carbohydrate metabolism, (6) 1757—ab
internal secretion of, *655
lesions of, in infantile gastro-enteritis, (45) 545
necrosis of, (65) 160—ab, (48) 847
surgery of, (59) 379
Pancreatic extract in epinephrin glycosuria, (98) 705—ab
juice, fate of components of, in course of its activation, (36) 1860
Pancreatitis, acute, (124)156, (141) 630
acute and chronic, operative treatment of, (173) 83—ab
acute, with pancreatic pseudocyst, (24) 1859
chronic, (58) 379
chronic, its symptomatology, diagnosis and treatment, *1079, (80) 1293
hemorrhagic, acute, (130) 157—ab, (68) 1153—ab
hemorrhagic, acute, induced by experimental stasis in pancreatic duct, (110) 230
hemorrhagic, acute, operation, recovery, (14) 1515—ab
pathology of, (56) 379
with cholelithiasis, (76) 1429
Panthers, wounds inflicted by, (23) 1230
Pantopon and scopolamin in general anesthesia, (104) 1235
anesthesia, (12) 780
Papilloma of conjuctiva, (146) 1423
of larynx, (112) 850—ab
of larynx in children, (38) 1230—ab
of nasal septum, true, (108) 849
of thyroid, (83) 1863
Papillomata of urethra, multiple, (164) 382
Pappataci, nature of virus of, (4) 773—ab
Papule and prurigo with urticarial basis, (167) 1296
Parabiosis by direct union of blood vessels, (93) 79
mouse-rat, influence of, on growth of rats of transplantable mouse sarcoma, (35) 774
Paraffin injection in chronic constipation, (131) 313—ab
Paralysis: See also Hemiplegia, and Paraplegia
Paralysis agitans, parathyroid gland in treatment of, (23) 69—ab
ascending, acute, (83) 1070
bulbar, progressive, chronic, (111) 849
Butenko reaction in urine in, (133) 467—ab
conjugate, of voluntary lateral movements with retention of vestibular reflex movements, multiple sclerosis with, (182) 1698
deformities in young adults due to, correction of, (131) 1423
difficulties encountered in making diagnosis of, (127) 224—ab
epidemic, (67) 620
epidemic, acute, (poliomyelitis), (33) 455, (27) 1067
facial, (106) 1513
facial, from food poisoning, (137) 312
facial, symptomatic of lesions in pons varolii, (53) 227
following acute poliomyelitis, treatment of, *1031
general, histologic and pathologic study of, (126) 1014
general, juvenile, clinical aspects of (10) 306
general, mental medicine in etiology and treatment of, recent researches in, (25) 538
general, nucleic acid in, negative experiences with, (64) 1621
general, prognosis in initial stages of, (151) 699
general, urine in, (47) 625
infantile, (34) 69, (89, 90) 458, (15) 922
infantile, and experimental work on fusion of nerves, (55) 1684—ab
Paralysis, infantile, artificial muscles in early treatment of, new method for, (9) 922—ab
infantile, chronic, treatment of, (154) 1228
infantile, epidemic and pandemic, (61) 1292
infantile, epidemic, control of, by state authorities, (59) 1292
infantile, epidemic of, in Bristol, (3) 1149
infantile, in Massachusetts in 1910, (81) 1760
infantile, massage and electricity for, (62) 1292
infantile, miniature exercise machine for, *1259
infantile, orthopedic treatment of, (137) 779
infantile, symptomatology and diagnosis of, (14) 1613
infantile, unusual case of, (14) 1143—ab
intestinal, postoperative, electricity in, *958
juvenile case of, (161) 1362
Landry's, (84) 229, (65) 626—ab, (83) 1070
Landry's, in epidemic poliomyelitis, (44) 307—ab
laryngeal, diagnostic importance of, (50) 1427—ab
liquor bellosti test in, (14) 1904—ab
muscular, hemoglobinuria with, (104) 311
musculospiral, surgery of, (116) 1071—ab
oculomotor, from peripheral trauma, (65) 1910
oculomotor, in infant, (93) 1430
of accommodation, toxic, (111) 1226, (98) 1513
of arm and dislocation of shoulder, falling of humerus associated with, (153) 1362—ab
of arm, traumatic combined, laceration of axillary portion of capsule of shoulder-joint as factor in etiology of, (157) 305
of bladder, *743
of bladder, local, (86) 777—ab
of cerebral nerves in exophthalmic goiter, (89) 1012—ab
of insane, general, in native of India, (19) 780
of left recurrent laryngeal nerve in mitral stenosis, anatomic explanation of, (1) 1510—ab
of ocular muscles after salvarsan, (99) 464
of quadriceps, mechanism of functioning of leg with, (118) 1156
of stomach, postoperative, (102) 548—ab
peroneal, 3 cases of, (48) 1299
peroneus, after administration of salvarsan, (79) 704, (61) 1366
post-diphtheritic, (89) 229—ab, (72) 303, (134) 927
post-diphtheritic, of accommodation, (12) 694
post-diphtheritic, of velum, electricity in, (116) 1235—ab
postoperative, acute, (105) 1513
progressive, Butenko's urine reaction not specific for, (85) 1622
progressive, permeability of meninges in, (119) 1156—ab
progressive, sodium nucleinate in, (74) 463, (65) 1010
progressive, treatment and diagnosis of, (89) 311—ab
spastic, and encephalitis, epidemic poliomyelitis from, and cerebrospinal meningitis differential diagnosis of, (52) 853—ab
spastic, resection of spinal nerve roots for, (132) 550—ab, (25) 846
spinal, infantile, surgical aspects of, (58) 924
spinal, infantile, treatment of chronic stage of, in general practice, (39) 781
syphilis followed by, (24) 1292
trapezius, severe, plastic operation with functional cure of, (88) 546
Paralytic dementia, fatality after injection of salvarsan in, (149) 164—ab
stroke, (30) 383
Parametritis and peripleuritis secondary to peripheral suppurative processes, (131) 163—ab
Paranephritis, (27) 623
Paranoia, (161) 927
Parapiegia, explanation of many cases of, (1) 999—ab
Pott's, (57) 153—ab
Parasite, estivo-autumnal, its sexual cycle in circulating blood of man, (36) 775—ab

Parasite, intestinal, of man, esophagostomum apiostomum as, in Nigeria, (41) 1619
Parasites, animal, diseases in Japan caused by, (99) 229
found at animal necropsies in naval medical school laboratories during 1910, (84) 1359
intestinal, examination of feces for ova of, (31) 1619
intestinal, examination of Filipino mess attendants for, (80) 1358
intestinal, found among crew of U. S. S. South Dakota, (79) 1359
intestinal, in inmates of Philadelphia General Hospital, (16) 1067
unusually few, in peripheral circulation in masked tertian malaria, (150) 1227—ab
Parasyphilis, salvarsan in, (13) 617
Parathyreopriva tetany, parathyroid grafts for, (85) 1691—ab
Parathyroid bodies in tetany and other diseases, (121) 1370
gland, treatment of paralysis agitans with, (23) 69—ab
implantation in tetania parathyreopriva, (109) 1004—ab, (85) 1691—ab
tumors, (142) 313
Parathyroids and thyroid, experimental transplantation of, (61) 545
and thyroids, internal secretions of, chemical aspect of, *653
in dogs, inhibitory action of sodium chlorid on phenomena following removal of, (26) 1224
not responsible for tetany in children, (167) 390—ab
pathologic findings in, in infantile tetany, (151) 1148
research on, with special regard to tetany and sudden death of infants, (96) 1431
tumor metastases involving, (5) 1681
Parathyroidectomy and castration, experimental research on, (106) 1431
changes in nitrogenous metabolism after, (101) 1225
tetany following, influence of various salts on, (67) 1759
Paratyphoid and typhoid bacteria, cultural differentiation of, (115) 312
fever, (29) 1425
fever, necessity for compulsory notification of, (49) 159
infection, (136) 1305
infection in goats, experimental, (115) 1624
infection, severe jaundice with, (162) 1372
osteoperiostitis, (137) 81
Paré, Ambroise, quadricentennial of, (104) 464
Parent, strategic point of present, (111) 224
Parents, can they control future sex of family? (168) 1228—ab
Paresis: See also Paralysis
Paresis and tabes dorsalis in negro, rarity of, *1645
Parotid, angioma of, congenital, (64) 1232
Parotiditis, double, typhoid complicated by, (18) 454
Parotitis in infants, suppurative, primary, (77) 1300
secondary, primary orchitis with, *742
Parthenogenesis of ova in mammalian ovary and origin of ovarian teratomata and chorio-epitheliomata, 1327—O
Parturients, allowing them to get up early, (59) 462
auto-infection of, (57) 1232
Parturition and uterine myomata, (135) 1004
spontaneous thrombosis of central vein of retina following, (145) 305
Pasteurization, control of, *713
Pasteur treatment of rabies, recurring cutaneous local reaction during, (102) 856
Patella, ankylosis of, treatment of, (136) 935—ab
fracture of, (103) 223—ab, (52) 1224 ab, (30) 1425
fracture of, simple, woven elastic bandage in, (151) 381
fractures of, silver wire for, (111) 1616—ab
fractures of, transverse, without separation of fragments, (8) 543
hereditary displacement of, (114) 466—ab
Pathologic report, (141) 74
Pathology and bacteriology, advances in, during 1910, (34) 538
Pathology and physiology of assimilation of albumin, (15) 928
internal, inaugural lecture on, (34) 1230
teaching of, in United States, (100) 784
Patient, surgical, (78) 777
Patients, allowing them to get up early after operations and delivery, (174) 860—ab, (107) 1370—ab, (88) 1520
and physicians, sanctity of relations between, (47) 378
greater care for arrangement of, on operating table for prevention of common postoperative weak back, *642
with sugar in urine, management of, (148) 1227
Pauperism due to syphilis, (126) 459
Pediatric clinics of Europe, (70) 1684
Pediatrics and orthopedic surgery, (132) 224
importance of research on thymus in, (48) 545
year's progress in, (33) 538
Pedigree showing biparental inheritance of webbed toes, (14) 157—ab
Pellagra, (100) 73, (13) 220, (55) 222, *251, (44, 45) 1358—ab, (26) 1854, (82) 1857
arylarsonates in, (44) 618
as seen in Italy; report of cases seen in New York, (4) 921—ab
complement fixation in, (68) 1910
diagnosis of, (10) 1510
digestive symptoms of, (72) 620
due to amebas, (108) 223—ab
etiology of, (105) 1769
in Buffalo, (10) 1757
in New Mexico, (28) 695
in Ohio, (164) 1296
later views on, (120) 1616—ab
outside of institutions, 66 cases of, (45) 1511—ab
pathogenesis of, (138) 1157
probable case in Philippines, (40) 1511
psychology of, (105) 223
salvarsan in, *896, (107) 1294, *1794
Sambon's new theory of, its application to conditions in Georgia, *1713
skin lesions of, histologic study of, (36) 378—ab
stomatitis of, bacteriology of, (57) 302—ab
surgical interference and irrigation of colon in, (23) 1613
transfusion in, *584
with analytical study of 55 non-institutional or sporadic cases, *246
with necropsy, 2 cases of, (64) 456
Pelves, contracted, women with, who have been long in labor and exposed to septic infection, alternatives for Cesarean section in, (17) 928, (14) 1007
moderately contracted, choice of delivery in, (44) 1292
Pelvic and abdominal outlet operations, combined, position for, (87) 73—ab
diseases and puberty, (128) 778
mass, inflammatory, (96) 1070
organs, cancer of, irremovable, arterial ligation for, (133) 1295
pathology and reflexes, (133) 1423
viscera, support of, (16) 922
Pelvis, abnormal conditions of, importance of early diagnosis in, (80) 457
access to, by coccyx-perineal route, (25) 1764
and ectopic sac, streptococcus infection of, and ruptured extra-uterine pregnancy, recovery, (58) 1614
cellulitis of, in women, treatment of, (75) 1293
contracted, experiences with, (113) 1235—ab
contracted, management of labor in, (43) 1614
contracted, surgical procedure in, (159) 75
deformed from trauma of articulations, (86) 310
dermoids of connective tissue of, (86) 1863
fascia of, and operation for cystocele, (109) 1147—ab
infection of, new conservative treatments for, (31) 301
inflammation, (131) 1071
lymphatics of, and tissues adjacent to uterus, participation of, in uterine cancer, *101
non-contracted, Cesarean section in, 3 cases of, (20) 928
Pelvis, Otto-Chrobak deformity of, (55) 625
reflexes, (116) 305—ab
small, pseudotumor in, from contraction of pyriform muscle, (152) 551
small, walling off of, after infectious operations, (157) 467
tuberculosis of, clinical considerations of, (47) 1292
Pemphigus, syphilitic, of new-born infants, (91) 784
vulgaris, chronic, of oral cavity and larynx, (121) 1423
Pendulum for interrupting static wave current, (80) 303
Penetrometer, x-ray, new form of, (39) 1364—ab
Penis, tuberculosis of, (87) 1075
Pennsylvania state pilots, (90) 1857
tuberculosis situation in, in 1909, *339
Pension claimants, eligibility of, from standpoint of opthalmic expert, (70) 1512
Pentosans in lower fungi, (26) 1758
Pepsin and diastase content of urine, clinical studies in, (10) 1357—ab
composition of substances produced by action of, on products of complete peptic hydrolysis of casein, (28) 1758
in diabetes mellitus, *497
Peptone in urine, (131) 231
Percussion, dorsal, heart, in interpretation of Grocco's paravertebral triangle of dulness, (54) 1010—ab
findings, apical, (59) 703—ab
findings, liver, on left side, (131) 707—ab
tureshold, of stomach, reliability of, (131) 389
with patient leaning against masonry wall, (137) 1157—ab
Periadenitis mucosa necrotica recurrens, (43) 696
Pericarditis, abdominal pain and tenderness, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in, *1784
absence of abdominal respiratory movement as indication of, (27) 920—ab
adhesive, and diagnosis and treatment of pericarditis with effusion, (146) 389
and myocarditis, tuberculous, (33) 221
tuberculous, with effusion, (15) 1514
with effusion and adhesive pericarditis, (146) 389
Pericardium of dog, accessory thyroid tissue in, (6) 1681—ab
penetrated by needle, (162) 305
Pericolitis, membranous, (129) 1616
Perimeter, testing visual fields for color without use of, *1106
Perineum, cicatrization of tears of, (118) 389
repair of, (171) 75, (60) 539, (74) 620
Periodicity, functional, in women, some modifying factors of, (155) 382, (96) 698, (134) 1295—ab
Periosteum, formation of bone in, separated by injury, (4) 1229
Periphlebitis, retinal, proliferating changes in retina and intra-ocular hemorrhages, in tuberculous individual, importance of tuberculosis in etiology of, (105) 1076
Peripleuritis and parametritis secondary to peripheral suppurative processes, (131) 163—ab
Perisigmoiditis, sigmoiditis and diverticulitis, (131) 1236
Peristalsis, gastric, normal, cinematographic demonstration of, its importance in diagnosis of carcinoma of stomach, (162) 1617
Perithelioma of omentum, excision, (15) 382
Peritoneum and mesentery, contiguous, transfixion of, and perfcration of uterus by bone crochet needle, *173
complications of scarlet fever, (46) 853—ab
cysts of, of simple nature, (113) 1003
drainage of, (151) 1372
implantation of internal saphenous vein in, in ascites, (134) 163—ab
infection, experimental research on measures to protect against, (36) 1516—ab
inflammation in, operative treatment of relics of, (178) 860
pseudomyxoma in, after appendicitis, (122) 466
tuberculosis of, clinical considerations of, (47) 1292
Peritonitides, medical relations toward, (115) 850
Peritonitis, acute, (113) 542
Peritonitis, acute, advantages of Fowler position in, (27) 1764
acute, treatment of, *1184
adhesive, chronic, fibrolysin in, (131) 786
and influenzal pleurisy, (137) 630—ab
bilious, without perforation of bile ducts, (61) 625
chronic, circumscribed, with adhesions, (146) 550
consecutive to appendicitis, treatment of, (6) 454—ab
diffuse, continuous stream of oxygen in, (54) 781—ab
diffuse, due to traumatic rupture of pus tubes, (35) 301
diffuse, results of operative treatment of, (60) 545—ab
diffuse, treatment of, (33) 1357, (11) 1687—ab
from perforation in tuberculosis of large intestine, (58) 853
general and localized, (68) 1069
general, primary, with isolation of bacillus lactis aerogenes in pure culture from peritoneal exudate, (113) 1294
in children, tuberculous, (85) 1422, (48) 1766—ab
influenzal, (173) 1697
local vs. diffuse, (67) 1857
obscure case of, (15) 158—ab
pneumococcus, (35) 1854
pneumococcus, primary, (25) 1425
postoperative, camphorated oil in prophylaxis of, (59) 385—ab
postoperative, especially diarrheic form, (52) 1152—ab
prevention of, (159) 1006
recurrent, and absence of Fallopian tubes and menstruation, (5) 622
septic, diffuse, treatment of, (157) 75
streptococcus, (59) 228—ab
suppurative, diffuse, treatment of, (111) 79
suppurative, free, acute, (77) 379
suppurative, unencapsulated, camphorated oil in, (60) 1518
treatment of, (115) 74
tuberculous, (68) 620, (79) 848
tuberculous, and alcoholism, (108) 1624—ab
tuberculous, iodo-iodid injections in, (117) 1013
ulcer, in typhoid, acute, (45) 1683—ab
Peroneus paralysis after administration of salvarsan, (79) 704, (61) 1366
paralysis of, 3 cases of, (48) 1299
Peroxydase, can oxyhemoglobin act as? (35) 1860
Peruvian balsam, derivatives of, in tuberculous fistules, (76) 228
Pessary, inflatable, for hemorrhoids, (119) 856
treatment of prolapse of rectum, (64) 1910—ab
Petechiæ, artificially induced, as sign of scarlet fever, (156) 858—ab
Petro-mastoid excavation, partial, with preservation of tympanic membrane and ossicles, (16) 460
Phagocytosis and virulence, (66) 1767
influence of bacterial emulsions on, (29) 1687
influence of ether and ether anesthesia on, (116) 1147—ab
in lochia, causes and importance of, (79) 855
of tubercle bacilli by cells in cerebrospinal fluid in appendicitis simulated by acute miliary tuberculosis, (18) 226
Phalanges, substitution of, for metacarpal bones, (127) 629
Pharmacist and physician, *442
Pharmacology and clinical medicine, (157) 1362
Pharmacopeia, German, fifth edition of, (70) 783
should it contain only useful and efficient drugs? (68) 924—ab
suggestions for, (66) 1512
U. S., revision of, (70) 924—ab
U. S., 1910, (41) 696—ab
Pharyngitis, chronic, vibratory massage in, (117) 1432
Pharynx, general anesthesia in operations on, (100) 458
influence of glandular tissue of, in causation of rheumatism and endocarditis, (144) 927
phlegmon of, acute, (46) 1299
Phenolphthalein test for occult hemorrhage in gastro-intestinal tract, (84) 546—ab, (70) 1225—ab
Phenol, pure, and iodoform for appendiceal abscess, (4) 1297—ab
subcutaneous injection of, in tetanus, (128) 231, (158) 1372—ab

Phenolsulphonephthalein for study of functional activity of kidneys, (33) 1151—ab, (33) 1683
Phenomena, mutation, in strains of cholera germs, (93) 1076
subconscious, (119) 1616
Phenylalanin, tyrosin and their derivatives, catabolism of, (129) 1361
Philippine scouts of United States Army, tuberculosis among, (3) 68
Philippines, medical experiences in, (164) 927
priority in demonstration of negri bodies in, (85) 541
tuberculosis in, (76) 1685—ab
Phimosis, dilatation treatment of, (79) 160
operation for, (166) 82
untoward consequences of, (36) 1683
Phlebotomy, reduction of blood-pressure by, (86) 1225
Phlegmasia alba dolens, (73) 309
Phlegmon, extensive, of synovial sheaths in hand, treatment of, (41) 1426—ab
in stomach wall operative treatment of, (57) 1428—ab
of pharynx, acute, (46) 1299
Phloridzin glycosuria, exaggerated, diagnostic significance of, (136) 1695
Phonendoscope for testing hearing, (66) 1519—ab
Phosphates, elimination of, in urine of bottle-fed infants with and without intake of salt, (86) 627
Phosphatids and Overton and Meyer's theory of narcosis, (56) 530—ab
brain, and tissue metabolites, (57) 539
brain, function of, in physiologic action of strychnin, (58) 539
in relation to sodium and potassium of neuron, (55) 539
pharmacologic studies on, (54) 539
Phosphorus-cod liver oil, influence of, on metabolism of rachitic infant, (110) 706
cutaneous, elimination of, (36) 924—ab
importance of, in courses of forced feeding, rest and passive exercise, (73) 1233
in new-born infant, (37) 1068—ab
inorganic and organic, determination of, in meats, (73) 697
lack of, in centers in brain cortex as cause of migraine, (123) 1077
poisoning, acute, and acidosis, (16) 383—ab
poisoning, industrial, prevention of, *1018
Photography, stereoscopic, with single camera, (14) 300
Phrenology and its founder, (21) 1000
and its founder, claims of Franz J. Gall on homage of scientific posterity, (9) 694, (39) 846
Phthisiophobia, (137) 1004—ab, (30) 1144
Phthisis: See Tuberculosis
Phylogenetic association and certain medical problems, (98) 542—ab
Physical measures as aid in treatment, (129) 550
Physician and athletics, (49) 1073
and church, (5) 773
and dentist, (26) 1418
and druggist, *442
and layman, mutual relations of, (94) 622
and mental development of young, (85) 848
and problem of nurses for people of limited means, (164) 1228
and social hygiene, (125) 1004
and surgeon, cooperation of, in treatment of acute abdominal diseases necessary to obtain best results, (27) 1511
and tuberculosis, (128) 698, (17) 1613—ab
as educator and sanitarian, (128) 1071
business career of, suggestions as to safe investments, (66) 924
country, alimentation of, (78) 1293
country, and gynecology, (103) 1615
courteous, (124) 1226
diagnostic significance of headache to, (91) 73
duty of, to himself, (113) 1423
duty of, to public, (35) 695
economic consciousness of, (39) 1357
family, refracting by, as factor in medical practice, its promotion during 1910, (99) 380—ab
financial problems of, *1059
Physician, glanders in, case of, (157) 699
good, how to become, *1536
gynecologic problems of interest to, (54) 1856
his legal rights and responsibilities, (81) 697
in court, (22) 695
in Millcreek Valley 40 years ago, (36) 1292
in public, (14) 1854—ab
is anything the matter with? (162) 1362, (25) 1613
new, (19) 1357
obligation of, in development of communicable diseases, (161) 75—ab
obscure, rewards of, (38) 1357
responsibility of, for public education in physiology and hygiene, (117) 224—ab
twilight talks with, (5) 220, (8) 694
vs. surgeon, (169) 305
West Virginia, and tuberculosis, (169) 75
what is his duty in prevention of moral and social diseases? (95) 622
where he must stand? (93) 1293
young, and hospital, (5) 1143, (31) 1419—ab
Physicians and industrial diseases, *1132
and medical societies, part of, in public health movement, (26) 377
and patients, sanctity of relations between, (47) 378
and surgeons, professional responsibility of, (41) 1364—ab
engineers and other specialists in public health work, proper correlation of, (39) 538
importance of medical organization in promotion of ethical relations among, (118) 381
in ancient Rome, (142) 157
legal duty of, to report venereal diseases, (12) 922
legal obligations of, (149) 927, *1215
legal rights and liabilities of, (43) 1420—ab
why they should join their county medical societies, (38) 695
young, importance of public and private hospitals in education of, (118) 305—ab
Physiology and hygiene, responsibility of physician for public education in, (117) 224—ab
and pathology of assimilation of albumin, (15) 928
of cell division, (81) 303—ab
of digestive glands, bearing of recent advances in, on gastric surgery, (25) 701
of regeneration, (148) 1005
of respiration, (75) 463
Physiotherapy in sacro-iliac conditions, (61) 153
Physostigmin, atropin and pilocarpin, pharmacologic tests for, (138) 467
Phytosterol, cholesterol bodies in soils, (33) 923
Pia mater, lipoma in, (126) 935
Pick, Ludwig, brief account of his work on chorioepithelioma, (162) 382
Pick's syndrome, (100) 1686—ab
Picrin and antiformin methods for microscopic examination of sputum, advantages of, (64) 159
Pictures, moving, as aid in studying and teaching nervous and mental diseases, (119) 312
Piffard, Dr. Henry Granger; in memoriam, (46) 696
Pigment, urinary, pathologic, (65) 228
Pigmentation, color scale for estimation of, (120) 934
of skin, (89) 1430
peculiar, of viscera of Cameroon negroes, (99) 933
Pigments, skin, melanotic, origin of, (99) 705
Pilocarpin, atropin and physostigmin, pharmacologic tests for, (138) 467
Pin, safety, open, in bronchus removed without closing pin, (141) 225
Pineal body, galactagogue action of, (74) 924—ab
Pinworms and caraway seed in infants' appendix, (30) 1000
Pipettes, blood, and solutions, handy pocket case for, *737
Pituitary extract in developmental defects of brain, (137) 857
extract in obstetrics and gynecology, (12) 226
Gland: See Hypophysis Cerebri
Pituitrin in cholera, value of, (51) 77
Pixcresol, *1738
Placenta, abnormal implantation of, (112) 304
abnormally situated, hemorrhage from, treatment of, (43) 1680—ab
aeration of, for asphyxia of newborn infant, (11) 617
droplets of fat in, (44) 1231
glycogen in, (31) 1765—ab
marginata and placenta implanted in cornua of uterus, (83) 310
metastasis in, primary melanosarcomas in ovaries and multiple carcinomas in liver, fatal eclampsia-like syndrome in pregnant woman at term with, (56) 1010
normally situated, partial detachment of, concealed intrauterine accidental hemorrhage, (100) 156
prævia, (80) 855, (41) 1068, (51) 1145, (126) 1157, (132) 1226, (101) 1431
prævia and isthmus of uterus, (49) 1152
prævia, combined version and elastic bag in, (121) 389
prævia, hemorrhage from, hysterectomy without opening uterus for, (42) 1689
prævia, treatment of, (82) 463, (84) 1429—ab
prævia, treatment of, in home, (120) 786
prævia, unusual case of, (42) 1614—ab
premature separation of, (47) 1856
prolapse of, (55) 1518
serum and serum of pregnant women, non-destructive action of, on human cancer cells, (163) 859—ab
starch-producing and starch-digesting activity of, experimental research on, (35) 929
tuberculosis of, (154) 551—ab
young, implanted on uterine isthmus and cervix-uteri, (150) 551
Plague, (80) 1011—ab, (10) 1619
Black: See Syphilis
cattle, physical condition of cattle and their resistance to, (110) 304
clinical picture of, by Lucretius and Livy, (87) 1622
enzootic, in United States, (46) 302
eradication of, from large cities, (20) 1000
fleas in transmission of, for long distances, (48) 1152—ab
historical notes of, (35) 1008
in Astrachan and Manchuria, (61) 1074—ab
in China, (81) 1154, (16) 1619
in North China, *737
infected organs, method of preserving them for examination, (51) 461
investigation in India, reports on, (40) 307
modern discoveries regarding, (24) 1072
pathogenesis and prophylaxis of, (130) 1371—ab
pneumonic, (49) 1009
pneumonic and epidemic pneumonia in institutions, analogies between, (29) 1908—ab
pneumonic, in Northern China, (104) 1864
pneumonic, salvarsan in, (70) 1519—ab
present position of treatment of, (26) 624—ab
prophylaxis of, (46) 1766—ab
season, trip to India during, (33) 852
squirrel, problem, (43) 1001
susceptibility of weasel, chipmunk and pocket gopher to, (42) 455
Thucydides', (97) 1234
vaccination against, (44) 1516
Yersin-Roux serum in treatment of, *332
Plantain meal and banana flour as food in diarrhea in children, (81) 1422
Plants, contact-poisonous, Philippine, (62) 1001—ab
medicinal, sterilization and desiccation of, (62) 854
nematode disease of, (106) 934
promotion of growth of, by radium emanations, (66) 1368—ab
Plasma, muscle, and pancreas extract, combined action of, on glucose and maltose, (124) 1361
Plasmodia, detectable, or hemoglobinuria, hemoglobinuric fever followed by peculiar relapse without, (18) 460
Plasmodium malariæ, is it conveyed to human system through any other avenue than mosquito? (152) 1228
Plaster, adhesive, easy and painless method of removing, *263
garter, adhesive, for varicose ulcers, (123) 629—ab
jackets, advantages of braces over, in Pott's disease, (58) 153—ab
jackets, new method for application of, in hyperextension, *874
jackets, portable apparatus for application of, in hyperextension, (65) 153
of Paris as primary dressing for fractures, (116) 850—ab
swathe, (44) 1758
Play and work, (37) 538—ab
Pleura and lungs, suppurative infections of, treatment of, (61) 1615
and lungs, tumors in, (103) 1303—ab
metastatic tumor in, with primary racemose sarcoma of cervix-uteri, (59) 545
surgery of, (136) 1004
Pleural effusions, chronic, surgical treatment of, (30) 781
Pleurisy as complication and sequel of lobar pneumonia, diagnosis and treatment of, (37) 70—ab
diaphragmatic, and peritoneal syndrome, (105) 1431
from medical standpoint, (123) 381
influential, and peritonitis, (137) 630—ab
suppurative, double, (116) 1077—ab
Plexus, spermatic, resection of, for relief of dysmenorrhea, *1104
Pneumocele of lacrimal sac, (24) 538
Pneumococcemia: bilateral empyema, recovery, *738
Pneumococci in reference to new stain for bacterial capsule, *418
production of antibodies to, in insusceptible host, *1878
Pneumococcus, acute suffocative catarrh originating from, fatal, (19) 1425—ab
bronchitis, (19) 1425—ab
meningitis, prognosis and course of, (101) 1693—ab
peritonitis, primary, (25) 1425
septicemia, vaccine therapy of, (46) 1073
vagaries of, (1) 1143—ab
Pneumokoniosis of quartz-miners, cause, effect, incidence and prevention of, (25) 383
Pneumonia, (71) 228, (147) 1005, (91) 1225, (120) 1762
abdominal pain and tenderness, muscular rigidity and pseudoperforative or pseudoperitonitic symptoms in, *1784
aconitin in, (74) 1225
acute, continuous and persistent diaphoresis in, (22) 701—ab
acute, treatment of, (33) 781, (20) 1859—ab
and rheumatism, are they specific infections? (114) 1858—ab
and scarlet fever, variations in phagocytic and coccidal power of blood in, (136) 1361—ab
atypical, (132) 1071
catarrhal, (48) 539
croupous, in Greenland, (125) 1235
croupons, treatment of, (63) 924—ab
diagnosis of, (104) 849
due to gram-negative diplococcus, (29) 1298—ab
epidemic, (25) 1008—ab
epidemic, in institutions and pneumonic plague, analogies between, (29) 1908—ab
in children, acute, (17) 1229—ab
in infants and children, serotherapy of, (99) 1422—ab
its symptomatology and diagnosis, (120) 778
large doses of camphor in, (3) 454—ab
lobar, (33) 618
lobar, heart in, treatment of, (18) 300
lobar, pleurisy as complication and
lobar, prognosis of, (32) 1683—ab
sequel of, (37) 70—ab
lobar, treatment of, (77) 154—ab
lobar, unexpected experiences in, (102) 1294—ab
lobar, veratrum viride in (69) 1512
lobar, with delayed resolution and treatment used, (78) 1225
management of, (115) 459—ab, (118) 926—ab
mortality of, (34) 618
prophylaxis and treatment of, (110) 622
question, public and private aspects of, (64) 924—ab
treatment of, (11) 928—ab
treatment of delayed resolution of, (130) 1004
venesection and saline infusion in, (14) 1757

Pneumonia, universal, progressive, with recovery, (65) 924
Pneumothorax, air in, (147) 707
artificial, in pulmonary tuberculosis, (58) 159—ab, (36) 544—ab, (71) 620, (82) 1075—ab, (130) 1078—ab, (67) 1300, (53) 1517
complicating bronchopneumonia in child, (9) 1905
induced, (74) 626—ab, (129) 706, (42) 1152
induced, experimental research on effects of, (59) 159, (114) 856
induced, improved technic for, (43) 702
induced, manometer findings in, (92) 855
spontaneous, with emphysema, (56) 159
with acute abdominal symptoms, (29) 1000—ab
Pocket case, handy, for blood pipettes and solutions, *737
transilluminator, inexpensive, (112) 1226
Podalgia and flat-feet, (157) 1006
Podalic version or breech presentation, modification of usual technic in delivery of first arm in, (86) 380—ab
Poison, suicide by, (109) 542
venom, compared with puerperal eclampsia, (2) 623—ab
Poisoning after small doses of acetylsalicylic acid, (7) 780—ab
arsenic, fatal, after administration of salvarsan in cerebral syphilis, (86) 1155—ab
arsenical, outbreak of, at isolated farm near Mullewa, Western Australia, (15) 1906
by tragopogon pratense, or goat's beard, (5) 1229
by vapors of C. P. benzol, (51) 378
cacodylic, from medicolegal standpoint, (66) 1910
carbon monoxid, chronic, (52) 384
carbon monoxid, resulting in gangrene of both legs, *1455
chloroform, apparently fatal, direct massage of heart with, (117) 549
chloroform, fatal, tardy, (85) 1012—ab
chloroform, fibrinogen of blood as influenced by liver necrosis of, (38) 377
cocain, hyoscin hydrobromid as preventive to, (131) 74
due to eating hemlock poison, (84) 1002
eucalyptus oil, (59) 77, (7) 851—ab
following use of coal-tar derivatives, (110) 1070—ab
food, facial paralysis from, (137) 312
from datura alba seeds, (60) 1001—ab
from injection of bismuth paste, (145) 381
heroin, (80) 777—ab
hyoscyamus, (163) 82, (98) 387
iluminating gas, treatment of, *1651
lead, (101) 229—ab
lead, and race, (2) 1762
lead, chronic, *1799
lead, from glazed earthenware preserve jars, (118) 548
lead, in Illinois, *1240
lead, Wassermann reaction in, (107) 1694—ab
male fern, intermittent limping and spinal disturbances from, (58) 1367—ab
mercurial, fatal, due to vaginal introduction of mercury bichlorid tablets, (46) 1292
mercury, multiple, during shooting-match indoors, (84) 1767
nitrite, cholera as, (77) 1767
nitrite, cholera not result of, (116) 312
nitrite, from fertilizer, (65) 1767
opium, (89) 1146—ab
phosphorus, acute, and acidosis, (16) 383—ab
phosphorus, industrial, prevention of, *1018
ptomain, (70) 1615
purgen, (78) 1621
snake, recovery from, (57) 77
strychnin, chloroform for, (73) 1685—ab
strychnin, control of, by intratracheal insufflication and ether, (25) 1224-ab, (51) 1427—ab
tin, (46) 1516
Poisons and drugs, physical factors in action of, (59) 1152—ab
hemolysins and agglutinins, distribution of, in fungi, especially amanitas, entolomas, lactarius and inocybes, (23) 1224
Poisons of tropical toad, bufo agua, *1531
Polioencephalitis, (16) 1905
anterior, (23) 1292
oculo-motor type of, (18) 1515—ab
Polioencephalomyelitis, epidemic, meningeal forms of, *1867
Poliomyelitis: See also Paralysis, Infantile
Poliomyelitis, (175) 305
abortive cases of, *663
acute, (120) 698
acute, contagiousness of, (60) 1292
acute epidemic paralysis, (33) 455
acute, herpes zoster and zinc phosphid, (118) 1762
acute, inoculations of nasal secretion from patients with, *1192
acute, paralysis following, treatment of, *1031
acute, probable cause of, (52) 1358—ab
acute, treatment of, (2) 300—ab
anterior, (164) 75, (64) 222, (107) 223, (20) 226, (127 305, (99) 849, (24) 1067, (12, 13) 1418, (79, 82) 1760—ab
anterior, acute, 1909 epidemic of, in Nebraska, (115) 926
anterior, acute, pains in, treatment of, *192
anterior, acute, paralysis due to, orthopedic management of, (27) 1067
anterior, after-care of, (174) 305—ab
anterior, epidemic, *661
anterior, etiology of, (2) 1903
anterior, surgical treatment of, (64) 1292
anterior, treatment of, (14) 1418, (156) 1617
cerebral forms of, their diagnosis from forms of meningitis, (29) 1854—ab
clinical manifestations and medical treatment of, (26) 1067
electric treatment of, (91) 1147
epidemic, (98) 304, (94) 311, (64) 461—ab, (4) 693, (62) 704—ab, (4) 1149, (87) 1430—ab, (94) 1768
epidemic, acute statge of, (79) 626—ab
epidemic, etiology of, its possible relation to beriberi, (25) 1067
epidemic, experimental research on, (93) 387, (49) 461
epidemic, from spastic paralysis and encephalitis and cerebrospinal meningitis, differential diagnosis of, (52) 853—ab
epidemic, in Switzerland, (61) 385—ab
epidemic, Landry's paralysis in, (44) 307—ab
in children, manifestations of acute stage of, (63) 1292
in monkeys, experimental, *585
new facts concerning, its etiology, early diagnosis and treatment, (120) 926—ab
skin eruption in, 6 consecutive cases of, (127) 1616—ab
transmission experiments with virus of, *495
virus, contamination of fly with, *1717
with meningeal symptoms, (57) 1074
Poliomyeloencephalitis, acute, (1) 300
acute, value of lumbar puncture and leukocyte count in diagnosis of, (55) 1145—ab
Pollution of Kansas streams, (45) 539
Pollutions, soil, underlying causes of existence of, in rural districts, (59) 847
Polycythemia, (84) 541, (62) 625—ab
chronic cyanosis with, (90) 622
injection of blood from patient with, in pernicious anemia, favorable influence of, (69) 1767
venesection in, (112) 934—ab
with enlarged spleen and chronic cyanosis, (42) 70
Polyneuritis and myelitis during toxic vomiting of pregnancy, (31) 1426-ab
Polypeptids, diagnosis of gastric carcinoma by cleavage of, (17) 1150—ab
Polypi, nasal, (99) 458, (100) 542, (27) 1854
Polypus, cervical, uterine, undergoing malignant degeneration, (16) 157
Pons varolii and medulla oblongata, disease of, recent progress in topical diagnosis of, (76) 160—ab
facial paralysis symptomatic of lesions in, (53) 227
Position, for combined abdominal and pelvic outlet operations, (87) 73—ab
knee-chest, in internal disease, diagnostic and therapeutic importance of, (49) 1861—ab
Position, knee-elbow or pelvis, raising it for delivery in home, (103) 1769
Post-Mortem: See also Necropsy
Post-mortem room, review of death certificates as viewed from, (119) 622
Postoperative conditions, investigation of, from 5 to 10 years after intubation, (96) 777—ab
Posture as aid in diagnosis and treatment of cardiac affections and dropsical conditions of various origin, (5) 1291—ab
of disease and facial expression, (90) 1422
operative, *642
orthograde, normal, (10) 157—ab
Postyen a thermal bath for rheumatism and gout, (23) 1515
Potassium and sodium of neuron, relation of phosphatids to, (55) 539
bromid or sodium bromid? (66) 1428
iodid treatment, acute thyroiditis following, (111) 1304—ab
permanganate as hemostatic, *1262
Pott's and Dupuytren's fractures, operations for, (21) 1687
disease, advantages of braces over plaster jackets in, (68) 153—ab
serodiagnosis of, (57) 308
sudden onset of, without deformity of vertebræ, (150) 1149—ab
Powder, face, zinc oxid in, (17) 1067
smoke fatality, unusual, (87) 1359—ab
Practice, country, obstetric work in, (82) 1146
medical, general, importance of direct endoscopy in, (26) 1144
office, neglected points in, (78) 1069
private, obstetric surgery in, (22) 617
Practices, passing, and better methods, (164) 305
Practitioner, (48) 153
and cancer, (38) 1073
and laboratory, cooperation of, (56) 1689
and refraction of eye, (87) 457
country, acute abdominal case from standpoint of, (18) 544
dermatologic observations of interest to, (80) 848
enucleation of tonsil from standpoint of, (117) 74
hints for, on nature, etiology and early diagnosis of insanity, (12) 220
ideal medical education for, (67) 1070—ab
importance of convergence insufficiency to, (84) 1070—ab
indican from standpoint of, (23) 695
obligation imposed on, by development of experimental investigation of cancer, (39) 1073
research of, (110) 1616
simple medico-mechanical apparatus for, (67) 385
teaching of insanity to, and prevention of mental diseases, (37) 227
value of Wassermann reaction from viewpoint of, (57) 1615—ab
what he should know of eye, (181) 1618
when should he measure blood pressure? (123) 1004
why should he study surgical diagnosis of gastric and duodenal ulcer, *85
Practitioners, care of emergency cases in eye, ear, nose and throat work by, (28) 1067
importance of public and private hospital in clinical instruction of, (118) 305—ab
medical, and medical students, (7) 226
younger, random suggestions for, (30) 846, (12) 1000, (8) 1143, (19) 1291, (109) 1422, (24) 1682
Precipitates, 2, in acetic-acid serореaction, clinical importance of, (163) 468—ab
Precipitin diagnosis of anthrax, (77) 1011
Predementia præcox, hereditary and constitutional features of, (65) 539
Pregnancies, later, cicatrix after Cesarean section in respect to, (155) 551—ab
tubal, bilateral, with triplets, (62) 1690—ab
Pregnancy, abdominal, (99) 304
abdominal myomectomy during, (48) 1614
Pregnancy abnormally prolonged, (120) 389
abscess of kidney complicating, normal delivery followed by nephrectomy, (57) 1759
after operations on kidney, (40) 853—ab
anaphylaxis of, (54) 1427
and delivery, cancer of cervix-uteri complicating, (127) 389
and fibroids of uterus, (125) 698
and heart defects, (71) 309—ab
and hysteropexy, (63) 228
and labor, tuberculin reaction during, (29) 1765—ab
and puerperium, massage and gymnastic exercises during, (57) 1518—ab
and puerperium, multiple sclerosis and menstruation, interrelations between, (46) 1231
and status epilepticus, (118) 466—ab
and tuberculosis, (75) 228, (103) 1370
apical, a pregnancy in horn of normal uterus, (120) 304
appendicitis during, (28) 1357
as possible relief for visceral ptosis, (25) 1905
bactericidal properties of vaginal secretion and urine during, (104) 1370
blood in, (58) 1010
breast abscess during, (4) 617—ab
care of pregnant women during, (81) 1146
changes in secretion of cervix uteri during, (143) 707
cholelithiasis and delivery, relations between, (45) 158
cholesterin in blood of women during, (96) 1623—ab
dermatoses, serotherapy, (129)1157-ab
diabetes, (143) 1695
disturbances, serotherapy of, (100) 388—ab
early, extensive ulcer of bladder complicating, (25) 1144
early, hemorrhages during, and abortion, (87) 705—ab
eclampsia in sixth month of, with hydatidiform mole without fetus, (127) 1157
effect of, on implanted embryonic tissue, (34) 775—ab
etiologic influence of, on molluscum fibrosum, (18) 617—ab
extrauterine, (93) 154, (68) 303, (146) 699—ab, (44) 924, (26) 1357, (149) 1362, (26) 1613, (81) 1615, (39) 1683, (65) 1759
extrauterine and intrauterine, combined, (134) 1004—ab
extrauterine, cases simulating, (24) 383
extrauterine, diagnosis of, (40) 152, (43) 924, (27) 1357
extrauterine, indications for operating in, (93) 698, (48) 1144
extrauterine, intra-abdominal hemorrhage due to, immediate versus deferred operation in, (105) 1070—ab
extrauterine, repeated, (118) 230, (64) 1152
extrauterine, review of 214 cases of, at Massachusetts General Hospital, (58) 1684—ab
extrauterine, ruptured, streptococcus infection of pelvic cavity and ectopic sac, recovery, (58) 1614
extrauterine, torsion of Fallopian tube as factor in etiology of hematosalpinx apart from, (27) 307—ab
extrauterine, tubo-ovarian hematocele simulating, (102) 223
extrauterine, uterine pregnancy after, (31) 1230—ab
fibromas complicating, (96) 542, (34) 929—ab
following complete removal of one ovary and major portion of opposite one, (47) 1511
indications for artificial interruption of, (62) 228
induced, (31) 152
in dwarf, (117) 466
influence of, on eye diseases, (9) 1904—ab
in horn of normal uterus, (120) 304
interstitial, (82) 855
interstitial, sac removed unruptured by abdominal hysterectomy, (10) 382
intrauterine, in earlier months, diagnosis of, (17) 1007
labor and puerperium, uterine fibroids complicating, (121) 305—ab, (128) 1148, (41) 1292, (99) 1615, (54) 1759
liver, (51) 1231
liver and atypical eclampsia, (70) 309—ab

Pregnancy, metabolism during, (56) 384, (36) 929
multiple, with eclampsia, (24) 846
myelitis and polyneuritis during toxic vomiting of, (31) 1426—ab
nausea of, (72) 457—ab
ocular disturbances in, (32) 1230—ab
ovarian, (3) 844, (95) 1615
peritoneal, (74) 309
pernicious vomiting of, (44) 158—ab
physiologic, cholesterinemia in, (137) 1305
pyelitis in, its etiology and cystoscopic diagnosis, *38, (30) 221, (148) 858, (106) 1303—ab
pyelitis of, (91) 1692—ab
pyelitis of, and acute hematogenous infections of kidney, medical treatment of, (8) 1904
secretion of suprarenal medulla during, experimental research on, (107) 161
serodiagnosis of, (131) 1865—ab
toxemia of, (140) 699
toxemia of, experimental study of anaphylactic theory of, (18) 928-ab
toxemias of, catalytic activity of blood in, (123) 156—ab
toxemias of, serotherapy in, (85) 1154—ab
tubal, immediate or deferred operation in? (10) 1904—ab
tubal, intra-abdominal hemorrhage due to, immediate versus deferred operation in, (105) 1070—ab
tubal, new sign of, (27) 1613—ab
tuberculosis as indication for arresting, (86) 386
undeveloped genitalia with, resulting in birth of unequal monochorial twins, (19) 1007
urine in, (135) 389
uterine, after extrauterine pregnancy, (31) 1230—ab
varices in round ligament during, simulating inguinal hernia, (179) 860
with unruptured hymen and vaginal atresia, (77) 1225
x-rays in diagnosis of, (89) 1234—ab, (104) 1431
Pregnant and lying-in-woman, plea for more intelligent care of, (51) 1512—ab
Presentations, posterior, occiput, 100, analysis of course of labor in, (50) 378
shoulder, importance of fetal physical diagnosis in management of, (118) 542
Preserve jars, earthenware, glazed, lead poisoning from, (118) 548
Pressor bases of urine, (3) 1906—ab
Pressure, Blood: See Blood-Pressure
Pressure, effects of, on conductivity in nerve and muscle, (82) 303—ab
excessive, within skull, radiographic diagnosis of, (54) 308
positive, in lungs during general anesthesia, apparatus for, (119) 162
Pulse: See Blood-Pressure
Prevention, foundations of, (118) 224—ab
Primiparæ, old, (143) 232—ab
Prism, vertical, in ophthalmic practice, value of, (148) 1423
Prisms: See also Lenses
Probe, button, broad, for diagnosing strictures in esophagus and rectum, (63) 1232
Problems, ethical, timely, (117) 698
Procidentia Uteri: See Uterus
Proctoclysis, *1097
apparatus for, *114, *873
apparatus, speedometer for, (76) 847
improved technic for, (79) 1767
Proctoscopy and anemia from varices in upper rectum, (71) 546
and sigmoidoscopy in infancy as applied to infectious diarrhea, (63) 620—ab
Profession, medical, in New Mexico, needs of, (21) 152
medical, obligations of, (155) 1617
new, (149) 74
Professional confidences, (94) 1003
responsibility in induced medical abortion, (42) 1364—ab
Prognosis in operations for cancer, factors influencing, (43) 1144
Progress forward or backward? (104) 1624
or going backward? (139) 935—ab, (108) 1235—ab
Prolin obtained by Ester method in protein hydrolysis, quantitative determination of, (22) 1758
Prostate, anatomy and pathology of tissues adjoining, (39) 853
cancer of, fatal complications of, (24) 1764
cancer of, surgical treatment of, (59) 222
Prostate, cystoscopic views of bladder portion of, (56) 1861
diseases of, pathology, symptomatology and diagnosis of, (79) 697
edema of, (124) 381
enucleation of, 200 cases of, (16) 1363—ab
hypertrophied, advantages of stiff silk catheter with, (144) 1306
hypertrophied, of traumatic origin, (123) 542
hypertrophy of, (64) 309—ab, (133) 851, (17) 922, (126) 1226
hypertrophy of, histology of, (115) 1864
hypertrophy of, recurring, after prostatectomy, (71) 626—ab
internal secretion of, experimental research on, (49) 1689
massage of, (32) 1224
massage of, effect of, on blood-pressure, (31) 221
prevalent misuse of, in gonorrhea, (7) 1357
sarcoma of, subsidence of, under endovesical radium exposures, (113) 162
secretion from, (141, 143) 1306
survival of gonococcus in, (57) 625
Prostatectomy, (9) 454, (23) 455—ab, (51) 625, (123) 698
analysis of 46 cases, (1) 1290—ab, (4) 1356, (120) 1423, (118) 1514
at two sittings, (64) 1010—ab
pararectal, in ventral decubitus, (55) 1862—ab
perineal, (37) 1683
perineal, its preliminary treatment and after-care, (118) 1616
perineal, median, technic of, (119) 1003
perineal without opening bladder, with immediate suture, (39) 301—ab
recurring hypertrophy of prostate after, (71) 626—ab
suprapubic, abdominal position for drainage in, (101) 778—ab, (79) 924
time and method for, (35) 1683
Prostatic utricle, method of treating, *731
Prostatitis, (75) 1615
chronic, (133) 1071
Prosthetics, intrabuccal, simple expedient in treating complicated fractures of lower jaw forbidding, (69) 303—ab
Prostitutes, sanitary supervision of, (127) 459
Prostitution and venereal diseases in New York, problem of, (14) 1067, (12) 1143
regulation of, (9) 151
Protargol, local therapeutic action of, in stomach and intestinal disease, (127) 163
Proteids, certain, refractive indices of solutions of, (20) 1758
deficient, danger of, in artificial infant feeding, (131) 698
Protein contained in cerebrospinal fluid, approximate estimation of, (5) 151—ab
digestion of, in stomach and intestine of dog-fish, (23) 1758
feeding, split, (48) 1292
hydrolysis, quantitative determination of prolin obtained by Ester method in, (22) 1758
requirements of body, (31) 1364
Proteins, ingested, digestibility and retention of, (24) 1758
in solution, mode of action of inorganic salts on, theory of, (29) 1758
refractive indices of, casein in alcohol water mixtures, (78) 697
refractive indices of, serum globulin, (69) 696
sulphur in, (32) 1758
vegetable, biologic reactions of, (45) 455
Protozoal infections, infective granule in, illustrated by spirochetosis of sudanese fowls, (6) 1362, (39) 1619
Prowazek and Halberstaedter bodies in normal conjunctiva of man and apes, (78) 621
Prurigo and papule with urticarial basis, (167) 1296
Pruritus, initial, adenopathies and torticollis, varicella with, (44) 1009
vulvar, idiopathic, epidural injections in, value of, (82) 1429
vulvar, psychogenic, (61) 1767—ab
Prussian official tariff for medical attendance, national insurance scheme, (20) 1763
Pseudo-erosions and erosions of vaginal portion of uterus, (88) 79
Pseudohermaphrodites, female, classification of, (60) 1074—ab
Pseudohermaphroditism, male, external, suppurative orchitis simulating appendicitis, (41) 545
Pseudoleukemic anemia and leukemia, (30) 1230
Pseudomenstruation, (134) 1157—ab
Pseudomyxoma in peritoneum after appendicitis, (122) 466
Pseudotumor in small pelvis from contraction of pyriform muscle, (152) 551
Pseudotumors in intestines, (128) 163—ab
Psoas abscesses, early operation for, (37) 221
Psoriasis and herpes zoster, (120) 1865—ab
Psychasthenia and neurasthenia, (95) 1857
Psychiatry, domain of, (45) 1861
emergency, (58) 384—ab
rôle of functional conditions in, (26) 774
Psychic condition immediately after accident, (47) 1766—ab
disturbances of gynecologic origin, (150) 1306
disturbances with chronic cocain intoxication, (92) 1155—ab
Psychica toxemica, cerebropathia, Korsakow's syndrome, (85) 1225
Psychoanalysis as new therapeutic procedure in psycho-neuroses, (8) 1223
modern, and hysteria, (54) 776—ab
Psychoanalytic measures, specimens of handwriting before and after treatment by, followed by re-education, (30) 455
Psychologic study, 31) 1144
Psychology applied in gynecology, (79) 229
in children, experimental, (109) 706
of pellagra, (105) 223
of tuberculosis, (78) 457
Psychoneuroses, psycho-analysis as new therapeutic procedure in, (8) 1223
Psychoneurosis, fundamental states in, (55) 776—ab
Psychopath, youthful, (17) 694
Psychopathic and neuropathic individuals, improved treatment of, (82) 1368
states, post-traumatic, and traumatic psychoses, *943
Psychopathology of hysteria, (146) 1296
of suicide, (77) 1154—ab
Psychoses, alcoholic, pupillary disturbances in, (170) 1617
and acute infections diseases, (75) 72—ab
confusional, and emotional shock, (53) 781
fear as manifested in, its bearing on treatment, (93) 303
histologic and pathologic study of, (126) 1014
of child-bearing, (9) 1291
puerperal, prognosis of, (107) 628—ab
traumatic, and post-traumatic psychopathic states, *943
Psychosis and epileptiform attacks, chronic tetany with, (98) 856
tobacco, in boy of 13, (96) 856
Psychotherapy, action of suggestion in, (117) 156
analysis of dreams in reference to, (15) 1762
and re-education, (143) 1296
future of, (9) 300—ab
its uses and abuses, (5) 69
phases of, (121) 698
what is it? (147) 1296
Pterygium, (58) 1689
and scleritis, treatment of, (106) 1226
operation, modified, (143) 1423
Ptomain poisoning, (70) 1615
Ptosis, Fergus advancement operation for, (89) 1422
of liver, (49) 702
visceral, pregnancy as possible relief for, (25) 1905
visceral, support for, (36) 1230
Puberty and nervous diseases, (129) 778
and pelvic diseases, (128) 778
cutaneous accidents of, (130) 778
diseases associated with, (131) 778
excessive enlargement of breasts at, (38) 1151—ab
physiology and hygiene of, (127) 778
Pubiotomy and extraperitoneal Cesarean section, (98) 627—ab
improved technic for, (82) 626, (128) 629—ab
justification of, (50) 1152
Pubiotomy, technic of, (118) 786—ab (30) 1764
Pubis, axilla and breast, chronic itching papular eruption of, *174
fracture of, (114) 1235
Public and syphilis, (124) 459
duty of physician to, (35) 695
Health and Marine-Hospital service, status of medical corps of national guard in relation to, (75) 153
health conditions, general, insurance statistics unreliable basis for study of, (100) 1623—ab
health work, training for, (101) 1686
importance of educating it in regard to cancer, (50) 696
relation and attitude of, in development of communicable diseases, (161) 75—ab
services, deafness and disease of ear in relation to, (10) 75
services, relation of deafness and diseases of ear to, (24) 226
Publicity vs. quackery and other frauds, (28) 1511
Puerpera, care of, (80) 1146
Puerperal bradycardia, physiologic, (87) 229
fever, bacteriologic research in, (64) 1518
fever, bacteriologic study of blood in, (144) 858, (107) 1613
infection, (74) 1421
infection, diagnosis and prognosis of, from bacteriologic findings in blood and lochia, (60) 1010
self-infection, (92) 933
Puerperium, (174) 1296
and pregnancy, massage and gymnastic exercises during, (57) 1518—ab
and pregnancy, multiple sclerosis and menstruation, interrelations between, (46) 1231
care of mother and child during and after, (87) 1070
cough during, its treatment, (24) 617
fever in, (104) 542
fibromyomata of uterus complicating, (121) 305—ab
insanities of, (126) 305
management of, (118) 622
pregnancy and labor, uterine fibroids complicating, (128) 1148, (41) 1292, (99) 1615, (54) 1759
psychoses of, prognosis of, (107) 628—ab
tardy hemorrhage in, (126) 38—ab
Pulsation, auricle, within esophagus, registration of, and electrocardiogram, comparative study of, (134) 935
Pulsations in peripheral veins, (9) 1510—ab
Pulse and respiration-rate, (85) 463
energy, measurement of, (141) 1371, (77) 1519
measurement of horse-power of, (145) 389—ab
rate, effects of various forms of exercise on, (151) 1005—ab
values, estimation of, (65) 1519—ab
venous, standards for registration of, (47) 1365
Pulsus alternans, abnormal forms of breathing in angina with, (12) 1763
Pump, duodena, Einhorn, (81) 1070
Pupil, dilated, hemichorea, hemiataxia and hemiparesis, probably due to lesion near nucleus ruber, (89) 622
disturbances in dementia præcox, (94) 387
disturbances of in alcoholic psychoses, (170) 1617
reaction of, in health and disease, (105) 1857
simple clinical method for measuring diameter of, (25) 69
Purgatives: See also Cathartics
Purgen poisoning, (78) 1621
Purin and chlorin bodies in urine, determination of, (47) 70
bodies, behavior of, in cirrhosis-of-liver before and after talma operation, (164) 552
metabolism, diagnosis of gout from, (102) 1693—ab
metabolism, influence of radium emanations on, (139) 389
substances in new-born infant, (37) 1068—ab
Purins, researches on, (131) 1361
Purpura, (12) 1291
hemorrhagica, (162) 927
hemorrhagica, pathogenesis of, (124) 231, (127) 786

Purpura, hemorrhagica, after injections of fibrolysin, (93) 1768—ab
Pus, analytic and microscopic study of, (39) 152
determination of, in diseases of nasal sinuses, (98) 698
Putrefaction and fermentation, (164) 1006
diagnosis and treatment of, (114) 74
gravidarum, *38, *199, (148) 858
of pregnancy, its etiology and cystoscopic diagnosis, (30) 221, (106) 1303—ab
Pyelitis, acute, due to bacillus coli communis as complication of congenital hydronephrosis, (33) 1859
and incontinence, treatment of, (45) 1766—ab
of pregnancy, (91) 1692—ab
of pregnancy and acute hematogenous infections of kidney, their medical treatment, (8) 1904
Pyelocystitis, colon bacillus, in infants and children, (19) 1418—ab
Pyelolithotomy, technic for, (147) 467
Pyelonephritis, (104) 622
acute, of unusual severity, (44) 227
Pyelotomy for removal of kidney calculi, advantages of, (34) 702
Pyemia after acute staphylomycotic spermatocystitis, (105) 1864
staphylococcus, true, vaccines in, (30) 1357
Pylecystitis and cystitis in infants and children, (165) 75
Pylorectomy, technic for anastomosis after, (80) 78
Pyloroplasty, modified, (49) 1358—ab
Pylorospasm, (12) 377, (48) 696—ab, (58) 782—ab
Pylorus, cancer of, sign of metastasis with, (140) 707—ab
functioning of sphincter muscle of, after experimental cross section of stomach, (108) 628
obstruction, (24) 69
obstruction due to extrinsic causes, (116) 1423
obstruction, partial, symptomatic vagaries of, (2) 1687—ab
resection of, and gastro-enterostomy, gastric functioning after, (82) 1234—ab
Spasm of: See Pylorospasm
spasm of, in infancy, (16) 1682
stenosis of, anatomic findings in stomach of infant 5 months after cure of, (117) 1304—ab
stenosis of, congenital, (85) 697—ab, (29) 852, (156) 1149, (103) 1293
stenosis of, in infancy, (36) 1688
ulcer of, and spastic stenosis, gastric motor functioning with, (68) 932
Pyocyanase in anthrax, (44) 624
Pyonephrosis, right, normal urine in patient with, (67) 303
simple, (169) 859
Pyorrhea alveolaris, vaccine therapy of, (5) 1510
Pyosalpinx, gonorrheal, (92) 547
rupture and perforation of, (45) 1427—ab
Pyrexia, intermittent, and Hodgkin's disease, (38) 1299
prolonged, diagnosis of, (40) 158, (14) 226
Pyuria, (47) 696

Q

Quackery vs. publicity, (28) 1511
Quacks and quackery, suppression of, (19) 851
Quadriceps extensor tendon of one knee and tendo achillis of other leg, simultaneous rupture of, (78) 1070
paralyzed, mechanism of functioning of leg with, (118) 1156
Quarantine, isolation and disinfection, (137) 927
studies, (167) 859
Quartz lamp light, ultraviolet, action of, on blood pressure and in general disease, (108) 1076
Quinin, action of, on autolysis of spleen and liver, (133) 231
and urea hydrochlorate as local anesthetic, (62) 302, (125) 1616, (165) 1617
and x-ray in filariasis, (166) 382
anesthesia, (54) 696
dangers of intravenous injection of in malaria, (108) 1294
drugs besides, in malaria, (103) 1155
influence of, on regeneration of blood in anemia from venesection, experimental research on, (115) 1769
injection and aspiration of, in amebic abscess of liver, (38) 384—ab
Quinin in malaria, (147) 305, (42) 383
in malaria, familial hemoglobinuria from, (106) 1769
its history and preparation of its alkaloids, (34) 1224
regeneration of blood in anemic animals under, (179) 1697
sulphate, hypodermic injection of solution of, in kala-azar, (30) 1072
uses and abuses of, (36) 695
Quinsy, (17) 306
in adult, fatal, (139) 225, (113) 850—ab

R

Rabbit serum and organ extracts, coagulation-promoting action of, in acquired hemophilia, (133) 389
Rabbits, action of intrapleural injection of Mellins' food on course of fowl cholera in, (38) 852
experimental tuberculosis of iris and chorioid in, (71) 1621
pregnant, fluid in abdominal cavity in, (10) 1149
syphilis in, (81) 546
Rabies, (12) 1223, (17) 1510
and public health, (129) 851
antiformin resistant microorganisms found in brain of animals infected with, (12) 1357
at camp Overton, Mindanao, P. I., (147) 1071
control of in New York State, (70) 1069
data concerning, and efficiency of pasteur immunization, (110) 1857
in Philippines, (35) 1511
in Wisconsin, (17) 1223
recurring cutaneous local reaction during Pasteur treatment of, (102) 856
virus, effect of vacuum desiccation on, (43) 456—ab, (43) 538—ab
Race: See also Racial
Rachitis as causal factor in curvature of spine, (100) 856—ab
due to hyperfunctioning of ovaries or testicles, (132) 629—ab
influence of thyroid treatment on growth in, (43) 1861—ab
lime metabolism in, (86) 705
positive Wassermann reaction in, (45) 307
problem, development of, in last decade, (89) 387—ab
scapulum valgum in, (39) 702
tardy, and mineral metabolism, (135) 1695—ab
Radioactivity of mineral waters, (100) 1693—ab
Radiogram: See Radiograph
Radiograms in 3 dimensions, (15) 300—ab
Radiograph shadow and cystoscope, (60) 1420
Radiographic work, 3 unusual cases in, (97) 542
Radiography in duodenal obstruction, (7) 1858—ab
of lungs, (68) 545
of urinary organs, aid to, (77) 847
stereoscopic, as aid to surgeon, (68) 379—ab
Radiolcarbenzym, tetanus following subcutaneous administration of, (146) 1695
Radiology of stomach, (69) 625
Radiotherapy: See also Roentgen-Ray and electrotherapy of carcinoma and palliative operations, (69) 228
experiences with, (133) 163
of internal disease, (88) 1430—ab
of large epithelial defects, (96) 705
of tubercles, (126) 549
of tumors, dosage in, (58) 545
Radium emanations, biologic action of, (58) 1232
emanations, influence of, on gaseous metabolism and circulation of blood, (67) 1308—ab
emanations, influence of, on gouty tophi, (140) 389
emanations, influence of, on purin metabolism, (139) 389
emanations in therapeutics, (52) 1909, (22) 1907—ab
emanations in therapeutics, present status of, (107) 388, (63) 1518
emanations, promotion of growth of plants by, (66) 1368—ab
emanations, transportable apparatus for inhalation of, (47) 1427
emanations, varying content of atmosphere in, and biologic processes, (141) 389
exposures, endovesical, subsidence of sarcoma of prostate under, (113) 162
exposures, permanent cure of carcinomas after, (162) 82
from biologic standpoint, (125) 1694
Radium in cancer, (4) 927, (10, 11) 1859—ab
in gout and rheumatism, (57) 782—ab
rays, action of, on inoperable cancer of uterus, (66) 1010
therapy, (19) 220, (15) 1007
water therapy, (9) 1618
Radius, automobile fracture of, (64) 77—ab
dislocation of, with pathologic cubitus valgus, (88) 1368
fracture of, (55) 545
fractured, treatment of, (122) 1769
fractures of lower end of, treatment of, (70) 222
head, anterior dislocation of, operation for treatment of, (113) 926
Railroad construction camps, hospital service for, in Pacific northwest, (169) 382
Raleigh, Sir Walter, royal cordial of, (43) 1224
Râles after tuberculin injections not always sign of specific focal reaction, (146) 232—ab
Rasp, frontal sinus, (114) 849
Rat flea as intermediate host of rat tapeworm, (12) 1149
fleas, transmission of trypanosoma lewisi by, (115) 1147
mechanism of transmission of trypanosoma lewisi from, to rat by rat flea, (15) 1687
sarcoma and mouse carcinoma, transmission of, to new-born animals, (63) 782
tapeworm, rat flea as intermediate host of, (12) 1149
Rats, growth in vitro of transplantable sarcomas of, *33, *587
Rattlesnakes, twice wounded by, recovery, (115) 1514
Raymond, his life and example, 1844-1910, (58) 776
Raynaud's symptoms and acroparesthesia, (7) 927
Rays, Roentgen: See Roentgen Rays
ultraviolet, action of, on albumin antigen and its antibody, (95) 1623
ultraviolet, permeability of glass for, (62) 1427
ultraviolet, practical sterilization of potable waters by, (13) 226
Razor wound of throat, extensive, (140) 381
Reaction, albumin, in pulmonary tuberculosis, (34) 1908—ab
albumin, in sputum, (86) 933—ab, (35) 1230, (44) 1619—ab
albumin, in sputum in early diagnosis of tuberculosis, (55) 1621—ab
antitrypsin, importance of, in diagnosis and prognosis of cancer, (73) 463—ab
Biuret, in examination of stools, (42) 1860—ab
Butenko, in urine in paralysis, (133) 467—ab, (85) 1622
Calmette's Tuberculin: See Tuberculin
Cammidge, and substance giving rise to typical crystals, technic of, (102) 926—ab
Cammidge, clinical value of, (46) 71—ab
Diazo, source of error in, (6) 1143—ab
epiphanin, in serodiagnosis of syphilis, (74) 228—ab
focal, specific, râles after tuberculin injections not always sign of, (146) 232—ab
hemagglutinin, in serum sickness, (112) 548
hemolytic, with cancer, (77) 1429--ab
immunity, as products of natural selection, (21) 69
immunity, in diagnosis, (2) 1006
immunity, in diagnosis, especially of tuberculosis and syphilis, (9) 928—ab
local, cutaneous, recurring during Pasteur treatment of rabies, (102) 856
meiostagmin, in white rats after removal of both suprarenals, (100) 1769
methylene-blue, urinary, diagnostic significance of, special reference to malignancy, *1882
pseudo-tuberculin, (86) 855--ab
quantitative, and multiple infections, modified vaccine therapy based on theory of, (75) 1421—ab
skin, of syphilids under salvarsan, (66) 545
sulphur, in urine with cancer, (132) 1371—ab
tardy, after salvarsan, (90) 311—ab
tryptophan, unreliability of, in stomach content in cancer, (61) 1621—ab
Reaction, Tuberculin: See also Tuberculin
tuberculin, cutaneous, (57) 159—ab, (62) 1152, (140) 630
tuberculin, cutaneous, and Wassermann, in scrofulous children, (97) 856—ab
tuberculin, local, diagnostic value of, *181
tuberculin, mechanism of, (104) 1076
urine, Butenko's, not specific for progressive paralysis, (85) 1622
urine, in disease of central nervous system, (134) 1078
urine, in infants, (91) 933—ab
Wassermann, (165) 82, (16) 152, (102) 304, (73) 457, (96) 1369, (66) 1421, (67) 1518, (54, 55) 1614—ab, (80) 1760
Wassermann, action of salvarsan on, (49) 1856
Wassermann, and eclampsia, (156) 551
Wassermann, and lipoid content of blood serum, connection between, (120) 1013
Wassermann, and salvarsan, (8) 151, (2) 693, (96) 1076
Wassermann, and von Dungern's modification, (60) 1621
Wassermann, as aid in detection of criminal responsibility, (122) 1695—ab
Wassermann, effect of treatment on, (97) 154
Wassermann, in blind, deaf mutes and epileptics of Denmark's asylums, (183) 1698—ab, (64) 1862—ab
Wassermann, in Danish imbeciles, (122) 1235
Wassermann, in lead poisoning, (107) 1694—ab
Wassermann, in malaria, (183) 860—ab
Wassermann, in syphilis, (89) 783, (187) 860—ab, (142) 927, (121) 1014—ab, (70) 1153, (45) 1620—ab, (55) 1766
Wassermann, negative, early tabes dorsalis with, clinical diagnosis of, (31) 1511
Wassermann, Noguchi modification of, for serodiagnosis of syphilis, (116) 459
Wassermann, paradoxic, (42) 1516
Wassermann, positive, and lymphosarcomatosis, (100) 311
Wassermann, positive, in rachitis, (45) 307
Wassermann, practical application of, especially in Stern's modification, (93) 229
Wassermann, specificity of, and study of incomplete reactions sometimes observed in wasting diseases, (105) 856
Wassermann, technic, simplified, satisfactory results with, (76) 1359
Wassermann, value of, from viewpoint of practitioner, (57) 1615—ab
Wassermann, with serum from patients under influence of chloroform or ether, (118) 1769—ab
widal, obtained in fatal anemia, (11) 226—ab
Reactions, complement-fixation and conglutination, study of streptococci with, (83) 621—ab
differential, specific, with vaccines according to Wright, (99) 856—ab
food, in stomach of infant compared with those in vitro, (48) 924—ab
immunologic, of oidiomycosis in guinea-pig, (118) 1147
in urine in infectious diseases, (167) 1372
mercury, in secondary syphilis, (123) 80
non-specific, with complement-fixation test for syphilis, (77) 1512
tuberculin, comparative tests of, (142) 1865
vital, clinical manifestations of, (97) 1369—ab
Wasserman, 47, after injection of salvarsan, (68) 1685—ab
Wassermann and cutaneous tuberculin, in 228 scrofulous children, (149) 314—ab
Recalcification of tuberculosis in children, (40) 1152—ab
Recreation and health, west coast of Norway for, (148) 927
Rectocele, plastic utilization of uterus in, (123) 389
Rectoscopy and sigmoidoscopy, (116) 1432

Rectum alimentation, (69) 776
and anus, diseases of, diagnosis in, (22) 851
and anus, diseases of, simplified treatment of, (15) 1067
and anus, surgery of, local anesthetics in, (115) 542
and sigmoid colon, direct inspection of, (8) 617
and uterus, cancer of, in women, abdomino-perineal technic for removal of, (64, 65) 854—ab
cancer of, (16, 20) 544, (22) 623, (18) 1687
cancer of, diagnosis of, (140) 1004
cancer of, operability of, (63) 77—ab
cancer of, treatment of, (7) 622, (24) 623—ab, (121) 1295, (9) 1687
cancer of, with colostomy, (134) 1071
diverticulitis of, (55) 1225—ab
examinations, value of, (95) 698
extraperitoneal transplantation of ureters into, for extroversion of bladder, (140) 1617—ab
fibrous stricture of, (19) 1143
fistulas in and around, (116) 1295
idiopathic congenital dilatation of, (81) 78—ab
male, resection of, for cancer, (67) 71
melanosarcoma of, primary, (45) 702
operations on, quinin anesthesia for, (54) 696
operations on, syringe for local anesthesia in, (22) 538
prolapse of, pessary treatment of, (64) 1910—ab
prolapse of, plastic operation for, (61) 1909
sacral excision of, (54) 1861
sepsis of, due to trauma, (95) 223
stenosis of, inflammatory, etiology of, (84) 1863
stricture of, complicating fistulas, cure of, (57) 696
stricture of, low, etiology, diagnosis and treatment of, (120) 1077
strictures in, broad button probe for diagnosis of, (63) 1232
syphilitic evidences in, (74) 1358
tuberculous ulceration of, (45) 1614
tumor of, from non-malignant transformation of epithelium, (73) 1075
ulceration of, infective, chronic, (119) 1295
upper, and sigmoid, extirpation of, Noble anastomat modified, (40) 301—ab
upper, proctoscopy and anemia from varices in, (71) 546
uterus and bladder, abdominovaginal operation for carcinoma involving, (96) 933
uterus and colon, cancer of, abdominal hysterectomy in, (66) 854—ab
work, local anesthesia in, (84) 697
Re-education and psychotherapy, (143) 1296
specimens of handwriting before and after treatment by psychoanalytic measures followed by, (30) 455
Reflex, diaphragm, (125) 1014—ab
intestinal, (23) 75
paradoxic, diagnostic value of, *805
toe, extensor, new method for eliciting, *1311
what is meaning of? (12) 537
Reflexes and reflex neuroses from upper respiratory-tract, (10) 537—ab
diagnostic value of, (3) 1853—ab
in surgical diagnosis, (8) 537—ab
mechanism and significance of, (98) 1070
pelvic, (116) 305—ab
signs of, in meningitis diagnosis, *114
Reforms, are they necessary in A. M. A. and its constituent bodies? (68) 1615
Refraction, (104) 380
influence of chronic low-grade inflammation of eye tunics on, (168) 1149
symptoms suggestive of brain tumor relieved by correction of error in, *347
Refractometer, determination of hydremia by, (55) 781—ab
Refuse disposal problem, municipal, and conditions in Alameda county, (66) 1292
Regeneration, physiology of, (148) 1005
Reno-ureteral affections, differential diagnosis of, (43) 384
Repose, exercises in, (96) 784—ab
Research defence society and antivivisectionists (9) 1362
modern, on nature of ferment action, trend of, (76) 72
of practitioner, (110) 1616
workers, medical, (37) 152
Researches, recent, in chemical physiology of infants, (133) 156
Respiration, accelerated, from lack of oxygen, (154) 314, (147) 1371
artificial, improved method of, (52) 1427—ab
for tone-production, (138) 225
influence of, on size and position of heart, (146) 1371
in heart disease, favorable influence of exposures to arc light on, (181) 1698—ab
physiology of, (75) 463
rate and pulse, (85) 463
Respiratory and cardiac rate, synchronous, (8) 1757—ab
and circulatory systems, interdependence of, (4) 1514
change as affected by body position, (42) 618
conditions, acute, cold air in, (130) 224—ab
diseases in children, bacteriology of, (128) 857
movement, abdominal, absence of, as indication of pericarditis, (27) 929—ab
nervous, and cardiac disturbances as consequence of gastro-intestinal irritation, (127) 1078
quotient, influence of preceding diet on, after active digestion has ceased, (41) 618
rhythm of nervous and other origin, changes in, (136) 163
system, auscultatory signs of, (39) 70—ab
tract, aspiration of foreign material into, during intratracheal insufflation, (62) 1856—ab
tract, dissemination of leprosy bacilli in disease of, (88) 1154
tract, upper, acute catarrh of, inhalation of epinephrin in, (85) 933
tract, upper, manifestations of thyroid disease in, (111) 1361
tract, upper, reflexes and reflex neuroses from, (10) 537—ab
tract, upper, scleroma of, (142) 225
tract, upper, syphilis of, (60) 1512
Responsibility, criminal, Wassermann reaction as aid in detection of, (122) 1695—ab
maternal, and infant feeding, (67) 1512
Rest and movement in tuberculosis, (1) 225—ab
cure and open air, starnook and window tent for, (5) 1357
diet and massage in neurasthenia, (41) 461
exercise and food in tuberculosis, (10) 151
in pulmonary tuberculosis, (103) 698
Restaurant kitchens, sanitation of, (73) 1002
Resting conditions of skeleton, principles on which treatment of, is based, (14) 1072
Restlessness in infants, unusual causes for, (149) 708—ab
Resuscitation by cardiac massage, *1448
of new-born infants, (106) 1696—ab
Retina, detachment of, (132) 81—ab, (118) 856, (91) 1857
extent of pupillo-motor area of, (159) 1296
glioma of, (32, 33) 1000
proliferating changes in, periphlebitis and intra-ocular hemorrhages in tuberculous individual, (105) 1076
spasm of arteries of, (144) 305
spontaneous thrombosis of central vein of, following parturition, (145) 305
thrombosis of, central vein of, (50) 1614
Retroperitoneal space, suppuration in, (50) 1068
Revaccination and vaccination, value of, (10) 226
Revulsion in modern therapeutics, (49) 1517—ab
Rheumatic fever, etiology of, (49) 1512
Rheumatism, (171) 1362, (50) 1512
abdominal, (106) 1615
acute, endocarditis with, history of, (52) 159
Rheumatism and chronic rheumatism, (89) 541—ab
and endocarditis, influence of glandular pharngeal tissue in causation of, (144) 927
and gout, radium in, (3) 700—ab, (57) 782—ab
and pneumonia, are they specific infections? (114) 1858—ab
articular, tuberculous, (98) 547—ab
carditis due to, histology of, (11) 1149
chronic, chronic fibrositis, treatment of, (105) 458
diseases due to, vaccines in, (7) 1763—ab
eye disease due to, (38) 1683—ab, (64) 1759
forms of, and disease of mouth, (13) 1072—ab
gonorrheal, (84) 386—ab
hypodermic injections of salicylates in, (6) 922—ab
in children and adults, difference between manifestations of, (25) 1150
in knees of middle-aged and elderly women, ionization by sodium salicylate for, (25) 1859
manifestations of, in children, (22) 1425—ab
muscular, massage in, (125) 1769—ab
of childhood, rarer occurrences in, (2) 382—ab
postyen a thermal bath for, (23) 1515
treatment of, (80) 223
what is it? (3) 1143—ab
Rhinitis, chronic, (122) 1226
influenzal, chronic, promptly improved by vaccine therapy, *264
vasomotor, (15) 75
Rhinology and laryngology, position of, in medicine, (24) 851
and orthodontia, (127) 1295
laryngology and otology, education of specialist in, (23) 226
Rhinophyma, treatment of, (125) 549
Rhinoplasty, use of finger in, (26) 300
Rhinoscleroma, laboratory notes on presence of fats and lipoids in lesion of, (25) 1000
Rib abscess, proteus, (114) 1077
Cervical: See Cervical-Rib
dorsal, first, abnormal, simulating cervical rib, (15) 1905
first, brachial neuritis due to pressure of, (15) 306
resection for empyema, (123) 1071
utilization of, for plastic operation on chin, (153) 389
Ribs, immobilization of lung by rear resection of, (62) 1518—ab
Rice, bran of, in prevention and treatment of beriberi, (54) 1074—ab
unpolished, and beriberi in Philippines, experiences with, *1237
very restricted diet of, in acute inflammatory disease of skin, (1) 454—ab
Ricin, inherited immunity of goat to, (55) 1073
Rickets: See Rachitis
Ring-bodies in blood in anemia, (101) 1302
retraction, cause of obstruction in labor, (27) 1151
Ring-worm of scalp in children, segregation and education of, (30) 1862
of scalp, x-ray for, *1706
present position of x-ray for, (15) 851
Rocky Mountain spotted fever, complement deviation in, (139) 1361
spotted fever, time relationships of wood-tick in transmission of, (140) 1361—ab
spotted fever, transmission of, by other than Montana and Idaho ticks, (138) 1361—ab
Roentgenograph: See Radiograph
Roentgen-ray and quinin in filariasis, (166) 382
and tuberculin in diagnosis of tuberculosis, relative value of, (108) 1003
anomalies of colon demonstrated by, (122) 1147—ab
definite knowledge from use of, *1700
diagnosis of callous gastric ulcer, (159) 82
diagnosis of gastric cancer, (108) 311, (94) 1012, (9) 1067
diagnosis of pregnancy, (104) 1431
diagnosis of pulmonary tuberculosis, (69) 1366, (115) 1482
diagnosis of renal tuberculosis, (111) 230
Roentgen-ray diagnosis of tuberculous bronchial glands, (115) 1432
diagnosis of urinary calculi, (46) 384, (30) 1511
examination after gastro-enterostomy (87) 1863—ab
examination of bladder, *264
examination of gastro-intestinal system, (33) 226, (55) 703
examinations of kidneys, (77) 924, (130) 1236—ab
exposures, metabolism of iron in myeloid leukemia before and after, (83) 1011
exposures or castration of ovaries or testicles, behavior of thymus after, (124) 1432
exposures, re-enforcing screens to reduce lengths of, (57) 228
failed to locate foreign body afterward found in eye, (105) 1226
findings with obesity heart, (112) 388
for ringworm, (15) 851
how it aids nature in cure of intractable skin diseases, (177) 1618
in cancer, (108) 1156, (112) 1762
in carcinoma of breast, (91) 1070
in diagnosis and prognosis of pulmonary tuberculosis, (20) 1854
in gastric diseases, (11) 300—ab, (94) 1012
in genital tuberculosis, (76) 1622—ab
in lymphoid and myeloid leukemia, with blood findings of each, (79) 303
in ringworm of scalp, *1706
in scrofuloderma, (86) 223
inspection in sun-lighted room, (100) 79
localization by construction, *1650
localization of foreign bodies, (103) 380
penetrometer, new form of, (39) 1364—ab
picture, chronic gastric ulcer in, (99) 161
pictures, instantaneous, (72) 1863
points in diagnosis as revealed by, (79) 777
primary erythema, (105) 1303
technic, therapeutic, improved, (134) 312
temporary eventration of abdominal viscera for examination and treatment by, (85) 1234—ab
therapy, (5) 1618, (22) 1859
therapy in malignant lesions, (17) 455—ab
therapy of enlarged thymus, (46) 1420—ab
treatment in internal medicine, (158) 390
tubes, (100) 622
ulcer, treatment of, (153) 305
with bismuth test meal in diagnosis of gastric conditions, (93) 541
Roentgen rays, curative influence of, in malaria, (5) 928—ab
dosage of, (91) 705
for diagnosis of carcinoma of stomach and intestine, (9) 1067
for diagnosis of gastric and duodenal adhesions in gall-bladder region, *1777
help of, in diagnosis of diseases of chest, (22) 544
in dermatology, (103) 1076
in diagnosis of gastric ulcer, (140) 1695
in diagnosis of gastric ulcer and cancer, (94) 1012
in diagnosis of pregnancy, (89) 1234—ab
in differentiation of bone diseases, (106) 74
in gynecology, (135) 1157, (54) 1518—ab, (92) 1692
medicolegal aspect of, from standpoint of surgeon, (60) 696
sensitizing, by heat, (97) 1864
Rolando, exploratory craniotomy for pathologic localizations in Zone of, (144) 1866
Royal cordial, Sir Walter Raleigh's, (114) 1514

S

Sacrococcygeal teratoid tumor, sixth on record, (48) 625
Sacro-iliac conditions, physiotherapy in, (61) 153
synchondrosis, lesions of, (104) 1857
Sacrum, pain in, extradural injections for, (160) 552—ab
Salicylates, (71) 1615
hypodermic injections of, in rheumatism, (6) 922—ab
influence of, on heart lesions of chorea, (27) 1688—ab
in prevention and treatment of chronic disease, (72) 1767—ab
Salicylic preparations, soluble and insoluble, absorption of, in gastro-intestinal tract, (124) 1077

Saline: See also Salt
Saline infusion and venesection in pneumonia, (14) 1757
infusion and venesection in skin disease, (64) 625—ab
infusion, research on, (98) 161—ab
injections in sciatica, (30) 1364—ab
solution, hypertonic, Rogers' method of infusion of, in cholera, (39) 383
solution infusion, improved technic for, (68) 1428—ab
solution, normal, given through biliary fistula, (111) 1071—ab
solution, normal, simple drop method of giving rectal enemas of, *1097
Saliva, peptid-splitting ferment in, (5) 1612
Salpingitis after abortion, (111) 465
and laminaria tents, (66) 309—ab
gonorrheal, double, supravaginal hysterectomy in, (138) 1617
Salpingo-oöphorectomy and hysterectomy, bladder sequelæ of, (100) 380—ab
Salt and sugar, action of, on infant organism, (114) 1694—ab
elimination of phosphates in urine of bottle-fed infants with and without intake of, (86) 627
fever after intake of, (87) 627
importance of, for metabolism, (93) 311
solution, pyrogenic action of, in rabbits, (99) 1359
Salts, inorganic, theory of mode of action of, or proteins in solution, 29) 1758
Salvarsan, (13) 69, (30) 76, (122) 80, (158) 82, (2) 150, (107, 113) 156, (89) 160, (77) 161—ab, (41) 221—ab, (40) 227, (104) 229, (6) 300, (68) 308, (92) 311—ab, (27) 377, (129) 381, (156) 382, (68) 385—ab, (103) 387, (118, 123, 146) 459, (97) 464, (125) 466—ab, (27) 538, *650, (56) 703—ab, (137) 706, (90) 784—ab, (132) 786, (136) 857, (130) 926, (89) 933, (133) 935, (13) 1000, (122) 1004, (61) 1069, (93) 1070, (52) 1145, (76) 1154, (161, 166) 1288, (87) 1293, (133) 1305, (117) 1370, (130) 1423, (31, 41) 1613, (63) 1615, (128) 1616, (118) 1694—ab, (142) 1695, (17) 1758—ab, (81) 1768—ab, (1) 1853, *1877
action of, on experimental infection of rabbits, (125) 312
action of, on eye, (135) 81, (90) 387—ab, (81) 1368—ab, (129) 1514
action of, on spirochetes in mouth, (113) 311
action of, on Wassermann reaction, (49) 1856
administration of, *501
affinity of, for nerve tissue, (52) 1231—ab
and acute syphilitic nephritis, (64) 1767—ab
and arsenic cancer, (2) 1618—ab
and malignant syphilis, (65) 545
and mercury, radiologic research on absorption of, (121) 629—ab
and sodium cacodylate, *492
and Wassermann reaction, (8) 151, (2) 693
arsenic in syphilis antedating, brief summary of, (156) 927
behavior of blood-pressure with intravenous injection of, (90) 1234
by-effects of, (91) 387, (118) 935—ab, (36) 1765—ab
cause for toxic action of acid solutions of, (60) 1232—ab
cause of immediate pain and abscess following administration of, by alkaline solution method, *1262
curative action and by-effects of, on ear, (58) 1621—ab
cutaneous reaction of syphilids under, (66) 545
dangers and contra-indications of, (14) 1510
disturbances in hearing after, (117) 388
does not act on cornea, clinical and experimental evidence of, (84) 1623—ab
dont's in use of, *347
ear conditions in syphilitics after administration of, (106) 628—ab, (2) 921—ab, (58) 1621—ab
early cutaneous recurrence of syphilis after, (74) 1154
emulsion of, technic for preparing, (95) 161
Salvarsan, eventual by-effects on cranial nerves from, (91) 311—ab
fate of, in body, (78) 626—ab
for cure of splenic anemia in congenital syphilis, (132) 1305
given nursing mother for syphilis in infants, (67) 546—ab, (28) 617
glycerin as part vehicle for, (161) 858
herpes zoster after injection of, (98) 464, (95) 627
improved gravity apparatus for intravenous injection of, *732
in advanced syphilis, (124) 1071
in body, test for, (98) 1864—ab
in cancer, (139) 1695—ab
in cardiovascular disease, deaths after injection of, (58) 1910—ab
in cerebral syphilis, fatal arsenic poisoning after administration of, (86) 1155—ab
in chorea minor, (76) 626—ab
in congenital syphilis, (28) 852, (23) 1150, (83) 1301—ab
in eye disease, (130) 1514, (45) 1517—ab
in frambesia, (8) 851, (93) 1012, (9) 1149
in hospitals of Paris, (74) 457
in interstitial keratitis and in optic neuritis, (83) 154
injection, simple technic for, *1804
in leprosy, (105) 161, (95) 1155, (53) 1231
in malignant syphilis, (23) 1859
in malaria, (75) 626, (121) 1304
in malaria, Vincent's angina and syphilis, (85) 160
in non-syphilitic ulceration of mouth and throat, (128) 1078—ab
in paralytic dementia, fatality after injection of, (149) 164—ab
in pellagra, *896, (107) 1294, *1794
in pellagra, anemia, (11) 1294
in pneumonic plague, (70) 1519—ab
in pregnant and parturient women, (91) 1863
in small-pox, (128) 1695—ab
in syphilis, (79) 72, (137-139) 74, (116) 80, (172) 83—ad, *87, (17, 19) 152, (91) 154, (116) 156, (13) 157, (86) 160, (104) 161, *177, *186, (72) 228, (82, 96) 229, (112) 311, (127) 313—ab, (104) 387, (161) 390, (106) 458, (120) 459, *504, (17) 537, (91) 541, (78) 546, (115) 548, (128) 549, (148) 551—ab, (167) 552, *588, (70) 626, (120) 628—ab, (118) 698, (134) 699, (81) 704, (92) 705—ab, (127) 706, (144) 708—ab, (43) 775, (52) 776, (75, 76) 777 (122, 133) 778, (17) 846, (97) 848, (9) 851, (115) 856, (160) 858, (80) 924, (14) 928, (29) 929, (79) 1011, (129) 1078, (146) 1148, (8, 164) 1149, (15, 16) 1150, (94) 1225, (171) 1228, (69, 76) 1233—ab, (82) 1301, (14) 1362, (36) 1364, (35) 1371, (25) 1418, (36) 1420, (27) 1425, (157, 171) 1617, (24) 1619, (83) 1622—ab, (184) 1698—ab, (95) 1768—ab, (23) 1859, (5) 1905, (70) 1910
in syphilis and optic neuritis, (94) 1155
in syphilis at Walter Reed General Hospital, District of Columbia, (3) 999
in syphilis in children, (155) 1696
in syphilis, in clinics in Berlin, (89) 1070
in syphilis, nephritis after, (69) 1519—ab
in syphilis of nervous system, (84) 160, (114) 548, (49) 781, (122) 1432—ab
in syphilis, recurrences in nervous system after administration of, (93) 1155, (65) 1428—ab, (78) 1429—ab
in syphilis, repeated small doses of, (87) 160
in syphilitic eye disease, (73) 228, (95) 229
in tertiary syphilis, (81) 229
in yaws, (34) 695—ab, (97) 1225
inflammation of cranial nerves after, cause of, *1433
influence of, on intensity of antibody production in rabbit, (90 1768
injection of, into lumbar muscles, (6) 1067—ab, (58) 1152
injections, intravenous, influence of, on Wassermann reaction, (96) 1076
injections, reaction of tuberculous processes after, (75) 1154
Salvarsan, injury of kidneys from, (50) 1518—ab
intravenous injection of, (144) 81, (103) 161, (61) 228—ab, (18) 382, (29) 538, (10) 543, (77) 626, (72) 783—ab, (92) 784, (31) 846, (35) 1000, (91, 92) 1012, (59) 1232, (109, 110) 1303, (75) 1359, (67) 1428, (16) 1510, (29) 1419, (15) 1510, (51) 1765, (81) 1863, (59) 1909
irritation of optic nerve by, (125) 1304—ab
its place in medicine to-day and in future, (68) 1421
jaundice after injection of, (91) 1234
lack of durable action of, in neutral suspension in syphilis, (71) 783—ab
lanolin and oil emulsion of, for intramuscular injection, (15) 1000
lethal dose of, in acid solution, (126) 313—ab
local action of, at point of injection, (106) 388—ab
local and general hypersusceptibility to, (121) 80—ab
localized edema in lumbar region following use of, *344
manufacturers' directions for use of, (88) 160
new apparatus for administration of, intravenously, (15) 1510, (25) 1619
observations on 28 patients treated with, *566, 699
oil suspension of, (80) 463, (13) 694, (32) 846
paralysis of ocular muscles after, (99) 464
percutaneous technic for, (88) 387
peroneus paralysis after administration of, (79) 704, (61) 1366
rebellious multiple bone lesions from congenital syphilis cured by single injection of, (43) 1619
recurrence of syphilis as optic neuritis after, (124) 80
regeneration of bone after injection of, (92) 387
serodiagnosis of, (73) 783
significance of, and therapeutics, *1709
simple apparatus for intramuscular administration of, at bedside, (14) 1000
simple apparatus for intravenous injection of, *1194
situation as regards, *118
surgical aspect of, (35) 1292
tardy reaction after, (90) 311—ab
technic to avoid febrile reaction after intravenous injection of, (103) 1693
therapeutic possibilities of, in ophthalmology, (91) 223
therapeutics, present status of, (13) 1510
thrombosis after intravenous injection of, (128) 313—ab
transient disturbance in vestibular nerve after, (80) 229—ab
treatment, Ehrlich's, and biotherapy of syphilis, (25) 623
47 Wassermann reactions after injection of, (68) 1685—ab
Sambon's new theory of pellagra, its application to conditions in Georgia, *1713
Samoan Islands, infectious conjunctivitis in, (64) 782
Sanatoria for tuberculosis in United States and Canada, annual report of, (98) 777
private, necessity for, for patients with infectious diseases, (67) 1152
Sanatorium, children's, (72) 704
school for consumptives, (73) 72
Starmont, for tuberculosis, results of treatment at, (45) 1856
Swedish, national, Englewood, Colo., dietary study in, (153) 75
treatment of neurasthenia, (43) 461
treatment of pulmonary tuberculosis outside of, (89) 154, (68) 776
tuberculosis, and what it stands for, (63) 1512
tuberculosis, selection of patients for, (110) 1514
Sand-fly fever in Chitral, (26) 1072
Sanitarian, physician as, (128) 1071
Sanitary out-house, discussion on, *255
science, problems in, (154) 225
troops, training of, (53) 1358
Sanitation and hygiene, (144) 699
health resort, *1027
in hills in India, (41) 383
in Panama, review of, (3) 300
municipal, (35) 69
municipal, present conditions in St. Paul, (97) 1070
next steps in, (42) 378
of bakeries and restaurant kitchens, (73) 1002
on school premises, training of janitors in, (75) 1002
street, in New York, (105) 1422
Santonin, negative influence of, on glycosuria in diabetes mellitus, (60) 1152
Saponin, action of, on blood-producing organs, (142) 1371
Sapremia and septicemia, puerperal, diagnosis and treatment of, (92) 1422
Sarcoma, alveolar, ovarian, (59) 1010
and adenocarcinoma in same uterus, simultaneous, (43) 1292
and carcinoma cultivated in vitro, characteristics of growth of, (74) 1512—ab
and carcinoma, treatment of, (94) 1422
and tuberculosis, (53) 379—ab
cells growing in vitro, migration by ameboid movement of, *791
development of, on floor of lupus carcinoma, (49) 1427
experimental, cancer extract in, (85) 229
mouse, transplantable, influence of mouse rat parabiosis on growth of rats of, (35) 774
of adrenals, bilateral, (90) 1359
of appendix, primary, (2) 220, (60) 379, (69) 847
of brain, choked disk and progressive blindness due to, *1380
of calcaneum, (50) 1366—ab
of cervix-uteri, racemose, primary, metastatic tumor in pleura with, (59) 545
of clavicle, end-results following total excision, (61) 72—ab
of female urethra, (34) 1516—ab
of fowl, transmissible, *741, (96) 1225—ab
of lung, (116) 778, (155) 1149
of medulla oblongata, (36) 624—ab
of nasal wall of maxillary antrum, (110) 849
of nose and throat, Coley's toxins in, (59) 1615—ab
of pelvic ligaments, (135) 163
of prostate, subsidence of, under erodesical radium exposures, (113) 162
of spine, apparently inoperable, arsenic theory of, successful, (58) 1862—ab
of stomach, primary, blood crisis with, (101) 925
of stomach, primary, with necropsy findings, *500
of tonsil in child, (113) 1361
of uterus, (33) 301
of vagina, (152) 1148
rat, and mouse carcinoma, transmission of, to new-born animals, (63) 782
rat, cultivation in vitro of, *587
round-cell, small, of orbital cellular tissues, (47) 618
transmission of, *198
traumatic, (70) 704—ab
under nail of toe, (76) 386—ab
Sarcomas of rats and mice, transplantable, growth in vitro of, *33
Sartorius, flap from, to close inguinal canal, (129) 163
Saw, wire, in radical operation on middle ear, (32) 1008
Saxony, distribution of goiter in, (94) 1692—ab
Scabies, eosinophilia in, (74) 1857—ab
Scalds, injury to eye from, (90) 698
Scale pan for simultaneously weighing and measuring infants, (66) 620
Scalp disease, epidemic, microsporon, at Vienna, (116) 1156
ring-worm of, in children, segregation and education in, (30) 1682
ringworm of, x-ray treatment of, *1706
seborrhea of, vaccine therapy of, (45) 1073
syphilitic primary lesion in, (38) 1765
Scalping accidents, treatment of, (57) 71

Scaphoid, tarsal, cysts in, (71) 1366
tarsal, fracture of, (68) 71
Scapula-angle sign of pulmonary tuberculosis, (168) 552—ab
congenital elevation of, (43) 1758
scaphoid, (111) 934
scaphoid type of, and its correlations, clinical recognition of, (122) 74—ab
syndrome, scaphoid, and syphilis in ascendants, (128) 459
Scapular sounds, cause and significance of, (70) 1366
Scapulum valgum in rachitis, (39) 702
Scarlatinal thyroiditis, (153) 858—ab
Scarlet-fever, (106) 465—ab, (76) 1615
and measles, joint lesions in, (85) 1076—ab
and pneumonia, variations in phagocytic and coccidal power of blood in, (136) 1361—ab
and typhoid, simultaneous, (114) 1370
artificially induced petechiæ as sign of, (156) 858—ab
atypical, (108) 304—ab
blood findings in, (123) 1694
diagnosis and home treatment of, (38) 227
850 cases of, (164) 1362
850 cases of, and 71 fatal cases, (82) 1685
elbow sign of, (60) 854—ab
epidemiology of, (96) 1359
experimental, (110) 1694—ab
immunity to, (105) 464—ab
in nursing mother, (59) 854—ab
in schools, spread of, (27) 69
its complications, (74) 704—ab
liver in, (100) 161
myocarditis and sudden death in, (40) 545—ab
peritoneal complications of, (46) 853—ab
prophylaxis and treatment of, (107) 622, (45) 1420, (37) 1909—ab
prophylaxis of, (114) 389—ab
septicemia and glandular lesions in, (37) 1151—ab
streptococcus origin of, (58) 1074
tourniquet sign of, (80) 1429—ab
transmission of, to monkeys, experiments on, *1795
Scarlet-red in corneal diseases, (124) 778
red and amidoazotoluol for stimulating epitheliation of granulating surfaces, (52) 1684—ab
red salve, toxic action from, (107) 230
Scar tissue and inflammatory exudate, neuralgia pain in distribution of nerves pressed on by, (74) 303
Schede's method, thoracoplasty by, (19) 1854
Schistosomum japonicum dysentery in American child, (22) 1764
japonicum, infection by, (21) 1764
School Children: See Children
School clinic, London, (31) 1859
desks, (47) 159
fresh-air, (24) 220
health departments, cooperation of, with other health agencies, (161) 382
inspection, problems of, (22) 1905
life, its influence on development of future mother, (77) 1857
premises, training of janitors in sanitary care of, (75) 1002
rooms, ventilation of, (88) 1225
sanatorium, for consumptives, (73) 72
system and child, (28) 923—ab
Schools and school children, medical inspection of, (25) 1364
hygiene in, (63) 1358
medical inspection of, (133) 74, (55) 924, (25) 1364
medical inspection of, in all countries, (84) 1685
open-air, (38) 455
spread of scarlet fever and diphtheria in, (27) 69
teaching hygiene in, (166) 75
Schwartze, Herman, Prof., (165) 1228
Sciatica, characteristic painful point in abdomen with, (73) 1622—ab
due to relaxation of sacro-iliac joints, (34) 1855—ab
epidural injections in, (96) 1012—ab
explanation of many cases of, (1) 999—ab
incident to physical test, (144) 381
injection and infiltration treatment of, (39) 1516—ab
saline injections in, (30) 1364—ab
Sciatica, scoliotic, origin and treatment of, (80) 627—ab
Science and art in practice of medicine, (170) 1362
and evolution in medicine, (98) 1293
Sciences, surgical, should universities grant degree of Ph.D. for graduate work in? (26) 923—ab
Scientific collections, government, and United States national museum, (134) 381
Scissors, twin, for twin sclerotomy, (11) 1006
Sclera, blood extravasation into, from indirect violence, (7) 1143
operation of simple trephining of, for relief of glaucoma, (86) 1686
Scleritis and pterygium, treatment of, (106) 1226
ulcerous, (140) 305
Scleroderma, diffuse, and acrodermatitis chronica atrophicans with associated morphea atrophica, (121) 1514
hemiatrophy from, (56) 1684
progressive, pathogenesis of, (44) 702
Scleroma of upper respiratory-tract, (142) 225
Scleroses, combined, Putnam's type of, (14) 617
Sclerosis and leukoplasia of tongue from inherited syphilis in 2 brothers, (41) 1008
disseminated, treatment of, (12) 460—ab
lateral, amyotrophic, due to trauma, *1876
multiple, and hysteria, (94) 627
multiple, and menstruation, pregnancy and puerperium, interrelations between, (46) 1231
multiple, in its early stages, (72) 1154—ab
multiple, visual disturbances in, (125) 224—ab
multiple, with conjugate paralysis of voluntary lateral movements with retention of vestibular reflex movements, (182) 1698
tuberous, and multiple tumors in kidney, case of, (138) 550
Sclerotics, blue, and congenital syphilis, (32) 1859—ab
Sclerotomy for glaucoma, technic of, (123) 1769
twin, scissors for, (11) 1006
Scoliosis, apparatus for treatment of, at night, (55) 153—ab
lung findings in, (94) 855—ab
relieved by operation on transverse process of one of vertebræ, (56) 153—ab
structural, treatment of, (54) 153—ab
with marked structural change and rotation, (1) 1356—ab
Scopolamin and morphin, (155) 225—ab
and pantopon in general anesthesia, (104) 1235
general anesthesia with aid of, (166) 552
in obstetrics, (47) 1009—ab
morphin and ether, general anesthesia with, (169) 552
morphin anesthesia in obstetrics and surgery, (3) 622, (47) 1009—ab, (106) 1370, (7) 1423
morphin plus spinal anesthesia, (111) 1432
Scorbutus, (125) 1071
infantile, (58) 854—ab, (15) 1298
infantile, in child fed on sterilized milk, (20) 1072
infantile, ocular symptoms of, (144) 1423
infantile, tubercular osteomyelitis of extremity of femur resembling, (41) 1758
Screens, re-enforcing of, to reduce length of x-ray exposures, (57) 228
Scrofuloderma, x-ray in, (86) 223
Scrotum, lipoma of, (147) 927
Seaboard air line region, climatology of, (116) 74
Seamen of merchant marine, venereal diseases among, (93) 1359—ab
provisions for health of, in present-day warship, (124) 1147
Searcher, telephonic, new, for metallic foreign bodies in tissues, (15) 1291
Seasickness, (22) 300
prostration following, and acetonuria, (15) 226
veronal in, (137) 467
Seborrhea of scalp, vaccine therapy of, (45) 1073
Secretion, internal, and autolysis, (73) 160
internal, and interstitial cells of testicle, (40) 221—ab
vaginal, and urine, bactericidal properties of, during pregnancy, (104) 1370
Secretions, internal, (82) 697
Sections, microscopic, improved technic for making, (151) 1306
Sedatives, when they are tonic, (16) 454
Segregator, Luys', diagnostic value of, (26) 1364
Selection, natural, immunity reactions as products of, (21) 69
Self-infection in obstetrics, (55) 1909—ab
medication, (75) 621—ab
Seminal fluid, picric acid test for, (79) 783—ab
vesicles, tuberculous, excision of, with temporary displacement of rectum, (57) 1861
Sensation, disturbance of, in syringomyelia, (66) 539—ab
Sense, temperature, superficial, Head's, (108) 934
Senescence, physiology and pathology of, (97) 1761
Sepsis: See also Septicemia
Sepsis and antisepsis in medicine, (7) 459
from Friedländer bacillus, (129) 466
in children, acute, (121) 707—ab
of rectum due to trauma, (95) 223
puerperal, cause and treatment of, (95) 1761
puerperal, hysterectomy for, (88) 310—ab
puerperal, intravenous injection of mercuric bichlorid in, (66) 1684—ab
puerperal, management of, (78) 1146, (57) 1292
puerperal, or mastitis, (150) 1617
puerperal, vaccine therapy in, (2) 1290—ab
puerperal, what we can expect from vaccines in, (61) 1759—ab
puerperal, when shall we operate in? (25) 1357—ab
staphylococcus aureus hemolyticus, fatal after abortion, (145) 858
Septicemia: See also Sepsis
Septicemia and glandular lesions in scarlet fever, (37) 1151—ab
and sapremia, puerperal, diagnosis and treatment of, (92) 1422
gonorrheal, (118) 1014—ab
hemorrhagica, (33) 383—ab
intravenous injections of mercury in, (71) 1910
meningococcus, with demonstration of meningococcus in blood-smear, *1446
pneumococcus, vaccine therapy of, (46) 1073
puerperal, (34) 1688
Septum, Nasal: See Nose
Sera: See Serums
Serodiagnosis of Bacillus coli infection, (124) 1014
of cystadenoma of liver, (84) 933
of echinococcus disease, (51) 702
of echinococcus disease of liver, (28) 544
of echinococcus disease, source of error in, (60) 1909
of gastro-intestinal cancer, antitryptic index for, (31) 701—ab
of leprosy, (98) 933
of Pott's disease, (57) 308
of pregnancy, (131) 1865—ab
of pulmonary tuberculosis, (87) 855—ab
of syphilis, (101) 223—ab, (157) 382, (111) 388, (195) 547—ab, (73) 783, (33) 1144, (77) 1512, (73) 1760, (59) 1767, (40) 1908
of syphilis and barium sulphate absorption, (30) 774
of syphilis and mercury bichlorid, (29) 774
of syphilis, comparative merits of various complements and amboceptors in, (34) 378—ab
of syphilis, epiphanin reaction in, (74) 228—ab, (66) 704
of syphilis, Noguchi method of, (116) 459
of trichinosis, (111) 1370
of tuberculosis, unreliability of, (133) 1865
of typhoid, (130) 818—ab
of whooping-cough by hemolytic test, (49) 307—ab
Serodiagnosis, simple, for tuberculosis, method of obtaining immunity index, (9) 306—ab
Serology of gout, (66) 1152
Seroreaction, acetic-acid, clinical importance of 2 precipitates in, (163) 468—ab
Seroreactions in nervous and mental diseases, (124) 224—ab
Serotherapy, (127) 549
anaphylaxis after, (66) 626—ab
and bacteriotherapy, principles and application of, (149) 1227
and experimental leprosy, (124) 1514—ab
and vaccine therapy in ocular tuberculosis, (146) 305
and vaccine therapy, present status of, (93) 73, (141) 1423
antitetanus, 16 years of, (38) 1426
in epidemic cerebrospinal meningitis, (24) 455—ab
in toxemias of pregnancy, (85) 1154—ab
new generalization in, (27) 383
of cerebrospinal meningitis, (14) 306, *346, (29) 617, (100) 706—ab
of diphtheria, (2) 779—ab, (74) 1368
of exophthalmic goiter, *263
of glycosuria, (139) 1157
of gonorrhea, (135) 459—ab
of pneumonia in infants and children, (99) 1422—ab
of pregnancy dermatoses, (129) 1157—ab
of pregnancy disturbances, (100) 388—ab
of syphilis, (76) 704, (136) 707—ab
of tetanus, (109) 1156, (38) 1426, (20) 1510
of typhoid, (56) 308—ab, (66) 1300
of typhus, (75) 1368—ab
spinal, anaphylaxis after, prophylaxis of, (42) 624—ab
spinal, serous meningitis and anaphylaxis after, (74) 78—ab
Serpents, poisonous, treatment of their bites, (86) 1146
Serum and vaccines, antigonococcus, in gonorrhea, clinical experience with, (135) 459—ab
animal, normal, curative action of, on suppurating processes, (137) 1695—ab
antitetanic, is it a factor in cure of tetanus? (20) 1510
globulin and refractive indices of proteins, (69) 696
guinea-pig, variations in complement activity and fixability of, (33) 377
hemopoietic, of Carnot, (8) 1681—ab
inactive, and egg-white, interference of, in phenomenon of complement fixation, (35) 377
of cachectic patients, action of, on corrosive sublimate hemolysis, (68) 1010
of pregnant women and placenta serum, non-destructive action of, on human cancer cells, (163) 859—ab
placenta, and serum of pregnant women, non-destructive action of, on human cancer cells, (163) 859—ab
rabbit, and organ extracts, coagulation-promoting action of, in acquired hemophilia, (133) 389
reaction of smooth muscle from guinea-pigs rendered tolerant to large doses of, (52) 539—ab
sickness, (96) 464
sickness, hemagglutinin reaction in, (112) 548
tuberculous, activation of cobra venom by, its diagnostic importance, (160) 1372
Yersin-Roux, in treatment of plague, *332
Serums and vaccines, (24) 1144
antispermotoxic, research on, (45) 624
leading, four, and bacterial vaccines, present status of, (72) 1225
milk, and raw and pasteurized milk, (64) 1358—ab
syphilitic, globulins in, (113) 785
Servants as carriers of disease, (152) 225
Sewage, Boston, investigations on purification of, (133) 1361
disposal and water supply, (103) 74
systems, develop, (87) 1225

, future, of family, can it be controlled at will by parents? (168) 1228—ab
Sexual cycle in mammals, importance of corpus luteum for periodicity of, (101) 464
disorders, functional, from genito-urinary tract, (116) 1762
element in neurasthenia of men, (32) 461
element in neurasthenia of women, (33) 461
excitability in men of advanced years, (35) 1144—ab
instinct in brain, localization of, (65) 1152
sphere, depressing influence of cerebral neurasthenia from automobiling on, (75) 1519—ab
Sheep rot, (5) 1514
Shock and behavior of blood-pressure in chloroform and ether anesthesia, (29) 781
emotional, and confusional psychoses, (53) 781
Shoulder and elbow dislocation, prognosis of, (84) 1368
dislocation and paralysis of arm, falling of humerus associated with, (153) 1362—ab
dislocation of, subglenoid, avulsion of arm, (160) 305
dislocation of, traumatic, ultimate outcome of, (104) 79, (57) 931—ab
fracture-dislocation of, (62) 153
high, and defect in pectoralis muscle, (98) 1012
joint, laceration of axillary portion of capsule of, as factor in etiology of traumatic combined paralysis of arm, (157) 305
presentations, importance of fetal physical diagnosis in management of, (118) 542
Shoulders, stiff and painful, with loss of power in arm, (148) 1148—ab
Sigmoid, acute angulation and flexure of, (109) 74—ab
and lateral sinus, septic thrombosis of, complicating double mastoiditis, (53) 924—ab
and upper rectum, extirpation of, Noble anastomat modified, (40) 301—ab
colon and rectum, direct inspection of, (8) 617
diverticula, clinical aspects and importance of, (118) 1296
diverticulitis of, (2) 999
flexure, volvulus of, and Hirschsprung's disease, (56) 1909
inflammatory processes around, (143) 314
Sigmoiditis and cancer, (67) 854—ab
and infection of internal genitalia in women, (53) 1299—ab
diverticulitis and perisigmoiditis, (131) 1236
polypous, (126) 1235
Sigmoidoscopy and proctoscopy in infancy as applied to infectious diarrhea, (63) 620—ab
and rectoscopy, (116) 1432
Sign, tourniquet, of hemorrhagic disease, (112) 1769—ab
Signs, collateral and Brudzinski neck, positive, bronchopneumonia showing, *1382
Silver nitrate irrigations in infectious diarrhea in infants, (9) 845—ab
Sims, J. Marion, Dr., life of, (56) 1001
Singer and tonsil, (61) 924
Singultus, fetal, from contractions of diaphragm, (129) 629
Sino-ventricular connecting system of heart, (33, 34) 1073
Sinus: See also Sinuses
Sinus and middle-ear disease, vacuum-pump for, *811
curet, frontal, *1653
frontal, accessory nasofrontal duct of, (37) 1511
frontal, radical, double, and antrum maxillary operation, (51) 222
inflammation, effect on eyes, (97) 304
lateral, and sigmoid, septic thrombosis of, complicating double mastoiditis, (53) 924—ab
lateral, septic thrombosis of, extradural abscess and subdural abscess with purulent pachymeningitis complicating chronic suppurative otitis-media, (97) 777
Sinus, maxillary, in embryo, child and adult man, (88) 777
node, (75) 1233
Sinuses: See also Sinus
Sinuses, accessory, diseases of, (151) 1362
accessory, diseases of, suppurative, chronic, bismuth paste in, (55) 71
accessory, nasal, posterior, enlargement of blind spot due to disease of, (80) 621
accessory, nasal, suppurative disease of, and acute otitis media in adults, (56) 619—ab
intracranial, septic infection of, (43) 1299
nasal, (91) 698
nasal, and eye, (89) 698
nasal, determination of pus in diseases of, (98) 698
nasal, tuberculous, bismuth paste in, (113) 698
Sinusitis, frontal, purulent, acute, (125) 778
sphenoidal, maxillary and frontal, treatment of, (69) 1622—ab
Skeletal alignment and muscular balance in relation to pain, function and deformities, (47) 1614
Skeleton changes in acromegaly, nature of, (11) 1425—ab
principles on which treatment of resting conditions of, is based, (14) 1072
Skiagraph: See Radiograph
Skiagraphs, instantaneous, (79) 1429
Skin accidents of puberty, (130) 778
and cornea, pathology of lesions of, in animal experimentally infected with t. rhodesiense, (17) 1298
and lymphangitis, verrucous tuberculosis of, due to bovine tubercle bacilli, (116) 856
and mammary gland, extensive leukemic infiltration of, *417
and muscles, echinococcus disease of, (103) 1234
cysts, surgery of, (139) 1148
disease, carbon dioxid snow in, technic of, (134) 466
disease, opsonin therapy of, (121) 1077
disease, venesection and saline infusion in, (64) 625—ab
diseases, (71) 1421
diseases and teeth, (37) 1688
diseases, bacteriotherapy in, (81) 223
diseases, hyperemia in, (14) 700
diseases, inflammatory, acute, value of restricted diet in, (37) 158—ab
diseases, intractable, how x-ray aids nature in cure of, (177) 1618
diseases, metabolism in patients with, problems in, (166) 1296
diseases, opsonin treatment of, (117) 856
diseases, solid carbon dioxid snow for, (20) 537
diseases, superheated air in, (86) 1623—ab
diseases, trichloracetic acid as efficient substitute for carbon dioxid snow in, (96) 1155
diseases, vaccine therapy as applied to, (82, 83) 223
disinfection, (37) 1073
eruption in poliomyelitis, 6 consecutive cases of, (127) 1616—ab
fat embolism with punctate hemorrhages in, (127) 1014—ab
fibromatosis with hypernephroma, (117) 628
grafting by total transplantation, large flap without pedicle, (49) 625
graft, Thiersch, extensive, (22) 923—ab
graft, Thiersch's, in restoration of contracted sockets after enucleation of eyeball, (142) 1423
infections, vaccine for, (12) 1613
inflammatory disease of, acute, very restricted diet of rice in, (1) 454—ab
injury of, by light, protection against, (122) 1864
iodin sterilization of, (158) 305, (122) 231—ab, (13) 383—ab, (159) 468, (140) 927, (119) 1013, (18) 1150—ab, (17) 1291—ab, (22) 1357
lesions of pellagra, histologic study of, (36) 378—ab
Skin, necrobacillosis of, (144) 75—ab
patches of ossification in, (119) 628
pigmentation of, (89) 1430
pigments, melanotic, origin of, (99) 705
reaction, tuberculin, in syphilis and in metasyphilitic disease, (125) 231—ab
reactions, possible influence of anaphylaxis in, (141) 1005—ab
red blood cells in, (142) 550
ulceration of, manual treatment of certain forms of, (99) 1686
wounds in frog, influence of distilled water on healing of, (81) 1512—ab
Skull and spine, epinephrin-anemia for operations on, (79) 386
asymmetry of, due to postural causes, (6) 1006
excessive pressure within, radiographic diagnosis of, (54) 308
fracture of, (41) 152, (148) 305, (120) 381—ab, (150) 381, (54) 625
fracture of base of, (89) 380—ab
fracture of, injuries of optic nerve with, (91) 1076
fracture of, 600 cases of, (25) 1854
fracture of, with intracranial injuries, (107) 1361
fractures, mechanism of, (59) 302—ab
gunshot wound of, unusual, (20) 1364—ab
gunshot wounds of, unusual effects from, (104) 927
hemostasis in operations on, improved technic for, (111) 628
in children, influencing shape of, further experiences in, (109) 628—ab
senile atrophy of, in dogs, (42) 1765
tumor in child, leukemia with, (109) 548
wounds, treatment of, on battle field, (56) 931
Sleep, disorders of, (38) 775
Sleeping cars, ventilation of, (87) 622—ab
outdoor, starnook and window tent for, (5) 1357
sickness, (20) 461—ab
sickness and Tsetse fly, (38) 618
sickness, arsenophenylglyzin in, (94) 933
sickness in Northern Nigeria, (24) 929
sickness, may antelope act as reservoir of virus of, (25) 1072
sickness, may domestic fowl of Uganda act as reservoir of virus of, (22) 1364
sickness studied by precise enumerative methods, (18) 1298
sickness, trypanosome from, contracted in Rhodesia, pathogenicity of, (23) 461—ab
sickness, trypanosome from, possibility of being new species (t. rhodesiense), (22) 461—ab
Smallpox and vaccination in Japan, *889
bone lesions of, (74) 1685—ab
diagnosis of, (100) 849
experience of army with vaccination as prophylactic against, (92) 1513
history of inoculation against, (138) 231
in French colonies in Africa and Indo-China, prophylaxis of, (64) 1074
salvarsan in, (128) 1695—ab
suspected, examination of, (3) 1362
vaccination against, (61) 1232—ab
Smith, Dr., 50th anniversary of graduation of, (12) 1757
Snake-bite by echis carinata, fatal, (58) 77
poisoning, recovery from, (57) 77
Snakes, poisonous, aid to diagnosis of, (21) 1230
Snare, silver-wire, soft, for removal of faucial tonsil, (60) 924
Snellen, H. Prof., recollections of visit to, (50) 618
Soap and alcohol, tincture of, in disinfection of hands, (39) 1908
Social and moral diseases, what is physician's duty in prevention of? (95) 622
organism and individual, (110) 224
Social problems and medicine, (168) 1362
Society: See Medical Society
Society meetings, state and county, recent medical advances with improvement of, (19) 1613—ab
safeguarding it from unfit, (23) 152—ab
Sociologic experiment, (9) 1000
Sociology, medical, recent progress in, (56) 924—ab
Sockets, contracted, restoration of, after enucleation of eye-ball, advantages of Thiersch's skin graft over other methods of treatment, (142) 1423
Sodium and potassium of neuron, relation of phosphatids to, (55) 539
bromid or potassium bromid? (66) 1428
cacodylate and salvarsan, *492
cacodylate in syphilis, *641
cacodylate in tertiary syphilis, *897
chlorid, inhibitory action of, on phenomena following removal of parathyroids in dogs, (26) 1224
chlorid, physiologic action of, (22) 1224
citrate injections, subconjunctival, for relief of glaucoma, (41) 1001—ab
hypochlorite, electrolytic production of, (76) 1002
nucleinate in progressive paralysis, (74) 463, (65) 1010
oxybutyrate, experimental coma induced by, (129) 389
salicylate, beneficial action of, in infection of indefinite nature, (75) 1760
salicylate, clinical uses of, (42) 1073—ab
salicylate, ionization by, for rheumatic knees of middle-aged and elderly women, (25) 1859
thiosulphate for removal of iodin stains, (71) 704—ab
Soemmering's crystalline mass, floating, in vitreous, (128) 1514
Soil pollutions, underlying causes of existence of, in rural districts, (59) 847
Soils, cholesterol bodies in, phytosterol, (33) 923
Solutions and blood-pipettes, handy pocket case for, *737
distribution of, in cardiectomized frogs, (80) 1512
Solutions, Saline: See Saline, and Salt
Solutions, solid, and crystalline liquids, (32) 852
Sore, oriental, in Panama, (1) 1756
Sound, diastolic, cardiac, and impulse, (11) 382—ab
fenestrated, for diagnosis of esophageal cancer, (167) 82
Sounds, friction, subscapular, (35) 624—ab
hot, technic of hyperemic treatment of urethra by, (76) 924
scapular, cause and significance of, (70) 1366
urethral injection of glycerin to facilitate passage of, (116) 785—ab
Southern Minnesota Medical Association, (152) 699
Soy bean as food in diabetes mellitus, (38) 70—ab
Spasm, conservative treatment of, with hour-glass stomach, (84) 1234—ab
of larynx, (117) 1235
Spasmophilia and spasmodic cough, (147) 82
ash in brain with, (151) 82
in children, lime in, (137) 163—ab
Spasticity and muscle group overaction, technic of nerve alcoholization in, (38) 301
Specialist, education of, (69) 457, (67) 1070—ab
education of, in laryngology, rhinology and otology, (23) 226
Specimens, moist, mounting, (167) 1362
Spectacles: See Glasses
Spectrum and tint of normal blood-serum, (118) 1235
Speculum, aural, modified, especially adapted for incision of external canal, (101) 458
for direct examination and treatment of naso-pharynx and eustachian tubes, (118) 1361

Speech, teaching deaf to understand it by movements of lips, (145) 1695
Speedometer for proctoclysis apparatus, (76) 847
Spengler's I. K., immune bodies, in tuberculosis, (22) 377, (93) 855, (69) 1358
Spermatocystitis staphylomycotic, acute, pyemia after, (105) 1864
Sphygmobolometry, (133) 81, (77) 1519
Sphygmograph and sphygmomanometer, (12) 851
Sphygmomanometer, air-water, new, *1873
Herz, (120) 542
Stanton, use of, *113
Sphygmomanometric readings, significance of, (36) 1008
Sphygmo-oscillometer, estimation of blood-pressure by, (19) 76—ab
Spina-bifida, (29) 221, (124) 698
and hydrocephalus, drainage of, into abdomen, (96) 311—ab
Spinal Anesthesia: See Anesthesia
Spinal cord and nerve roots, principles underlying surgery of, (8) 1067
cord, injury of, unusual fracture of bodies of fourth, fifth and sixth cervical vertebræ with, (13) 1291—ab
cord, intramedullary lesion of, (36) 76
cord, neuro-epithelioma developing from central gliosis after operation on, (64) 1146
cord, site of action of strychnin in, (24) 1224—ab
cord, thrombotic softening of, case of acute myelitis, (26) 76—ab
cord, trauma of, clinical and postmortem findings in tardy hematomyelia from, (135) 630
cord tubercle, recovery after removal of, (74) 160, (67) 1767
cord, tumor of, extramedullary, apparently caused by trauma, (154) 1362
disturbances and intermittent limping from male fern poisoning, (58) 1367—ab
fluid findings, Huntington's chorea with, *941
nerve roots, technic for resection of, (121) 163
Spine and skull, epinephrin-anemia for operations on, (79) 386
caries of, clinical evidence and pathologic conditions in, (60) 153
caries of, mechanical treatment of, (3) 1006—ab
curvature of, rachitis as causal factor in, (100) 856—ab
deformities, progressive, operation for, (105) 1762—ab
functional, (20) 377—ab
malignant disease of, (7) 1618
osteomyelitis of, acute, (89) 1369—ab
osteo-arthritis of, acute, after trauma in osteo-arthritic patients, (78) 1685
spondylitic, support for, by buried steel bars, attached to vertebrae, (59) 153—ab
typhoid, (19) 923—ab
Spirilla and fusiform bacilli, (137) 1361
of relapsing fever, (81) 621
Spirilloses, chemotherapy of, (87) 783
Spirillosis and monadinitis of fowls, (18) 701
Spirochæta pallida, diagnosis of syphilis by demonstration of, (42) 221, (65) 222
pallida, improved technic for staining, (58) 703
pallida, means of finding, by India-ink method, (117) 459
Spirochetal infections, (53) 776
Spirochetes in mouth, action of salvarsan on, (112) 311
in secretions, what becomes of? *194
Spirochetosis of Sudanese fowls illustrating infective granule in certain protozoal infections, (6) 1362, (39) 1619
Spirometer findings in pulmonary disease, (186) 1698
improved, (102) 311
Splanchnoptosis, its surgical treatment, (82) 1002
Spleen, abscess of, *260
and liver, autolysis of, action of quinin on, (133) 231
and liver, formation of blood in, after posthemorrhagic anemia, (84) 463
and stomach, cancer involving, (120) 706—ab
cyst of, non-parasitic, splenectomy, (17) 377
cysts in, (140) 163, (17) 377, (54) 703
echinococcus disease of, (110) 1432—ab
enlarged, and chronic cyanosis, erythremia or polycythemia with, (42) 70
enlargement of, treatment of crescentic stage, and malaria, (21) 460
experimental metaplasia of, (149) 389
injury of, diagnosis of, (108) 230—ab
rupture of, splenectomy after, (109) 79
supernumerary, (142) 1296
Splenectomy after rupture of spleen and in malaria, (109) 79
for splenic anemia, (8) 226—ab
in non-parasitic cyst of spleen, (17) 377
Splenomegaly, congenital hemolytic jaundice with, (23) 922
left hydronephrosis and carcinoma of ureter, case of, (76) 463
of inherited syphilis in children, (22) 1150—ab
with fatal hematemesis, (167) 382
with recurrent jaundice ending in hepatic cirrhosis and ascites, (22) 1150—ab
Splint, ambulatory, for fractured leg, (41) 930—ab
blanket, (136) 381—ab
for postoperative hallux valgus, (66) 153
internal, in fractures, (102) 380
Splints and braces, celluloid, non-inflammable, (82) 379
Spon, Charles, biography of, (21) 220
Spondylarthritis, (189) 860—ab
Spondylitis, syphilitic, (99) 548—ab
Spondylolisthesis, (48) 847
Sponges, keeping track of, (81) 925—ab
Spores, modified definition of, (79) 546
Sporotrichosis, (17) 1072
clinical study of, *1309
in man, *1312, *1719
in man and horse, (1) 617—ab
Sprain, borderland of, after trauma, (140) 1071
Sputum, advantages of picron and antiformin methods for microscopic examination of, (64) 159
albumin reaction in, (86) 933—ab, (35) 1230, (44) 1619—ab
albumin reaction in, in early diagnosis of tuberculosis, (55) 1621—ab
bacteriology of, in non-tuberculous infections of upper and lower respiratory tracts, (64) 1856—ab
comparative tests with antiformin for tubercle bacilli in, (140) 1078
determination of tubercle bacilli in, (123) 1432
differential importance of albumin in, (46) 702—ab
eosinophil cells in, in asthma, (109) 1431
excretion of salicylic acid and hexamethylenamin in, *1553
human, rarity of bovine tubercle bacilli in, (72) 1011
strongyloides intestinalis with larvæ in, (106) 1360
Stain, elastic tissue, differential, improved, *1326
for bacterial capsules with special reference to pneumococci, *418
for fibrin, (112) 1864
myoglia, in study of structure of myomas, (138) 1865
Romanowsky, azure-eosin, rapid, improved, (164) 82
simplified, for bacilli, *1189
Staining granular casts and other tube products, method of, *812
technic, clinical, creayl dyes in, (96) 627
vital, of red corpuscles, (64) 385
Stains, colophonium for differentiating, *345
Stammering, (60) 703—ab
Standardization of heart stimulants, need for, (119) 1077
of therapeutic measures, report of committee on, (99) 622—ab
Standards and authority in medicine, *894
Staphylococcus aureus hemolyticus sepsis, fatal, after abortion, (145) 858
aureus, transformation of, into staphylococcus albus, (97) 784
bacterin, old, new and successful use for, (12) 151—ab
extract salve and varnish, attempt to induce local immunity, (119) 1304
infections, bacterial vaccines in, (144) 1617
pyemia, true, vaccines in, (30) 1357
Starch producing and starch digesting activity of placenta, (35) 929
raw, digestion and absorption of, (143) 1371
Starmont Sanatorium for tuberculosis, results of treatment at, (45) 1856
Starnook and window tent for rest cure in open air nd for outdoor sleeping, (5) 1357
Stasis, intestinal, chronic, appendicostomy to safeguard excluded colon in Lane's operation for, (48) 1683
intestinal, chronic, kinks which develop in intestine in, (87) 1692—ab
State and profession of medicine, (141) 1617
board work, financing of, (142) 1617
boards and entrance requirements, (121) 224—ab, (108) 1857
boards and medical teaching of medical examiners, (13) 1757—ab
boards of health, work for, (103) 1857
boards of registration, need of more practical examinations by, in medicine, (117) 926
what should be attitude of, toward practice of medicine? *1319
Statistics, clinical, (28) 538
insurance, unreliable basis for study of general public health conditions, (100) 1623—ab
vital, in Illinois, (15) 774—ab
vital, Kentucky's opportunity for, how medical profession can aid, (95) 74—ab
Status epilepticus and pregnancy, (118) 466—ab
lymphaticus and Addison's disease, (77) 463—ab
lymphaticus, condition found in subjects dying from general anesthesia, (116) 542
Steam jet, therapeutic importance of, (98) 1369—ab
Steel removed from eye with magnet, (159) 1149
Steno, restoration of duct of, (143) 936
Stenosis, mitral, false, (90) 1520
mitral, paralysis of left recurrent laryngeal nerve in certain cases of, anatomic explanation of, (1) 1510—ab
operative treatment of, (159) 552
pulmonary, congenital, and nature of secondary blood changes, (9) 543—ab
Pyloric: See Pylorus
Sterility in aged, Wylie drain for, *1190
in women, primary, (3) 693—ab
review of treatment of, (153) 1005
Sterilization and desiccation of medicinal plants, (62) 854
improved method for, and preservation of catgut, (110) 1076
of abscess cavities, (64) 1300—ab
of criminals and defectives, (88) 1070
of habitual criminal, is it justifiable? (10) 617
of hands, (100) 1693
of hands and field of operation, alcohol-tannin for, (109) 1076—ab
of skin, iodin method of, (159) 468, (112) 628, (140) 927, (119) 1013, (18) 1150—ab, (17) 1291—ab, (22) 1357
of unfit, (45) 775
Sterilization of woven catheters, their aseptic conservation, (133) 1617
of women, temporary, (170) 83—ab, (136) 1371
tincture of iodin superior to alcohol for, (77) 1075
tubal, (123) 163
tubal, improved technic for, (102) 1431—ab
Stethoscope or microscope, diagnosis of early pulmonary tuberculosis with, (46) 1511—ab
Still's disease, (51) 924
Stitch, buttonhole, finishing of, (83) 379
Stockings, elastic, thigh, simple support for, *507
Stokes-Adams' disease in boy of 15 years, (34) 1859
Stomach acidity, acoustic test for, (66) 1621
Stomach: See also Gastric
action of external application of cold on temperature of, (101) 388—ab
analysis, possible source of error in, (164) 1617
and duodenum, diseases of, from surgical standpoint, (76) 457—ab, (102) 458—ab, (127) 927—ab, (1) 1223
and intestine, disease of, pathology of, (71) 1690
and spleen, cancer involving, (120) 706—ab
atonic dilatation of, (18) 623
Cancer of: See Cancer, Gastric
carcinoma of, alterations of hydrochloric acid in gastric juice due to, (26) 1687
carcinoma of, importance of normal gastric peristalsis in diagnosis of, (162) 1617
carcinoma of, partial resection for, (48) 384
changes in, with pernicious anemia, (154) 1696
chronic lesions of, (156) 699
conditions, x-ray with bismuth test meal in diagnosis of, (93) 541
content, blotting-paper test for free hydrochloric acid in, (113) 857—ab, (187) 1698—ab
content, estimation of hydrochloric acid in, (66) 1690—ab
content, importance of, in dubious cancer cases, (141) 936
content in cancer, unreliability of tryptophan reaction in, (61) 1621—ab
content, oxygen ions in, (94) 1302
content, proportion of hydrogen ions in, (146) 164
content, siphonage of, through nose in peritonitic ileus, (128) 466—ab
content, total, determination of, (134) 1865
contents, fasting, test breakfast versus, (163) 1617—ab
contents from normal and atrophic infants, estimation of chlorids in, (96) 154—ab
diagnosis, value of test-meal in, (34) 1000
diagnostic inflation of, (128) 1305—ab
dilatation of, acute, (179) 84—ab, (94) 304—ab, (101) 627—ab, (1) 1071
dilatation of, acute, gastrotomy, recovery, (3) 1296—ab
dilatation of, acute, postoperative, (129) 305, (2, 3) 1357—ab, (63) 1420
dilatation of, Roux operation in, (81) 379
disease, differential diagnosis in, (121) 1071, (124) 1423
disease due to rapid eating, (121) 1235—ab
diseases, late methods in diagnosis and treatment of, (124) 1423
disease, local therapeutic action of protargol in, (127) 163
disorders, chronic, electricity in, (2) 537—ab
disorders requiring intervention from viewpoint of internist, (33) 1613—ab
disorders requiring surgical intervention from viewpoint of internist, (23) 1000
disturbances, dependence of intestinal indigestion on, (1) 921—ab
disturbances, motor, with intestinal disease, (127) 1769

Stomach, duodenum and large intestine, radioscopic changes in, standing and lying, (33) 1765
emptying of, before operation on, (112) 80—ab
endothelioma of, (118) 1624—ab
epithelium, metaplasia of, (114) 785
evacuating function of, in health and disease, (35) 1151
fibromyomas of, (42) 545—ab
foreign material in, *180
function, importance of appetite in estimation of, (116) 935—ab
functioning, ferments in testing, (75) 309, (94) 547
functioning in children, test breakfast for study of, (79) 1301—ab
functioning of pyloric sphincter after experimental cross section of, (108) 628
functions in diabetes mellitus, *497
gastric ulcers along lesser curvature of, surgical treatment of, (25) 301—ab
hemorrhage from, mechanical measures for arresting, (95) 387—ab
hernia of, into omentum, (75) 386
hour-glass, (79) 933-ab, (2) 1296
hour-glass, for conservative treatment of spasm, (84) 1234—ab
hour-glass, torsion of, (72) 932
human, physiology of, (133) 1371
inflammation of cellular tissue of, (77) 78—ab
internal secretion of, (35) 1765
manifestations, 2 case reports with, (132) 1148
motor functions of, (35) 76
mucosa of, changes in, with gastric ulcer, (65) 932
mucosa of, histology and functions of, (103) 547
of infant, anatomic findings in, 5 months after cure of stenosis of pylorus, (117) 1304—ab
operations on, for non-malignant disease, outcome of, (53) 1366—ab
peristalsis of, normal, cinematographic demonstration of, its importance in diagnosis of carcinoma of stomach, (162) 1617
postoperative paralysis of, (102) 548—ab
primary sarcoma of, blood crisis with, (101) 925
radiology of, (69) 625
reliability of threshold percussion of, (131) 389
resection of, (84) 1301—ab, (67) 1621
Sarcoma of: See also Cancer, Gastric
sarcoma of, primary, with necropsy findings, *500
secretory disturbances in, (112) 856—ab
surgery, (133) 550—ab
symptoms, chronic, indications from medical standpoint for operative procedures in, (4) 1223
symptoms from surgeon's viewpoint, (51) 696
syphilis of, (64) 704—ab, (160) 1149
technic for extensive resection of, (74) 1075
tube for diagnosis of acute intestinal obstruction, *1800
volvulus of, (71) 932—ab
wall, phlegmon in, operative treatment of, (57) 1428—ab
Stomatitis, gangrenous, probably caused by bacillus necrophorus, (93) 925
of pellagra, bacteriology of, (57) 302—ab
Stools and blood examinations of, among Igorots at Baguio, Philippine Islands, (41) 1511
Biuret reaction in examination of, (42) 1860—ab
importance of dosage of fats in, as sign of occlusion of pancreatic duct, (91) 1520
isolation of oxybutyric acid producers in, (174) 82
normal, criteria of, (43) 1009—ab
of infants, hard curds in, etiology and nature of, (14) 1682—ab
tubercle bacilli in, diagnostic importance of, (91) 1623—ab
Strabismus, (84) 1154
amblyopia with, (58) 1300
and heterophoria, indications for operation in, (127) 1514
convergent, (102) 698, (29) 1067, (33) 1292
convergent, concomitant, (149) 225, (133) 305
in infancy, (67) 153
Strabismus, operations, indications and age for, (145) 164—ab
Strain: See also Sprain
Streams, Kansas, pollution of, (45) 539
Streptococci, differential bactericidal properties of leukocytes in respect to, (116) 1304
hemolytic, in puerperal infection, (54) 1621—ab
hemolytic, lecithin bouillon for differentiation of, (86) 79, (133) 1157
study of, with complement-fixation and conglutination reactions, (83) 621—ab
Streptococcus bacterins in erysipelas, (66) 379
erysipelatus, elephantiasis due to, associated with bacillus prodigiosus, (13) 1854
meningitis, (14) 844
origin of scarlet fever, (58) 1074
peritonitis, (59) 228—ab
Streptothrix disease in man, (166) 859, (35) 1908
Stricture of urethra, (131) 1617
Strictures of urethra, excision of, (29) 226
Stridor, inspiratory, congenital, etiology of, (115) 1694
Strongyloides intestinalis with larvæ in sputum, (106) 1360
Strophanthin, action of, on heart, (122) 549
Strophanthus preparations, need for standardization of, (119) 1077
Strumectomy: See Thyroidectomy
Strumitis: See Thyroiditis
Strychnin, function of brain phosphatids in physiologic action of, (58) 539
persistence of, in corpse, (74) 697—ab
poisoning, chloroform for, (73) 1685—ab
poisoning, control of, by intratracheal insufflation and ether, (25) 1224—ab, (51) 1427—ab
site of action of, in spinal cord, (24) 1224—ab
Students, short talks with, (12) 1000, (19) 1291, (109) 1422, (24) 1682
Stumps, amputation, quinin anesthesia for prevention of immediate postoperative pain in, (54) 696
Stupor, catatonic and paralytic, metabolism during, (90) 1302
Stuttering: See Stammering
Stuttering, treatment of, *1168
Subacidities, benign, and gastric cancer, differential diagnosis of, (151) 1296
Sublimate, Corrosive: See Mercury, Bichlorid
Subluxation of knee, (17) 623
Suboxidation, factor in cause of disease, (105) 542
Subscapular friction sounds, (35) 624—ab
Succus entericus, (70) 1146—ab
entericus, normal bactericidal properties of, (78) 1301
Succussion and taxis, (104) 1761
Sugar, absorption of, by kidney tubules, (26) 1908
and salt, action of, on infant organism, (114) 1694—ab
cane, beneficial effect in ingestion of, in certain forms of heart disease, (6) 1150—ab
creatin and creatinin in urine, color tests for, (144) 1695
in blood, (133) 706
in blood of infant, (106) 706
in urine, management of patients with, (148) 1227
milk, (103) 1761—ab
nutrient intravenous and subcutaneous injection of, (95) 464—ab
therapeutics of, (7) 1363—ab
toxic, action of, after feeding with albumin milk, (90) 229
Sugars, action of, in dyspeptic infants, (107) 706
reducing, method for estimation of, (39) 923
Suggestion, action of, in psychotherapy, (117) 156
and hypnotism in neurasthenia, (45) 461
combined with physical measures in treatment of heart disease, value of, (120) 312
mental, as substitute for anesthetics in removal of tonsils and adenoids from children, (117) 1858
Suicide and mental disorders, (9) 1859
by poison, (109) 542
psychopathology of, (77) 1154—ab
Sulphate waters, urine content in albumin and tube-casts while taking course of, (120) 1156
Sulphonephthalein, value of, in estimating functional efficiency of kidneys, (78) 380—ab
Sulphur, cutaneous elimination of, (36) 924—ab
in proteins, (32) 1758
reaction in urine with cancer, (132) 1371—ab, (178) 1697—ab
total, in urine, determination of, (76) 697
Sun, exposure to, as etiologic factor in alopecia, (144) 1005
Sunshine, mountain, substitute for, (130) 1695—ab
Superfetation, simulated, (91) 79
unusual case of, (28) 1613—ab
Superstitions of medical profession and contagious diseases, (122) 381
Suppurating tracts, bismuth-vaselin paste in, (34) 455
Suppuration, antiferment method in, (51) 1517
chronic, bismuth paste in, (132) 935
in retroperitoneal space, (50) 1068
in tubercles of leprosy, (41) 455—ab
ovarian, histology of, (54) 1152
Suppurations, chronic, bismuth paste in, (30) 1619
curative action of normal animal serum on, (137) 1695—ab
of urinary tract in infancy, *631
Suppurative processes, peripheral, peripleuritis and parametritis secondary to, (131) 163—ab
Suprarenal apoplexy, (5) 1006—ab
cortex, lipoid of, (90) 1430
disease, white line sign of, (41) 1152—ab
extract, organ extracts unable to neutralize toxicity of, (125) 163
medulla, secretion of, during pregnancy, experimental research on, (107) 161
origin, Senile type of dwarf growth possibly of, (46) 307
syndromes, (141) 1865—ab
treatment in asthma, (86) 783
tumors and malignant kidney, fever with, (83) 546—ab
Suprarenals and kidneys, relation between in chronic nephritis, (180) 860—ab
and skin, connection between, (101) 1864
developmental defects connected with, (37) 702—ab
kidneys and high blood-pressure connection between, (68) 1366
meiostagmin reaction in white rats after removal of, (100) 1769
pedunculated, end-results of transplantation of, (78) 1075
Surgeon and physician, cooperation of, in treatment of acute abdominal diseases necessary to obtain best results, (27) 1511
gastric symptoms from viewpoint of, (51) 696
general's office, historical collection of medical classics in library of, *1785
making of, *256
medicolegal aspect of x-rays from standpoint of, (60) 696
responsibility of, from legal standpoint, (93) 1692
supervising, of naval hospital, duties of, (57) 1358
vs. physician, (169) 305
Surgeons and physicians, professional responsibility of, (41) 1364—ab
southern, and surgery, before, during and after Civil war, (42) 1144
Surgery, advance of, (68) 457
American, (129) 926
and obstetrics, scopolamin-morphin anesthesia in, (106) 1370
and southern surgeons before, during and after Civil war, (42) 1144
as propnylactic measure against intestinal complications in typhoid, (89) 1857
brain, improved technic in, (63) 1684—ab
clinical, anatomy and morbid anatomy in, (2) 699
common abuses of, (22) 1418
conservative, (113) 1226
elastic traction and elastic pressure in, (1) 75—ab
Surgery, emergency, and surgical emergencies, (37) 455
gastrointestinal, problems in, *1625
general, preparation required for practice of, (34) 1758—ab
genito-urinary, progress of, in last 25 years, (146) 1617
intestinal, progress in, new method of suturing bowel, (15) 617—ab, (62) 847—ab
iodin in, (139) 779, (71) 1512
liquid air in, (4) 999
minor, infections in, (48) 456
modern, brighter side of, (146) 381
modern, malignant disease as problem of, (54) 618
moist dressings in, (139) 851
of tonsils, (11) 1854
outside of hospital, (55) 696, (7) 1853
past, present and future of, (85) 304—ab
progress in, (30) 1067
pulmonary, recent advances in, (43) 1683
special, and internal medicine, diagnostic relationship between, (42) 775
Surgical cases, difficult, (39) 775
cases modified by insurance, (20) 623
impressions in America, (97) 79
patient, (78) 777
progress, (45) 222, (32) 538, (73) 1149
work, elements which make success or failure in, (168) 1006
Suspensions, bacterial, apparatus for preparation of, *115
Suture, continuous, for entero-anastomosis, (84) 1520—ab
primary, of subparietal rupture of kidney, *875
tendon, (84) 1760—ab
tying knots when one end of, is very short, (144) 1148
tying square knot in, *1020
Swallowing, relief of disturbances in, by compression of ear region, (120) 1432—ab
Swamp fever of horses, (80) 541—ab
Sweat glands in chronic nephritis, histologic study of, (104) 154
human, chemical study of, (4) 1681
Swedenborg as anatomist, (147) 232
Swedenborg's conception of functioning of brain, (148) 232
Swimming pool, hygiene of, (26) 69
Switzerland, increasing prevalence of urinary calculi in, (54) 1766
Symphyseotomy, subcutaneous, and suprasymphyseal delivery, (120) 466
Syncopes in chronic colitis, (26) 544—ab
Syndrome, Adams-Stokes, (145) 699
Synovial sheaths in hand, extensive phlegmon of, treatment of, (41) 1426—ab
Synovitis of knee, traumatic, (50) 1358
Syphilidiater, old-time, (30) 226
Syphilids, cutaneous reaction of, under salvarsan, (66) 545
Syphilis: See also Parasyphilis
Syphilis, abortive treatment of, (38) 1008
acute abdominal manifestations of, (22) 1511—ab
and heart disease, (145) 1158—ab
and nervous system, with remarks on Wassermann reaction and salvarsan, (2) 693
and nicotin as factors in cardiovascular disease, (25) 377
and optic neuritis, salvarsan in, (94) 1155
and parasyphilitic affections, salvarsan in, (13) 617
and public, (124) 459
and pulmonary tuberculosis, (125) 459, (32) 1292—ab
and revolutionary methods, (31) 538
and tuberculosis, immunity reaction in diagnosis of, (9) 928—ab
and Wassermann reaction, (66) 1421
antigen, biochemical studies on, (32) 377
arsenic in, *588, (97) 705
arsenic in, antedating salvarsan, (156) 927
arsenic in, history of, (148) 164
arylarsonates in, (44) 618

Syphilis as common cause of adenoids, (48) 307
as factor in hemiplegias and diplegias of infancy and childhood, (4) 1618—ab
aural manifestations of, (59) 1512
bacteriology and serodiagnosis of, (73) 1760
brain, fatal arsenic poisoning after administration of salvarsan in, (86) 1155—ab
cardiovascular disease due to, (91) 1302
cerebral and spinal, Argyle Robertson sign in, (3) 779—ab
cerebrospinal, (11) 1229
combined mercury and salvarsan in, (71) 1767
comparative serologic tests in, (97) 1623
congenital, (65) 1615
congenital, and blue sclerotics, (32) 1850—ab
congenital, findings in fundus of eye in, (107) 1303—ab
congenital, increasing frequency of, and importance of early recognition, (11) 220
congenital, ocular affections in, (58) 1512, (99) 1513
congenital, rebellious multiple bone lesions due to, cured by single injection of salvarsan, (43) 1619
congenital, salvarsan given nursing mother for, (28) 617, (28) 618
congenital, salvarsan in, (28) 852, (23) 1150
congenital, sclerosis and leukoplasia of tongue from, in 2 brothers, (41) 1008
congenital, splenic anemia in, salvarsan in, (132) 1305
cure of, (49) 222
diagnosis of, by demonstration of spirochaeta pallida, (42) 221, (65) 221
dystrophies due to, (133) 1148
early cutaneous recurrence of, after salvarsan treatment, (74) 1154
early ocular signs of, (57) 1512
experimental, (109) 1370, (43) 1908
eye disease due to, salvarsan in, (73) 228, (95) 229
followed by paralysis, (24) 1292
from standpoint of gynecologist and obstetrician, (75) 1857
giant cells in, (122) 459
headaches due to, (48) 77
hectine in, (116) 548, (35) 702
hypertrophy of inferior turbinates due to, *1191
immunity reaction in diagnosis of, (2) 1006
in animals, (162) 390, (46) 1427
in ascendants, and scaphoid scapula syndrome, (128) 459
in children, *405
in children, congenital, splenomegaly of, (22) 1150—ab
in children, salvarsan in, (155) 1696
in consulting practice, (21) 851
in infants, congenital, salvarsan given nursing mother for, (67) 546—ab, (28) 618
in infants, congenital, salvarsan in, (83) 1301—ab
in nervous system, recurrence of, after mercurial treatment, (130) 467—ab
in rabbits, (81) 546, (46) 1427
in rabbits after intracardial inoculation, (41) 1516
in rectum, evidences of, (74) 1358
is it contagious? (170) 305
jaundice due to, (40) 1426—ab
keratitis due to, experimental, (134) 629
laboratory methods in diagnosis of, (67) 1421
lack of durable action of salvarsan in neutral suspension in, (71) 783—ab
latent, Wassermann reaction in, (45) 1620—ab
malignant, inoculation of monkeys with, (63) 1862
malignant, salvarsan in, (23) 1859
mediastinitis due to, (50) 159—ab
mild or obscure, (99) 1003
mistreated, remote sequelæ in, (105) 622
modern arsenic treatment of, (157) 82
modern ideas on pathology of, (38) 307
nascent mercury in, (123) 935—ab
Syphilis, nephritis due to, acute, and salvarsan, (64) 1767—ab
nephritis due to, secondary, fatal, (4) 1762—ab
non-specific reactions with complement-fixation test for, and certain bacteria, (77) 1512
of aorta, (145) 1371—ab
of arteries, (56) 228
of auditory nerve, (101) 1234—ab
of auditory nerve and labyrinth, (137) 1371
of bladder, cystoscopic diagnosis of, (137) 1865
of bronchi, (70) 1428
of ear, (94) 1623
of heart, congenital, (96) 849—ab
of internal ear, (102) 1235—ab, (59) 1512
of intestine, surgical treatment of, (100) 547
of liver, (65) 704—ab, (106) 785—ab
of nasal passages and ear, (134) 927
of nervous system, (119) 459
of nervous system, mercurial inhalations in thermo-diaphoretic room, (73) 303
of nervous system, salvarsan in, (114) 548, (122) 1432—ab
of stomach, (64) 704—ab, (160) 1140
of upper respiratory tract, (60) 1512
painless mercurial injection for, *1654
pauperism due to, (126) 459
pemphigus of new-born infants due to, (91) 784
physical properties of drugs in, (97) 934—ab
practical importance of Wasserman reaction in, (120) 1013
primary lesion in scalp due to, (38) 1765
prophylaxis of hereditary transmission of, (21) 1907—ab
protozoon of, medicozoologic nomenclature correct name of, (109) 1762—ab
pulmonary manifestations of, (137) 1071—ab
reacting power of organism and treatment of, (94) 229
recent progress in treatment of, (121) 459, (56) 1512
recent, salvarsan in, (95) 1768—ab
recurrence of, as optic neuritis after salvarsan, (124) 80
recurrences in nervous system after administration of salvarsan in, (93) 1155
report of committee on education of public as to communicability and prevention of, (91) 1359—ab
salvarsan in, (79) 72, (137, 139) 74, (116) 80, (172) 83—ab, *87, (17, 19) 152, (91) 154, (116) 156, (13) 157, (86) 160, (104) 161, *177, *186, (72) 228, (82, 96) 229, (112) 311, (127) 313—ab, (104) 387, (161) 390, (106) 458, (120) 459, *504, (17) 537, (91) 541, (65) 545, (78) 546, (115) 548, (128) 549, (148) 551—ab, (167) 552, *588, (25) 623, (70) 626, (120) 628—ab, (118) 698, (134) 699, (81) 704, (92) 705—ab, (127) 706, (144) 708—ab, (43) 775, (52) 776, (75, 76) 777, (122, 133) 778, (17) 846, (97) 848, (9) 851, (115) 856, (160) 858, (80) 924, (14) 928, (29) 929, (79) 1011, (124) 1071, (129) 1078, (146) 1148, (8, 164) 1149, (15, 16) 1150, (94) 1225, (171) 1228, (69, 76) 1233—ab, (82) 1301, (14) 1362, (36) 1364, (135) 1371, (25) 1418, (36) 1420, (27) 1425, (157, 171) 1617, (24) 1619, (83) 1622—ab, (184) 1698—ab, (5) 1905, (70) 1910
salvarsan in, at Walter Reed General Hospital, District of Columbia, (3) 999
salvarsan in, intravenous injections of, (103) 161, (61) 228—ab, (10) 543, (31) 846, (67) 1428
salvarsan in, nephritis after, (69) 1519—ab
salvarsan in, observation made of, in clinics in Berlin, (89) 1070
salvarsan in, recurrences in nervous system after, (65) 1428—ab, (78) 1429—ab
salvarsan in, repeated small doses of, (87) 160
Schürmann's color test for, (85) 621—ab
Syphilis, secondary, in monkeys and rabbits, (147) 1695
secondary, mercury reactions in, (123) 80
serodiagnosis of, (101) 223—ab, (157) 382, (111) 388, (95) 547—ab, (33) 1144, (77) 1512, (55) 1766, (59) 1767, (40) 1908
serodiagnosis of, and barium sulphate absorption, (30) 774
serodiagnosis of, and mercury bichlorid, (30) 774
serodiagnosis of, comparative merits of various complements and amboceptors in, (34) 378—ab
serodiagnosis of, epiphanin reaction in, (74) 228—ab, (66) 704
serodiagnosis of, Noguchi method of, (116) 459
serotherapy of, (76) 704, (136) 707—ab
sodium cacodylate in, *641, (10, 11) 1223
spondylitis due to, (99) 548—ab
tertiary, salvarsan in, (81) 229
tertiary, sodium cacodylate in, *897
therapeutics of, (12) 1510, (158) 1617, (87) 1761
transmitted to infant at birth, (124) 1235
treatment of, at Aix-La-Chapelle, (35) 383
tuberculin skin reaction in, (125) 231—ab
value of animal experimentation shown by recent advances in study of, *1244
visceral, acute, (26) 1425
Wassermann reaction in diagnosis of, (55) 1766
Syphilitics, cerebrospinal fluid in, (120) 1769
ear conditions in, after administration of salvarsan, (106) 628—ab
Syphiloma, elephantiasic, diffuse, (37) 1765
Syringe for local anesthesia in rectal operations, (22) 538
practical, for intramuscular injections, (110) 74
Syringomyelia, (180) 1618
disturbance of sensation in, (66) 539—ab
subacute ependymitis with hydrocephalus and lesions suggesting, (53) 931
vascular reflex disturbances in, (111) 856

T

Tabes dorsalis and excessive venery, (152) 1617
dorsalis and leptomeningitis, (85) 546
dorsalis and meningitis, (51) 1010—ab
dorsalis and paresis in negro, rarity of, *1645
dorsalis, atrophy of optic nerve due to, (117) 1077—ab
dorsalis, conjugal, *1797
dorsalis, early, clinical diagnosis of, with negative Wassermann reaction, (31) 1511
dorsalis, early, cystoscopic findings in, (40) 1420—ab
dorsalis, electricity in, (83) 229
dorsalis, pathogenesis of, (76) 620, (135) 927
dorsalis, resection of spinal roots for gastric crises in, (92) 1863—ab, (25) 1908—ab
dorsalis, result of specific treatment, (99) 542
dorsalis, temperature crises in, (88) 1301
dorsalis, vasomotor system in, (5) 1762
dorsalis without ataxia, *194
mnemonic, for normal labyrinthine nystagmus, (25) 226
Table for cystoscopic examinations as well as general purposes, (79) 1070
Tachycardia, extreme, direct injury from, (90) 463
in children, (33) 1688—ab
paroxysmal, of brief duration, (24) 1687
paroxysmal, and spontaneous delivery (128) 1157—ab
Taka-diastase, in diabetes mellitus, (104) 778
Talalgia and exostosis, (139) 706
Talipes cavus, idiopathic, (79) 1691—ab
equinovarus in infancy and childhood, congenital, treatment of, (38) 1758—ab
Talipes, equinovarus, treatment of, (26) 1151
Talks, short, with students and others, being random suggestions for younger practitioners, (19) 1291, (24) 1682
twilight, with physician, (8) 694
Tampon, glycerin, in gynecology, (51) 1909
Tapetum and fasciculus occipitofrontalis, anatomic study of, (121) 850—ab
Tapeworm, dwarf, in American children, (151) 75
rat, rat flea as intermediate host of, (12) 1149
Tar workers, cancer in, (88) 223—ab
Tarsalgia in adolescent not attenuated tuberculosis, (51) 159
Tarsus and metatarsus, metastasis of, papillary carcinoma of bladder with, (106) 1762
Taxis and succussion, (104) 1761
Tears, perineal, cicatrization of, (118) 389
Teeth and development of jaws and face, *473
and skin diseases, (37) 1688
biting nails cured by device covering, (68) 854
carious, connection of enlarged cervical glands with, (3) 459
diseases of, treatment of, (75) 160
Telangiectasia, hemorrhagic, inherited, (124) 786—ab
Telecardiogram, history of, (100) 1012
Telescope eyeglasses, (95) 1686
Temperature, ante-mortem rise of, in tuberculous meningitis, (18) 1854—ab
deep, of human body at rest and after muscular exertion, (8) 1763—ab
effects of, on complement, (31) 774
high, after labor, acetyl-salicylic acid for, (8) 699
in enlarged tonsils and adenoids, (59) 924
of home and summer heat in relation to infant mortality, (98) 1431—ab
of infants' food, determination of, (50) 1909
sense, superficial, Head's, (108) 934
Tendencies, degenerative, prophylactic suggestions in, (119) 778
Tenderness, local, on pressure in tuberculosis, (40) 77
Tendo achillis and quadriceps extensor tendon of knee, simultaneous rupture of, (78) 1070
Tendon, attachment of, after advancement, (84) 154
regeneration, experimental study of, (83) 1760—ab
supraspinatus, complete rupture of, (60) 1684
suture, (84) 1760—ab
transplantation, (120) 74
transplantation and tendon separation for reduction of congenital and acquired deformities, (66) 1857
Tendons, improved technic for suturing, (55) 1365
instrument for shortening, (47) 1758
Tenosynovitis in forearm, (145) 707
Tenotomy, partial, bilateral, with Greek cross test-object for use during operation, (89) 1686
Tension, arterial, high, (54) 1512—ab
intracranial, increased, relief of ocular manifestations of, and cerebral decompression, (139) 1423
Tents and intrauterine medication, combined use of, *1874
laminaria, and salpingitis, (66) 309—ab
Teratoid tumor, sacrococcygeal, sixth on record, (48) 625
Teratoma tests and its derivatives, (47) 1069—ab
Teratomata and chorio-epitheliomata, ovarian, origin of, and parthenogenetic development of ova in mammalian ovary, 1827—O
Test: See also Reaction, and Tests
Test, acetic-acid, and tryptophan test in early diagnosis of gastric cancer, (87) 463—ab
acoustic, for stomach acidity, (66) 1621
agglutination, typhoid, macroscopic, quick, (106) 156—ab, (60) 847
antitrypsin, improved technic for, (97) 627—ab

Test, blood, van Deen, improved technic for, (94) 705—ab
blotting-paper, for free hydrochloric, acid in stomach content, (113) 857—ab, (187) 1698—ab
breakfast, butyrometric, Sahli-Seiler, (110) 856
butyric acid, Noguchi, in cerebrospinal fluid, diagnostic value of, *1171
card, vision, unlearnable, for use in naval service, (131) 305—ab
chart, useful addition to, (152) 1296
color, Schürmann's, for syphilis, (85) 621—ab
complement-fixation, for syphilis, non-specific reactions with, and certain bacteria, (77) 1512
complement-fixation, in diagnosis of gonococcus infections, (8) 1510—ab
complement, mechanism of deviation of, antihemolysins in serum, (46) 1689
contrast color, in study of blood, (44) 1765—ab
effervescence, for gastric acidity, (19) 1000
for albumose in urine, (175) 1697—ab
for milk, (46) 1909
Hemolytic: See Hemolysis
hemolytic, serodiagnosis of whooping cough by, (49) 307—ab
hydrostatic, of infant's lung, possible cause of error in, (145) 936—ab
impregnation, thread, importance of, for recognition of ulcers of upper gastro-intestinal tract, (6) 1000, (69) 1690
improved, for indicanuria, (177) 1697—ab
liquor bellosti, in paralysis, (14) 1904—ab
meal, value of, in stomach diagnosis, (34) 1000
methylene-blue and fuchsin, of age of milk, (42) 1009—ab
nucleus, of digestion, (105) 311
object, Greek cross, bilateral partial tenotomy with, for use during operation, (89) 1686
phenolphthalein, for occult hemorrhage in gastro-intestinal tract, (84) 546—ab
phenolsulphonephthalein as, for renal function before operation, (33) 1683
phloridzin, of liver functioning, (141) 707—ab
picric acid, for seminal fluid, (79) 783—ab
thread, modified, and Einhorn duodenal bucket, experiences with, (3) 1510
tryptophan, for gastric cancer, (87) 463—ab, (68) 626—ab, (94) 1076, (112) 1370—ab
tuberculin titer, (95) 856—ab, (95) 933—ab, (119) 1432
Wassermann: See Reaction
Testicle, ectopia, inguinal, operated on after Bevan's method, (136) 1617
interstitial cells of, and its internal secretion, (40) 221—ab, (72) 1146—ab
interstitial cells of, their atrophy, (139) 550
mammalian, production of internal secretion by, and interstital cells of Leydig, (72) 1146—ab
undescended, (132) 698
undescended, anatomy and treatment of, (66) 72—ab
undescended, Bevan's ligation of cord for, criticism of, (135) 1617
undescended, bilateral, bilateral inguino-superficial hernia with, (138) 381
undescended, surgical treatment of, (51) 1069—ab
Testicles and ovaries, internal secretion of, (127) 80
behavior of thymus after castration or x-ray exposures of, experimental research on, (124) 1432
cryptorchid and normal, histologic and chemical study of fatty matter of, (73) 1146
or ovaries, hyperfunctioning of, as cause of rachitis, (132) 629—ab
Testimony, expert, (54) 1145, (169) 1228—ab
Tests, color, for sugar, creatin and creatinin in urine, (144) 1695
color ring, of fluids, improved technic for, (135) 1305
comparative, of tuberculin reactions, (142) 1865
ferment, gastric, (70) 932
Tests, functional, of heart, (63) 1621—ab
functional, of stomach in general practice, (94) 547
kidney, functional, present status of, (113) 1616
meiostagmin and hemolytic, of gastro-intestinal cancer, reliability of, (122) 629—ab
of virulence of diphtheria bacilli, *809
serologic, comparative, in tuberculosis, syphilis and leprosy, (97) 1623
word, for complexes in disturbed mentality, (151) 225
Testimony, medical expert, (104) 74—ab
Testing mental status of subnormal children, methods of, (65) 1684
Tetania parathyreopriva, parathyroid implantation in, (109) 1004—ab
Tetanus, facial, (15) 1229
from fuentes, (63) 1002—ab
following subcutaneous administration of radiolcarbenzym, (146) 1695
is antitetanic serum a factor in cure of? (20) 1510
magnesium sulphate in, (52) 924
serotherapy of, (109) 1156, (38) 1426, (20) 1510
statistics, (75) 1225
subcutaneous injection of phenol in, (128) 231, (158) 1372—ab
toxin and antitoxin, experimental research on, (39) 624
vasomotor, (7) 927
Tetany after injection of adrenalin in osteomalacia, (98) 1769
and epilepsy, alternating, (157) 1696
and sudden death of infants, research on parathyroids wth special regard to, (96) 1431
chronic, with epileptiform attacks and psychosis, (98) 856
experimental research on, (72) 1075
following parathyroidectomy, influence of various salts on, (67) 1759
from surgical standpoint, (63) 228—ab
in children, parathyroids not responsible for, (167) 390—ab
infantile, calcium metabolism in, (63) 1146
infantile, pathologic findings in parathyroids in, (151) 1148
of children, (135) 74
parathyroid bodies in, (121) 1370
sensory, (7) 927
Thallium, physiologic action of, (69) 704
Then and Now, medical profession in Minnesota 30 years ago and its standing at present, (154) 699
Thenar and hypothenar types of neural atrophy of hand, (55) 619—ab
Therapeutic advancement, plea for, (51) 1358
nihilism, (38) 152
standards, progressive, (34) 1144
Therapeutics, bacterial vaccines factor in, (172) 305—ab
combinations of drugs in, (56) 782-ab
empirical, progress in, (113) 1147
growing disuse of alcohol in, (176) 1618
gynecologic, (30) 158
high-potential electricity in, (64) 1512
kaolin and carbon dioxid snow in, (71) 160—ab
mechanical, research work in, (29) 1292
modern, revulsion in, (49) 1517—ab
optimistic, *268
oxygen-poor air in, (76) 1767—ab
radium emanations in, (63) 1518, (22) 1907, (52) 1909
teaching of, (109) 224, (106) 778
value of lavage in, its frequent neglect, (85) 1146
Therapy, cardiac, suggestions in, (40) 1144
gastric, bismuth in, (20) 1067
inhalation, improved, (135) 312
inoculation, present status of, (112) 1858
ovarian, (121) 934
Thermal sensation, thermomanesthesia a perversion of, (122) 850
Thermo-diaphoretic room, mercurial inhalations in, for syphilis of nervous system, (73) 303
Thermogenesis, (59) 1225
Thermomanesthesia, case exhibiting, perversion of thermal sensation, (122) 850
Thermopenetration, electric, experimental study of, (81) 1011
Thigh elastic stockings, simple support for, *507
rodent ulcer of, (7) 1006
Thiosinamin and fibrolysin, clinical experiences with, (130) 786
Thoracectomy, precordial, or cardiolysis, (26) 1764—ab
Thoracoplasty by Schede's method, (19) 1854
Thoracotomy and esophagoplication for impermeable cardiospasm, *1437
Thorax: See also Chest
Thorax and breast, local anesthesia for major operations on, (89) 1155—ab
child's, anatomic features of, their practical application in physical diagnosis, (103) 304—ab
drainage of, (105) 1235
empyema of, bismuth paste in, (110) 458
empyema of, treatment of, (67) 1233—ab
improved technic for operations on, (114) 706—ab
surgery of, experimental and applied, present status of, (87) 380
Thorium paste for epithelioma and lupus, (97) 1422
Throat and ear department of Royal Infirmary, Edinburgh, reports for 1909 from, (31) 1008
and eye, hygiene of, (28) 377
and mouth, non-syphilitic ulceration of, salvarsan in, (128) 1078—ab
and nose, examination of, and general diagnosis, results in asthma following nasal operation, (21) 694
cancer of, (16) 75
cut, power of speech in, (19) 623
diseases, mechanotherapy in, (67) 1225
diseases, non-caustic cresol in, (117) 1361
infection of, by colon bacillus cause of acute toxemia, (122) 1423
nose and mouth, peroral intubation for operations on, (87) 1369—ab
nose, eye and ear, diseases of accessory sinuses with reference to, (151) 1362
nose, eye and ear work, emergency cases in, suggestions for their care by practitioners, (28) 1067
razor wound of, extensive, (140) 381
sore, nature and diagnosis of, (34) 1619
sore, treatment of, (35) 1619
specialist, diagnostic significance of headache to, (92) 73
Thrombokinase, preparation and use of, (107) 849—ab
Thrombophlebitis, continued, in thrombosis postabortum of left ovarian vein, death from, (85) 379
of puerperal origin, ligation of ovarian vein for, (142) 699
septic, of long duration, (56) 1292
Thrombosis after intravenous injection of salvarsan, (128) 314—ab
and embolism of mesenteric bloodvessels, (35) 1357
and embolism of pulmonary artery, (16) 1291
and embolism, puerperal and post-
and embolism, pulmonary, from obstetric standpoint, (98) 1615
operative, premonitory symptoms of, (113) 549—ab
cerebral, and acute encephalitis, (140) 1371
of central retinal vein, (50) 1614
of superior mesenteric vein, (34) 852—ab
of superior vena cava and great veins, (13) 1859
portal, suppurative, ligation of veins for, (157) 552—ab
postabortum of left ovarian vein, hysterectomy, death from continued thrombophlebitis, (85) 379
septic, of lateral sinus, extradural abscess and subdural abscess with purulent pachymeningitis complicating chronic suppurative otitis-media, (97) 777
septic, of sigmoid and lateral sinus, complicating double mastoiditis, (53) 924—ab
spontaneous, of central vein of retina following parturition, (145) 305
venous, (125) 1077—ab
venous, pulmonary symptoms as premonitory signs of, (104) 1422—ab
venous, surgical treatment of, (1) 382
Thrush, (40) 775
cutaneous, in infants, (50) 545
Thrush in lungs, (48) 1861—ab
Thymectomy in exophthalmic goiter, (89) 1076—ab
10 cases of, (51) 1620—ab
Thymol and betanaphthol as anthelmintics, (25) 929
Thymus and bronchial glands, (50) 1620—ab
behavior of, after castration of x-ray exposures of ovaries or testicles, experimental research on, (124) 1432
enlarged, x-ray therapy of, (46) 1420—ab
enlargement of, myasthenia with, (5) 542
functions of, (67) 78
galactagogue action of, (74) 924—ab
hypertrophy of, (41) 1860—ab
hypertrophy of, clinical signs of, (39) 1151—ab
not involved in blood production, (138) 1305
persisting, and mediastinal adenitis, (63) 1300—ab
persisting, with exophthalmic goiter, (94) 79—ab
research on, its importance in pediatrics (48) 545
Thyreoglobulin, pig, histidin in, (126) 1361
Thyroid, (24) 1510
administration, therapeutic indications for, (25) 152
and autolysis, (144) 389
and female generative organs, (83) 1686—ab
and parathyroids, experimental transplantation of, (61) 545
and thyroid treatment, changes in blood under influence of, (72) 386—ab
carcinoma of, (164) 468—ab
carcinoma of brook trout, and endemic goiter, (102) 1225
development, congenital myxedema from defect in, (48) 702
disease, heart in, (96) 304—ab
disease, malignant, and multiple lipomata, (90) 541
disease, manifestations of, in upper respiratory tract, (111) 1361
diseases of, (32) 1613
disturbed function of, (59) 1145
enlargement in school children, general, slight, (13) 1298—ab
extract, action of, on gastro-intestinal cancer, (78) 1233
extract in carcinoma, (6) 927
extract in dementia præcox, (14) 1906
extract, influence of, on coagulation of blood, (99) 1864
extract in rheumatoid arthritis, (22) 75
functioning, fibrin content of blood in connection with, (143) 389
function, present knowledge of, *658
gland, cultivation in vitro of, (98) 1225—ab
glycogen in, (122) 1370
grafting and surgical treatment of exophthalmic goiter, (4) 225
human, pathologic anatomy of, (103) 1360—ab
hyperfunctioning, antithyroidin for, (119) 1370
infection, (4) 543—ab
influence of, on coagulation of blood, (142) 389
in infancy, (23) 774
insufficiency, enuresis from, (137) 459—ab
intoxication, symptoms of, after iodid medication, (75) 783—ab
not responsible for defective bone and cartilage growth, (88) 627
of fish, normal and pathologic, (6) 1612
papilloma of, (83) 1863
surgery of, (138) 1296
tissue, accessory, in pericardium of dog, (6) 1681—ab
treatment, influence of, on growth in rachitis, (43) 1861—ab
tumors, mixed, (40) 1230
Thyroidectin in exophthalmic goiter, *1176
Thyroidectomy and castration, (127) 231—ab
collapse of trachea while performing, (11) 1418—ab
partial, and ligation for hyperthyroidism, (27) 300, (14) 774
Thyroidism and iodism, (100) 933
Thyroiditis: See also Strumitis
Thyroiditis, acute, (18) 1363
acute, following potassium iodid treatment, (111) 1304—ab
scarlatinal, (153) 858—ab
Thyroids and parathyroids, internal secretions of, chemical aspect of, *653

Tibia, congenital absence of, (63) 153 —ab
enlargement of tubercle of, (32) 624
Tigers, wounds inflicted by, (23) 1230
Tinea imbricata, growth of fungus of, on artificial media, (34) 307
imbricata, hyphomycetes of, (20) 1150
versicolor, unusual case of, (127) 381—ab
Tin poisoning, (46) 1516
Tinnitus, aural, objective, and hyperthyroidism, (126) 778
Tint and spectrum of normal blood serum, (118) 1235
Tissue, anaerobic, action of ether on, (53) 539—ab
cellular, gastric, inflammation of, (77) 78—ab
cultivation, *32
embryonic, and tumor in mixed grafts, (33) 774
embryonic, implanted, effect of pregnancy on, (34) 775—ab
metabolism and brain phosphatids, (57) 539
Tissues, action of iodin on, (138) 1005 —ab
adrenal and nephridial, embryology of, and histology of hypernephromata, (76) 540—ab
cultivated outside of body, method of, for study of cancer immunity, (75) 1512—ab
cultivation of, in salt solutions, *1795
cultivation of, in vitro, (77) 1146, (69) 1300—ab, (75) 1512—ab
deep, electric heating of, (60) 1680
normal and sarcomatous, artificial stimulation and inhibition of growth of, *32
physicochemical regulation of growth of, (82) 1513—ab
subcutaneous, removal of sewing needles from, *344
Toad, tropical, poisons of, *1531
Tobacco, intermittent limping in connection with, (154) 82—ab
psychosis in boy of 13, (96) 856
Tochil, or endemic hemoptysis, (57) 222—ab
Toe and finger bones as substitutes for each other, (95) 1234
fourth, neuralgia of base of, (123) 312
nail, ingrowing, cause and cure of, (107) 458
nail, ingrowing, medical treatment of, (34) 1511—ab
nail, ingrown or overgrown, (102) 1513—ab
reflex, extensor, new method for eliciting, *1311
sarcoma under nail of, (76) 386—ab
Toes, deformities of, and flat-foot, prevention and treatment of, (100) 1369
webbed, pedigree showing biparental inheritance of, (14) 157—ab
Tone perception, physiology of, (92)777
production, respiration for, (138) 225
Tongue depressor, new, (120) 1361—ab
diseases, diagnosis of, (11) 1613
geographic, hereditary and familial, (78) 228
lymphosarcoma of, (85) 1863—ab
sclerosis and leukoplasia of, from inherited syphilis in two brothers, (41) 1008
smooth atrophy of base of, (44) 70
Tonicity in isohemagglutination, (79) 1512
Tonsil: See also Tonsils
Tonsil, abscess of, (39) 307
and adenoid operation, *878, (16) 1000
and singer, (61) 924
dissector, new, *953
dissector, simple, (49) 1614
dissectors, well-known, 2, mounted in convenient form on single handle, (121) 1361
enucleation of, for chronic disease, (21) 1859
Excision of; Removal of: See Tonsillectomy
extirpation of, by enucleation, partly instrumental and partly by use of finger, (4) 1290
faucial, and systemic disease, results of its removal, (44) 378, (68) 696
faucial, method of removing, with soft silver-wire snare, (60) 924
hypertrophy of, anatomy, surgical treatment and operative dangers, (167) 1228
operations, (173) 1362
pathologic histology of, (119) 74
question, (58) 1001
responsibility of, in tuberculous adenitis, (58) 71
Tonsil, sarcoma of, in child, (113) 1361
snare, improved, *1097
Tonsillar crypts, bacteriologic examination of, at Manhattan Eye, Ear and Throat Hospital, (51) 71
fossa occupied by osteofibroma, (127) 850
Tonsillectomy, (118) 74, (71) 777, (62) 782, (62) 924, (16, 36) 1000, (3) 1067, (130) 1226, (26) 1511
by guillotine and alveolar eminence of jaw, *867
complete, simple, *193
finger as aid in, (111) 622
for complete removal of diseased tonsils, (116) 622
from standpoint of practitioner, (117) 74
new method of local anesthesia in, (66) 1225
or tonsillotomy? (50) 456, (105) 934, (31) 1292
Tonsillitis, acute, treatment of, (25) 1682—ab
chronic urethritis and chronic ureteritis due to, *937
Tonsillotome improvement, (42) 1224 —ab
Tonsillotomy or tonsillectomy? (50) 456, (105) 934, (31) 1292
Tonsils: See also Tonsil
Tonsils, chronic non-malignant disease of, (67) 379
diseased, complete removal of, by tonsillectomy, (116) 622
enlarged, and adenoids, (46) 77
enlarged, connection of enlarged cervical glands with, (3) 459
enlarged, temperature in, (59) 924
enlarged, treatment of, (28) 1516 —ab
Extirpation or Enucleation of: See Tonsillectomy
faucial, and general infection, (73) 777
faucial, removal of, followed by exophthalmic goiter, (9) 69
finger enucleation of, (36) 1000
indications for removal of, (90) 1147
mental suggestion as substitute for anesthetics in removal of, from children, (117) 1858
Removal of: See Tonsillectomy
surgery of, (11) 1854
when to be removed and type of operation used, (3) 1067
Toothache in toothless, (146) 936—ab
Tooth extraction in extensive dental caries in children, (11) 700
wisdom, disturbances caused by, (72) 78
Toothless, toothache in, (146) 936—ab
Tophi, gouty, influence of radium emanations on, (140) 389
Torticollis, adenopathies and initial pruritus, varicella with, (44) 1009
congenital, cause of, (68) 463
congenital, treatment of, (85) 1429 —ab
congenital, or wry neck, (30) 1151
from congenital myopathy, (30) 701
spasmodic, (14) 1229
Toti's operation, (126) 1514
Tourniquet sign of disease with hemorrhagic manifestations, (47) 545 —ab
sign of scarlet fever, (80) 1429 —ab
Towns-Lambert treatment for morphinism and alcoholism, (57) 1684
Toxemia, acute, caused by infection of throat by colon bacillus, (122) 1423
intestinal, acute retrobulbar neuritis due to, (103) 1226
of Pregnancy: See Toxemia and Pregnancy
of pregnancy, catalytic activity of blood in, (123) 156—ab
of pregnancy, its nature, cause and treatment, (140) 699
of pregnancy, serotherapy in, (85) 1154—ab
due to B. coli communis, diagnosis of, (102) 849
Toxicoses, alimentary, and intoxication, (27) 774
Toxin, diphtheria, administration of, in collodion sac, (44) 456—ab
eclampsia, mammary gland as source of, (114) 230—ab
tetanus, and antitoxin, experimental research on, (39) 624
Toxins, antitoxins, antiserums and bacterial vaccines, with comparisons, (29) 1357
soluble, preservation of, (38) 624
Trachea, collapse of, while performing thyroidectomy, (11) 1418—ab
Trachea, compression of, due to mediastinal cyst, fatal, in infant of 9 months, (57) 1145—ab
direct examination of, (16) 306
fascia flap to close defect in, (78) 1767
stenosis of, bronchoscopy, (52) 1620 —ab
Tracheobronchoscopy, (91) 1422
and esophagoscopy, mishaps in, (54) 71
Trachoma, (9) 1143
among Indians, management and treatment of, (38) 1420
and facts on its existence in Pennsylvania, (89) 303
are we in danger of? (34) 847—ab
bodies and conjunctival affections, (77) 621
bodies, nature of, (2) 1631—ab
campaign, progress of, in Pennsylvania, (89) 303
Coover method in, (134) 305—ab
etiology of, (5) 693, (71) 1428
treatment of, (10) 1854—ab
Traction, elastic, and elastic pressure in surgery, (1) 75—ab
Tragopogon pratense, poisoning by, (5) 1229
Trains, danger of sowing cholera germs from water-closets on, (144) 164
Transfusion, direct, (3) 537, (160) 1228
in pellagra, *584
improved device for, (53) 1683
Transfusions, 4, by vein-to-vein method with curved glass tubes, (137) 381
Transillumination of mastoid process as aid to diagnosis, *1653
Transilluminator, pocket, inexpensive, (112) 1226
Transplantation of pedunculated suprarenals, end-results of, (78) 1075
Transudates and exudates, serous, of patient, therapeutic use of, (90) 1225
Trapezius paralysis, severe, plastic operation with functional cure of, (88) 546
Trauma, abdominal, rupture of intestine from, (123) 74
as cause of amyotrophic lateral sclerosis, *1876
borderland of sprain, fracture and periosteal inflammation after, (140) 1071
casual, purpuric diathesis revealed by, (49) 930
cerebral abscess 7 months after, recovery after operative treatment of, (45) 853
in origin of cancer from standpoint of insurance, (126) 1770—ab
of articulations, pelvis deformed from, (86) 310
of head and otologic findings, (102) 934
of spinal cord, clinical and postmortem findings in tardy hematomyelia from, (135) 630
ossifying myositis after, (71) 386
peripheral, oculomotor paralysis from, (65) 1910
Traumatism and tuberculosis, (31) 1908—ab
mental disturbances following, medicolegal considerations, (3) 150
Treatment, phosphatic index as aid in, (101) 542
physical measures as aid in, (129) 550
Trendelenburg position, advantages of, for obstetric procedures, (125) 1157—ab
position, influence of, on quantity of urine excreted during anesthesia, (65) 457—ab
Trephining, decompressive, successful, (86) 1429—ab
for apoplexy, *1803
long clamp for hemostasis in, (105) 230
Treponema Pallidum: See Spirochæta Pallida
Trichiniasis in Italians, *1030
Trichinosis, serodiagnosis of, (111) 1370
Trichocephaliasis in child, fatal, (25) 75
Trichocephalus dispar, enteritis from, *743
Trigger-finger, (114) 926, (79) 1075
Triplets, bilateral tubal pregnancies with, (62) 1690—ab
Trochanter, lesser, isolated fracture of, (47) 1861
Troops, sanitary, training of, (53) 1358
Tropical and glacial geologic eras, (97) 161
diseases as they exist in Philippines, report of U. S. army board for study of, (61) 1358
diseases, present status of, (70) 545
Trypanosoma gambiense and trypanosoma rhodesiense in rats, guineapigs and rabbits, (19, 20) 1298
lewisi, transmission of, by rat fleas, (115) 1147, (15) 1687
rhodesiense, pathology of lesions of cornea and skin in animal experimentally infected with, (17, 19, 20) 1298
rhodesiense, possibly new species of trypanosome from sleeping sickness, (22) 461—ab
Trypanosome diseases of domestic animals in Uganda, (14) 544, (16) 701
from sleeping sickness contracted in Rhodesia, pathogenicity of, (23) 461—ab
from sleeping sickness, peculiar morphology of, and possibility of its being new species (t. rhodesiense), (22) 461—ab
human, of northern Rhodesia, (15) 544
infections, chemotherapy of Ehrlich in, (6) 1291
infections, duration of, (102) 1359
Trypanosomes, animals infected with, experiments on treatment by means of atoxyl, vaccines, cold, x-rays and leukocyte extract, (21) 1298
possible plurality of species of, affecting man in Africa, (13) 544
Trypanosomiasis, auto-agglutination of red blood-cells in, (22) 1298
human, cured, examination of central nervous system with negative results in case of, (13) 928
Tryptophan test and acetic-acid test in early diagnosis of gastric cancer, (87) 463—ab
test, unreliability of, in stomach content in cancer, (61) 1621—ab
Tsetse fly and sleeping-sickness, other insect carriers of disease, (38) 618
Tube: See also Tubes, and Fallopian, and Eustachian
Tube-casts and albumin, urine content in, while taking course of sulphate waters, (120) 1156
and albuminuria, behavior of, in urine during course of mineral waters at Marienbad, (111) 785
casts, origin of, (159) 390
drainage, improved, for suprapubic cystotomy, liver abscess and abdominal cysts, (16) 1424, (16) 1687
duodenal, (106) 849
fixation of, in larynx, (33) 1908—ab
glass, in male urethra, *1794
Tuber cinereum, lipoma containing bone in, (125) 935
Tubercle Bacilli: See Bacilli
bacilli in sputum, comparative tests with antiformin for, (140) 1078
bacilli in stools, diagnostic importance of, (91) 1623—ab
of tibia, enlargement of, (32) 624
of tuberculosis, its pathologic significance in physical organization and relation to bacillus tuberculosis, (114) 622
spinal cord, recovery after removal of, (74) 160
spinal, intradural, removal of, successful, (67) 1767
of leprosy, suppuration in, (41) 455 —ab
Tubercles, radiotherapy of, (126) 549
Tuberculide, papulo-necrotic, widespread lupus erythematosus with? (125) 1514
Tuberculides in infants, papulous, (95) 1431—ab
Tuberculin, action of ferments on, (100) 1234
anaphylaxis, (132) 389
and x-ray in diagnosis of tuberculosis, (108) 1003
bovine, in pulmonary tuberculosis, (17) 1363—ab
cutaneous, and Wassermann reactions in 228 scrofulous children, (149) 314—ab
cutaneous inoculations in tuberculosis, (63) 1152
cutaneous reaction, experiences with, (140) 630
diagnosis of incipient pulmonary tuberculosis and use of, (5) 1903 —ab
diagnostic value of, (12) 1067—ab, (94) 1070, (77) 1422
dispensaries, (4) 779
dispensaries and sanatoria, (30) 307
in diagnosis and treatment of tuberculosis, (30) 1687
in incipient pulmonary tuberculosis, plea for early diagnosis of, (20) 1007—ab

Tuberculin in laryngeal tuberculosis, (14) 75
in pulmonary tuberculosis, (68) 540
in tuberculosis, (111) 458, (30) 1687
in tuberculosis in infancy and childhood, (49) 545—ab
injections, râles after, not always sign of specific focal reaction, (146) 232—ab
multiple arthritis after test injection of 0.5 mg. of, (98) 784
non-toxic, baseless claims for, (70) 160
ointment, old, in diagnosis and treatment of lupus vulgaris, (4) 306—ab
old, in determinating etiology of optic neuritis and neuroretinitis of obscure origin, (63) 776
possibility of modifying effect of inoculation of, by combining with local anesthetic, (11) 780—ab
produced in body, what occurs? (88) 933
reaction, bovine, cutaneous, (78) 161—ab
reaction during pregnancy and labor, (29) 1765—ab
reaction, mechanism of, (104) 1076
reactions, comparative tests of, (142) 1865
reactions, local, diagnostic value of, *181
reactions to, (103) 1422
safe guide for administration of, (104) 1294—ab
sensitized, (126) 80
skin reaction in syphilis and in metasyphilitic disease, (125) 231—ab
test by mouth, inefficiency of, (61) 160—ab
test, cutaneous and conjunctival, in pulmonary tuberculosis, (103) 154
tests in children, cutaneous and conjunctival, comparative value of, (60) 159—ab
therapeutic use of, in intrathoracic tuberculosis of children, (31) 617
therapy, (82) 925
therapy in dispensary practice, experiences with, (20) 1418
titer test, (95) 856—ab, (95) 933—ab, (119) 1432
treatment, angina in, (16) 851
treatment, dispensary, (142) 467
treatment, experiences with, (141) 467—ab, (66) 1233
use and abuse of, (92) 1225
value of, in tuberculous joint diseases, (111) 926—ab
Tuberculins, convenient table in use of, *1252
Tuberculosis, (117) 1071
abscesses due to, bismuth paste in, (60) 308
acidity of urine not constant in, (122) 786
active immunization in, (167) 1006
acute endaortitis due to, (21) 923—ab
adenitis due to, responsibility of tonsil in, (58) 71
advanced, site of principal lesions in, (185) 1698
albumin reaction in, (34) 1908—ab
albumin reaction in sputum in early diagnosis of, (55) 1621—ab
among domestic animals, international commission on control of, (88) 848
among Philippine scouts of United States army, (3) 68
and adenoids, (78) 1691—ab
and climate of Southwest, (48) 1512
and flat-foot, (47) 1152—ab
and menstruation, (43) 70—ab
and orthostatic albuminuria, (95) 1864—ab
and physician, (128) 698, (17) 1613—ab
and pregnancy, (75) 228, (86) 386, (103) 1370—ab
and sarcoma, (53) 379—ab
and syphilis, immunity reaction in diagnosis of, (9) 928—ab
and traumatism, (31) 1908—ab
and wasting diseases, raw meat and raw meat juice in, (19) 383—ab
and West Virginia physician, (169) 75
articular rheumatism due to, (98) 547—ab
as factor in phlyctenular keratitis, (80) 1070
at health resort, century of, (75) 1631—ab
atoxyl in, (98) 1623
attenuated, tarsalgia in adolescent not case of, (51) 159
bismuth paste in, cold abscesses in, (60) 308
blood-pressure in, (98) 1360—ab
Tuberculosis, bone and joint, in children, what Paris is doing for, (71) 1010
bone, Berck-Sur-Mer a city of hospitals for treatment of, (105) 380
bovine, and human ills, (92) 1761—ab
bovine and human, relation between, from public health viewpoint, (110) 380—ab, (112) 380
bursitis due to, (7) 1612—ab
Calmette Reaction in: See Tuberculin Reaction, Ocular
campaign, (138) 927
campaign against, in Denmark during last 10 years, (119) 1624
cellular elements of blood in, (33) 1855—ab
climatic treatment of, (118) 1423—ab
comparative serologic tests in, (97) 1623
county hospital care for patients, (34) 1357
coxitis due to, spontaneous fractures in, (54) 1232—ab
deep muscular injections of mercury in, (24) 1000—ab
diet studies in institutions for, in Colorado, (13) 454
dispensary, experiences at, (143) 630
duties of state in prevention of, (66) 776
early detection of, (76) 223
effusions due to, antitoxic action of, (165) 552
emulsion of tubercle bacillus in, (89) 855
enlarged lymph glands not always signs of, (96) 387
experimental, influence of fresh and autolyzed organ extracts on, (117) 1147
fistulas due to, derivatives of peruvian balsam in, (76) 228
foci, fat content of, (127) 1370
fowl and mammalian, (52) 461
genital, ascending, (61) 1010
genital, x-ray in, (76) 1622—ab
Glandular: See Tuberculosis of Glands
gradual evolution of sane therapy in, (37) 1000
graduated labor for patients with, at Bellefield Sanatorium, (51) 384—ab
hernial, (49) 1068
home treatment of, use of tuberculin, (111) 458
hyperplastic, of cecum and colon, *955
immunity in, (71) 540—ab, (9) 1682—ab
immunity reaction in diagnosis of, (2) 1006
importance of, in etiology of intraocular hemorrhages, and changes in retina, (105) 1076
in children, (73) 1011—ab, (100) 1070—ab
in children, acute, curable forms of, (41) 307, (44) 853—ab
in children, aural, (11) 75
in children, pulmonary, diagnosis and epidemiology of, (62) 462—ab
in children, recalcification in, (40) 1152—ab
incipient, disturbances in circulation after muscular effort in, their diagnostic importance, (63) 1767
in infants, (76) 1691—ab
in Holack district, (130) 1014
in infancy and childhood, tuberculin in, (49) 545—ab
in infants, intestinal, perivascular localization of, (54) 854—ab
in Iowa, (171) 1149
in kidneys of cattle, first changes with, (126) 1370
in man and animals, aspects of, (22) 1007
in mouth and jaw, primary, (81) 626
in Philippines, (76) 1685—ab
infection, immunity of tuberculous animals to, by inhalation, (63) 159
inheritance of, (51) 227—ab, (146) 708—ab
its nature, causes and prevention, (90) 1003, (95) 1293
its prevention, (31) 307
joint diseases due to, value of tuberculin in, (111) 926—ab
kidney and bladder, operative and specific treatment of, (108) 388—ab
kidney, diagnosis and treatment of, (177) 83—ab
Kyoomba Sanatorium for treatment of, (21) 1007
Tuberculosis, laryngeal, formol and galvanocautery in, (65) 1225
laryngeal, tuberculin in, (14) 75
local tenderness on pressure in, (40) 77
meningitis due to, (19) 157, (105) 1147
meningitis due to, in new-born infants, (24) 1515
meningitis due to, operative treatment of, (28) 623
meningitis due to, tubercle bacilli in cerebrospinal-fluid of, (105) 304—ab
mercury succinamid in, (6) 151—ab
microscope in, (113) 380
miliary, acute, simulating appendicitis, (18) 226
muscle tumor due to, (163) 305
muscular rigidity of upper chest not necessarily sign of, (75) 1011
national department of public health necessary for prevention and control of, (160) 75
need of early diagnosis of, from public health and prognostic points of view, *1635
nodular, of hypoderm, (125) 381
Ocular Reaction: See Tuberculin
ocular, vaccine therapy and serotherapy in, (146) 305
of ankle in adults, prognosis and treatment of, (21) 1905—ab
of ankle, orthopedic treatment of, (106) 161
of bronchial glands, diagnosis of, (63) 457—ab
of children, intrathoracic, therapeutic use of tuberculin in, (31) 617
of chorioid, miliary, (52) 222
of eye, treatment of, (88) 1686
of Fallopian tube, (112) 1423
of Fallopian tube, adenomyoma in, (22) 928
of glands of neck, treatment of, (59) 71—ab
of hip-joint, (63) 1690
of iris after chilling, (83) 783—ab
of iris and chorioid in rabbits, experimental, (71) 1621
of joints, treatment of, (47) 1909—ab
of joints, vaccines in operative treatment of, (109) 926
of kidney in women, (7) 1904—ab
of kidney and ureter, (53) 1420
of large intestine, peritonitis from perforation in, (48) 853
of larynx, local anesthesia in, (50) 781
of leg, verruccous, after lesion of metatarsus, (45) 1009
of liver, caseating, disseminated, (4) 1612—ab
of lungs, hemorrhage in, treatment of, (88) 1857—ab
of mediastinal glands, extensive, (90) 1623—ab
of nasal sinuses, bismuth paste in, (113) 698
of ovaries and Fallopian tubes, (48) 1231—ab
of penis, (87) 1075
of placenta, (154) 551—ab
of striated muscles, primary, (114) 1769—ab
of urinary apparatus in women, (149) 858
of uterus, (118) 706
one year's progress in our knowledge of, (81) 541
or localized pulmonary edema? (34) 1765—ab
osteo-arthritis due to, immobilization in, (53) 1009
osteomalacia originating from, (54) 384
Patients: See Tuberculous Patients
pelvic and peritoneal, clinical considerations of, (47) 1292
pericarditis and myocarditis due to, (33) 221
peritonitis due to, (68) 620, (79) 848
peritonitis due to, and alcoholism, (108) 1624—ab
peritonitis due to, in children, (85) 1422
peritonitis due to, iodo-iodid injections in, (117) 1013
polymorphous erythema in, (143) 1157
portals of entry in, (120) 156
predisposition of apices to, (71) 1153—ab
psychology of, (78) 457
pulmonary, (135) 779
pulmonary, action of functional rest of lung on extent and course of, (62) 160—ab
pulmonary, acute, contagious serolymph disease, (8) 773
Tuberculosis, pulmonary, and bronchial asthma, combination of, (168) 390—ab
pulmonary, and constitution, (57) 1366
pulmonary, and gastric ulcer, (63) 1010—ab
pulmonary, and premenstrual fever, *1239
pulmonary, and syphilis, (125) 459, (32) 1292—ab
pulmonary, Arneth's method of blood counting in, its prognostic value, (2) 1510—ab
pulmonary, artificial pneumothorax in, (58) 159—ab, (71) 620
pulmonary, as studied in general medical dispensary, (6) 69
pulmonary, behavior of heart in, (91) 855—ab
pulmonary, bovine tuberculin in, (17) 1363—ab
pulmonary, chlorids, phosphates and sulphates of urine in last stage of, (22) 1682—ab
pulmonary, compression of lung in, (29) 1511
pulmonary, continuous antiseptic inhalation in, (14) 383—ab
pulmonary, cough during auscultation in diagnosis of, *245
pulmonary, cough in, treatment of, *1441
pulmonary, cutaneous and conjunctival tuberculin tests in diagnosis of, (103) 154
pulmonary, diagnosis of, and use of tuberculin, (5) 1903—ab
pulmonary, early diagnosis of, (101) 380, (92) 542—ab, (120) 1304—ab, (46) 1511—ab, *1631
pulmonary, early diagnosis of, from standpoint of physical and fluoroscopic examinations, (50) 1856
pulmonary, early, diagnosis without use of microscope or stethoscope, (46) 1511—ab
pulmonary, efficacy of induced pneumothorax in, (53) 1517
pulmonary, home treatment of, (82) 73
pulmonary, hyperemia in, (74) 1011—ab
pulmonary, incipient, recognition of, (38) 1000
pulmonary, incipient, tuberculin in, early diagnosis of, (20) 1007—ab
pulmonary, induced pneumothorax in, (36) 544—ab, (82) 1075—ab, (67) 1300
pulmonary, infection in, (29) 76
pulmonary, influence of dysentery on incidence and mortality of, (37) 383—ab
pulmonary, influence of inherited taint in primary localization and distribution of lesions in, (45) 1152
pulmonary, inherited predisposition to, (129) 786
pulmonary, investigations on, (79) 541—ab
pulmonary, leukocytes in diagnosis, classification and prognosis of, (17) 774
pulmonary, lime in, (71) 78—ab
pulmonary, mixed infections in, autogenous vaccines in, (90) 1761—ab
pulmonary, opsonic index in diagnosis of mixed infection in, (85) 1003—ab
pulmonary, plea for early diagnosis of, (125) 1226
pulmonary, prevention of hemorrhage in, by administration of autogenous vaccines, (70) 1359—ab
pulmonary, prognosis in, (42) 781, (153) 1149—ab
pulmonary, rest in, (103) 698
pulmonary, rôle of acute bronchitis in, (28) 1292
pulmonary, scapula-angle sign of, (168) 552—ab
pulmonary, serodiagnosis of, (18) 158—ab, (87) 855—ab
pulmonary, theory and practice in treatment of, (2) 542—ab
pulmonary, treatment of, in Victoria Infirmary, Glasgow, (28) 1364
pulmonary, treatment of, outside of sanatorium, (68) 776
pulmonary, tuberculin in, (68) 540
Pulmonary, Tuberculin in: See also Tuberculin
pulmonary, typical and atypical, (64) 546—ab
pulmonary, ultra-chronic, (8) 382—ab
pulmonary, unilateral, severe, induced pneumothorax in, (130) 1078—ab

Tuberculosis, pulmonary, value of sanatorium treatment in, (89) 154, (144) 281, (104) 1003
pulmonary, x-ray diagnosis of, (69) 1366, (20) 1854
reaction in, after salvarsan injections, (75) 1154
relative value of symptoms, physical signs, tuberculin and x-ray in diagnosis of, (108) 1003
renal, (160) 382
renal, advanced, difficulties and limitations of diagnosis in, (117) 1514—ab
renal, and tuberculous bacteriuria, (53) 1689—ab
renal, diagnosis of, (27) 1364, (117) 1514—ab
renal, state of kidney in, (52) 308—ab
renal, x-ray diagnosis of, (111) 230
renovesical, bacillus emulsion in, (6) 773
report of work done at Ottawa tent colony for, (19) 774
rest and movement in, (1) 225—ab
rest, exercise and food in, (10) 151
results in sanatorium treatment of, (104) 1003
sanatoria for, in United States and Canada, annual report of, (98) 777
sanatorium school for, (73) 72
sanatorium, selection of patients for, (110) 1514
sanatorium, what it stands for, (63) 1512
science, modern, Robert Koch the father of, *1307
sclerosis due to, and multiple tumors in kidney, case of, (138) 550
serodiagnosis in, unreliability of, (133) 1865
signs determining activity and latency of, (24) 1357
simple serodiagnosis for, method of obtaining immunity index, (9) 306—ab
situation in Pennsylvania in 1909, *339
specific treatment of, (134) 707—ab
Spengler's I. K. in, (93) 855, (69) 1358
subsidence of pernicious anemia after onset of, (137) 389
surgical, (74) 1293
surgical, treatment of, especially of soft parts, (126) 706
surgical, vaccine therapy in, (159) 1228
traumatic, (104) 1769
tubercle of, its pathologic significance in physical organization and relation to bacillus tuberculosis, (114) 622
Tuberculin in: See Tuberculin
tuberculin in diagnosis of, (94) 1070, (63) 1152, (30) 1687
tuberculin in treatment of, (30) 1687
tuberculin titer test in, (119) 1432
urogenital, Addison's disease in connection with, (170) 859
urogenital, clinical aspects of, (157) 927
urogenital, giant cells in urine as sign of, (118) 162
vaccine therapy of, (35) 226
verrucous, of skin and lymphangitis due to bovine tubercle bacilli, (116) 856
vesical and renal, operative and specific treatment of, (52) 1420
what can navy do with? (81) 154—ab
work in Minnesota against, (169) 1296
Tuberculous individual, education of, in home care, (82) 541
individual, estimation of earning capacity of, (88) 855
patients, folly of sending them away from medical supervision, *1622
Tubes, drainage, sounds and catheters, their selection, care and use, (16) 1357
Fallopian: See Fallopian Tube
glass, curved, 4 transfusions by vein-to-vein method with, (137) 381
pus, traumatic rupture of, causing diffuse peritonitis, (35) 301
Tumor: See also Tumors
Tumor and embryonic tissue in mixed grafts, (33) 774
brain, (14) 1229
brain, isolated agraphia in, (93) 1302
brain, symptoms suggestive of, relieved by correction of refractive error, *347
brain, with impaction in foramen magnum following lumbar puncture, (28) 300
Tumor cells, sarcoma of fowl transmissible by agent separable from, (96) 1225—ab
cerebral, affecting under surface of corpus-callosum and filling right ventricle, (16) 623
extracerebral, in region of hypophysis-cerebri, (17) 1000
formation and helminths, (70) 1010
growth in rats and mice, inhibition of, experiments on, empirical treatment in man, (16) 1298—ab
heart, primary, heart block from, in child, (98) 1302
implantations in developing embryo, *741
in region of corpora quadrigemina, (41) 158
in salivary gland, (64) 1690
intracranial, surgical versus expectant treatment of, (1) 157
intrapontine, (138) 1078
metastases involving parathyroids, (5) 1681
metastatic, in pleura with primary racemose sarcoma of cervix-uteri, (59) 545
muscle, tuberculous, (163) 305
of bladder, transperitoneal cystotomy for, (13) 623
of brain, cerebral hernia following decompression operation for, (29) 300
of cerebellopontile angle, 4 cases of, (53) 1001
of gum, fatty, (135) 1071
of kidney, traumatic, (128) 1370
of nipple, (95) 1368
of spinal cord, extramedullary, apparently caused by trauma, (154) 1362
or abscess formation in temporosphenoidal lobes, diagnosis of, *1639
rectal, from non-malignant transformation of epithelium, (73) 1075
skull, in child, leukemia with, (109) 548
teratoid, sacrococcygeal, sixth on record, (48) 625
ureterorenal, intravesical, (45) 301
Tumors: See also Tumor
Tumors and defects in development, (110) 162
and inflammatory and neoplastic formations, (27) 1144
and malformations of breast, (62) 1074
autolysates of tissues in, (142) 936
bladder, clinico-pathologic data on, (18) 694—ab
bladder, intravesical operations for, (20) 695—ab
bladder, removal of, by natural passages, (55) 308
bladder, transperitoneal and suprapubic approach to, (19) 694—ab
brain, (76) 1422
brain, removal of, *1180
cerebellar, differential diagnosis of, (26) 538
dermoid, of abdominal wall, after operation, (64) 1684—ab
extrauterine, intrapelvic, diagnosis and treatment of, (53) 77
in cerebellopontine angle, (81) 1233—ab
in colon and in mesocolon, differential diagnosis of, (105) 849
in female genitalia and diabetes mellitus, (71) 463—ab
in lungs and pleura, (103) 1303—ab
in omentum, inflammatory, postoperative, (42) 702
inflammatory, from migrating foreign bodies, (166) 1372—ab
malignancy in, (100) 1513—ab
malignant, cultivation in vitro of, (83) 1513—ab
malignant, effects of certain internal secretions on, (101) 1360—ab
medical and surgical aspects of, (43) 378—ab, (66) 696
microscopic diagnosis of, at time of operation, (36) 1073
multiple, and tuberous sclerosis in kidney, (138) 550
of abdomen, inflammatory, simulating malignant disease, (64) 847
of bladder, (30) 544—ab, (123) 1295
of breast, diagnosis of, *793
of breast, diagnosis and treatment of, (123) 1423
of breast, epithelial, and chronic cystic mastitis, (114) 1013
of cerebral ventricles and epithelium, (116) 1864
of corpus uterus, pathology of, (16) 1907
Tumors of hypophysis-cerebri region, (116) 628—ab
of jaw most frequent in negro, (52) 696—ab
of larynx, surgical consideration of, (96) 458
of lung, (103) 1513
of pituitary body, symptomatology and pathology of, (87) 303
of thyroid, mixed, (40) 1230
of uterus, benign, (124) 1616—ab
ovarian, (103) 627
ovarian cystic, origin of, (87) 310
ovarian, pathology of, (29) 158
parathyroid, (142) 313
radiotherapy of, dosage in, (58) 545
superficial, benign, treatment of, (69) 783
suprarenal, and malignant kidney, fever with, (83) 546—ab
Turbinates, inferior, syphilitic hypertrophy of, *1191
Twilight, in the, (109) 1513, (108) 1686
talks with physician, (5) 220
Twins, monochorial, unequal, birth of, due to undeveloped genitalia with pregnancy, (19) 1007
Tympanic cavity, dehiscence of floor of, (14) 844
membrane and ossicles, partial petromastoid excavation with preservation of, (16) 460
wall and major portion of semicircular canals, exfoliation of, (50) 71
Typewriting, increase in metabolism due to work of, (25) 1758—ab
Typhlitis and ascending colitis, (52) 625
primary, (68) 704
Typhoid, (27) 158, (31) 226, (121) 1226
agglutination test, macroscopic, quick, (106) 156—ab, (60) 847
agglutinins, human and animal, (102) 155—ab
alkaline treatment in, (47) 847
and appendicitis, reciprocal relations between, (83) 1233
and cholera, (154) 1005
and scarlet fever, simultaneous, (114) 1370
angiocholecystitis, operative treatment of, (55) 931—ab
antityphoid vaccine in prevention and treatment of, (22) 221—ab
atypical onset of, (84) 1293
bacillus, atypical, (83) 1359
bacillus carrier, discovery of, in Adirondack camp, (7) 1067
bacillus carriers in insane asylums, (125) 80—ab
bacillus-carriers, operative treatment of, (81) 386—ab
bacteria and paratyphoid, cultural differentiation of, (115) 312
bacteria vaccine in, rational indication for, *1102
bacteriology of, (13) 1906—ab
bacteriology, pathology and diagnosis of, (39) 1856—ab
blood in, (102) 1369
can it be aborted? (131) 1226
cholecystitis, (159) 1617—ab
complicated by double parotiditis, (18) 454
control of, in army by vaccination, (39) 221—ab
deformity, (130) 935
development and value of blood cultures in, (21) 1224
diet in, (18) 538—ab, (89) 1513
duration of infectivity of, (16) 1072—ab
effusion, toxic action of, on circulation (99) 1623
epidemic of, in boys' orphan asylum, (116) 1694
epidemic with isolation of bacillus typhosus and bacillus coli from water-supply, *1100
epidemiology, changes in views concerning, (103) 856
erythema multiforme iris during, (20) 923—ab
experimental, (44) 1689—ab
feeding in, (112) 1616—ab
hexamethylenamin in, (69) 1075—ab
house epidemic of, due to bacillus carrier of atypical bacillus typhosus, (12) 1425—ab
hydrochloric acid in, (87) 1422—ab
in children, (108) 622, (105) 785—ab, (103) 1864—ab
in Cleveland and water pollutions of Lake Erie, (11) 922
in Des Moines, Iowa, *41
infection involving only gall-bladder, (60) 1146—ab
in goats, spontaneous, (114) 1624
Typhoid, intracranial suppuration, circumscribed, (100) 1076
liver abscess with or following, (30) 1855—ab
membranous enteritis in, (81) 310
meningitis, *882, (122) 935—ab
mild case of, (147) 1362
osteomyelitis, vaccine in, (169) 1617
perforation, operative treatment of, (50) 853—ab
perforation of intestine successfully operated on, (94) 1761
perforations and perforations of gall-bladder, (50) 222
post, delirium, (102) 1761
prevention of, (144) 1071, (47) 1358, (146) 1362, (21) 1854
preventive vaccination against, (63) 1074—ab
proper treatment of, (129) 1071, (89) 1513
residue, Vaughan's, (60) 222
resulting in death from unusual complication with masked symptoms, (88) 457
rôle of bacillus typhosus in etiology of, (18) 1619
safe and rapid method for administration of vaccine in, *1016
serodiagnosis of, (130) 313—ab
serotherapy of, (56) 308—ab, (66) 1300, (96) 1513—ab
spine, (15) 69, (114) 778, (19) 923—ab
surgery as prophylactic measure against intestinal complication in, (89) 1857
treatment of, (59) 456, (40) 1357, (89) 1513
ulcer, peritonitis in, acute, (45) 1683—ab
vaccination against, (33) 307, (47) 781—ab, (63) 854, (75) 855, (96) 1513—ab, (36) 1613—ab
Typhus, exanthematous, experimental research on, (35) 852, (51) 1073—ab
manchurian, clinical picture and bacillus, (144) 1371
serotherapy of, (75) 1368—ab
Tyrosin and indol, effect of injections of, in experimental animals, *1796
phenylalanin and their derivatives, catabolism of, (12) 1361

U

Ulcer: See also Ulcers
Ulcer, bladder, extensive, complicating early pregnancy, (25) 1144
corneal, septic, zinc ions in local treatment of, (134) 857
Duodenal: See Duodenal
Gastric: See Gastric Ulcer
indurated, chronic, of posterior wall of stomach, possible diagnosis and technic in excision of, *1699
in jejunum after gastro-enterostomy, (133) 1695—ab
leg, alternating treatment of, (77) 1622—ab
rodent, uranium calcio-phosphate in, (18) 1072
rodent, treatment of, (5) 382—ab, (71) 1292
rodent, of thigh, (7) 1006
marginal ring, of cornea, (139) 305
varicose, treatment of, (77) 1070—ab
x-ray, treatment of, (153) 305
Zambesi, (46) 461—ab
Ulceration and anemic gangrene in intestine due to simple distension, (124) 312
in intestines, (56) 1427
of mouth and throat, non-syphilitic, salvarsan in, (128) 1078—ab
of rectum, infective, chronic, (119) 1295
Ulcers: See also Ulcer
Ulcers, leg, and varices, spiral incision in, (152) 1372—ab
of cornea, indolent, electrolysis in, (141) 305
of leg, chronic, malignant degeneration of, (93) 1003
of upper digestive tract, importance of thread impregnation test for recognition of, (69) 1690
varicose, adhesive plaster garter for, (123) 629—ab
Umbilical cord, shortened, and arrested development of abdominal parietes, *804
cord, traumatic rupture of, in abdominal wall at birth, recovery, *1792
cord, treatment of, according to Ahlfeld, (153) 1372
fistula, intestinal obstruction due to fistula, enterolith spontaneously cured by evacuation through, (37) 77—ab,
Umbilicus Cesarean section by small median incision above, (125) 157—ab, (51) 1759—ab
surgical diseases of, *391

Uncinariasis, *1024
among Mexican track laborers, (106) 698
and other diseases, (102) 1857
infection, prophylaxis against, by means of efficient shoes, (13) 1067
influence of, on apparent age of children in cotton mills, (5) 1853
in mines of California, *259
in South, its neglect, (120) 1071
limited experience in treatment of, (77) 1293
prevalence and prevention of, in Virginia, (101) 1837
problem a real one, (59) 1001
Underwear, orange-red, experiment with, (72) 1685—ab
Unfit, (49) 384—ab
safeguarding society from, (23) 152—ab
sterilization of, (45) 775
United States national museum and other government scientific collections, (134) 381
United States Pharmacopeia: See Pharmacopeia
Universities, formation and functions of hygiene committees for, *1253
should they grant degree of Ph.D. for graduate work in surgical sciences? (26) 923—ab
Upsala, housing conditions in, (169) 390
Uranium calcio-phosphate in rodent ulcer, (18) 1072
Urea and ammonium salts, (30) 1758
and nitrogen, metabolism of, in gout, (116) 1624
content of blood and urine, test of kidney functioning by comparison of, (32) 1516—ab
estimation of, (37) 923
part played by nitrogen of ammonia in production of, (62) 931
Uremia, (148) 1372—ab
from acute nephritis in girl of 6, decapsulation of kidney in, (80) 1368
Ureter: See also Ureters
Ureter and kidney pelvis, plastic operations on, (60) 1862—ab
anuria from concrement in single kidney cured by catheterization of, (43) 853
calculi, diagnosis of, (131) 1004
calculus in, (70) 847—ab, (146) 927, (14) 1291
calculus in children, (35) 1426—ab
calculus in, operative treatment of, (37) 930—ab
carcinoma of, splenomegaly and left hydronephrosis, (76) 463
catheterization, criticism of technic of, of Dr. Howard Kelly, (139) 1617
double, catheterization of, and cystoscopy, (52) 1689—ab
empyema of, (117) 1004—ab
lower, calculi in, (102) 1013—ab
lower, surgical approach to, (80) 73—ab
or common bile-duct, severed, physiologic implantation of, into intestine, *397
problems, diagnosis of, (168) 305
removal of, with tuberculous kidney, (50) 1683
tuberculosis of, (53) 1420
behavior of, with genital prolapse, (83) 1368
Ureteritis, chronic, and chronic urethritis due to tonsillitis, *937
Ureterotubal anastomosis, *265
Ureters: See also Ureter
Ureters and kidney, operating on, (10) 1687
and kidneys, surgical diseases of, diagnosis of, (43) 1358
catheterization of, technic of, (121) 1694
extraperitoneal transplantation of, into rectum for extroversion of bladder, (140) 1617—ab
Urethane, influence of, in production of glycosuria after intravenous injection of adrenalin, (34) 923
Urethra and bladder, calculus in, in children, (68) 153
and bladder, deep, catheter left in, after operation of external urethrotomy, (31) 1224
and bladder, deep, larvæ in, (139) 381, (42) 1511
bridging gap in, with flap of fascia, (80) 1863
calculi, diagnosis of, (172) 1149
catheterization in young children, (136) 1148
endoscopic discovery of deformity in, (38) 930
female, sarcoma of, (34) 1516—ab
Urethra, injection of glycerin in, to facilitate passage of sounds, (116) 785—ab
male, concealed chancre of, (5) 454
male, dilatation of, special reference to mechanical dilators, (132) 1617
male, glass tube in, *1794
male, normal, bacteria of, (143) 1306
massage of, sound for, (76) 1519
massive destruction of, after succession of attempts to restore it in hypospadias, (29) 1224
multiple papillomata of, (164) 382
or bladder, catheters knotted in, (39) 930
posterior, pathologic and normal, and neck of bladder, (75) 924, (28) 1224, (37) 1420
prostatic, congenital membranous stricture of, (129) 935
prostatic, traumatic rupture of, (21) 780
stricture of, (46) 539, (131) 1617
stricture of, treatment of, (31) 383
strictures of, excision of, (29) 226
technic of hyperemic treatment of, by hot sounds, (76) 924
Urethral instrumentation, abuse of, (19) 454
Urethritis, acute, of chemical origin, (10) 1291
and cystitis, gonorrheal, in women, recognition and treatment of, (6) 537
chronic, and chronic ureteritis due to tonsillitis, *937
chronic, aspiration treatment of, (42) 853—ab
chronic, urethroscopy in diagnosis and direct treatment of, (156) 390
gonorrheal, acute, treatment of, (63) 696, (48) 1689
gonorrheal, chronic, electro-ionization in, (56) 1621
Urethroscopy, air-inflation, air embolus during operation under, *419
in diagnosis and direct treatment of chronic urethritis, (156) 390
Urethrotomy, external, catheter left in deep urethra and bladder after operation of, (31) 1224
Uric acid, elimination of, in diet, (74) 1300
acid in urine, blood and other serous fluids, quantitative determination of, (73) 1368—ab
acid in urine, centrifuge in determination of, (68) 1862
Urinary apparatus in women, tuberculosis of, (149) 858
calculus, origin of, (115) 778
concrements, remarkable, (75) 546—ab
organs, aid to radiography of, (77) 847
passages, infection of, with colon bacillus, (87) 1012—ab
passages, infectious processes in, means to influence, (72) 1519
tract, infection of, in children by coliform organisms, (22) 1687—ab
tract, infections of, vaccines in, value of, (34) 1683
tract, infection of, with bacillus coli, (44) 77, (131) 851
tract, purulent infections of, in infancy, *631
Urine, acidity of, in infants, (76) 1301—ab
acidity of, in respect to diagnosis and prognosis, (160) 468
acidity of, not constant in tuberculosis, (122) 786
after salicylic medication, (43) 1765
analysis, points in, (47) 384, (29) 623, (41) 781, (20) 851
and blood, comparison of urea content of, as test of kidney functioning, (32) 1516—ab
and vaginal secretion, bactericidal properties of, during pregnancy, (104) 1370
behavior of albuminuria and tube-casts in, during course of mineral waters at Marienbad, (111) 785
blood-count technic applied to organized elements in, (117) 312
blood pigment in, not pathognomonic of malaria, (176) 1697
blood pigments in, in malaria, (58) 462
Butenko reaction in, in paralysis, (133) 467—ab
centrifuge in determination of uric-acid in, (68) 1862
chlorids, phosphates and sulphates of, in last stage of pulmonary tuberculosis, (22) 1682—ab
color tests for sugar, creatin and creatinin in, (144) 1695
Urine containing glucose, blood charcoal as clearing agent for, (2) 1756—ab
content in albumin and tube-casts while taking course of sulphate waters, (120) 1156
dangers of diverting, into intestine, (135) 935—ab
decomposing, action of products of, experimental research on, (112) 1304—ab
determination of alkylamines obtained from, after Kjeldahl digestion, (122) 1361
determination of ammonia in, (75) 697
determination of chlorin and purin bodies in, (47) 70
determination of total sulphur in, (76) 697
diacetic acid in, with periodic attacks of indigestion in children, (107) 1003
diagnostic importance of concentration of, (45) 1365—ab
diagnostic importance of lipase in, (120) 231
discoloration of, after eating mushrooms, (113) 628
elimination of diastatic ferment in, (41) 1908
excreted during anesthesia, influence of Trendelenburg position on quantity of, (65) 457—ab
findings in diagnosis of cancer, (95) 311—ab
formation of concrements in, and means to influence it, (64) 1428—ab
from female infants, method of collecting, (16) 844
giant cells in, as sign of urogenital tuberculosis, (118) 162
hyperacidity in relation to neuritis, neuralgia and myalgia, (49) 378—ab
in acromegaly, *1870
in children, amino-acid content of, (113) 1694
incontinence, postoperative, (23) 1682
indican in, (67) 932
infants, chemical study of, (97) 1431
in general paralysis, (47) 625
in pregnancy, (135) 389
interpretation of gross findings in, (106) 1070—ab
is high total acidity of, pathognomonic of cardiac disease? (61) 222
methylene-blue reaction in, diagnostic significance of, especially in malignancy, *1882
normal, in patient with right pyonephrosis, (67) 303
of bottle-fed infants, elimination of phosphates in, with and without intake of salt, (86) 627
of breast-fed infants, reaction in, (69) 546—ab
of children, concrements in, (162) 468
of fox, dog and coyote, comparative analysis of, (71) 697
of infant, elimination of gastric ferments in, (111) 706
of infant, glycuronic acid in, diagnostic importance of, (103) 706—ab
of normal children, frequency and significance of albumin in, (88) 697—ab
of worker on brass, copper isolated from, (131) 1305
pathologic, slight clinical value of antitryptic action of, (107) 856
pepsin and diastase content of, clinical studies in, (10) 1357—ab
peptone in, (131) 231
pigment of, pathologic, (65) 228
pigmented blood-cells in, (99) 1769
pressor bases of, (3) 1906—ab
quantitative determination of diastase in, its relation to nephritis and diabetes, (119) 80
quantitative determination of uric acid in, (73) 1368—ab
reaction, Butenko's, not specific for progressive paralysis, (85) 1622
reaction in disease of central nervous system, (134) 1078
reaction in infants, (91) 933—ab
reactions in, in infectious diseases, (167) 1372
retention of, (8) 1006
retention of, in male, immediate treatment of, (47) 1299
sediment, lipoid droplets in, (75) 1767
segregation of, in female bladder, (50) 1299
simple method for detection of minute quantities of albumin in, *662
sugar in, management of patients with, (148) 1227
sulphur reaction in, with cancer, (132) 1371—ab, (178) 1697—ab
Urine, test for albumose in, (175) 1697—ab
traumatic and postoperative retention of, (66) 303
tubercle bacilli in, technic for determination of, (139) 1305
with cancer, (94) 1864—ab
Urines of marathon runners, (4) 1071
Urobilin in blood, (92) 229
Urogenital tract, cancer of, diagnosis and treatment, (94) 380
tuberculosis, Addison's disease in connection with, (170) 859
tuberculosis, clinical aspects of, (157) 927
Urotropin: See Hexamethylenamin
Urticaria, prurigo and papule originating from, (167) 1296
Uterus, abdominal exclusion of fundus of, in complete procidentia, (73) 847
abscess of, intramural, (85) 783, (51) 1292
adherent, gravid, retroflexed, treatment of, (25) 618—ab
and adnexa, automatic manifestation and peripheral control of pain originating in, *861
and ovaries, active substances in, (105) 628
and rectum, cancer of, in women, abdomino-perineal technic for removal of, (64) 854—ab
anteflexion of, cause of development of myomas, (148) 1306—ab
anteflexion of, treatment of, *727
backward and downward displacement of, ventrosuspension by round ligaments for, (61) 1421—ab
bipartitus, solid, rudimentary, with solid vagina, (153) 551
bladder and rectum, abdominovaginal operation for carcinoma involving, (96) 933
blood-vessels of, arteriosclerosis of, *239
cancer of, (92) 380—ab, (110) 465—ab, (88) 925, (32) 1426
cancer of, advanced, what shall we do with patients with? (126) 74
cancer of, and uterine hemorrhage, (130) 698
cancer of, cured by radical abdominal operation, (69) 379
cancer of, diagnosis of, (27) 1682—ab
cancer of, inoperable, action of radium rays on, (66) 1010
cancer of, necessity for microscopic examination of assumed recurrences of, (165) 1696—ab
cancer of, non-operative treatment of, (57) 384—ab, (76) 1225
cancer of, participation of tissues adjacent to uterus and of pelvic lymphatics in, *101
cancer of, results from radical abdominal operation for, *96
cancer of, technic of radical abdominal hysterectomy for, (71) 847
cancer of, treatment of, (130) 1157—ab
cancerous, method of radical extirpation of, based on 49 cases, (17) 1907—ab
cancerous, rubber cap to draw over, during hysterectomy, (176) 859
carcinoma of, abdominal operations for, (89) 79
carcinoma of, infundibulin in hemorrhage due to, (17) 1143
carcinoma of, with much glycogen, (113) 1864
Cesarean section for placenta implanted between body of, and cervix-uteri, (84) 310—ab
chorio-epithelioma of, preceded by vesicular mole and with unusual nervous symptoms, (23) 928
complete inversion of, of 14 years standing, (27) 617
contractions, action of gossypii cortex on, (97) 1147—ab
corpus, tumors of, pathology of, (16) 1907
cysts in, (37) 1516
didelphys, fibroid, (83) 457
dilatation of, by tents, *1874
dilatation of, intra-uterine applications for, *1874
direct application of heat to interior of, (115) 230
double, (79) 78
dystocia due to ventrofixation of, Cesarean section for, (4) 633—ab
epithelium development in vaginal portion of, (87) 79
erosions and pseudo-erosions of vaginal portion of, (88) 79
evils of introduction of foreign bodies into, to prevent conception, (77) 1863

Uterus, fibroid, (54) 222
fibroid of, weighing 95 pounds, removal of, (143) 699
fibroids of, and loss of cardiac compensation, *1324
fibroids of, and pregnancy, (96) 542, (125) 698, (128) 1148, (99) 1615, (54) 1759
fibroids of, clinical side of, with perfected operation for its cure, (45) 1224
fibroids of, pathology, degeneration and complications of, (47) 1224
fibroids of, their complications, (17) 1859—ab
fibroids of, treatment of, (46) 1224
fibromyoma of, subtotal hysterectomy for, (8) 460—ab
fibromyoma of, wide range of complication, (154) 382
fibromyomata of, complicating pregnancy, labor and puerperium, (121) 305—ab, (99) 1615, (54) 1759
fibromyomata of, intraperitoneal hemorrhage in, (26) 306—ab
gas in, (119) 466
hemorrhage of, and uterine cancer, (130) 698
hemorrhage of, clinical aspect of, (69) 1857
hemorrhage of, originating in ovary, (114) 934—ab, (108) 1370
hemorrhage of, pathologic basis of, (68) 1857
hemorrhage of, treatment of, (134) 550—ab, (12) 1007
hemorrhage of, utriculoplasty for, (13) 1764—ab
hypoplasia of, and anteflexion, (36) 1619
hysterectomy without opening, for hemorrhage from placenta praevia, (42) 1689
importance of removing, in certain diseased conditions of ovaries and Fallopian tubes, (10) 460
improved technic for abdominal fixation of, in serious displacement or total prolapse, (119) 389
inverted, prolapse of, during labor, (6) 622
isthmus of, (85) 310
isthmus of, and cervix-uteri, young placenta implanted on, (150) 551
isthmus of, and placenta prævia, (49) 1152
keratinizing adeno-carcinoma of, (21) 928
leukoplakia of, (167) 1696
mucosa of, structure and evolution of, (46) 1009
myoma of, and degenerative changes, (19) 618—ab, (28) 1854—ab
myoma of, lymphangiectasia with, (90) 79
myomas of, treatment of, (63) 1428—ab
myomas of, venous, with intravascular growth, (159) 1696
myomata of, abdominal myomectomy for, (63) 847—ab
myoma of, abdominal hysterectomy for, (28) 1908
myomata of, and heart disease, (11) 1904—ab
myomata of, and parturition, (135) 1004
normal, pregnancy in horn of, or apical pregnancy, (120) 304
normal, torsion of appendages of, (97) 1615
normally developed, and rudimentary Fallopian tube, absence of one ovary with, (141) 858
osteoma of, (83) 777
pathology of, (125) 389
pelvic fixation of, for retroflexion, (67) 1910—ab
perforation of, and transfixion of contiguous mesentery and peritoneum by bone crochet needle, *173
perforation of intestine during curettage of, (121) 786
perforation of, laceration of small intestine, resection, hysterorrhapy, (40) 1292
perforating wounds of, (39) 1613
placenta marginata and placenta implanted in cornua of, (83) 310
plastic utilization of, in rectocele, (123) 389
plication of round and anterior fold of broad ligament on anterior surface of, for retrodisplacement, *469
pregnant, being within umbilical hernia, Cesarean section, (125) 305—ab
Uterus, progressive descent of, treatment of, (44) 1209
prolapse and retroversion of, shortening of ligaments for, (112) 1235
prolapse of, and cystocele, plastic operation for, (109) 1013—ab
prolapse of, severe, modern methods of treatment for, (83) 73—ab
prolapse of, ventrofixation in, (14) 1425—ab
prolapse of, Wertheim-Schauta operation for, (85) 79—ab
puerperal, dislocated, (11) 69
puerperal inversion of, (142) 858—ab
puerperal inversion of, with chronic nephritis, (49) 1231
rectum and colon, cancer of, abdominal hysterectomy in, (66) 854—ab
retrodeviations of, evolution of surgical treatment of, *487
retrodisplacement of, cause and treatment of, (44) 1614
retrodisplacement of, operation for, *481, (47) 222
retrodisplacements of, non-surgical treatment of, (80) 1225
retroflexed, easy and rapid mechanical reposition of, (119) 231—ab
retroflexed, pregnant, cause of incarceration with, (116) 1370
retroflexed, reposition of, (131) 1157
retroversion of, intraperitoneal shortening of round ligaments for, *573
retroverted, vaginofixation of, in cure of cystocele in parous women, (51) 1420
round-ligament ventrosuspension of, *485
rupture of, spontaneous, factors concerned in, (114) 304
sacral suspension of, (83) 848
sarcoma of, (33) 301—ab
septic perforation of, toxic hematoporphy rinuria complicating, fatal, (19) 300—ab
simultaneous occurrence of adeno-carcinoma and sarcoma in, (43) 1292
structure and development of mucosa of, (33) 1230
tissues adjacent to, and pelvic lymphatics, participation of, in uterine cancer, *101
tonics for, pharmacologic study of, (88) 1234
tuberculosis of, (118) 706
tumors of, benign, (124) 1616—ab
Utricle, prostatic, method of treating, *731
Utriculoplasty for uterine hemorrhage, (13) 1764—ab

V

Vaccination against small-pox, (61) 1232—ab, (92) 1513
against small-pox, experience of army with, (92) 1513
against typhoid, (221) 221—ab, (33) 307, (47) 781—ab, (63) 854, (75) 855, *1016, (63) 1074—ab, (111) 1423
and revaccination, value of, (10) 226
and small-pox in Japan, *889
antiplague, preventive, (44) 1516
control of typhoid in army by, (39) 221—ab
immediate plus tardy reaction to, (82) 1767
in gonorrheal complications, (150) 305, (38) 781
in Philippines, (28) 846
insusceptibility to, (16) 928—ab
Vaccinations, primary, 30,000, conclusions from, (144) 1362—ab
Vaccine, antityphoid, safe and rapid method for administration of, *1016
bacterial in typhoid, rational indication for, *1102
Gilman, probable cancer transplantation from use of, (55) 1001
gonococcus, in gonorrhea, 500 cases of, (9) 1854
gonococcus, in gonorrheal arthritis, (25) 455
gonococcus, results with, (8) 1854
in tongue diseases, (11) 1613
in typhoid osteomyelitis, (169) 1617
therapy, (36) 226, (22) 1067, (37) 1230, (32) 1619, (26) 1859
therapy and cancer, (120) 1624
therapy and serotherapy, (93) 73, (141) 1423
therapy and serotherapy in ocular tuberculosis, (145) 305
therapy and simplified opsonic index, (11) 1510
Vaccine therapy, artificial, versus natural immunizations, (93) 1513
therapy as applied to skin diseases, (82) 223
work in cancer, status of, (50) 1001
therapy, chronic influenzal rhinitis promptly improved by, *264
therapy for prevention of hemorrhage in pulmonary tuberculosis, (70) 1359—ab
therapy in chronic glanders in man, *1379
therapy, in gastric ulcer, (21) 846
therapy in lung abscess, (78) 72
therapy, in management of arthritis, (110) 926—ab
therapy in middle ear infections in infants and children, (31) 1357
therapy in otitis media, *1647
therapy in prevention of dysentery in infants, (73) 1512—ab
therapy in puerperal sepsis, (2) 1290—ab
therapy in skin diseases at Massachusetts General Hospital, (83) 223
therapy in surgical tuberculosis, (159) 1228
therapy in true staphylococcus pyemia, (30) 1357
therapy in typhoid, rational indication for, *1102
therapy, modified, based on theory of multiple infections and quantitative reaction, (75) 1421—ab
therapy of acute infective osteomyelitis, (25) 306
therapy of bronchitis, (34) 226
therapy of gonorrhea in women, (56) 1518
therapy of malignant endocarditis (or pneumococcus septicemia), (46) 1073
therapy of pyorrhea alveolaris, (5) 1510
therapy of seborrhea of scalp, (45) 1073
therapy of tuberculosis, (35) 226
therapy of typhoid, (36) 1613—ab
therapy, results of, (33) 1619
therapy, résumé of, (53) 619—ab
therapy, theories regarding certain failures, (162) 699
Vaccines and atropin in gonorrhea, (66) 1862
and serum, antigonococcus, in gonorrhea, clinical experience with, (135) 459—ab
and serums, (24) 1144
autogenous, in mixed infections in pulmonary tuberculosis, (90) 1761—ab
autogenous, for prevention of hemorrhage in pulmonary tuberculosis, (70) 1359—ab
autogenous, in hospital for ruptured and crippled, (112) 926
bacterial, factor in therapeutics, (172) 305—ab, (72) 1225
bacterial, improved method for preparation of, (103) 542
bacterial, in staphylococcus infections (144) 1617
bacterial, in suppurative otitis media, scarlatinal, *1088
bacterial, therapeutic inoculations of, (77) 1685
bacterial, toxins, antitoxins and antiserums, with comparisons, (29) 1357
effects of, (47) 924
for infection following cataract extraction, recovery, (94) 1686
gonococcus, in gonorrheal arthritis, (43) 221
in acute mastitis, (4) 1424—ab
in infections of urinary tract, value of, (34) 1683
in operative treatment of tuberculous joints, (109) 926
in puerperal sepsis, what we can expect from, (61) 1759—ab
in rheumatic diseases, (7) 1763—ab
in rheumatoid arthritis, (8) 623—ab
specific differential reactions with, according to Wright, (99) 856—ab
specific, personal experience with, (136) 1423
stock, in acute gonorrhea, (20) 846
Vacuum desiccation, effect of, on virus of rabies, (43) 456—ab, (43) 538—ab
pump for sinus and middle-ear disease, *811
Vagina and clitoris, congenital absence of (128) 1226
antiseptic lavage of, in obstetrics, (162) 1696
artificial, made from transplanted intestine, (52) 703
Vagina, atresia of, and unruptured hymen in pregnancy, (77) 1225
cancer of, primary, (102) 627
complete absence of, operation for formation of plastic vagina, (45) 1145—ab
construction of, (96) 622—ab, (45) 1145—ab
inversion of, following hysterectomy, (45) 930
or vulva, hematoma in, etiology of, (67) 309
sarcoma of, (152) 1148
solid, rudimentary solid uterus bipartitus with, (153) 551
wall, laceration and expulsion of ring of, (99) 627
Vaginal methods in gynecology, (100) 627—ab
Vagino-abdominal examination, method of teaching, (26) 618—ab
Vaginofixation, (140) 1865
of retroverted uterus in cure of cystocele in parous women, (51) 1420
Vagotonie and vagus heart-block, (30) 1292
Valve, heart, defect of, ascites with, omentopexy for, (124) 707—ab
Valvular disease, aortic, insidious development of, in atheroma, (44) 1073
Vanadiumism, *1648
Vapors of C. P. benzol, poisoning by, (51) 378
Varicella, gangrenous and hemorrhagic, fatal, (160) 1617—ab
with adenopathies, torticollis and initial pruritus, (44) 1009
Varices and leg ulcers, spiral incision in, (152) 1372—ab
in upper rectum, proctoscopy and anemia from, (71) 546
of leg, idiopathic, superficial, resection of, technic for, (32) 1765
on legs, idiopathic, superficial, total resection of, (70) 1300—ab
Varicocele in male, when and how to treat, operatively, (87) 777—ab, (100, 109) 778—ab
operative treatment of, (168) 1697—ab
treatment of, (97) 1293
Varies: See also Varix
Varix or angioma venosum of orbit, (108) 1147, (92) 1686
Vascular system, histomechanics of, and pathogenesis of angiosclerosis, (148) 1696
Vasectomy and eugenics, (36) 455, (129) 1004
Vasoconstriction, epinephrin, mechanism of, (160) 390
Vaso-repair, (16) 1613
Vegetables, digestion of, (73) 1154—ab
Vegetarians, tests on, (119) 706
Vein Anesthesia: See Anesthesia
Vein anesthesia, modified, (171) 859—ab
central, of retina, spontaneous thrombosis of, following parturition, (145) 305
mesenteric, superior, thrombosis of, (34) 852—ab
ovarian, left, thrombosis postabortum of, hysterectomy, death from continued thrombophlebitis, (85) 379
ovarian, ligation of, for thrombophlebitis of puerperal origin, (142) 699
retinal, central, thrombosis of, (50) 1614
saphenous, internal, implantation of, in peritoneum in ascites, (134) 163—ab
sign in abdominal inflammations, (81) 458—ab
Veins, ligation of, for suppurative portal thrombosis, (157) 552—ab
peripheral, pulsations in, (9) 1510—ab
varicose, in legs, (56) 625—ab
varicose, of legs, non-operative treatment of, (103) 1070
varicose, venous anastomosis for, venovenostomy, *1447
Vena cava, inferior, experimental ligation of, (39) 1230
superior, and great veins, thrombosis of, (13) 1859
Venereal adenitis, treatment of, (161) 468
affections considered as epidemic diseases, (129) 459
disease, compulsory notification of, (84) 1225
disease in Goethe's poetry, (81) 783
disease, prevention of (29) 152, (129) 231, (130) 459
diseases among seamen of merchant marine, (93) 1359—ab

Venereal diseases and medical secret, (57) 1225
diseases and prostitution in New York, problem of, (14) 1067, (12) 1143
diseases at camp Stotsenburg, Pampanga, P. I., (111) 698
diseases, control of, at their source in civil communities, (20) 75
diseases, legal duty of physicians to report, (12, 13) 922
diseases, plea for applying usual methods of preventive medicine to, (94) 1359—ab
diseases, prophylaxis of, in United States army, (80) 154—ab
diseases, spread of, (20) 774
diseases, supervision of, (76) 1070
prophylaxis in United States navy, *1098, (92) 1359—ab
Venery, excessive, and tabes dorsalis, (152) 1617
Venesection and saline infusion in pneumonia, (14) 1757
and saline infusion in skin disease, (64) 625—ab
anemia from, influence of quinin on regeneration of blood in, experimental research on, (115) 1769
efficacy of, (41) 227
in polycythemia, (112) 934—ab
Venom poison compared with puerperal eclampsia, (2) 623—ab
Venovenostomy, *1447
Ventilation of kitchens and bakeries, (14) 220
of schoolrooms, (88) 1225
of sleeping cars, (87) 622—ab
Ventricle, left, aneurysm of, (124) 1370
right, of brain filled by cerebral tumor and under surface of corpus callosum affected, (16) 623
Ventricles, cerebral, function of chorioid plexuses of, and function of pituitary gland, *265
Ventrofixation in prolapsus uteri, (14) 1425—ab
of uterus, dystocia due to, Cesarean section for, (4) 623—ab
Ventrosuspension by round ligaments for backward and downward displacement of uterus, (61) 1421—ab
round-ligament, of uterus, *485
Veratrum viride in lobar pneumonia, (69) 1512
Veronal in seasickness, (137) 467
Verruca, etiology of, *1193
Verruga, peruvian, in Madagascar, (53) 384
Version and elastic bag, combined, in placenta-praevia, (121) 389
Vertebra, cervical, sixth, dislocation of, forward on seventh, (124) 850
fracture of, insertion of wire backstay, (54) 1069
Vertebrae, bony changes in, in typhoid spine, (19) 923—ab
buried steel bars attached to, for support of spondylitic spine, (59) 153—ab
cervical, unusual fracture of bodies of, with inury of spinal cord, (13) 1291—ab
insufficiency of, (121) 312—ab
lumbar, isolated fracture of transverse processes of, (62) 308—ab
scoliosis relieved by operation on transverse process of one of, (56) 153—ab
sudden onset of Pott's disease without deformity of, (150) 1149—ab
Vertebrates, influence of accommodation on ocular tension of, (157) 1296
Vertigo, (21) 623
from disease of internal ear, electric investigation in, (70) 1622—ab
Verumontanum, work done on, (150) 699
Vestibular apparatus, clinical pathology of, (87) 1154
apparatus, function of, (72) 777
Vibration, increased, of chest wall always sign of infiltration of lung, (109) 856
Vibrio, cholera, biologic properties of, (30) 1298
cholera, found in Donau river, (77) 783
Vibrios, cholera-like, and cholera encountered in Philippines, (33) 695
cholera, mutation phenomena in, (93) 1076
Violence, indirect, injuries to abdominal viscera due to, early operation, (169) 1362
Virulence and phagocytosis, (66) 1767
Virus of yellow fever, dengue and pappataci fever, nature of, (4) 773—ab
Viscera, abdominal, injuries of, without external signs of violence, *718
abdominal, inuries to, due to indirect violence, early operation, (169) 1362
abdominal, temporary eventration of, for x-ray examination and treatment, (85) 1234—ab
injured by contusions of abdomen, (39) 1292
knee-elbow position with ptosis of, (69) 1153—ab
muscles and blood-vessels, preservation of anatomic dissections with permanent color of, *882
of Cameroon negroes, peculiar pigmentation of, (99) 933
pelvic, support of, (16) 922
plastic closure of fistulas opening out of, (172) 859—ab
ptosis of, support for, (36) 1230
syphilis in, acute, (26) 1425
Visceroptosis, improved abdominal binder, (173) 1618—ab
Viscosity of blood, determination of, (100) 1302
Vision, (42) 77, (30) 623, (31) 1151
color, and color blindness, (9) 700, (5) 779, (9) 780—ab
disturbances in multiple sclerosis, (125) 224—ab
fields, testing of, for color without perimeter, *1106
in medical cases, (9) 1514
recovery of, under electricity after blindness from toxic action of wood alcohol, (93) 1857
test card, unlearnable, for use in naval service, (131) 305—ab
tested in examining chauffeurs, (162) 858
tests and limits of acuity of, (72) 1233
useful, retained after removal of leukosarcoma of iris by iridectomy, (92) 622
Vis medicatrix naturae, (129) 1226
Visual field, defects in, (12) 1229
Vitality, national, examination of Prof. Irving Fisher's report on, (11) 773
Vitiligo, sensory disturbances in, (115) 162
Vitreous, floating Soemmering's crystalline mass in, (128) 1514
Voice, defective mutation of, cause and treatment of, *420
rest for, (65) 1225
Volvulus, (188) 1698
and real or simulated strangulated hernia, (49) 775—ab
of sigmoid flexure and Hirschsprung's disease, (56) 1909
of stomach, (71) 932—ab
Vomiting and nausea, postoperative, from chloroform and ether, open-air treatment of, (83) 1293—ab
of pregnancy, pernicious, (44) 158--ab
of pregnancy, toxic, myelitis and polyneuritis during, (31) 1426—ab
uncontrollable, with congenital megacolon, (152) 82—ab
Vulva, cancer of, surgical treatment of, (9) 226
diphtheria of, in child, (10) 220
epithelioma of, electricity in, *886
epithelioma of, ionic surgery and plastic operations in, *886
or vagina, hematoma in, etiology of, (67) 309
pruritus, idiopathic, epidural injections in, (82) 1429

W

Warship, present-day, provisions for health of seamen in, (124) 1147
Warts, multiple, (163) 1149
surgery of, (139) 1148
Wassermann Reaction: See Reaction
Water analysis and public health, (28) 69
and chlorid tolerance in nephritis, (3) 1756—ab
and malarial fevers, (146) 225—ab
Baltimore city, bacteriology of, (50) 847
closets on trains, danger of sowing cholera germs from, (144) 164
content of blood in infants, (89) 627, (131) 857
distilled, influence of, on healing of skin wounds in frog, (81) 1512—ab
drinking, studies on, (104) 1360—ab, (4) 1757—ab
drinking, therapeutic effect of high nitrates in, *1881
hyperchlorite treatment of, at Minneapolis, (78) 1002
Water, mineral, radio-active, natural, subcutaneous injections of, (119) 548
pollutions of Lake Erie and typhoid in Cleveland, (11) 922
restitution of, after periods of indigestion, (84) 627
retention of, during fever, (85) 627
supply and sewage disposal, (103) 74
supply, isolation of parthyroid bacillus from, (47) 461
supply, typhoid epidemic with isolation of bacillus typhosus and bacillus coli from, *1100
Waters, mineral, radioactivity of, (100) 1693—ab
potable, practical sterilization of, by ultraviolet rays, (13) 226
Weasel, susceptibility of, to plague, (42) 455
Weight of new-born infants, duration, extent and course of physiologic decline in, (85) 705
Weil's disease, (57) 1767—ab
West Africa and insurance, plea for routine blood examination, (22) 226
Wet-nurses, directory for, its experiences for 12 months, *1715
White pox, (157) 858
race, malaria in, clinical studies of, (99) 155—ab
Whooping-cough, (140) 157
prolapse of bladder in female infant with, (115) 1077
serodiagnosis of, (55) 854—ab
serodiagnosis of, by hemolytic test, (49) 307—ab
treatment of, (16) 1143
Winckel's disease, (81) 1301—ab
Wind instruments and longevity, (105) 1003
Window tent and starnook for rest cure in open air and for outdoor sleeping, (5) 1357
Winds, rain-bearing, prevalent, and milk supply of Manchester during 1896-1909, (2) 1071
Wire, aluminum, bone clamps of (64) 153—ab
netting to strengthen casts, (31) 1516
picture, bone wiring with, (84) 379
silver, for fractures of patella, (111) 1616—ab
Witness, expert alienist as, (145) 225—ab
lying-in and pregnant, plea for more intelligent care of, (51) 1512—ab
nature of prolapse of genitalia in, (100) 1003
pregnant, at term, fatal eclampsia-like syndrome in, with primary melanosarcomas in ovaries and multiple carcinomas in liver and metastasis in placenta, (56) 1010
Woman, generative organs of, and thyroid, (83) 1686—ab
Women, backache in, causes and treatment of, (133) 699
child-bearing, gonorrhea in, clinical peculiarities of, (137) 1617
chronic intermittent hydronephrosis in, (150) 858
complete vesical hernia in, new operation for, (148) 225—ab
functional periodicity in, some modifying factors of, (155) 382, (96) 698, (134) 1295—ab
gonorrhea in, treatment of, (1) 220, (56) 1518
gonorrhea in, vaccine therapy of, (56) 1518
gonorrhea in, when is it cured? (141) 699
gonorrheal urethritis and cystitis in, recognition and treatment of, (6) 537
health of, and modern medicine, (2) 617
influence of menstruation on neuropsychic sphere of, (171) 82
in industry and child welfare, (155) 1005
kidney tuberculosis in, (7) 1904—ab
nervous, end-results of surgical operations on, (9) 220—ab
parous, cystocele in, vaginofixation of retroverted uterus in cure of, (51) 1420
parturient and pregnant, salvarsan in, (91) 1863
pelvic cellulitis in, treatment of, (75) 1293
pregnant and parturient, new bag for hydrostatic dilatation of cervix-uteri in, (55) 1069—ab
pregnant, care of, during pregnancy and delivery, (81) 1146
sexual element in neurasthenia of, (33) 461
Women, sigmoiditis and infection of internal genitalia in, (53) 1299-ab
sterility, in primary, (3) 693—ab
sterilization of, temporary, (170) 83—ab, (136) 1371
tuberculosis of urinary apparatus in, (149) 858
with contracted pelves, long in labor and exposed to septic infection, alternatives for Cesarean section in, (17) 928, (14) 1007
Word blindness, congenital, hereditary, (2) 1149—ab
tests for complexes in disturbed mentality, (151) 225
Work and play, (37) 538—ab
Workmen's compensation, (130) 163—ab
compensation act, cases under, others of medicolegal interest, (8) 1618
compensation act, 1906, question of compulsory state insurance of employers' liability under, (22) 1072
Worms: See also Helminths and Helminthiasis
Worms, regeneration of isolated segments and small pieces of, (148) 1005
Wound, care of, after abdominal hysterectomy, (137) 935
gunshot, of skull, unusual, (20) 1364—ab
gunshot, of skull, unusual effects from, (154) 927
gunshot, through head, (43) 618—ab
gunshot, of ear, (134) 927
gunshot, of heart, (19) 701
infection, bacillus aerogenes capsulatus, 8 cases of, (56) 696
irrigation, intermittent, improved method of, (143) 1148
margins, widely separated, approximation of, (42) 847
razor, of throat, extensive, (140) 381
stab, of heart, (16) 69—ab
Wounds, arrow, and arrows in manbhum, (16) 780
breaking down of, following operations, (11) 1357
gunshot, of abdomen, (71) 303, (85) 457, (69) 1002, (172) 1362
gunshot, of abdomen without injury to organs, (79) 1863
gunshot, of kidneys, (74) 1519
gunshot, of long bones, (78) 1863
gunshot, of lungs, primary operative treatment of, (107) 79
infectious or suspicious, suction treatment of, by sterile sand baths, (150) 1372—ab
inflicted by tigers, panthers and bears, (23) 1230
in vitro, cicatrization of, (99) 1225—ab
iodin disinfection of, (37) 1357
of abdominal wall, gastric weak line in, *1798
of heart, operative treatment of, (111) 1003
penetrating, of eyeball, (110) 778
severe, care of, (128) 80
skin, in frog, influence of distilled water on healing of, (81) 1512—ab
skull, treatment of, on battle field, (56) 931
treatment of, (46) 222
Wry-neck, and jaundice, (169) 82
or congenital torticollis, (30) 1151

X

Xanthelasma, (51) 1614
Xanthoma, eyelid, nature of, (87) 223

Y

Yaws, (35) 307
complement fixation in, (39) 1511
salvarsan for specific cure of, (34) 695—ab, (97) 1225
Yellow-fever in West Africa, history of, (1) 622, (7) 699, (6) 779
in West Africa, proof of endemic origin of, (24) 75
nature of virus of, (4) 773—ab
Yucatan, experiences in, (22) 158

Z

Zambesi ulcer, (46) 461—ab
Zenker's Degeneration: See Muscles, waxy degeneration of
Zinc ions in local treatment of septic corneal ulcer, (134) 857
ions in lupus vulgaris, (26) 1230
oxid in face powder, (17) 1067
Zinc phosphid, herpes zoster and acute poliomyelitis, (118) 1762
Zomotherapy in tuberculosis and wasting diseases, (19) 383—ab

CURRENT MEDICAL LITERATURE

INDEX TO AUTHORS

In this Index are the names of the authors of articles which have appeared in THE JOURNAL of the American Medical Association and of articles which have been listed from week to week in the Department of Current Medical Literature as having appeared in other journals. Thus it practically includes the names of all who have published articles in the leading journals of the world during the past six months. To add to its completeness, the names have been added of those who read papers before societies as published in THE JOURNAL. The * preceding the page reference indicates that the article appeared in full in THE JOURNAL. The numbers in parentheses indicate the numbered paragraphs on the pages referred to. The numbers not in parentheses indicate pages.

A

Aaron, C. D., (23) 1000, (33) 1613
Aarons, S. J., (12) 226
Abadie, J., (52) 703
Abalos, J., 1830
Abbe, R., (25) 846
Abbe, T., (7) 1000
Abbott, A. C., (51) 776
Abbott, A. W., 299
Abbott, E. J., (112) 1616
Abbott, W. C., (131) 1148
Abbott, W. J., (100) 542
Abeken, F. G., (142) 381
Abel, J. J., (50) 539, *1531
Abelin, J., (98) 1864
Abell, I., (98) 73, (101) 304, (113) 1226
Abelmann, H. W., (66) 1358
Abraham, J. J., (10) 306
Abrahams, A., (49) 1073
Abrahams, R., (25) 695
Abrams, A., (60) 228
Abrams, E. T., (115) 156
Abrand, H., (48) 307
Abrashanoff, (172) 859
Abrikossoff, A., (123, 124) 1370
Abshire, J. T., (74) 1225
Abt, I. A., (107) 304, (7) 376, (91) 848
Ach, A., (114, 115) 79
Achard, C., (43) 77, (141) 1157
Achard, H. J., (167) 1006
Acker, F. W., *1555
Acton, H. W., (27) 1619
Adair, R., 1756
Adair-Dighton, C. A., (38) 1364
Adam, J., (25) 226
Adami, J. G., (447) 764, (93) 1070
Adams, B. O., (164) 305
Adams, C. F., (27) 1357
Adams, E., (29) 695
Adams, J. D., (20) 377
Adams, J. J., (77) 1615
Adams, W. T., (152) 699
Adams, Z. B., (56) 153
Addari, F., (185) 860
Addario, G., (78) 621
v. Adelung, E., (166) 382
Adler, H. M., (100) 1359
Adler, S., (67) 1767
Adsit, H., 1506
Ager, L. C., (31) 617
Agosti, F., (145) 1866
Ahfeld, F., (92) 933, (166) 1696
Aichel, O., (174) 859
Aiken, J. M., (126) 305
Aikens, C. A., (164) 1228
Aikens, W. H. B., (15) 1007
Akin, H. L., (115) 698
Alagna, G., (108) 1864
Albee, F. H., (116) 926, 1415
Albert, J., (109) 304
Albertin, H., (64) 854, (28) 1908
Albertoni, P., (119) 706
Albrecht, H., (160) 552, (130) 1370 (90) 1430
Alburger, H. R., (110) 1616
Alcorn, J. B., (24) 774
Alderson, H. E., (44) 1001
Alessandrini, P., (120) 1103, (157, 159) 1372
Alexander, A., (89) 783
Alexander, D., (24) 929
Alexander, D. M., (4) 851
Alexander, E. G., (52) 1224
Alexander, E. W., (50) 1614
Alexander, G., (2) 921, (137) 1371
Alexander, L. D., (16) 1000
Alexander, R. L., (73) 153
Alexander, S., (119) 1003
Alexander, W., (14) 623
Alger, E. M., (9) 537
Alglave, P., (70) 1300, (32) 1765
Alilaire, E., (55) 1073
Alkire, H. L., (47) 539
Allan, J. W., (51) 384
Allard, E., (66) 625, (117) 1694
Allbutt, C., (1) 1423, (3) 1514, (28) 1687
Allchin, W. H., (16) 1859
Allen, A. R., (66) 539
Allen, C. L., (98) 1761
Allen, C. S., (78) 1293
Allen, C. W., *233, (6) 1418
Allen, E. S., (102) 304, (88) 380
Allen, I. O., (47) 1420, (35) 1758
Allen, J. H., (56) 1001
Allen, J. S., (100) 223
Allen, L., (34) 455
Allen, L. W., (136) 1617
Allen, M. S., (113) 622
Allen, S. B., (39) 1357
Alling, C., 994
Allis, O. H., (42) 695, 1507
Allison, N., (38) 301, 1846
Allison, W. R., (72) 1358
Allport, W. H., (37) 455
v. Almen, S. G., (50) 1512
Almy, F., (38) 538
Alsberg, C. L., (32) 923
Alsobrook, J. W., (55) 696, (7) 1853
Alston, H., (8) 851, (9) 1149
Alter, F. W., (91) 1615
Althoff, (77) 1621
Altmann, K., (75) 1154
Alvarez, J. R., (134) 1617
Alwens, W., (79) 1429
Ambard, L., (32) 1516
Amberg, E., (18) 1067, (165) 1228, *1653
Amberger, J., (82) 1691
Ames, M. A., (127) 305
Amesse, J. W., (151) 75, (144) 1362
Amley, F. C., (123) 156
Amoss, H. L., (73) 1512
Amsden, G. S., (14) 1904
Anders, H. S., 1509
Anders, J. M., (37) 69, 375, (98) 849, (69) 924
Anderson, E., (48) 378
Anderson, H. G., (119) 1295
Anderson, J. F., (39) 455, *663
Anderson, J. H., (33) 1073
Anderson, P. V., (64) 456, (86) 1293
Anderson, S., (16) 780
Anderson, W. S., (121) 1616
André, (43) 853
Andrews, A. H., (92) 223
Andrews, E. W., 65, (79) 379, (63, 64) 1684
Andrews, F. T., 1912
Andrews, J. B., *1132
Andrews, J. W., (154) 699
Angelo, M., (106) 1769
Angle, E. J., (118) 698
Angwin, W. A., (80) 1359
Anschütz, W., (113) 465
Anspach, B. M., (61) 1512
Antelo, N., (76) 153
Anton, G., (109) 162
Antonelli, G., (162) 1372
Apert, E., (37, 39) 702
Arany, S. A., (15) 928
Aravandinos, A., (89) 1520
Arendt, E., (66) 1010
Arms, B. L., *809, 1905
Armstrong, D., (53) 153
Armstrong, G. E., (50) 222, (111) 778
Armstrong, H., (6) 1006, (98) 1302
Armstrong, J. I., *1553
Armstrong, J. M., (100) 849
Armstrong, W., (9) 1618
Arnaud, L., (41) 1230, (27) 1764
Arneill, J. R., (101) 1003
Arnold, W. F., (13) 1067, (120) 1071
Arnsperger, L., (76) 1429
Aron, E., (55) 1231
Aron, H., (32) 695
Aronsohn, O., (60) 703
Aronson, E. A., *738
Aronstam, N. E., (163) 1228, 1279
Arraga, A., (33) 544
Arrowsmith, H., (108) 849
Arullani, P. F., (108) 1624
Arumugum, J. V., (140) 1617
v. Arx, M., (75) 386
Arzt, L., (86) 1863
Asch, R., (123) 163, (12) 1007
Aschenheim, E., (151) 82
Aschner, B., (117) 466
Aschoff, L., (91) 463, (111) 465, (57) 1232, (96) 1623
Ascoli, A., (77) 1011
Ashley, D. D., (64) 1292
Ashmore, W. F., (21) 1613
Askenstedt, F. C., (15) 152, (100) 304
Askenstedt, L. B., (14) 617
Assmy, H., (144) 81, (67) 1428
Ast, F., (130) 312
Astwazaturow, M., (85) 546
Atkinson, A. G., (7) 1071
Atkinson, D. T., (181) 1618
Atlee, E., (27) 1682
Aubineau, E., (75) 1300
Aubourg, (33) 1765
Audebert, J., (45) 158
Audibert, V., (56) 461
Auer, J., (71) 1146
Aufrecht, (73) 1366
Augustine, J. L., (156) 75
Austin, A. E., (19) 377, (1) 921, (79) 1293, (20) 1905
Austin, C. K., (106) 1422
Austin, J. B., (98) 542
Austin, M. A., (42) 1856
Austin, R. S., (102) 154
Austin, S. D., (63) 1069
Austrian, C. R., (52) 378
Autenrieth, W., (144) 1695
Aversenq, (39) 853
Aviragnet, E. C., (41) 307, (32) 544, (44) 853, (50) 1620
Axenfeld, T., (105) 1076
Axisa, E., (77) 309, (1647) 552
Axtell, W. H., (109) 74, (140) 851, (49) 1683
Ayer, S. H., (21) 1143
Ayers, S. H., (31) 69
Ayres, S. C., (32) 1000
Aynaud, M., (36) 852
Aynesworth, K. H., (22) 617

B

Bab, M., (117) 856
Babcock, J. W., (105) 223
Babcock, R. H., (125) 459, (28) 1144, (32) 1292, 1830
Babcock, W. W., 1677
Babler, E. A., *953, (151) 1617, (25) 1854
Baccelli, G., (120) 706, (108) 1431
Bach, H., (56) 159, (108) 1076
Bachmann, G., (19) 537
Bachrach, R., (139) 1305
Bacon, C. S., 296, (78) 847
Badin, P. V., (34) 544
Baerthlein, (93) 1076
Baetz, W., (21) 537
v. Baeyer, H., (96) 79
Bagby, B. B., 1280
Baginsky, A., (62) 703, (121) 706, (105) 785
Baglioni, G., (105) 1431
Bahrdt, H., (102, 104) 706
Bahrmann, F., (137) 857
Bailey, H. C., *26, 593, (9) 1510
Bailey, M. S., (164) 927
Bailey, P., (15) 694, (2) 1612
Bailey, W. H., 1835
Bain, W., (3) 1905
Bainbridge, W. S., (133) 1295
Baines, A., (102) 1761
Baisch, B., (88) 1368
Baisch, K., (110) 311, (91) 784
Baker, A. E., (27) 1419, 1679
Baker, A. H., (70) 222
Baker, A. R., (122) 224
Baker, B. E., (100) 622
Baker, F., (67) 153
Baker, J. N., (3) 1418
Balby, J. M., 1281
Balch, R. E., (81) 379
Baldwin, A., (31) 158
Baldwin, H. A., (86) 1615
Baldwin, J. A., 768
Baldwin, J. F., (40) 301, 1671
Baldy, J. M., *481, 1508
Balfour, A., (12) 700, (6) 1362, (39) 1619
Balfour, D., (54) 924
Balint, R., (87) 933
Ball, C. B., (73) 1002
Ball, C. R., (151) 699
Ball, C. P., (7) 1762
Ballantyne, J. W., (28) 306
Ballard, C. N., (112) 1423
Ballenger, E. G., (161) 1228, (15) 1510
Ballet, G., (45) 1861
Bamberger, A., 138
Bane, W. C., (154) 75
Bangs, L. B., (29) 846
Banister, J. M., (84) 1070, (88) 1293
Banks, C. S., (86) 541
Bannatyne, G. A., (8) 622
Banner, C. W., (105) 1857
Banti, G., (122) 706
Banzet, S., (54) 781
Banzhaf, E. J., (109) 1294
Bar, P., (69) 854, (29) 1764
Barabaschi, P., (122) 786
Barach, J. H., (39) 69, (5) 376, (85) 1857
Bárány, R., (6) 75
Barbat, J. H., (101) 698
Barber, M. A., (141) 1361
Barberio, M., (79) 783, (177) 1697
Barbézieux, G., (61) 931
Barbour, H. G., (50) 539
Barbour, P. F., (127) 1226
Barck, C., (99) 777
Barclay, W. F., (80) 223
Barcus, P. J., (103) 223
Bard, L., (81) 78, (47) 1365
Bardachzi, F., (128) 1304
Bardeen, C. R., 764
Bardenheuer, B., (90) 547
Bardes, A., (7) 69
Bardswell, N. D., (8) 1762
Barge, A. A., 1593
Barjon, F., (27) 1908
Barker, A. E., (13) 700, (23) 780
Barker, B. I., (39) 377
Barker, F. A., (19) 1230
Barker, L. F., (136) 74, 374, (112) 542, (147) 699, (120) 850, (53) 1614, (116) 1616
Barker, M. R., (63) 1420
Barkley, A. H., (116) 1071, (128) 1226
Barksdale, J. W., (116) 850, 1611
Barlow, W. J., (70) 153
Barnabo, V., (164) 1372
Barnard, H. E., 830
Barnes, F. H., (119) 1762
Barnes, F. L., (83) 1293
Barnes, F. M., (170) 1617
Barnes, W. S., (16) 377
Barnett, G. DeF., (123) 1361
Barney, J. D., (1) 68, (20, 25) 220
Baron, A., (106) 230
Barr, J. S., (8) 75
Barr, O. D., (140) 630
Barrett, A. M., (75) 72
Barrett, C. W., (42) 301, (168) 1006
Barrett, J. B., (25) 1150
Barrett, J. H. P. B., (26) 1007
Barrett, J. W., (37) 1619
Barron, C. W., (29) 1419
Barrow, D. W., (78) 1760
Barrows, C. C., (51) 1292
Barry, J. H., (111) 542
Bartel, J., (110) 162, (140) 858
Barth, A., (175) 83
Barth, F., (39) 1516
Bartholomew, H. S., 367
Bartlett, W., 298, (36) 846, (84) 925
Bartlett, W. A., (18) 1682
Bartlett, W. B., (104) 1003
Bartley, E. H., (105) 1615
Barton, B., 1846
Bashford, E. F., (39) 1073, 1125
Bass, C. C., (106) 154, (60) 847
Basset, E., (55) 1518
Basset, L., (63) 308
Bassler, A., (12) 454, (142) 1226
Bastian, H. C., (26) 76
Bateman, H. R., (14) 544, (25) 1072, (22) 1364
Bates, W. E., (163) 382
Battle, W. H., (9) 382
Bauer, A., (28) 544, (46) 625, (85) 855, (56) 1689, (77) 1691, (60) 1909
Bauer, F., (112) 548
Bauer, J., (104) 548, (153) 858, (97) 1369, (46) 545
Bauer, R., (123) 1864
Baughmann, G., (122) 926
Baulud, (66) 78
Baum, E., (99) 1012
Baum, J., (123) 80
Baumann, J., (51) 853
Bäumler, C., (103) 464
Baxter, W. J., (124) 1147
Bayer, H., (83) 310, (49) 1152
Bayer, R., (83) 1011, (89) 1076
Bayly, H. W., (10) 543
Bazzocchi, G., (11) 1432
Beach, F., (40) 461
Beach, W. M., (110) 1147

Beale, J. F., (13) 226
Beam, A., *1719
Bean, J. W. B., (26) 1619
Beard, J., (38) 76
Beard, S. L., (103) 622
Beardsley, E. J. G., (6) 69, *263, (104) 778, (29) 1000, (96) 1147, 1508
Beasley, E. M., (122) 1295
Beates, H., (92) 698
Beaumont, W. M., (9) 157
Beazley, H. C., (122) 1226
Bechtold, A., 916
Beck, (72) 228
Beck, C., (12) 300, (152) 858
Beck, E., (103) 1686
Beck, E. G., (60) 308, (68) 379, (12) 774
Beck, H. G., (91) 1225
Beck, J. C., (55) 71
Beck, K., (101) 547
Beck, O., (80) 229, (117) 388, (106) 628
Becker, E., (74) 1690
Becker, J., (92) 1863
Becker, T., (75) 1863
Beckman, E. H., (89) 1761
Beckmann, W., (127) 389
Beclerc, A., (22) 1907
Beebe, S. P., *658, (24) 1510
Beebe, T. C., (4) 999
Beebe, W. L., (44) 538
Beecher, C. H., (148) 1227
Beedle, G. A., (116) 1423
Beer, E., (8) 617, (136) 1148
Beggs, W. N., (137) 157
Behr, M., (76) 546
Beifeld, A. F., (55) 302
Beisele, P., (133) 466
Béjan, J., (39) 1230
Belfield, W. T., 536
Bell, A. J., (23) 774
Bell, F. McK., (49) 222, (13) 1223
Bell, G. H., (21) 1682
Bell, J. M., (81) 1070, 1141
Bell, J. N., (158) 225
Bell, M. H., (55) 847, 1504
Bell, R. P., (24) 377
Bell, S., (143) 927
Bell, W. B., (14) 1763
Bell, W. H., *1635
Bellussi, A., (128) 231
Benard, L., (57) 1074
Benard, R., (55) 781
Benario, J., (130) 466, (96) 1012, (78) 1429
Bendick, A. J., (143) 1148, *1873
Bendixsohn, H., (94) 627
Benedict, A. L., (28) 221, (103) 778, (28) 923, (158) 927, (19) 1000, (138) 1226, (108) 1513
Benedict, F. G., (41) 618
Benedict, S. R., *346, (76) 697, (39) 923
Benedikt, M., (92) 1623
Beneke, R., (128) 1370
Benestad, G., (127) 1014
Benians, T. H. C., (4) 1423
Benjamin, A. E., (15) 617, 803, (62) 847, 871, 1436
Benker, O. H., (104) 1293
Bennecke, H., (80) 1429
Bennett, G. E., (112) 926
Bennett, H. P., (12) 1362
Bennett, W., (1) 382
Benthall, A., (22) 1072
Benthin, W., (83) 79
Bentley, C. A., (50) 77
Bentley, J., (17) 1619
Berg, (140) 81, (100) 933
Berg, H. W., (5) 1291
Bergemann, W., (73) 932
Bergen, L. M., (63) 1358
Bergey, D. H., (53) 776
Berghausen, O., (16) 152, 1411
Bergmark, G., (146) 232
Bériel, L., (53) 227, (51) 307
Bering, F., (97) 1864
Berk, W., (72) 1428
Berkeley, C., (17) 1859
Berkeley, W. N., (23) 69
Berkofsky, K., (90) 1368
Bermbach, P., 343
Bernart, W. F., *1194
Berndt, F., (111) 628, (129) 1694
Bernhardt, G., (110) 1693
Bernhardt, P., (158) 1696
Bernheim, A., (144) 1226, 1753
Bernheim, B. M., (68) 1759
Bernheim, H., (76) 855
Bernoulli, E., (101) 1076
Bernstein, A., (36) 76
Berry, J. M., *1031
Berry, V., (39) 775
Bertelsen, A., (125) 1235
Bertelsmann, R., (126) 629
Bertillon, J., (30) 1908
Bertin-Sans, H., (42) 1008
Bertolotti, M., (54) 308
Bertram, H., (134) 1305
Bertrand, G., (41) 624
Berze, J., (113) 1156
Besley, F. A., (59) 302
Besredka, A., (50) 461, (42) 624, (44) 1689
Besson, A., (19) 1907
Best, F., (159) 1296
Bethune, C. W., (132) 1617
Betke, R., (96) 1431
Bettmann, S., (98) 464, (74) 1154
Betts, J. B., (19) 846
Bevan, A. D., (85) 697, 762, 995, *1184, (53) 1420
Bevan, L. E. W., (15) 544
Bevan, R., (8) 1905
Biach, P., (115) 1156
Bialokur, F., 828
Bianci, L., (123) 706
Bichat, H., (43) 307
Bickel, A., (119) 1077, (73) 1233, (47) 1427
Biddle, A. C., (31) 1613
Biddle, H. C., (28) 1758
Bidwell, L. A., (27) 1230
Bidwell, R. L., (93) 1422
Bie, V., (166) 390, (145) 1158
Bieber, A., (62) 1427
Bierhoff, F., (14) 1067, (12) 1143
Biernacki, E., (156) 1696
Biglow, I. S., (146) 381
Bilfinger, G. B., (121) 1304
Billings, F., 453, (99) 542
Billström, J., (142) 630
Bindermann, I., (37) 1765
Binet, A., (47) 1861
Bing, R., (132) 857
Bingham, A. W., (133) 224
Binney, H., (20) 694
Biondi, D., (10) 1432
Bircher, E., (86) 1368, (152) 1372
Birch-Hirschfeld, A., (156) 1296
Bird, F. D., (31) 1299
Bird, M. D., *114
Bird, U. S., (4) 1418
Birdwood, G. T., (22) 1230
Birk, W., (84, 86) 705
Birkett, H. S., (15) 75
Birnbaum, R., (84) 1429
Birrenbach, H., (119) 1694
Bishop, E. S., (18) 1425, (8) 1687
Bishop, L. F., (33) 846, (164) 1006, (10) 1067, 1415, (37) 1613
Bittorf, A., (93) 933, (69) 1010
Bissell, J. B., (135) 1148
Blaauw, E. E., (61) 776
Black, N. M., (90) 777
Black, R. A., (65) 1358
Black, S. P., (129) 851
Black, W. D., *1097
Black, W. T., (45) 618, (46) 1224
Blackader, A. D., (57) 1145
Blackburn, J. H., (93) 380
Blackfan, K. D., (88) 697
Blackford, W. F., (79) 1615
Blackman, R. H., (140) 699
Blad, A., (148) 314
Blain, A. W., (102) 542, (142) 1296, (29) 1613
Blair, V. P., *335, (53) 1069
Blair, W., (73) 1615
Blake, E. M., (24) 538
Blake, G., (100) 1359
Blakey, H. B., 1748
Blanchard, R., (37) 1008, (55) 1300
Blanche, M., (60) 1689
Bland-Sutton, J., (27) 76, (28) 158
Blaschko, A., (95) 1768
Blesh, A. L., (56) 1225
Blickensderfer, C., (9) 1613
Bliem, M. J., (176) 1618
Bliss, M. A., (124) 850, (83) 925
Bloch, B., (70) 626, (49) 1517
Bloch, L., (131) 1071
Bloch, O. E., (119) 542
Bloch, W., (135) 857
Blochmann, E., (60) 1366
Block, E. B., (70) 457
Block, J., (42) 775
Block, S., (104) 1615
Blomquist, A., (190) 860
Bloodgood, J. C., (43) 378, (66) 696, (27) 1144, 1751
Bloom, J. D., (68) 303, (75) 1225
Bloombergh, H. D., (47) 302, (114) 698, (61) 1358, (41) 1511
Blos, E., (89) 160, (76) 228, (82) 626
Blossom, J. C., (76) 223
Bloyer, W. E., (81) 1685
Blühdorn, K., (107) 464
Blümel, K., (66) 1233
Blumenthal, F., (82) 160, (85) 229
Blumer, G., 764, 995, (106) 1003
Boas, H., (118) 80, (122) 1235, (184) 1698, (118, 120) 1769, (64) 1862
Boas, I., (84) 546, (67) 1621
Bode, P., (75) 932
Boeck, C., (161) 390
Boeckel, A., (64) 1690
Boehm, G., (99) 1692
Boehm, J. L., (106) 458, *732, (25) 1418
Boero, A., 830
Boese, W. H., (113) 1514
Boesl, C., (84) 1767
Bogardus, H. J., (157) 1006
Bogart, G. H., (88) 1070, (130) 1148, (135) 1423
Bogert, E. S., (91) 1513
Bogert, F. V., (72) 1069
Bogess, W. F., (97) 380, (141) 459, (132) 1071, (158) 1149
Boggs, T. R., 1850
Bogrow, S. L., (51) 1765
Bohac, K., (91) 387
Bohm, J. L., (133) 778
Böhm, M., (100) 856
Boidin, L., (59) 228
Boit, H., (51) 1517
v. Bokav, J., (96) 464, (76) 626, (155) 1696
v. Bokay, Z., (118) 628, (118) 1304, (155) 1696
Boldt, H. J., (1) 220
Bolenius, R. M., 443
Bolognesi, G., (128) 935, (53) 1689
Bolognesi, J., (81) 1075
Bolten, G. C., (123) 312, (65) 625
Bolton, C., (3) 225, (10) 1149
v. Bomhard, (106) 79
Bonain, A., (33) 1908
Bond, C. J., (1) 1858
Bond, G. D., (177) 1618
Bondi, J., (44) 1231
Bondi, S., (82, 83) 1519
Bondy, J., *873
Bondy, O., (107) 1013, (132) 1157
Bone, H. D., (161) 927
Bonhoeffer, K., (89) 311
Bonnaire, E., (42) 1364
Bonney, V., (13) 1763
Bönniger, M., (109) 934, (67) 1767
Boos, W. F., (105) 1360
Booth, B. H., 1414, 1612
Booth, G. B., (111) 1857
Borchardt, M., (63) 1366
Bordet, E., (29) 1230
Borel, F., (61) 1074
Borelius, J., (141) 630
Borglum, F., (66) 1857
Borland, H. H., (25) 851
Bornstein, A., (78) 626
Bory, L., (35) 1908
Bosanquet, W. C., (2) 542
Boschan, F., (91) 933
Bosse, B., (106) 1370
Bossi, L. M., (150) 1306
Bossidy, J. C., 769
Bosworth, A. W., (72) 697
Botkin, S. S., (144) 1371
Bott, S., (15) 1298
Bottazzi, F., (107) 1624
Boulay, M., (50) 781
Bourquelot, E., (62) 854
Bovaird, D., (7) 617, (154) 1362
Bovée, J. W., (65) 456, (136) 1226, 1747
Bowditch, H., (63) 620, (8) 844
Bowlby, A. A., (4) 1229
Bowman, F. B., (60) 1001, (38, 39) 1511
Box, C. R., (4) 1618
Boxer, S., (69) 309
Boyce, J. W., (113) 1147
Boyce, R., (24) 75, (1) 622, (7) 699, (6) 779
Boycott, A. E., (13) 1150, (1) 1229, (10) 1298
Boyd, G. M., (38) 1292
Boyd, R. M., (62) 1069
Boys, C. E., (159) 225
Boysen, J., (117) 1769
Boysen, P., (164) 75
Bozzolo, C., (124) 706
Braasch, W. F., (60) 1420
Brachi, F., (20) 1072
Brackett, E. G., (60) 153
Bradburne, A. A., (132) 305, (85) 1686
Braddock, C. S., 445
Bradford, E. H., (8) 454, (108) 926, (42) 1758, 1845
Bradley, B., (18) 1007, (30) 1298
Bradley, E. B., (79) 1760
Bradley, F., (155) 1617
Bradley, J. M., (107) 380
Bradshaw, J. H., (85) 1422
Brady, F. M., (54) 1145
Braislin, W. C., (129) 1423
Braithwaite, L. R., (27) 780
Branch, J. R. B., (37) 301, *803, 1603
Brandenberg, F., (81) 1301
Brandes, M., (120) 857
Brandorff, E., (134) 1236
Branson, W. P. S., (16) 1763
Branwell, B., (11) 1071
Brasch, W., (129) 1304
Brauer, A., (105) 1303
Brauer, L., (82) 1075
Braumüller, J., (90) 229
Braun, H., (79) 386
Braunschweig, W., (77) 704
Brav, A., (145) 305, (34) 846
Bréaudat, (54) 1073
Breakstone, B. H., (93) 223
Bredow, F., (75) 1011
Breed, R. S., (142) 1361
Breeze, G., (23) 158
Breiger, G., (130) 1694
Brem, W. V., (99) 154, (95) 925, *1631
Bremerman, L. W., (157) 927, 1843
Brennan, J. A. O., (75) 1615
Brenneman, R. E., (109) 1147
Brennemann, J., *631, (14) 1682
Brenner, M., (59) 1518
Bretschneider, A., (77) 1300, (50) 1765
Brewer, G. E., (65) 776
Brewer, I. W., (3) 68, (30) 1144
Brewster, G. W. W., (111) 1003
Brice, J. C. S., (110) 622
Brickner, S. M., (128) 156
Brieger, L., (98) 1369
Briggs, L. H., (101) 925
Briggs, L. V., (25) 538
Brill, N. E., (8) 1291
Brin, H., (75) 78
Brinch, T., (143) 630
Briscoe, J. C., (10) 1071
Bristow, A. T., (128) 926
Bristow, J. H., (105) 1147
Broca, A., (51) 159, (38) 1230
Brockman, D. C., (155) 75
Broderick, D. E., (58) 1225, (19) 1418
Brodhead, G. L., (129) 156
Brodie, T. G., (88) 541
Bronfenbrenner, J., (32, 35) 377, (29, 31) 774, 1124, 1125, 1331
Bronner, (42) 853
Bronner, H., (133) 1071
Brooks, C. D., (119) 698
Brooks, M., (132) 459
Brooks, N. P., (121) 1762
Broquet, C., (51) 461
Brose, L. D., (134) 1423, (79) 1685
Brougher, F. M., (36) 695
Broun, L., 1351
Brown, A. A., (18) 701
Brown, A. B., 769
Brown, A. G., (25) 377, (127) 1616
Brown, E. V. L., (45) 152, (123) 778
Brown, E. W., (77) 1359
Brown, G., (3) 927, (13) 1424
Brown, G. E., (77) 1422
Brown, G. S., (67) 1002
Brown, G. V. I., (89) 777, (31) 1030
Brown, I., *1389
Brown, I. C., (143) 1071
Brown, J. Y., 142
Brown, L., 1605
Brown, L. T., (65) 153, (25) 1905
Brown, O. W., (122) 1071
Brown, P. K., (49) 1001
Brown, R., (69) 153
Brown, S. H., (139) 305, (9) 1143, (111) 1514, (148) 1617
Brown, T. R., (49) 378
Brown, W. H., (37) 774, (109) 1003, (37) 1073, (72) 1512
Browning, W., (77) 457
Brownlee, A., (25) 780
Bruce, D., (14) 544, (16) 701, (25) 1072, (22) 1364
Bruce, E. T., (79) 777
Bruce, H. A., (64) 847, (47) 1683
Bruce, W. J., (46) 461
Bruchi, I., (179) 860
Bruck, A., (72) 704
Bruck, C., (64) 625
Bruck, F., (88) 783
Brückner, G., (103) 1864
Brückner, M., (127) 857
Brühl, G., (97) 311
Brumbaugh, A. S., *404
Brun, H., (74) 160
Brundage, E. J., 768
Brüning, A., (171) 859
Brünings, W., (167) 82
Bruno, A., (123) 231
Brunon, R., (34) 1765
Bruns, H., (91) 161, (107) 1076
Bruns, H. D., (144) 305, 1504
Brustein, S., (88) 1301
Brüstlein, G., (104) 1235
Bruton, A. L., (126) 926
Bryan, F. B., (89) 73
Bryan, R. C., 140, (70) 847
Bryan, W. L., 767
Bryant, W. S., (10) 537
Buccheri, R., (51) 1299
Buccolini, G., (143) 936
Buchanan, J. J., (83) 379, (6) 454
Buchanan, L., (27) 851
Buchanan, M., (163) 927
Buchtel, F. C., (163) 305
Buckle, L., *1262
Buckley, C. W., (41) 461, 559
Bucura, C. J., (170) 82
Bucura, K., (136) 1371
Budge, D. C., (141) 157
Büdingen, T., (92) 1302
Büdinger, K., (123) 628
Buerger, L., (75) 924, (11) 1143, (28) 1224, (37) 1420
Buettner, W., (112) 785
Buford, G. G., (46) 618
Buhlig, W. H., (56, 58) 302
Buikley, L. D., (37) 158, (1) 454, (166) 1296, (97) 1422, *1706
Bull, C. S., (11) 220
Bull, P., (114) 1432
Bullard, R. H., (126) 1004
Bullard, W. N., (5) 300

Bullock, F. D., (101) 1359
Bumke, O., (94) 387
Bumm, E., (125) 1157
Bunch, J. L., (5) 699
Bunker, J. W. M., (26) 69
Bunting, C. H., (112) 1294
Burch, L. E., 140
Burckhardt, O., (162) 1696
Burd, W. J., (170) 1228
Burdeno, F. R., (147) 1617
Burfield, J., (20) 1515
Burford, C. E., (124) 74
Bürgers, T. J., (66) 1767
Burgess, J., (34) 852
Burgi, E., (61) 1862
Burnhard, F. F., (8) 226
Burke, J. G., (15) 1000, (112) 1147
Burkhardt, L., (71) 1518
Burkholder, J. F., (90) 223
Burnet, J., (98) 1422
Burnett, C. T., *115
Burnett, H. W., (67) 620
Burnett, T. C., (62) 379
Burnham, G., (32) 1758
Burnier, R., (62) 77, (44) 1152
Burns, T. M., (78) 1225, (98) 1857
Burnside, C., (78) 1857
Burow, K., (124) 1077
Burr, C. W., (150) 927
Burr, W. R., (69) 1615
Burrill, A. C., (38) 618
Burrow, T., (36) 1854
Burrows, M. T., *32, (77) 1146, (98) 1225, (69) 1300, (82, 83) 1512
Burton-Opitz, R., (68) 1146
Bury, G. W., (8) 1006
Buschke, A., (65) 545, (69) 704, (63) 782, (23) 1859
Bushby, T., (15) 226, (26) 1425
Busquet, H., (59) 1689
Bussenius, W., (97) 547
Bussow, B., (102) 387
Butler, C. S., (128) 381, (84) 1359
Butler, G. F., (5) 220, (8) 694
Butler, T. H., (11) 1362
Buttermilch, W., (66) 160
Buttles, E. H., (160) 927
Buttner, A. J., (66) 1615
Buttner, J. L., (91) 458
Büttner, O., (85) 310, (62) 1010
Butts, H., (132) 381
Buzzard, E. F., (12) 460
Bybee, A., (84) 621
Bychowski, Z., (147) 550
Byford, H. T., 141, *727, 1842
Byles, F. G., (11) 151

C

Caan, A., (85) 1234, (77) 1429, (139, 146) 1695
Cabot, A. T., (116) 1514
Cabot, H., (117) 1514, (34) 1683
Cabot, R. C., 438, (117) 926, 1604, (57) 1684
Caccia, P., (64) 77
Caccini, A., (4) 921
Cadwalader, W. B., (150) 1148
Caffee, B. V., (44) 152
Caffey, H. B., (149) 74
Caffrey, A. J., *641
Cahn, A., (73) 1075
Caldwell, E. W., (87) 697
Caldwell, R., (85) 73
Calhoun, F. P., (103) 1226, 1602
Callaghan, F. X., (18) 226
Callmann, R., (63) 1232
Calmann, A., (106) 1303
Calthrop, E. S., (14) 1362
Calvary, M., (110) 1370
Calvert, J. T., (18) 1230
Calwell, W., (4) 382
Camerer, C., (145) 381, (80) 1359
Cameron, A. F., (3) 1362
Cameron, H. C., (1) 1618
Caminiti, R., (166) 552
Cammidge, P. J., (3) 1071
Campbell, F., (93) 925
Campbell, W. C., 276, (174) 305, 1611
Campbell, W. F., 1506
Cannaday, J. E., *1097
Cannata, S., (127) 786, (144) 1157
Canney, F. G., (159) 382
Canney, J. R. C., (6) 699
Cannon, G. L., (42) 1683
Cannon, W. B., *742, 1606
Cantani, A., (127) 163
Cantas, M., (66) 1075
Cantile, J., (17) 701
Capelle, W., (89) 1076
Capps, J. A., 1849
Caraven, M. J., (63) 308
Cardone, G., (160) 390
Carey, H. W., (9) 376
Carey, W. A., (87) 1615, (104) 1686
Carhart, W. G., (171) 1149
Carletti, M. V., (105) 1769, (68) 1910
Carlson, A. J., (88) 303
Carman, R. D., (103) 380
Carmichael, F. A., (51) 1145
Caro, (136) 1695
Carothers, S. C., 1610
Carpenter, E. R., (106) 1226
Carpenter, J. G., (127) 1071
Carpenter, T. M., (97) 925, (25) 1758
Carr, J. W., (20) 1425
Carr, W. A., (170) 1362
Carr, W. P., (58) 1069
Carrel, A., *32, (77) 1146, (98) 1225, (69) 1300, (82, 83) 1513
Carroll, H. R., (22) 300
Carroll, J. J., (97) 777
Carson, H. W., (5) 927
Carson, S. C., (146) 699
Carstens, J. H., (125) 304
Carter, DeL., (9) 617
Carter, H. F., (25) 460, (23) 1298
Carter, H. S., (100) 1422
Carter, P. B., (39) 1144
Carter, W. S., (110) 380, 1129
Carter, W. W., (112) 849, *1259
Cartwright, F. D., (108) 622
Carver, A. E., (7) 1905
Case, 1125
Casper, L., (72) 1519
Casper, M., (78) 777
Cassel, J., (48) 1765
Cassidy, M. A., (13) 460, 829
Cassirer, R., (161) 82, (94) 311, (90) 1692
Castellani, A., (34) 307, (13) 544, (20) 1150
Castle, H. E., *1020, *1447, 1835
Castor, R. H., (23) 1364, (28) 1619, (23) 1764
Castorina, (113) 1013
Castriota, L., (160) 468, (139) 1157
Catapano, E., (65) 782
Cates, B. B., 1287
Cathcart, E. P., (31) 1364
Cathcart, R. S., (45) 847
Cathelin, F., (43) 384, (34) 1151
Catola, G., (136) 630
Catsaras, J., (153) 1696
Cattermole, G. H., (161) 699
Catto, H. C., (18) 1150
Cattoretti, F., (100) 1769
Caturani, M., (53) 1292
Caubet, H., (38) 1151
Caulfield, A. H., (79) 540
Caulk, J. R., (118) 1616
Cautley, E., (33) 1688
Cazalis, H., (42) 1689
Cecikas, J., (63) 931
Cecil, J. G., (170) 1296, (14) 1357
Cecil, R. L., (59) 1856
Ceconi, A., (143) 1866
Cedrangolo, E., (126) 786
Celli, A., (125) 706
Center, C. D., (49) 302, (134) 1004
Centra, C., (117) 1013
Cerrano, E., (133) 629
Cesbron, M. H., (39) 695, (67) 924, (140) 1226
Cevidalli, A., (145) 936
Chabrol, E., (36) 624
Chace, A. E., *38
Chadzynski, J., (38) 930
Chalfant, S. A., *239
Chalier, A., (63) 77, (45) 702
Chalier, J., (50) 930
Chamberlain, W. P., (47) 302, (85) 541, (114) 698, (61) 1358, (41) 1511, (94) 1513
Chamberlin, W. B., (141) 699
Chambers, G., (4) 1071, (128) 1616, (75) 1760
Chambers, T. R., (91) 696
Chance, B., (17) 69, (138) 305
Chandler, S., (15) 1613
Chantemesse, A., (61) 854, (61) 1074
Chapelle, P., (56) 781
Chapin, C. V., (27, 35) 69, (40) 538
Chapin, H. D., (28) 617, (1) 693
Chapman, C. W., (44) 1073, 1115
Chapman, J. E., (8) 1762
Chappie, H., (2) 1514, (13) 1618, (88) 1692
Chaput, H., (76) 78, (46) 1152
Charles, J. R., (44) 77
Charlton, F. R., *194, (31) 538
Charlton, T. J., 1604
Charnass, (54) 1909
Charnaux, (36) 1230
Chase, A. F., 1752
Chase, W. B., 58
Chase, W. S., (24) 455
Chatelin, C., (41) 1860
Chauffard, A., (52) 159, (48) 781, (69) 1075, (55) 1300
Chavannaz, G., (40) 1230
Chazan, S., (171) 1697
Cheatle, G. L., (6) 1071
Cheinisse, L., (65) 309, (49) 1861
Chenev, W. F., (94) 698, (90) 848
Chetwood, C. H., (132) 698, (17) 846
Chevanne, H., (163) 1006
Chevrier, M. L., (80) 78
Chiage, S. D., (35) 929
Chiari, H., (120) 156, *729, (100) 784, (48) 847
Chiari, O. M., (90) 1623
Chiari, R., (40) 923
Chiene, G. L., (30) 1151
Chilaiditi, D., (49) 702, (73) 855, (115) 1156
Childe, C. P., 32
Childs, J. A., (77) 1002
Childs, L. B., (97) 1857
Chill, E. A., (42) 227
Chipman, W. W., (96) 1070
Chittenden, R. H., *652
Chittick, A. G., (113) 698
Choksy, N. H., (15) 700
Cholzoff, B. N., (57) 545
Choukevitch, J., (37) 1860
Chrisman, J. H., (121) 1071
Christen, T., (135) 312, (145) 389, (61) 1427, (65) 1518
Christenbery, H. E., (31) 923
Christensen, H. B., (147) 314
Christian, H. A., (119) 224, (81) 621
Christian, P. J., (60) 931
Christiansen, J., (146) 164, (94) 1302
Christie, B. W., (85) 1070
Christomanos, A., (60) 1427
Chrzelitzer, W., (104) 161
Church, A., (116) 381
Churchill, F. S., (36) 1068
Churchman, J. W., *1244, (113) 1294
Churchward, A., (18) 1072
Chvostek, F., (169) 82
Ciechanowski, S., (127) 935
Cignozzi, O., (143) 314
Cirincione, G., (155) 1296
Citron, A., (72) 1519
Ciuffini, P., (143) 1157
Ciulla, M., (120) 389
Claiborne, J. H., (138) 1148
Clapp, C. A., *807
Clark, C. F., (21) 455
Clark, C. M., (103) 1147
Clark, C. P., (36) 1068
Clark, E. E., (145) 1005, (136) 1423
Clark, F. H., 1142
Clark, G. H., (12) 543
Clark, P. F., *585, *1717, 1750
Clark, W. H., (91) 925
Clark, W. L., 999
Clarke, E., (29) 461, 674, (37) 1511
Clarke, F. H., (79) 1760
Clarke, J. F., (27) 1007
Clarke, J. J., (32) 929
Clarke, J. M., (3) 779, (11) 1229
Clarke, T. W., (163) 75
Class, E., (95) 1359
Class, F. M., *1441
Claude, H., (53) 931, (155) 1372
Claude, O., (36) 624
Claybrook, E. B., 1609
Clegg, J. T., (84) 73
Clegg, M. T., (88) 541, (75) 1685
Cleghorn, C. D., (109) 542
Cleland, J. B., (22) 1007, (26) 1298, (18) 1619
Clendening, L., 1141
Cleveland, A. J., (28) 623, (20) 1515, (34) 1859
Clift, F., (170) 305, (84) 1225
Cline, L. C., (113) 1361
Clopton, A. T., (41) 1068
Clothier, J., (75) 223, (12) 694
Clough, P. W., (117) 80
Clowe, C. F., (150) 1296
Clunet, J., (48) 702
Clurman, M. J., (17) 220
Coakley, C. F., (56) 618
Cobb, F., (115) 1003
Cobbett, L., (29) 76, 1873
Cobliner, S., (106) 706, (114) 1694
Coburn, E. B., (149) 1423
Coburn, R. C., *499
Cockayne, E. A., (27) 1687
Cocram, H. S., (143) 699
Codivilla, A., (113) 706
Codman, C. A. E., (55) 1512
Codman, E. A., (60) 1684
Coe, H. C., (55) 1358, (93) 1615
Coe, H. E., (60) 222
Coenen, H., (65) 160, (54) 703
Coffey, R. C., (25) 300, *397, *469
Coffey, W. B., (55) 1001
Coffin, R. A., (121) 1423
Cohen, B., 1285
Cohen, C., (84) 1154
Cohen, M., (77) 621
Cohen, S. S., (17) 1067, 1605
Cohn, A. E., (99) 925
Cohn, J. S., (117) 459
Cohn, M., (68) 545, (39) 1230
Cohn, S., (79) 1154
Cohnheim, P., (75) 309
Cohoe, B. A., 1066
Coic, A., (26) 1515
Colace, P., (113) 1769
Colbert, J. W., (45) 222, (106) 698
Cole, A. P., (110) 1857
Cole, C. L., (53) 302
Cole, H. N., (57) 1856
Cole, H. P., 143, *584, (131) 927, (8) 1418, *1794
Coleman, C. C., *887
Coles, A. C., (14) 1298
Coley, W. B., (61) 71, 142, (49) 1224, (44) 1683
Colgin, M. W., (122) 778
Colie, E. M., (11) 1000
Colin, A., (41) 1364
Collier, C. C., (144) 225
Collin, A., (53) 781
Collins, A. N., (59) 1358, (93) 1761
Collins, J., (13) 220, (128) 1295, 1849
Collins, K. R., 1755
Colt, G. H., (7) 226
Colver, B. N., (44) 1358
Colwell, N. P., 763
Combs, C. N., (43) 152
Comby, J., (40) 1151, (59) 1300
Commiskey, L. J. J., (156) 1228
Compton, A., (41) 624
Comroe, J. H., *1327
Conant, J. B., (83) 457
Cone, S. M., (7) 1612, (41) 1758, 1847
Coniglio, C., (174) 1697
Conn, L. C., (90) 541, (83) 1685
Connell, F. G., 218, *875, (87) 1513
Connell, W. T., (166) 1362
Conner, L. A., (92) 848, (104) 1422, 1605
Connor, F. P., (54) 77
Connor, G. L., (120) 698
Connor, L., (99) 380
Connor, R. C., *1257
Conor, A., (51) 1073
Conseil, E., (51) 1073
Conter, A. E., 761
Cook, G. W., (94) 542
Cook, P. B., (113) 1616
Cook, W. C., (132) 927
Cooke, A. B., (140) 74, (23) 152
Cooke, J., (34) 1299
Cooke, J. V., (101) 1225
Cooke, W. L., (158) 1228
Coolidge, E. L., (48) 1758, (52) 1759
Coolley, E. B., (37) 152
Coombs, C., (11) 1149, (24) 1150, (13) 1229
Coon, C. E., (69) 1069
Cooper, I. W., 1503
Cooper, J. C., 1509
Copeland, E. P., (88) 154, (57) 1069
Copeland, R. S., 996
Coplan, M., 1601
Coplin, W. M. L., *1548
Corbett, D., (7) 1423
Corbett, J. F., (78) 1002, (116) 1003
Corbus, B. C., (1[illegible]) [illegible], *566, *1262
Cordell, E. F., *835
Coriat, I. H., (146) 1296
Corlett, W. T., (79) 72, (164) 1296, (158) 1362
Corner, E. M., (9) 459, (21) 851, (18) 1687, (14) 1859
Cornwall, E. E., (7, 18) 300, (4) 1143, (100) 1686
Cornwall, F., (141) 305
Cornwell, H. C. de V., (3) 1143
Corscaden, J. A., (47) 775
Corson-White, E. P., (124) 224
Corwin, R. W., (55) 379, (141) 1148
Cosby, O. W., (140) 699
Cosgrove, S. A., (16) 1613
Costa, R., (118) 786
Costantini, F., (125) 231
Cottam, G. G., (149) 381
Cotte, G., (41) 1230, (28) 1764, (25) 1907
Cotton, A. C., *322
Cotton, F. J., (44) 301, (114) 926, 997, (54) 1069, (78) 1685, (39, 46) 1753, (55) 1856
Couch, J. K., (17) 1007
Coudray, P., (63) 1690
Coues, W. P., *1443, (58) 1684, (22) 1905
Coughlin, R. E., (18) 454
Coughlin, W. T., (109) 380
Coulter, C. F., (80) 1422
Coulter, J. L., (41) 378
Couper, A. J., (30) 1008
Couret, M., (84) 1512
Courmont, J., (52) 384, (36) 544
Courmont, P., (67) 1300
Courtney, A. M., (13) 1682
Courtney, J. W., (17) 694
Coutaud, (54) 1300
Couvelaire, A., (30) 701, (34) 1426, (43) 1689
Covert, O. F., (149) 1362
Cowie, D. M., (31) 221, (48) 924
Cox, A. E., (77) 1293, (125) 1616
Coyler, J. F., (11) 700
Crabtree, G. S., *1188
Crafts, L. M., (98) 1070
Cragin, E B., *5, 1745
Craig, C. F., (86) 621, (4) 773, (86) 1002, (77) 1512
Craig, G., (28) 701
Cram, M. P., (74) 697
Crämer, F., (65) 932
Cramer, H., (122) 466, (95) 1012, (116) 1370
Cramp, W. C., *1379
Cranch, E., 996
Crandall, G. C., (82) 924
Crane, A. W., (11) 1510
Crane, C. G., (137) 1296
Crane, E. W., (94) 154
Crawford, A., (77) 1857
Crawford, D. G., (14) 780
Crawford, J. L., (37) 1068
Crehore, A. C., *1549, (61) 1858
Creite, O., (95) 1368
Crémieu, R., (47) 227, (48) 853

Crendiropoulo, (46) 1689
Crigler, L. W., *897
Crile, G. W., (98) 542, *637, (43) 1144, (14) 1223, 1749
Cripps, H., (7) 622, (120) 1295
Crisler, J. A., (115) 850, (30) 923, (48) 1224, 1611
Crispolti, C. A., (168) 552
Cristofoletti, R., (119) 1864
Crockett, E. A., (3) 1067
Croftan, A. C., (106) 1857
Crohn, B. B., *962
Croner, P., (122) 1077
Crook, J. L., (7) 1418
Crookshank, F. G., (38) 227
Cross, F. R., (12) 1229
Cross, G., (91) 1761
Crossen, H. L., (83) 73
Crossonini, E., (165) 552
Crosthwait, W. L., (29) 221
Crothers, T. D., (7) 454, (35) 846, (88) 1146, (132) 1295, (108) 1422
Crowder, T. R., (87) 621
Crowe, H. W., (3) 542, (11) 780
Crowell, H. C., (132) 1148
Crowley, D. D., (72) 1292
Crutcher, H., (154) 927, (115) 1514
Crutchfield, E. L., (47) 378
Cudd, A. D., (23) 1613
Cuffaro, B., (93) 1368
Cullen, T. S., 141, (54) 378, *391
Culley, J. C., 1612
Cullom, M. M., (5) 1418
Cummer, C. L., (54) 1614
Cummings, J. G., 1848
Cummings, L. F., 57
Cummings, W. C., (11) 1613
Cumpston, J. H. L., (24) 701, (15) 1906
Cumston, C. G., (21) 220, (66) 303, (103) 1293
Cunningham, A. T. R., (135) 851
Cunningham, R. L., (49) 456
Curcio, A., (181) 860
Curl, H. C., (138) 381
Curschmann, T. C., (88) 855
Curtillet, J., (26) 1764
Curtis, A. H., *85
Curtis, F., (48) 625
Curtis, H., (17) 1515, (19) 1687
Curtis, H. C., 1355
Curtis, R. M., (163) 75
Cushny, A. R., (145) 1148, (31) 1854
Cuthbertson, W., (62) 1615
Cuturi, F., (156) 390, (36) 1426
Cyriax, E. F., (7) 1149, (99) 1686
Czerny, A., (83) 627
Czerny V., (139) 1695
Czerwenka, K., (176) 859

D

Dabney, C. W., 994
Dabney, S. G., (159) 1149, (171, 173) 1296, (38) 1683, (64) 1759
Dachtler, H. W., (137) 1071
DaCosta, J. C., (32) 301
Dahlgren, K., (132) 1236
Dakin, H. D., (27, 129, 130) 1361, (30, 31) 1758
Daland, J., 453
Dale, J. E., (150) 1617
d'Alessandro, F., (180) 860
Dal Fabbro, G., (161) 468
Dalton, C. F., (73) 1760
Dalton, H. C., (33) 301
d'Amato, L., (129) 1865
Dana, C. L., (57) 619, *787
Daniels, H. W., (170) 75
Daniels, R. P., (137) 1071
Danis, R., (31) 1516
Dannreuther, W. E., (6) 537
d'Antona, A., (126) 706
Danvers, A., (14) 1906
Darbois, P., (53) 159
Darey, J. H., (86) 1070
Darling, C. G., (17) 377
Darling, S. T., *1257, (1) 1756
Darlington, T., (112) 224, (100) 1615
Darnall, W. E., (5) 1143, (31) 1419
Darrington, J., 1611
Das, K., (36) 383
Dautheville, (47) 1152
Davenport, C. B., (115) 224
David, O., (132) 466, (76) 1767
David, V. C., *35, *882, (59) 1420
Davids, H., (81) 1368
Davidson, A. J., (73) 1421
Davidson, H. A., (39) 1683, (65) 1759
Davis, A. B., (125) 156, (51) 1759
Davis, B. B., (107) 1070
Davis, B. F., (118) 1147, (139) 1361
Davis, C. B., (66) 847
Davis, D. J., (153) 1228
Davis, E. J., (153) 699
Davis, E. P., *11, (74) 1421, 1746
Davis, E. V., (134) 156
Davis, F. C., (13) 1859
Davis, F. W., (10) 773, (31) 1292
Davis, G. G., (113) 926, (111) 1147, 1509, (45) 1758, 1846
Davis, J. E., (20) 1682
Davis, J. S., (57) 71, (52) 1683
Davis, L., (18) 694, (1) 1290, (4) 1356, (120) 1423, (118) 1514, *1649
Davis, M. O., (12) 1854
Davis, N. S., (68) 924
Davis, R. H., (80) 1760
Davis, T. D., (33) 1419
Davis, W. L., (40) 775
Davison, C., (51) 1069
Dawbarn, R. H., (30) 846, (12) 1000, (8) 1143, (19) 1291, (109) 1422, (24) 1682
Dawson, B., (12) 1618
Dax, R., (110) 79
Day, G. H., (123) 542
Day, H. F., (46) 1758
Day, M. G., (80) 457
Dayton, H., *1176
Deacon, J. B., *339
De Amicis, T. (127) 706
Dean, L. W., (143) 225, (169) 1149
Deansley, E., (10) 1687
Dearborn, G. V. N., (51) 1856
Deaver, J. B., (85) 303, (19) 617, (54) 618, (22) 1000, *1079, (121) 1147, (28) 1854
de Beurmann, (43) 545
de Biehler, M., (53) 853
De Bonneville, H. E., (113) 1864
Debove, (30) 1516
de Bovis, R., (66) 309, (59) 462, (70) 1075, (29) 1764
Debré, R., (42) 1619
DeBuys, L. R., (76) 303
v. Decastello, A., (139) 857
de Courmelles, F., (47) 159
de Crespigny, C. T., (29) 383
de Fleury, M., (38) 1860
de Francisco, G., (135) 163
de Havilland, F., (17) 226
Dejerine, (43) 1427
de Jong, D. A., (52) 461
de Kraft, F., (78) 303
De La Paz, D., *742
de Laroquette, M., (35) 624
Delaup, S. P., (17) 1854
Delavan, D. B., (114) 1361
de la Vergne, F., (46) 222
Delbet, P., 437
Delcourt, A., (49) 307, (55) 853
De Lee, J. B., *13
Delépine, S., (69) 620
Delestre, M., (41) 1689
Delherm, L., (57) 228
Delille, P. A., (45) 1689
Delmas, B., (59) 853
Delore, X., (42) 702, (67) 854
Delorme, E., (63) 854
de Luna, G. M., (130) 163
de Meo, F., (29) 544
Deming, D. B., (68) 776
de Nancrede, C. B. G., 1066
Dencker, C., *417
Denier, (54) 1073
Denig, R., (83) 154
Denk, W., (146) 550
Dennett, R. H., (49) 1292
Dennis, F. L., (88) 1359
Deny, G., (54) 159
De Pascalis, G., (112) 1624
De Quervain, F., (140) 1695
Derby, G. S., (146) 305
Dercum, F. X., *1373
De Renzi, E., (128) 706
v. der Heydt, R., *804
de Ribes, C., (43) 1689
de Roulet, A., (133) 699
Dervaux, (50) 1689
De Sandro, D., (118) 1235, (179) 1697, (115) 1769
Desbouis, 587
de Schweinitz, G. E., (139) 1423
Desgouttes, L., (60) 77
de Souza, S., (35) 544
d'Espine, A., (32) 1908
de Stoecklin, E., (35) 1860
Deubler, E. S., (72) 540
Deutschmann, R., (118) 856
DeVine, J. F., (70) 1069
Devraigne, L., (29) 1764
DeWeese, J. M., (169) 305
Dewey, J. H., (144) 1423
Dewitt, W. A., (75) 847
Dewitzky, W., (137) 550
Dexter, C. A., (133) 927
Dexter, R., (54) 1614
Dexter, T. H., (40) 1357
Dice, W. G., (44) 1292
Dick, G. F., (143) 1361
Dick, J. A., (10) 1906
Dickinson, G. K., (27) 846, (158) 1006, (54) 1292
Dickinson, M. E., (105) 542
Di Cristina, G., (162) 468
v. Diebalia, G., (136, 137) 389
Dieck, W., (75) 160
Dieffenbach, W. H., *958
Diem, W., (98) 784
Dienst, A., (109) 1235
Diesing, E., (78) 1233
Dietlen, H., (126) 549
Dieulafé, L., (39) 853, (72) 854
Dieulafoy, M., (50) 159
Dighton, C. A. A., (23) 544
Di Guiseppe, T., (124) 231, (65) 1910
Diller, T., (88, 92) 303, *347, (124) 1004, (161) 1362
Dillon, J., (171) 1362
Di Mattei, E., (66) 1910
Dimitry, T. J., (63, 71) 1225
Dimmer, F., (114) 162
Dingman, H. W., (73) 924
di Rossi, S., (71) 1910
Disque, T. L., (134) 459
Ditlevsen, C., (118) 80
Ditson, A. M., (77) 1225
Dixon, S. G., (91) 303
Dixon, W. E., (41) 1073, 1800
Djurberg, V., (138) 231
Doak, R. S., (124) 1295
Dobbert, T., (100) 627
Döbeli, E., (106) 548, (68) 783
Döblin, A., (83) 1301
Dochez, A. R., (39) 377
Dodds, T. G., (45) 1001
Döderlein, A., (98) 627, (54) 1518
Dodson, W., 1355
Doederlein, T. J., *199
D'Oelsnitz, (39) 1151
Doepfner, K., (88) 1863
Doerr, R., (95) 1623
Doglioni, G., (165) 468
Dold, H., (73) 546
Dolley, C. S., (98) 1147
Dolley, D. H., (7) 1681
Donald, R., 1503
Donaldson, C. A., (34) 1144
Donaldson, H. H., (40) 1683
Donaldson, W. F., (133, 143) 459
Donan, D. C., (89) 380
Donath, J., (74) 463
Donley, J. E., *1256, (143) 1296
Donzello, (115) 1013
Doran, A. H. G., (8) 459
Doré, (30) 544
Dore, S. E., (15) 851
Dorn, L., (99) 79
Dorner, G., (9) 545, (31) 624
Dorr, R. C., (69) 1002
Dorsemagen, P., (120) 1077
Doty, A. H., (60) 456
Douay, L., (59) 228
Dougherty, D. S., 1285
Douglas, A. R., (36) 781
Douglas, C., (135) 156, *329, (23) 1619
Doury, G., (52) 781
Dove, K., (52) 1517
Dowd, J. H., (101) 542
Dowling, F., (18) 152
Dowling, J. I., (93) 1686
Dowling, O., (64) 1225
Downden, A. P., (126) 1226
Downes, R. M., (38) 1619
Downs, A. W., (143) 1226
Downs, P. M., (65) 379
Dox, A. W., (26) 1758
Doyle, O. W., (15) 1357
Doyne, R. W., (2) 225
Drake, C. St. C., *20, 444
Drake, F. I., (34) 618
Drake, W. P., (80) 1615
Drake-Brockman, H. E., (51) 77
Drayer, L. P., (33) 538
Drehmann, G., (124) 1156
Drenkhahn, R., (135) 1078
Drennan, J. G., (58) 1292
Dreuw, W. H., (45) 1909
Dreyer, A., (107) 1693
Dreyfoos, M., (26) 1067
Dreyfus, G. L., (57) 1909
Driver, W. F., (86) 1146
Drueck, C. J., (140) 1004, (74) 1358
Drummond, H., (24) 623, (121) 1295, (13) 1687
Drüner, L., (166) 82
Drüning, F., (77) 1075
Drury, D. W., (14) 844
Drysdale, H. H., (156) 1362
Duane, A., (67) 1069, (127) 1514
Dubreuilh, W., (49) 625
Duckworth, D., (3) 1686
Duclaux, J., (52) 1073
Ducuing, (53) 703
Dudley, C. R., (106) 380
Dudley, E. C., *487, *1874
Dudley, F. W., (35) 1511
Dudley, W. H., 1213
Duenas, J. L., (50) 307
Dufour, C. R., (28) 377
Dufour, H., (45) 307
Dugas, G., (57) 931
Duhem, P., (31) 929
Dührssen, A., (54) 227
Dulaney, O., 1354
Dumont, F., (131) 81
Dunan, F., (57) 1621
Dunbar, A. W., (109) 698
Dunbar, W. P., (82) 546, (76) 1368
Duncker, (80) 1075
Dunham, J. D., 1749
Dunlap, R. E., (55) 222
Dunlop, J., (104) 1857
Dunn, C. H., (80) 697, 1719
Dunn, J., (116) 1361
Dunn, J. T., (121) 542
Dunn, M. C., (92) 78
Dunsmoor, F. A., (99) 304
Dupont, R., (33) 1426
Dupré, E., (58) 384
Duprey, A. B., (35) 307
Dupuy, H., (65) 1225
Dupuy, R., (56) 1621
Durand, C., (36) 1151
Durig, A., (96) 1769
Duringer, W. A., (84) 1146
Durkee, J. W., (142) 225
Duryee, C. C., (114) 459
Duschl, J., (103) 79
Duse, A., (119) 1013
Dutton, W. F., *1648
Duval, C. W., (136) 699, (100) 925, (63, 74, 75) 1146, (124) 1514
Duval, P., (61) 308
Dwinell, W. G., (167) 1149
Dwyer, J. G., (51) 71
Dyde, C. B., (161) 305
Dyer, I., (124) 459, (123) 1514
Dyrenfurth, F., (70) 1621

E

Earle, S. T., (56) 1069
Eastman, J. R., 299, (42, 73) 847, (110) 1003
Eastmond, C., (122) 1147
Easton, C., (169) 1296
Eaton, C. A., (2) 1290, (36) 1613
Eberhardt, W., (48) 618
Eberle, J. G., (64) 1002
Ebermayer, F., (97) 79
Ebersole, W. G., (139) 927
v. Eberts, E. M., (30) 1854
Ebner, A., (106) 856
Ebstein, E., (151) 389, (96) 547, (86) 1011
Ebstein, W., (101) 311 (135) 467, (127) 1304
Eccles, R. G., (21) 69
Echols, C. M., (35) 301
Eckenstein, K., (19) 75
Eckert, (79) 626
Edelstein, F., (84) 705, (102, 104) 706
Edens, E., (120) 549
Eder, M. D., (31) 1859
Edgar, J. C., (102) 1615, 1746
Edgecombe, W., (40) 1299
Edin, K. A., (169) 390
Edington, G. H., (36) 1683
Edling, L., (89) 1234
Edmond, W., (47) 1299
Edridge-Green, F. W., (9) 700, (5) 779, (9) 780
Edwards, A. R., 1606, *1784
Edwards, E. G., *173
Edwards, F. S., (117) 1295
Edwards, G. P., 1286
Edwards, M. R., (120) 1147
Edwards, W. A., (126) 850
Effendi, M., (44) 1908
Egdahl, A., (84) 1002
Eggleston, E. L., (45) 1358
Eggleston, S. A., 1503
Ehlers, E., (148) 164, (156) 927
Ehrenberg, L., (61) 1621
Ehrenfest, H., (127) 778
Ehrenfried, A., *412, (21) 1067, (3) 1290
Ehret, H., (93) 784, (143) 1695
Ehrhardt, O., (81) 626
Ehrich, W. S., (41) 847
Ehringhaus, O., (54) 1231
Ehrlich, B., (76) 783
Ehrlich, F., (69) 932
Ehrlich, H., (101) 705
Ehrlich, P., (68) 385, (125) 466, (53, 54) 625
Ehrmann, R., (130) 1865
Ehrmann, S., (120) 628
Eichhorst, H., (107) 934
Eichmeyer, W., (54) 545
Einaugler, K., (110) 162
Einhauser, R., (121) 934
Einhorn, M., (101) 154, (12) 377, (58) 782, (6) 1000, 1607, (69) 1690
Eisenberg, P. V., (35) 1419
Eisendrath, D. N., (77) 847, (131) 1004, (172) 1149
Eisenstaedt, J. S., (57) 1420, (68) 1684
Eising, E. H., (11) 1067, (135) 1617
Ekecrantz, T., (140) 231
Ekler, R., (108) 1013
Elder, C. S., (100) 1003
Elder, J. W., (20) 152
Elfer, A., (63) 545
Eliasberg, J., (98) 933
Eliot, E., 298, (47) 775
Eliot, H., (41) 853
Ellegood, J. A., (67) 379
Ellett, E. C., (69) 457, (39) 1068, (175) 1296
Elliot, R. H., (24) 1230, (86) 1686
Elliott, A. R., 1843
Elliott, C. A., (71) 1684
Ellis, A. G., 143, (74) 540
Ellis, A. W. M., *1870
Ellis, E. M., (138) 699
Ellison, W. A., 1756
Elmer, W. G., (14) 300, (60) 1145
Elmslie, R. C., (32) 624
Elsberg, C. A., (46) 775

Elschnig, A., (92) 464, (73) 626, (117) 1077
Else, J. E., (56) 222
Elsner, H., (68) 160
Elsner, H. L., (1) 376, (57) 456
Elterich, T. J., (50) 1292
Ely, L. W., (125) 926, (103) 1003, 1845
Ely, T. W., (57) 1001
Emerson, H., (98) 1359
Emerson, L., (149) 225, (133) 305
Emery, E., (30) 76
Emery, W. D., (38) 307, (9) 928, (2) 1006
Emmerich, R., (77) 1767
Emmes, L. E., (41, 42) 618
Emmons, A. B., (1) 844
Enderlen, E., (93) 79
Enebuscke, C. J., (139) 231
Engel, S., (69) 545
Engelen, P., (73) 1863
Engelhorn, E., (61) 1010
Engelmann, F., (155) 467
Engelmann, W., (47) 1427
English, C. F., 1497
Engman, M. F., *87, (81) 223, (80) 924
Ennett, N. T., (46) 1511
Ephraim, A., (127) 1694
Eppinger, H., (109) 388, (80) 1519
Epstein, E., (111) 388
Erb, W., (154) 82
Erben, F., (137) 312
Erdman, H. B., *812
Erdman, S., *740
Erdmann, C. C., (122) 1361
Erdmann, J. F., (16) 69, (96) 458
Erdos, A., (23) 1515
Erlandsen, A., (95) 855
Erlanger, B., (82) 310
Erwin, F. B., (49) 153
Esau, P., (153) 389, (99) 627, (86) 1622
Eschker, (71) 1075
Eshner, A. A., *194, 375, (104) 849, 1507, 1680, *1797
Eskridge, F., (120) 1616
Essen-Möller, E., (31) 1230
Esser, P., (130) 1865
Eustis, A., (62) 1225, 1258
Evans, A., (8) 1149
Evans, D. J., (57) 1145
Evans, F. L., (71) 1358
Evans, G. H., (21) 1619
Evans, J. J. W., (17) 623
Evans, J. S., (20) 1224
Evans, N., 1355, *1794
Evans, W., (13) 382
Evans, W. A., (14) 220, (41) 1420
Eve, D., (42) 1068, 1355
Eve, F., 1265, (37) 1299
Eve, P. F., 1354
Evensen, H., (129) 1014
Everall, B. C., *199
Everhardy, J. L., (45) 539
Everhart, J. K., (88) 303
Everling, (109) 1156
Ewald, C. A., (71) 546, (56) 1427
Ewald, K., (91) 627
Ewald, P., (71) 386, (53) 1427
Ewens, J., (6) 851
Ewing, J., (47) 1068
Exalto, J., (133) 1695
Exner, A., (162) 82, (84) 1863
Ezekiel, G. A., (119) 926

F

Fabricannte, (37) 930
Fabrikant, M. B., (116) 1077
Fabris, U., (115) 1235, (106) 1624
Fabry, J., (81) 229
Fagella, V., (129) 1865
Fagge, C. H., (9) 1071, (41) 1299
Fagin, R., (40) 1068
Fairbank, H. A. T., (32) 307
Fairfield, W. E., (44) 924
Fairlie, H. P., (29) 781
Fairweather, E. C., (171) 305
Falk, E., (123) 466
Falk, F., (134, 135) 389, (75) 1767
Falkenstein, F. A. J., (66) 1152
Faller, A., (38) 1000
Falta, M., (45) 1516
Falta, W., (66) 1366, (79) 1519
Fankhauser, E., (62) 385
Fanoe, G., (117) 1432
Fantham, H. B., (22) 460, (19, 20) 1298
Fantus, B., (67) 1358
Fargin-Fayolle, P., (72) 78
Farini, A., (125) 163
Farnell, F. J., (17) 1000
Farquhar, G. G., (3) 1296
Farrar, J. D., 1508
Farrar, M. R., (70) 540
Farrell, T. H., (87) 457
Farwell, W. G., (140) 381
Fasani-Volarelli, F., (134) 163
Fasano, M., (114) 1235
Faught, F. ©A., (7) 537, 528, (6) 693, (141) 1226
Faulhaber, M., (108) 311
Faunce, C. B., (122) 1428
Fauntleroy, A. M., *260, (154) 305, (137) 381
Faure, J. L., (53) 1621
Faust, W. P., (149) 1296
Favento, (115) 548
Fay, O. J., (148) 381
Fay, W. E., (6) 844
Fayol, H., (52) 307
Fedden, W. F., (15) 1229
Federici, N., (178) 860
v. Federoff, S. P., (147) 467
Fee, F. E., (30) 538
Feemster, L. C., (174) 1296, 1610
Feer, E., (60) 159
Fehling, H., (50) 1152
Fehr, O., (99) 1369
Fehsenfeld, G., (114) 628
Feilchenfeld, W., (69) 1428
Feiss, H. O., (58) 153, (15) 922, (88) 1422, (55) 1684
Fejes, L., (130) 389, (96) 1302, (137) 1695, (124) 1865
Felberbaum, D., (16) 300
Feldhahn, (71) 1233
Felländer, F., (160) 1696
v. Fellenberg, R., (116) 706, (69) 1153
Felten, R., (56) 545
Feltham, W. J., (6) 542
Fenestre, H., (46) 863
Fenner, E. D., (77) 303
Fenning, F. A., *489
Fenton, W. J., (16) 1229
Fenwick, E. H., (3) 382, (4) 1362
Ferguson, A. H., 140, *1015, (45) 1144, (37) 1683
Ferguson, J. F., *1544
Fernet, C., (42) 1231
Ferrand, M., (41) 1860
Ferrannini, L., (187) 860, (144) 936, (167) 1372
Ferrari, M., (156) 1372
Ferreira, C., (55) 1621
Ferrier, D., (27) 461, 641, 660
Ferris, A. W., 1507
Ferron, F., (128) 163
Fessler, J., (69) 386
Fest, F. T. B., (81) 541
Fetherolf, C. W., (138) 927
Fetterolf, G., (103) 304, (1) 1510
Fiaschi, P., (23) 1007
Fiaschi, T., (23) 383, (27) 701, (23) 1007
Fichera, F., (46) 227
Fichera, G., (142) 936, (165) 1372, (111) 1769
Fichera, S., (124) 1014
Fiegenbaum, E. W., (20) 774
Field, C. E., (35) 1224
Fiessinger, C., (49) 227, (27) 1515
Fieux, G., (44) 158
Figueira, M., (72) 222
Fihe, C. C., 1748
Fildes, P., (13) 157, (15) 1150
Filiatrean, R. N., (11) 1071
Finckh, A. E., (24) 1619
Findlay, L., (28) 1008
Findley, P., (29) 152, *1174, (68) 1857
Finger, E., (172) 82, (148) 550, (36) 1765
Fink, F., (176) 83
Fink, G. H., (8) 699
Finkelstein, H., (115) 934
Finney, J. M. T., *1625
Finsterer, H., (79) 932
Finzi, G., (119) 1235, (158) 1372, (144) 1866
Finzi, N. G., (11) 1859
Fiolle, P., (25) 1764
Fiori, T., (131) 163
Fiorito, G., (116) 1769
Firebaugh, I. L., (41) 152
Firth, A. C. D., (18) 1763
Fischel, W. E., (86) 925
Fischer, C. S., (164) 1617
Fischer, E., (112) 1156
Fischer, F., (133) 1865
Fischer, H., (112) 1370
Fischer, L., *405
Fischer, O., (116) 934
Fischer-Nielsen, (151) 164
Fischkin, E. A., (87) 1761
Fischl, L., (76) 309
Fisher, E. D., (5) 69, (12) 537, 1415
Fisher, G. C., (74, 75) 379, (60) 1615
Fisher, I., 1263, 1310
Fisher, J. T., (71) 153
Fisher, R. H., (138) 851
Fisher, T., (11) 382
Fisher, W. A., (63) 379
Fisk, C. W., (48) 153
Fiske, C. N., (82, 92) 1359
Fiske, T. S., 763, *1541
Fittipaldi, U. M., (175) 1697
Fitzgerald, J. G., (91) 541, (45) 624
Flagg, P. J., (40) 1613
Flanders, L. W., 1852
Flashman, J. F., (25) 1619
Fleischer, B., (83) 783
Fleischmann, P., (95) 705
Fleischner, E. C., (100) 698
Fleming, E. W., (108) 1361
Fleming, R. A., (30) 461, 1167
Flemming, F. J., (129) 1514
Flemming, P., (19) 1859
Fletcher, F., (92) 1422
Fletcher, J. P., *1016, *1102
Fletcher, J. R., (64) 379
Fletcher, H. M., (31) 1687
Fletcher, M. H., *109
Flexner, A., (123) 224, 445, 994
Flexner, J. A., (140) 459
Flexner, S., *585, *1717, 1750
Flick, L. F., (128) 698, 1052, (17) 1613
Flinker, A., (113) 388, (165) 859, (97) 1769
Flinn, J. W., (80) 1002
Flinzer, E. R., (114) 1077
Floersheim, S., (102) 1686
Flörcken, H., (93) 79, (123) 1156
Florence, (53) 703
Flower, N., (8) 1423
Flynn, J., (25) 701
Fockens, P., (85) 1520
Foerster, O., (132) 550
Fofanow, L., (140) 389, (143) 1371
Foggie, W. E., (7) 851
Foix, C., (57) 308
Folin, O., (75) 697
Foltz, J. A., (52) 153
Fonde, G. H., (72) 457
Fontana, A., (134) 629
Forbes, A. M., (107) 926
Force, J. N., 834
Forchheimer, F., (51) 618, 1604
Ford, M. J., (111) 1070
Ford, W. E., (74) 1070
Ford, W. W., (50) 847, (23) 1224, 1608
Fordyce, J. A., *186, (122) 459, (141) 1005, 1353, (157) 1617
Forlanini, C., (74) 626, (129) 706, (114) 856
Forline, H., (31) 1144
Forrester, G. P., (20) 1763
Forster, E., (67) 228, (93) 1302
Forsythe, W. H., 1740
Fort, A. G., 1753
Fortescue-Brickdale, J. M., (28) 226
Fortineau, L., (44) 624
Foscue, G. B., (120) 778
Foster, B., (97) 1070
Foster, C. S., (47) 1292
Foster, N. B., (52) 618
Foulkes, T. H., (27) 1072
Foulkrod, C., *11, *1033, (98) 1615
Fowler, A. L., (74) 457
Fowler, G. R., (60) 71
Fowler, H. A., (114) 74, (117) 1003
Fowler, R., (13) 306
Fowler, R. S., (8) 1067, (123) 1147, (16) 1757
Fox, C., (151) 1227
Fox, C. M., (61) 302
Fox, G. H., (41) 70, (46) 696, 1354
Fox, H., *650, (13) 1000, (21) 1292, 1353, (49) 1856
Fox, L. W., (70) 1512
Fox, R. H., (33) 307
Fraenkel, A., (122) 1156, (103) 1303
Fraenkel, C., (96) 1369
Fraenkel, E., (112) 1864
Fraenkel, L., (92) 79, (74) 546
Fraenkel, M., (92) 1692
Franchini,, G., (67) 1862
Francine, A. P., (10) 151
Francis, A., (15) 75
Francis, C. H., (20) 1613
Francis, R. P., (117) 1762
Franck, O., (158) 552
Franco, E. E., (91) 79
Frangenheim, P., (90) 1076
Frank, A., (64) 1152
Frank, E., (175) 859, (68) 1366
Frank, E. R. W., (96) 161
Frank, F., (120) 466
Frank, J., *404
Frank, L., (51) 696, (77) 1760
Frank, M., (86) 1761
Frank, R., (67) 1233
Frank, R. T., (132) 156, (85) 379
Franke, C., (87) 1011
Frankel, S., (137) 1305
Frankl, O., (37, 38) 1516
Franklin, C. P., (90) 303
Franklin, M. W., (9) 1223
v. Franqué, O., (154) 467, (118) 1077
Franz, A., (78) 1863
Franz, K., (89) 79, (40) 1514
Franz, R., (131) 1370
Frascella, P., (141) 163
Fraser, A. M., (30) 307
Fraser, F. C., (57) 77
Fraser, H., (20) 157
Fraser, J. S., (12) 75, (32) 1364
Frauenthal, H. W., (62) 1292
Frazer, T. A., (109) 622
Frazier, C. H., (61) 1146, *1448
Frech, F., (97) 161
Frederick, C. C., *94
Fredet, P., (55) 461
Freedman, L. M., (4) 1290
Freeland, J. R., (3) 622
Freeman, A. B., (24) 1418
Freeman, A. W., (136) 927, (101) 1857
Freeman, H. M., (94) 1422
Freer, O. T., (110) 849
Freiberg, A. H., (104) 926, 1844
Fremantle, F. E., (7) 1514
French, H., (1) 927
French, H. C., (20) 75
Frescoln, L. D., 143, 844, (19) 1510 (68) 1512
Freund, H., (102) 1155
Freund, L., (117) 162, (122) 1864
Freund, M. H., (11) 617
Freund, R., (85) 1154
Frey, H., (102) 1234
Frey, W., (125) 1865
Freyer, P. J., (16) 1363
Freytag, G., (162) 858
Friedberg, S. A., (132) 1004
Friedberger, E., (98) 311, (99) 387, (109) 785, (92) 1076, (56) 1232, (90) 1768
Friedemann, U., (69) 160, (77) 546
Friedenreich, A., (148) 1866
Friedenwald, H., *1454, 1608
Friedenwald, J., (38) 69, 1609, 1680, 1752
Friedländer, A., (54) 776, (38) 781
Friedlander, D., (71) 1292, (51) 1614
Friedman, I. E., (16) 1418
Friedman, S. S., (78) 1512
Friedmann, G. A., (71) 1690
Friedmann, K., (93) 1768
Friedrich, P. L., (70) 1863
Friedrichs, A., (63) 703
Friend, H. E., (7) 1006
Frink, H. W., (9) 1357, (115) 1762
Frisbee, E. F., (82) 541
v. Frisch, O., (55) 1365
Frissell, L. F., *661
Fritsch, K., (85) 1075
Fritsche, E., (77) 386
Froelich, R., (45) 227
Frölich, A., (113) 934
Froment, J., (47) 227
Fromme, A., (81) 386, (112) 1077
Fröschels, E., (87) 386
Frost, W. D., *1253
Frost, W. H., *663
Frothingham, C., (102) 154, (3) 1223
Frugoni, C., (136) 163, (47) 545, (102) 856, (112) 1769
Fründ, H., (134) 466
Fry, H. D., *16, 1746
Führer, H., (88) 705
Fuhs, J., 1751, 1882
Fulci, F., (138) 630, (122) 1013
Fuld, E., (70) 932, (44) 1765
Fuld, F., (66) 1621
Fulda, H., (111) 1235
Fuller, C. A., *733
Fuller, W., (95) 848
Fullerton, R., (24) 851
Fullerton, W. S., 766
Fulton, F. T., (164) 1149
Fumarola, G., (116) 1235
Funke, J., (11) 694, (16) 1291
Fürbinger, J., (91) 855
Fürbinger, P., (142) 1306, (56) 1766
Furet, L., (74) 1300
Furniss, H. D., (14) 1291
Furrer, A. F., (∞) 1615
Furstenberg, A., (52) 1909
v. Fürth, O., (98) 705
Fusco, V., (107) 1431
Fussell, M. H., (145) 1226, 1680
Futcher, T. B., 1851
Füth, J., (120) 786
Fyke, B. F., (133) 1226
Fzaicou, A., (52) 931

G

Gabbi, U., (130) 231
Gabbart, W. S., (130) 1226
Gadd, W., (19) 1363
Gaddie, D. W., (78) 1615
Gaertner, F., (8) 773
Gaertner, G., (103) 1013
Gaffky, G., (70) 228
Gage, J. G., (106) 1360
Gaglio, G., (130) 706
Gagstatter, K., (102) 1013
Gaines, J. A., 1356
Gaines, L. M., (159) 1228
Galambos, A., (116) 162, (134) 1865
Gale, S. S., (114) 542
Gallais, A., (47) 625
Gallavardin, L., (25) 1515
Galloid, (42) 1426
Galloway, D. H., (28) 695
Galpern, J., (53) 1365
y Gama, E. J., (77) 154
Gamble, W. E., (63) 776
Gangitano, F., (163) 1372
Gant, S. G., (15) 1067, (20) 1292, 1506
Günther, T., (46) 1516
Gantz, M., (46) 702, (86) 933
Gara, S., (73) 1621
Garceau, E., (74) 855, (65) 1621
Gardiner, W. T., (31) 1008
Gardner, C. H., 831
Gardner, D. S., (17) 922, (90) 1615
Gardner, W. S., *169
Gargiano, C., (102) 856
Garin, C., (48) 1861
Garmagano, C., (110) 1624
Garratt, J. M., *264
Garraway, C. R., 1503
Garrè, C., (155) 82

Garrison, F. H., *1785
Garrison, H. A., (75) 1359
Garrison, P. E., (134) 381, (85) 1359
Garrod, A. E., (12) 623, (4) 1905
Garvin, A. H., 1506
Gaskill, H. K., *1099
Gaston, J. M., (153) 1617
Gatch, W. D., (22) 922
Gates, M. F., (130) 131, (142) 459
Gaucher, E., (68) 78, (38) 1008, (40) 1426
Gaugele, K., (102) 1623
Gaujoux, E., (42) 307, (47) 853, (42) 1008, (60) 1300
Gauss, C. J., (135) 1157
Gauvain, H. J., (3) 1006
Gaver, E. E., (134) 74
Gavini, G., (121) 1013
Gay, F. P., *578
Gayet, G., (38) 544, (41) 545, (65) 1075
Gaylord, H. R., 444, 1506
Gazenavette, L. L., (72) 303
Gebele, H., (94) 79
Geddes, A. C., (4) 699
Geipel, P., (108) 856
Geist, G. L., 1848
Gellhorn, G., 1912
Gellin, O., (124) 1432
Gengenbach, F. P., (163) 699
Gennerich, W., (116) 80, (103) 387
George, J. C., (26) 774
Geraghty, J. T., *731, (33) 1151, (1)1853
Gerard, M., (51) 1689
Gerber, O. P., (96) 627
Gerber, P. H., (113) 311, (128) 1078
Gergo, E., (137) 1695
Gerhardt, D., (60) 385
Géronne, A., (61) 228, (52) 1231
Gerould, J. T., (42) 378
Gerschün, M., (118) 230
Gerstenberger, H. J., (113) 224, (69) 1146
Gerster, A. G., (5) 921
Gessner, H. B., (102) 1513
Geszti, J., (88) 933
Geyer, L., (59) 1427
Ghedini, G., (110) 388, (137) 630, (125) 786, (105) 1013, (138) 1157
Cheza, G., (120) 1235
Giannini, B. E., (96) 73
Gibbard, T. W., (16) 1150
Gibbs, C., (14) 1362
Gibbs, E. T., 1602
Gibney, V. P., (112) 926
Gibson, C. L., (158) 305
Gibson, G. A., (20) 1859
Gibson, J. A., (39) 158
Giddings, H. G., (115) 1003
Giemsa, G., (164) 82
Giffin, H. Z., (21) 694, (55) 1224
Gignoux, (51) 71
Gigon, A., (106) 464, (68) 1767
Gilbert, G. B., (162) 699, *1262
Gilbert, J. R., (22) 152
Gilbert, O. M., (90) 1359
Gilbert, W., (118) 934
Gilbride, J. J., 143, *497, 844, (11) 1357
Gilchrist, T. C., (82) 223, 255.
Giles, A. E., (23) 1072
Gilfillan, J. S., (96) 304, (155) 699
Gill, J. M., (16) 1007
Gilles, R., (45) 158
Gillespie, E., (26) 1151, (14) 1514
Gillette, A. J., (13?) 779
Gillette, H. F., 1055
Gillette, W. J., (123) 304
Gilliam, D. T., *485
Gillitt, W., (37) 383, (29) 1619
Gillmore, R. T., (31) 301
Gilman, C. S., 1852
Gilman, P. K., (50) 1001
Gilmer, T. L., *165
Gindes, E., (65) 462
Ginsburg, N., *347, (52) 776
Giordano, E., (50) 853
Gioseffi, M., (145) 467, (117) 706
Giovanni, S., (109) 1624
Girardi, P., (121) 231
Giroux, L., (40) 1426
Girsdansky, M., (15) 300
Githens, T., 606, (25) 1224, (51) 1427, (62) 1856
Gittings, J. C., (103) 304
Giugni, F., (47) 545, (112) 1769
Givens, M. H., (70) 696
Gjorjevic, G., (166) 859, (121) 1864
Gladmon, E., (116) 74
Glaesmer, E., (82) 855
Glaessner, P., (85) 1429
Glahn, J., (114) 622
Glaser, C., (51) 378
Glaser, R., (107) 1864
Glasgow, M., (9) 151
Glass, A. M., (123) 1071
Glass, E., (104) 229
Glazebrook, F. H., (50) 924
Gleason, J. H., (113) 1762
Gleeson, F. H., (23) 1230
Gleitsmann, J. W., (98) 777, (101) 1422
Glenn, R. P., 1602
Glenn, T. H., (38) 923
Glenn, W. F., 1355
Glennon, W. P., (84) 925
Glimm, P., (96) 1012
Glogau, O., (32) 221, (26) 695
Gloseffi, M., (105) 161
Glücksmann, G., (79) 1368
Glueck, A., (139) 74
Glueck, B., *943
Glynn, T. R., (24) 544
Goadby, K. W., (13) 1072
Gobiet, J., (173) 82
Goddard, H. H., 438
Goddu, L. A. O., (64) 153
Godlee, R. J., (2) 1229, (8) 1514
Goebell, R., (123) 857
Goenner, A., (55) 1427
Goepp, R. M., (54) 1512
Goett, T., (109) 706
Gold, J. D., (10) 69
Goldbach, E., (90) 311
Goldberg, O., (119) 230, (155) 390
Golden, W. W., (27) 1613
Goldenberg, H., (97) 848, (146) 1148
Goldenberg, T., (116) 785
Goldflam, S., (61) 1152
Goldman, (10) 921
Goldman, A., (24) 69, (207) 1067, (163) 1617
Goldmann, E. E., (83) 1075
Goldsborough, B. W., (136) 779
Goldscheider, A., (129) 550, (108) 934
Goldschmidt, F., (47) 1231
Goldschwend, F., (94) 547
Goldseth, G., (136) 305
Goldspohn, A., *573, (67) 1615
Goldstein, M. A., (32) 1068
Goldthwait, J. E., *642, (1) 999, 1847
Goldzieher, M., (118) 628
Golla, F., (29) 1687
Gompertz, L. M., (69) 776
Good, R. H., (111) 849
Good, C. A., (134) 1148
Goodall, E. W., (2) 779
Goodall, J. R., (113) 304, (90) 541, (61) 620, (83) 1685
Goodhart, J. F., (34) 76
Goodhart, S. P., (119) 1616
Goodman, C., (78) 379
Goodman, E. H., *113, (36) 221, (131) 1305, (10) 1357, (53) 1512, *1553
Goodrich, A. W., (18) 1143
Goodrich, C. H., (59) 696
Göppert, F., (90) 161
Gordinier, H., 1506, 1677, (105) 1686
Gordon, A., (3) 150, (105) 154, (4) 220, (64) 222, *805, (8) 1223, (3) 1853
Gordon, G. S., (115) 778, (70) 1421
Gordon, H. S., (53) 456
Gordon, L., (100) 1761
Gordon, P. L., (127) 1004
Gordon, T. D., (5) 1907
Gordon, W., (2) 1071, (9) 1296
Gordon, W. S., (113) 74
Gorrell, J., (77) 379
Gorse, P., (47) 1152
Goth, L., (68) 309
Gott, W. T., 765
Gottheil, W. S., (2) 150, (122) 1004, 1353
Gottlieb, R., (126) 466, (121, 122) 549
Gottschalk, S., (82) 79
Gottschlich, J., (41) 1765
Gougerot, H., (48) 227, (43) 545, (49) 930
Gould, A. P., (2, 11) 157, (38) 1073
Gould, C. W., (48) 1068
Gould, G. M., (70) 72, (99) 223
Goullioud, (65) 854
Goulston, A., (6) 1149
Gowdy, E. L., (113) 1071
Grabley, P. L. E., (141) 389
Grabower, H., (50) 1427
Grad, H., (120) 304
Gradle, H. S., (104) 1226, 1318
Grafe, E., (83) 463, (90, 97) 1302, (98) 1692
v. Graff, E., (117) 230, (83) 855, (163) 859
Graff, H., (136) 312
Graham, E. A., (116) 1147
Graham, E. E., (129) 224
Graham, G., (26) 1687
Graham, G. S., (50) 1420
Graham, H. B., (94) 777
Graham, L. R., (22) 695
Graham-Smith, 1873
Grand-Clement, E., (68) 1300
Grandauer, K., (88) 463
Grandy, C. C., *264
Grandy, C. R., (26) 377
Grant, J. P., (12) 454, (13) 1904
Grant, W. W., (101) 1293
Grashey, R., (100-102) 79
Gratiot, H. B., (168) 1149
Grau, H., (107) 311, (145) 1371
Graves, S. C., (4) 1903
Graves, W. H., (147) 74
Graves, W. P., (2) 999
Graves, W. W., (122) 74, (128) 459, (111) 934
Grawitz, E., (40) 1514
Gray, A. L., (30) 1511
Gray, A. M. H., (10) 1149
Gray, D. F., (162) 1149
Gray, F. D., (3) 537
Gray, G. D., (16) 1618
Gray, G. M., (169) 1362
Gray, H. M. W., (35) 76
Gray, I., (131) 778
Gray, T. N., (131) 224, 244
Grayson, C. P., (137) 225
Greaves, J. E., (20, 27) 1758
Green, C. M., (119) 1514
Green, D. M., (38) 1144
Green, G. W., (34) 1758
Green, J., (127) 74, (24) 1854
Green, J. I., (149) 927
Green, N. W., (70) 386
Green, R. M., (20) 1143, (117) 1423
Green, W., (165) 1617
Green-Armytage, V. B., (35) 383, (21) 1230
Greenberg, G., (19) 454, 1197, (32) 1224
Greene, C. L., (166) 1617
Greene, J. B., *953
Greene, R. N., (9) 1418, 1842
Greensfelder, L. A., (111) 156
Greenwood, M., (40) 307
Gregor, G. D., (33) 1357
Gregory, W. M., 916, 1593
Greig, D. M., (37) 76
Greiwe, J. E., (109) 1857
Grekow, I. I., (164) 859
Griffin, E. A., (24) 846
Griffin, S., (115) 1226
Griffin, W. A., (70) 776
Griffith, D. M., (116) 622
Griffith, F., (7) 1143
Griffith, G. DeG., (27) 1859
Griffith, J. D., (106) 926
Griffith, J. P. C., (130) 224, (60) 462, (99) 1761
Griffith, S. H., (58) 1001
Griffiths, J., (9) 622
Grindley, H. S., (73) 697
Grindon, J., (130) 778
Grinstead, W. F., (22) 1418
Griscom, J. M., (140) 1423
Grocco, P., (131) 706, (120) 1864
Groedel, F. M., (146) 1371, (118) 1370
Grøn, K., (132) 786
Gronarz, F., (75) 1621
Grøndahl, N. B., (126) 1014
Grosh, L. C., (21) 774
v. Gross, E., (73) 228
Gross, L., (65) 303, (164) 382
Gross, M., (10) 300, (116) 388, (106) 849, (119) 934, (102) 1422
Gross, M. H., (15) 454
Gross, O., (94) 1863
Grosse, A. B., (165) 382
Grosser, P., (90) 627, (96) 1431, (113) 1694
Grossman, D. S., (52) 1358
Grouven, C., (147) 1695
Groves, E. W. H., (4) 225, (29) 226, (6) 1905
Grow, E. J., (131) 305
Grube, R. H., 1601
Gruber, G. B., (105) 1864
Grünbaum, A. S., (16) 1298
Grünbaum, O., (18) 382
Grund, G., (102) 1864
Gudeman, E., (64) 1358
Gudernatsch, J. F., (6) 1612
Gudzent, F., (107) 388, (139) 389
Guéniot, P., (71) 854
Guerry, LeG., (28) 1419, 1679
Guest, H. H., (33) 1758
Guffey, D. C., (86) 379
Guggenheim, L. K., (95) 777
Guibal, P., (45) 930
Guibé, M., (78) 78
Guisez, G., (48) 781, (71) 1300, (52) 1620
Guleke, N., (121) 163, (72) 1075
Gulliver, F. D., (117) 1858
Gully, P., (11) 226
Gumbel, T., (80) 1368
Gundermann, W., (89) 1368
Gunn, H., *259
Gunn, J. A., (6) 542
Gunn, K. E. L. G., (23) 1425
Gunn, S. M., (114) 224
Gurbski, S., (107) 230
Gurd, F. B., (36) 377, (41) 455, (100) 925, (100) 1513, (124) 1514
Gussio, S., (142) 313
Guthrie, C. C., (126) 698
Guthrie, G. W., *256
Guthrie, J. B., (135) 699
Guthrie, J. R., 995
Gutmann, C., (149) 467, (96) 1076, (52) 1231
Gutzmann, F., (169) 1697
Gwathmey, J. T., (16) 1000
Gwathmey, L., (125) 1423
Gwinn, G. E., *193

H

Haarbleicher, E. B. M., (24) 1364
Haas, S. V., (59) 1145, (82) 1422
Haase, C., *1059
Haase, M., *174
v. Haberer, H., (78) 1075, (54) 1365
Haberern, J. P., (137) 1865
Haberfeld, W., (121) 1370
Haberling, W., (104) 464
Habermann, R., (70) 1366
Hackenbench, (74) 1621
Hackenburch, P. T. L., (61) 1909
Hackett, W. A., (103) 1070
Hadda, S., (49) 1365
Hadden, D., (162) 382, (44) 1614
Haden, H. C., (121) 778
Hadlich, R., (113) 1694
Haeberlin, C., (120) 162
Hagen, M., (108) 458, (109) 1686
Hagen, W., (124) 1156
Hagenbach, E., (61) 385
Hagentorn, A., (127) 629, (101) 1769
Hagard, W. D., (24) 152
Hahn, G., (84) 386
Haike, (58) 1621
Haines, W. D., (139) 1071
Halberstadt, R., (52) 545
Halberstaedter, L., (128) 549
Halbey, K., (78) 1368
Halbron, P., (45) 545
Hald, P. T., (18) 846, (120) 1432
Hale, G. D., (81) 1359
Hale, M., (99) 1293
Hall, A. J., (4) 1762
Hall, D. M., (118) 850
Hall, F. de H., (38) 1299
Hall, G. C., (90) 380, (122) 542
Hall, I. W., (17) 1150
Hall, J. A., (54) 1358
Hall, J. N., *85
Hall, W. S., 828
Hallas, E. A., (121) 1235
Hallion, L., (56) 1689
Hallock, F. K., (18) 377
Hallopeau, H., (121) 459, (35) 702
Halpenny, J., (77) 379, (114) 778
Hamand, P., (41) 930
Hamant, A., (47) 1861
Hamburger, F., (63) 159, (95) 784
Hamburger, W. W., (28) 300
Hamelin, A., (52) 1073
Hamerton, A. E., (14) 544, (25) 1072, (22) 1364
Hamill, S. McC., (88) 697, (47) 924
Hamilton, A., *1240
Hamilton, H. C., (54) 1684
Hamilton, T. K., (17) 306
Hamilton, W. D., (23) 455
Hamilton, W. F., 1750
Hamlin, F. A., (102) 698
Hamlin, O. D., (168) 382
Hamm, A., (86) 79, (87) 229, (154) 390
Hammacher, J. F. M., (74) 309
Hamman, L., (103) 154
Hammer, B. W., (17) 1223
Hammer, G. P., (85) 1146
Hammerschlag, S., (62) 228
Hammesfahr, A., (152) 467
Hammond, G. M., (140) 1148
Hammond, L. J., 219, (89) 1857
Hancock, C. R., (12) 617
Hancock, D. O., (116) 1226
Hancock, J., (84) 777
Handley, D. C., (35) 1292
Handley, W. S., (37) 307
Handmann, E., (89) 1302
Hanes, F. M., *33, *587, *791, (72, 73) 1146, (74, 75) 1512
Hanes, G. S., (134) 1071
Hani, J. R., (107) 785
Hanley, L. G., (163) 1296
Hannah, C. R., (80) 1146
Hannes, W., (137) 935, (96) 1234
Hans, H., (109) 230, (68) 1233
Hansell, H. F., (111) 1226, (98) 1513
Hansen, J. H., (115) 1423
Hansen, P., (103) 74
Hanson, D. S., (135) 74
Hanson, H., (111) 1294, 1841
Hanssen, (104) 1155
Hanssen, O., (179) 84
Hardenbergh, D. B., (34) 1357
Hardie, D., (23) 701
Hardin, C. B., (83) 1070
Harding, G. F., (144) 1005
Hardy, C. H. W., (19) 701, (36) 1299
Hardy, I., 139
Hare, H. A., 608, (89) 1225
Hargrave, E. T., (96) 542
Haring, C. M., (67) 1292
Harison, B. D., 919
Harker, H. J., *1312
Harkness, G. F., (73) 777
Harlan, H., (121) 224, 769, (142) 1617
Harman, N. B., (11) 1006
Harnack, E., (70) 783
Harnett, W. L., (20) 1363
Harnsberger, S., (34) 1511
Harper, J., (14) 851, (46) 1299, 1822
Harper, P. T., (122) 156
Harper, W. W., (163) 1362
Harrar, J. A., (52) 1292
Harrass, P., (64) 1232
Harrelson, A. M., 1503
Harrigan, J., (110) 542
Harrington, A. H., (161) 1149
Harrington, D. W., (139) 1143

Harris, A., (16) 1072
Harris, A. W., (14) 1418
Harris, C. M., (89) 303, (121) 1361
Harris, D. L., (43) 455, (43) 538
Harris, E. E., (79) 1857
Harris, H. F., (10) 1510
Harris, H. G., (14) 1143
Harris, J. D., (6) 1423
Harris, M. L., 528, 605, 768, *1104, *1319
Harris, S., (58) 847
Harris, T. C., (145) 699
Harris, W., (28) 461
Harris, W. H., (103) 1513
Harrison, A. G., (66) 1002
Harrison, F. C., (15) 1007
Harrison, G. F., (100) 1857
Harrison, L. D., (149) 305, (130) 1617
Harrison, L. W., (16) 1150
Harrison, P. W., (14) 537
Harrison, W. H., (38) 1420
Harrower, H. R., (23) 695
Harsha, W. M., (28) 152, (24) 300
Hart, A. J., (13) 694
Hart, A. O., (162) 1228
Hart, C., (114) 1156, (57) 1366
Hart L., 1503
Hart, T. S., (87) 1002
Harte, (128) 389
Harte, R. H., (51) 1224
Härtel, F., (87) 1863
Hartenberg, P., (52) 1009
Harthill, E., (123) 1226, (81) 1615
Hartley, F., (105) 74
Hartmann, F. K., (101) 1369
Hartmann, H., (40) 853, (44) 1427
Hartshorne, I., (52) 1856
Hartwich, W., (40) 1765
Hartz, H. J., (28) 1292
Hartzell, M. B., 998, (94) 1857
Harvey, T. W., (14) 377, (161) 1006
Harvie, J. B., (9) 376, (106) 1686
Harvier, P., (47) 307
Haskins, H. D., (69) 1146
Haslam, G., (89) 1293
Haslam, W. F., (2, 11) 851, (8) 927, (10) 928, (12) 1071
Hasler, W. T., (146) 1362
Haslund, P., (124) 1235
Hassan, O. G., (29) 1072
Hasse, C., (24) 1144
Hastings, H., (119) 74
Hastings, T. W., (64) 1856
Hastrup, R., (169) 552
Hatcher, R. A., *26
Hatton, W. A., (2) 1858
Hattrem, W. M., (4) 1756
Hatzfeld, A., (62) 1232
Hauch, E., (55) 227
Haudek, M., (159) 82, (121) 628, (94) 1012
Haughey, W. H., (160) 225
Hauptmann, A., (133) 1305
Haus, G. A., (142) 231
v. Hausemann, D., (64) 545
Hauser, H., (115) 706
Hausmann, T., (103) 161, (128) 312
Hautant, A., (44) 1861
Hawk, P. B., (71) 697, (104) 1360, (4) 1756
Hawkes, F., (45) 1683
Hawley, G. W., (94) 458
Hawthorne, C. O., (12) 851, (43) 1073
Hay, A. G., (30) 1364
Hay, J., (24) 1425
Hayd, H. E., (98) 223
Hayes, M. J., (46) 384
Hayes, W. V., (105) 1422
Hayn, F., (93) 229
Haynes, I. L., (72) 1760, (101) 1761
Hays, H., (34) 221, (38) 846, (25) 1682
Hazen, C. M., (95) 542, (124) 926
Hazen, H. H., (20) 922, (143) 1005, (71) 1857
Heard, J. D., (86) 303
Heath, F. C., (37) 1144
Heath, H., (139) 157, (61) 379
Hecht, B., (126) 934
Hecht, H., (94) 229, (66) 1862, (40) 1908
Hecht, V., (99) 1234
Heckel, E. B., (90) 1686
Hecker, A., (57) 1766
Hecker, R., (102) 161
Heddäus, A., (59) 545
Hedenius, I., (168) 390, (189) 860
Hedger, C., (38) 455
Hedges, E. W., (159) 1006
Hedlund, A., (131) 1236
Heermann, A., (77) 228, (67) 385
Heffernan, P., (19) 780
Hegar, K., (84) 79
Hegler, C., (89) 705
Hehir, P., (15) 780, (20) 1230
Heilberg, K. A., (110) 1864, (128) 1865
v. der Heide, A., (163) 1696
Heidemann, M., (146) 858
Heidenhain, L., (80) 386, (91) 547
Heidingsfeld, M. L., (17, 19) 152, (29) 538
Heilborn, W. E., (7) 1686
Heilbronner, K., (100) 1155, (82) 1022
Heile, B., (96) 311
Heim, P., (112) 706, (113) 1304
Heimann, F., (138) 1865
Heineck, A. P., (87) 777, (100-109) 778
Heinemann, K., (125) 857
Heinemann, P. G., (95) 1359
Heinrich, E., (70) 704
Heinsius, F., (56) 1518
Heinze, H., (84) 855
Heiser, V. G., 1124, *1237
Heitger, J. D., (119) 1361
Heitz-Boyer, J., (30) 544, (45) 1364
Hektoen, L., *1795
Helbich, H., (150) 82
Helbing, C., (122) 163
Hell, F., (61) 159
Hellendall, H., (86) 386, (101) 627, (68) 1428
Heller, A., (56) 1909
Heller, I. M., (38) 1224
Hellman, A. M., (24) 695
Helm, T. O., (118) 1226, (83) 1615
Helmholz, H. F., 616, (99) 1359, (103) 1761, (2) 1756
Hemenway, H. B., 761
Hemenway, J., (105) 304
Hemmeter, J. C., (67, 68) 1690, 1752
Henderson, C. R., 768
Hendrie, A. S., (6) 622
Hendrick, A. C., (126) 1616
Henke, A. F., (145) 1617
Henkel, M., (98) 161, (114) 934
Hennes, H., (119) 312
Henriquez, A., (20) 1854
Henriques, C. L., (16) 1143
Henry, F. P., 1850
Henry, G. R., (5) 1756
Henry, S. A., (46) 1073
Henry, W. O., (69) 1857
Hensel, O., (74) 72
Henson, G. E., (54) 847, *1639
Hepperlin, H. M., (129) 305
Herb, I. C., *1312
Herbst, O., (109) 548
Herhold, K. F., (68) 704
Hericourt, J., (19) 382
Hering, H. E., (126) 312, (93) 464, (74) 1429
Herman, G. E., (29) 307
Herman, G. J., (128) 1071
Herman, O., (95) 547
Hermann, A., (114) 785
Hermann, E., (137) 1305
Hernaman-Johnson, F., (39) 781, (139) 1364, (25) 1859
Herrenschmidt, 437
Herrenschneider, A., (102) 1769
Herrick, F. C., (80) 72
Herrick, J. B., *1546
Herrick, W. W., (100) 154
Herring, A. P., (85) 1225
Herrmann, C., (65, 66) 620
Herrmann, E., (140) 858
Herschel, K., (141) 1695
Hertz, A. F., 916, (1) 1071, (6) 1514, (11) 1618, (1) 1686
Hertz, R., (149) 314, (64) 385, (149) 389, (46) 702, (97) 856, (86) 933
Hertzler, A. E., (108) 74, (32) 152, (39) 301, (62) 696, (26) 923, (142) 1148, (139) 1296
Herxheimer, K., (75) 1154, (121) 1514
Herz, M., (120) 312, (26) 701, (140) 1305, (91) 1430
Herzberg, S., (154) 1696
Herzfeld, A., *588
Herzfeld, I., (79) 463
Herzog, M., 1844
Hesky, O., (135) 389
Hess, A. F., *1322, (15) 1682
Hess, C., (157) 1296
Hess, J. H., (60) 302, (70) 1684
Hess, L., (109) 388
Hess, W., (147) 389, (160) 1296
Hesse, E., (83) 1233, (85) 1368, (94) 1682
Hesselbach, A., (170) 1697
Hesselberg, T., (143) 231
Hessmann, A., (58) 545
Heyse, O., (144) 1306
Heubner, W., (106) 1155
Heuck, W., (115) 856
Heully, L., (64) 1690
Heuser, K., (116) 856, (65) 1428
Heuss, E., (78) 546
Hewitt, H. W., (105) 1070
Hewitt, W. R., *959
Hewlett, A. W., 1850
Hewson, A., 1507
Heyde, M., (138) 312
Heyerdahl C., (125) 1769
Heyerdahl, S. A., (115) 1432
Heyman, J., (123) 1432
Heynemann, T., (79) 855
Hiatt, H. B., (85) 1293
Hibbett, C. T., (81) 154
Hibbs, R. A., (120) 1004, (105) 1762
Hicks, P., (3) 305
Hicks, W. H., (145) 225
Higbee, B., *1653
Higgins, C. H., 609
Higier, H., (92) 1155
Hildebrand, O., (81) 160
Hildebrandt, H., (101) 1155
Hildebrandt, W., (100) 161, (92) 229
Hildreth, E. A., (80) 697
Hill, A. J., (127) 1295
Hill, A. R., (24) 923
Hill, C. A., (34) 301
Hill, D. S., (75) 457
Hill, E., (59) 776
Hill, E. C., (62) 302, (2, 22) 1143
Hill, G. H., (153) 381
Hill, H. W., (96) 1359, (79) 1422
Hill, I. J., (107) 1615
Hill, J. C., (22) 1613
Hill, J. L., 134
Hill, T. C., (3) 921
Hiller, A., (104, 105) 1693
Hiller, F. B., 765
Hilpert, W. S., *1344, *1738
Hiltner, W. G., (117) 698
Hinchey, F., (126) 74, (130) 698
Hinder, H. C., (22) 383
Hinman, F., (69) 1421
Hinsdale, G., (118) 1423
Hinshelwood, J., (13) 851, (2) 1149
Hippel, B., (75) 704
v. Hippel, R., (78) 386
Hird, R. B., (31) 781
Hirokawa, W., (115) 1077, (83) 1368
Hirsch, A. B., 1509
Hirsch, C., (71) 228, (95) 229
Hirsch, M., (131) 1157
Hirschberg, A., (54) 1427
Hirschel, G., (129) 312, (89) 1155
Hirschfeld, F., (71) 463
Hirschlaff, L., (96) 784
Hirsh, A. B., 367
Hirshberg, L. K., (4) 1510
Hirshfield, A. C., (60) 1225
Hirst, B. C., (18) 617, (55) 1069, 1142, (137) 1617, (40, 54) 1856
Hirz, F., (119) 548
His, W., (3) 699, (57) 782
Hitchcock, C. W., (121) 698
Hitschmann, F., (119) 1864
Hjorth, B., (122) 1235, (64) 1862
Hoag, E. B., (161) 382, (27) 923
Hoag, J. C., (36) 455, (129) 1004
Hoch, A., (118) 156
Hochhaus, H., (109) 856
Hoefeli, L., (142) 157
Hoehne, O., (126) 1157, (36) 1516
Hoeniger, E., (65) 1232
Hofbauer, J., (75) 228, (51) 1231, (167) 1696
Hofbauer, L., (78) 704, (80) 1519
Hofer, C. A., 606
Hoff, J. V., 1415, (92) 1513
Hoffmann, A., (64) 1909
v. Hoffman, C. A., (48) 1614
Hoffmann, E., (109) 1370
Hoffmann, H. F. W., (70) 545
Hoffmann, M., (84) 1075
Hoffmann, R., (42) 1908
Hoffstrom, M., (56) 384
Hofmann, A., (111) 280, (112) 628
Hofmeier, M., (128) 389, (104) 1624, (78) 1767, (55) 1909
Hofmeister, F., (82) 932
Hofstätter, R., (56) 1152
Hogan, G. A., (110) 458
Hoge, M. W., (129) 778
Hogue, G. I., (18) 1223
Hohmeier, F., (80) 1863
Hohn, J., (39) 1765
Hoisholt, A. W., (65) 1292
Hoke, M., (99) 1623
Holcomb, J. N., (1) 1903
Holcombe, R. G., (137) 699
Holder, E. M., (124) 1616
Holder, O. H., (167) 1296
Holding, A., (77) 924
Holeman, C. J., (133) 381
Holland, E. D., (94) 1225
Hollander, B., (44) 384
Holliday, G. A., (136, 144) 459
Hollopeter, W. C., (87) 1857
Holloway, T. B., (111) 1762
Holman, C. J., (52) 924, (36) 1144
Holmes B., (112) 156, (3) 1907
Holmes, G., (32) 461
Holmgren, I., (178) 84, (122) 312, (113)) 856, (187) 1698
Holt, L. E., (104) 304
Holth, S., (128) 1014, (123) 1769
Holzbach, E., 437, (157) 467, (52) 1152
Holzknecht, G., (55) 703, (149) 1371
Homan, G., 289
Home, F. S., (28) 383
Honan, J. H., (27) 221, (10) 1418
Honeij, J. A., (119) 1423, (50) 1856
Honigmann, G., (59) 1366
Hood, D. W. C., (92) 1293
Hoover, A. R., (52) 1069
Hoover, C. P., (76) 1002
Hope, W. G., (49) 1512
Hopkins, S. M., (115) 1071
Hopp, L. C., (159) 1362
Hopp, M., (80) 1691
Hörder, A., (112) 934, (80) 1154
Horine, E. F., (120) 542
Horn, H., (98) 698
Horn, P., (86) 1691
Hornabrook, R. W., (21, 29) 701, (27) 1298
Hornbrook, F. W., 1054
Horne, J., (10) 75, (24) 226
Horovitz, M., (94) 161
Horsley, J. S., 141, (49) 696, (67) 817, 1063, (123) 1423
Horsley, V., (1) 157, (5) 459
Horstmann, C., (132) 81
Hort, E. C., (5) 157, (30) 1687
Horwitz, A. E., (105) 380
Horwitz, L., (57) 1010
Hosemann, G., (88) 1075
Hosford, J. S., (7) 543
Hoskins, R. G., (94) 848, (149) 1148
Høst, H. F., (113) 1432
Hotz, G., (93) 79
Houck, E. O., (16) 922
Hough, A. G., (33) 618
Hough, F. S., (49) 1358
Hough, W., (113) 785
Houston, A. J., (118) 74
Houston, J. P., (36) 152
Houzel, G., (61) 77
Hovell, M., (7) 75
Howard, C. P., (152) 381
Howard, G. T., (32) 1299
Howard, W. R., (112) 380
Howe, W. A., (137) 927
Howell, A. A., (53) 1512
Hoxie, G. H., 995
Hubbard, O. S., (89) 925
Hubbes, F., (123) 934
Huber, A., (45) 307
Huber, F., (58) 1145
Huber, J. B., 669, (90) 1003, (95) 1293
Huber, O., (106) 785
Hudspeth, E. J., (64) 1069
Huey, W. B., (82) 1146
Huffman, L. H., (113) 1423
Huffman, O. V., (13) 151, (25) 1067, (95) 1422
Hufnagel, V., (63) 1767
Huggins, R. H., (50) 1068
Huggins, R. R., (20) 617
Huggins, W. L., (48) 456
Hughes, C. E., 745
Hughes, C. H., (130) 1295
Hughes, H. A., (54) 456
Hughes, M. R., (33) 152
Huguenin, B., (55) 1152
Huguenin, G., (71) 1153
Huitfeldt, H. L. C., (130) 786
Hulen, V. H., (86) 154, (82) 1293
Hull, E. T., *5
Hultgen, J. F., (63) 302, (17) 774
Humiston, W. H., (119) 304
Hummel, E. M., (126) 224, (74) 303, *1645, (16) 1854
Humphris, F. H., (36) 1008
Humpstone, O. P., (94) 1615
Hundley, J. M., (25) 1144
Hunkin, S. J., (42) 1001, (47) 1614
Hunner, G. L., 67, *937
Hünner, M., (38) 1613
Hunt, J. R., (55) 618
Hunter, A., (70) 696
Hunter, D. W., (8) 376
Hunter, W., (7) 459
Hunter, W. K., (33) 158, (50) 384, (26) 851, (29) 1008
Hunting, M. M., 511
Huntington, J. L., (1) 844
Hurter, J., (124) 1304
Hurty, J. N., (36) 538
Hurwitz, S. H., (38) 377, 1124
Hutchinson, C., 1841
Hutchinson, J., (28) 76, (34) 383, (9) 1229, (2) 1618, (12) 1859
Hutchinson, R., (20) 1687
Hutchison, J. C., (78) 1225
Hutinel, V., (23) 623, (132) 706, (48) 1009, (37) 1151
Hutt, C. W., (13) 1298
Huttig, C. H., (86) 925
Hvoslef, J., (15) 1905
Hyde, C. G., (66) 1292
Hyde, C. R., (138) 1617
Hyde, L. W., (133) 851
Hyslop, T. B., (6) 459

I

Ianni, G., (126) 231
Ibrahim, J., (142) 81, (50) 545
Ide, S., (35) 1613
Iden, J. H., *1438
Igersheimer, J., (90) 387
Iglauer, S., (91) 1422
Ill, E. J., (124) 304, (57) 1292
Illman, G. M., 1508
Illoway, H., (134) 224
Imbert, L., (57) 931, (24) 1907
Imperatori, C. J., (151) 927, (140) 1296
Inch, G. F., (41) 1358
Ingalls, H. A., (82) 1002
Ingerslev, F., (149) 708
Ingraham, C. B., (50) 378, (23) 617, (96) 1615
Ingram, J. H., 835
Inman, A. C., (19) 157
Inouye, Z., (73) 1690
Irons, E. E., (117) 381
Irons, J. C., (125) 1004
Irwell, L., (11) 773

Irwin, J. L., 687
Isaac, H., (53) 1231, (117) 1370
Isaac, S., (142) 1371
Isager, K., (131) 1014
Isaya, A., (40) 930
Iselin, H., (151) 1372, (62) 1767
Isham, M. K., (151) 225
Israel, J., (76) 468, (88) 546, (48) 1427
Ivens, (21-23) 928
Iverson, J., (75) 626, (91) 1012
Ivy, R. H., *1018

J

Jack, W. B., (48) 1299
Jackson, C. M., 996
Jackson, D. D., (119) 1147, (134) 1361
Jackson, D. E., *1705
Jackson, E. S., (19) 1619
Jackson, F. H., (39) 1292
Jackson, G. B., (41) 1144
Jackson, H., 1681
Jackson, L. B., (180) 1618
Jackson, R. W. H., (33) 852
Jacobaeus, H. C., (91) 1302
Jacobi, A., (60) 620
Jacobi, C., (91) 1768
Jacobs, A. G., (117) 850
Jacobs, C. M., (81) 1857
Jacobs, P. A., (78) 72
Jacobson, J. H., *96
Jacobson, N., (79) 848, 1415
Jacoby, E., (74) 1011
Jacoulet, F., (20) 1907
Jacques, E. S., (116) 778
Jacquet, L., (25) 623
Jacquin, P., (86) 79
Jadassohn, J., (112) 311
Jaeger, A., (100) 229
Jaffé, J., (115) 856
v. Jaksch, R., (104) 1431
Jalifier, (41) 545
Jamieson, J. G. S., (25) 75
Jamieson, R. C., (116) 156
Jamieson, W. R., (139) 1226
Jancso, N., (63) 545
Janeway, H. H., (70) 386, (53) 1683
Janeway, T. C., (123) 1004
Jankelevitch, M., (44) 545
Janowski, W., (137) 231, (134) 935
Jansen, A., (125) 1304
Jantzen, S. V. W., (148) 708
Japha, A., (138) 81, (107) 1303
Japhé, F., (104) 784
Jardine, R., (27) 1151
Jarman, G. W., (155) 927
Jarrell, W. W., 1603
Jarussow, S., (81) 1519
Jarvis, N. S., (114) 1762
Jaschke, R. T., (160) 82, (71) 309, (150) 551, (162) 552
v. Jaworski, J., (171) 82
Jayne, W. A., (59) 379
Jeffrey, G. R., (37) 1364
Jeffreys, W. M., (22) 1687
Jellett, H., (34) 1688
Jelliffe, S. E., (65) 539, *1868
Jellinek, S., (102) 229
Jenkins, S. M., (45) 775
Jennings, J. E., (138) 1296
Jensen, V., (137) 81
Jepson, W., (147) 381
Jeremitsch, A. P., (113) 1077
Jersild, O., (143) 707
Jerusalem, E., (86) 463
Jervey, J. W., 1064, *1191
Jesse, R. H., (21) 1418
Jessner, S., (95) 161
Jett, N. A., (125) 1071
Jex-Blake, A. J., (1) 542
Joachim, G., (134) 81
Joachim, O., (67) 1225
Joachinsthal, G., (71) 1010
Joannides, N. Z., (79) 1011
Job, L., (31) 1426
Jobson, G. B., (91) 1857
Jödicke, P., (66) 1428
Joest, E., (127) 1370
Johannessen, C., (124) 1769
John, K., (112) 706
John, M. K., (113) 1304
Johns, C. O., (131) 1361
Johnson, A. B., (13) 377, (54) 1224
Johnson, A. E., (21) 75, (8) 543
Johnson, C., 987, (87) 1359
Johnson, C. C., *507
Johnson, C. K., (33) 455
Johnson, F. E., (67) 776
Johnson, J. C., 1753
Johnson, J. H., 1611
Johnson, J. T., (41) 1292
Johnson, T. B., (32) 1758
Johnson, W. B., 1610
Johnson, W. C., (31) 377
Johnston, C. H., (104) 1070
Johnston, H., (92) 1147
Johnston, P. J., (101) 1359
Johnston, R. H., (140) 225, (45) 378
Johnston, S. W., 1504
Johnstone, E. R., (72) 1002
Johnstone, R. W., (18) 928
Joll, C., (4) 225
Jolles, A., (158) 468
Jolly, G. G., (59) 77
Jolly, J., (57) 461
Jolly, P., (107) 628
Jolly, R., (80) 855
Jonas, S., (68) 932
Jones, A. T., (43) 1292
Jones, C. P., (116) 542
Jones, E., (117) 156, (119) 459, (56) 776, 1125, (144) 1296
Jones, E. C., (51) 924
Jones, E. G., (160) 1228, 1603
Jones, E. H., (6) 927, 1354
Jones, E. L., (139) 459
Jones, E. O., 217, (53) 222, (69) 847
Jones, G. I., (59) 619
Jones, G. W., (148) 74
Jones, H. I., (51) 302
Jones, H. W., (3) 999, (76) 1422
Jones, J., (137) 851
Jones, R., (37) 227, (40) 1688
Jones, W., (123, 128, 132) 1361
Jones, W. A., (98) 304
Jones, W. D., (81) 1293
Jonnesco, T., (106) 1076
Jopson, J. H., (43) 1683
Jordan, A. C., (45) 1299, (7) 1858
Jordan, H. E., (27) 1224
Jørgensen, A., (149) 164, (86) 1154
Jørgensen, G., (167) 390
Jørgensen, V. B., (118) 1624
Josefson, A., (121) 1432
Joseph, D. R., (22, 26) 1224, (63) 1856
Joseph, K., (93) 387
Josephy, H., (142) 550
Joss, F., (82) 1011
Jouan, C., (40) 624
Joynt, E. P., (5) 1423
Jubb, A. A., (7) 305
Judah, E. L., (167) 1362
Judd, A., (31) 1682
Judd, E. S., (59) 71
Judd, J. R., 1882
Jullien, L., (42) 545
Jump, H. D., (145) 459
Jung, P., (61) 1010
Jurasz, A. T., (117) 548, (74) 932
Justi, K., (121) 786

K

Kaehler, M., (98) 1155
Kaempfer, L. G., (58) 1420
Kafka, V., (119) 1156
Kagan, G., (100) 1302
Kahlo, G. D., *415
Kahn, A., (11) 1291
Kahn, H., (44) 1420, (71) 1760
Kahn, J., (60) 1621
Kahn, M. H., (79) 1512
Kain, W. W., (168) 1228
Kaiserling, C., (129) 80
Kakels, M. S., (13) 69
Kakowski, A., (117) 312
Kalayjian, D. S., *1382
Kalb, R., (66) 545
Kaliski, D. J., (97) 848, (146) 1148
Kanngieser, F., (158) 1296, (123) 1304, (87) 1622
Kanstoroom, D. S., (5) 693
Kaplan, D. M., (5) 150, 1849
Kappis, M., (128) 466, (89) 1011
Karsner, H. T., 1222, *1452, 1871
Kast, L., 1752
Katz, (93) 1692
Katz, H., (83) 1519
Katz, W., (76) 932
Katzen-Ellenbogen, E. W., (145) 1296
Katzenstein, M. B., *662
Kaufmann, J., 1751
Kausch, W., (95) 464, (77) 932, (138) 1695, (80) 1767
Kawai, M., (80) 704
Kawamura, R., (125) 1370
Kawashima, K., (117) 628, (114) 1864
Kayser, C., (89) 229
Kayser, P., (51) 625, (64) 1010
Kean, J. R., (94) 1359, 1497
Keane, W. E., (106) 1070
Kebler, L. F., (40) 695
Keefe, J. W., (130) 156, (4) 300
Keefer, F. R., (144) 1071
Keen, M. E., 1851
Keene, C. H., (55) 924
Keen, W. W., 1830
Kehoe, J. E., 1215, (43) 1420
Kehr, H., (126) 1304
Kehrer, F. A., (159) 552
Keibel, F., (73) 704
Keidel, A., (1) 1853
Keiffer, H., (55) 384
Keiper, G. F., (143) 305, (49) 618
Keith, A., (10) 700, (14) 1150, (11) 1424
Keller, A. G., (116) 224
Kellers, H. C., (135) 381
Kelley, H. A., (47) 696, (127) 698
Kelley, I. D., (108) 380
Kelling, G., (95) 387, 528, (122) 628
Kelly, H. A., 68, (72) 379, 885, (114) 1003
Kelsey, A. L., (127) 850
Kelson, W. H., (34) 1364, (15) 1424
Kemp, S., (145) 232, (35) 1151, (132) 1865
Kemper, A. J., (26) 1613
Kennedy, J. P., (129) 1616
Kennedy, J. W., (42) 1292
Kent, S., (44) 227
Kemper, G. W. H., (104) 223, (17) 1357
Kendall, A. I., (7, 11, 13) 844, *1084, (120) 1147, (10) 1681
Kennedy, A. M., (21) 157
Kennedy, F., *1639
Kennedy, J. C., (20) 1510
Kentzler, J., (130) 389, (68) 1010, (126) 1865
Kenyon, E. L., *1793
Kerley, C. G., (108) 304
Kermauner, F., (51) 1909
Kermogant, (64) 1074, (46) 1619
Kern, C. E., 1410
Kerr, H. H., (71) 1857
Kerr, I. D., (107) 542
Kerr, J. M. M., (10) 460, 1911
Kerr, J. W., (93) 1359
Kerr, LeG., (63) 1292, (106) 1615
Kerr, W. M., (78) 1359
Kerr, W. W., (39) 1001
Kerrison, P. D., (115) 1361
Kessel, L., (99) 925, *1239
Ketcham, J. M., (43) 1856
Keuper, E., (59) 1861
Kevin, R. O., 1508
Key, E., (130) 1236
Keyes, E. L., (33) 1683
Keyworth, W. D., (52) 77
Kiaer, R. W., (127) 1769
Kidd, P., (1) 1006
Kidder, W. H., (78) 457
Kiefer, G. L., (154) 225
Kierkgaard, (130) 1014
Kiger, W. H., (45) 1614
Kilbourne, E. D., (47) 302, (114) 698, (41) 1511
Kilduffe, R., (32) 774, 1124
Killian, G., (69) 1621
Kimball, D. D., 1125
Kimball, M. C., (19) 1357
Kimberlin, A. C., (40) 1144
Kimberlin, J. W., 367
Kime, R. R., (74) 620, (154) 1617, 1754
Kincaid, J. W., (90) 73
King, A., 1677
King, E., (16) 1905
King, G. L., *346
King, H. D., (18) 1510, *1449, (18) 1854
King, J. H., (37) 377
King, J. M., (46) 1001, *1092
King, R. W., (47) 70, (77) 540, (33) 1854
King, W. H., (8) 300
Kingsley, C. R., (51) 847
Kinney, L. C., (46) 70
Kinnicutt, R., *1457
Kionka, H., (100) 1693, (125) 1694
Kipp, C. J., (90) 698
Kiralyfi, G., (132) 389
Kirchberg, F., (57) 1518
Kirchgaessner, G., (97) 705
Kirchheim, L., (97) 387, (65) 703
Kirk, T. S., (6) 305
Kirkland, J., (39) 227
Kirpicznik, J., (138) 550
Kirschner, M., (152) 389, (108) 628, (78) 932
Kisch, E. H., (115) 1370
Kitasato, S., *889
Klatz, M., (112) 1694
Klauber, O., (83) 386
Klausner, E., (110) 628, (58) 703, (91) 1234, (66) 1862
Klaussner, F., (105) 79
Klaveness, E., (99) 1070
Klein, G., (143) 858, (96) 1864
Klein, S. R., (158) 75
Kleiner, M., (152) 75
Kleinschmidt, H., (152) 82, (82) 705
Klemperer, F., (109) 785
Klemperer, G., (111) 311, (108) 1156
af Klercker, K. O., (153) 1306
Klieneberger, O. L., (65) 1010
Klinedinst, J. F., (108) 1147, (92) 1686
Klingmann, T., (125) 224, (9) 300, (2) 1903
Klinkert, D., (67) 1010
Klopstock, F., (60) 782
Klose, E., (78) 160, (47) 1909
Klose, H., (48) 545
Klotz, H. G., (7) 1357
Klotz, M., (71) 160, (45) 1765
Klotz, R., (110) 1235
Knapp, C. B., (55) 1759
Knapp, P. C., (16) 694, (5) 1067
Knapp, R. C., (56) 1684
Knauer, G., (165) 1006, (96) 1155
Knaur, R., (135) 1371
Kniaskof, (97) 627
Knick, A., (106) 311
Knipe, W. H. W., (112) 304
Knoll, W., (79) 546
Knopf, H. E., (120) 1694
Knopf, S. A., (11) 377, (5) 1000, *1307, (5) 1357
Knothe, B., (98) 1623
Knott, J., (12) 69, (14) 151, (39) 307, (9) 694, (134) 778, (39) 846, (21) 1000, (96) 1008, (43) 1224, (168) 1296, (114) 1514
Knott, V., (157) 75
Knowles, F. C., (160) 1617
Knox, J. H. M., (128) 224, (41) 538
Knuthsen, L. F., (40) 227
Kober, G. M., (91) 1359
Kobrak, F., (105) 934
Koch, C., (105) 1370
Koch, F. C., (126) 1361
Koch, K., (139) 550
Koch, W., (54-58) 539, *799, (67) 1146, (75) 1233
Kochmann, M., (103) 784
Kock, A., (137) 81
Kocks, J., (112) 230, (112) 1235, (105) 1624
Koehler, G., *20, 444, *713
Koelsch, F., (131) 1078
Koenig, C. J., (9) 69
Koenig, F., (57) 1427
Koenigsfeld, H., (70) 1767, (127) 1865
Koeppe, H., (84-87) 627
Kohl, H., (84) 1011
Köhler, R., (61) 545, (99) 1234
Kohlheim, L., 1503
Kohnstamm, O., (108) 785
Kokall, H., (114) 388
Kolaczek, H., (69) 463
Kolb, K., (59) 385, (124) 389, 162, 1696
Kolisch, R., (101) 934, (83) 1154
Kolischer, G., (124) 381, 536, (86) 777, (55) 1420
Koll, I. S., (40) 1420
Koll, L., (108) 548
Kölle, W., (87) 1368
Koller, E., (99) 1769
Kollert, V., (110) 162
Köllner, H. P., (69) 1862
Kollock, C. W., 1679
Kolmer, J. A., 143, *1088, (135) 1361, (74) 1857
Koltes, F. X., (136) 381
Königstein, H., (115) 162
Kopetzky, S. J., (93) 777
Koplik, H., (29) 1854, 1848
Kopp, C., (90) 784
Koppang, N. B., (131) 786, (116) 1432
Koppel, J., (162) 75
Korke, V. T., (20) 460
Kornblüh, I., (30) 1000
v. Korosy, K., (85) 463
Körte, W., (104) 1303
Kosmak, G. W., (25) 774, (55) 1292, (53) 1759
Kossel, A., (110) 548
Kottmann, K., (73) 160, (142-144) 389
Kouwer, B. J., (70) 854
Kowalewski, R., (124) 80
Kozlowski, B., (161) 858
Kraatz, A., (123) 389
Krabbel, M., (85) 1691
Kramer, R., (16) 851
Kramer, S. P., *265
Kramer, W., (106) 1235
Kramsztyk, S., (103) 706
Kraus, C., (84) 783
Kraus, H., (124) 381, 536, (86) 777
Kraus, R., (163) 859, (104) 1076, (75) 1368
Krause, A. K., (9) 1681
Krause, P., (87) 1430, (94) 1768
Krause-Hannover, (89) 855
Krauss, F., (146) 1423
Krecke, A., (60) 1518
Krefting, R., (162) 390
Krehl, L., (153) 82, (92) 1768
Kreibach, K., (97) 464, (99) 705, (104) 1013
Kreissel, F., (68) 1358, (146) 1617
Kress, G. H., *1252
Kretschmer, H. L., (93) 1003, 1843
Kretschmer, M., (93) 627
Kreutzmann, H. J., (43) 1614
Kreuzfuchs, S., (131) 466, (52) 1766
Kristeller, L., (78) 379, (125) 1361
Krjukoff, A., (139) 857
Kroemer, P., (73) 309
Krogius, A., (146) 1306
Krokiewicz, A., (92) 1430
Kromayer, E., (87) 160
Kron, H., (136) 81
Kron, N., (52) 1365
Krönig, B., (134) 550, (108) 1235
Kronstein, K., (76) 228
Krumbein, F., (74) 1368
Krzysztalowicz, F., (133) 935
Kuhlman, A., (92) 1761
Kühn, A., (92) 627
Kuhn, E., (111) 1156
Kuhn, H. P., (123) 74
Kukeler, H. B. A., *1180
Kümmell, H., (108) 388, (52) 1420
Kunze, H., (84) 1691
Kurtz, C., (120) 74
Kuster, E., (74) 1519
Küster, H., (126) 389, (153) 551
Küstner, O., (149) 551
Küttner, H., (133) 550
Kuznitzky, M., (97) 1155
Kyes, P., *1878
Kyle, J. J., (41) 1856

L

Laache, S., (140) 1371
Labbé, D., (60) 1689
Labbé, H., (47) 625, (77) 855, (62) 931
Labbé, M., (27) 544, (33) 702, (74) 1300, (29) 1516
Labhardt, A., (102) 1431
Lacassagne, A., (44) 702
Lachance, F., (147) 927
Lackey, W. A., (74) 1615
Ladd, J. H., (165) 1149
Ladd, J. W., 1749
Ladd, W. E., (62) 1684
Lade, O., (76) 1300
Lafarcinade, M., (24) 1515
La Fétra, L. E., (130) 224
Lagrange, (58) 1300
Lagriffoul, (56) 308
Laignel-Lavastine, (33) 702
Laime, E., (73) 1300
Lain, E. S., (43) 775
Lake, G. B., (77) 223
Lamar, R. V., (29) 377, (76) 1146
Lamb, D. S., (29) 455, (107) 698
Lamb, H. L., (95) 1513
Lamb, R. S., 366, (27) 455, (64) 776, (110) 1226
Lambert, A., *503, 1679
Lambert, L., (67) 854
Lambert, R. A., *33, *587, (35) 774, *791, (74, 75) 1512
Lambert, S. W., (6) 300
Lamble, G., (33) 1073
Lamers, A. J. M., (145) 853, (164) 1696
La Motte, W. O., (93) 698
Lamson, W. J., (172) 1228, 1544
Landman, E. A., 1852
Landouzy, L., (75) 855
Landry, L. H., (69) 303
Landsberg, E., (58) 1010
Landsteiner, K., (49) 461
Lane, C. G., (2) 68
Lane, W. A., (6) 382, (45) 1068, (8) 1071, (14) 1072, (1) 1514, (87) 1692
Langaker, T., (80) 783
Lange, F., (55, 59) 153
Lange, J., (37) 1908
Lange, S., (46) 1420, (36) 1758
Langemak, O., (94) 1368
Langes, E., (128) 1157, (91) 1863
Langhorst, W. C., (150) 1423
Langmead, F., (33) 1859
Langridge, F. W., (18) 544
Langstein, L., (102) 706, (130) 1304
Langwill, H. G., (18) 851
Lanier, L. H., (137) 1226
Lanphear, E., (76) 1225, (39) 1613
Lanz, O., (150) 467, (115) 785
Lapham, M. E., (71) 620, (29) 1511
Laplace, E., (94) 303
Lapsley, R. M., (71) 777
Laquerrière, A., (57) 228
Lardy, E., (54) 1766
Large, S. H., (54) 71, (59) 1614
Larkin, J. H., (30) 377
LaRoque, G. P., (121) 926
Larrabee, R. C., (73) 540, 1677, (8) 1681
Laser, E., (59) 703, (119) 1370
Laslett, E. E., (17) 382, (24) 1687
Lasley, W. W., (131) 1226, (82) 1615
Lass, D. G., (51) 1358
Lassablière, P., (46) 159
Lastaria, F., (112) 1013
Latarget, A., (42) 1426
Lateiner, M., (95) 1431
Latham, A., (34) 226
Lathrop, W., (107) 74
Lau, G. A., (89) 1070
Laub, M., (142) 467
Laubenheimer, K., (146) 1695
Lauder, E., (89) 1422
Lauder, J. M., (25) 75
Launay, P., (62) 1690
Launois, P. E., (39) 695, (67) 924, (140) 1226
Launoy, L., (45) 1689
Laurent, F. V., (138) 225
Lavastine, L., (27) 544
Läwen, A., (89) 547
Lawrence, C. H., (16) 844
Lawrence, W. E., 1855
Lawrence, W. H., (160) 1006
Lay, E., (112) 1624
Layman, D. W., (120) 1361
Layne, P. C., (119) 1226
Lazell, E. W., (95) 1857
Leakey, A. B., (7) 1229
Leale, M., (10) 1000
Leaper, W. E., (82) 303
Leathers, W. L., 1503
Leavell, R. B., (113) 380
Leavitt, F., (118) 622
Leber, A., (64) 782
Leboeuf, A., (43) 624
Le Breton, P., (43) 1758
Lecaplain, (35) 1230
Lecène, P., (41) 1426
Le Clerc, F., (28) 1764
Le Conte, J. N., (72) 620
Le Conte, R. G., (48) 1856
Ledbetter, R. E., *1098
Le Dentu, M., (34) 702
Lederer, R., (129) 935
Lederman, M. D., (117) 1361
Ledermann, R., (82) 229
Leduc, S., (42) 461
Lee, C. E., (56) 1225
Lee, E. W., (2) 1356
Lee, H., (133) 1148
Lee, H. J., (58) 1856
Lee, P. R., 1508
Leede, C., (156) 858
Leede, W. H., (133) 1078
Leeds, A. B., (63) 539
Lees, D. B., (11) 928
Lefebvre, M., (36) 1511
LeFevre, E., 1285
Le Fort, R., (48) 625
Legg, T. P., (16) 1763
Leggett, W., (5) 1296
Legrain, E., 836
Lehmacher, J., (138) 389
Lehmann, F., (65) 228
Leigh, C. W., (69) 1358
Leigh, S., (50) 696
Leiper, R. T., (41) 1619
Leipoldt, C. L., (12) 780
Leischner, H., (61) 545, (81) 1233
Leith, R. F. C., (16) 1907
Leitz, T. F., 1609
Lejars, F., (50) 625, (43) 1231, (45) 1427
Leliévre, A., (46) 1009, (33) 1230
Lemaire, H., (59) 931
Lemaire, J., (61) 1300, (48) 1620
Lemaire, L., (57) 1689
Leman, E. D., *833
Lemann, I. I., (70) 303, (90) 1225
Lenhart, C. H., (102) 1225, (103) 1359
Lennon, M. B., (53) 1001
Lenoble, E., (75) 1300
Lenzmann, R., (136) 857, (128) 1694
Leo, H., (94) 464
Leon, J. T., 36
Leonard, T. B., (27) 377, (61) 1069
Leonardo, P., (107) 1769
Leonpacher, E., (98) 79
Leopold, J. S., (107) 706
Leo-Wolf, C. G., (82) 457
Lépine, R., (66) 78, (50) 227, (133) 706, (26) 1908
Le Play, (52) 781
Lequeux, P., (47) 1009
Lerch, O., (4) 537
Lerche, W., *634
Leriche, R., (54) 384, (25) 1907
Lermoyez, M., (44) 1861
Leroux, C., (21) 1907
LeRoy, B. R., (12) 151
Leschke, E., (80) 1233
Leschly, W., (122) 1235, (183) 1608, (64) 1862
Lesieur, C., (47) 227, (37) 544
Lespinasse, V. D., (62) 302, (74, 75) 379, (60) 1615, (69) 1684, 1747
Lesser, F., (56) 703
Lessing, O., (114) 1156
Lester, F. W., (77) 1070
Lester, T. D., (21) 1425
Leszynsky, W. M., (13) 537, (2) 693, (1) 773
Letulle, M., (58) 228, (53) 384, (62) 1074, (45) 1619
Levaditi, C., (49) 461
Levene, P. A., (41) 923, (150) 1005, (124) 1361
Levi, A., (90) 784, (160) 858
Levin, I., (30) 377, (83) 1225, (76) 1512, (60) 1856
Levings, A. H., (37) 618
Levinsohn, G., (101) 856
Levinson, S., (6) 1143
Levison, C. G., (97) 698, (74) 847
Levison, L. A., (22) 1510
Levor, M., (81) 783
Levy, E., (51) 159, (61) 1232
Levy, L., (108) 230
Levy, L. H., (2) 537
Levy, R., (82) 1863
Levy-Dorn, M., (69) 1366, (135) 1865
Lévy-Valensi, J., (51) 781, (53) 931
Lewandowski, A., (98) 1076
Lewandowsky, M., (86) 1429
Lewers, A. H. N., (10) 382
Lewin, L., (56) 1365
Lewin, R., (60) 462
Lewis, C., 987
Lewis, D. D., 1848
Lewis, D. H., 1280
Lewis, E. R., (72) 777
Lewis, F. P., (132) 74, 367
Lewis, H. F., (42) 1420
Lewis, J. N., (128) 1423
Lewis, J. T., 1284
Lewis, M. R., (115) 1294, *1795
Lewis, T., (3) 75, (25) 1687
Lewis, W. H., (115) 1294, *1795
Lewy, A., (97) 458
Lewy, F. H., (58) 1427
Lewy, H., (58) 1427
Lexer, K., (104) 79
Ley, H., (68) 625
Leyacker, J., (103) 229
Leyden, H., (88) 386
Leyzerowicz, S., (110) 1013
Lhermitte, J., (54) 159
Libroia, A., (92) 1520
Lichwitz, L., (101) 784
Lichty, J. A., (61) 456
Lichty, M. J., (129) 74
Liddell, J., (47) 1073
Lidsky, A., (142) 389
Lieber, C., (67) 1857
Lieblein, V., (132) 1695
Liek, E., (117) 785, (77) 1863
Liell, E. N., 1841
Liepmann, W., (136) 467, (103) 1769
Lieske, H., (72) 160
Lilienthal, H., (37, 53) 1224
Lillie, R. S., (81) 303
Lincoln, M., (7) 1756
Lind, G. D., (82) 697
Lind, H., (120) 1769
Lindboe, E. E., (134) 786
Lindley, W., (55) 456
Lindsay, J., (8) 622, (45) 781
Lingenfelter, G. P., (83) 223
Link, G., (36) 301
Linser, P., (100) 387, (76) 704
Lintz, W., (82) 848, (28) 1000, 1882
Lipowski, I., (131) 312
Lipsitz, S. T., (20) 1418
Lissauer, M., (100) 464, (115) 1864
Lissner, H. H., (51) 456
Lissofsky, S., (42) 624
Lister, T. D., (42) 781
Littauer, A., (58) 1518
Litterer, W., (137, 141) 74, (172) 305, (67) 457, (68) 540, 1355, (23) 1510
Little, E. G., (5) 382, (23) 851
Little, G. F., (48) 1292
Little, H. M., (113) 778
Little, J. W., (17) 1905
Little, W. T., (159) 699
Littlefield, J. R., (32) 1511
Littlejohn, P. D., (63) 696
Livermore, G. R., (8) 1854
Livierato, S., (165) 552, (146) 1866
Llamas, R., (63) 1001
Lloyd, J. H., *1377, (41) 1683
Lloyd, S., (49) 1420
Lobenhoffer, W., (95) 79
Lobenstine, R. W., (121) 304, (101) 1615, (54, 56) 1759
v. Lobmayer, G., (122) 163, (153) 467
Lock, J. S., (107) 622
Lockwood, C. B., (2) 699, (30) 1425
Lockwood, G. R., *948
Lockwood, T. F., (81) 924
Lodi, M., (173) 1697
Loeb, H., (72) 783
Loeb, L., (101) 464, *1327
Loeb, M. J., *1382
Loeper, M. R., 587, (35) 1765
Loeschke, H., (38) 1908
Loew, O., (91) 229
Loewenberg, M., (71) 1767
Loewenstein, J., (64) 1621
Loewenthal, (139) 389
Loewy, A., (75) 463, (67) 1366, (130) 1865
Lofaro, F., (65) 77, (118) 1013
Lofaro, P., (122) 857
Logan, O. T., (22) 1764
Löhlein, M., (99) 933
Löhlein, W., (84) 1622
Lohnstein, H., (121) 1694
Lohse, J. E., (100) 1431
Loiacono, (48, 49) 1231
Loiseau, G., (53) 1073
Long, E., (87) 697
Long, E. H., (23) 1144, (146) 1226
Long, J. W., 67, (112) 1003
Longaker, D., (74) 223
Longard, C., (177) 83
Longfellow, E., (51) 539
Longino, J. T., (147) 305
Longmore, J. A., (71) 1069
Longo, A., (137) 163
Lord, J. P., (30) 152, 219, *725
Lorentzen, I. F., (144) 231
Lorenz, A., (67) 625
Lorenz, W. F., (84) 621, *941
Losinsky, W., (116) 230
Lothrop, O. A., (16) 537
Lott, H. S., (45) 1292
Louria, L., (8) 1904
Loux, H. R., 1508
Love, J. D., 1840
Love, J. K., (35) 158
Lovejoy, E. D., (45) 696
Lovett, R. W., (34) 69, (81) 1760
Loving, S., (90) 1422
Löw, G. C., (26) 158, (48) 461, (21) 1150
Löw, J., 138, 1305
Lowder, H. R., (38) 1856
Lowe, F. B., (54) 1684
Lowell, H., (112) 1226
Lowenburg, H., (67) 1512
Löwenstein, E., (104) 1076
Löwit, A., (109) 1013
Lowsley, O. S., (151) 1005
Lublinski, W., (78) 228
Lubowski, (134) 857
Lucas, C. G., (172) 1296
Lucas, D. R., (68) 1146
Lucas, W. P., *495, (38) 1068, (73) 1512
Lucatello, L., (68) 1910
Lucibelli, G., (158) 390
Luckett, W. H., (45) 301, (141) 1296
Lüdke, H., (74) 704, (95) 1864, (133) 1865
Ludlum, S. D. W., (124) 224
Luger, A., (157) 1696
Luke, T. D., (7) 1618
Lukin, F., (93) 855
Lull, G. F., (108) 778
Lumpert, E., (71) 626
Lunckenbein, H., (111) 79
Lundbald, O., (117) 1624
Lundh, K., (119) 1432
Lurton, F. E., (166) 75
Lury, A., (108) 464
Lusk, G., (165) 927, (149, 152) 1005
Lusk, W. C., (67) 71
Lust, E., (58) 853
Lust, F., (61) 462, (89) 627, (131) 857
Luton, L. S., (151) 1617
Lutz, S. H., (108) 542
Lydston, G. F., (9) 1000, (68) 1615
Lyman, C. B., (131) 851
Lynch, J. M., (84) 697, (26) 1292, (113) 1858
Lyon, E. P., 764, *1536
Lyon, W. D., (48) 924
Lyonnet, B., (43) 702
Lystad, H., (112) 1432
Lyster, W. J. L., (96) 1513
Lytle, C. C., (28) 1357
Lytle, C. R., (146) 74

M

McAlister, A., (87) 1422
Macallum, A. B., (87) 541
Macauley, T. E., (123) 381
MacAusland, W. R., (68) 71, *871
McBride, J. H. (110) 224
McBride, R. E., (21) 152
McCabe, W. M., 1286, (13) 1854
McCafferty, G. W., (62) 1512
McCall, D. T., (15) 1418
McCall, E., (6) 1762
MacCallan, A. F., (82) 154
MacCallum, W. G., *655, (67) 1759, 1850
McCann, F. J., (30) 158, (9) 226
McCarthy, F. P., (3) 300
MacCarty, W. C., (63) 71, (44) 1068, (43) 1511
McClellan, B. R., (103) 1615
McClellan, W. E., *1552
McClintic, T. B., (39) 455
McClintock, C. T., (54) 1684
McConkey, T. G., (144) 1858
McCormack, J. N., (94) 73, 1840
McCormick, A. M. D., (56) 1358
McCowan, R. M., 1286
McCown, O. S., (47) 1224
McCoy, A., (143) 74
McCoy, G. W., (42) 455, (43) 1001
McCrae, J., (164) 1362, (82) 1685
McCrae, T., (89) 541, (19) 922
McCready, E. B., (137) 459, (65) 1512
McCready, J. H., (59) 924
McCreary, J. C., (117) 1226
McCreight, A. H., (76) 1857
McCullough, C. C., (99) 458
McDavitt, T., (97) 304
McDermott, E. J., (104) 74
MacDermott, W. R., (42) 77, (30) 623, (31) 1151
Macdonald, A., (107) 1513
MacDonald, A. G., (6) 1229
McDonald, A. L., *1647
McDonald, A. L., (65) 71
Macdonald, C. F., (12) 220
McDonald, C. L., *1647
McDonald, E., (30) 221, (110) 1076, (17) 1291, (10) 1904
MacDonald, H. E., (97) 1761
MacDonald, N. S., (124) 698
McDonnell, A. J., (21) 383
McDowell, W., (14) 694
McElhaney, C. W., (146) 1005
MacEvitt, J. C., (126) 1147
McEwen, E. L., (127) 381
MacEwen, J. A. C., (8) 1229
McFarland, J., (152) 1148
MacFarlane, C., (106) 542
Macfie, R. C., (4) 459
McGavin, L., (16) 1424, (16) 1687
McGee, C. J., (50) 1145
McGill, A., (95) 1070
McGlannan, A., (67) 696, (112) 698, 1608
McGlinn, J. A., (26) 1000, (72) 1421, (52, 71) 1512, (11) 1904
McGrath, B. F., (63) 71, (44) 1068
McGraw, H. R., (102) 1003
McGraw, T. A., (26) 300
McGuigan, H., (24) 1224
McGuire, H. H., (87) 1146
McGuire, S., (115) 74, 142, (48) 696
McHenry, J. H., (133) 74
Macht, D. I., (43) 70, *1531, (3) 1612
Mächtle, H., (133) 1157
McIlroy, A. L., (27) 306
McIntire, C., (25) 923
McIntosh, J., (13) 157, (15) 1150
McIntosh, J. H., (30) 1419, 1678

McIntyre, D. F., (114) 778
Mack, A. E., (130) 305
Mackay, C. V., (35) 1619
McKechnie, W. E., (40) 383, (79) 621
McKee, E. S., (94) 1003
McKee, H., (107) 1226
McKee, S. H., (2) 1681
McKenna, C. H., *801
MacKenna, R. W., (26) 1230, (36) 1364, (27) 1425, (5) 1905
McKenzie, I., (4) 1514
Mackenzie, J., (8) 1362, (15) 1363, (9) 1424, (2) 1423
McKernon, J. F., (136) 225
McKesson, E. I., 1749
Mackie, F. P., (14) 544
MacKinney, W. H., (135) 459
McKinnon, A. I., (116) 698
McKittrick, P., (45) 924
McKnight, E. J., (93) 458
MacLachlan, A. A., (60) 924
MacLaren, A., 298, (21) 1357
McLaughlin, A. J., (4) 376, (31, 33) 695
McLaughlin, J., (58) 1358
McLaughlin, J. A., (12) 1223
MacLaurin, C., (11) 1906
McLean, A., *1455
McLean, F. C., (56) 539
Maclean, G. E., 767, 918
MacLean, H. S., (113) 542
McLean, J. B., (20) 1619
McLean, S. H., 1414
MacLeod, C. G., (25) 1298
Macleod, J. J. R., (76) 72, (39) 618, (56) 1856
McLester, J. S., *896, (107) 1294, *1887
McManus, T. U., (170) 1149
MacMillan, J. A., (42) 1358, (105) 1513
McMillan, J. B., (78) 1146
McMillan, W. A., (171) 75
McMurtry, L. S., 140, *709
Macnaughton-Jones, H., (16) 157, (33) 461
McNeal, B. F., 1612
McNeil, A., (8) 1510
MacNider, W. deB., (157) 1362, (11) 1681
McPhedran, A., (112) 778
McPheeran, F., (5) 1756
MacPhee, J. J., (6) 1904
McPherson, R., (37) 1292
McQueen, C. A., (169) 75
MacRae, F. W., 1604
MacRae, T., (8) 151
McWalter, J. C., (32) 1151
McWeeney, E. J., (22) 306
Macy, M. S., (154) 1005
Maddox, R. D., (27) 1067
Magee, R. S., (27) 1854
Magnan, (60) 1074
Magnus-Alsleben, E., (148) 389
Magnus-Levy, A., (63) 625, (49) 847, (58) 1366, (102) 1693
Maguire, K., (44) 781
Maher, W. O., (20) 383
Mahu, G., (16) 460, (28) 1516
Makins, G. H., (113) 1003, (3) 1229
Makkas, M., (105) 230
Malesani, A., (154) 1372
Malherbe, A., (39) 1688
Mallory, F. B., (18) 922, (12) 1681
Maloney, W. J., (32) 781, 953
Mammen, E., 1843
Mamourian, M., (13) 1362
Mancioli, T., (73) 1910
Manders, H., (21) 544
Mangeri, G., (140) 1078
Mangiagalli, L., (57) 384
Mangold, E., (108) 628
Manheimer, E., (58) 1861
Mann, A. T., 289
Mann, G., 1630
v. Mann, J., (119) 786
Mann, R. H. T., (26) 1511
Mann, T., (114) 1616
Manning, F. O., (33) 221
Manning, J. van V., (61) 1292
Mantelli, C., (129) 163, (122) 231, (188) 860, (133) 1371
Manton, W. P., (125) 698, 1912
Maragliano, D., (140) 313, (151) 467
Maragliano, E., (134) 706
Marangoni, G., (114) 1013
Marburg, O., (76) 160
Marchetti, L., (141) 936
Marchetti, O., (134) 231, (141) 313
Marchiafava, E., (135) 706
Marchildon, J. W., *87, (80) 924
Marcus, H., (114) 548, (122) 1432
Marden, J. K., (52) 1069
Marek, R., (98) 1769
Marenduzzo, L., (135) 231
Marfan, A. B., (36) 307, (49) 1620
Margoulies, M., (38) 852
Mariani, C., (126) 163
Marinacci, S., (110) 1769
Marine, D., (102) 1225, (103) 1359
Marinesco, G., (136) 706, (49) 781
Marion, G., (55) 308
Mark, E. G., (125) 74, *419, 536
Markley, A. J., (99) 1003
Markoe, J. W., (57, 59, 62) 1759
Marks, H. K., (85) 1512, (65) 1856
Marks, L. H., (125) 312, (118) 459
Markus, N., (56) 1010, (91) 1692
Marlow, F. W., (74) 1760
Marquis, E., (64) 308
Marquis, G. P., (98) 458, (1333) 1004
Marre, L., (26) 544
Marro, A., (74) 386, (50) 775
Mars, C., (176) 1697
v. Marschalko, T., (71) 783, (109) 1303
Marsden, W. L., (11) 69
Marsh, H. S., (85) 925
Marsh, N. P., (29) 852, (36) 1688
Marshall, C. F., 113, (40, 46) 781, (14) 928, (23) 1150
Marshall, F. B., (123) 698
Marshall, H. P., (101) 1147
Marshall, H. T., (112) 74
Marshall, H. W., (18) 280
Marshall, M., *177, 1850
Marshall, T. J., (71) 1615
Marshall, V. F., (43) 924
Martin, E., (161) 552, (79) 1767
Martin, E. D., (68) 457, (101) 1513
Martin, E. H., (44) 618
Martin, F. H., (73) 379
Martin, H. H., (134) 305, (10) 1854
Martin, L. C., (15) 1618
Martin, P. F., (102) 223
Martinet, A., (50) 1009, (68) 1075, (72) 1300, (61) 1689
Martini, (81) 1154, (44) 1516
Martinotti, L., (136) 550
Martius, K., (106) 387, (58) 1909
Marvel, P., (161) 75
Marx, A., (129) 389
Marx, E., (128) 778
Mason, F. S., (13) 300, 1141, (18) 1758, (110) 1762
Mason, J. M., 140
Mason, L. D., (90) 154
Mason, R. D., (60) 696, 114
Massaglia, A., (106) 1431
Massei, F., (117) 1235
Massey, G. B., *886
Massini, J. C. L., (130) 629
Massini, R., (103) 311
Masson, P., (77) 78
Masuda, N., (90) 1768
Matas, R., 141, *233, (151) 305
Mathes, P., (99) 1864
Mathews, A. P., (51, 53) 539, (38) 923
Mathews, F. S., (58) 71
Mathewson, G. H., (85) 154, (52) 222
Mathieu, A., (25) 544, (36) 1908
Matson, R. W., (101) 380, (66) 1421
Matteson, G. A., (68) 620
Matthews, H., (5) 1762
Matthews, J. C., (28) 1230
Matthews, J. D., (42) 1358
Matthews, S. A., 1848
Mauclaire, P., (62) 77, (44, 47) 930
Mauldin, L. O., (46) 847
Maunsell, R. C. B., (11) 1687
Maunz, C., (112) 79
Maurice, (41) 1152
Maury, (57) 1074
Maus, L. M., (80) 154, (145) 1071
Mauté, A., (37) 1230
Maver, M. B., (138) 1361
Maxey, E. E., (58) 222
May, A., (47) 461
May, H. A., (141) 381
Mayer, A., (100) 387, (152) 551, (128) 629, (129) 1157
Mayer, E. E., (4) 693
Mayer, H., (51) 1765
Mayer, O., (88) 229, (101) 1234, (94) 1623
Mayer, T. F. G., (22) 226
Mayerhofer, E., (108) 706, (97) 1431
Maylard, A. E., (4) 1296, (2) 1686
Maynard, F. P., (137) 305, (30) 1619
Maynard, S. E., (147) 1227
Mayo, C. H., (1) 150, 298, (14) 774, (46) 1068
Mayo, H., (27) 300
Mayo, W. J., (62) 71, (76) 457, (102) 458, (63) 847, (127) 926, *1021, (1) 1223
Magza, S., 1830
Meakins, J. C., (94) 1070
Meara, F. S., (59) 456, (100) 1293, *1549, (61) 1856, *1771
Meason, J. M., (83) 1146
Medalia, L. S., *1189, 1345
Medigreceanu, F., (41) 923, (150) 1005, (125) 1361
Medlar, E. L., (17) 1418
Medowikow, P. S., (63) 462, (78) 1301
Meehan, J. W., *179
Meek, W. J., (82) 303
Meige, H., (46) 625
Meirowsky, E., (101) 1864
Meisenbach, R. O., (9) 921
Meissner, (60) 1232, (114) 1370
Melchior, E., (70) 463, (98) 547, (100) 1076
Melchior, M., (146) 936
Melick, C. W., (70) 1857
Meltzer, (156) 1296
Meltzer, S. J., (6) 1067, (71) 1146, (58) 1152, (22, 25, 26) 1224, 1353, (51) 1427, (80) 1512, 1607, *1709, (62) 1856
Melville, E. J., (35) 455
Melvin, A. D., 687
Mendenhall, A. M., *1389
Menetrier, P., 437
Menschikoff, M., (83) 705
Mensing, E. H., (113) 156
Mercer, W. F., (149) 699
Mercur, W. H., (65) 924
Meredith, T. O., (130) 1071
Merian, L., (88) 1154
Merklen, P., (41) 702, (41) 1008, (44) 1009, (65) 1300
Merriam, L. A., (108) 1070, (127) 1148
Merrill, G. V. R., (76) 1070
Merrill, T. C., (88) 73
Merry, E., (55) 461
Merz, H., (103) 1076
Meserve, P. W., (74) 697
Metcalfe, J., (5) 851
Metchnikoff, E., (44) 1689
Metha, D. H., (19) 623
Mettler, L. H., (99) 849, (152) 1617
Metzenbaum, M., (131) 74, (100) 458, (109) 849, (14) 922
Metzer, D., (54) 1621
Meyer, A., (119) 156
Meyer, E., (123) 540, (169) 859, (47)1765
Meyer, F., (67) 1152, (36) 1619
Meyer, G. M., (124) 1361, (52) 1427
Meyer, H., (91) 705, (97) 1864
Meyer, L., (95) 627, (63) 1621
Meyer, L. F., (115) 934, (86) 1768
Meyer, R., (87, 88) 79, (50) 1231, (101) 1431, (152) 1696
Meyer, W., *1437, 1607
Meyer-Betz, F., (104) 311
Meyers, J., (151) 1296
Meyers, S. J., (156) 1149
Meyers, T. H., (63) 153
Miceli-Capurbano, F., (109) 1769
Michael, M., 617, (155) 1228
Michaelis, H., (113) 548
Michaelis, L., (88) 160
Michailidis, N., (89) 1520
Michel, L. L., 211
Miel, G. W., (162) 305
Miles, J., (38) 152
Millard, R. J., (24) 1619
Miller, A., *1718
Miller, A. M., (40) 152
Miller, C. C., (107) 458
Miller, C. J., (142) 699
Miller, C. M., (125) 778
Miller, D. J. M., (62) 620, (131) 698
Miller, E., (34) 1613
Miller, E. C. L., (44) 455
Miller, J., (26) 1418
Miller, J. L., (96) 925, 1843, 1848
Miller, J. W., (71) 1421, (73) 1857
Miller, M. B., 1222
Miller, R. T., (49) 775
Milligan, J. D., *1803
Milligan, W., (11) 75
Millon, M., (26) 544
Mills, C. K., (89) 622
Mills, G. W. T., (12) 1067
Mills, H. B., (18) 1291
Mills, H. P., *180
Mills, J. A., (4) 542
Mills, L. H., (9) 1756
Mills, T. D., (87) 848
Millspaugh, W. P., (47) 456
Milne, J. W., (41) 227
Miner, C. H., (56) 924
Minervini, R., (149) 1696
Minett, E. P., (40) 1619
Mink, O. J., (83) 1359
Minor, C. L., (2) 1510
Mintz, W., (173) 859
Mirabeau, S., (148, 150) 858
Mirauer, W., (57) 159
Mitchell, J. P., (19) 1763
Mitchell, O. W. H., *500, (75, 78) 540
Mitchell, P. A., (18) 623
Mitchell, S. W., 1401
Mitchell, T. E., (134) 927
Mitchell, W., (5) 305, (5) 1362
Mithoefer, W., (36) 1000
Mittelacher, O., (120) 1370
Mize, G. H., (51) 1614
Möckel, K., (142) 1371
Mohler, B. M., (79) 1002
Mohr, R., (50) 1517
Moldovan, J., (65) 385, (95) 1623
Moleen, G. A., (65) 1146
Molle, J., (45) 1152
Möller, J., (133) 1236
Möller, M., (190) 860
Möller, S., (95) 933, (135) 1865
Möllers, B., (72) 1011
Mollison, W. M., (5) 225
Molnar, B., (87) 933
Monagan, C. A., (92) 458
Monahan, R., (168) 1362
v. Monakow, P., (95) 1692
Mönckeberg, J. G., (98) 1302
Moncure, P. S. P. St. L., *792
Monks, G. H., (8) 454, (2) 844
Monnier, E., (68) 1153
Monod, C., (58) 931
Monod, G., (53) 1009
Monrad-Krohn, G. H., (165) 390
Monro, T. K., (25) 851
Monsarratt, K. W., (29) 852, (36) 1688
Monson, G. L., (80) 1225
Montagnon, (52) 227
Montal, H., (43) 1364
Monteanto, D. E., (96) 229, (95) 1155
Montefusco, A., (142) 1157
Montgomery, C. H., (50) 456
Montgomery, D. W., (156) 382, *501, *1193, *1542, (52) 1614
Montgomery, E. B., (34) 1292
Montgomery, F. H., (93) 73
Moodricker, A. H., (97) 1003
Moody, G. H., (119) 778
Mook, W. H., *87, (80) 924, (12) 1613
Moon, R. O., (22) 1425
Mooney, E. W., (135) 224
Mooney, J. J., (147) 225
Moor, F. C., 1842
Moore, B., (2) 1362
Moore, C., (32) 1144
Moore, E. C., (125) 850
Moore, G. C., (57) 153
Moore, J. E., (138) 779, (116) 1003
Moore, J. J., (140) 1361
Moore, J. T., (80) 1293
Moore, R. G., (153) 927
Moore, S. B., (59) 1069
Moorhead, T. G., (24) 1007, (25) 1425, (12) 1514
Moorman, L. J., (61) 1225, (14) 1613
Moots, C. W., (141) 1071
v. Moraczewski, W., (67) 932
Moran, J. F., (99) 1615
Morat, J. P., (42) 1152
Morel, (52) 384
Moren, J. J., (160) 1149
Moreno, O., (45) 1364, (32) 1516
Morestin, H., (51) 931
Morgan, C., (7) 779
Morgan, F. P., (66) 1512
Morgan, J. D., (9) 1291
Morgan, W. G., (26) 846, (3) 1510, 1607
Morgulis, S., (148) 1005
Morison, A., (6) 1686
Morison, J. R., (25) 1230
Moritz, F., (90) 1012
Morley, W. H., (155) 225
Morner, K. A. H., (139) 630
Moro, E., (108) 548, (158) 858, (90) 1155
Moro, G., (56, 58) 625
Morone, G., (164) 468
Morrell, R. A., (9) 1762
Morris, E., (125) 1226
Morris, H., (7) 382
Morris, L. C., (131) 156
Morris, R. S., (23) 922
Morris, R. T., (116) 304, 528, (8) 537, (135) 1296, (3) 1356, (133) 1423, 1677, 1751
Morris, S. M., *1798, (179) 1618
Morrison, T., (81) 697
Morrow, N. C., (52) 1145
Morrow, P. A., (127) 459
Morse, J. L., (1) 300, (2) 1067, (55) 1145, (16) 1682, (59) 1684
Morselli, E., (123) 1014
Morton, A. W., (47) 1001
Morton, C. A., (27) 226, (30) 929
Morton, C. J., (4) 927
Morton, D. M., (33) 1299
Morton, L. B., (68) 153
Morton, R., (33) 226
Moscati, G., (131, 133, 136) 231
Moschcowitz, A. V., (14) 69, (66) 71, (7) 220, (159) 305
Mosenthal, H. O., (70) 1146
Moser, E., (126) 1370
Moses, H. N., (87) 925
Mosher, C. D., (155) 382, (96) 698, (134) 1295
Mosher, J. M., (121) 156
Moskowitz, S., (15) 1143
Most, A., (145) 81
Mosti, R., (142) 1865
Mostrom, H. T., (58) 539
Motais, E., (39) 1426
Mott, F. W., (26) 461, 528, 583, (13) 928, (22) 1515, (11) 1763
Motter, M. G., 996
Motz, B., (48) 1689
Mouchotte, J., (34) 929
Mouisset, F., (50) 930
Moullin, C. M., (10) 1859
Moulton, H., (39) 624
Moure, P., (20) 1907
Mouriquand, G., (52) 384, (40) 545
Moussous, A., (52) 853
Moxom, P. W. T., (85) 848
Moynihan, B. G. A., (1) 1362
Muer, T. C., (134) 1361
Mühle, (163) 82
Mühlfelder, S., (71) 932
Mühsam, R., (90) 1692
Muir, E., (20) 780, (30) 1072
Müller, C., (108) 1156
Müller, E., (79) 1691
Müller, G., (100) 1369, (144) 1695

Müller, G. P., (95) 303
Müller, L., (61) 703
Müller, L. R., (104) 856, (77) 1363
Müller, M., (116) 465
Müller, R., (115) 312, (113) 785, (97) 1623
Müller, T., (97) 229
Mullin, R. H., (33) 1144
Mullowney, J. J., *737
Mulot, O. L., (73) 222
Mulzer, P., (46) 1427
Mummery, J. P. L., (22) 851, (20) 1687
Muncaster, S. B., *1555
Munro, D., (56) 77
Munro, W. L., (79) 223
Munro, W. T., (10) 1229
Munson, E., (75) 1070
Münzer, A., (127) 80, (65) 1152
v. Muralt, L., (92) 855
Murfree, J. B., (1) 1418, 1883
Murlin, J. R., (97) 925
Murnan, J. R., (98) 380
Murphy, J., (16) 306
Murphy, J. B., 299, *741
Murphy, J. J., (76) 777
Murphy, T., (15) 306
Murphy, W. G., (107) 1003
Murray, H. L., (2) 622
Murray, R. W., (30) 1859
Murray, W. R., (126) 1295, (18) 1905
Murrell, W., (45) 77
Murri, A., (137) 706, (186) 860
Musgrave, W. E., (150) 1227 (74) 1685
Muskens, A. L. M., (85) 1011
Musser, J. H., (93) 848
Myer, M. W., (95) 1225
Myers, A. W., (46) 924
Myers, B. D., 920
Myers, C. S., (10) 622
Myers, S., 1503
Mylzer, P., (81) 546

N

Nadal, P., (40) 1230, (18) 1907
Nadler, A. G., 186, 198, (86) 223
Nadoleczny, M., (145) 1695
Nador, H., (64) 1767
Nagel, W., (66) 782
Nagelschmidt, F., (102) 464
Nageotte-Wilbouchéwitch, M., (39, 40) 702, (40) 1008, (40) 1860
Nagle, E. W., 1676
Namba, K., (128) 1370
Nammack, C. E., (18) 537, (10) 617, (5) 773, (107) 1762
Nance, W. O., (91) 223, (124) 778
Napier, A., (28) 1364
Nascher, I. L., (15) 377
Nash, F. S., (108) 698
Nash, W. G., (15) 382
Nassau, C. F., 375
Nathan, P. W., *1779
Nathanblut, J., (84) 1233
Nattrass, J. H., (20) 701
Natus, M., (141) 550
Naugle, A. K., (37) 695
Nazari, A., (138) 163
Nebesky, O., (34) 1516
Necker, F., (102) 1013, (139) 1305
Neff, I. H., (10) 454
Neidig, R. E., (26) 1758
Neisser, C., (125) 80
Neisser, E., (70) 1767, (127) 1865
Nelken, A., (134) 699
Nellis, I. O., (36) 1357
Nelson, A. W., (35) 1000
Nelson, J. R., (119) 850
Nesfield, V. B., (9) 306
Netter, A., (44) 307, (63) 854
Neu, M., (107) 161, (134) 1157, (88) 1234
Neubauer, O., (112) 1370
Neuberg, C., (43) 1765
Neufeld, F., (73) 546
Neuhaus, M., (81) 1767
Neuhof, S., (13) 1357
Neumann, H., (48) 71
Neumann, J., (137) 1305
Neumann, O. P., (115) 628
Neumann, W., (94) 855
Neurath, R., (143) 550
Neuzil, W. J., (76) 777
Newburgh, L. H., (30) 1292, (79) 1519, *1796
Newcomb, C. F., (46) 152
Newcomb, R. B., (12) 922
Newlin, A., 375, (118) 926
Newman, A. J., (176) 1296
Newmark, L., (122) 850, *1180
Newmayer, S. W., (22) 1292
Newsholme, H. P., (14) 157
Newstead, R., (24, 25) 460, (23) 1298
Newton, I. J., (144) 699
Nice, C. M., (111) 458, *896, (107) 1294, (13) 1418
Nichols, H. J., *492
Nichols, J. R., (118) 778
Nichols, T. C., (134) 1226
Nicholson, C. M., (31) 1067, 1141
Nicholson, H. G., (83) 697
Nicholson, P., *873
Nicol, B., (25) 158, (25) 920
Nicolai, G. F., (72) 546
Nicoll, W., (12) 1149
Nicolle, C., (35) 852, (51) 1073
Nicolle, I. C., (53) 1073
Nicolle, M., (38-40) 624, (36) 1860
Nieder, C. F., (37) 1357
Niles, G. M., *268, (62) 456, 1755
Niles, W. L., (64) 1856
Nilson, G., (168) 1697
Nitch, C. A. R., (31) 383
Nitsch, G., (55) 159
Nixon, P. I., (54) 1420
Nobécourt, P., (48) 930, (47) 1020
Nobel, E., (79) 1519
Nobl, G., (144) 467
Noble, C. P., (4) 69, (7) 694, (7) 921
Noble, T. B., (117) 304
Noel, P., (49) 625
Noguchi, H., (32-35) 377, (116) 459, (77) 621, (29-31) 774, 1124, 1125, 1331
Nöhring, R., (104) 934
Noica, M., (67) 1075
v. Noorden, C., (109) 465, (138) 706
Norbury, F. P., (13) 774
Norman, H. J., (30) 226
Norman, R. H., (15) 157
Norman, W. G., (43) 539
Norris, C. C., *1190, (97) 1615
Norris, G. W., (63) 924, (1) 1510, (8) 1756
North, C. E., (7) 1067
Northey, F. O., (72) 1225
Northrup, W. P., *114
Norwood, M. L., (70) 1002
v. Notthafft, A., (113) 628, 685, (72) 783, (75) 1519
Novak, E., (88) 1002, 1497, 1608
Novak, J., (154) 551, (45) 1231, (87) 1520
Noyes, F. B., *473
Nuckols, O. P., (104) 622
Null, M. M., (57) 222
Nutt, J. J., (40) 1758, *1718
Nuzum, T. W., (90) 1513

O

Oakley, F., (13) 922
Oatman, E. L., (138) 1148
Obermayer, F., (148) 1371
Oberst, A. G., (80) 932, (106) 1013
Ochsner, E. H., (59) 539, (82) 1070, (86) 1513
Ockley, F. A., (25) 455
O'Connor, J. H., (73) 1292
O'Connor, R. P., (60) 776, (94) 1686
O'Conor, J., (14) 1424
Oehlecker, F., (107) 1235
Oertel, H., (98) 1234
v. Oettingen, W., (89) 1692
O'Farrell, J. M., (117) 778
v. Ofenheim, E., (36) 226, (17) 1072
Offergeld, H., (46) 1231
Ogilvy, C., (8) 1357
Ohlbaum, J., (42) 1613
Ohlemann, F. W., (97) 1076
O'Kelley, W. D., (29) 929
Olbert, D., (149) 1371
Olesen, R., (28) 846
Oliver, H. R., (104) 698
Oliver, J. C., (22) 774, (47) 1144
Oliver, T., (10) 780, (2) 1762
Olsan, H., *738
Olsho, S. L., (107) 156
Ombrédanne, L., (64) 1300
O'Neal, A. H., (139) 1617
O'Neill, B. J., (130) 851
Opie, E. L., (39) 377
Opitz, E., (92) 547
Oppenheim, H., (84) 160, (82) 1368
Oppenheimer, B. S., (151) 1148
Oppenheimer, H., (87) 463
Oppenheimer, R., (62) 1009
Oppenheimer, S., (32) 1357
O'Reilly, A., (47) 1758
O'Reilly, J. A., 1846
Orendorff, O., 1055
Orgler, A., (86) 705
Orlowski, W., (70) 1690
Ormsby, O. S., *504
Orpen, R. W., (24) 158
Orr, H. W., (115) 926
Orr, W. F., (37) 1619
Ortner, N., (81) 310
Osborn, J. W., (74) 777
Osborn, W. O., (57) 1614
Osborne, H., (3) 459
Osborne, O. T., (41) 695
Osborne, T. B., (45) 455, (33) 1758
Osgood, R. B., *495, 1847
Osler, W., (11) 623, (1) 699, (124) 786
Oswald, A., (72) 626
v. Ott, D., (148) 1306, (61) 1518
Ott, I., (74) 924, (40) 1224
Ott, L., (66) 924
Ottenberg, R., (100) 1225, (78, 79) 1512
Otto, C., (129) 1370, (120) 1624
Otto, R. W., (57) 1766
Ousley, J. W., (33) 1068
Ovazza, V. E., (129) 231
Overgaard, A. P., (110) 1070
Overton, F., (68) 222
Overton, J., (67) 540
Owen, E., (1, 10, 17) 851
Owen, R. G., (85) 621, (142) 927
Owen, R. L., 610

P

Pachner, F., (142) 858
Packard, G. B., (86) 1359, 1844
Packard, M., (105) 458
Paddock, C. E., (135) 1004
Page, A. C., (47) 1358
Page, C. M., 829
Page, H., (82) 621
Page, J. R., (11) 537
Paine, A. H., (86) 457
Painter, C. F., (57, 66) 153, (110) 926, 1847
Paisseau, G., (37) 624
Palier, E., (97) 784
Paling, A., (146) 927
Pallin, G., (52) 625
Palmer, F. A., (20) 846
Palmer, H. E., 1842
Palmerlee, G. H., (140) 927
Palmore, E. L., (114) 1071
Paltauf, R., (168) 82
Pankow, O., (84) 310, (108) 1370
Panum, 744
Papaioannou, (109) 79
Papin, E., (60) 931
Pappenheimer, A. M., (40) 221
Pardee, L. C., (126) 381, (65) 1615
Pares, M., (49) 1689
Pari, G. A., (157) 390, (123) 786, (140) 936, (172) 1697
Parish, B. D., (52) 71
Park, R., (161) 1296
Parke, W. E., (56) 1292
Parker, C. A., (29) 300
Parker, E. G., (79) 1359
Parker, F. J., (154) 1296
Parker, G., (3) 1149
Parker, H. C., (33) 1292
Parker, H. P., (20) 922
Parker, H. R., (84) 457
Parker, R., (3) 1858
Parker, W. R., (90) 622, (102) 1070
Parkinson, J. P., (17) 1229
Parrish, B. B., (23) 1418
Parry, L. A., (8) 1618
Parsons, C. G., (165) 305, (102) 1147
Partridge, H. G., (166) 1149
Paschkis, H., (69) 783
Paschkis, R., (113) 162
Pashayan, N. A., (147) 1296
Pasini, A., (158) 82
Passaggi, A., (139) 163
Passini, F., (115) 1304
Pasteau, O., (39) 930, (37) 1426, (52) 1689
Pasteur, W., (8) 1859
Pastia, C., (60) 853, 881
Patek, A. J., *1315
Patel, M., (65) 1075
Paterson, H. J., (11) 460
Paton, D. M., (27) 383
Paton, D. N., (39) 461, 874
Paton, G. A., (14) 306
Patrone, E., (132) 163
Pattee, J. J., (145) 1362
Patterson, E. B., 1592
Patterson, H. J., (15) 1763
Patterson, N., (6) 1618
Patton, J. M., (130) 1004, (80) 1070
Paucot, H., (33) 929
Paul, T. M., (79) 1070
Paul, W. E., (2) 300
Paulicek, E., (67) 704
Payer, A., (102) 547
Payne, A. G., (2) 1418
Payne, G. W., (97) 73
Payne, J. E., (121) 1226
Payne, M. J., (60) 1069
Payne, R. L., *1324
Peabody, F. W., (83) 1002
Peabody, G. L., (5) 1223
Peacocke, G., (29) 1425
Peak, J. H., (83) 777
Pearce, R. G., (39) 618
Pearse, H. E., (102) 380, 1140, (19) 1758
Pearse, R. A., (106) 1147
Pearson, G. B., (82) 73
Pease, H. D., (67) 222
Pechstein, H., (111) 706, (94) 1076
Peck, C. W., (162) 927
Peckham, F. E., (61) 153
Pedersen, J., (6) 773, (18) 1000
Pedersen, V. C., (110) 74, (12) 1510, (158, 171) 1617
Peebles, A. R., (57) 379, (9) 773
Peers, R. A., (103) 698
Pegler, L. H., (13) 75
Peham, H., (63) 1428
Pehu, M., (54, 57) 853
Peiser, J., (67) 545
Peitmann, H., (102) 627
Pel, P. K., (90) 856, (86) 1301
Pelissier, G., (26) 1764
Pels-Lousden, F., (125) 549
Pelton, O. L., (136) 1004
Peltsohn, S., (61) 782
Pember, J. F., (90) 1513
Pemberton, R., (58) 619
Pendlebury, H. S., (32) 158
Penfold, W. J., (4) 75
Pennetta, M., (109) 1431
Penrose, C. A., *1642
Peple, W. L., (127) 1423
Pepper, W., (38) 221, (62) 1146
Perch, P. H., (128) 1769
Périer, E., (47) 853
Perkins, J., (24) 220
Perkins, R. G., (11) 922
Perkins, W. M., (69) 1225, (19) 1854
Pernet, G., (48) 77, (6) 157
Pers, A., (150) 164
Pershing, H. T., (13) 1291
Perutz, A., (95) 547
Pescatore, M., (138) 857, (76) 1011
Peter, L. C., (107) 1147, (87) 1686
Peter, R., (93) 1293, (149) 1617
Peterkin, G. S., (100) 380, (68) 1421
Peterman, H. E., 1502
Peters, L. S., (6) 150
Peters, U. J. W., (105) 1294
Peters, W. H., (24) 1067, *1106
Petersen, T., (118) 1769
Petersen, W. F., (139) 1361
Peterson, A. O., (90) 1293
Peterson, F., (60) 1759
Peterson, R., *1, (69) 379, (71) 847, (92) 1615
Petren, G., (81) 1691
Petrivalsky, J., (55) 1689
Pettit, J. W., (19) 774
Pettit, R. T., (85) 1002, (70) 1358, (108) 1616, (90) 1761
Pettus, C. G., (25) 1511
Peugniez, P., (42) 545
Peyrot, (54) 1300
Pfaff, O. G., (18) 1357
Pfahler, G. E., (106) 74, (80) 303, (9) 1067, (162) 1617, *1777
Pfaundler, M., (131) 550
Pfeiffer, D. B., (28) 1854
Pfeiffer, H., (140) 467
Pfeiffer, T., (103) 229, (100) 1234
Pfender, C. A., (109) 1762
Pflanz, E., (120) 1156
Phalen, J. M., (72) 1685
Phelps, E. B., (40) 455, (133) 1361
Philip, R. W., (1) 225
Philippi, (163) 82
Philips, S., (1) 1905
Philips, W. C., (4) 454
Phillips, G. C., (38) 695
Piccininni, F., (111) 1624
Pichler, A., (145) 550
Pichler, K., (103) 1234
Pick, E., (85) 783
Pick, F., (100) 1012
Pick, L., (42) 1765, (62) 1862
Picqué, L., (44) 1364, (23) 1907
Pierce, W. C., (135) 779
Pierpont, H. W., (27) 1619
Pierpont, J. H., 1840
Piéry, M., (51) 227, (43) 702
Pies, W., (85) 705
Piesen, L., (143) 467
Pike, F. H., (55) 539
Pilcher, J. T., (8) 921, 1352, (7) 1510, (18) 1613, 1752
Pilcher, L. S., (129) 926
Pilcher, P. M., (65) 847, (8) 921, (137) 1148, (46) 1683
Pilcz, A., (82) 783
Piltz, W., (122) 389
Pinard, A., (39) 1008, (21) 1907
Pinkham, E. W., (69) 72
Pinkuss, A., (73) 463
Pinoy, (47) 702
Piquand, G., (79) 78
Pipes, H. F., *1650
Pirie, A. H., (22) 544
Pironneau, G., (46) 307, (43) 1860
Pirovano, A., (50) 702
v. Pirquet, C. E., (103) 925, (89) 1002, (94) 1431, (82) 1767
Pisko, E., (20) 537
Pitfield, R. L., (34) 1854
Pitt, G. N., (3, 12) 157, (41) 1299
Pitts, B., (90) 1070
Placzek, S., (122) 1694
Plant, O. H., (86) 73
v. Planta, A., (53) 1766
Plate, E., (30) 626
Platt, K., (53) 77
Plaut, H. C., (77) 160
Pleecker, W. A., (59) 1001
Plehn, H., (42) 158
Plesch, J., (58) 1232, (67) 1366, (158) 1766
Plessner, M., (83) 1863
Pleth, V., (54) 696
Pleth, V. W., (54) 696
Ploeger, H., (59) 1909
Plondke, F. J., *115
Plummer, H. S., *560
Plummer, W. W., (109) 926, 1846
Pochhammer, C., (84) 1301, (67) 1621
Pohl, J., (138) 467
Polak, J. O., (25) 1357, (61) 1759
Polano, O., (125) 389
Poley, C. L., (100) 1147
Politzer, A., (135) 550

Polk, W. M., (6) 617
Pollaci, G., (78) 1011, (139) 1078, (151) 1306
Pollak, A., 829
Pollak, R., (76) 1690
Pollard, C. W., (87) 1070
Pollard, M. L., (65) 1060
Pollitzer, S., (87) 223, (17) 537, (32) 846, (165) 1296, 1353, (122) 1514
Pollock, L. J., (43) 301
Polozker, I. L., (46) 1358
Polugorodnik, W., (64) 159
Poly, F., (78) 309
Poncet, A., (54) 384
Pond, A. M., (150) 381
Pont, A., (68) 854
Pontano, T., (116) 1013, (140) 1157, (160) 1372, (116) 1624
Poore, A. B., (151) 381
Pope, C., (101) 73, (24) 1292, *1705
Popper, H., (148) 1371
Porcher, C., (57) 853
Porosz, M., (76) 924, (30) 1224
Porrini, G., (109) 1864
Port, F., (76) 1233
Porteous, W. N., (19) 1905
Porter, E. H., (113) 459
Porter, J. L., (35) 152, (76) 379, (85) 777, (44) 1856, 1844
Porter, L., (117) 74
Porter, M. F., (32) 538
v. Posch, A., (93) 1623
Posey, W. C., (90) 1857
Posner, C., (99) 1076, (141) 1306
Posselt, A., (70, 79) 1233, (70) 1428
Potpeschnigg, K., (64) 462
Pottenger, F. M., (37) 1000, (63) 1512
Potter, N. B., (15) 69
Potter, T., (35) 538
Potter, W. A., (106) 1513
Potts, H. A., (129) 698
Pötzl, O., (109) 388
Poucher, J. W., (124) 156
Poulain, J., (53) 1299
Poulsen, K., (145) 707, (79) 1075
Pousson, (31) 544, (40) 853, (49) 1299
Powell, A. J., (25) 1007
Powell, W. L., (33) 1511
Power, D., (33) 76, (1) 459, (3) 1423
Powers, C. A., (2) 220, (60) 379, (13) 1291
Powers, J. C., (48) 1358
Poynton, F. J., (2) 382
Pozerski, E., (36) 1860
Pozzi, S., (60) 1074
Prampolini, B., (69) 1910
Pratt, J. A., *811
Pratt, J. H., (6) 1756
Prendergast, D. A., (100) 542
Press, M. J., *1792
Preston, M. E., (160) 305
Preysing, H., (143) 81
Pribram, E., (88) 1623
Price, F. W., (7) 1229
Price, G. E., (72) 72, (25) 1292
Price, J., (118) 304, 1508
Price, L., 1063
Price, L. T., (65) 222, 403, (150) 699, (87) 1293
Pride, W. T., (123) 1616
Primrose, A., (92) 1070, (131) 1295, (155) 1362
Primrose, J. W., (66) 1069
Prince, E. M., (109) 458
Prince, M., (57) 776
Pringle, A. M. N., (4) 779
Pringle, S., (13) 623
Pringsheim, J., (106) 311
Pritchard, H., (26) 1859
Pritchett, H. S., *589
Probst, C. O., (37) 538
Proescher, F., (12) 1357
Propping, C., (136) 1865
v. Prowazek, S., (64) 782
Prowse, S. W., (113) 849
Prucha, M. J., (72) 697
Pruska, H., (107) 1370
Prym, O., (110) 856
Puckett, C., (62) 539
Puckner, W. A., 210, *441, 813, *833, *1344, *1591, 1670, *1738
Pugh, W. S., (97) 1513
Puls, A. J., (32) 618
Puppe, G., (72) 1621
Purckhauer, R., (98) 1012, (92) 1234
Purdy, J. S., (25) 383
Purser, T., (35) 695
Purtscher, A., (93) 1430
Pusateri, S., (150, 151) 1696
Pusey, B., *952
Pusey, W. A., *118
Putnam, H. C., (75) 1002

Q

Quadrone, C., (125) 1014
Quain, E. P., *344, 1835
Quénu, E., (55) 931, (46) 1861
Quinby, W. C., (4) 844

R

Radcliffe, S., (50) 1758
Radin, H. T., (29) 617
Radonicic, K., (78) 1154
Rae, J., (15) 1514
Rafferty, H. N., (42) 152
Rafin, M., (35) 1426, (54) 1689
Ragusa, U., (67) 1910
Raia, V. L., (142) 1423
Raiford, R. L., (102) 1857
Raines, N. F., (69) 540
Rainey, L. H., (60) 1759
Rambaud, G. G., (17) 1510
Ramberg, M., (122) 1370
Rammstedt, C., (97) 547
Ramond, F., 1125
Ramos, N. J., (171) 1228
Ramsey, A., (26) 455
Ramsey, W. R., (165) 75
Ramström, M., (147, 148) 232
Randall, B. A., 1509
Randall, H. E., (78) 223, (32) 1613
Randolph, R. L., (105) 1226
Ranke, K. E., (62) 462
Rankin, G., (1) 1296
Rankin, W., (28) 781, 897
Rankin, W. H., (165) 1362
Ransohoff, J., (148) 1362, (24) 1613
Ransome, A. S., (9) 459
Ranson, S. W., (6) 1510
Ranzel, F., (154) 551
Rasch, C., (144) 707
Rasp, C., (42) 1516
Rathbun, N. P., (64) 696
Rathburn, J. L., (99) 73
Rattermann, F. L., (34) 1000
Raudnitz, R. W., (112) 1304
Raugé, P., 1829
Rautenberg, E., (67) 160
Rauzier, G., (43) 1152
Ravasini, C., (104) 387, (116) 548
Ravaut, P., (58) 308, (47) 702
Ravenel, M. P., (17) 1223, *1253
Ravine, W., *1651
Ravogli, A., (126) 459, (13) 617, (44) 696, 1109, (80) 1685
Ravold, A., (128) 1004
Raw, N., (17) 1363
Raybaud, A., (48) 1152
Read, C. F., 1747
Reade, A. G., (25) 306
Reardan, T. B., (105) 698
Reasoner, M. A., *1804
Reber, W., (148) 1423, (57) 1512
Reclus, P., (73) 78, (139) 706, (54) 931
Rector, J. M., (148) 225
Reddick, J. T., (91) 380
Reder, F., (127) 156
Redfield, H. H., (44) 775
v. Reding, A., (130) 81
Reed, B., (110) 1361
Reed, C. A. L., (40) 847, *861, 1055, 1402
Reed, C. B., (41) 301
Reed, H., (56) 1225
Rees, J. M., (106) 622
Reh, M., (94) 1863
Rehberg, F., (65) 1862
Rehn, E., (81) 932
Reibmayr, H., (60) 1010
Reich, A., (83) 1691
Reich, J., (156) 467
Reichel, J., (72) 540
Reid, A. G., (33) 781
Reid, G. M., (22) 701
Reid, H. L., (30) 1067
Reid, J. J., 1739
Reifferscheid, K., (76) 1863
Reik, H. O., (4) 1067
Reilly, T. F., (32) 1682
Reinhardt, J. C., (131) 629
Reinhold, C. H., (58) 77
Reis, G. W., (45) 1420
Reiss, W., (133) 935
Reissmann, C., (12) 1906
Relihan, H. J., *743
Remington, J. P., (70) 924
Rennie, G. E., (1) 1762
Rennie, W. H., (61) 847
Reno, W. W., (110) 698
Renon, D., (29) 1151
Reter, H., (66) 385, (38) 781, (99) 856
Retterer, E., (46) 1009, (33) 1230
Rettger, L. F., (3) 1681
Revell, D. G., (28, 29) 69
Reymer, P., (77) 78
Reymond, (42) 1689
Reymond, E., 438
Reynier, P., (57) 1300, (40) 1364
Reynolds, F. E., (22) 780, (32) 1364
Reynolds, L., (41) 383
Reynolds, M. H., (88) 848
Rhamy, B. W., (34) 538
Rhea, L. J., (3) 844
Rhein, J. H. W., (87) 303, (121) 850
Rhese, H., (102) 934
Rho, F., (72) 1910
Rhoads, T. L., (142) 1071
Rhodes, F. A., (152) 927
Rhodes, F. S., (5) 1858
Rhodes, J. E., *878
Ribera y Sans, J., (31) 1908
Rice, T. B., (75) 620
Rich, H. M., (100) 1070
Richardson, C. W., (49) 71, (31) 455
Richardson, F. L., (84) 1760
Richardson, M. H., *315, (49) 1144
Richardson, M. W., (23) 220
Richardson, R. R., *34
Riche, J. A., (41, 42) 618
Richter, E., (81) 463
Richter, G., (98) 1003
Richter, H. M., (54) 302
Rickards, B. R., 829
Ricketts, B. M., (109) 1616
Riddell, J. R., (22) 1859
Riddle, J. R., (5) 1618
Ridley, F. T., (28) 1613
Ridlon, J., (115) 381, (111) 926
Rieck, A., (177) 859
Riedel, B., (63) 385, (127) 466
Rieder, H., (99) 161
Riehl, M., (101) 387
Ries, E., *91
Riesman, D., 219, 1753
Rietschel, H., (98) 1431
Rigamonti, O., (113) 1235
Rigby, H. M., (40) 1073, 1208, 1552, 1831
Riggs, C. E., (103) 458
Riggs, E. P., (94) 1147
Riggs, H. C., (61) 696
Riggs, L. W., (4) 1681
Riley, J. W., (111) 1423
Rille, J. H., (91) 311
Rimann, H., (119) 466
Ringenbach, (43) 624
Ringer, P. H., (2) 1510
Ringolsky, S., (89) 1359
Ringrose, E., (5) 75
Rininger, E. M., (136) 851
Risch, J., (85) 783
Risel, H., (127) 549
Rishmiller, J. H., (78) 1422
Risley, E. H., *1383
Risley, S. D., (108) 156, (58) 1512, (99) 1513
Rissom, O., (69) 1233
Rist, E., (49) 1009
Ritchie, H. P., 298, (21) 1357
Ritchie, M. D., (61) 924
Ritter, J., (66) 160
Rivalta, F., (163) 468, (136) 1078
Riviere, C., (31) 461, (15) 623, 1106, 1125, 1830
Rivière, J. A., (44) 461
Robb, H., (58) 1614
Robbins, F. W., 536
Robert, J. J., (75) 303
Roberts, D., 1752, (115) 1858
Roberts, J. B., (71) 379, (114) 381, 1509
Roberts, J. R., (31) 1072
Roberts, M. H., (148) 305
Roberts, P. W., *874
Roberts, S. R., (132) 778, *1713
Roberts, W. O., (42) 1144, (157) 1149
Roberts, W. W., (146) 1071
Robertson, G. M., (10) 1362
Robertson, H. E., (119) 622
Robertson, J. I., (12) 1298
Robertson, T. B., (69) 696, (78) 697, (20, 28, 29) 1758
Robertson, W. D., (34) 1073
Robertson, W. S., (18) 1363
Robichaux, E. C., (34) 1068
Robin, A., 367, (66) 379, (63) 1759, (39) 1860
Robinovitch, L. G., *478
Robinson, A. A., (96) 1293, (65) 1421, (112) 1514
Robinson, B., 1280
Robinson, C. B., (62) 1001
Robinson, E. M., (112) 458
Robinson, R. H., (76) 1760
Robinson, S., (111) 1003
Robinson, W. D., 1509
Robinson, W. J., (19) 69, 138, (158) 699, (102) 778, (141) 927, (10) 1291, (48) 1420, (162) 1362, (25) 1613, (107) 1686
Robitshek, E. C., (22) 1357
Roblee, W. W., (46) 456
Rocaz, C., (56) 853
Roch, M., (64) 932
Rochard, M., 20
Rochet, V., (47) 1689, (24) 1764
Rockafellow, J. C., (173) 1149
Rockey, A. E., (54) 222, (48) 1683
Rockwell, G. H., (86) 848
Rodella, A., (174) 82
Roderer, J. F., 1222
Rodet, A., (56) 308, (66) 1300
Rodman, H. D., (70) 1615
Rodman, J. J., (102) 74
Rodman, W. L., *793
Roeder, C. A., *564
Roeder, H., (50) 1909
Roehrig, G. F., (167) 305, 428
Roepke, O., (87) 855
Roger, H., (70) 78, (54) 461, (44) 1619, (34) 1908
Rogers, B. M. H., (26) 226
Rogers, C. C., (121) 381, *644
Rogers, D. W., (50) 302
Rogers, G. A., (169) 1228
Rogers, J. F., (105) 1003
Rogers, L., (38) 383, (28) 1072
Rogers, M., (53) 696
Rogers, M. H., (21) 1905
Rogers, T. L., 1739
Rohdenburg, G. L., (7) 773, (101 1359
Rohmer, P., (49) 545
Rohrer, C. W. G., (88) 1225, (1) 1612
Roland, E., (38) 1230
Roll, J., (163) 390
Rolleston, H. D., (39) 1299
Rolleston, J. D., (23) 306, (32) 1859
Rollet, L., (49) 1765
Rolly, F., (129) 466, (136) 1305, (101) 1693
Romeo, P., (118) 706
Romer, F., (10) 1006
Römer, P. H., (93) 387
Römheld, L., (92) 161
Rommel, J. C., (72) 924
Ronald, J. T., (99) 1147
Rondet, H., (29) 1908
Rongy, A. J., (3) 693, (27) 695
Rønne, H., (145) 164, (140) 305, (182) 1698
Ronot, C., (24) 1764
Rooney, J. F., 1504
Root, J. E., (111) 1616
Roper, C., (55) 77
Roper, J. C., (102) 925
Rørdam, H., (119) 1624
Rosanoff, A. J., (19) 1682, (42) 1683
Rose, A., (36) 1224, (161) 1617
Rose, C., (87) 1075
Rose, F., (46) 1365
Rosenau, M. J., (33) 69, (82) 1760
Rosenbach, F., (71) 1075
Rosenbach, H., (88) 1011
Rosenberg, E., (108) 1693
Rosenberger, F., (111) 1013
Rosenberger, R. C., (7) 151, (16) 1067, (169) 1617
Rosenbloom, J., (101) 154, (73) 1146
Rosendorff, (95) 1076
Rosenfeld, S., (113) 230
Rosenhaupt, H., (80) 1301
Rosenheck, C., (7) 773
Rosenheim, S., (44) 378, (68) 696, (114) 1294
Rosenow, E. C., *418
Rosenthal, A., (41) 1908
Rosenthal, E., (131) 1865
Rosenthal, M. J., (122) 304
Rosenthal, O., (122) 80
Rosenthal, T., (147) 858
Roseo, I. G., (159) 390
Rosewater, C., (8) 69
Ross, D., (20) 1357
Ross, E. H., (93) 154
Ross, E. L., (73) 697
Ross, G. G., (32) 1854
Ross, J. F. W., (126) 1616
Ross, R., (17, 18) 460, (6) 1296, (18, 21) 1298
Ross, S. J., (43) 227
Rossi, A., (180) 1697
Rossier, G., (32) 1426
Rostaine, P., (36) 158
Roth, E., (94) 784, (139) 935
Roth, G. B., (66) 1759
Roth, H., (10) 694
Roth, M., (75) 546
Roth, N., (131) 389
Roth, O., (70) 1153, (123) 1694
Rothe, F. W., (73) 1011
Rothera, A. C. H., (12) 306
Röthler, G., (108) 1303
Rothschild, J., (129) 629, (63) 1909
Rothschild, O., (88) 546
Rotky, H., 102) 1369
Roubier, C., (44) 702, (48) 1853
Roubitschek, R., (74) 1863
Roughlin, L. C., (103) 1422
Rous, P., *198, *741, (33, 34) 774, (96) 1225
Rouslacroix, (56) 461
Roussy, G., (48) 702
Routh, A., (4) 622, (34) 624, (17) 928
Routh, A. J., (14) 1007, (10) 1424
Roux, J. C., (31) 701
Rovighi, A., (138) 1078
Rovsing, T., (150) 314, (128) 786, (123) 1235
Rowan, W. H., 1609
Rowe, F. H., (36) 1292
Rowe, J. W., (26) 221
Rowland, J. M. H., (84) 848
Rowland, S., (40) 307
Rowlands, R. P., (2) 1296, (21) 1687
Rowley-Lawson, M., (36) 774
Rowntree, L. G., (33) 1151, (69) 1759
Royster, H. A., (66) 222, (22) 846
Royster, L. T., (111) 74
Rozenraad, O., (8) 306
Rubel, A. N., (62) 159
Rubin, I. C., (17) 617, (68) 847, (95) 1615
Rubow, V., (181) 1698
Ruby, F. M., (135) 305
Rucker, S. T., (9) 220
Rucker, W. C., (46) 302, (69) 1292
Rudis-Jicinsky, J., (17) 454
Rudnitzki, N. M., (78) 309
Rudolf, R. D., (40) 70, (2) 75
Rudolph, M., (157) 858
Ruediger, E., (59) 159, (51) 545
Ruediger, E. H., (110) 304
Ruffin, K., (125) 1423
Ruge, E., (48) 1365, (90) 1863, (106) 1864
Ruggles, E. W., (42) 221

Rugh, J. T., (105) 926 *964
Ruhland, G. C., (36) 618, (21) 1224
Ruhräh, J., (38) 69
Rulon, S. A., (104) 1360
Rummo, G., (142) 164, (132) 231
Rumpel, T., (85) 160
Rumrill, C. J., (95) 154
Runge, E., (120) 80, (82) 463, (65) 1366
Runkle, S. C., 1508
Runyan, J. P., (27) 1511
Ruotte, (79) 154
Rupprecht, (81) 1429
Rusche, W., (78) 463
Rush, J. O., (73) 457
Rushmore, M. D., (153) 1005, (49) 1758
Russell, A. W., (17) 75, (34) 158, (24) 780, 1019
Russell, C. T., (22) 1067
Russell, F. F., (22) 220, (39) 221
Russell, W., (32) 76, (1) 305
Russow, K. E., (101) 1302
Ruth, E. S., (99) 1225, (81) 1512
Rutherfoord, T. C., (39) 333
Rutherford, J. C., (92) 154
Ryal, E. C., (26) 780, 813, 1742
Ryan, A. H., (126) 698, (24) 1224
Ryan, G. N., (75) 1857
Ryan, L., 138
Ryerson, E. W., 1846
Ryfkogel, H. A. L., *1020
Rytina, A. G., (31) 846, (13) 1510

S

Saalfeld, E., (121) 1077
Sabella, P., (113) 1624
Sabourin, C., (40) 77
Sachs, B., (59) 1202
Sachs, E., (118) 466, (141) 858, (117) 934
Sachs, T. B., *181
Sachs-Müke, P. W., (134) 857
Sack, A., (129) 1078
Saenger, A., (79) 1622
Saenger, M., (127) 1078
Sahli, H., (133) 81, (141) 1371, (77) 1519
Sailer, J., (86) 1857
Saiz, G., (98) 856
Sajous, C. E. de M., 1678
Sala, E. M., *1700
Salatich, P. B., (139) 699
Salin, H., (48) 227, (57) 308, (49) 930
Salin, W., (124) 1226
Salkowski, E., (95) 311
Salle, V., (114) 1304
Salomon, H., (132) 1471, (178) 1697
Salomon, M., (45) 545
Salomoni, A., (104) 1769
Saltzgaber, W. R., (48) 1512
Salzberger, M., (64, 72) 228
Sampliner, W. E., 288
Sampson, J. A., *101, 1913
Samuels, A., (12) 1904
Sandels, C. C., (62) 924
Sanders, E. M., (123) 1295
Sanders, W. E., (82) 1857
Sanderson, A. E., (9) 1905
Sandwith, F. M., (10) 226, (35) 1008, (24) 1072
Sanford, M. J., (38) 1357
Santi, E., (151) 551, (161) 552
Santos-Fernandez, J., (153) 1296
Saphir, J. F., (22) 538
Sargent, E. E., (73) 1358
Sargent, P., (5) 1686
Saski, S., (150) 389
Sasse, F., (75) 1075
Sato, T. J., (73) 1690
Satterlee, G. R., (43) 221
Satterthwaite, T. E., (1) 537, 1678
Sattler, C. H., (71) 1428
Sattler, R., (22) 455
Sauerbruch, F., (138) 312
Saugman, C., (53) 1517
Sauire, J. E., (33) 1364
Saul, E., (70) 1010
Saundby, R., (1) 1149, (35) 1364
Savage, G. C., (43) 1068
Savage, G. H., (38) 1688, (9) 1859
Savage, W. E., (23) 377
Savariaud, M., (53) 308, (45) 853, (43) 1619
Savignac, R., (31) 701
Savill, A. F., (45) 1073
Sawins, A. H., (104) 1147
Sawtell, J. E., (173) 1362
Sawyer, J., (7) 1362
Sawyer, J. E. H., (19) 1515
Sawyer, J. P., 1753
Sawyer, W. A., (167) 382, (68) 1202
Saxe, G. A. DeS., (29) 1224
Saxi, P., (132) 1371
Sayce, O. A., (35) 1073
Sayre, L. E., (92) 925
Scaduto, G., (133) 163
Scaltritti, A., (51) 702
Scanes-Spicer, R. H., (10) 157, (19) 226
Scarlett, R. B., (167) 1228
Schabad, J., A., (135) 1695
Schade, H., (64) 1428, (75) 1420
Schaefer, M., (90) 933
Schaefer, T. W., (108) 1762
Schaeffer, J. P., (88) 777
Schafer, A. F., (75) 1421
Schäfer, E., (9) 1362
Schalek, A., 1140, (17) 1758
Schalit, M. A., (18) 306
Schamberg, J. F., (88) 223, *347, 453, (129) 459, (52) 776, *1433
Schanz, A., (106) 161, (136) 935
Schanz, F., (94) 1155
Schauta, F., (110) 465, (103) 1370
Schede, (67) 463
Scheel, O., (133) 786
Scheel, V., (118) 1432
Scheffzek, F. A., (155) 551
Scheglmann, A., (159) 858
Scheidemandel, E., (105) 856
Schenck, W. E., 687
Schenk, F., (101) 161, (89) 1623
Schepelmann, E., (137) 467, (100) 705, (125) 1077, (87) 1301
Scherck, H. J., 535, (101) 778, (79) 924, (31) 1224
Scherer, A., (88) 1520
Schereschewsky, J., (59) 1767, (43) 1908
Schermerhorn, J., 1261
Schern, K., (46) 1909
Scherschmidt, (94) 933
Schertlin, (55) 625
Schickele, G., (70) 309, (87, 88) 310, (105) 628
Schidorsky, H., (116) 312
Schieck, F., (71) 1621
Schiele, G. W., (128) 80
Schievelbein, (61) 625
Schildecker, C. B., (46) 1292
Schilder, P., (130) 935
Schiller, A., (73) 1428
Schilling, F., (80) 309
Schilling, H., (122) 1769
Schilling, V., (126) 1078
Schindler, C., (80) 463
Schippers, J. C., (107) 856
Schiro, S., (73) 303
Schirrmann, H. A., (11) 1223
Schittenhelm, A., (81) 1622, (71) 1863
Schlapp, M. G., (64) 1146, (154) 1362
Schlayer, W., (89) 463, (96) 1692
Schleinzer, J., (85) 1863
Schleisiek, B., 831
Schleissner, F., (117) 1156, (116) 1304
Schlesinger, A., (85) 1301
Schlesinger, E., (119) 856, (84) 1233
Schlesinger, F., (44) 1765
Schlimpert, H., (86) 229, (149) 1306
Schloessmann, H., (68) 463, (91) 1368
Schloss, E., (149) 82
Schloss, O. M., (98) 154, (37) 1068, (156) 1228
Schlueter, R. F., (145) 1617
Schlutz, F. W., (105) 706
Schmid, H. H., (132) 935
Schmidt, A., (132) 466, (130) 550, (73) 1153, (76) 1767
Schmidt, E., (93) 547
Schmidt, H., (60) 545, (84) 1368
Schmidt, H. E., (88) 1430
Schmidt, J. E., (108) 547
Schmidt, L. E., (85) 1761, 1750, 1843
Schmidt, P., (87) 1234, (67) 1518
Schmidt, T., (83) 1622
Schmidt, W., (132) 1305, (121) 1514
Schmidt-Nielsen, S., (164) 390
Schmieden, V., (161) 82, (84) 1520
Schmiegelow, E., (142) 707
Schmilinsky, H., (100) 547
Schmitt, A., (108) 79, (93) 229
Schmitt, A. E., (152) 305, (27) 1292
Schmitt, L. S., (157) 382
Schmoll, E., (58) 456
Schnaudigel, O., (130) 1514
Schneider, K., (86) 229
Schneller, A., (99) 1155
Schneyer, J., (6) 376
Schnitter, A., (135) 1305
Schnitzler, J., (74) 1233
Schober, P., (76) 1154
Schoemaker, J., (119) 162, (74) 1075
Schoenborn, S., (101) 547
Scholes, S. V., (34) 1619
Scholtz, W. W., (72) 228
Scholz, B., (95) 1302
Scholz, F., (80) 160
Schönwerth, A., (113) 79
Schottin, W. R., (123) 1077
Schottmüller, H., (86) 1234, (64) 1518
Schrager, V. L., (49) 1068
Schramek, M., (112) 162
Schreiber, G., (47) 307, (59) 308
Schreiner, O., (33) 923
Schreyer, O., (70) 1518, (104) 1864
Schriber, G., (45) 1009
Schröder, (97) 1234
Schroeder, (87) 1622
Schroeder, P., (83) 933
Schroeter, L., (11) 1757
Schrumpf, P., (114) 311
Schubert, G., (82) 1429
Schüle, A., (105) 387, (124) 549, (72) 932
Schüller, L., (82) 1233
Schulman, M., 986
Schultz, C. A., (81) 1146
Schultz, F. W., (23) 1357
Schultz, J. H., (84) 933
Schultz, O. T., (164) 1296
Schultz, W. H., (52) 589, (27) 1224
Schultze, E., (72) 1153
Schulz, H., (98) 387, (131) 1694
Schulze, W., (96) 387
Schumacher, E. D., (59) 625
Schumburg, W., (39) 1908
Schurmeier, F. C., (120) 381
Schütz, J., (66) 1690
Schutze, A., (92) 1076
Schwalm, E., (120) 1304
Schwartz, B., (40) 221
Schwartz, E., (36) 702
Schwartz, G., (105) 1155
Schwartz, H. J., (8) 1510
Schwartz, M., (106) 934
Schwartz, T., 718
Schwarz, C., (98) 705
Schwarz, G., (112) 388, (66) 1366
Schwarz, O., (101) 1013
Schwenter, J., (134) 312
Schwinn, G. H., (127) 224
Schwinn, J., (84) 379
Schwyzer, A., (40) 378
Scime, N., (117) 1013
Scordo, F., (114, 115) 1624
Scott, A. C., (87) 73
Scott, C. T., (13) 1613
Scott, G. D., (136) 156, (6) 1510
Scott, J. C., 606, (74) 924, (17) 1143, (97) 1147, (40) 1224
Scott, J. H., (110) 1423
Scott, J. N., (91) 1070
Scott, K., (95) 1686
Scott, N. S., (21) 617
Scott, S., (6) 75, (21) 623
Scott-Carmichael, E., (44) 1299
Scoville, S., (114) 1147
Scrimger, F. A. C., (93) 541
Scripture, E. W., (20) 69, *420, *1168
Scudder, C. L., (80) 379, (19) 694
Seaborn, G. F., (29) 1357
Searcy, J. T., (4) 1853
Sears, F. W., (95) 622
Seay, T. H., 1504
Secher, K., (127) 1235, (185) 1698
Secor, W. L., (18) 69, (73) 620, (101) 622
Sedgwick, W. T., (118) 224, (39) 538
Seel, E., (77) 1233
Seelig, M. G., 218, (48) 1068
Seeligmann, L., (96) 933
Seeligsohn, W., (135) 81
Seggel, R., (107) 79
Seglas, J., (53) 781
Seguinot, (62) 1690
Seibert, A., (6) 921
Seidel, E., (32) 69
Seidel, H., (110) 230
Seidelin, H., (22) 158
Seiffert, G., (74) 228
Seiler, F., (79) 1501
Seitz, L., (87) 705
Seligmann, C. G., (19) 1150
Sellards, A. W., (30, 31) 695, 736
Sellei, J., (118) 934, (111) 1303
Sellers, E. D., (135) 1226
Sellheim, H., (79) 229, (114) 230, (121) 466, (51) 1152
Seltz, L., (115) 230
Semeleder, O., (118) 1156
Semon, M., (156) 551, (144) 858
Sen, H., (17) 780
Senator, H., (97) 1302, (138, 139) 1371
Senator, M., (74) 783, (73) 1767
Senger, E., (49) 1427
Senger, W., (58) 379
Senour, O. E., (76) 1615
Senour, W. E., (87) 380
Sequeira, J. H., (28) 852
Sergent, E., (71) 78, (53) 461
Serog, (94) 627
Serrallach, N., (49) 1689
Servoss, G. L., (147) 1005
Settel, N., (37) 846
Seufert, E. C., (42) 70
Sever, J. W., (3) 617, (83) 1760
Sewell, H., 1849
Sexton, L., (6) 1853
Seyffarth, (106) 1693
Seymour, J. T., (43) 618
Seymour, M., 528, *1030
Sézary, A., (56) 228
Shackell, L. F., (43) 455, (43) 538
Shaklee, A. O., (73) 1685
Shambaugh, G. E., (92) 777, (139) 1004
Shanahan, W. T., (79) 457
Shands, A. R., (62) 153
Shands, H. R., 1610
Sharp, W. H., (168) 75
Sharpe, N. W., (52) 847, (93) 1225, (22) 1854
Shastid, T. H., (42) 1224
Shattuck, F. C., 1750
Shaw, E. R., (65) 1684
Shaw, F. W., (145) 74, (93) 925
Shaw, H., (21) 1007
Shaw, H. B., (18) 75, (32, 35) 226, (8) 382
Shaw, L. E., (6) 226, (3) 1618
Shaw, T. C., (8) 780
Shea, W. E., (107) 778
Sheen, W., (47) 77
Sheffield, H. B., 332
Sheldon, L., (13) 220
Sheldon, W. H., (4) 150
Sheppard, P. A. E., (81, 82) 1760
Shepperd, A., (37) 781
Sherer, J. W., (104) 880, (29) 1067
Sheridan, J. J., (34) 1224
Sherk, H. H., *718
Sherman, H. M., (54) 1001, *1180, (46) 1614
Sherren, J., (11) 1298
Sherrick, J. L., (3) 1681
Sherrill, J. G., (126) 156, (156) 699, (95) 1003, (44) 1144
Sherwood, W. A., (30) 1357
Shidler, G. W., (31) 152
Shields, E. H., (13) 617
Shimodaira, K., (124) 312
Shiner, W., (39) 1856
Shipley, A. E., (81) 843, (101) 1686
Shipp, E. M., (57) 1358
Shively, H. L., (148) 927
Shoemaker, G. E., 1507, (50) 1683, (106) 1762
Shoemaker, H., (93) 1513
Shook, S. M., 1415
Shorey, E. C., (33) 923
Short, A. R., (8) 1296
Shropshire, C. W., (9) 1854
Shukowsky, W. P., (115) 1694
Shumway, F. W., (97) 1359
Shurly, B. R., (96) 777, (144) 927, (111) 1361
Shute, D. K., (9) 1904
Sibley, W. K., (14) 700, (37) 1688, (21) 1854, (29) 1859
Sicard, J. A., (74) 78, (57) 308
Sichel, M., (77) 1154
Sick, P., (109) 1693, (100) 1864
Sidis, B., (55) 776
Siebeck, R., (102) 311, (97) 1692
Siebelt, J. G., (74) 1767
v. Siebenrock, L., (75) 1767
Siegel, W., (93) 1863
Siegert, F., (83) 1429
Siegheim, M., (64) 703
Sieskind, R., (90) 1234
Siever, C. M., *442
Sievers, R., (111) 1076
Signorelli, A., (144) 314
Sill, E. M., (17) 300, (31) 1357, (99) 1422
Silver, D., (115) 1616, 1845, 1847
Silverberg, M., (146) 459
Silvestri, T., (127) 231, (184) 860, (141) 1865
Simmons, C. C., (156) 305
Simmons, D. G., (112) 622, (129, 132) 1226
Simnitzki, S. S., (144) 1371
Simon, G., (125) 628, (151) 838, (78) 1691
Simon, J., *743, (117) 1304
Simon, L., (86) 1075
Simonds, J. P., *37, (101) 223, 288, (53) 378, *1100
Simpson, F. F., *553
Simpson, G. C. E., (18, 19) 460
Simpson, W. L., (44) 1224
Simson, H., (20) 928
Sinclair, A. N., *332
Sinclair, H. H., (118) 1003
Sinclair, J. A. B., (144) 381
Sinclair, W. J. H., (49) 384
Singer, C., (21) 1072
Singer, G., (118) 312, (48) 1517
Sinton, J. A., (12) 1424
Sippel, A., (138) 935
Siredey, A., (59) 931
Sison, A. G., (74) 1685
Sisson, E. O., (50) 618
Sites, J. McK., (151) 1362
Sittenfield, M. J., (76) 1512
Sitzenfrey, A., (86) 310, (127) 1157, (159, 165) 1696
Skeel, R. E., (128) 74, 1600
Skilton, A. W., *1446
Skinner, A. H., (21) 1764
Skinner, B., (5) 927
Skinner, C., (157) 699, (154, 155) 1149
Skinner, E. H., (11) 300, (37) 1854
Skinner, W. W., (69) 222, (81) 457
Skornjakoff, A., (84) 463
Slack, F. H., (30) 69
Slade, C. B., (110) 1514
Slaughter, S. G., (103) 1857
Slingenberg, B., (81) 855
Sloan, H. G., (98) 542
Slocum, G., (90) 622
Sluder, G., (45) 70, *867
Smart, I. T., (30) 617, (155) 1005
Smeaton, B., (22) 1619
Smiley, H. H., (76) 1293
Smith, A., (90) 925
Smith, A. M., (61) 222
Smith, C. J., (13) 1362
Smith, C. N., (23) 1067
Smith, D. K., (85) 223
Smith, E., (1) 779, (52) 1001
Smith, E. H., (48) 1001

Smith, E. O., (130) 74, (136) 1071, (16) 1223
Smith, E. T., (142) 305
Smith, F. B., 1502, (141) 1617
Smith, F. C., *245
Smith, F. J., (39) 77, (5) 1229, (16) 1515
Smith, G. A., (160) 75
Smith, G. E., (13) 1007
Smith, G. G., (15) 537
Smith, G. M., (157) 1228
Smith, H. E., (15) 1752
Smith, H. O., 1853
Smith, J., (32) 1619
Smith, J. B., (47) 384, (29) 623, (41) 781, (20) 851
Smith, J. L., 39
Smith, J. W., (118) 381, (154) 382, (9) 1687
Smith, L. L., (10) 220, (60) 1358
Smith, P. A., 1345
Smith, P. C. C., (37) 461, 507
Smith, R. J., (140) 157, (94) 1293, (147) 1362
Smith, R. K., (29) 1292
Smith, R. M., (9, 13) 844
Smith, S., (26) 1682
Smith, S. McC., (59) 1512
Smith, T. L., (128) 1235
Smith, W. G., (32) 852
Smith, W. K., (120) 1226
Smith, W. R., *833
Smithies, F., (35) 1613
Smithson, O., (21) 226
Smyly, C. P., (27) 1364
Smyly, W. J., (43) 781
Smyth, D. C., (101) 458
Smythe, F. D., (45) 1224
Smythe, H. F., (18) 1418
Snodgrass, W. A., (65) 1002, (74) 1293
Snover, C. H., *1799
Snow, C., (67) 1421
Snow, L. W., (110) 778
Snow, W. B., (97, 99) 622, (64) 1512
Snoy, F., (71) 704
Snydacker, E. F., (152) 1296
Snyder, C. B., (84) 541
Snyder, H. L., (172) 1362
Snyder, J. R., (90) 1147
So, (134) 1371
Sobotka, P., (91) 387
Søegaard, M., (72) 463
Sohn, D. L., (73) 72
Soiland, A., (52) 456
Solano, C., (88) 1154
Solger, F. B., (120) 934
Solieri, S., (140) 163, (63) 228, (82) 386, (119) 389, (121) 857, (65) 1690
Søllling, H. A., (126) 1235
Solms, E., (124) 163, (72) 1690
Solomon, M., *956, (10) 1143
Solomons, B. A. H., (3) 622, (35) 1688
Solow, J. W., (71) 72
Somers, G. B., *1444
Somerville, W. G., (122) 1616
Sommer, E., (102) 1076
Sommes, J. F., (35) 221
Sonne, C., (145) 314, (147) 1371, (181) 1698
Sonnenberg, E., (40) 1516
Sonnenberg, P., (81) 1863
Sonntag, E., (42) 1516, (55) 1766
Soper, H. W., *263
Sophian, A., (58) 1145
Sörensen, (113) 1370
Sørensen, J., (119) 1769
Soresi, A. L., (105) 849, (13) 1143, (144) 1148
Sorge, F. G., (122) 1304
Sorgo, J., (141) 467
Souchon, E., *882
Soule, R. E., (38) 1758
Sourdel, M., (48) 1620
Southard, J. D., (28) 1511
Souther, C. T., (35) 1292
Southworth, T. S., *326, 405
Soutter, R., (1) 1356, (44) 1758
Sowade, H., (41) 1516
Spaeth, F., (76) 1621
Spannaus, K., (135) 935
Spät, W., (116) 1304
Spear, E. D., 916
Spear, I. J., (46) 378
Spear, R., (129) 381
Speed, K., (67) 1684
Speidel, W. C., (43) 301
Speik, F. A., *882
Spellissy, J. M., (41) 1683
Spelta, G., (114) 1769
Spence, T. B., (132) 1423
Spencer, J. C., (78) 924
Spencer, W. G., (33) 383, (5) 622
Spencer, W. O., (169) 382
Spengler, L., (82) 1075, (130) 1078
Spicer, R. H. S., (16) 75
Spiethoff, B., (92) 705
Spiller, W. G., (64) 456
Spilsbury, B. H., (29) 158
Spitz, M. M., (88) 1513
Spivak, C. D., (153) 75, (13) 454
Splendore, A., (182) 860
Spooner, L. H., (23) 220, (6) 1756
Sprengel, O., (157) 552
Spriggs, E. I., (32) 1687
Squier, J. B., (23) 1682
Squire, J. E., (31) 307
Stadelmann, H., (85) 386
Stadtmüller, N., (101) 849
Staehelin, R., (62) 625, (68) 1621
Stafford, C. M., (103) 542
Stallard, H. H., (129) 1071
Stålberg, K., (121) 1769
Stange, W., (88) 1301
Stanley, A. C., (143) 381
Stannus, H. S., (15) 1859
Stanton, A. T., (20) 157
Stanton, E. MacD., (148) 1296, 1507
Stanton, J. G., (89) 458
Staple, J. D., (16) 928
Stapler, D. A., (110) 1303
Staples, H. L., (167) 75
Stark, A. C., (42) 1073
Stark, J. N., (19) 928
States, G. W., (134) 851
Stauffer, F., (81) 1225
Stauffer, W. H., (97) 223
Stavely, A. L., (47) 1856
Stawell, R. R., (32) 1073
Stayer, A. S., (48) 302
Stedman, H. R., (1) 1067
Steedly, B. B., (106) 223, 1835
Steele, A. J., 1847
Steele, D. A. K., (16) 774
Steffenhagen, K., (117) 80
Steffens, P., (139) 407, (87) 1768
Stein, C., (87) 1154
Stein, R. O., (116) 1156
Stein, V. S., (32) 1008
Steindl, H., (118) 162
Steindler, A., (50) 1358
Steinhardt, I. D., (23) 1292
Steinitz, E., (165) 82
Steinitz, F., (105) 548
Stemen, C. M., (144) 74
Stengel, A., (56) 456, (84) 1857
v. Stenitzer, R., (75) 1368
Stephan, (92) 1368, (68) 1862
Stephen, L. P., (21) 780
Stephens, G. A., (8) 157
Stephens, J. W. W., (22) 460
Stephens, T. G., (69) 1512
Stephenson, S., (17) 157, (88) 622, (18) 1515
Stern, A., (86) 1422
Stern, C., (86) 160, (99) 464, (50) 1365
Stern, F., (134) 1078
Stern, H., (103) 849
Stern, J. B., (28) 1682
Stern, R., (118) 389, (161) 1696, (83) 1767
Stern, S., 998
Stern, W. G., (82) 379, (140) 1071
Sternberg, G. M., (45) 1856
Sternberg, M., (101) 229, (102) 1303
Sternberg, W., (146) 467
Stevens, E. A., (96) 380
Stevens, G. T., (3) 220, (11) 454, (7) 1223, (168) 1617, (97) 1686
Stevens, H., (7) 1296
Stevens, J. W., (29) 923
Stevens, T. G., (26) 929
Stevenson, E. S., (23) 75
Stevenson, G. E. P., (73) 1069
Stevenson, M. D., *262
Stewart, A. D., (18) 780
Stewart, A. H., (22) 69, (29) 1682
Stewart, D. H., (24) 617
Stewart, F. E., (137) 1423, 1676
Stewart, G. McG., (73) 1225
Stewart, G. N., (53) 1856
Stewart, H. A., (28) 774
Stewart, J., (84) 1685
Stewart, J. C., 66, (19) 1067, (51) 1683
Stewart, P., (14) 1229
Stewart, W. G., (48) 222
Stickel, M., (55) 1010
Sticker, A., (123) 466
Sticker, G., (103) 856
Stidger, I. R., (142) 1361
Stieda, A., (51) 1365
Stieda, C., (53) 1152
Stiles, C. W., *255, 831, (59) 847, (5) 1853
Stiles, P. G., (36) 69
Still, G. F., (46) 77
Stiller, B., (69) 625, (63) 1010
Stillman, R. G., (102) 925, 1605
Stimson, C. M., *964
Stirling, R. A., (20) 306
Stirman, W. F., (100) 73
Stitt, E. R., (76) 1359
St. John, W. B., 1355
Stock, W., (105) 1076
Stocker, S., (132) 629
Stockman, R., (3) 851
Stockton, C. G., (102) 1293, (12) 1757
Stoddart, W. H. B., (34) 1008
Stoeckel, W., (85) 79
Stoker, H., (24) 1298
Stokes, C. F., (2) 454, (125) 1147, 1403
Stokes, J. E., (47) 1511
Stokes, W. R., (42) 538
Stoll, H. F., (63) 456, (66) 776, (108) 1003
Stoll, K. L., (33) 1000
Stolte, K., (130) 857
Stone, B. H., (32) 455, (149) 1227
Stone, H. G., 1502
Stone, R. C., (101) 1070
Stoner, H. W., (53) 618, (144) 1617
Stoner, W. C., (56) 1614
Stoney, R. A., (48) 384, (26) 1364, (12) 1514, (24) 1859
Stopford, G. G., (28) 1151
Storck, J. A., (70) 1225, (104) 1513, (117) 1616
Story, J. B., (25) 1364
Stott, H., (42) 383
Stout, G. C., (60) 1512
Stover, C., 1284, 1351, (13) 1757
Stowe, H. M., (30) 301, (66) 1684
Stowell, W. L., 444
Strachauer, A. C., *710, (94) 1761
Strada, F., (116) 628
Strandberg, O., (57) 703
Strandgaard, N. J., (146) 707, (129) 786
Strangman, C. L., (28) 1298
Strasburger, J., (156) 82, (63) 1518
Straschesko, N. D., (66) 932
Strassberg, M., (119) 628
Strasser, A., (141) 81
Strasser, A. D., (8) 1000
Stratford, E. P., (14) 1618
Straub, P. F., (53) 1358
Strauch, F. W., (105) 311
Straus, N., (74) 1002
Strauss, A., (134) 466
Strauss, I., *1192, (60) 1292
Strauss, S., 616
Straw, Z. L., 1851
Streissler, E., (66) 463
Streit, H., (66) 1518
Streitmann, W. H., (37) 1758
Stretton, J. L., (30) 781
Strickland, C., (15) 1687
Strine, H. F., (139) 381
Strobel, E. R., (143) 1005
Strobel, H., (111) 1370
Strobell, C. W., (98) 622, (51) 1420
Strofeni, L., (150) 1306
Strong, L. W., (107) 849, (25) 1000
Strong, M., (128) 1148
Strong, R. P., (34) 695, (93) 1012, (97) 1225
Strosnider, C. F., *1024
Strösznер, E., (77) 783
Strother, P. M., (89) 1146
Stroud, H. E., (96) 1761
Strouse, S., (91) 848, *1171
Strunsky, M., (23) 538, (154) 1228, *1259
Stuart-Low, W., (2) 459
Stubbs, J. E., (122) 381
Stucken, H. M., (85) 1622
Stuckey, J. A., (50) 71, (124) 1071, (160) 1362
Stuertz, E., (72) 1863
Stuhl, C., (79) 160
Stühmer, A., (92) 784, (122) 934, (142) 1695
Stumpf, J., (94) 1234
Stümpke, G., (118) 1694
Sturge, M. D., (5) 454
Sturm, F. P., (4) 1858
Sturm, J., (95) 1864
Sturmann, W., (62) 782
Stursberg, H., (111) 856
Sturup, J., (129) 1235
Stuver, E., (79) 1225
Styles, R. C., (48) 1073
Sucha, W. L., (128) 305
Suchier, W., (64) 1232
Suckling, C. W., (36) 461, 1350, 1393
Sudeck, P., (124) 857, (80) 1622
Sudler, M. T., (49) 539, 988
Suess, E., (141) 467, (97) 1623
Suggett, O. L., (10) 1223
Sullivan, A. B., (88) 457
Sullivan, A. S., (19) 1223
Sullivan, J. J., (114) 849
Sumita, M., (88) 627
Summer, P., (49) 1614
Summers, J. E., 299, (78) 1070, 1141, (159) 1617, *1699
Summons, W. H., (33) 1619
Sumpter, W. D., 1356
Sundbury, P. A., (91) 1293
Surveyor, N. F., (21) 460
Sutherland, G. A., (8) 226
Sutherland, H. L., 239, 1611
Sutherland, M. H., (112) 1071
Sutter, C. C., (2) 376
Sutton, J. M., *1309
Sutton, R. L., (84) 223, *344, (1) 617, (43) 696, (23) 1854, (72) 1857
Sutton, W. S., *737, (76) 847
Swan, J. M., (27) 152, (2) 376, (71) 457, (57) 847, 1505
Swan, W. H., (13) 1291
Swartz, J. L., (6) 1681
Swift, H., (97) 154, (83) 621, 1353
Swift, W. B., (58) 776
Swinburne, G. K., (131) 1617
Swiney, M. A., (162) 1006
Swingle, L. D., (115) 1147
Sycle, M. C., (91) 154
Syme, W. S., (21) 1859
Symes, J. O., (5) 542
Symmers, D., (44) 70, (98) 1686
Symonds, C. J., (49) 77
Syms, P., 1506
Synnott, M. J., (112) 1858, *1715
v. Szontagh, F., (105) 464, (53) 545

T

v. Tabora, D., (112) 856
Taddei, D., (50) 1299
Takaki, Y., 1557
Takayasu, (89) 463
Talbot, F. B., (12) 844, (129) 857, (49) 924, (35) 1068, *1715
Tallant, A. W., (104) 542
Talley, D. D., (97) 542
Talmey, M., (8) 220
Tambach, R., (126) 466
Tamburini, A., (133) 857
Tanaka, T., (111) 162, (99) 229, (144) 550, (62) 1366, (89) 1430
Tanfani, G., (120) 231
Tansini, I., (140) 706, (166) 1372
Tanton, J., (62) 308
v. Tappeiner, H., (110) 934, (91) 1076
Tashjian, A. H., (81) 72
Tate, M. A., 903
Tatum, J. S., (126) 1071
Tauber, E. B., (13) 617
Taussig, F. J., (26) 617
Tavernier, L. T., (60) 77
Taylor, A. E., *263, *419, (77) 697, (35-37) 923
Taylor, A. M., (121) 74
Taylor, F., (40) 158, (14) 226, (32) 383
Taylor, G. S., (5) 1905
Taylor, H. L., (104) 458
Taylor, J., (50) 77, (9) 1514, (31) 1619, (18) 1859
Taylor, J. M., (71) 924, (156) 1005
Taylor, R. S., (29) 1364
Taylor, R. T., (123) 926
Taylor, S., (30) 383, (26) 1230, (36) 1364, (27) 1425
Taylor, W., (43) 1299, 1555
Taylor, W. H., (174) 1617
Taylor-Jones, L., (83) 1422
Teacher, J. H., (29) 1364
Teachnor, W., (138) 1071
Tebbutt, A. H., (26) 383, (13) 1906
Teissier, J., (141) 706, (54) 1010, (90) 1520
Teleky, L., (100) 1623
Telemann, W., (60) 1767
Telling, W. H. M., (11) 543, (118) 1295
Ten Doeschate, A., (36) 929
Tennant, C. F., (168) 305, *1445
Tenney, B., (9) 454, (35) 1683
Terrell, E. H., (115) 542
Terrien, E., (49) 853, (56) 1074
Terrill, J. J., (111) 380
Terry, B. T., (6) 1291
Terry, W. I., (51) 1001
Terson, A., (58) 1689
Teske, H., (114) 706
Teter, C. K., (21) 377
Teuffel, R., (136) 1157
Tewksbury, W. D., (89) 154
Thacher, J. S., (12) 1291
Thaler, H., (33) 1516
Thayer, A. E., (56) 847
Thayer, W. S., (63) 222, (18) 774, (89) 848, (23) 922, (98) 925, (83) 1002, (108) 1294, (4) 1612
Theilhaber, A., (132) 1078, (130) 1157, (35) 1516
Theilhaber, F. A., (97) 1012
Therstappen, (92) 387
Thies, A., (150) 1372
Thies, J., (72) 309
Thom, V., (126) 857
Thoma, R., (148) 1696
Thomas, B. A., (105) 778, (57) 924, (56) 1420, (73) 1519
Thomas, C. P., (72) 153, (128) 851, (91) 1003
Thomas, H. G., (41) 1001
Thomas, J. B., *1380
Thomas, J. J., (27) 774
Thomas, J. L., (21) 1363
Thomas, M., (58) 1074
Thomas, R. E., (74) 153
Thomas, T. T., (157) 305, (148) 1148, (153) 1362
Thomas, W. S., (15) 1291
Thomasson, W. J., (111) 622, (72) 1615
Thompson, D., (17, 18) 460
Thompson, E. C., (35) 1357
Thompson, G. E., (43) 847
Thompson, J. A., (112) 1361
Thompson, M. G., (173) 305
Thompson, M. K., (61) 539
Thompson, R. L., (56) 1681
Thompson, W. G., 348, 1849, 1852
Thompson, W. H., (21) 306
Thompson, W. N., 139
Thompson, W. O., (84) 1615
Thompson, W. R., (102) 622
Thomsen, O., (149) 314, (97) 856, (122) 1235, (183) 1698, (64) 1862
Thomson, D., (18) 1238

Thomson, H. C., (34) 461
Thomson, J. C., (26) 623
Thomson, J. G., (6) 1296, (19, 21) 1298
Thomson, J. J., (139) 225, (92) 541
Thomson, J. W., (168) 859, (5) 1071
Thomson, W. H., (1) 1143
Thomson, W. J., 1345
Thomson, W. R., (16) 1510
Thorington, J., (150) 225, (92) 622
Thorner, W., (72) 1233
Thornhill, F. M., (15) 1854
Thrailkill, E. H., (96) 223, (129) 1295
Thrailkill, G. H., (59) 1225
Thresh, J. C., (13) 226
Thro, W. C., (83) 621
Throckmorton, T. B., *1311
v. Thun, H., (188) 1698
Thursfield, H., (34) 781
Tibbles, W., (9) 1006
Tice, F., (137) 1004, 1843
Tidy, H. L., (16) 382
Tièche, (80) 546
Tiegel, M., (60) 625, (105) 1235, (147) 1306
Tierlinck, A., (94) 223
Tigert, H. M., 1287
Tileston, W., (70) 776
Tilly, W. T., (50) 153, (10) 1514
Timberlake, G., (79) 697, (86) 1225
Tinel, J., (51) 1009
Tinker, M. B., 1505
Tirard, N., (17) 1425
Titow, I., (62) 545
Tittinger, W., (113) 162, (76) 1519
Tixier, L., (41) 307, (44) 853, (66) 854, (30) 1230
Tobie, W. E., (15) 220
Tobiesen, F., (147) 707, (186) 1698
Todd, F. C., (53) 924
Todd, G. M., (83) 1615
Todd, J. L., (80) 540, (102) 1359
Todd, W. J., (87) 1225, (143) 1617
Todyo, R., (90) 79, (103) 1431
Toepel, T., (156) 1617
Toler, E. M., (68) 1225
Tomarkin, E., (74) 1368
Tomaszewski, E., (81) 704, (36) 1242, (68) 1862
Tomaselli, A., (161) 1372
Tomb, H. F., (51) 1512
Tompkins, J. M., (25) 152
Tompkins, McC., (84) 1293
Tonney, F. O., *713
Toogood, F. S., (16) 226
Tooth, H. H., (19) 544
Torbett, J. W., (110) 156, (79) 303
v. Torday, A., (89) 933
Tornai, J., (59) 782
Torpey, J. F., *742
Torney, G. H., 1403
Török, E., (126) 1514
Torrance, G., *896, (107) 1294
Torrens, J. A., (14) 460
Toscani, E., (108) 1769
Touraine, A., (46) 853
Tousey, S., (112) 1762
Touton, K., (92) 311
Towle, H. P., (83) 223
Towles, C., (110) 706
Towner, O. I., (109) 1361
Townley, J. T., (139) 851
Townsend, J. B., (44) 847
Townsend, T. M., (116) 1762
Toyofuku, T., (63) 159
Tracy, S. E., (27) 617, (62) 1420
Tramonti, E., (135) 630
Traube, J., (73) 783, (97) 933, (59) 1152
Trautmann, H., (80) 1011
Trawick, J. T., (80) 777
Treadway, W. L., (64) 1615
Tredgold, A. F., (35) 461, 1391
Treille, R., 836
Trembur, F., (100) 311
Tresilian, F., (24) 306
Treupel, G., (90) 784, (160) 858
Trèves, A., (45) 1009
Tria, G., (143) 164
Trible, G. B., (130) 381, (75) 1359, (42) 1511
Triboulet, H., (45) 853, (43) 1008, (42) 1860
Trigg, J. M., (60) 539
Trimble, W. B., *650, (3) 773, (13) 1000, (41) 1613
Trinca, A. J., (36) 1073
Truche, C., (38) 624, (55) 1073
Truffi, M., (167) 552
Trumpp, J., (91) 1155
Trunk, H., (100) 1234
Truslow, W., (54) 153, (131) 1423
Tscherning, E. A., (126) 1769
Tschumakow, (145) 1306
Tsunoda, T., (140) 550, (117) 1864
Tuck, G. L., (10) 1618
Tucker, B. R., *246, (45) 1511
Tuckey, C. L., (45) 461
Tuffier, T., (33) 1765
Tugendreich, G., (67) 782
Tuley, H. E., 211
Tunis, J. P., (66) 456
Tunnicliff, R., (136, 137) 1361
Tuohy, E. L., (24) 1357
Turck, F. B., (102) 849, 1754
Turck, R. C., (153) 305, 1497, 1841
Turin, M., (72) 386
Turnau, L., (69) 545
Turner, A. L., (22) 780
Turner, C. H., (108) 778
Turner, G. R., (20) 623
Turner, J. S., (178) 1618
Turner, O. W., (141) 225
Turner, P., (18) 1150
Turpin, T. J., 288
Tuschinski, M., (75) 626
Tuttle, J. P., (19) 1143, 1646, 1831
Tweedie, H. V., (108) 1226
Tweedy, E. H., (17) 1907
Twinch, S. A., (132) 224
Twort, F. W., 349
Tyler, J. M., (117) 224
Tyrode, M. V., (4) 1223
Tyson, J., 211, 443, (96) 1686, 1751
Tyson, T. M., (145) 459
Tyzzer, E. E., (142) 1005

U

Uchermann, V., (141) 231
Uffenheimer, A., (124) 934
Uffenorde, W., (88) 1768
Ugolini, A., (117) 1013
Uhle, A. A., (56) 1512
Uhlenhuth, P., (81) 546, (87) 783, (46) 1427
Uibeleisen, K., (108) 161
Ullman, K., (121) 628
Ullmann, I., (70) 1910
Ulrich, J., (2) 1905
Ulrich, M., (3) 1909
Ulrichs, (111) 1693
Underhill, F. P., (84) 303, (40) 618, (34) 923
Underwood, F. J., 1609
Ungar, K., (121) 1156
Unna, P., (95) 1076
Unna, P. G., (82) 1154
Upshur, J. N., 1064
Ure, E., (20) 1007
Urioste, J. P., (51) 702
Urriola, C. L., (58) 462
Uthmöller, J. A., (140) 1865

V

Vail, D. T., (20, 23) 300, (20) 455
Vaillant, (46) 1152
Vaillard, L., (38) 1426
Valensi, L., (155) 1372, (34) 1908
Valentine, J. J., (116) 1762
Valerio, F., (183) 860
Vallack, A. S., (29) 1298
Vance, A. J., (26) 1854
van den Bergh, A. A. H., (78) 855
Van Der Hoeve, J., (80) 621
Vanderhoof, D., (44) 1511
Van Derslice, J. W., (119) 381
Vandini, D., (159) 468
Vandivert, A. H., *180
Van Duyn, J., (44) 221
van Hoogenhuyze, C. J. C., (36) 929
Van Meter, B. F., (95) 380, (114) 1226
Van Meter, S. D., *863
Van Peyma, P. W., (162) 1296
Van Slyke, D. D., (21, 24) 1758
Vanverts, J., (33) 929, (58) 931
Van Zandt, C. B., (150) 75
Van Zwaluwenburg, J. G., (94) 925, 1850
Vaquez, H., (32) 702
Variot, G., (46) 307, (59) 1074, (43) 1860
Varney, H. R., (116) 156
Vaucher, E., (55) 781
Vaucher, R., (43) 545
Vaughan, G. T., (46) 1144, (46) 1856
Vaughan, V. C., 995, 1848, 1850
Veasey, C. A., (132) 851, (70) 1760
Veasey, C. T., (91) 622
Veau, V., (62, 63) 1300, (51) 1620, (41) 1860
Vecchi, A., (134) 1695
Vedder, E. B., (61) 1358, (21) 1510
Vedova, T. D., (139) 318
Veeder, B. S., (64) 620
Veer, A. V., (34) 1419
Veit, J., (103) 1024
von den Velden, R., (90) 705, (89) 1768
Venable, C., (175) 1618
Venable, C. S., (57) 696
Venus, E., (69) 228, (163) 552
Veraguth, O., (74) 160
Verbrycke, J. R., (21) 846, (124) 1423
Verdi, W. F., (95) 458
Verdon, H. W., (5) 1149
Verge, A., (4) 305
Vermes, L., (155) 1696
Verhoeff, F. H., *1326
Vidal, A., (85) 1767
Vidal, E., (43) 930
Videbech, (146) 314
Vierhuff, W., (80) 1011
Vietor, A. C., (2) 617
Vincent, B., (15) 844, (17) 1682
Vincent, C., (53) 931
Vincent, F. W., (61) 1001
Vincent, G. E., 767, *894
Vincent, H., (48, 49) 159, (47) 781, (63) 1074
Vincenzi, L., (144) 164
Vincenzo, G., (147) 1866
Vineberg, H. N., (61) 1420, (7) 1904
Violet, J., (60) 1615
Violle, L., (29) 1516
Vipond, A. E., (4) 1149, (81) 1422
Vitry, G., (27) 544
Voeckler, T., (87) 546
Voegtlin, C., (67, 68) 1759
Voelcker, F., (50, 57) 1861
Vogel, C. W., (20) 1000
Vogel, K., (99) 1431, (3) 1756
Vogel, M., (133) 389
Vogt, I. H., (128) 857
Vogt, H., (116) 1694
Voight, C. B., (47) 152
Voigt, J., (148) 467
Voisin, R., (37) 624, (38) 702, (48) 930
Volk, R., (104) 1076
Volpino, G., 139
Vonwiller, P., (116) 1864
Voorsanger, W. V., (92) 1225

W

Wackers, (94) 705
Wade, B. N., *743
Wade, E. M., (30) 69, *809
Wadlington, W. J., (175) 305
Wadsack, E., (84) 229
Waggett, E. B., (15) 75
Wagner, A., (79) 1863
Wagner, C., (166) 1006, (63) 1615
Wagner, G. A., (124) 466
v. Wahl, A., (143) 1306
Wahrer, C. F., (159) 927
Waite, F. C., 995
Wakeman, A. J., (129) 1361, (30, 31) 1758
Walbum, L. E., (78) 783
Walcher, G. A., (109) 628, (93) 705
Waldo, F. J., (43) 158
Waldow, (139) 81
Waldvogel, R., (111) 548, (43) 1516
Walker, A. A., (93) 1147
Walker, A. W., (11) 844
Walker, C. E., (17) 1763
Walker, F. E., (139) 779
Walker, G., (8) 1612
Walker, I. C., (23) 1905
Walker, J. B., (136) 1296
Walker, N. P., *955, 1754
Walker, O. D., (88) 925
Walker, W. K., (93) 303, 484, 658, (92) 1857
Wall, F., (26) 1072
Wallace, A. J., (26) 306
Wallace, F. E., 835
Wallace, R., (16) 220
Wallace, W. L., (100) 223, (96) 622, (58) 696
Wallace, W. T., (109) 1226
Wallenberg, A., (76) 160
Waller, J. J., (142) 74
Wallerstein, P. S., (62, 63) 1152
Wallhauser, H. J. F., (166) 1228
Wallis, F. C., (16, 20) 544, (22) 623, (116) 1295
Walsh, D., (38) 158, (19) 851
Walsh, F. C., (64) 303
Walsh, J., (153) 1148, *1638, (88) 1857
Walson, C. M., *1654, (116) 1858
Walter, E., (69) 1767
Walterhöfer, F., (90) 855
Walterhöfer, G., (79) 704, (60) 1152
Walters, J., (146) 225
Walthard, M., (61) 1767
Walther, P., (72) 932
Walzer, F., (83) 229
Wandless, H. W., (6) 220
Wannamaker, T. E., 1679
Warbrick, J., C., (114) 156, (22) 1682
Warburg, O., (154) 858
Ward, G. H., (89) 698, (5) 1514
Ward, W. D., (68) 1069
Ware, M. W., (155) 305, (133) 1617
Warfield, L. M., (42) 924, (89) 1513, (5) 1612
Warfield, M., (53) 847
Warhurst, M. A., (57) 1225
Waring, H. J., (17) 1687
Warner, N. S. H., (13) 780
Warren, C. E., (109) 1513, (108) 1686
Warren, G. W., (67) 303
Warren, L. E., *441, *1591
Warren, L. F., (94) 925
Warrington, W. B., (19) 157
Warthin, A. S., (96) 848, 1601
Washburn, R. E., (148) 699
Washburn, R. G., *1095
v. Wasielewski, T., (104) 628
v. Wassermann, A., (119) 1304
Waterhouse, R., (5) 1006
Waterman, J. S., (14) 1757
Wathen, J. R., 141
Wathen, W. H., (92) 380, (81, 82) 777
Wätjen, J., (54) 1152
Watkins, J. A., (106) 154
Watkins, J. C., (51) 153
Watkins, J. G., (68) 1002
Watkins, J. T., (99) 698, (30) 1613
Watkins, T. J., (95) 1761
Watson, A., (24) 383
Watson, F. S., (8) 454
Watson, H. G., (33) 1224, *1800
Watson, L. F., (64) 1420
Watters, W. H., (2) 1290, (36) 1613
Watts, S. H., 140, (121) 1004
Waugh, G. E., (17) 544
Waugh, W., (118) 1762
Waugh, W. F., (34) 152, (109) 224, (16) 454, (39) 1224, (82) 1225, (32) 1419, (88) 1761
Waxham, F. E., (138) 157
Weaver, G. A., 1858
Weaver, G. H., *1795
Weaver, J. K., (75) 153
Weaver, J. S., (28) 1067, (39) 1420
Weaver, T., 1355
Webb, C. S., (120) 1762
Webb, G. B., (71) 540, (162) 699
Webb, J. C., (11) 1514
Weber, E. P., (9) 543
Weber, F., (101) 1623
Weber, F. P., (31) 624, (7) 927, (22) 1150
Weber, H., (68) 1518
Weber, L., (3) 454
Webster, G. W., (15) 774
Webster, J. C., 1280, 1672
Wechselmann, W., (138) 74, (121) 80, (135) 81, (41) 221, (59) 1232, (61) 1366, (58) 1621, (103) 1693
Weichardt, W., (66) 704, (81) 1622, (71) 1863
Weichert, M., (59) 1621
Weichselbaum, A., (110) 785
Weidenfeld, S., (124) 628
Weidler, W. B., (5) 537, (47) 618, (145) 1423
Weidner, C., (77) 777
Weigert, E., (39) 544
Weihrauch, K., (86) 855
Weil, A., (32) 1230
Weil, A. L., (66) 1225
Weil, E., (131) 935, (119) 1156
Weil, H., (14) 454, (27) 1000
Weil, S., (86) 546
Weiland, W., (99) 1302
Weiler, F., (127) 312, (69) 1518
Weill, E., (67) 78, (40) 545
Weinberg, F., (60) 1861
Weinstein, H., (173) 1617
Weinstein, J. W., (107) 1422
Weinstock, L., *812
Weintraud, W., (107) 1156
Weischer, (121) 389
Weiss, L., (38) 1765
Weiss, O., (134) 81
Weiss, S., (124) 1694
Weitlaner, F., (72) 1767
Weitzel, (56) 931
Weizsäcker, V., (109) 311
Welch, J. E., (58) 1759
Welch, J. S., (109) 1070
Welch, W. H., (120) 224, 1401
Welde, E., (102) 706, (102) 784
Welgert, R., (105) 548
Wellman, C., (158) 382
Wellmann, K., (58) 159
Wells, D. W., (84) 154
Wells, H. G., (45) 455
Wells, J. G., (2) 537
Wells, S. T., (150) 305
Wells, W. H., (109) 156
Welpton, H. G., (159) 75
Weltmann, O., (90) 1430
Welty, C. F., (56) 71
Wenckebach, K. F., (146) 389, (90) 463
Wende, G. W., (125) 381, (94) 622, (10) 1757
Wengler, J., (118) 548
Wentworth, A. H., (96) 154
Wenzel, G., (137) 1157
Werber, G., (70) 620
Werder, X. O., (25) 617
v. Werdt, F., (77) 463
Werelius, A., *265, (72) 847, (138) 1004
Werner, (75) 1690
Werner, A., (170) 859
Werner, H., (77) 626, (103) 1155
Werner, R., (85) 1234
Wernstedt, W., (146, 148) 82, (152) 1306
Werther, J. F., (93) 1155
Werzberg, A., (118) 1864
Wesbrook, F. F., *407, (79) 1002, 165
Wessel, C., (147) 164
Wessely, K., (128) 1514
West, A. K., (10) 1613
West, C. E., (6) 75
West, S., (19) 1425, (3) 1762
Westmoreland, W. F., 142 (52) 696
Weston, P. G., 143, 1088
Weston, P. I. O., (147) 1071
Weston, R. A., (75) 777
Weston, W., 1680
Wetherill, H. G., (166) 305
Weyl, T., (72) 1366
Whalen, C. J., (61) 1615
Wheatley, L. F., (90) 458

Wheeler, B. B., (152) 1362
Wheeler, C. L., (94) 380
Wheeler, W. I. de C., (15) 460
Wherry, E. G., (84) 1422
Whery, W. P., 986
Whinery, J. B., (157) 225
Whipham, T. R., (28) 929
Whipple, G. H., (37, 38) 377, 1124
Whitacre, H. J., 142, (85) 1615, (107) 1857, 1883
Whitaker, G. M., 609
Whitbeck, J. F., 1353
White, C. J., (142) 1005, (120) 1514
White, D., 34
White, D. W., (38) 1420
White, E. H., (51) 222
White, E. R., 245, (11) 306
White, F. W., (2) 1223, 1752
White, G. D., (23) 846
White, G. F., (23, 24) 1758
White, G. R., (56) 696
White, J., 1063
White, J. A., (87) 154
White, J. H., (41) 775
White, J. V., (122) 698
White, S. M., (117) 622
White, W. A., (71) 1002
White, W. C., (64) 924, (117) 1147
White, W. H., (31) 76, (27) 158, (31) 226, (20) 1687
Whiteford, C. H., (12) 1687
Whiteside, G. S., (59) 222, (160) 382
Whitman, R., (50) 1224
Whitman, R. C., (56) 379, (90) 1359
Whitmore, E. R., (111) 304, (33) 695, (35) 1511
Whitmore, W. R., (76, 77) 1685
Whitney, C. M., (5) 454
Whitney, E. L., (88) 1002
Whitney, H. B., (160) 699
Whittaker, H. A., (77, 79) 1002
Wholey, C. C., *1554
Wible, E. E., (138) 459
Wickham, L., (19) 220
Wickman, I., (107) 548
Widal, B., (55) 1300
Widal, F., (69) 78, (51) 781, (34) 1230, (55, 56) 1300
Widerõe, S., (111) 1864
Widmar, C., (96) 705, (110) 1156
Wiener, E., (167) 859
Wiener, S., (19) 300, (40) 1292
Wiggers, C. J., (147) 1148
Wiggs, L. B., (26) 152
Wilbur, C. L., (95) 73, 769
Wilcox, A. G., *804
Wilcox, R. W., (115) 459
Wilder, B. G., (123) 850
Wilder, E. M., (70) 1292
Wildermuth, F., (81) 1011
Wile, I. S., (3) 376, (28) 538
Wile, U. J., (89) 223, (125) 1514, (30) 1682
Wilenko, F. R., (91) 1623
Wiley, H. W., 835, 1676
Wilhelm, A., (32) 1230
Wilkie, P. D., (42) 930
Wilkins, H., (31) 852
Wilkinson, W. C., (14) 75
Wilks, S., (8) 1423
Will, O. B., (62) 1358
Willard, DeF., (58) 924
Willard, G. F. B., (160) 927
Willard, W. P., *507, (40) 1001
Willets, D. G., (40) 1511
William, N., (123) 1370
Williams, A. W., (57) 539
Williams, E. H., (92) 1003
Williams, G. E. O., (8) 1514
Williams, H. U., (104) 154
Williams, J. H., *244
Williams, J. R., (71) 222
Williams, J. T., (4) 617
Williams, J. W., *1159, 1911
Williams, L., (42) 1299
Williams, M., (13) 306
Williams, M. L., (35) 1299
Williams, O. T., (2) 305
Williams, P. F., (172) 1617
Williams, P. W., (4) 157, (23) 226
Williams, T. A., (25) 69, *192, (107) 223, (153) 225, (20) 226, (21) 300, (45) 384, (30) 455, (38) 461, (76) 620, (30) 852, (120) 926, (135) 927, *1106, (91) 1147, (106) 1294, (114) 1423, (31) 1511
Williams, V. V., (15) 622
Williams, W. R., (5) 1510
Williams, W. W., (71) 540, (96) 1857
Williamson, G. S., (17) 1150
Williamson, R. T., (41) 158, (16) 623
Willien, L. J., (39) 152
Willis, A. M., (2) 1853
Willis, B. C., (76) 540, (43) 1511
Willman, R., (129) 1148
Willmoth, A. D., (91) 73
Willour, L. S., (64) 539
Wills, W. K. (28) 1425
Willson, P., (70) 379, (28) 455
Wilms, M., (112) 465, (155) 858, (62) 1518, (126) 1694
Wilson, C., (71) 303
Wilson, F. C., (118) 542
Wilson, H., (22) 75
Wilson, J. C., (83) 1857
Wilson, J. G., (91) 777
Wilson, J. H., (152) 1228
Wilson, L. B., (76) 540, (48) 775
Wilson, O. H., (12) 1418
Wilson, R., 1678
Wilson, T., (4) 1686
Wilson, T. G., (19) 1007
Wilson, W. E., (5) 844, (163) 1149, 1497
Wilson, W. H., (111) 698
Wilson, W. J., (7) 157, (145) 927, (12) 1424
Wilson, W. R., (114) 304
Wimpfheimer, C., (67) 309
Winckel, M., (93) 1234
Wind, K., (65) 1767
Windbiel, J. E., (88) 1686
Windell, J. T., (105) 622
Winders, F., 995
Windle, J. D., (2) 927, (23) 1687, (12) 1763
Winfield, J. M., (80) 848, (130) 926, 1354, (130) 1423
Wing, P. B., (143) 1423
v. Winiwarter, J. R., (115) 388
Winn, D. F., (160) 1228
Winship, E. O., (147) 1423
Winslow, C. E. A., (111) 224, (133) 1361
Winslow, J. R., (65) 696, (26) 1144, (126) 1423
Winslow, N., 258
Winslow, R., 141
Winter, G., (47) 1517, (86) 1520
Winterberg, H., (89) 1863, (48) 1909
Winternitz, M. C., (123) 156, (110) 1294, (5) 1756
Winters, J. E., 39
Wintersteen, J. B., (19) 1613
Winthrop, G. J., *1794
Wintsch, C. H., (95) 223
Wirth, K., (68) 228
Wise, F., (14) 1510
Wishard, W. N., (16) 1357
Wisner, W. O., 1411
Witherington, W., 421
Witherspoon, J. A., 1354, *1529, (14) 1854
Witherspoon, T. C., 141, (11) 1418
Wohlgemuth, J., (66) 228
Wolbach, S. B., *345, (80) 540, (1, 2) 1681
Wolbarst, A. L., (120) 459, (14) 1000
Wolde, O., (153) 1372
Wolfe, J. L., (98) 1293
Wolfer, J. A., (75) 379
Wolff, A., (59) 1010, (57) 1152
Wolff, H., (95) 1234
Wolff, J., (35) 1860
Wolff-Eisner, A., (126) 80, (70) 160
Wolfsohn, G., (75) 783
Wolfstein, D. I., (26) 538
Wolkowitsch, N., (139) 1865
Wollenberg, G. A., (71) 1366
Wollenberg, R. A. C., (31) 1613
Wollman, E., (37) 852
Wollstein, M., (106) 304
Wolman, S., (103) 154
Wood, B. E., (68) 71, *871
Wood, F. M., 1094
Wood, H., (11) 1854
Wood, H. B., *1027, 1503
Wood, H. C., 606, (106) 778, (95) 1147
Wood, J. W., (41) 77
Wood, N., (12) 382, (43) 461
Wood, N. N., (156) 225, (97) 1293
Wood, W. A., (19) 306
Woods, A. D., (80) 1857
Woods, A. H., *1876
Woodbury, F. T., *1654
Woodruff, C. E., (7) 1291
Woodruff, T. A., 1748
Woodward, H. L., (15) 1223
Woodyatt, R. T., (2) 1756
Woolley, P. G., (21) 922, (104) 926, *1796
Woolsen, G., (35) 1854
Woolston, W. F., (22) 377
Wootton, H. W., 1285
Worms, G., (41) 930
Worster, A., (46) 1765
Wray, G. G., (14) 1687
Wrede, L., (114) 465
Wright, A. L., 181
Wright, B. L., (24) 1000, (33) 1854
Wright, E. A., (19) 1072
Wright, E. F., (79) 1146
Wright, F. R., (35) 1144
Wright, G. A., (1) 75
Wright, G. S., (62) 222
Wright, J., (2) 773, (25) 1000, (6) 1223, (6) 1357, (167) 1617
Wright, J. H., *1457, 1848
Wright, T., (85) 457
Wulfahrt, W. G., (41) 1224
Würdemann, H. V., (91) 1686
Wurmbrand, G. G., (76) 386
Wutscher, L., (93) 161, (67) 704
Wyatt, J. L., (119) 1071
Wyeth, J. A., (10) 377, (5) 617
Wylder, M. K., (81) 1002
Wyler, J. S., (62) 776
Wylie, C. B., (125) 1295
Wyman, W., (96) 1422
Wynhausen, O. J., (119) 80
Wynn, F. B., *294
Wynne, J. D., (50) 1073
Wynter, W. E., (27) 929, (21) 1515
v. Wyss, W., (99) 311

Y

Yamasaki, M., (103) 627
Yankauer, S., (53) 71, (118) 1361
Yarian, N. C., (77) 72
Yarros, R. S., 761
Yater, C. M., (47) 222, (182) 1618
Yates, D., (126) 418
Yates, J. L., (35) 618
Yau, K. S., (78) 454
Yawger, N. S., (66) 1146
Yearsley, M., (9) 75, (33) 624, (35) 781, (12) 928, (4) 1006, (15) 1072
Yeld, R. A., (10) 1762
Yellott, R. E., (47) 847
Yelton, M. A., (118) 1071
Yeo, I. B., (14) 382
Yeomans, F. C., (64) 71
Yorke, W., (23) 460, (17, 22) 1298
Young, A. D., (38) 775
Young, C. C., *1881
Young, E. B., (3) 844
Young, E. W., (152) 225
Young, J. H., (10) 844, (61) 1684
Young, J. K., (37) 221, 1845
Young, J. V., (115) 304, (83) 848
Young, J. W., 1413
Young, W. B., (108) 223
Young, W. G., *195
Yount, C. E., (29) 1144
Youtz, H. L., 1129

Z

Zabel, E., (78) 1621
Zabludowski, A., (109) 1076
Zahorsky, J., (133) 156, (104) 1761
Zander, P., (103) 934
Zaretsky, T., (31) 1764
v. Zeissl, M., (82) 1301
Zeit, F. R., (126) 381, 1844
Zentmayer, W., (93) 622, (141) 1423
Zerfing, C. E., (107) 1361
Zesas, D. G., (52) 1299
Zeublin, E., (117) 1147
Zezas, D., (46) 930
Ziegler, K., (78) 1519
Ziegler, S. L., (138) 1423, (89) 1686, (93) 1857
Ziegner, H., (98) 229
Zieler, K., (157) 82
Ziem, C., (33) 1008
Ziesché, H., (99) 547
Zimmerman, B. F., (117) 542, (135) 1071
Zimmermann, R., (99) 784
Zinke, E. G., (16) 617, (48) 1144
Zinke, S. G., (46) 539
Zinn, W., (65) 228
Zinsser, A., (89) 79
Zinsser, H., (31) 377
Zobel, A. J., (95) 698
Zoda, R. G., (137) 1078
Zondek, M., (64) 1366
Zöppritz, B., (104) 1370
Zörkendörfer, K., (111) 785
Zuccola, P. F., (91) 1520
Zuckerkandl, E., (27) 623
Zuckermann, H., (125) 935
Zuelzer, G., (121) 312, (85) 933
Zugg, C. L., (53) 1145
Zuntz, N., (115) 465
Zuppinger, H., (55) 545, (76) 1075
zur Verth, M., (73) 386
Zwick, A. O., (27) 538
Zwirn, D., (25) 1764
Zybell, F., (89) 386

INDEX TO PAGES

of THE JOURNAL, according to weekly issues

Pages		
1– 84	Jan.	7
85–164	Jan.	14
165–232	Jan.	21
233–314	Jan.	28
315–390	Feb.	4
391–468	Feb.	11
469–552	Feb.	18
553–630	Feb.	25
631–708	March	4
709– 786	March	11
787– 860	March	18
861– 936	March	25
937–1014	April	1
1015–1078	April	8
1079–1158	April	15
1159–1236	April	22
1237–1306	April	29
1307–1372	May	6
1373–1432	May	13
1433–1528	May	20
1529–1624	May	27
1625–1698	June	3
1699–1770	June	10
1771–1866	June	17
1867–2016	June	24

NEW AND NONOFFICIAL REMEDIES, 1911

THIS BOOK contains the medicinal substances which, prior to Jan. 1, 1911, have been examined by the Council on Pharmacy and Chemistry of the American Medical Association, which appeared to comply with the rules of the Council and which therefore were accepted for inclusion in the annual "New and Nonofficial Remedies." The acceptance of the articles included in the book has been based in part on evidence supplied by the manufacturer or his agent, and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the annual revision of the matter are requested.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

This book is issued annually. During the year descriptions of further medicinal substances accepted by the Council for inclusion in "New and Nonofficial Remedies" will be published in THE JOURNAL from time to time.

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OFFICIAL RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY

Introduction.

Object of the Rules.—The following rules have been adopted by the Council with the object of protecting the medical profession and the public against fraud, undesirable secrecy and objectionable advertising in connection with proprietary medicinal articles.

Contents of N. N. R. The "N. N. R." contains a description of such proprietary articles as have not been found to conflict with the rules of the Council; and of such simple non-proprietary and unofficial substances as seem of sufficient importance.

Attitude on Mixtures. Proprietary pharmaceutical mixtures should comply with the rules and will be investigated by the Council. The Council, however, endorses the principle that prescriptions should be written on the basis of the therapeutic effects of the individual ingredients. For this reason, it does not include mixtures in this book unless they present some real advantage. If, however, the physician wishes to prescribe ready-made proprietary mixtures, he will find in the appendix, listed under the name of the manufacturer, those proprietary mixtures which on examination have not been found to conflict with the rules.

Non-proprietary Mixtures. Non-proprietary mixtures share the status of the substances from which they are prepared, and therefore are not contained in the book.

Rules Governing the Admission of Proprietary Articles to the Book, "N. N. R."

Definition of Proprietary Articles.—(The term "proprietary article," in this place shall mean any chemical, drug or similar preparation used in the treatment of disease, if such article is protected against free competition, as to name, product, composition or process of manufacture; by secrecy, patent, copyright, or in any other manner.)

Rule 1.—Composition.—No article will be accepted for inclusion with "New and Nonofficial Remedies" unless its composition be furnished to the Council for publication. For simple substances the scientific name and the chemical formula, rational or structural if known, should be supplied. For mixtures the amount of each active medicinal ingredient in a given quantity of the article must be stated. The general composition of the vehicle, its alcoholic percentage, and the identity of the preservatives, must be furnished.

Rule 2.—Identity.—No article will be accepted unless suitable tests for determining its composition are furnished to the Council. In the case of chemical compounds these shall consist of tests for identity and purity. In the case of mixtures, methods shall be furnished for determining the amount and active strength of the potent ingredients if practicable.

Rule 3.—Direct Advertising.—No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, advertised for uses other than on the human body, or to non-medicinal food preparations, except when advertised in an objectionable manner.

Rule 4.—Indirect Advertising.—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is said to be indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to vaccines and antitoxins, or to directions for administering or applying remedies where similar immediate, heroic treatment is indicated.)

Rule 5.—Fraudulent Claims as to Origin.—No article will be admitted or retained concerning which the manufacturer or his agents make false or misleading statements as to source, raw material from which made, or method of collection or preparation. The identity of the actual manufacturer of the article must be furnished.

Rule 6.—Unwarranted Therapeutic Claims.—No article will be admitted or retained concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value.

Rule 7.—Poisonous Substances.—The principal label on an article containing "poisonous" or "potent" substances must state plainly the amount of each of such ingredients in a given quantity of the product.

Rule 8.—Objectionable Names.—If the trade name of an article is not sufficiently descriptive of its chemical composition or pharmaceutical character, or is, for any other reason, unsatisfactory or objectionable, the Council reserves the right to include with the trade name a descriptive title in the book. Articles bearing objectionably suggestive names will be refused consideration. Names which suggest diseases, pathologic conditions or therapeutic indications will not be admitted. In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients.

Rule 9.—Patented Products and Protected Names.—If the article is patented—either process or product, or both—the number of such patent or patents should be furnished to the Council. Furthermore, if the name of an article is registered, or the label copyrighted, the registration (trade-mark) number and a copy of the protected label should be furnished the Council. In case of registration in foreign countries the name under which the article is registered should be supplied.

Rule 10.—Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession.

Explanatory Comments on the Rules.

Introduction.—*History, Purpose, and Method.*—The Council on Pharmacy and Chemistry was established in February, 1905, by the American Medical Association, primarily for the purpose of gathering and disseminating such information as would protect the medical profession in the prescribing of proprietary medicinal articles. In pursuance of this object the Council examines the articles on the market as to their compliance with definite rules which are designed to prevent fraud, undesirable secrecy and the abuses which arise from advertising to the laity. Such articles as appear to conform to the rules are admitted and their essential features are described in the annual publication of the Council, the "N. N. R.," if they come within the scope of this book.

Submitted Evidence.—This description is based in part on investigations made by or under the direction of the Council, but in part also on evidence or information supplied by the manufacturer or his agents. Such interested statements are examined critically, and are admitted only if they appear to be in conformity with the evidence. It is, however, manifestly impossible for the Council to investigate the composition of every complex pharmaceutical mixture, or thoroughly to check every therapeutic claim; it can only give an unbiased judgment on the submitted evidence. Criticisms and corrections of the descriptions which may aid in the revision of the matter will be appreciated.

Previous Infringements and Fraud.—The Council judges an article entirely by the facts existing at the time of its admission. Previous infringements of the rules (short of *intentional* fraud) do not prevent the favorable consideration of an article, provided that they have been thoroughly corrected.

Reconsideration.—Infringements after admission, or the discovery that the Council's information was incorrect, will cause the acceptance to be reconsidered.

Acceptance Not an Indorsement.—The Council desires physicians to understand that the admission of an article does not imply a recommendation. It means only that no conflict with the rules has been found by the Council.

The Scope of the "N. N. R." and Appendix.—To aid physicians and manufacturers in deciding what articles come within the scope of this book, or, in other words, to enable physicians to recognize whether an article has been omitted because it does not need admission or because it has been rejected, the Council furnishes the following more detailed definitions:

Official Articles.—The status of the articles which are official in the United States Pharmacopeia or in the National Formulary naturally does not require the approval of the Council. Since authoritative information concerning them is readily obtainable, they have no place in the "N. N. R."

Nomenclature.—To avoid confusion with non-official substances marketed under similar names the Council recommends that they be prescribed by their official Latinized title, followed by the abbreviation, "U. S. P." or "N. F.," thus: Tincturæ Nucis Vomicæ U. S. P. 5 Cc., Elixir Gentianæ N. F. 95 Cc.

Trade Names. Priority. Imitations of Official Articles. "Trade names," protected or otherwise, for these articles will not be

recognized by the Council unless they antedate the recognition of the article in the United States Pharmacopeia or National Formulary. Nor will non-essential modifications of official or non-proprietary preparations be recognized. Essential and important modifications, however, will be accepted and will receive individual mention in the "N. N. R."

SUBSTANCES DESCRIBED IN THE "N. N. R."—In the body of the book will be described simple proprietary substances and their preparations when these are marketed by the original manufacturer; proprietary mixtures if they have originality or other important qualities which entitle them to such place; and important non-proprietary unofficial articles.

Suffix "N. N. R."—The Council recommends that when these latter are prescribed, they be indicated by the abbreviation, "N. N. R." thus insuring to the prescriber the quality of these articles laid down in the book.

PROPRIETARY MIXTURES.—*Definition.*—A mixture will be considered as proprietary, and therefore requiring consideration by the Council and admission to the book or appendix, if it contains any proprietary article; if it is marketed under a name which is in any way protected; or if its manufacturer claims for it any unusual therapeutic qualities.

Where Listed.—All proprietary mixtures which are marketed in conformity with the rules are listed in the appendix of the "N. N. R." under the names of their manufacturers. They are not admitted to the body of the book, save in the exceptional cases cited in the preceding paragraph.

NON-PROPRIETARY MIXTURES OF OFFICIAL SUBSTANCES.—Since the ingredients of such mixtures do not require the approval of the Council, and since the mixtures are not open to the proprietary abuses which called for the work of the Council, it is not necessary that they should be investigated and approved by the Council. The physician should judge whether such mixtures should be directed to be prepared by the pharmacist, or whether he is justified in ordering a ready-made preparation. If he decides to use a ready-made non-proprietary preparation he must judge for himself if it is marketed in accordance with the rules.

Trade Names.—It should also be remembered that the application of trade names to any substance makes it proprietary.

Objectionable Trade Names for Official Substances.—The application of "trade names" to official or established non-proprietary products tends to confusion and fosters many abuses. It can only be condoned if the "trade name" possesses priority as previously defined. Such trade names will therefore not be admitted by the Council except in those few cases in which the trade name has already come into extensive use.

Use of Firm Names.—The protection of the manufacturers can be amply secured by appending the firm or "brand" name to the official name, and to this there can be no objection. Appended names or initials of manufacturers as in Mistura Rhei et Sodæ. X. Y. & Co.; Mixture of Rhubarb and Soda, "Jones;" Pills of Aloes and Iron, "Smith brand," are considered non-proprietary.

Generic Names.—Protected generic brand names shall not be regarded as proprietary. However, the preparation "Adrenalin suppositories" is proprietary because the name adrenal itself is protected.

UNESSENTIAL MODIFICATIONS OF OFFICIAL SUBSTANCES.—*Imitations.*—The subterfuge for obtaining proprietary rights over an official or established non-proprietary product, by introducing unessential modifications, also tends to confusion and abuses, and such articles will not be admitted by the Council. Essential and important modifications, however, will receive recognition. (The Council interprets the term "established non-proprietary product" to apply to a preparation of any formula which has been published through any recognized or reasonably accessible channel of publication, prior to its appropriation or modification by a manufacturer.)

EXPLANATORY COMMENTS ON THE RULES GOVERNING THE ADMISSION OF PROPRIETARY ARTICLES.

Rule 1.—COMPOSITION.—*Secrecy Objectionable.*—It is not only the right but the duty of the physician to know the essential composition of what he prescribes; the Council cannot compromise on this proposition.

Vehicles and Preservatives.—In the case of mixtures not only the potent ingredient, but also the general character of vehicle, the presence of alcohol, and the identity of preservatives, or of any other substance, whether added or present as an impurity, must be stated, if these can under any circumstances affect the action of the article. This generally does not mean the publication of such trade secrets as flavors or the details of the working formula.

Trade Secrets.—Furthermore, trade secrets will not be received as confidential by the Council, since it accepts information only with the distinct understanding that this may be freely published, at its discretion.

Inspection of Factories.—Nor does the Council accept invitations to inspect factories; its concern is with the finished products.

On the other hand, the Council requires that the information be complete and accurate as to the medicinal ingredients.

Unofficial Constituents.—Unofficial constituents of proprietary mixtures must be submitted by the manufacturer in the regular way and must be approved by the Council before the preparations containing them can be admitted.

Fraud.—When it appears that a manufacturer has made a *deliberately* false statement concerning his product he is asked to furnish an explanation; and if this is not satisfactory the product will not be admitted, even if the false statement is subsequently corrected or omitted.

Testimonials.—This applies not only to statements made to the Council, but also to statements furnished to physicians by the manufacturer or his agents, even when these statements are in the guise of testimonials.

Rule 2.—IDENTITY.—In order to avoid errors in the case of chemical compounds, and to guard against adulterations, lack of potency or strength and the mistaking of one chemical for another, it is necessary to have at hand suitable tests.

Tests, etc.—If these facts have appeared in the literature, or in standard text-books, reference to them will be sufficient; but with new chemicals, especially synthetics, the manufacturer or his representatives will be required to supply such tests for publication, in order that an intelligent opinion of these products may be assured.

Physiologic Standardization.—In cases in which chemical methods of identification are unknown or unreliable, physiologic standardization should be employed. The Council considers the phrase "physiologically standardized" or "assayed" as misleading unless the standard and method are published in sufficient detail to permit of their control by independent investigators.

It is evident that when no standard is published, it is impossible to know whether the quality is high or low, and the conscientious manufacturer who sets for himself a high standard is placed on a level with the dishonest or careless one who adopts a low standard. Again, if the process is not published, it is impossible to learn without actual trial the relative value of one preparation as compared with that of another manufacturer or to confirm or disprove the statements of the manufacturer as to the quality of his product.

Rule 3.—DIRECT ADVERTISING. — *Lay Advertising.* — The impossibility of controlling the irresponsible claims which are usually made in advertisements to the public, the well-known dangers of suggesting by descriptions of symptoms to the minds of the people that they are suffering from the many diseases described, the dangers of an unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations, are the reasons for discouraging, in the interest, and for the safety, of the public, this reprehensible form of exploitation.

Exceptions.—In the case of subjects on which the public should be instructed, as the use of disinfectants and foods, such advertisements, if not in objectionable forms, are considered admissible.

Foods.—We may divide the foods into three groups. The first group contains the ordinary foods, including the well-known breakfast foods. These do not come under the supervision of the Council in any way. The second group includes medicinal foods proper, such as predigested foods, which have a relatively low food value and which are characterized by a high alcohol or preservative content, and which frequently contain strictly medicinal substances, or food substances for which distinct therapeutic properties are claimed. These products should be used only on the advice of the physician,

and the advertisements should be restricted as in the case of ordinary medicines. The third group includes a large and important class of manufactured products, such as invalid and infant foods, which in a sense stand between the first and second groups. The public has the same interest in these foods that the physician has, and usually has full information concerning them. While the primary recommendation of these articles should naturally come from the physician, it cannot be expected that their continued use should depend on repeated prescriptions. Information concerning this group of foods would come naturally and properly from a physician, and the collection and dissemination of this information may very properly be included in the work of this Council. As the use of products in this class is an extended one, it is not proper to limit their advertising to medical journals, but the advertising should be permitted in the lay press so long as it is conducted in a manner compatible with the rules of the Council.

Rule 4.—INDIRECT ADVERTISING.—It should be remembered that the sole intent of this rule is to protect the physician, so that in prescribing a proprietary medicine he need not unconsciously become an advertising agent of proprietors. The rule imposes no restriction on the legitimate methods of bringing a remedy to the attention of the profession, such as advertising in medical journals, circulars and other printed matter distributed solely to physicians. The rule applies only to the package as it may reach the patient.

Naming Diseases on Label.—The naming of diseases on the label or package is not necessary, as is shown by the very large number of proprietary products which have been successfully introduced without resorting to this expedient. This method of popularizing a proprietary remedy with the laity is most objectionable, and should not be tolerated in any form.

Therapeutically Suggestive Names.—The Council considers therapeutically suggestive names (see Rule 8) as an unworthy expedient to the same end. It would prefer to have therapeutic indications omitted from the label and package, but does not insist on this point, because these are useful in some exceptional cases.

Permanently Affixed Names.—It will be considered an infringement of the rule when an article is marketed in bottles which have the name of the article blown into the glass, or if otherwise the name or initials or other distinctive mark of the article are permanently stamped on the container, on the article itself, or are contained on the stoppers or seals. Articles which are marketed in any of these ways are not admitted. Readily removable labels are not objectionable.

Use of Articles for Advertising.—The Council does not countenance the use of an admitted article for advertising other articles which have not been admitted by the Council.

Rule 5.—FRAUDULENT CLAIMS AS TO ORIGIN.—No false or misleading statement in regard to an article can be permitted concerning the source or material from which it is made, or the persons by whom it is made. Some glaring frauds of this nature have been perpetrated in the past, and this rule is intended to prevent such imposition.

Actual Manufacturer.—The identity of the actual manufacturer of an article should be known, since the manufacturer is in part responsible for the quality of the product. No good reason can exist for concealing the identity of the manufacturer of a legitimate article; such concealment must be considered evidence of the doubtful character of a product or its method of exploitation.

Rule 6.—UNWARRANTED CLAIMS AS TO THERAPEUTIC VALUE.—This rule is intended to restrict the direct and indirect claims of the manufacturers or agents as to the therapeutic superiority of their products, to what is compatible with ascertained facts. Manufacturers will be held responsible for all statements referring to their products, made in their advertising literature, whether they occur as original statements or as quotations. The Council aims to be quite liberal in the application of this rule. There are honest differences of opinion as to many therapeutic questions.

Permissible Optimism.—It is natural that a manufacturer should be rather partial toward his own product, and, since every one should be cautious in accepting such biased claims, a moderate degree of emphasis may not be objectionable. The Council, therefore, does not assume to censor any reasonable statements, especially when such statements are confirmed by responsible clinicians.

Exaggerated Claims.—Claims are often made, however, which are incompatible with common experience and which sometimes defy the laws of Nature. Claims which seem highly improbable will not be admitted by the Council unless the manufacturer supports them by evidence acceptable to the Council. In doubtful cases the Council acts on these questions under the advice, and with the cooperation of its staff of clinical consultants.

Rule 7.—POISONOUS SUBSTANCES.—For the information of the pharmacist or dispenser, and to enable him to safeguard the interests of the patient and the physician, all articles containing such potent agents as the poisonous alkaloids and other organic substances and the salts of some of the metals, should have the exact amount of these ingredients which is contained in the average adult dose stated on the label.

Rule 8.—OBJECTIONABLE NAMES.—Many of the abuses connected with proprietary medicines are intimately associated with the more or less arbitrarily selected or "coined," usually protected, names.

Scientific Names.—In the interest of those physicians who would prefer to employ a more rational nomenclature the Council advises the use of scientific names by the manufacturers, at least as synonyms. In view of the existing trade conditions, however, it does not insist on this except in such specific cases as explained below in which experience has shown the necessity of restrictions.

Pharmaceutical Preparations and Mixtures.—Since these, with rare exceptions, are not original in composition, there is no sufficient reason why they should be endowed with arbitrary names; on the contrary, it is important that the prescribing physician should be constantly reminded of the potent ingredients on which the actions of such preparations are based. It is particularly important that actively poisonous or habit-forming drugs be not disguised under an innocently worded title.

Coined Names Where Permitted.—The Council recognizes, on the other hand, the right of discoverers of new synthetic products or active principles to name their discovery, and interposes no objection to arbitrary names for such products, so long as such names do not tend to advertise the product to the laity, as specified under Rule 8. It is desirable, however, that the coined names should indicate the chemical composition of the article. With synthetic chemicals the true chemical name should be stated, at least in addition to the trade name. If an article conflicts only with Rule 8 it may be admitted as soon as the manufacturer substitutes a name which the Council considers satisfactory.

Rule 9.—PATENTS, TRADE-MARKS, COPYRIGHTS, ETC.—This information is desirable in determining the legal status of these articles and will permit their ready recognition in current publications.

Rule 10.—UNSCIENTIFIC AND USELESS ARTICLES.—The Council has been justly criticized because its rules failed to exclude certain unscientific mixtures whether of well-known or obscure substances. The use of articles which are unessential modifications of official or established non-proprietary articles is unscientific and serves no useful purpose. The Council will not admit products which are scientifically unsound and which, therefore, must be considered useless or inimical to the best interest of the medical profession and the public. This class includes mixtures containing an excessive number of ingredients; those which contain substances of no probable therapeutic assistance to each other; those of no therapeutic value. The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination. This holds especially for ready-prepared mixtures, and these shall be deemed in conflict with Rule 10 unless the manufacturer presents satisfactory evidence for the value of his combination.

NEW AND NONOFFICIAL REMEDIES

ACETOZONE.—Acetozone is a mixture of equal parts of acetyl-benzoyl peroxide and an inert absorbent powder.

Acetyl-benzoyl peroxide, $C_6H_5CO.O.O.COCH_3 = C_9H_8O_4$, corresponds to hydrogen peroxide, H_2O_2, in which the two hydrogen atoms have been replaced by the radicles of acetic acid (the acetyl group) and of benzoic acid (the benzoyl group).

Acetyl-benzoyl peroxide occurs in white, shining crystals, melting at 36.6° C. (98° F.). When heated it slowly decomposes and volatilizes. Water at 25° C. (77° F.) dissolves one part in 1.560 or 0.639 Gm. in 1,000 Cc. It is soluble in oils to the extent of about three per cent., slightly soluble in alcohol, and fairly so in ether, chloroform, and carbon tetra-chloride, though all solvents slowly decompose it with the exception of neutral petroleum oils.

In the presence of water it undergoes hydrolysis and slowly decomposes. This change, however, does not take place with sufficient rapidity to prevent its use in aqueous solution; in fact such hydrolysis is necessary to develop its full germicidal activity. On account of its ready decomposition, acetozone should be kept in a dry place.

For various reasons it has been found necessary to add an inert absorbent powder. As found in the market, acetozone is of a grayish white color, possessing the properties of the crystalline substance, with the exception that the absorbent powder employed is insoluble.

Actions and Uses.—Acetylbenzoyl peroxide belongs to a class of compounds known as the organic peroxides in which an excess of oxygen has been combined in such a way that it is somewhat slowly given off in a nascent condition. On contact with water it hydrolyzes, forming benzo-peracid and aceto-peracid, which exert marked oxidizing and germicidal action. In consequence of this change, these compounds are thought to be particularly adapted for internal administration.

It is said to be useful as an antiseptic in ophthalmic, aural and nasal practice, and to give good results by acting as an intestinal antiseptic when given internally, especially in typhoid fever.

Dosage.—Acetozone is generally employed in aqueous solution prepared as follows: Add acetozone to warm water in the proportion of 1 Gm. to 1,000 Cc. (15 grains to the quart), shake vigorously for five minutes, and allow to stand for about two hours. Decant the liquor as required. This solution may be drunk *ad libitum*, two quarts or more being taken by an adult in twenty-four hours. Acetozone is also used in oily solution as an inhalant.

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. patents No. 710,005 (Sept. 30, 1902; expires 1919) and No. 717,016 (Dec. 30, 1902; expires 1919). U. S. trademark.

Acetozone Inhalant.—Each 100 Gm. contain acetozone 1.0 Gm.; chloretone (chlorbutanol), 0.5 Gm.; refined liquid petroleum, 98.5 Gm.

ACETPHENETIDIN

ACETPHENETIDIN.—Acetphenetidin is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and the National Formulary.

Actions and Uses.—This is one of a large group of derivatives or chemical relatives of aniline (amino-benzene). The members of this group have similar properties and are more or less active according as they undergo decomposition in the system so as to yield either para-amino-phenol or acetyl-amino-phenol. They have a more or less pronounced action on the blood by which they produce hemolysis and destruction of the red blood corpuscles. They also act as heart depressants.

Acetphenetidin and its congeners are antipyretics and analgesics. They are extensively employed for the relief of pain. For this purpose they should be used with caution in consideration of their poisonous properties.

They have also been considerably employed for the reduction of temperature in fever. Every newly discovered product related to acet-phenetidin has been heralded as a "safe" antipyretic and free from poisonous effects on the blood and heart. Invariably extended clinical experience has shown that all these preparations are to a greater or less degree hemolytic and depressing to the circulation. Hence their employment in the infectious fevers should be most cautious.

PHENACETIN.—Phenacetin is a name applied to Acetphenetidinum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co. Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 400,086 (expired); U. S. trademark Nos. 16,392 and 18,637.

AGAR-AGAR.—Agar-agar (Agar-agar, Pharm. Française, 1908) is a substance extracted in the East Indies from various sea weeds.

This substance seems to come principally from Eucheuma gelatinum, E. spinosum (Linné) J. Agardh., Gelidium corneum (Hudson) Lam., G. cartilagineum Gaill., Gloiopeltis tenax (Turner) J. Agardh.

Agar-agar is extracted by hot water and dried for commercial purposes in the form of bundles of shreds, or powder form. It is odorless and insipid, insoluble in cold water but soluble in hot water. A solution containing 1.5 per cent. gives quite a stiff jelly on cooling.

Agar-agar consists practically of gelose, which dissolves in 500 parts of water and is precipitated in an impure form by alcohol. Gelose is a carbohydrate which is converted into galactose on boiling with dilute sulphuric acid. On drying at 100° C. agar-agar loses about 20 per cent. of water. 100 parts of dry substance furnish about 4 parts of ash, which, when treated with hydrochloric acid and examined with the microscope, shows the presence of diatoms, the most characteristic of which are Arachnoidiscus—Ehrenbergii Baill. and several Grammatophora and Cocconeis. An aqueous solution of agar-agar gives no precipitate with solution of tannic acid (absence of gelatin), and no blue color with solution of iodin (absence of starch).

Actions and Uses.—Agar-agar absorbs water in the stomach and intestines and forms a jelly, which being indigestible increases the bulk of the feces.

It is employed as a demulcent and for the treatment of constipation.

Dosage.—From 5 to 15 Gm. (75 to 240 grains). Agar-agar is administered in substance, coarsely comminuted and mixed with food.

AGARIC ACID.—Acidum Agaricum.—Acidum Agaricinicum (Pharm. Helvetica, edit. 4.) **Agaricinum**[1] (Pharm. Danica, edit. 1907). A tribasic acid $C_{15}H_{30}OH\ (COOH)_3 + 1\frac{1}{2}H_2O$, derived from Polyporus officinalis, Fries (Order Hymenomycetes; fam. Polyporeæ) a fungus growing on the European Larch and other species of larch.

Agaric acid occurs as an odorless, tasteless, glistening microcrystalline powder, which melts at 141.5-142° C. (286.5-287.5° F.). When heated to a high temperature it is volatilized in the form of a white pungent vapor.

Agaric acid is slightly soluble in cold water; when heated with 50-100 parts of water, it becomes gelatinous and finally dissolves to a weakly acid solution, which possesses the characteristic property of foaming strongly when shaken. The addition of acids to hot aqueous solutions of agaric acid causes white flocculent precipitate, but a tannic acid solution (1:100) produces neither coloration nor turbidity. With alkalies agaric acid forms water soluble salts.

Agaric acid is slightly soluble in ether, chloroform, carbon-disulphide and in 130 parts 90 per cent. alcohol. It is soluble in hot acetic acid, acetic ether, oil of turpentine and in about 10 parts of alcohol.

If to a mixture of about 0.2 Gm. of agaric acid with 3 Cc. of water 2 drops of alcoholic alpha-naphthol solution (1:8) are added and then gradually 5 Cc. of concentrated sulphuric acid added the mixture should not take on a marked blue-violet color.

If 0.10 Gm. agaric acid be boiled with 10 Cc. dilute sulphuric acid a turbid solution results, from which on standing on a water bath, oily drops separate, and they crystallize on cooling.

0.1 Gm. agaric acid upon ignition should leave no weighable residue.

Action and Uses.—Agaric acid is a local irritant and in large doses produces vomiting and purging, and death through central paralysis. It paralyzes the peripheral nerves of the sweat glands, arresting the secretion of sweat. It is used to arrest colliquative sweats. The experience of most clinicians is favorable, but some report that they were unable to obtain

1. The substance commonly sold as agaricin is an impure alcoholic extract

any favorable effects. The action appears in a few hours and is not lasting. Agaric acid is one-twentieth as active as atropine and does not influence other secretions.

Dosage.—The maximal single dose of agaric acid should not exceed 0.03 Gm. (½ grain) and the total daily dose should not exceed 0.10 Gm. (1½ grains) (Pharm. Helv.). Owing to its irritant action it cannot be given hypodermically.

ALBARGIN.—Gelatosesilver.—Albargin is a compound of silver nitrate with gelatose, containing from 13 to 15 per cent. of silver.

It is prepared by adding silver nitrate to a solution of gelatose in water, evaporating the solution or precipitating the compound by the addition of ether or alcohol. It is a coarse, yellow, shining powder, very easily soluble in water, forming neutral solutions. The presence of gelatose, silver and a nitrate can be shown by appropriate tests. It is incompatible with tannin and chlorides.

Actions, Uses and Dosage.—Albargin is used as a substitute for silver nitrate.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Albargin Tablets. Each tablet contains albargin 0.2 gm. (3 grains).

ALPHOZONE.—Succinic Dioxide.—Succinic Peroxide, Disuccinyl Peroxide.—Alphozone, $(COOH.CH_2.CH_2.CO)_2O_2 = C_8H_{10}O_8$, is succinylic acid peroxide, corresponding to hydrogen peroxide, H_2O_2, in which the hydrogen has been replaced by two succinic acid groups; each succinic acid radicle still retaining one of its acid-hydrogen atoms.

It is prepared by the interaction of a strong solution of hydrogen dioxide with succinic anhydride, resulting first in the formation of succinic peracid, $COOH.CH_2.CH_2.COOOH$, which reacts with one molecule of succinic anhydride to form succinic peroxide.

It is a fluffy, white, crystalline powder, the crystals being small irregular plates. It dissolves in 30 parts of water at ordinary temperature. It is moderately soluble in alcohol, acetone, and ethyl acetate, sparingly soluble in ether, insoluble in benzene, chloroform and ligroin. Odorless or nearly so; softens at 115° C. (239° F.) and melts at 127° C. (262° F.) with decomposition. When brought into a flame it explodes, but it does not explode on percussion or friction. It deteriorates slightly on continued exposure to air, but if kept tightly stoppered and in a dark place it remains unchanged indefinitely.

It is a powerful oxidizing agent, liberating iodine from potassium iodide. It can be identified by its physical properties and its powerful oxidizing action. To test its strength add 2 Gm. of potassium iodide to 1 Gm. of alphozone dissolved in 60 Cc. of distilled water. To this slowly add decinormal solution of sodium thiosulphate with constant agitation until the red brown color of the iodine is just discharged. Each cubic centimeter of sodium thiosulphate solution is equivalent to 0.0117 Gm. of alphozone; 1 Gm. of pure alphozone is equivalent to 85.41 Cc. decinormal sodium thiosulphate solution.

Actions and Uses.—Alphozone belongs to the class of organic peroxides, and by virtue of its oxidizing power is germicide and antiseptic. Alphozone also possesses deodorant and bleaching properties. The fact that it does not effervesce with pus nor in contact with the living tissues is claimed as an advantage over hydrogen dioxide.

Alphozone is employed both externally and internally. It is said to be useful for disinfecting the hands and such instruments as are not attacked by oxidizing agents. It is used for the disinfection of the field of operation and has been employed for its germicidal effect with asserted good results in local infections in which the substance can be brought in contact with the diseased surface, such as ulcers, abscesses, inflammation of mucous membranes, and infectious skin diseases. Internally it has been used in typhoid fever and as an intestinal antiseptic.

Dosage.—Alphozone is employed in solutions containing 1 part per 1,000 for general external use. As a nasal douche a proportion of 1 to 3,000 is often preferred.

Manufactured by F. Stearns & Co., Detroit, Mich. U. S. patents Nos. 768,561 and 768,563 (Aug. 23, 1904; expires 1921). U. S. trademark No. 41,981.

Alphozone Tablets, 1 grain. Each tablet contains alphozone 0.065 gm. (1 grain). One tablet to 60 Cc. (2 fluidounces) of water gives a solution of 1 to 1,000.

ALUMNOL—Alumini Naphtholsulphonas.—Aluminum Betanaphthol - Disulphonate. — Alumnol, $Al_2(C_{10}H_5.OH.(SO_3)_2)_3 = Al_2C_{30}H_{18}O_{21}S_6$, is aluminum betanaphthol-disulphonate, the aluminum salt of betanaphthol-disulphonic acid.

It is prepared by mixing solutions of barium naphthol-disulphonate and aluminum sulphate in molecular proportions, filtering off the barium sulphate, and evaporating the filtrate to dryness.

It forms a fine, nearly white, non-hygroscopic powder, soluble in 1.5 parts of water, forming a faintly acid and slightly fluorescent solution.

It is also easily soluble in glycerin, but sparingly soluble in alcohol and insoluble in either. When dried it loses about 9 per cent. of water, and when exposed to the air it is darkened in consequence of its reducing properties. It is precipitated from solution by albuminous and gelatinous bodies, but these precipitates are redissolved in excess of the latter bodies.

The aqueous solution (1-10) should be clear, and after acidulation with hydrochloric acid should become at most only slightly turbid, and only just tinted bluish by potassium ferrocyanide; nor should precipitates be produced in it on the addition of diluted sulphuric acid or solution of ammonium oxalate. The dried compound should yield 12.7 per cent. of ash (alumina) on incineration.

It should not be exposed to the air, and is incompatible with salts of silver, or other reducible salts.

Actions and Uses.—It is an astringent and mild antiseptic It is claimed that it can be used as a mild astringent, an irritant or a caustic, according to the strength of the solution, and it is asserted that it exerts a peculiarly destructive action on gonococci. It has been recommended for a variety of affections in which a caustic, astringent or antiseptic is indicated. It has been particularly recommended for gonorrhea in females, especially when affecting the endometrium.

Dosage.—As a surgical antiseptic, in 0.5 to 3 per cent. solutions; in gynecology, in 2 to 5 per cent. solutions; in otology and laryngology, either as a powder or in ¼ to 1 per cent. solution as douches, washes or gargles; as cautery, in 10 to 20 per cent. solution.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 74,209.

ALYPIN.—Alypin is 2-benzoxy-2-dimethyl-amino-methyl-1-dimethyl-amino-butane hydrochloride, $CH_3.CH_2.C(C_6H_5COO)(CH_2N(CH_3)_2).CH_2N(CH_3)_2.HCl = C_{18}H_{26}O_2N_2.HCl$. It is closely related to Stovaine (which see).

By the action of dichloracetone, $CH_2Cl.CO.CH_2Cl$. on ethylmagnesium bromide dissolved in ether and decomposition by water of the magnesium compound formed, ethyl-dichlorhydrin, $CH_2Cl.C(C_2H_5)(OH).CH_2Cl$. is obtained. From this, by the action of dimethylamine, ethyl-tetramethyl-diamino-propanol is produced. This product is treated with benzoyl chloride and the benzoyl-ethyl-tetramethyl-diamino-propanol neutralized with hydrochloric acid to form the chloride.

Alypin is a white, crystalline powder, melting at 169° C. (336.2° F.), hygroscopic and extremely soluble in water. Its solutions are neutral and are not rendered turbid on addition of sodium bicarbonate in moderate quantities, and may be sterilized by boiling for a period not exceeding five minutes, without decomposition. It is easily soluble in alcohol. It has a markedly bitter taste.

It should be protected from the air in well-stoppered containers. Two and four per cent. solutions are quite stable, but weaker solutions are likely to become mouldy.

Addition of potassium iodide test solution to the aqueous solution (1-100) produces a white precipitate; potassium dichromate test solution produces a yellow crystalline precipitate soluble in hydrochloric acid; potassium permanganate test solution produces a violet crystalline precipitate, which turns brown on standing. If 0.1 Gm. Alypin be mixed with 1 Cc. sulphuric acid and warmed to 100° C. (212° F.) for five minutes and then 2 Cc. water carefully added, the odor of benzoic-ethyl-ester is developed; on cooling crystals separate out, which are dissolved on adding 2 Cc. alcohol. If Alypin is dried at 100° C. (212° F.) the loss should not exceed 1.5 per cent.

Actions and Uses.—It is a local anesthetic, claimed to be equal to cocaine, but not a mydriatic; it is said not to produce disturbance of accommodation and to be less toxic than cocaine.

Dosage.—Externally in the form of a 10 per cent. solution hypodermically in 1 to 4 per cent. solutions; for the eye in 1 to 2 per cent. solutions. As much as 5 Cc. of a 3 per cent. solution was well tolerated in one case.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 808,748 (Jan. 2, 1906; expires 1923). U. S. trademark No. 44,608

Alypin Tablets, 3 1/3 grains. Each tablet contains 0.22 Gm. (3⅓ grains) of alypin.

Alypin Tablets, 1 1/8 grains. Each tablet contains 0.073 Gm. (1⅛ grains) of alypin.

Alypin Tablets, 3/4 grain. Each tablet contains 0.048 Gm. (¾ grain) of alypin.

Alypin Tablets, 1/3 grain. Each tablet contains 0.022 Gm. (⅓ grain) of alypin.

AMMONIUM HYPOPHOSPHITE—Ammonii Hypophosphis.—Ammonium hypophosphite, $NH_4H_2PO_2$, is the ammonium salt of hypophosphorous acid.

Ammonium hypophosphite may be prepared by double decomposition between aqueous solutions of barium hypophosphite and

ammonium sulphate. The liquid filtered from the precipitate is evaporated to dryness and the ammonium hypophosphite extracted from the residue with hot alcohol.

Ammonium hypophosphite occurs in irregular hexagonal plates which melt without decomposition and at a higher temperature give off water and spontaneously inflammable hydrogen phoshide. According to H. Rose, ammonia, NH_3 escapes first. The compound is less soluble in water than the potassium salt, but is very soluble in absolute alcohol.

The aqueous solution should be neutral or slightly acid to litmus paper, and on gently heating with potassium hydroxide test solution evolves ammonia. The diluted aqueous solution slightly acidulated with dilated sulphuric acid, yields, with silver nitrate test solution, a brown precipitate, which rapidly turns black, owing to the separation of metallic silver. With copper sulphate test solution, after addition of dilute acid and on gentle heating, a reddish brown precipitate is formed. When the aqueous solution of the salt (1 in 20), acidulated with hydrochloric acid, is added, drop by drop, to an excess of mercuric chloride test solution, a white precipitate of mercurious chloride is formed. On further addition of the hypophosphite solution in excess, the precipitate becomes gray from reduction to metallic mercury.

The solution in water should give not more than a faint turbidity on the addition of barium chloride test solution nor on the addition of diluted sulphuric acid. A solution of 1 Gm. ammonium hypophosphite in 10 Cc. water should not be alkaline toward phenolphthalein test solution; to render this solution alkaline should not require more than 0.4 Cc. normal potassium hydroxide. The aqueous solution of the salt (1 in 20), acidulated with hydrochloric acid, should not respond to the U. S. P. Time-limit Test for heavy metals. If 5 Cc. of the aqueous solution of the salt (1 in 10) be measured into a beaker containing 3 Cc. of nitric acid, diluted with about 10 Cc. of water and evaporated to dryness on a water bath, the residue should not respond to the U. S. P. Modified Gutzeit's Test for arsenic.

Action and Uses.—Ammonium hypophosphite exhibits the actions of its constituents. There are differences of opinion as to whether these constituents have action other than that on the digestive tract. It is used as a stimulating expectorant and "alterative," in diseases of the respiratory mucosæ, particularly in the later stages of acute bronchitis and laryngitis, and in chronic catarrhal conditions.

Dosage.—0.13 Gm. (2 grains) every 2 or 3 hours.

Proprietary Preparation:

GARDNER'S SYRUP OF CHEMICALLY PURE HYPOPHOSPHITE OF AMMONIUM.—Syrupus Ammonii Hypophosphitis (Gardner).—A syrup containing 3.33 Gm. ammonium hypophosphite in each 100 Cc. (16 grains in each fluidounce).

Action, Uses and Dosage.—See ammonium hypophosphite.

Manufactured by R. W. Gardner, New York City.

AMYL VALERATE — Amylis valeras. — Amyl valerate, $CH_3.CH(CH_3).CH_2.COO(CH_3.CH(CH_3).CH_2.CH_3) = C_{10}H_{20}O_2$, is the iso-valeric acid ester of iso-amyl alcohol.

Amyl valerate is obtained by separating (by distillation) the ester which is formed when valeric acid or solution of a valerate is added to a mixture of iso-amyl alcohol and sulphuric acid and the distillate obtained, washed, dried and redistilled.

Amyl valerate is a colorless liquid, having when dilute an odor of apples. It is insoluble in water, soluble in alcohol, ether and chloroform. It boils at 188-190° C. (370.4-374° F.). Its specific gravity is .858 at 15° C.

Action and Uses.—Amyl valerate has been employed in the treatment of gallstone colic. Its employment in renal colic is not satisfactory.

Dosage.—To relieve biliary colic, 0.2 to 0.04 Cc. (3 to 6 minims) in capsules every half hour; or 1 Cc. (15 minims) in capsules, three times daily.

ANTHRASOL—Colorless Coal Tar.—Anthrasol is coal tar, freed from pitch, pyridin bases and coloring matter, and mixed with juniper tar.

Coal tar is freed from bases, such as pyridin and chinolin by treatment with acids and from pitch by distillation. The distillate, containing the hydrocarbons and phenols of tar is purified to remove constituents causing discoloration. To prevent separation of solid constituents juniper tar is added, and oil of peppermint to correct the odor. It is a thin, mobile, light-yellow oil which does not stain either skin or linen.

Actions and Uses.—Antrasol is antiseptic, parasiticide, keratoplastic, anti-pruriginous; like ordinary tar, it allays irritation of the skin, but is claimed not to obstruct the follicles nor to favor the development of acne.

It is said to be useful in chronic or subacute skin diseases, various forms of eczema, especially for after-treatment, and for all pruriginous affections; in diseases of the hair, as a restorative and for the removal of dandruff.

Dosage.—Locally in the form of a 5 to 10 per cent. petrolatum ointment in eczema; 10 per cent. ointment with glycerite of starch and 10 per cent. of wool fat (adeps lanæ) in pruritus; 20 to 30 per cent. ointment or paste, in lichen: in combination with sulphur and soft soap, in parasitic *skin affections.*

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. trademark No. 40,634.

ANTIFORMIN. Antiformin is a strongly alkaline solution of sodium hypochlorite. In each 100 c.c. it contains approximately sodium hypochlorite equivalent to 5.68 gm. available chlorine, sodium hydroxide 7.8 gm., and sodium carbonate 0.32 gm.

According to the patent specification chlorinated lime is dissolved in water at the temperature of 35° C. To this a solution of sodium carbonate is added. After standing the supernatant liquid is decanted and to this sodium hydroxide is added.

Antiformin is a yellowish, clear liquid having the peculiar odor characteristic of hypochlorites.

The per cent. of available chlorine, of alkali hydroxide and carbonate may be determined by the methods described in the Reports of the Chemical Laboratory of the American Medical Association, 1911.

Actions and Uses.—Antiformin rapidly dissolves the bodies of bacteria with the exception of acid-fast organisms like the tubercle bacillus, on which it has no solvent action and which resists its germicidal action to a great extent. It dissolves other organic matters, such as those contained in sputum and feces. It exerts a strong oxidizing action and is disinfectant, antiseptic and deodorizing. It is said to be more than three times as active in germicidal action as phenol.

Based upon its property of dissolving most bacteria and the insoluble constituents of the sputum, Antiformin is employed in testing for tubercle bacilli. It is said to be useful for the sterilization of the surgeon's hands, of instruments and of wounds and for general purposes of disinfection. It is also said to be useful in certain skin diseases.

Dosage.—Externally in from 2 to 10 per cent. solution. In from 4 to 1,000 solution as a spray. As a disinfectant 5 per cent. solutions are used. For the demonstration of tubercle bacilli 15 per cent. solutions are suitable.

Manufactured by the American Antiformin Co., New York. U. S. patent No. 691,671 (Jan. 21, 1902; expires 1919). A process for Cleaning Beer Vats and Pipes, said process consisting according to the patent specifications "in subjecting the walls of said vats or pipes to the action of a solution composed of about 1 part of alkaline hypochlorite with about a half to one part of alkaline hydrate, substantially as specified." U. S. trademark No. 61,693.

ANTIPYRINE SALTS

Antipyrine, phenyldimethylpyrazolon, is a weak base which unites with acids to form unstable salts that hydrolyze readily when dissolved in water separating into their components. The therapeutic activity of these compounds represents a combination of the actions of the acid and the base.

ANTIPYRINE SALICYLATE—Antipyrinæ Salicylas.—Antipyrine salicylate, $C_{11}H_{12}N_2O.C_6H_4OH.COOH = C_{18}H_{18}N_2O_4$, is a weak chemical combination of antipyrine and salicylic acid.

It is prepared by heating antipyrine and salicylic acid, in molecular proportions, on the water bath, allowing the oily product to congeal by cooling, and crystallizing it from alcohol.

It occurs as a white, coarsely, crystalline powder, or in hexagonal tabular crystals, melting at 91° to 92° C. (195.8° to 197.6° F.); odorless, slightly sweet; soluble in 200 parts of cold and 40 parts of boiling water; readily soluble in alcohol, less readily in ether. It is decomposed by acids with the elimination of salicylic acid, and by alkalies with the elimination of antipyrine.

Its aqueous solution is rendered milky by tannic acid, then colored green by the addition of a few drops of fuming nitric acid. It is colored deep red by ferric chloride, passing to violet-red on copious dilution with water. It must not be affected by hydrogen sulphide.

It is incompatible with acids, alkalies and tannins.

If 1 Gm. antipyrine salicylate is weighed in a separator, treated with 25 Cc. water and 10 Cc. sodium hydroxide test solution, and the liquid then extracted with chloroform, the latter on evaporation should yield a residue which when dry should weigh 0.57-0.58 Gm., melt at 113 degrees and respond to the tests for antipyrine.

The solution remaining in the separator, acidified, and extracted with chloroform, the chloroform allowed to evaporate, should yield a residue of white needle-like crystals, which when dry melt at 155°-156° and respond to the tests for salicylic acid.

If 1 Gm. antipyrine salicylate is dissolved in 50 Cc. diluted alcohol, a few drops of phenolphthalein added, from 30.5-30.8 Cc. tenth normal alkali should be required to produce a permanent pink color, indicating a salicylic acid content of 42.10-42.50 per cent.

Actions and Uses.—This compound possesses the properties of both antipyrine and salicylic acid and combines the analgesic power of the one with the antirheumatic action of the other. It has been used with good results in sciatica, rheumatic fevers, chronic rheumatism influenza, pleurisy, dysmenorrhea, etc.

Dosage.—0.3 to 2.0 Gm. (5 to 30 grains) in cachets or capsules.

Non-proprietary preparations:

Antipyrine Salicylate, Farbwerke. Manufactured by Farbwerke vorm. Meister Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co.) Not patented or trademarked.

Proprietary Preparation:

SALIPYRIN.—A name applied to antipyrine salicylate.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany. (Riedel & Co., New York.) U. S. patent No. 444,004 (expired). U. S. trademark No. 19,043.

TUSSOL—Antipyrinæ Mandelas—Antipyrine Mandelate.—Tussol is antipyrine mandelate, $C_{11}H_{12}N_2O.C_6H_5.CHOH.COOH = C_{19}H_{20}O_4N_2$, a salt of mandelic acid, $C_6H_5(CHOH.COOH)$, and antipyrine.

It is prepared by heating mandelic acid and antipyrine in molecular proportions on a steam bath, and crystallizing the product of the reaction, after cooling from alcohol.

It is a white crystalline powder, having a bitter taste and melting at 52° to 53° C. (125.6° to 127.4° F.). It is soluble in 15 parts of water, 3 to 4 parts of alcohol, or 25 to 26 parts of ether, producing solutions of acid reaction. When heated above the melting point, it gives off the odor of bitter almonds, and finally burns without leaving a residue. It is split into its constituents by milk and by alkalies.

Its aqueous solutions give the reactions for antipyrine; if warmed with potassium permanganate it develops the odor of benzaldehyde, but it is not affected by silver nitrate, barium nitrate, dilute sulphuric acid, or hydrogen sulphide.

It is incompatible with alkalies, milk and milk food.

Actions and Uses.—Tussol, Antipyrine Mandelate, has the properties of its constituents, that is, the analgesic and sedative action of antipyrine and the stimulant action on glandular secretions of mandelic acid. It is said to be useful in the treatment of whooping-cough.

Dosage.—0.3, 0.1, 0.25, 0.4 or 0.5 Gm. (½, 2, 4, 6 or 8 grains), according to the age of the patient.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 569,415 (Oct. 13, 1896; expires 1913).

ANTIPYRINE FERRIC CHLORIDE

FERRIPYRINE.—A name applied to a product identical with Ferropyrine, which see.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

FERROPYRINE — Antipyrina Cum Ferro.— Ferropyrine, $(C_{11}H_{12}N_2O)_3.(FeCl_3)_2$, is a compound of antipyrine and ferric chloride, containing about 36 per cent. of ferric chloride and 64 per cent. of antipyrine.

It is prepared by mixing solutions of 5 parts of crystallized ferric chloride in 10 parts of 96 per cent. alcohol and 5 parts of antipyrine in 10 parts of alcohol and 50 parts of ether, washing the precipitate with ether, and drying it on porous tiles at 40° C. (104° F.).

It is a yellowish-red, crystalline powder, having an acid-astringent taste. It is soluble in 5 parts of cold water, but requires 9 parts of hot water for solution; it is soluble in alcohol, but insoluble in ether.

It should form a clear blood-red solution in water. Its aqueous solution 1:5 affords a precipitate of ferric hydroxide on addition of ammonia in excess, and the filtrate should give no reaction for nitric or sulphuric acid, nor heavy metals, and should yield a residue on evaporation, which is completely volatilized when heated on platinum. After acidification with nitric acid, the filtrate yields a white precipitate with silver nitrate and in the filtrate from this the antipyrine may be determined by means of ferric chloride or by nitrous acid.

It is incompatible with alkalies, their carbonates and bicarbonates.

Actions and Uses.—It is hematinic, hemostatic, astringent, analgesic and tonic. Its styptic action is pronounced and said not to be accompanied by irritant effects. According to Fraenkel it combines, with its hemostatic properties, the injurious by-actions which limit the application of ferric chloride as a hemostatic.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder, or in solution. Externally 1 to 1.5 per cent. solution as an injection, to 20 per cent. solution or pure for hemorrhages.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 548,352 (Oct. 22, 1895; expires 1912). U. S. trademark No. 26,860.

ANTITHYROID PREPARATIONS

Preparations obtained from the blood or milk of animals, after the removal of the thyroid glands.

The use of these preparations is based on the theory that the thyroid gland secretes products which are toxic, but which neutralize, and are neutralized by, other toxic substances produced elsewhere in the body. Removal of the thyroid glands would then lead to the accumulation of these second toxic substances as evidenced by the phenomena of cachexia strumipriva and myxedema. On the other hand, the blood or milk of such animals is claimed to be capable of preventing the effects of a hypersecretion of thyroid substance, such as is supposed to occur in Basedow's disease (exophthalmic goiter).

These views are still largely hypothetical; but some clinical observers report distinctly beneficial results in the milder forms of the disease and in obscure nervous disorders which are supposedly connected with thyroid hypersecretion. The effects, if they occur at all, are less pronounced in the more severe forms. The action is merely palliative and other measures of treatment should not be neglected.

Improvement is said to occur in two or three weeks and to be indicated by an amelioration of the nervous symptoms, tremors, palpitation, insomnia and excitability.

The administration must be long continued. Oral and hypodermic administration are said to be equally effective but the former is usually preferred. These preparations are not known to be toxic, even when very large doses are used.

ANTITHYROIDIN-Mœbius—Serum Antithyroideum, Merck.—Antithyroidin-Mœbius is the blood-serum of sheep from which the thyroid gland has been removed at least six weeks before the blood is drawn, preserved by the addition of 0.5 per cent. of phenol.

It is an amber-colored fluid, with faint odor and taste of phenol (carbolic acid). It is marketed in amber-colored vials containing 10 Cc. (2½ drams). With proper precautions, it is said to keep indefinitely.

Dosage.—It is administered by the mouth in doses beginning with 0.5 to 1 Cc. (8 to 15 min.) three times a day, gradually increasing the dose as necessary.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

THYREOIDECTIN—Capsulæ Antithyroideæ.—Thyreoidectin consists of gelatin capsules each containing 0.33 Gm. (5 grains) of a powder prepared from the blood of thyreoidectomized animals.

The blood is derived from sheep, goats or horses (chiefly sheep) from which the thyroid gland has been removed. The blood is rendered aseptic during the process of desiccation by the addition of chloroform, and aromatics are added to the resultant powder as a flavor.

The contents of the capsules consist of a coarse, reddish-brown powder, resembling dried blood.

Dosage.—One or two capsules three times a day, the amount being varied to suit the individual case.

Prepared by Parke, Davis & Co., Detroit, Mich.

APINOL—Apinolum.—Apinol is a product obtained in the destructive distillation of the wood of Pinus palustris and Pinus australis. It is claimed to consist mainly of laevomenthone, $C_{10}H_{18}O$.

Apinol is obtained from the products of destructive distillation of pine wood. After the removal of turpentine and other low boiling constituents by distillation, the portion boiling between 182.2°-193.3° C. (360°-380° F.) is collected and purified.

It is a clear amber-colored oil with an odor resembling that of the pine, having a specific gravity of 0.946 and an approximate boiling point of 182.2° C. (360° F.). It is neutral in reaction.

Actions and Uses.—Apinol is said to be an antiseptic, local anesthetic and expectorant.

It is said to be useful when applied externally to wounds, burns, ulcers, and denuded surfaces for the relief of pain and promotion of healing.

It is claimed to be of service when given internally in catarrhal inflammation of the digestive tract and, when used by inhalation, to assist in freeing the respiratory passages from accumulated mucus.

Dosage.—Internally from 0.3 to 1 Cc. (5 to 15 minims) with cane sugar as a menstruum.

Manufactured by the Apinol Chemical Co., Wilmington, N. C. U. S. trademark No. 29,848.

APIOL—Apiolum Crystallisatum.—Parsley Camphor.—Apiol, $CH_2:CH.CH_2.C_6H(OCH_3)_2:O_2:CH_2 = C_{12}H_{14}O_4$, is 2,5-dimethoxy-3,4-methendioxy-1²propenylbenzene, derived from 2,3,4,5-tetrahydroxy-1-propen (1²)yl-benzene, $C_6H(OH)_4(CH_2CH:CH_2)$.

Apiol may be obtained by extracting the oleoresin (oleoresin of parsley seed, which see) with ether and subsequent purification. It may also be obtained by submitting parsley seed to steam distillation, cooling the volatile oil and collecting and purifying the crystals which separate.

Apiol crystallizes in long needles, having a faint odor of parsley, melting at 30° C. (86° F.) and boiling at 294° C. (561.2° F.). It is insoluble in water, but readily soluble in alcohol and ether. With strong sulphuric acid it forms a blood-red solution. Apiol is not affected by aqueous solutions of potassium or sodium hydroxide, but by alcoholic solution of potassium or sodium hydroxide it is gradually converted to isoapiol, which melts at 56° C. (132.8° F.).

Actions and Uses.—Apiol is said to produce cerebral excitation similar to that induced by coffee and in larger doses a species of intoxication, with vertigo, ringing in the ears and severe frontal headache.

Apiol has been used as an antiperiodic, but is regarded as of inferior rank for this purpose. It has also been recommended in the treatment of amenorrhea.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) in capsules, as an emmenagogue, 0.3 to 1 Gm. (4 to 15 grains) as an antipyretic.

ARBUTIN.—Arbutinum.—Arbutin, $C_{12}H_{16}O_7 + \frac{1}{2}H_2O$, is a glucosid occurring in the leaves of *Arctostaphylos Uva-ursi* Spr., *Vaccinium Vitis-Idaea L.* and many other genera of the family *Ericaceae.*

Arbutin occurs in long, glistening, colorless needles, or as a fine, white, crystalline, odorless powder having a bitter taste. It is soluble in 8 parts of water and 16 parts of alcohol; very soluble in hot water and hot alcohol; insoluble in chloroform, ether and carbon disulphide. Its aqueous solution is neutral to litmus paper and is not precipitated by solutions of the metallic salts or by solution of tannin. Its aqueous solution is colored blue by ferric chloride test solution. By boiling with diluted sulphuric acid or by treatment with emulsin arbutin is converted into glucose and hydroquinone.

When heated to 100° C. (212° F.) arbutin loses its water of hydration. At 144° to 146° C. (291.2° to 294.8° F.) the anhydrous glucosid melts. It should leave no residue on ignition.

An aqueous solution of arbutin (1/20) should not be affected by hydrogen sulphide (absence of lead)

Actions and Uses.—Arbutin probably owes its effect, at least in part, to the antiseptic action of hydroquinone, formed by its decomposition in the urinary tract. It has been used as a urinary antiseptic and diuretic.

Dosage.—0.2 to 0.5 Gm. (2 to 7 grains) three or four times a day.

ARGENTAMIN — Liquor Argentamini.— Ethylene-Diamine-Silver Nitrate.—Argentamin is an aqueous solution of silver nitrate and ethylene-diamine, corresponding to 10 per cent. of silver nitrate.

It is prepared by dissolving 10 parts each of silver nitrate and ethylene-diamine in 100 parts of water. It is a colorless, alkaline liquid, turning yellow on exposure to the light, but not precipitable by chlorides or by albumin. It is not materially injured by exposure to light, as it may be cleared by filtration.

Actions and Uses.—Argentamin is antiseptic and astringent like other silver salts, with the asserted advantage of being non-irritant and more penetrating than silver nitrate. It is said to be useful in all cases where the non-caustic action of silver nitrate is indicated.

Dosage.—It may be used in the anterior urethra in 0.25 to 1 per cent. solution; in the posterior urethra in from 1 to 4 per cent. solution; in ophthalmology in 5 per cent. solution.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 74,634.

ARGONIN—Caseinsilver—Silvercasein.—Argonin is a compound of silver and casein containing 4.28 per cent. of silver.

It is prepared by precipitating an alkaline solution of casein with silver nitrate and alcohol. It is a fine, nearly white powder, easily soluble in water, forming an opalescent, faintly alkaline solution, which becomes clear on the addition of sodium chloride. It is also soluble in alkaline solutions, in egg albumin, blood serum, etc.

The usual reagents for silver do not affect its aqueous solution (1-20), which should remain clear on addition of sodium chloride, and should not be affected by hydrogen sulphide. On incineration, argonin should yield at least 4 per cent. of silver, which may be identified by the usual tests after solution in dilute nitric acid. It is incompatible with acids.

Actions and Uses.—Its action and uses are similar to those of silver nitrate, but it is claimed to have greater power of permeating living colloid membranes than other silver albumoses.

Dosage.—It is generally used in 0.5 per cent. solution, but even 20 per cent. solutions have been injected without producing irritant symptoms.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 575,277 (Jan. 12, 1897; expires 1914).

ARGYROL—Silver Vitellin.—Argyrol is a compound of a derived proteid and silver oxide, containing from 20 to 25 per cent. of silver.

The so-called vitellin is said to be prepared by electrolytic decomposition of serum albumin. To this product, finely suspended in water, is added freshly precipitated, moist silver oxide and the mixture is heated under pressure until combination occurs. The liquid is then evaporated to dryness *in Vacuo*. The change in the proteid is in question; probably a compound of hydrolyzed proteid (serum albumin) and silver oxide is formed.

Argyrol occurs in black, glistening, hygroscopic scales, freely soluble in water and glycerin, insoluble in oils and alcohol. The solution is yellowish or black, depending on concentration, and is not affected by boiling. Solutions of argyrol stain the skin. It gives a slight cloudiness or precipitate with sodium chloride and hydrochloric acid; on addition of ferric chloride the color is discharged with formation of a white cloud. With alkali and copper sulphate it gives a slight biuret reaction. It has a slight metallic taste. Silver is recognized in the usual way.

The compound is said to be incompatible with acids and most of the neutral and acid salts in strong solution.

Actions and Uses.—Solutions of argyrol (20 to 50 per cent.) are said to be non-irritating to mucous membranes. Taken internally it is said to be non-toxic. It is claimed to be an antiseptic. It is recommended in urethritis and cystitis, in conjunctivitis and in affections of the nose, throat and ear.

Dosage.—It is employed in from 10 to 25 per cent., and even stronger solutions.

Manufactured by A. C. Barnes Co., Philadelphia. U. S. trademark.

ARSANILIC ACID AND ITS DERIVATIVES

Arsanilic acid is derived from arsenic acid, $AsO.(OH)_3 = H_3AsO_4$, by replacing one hydroxyl by aniline (phenylamine); related compounds are made by substituting derivatives of aniline.

ARSACETIN.—Arsacetin is sodium acetyl arsanilate. $C_6H_4(NH.CH_2CO)(AsO.OH.CNa) + 4H_2O$ a compound derived from sodium arsanilate by replacing a hydrogen atom of the amino group in sodium arsanilate, with an acetyl radicle.

Arsacetin is a white crystalline substance, odorless, tasteless, and soluble to the extent of 10 per cent. in cold and 30 per cent. in hot water. It is free from arsenious or arsenic acid and solutions are not affected by boiling. It may be heated for an hour at 130° C. in the autoclave without undergoing decomposition.

If 1 part Arsacetin be dissolved in 10 parts water and a few drops of silver nitrate solution added, a pure white precipitate is formed.

The salt moistened with dilute hydrochloric acid and heated on platinum wire colors the flame yellow.

If a mixture of 0.1 Gm. Arsacetin, 0.5 Gm. dry sodium carbonate and 0.5 Gm. potassium nitrate be melted in a porcelain crucible, the white mass dissolved in 10 Cc. water and the solution neutralized with dilute nitric acid, a portion of the liquid yields a white crystalline precipitate on addition of an equal volume of magnesia mixture. A further portion of the neutral liquid furnishes a brown precipitate, soluble in ammonia and also in nitric acid, on addition of a few drops of silver nitrate solution.

If 0.2 Gm. Arsacetin be heated with 5 Cc. rectified spirit and 5 Cc. sulphuric acid, the odor of acetic ether is developed.

The aqueous solution of Arsacetin (1:10) should be clear and colorless, possess at most a faintly acid reaction and after addition of 5 Cc. dilute hydrochloric acid the liquid should not be altered by freshly prepared hydrogen sulphide solution.

If 0.1 Gm. Arsacetin be dissolved in 20 Cc. water, 1 Cc. dilute hydrochloric acid and 2 drops sodium nitrite solution added and filtered, an alkaline β-naphthol solution should produce no red coloration in the filtrate. An aqueous solution (1:20) to which 20 Cc. magnesia mixture is added, should afford no turbidity or precipitate within two hours.

0.5 gm. powdered Arsacetin, after heating for 4 hours at 110°-120° C., should show a loss in weight of about 20 per cent.

Action and Uses.—See Sodium Arsanilate. It is claimed to be less toxic than sodium arsanilate and it possesses the advantage of keeping well and being sterilizable without decomposition.

Dosage.—For hypodermic injection 0.1 Gm. (1½ grains) to 0.5 Gm. (7½ grains). For internal administration 0.05 Gm. (¾ grain) 3 to 4 times daily.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) U. S. trademark No. 75,046.

SODIUM ARSANILATE—Sodii Arsanilas.—Sodium Aniline Arsonate. Sodium Aminophenyl Arsonate. Sodium arsanilate, $C_6H_4(NH_2)$ $(AsO.OH.ONa) = C_6H_7O_3NAsNa$, is the sodium salt of arsanilic acid, $C_6H_4(NH_2)$ $(AsO.(OH)_2)$, 1:4.

It is prepared by condensing aniline and arsenic acid, eliminating water and isolating the arsanilic acids. The sodium salt is prepared by the usual methods.

Sodium arsanilate occurs as white, odorless crystals soluble in (5 or 6 parts) of water and is more soluble in warm water. It has a faint salty taste. On standing, the aqueous solution assumes a yellowish tint.

Sodium arsanilate crystallizes with somewhat varying amounts of water of crystallization. The arsenic content varies in different preparations from 23 to 26 per cent.

An acid solution of sodium arsanilate is not affected by hydrogen sulphide in the cold; when the solution is warmed the arsenic may be completely precipitated by hydrogen sulphide. If a solution of sodium arsanilate is treated with hydrochloric acid and potassium iodide, iodine is set free. The resulting liquid, whether freed of iodine or not, gives, even in the cold, a precipitate of arsenic sulphide when treated with hydrogen sulphide.

The arsenic and water content of sodium arsanilate may be determined by the methods given in THE JOURNAL A. M. A., Sept. 21, 1907, p. 1041.

An aqueous solution of the salt gives with mineral acids a white precipitate of arsanilic acid, soluble in excess of acid. An aqueous solution of the salt gives with silver nitrate solution a white precipitate of silver arsanilate. An aqueous solution of the salt, after the addition of hydrochloric acid and sodium nitrate gives a deep red coloration with a solution of β-naphthol in caustic soda.

Actions and Uses.—The arsenic of the arsanilic acid is liberated very slowly in the system, thus producing the ordinary therapeutic effects of arsenic, with a more continuous and less toxic action and less irritation. Toxic effects from excessive doses have been frequently noted, although the toxicity of sodium arsanilate is stated to be about 1/40 of that of arsenic trioxide. The poisonous effects appear to be due largely to the arsenic component, the aniline taking no part in them. It is claimed that the use of sodium arsanilate is not followed by irritation, abscess formation, etc., which sometimes follow the use of other preparations of arsenic. The use of sodium arsanilate in large doses has occasionally been followed by degeneration of the optic nerve, leading to blindness.

Sodium arsanilate has been recommended for the conditions which are favorably influenced by arsenic, such as anemia, nervous affections and diseases of the skin. It is said to have been very successful as a remedy for trypanosomiasis, both of animals and of man, and is also said to be useful in other protozoal diseases, such as syphilis, malaria, kala-azar, etc.

Dosage.—0.02 to 0.2 Gm. (⅓ to 3 grains) hypodermically every other day, gradually increasing, if necessary, until the single dose reaches 0.65 Gm. (10 grains) and until a total of 6.5 Gm. (100 grains) have been given. The drug should not be given by the mouth, as it is decomposed by the acid contents of the stomach, and toxic symptoms may result.

Proprietary preparations:

Sodium arsanilate was first introduced in the form of *Atoxyl*.

ATOXYL.—Atoxyl is sodium arsanilate containing about 26 per cent. of arsenic and corresponding closely to the formula $C_6H_4(NH_2)$. $(AsO.OH.ONa)+3\ H_2O$. It is a white powder having the properties given above.

Manufactured by Vereinigte Chemische Werke Actiengesellschaft, Charlottenburg, Germany. (Victor Koechl & Co., New York.) U. S. trademark No. 38,879.

Atoxyl Hypodermic Tablets, 1/3 grain.—Each tablet contains atoxyl 0.02 Gm. (⅓ grain).

SOAMIN.—Soamin is a form of sodium arsanilate containing approximately 22 per cent. of arsenic and corresponding to the formula $C_6H_4(NH_2)$. $(AsO.OH.ONa)+5\ H_2O$. It is a white crystalline substance having the properties given above.

Manufactured by Burroughs, Wellcome & Co., London, Eng., and New York. British trademark No. 302,133; U. S. trademark applied for.

Tabloid Soamin, 5 grains.—Each tablet contains soamin 0.3 Gm. (5 grains).

Tabloid Soamin, 1 grain.—Each tablet contains soamin 0.065 Gm. (1 grain).

ARSENOFERRATIN—Sodii Arsenoferrialbuminas.—Sodium Arsenoferrialbuminate.—Arsenoferratin is an arsenic iron albumin compound, obtained by introducing the element arsenic into the molecule of ferrialbuminic acid. Arsenoferratin contains iron in the ferric state, in organic combination equivalent to 6 per cent. metallic iron and arsenic, equivalent to 0.06 per cent. elementary arsenic.

Arsenoferratin is a brown, almost odorless and tasteless powder. It is soluble in water and easily soluble in dilute alkaline solutions.

Actions and Uses.—Arsenoferratin has the pharmacologic action of organic compounds of iron and of arsenic.

Dosage.—0.5 Gm. (7½ grains) three to four times daily.

Manufactured by C. F. Boehringer & Soehne, Waldhof, Mannheim, Germany. (Merck & Co., New York). Not patented. U. S. trademark No. 24,228.

Arsenoferratin Tablets.—Each tablet contains arsenoferratin 0.25 Gm. (4 grains).

Arsenoferratose.—Liquor Ferratini Arsenati.—Arsenoferratose is a 5 per cent. solution of arsenoferratin.

Arsenoferratin, 5 parts, is dissolved with the aid of a small quantity of sodium hydroxide in water, 68 parts, glycerin, 20 parts, alcohol, 6 parts, and Angostura essence, 1 part.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) three to four times daily.

For the determination of Iron and Arsenic in Arsenoferratose, the following methods are furnished:

Twenty-five Cc. of arsenoferratose are evaporated to a viscid consistency in a capacious tared crucible and the residue heated in a drying oven at 100 degrees C. for three hours to constant weight. After the crucible and its contents have been allowed to cool in a desiccator, it is weighed. The weight of the evaporated residue multiplied by 4 should be about 23. The weighed residue is now carefully incinerated, and finally ignited. After it has cooled, it is moistened with nitric acid, and again ignited, and finally taken up with 10 Cc. hydrochloric acid. The solution is diluted with 30 Cc. water, and when cold, 3 Gm. potassium iodide are added and the mixture allowed to stand for an hour in a well-stoppered bottle at the ordinary temperature. It is then titrated with decinormal sodium thiosulphate solution. The iodine liberated should require about 12.5 Cc. of tenth normal thiosulphate solution.

Fifty Cc. of the arsenoferratose contained in a distillation flask ated to about one-third of its original volume. To the residue are of about 500 Cc. capacity, are heated on a water bath and evapornow added 80 Cc. of arsenic-free concentrated hydrochloric acid and 20 Cc. arsenic-free, 25 per cent. solution of ferrous chloride, and the arsenic chloride distilled over, the receiver being kept well cooled by means of cold water. The contents of the receiver are then supersaturated with sodium bicarbonate, and the arsenic then titrated with the tenth-normal iodine solution: 0.4 Cc. decinormal iodine solution should be required, corresponding to a content of 0.003 Gm. in 100 Cc. arsenoferratose.

ARSEN-TRIFERRIN—Arsentriferrinum.—Arsen-Triferrin is an iron aresnoparanucleate containing arsenic in organic combination and standardized to contain a definite amount of arsenic by diluting with iron paranucleate. It should contain about 16 per cent. of iron, 0.1 per cent. of arsenic (As.), and 2.5 per cent of phosphorus, all in organic combination.

Arsen-Triferrin is an orange colored, tasteless powder, soluble in dilute alkalies from which it can be precipitated by the addition of an acid. It is also soluble in about 8 per cent. of hydrochloric acid on warming.

The determination of the amount of iron, arsenic and phosphorus in arsentriferrin is carried out according to the method in "Prüfungsvorschriften für die pharmazeutischen Spezialpräparate." (Knoll & Co.)

Actions and Uses.—Arsen-Triferrin passes through the stomach unchanged and undissolved, but is dissolved in the intestines and absorbed. This behavior prevents injurious action of arsenic on the gastric mucous membrane.

Arsen-Triferrin is said to be useful in cases of anemia which are rebellious to iron alone, and in neurasthenia, hysteria, and in skin diseases.

Dosage.—5 grains three times a day after meals.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany and New York (Merck & Co., New York). U. S. trademark No. 36,747.

Arsen-Triferrin Tablets, 5 grains.—Each tablet is said to contain arsen-triferrin 0.3 Gm. (5 grains).

Arsen-Triferrol. Elixir Arsen-Triferrini. Arsen-Triferrol is an elixir of arsen-triferrin containing in each 4 Cc. (1 fluidram) about 0.06 Gm. (1 grain) of arsen-triferrin in a menstruum containing 15 per cent of alcohol. It is prepared by dissolving a soluble form of arsen-triferrin in a vehicle consisting of water, alcohol, tincture of orange, compound tincture of cardamom and vanillin.

ASPIRIN.—Acidum Acetylsalicylicum.—Acetylsalicylic Acid. Acidum Acetylosalicylicum (Pharm. Helvetica, edit. 4; Pharm. Danica, 1907; Pharm. Svecica, edit. 9; Pharm. Hungarica, edit. 3)—Acidum Acetylsalicylicum (Pharm. Française, 1908)—Acetylsalicylic acid, $C_6H_4.(CH_3CO).COOH, 1:2 = C_9H_8O_4$, is the acetyl derivative of salicylic acid.

It is prepared by the prolonged heating of 50 parts of salicylic acid and 75 parts of acetic anhydride at about 150° C. (302° F.)

under a reflux condenser, and subsequent purification, by recrystallization from chloroform.

It forms small, colorless, crystalline needles, melting at 135° C. (275° F.), odorless and having an acidulous taste. It is soluble in 100 parts of water and freely soluble in alcohol or ether. It is readily split up on boiling with water or with alkalies with the production of acetic acid and salicylic acid or a salicylate.

It forms clear, colorless solutions, which do not develop a violet color on the addition of ferric chloride unless previously hydrolysed by boiling with sodium hydroxide. It gives no reaction with silver nitrate, and should leave no residue when heated on platinum foil.

It is incompatible with heat, moisture, alkalies, their carbonates and bicarbonates. It keeps well when properly protected.

Actions and Uses.—It acts like salicylic acid, over which it possesses the advantage of producing less of the undesired local and systemic side effects, on account of the slow liberation of the salicylic acid. It is claimed to pass the stomach unchanged, the decomposition beginning in the intestine.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in capsules or wafers, or dissolved in sweetened water, or dry on the tongue, followed by a swallow of water. The powder should be dispensed in wax paper.

Manufactured by Farbenfabriken vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 644,077 (Feb. 27, 1900; expires 1917). U. S. trademark No. 32,805.

BARIUM CHLORIDE—Barii Chloridum.—Baryum Chloratum (Pharm. Germanica, edit. 4; Pharm Helvetica, edit. 4). Barium Chloride ($BaCl_2 2H_2O$) is the barium salt of hydrochloric acid.

Barium chloride occurs as colorless trimetric plates or glistening scales, odorless, non-efflorescent and having an unpleasant, bitter, sharp, saline taste. It dissolves in 2.5 parts cold and in 1.5 parts boiling water, forming a neutral solution; but is insoluble in alcohol. Barium chloride becomes anhydrous when dried at 120° C. (248° F.).

An aqueous solution of the salt yields, with diluted sulphuric acid, a heavy white precipitate, insoluble in strong acids, and with silver nitrate a curdy, white precipitate, insoluble in nitric acid but readily soluble in ammonia water. Diluted alcohol, after remaining in contact with the salt for several hours, should, on ignition, give a pure yellowish-green flame free from red (absence of traces of strontium). An aqueous solution of barium chloride should not be precipitated by ammonium sulphide nor should any residue remain after adding excess of diluted sulphuric acid to the solution, filtering, and evaporating to dryness. Twenty Cc. of the aqueous solution (1 to 20) must not turn blue on the addition of 0.5 Cc. of potassium ferrocyanide T. S.

Action and Uses.—Barium chloride is a toxic substance, its most striking effects being exerted upon muscle tissue, especially unstriped and heart muscle. In large doses it affects the spinal cord and medulla. By actively stimulating peristalsis, through action on the muscle wall, and by its direct irritant action, it readily produces vomiting and purging. It strengthens the cardiac contraction by direct action on the heart muscle, and by this means and still more by direct action on the vessel walls it greatly increases blood pressure, acting like digitalis. It acts on the muscles like veratrin. It first greatly excites and then paralyzes the spinal cord and medulla. Given in very dilute solution, absorption is small and the barium is deposited in the bones. Injected intravenously it causes tonic and clonic spasms, because of stimulation of the spinal cord and medulla.

In fatal doses it causes hemorrhages into the stomach, intestines and kidneys.

Its clinical use has been attended with little success, chiefly because of the gastrointestinal irritation and high toxicity. It has, however, been used in cardiac disease with insufficient blood pressure, as a general "tonic," and with less reason in tremors, in scleroses of the central nervous system, internally and locally in varicose veins, etc.

In poisoning the most direct antidote against the portion remaining in the gastrointestinal tract is sodium sulphate, which produces insoluble barium sulphate.

Its use is attended with considerable danger.

Dosage.—0.006 to 0.003 Gm. (1/10 to ½ grain) or 2 to 4 Cc. (30 to 60 minims) of a 1 per cent. solution (5 grains to the fluidounce). Fatal, 0.80 to 0.90 Gm. (13-15 grains). It should always be well diluted before giving.

Internally used in syphilis, scrofula and tumor albus in doses of 0.03-0.10 Gm. (½ to 1½ grains) 3 to 4 times per day; for heart disturbances 0.2-0.4 Gm. (3 to 6 grains) per day. Maximum dose per day 0.6 Gm. (9 grains). Externally employed as an eye-wash in scrofulous eye affections in 10 per cent. solution.

BENZOSALIN.—Methylis Benzoyl-Salicylas.—Benzoyl-Salicylic-Acid-Methylester—Methyl Benzoyl-Salicylate. Benzosalin is methyl benzoyl salicylate $C_6H_4.O(CH_3).COO(C_6H_5CO)$, $1:2 = C_{15}H_{12}O_4$ the benzoyl salicylic acid ester of methyl alcohol.

Benzosalin is prepared by a reaction between the methylester of salicylic acid and benzoyl chloride in the presence of sodium hydroxide. The resulting product is washed with water and after drying is crystallized out from alcohol.

Benzosalin consists of fine, white crystals with a very faint aromatic odor. It melts at about 85° C. (185° F.). It burns leaving no residue. It dissolves readily in chloroform, benzene and in 35 parts of 90 per cent. cold alcohol, also in pure concentrated sulphuric acid.

Actions and Uses.—Benzosalin is said to pass the stomach unchanged and to be decomposed into its constituents, benzoic and salicylic acids in the intestines. It is said to be free from the undesirable by-effects of salicylic acid. It is claimed that benzosalin is an intestinal antiseptic.

Benzosalin is said to be useful in rheumatic affections, such as arthritis, neuralgia, sciatica and migraine, and in arthritis deformans.

Dosage.—0.5 to 1 Gm. (7½ to 15 grains). Daily dose 3 to 4 Gm. (45 to 60 grains) in powder or tablets.

Manufactured by F. Hoffmann-La Roche & Co., Basel, Switzerland. (The Hoffmann-La Roche Chemical Works, New York.) U. S. Patent No. 799,706 (Sept. 19, 1905; expires 1922). Controlling Benzoyl Salicylic Acid. Name "Benzosalin" registered No. 58,757.

Benzosalin Tablets, 5 grains.—Each tablet contains benzosalin 0.3 Gm. (5 grains).

BERBERINE HYDROCHLORIDE.—Berberinæ Hydrochloridum.—Berberine hydrochloride is the hydrochloride, $C_{20}H_{17}NO_4$ $HCl + 2H_2O$, of an alkaloid obtained from *Hydrastis canadensis* and *Berberis vulgaris.*

Berberine hydrochloride occurs as bright yellow acicular crystals of amorphous powder, slightly soluble in alcohol to which it imparts a deep yellow color. It is soluble in 300 parts cold water, but dissolves more easily in hot water.

An aqueous solution of berberine or its salts treated with chlorine or bromine water produces a blood red color. Bromine water in excess precipitates the reddish-brown berberine tetrabromid-hydrobromide—$C_{20}H_{17}NO_4.Br_4HBr$, which is converted by washing with alcohol or heating to 100° to the yellow-brown berberine dibromide-hydrobromide $C_{20}H_{17}NO_4.Br_2.HBr$.

Ammonium sulphide precipitates from an alcoholic solution of berberine sulphate the polysulphide $(C_{20}H_{17}NO_4)_2H_2S_5$ which crystallizes in brown-black needles.

Berberine solutions even if very dilute when treated with potassium iodide solution yield a yellow precipitate of berberine hydroiodide.

Action and Uses.—Given by mouth, it acts as a bitter stomachic. Very large doses, although not fatal, cause diarrhea, tremors, general weakness, low blood pressure (from depression of vasomotor center and of cardiac muscle), rapid pulse (depression of vagus endings) and respiration. Recovery is slow. Nephritis may be present. Subcutaneous injection kills by paralysis of respiration, with symptoms of asphyxia and paralysis. It has been used as a bitter tonic for diarrhea, the vomiting of pregnancy and as a febrifuge.

Dosage.—0.06 Gm. to 0.3 Gm. (1 to 5 grains). As much as 20 grains have been taken without obvious effect other than a loose stool.

BETANAPHTHOL BENZOATE—Naptholis Benzoas.—Benzonaphthol. Benzoyl-Beta-Naphthol.—Beta-naphthol benzoate is beta-naphthyl benzoate, $C_6H_5.COO.C_{10}H_7 = C_{17}H_{12}O_2$, the benzoic ester of beta-naphthol.

Beta-naphthol benzoate is obtained by heating beta-naphthol and benzoyl chloride together at 170° C. (338° F.), extracting the product with alcohol, and crystallizing.

It forms colorless needles, or a white crystalline powder, colorless and tasteless, melting at 107-110° C. (224.6-230° F.). It is almost insoluble in water, but readily soluble in alcohol and in ether; also soluble in chloroform, in glycerin and in olive oil.

It is decomposed by heating with caustic alkalies into naphthol and a benzoate which will then give their characteristic reactions.

To test beta-naphthol benzoate for the presence of beta-naphthol it should be shaken several times with dilute solution of sodium hydroxide (1:10) and immediately filtered. If beta-naphthol is present in considerable amount it will separate as a turbidity or precipitate after acidifying with dilute sulphuric acid. If the amount of beta-naphthol is small no precipitate appears, but the alkaline solution shows a bluish fluorescence and if it is boiled with chloroform a green color is produced.

A solution of beta-naphthol benzoate should not give a violet color with chloride of lime or solution of iodine and alkali.

It is incompatible with antipyrine, camphor, phenol, ferric chloride, menthol, potassium permanganate, or ethyl carbamate (urethane).

If 1 Gm. beta-naphthol benzoate be shaken with 10 Cc. water and the solution filtered, the filtrate acidified with nitric acid, should not become turbid on addition of silver nitrate solution.

Beta-naphthol benzoate heated on a platinum foil should leave no weighable residue.

Actions and Uses.—Beta-naphthol benzoate is split up into its constituents on reaching the intestinal tract and is believed to act as an antiseptic. It is said to be diuretic. It is used internally as an intestinal antiseptic in diarrhea and typhoid fever. Externally it is said to be useful as a parasiticide in the form of 3 to 10 per cent. ointment, and has been used in psoriasis, eczema, scabies, etc.

NOTE: Wide difference of opinion exists among authorities as to the actual efficiency of any intestinal antiseptics and most urinary antiseptics. Whatever opinion regarding this is followed, it should be remembered that if used freely or for a long time any of them may have irritating effects upon the digestive tract or undesirable effects upon other tissues. Reasonable caution should therefore be exercised in using them.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains); maximum dose, single, 1 Gm. (15 grains), daily 4 Gm. (60 grains).

Non-proprietary preparations:

Beta-naphthol Benzoate, Heyden. Manufactured by Fabrik von Heyden, Radebeul near Dresden, Germany (Merck & Co., New York). Not patented or trademarked.

Benzonaphthol, Farbwerke. Manufactured by Farbwerke, vorm. Meister Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). Not patented or trademarked.

BETOL—Naphtholis Salicylas.—Naphthalol—Naphthol-Salol—Salinaphthol.—Betol is beta-naphthyl salicylate, $C_6H_4.OH.COO(C_{10}H_7) = C_{17}H_{12}O_3$, the salicylic acid ester of beta-naphthol.

Betol is obtained by heating beta-naphthol-sodium and sodium salicylate with phosphorus oxychloride at 120°-130° C. (248° to 266° F.).

It is a white, shining crystalline powder, colorless and tasteless melting at 95° C. (203° F.). It is insoluble in cold or hot water or glycerin, difficultly soluble in cold alcohol or turpentine, easily soluble in boiling alcohol, in ether, in benzene, and in warm linseed oil. In the cold it is not changed by acids or alkalies of moderate concentration. When heated with alkalies it is decomposed into its constituents, which, if the solution is acidulated, will crystallize.

It is distinguished from salol by its higher melting point and by the production of a brownish-green color, when a trace of nitric acid is added to its yellow colored solution in pure sulphuric acid. It burns on platinum foil, leaving no residue (absence of fixed mineral impurities).

If 1 Gm. of betol is shaken with 30 Gm. of boiling water and filtered through a moistened filter, the filtrate should not have an acid reaction (absence of salicylic, hydrochloric or phosphoric acid) nor should it after cooling show a crystalline deposit (salicylic acid or beta-naphthol) and should not become turbid on the addition of silver nitrate (chlorides or phosphates) or barium nitrate (absence of sulphate) nor should it give a violet color with solution of ferric chloride.

Actions and Uses.—Betol undergoes no change in the stomach, but is split up into its original compounds when it reaches the intestinal tract by the pancreatic juice and intestinal secretions. It is believed to act as an intestinal antiseptic and, being excreted in the urine, to act in a similar way in the bladder. (See note under Beta-Naphthol Benzoate.)

It has the antirheumatic properties of salicylic acid. It is said to be useful for intestinal fermentations, catarrh of the bladder, particularly in gonorrheal cystitis, for rheumatism, etc.

Dosage.—0.3 to 0.5 Gm. (4 to 8 grains) in cachets, milk or emulsion.

Manufactured by the Heyden Chemical Works, New York. U. S. trademark.

BILE SALTS

The bile of man and of several animals contains in varying proportions the sodium salts of conjugated cholic acids; in ox and human bile especially glycocholic acid $C_{26}H_{43}O_6N$; and taurocholic acid, $C_{26}H_{45}O_7NS$. Fresh ox gall is said to contain about 3 per cent. each of sodium glycocholate and sodium taurocholate.

The sodium glycocholate and taurocholate may be separated in the following manner: Dry ox bile is treated with absolute alcohol and the tincture precipitated by ether in excess. Both salts are deposited and the glycocholate crystallizes upon standing, the taurocholate remaining in amorphous form, resembling oily or resinous matter. If the deposit is dissolved in water, solution of lead acetate will throw down a lead glycocholate, while the addition of lead subacetate to the remainder will precipitate the taurocholate (U. S. Dispensatory, p. 490).

Tests: All the bile acids respond to Pettenkofer's test. A small portion of the salt is dissolved in a little concentrated sulphuric acid in a small porcelain dish and warmed, care being taken that the temperature does not rise higher than 60° to 70° C. A 10 per cent solution of cane sugar is then added drop by drop while the liquid is stirred with a glass rod. If compounds of cholic acid are present a beautiful red color will appear, which does not disappear at room temperature, but usually in the course of a day becomes bluish violet. The red liquid shows in the spectrum two absorption bands, one at F and the other between D and E near to E. Care must be taken not to heat too much nor to add too much sugar. The sulphuric acid must be free from sulphurous acid and the lower oxides of nitrogen. As albumin, oleic acid, amyl alcohol, morphine, etc., may give a similar reaction, spectroscopic examination should not be omitted in doubtful cases (Hammarsten, Lehrbuch der physiolog. Chemie, p. 312).

Furfurol Test (Mylius): The substance is dissolved in alcohol and for every one cubic centimeter of the alcoholic solution, one drop of a 1:1000 furfurol solution and one Cc. of concentrated sulphuric acid are added and the mixture cooled, if necessary, so that the temperature may not rise too high. The same color reaction occurs as in Pettenkofer's test.

Actions and Uses.—The bile salts constitute the main active principles of bile, and therefore share the actions and uses of the latter, perhaps with the advantage of more constant composition. When injected into the circulation they cause severe nervous and cardiac depression, not observed when they are given by mouth. They are generally credited with a slight antiseptic and laxative action, with enhancing the efficiency of the resinous hydragogue cathartics, and with amulsifying and hence favoring the absorption of fat. They stimulate the secretory activity of the liver, increasing both the fluids and solids of the bile. While they are regarded as the most powerful of the so-called cholagogues, it is doubtful if even their effect is very pronounced.

They may be used in obstructive jaundice, although the rationale is somewhat doubtful; their use in biliary fistula is more reasonable, if the nutrition is noticeably affected.

Proprietary Preparations:

BILEIN—Sodii glyco-taurocholas bovis—Abbott.—Bilein is the name given to a mixture of the essential salts of the bile.

Actions and Uses.—See Bile Salts.

Manufactured by the Abbott Alkaloidal Co., Chicago. U. S. trademark No. 44,140.

Bilein Pills, 1/4 grain.—Each pill contains bilein 0.015 Gm. (1/4 grain).

Bilein Pills, 1/8 grain.—Each pill contains bilein 0.008 Gm. (1/8 grain).

Bilein Pills, 1/12 grain.—Each pill contains bilein 0.006 Gm. (1/12 grain).

BILE SALTS-Fairchild.—Bile salts-Fairchild is a preparation obtained from fresh ox-gall, consisting essentially of sodium glycocholate and sodium taurocholate, in the proportion existing in ox bile.

Action and Uses.—See Bile Salts.

Dosage.—0.13 to 0.4 Gm. (2 to 6 grains); 4 to 5 Gm. (60 to 75 grains), per day.

Manufactured by Fairchild Bros. & Foster, New York.

COLALIN.—Colalin consists essentially of a mixture of hyoglycocholic and hyotaurocholic acids, obtained from bile. To preserve the pulverulent condition a little magnesium carbonate is added.

Colalin is a yellow powder of faint odor and persistent bitter taste. It melts at 103° to 107° C. It is slightly soluble in water and acid toward litmus.

Colalin should be readily soluble in alcohol and this solution should rotate polarized light to the right. It should dissolve almost entirely in a dilute solution of sodium carbonate with evolution of carbon dioxide and in a dilute solution of sodium hydroxide. The solution in sodium hydroxide should not be rendered turbid by the addition of barium hydroxide T. S. (absence of fatty acids). It should not contain more than a trace of sulphur (absence of taurin).

Actions and Uses.—See Bile Salts, above.

Dosage.—0.015 to 0.030 Gm. (¼ to ½ grain) three to four times daily; for children from 0.008 to 0.015 Gm. (⅛ to ¼ grain).

Manufactured by Rufus Crowell & Co., Somerville, Mass. (Schieffelin & Co., New York).

Colalin Tablets, ½ grain.—Each tablet contains colalin 0.03 Gm. (½ grain).

Colalin Tablets, ¼ grain.—Each tablet contains colalin 0.015 Gm. (¼ grain).

Colalin Tablets, ⅛ grain.—Each tablet contains colalin 0.008 Gm. (⅛ grain).

BISMUTH SUBCARBONATE PREPARATIONS.

CREMO-BISMUTH—Mistura Bismuthi Subcarbonatis Hydrati, Mulford.

Cremo-bismuth is a mixture said to consist of bismuth subcarbonate suspended in water in a finely divided state, each 100 Cc. representing the equivalent of 8.66 Gm. (40 grains in one fluid ounce) of bismuth subnitrate.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams) every two or three hours.

Prepared by the H. K. Mulford Co., Philadelphia. U. S. trademark No. 29,335.

LAC BISMO—Mistura Bismuthi, Hart.—Lac Bismo is a mixture said to consist of bismuth hydroxide and bismuth subcarbonate, suspended in water, in a finely divided state, and containing 0.16 Gm. (2½ grains) of the salts in 4 Cc. (1 fluidram).

Dosage.—4 to 16 Cc. (1 to 4 fluidrams).

Prepared by E. J. Hart & Co., Ltd., New Orleans, La. U. S. trademark.

BISMUTH SUBGALLATE PREPARATIONS.

BISMUTH SUBGALLATE.—Bismuth subgallate is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians Manual of the Pharmacopeia and the National Formulary.

AIROL—Bismuthi Iodosubgallas—Bismuth Oxyiodogallate. Airoform.—Airol, $C_6H_2(OH)_3(COOBiI(OH) = C_7H_4O_6IBi$., is a combination of bismuth oxyiodide (subiodide) and gallic acid.

It is prepared by heating molecular quantities of bismuth subgallate and hydriodic acid or bismuth oxyiodide and gallic acid, in the presence of water, until a grayish-green product results, which is drained and dried.

It is a voluminous grayish-green, odorless and tasteless powder, insoluble in alcohol, ether, chloroform, and olive oil, slightly soluble in glycerin. It is practically insoluble in water, communicating to water a red color on standing, slowly in the cold, but readily when heated, being decomposed with liberation of iodine and bismuth subgallate. It is readily soluble, with decomposition, in dilute alkalies and mineral acids. It is decomposed on exposure to moist air, turning red, but in admixture with glycerin and a little water it long remains unaltered.

Airol may be identified by the appropriate tests for its components.

It is incompatible with water and calomel. It should not be exposed to moist air.

Actions and Uses.—As it liberates iodine in the nascent state in the presence of wound secretion it is said to be useful as a substitute for iodoform in the treatment of wounds, burns, skin diseases, gonorrhea, etc.

Dosage.—It is used externally in the pure state or diluted with talc, or in the form of a 10 per cent. suspension in equal parts of glycerin and water, or as a 10 to 20 per cent. ointment with 2 parts of petrolatum and 7 parts of wool fat.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 544,104 (Aug. 6, 1895; expires 1912). German patents Nos. 80,399 and 82,593. U. S. trademark No. 79,760.

BISMAL—Bismuthi Methylen-Digallas.—Bismal, $4(C_{15}H_{12}O_{10}), 3Bi(OH)_3 = Bi_3C_{60}H_{57}O_{49}$, is a compound of bismuth hydroxide and methylendigallic acid.

It is obtained by digesting 4 molecules of methylendigallic acid with three molecules of bismuth hydroxide in water.

It is a voluminous gray-brown powder, insoluble in water or gastric juice, but soluble in alkalies, forming yellowish red solutions.

Actions and Uses.—Bismal is an astringent and is said to be useful for the treatment of chronic diarrhea.

Dosage.—0.12 to 0.3 Gm. (2 to 5 grains) in cachets or powder.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 605,246 (June 7, 1898; expires 1915). German patent No. 87,099 (dropped in 1890).

BISMUTH AND IRON CITRATE (SOLUBLE), Wellcome Brand—Bismuthi et Ferri Citras, Wellcome.—Bismuth and iron citrate (soluble), Wellcome brand is a "scale salt" containing bismuth citrate and ferric citrate in amounts corresponding to from 38 to 40 per cent. each of the respective anhydrous salts (corresponding to 20 to 21 per cent. bismuth and 8.7 to 9.1 per cent. iron), the combination being rendered soluble in water by means of ammonia.

Bismuth and iron citrate (soluble) occurs in yellowish-green scales, readily soluble in water, having a saline, mildly ferruginous taste.

A solution of bismuth and iron citrate (soluble) is acid toward litmus; addition of dilute acids or of ammonia water renders the solution darker but does not cause precipitation; addition of sodium hydroxide T. S. causes formation of a reddish-brown precipitate and evolution of ammonia.

The iron content of bismuth and iron citrate soluble may be determined by the methods prescribed for ferri et ammonii citras U. S. P. The amount of bismuth is determined by precipitating by hydrogen sulphide from an acid solution, dissolving the bismuth sulphide obtained in dilute nitric acid, precipitating the bismuth from this solution by ammonium carbonate and weighing as bismuth oxide.

Actions and Uses.—It has the properties of iron and soluble bismuth salts. Its administration is proposed by the manufacturer in cases of dyspepsia accompanied by anemia, that the sedative action of bismuth may be exerted on the digestive organs, while the iron may combat the anemia.

Dosage.—0.3 to 0.65 Gm. (5 to 10 grains).

Manufactured by Burroughs, Wellcome & Co., London and New York. Not patented or trademarked.

BISMUTH AND LITHIUM CITRATE (SOLUBLE), Wellcome Brand—Bismuthi et Lithii Citras Solubilis, B. W. & Co.—Bismuth and lithium citrate (soluble), Wellcome brand, is a "scale salt" of bismuth and lithium citrate containing 40 to 45 per cent. of bismuth (Bi) and 2.5 to 3 per cent. of lithium.

Bismuth and lithium citrate (soluble) occurs in colorless scales, readily soluble in water. Its aqueous solution is acid toward phenolphthalein, but alkaline toward lithmus T. S.

Tests. If 1 Gm. of the salt is warmed with 10 Cc. potassium hydroxide no ammonia is evolved (absence of ammonium compounds).

Actions and Uses.—Recommended by the manufacturers as a convenient form of medication when the effects of both lithium and bismuth are desired, as in gouty dyspepsia.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains).

Manufactured by Burroughs, Wellcome & Co., London, England, and New York. Not patented or trademarked. patented in U. S.

BORNYVAL.—Bornyval is a name applied to capsules containing borneol isovalerate $C_{10}H_{17}O.C_5H_9O$, the isovaleric acid ester of borneol, 0.25 Gm. (4 minims).

It is prepared by the condensation of equal molecular quantities of borneol and isovaleric acid.

Borneol isovalerate is a clear aromatic liquid, having an odor resembling oil of rosemary and at the same time a weak odor and taste of valerian. It is insoluble in water, but dissolves in all proportions of alcohol and ether. The liquid boils at 255° to 260° C. (417° to 426° F.) under ordinary pressure. At a pressure of 50 mm. it boils at 150° to 170° C. (302° to 338° F.). Its specific gravity is 0.945 to 0.951; it is dextrorotatory. The alcoholic solution 1:10 after the addition of a drop of phenolphthalein solution should be distinctly reddened by a drop of tenth-normal alkali.

Actions and Uses.—As borneol isovalerate forms a large part of oil of valerian, its action is similar to that of the official drug. It reduces reflex excitability and acts as a nervous sedative.

It is said to be useful in the various neuroses, especially those of the circulatory, digestive and central nervous systems.

Dosage.—0.25 to 0.75 Gm. (4 to 12 minims) from two to four times daily. It is best given after meals with some milk, coffee or similar drink to avoid eructations.

Manufactured by J. D. Riedel, Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. trademark No. 56,451. Not patented in U. S.

BROMETONE.—Tribrom-Tertiary-Butylalcohol. — Acetone-Bromoform.—Brometone is 1,1,1-tribrom-2-methyl-propan-2-ol, $CBr_3.C(OH)(CH_3).CH_3 = C_4H_7OBr_3$, produced by the reaction of acetone on bromoform.

Made by the action of caustic alkalies on a mixture of bromoform and acetone.

Occurs in fine white, prismatic crystals which possess a camphoraceous odor and taste. It is slightly soluble in water, soluble in alcohol, ether, benzin and most organic solvents. It melts at about 167° F. (332.6° F.) and volatilizes on exposure to air.

Actions and Uses.—Brometone is claimed to have the sedative action of the bromides without the disadvantage of producing bromism. In doses of 0.3 Gm. (5 grains) four or five times a day, in adults, it is claimed to cause no unpleasant results and to produce no disturbance of the digestive organs, and to have no appreciable effect on the secretions. Its action

is prompt and its effect is manifest for several hours. In doses exceeding 1.6 Gm. (25 grains) daily it may produce dizziness, vertigo, anorexia, and mental hebetude, all of which symptoms disappear on discontinuance of its use. Therapeutically it has been said to be useful in mild conditions of excitation and insomnia, in so-called narcotic abstinence, in hysteria, and in nervous affections generally. It relieves some forms of cough and is said to produce amelioration in some cases of epilepsy. It has been used to relieve dizziness due to labyrinthine disturbances.

Dosage.—The dose is 0.3 Gm. (5 grains), dry or in capsules, to be repeated two or three times during twenty-four hours.

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. trademark.

BROMIPIN.—Brominized Sesame Oil. Merck.—Bromipin is a bromine addition product of sesame oil.

It is prepared by the action of bromine chlorid on sesame oil, in sufficient quantities, theoretically calculated, to produce the required brominization.

It is a yellow, oily liquid, having a purely oleaginous taste, and having a sp. gr. of 0.995 to 0.997.

If to 1 Cc. of bromipin in 1 Cc. of chloroform a few drops of phenolphthalein solution be added, the addition of one drop of half normal potassium hydroxide should produce a red color (limit of acidity). Estimation of bromine; 1 Gm. of bromipin 10 per cent., or 0.3 Gm. of bromipin 33⅓ per cent. is boiled with a solution of 2 Gm. of potassium hydroxide in 10 Cc. of alcohol until saponified. The solution is evaporated on a water bath, the residue is charred and the char is repeatedly extracted with small portions of water, and these are passed through a filter. To the filtrate 5 Cc. of nitric acid, 15 Cc. of tenth-normal silver nitrate and 1 Cc. ferric-ammonium sulphate test solution are added, and the excess of silver nitrate is determined with tenth-normal ammonium sulphocyanate. 1 Cc. tenth-normal silver nitrate=0.007936 Gm. of bromine.

Actions and Uses.—Bromipin acts like the bromides, but as it yields its bromine more slowly it is thought to have less tendency to produce brominism. The combination is not broken up in the stomach, but a portion of the bromine is split off as soon as the oil enters the intestine. The oil with the remaining bromine is easily absorbed, and, similarly to other fats, is largely deposited in the tissues, where it is slowly split up. It is said to be more lasting in its action than the bromides.

Dosage.—1.3 Gm. (20 grains) of 33 1-3 per cent. bromipin or 4 Cc. (1 fluidram) of 10 per cent., which may be increased in cases of epilepsy to from 2.6 to 10.4 Gm. (40 to 160 grains) of 33 1-3 per cent. bromipin or from 8 to 32 Cc. (2 to 8 fluidrams) of 10 per cent. bromipin. The liquid may be given in emulsion with peppermint water and syrup, or pure, flavored with oil of peppermint.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York.) U. S. patent No. 774,224 (Nov. 8, 1904; expires 1921). German patent No. 96,495.

Bromipin, 10 per cent.—Bromipin, 10 per cent. is a 10 per cent. brominized sesame oil.

Bromipin, 33⅓ per cent.—Bromipin, 33⅓ per cent. is a 33⅓ per cent. brominized sesame oil.

Capsules of Bromipin, 33⅓ per cent.—Each capsule contains bromipin 33⅓ per cent. 2 Gm. (30 grains).

Tablets of Bromipin, 33⅓ per cent.—Each tablet contains bromipin 33⅓ per cent. 1.2 Gm. (19 grains).

BROMO-MANGAN—Liquor Ferro-Mangani Bromopeptonati "Dieterich."—Bromo-mangan is Ferro-mangan Dieterich with the addition of 3 per cent. of bromopeptone. Bromopeptone contains 11 per cent. of bromine.

The process of preparation is the same as that given under Ferro-mangan "Dieterich" with the addition of a solution of bromopeptone.

Bromo-mangan is a clear dark brown liquid of agreeable odor and taste.

Method of Valuation: After determination of the percentage of iron and manganese, a test method should be employed as described by Dr. Karl Dieterich in Helfenberg Annals, 1901, pages 162-165, to ascertain the percentage of halogens in bromopeptone: About 0.5 bromopeptone should thoroughly mixed with a few grammes of a mixture of 1 part potassium nitrate and 2 parts sodium carbonate, either in a porcelain or platinum crucible. The mixture is then covered with a light layer of sodium carbonate, covered and carefully heated until reaction sets in. When finished a little potassium nitrate is added to obtain a smooth flux, then the molten mass is exposed to glowheat for about 15 minutes. After cooling the mass is dissolved in hot water, rinsed into a beaker, filtered, if necessary, acidulated with diluted acetic acid and bromate present reduced with sulphurous acid. The excess of acid is driven off by the heat, the liquid strongly acidulated with nitric acid, again heated, until the gas formation ceases, then precipitated while hot with silver nitrate. The silver bromide is collected on a weighed filter, washed with very dilute ammonia water, as the preparation contains hydrochloric acid, dried and weighed.

Actions and Uses.—Bromo-mangan is said to be a reconstructive tonic, blood-making adjuvant and a sedative.

It is claimed to be useful when anemia is associated with nervous disturbances, as in epilepsy, neurasthenia, hysteria, etc.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany (Reinschild Chemical Co., New York). U. S. trademark No. 44,333.

BROMURAL.—Bromural $(CH_3.CH(CH_3)CHBr.CO)HN.CO.NH_2 = C_6H_{11}N_2O_2Br$, is 2-monobrom-isovaleryl-urea obtained by the interaction of urea with brom-isovaleryl bromide.

Bromural forms small, white, almost tasteless needles which are easily soluble in hot water, ether, alcohol and alkalies, but less readily in cold water. It sublimes on heating and melts in the neighborhood of 145° C. (293° F.).

Bromural can be precipitated from a 10 per cent. sodium hydroxide solution with acids. The presence of bromine may be demonstrated with fusion with sodium carbonate and potassium nitrate and testing for a bromide with silver nitrate solution. On heating the alcoholic solution of bromural with sodium ethylate for several hours on the water bath, sodium bromide will precipitate. If this be filtered off and the filtrate evaporated, a crystalline mass will remain which can be recrystallized from water. This is dimethylacrylic acid, melting at 280° C.

If 1 Gm. bromural be boiled for about 1 minute with 10 per cent. solution of sodium hydroxide, ammonia obtained from the urea will be given off.

If the hot liquid be then cooled, acidified with nitric acid and extracted with ether, and the ether evaporated an oily fluid, 1-brom-isolvaleric acid, which has the specific odor of valeric acid, will remain.

The biuret reaction cannot be obtained. On melting bromural and adding concentrated sodium hydroxide solution and copper sulphate, no color reaction will take place.

Actions and Uses.—Bromural is a nerve sedative which is claimed to produce sleep without markedly affecting the circulation or respiration. All action by bromural is said to cease after from three to five hours. In many cases, however, the sleep caused by the preparation continues beyond the limits of its action. It is claimed to be useful as a nerve sedative and for the purpose of inducing sleep in functional nervous diseases. Bromural does not produce the desired effects in cases of insomnia where pain, cough, angina pectoris and excitement or delirium exist.

Dosage.—As a nerve sedative 0.3 Gm. (5 grains) three times daily; as a specific at bedtime, 0.6 Gm. (10 grains), which dose may be repeated if needful during the night, after the action of the first dose has ceased.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany (Knoll & Co., New York. Merck & Co., New York). U. S. patent No. 914,518 (March 9, 1909; expires 1926). U. S. trademark No. 61,165. German patent No. 185,962.

Bromural Tablets, 5 grains.—Each tablet contains bromural 0.3 Gm. (5 grains).

BROVALOL.—Brovalol is bornyl brom-valerate, $CH_3.CH(CH_3).CHBr.COO(C_{10}H_{17}) = C_{15}H_{25}O_2Br$, the brom-isovaleric-acid ester of borneol. It contains 25.2 per cent. bromine.

Brovalol is obtained by esterification of borneol with bromisovaleric acid or its derivatives.

Brovalol is a colorless, oily liquid, having a slight aromatic odor. Under 10 mm. pressure it boils at 163° C. (325.4° F.). It is insoluble in water but soluble in alcohol, chloroform and ether.

Action and Uses.—Brovalol acts as an analeptic, antispastic and nervine. It is claimed to be well tolerated even in large doses and to possess greater sedative power than similar valeric acid derivatives, due to its bromine content.

Dosage.—0.25 to 0.75 Gm. (4 to 12 grains) several times a day. It is supplied only in capsules (pearls), each containing 0.25 Gm. (4 grains).

Manufactured by Chemische Fabrik auf Actien vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 930,054 (Aug. 3, 1909; expires 1926). U. S. trademark applied for.

BUTYL-CHLORAL HYDRATE—Butyl-Chloral Hydratum.—Trichlorbutylidene Glycol—Croton Chloral Hydrate—Butyl-Chloral Hydras (British Pharm., 1908). Butyl-chloral Hydrate is 2, 2, 3-trichlorbutan-1, 1,-di-ol, $CH_3.CHCl.CCl_2.CH(OH)_2 = C_4H_7O_2Cl_3$, a crystalline product obtained by the addition of water to the liquid butyl chloral (2, 2, 3,-trichlorbutanol, $CH_3.CHCl.CCl_2.CHO$).

Butyl-chloral hydrate occurs in pearly white, trimetric laminæ, having a pungent but not acrid odor, and an acrid, nauseous taste. It fuses at about 77.8° C. (172° F.) to a transparent liquid, which, in cooling, commences to solidify at about 71.1° C. (160° F.). It is soluble in about 50 parts of water, and its own weight of glycerin or of alcohol (90 per cent.); it slowly dissolves in 20 parts of chloroform. From a solution in alcohol it is precipitated by the gradual addition of water, in the form of glob-

ules said to consist of butyl chloral alcoholate $C_4H_5Cl_3O.C_2H_5OH$. The alcoholic solution is neutral and the aqueous solution neutral or but slightly acid to litmus. It gives no precipitate with test-solution of silver nitrate. It does not yield chloroform when heated with solution of potassium hydroxide or with milk of lime (absence of chloral hydrate).

Actions and Uses.—Its action is similar to that of chloral, except that it is said to be less depressing and more analgesic. It has been especially recommended for facial neuralgia.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains).

CALCIUM LACTATE—Calcii Lactas.—Calcium lactate, $Ca(C_3H_5O_3)_2.5H_2O$, is the calcium salt of lactic acid.

It is prepared in the manufacture of lactic acid by the lactic acid fermentation of sugar or by the neutralization of lactic acid by calcium carbonate.

It occurs in white crystalline masses or powder, odorless and tasteless. It is soluble in 9.5 parts of water, easily soluble in hot water. At 100° C. (212° F.) it loses water of crystallization.

If calcium lactate be heated gently with a mixture of sulphuric acid and potassium permanganate the odor of aldehyde will be given off. An aqueous solution of calcium lactate will throw down a white precipitate, insoluble in water and acetic acid, on the addition of a solution of ammonium oxalate.

Actions and Uses.—Calcium lactate has the pharmacologic action of other calcium salts. Being less irritating than the chloride, it may be given subcutaneously. It is used in the belief that it will increase the coagulability of the blood.

CALOMELOL—Hydrargyri Chloridum Mite Colloidale.—Colloidal Calomel.—Calomelol is a soluble colloidal form of calomel, containing albuminoids.

According to the patent it is prepared by acting on a solution of sodium chloride in presence of a proteid with mercurous nitrate and precipitating the water soluble colloidal calomel by means of alcohol. The precipitate is washed with alcohol, redissolved in water with the aid of a little alkali, and from this solution the colloidal calomel is obtained either by evaporation or by precipitation with alcohol.

It forms a white-gray, odorless and tasteless powder, containing 80 per cent. of mercurous chloride and 20 per cent. of proteids. It is soluble in water, forming an opalescent solution; insoluble in alcohol, ether and benzene. It is precipitated from its aqueous solutions by acids, the precipitate being redissolved by alkalies.

Actions and Uses.—Its action is the same as that of calomel but it is claimed to be superior because of its solubility in water, acting more rapidly and efficiently, and to be non-irritant and particularly non-toxic. The indications for its use are the same as for calomel.

Dosage.—Internally the same as calomel. Externally it is used as a dusting powder, mixed with an equal quantity of starch or of a mixture of starch and zinc oxide, or in the form of calomelol ointment. It should be guarded from the light.

Manufactured by the Heyden Chemical Works, New York. U. S. patent No. 740,855 (Oct. 6, 1902; expires 1920). U. S. trademark.

Calomelol Ointment.—Calomelol Ointment is an ointement containing 28 per cent. of mercury in the soluble form of calomelol (which see) and 2 per cent. in the insoluble form.

It is prepared by combining 45 parts of calomel with sufficient lard to make 100 parts.

Dosage.—6 Gm. (90 grains) daily for inunction in syphilis.

CARBOSANT.—Santalolis Carbonas.—Carbosant is santalyl carbonate, $CO(OC_{15}H_{23})_2 = C_{31}H_{46}O_3$, the carbonic acid ester of santalol.

Carbosant is produced by the chemical interaction of santalol with carbonyl chloride, $COCl_2$, and alkalies, or with carbonic acid esters.

Carbosant is an oily yellow fluid, almost tasteless and odorless, insoluble in water, and soluble in alcohol and ether. It contains 94 per cent. of santalol.

Carbosant is saponified when heated with an alcoholic solution of caustic alkali with the production of potassium carbonate and santalol, both of which can be identified by appropriate tests.

Actions and Uses.—The action of carbosant which is chemically broken up into its component parts in the intestine is identical with that of santalol, the active constituent of official sandal wood oil. It tends to diminish the secretions of the mucous membrane of the urinary tract, and to relieve pain in the urinary organs.

Carbosant is said to be useful in the treatment of gonorrhea, cystitis and prostatitis.

Dosage.—0.6 Cc. (10 minims) three times daily. It may be given in capsules, each containing 0.3 Gm. (5 grains), 2 capsules being given three times daily.

Manufactured by the Chemische Fabrik von Heyden at Radebeul near Dresden, Germany. (Heyden Chemical Works, New York.) German patent No. 182,627. Not patented in the United States. U. S. trademark applied for.

CEPHÆLINE—Cephælina.—Cephæline is an alkaloid, $C_{11}H_{20}NO_2$, obtained from ipecacuanha root.

Cephæline occurs as snow-white, fine, interlacing needles which readily turn yellow. It is soluble in ether and caustic soda solutions, melts at 96°-102° C. (204.8°-215.6° F.) and turns brown when heated to 120° C. (248° F.). With Fröhde's reagent, a freshly prepared solution of 0.1 Gm. sodium molybdate in 10 Cc. concentrated sulphuric acid, it gives a purple color which hydrochloric acid changes to prussian blue.

Actions and Uses.—These are identical with those of ipecac. It is relatively more emetic and less nauseant and causes relatively more renal irritation and less cardiac depression. It may be employed as an emetic and expectorant.

Dosage.—0.005 to 0.01 Gm. (1/12 to 1/6 grain) in pills or as a powder triturated with sugar of milk. The hydrochloride is soluble.

CHINOSOL.—Normal Oxychinolin Sulphate.—Chinosol is a normal oxychinolin sulphate $(C_9H_7ON)_2H_2SO_4$.

Chinosol is a yellow crystalline powder of saffron-like odor and burning taste. It melts at from 175° to 177.5° C. (347° to 351.5° F.). It dissolves readily in water but with difficulty in alcohol and it is insoluble in ether. The aqueous solution has an acid reaction.

A drop of solution of ferric chloride produces in a solution of chinosol a marked green coloration. Barium chloride produces a white precipitate. Solutions of alkaline hydroxides precipitate from an aqueous solution of chinosol a white precipitate, consisting of interlaced crystalline needles, which after filtration, washing and careful drying in a desiccator should melt at from 73° to 75° C. On incineration chinosol should not leave a weighable residue.

Actions and Uses.—So far as experimental evidence goes, chinosol is nontoxic. It is a powerful antiseptic, slightly stronger in this respect than mercuric chloride and considerably stronger than phenol. It exerts an antiseptic action in solutions containing 1 part to 5,000. It is a feeble germicide being weaker than phenol and much weaker than mercuric chloride.

Dosage.—For internal use 0.3 Gm. (5 grains) three times daily. As an antiseptic the average strength of solution is 1 to 1,000; as a nasal or vaginal douche, the strength should be 1 part to 5,000, and as an eye-wash 1 to 8,000, gradually increasing the strength of the solution according to the sensitiveness of the patient.

Manufactured by Franz Fritzsche & Co., Hamburg, Germany (Chinosol Co., Parmele Pharmacal Co., New York). U. S. patent No. 906,918 (Dec. 15, 1908; expires 1925). U. S. trademark No. 28,750.

CHLORALFORMAMIDE.

Chloralformamide is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

CHLORALAMID.—A name applied to Chloralformamidum, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany. (Schering & Glatz, New York). German patent No. 50,536; U. S. patents Nos. 429,039 and 429,040 (expired).

CHLORAL HYDRATE PREPARATIONS

ANTIPYRINE CHLORALHYDRATE—Antipyrinæ Chloralhydras.—Monochloral-Antipyrine.—Antipyrine Chloralhydrate, $C_{11}H_{12}N_2O.CCl_3CH(OH)_2 = C_{13}H_{15}N_2O_3Cl_3$, is antipyrine combined with one molecule of hydrated chloral.

It is prepared by triturating molecular proportions of antipyrine and hydrated chloral together, dissolving the resultant oily liquid in hot water and allowing the solution to cool.

It occurs in colorless octahedral crystals or a white crystalline powder, melting at 67° C. (152.6° F.). It is soluble in 10 to 11 parts of cold water, easily soluble in hot water, and in 3.5 parts of alcohol, forming neutral solutions.

The aqueous solution gives the usual reaction for antipyrine (a blood-red color with ferric chloride) and for hydrated chloral (turbidity and separation of chloroform when warmed with caustic alkali). Ammoniacal silver nitrate is reduced with the formation of a silver mirror, but the aqueous solution (1:10) acidified with nitric acid is not altered by silver nitrate nor precipitated by hydrogen sulphide. Antipyrine Chloralhydrate dissolves in concentrated sulphuric acid without coloration and leaves no weighable residue when incinerated on platinum.

It is incompatible with alkalies, their carbonates and bicarbonates and with metallic salts.

Actions and Uses.—Antipyrine Chloralhydrate is an analgesic and hypnotic resembling chloral in its action, but said to be less liable to produce injurious effects on the vasomotor

center or the heart. It may be used where chloral is indicated, as in mild forms of mental excitement, incipient delirium tremens, and also in insomnia caused by pain.

Dosage.—1 to 2 Gm. (15 to 30 grains); although supposed to be less toxic than chloral, larger doses up to 3 Gm. (45 grains) should be used with caution. It may be given dissolved in water (1:10) flavored with syrup of orange or aromatic elixir.

Manufactured by Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

CHLORBUTANOL. — Trichlor-Tertiary-Butylalcohol — Acetone-Chloroform.—Chlorbutanol is 1,1,1-trichlor-2-methyl-propan-2-ol, $CCl_3.C(OH)(CH_3).CH_3 = C_4H_7OCl_3$, produced by the reaction of acetone on chloroform.

Made by the action of caustic alkalies on a mixture of chloroform and acetone. It is a white, crystalline, volatile compound having a camphoraceous odor and taste. It is soluble in water (8-1000), in fixed and volatile oils, and glycerin; very soluble in alcohol, ether, benzin, glacial acetic acid, chloroform and acetone.

Actions and Uses.—It is said to be absorbed unchanged from the alimentary tract, but to be decomposed in the body. It is a local anesthetic with an action weaker than that of cocaine, but sufficient frequently to prevent vomiting from gastric irritation. Its antiseptic action is said to be fifteen times as strong as that of boric acid. It acts on the central nervous system similarly to chloral, and although the claim has been made that hypnotic doses are without effect on the circulation and respiration independent observers have described a fall of blood pressure and interference with respiration in animals, and consider it fully as dangerous as chloral. In man 100 grains caused severe symptoms, but recovery occurred. It is claimed that no habit is induced, but this may be referable to its restricted employment. It is said to be useful as a mild local anesthetic in dentistry, etc., as a preservative for hypodermic solutions; for insomnia, vomiting, and for spasmodic conditions. It is also said to be useful as introductory to general anesthesia, lessening excitement and nausea.

Dosage.—0.3 to 1.5 Gm. (5 to 20 grains) dry or in capsules. Hypodermically as a local anesthetic a saturated aqueous solution may be used.

Proprietary Preparations:

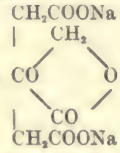
CHLORETONE.—A name applied to chlorbutanol by Parke, Davis & Co., Detroit, Mich. U. S. trade-mark.

Chloretone Inhalant.—Chloretone (chlorbutanol), 1 Gm.; camphor, 2.5 Gm.; menthol, 2.5 Gm.; oil of cinnamon, 0.5 Gm.; refined liquid petroleum, 93.5 Gm.

Actions and Uses.—An anodyne, antiseptic, and emollient solution for use by inhalation as a very fine spray or nebula.

METHAFORM.—A name applied to chlorbutanol by F. Stearns & Co., Detroit, Mich. U. S. trade-mark.

CITARIN.—Sodium Anhydromethylene Citrate.



Citarin, $Na_2C_7H_8O_7$ is the normal sodium salt of anhydromethylene-citric acid.

Anhydromethylene-citric acid is obtained by reacting on citric acid with paraformaldehyde (German patent No. 129,255) or with chlormethyl alcohol, CH_2ClOH (German patent No. 150,949). The sodium salt is obtained by treating the acid with sodium hydroxide solution and precipitating the resulting salt with alcohol (U. S. patent No. 715,329).

It is a white, granular, somewhat hygroscopic powder, having a faintly saline and acidulous taste, and a slightly acid reaction. It is readily soluble in about 1.5 parts of water, but insoluble in alcohol. Its solutions split off formaldehyde when heated, particularly in the presence of alkalies, and mineral acids separate from its concentrated solutions methylenecitric acid.

Formaldehyde can be demonstrated by means of Jorrisson's reaction, or by sodium nitrite and sulphuric acid, or by silver nitrate and soda solution.

It is incompatible with acids and alkalies and is decomposed by heat.

Actions and Uses.—This is one of the compounds which it is claimed increase the elimination of uric acid by forming very soluble compounds with that substance. It is claimed to be useful for gout and chronic rheumatism

Dosage.—1 to 2 Gm. (15 to 30 grains), largely diluted with water.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 715,239 (Dec. 2, 1902; expires 1919).

Citarin Tablets, 15 grains.—Each tablet contains citarin 0.97 Gm. (15 grains).

COLLARGOL — Collargolum.— Colloidal Silver — Argentum Colloidale—Argentum Credé.—Collargol is a water-soluble, allotropic form of metallic silver, said to contain 85-87 per cent. of silver, and a small percentage of albumin with products of its oxidation.

Collargol occurs as small, hard, brittle, bluish-black, scale-like pieces. It is soluble in 20 parts of distilled water, producing a dark olive-brown solution which remains stable for months. No separate silver particles can be distinguished in the solution even when magnified to the highest degree under the microscope, and it has all the other characteristics of a solution. The addition of albumin to collargol prevents or delays its precipitation by acids and salts. A sufficient amount of albumin to prevent its precipitation under ordinary conditions is therefore added to collargol during its manufacture. Hence collargol, even when dissolved in spring or well water containing salts, undergoes no change, and it remains unaffected by boiling, whereas colloidal silver, containing no albumin, precipitates on being boiled.

A solution of collargol does not respond directly to the usual tests for silver. If the solution is warmed with nitric acid a white cloudiness is produced, which clears completely on standing and the silver can then be demonstrated in the usual manner. On heating a fragment of collargol on a platinum scoop, shining white metallic silver of the ordinary kind, insoluble in water, is at once formed.

Its solution should not be exposed to light or air; it is incompatible with the usual silver reagents.

Actions and Uses.—Collargol is claimed to be a systemic antiseptic and germicide.

Dosage.—In most cases it is best employed locally in the form of a 15 per cent. ointment (see Collargol ointment), 2 to 4 Gm. (30 to 60 grains) being very thoroughly rubbed into the skin; otherwise, in carefully filtered solutions, varying in strength according to the intended use; 2 per cent. to 5 per cent. for intravenous injections, 1/50 per cent. to 1 per cent. solutions for washes; 5 per cent. dusting powder, prepared with finest clay; in the form of bougies containing 0.2 Gm. (3 grains), and vaginal suppositories and tampons each containing 0.05 Gm. (¾ grain), for parenchymatous injections in 0.5 per cent. to 1 per cent. glycerin solutions. Internally a solution of 1:500 to 1:100 is given freely in teaspoonful doses added to the food, in infectious gastric and intestinal diseases. It is also given in tablets containing 0.06 Gm. (1 grain).

Manufactured by the Heyden Chemical Works, Radebeul, Germany, and Garfield, N. J. (Schering & Glatz, New York). U. S. trademark No. 32,452.

Collargol Ointment—Unguentum Credé.—Ointment of Colloidal Silver.—Collargol Ointment is an ointment containing 15 per cent. of collargol.

It is prepared by incorporating 15 parts of collargol with 5 parts of water, 10 parts of white wax, and 70 parts of benzoinated lard, observing care that the soluble silver shall not be transformed into metallic silver of the ordinary kind. This, it is asserted, it is prone to do unless great care is observed in the manipulation.

The natural color of collargol ointment is dark bluish-gray. The addition of water may impart to the ointment a brownish shade; this does not, however, in any way impair its efficiency. The ointment is good as long as it colors the skin black.

CONIINE HYDROBROMIDE—Coniinæ Hydrobromidum.—Coniine hydrobromide is the hydrobromide, $C_8H_{17}N.HBr$, of an alkaloid found in conium.

Coniine hydrobromide occurs as colorless, transparent, glistening rhombic crystals, or as a white crystalline powder, melting at 210-214° C. (410-417° F.). It is soluble in two parts of water, in three parts of alcohol, and in ether-alcohol, but insoluble in ether. The solutions are colorless and neutral. The salt contains 61.09 per cent. of coniine.

Evaporated with an excess of sulphuric acid, coniine hydrobromide becomes red, violet, blue and finally brown. An aqueous solution of the salt mixed with magnesium carbonate or oxide, and shaken with carbon bisulphide, colors the latter yellow. Addition of silver nitrate solution to a solution of coniine hydrobromide causes precipitation of yellow silver bromide; iodine test solution precipitates a reddish-brown body and tannic acid a yellowish-white compound. Coniine hydrobromide should burn when ignited, leaving no residue.

Actions and Uses.—Coniine hydrobromide paralyzes the peripheral endings of the motor nerves, producing an ever-increasing muscular weakness. To a less degree it affects the sensory nerves. With lethal doses consciousness is retained to the last. It probably depresses the spinal cord feebly and usually dilates the pupils. In therapeutic doses it is said to

increase the temperature but in lethal doses it lowers it; convulsions may appear and death results from paralysis of respiration.

Coniine hydrobromide may be used for the same purpose as conium. It has been tried in chorea, paralysis agitans, whooping cough, and is said to produce a condition of calm and relaxation in maniacal and hysterical excitement. It is a dangerous remedy.

Dosage.—0.001-0.003 Gm. (1/60 to 1/20 grain) three times a day. Maximum single dose 0.005 Gm. (1/12 grain); maximum daily dose 0.015 Gm. (¼ grain). For hypodermic use a 5 per cent. solution is used.

COPPER CITRATE.—Cuprum Citricum.—Cupric Citrate.—Copper citrate is the cupric salt of citric acid, containing 34 to 36 per cent. of copper.

It occurs as a green, or bluish-green, finely crystalline, odorless powder. It is but slightly soluble in cold water. Somewhat more soluble in a cold solution of an alkali citrate, forming a greenish blue solution. More soluble in a hot solution of an alkali citrate; also soluble in ammonia water and in mineral acids.

When dissolved in ammonia water copper citrate yields an intense blue solution.

When heated to 90° C. (194° F.) the salt loses water of hydration and assumes a pale blue color. At higher temperature it blackens and at a low red heat leaves a black residue of cupric oxide.

Copper citrate should contain copper equivalent to from 34 to 36 per cent. of metallic copper.

If about 1 Gm. of copper citrate be dissolved in 20 Cc. of diluted hydrochloric acid, the solution diluted to 200 Cc. with hot distilled water, the mixture saturated with hydrogen sulphide, filtered, and the filtrate evaporated nearly to dryness on the water bath, the residue should respond to the usual tests for citric acid.

If 0.5 Gm. of copper citrate be dissolved in 10 Cc. of diluted hydrochloric acid and 1 Cc. of barium chloride test solution be added no turbidity should at once occur (limit of sulphate).

A solution of 0.5 Gm. of the salt in 10 Cc. of diluted sulphuric acid should not evolve any odor of acetic acid when boiled.

The salt should be free from nitrates, chlorides and carbonates.

Actions, Uses and Dosage.—Copper citrate possesses the astringent and antiseptic properties of other salts of copper somewhat modified by its sparing solubility.

It may be used for the same purposes and in doses similar to those of other salts of copper.

Non-Proprietary Preparations:

Copper Citrate, Mallinckrodt.—Manufactured by the Mallinckrodt Chemical Works, St. Louis, Mo.

Copper Citrate Ointment, 5 per cent., M. E. S. Co.—An ointment containing 5 per cent. of copper citrate and 95 per cent. of white petrolatum, without alcohol or preservative. Manufactured by the Manhattan Eye Salve Co., Owensboro, Ky.

Copper Citrate Ointment, 10 per cent., M. E. S. Co.—An ointment containing 10 per cent. of copper citrate and 90 per cent. of white petrolatum, without alcohol or preservative. Manufactured by the Manhattan Eye Salve Co., Owensboro, Ky.

CORYFIN.—Ethylglycolic Acid Ester of Menthol.—Coryfin is menthyl ethylglycolate, $CH_2(O.C_2H_5).COO(C_{10}H_{19}) = C_{14}H_{26}O_3$, the ethylglycolic acid ester of menthol.

It is prepared by the action of ethyloxyacetyl chloride on menthol. Coryfin is a limpid, colorless oil, having a very faint menthol odor. It boils under 20 mm. pressure at about 155° C. (311° F.) and is soluble in alcohol, ether and chloroform; difficultly soluble in water.

When heated with caustic alkalies it is split up into menthal and ethylglycolic acid. When incinerated on platinum foil it leaves no residue. Aqueous solutions must not have an acid reaction and must be free from chlorine and sulphuric acid.

Actions and Uses.—Soon after its application to the skin or mucous membranes a cooling effect is produced, said to be due to the splitting off of menthol, to which the pharmacologic actions of the remedy are to be ascribed.

Coryfin is said to be useful as a substitute for menthol in nervous headaches, coryza and conditions of hoarseness and pharyngeal irritation.

Dosage.—In headache it may be lightly rubbed in or painted on the forehead, avoiding contact with the eyes; in coryza it may be applied to the mucous membrane with a brush or as a spray. In throat affections a few drops (3 or 4) may be placed on a lump of sugar and allowed to dissolve in the mouth, or mixed with tepid water and used as a gargle.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 836,914 (Nov. 27, 1906; expires 1923). U. S. trademark No. 43,416.

COTARNINE HYDROCHLORIDE—Cotarninæ Hydrochloridum.—Cotarnine Hydrochloride, $C_{12}H_{13}O_3N.NCl$, is the cotarnine salt of hydrochloric acid. Cotarnine is an oxidation product of narcotine, similar to hydrastinine.

It is prepared by boiling narcotine for a long time with water or by heating it with dilute nitric acid and converting the basic product obtained into the hydrochloride.

It is a yellow, crystalline powder, soluble in water and in alcohol. Its melting point is indefinite.

If to a solution of cotarnine hydrochloride tenth-normal iodine V. S. is added, a brown precipitate of coatrnine periodide is produced, which if collected and dried over sulphuric acid melts at 140° C. (284° F.).

If to a solution of 0.1 Gm. cotarnine hydrochloride in 2 Cc. of water 3 drops of a 15 per cent. sodium hydroxide solution are added, each drop will produce a milk-white precipitate which dissolves on agitation. After a time the free base separates from the clear solution, leaving the supernatant liquid clear and but faintly yellow. The base, after recrystallization from benzene, melts, with decomposition, at 130° C. (266° to 269.6° F.).

Actions and Uses.—Cotarnine hydrochloride is a hemostatic, analgesic and uterine sedative. The mechanism of its action is obscure.

It is said to be useful particularly in functional dysmenorrhea of puberty and of the climacteric; in subinvolution of the uterus after parturition and abortion, as well as in all profuse uterine hemorrhages; in bleeding from the bladder, from the nose, after extraction of teeth, etc.

Dosage.—Internally 0.05 Gm. (¾ grain) four to five times daily. Because of its intensely bitter taste, it is best given in the form of coated tablets, pills, or capsules; or by hypodermic injection (in urgent cases) 2 Cc. of a 10 per cent. solution; externally, as a styptic, pure or in strong solution.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

COTARNINE PHTHALATE—Cotarninæ Phthalas.—Cotarnine phthalate $(C_{12}H_{13}O_3N)_2C_6H_4(COOH)_2$, is the cotarnine salt of phthalic acid.

The base cotarnine, obtained from narcotine by oxidation with dilute nitric acid, is combined with phthalic acid to form the neutral salt.

It is a yellow, microcrystalline powder, easily soluble in water. The base is recognized by the tests given under cotarnine hydrochloride.

Actions and Uses.—Cotarnine phthalate is said to have hemostatic and pronounced sedative properties. Its modus operandi is unknown. Its action resembles that of cotarnine hydrochloride, but phthalic acid compounds have especial hemostatic properties. Cotarnine phthalate is said to be useful in uterine hemorrhage.

Dosage.—Internally in sugar-coated tablets of ¾ grain each, 3 to 5 tablets a day (up to 9 tablets a day in cases of dysmenorrhea). Locally as a dusting powder. By subcutaneous injection (3 grains dissolved in 30 minims of water) for quick arrest of severe hemorrhage.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 742,532 (Oct. 27, 1903; expires 1920).

CREOSOTE CARBONATE.—Creosote Carbonate is a mixture of carbonic acid esters, analogous to guaiacol carbonate, prepared from creosote.

It is prepared by passing a current of carbonyl chloride into a solution of creosote in sodium hydroxide, and purifying the oily product by washing with weak soda solution and with water.

It is a yellowish, thick, honey-like, perfectly clear and transparent liquid, containing 92 per cent. of creosote. It is odorless and has a bland oily taste. It is insoluble in water, but soluble in alcohol, ether, chloroform, benzene and in fixed oils.

The addition of a few drops of ferric chloride solution to the alcoholic solution should not cause any change in color. On boiling with potassium hydroxide solution the odor of creosote is evolved.

It is incompatible with alkalies.

Actions and Uses.—Creosote Carbonate has the same action as creosote, but is claimed to be non-toxic and devoid of irritant properties. It is recommended as a substitute for creosote for internal exhibition in tuberculosis, pneumonia, and as an intestinal antiseptic.

NOTE: The Council would note that any claims of non-toxicity that are made for drugs that have or are supposed to have important general effects are admitted to this book only when they do not conflict with known facts. In all such instances, however, it is recommended that a lack of toxicity be not accepted too freely but be considered to mean only that toxic effects have not as yet been recognized with the doses that have been studied. The most sincere and apparently justified beliefs concerning this point are often ultimately reversed by extended experience. Much the same may be said regarding any claims that drugs are non-irritating.

Dosage.—From 0.3 to 2.0 Gm. (5 to 30 grains) for children, to 1 to 4 Gm. (15 to 60 grains) for adults in milk, coffee, wine, cod-liver oil or emulsion. Externally it may be applied undiluted.

Proprietary Preparations:

CREOSOTAL.—A name applied to Creosote Carbonate.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 501,235 (expired); U. S. trademark.

CREOSOTAL-Heyden.—A name applied to Creosote Carbonate.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 501,235 (expired). U. S. trademark.

DIASPIRIN.—Diaspirin is succinyl disalicylic acid, $CO(O.C_6H_4.COOH).CH_2.CH_2.CO(O.C_6H_4.COOH)$.

Diaspirin is a salicylic acid derivative, produced by the interaction of the two carboxyl groups of succinic acid with the phenolic hydroxyls of two molecules of salicylic acid, with the elimination of 2 molecules of water, thus: $COOH.CH_2.CH_2.COOH + 2HO.C_6H_4.COOH = CO(O.C_6H_4.COOH).CH_2.CH_2.CO(O.C_6H_4.COOH) + 2H_2O$.

It is prepared by the action of succinyl dichloride upon salicylic acid.

Diaspirin is an odorless and almost tasteless white crystalline powder, said to melt at about 178° C. (352.4 F.) (Specimens examined by the Council were found to melt at 168° C. Corr.) Soluble with difficulty in cold alcohol and glacial acetic acid; scarcely soluble in water. By heating with caustic alkalies it decomposes into succinate and salicylate. Diaspirin is a dibasic acid which reacts with bases, organic or inorganic, to form salts.

Diaspirin produces the effects of salicylates. The following special claims are made for it: That it passes unchanged through the stomach, producing no irritation, but is split into its constituents in the intestine; that it exerts a strong diaphoretic effect.

Actions and Uses.—The same as those for salicylic acid.

Dosage.—1 Gm. (15 grains) three or four times daily.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken, of Elberfeld Co., New York). U. S. patent No. 874,929 (Dec. 31, 1907; expires 1924). U. S. trademark applied for.

DIETHYL-BARBITURIC ACID AND COMPOUNDS.

VERONAL — Veronalum. — Acidum diæthyl-barbituricum. Diethyl malonyl urea. Malo-urea. Veronal is diethyl-barbituric acid, 2, 4, 6-trioxy-5-diethyl pyramidin.

$$CO\begin{matrix}/NH\text{-}CO\backslash \\ \backslash NH\text{-}CO/\end{matrix}C\begin{matrix}/C_2H_5 \\ \backslash C_2H_5\end{matrix} = C_8H_{12}O_3N_2,$$

a ureide derived from diethylmalonic acid, $COOH.C(C_2H_5)_2.COOH$, and urea, $CO(NH_2)_2$.

It may be prepared by the interaction of esters of diethylmalonic acid with urea in the presence of metallic alcoholates. (U. S. patent No. 782,739.) It is also obtained by condensation of diethylcyanacetic ester with urea by means of sodium alcoholate.

It is a white, crystalline powder, melting at about 188° C. (370.4° F.), odorless and faintly bitter. It is soluble in about 150 parts of cold water, and in about 12 parts of boiling water. It is quite soluble in ether, acetone and ethyl acetate; also slightly soluble in chloroform, petroleum benzin, acetic acid and amyl alcohol. It forms salts with alkalies which are soluble in water.

Prolonged heating with sodium carbonate solution liberates ammonia. Denninges' reagent produces a white precipitate; Millon's reagent produces in solution acidulated with nitric acid a precipitate soluble in an excess of the reagent.

Actions and Uses.—Diethyl-barbituric acid is quickly absorbed, especially when it is given in solution. In small doses it induces sleep apparently without any other effect. In larger doses the temperature falls and animals show marked trembling and restlessness in their sleep. In small doses it is a relatively safe hypnotic, but fatalities have followed its indiscriminate use.

It is used in simple insomnia, as well as in that accompanying hysteria, neurasthenia and mental disturbances.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in hot water, tea or milk, or, if in wafers or capsules, followed by a cupful of some warm liquid.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany, and E. Merck, Darmstadt, Germany. (Farbenfabriken of Elberfeld Co., New York, and Merck & Co., New York.) U. S. patent No. 782,739 (Feb. 14, 1905; expires 1922). U. S. trademark.

Veronal Tablets, 5 grains.—Each tablet contains veronal 0.33 Gm. (5 grains).

SODIUM DIETHYL-BARBITURATE.—Sodii Diæthyl-barbituras.—Sodium diethylbarbiturate, Na $(C_8H_{11}O_3N_2)$ is the mono-sodium salt of diethyl-barbituric acid.

Sodium diethyl-barbiturate occurs as a white, crystalline powder, soluble in 5 parts of water at 15° C. and in about 2 parts of boiling water. The aqueous solution of the salt has a bitter alkaline taste. The salt contains 11.18 per cent. sodium (Na) and should yield about 89 per cent. (theory requires 89.31 per cent.) diethyl-barbituric acid (JOURNAL, Jan. 23, 1909, vol. 52, p. 311).

Action and Uses.—The same as diethyl-barbituric acid, but claimed to act more rapidly on account of its greater solubility. Because of its solubility, administration by rectal injection and also subcutaneous injection has been proposed.

Dosage.—The same as diethyl-barbituric acid, which see. It should be administered in aqueous solution.

Proprietary Preparations:

MEDINAL.—Medinal is a name applied to sodium diethyl-barbiturate.

Manufactured by Chemische Fabrik auf Actien vorm E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 780,241 (Jan. 17, 1905; expires 1922); 879,499 (Feb. 18, 1908; expires 1925). U. S. trademark applied for.

Medinal Suppositories, 7½ grains. Each suppository contains medinal 0.5 Gm. (7½ grains) incorporated with oil of theobroma.

Medinal Tablets, 5 grains.—Each tablet contains medinal 0.33 Gm. (5 grains).

VERONAL-SODIUM.—Veronal-sodium is a name applied to sodium diethyl barbiturate.

Manufactured by Farbenfabriken, vorm,. Friedr. Bayer & Co., Elberfeld, Germany, and E. Merck, Darmstadt, Germany. (Farbenfabriken of Elberfeld Co., New York, and Merck & Co., New York). U. S. patent and trademark. (See Veronal.)

Veronal-Sodium Tablets, 5 grains.—Each tablet contains veronal-sodium 0.32 Gm. (5 grains).

Prepared by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.)

DIGESTIVE FERMENTS.

Valuation of Ferments: Qualitative tests for the activity of ferments can be easily applied, but such qualitative results have very little importance. Quantitative results also are important only in so far as they permit comparison with other ferments; and for this purpose the minutest details of the methods must be accurately observed. After investigation, the Council has decided to employ the following quantitative methods in its work:

1. *Amylolytic Power:* (For diastases, malt and pancreas preparations.) The Council does not approve the methods which are based on the time of change from blue to red color given by iodin; or the time of disappearance of all color; but instead it has adopted as the standard the amount of starch that can be converted to colorless end point in 10 minutes, by a given weight of the product, working according to the details described. (THE JOURNAL A. M. A., July 11, 1908, p. 140, and Journal Am. Chem. Soc., 1908, Vol. 30, p. 798.)

2. *Proteolytic Power in Alkaline Media:* (For trypsin and pancreatic preparations.) The approved methods are based on the quantity of fresh fibrin or coagulated egg albumen, which is dissolved by a given weight of the substance, in a slightly alkaline medium and in a given time.

3. *Proteolytic Power in Acid Media:* (For pepsin and gastric preparations.) This is determined by the U. S. P. method.

4. *Milk-Curdling Power:* (For rennet and gastric preparations.) The method is based on the quantity required to coagulate 100 Cc. of milk.

Incompatibilities: Ferments are more or less rapidly destroyed by boiling, by alcohol, by many salts, by unsuitable reaction of vehicle, by putrefaction, and by proteolytic digestion. Solutions of ferments tend to deteriorate on keeping.

Ferments are generally destroyed by each other, and also during their sojourn in the stomach; little therapeutic action can be secured beyond this organ, at least under ordinary conditions.

Therapeutic Indications.—The digestive ferments are used outside the body to predigest food. They are often applied locally for the softening of dead tissues or the solution of false membranes. They are administered internally for the purpose of supplementing or replacing deficient or absent normal secretions. In such cases they should be administered in such manner and at such times as to secure the most favorable conditions for their action. Diastases should be given with the food or before the stomach becomes highly acid. Trypsin and other ferments which are to act in the intestine should be given near the end of gastric digestion with sufficient alkali to neutralize the acid of the gastric juice. There is little if any reliable evidence that these latter ferments have any activity except in cases in which hydrochloric acid is absent from the stomach contents. In cases which present a total or nearly total lack of acid in the stomach they may be given with alkali at meal time or soon after the meal is taken.

PANCREATIC PREPARATIONS.

DIAZYME ESSENCE.—A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase in a menstruum containing 18.5 per cent. of alcohol by volume.

Diazyme essence is an amber fluid of aromatic taste and odor and slightly acid reaction.

One Cc. will convert 200 Gm. of pure starch mucilage, containing 8 Gm. of dry starch, the mixture being kept at 40° C., so that the solution will cease to give a color reaction with iodine at the end of ten minutes.

Actions and Uses.—Diazyme is capable of digesting starch and is claimed to be useful to compensate for deficient salivary and pancreatic action in the digestion of starch.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,878.

DIAZYME GLYCEROLE.—A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase, in a menstruum containing about 60 per cent. of glycerin by volume.

It is a dense amber fluid, of agreeable taste and odor, and of slightly acid reaction.

One Cc. will convert at 40° C. 200 Gm. of pure starch mucilage, containing 8 Gm. dry starch, so that the solution will cease to give a color reaction with iodin in 10 minutes.

Actions, Uses and Dosage.—See Diazmye Essence.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,878.

GLYCEROLE TRYPSIN-Armour.—Glycerole trypsin is a 70 per cent. glycerin solution containing approximately 5 per cent. of trypsin powder.

Glycercole trypsin-Armour is prepared directly from the fresh pancreas of the hog.

It is a yellowish to brownish clear liquid of sweetish taste and peculiar characteristic color. Its incompatibilities are the same as those of trypsin. It should be kept in a cool place.

The strength of glycerole trypsin is tested in the same way as that of trypsin, using 3 to 5 Cc. of glycerole trypsin for 10 Gm. of moist blood fibrin.

Actions and Uses.—It is intended for internal and hypodermic use in the treatment of cancer.

Dosage.—Internally 4 to 8 Cc. (1 to 2 fluidrams) three times daily. Hypodermically 0.3 Cc. (5 minims) every other day, gradually increased, depending on the patient. This dose should be diluted with two or three volumes of sterile normal salt solution, using aseptic precautions and employing some local anesthetic.

Manufactured by Armour & Co., Chicago.

HOLADIN—Extractum Pancreaticum Integrum.—An extract of the entire pancreas containing all the constituents of the gland and exhibiting great potency in respect to the several known enzymes, trypsin, amylopsin, lipase and the milk-curdling ferment.

Holadin is a grayish-white powder, slightly aromatized, somewhat hygroscopic, freely but not wholly soluble in water.

Tests.—The tryptic power is tested as follows: 0.10 Gm. is placed in a flask, mixed by agitation with 25 Cc. of tepid water containing 0.20 Gm. sodium bicarbonate; at once 100 Cc. of milk at 40° C. is added, and then the flask kept in a water bath at 40° C. From time to time small portions are withdrawn in a beaker glass, when the addition of a few drops of dilute acetic acid will show a constant diminution in the volume and character of the curd until finally only minute, flocculent coagula are observed. Holadin should not remain in contact with sodium bicarbonate for more than a brief interval before adding the milk, as its enzymic power is rapidly decreased thereby.

To test for the fat splitting action, 0.10 Gm. of holadin is mixed with 25 Cc. of water and 100 Cc. of milk and maintained at 40° C. In about 15 minutes the presence of fatty acids can be detected by odor and taste and confirmed by chemical tests.

The action of the milk-curdling ferment is shown in the following way: 0.02 Gm. holadin is mixed with 10 Cc. water in a beaker and then 100 Cc. fresh milk, previously warmed to 40° C., poured on, with sufficient stirring to mix thoroughly, and the mixture digested, without agitation, in a water bath at 40° C. In a few minutes the milk will begin to show the characteristic evidences of curdling similar to that produced by the milk-curdling ferment of the gastric juice. When the milk, however, has acquired a semi-solid, jelly-like consistency, if it then be stirred constantly with a glass rod, the curd will break down, become diffusible and in time disappear, a behavior which is in marked contrast to the action of the milk-curdling ferment of the gastric juice which causes the formation of a firm curd, easily separable from the whey.

The starch-converting power is determined as follows: Triturate 15 Gm. of arrowroot or potato starch with 500 Cc. of distilled water, boil for 10 minutes, allow to cool, and make up to 500 Cc. with distilled water. Prepare an iodin test solution by diluting 0.5 Cc. of Liquor Iodi Compositus, U. S. P., with water to make 500 Cc. and have ready sufficient number of tubes containing an equal quantity of this solution.

Triturate 0.130 Gm. holadin in a perfectly dry mortar with 1.170 Gm. of lactose. Place 100 Gm. of the starch mucilage in a Florence flask in a water bath at 40° C. and mark "A"; place in the water bath also another flask of the same content and mark "B." Add to flask "A" 0.20 Gm. of the holadin triturate; to flask "B" add 0.05 Gm. of the holadin triturate; maintain both flasks in the water bath at 40° C. At the expiration of ten minutes withdraw from flask "A" one drop of the solution and add to one of the tubes of the iodine solution, when no coloration will occur. At the end of fifty minutes take one drop from flask "B" and add to one of the tubes of iodine solution, and at intervals of a few minutes repeat this; in about sixty minutes, no coloration, or at the most a very faint coloration, will appear. Under these circumstances, one grain of holadin will convert 155 grains of starch completely in ten minutes, and 600 grains in about sixty minutes.

Actions and Uses.—Holadin has power to digest starch and proteids and to split fats. It is claimed to be useful in various diseases in which digestion of food is imperfect.

Dosage.—Holadin is furnished only in capsules, each capsule containing approximately three grains. One capsule should be given about three hours after meals and one capsule at bedtime. The dose can be gradually increased to two or three capsules at a time.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 60,625.

Holadin and Bile Salts, Fairchild.—This preparation is a mixture of Holadin 5 parts with Bile Salts, Fairchild (which see) 1 part, put up in 3 grain capsules, containing holadin approximately 0.15 Gm. (2½ grains), and bile salts 0.03 Gm. (½ grain).

Dosage.—One capsule about three hours after meals and one capsule at bedtime.

PANASE.—Panase is a combination of the digestive enzymes of the pancreas derived from the pancreatic gland of the pig.

It is prepared by macerating the gland and extracting the enzymes together with a small amount of the proteid matter of the gland.

Panase is a light, yellowish white powder having a slight odor and somewhat mucilaginous taste. It is not entirely soluble in water or glycerin, owing to the small amount of protein present. Filtration of its solution, however, does not impair its digestive activity.

It is incompatible with strong alcohol, acids, alkalies, and other substances which destroy the activity of ferments.

Panase should possess the diastasic, proteolytic, milk curdling, and fat splitting properties of the pancreatic juice. It converts 200 times its weight of hydrous starch to loss of blue iodine reaction in ten minutes when tested according to the method of Blome (Pharm. Rev., 1906, vol. 24, p. 260). According to the method adopted by the Council it converts 113 parts of anhydrous starch to the colorless end point in ten minutes (JOURNAL A. M. A., July 11, 1908, p. 140; Jour. Am. Chem. Soc., May, 1908, p. 798). For the methods of testing for the different enzymes see Pancreatic Preparations.

Actions and Uses.—Panase is intended to be used in cases in which it is believed that the enzymes of the pancreas are deficient or in which it is desired to hasten the digestion of starch.

Dosage.—0.13 Gm. (2 grains) or more.

Manufactured by Frederick Stearns & Co., Detroit, Mich.

Panase Essence.—Essentia Panasi. A mixture containing in each 100 Cc., 4 Gm. of panase in a menstruum containing 14 per cent. of alcohol and 12.5 per cent. of glycerin with small amount of flavoring matter and sugar. Dose 4 Cc. (1 fluidram) containing 0.16 Gm. (2¾ grains) of panase.

Panase Tablets.—Each tablet contains panase, 0.13 Gm. (2 grains).

TRYPSIN-Armour.—Trypsin is the proteolytic ferment of the pancreas.

Trypsin-Armour is prepared from the fresh pancreas of hogs with the view of retaining the proteolytic ferment in an especially active condition. It has been activated by enterokinase

It is a light yellow powder, possessing a faint odor and a meat-like taste. It is not completely soluble in water at once, but dissolves almost entirely in time. It is insoluble in alcohol and ether. Free acids (in more than traces), pepsin and large amounts of alkalies are incompatible. Solutions of trypsin should not be exposed to a temperature above 40.6° C. (105° F.).

The proteolytic power of trypsin is determined by digesting 10 grams of fresh moist blood fibrin in 50 Cc. of solution of sodium carbonate, 0.4 per cent., to which has been added 0.150 to 0.300 Gm. of the trypsin powder, maintaining the mixture at 40° C. (104° F.) for one hour, and shaking by rotation every ten minutes. The fibrin used is washed free from blood with cold water and then chopped, using an Enterprise meat chopper with plate having 5/64 inch perforations. The hashed fibrin is pressed lightly in a cloth, mixed, and is then ready for use. The residue left after one hour's digestion is compared with the amount left by employing a standard sample of trypsin powder under exactly the same conditions at the same time.

Actions and Uses.—Trypsin has the power of digesting proteid materials; it acts best at 40° C. (104° F.) and in a slightly alkaline medium.

When applied locally in solutions made slightly alkaline by sodium carbonate, it dissolves diphtheritic and other false

membranes. It is claimed to have the power of destroying the cells of cancer without acting on the healthy tissue. These claims, however, are not generally accepted.

Dosage.—Trypsin is applied locally by means of a brush or as a spray. About 0.4 Gm. (6 grains) are mixed with 0.13 Gm. (2 grains) sodium bicarbonate and triturated in a mortar while adding 1 or 2 drams of distilled water, then warmed to 38° to 40.6° C. (100° to 105° F.) and applied immediately. The application may be repeated several times an hour if necessary, a fresh solution being made before each application. The internal dose is 0.13 Gm. (2 grains) or more three times daily. It should not be used for hypodermic injection.

Manufactured by Armour & Co., Chicago.

MILK CURDLING FERMENTS.

PEGNIN—Milk Sugar Rennet.—The milk-curdling enzyme of calf's rennet, diluted with sugar of milk and sodium chloride.

Pegnin is prepared by mixing pure rennin with milk sugar and sodium chloride.

It is a fine white powder, having a sweet, saline taste, readily soluble in water, and forming a solution which readily and rapidly coagulates the casein of milk.

On adding 2 Gm. of pegnin to 200 Gm. of milk, which has been boiled and cooled to 40° C. (104° F.), and shaking the mixture, the milk should be completely coagulated in from 3 to 4 minutes, and after vigorously shaking the curd should be finely divided and equally distributed throughout the liquid. A solution of 1 Gm. of pegnin in 50 Cc. of water should require 17 to 17.5 Cc. of tenth-normal silver nitrate for complete precipitation, equivalent to 10 per cent. sodium chloride.

It is incompatible with a temperature higher than that indicated for the fermentative action.

Actions and Uses.—Producing a finely divided coagulum, it obviates the formation of the clotty curds which are liable to be produced when untreated cow's milk is taken as food. Cow's milk coagulated with pegnin as described below has been used for infant feeding and as a food for adults in stomach affections and in disturbances of the digestion incident to infectious diseases, in hyperacidity, etc.

Dosage.—8 to 10 Gm. (120 to 150 grains) of pegnin are required for 1 liter (34 fluidounces) of milk previously boiled and cooled to about 40° C. (104° F.). The mixture, after brief shaking, is allowed to stand 2 to 3 minutes, or until it is completely coagulated, and then shaken vigorously during several minutes until the coagulum has been converted into a smooth, homogeneous mixture, and set aside in a cool place. For infants it is transferred to the nursing bottle as required and heated in warm water to the body temperature (37.5° C., 99.5° F.) before feeding.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 700,631 (May 20, 1902; expires 1919).

PEPTIC PREPARATIONS.

ELIXIR OF ENZYMES.—Elixir of enzymes is a solution containing pepsin and rennet in a menstruum containing 20 per cent. of alcohol.

Elixir of enzymes is a light yellow, palatable, liquid preparation. One part digests about 20 parts of coagulated egg albumin in 2½ hours. Eight Cc. (2 fluidrams) coagulate 500 Cc. (one pint) of milk in a few minutes.

Actions and Uses.—It is claimed to be useful as an aid to digestion and as a vehicle for various drugs.

Dosage.—1 to 8 Cc. (1 to 2 fluidrams) with meals; children in proportion.

Manufactured by Armour & Co., Chicago.

ENZYMOL.—Enzymol is a glycerin-aqueous acid extract prepared directly from the mucous membrane of the fresh animal stomach, free from alcohol, but containing a trace of thymol and having an acidity due to combined hydrochloric acid equivalent to 0.26 to 0.3 per cent. of actual hydrochloric acid. It contains no free hydrochloric acid, but does contain a slight excess of protein over that combined with the acid. It is adjusted to a definite proteolytic power and contains 25 per cent. of glycerin by weight.

Enzymol is a light straw-colored fluid.

The presence of proteins is shown by coagulation by heat or by the addition of alcohol. The proteolytic power when acidified and tested by the method of the U. S. P. for pepsin should be such that 4 Cc. will dissolve 800 Gm. of coagulated egg-albumin in two and one-half hours.

Action and Uses.—When applied to morbid tissues enzymol is said to have the power of dissolving them by its proteolytic action even without the addition of acid. It is said to dissolve necrotic bone, by virtue of the combined acid which it contains. Its physiologic action is said to cease in contact with living tissue.

Enzymol is said to be useful as an application to purulent and necrotic surfaces for the removal of the morbid materials.

Dosage.—It is made ready for use by the addition of one half to one or two volumes of water; for the solution of necrotic and carious bone it may be applied undiluted.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,769.

ESSENCE OF PEPSIN-Fairchild.—A solution of the milk-curdling and proteolytic ferments of the gastric glands in a menstruum containing 18.5 per cent. of alcohol by volume.

The solution is prepared by direct extraction from the peptic glands of the stomach.

One Cc. will curdle 250 Cc. of milk at 38° C. in a few minutes, and dissolve 50 Gm. of coagulated egg albumin when tested according to the directions of the United States Pharmacopeia.

Actions and Uses.—Essence of pepsin has the action of rennin and of pepsin and is recommended by the manufacturers for preparing milk and in cases in which pepsin is indicated.

Dosage.—4 Cc. (1 fluidram) or more.

Manufactured by Fairchild Bros. & Foster, New York.

DIGITALIS PREPARATIONS

The chemistry of digitalis is very imperfectly understood, but several principles have been isolated in a greater or less degree of purity. These include digitalin, digitalein, digitoxin, digitonin and digitin. The term digitalin, unfortunately, is applied in a loose way to all of these principles, and in a more restricted sense to indicate digitalinum verum, or true digitalin, which is probably a definite substance.

Digitalinum purum, or German digitalin, is a mixture of several glucosides, consisting of 50-60 per cent. of digitonin and only 5-6 per cent. of true digitalin. German digitalin is the preparation usually found on the market and is ordinarily dispensed when "digitalin" is prescribed.

French Digitalin, or Homolle's digitalin, is also a mixture of several glucosides, but consists mainly of true digitalin.

Merck's crystallized digitalin is neither digitalin nor digitoxin, but digitonin or digitin, Merck using the three terms, crystallized digitalin, digitonin and digitin as synonyms.

Digitaline crystallisée of Nativelle is not digitalin, but is nearly identical with digitoxin.

It must be remembered, therefore, that Merck's "crystallized" digitalin, Merck's "pure" digitalin and the "true" digitalin of Boehringer and Sons, which naturally might be supposed to be identical, are *different in their action.*

DIGALEN—Liquor Digitoxini Solubilis.—Digalen is a mixture said to contain 1 part of Digitoxinum soluble Cloetta,[1] in 1,000 parts of glycerin and 1,600 parts distilled water with 7.5 per cent. of alcohol. 1 Cc. is said to contain 0.0003 Gm. of Digitoxinum Solubile Cloetta.

Digitoxinum solubile Cloetta is manufactured as follows:

The dried and finely powdered leaves of digitalis are extracted with dilute alcohol; then the extract is mixed with lead acetate solution in order to remove chlorophyll and resins, and filtered. From this filtrate the excess of lead is precipitated with sodium sulphate and the alcohol distilled off in vacuo. From the remaining aqueous solution the substance is extracted by ethereal solvents and precipitated afterward in an amorphous and pure condition according to a special secret method.

Digalen is a colorless or slightly yellowish fluid of an agreeable aromatic smell and a sweet taste which turns bitter afterward.

Digitoxinum soluble Cloetta is described as an amorphous, white or slightly yellow powder. Its solubility is said to be about five times as great as that of crystallized digitoxin. It is said to dissolve very readily in alcohol and chloroform and a little less readily in ether. It has an intensely bitter taste and causes violent sneezing. It is claimed to be the form in which digitoxin exists in the digitalis leaf before it is deposited in a crystalline and insoluble form.

In order to test for the active principle in digalen, a few drops of dilute acetic acid are added to 2 Cc. of digalen solution and then the mixture is shaken out with chloroform. This solution is evaporated and the residue dissolved in about 2 Cc. of glacial acetic acid containing traces of iron chloride. If to this solution

1. The Council has not determined whether digalen contains "soluble amorphous digitoxin" or not, bue accepts it merely as a standardized soluble and fairly stable digitalis preparation.

concentrated sulphuric acid is added cautiously without mixing, so as to form a separate layer at the bottom of the test tube, a small brown ring will form between the two layers, which becomes broader in the course of some hours and expands toward the top of the tube in a blue-green to black shade, and toward the bottom of it in a reddish-brown one, while the acetic acid acquires finally a dark green-blue color.

Actions and Uses.—The same as Digitoxin.

(See Jour. A. M. A., May 8, 1909, p. 1499.)

NOTE.—Under certain conditions which have not yet been determined satisfactorily, digalen sometimes deteriorates, even when the bottle remains unopened.

Dosage.—Average single dose 1 Cc. (16 min.) Maximum single dose 2 Cc. (32 min.). Maximum daily dose 6 Cc. (96 min.). Intravenous injections of 1 Cc. (16 min.) may be repeated at intervals of one-half to one hour as necessary. For protracted dosage from 1 to 2 doses daily of from 7 to 14 drops are given.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. trademark No. 43,593.

DIGIPURATUM.—Digipuratum is a digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standardized biologically by the method of Gottlieb. It is claimed that 85 per cent. of the inactive substances found in the ordinary extract have been removed and that it is free from digitonin.

Digipuratum is obtained by removing objectionable constituents from an alcoholic extract of digitalis, neutralized with alkaline hydroxides, by the addition of ether, petroleum benzene, or other suitable precipitant, and reducing the purified liquid to a powder, by evaporation with milk sugar.

Digipuratum is a greenish yellow, odorless powder of bitter taste. The active constituents of digipuratum are insoluble in cold water and diluted acids, but are easily soluble in weak alkalies.

Digipuratum responds to the following identity test: If 0.1 Gm. digipuratum is underlaid with about 3. Cc. of glacial acetic acid which contains 1 per cent. of a 5 per cent. solution of ferric sulphate, there appears a red band (presence of digitalin) and above this another, at first bright green, later changing to dark green and finally blue (presence of digitoxin).

To determine the digitoxin content, 10 Gm. of digipuratum are dissolved with moderate heat in 50 Cc. of water; 5 Cc. of 10 per cent. ammonia water are added and the liquid is then extracted with chloroform. The chloroformic extractions are filtered into a tared vessel and the chloroform removed by distillation. The residue is dissolved in 3 Gm. of chloroform and mixed with 7 Gm. of ether and 50 Gm. of petroleum ether. The separated flakes are collected on a small filter. Then the residue on the filter is dissolved in absolute alcohol, allowing the solution to run into the tared distilling vessel. The alcohol is then distilled off and the residue dried to constant weight. The digitoxin thus found should not amount to more than 0.04 Gm.

The physiologic activity is determined by the method of Gottlieb: 1 Gm. of digipuratum is treated with 19 Cc. of hot water and 1 Cc. of a 2 per cent. solution of sodium bicarbonate. If now 0.15 Cc., 0.2 Cc., and 0.25 Cc., respectively, of this solution is injected into the femoral lymphatics of freshly caught land frogs (Rana temporaria), weighing 30 Gm. each, the exposed heart of the animals should permanently be brought to a stop in the majority of instances (say in five out of six experiments) within half an hour after the administration of a 0.2 Cc. dose. If 0.2 Cc. of the 5 per cent. solution=0.01 Gm. of digipuratum, is sufficient to stop the systolic heart-beat within half an hour, then 1 Gm. of digipuratum will contain 100 units; should 0.25 Cc. of the 5 per cent. solution be necessary, the number of units of digipuratum it contains would be 80; if 0.25 Cc. should not yet prove sufficient, the preparation would be too weak to be effective; and should the systole be arrested after a dose of 0.15 Cc. within half an hour after injection, the preparation would be too strong.

The total physiologic activity having been determined, the relative amount that is due to digitoxin can be determined by using the digitoxin separated in the above quantitative determination and by the difference between this amount and the total physiologic activity the amount due to the digitalin alone can be estimated.

Actions and Uses.—The same as digitalis, but it is claimed that it is less liable to disturb the stomach and on account of its exact dosage cumulative effects can be more easily avoided than with other preparations of digitalis.

Dosage.—The same as digitalis.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 943,578 (Dec. 14, 1909; expires 1926). U. S. trademark No. 73,012.

Digipuratum Tablets, 1 1-2 grains.—Each tablet is said to contain digipuratum 0.1 Gm. (1 1/2 grains).

DIGITALEIN CRUDE.—Digitaleinum Crudum.—Digitalein crude is a mixture of glucosides from digitalis purpurea prepared according to the process of Schmiedeberg, containing digitoxin, digitalin and digitalein.

Commercial digitalein is an amorphous, yellowish-white, bitter powder, soluble in water and absolute alcohol, insoluble in chloroform and ether. The aqueous solution foams on shaking. The solution yields a precipitate on addition of lead acetate, ammonia water or tannic acid.

***Actions and Uses.*—Digitalein acts on the heart like digitalis. It is a diuretic.**

Its uses are the same as those of digitalis.

***Dosage.*—0.001 to 0.002 Gm. (1/60 to 1/30 grain) two or three times a day.**

DIGITALIN, TRUE—Digitalinum verum Kiliani.—Schmiedeberg's digitalin. Digitalin, true, is a glucoside, $C_{35}H_{56}O_{14}$, found in the seeds and leaves of digitalis purpurea and derived commercially from German digitalin.

To a solution of one part German digitalin in four parts of 95 per cent. alcohol, five parts of ether by weight (Sp. Gr. 0.720) are added and the mixture allowed to stand in a closed vessel for twenty-four hours. In the clear supernatant solution the quantity of dissolved substance is estimated and the whole then subjected to a vacuum distillation until its weight becomes 1.6 times that of the total dissolved substance. To this concentrated solution water, in an omunt 2.4 times the weight of dissolved substance, is added, forming a solution containing approximately 20 per cent. alcohol, from which crude digitalin gradually separates on standing. The crude product is washed first with 10 per cent. alcohol and then with water, and finally dried at a moderate temperature. Further purification is effected by boiling the alcoholic solution with animal charcoal. (Kiliani's method. Hager's Handb. der Pharm. Praxis, Vol. 1, p. 1030.)

Digitalin occurs as a white amorphous powder, or in characteristic, granular masses. It melts at 217° C. (412.6° F.) and becomes yellow. It is soluble in 1,000 parts of water and in 100 parts of 50 per cent. alcohol at the ordinary temperature; easily soluble in strong hot alcohol, but nearly insoluble in ether and chloroform. Digitalin dissolved in alcohol and treated with very dilute acid and heat yields digitaligenin and two sugars.

With concentrated sulphuric acid digitalin forms a golden yellow solution which on the addition of potassium hypobromite solution changes to a magnificent rose red or violet red.

If a little digitalin is dissolved in 3 to 4 Cc. of glacial acetic acid to which a trace of ferric chloride solution has been added and the mixture carefully underlaid with concentrated sulphuric acid (Keller's reaction) a deep carmine red band appears; the lower layer of the acetic acid is light yellow changing to brownish. (Difference from digitoxin.)

Sulphuric acid containing a little ferric sulphate gives with a little digitalin at first an intense golden yellow color, and then a red solution; this color rapidly changes to a beautiful and permanent violet. If too much digitalin is used the red color remains and only the surface layer becomes violet.

On heating on platinum foil digitalin should burn without leaving a weighable residue.

If a granule of digitalin is covered with 2 Cc. of 10 per cent. potassium hydroxide solution no color should develop within one minute (absence of other glucosides).

If digitalin is stirred to a thin paste with water and for every 100 parts of water used 22 parts of amyl alcohol is added with shaking, and the mixture set aside in a closed vessel for 24 hours, the presence of digitonin will be indicated by the formation of distinct masses of crystals.

***Action and Uses.*—The same as those of digitalis. Its cumulative action is probably not so great as that of digitoxin.**

***Dosage.*—It is impossible at present to state the correct dose for digitalinum verum Kiliani. Some authorities give the same dose as that for digitoxin, whereas others give it as much larger. It is best given in pills made by trituration with sugar of milk and massing with glucose. Solutions of digitalin rapidly lose their strength and should be freshly prepared.**

DIGITALIN, "FRENCH."—Homolle's Digitalin. Digitaline Amorphe. Digitaline Chloroformique. Digitalin, French, is a mixture obtained from Digitalis purpurea by the method of Homolle, consisting mainly of digitalinum verum, Kiliani.

100 Gm. powdered digitalis leaves are moistened with one liter of water and slowly exhausted in a percolator until the percolate amounts to three liters. This is precipitated with 250 parts of lead acetate and the filtrate from the precipitate treated with 40 parts of crystallized sodium carbonate and 20 parts of sodium ammonium phosphate, in order to remove the xcess of lead. The filtrate is precipitated with 40 parts of tannic acid. The tannate is mixed with 25 parts of powdered litharge and 50 parts of purified animal charcoal and dried. From the dried mass the digitalis bodies are extracted with 90 per cent. alcohol, the latter is distilled off and the residue washed with distilled water and again taken up in 90 per cent. alcohol. This is again distilled and the residue exhausted with chloroffrm. On expelling the latter the digitalin remains behind (Hager's Pharm. Praxis, Vol. I, p. 1935).

French digitalin is a yellowish-white, amorphous powder of a peculiar aromatic odor and little taste. It is neutral to litmus, almost insoluble in water, soluble in alcohol and chloroform and insoluble in ether. It softens at 90° C. and begins to melt at 100° C. It is not precipitated by solutions of lead salts, but with tannic acid it forms a tannate insoluble in water. It is colored emerald green by concentrated sulphuric acid.

Concentrated sulphuric acid dissolves digitalin French, producing a yellow color, which finally goes over to an emerald-green color.

Action and Uses.—Action like that of digitoxin. Uses the same as those of digitalis.

Dosage.—What has been said with regard to the dose of digitalinum verum, applies to the French digitalin: the dose

is variously given as 0.00025-0.002 Gm. (1/250 to 1/35 grain). Maximum daily dose 0.006 Gm. (1/10 grain). It must be used with caution and its action carefully watched.

DIGITALIN, GERMAN—Digitanilum Germanicum.—Digitalin, German, is a mixture of glucosides obtained from digitalis seeds according to the process of Walz, and consisting largely of digitonin, with digitalin verum and other glucosides.

Digitalis seeds are extracted with alcohol, the alcohol driven off, the extract diluted with water and purified by precipitation with lead acetate. The filtrate is freed from lead by sodium phosphate. From the liquid thus purified the digitalis bodies are precipitated with tannic acid, the tannate well washed with water and decomposed with lead or zinc acetate. The digitalin thus separated is taken up in alcohol, the latter carefully distilled off and the residue washed with ether as long as it takes up anything. The digitalin purified in this way is dried at a low temperature and finally powdered. (Hager's Handbuch der Pharm. Praxis, 1903, Vol. I, p. 1032.)

German digitalin is a yellowish-white, amorphous powder, soluble in water and alcohol, insoluble in ether and chloroform. It is said to contain about 50-60 per cent. of digitonin and 5-6 per cent. of digitalinum verum, the remainder being digitalein and other glucosides.

Sulphuric acid containing a trace of ferric sulphate produces with digitalin, German, an intense golden-yellow coloration, changing to red and finally to a permanent reddish-violet.

Action and Uses.—Similar to those of digitalis.

Dosage.—0.001 to 0.002 Gm. (1/60 to 1/30 grain). Maximum dose 0.004 Gm. (1/16 grain): maximum per day, 0.02 Gm. (⅓ grain). Doses of from 1/10 to ⅓ grain, and even higher, have been used by some clinicians.

As German digitalin (so-called digitalinum purum) is a mixture of very powerful active principles, the proportion of which may vary with changes in the manipulations, it is very important that the directions for its preparation should be very carefully followed, and caution should be exercised to purchase only such products as the manufacturers can guarantee to have been made with the necessary care.

DIGITONIN.[1]—Digitonin is a glucoside $C_{27}H_{46}O_{14} + 5H_2O$ derived from the seeds of digitalis purpurea and belonging to the saponins.

Digitonin is separated from German digitalinum purum by the addition of ether to the alcoholic solution (see digitalin). The precipitate is dissolved in 10 parts of 85 per cent. alcohol and the solution put into water at 45° C. After standing from six to eight hours the greater part of the digitonin will crystallize out.

Digitonin crystallizes in colorless needles or thick warty masses which dissolve in 600 parts of cold water and 50 parts of warm water to a turbid solution, but dissolves to a clear solution in 50 parts of 50 per cent. alcohol. Its solutions are levorotatory. When heated in alcoholic solution with hydrochloric acid it is split into dextrose, galactose and digitogenin.

Concentrated sulphuric acid dissolves it with a red color which is intensified by the addition of a drop of bromine water.

Concentrated hydrochloric acid dissolves digitonin without color, but the solutions become yellow and finally reddish violet on heating or on long standing.

Keller's reaction gives a rose red zone which soon fades.

Action and Uses.—Digitonin acts as a heart depressant when introduced into the circulation, but it is not absorbed from the alimentary canal, and therefore exerts no action on the circulation when taken by the mouth, but it renders digitoxin more soluble whether in infusion or when the leaf is taken by the mouth.

DIGITOXIN—Digitoxinum.—Digitoxinum (Pharm. Helvetica, edit. 4). Digitaline Crystallinée (Pharm. Française, 1908). Digitoxin, $C_{34}H_{54}O_{11}$ is the chief active principle of digitalis, having the character of a glucoside.

The leaves of Digitalis purpurea having been extracted with water and dried, are extracted with 50 per cent. alcohol. This solution is treated with lead acetate, forming a precipitate, which is allowed to settle. The supernatant liquid is decanted. The remaining alcohol is evaporated *in vacuo* and the residue repeatedly extracted with ether. The ether extract is then shaken out with water and concentrated by distillation and the residue recrystallized from hot alcohol (85 per cent.) and decolorized by boiling with animal-charcoal (Schmidt's Pharm. Chemie, 3d edit., Vol. II, p. 1640).

Depending on the solvent from which it is crystallized, it is either hydrated or anhydrous. The hydrated form is obtained when crystallized from alcohol and the anhydrous from chloroform and alcohol mixture, forming colorless rectangular leaflets melting at 243° C. (470° F.) (Pharm. Française, 1908). The anhydrous preparation is official in the Pharm. Française, 1908.

It is insoluble in water, benzin or carbon disulphide, slightly soluble in ether and easily soluble in chloroform. At 15° C. it is soluble in 79.80 parts of absolute alcohol and in 43.04 parts of 90 per cent. alcohol. It is slightly soluble in fatty oils (Pharm. Française, 1908).

Digotoxin dissolved in 2 Cc. glacial acetic acid containing a trace of ferric chloride when poured onto 2 Cc. of concentrated sulphuric acid containing a trace of ferric chloride, will produce a brown color at the zone of contact of the two solutions. This color gradually changes to green and finally an indigo blue; after one-half hour the entire acetic acid layer will become blue. (Pharm. Française, 1908).

It dissolves to a colorless solution in cold concentrated hydrochloric acid, but when this solution is heated on the water bath for some time a green color is obtained. Concentrated sulphuric acid dissolves it, producing a green color.

It should not lose weight appreciably when heated to 100° C. It should be insoluble in water and in benzin, but completely soluble in chloroform. It should leave no residue when ignited (Pharm. Française, 1908).

Action and Uses.—Digitoxin acts much like digitalis. Its activity varies with the method of preparation. Digitoxin from an unknown source should be tested on animals before it is used on patients. Owing to its slow excretion, it is cumulative in action when too frequently repeated. Locally it is very irritant, and when given by mouth is liable to derange the digestion. Penzoldt claims that gastric irritation may be avoided by giving it only when the stomach is full. Owing to its irritant action it is not suitable for hypodermic injection.

Dosage.—Single dose 0.00025 (1/250 grain); maximum daily dose 0.0010 Gm. (1/67 grain). It should be given largely diluted and repeated cautiously.

Antidotes: Emetics, tannin, nitroglycerin, morphine, alcoholic stimulants or camphor.

DOLOMOL.—Dolomol is magnesium stearate, $Mg(C_{18}H_{35}O_2)_2$, containing small amounts of magnesium palmitate and oleate.

It is a white powder, insoluble in water, unctuous to the touch, nearly odorless and tasteless. It is claimed to be practically free from oleate. Its magnesium content corresponds to nearly 7 per cent. MgO.

Actions, Uses and Dosage.—Acting as a protective to the skin, Dolomol is employed in cutaneous affections as a dusting powder, alone or mixed with various remedies.

The following dolomol compounds are listed: Dolomol-Acetanilid, 25 per cent.; Dolomol-Acid Boric, 20 per cent.; Dolomol-Acid Carbolic, 5 per cent.; Dolomol-Acid Picric, 25 per cent.; Dolomol-Acid Pyrogallic, 5 per cent.; Dolomol-Acid Salicylic, 5 per cent.; Dolomol-Acid Salicylic, 10 per cent.; Dolomol-Acid Tannic, 10 per cent.; Dolomol-Alum, 10 per cent.; Dolomol-Aristol, 10 per cent.; Dolomol-Balsam Peru, 10 per cent.; Dolomol-Bismuth Subgallate, 25 per cent.; Dolomol-Calendula, 25 per cent.; Dolomol-Calomel, 25 per cent.; Dolomol-Camphor, 10 per cent.; Dolomol-Chrysarobin, 5 per cent; Dolomol-Europhen, 10 per cent.; Dolomol-Guaiacol, 5 per cent.; Dolomol-Ichthyol, 10 per cent.; Dolomol-Iodoform Deodorant, 10 per cent.; Dolomol-Menthol, 5 per cent.; Dolomol-Naphthol, 5 per cent.; Dolomol-Oil of Cade, 10 per cent.; Dolomol-Resorcin, 10 per cent.; Dolomol-Salol, 10 per cent.; Dolomol-Sulphur Sub., 25 per cent.; Dolomol-Tar, 10 per cent; Dolomol-Thymol, 2 per cent.

Manufactured by Pulvola Chemical Co., New York. Not patented or trademarked.

EMETINE HYDROCHLORIDE—Emetinæ Hydrochloridum.—Methyl-cephaeline. Emetine hydrochloride is the hydrochloride, $C_{15}H_{22}N.O_2.HCl.3H_2O$, of a base found together with cephaeline in Cephaelis Ipecacuanha.

Emetine hydrochloride occurs as a white crystalline powder, soluble in water and alcohol. A freshly prepared concentrated solution of ammonium molybdate in concentrated sulphuric acid is colored brown by emetine; this color changes to violet when a drop of concentrated hydrochloric acid is added. The general alkaloidal reagents precipitate emetine, even from dilute solutions. Alkalies precipitate emetine from aqueous solutions of its salts.

Actions and Uses.—Emetine acts similarly to Ipecac but is relatively more nauseant and less emetic, and causes relatively less renal irritation, but more cardiac depression.

Dosage.—Expectorant, 0.005-0.01 Gm. (1/12-1/6 grain). 0.01-0.02 Gm. (1/6-1/3 grain) causes emesis, but cephaeline is preferred as an emetic.

EMPYROFORM.—Empyroform is a condensation of birch tar and formaldehyde.

According to the patent specifications birch tar is boiled with formaldehyde solution and the hot liquid poured into hydrochloric acid. When cold, the solid mass is collected and washed until free from acid.

It is a grayish-brown, almost odorless powder, insoluble in water, but soluble in acetone and chloroform.

Actions and Uses.—Empyroform is an antipruritic, sedative and desiccant. It is said to be superior to tar and free from

1. Crystallized digitalin—Merck.

irritant or toxic effects. See note under Creosote Carbonate.

It is claimed to be useful in all stages of eczema, psoriasis, lichen, urticaria, prurigo, pityriasis, etc.

Dosage.—It is applied as a 5 to 10 per cent. ointment, 10 to 20 per cent. zinc paste, 10 to 20 per cent. tincture, and 37.5 per cent. suspension.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 761,260 (May 31, 1904; expires 1921). U. S. trademark No. 43,419.

EPICARIN.—Oxynaphthyl-Ortho-Oxytoluic Acid.—Epicarin, $C_6H_3(OH)(COOH)(CH_2C_{10}H_6OH)2:3:1 = C_{18}H_{14}O_4$, is β-naphthol-hydroxy-toluic acid.

It is obtained by the action of chlormethyl-salicylic acid on a solution of *b*-naphthol, in glacial acetic acid, thus:

$$C_6H_3(OH)(COOH)(CH_2Cl+C_{10}H_7OH = C_6H_3(OH)(COOH)(CH_2C_{10}H_6OH)+HCl$$

It forms colorless or yellowish needles, melting at 190° to 195° C. (380° to 389° F.) difficultly soluble in water, but easily soluble in alcohol, ether, acetone, and in soaps. It dissolves in oils on the addition of a little ether. It has the character of a strong acid, forming well crystallized salts, which, however, are sparingly soluble in water, particularly the sodium salt. On exposure to air it acquires a reddish color due to oxidation; if it is then recrystallized from glacial acetic acid, colorless crystals are again obtained which melt at 166° C. (338° F.). These, however, retain a little acetic acid, but lose this by heating at 120° C. (248° F.).

The alcoholic solution of epicarin produces an intense blue color with ferric chloride. When heated with concentrated sulphuric acid, a red-brown solution, having a vivid green fluorescence, is produced. If shaken with chloroform and solution of potassium hydroxide, a yellowish color, changing later to yellowish green, is developed, thus distinguishing epicarin from *b*-naphthol, which produces a deep blue color under the same conditions.

Being a strong acid, it is incompatible with alkaline hydroxides or carbonate, especially those of sodium, with which it forms an almost insoluble salt. It should not be exposed to the air, which colors it red.

Actions and Uses.—Epicarin is a non-poisonous antiseptic and parasiticide. Administered internally, it is excreted mostly undecomposed. It is said to be useful in the treatment of skin diseases, particularly scabies, tinea tonsurans, prurigo and certain forms of eczema. (See note under Creosote Carbonate.)

Dosage.—It is used only externally in the form of a 5 to 20 per cent. ointment, with petrolatum or wool fat (lanolin) as base, or in the form of oily or alcoholic solutions (10 per cent).

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 671,622 (April 9, 1901; expires 1918).

EPINEPHRINE PREPARATIONS

EPINEPHRINE.—Epinephrine is 1, 2-dihydroxy-4^1-methyl-amino ethyl-4^1-ol benzene, $C_6H_3(OH)_2(CHOH.CH_2NHCH_3)$, a substance with feeble basic properties, obtained from the suprarenal gland of the sheep or other animal.

Epinephrine is a finely crystalline white or yellowish powder, odorless and slightly bitter. It melts at 201 to 207° C. (401 to 404° F.), turning brown and decomposing at the higher temperature.

The alkaloid shows a slightly alkaline reaction to moistened red litmus paper. It is almost insoluble in cold water, more readily in hot water. It is difficultly soluble in alcohol and insoluble in ether. The colorless aqueous solution of the alkaloid is easily oxidized on contact with the air, becoming pink, then red, and eventually brown. The base reacts with acids to form salts which are readily soluble in water; it is also soluble in the fixed alkalies, but not in ammonium hydroxide or in solutions of the alkaline carbonates. The following reactions are the most characteristic: The addition of ferric chloride to a solution of the alkaloid produces a beautiful emerald green color which by careful addition of caustic alkali becomes purple, and then carmine red. Strong acid prevents the reaction with ferric chloride, limiting the change of color to a dirty yellowish-green. It gives a vivid pink color with iodine. The alkaloid reduces silver salts and gold chloride very energetically, and the liquid turns red. A drop of 1:10,000 solution instilled into the eye will, within a few seconds, produce a pallor of the conjunctiva.

Its incompatibilities are the same as those of other alkaloids. Its solutions should be kept tightly stoppered and protected from the light.

Actions and Uses.—Epinephrine acts peripherally on a variety of structures, probably by stimulating the sympathetic nerve endings. Its most important therapeutic actions consist in a constriction of the blood vessels, with consequent high rise of blood pressure; a stimulation of the vagus center with slowing of the heart, and a direct stimulant and tonic effect on the heart muscle, similar to digitalis. Large doses also cause glycosuria. Continued administration of large doses leads to atheroma. The effect of a single dose is very fleeting. It is not irritant. The effects are seen on local application and intravenous and intramuscular injection. When given to animals, by mouth or hypodermically, moderate doses have almost no action.

Dilute watery solutions rapidly lose their strength, the deterioration being accompanied by a reddish or brownish discoloration.

The alkaloid is used mainly locally for its vasoconstrictor action, in hemorrhage, and in catarrhal and congestive conditions. It is said to cut short the asthmatic paroxysm (being used by spraying the larynx and by hypodermic injections). Intravenous injections are effective in shock and anesthesia accidents (care being taken not to give an overdose). It has also been recommended in heart disease, Addison's disease, etc., but opinions are divided as to the benefits to be expected from oral administration.

The vasoconstrictor action of epinephrine is used to intensify and prolong the anesthetic effect of local anesthetics by retarding the circulation in the affected part and thus hindering the dilution of the anesthetic agent by too rapid absorption into the general blood stream.

Dosage.—0.3 to 2.0 Cc. (5 to 30 minims) of a 1:1,000 solution every two or three hours. Hypodermically, 0.06 to 1 Cc. (1 to 15 minims) of a 1:1,000 solution, diluted with sterile water. Locally it is used in solution varying in strength from 1:15,000 to 1:1,000, for ordinary applications, in oily solution for sprays, in ointment for application to mucous membranes, such as the eye or the nose, where a slower but more lasting action is desired and in suppositories. Since the alkaloid is insoluble, solutions in water should be made of some salt, but for the oily solutions the alkaloid itself should be employed.

Proprietary Preparations:

ADNEPHRIN.—The name used for epinephrine by F. Stearns & Co., Detroit, Mich.

Adnephrin Emollient.—An ointment composed of adnephrin and a neutral base (1:1,000).

Adnephrin Oil Spray.—A 1:1,000 solution of adnephrin in a neutral oil, aromatized.

Adnephrin Solution.—A sterile solution (1:1,000 of adnephrin in physiologic salt solution containing one-half of 1 per cent. of metha-form (chlorbutanol). A small proportion of sodium sulphite is added to the extraction of the glands.

Adnephrin Suppositories.—Each suppository represents a 1 to 1,000 combination of adnephrin with oil of theobroma and weighs about 1 Gm. (15 grains).

ADRENALIN.—The name used for epinephrine by Parke, Davis & Co., Detroit, Mich. It is prepared by the method of Takamine.

For Tests, Incompatibilities, Actions and Uses see Epinephrine. U. S. patents Nos. 730,175, 730,176, 730,196, 730,197, 730,198 (June 2, 1903; expires 1920); 753,177 (Feb. 23, 1904; expires 1921). U. S. trademark.

Adrenalin Chloride Solution.—A 1:1,000 solution of adrenalin hydrochloride in physiologic salt solution, preserved by the addition of 0.5 per cent. of chloretone (chlorbutanol).

Adrenalin Inhalant.—A neutral oily solution containing adrenalin chloride 1:1,000, 3 per cent. of chloretone, 13 per cent. of alcohol, and aromatics.

Adrenalin Ointment.—One part of adrenalin chloride in 1,000 parts of oleaginous ointment base.

Adrenalin and Chloretone Ointment.—Contains 0.1 per cent. of adrenalin chloride, and 5 per cent. of chloretone in an ointment base of hydrous wool fat and petrolatum.

Adrenalin Suppositories.—1 part of adrenalin to 1,000 parts of oil of theobroma (cacao butter). Each suppository weighs about 1 Gm. (15 grains).

Adrenalin Tablets.—Each tablet contains 0.001 Gm. (3/200 grain) adrenalin, as borate, yielding a 1:1,000 solution when dissolved in 15 minims (1 Cc.) of water.

Adrenalin and Cocaine Tablets.—Each hypodermic tablet contains cocaine hydrochloride 0.01 Gm. (1/6 grain), and adrenalin, as borate, 0.0002 Gm. (1/300 grain).

ADRIN.—The name (word mark) used for epinephrine by H. K. Mulford Co., Philadelphia. It is prepared by the method of von Fuerth (Zeit. f. physiol. chem., vol. 26, p. 18). It is not marketed in its pure form. All the preparations contain boric acid.

U. S. trademark No. 41,916.

Adrin Compound Vaginoids.—Vaginal Suppositories of Epinephrine Compound, Mulford. Each suppository contains adrin 0.00065 Gm. (1/100 grain), ichthyol 0.13 Cc. (2 minims), phenol 0.13 Gm. (2 grains), zinc phenolsulphonate 0.08 Gm. (1¼ grains) in a boroglyceride and gelatin base and weighs about 7.63 Gm. (118 grains).

Adrin Inhalant Comp.—Epinephrine Inhalant Comp., Mulford. —Each 100 Cc. contains epinephrine (as hydrochloride), 0.1 Gm. (7/16 of a grain in a fluidounce), camphor, 0.3 Gm. (1 1/3 grains in a fluidounce), menthol 0.22 Gm. (1 grain in a fluidounce), thymol, 0.043 Gm. (1/5 of a grain in a fluidounce), oil of eucalyptus, 0.22 Gm. (1 minim in a fluidounce), and hydrastine, 0.0053 Gm. (1/40 of a grain in a fluidounce), oil of wintergreen, 0.99 (4.5 minims in a fluidounce). The solvent is a mixture of castor and cotton seed oils, together with 10 per cent. absolute alcohol by volume.

Adrin Troches.—Troches of Epinephrine—Mulford—each troche contains epinephrine, 0.000093 Gm. (1/700 grain), menthol, 0.0013 Gm. (1/50 grain), benzoic acid, 0.0027 Gm. (1/25 grain), oil of gaultheria, 0.0034 Gm. (1/20 grain), and eucalyptol, 0.0013 Gm. (1/50 grain). The base is sugar with a small amount powdered acacia.

Adrin Ointment.—Ointment of Epinephrine, Mulford. An ointment containing 0.1 per cent. each of adrin and boric acid in a base of petrolatum and anhydrous wool fat, flavored with oils of wintergreen and eucalyptus.

Adrin Solution 1:500.—Solution of Epinephrine, 1:500, Mulford. A solution of adrin, 1 to 500, in normal salt solution, containing boric acid, 0.25 per cent., and also small quantities of sulphite and chloroform.

Adrin Suppositories.—Suppositories of Epinephrine, Mulford. Each suppository contains adrin 0.0027 Gm. 1/25 grain) and oil of theobroma, 1.23 Gm. (19 grains).

Adrin Tablets, 1/65 grain.—Tablets of epinephrine, 1/65 grain, Mulford. Each tablet contains adrin, 0.001 Gm. (1/65 grain); sodium chloride, 0.007 Gm. (1/10 grain); boric acid, 0.002 Gm. (1/33 grain). A 1:1,000 solution is prepared by dissolving a tablet in 1 Cc. (16 minims) of water. The tablets can be used hypodermically.

Adrin Tablets, Hypodermic, 1/100 grain.—Tablets of Epinephrine, hypodermic, 1/100 grain, Mulford. Each tablet contains adrin 0.00065 Gm. (1/100 grain) and represents 0.6 Cc. (10 minims) of the 1:1,000 solution.

Adrin Tablets, Hypodermic, 1/200 grain.—Tablets of Epinephrine, 1/200 grain, Mulford. Each tablet contains adrin 0.00033 Gm. (1/200 grain) and represents 0.3 Cc. (5 minims) of the 1:1000 solution.

Adrin and Cocaine Tablets. Tablets of Epinephrine and Cocaine, Mulford. (For dental practice). Each tablet contains adrin, 0.00065 Gm. (1/100 grain) and cocaine hydrochloride, 0.016 Gm. (¼ grain).

Adrin and Sparteine Tablets, Hypodermic.—Tablets of Epinephrine and Sparteine, Hypodermic, Mulford. Each tablet contains adrin 0.00033 Gm. (1/200 grain) and sparteine sulphate, 0.008 Gm. (⅛ grain).

SUPRACAPSULIN.—The name used for epinephrine by The Cudahy Packing Co., South Omaha, Neb.

Not patented. U. S. trademark No. 72,580.

Supracapsulin Solution.—A solution 1:1,000 of supracapsulin in normal salt solution with small quantity of sulphite and 0.5 per cent. of chloral.

Supracapsulin Inhalant.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

SUPRARENALIN.—The name used for epinephrine by Armour & Co., Chicago.

An organic base is used for the the final precipitation.

U. S. patent No. 829,220 (Aug. 21, 1906; expires 1923).

Suprarenalin Inhalant.—A 1:1,000 solution of suprarenalin in an aromatized oil, containing approximately 10 per cent. of alcohol.

Suprarenalin Ointment.—An ointment containing 0.1 per cent. of suprarenalin, dissolved in a petrolatum base.

Suprarenalin Solution.—A 1:1,000 solution of suprarenalin sulphite in normal saline solution, free from other preservatives.

Suprarenalin Triturates.—Triturates composed of suprarenalin, milk sugar, and boric acid, in such proportion that each 0.03 Gm. (½ grain) triturate dissolved in 15 minims of water, yields a 1:1,000 solution.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6°}{D} = -51.4°$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

L-SUPRARENIN SYNTHETIC BITARTRATE.—L-suprarenin synthetic bitartrate is the acid tartrate of l-suprarenin synthetic.

It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York). German patent No. 222,451.

SUPRARENAL LIQUID—Liquor Suprarenalis (P. D. & Co.). —Suprarenal liquid is an aqueous extract of suprarenal glands, preserved with 0.8 per cent. of chlorbutanol (chloretone). Each Cc. (16 minims) of the solution represents 1 Gm. (15.4 grains) of the fresh glands.

Dosage.—The preparation is used undiluted for spraying, especially for mucous membranes.

Prepared by Parke, Davis & Co., Detroit, Mich.

ERGOTININE CITRATE—Ergotininæ Citras.—The citrate of ergotinine, a crystalline alkaloid, probably $C_{35}H_{39}O_6N_5$, (Barger and Carr) derived from ergot.

Ergotinine is obtained by extracting the residue left on evaporation of an alcoholic tincture of ergot with light petroleum to remove oily matter, dissolving the residue in ethyl acetate and shaking with citric acid solution. Sodium bromide or hydrobromic acid is then added and the precipitated hydrobromides of the alkaloids, ergotinine and ergotoxin are collected. The mixed hydrobromides are dissolved in caustic soda and shaken with ether; in this way ergotinine is removed first. Finally, the ergotinine is crystallized from alcohol, leaving ergotoxine and impurities in the mother liquor. By interaction of ergotinine with citric acid, ergotinine citrate is obtained.

Ergotinine citrate is a grayish-white, amorphous powder, slowly soluble in water; it has an acid reaction to litmus paper.

Ergotinine crystallizes in long needles, the sides of which are not quite parallel, which darken and melt at temperatures from 219° to 229° C. One part of ergotinine dissolves at 18° in 292 parts of alcohol, 1,020 parts of absolute ether, in 91 parts of ethyl acetate, and is moderately soluble in acetone and benzene, and readily soluble in chloroform. It is insoluble in light petroleum and in water. Its specific rotation in alcoholic solution saturated in the cold is + 338°. It forms salts which produce colloidal solutions in water which are precipitated by electrolytes so that they are little soluble in the presence of the stronger mineral acids.

Tests: Ergotinine citrate when carefully decomposed by alkali, the mixture extracted with ether and the ether evaporated yields a residue which responds to the test for ergotinine. Solutions of ergotine have a bluish violet fluorescence, especially when acidified. Concentrated sulphuric acid colors the alkaloid at first yellow, after some hours violet and at length blue. If a small quantity of ergotinine is dissolved in concentrated sulphuric acid and a trace of ferric chloride added, the mixture takes on an orange red coloration, which soon passes into red while the edges of the liquid are colored blue or bluish green.

If a few milligrams of ergotinine are dissolved in about 4 Cc. of glacial acetic acid a trace of ferric chloride added and the mixture underlaid with concentrated sulphuric acid a beautiful violet color appears at the junction of the two liquids.

Actions and Uses.—According to the investigations of Barger and Dale, ergotinine has very slight physiologic activity when it enters the system unchanged, but it is liable to be converted to a certain extent into ergotoxine, which possesses marked physiologic activity and appears to represent the pharmacologic actions of ergot. The action of ergotinine when given per os or when injected hypodermically, is variable in intensity but represents the action of ergot.

Ergotinine citrate can be used as a substitute for ergot, and is said to act efficiently, when injected hypodermically, in the treatment of headaches and of uterine hemorrhage. Combined with strychnine it is said to be useful as a stimulant in uterine hemorrhage.

Dosage.—.00032 to .00064 Gm. (1/200 to 1/100 grain), hypodermically.

Proprietary Preparations:

TABLOID ERGOTININE CITRATE—Tabloid Ergotininæ Citratis.—Each tablet contains ergotinine citrate 0.00032 Gm. (1/200 grain).

Dosage.—One or two, hypodermically.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark on "Tabloid" Nos. 11,993, 43,563, 43,559, 43,569, 44,219.

TABLOID ERGOTININE CITRATE AND STRYCHNINE SULPHATE.—Tabloid Ergotininæ Citratis et Strychninæ Sulphatis.—Each tablet contains ergotinine citrate 0.00065 Gm. (1/100 grain) and strychnine sulphate 0.0032 Gm. (1/20 grain).

Dosage.—One or two, hypodermically.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark, as for Tabloid Ergotinine Citrate.

EXTRACT OF ERGOT, PURIFIED — Extractum Ergotæ Purificatum.—Ergotin Bonjean. Extractum secalis cornuti (Pharm. Helvetica, edit. 4); Extractum ergoti (Pharm. Française, 1908). Purified extract of ergot is an aqueous extract of ergot purified by alcohol.

Powdered ergot is extracted by percolation with water and the percolate concentrated, diluted with alcohol, allowed to stand, then filtered and the filtrate evaporated to a soft extract.

It is reddish brown, of characteristic odor and taste, soluble in water and in a mixture of equal parts of water and alcohol. The aqueous solution is yellowish brown and acid in reaction (Pharm. Helvetica, edit. 4).

If 2 Cc. of an aqueous solution (1:20) is mixed with 7 Cc. of water and 1 Cc. Mayer's reagent there should appear at most but slight turbidity; the turbidity is increased by the addition of a trace of hydrochloric acid; the further addition of 5 drops of dilute acid produces within a few minutes a flocculent precipitate.

10 Cc. of a 1:20 solution of purified extract of ergot should become turbid upon the addition of 1 Cc. picric acid solution and precipitation should occur within five minutes.

If a solution of 0.2 Gm. purified extract of ergot in 5 Cc. water is made alkaline with 1 to 2 drops of ammonia water and then shaken out with ether, the ether extract evaporated and the residue dissolved in 2 Cc. acetic acid to which a trace of ferric chloride has been added and the mixture carefully poured upon concentrated sulphuric acid, a bluish violet color appears at the zone of contact (Pharm. Helvetica, edit. 4).

Action and Uses.—Purified extract of ergot has the action and uses of ergot.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains).

This preparation should not be confused with the following:

Ergotin Wernich (Pure Dried) is a purified and dialyzed dried aqueous extract of ergot.

Ergotin Wernich (Liquid) is a dialyzed extract of ergot, in the form of a reddish brown liquid.

Ergotin Wernich (Soft) is a purified and dialyzed soft extract of ergot; a reddish brown syrupy liquid.

Ergotin Wiggers (Pure Dried) is a dried, alcohol purified extract of ergot.

Ergotin Yvon is a fluidextract of ergot prepared by extracting with dilute solution of tartaric acid.

ERYTHROL TETRANITRATE.—Tetranitrol.—Erythrol tetranitrate, $C_4H_6(NO_3)_4 = C_4H_6O_{12}N_4$, is the tetranitrate of erythrite (butane-tetrol) $C_4H_6(OH)_4$.

It is obtained by the nitration of the tetratomic alcohol erythrite.

It forms colorless crystalline scales, insoluble in cold water, readily soluble in alcohol, melting at 61° C. (141.8° F.). On percussion it expodes much like nitroglycerin.

Actions and Uses.—It is a vasodilator and antispasmodic, like nitroglycerin. Its action is slower and more lasting; it begins in 15 minutes and persists for three or four hours.

It is said to be useful in angina pectoris and vascular diseases. It is reported as especially useful as a prophylactic in preventing anginal pain.

Dosage.—0.03 to 0.06 Gm. (½ to 1 grain) every four to six hours. Because of its explosiveness it is best dispensed in tablets.

Proprietary Preparations:

ERYTHROL TETRANITRATE TABLETS, Merck. Each tablet contains erythrol tetranitrate 0.03 Gm. (½ grain).

Prepared by E. Merck, Darmstart, Germany (Merck & Co., New York). German patent No. 81,664.

ETHYL AMINOBENZOATE.—Aethylis Amino-Benzoas.—Paramidobenzoic Acid Ethyl Ester.—Ethyl aminobenzoate, $C_6H_4.NH_2.COO(C_2H_5)$ 1:4, is the ethyl ester of paraminobenzoic acid, $C_6H_4.NH_2.COOH$, 1:4.

Paranitrobenzoic acid is obtained by the oxidation of paranitrotoluene, and this may be ethylized by the action of sulphuric acid and alcohol and the ester so obtained reduced to paramidobenzoic acid ethyl ester by the action of zinc and hydrochloric acid, or the acid may first be reduced and subsequently converted into the ethyl ester.

It is a white, crystalline powder, easily reduced to impalpability, melting at 90° to 91° C. (194° to 195.8° F.); odorless and tasteless, but producing a sensation of numbness when placed on the tongue; almost insoluble in cold and difficultly soluble in hot water; soluble in six parts of alcohol, in ether, benzene and to the amount of 2 to 3 per cent. in fatty oils. In oil solutions it may be sterilized without decomposition, but by prolonged boiling or by warming with dilute alkalies it is split up into alcohol and paramidobenzoic acid.

It should form clear, colorless and neutral solutions in alcohol or ether; after acidification with nitric acid it should not give a precipitate with silver nitrate. Its solution in dilute hydrochloric acid (1 to 10) is not affected by hydrogen sulphide. If a few drops of sodium nitrate solution be added to the slightly acidulated aqueous solution followed by some alkaline betanaphthol solution, a cherry red coloration of bluish shade is produced, which changes to orange on further addition of hydrochloric acid. It is decomposed by prolonged heating with water and is incompatible with alkalies and their carbonates.

Action and Uses.—It was introduced as a substitute for cocaine and is a local anesthetic, similar in its action to orthoform and said to be equally effective, but free from irritant action and toxicity. The anesthetic action, like that of the related compound orthoform, resembles that of cocaine, but is purely local, does not penetrate the mucous membranes, and in consequence of its insolubility the compound cannot be used by hypodermic injection. In consequence of its insolubility the anesthetic effect is more prolonged than that of cocaine.

It is said to be useful in various forms of gastralgia, in ulcer and cancer of the stomach for the relief of pain, and is applied locally in rhinologic and laryngeal affections, urethritis, etc.; it is also employed for anesthetizing wounded surfaces, burns, ulcerations and painful affections of the skin. It is more effective in cases where the skin is broken.

Dosage.—Internally, 0.3 to 0.5 Gm. (5 to 8 grains), in pastilles. Externally it is applied as a dusting powder, either pure or diluted. It may be applied in ointment or in the form of suppositories.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patents Nos. K 19,416 Onm.

ETHYL BROMIDE—Aethylis Bromidum.—Aether Bromatus (Pharm. Germanica, edit. 4; Pharm. Belgica, edit. 4; Pharm. Helvetica, edit. 4). Aethylium bromatum (Pharm. Française, 1908).

Ethyl bromide, C_2H_5Br, is the hydrobromic acid ester of ethyl alcohol, containing approximately 1 per cent. ethyl alcohol.

Ethyl bromide is a colorless, strongly refractive, easily volatile liquid, having a pleasant ethereal odor. It is insoluble in water, but readily soluble in alcohol and in ether. It boils at from 38° to 40° C. (101° to 104° F.). Its specific gravity at 15° is 1.453 to 1.457 (Pharm. Germanica).

It is stable when pure, but when contaminated with ethyl iodide it becomes colored when exposed to light. It burns with difficulty. It is very difficultly saponified by potassium hydroxide and it is not attacked by sulphuric or nitric acids. Silver nitrate gradually precipitates silver bromide (Pharm. Française, 1908). If a mixture of 1 Cc. ethyl bromide, 5 Cc. alcohol and 10 drops of (15 per cent.) sodium hydroxide solution is heated to boiling, cooled, acidified with dilute sulphuric acid, then shaken with chloroform and chlorine water added a brown coloration will be produced in the chloroform layer. If equal volumes of ethyl bromide and sulphuric acid are shaken together in a bottle previously rinsed with sulphuric acid and closed with a glass stopper, the acid should not be colored yellow within an hour. After shaking equal volumes of ethyl bromide and water, no change of volume should occur in the two liquids, the water separated from the ethyl bromide should not have an acid reaction nor should it become turbid immediately on the addition of a drop of silver nitrate solution (Pharm. Helvetica).

When a small portion is evaporated from a porcelain plate by causing it to flow to and fro over the surface little or no foreign odor is yielded as the last portions pass off, and the plate is covered with a slight deposit of moisture.

1 Cc. of ethyl bromide mixed with 3 drops of anilin and 2 Cc. of alcoholic solution of potassium hydroxide should not give off the odor of isonitrile even after warming. (Absense of chloroform) (Pharm., Belgica.)

About 1 Gm. of ethyl bromide accurately weighed added to 30 Cc. of 80 per cent. alcohol containing 2 Gm. silver nitrate will precipitate, after several hours, silver bromide, which when washed and dried should weigh 1.72 Gm. for each Gm. ethyl bromide used (Pharm. Française).

Action and Uses.—Ethyl bromide is a rapid anesthetic, acting much like chloroform. The anesthesia is quickly and pleasantly induced and the recovery is rapid, but subsequently the patient may have general mild depression. Pain is abolished before consciousness. The respiration is paralyzed at about the same time as the reflexes, so that the zone of safety is very narrow. Tetanic spasms have occurred. Deaths were formerly attributed to impurities, but several have occurred when a pure article was given. It has been recommended for short operations in obstetrics, gynecology and minor surgery, but is not to be used for long operations. It must be regarded as a very dangerous agent in inexperienced hands.

Dosage.—3 Cc. to 12 Cc. (45 minims to 3 fluidrams) is sufficient to induce anesthesia. It should be administered rapidly with little or no air. The administration requires from 20 to 40 seconds; the anesthesia lasts about two minutes. The dose for children should not exceed 1 Cc. per year of age.

It should be protected from the light and a bottle once opened should be used at once, as it deteriorates rapidly. (To be preserved carefully in small, opaque bottle containing not more than 50 Cc. Pharm. Helvetica, edit. 4.) It should not be confounded with ethylene bromide, which is said to be very poisonous. The Sp. Gr. of ethylene bromide is 2.179, while that of ethly bromide is about 1.45

ETHYL CARBAMATE

Ethyl Carbamate is official in the United States Pharmacopeia. For description see the Pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

URETHANE.—A name applied to Æthylis Carbamas, U. S. P.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

URETHAN-Hoechst.—A name applied to Aethylis Carbamas, U. S. P.

Manufactured by Farbwerke, vorm. Meister Lucius & Bruening, Hoechst a. M., Germany (Victor Koehl & Co., New York). Not patented or trademarked.

ETHYL CHLORIDE

Ethyl Chloride is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

KELENE.—A name applied to Æthylis Chloridum, U. S. P., supplied in a special form of container.

Manufactured by Fries Bros., New York.

ETHYL SALICYLATE—Æthylis Salicylas.—Ethyl salicylate $C_6H_4.OH.COO(C_2H_5)=C_9H_{10}O_3$, is the salicylic acid ester of ethyl alcohol and is analogous to methyl salicylate (oil of wintergreen).

It is made by the action of salicylic acid on ethyl alcohol in the presence of sulphuric acid and subsequent purification.

It is a transparent, colorless, volatile liquid, possessing a pleasant characteristic odor and taste. Its sp. gr. is 1.184 at 20° C. (68° F.) and it boils at 231.5° C. (448.7° F.). It is insoluble in water, but soluble in alcohol.

Actions and Uses.—Ethyl salicylate has the same action as the salicylates, but is said to be less toxic.

Dosage.—3 to 6 c.c. (5 to 10 minims) 3 or 4 times a day.

Proprietary Preparation:

SAL ETHYL.—A name applied by Parke, Davis & Co., Detroit, Mich., to their preparation of ethyl salicylate, which is marketed in gelatin globules containing 0.33 Cc. (5 minims) each. U. S. trademark.

ETHYLENEDIAMINE. — Æthylendiamin — Æthylene Diamine — Ethane Diamine — *a.b.*Diamino-Ethane. — Ethylenediamine, is 1,2-diamino-ethane, $CH_2(NH_2).CH_2(NH_2)=C_2H_8N_2$.

It is prepared by heating 1.2-dibrom-ethane, ethylene bromide, with an excess of alcoholic ammonia, for 12 hours at 100° C. (212° F.), removing the ammonium bromide formed by filtration, evaporating the filtrate to dryness, distilling the residue with potassium hydroxide, and collecting the fraction distilling between 115° and 130° C. (239° to 266° F.) and bringing the liquid by successive purifications to a constant boiling point at 117° C. (242.6° F.).

It is a clear, colorless, thick liquid, having a sp. gr. 0.97 boiling at 117° C. (242.6° F.), without decomposition, having a strong alkaline reaction, an ammoniacal odor and a caustic taste. It is freely soluble in water, and may be mixed with cresols, but is not miscible with benzene (benzol) or ether. It dissolves albumin, even when boiled, very readily.

Being a strong base its incompatibilities are about the same as those of sodium hydroxide.

Actions and Uses.—It is said to be non-corrosive and useful as an albumin solvent for the solution of false membranes in diphtheria and similar affections of the mucous membranes. It is presented for use in the form of kresamine (which see).

Proprietary Preparation:

ETHYLENEDIAMINE SOLUTION, 10 Per Cent.—A solution containing 10 per cent. ethylenediamine (which see).

Actions and Uses.—See ethylenediamine.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York).

ETHYLENEDIAMINE PREPARATIONS

KRESAMINE.—Ethylene-Diamine Trikresol.—Kresamine is a clear watery solution of 25 per cent. of trikresol (which see) and 25 per cent. of ethylene-diamine.

It is a clear, colorless liquid, miscible in all proportions with glycerin, and soluble to the extent of about 20 per cent. in water, but insoluble in petrolatum.

Actions and Uses.—Kresamine is a bactericide, with a claimed minimum of toxicity. It is said that the bactericidal effect of the cresol and its power of penetrating the animal tissues are greatly enhanced by the presence of ethylenediamine and it is claimed to be less irritating when used as a wet dressing than other antiseptics. It is said to be useful in all cases where an active bactericide is required and particularly when microbes are in an albuminous menstruum. The preparation is not so dangerous as carbolic acid. It has been employed for the treatment of ulcers, eczema, lupus and other skin affections.

Dosage.—It is used only in dilutions (2 to 25) containing 2 per cent. or less of each of its active constituents.

Kresamine may be applied in the form of ointment.

A dilution containing 2 per cent. of each ingredient was formerly marketed under the name "Ethylene-diamine Trikresol Solution." This was used without dilution.

Prepared by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 74,634.

EUCAINE

The "Eucaines" are two closely allied synthetic bases, differentiated as eucaine "A" and eucaine "B," or "Alpha-eucaine" and "Beta-eucaine" alpha-eucaine being a synthetic derivative of triacetonamine, while beta-eucaine is a synthetic derivative of vinyl-diacetone-alkamine.

Alpha-Eucaine Hydrochloride has been withdrawn from the American market by the agents, Schering & Glatz, New York.

BETA - EUCAINE HYDROCHLORIDE — Beta - Eucainæ Hydrochloridum.—Trimethylbenzooxypiperidinum Hydrochloricum (Pharm. Helvetica edit. 4). Eucainum Hydrochloricum β (Pharm. Hungarica, edit. 3). Chloretum Eucaicum (Pharm. Danica, 1907). Eucaine Hydrochloride β. Beta-eucaine hydrochloride. $C_5H_7N(CH_3)_2(C_6H_5COO).HCl$, is 2,6,6-trimethyl-4-benzoxy-piperidine hydrochloride.

It is prepared by treating diacetonamine with paraldehyde, reducing the product with metallic sodium, benzoylating the vinyl-diacetonalkamine (melting at 138° C.) so produced by treatment with benzoylchloride, neutralizing the resulting benzoyl-vinyl-diacetonalkamine (trimethyl-benzoxypiperidin) with hydrochloric acid and crystallizing.

It forms a white crystalline powder, soluble in 20 to 30 parts of water at the ordinary temperature, but more soluble in warm water, soluble in 25 to 30 parts of alcohol, producing neutral solutions which can be sterilized by boiling without change. The aqueous solutions yield ether soluble precipitates of the free base on addition of alkali hydroxides or carbonates. Ammonia water produces a precipitate which redissolves, but is reprecipitated on the addition of more ammonia.

The saturated aqueous solution gives no precipitate with mercuric chloride, which distinguishes it from the corresponding alpha-eucaine salt. It gives no color reactions with sulphuric or nitric acid, but yields a yellow precipitate with chromic acid, orange yellow with bismuth-potassium iodide, lemon yellow with picric acid and a white precipitate with phosphomolybdic acid. It is incompatible with alkalies and their carbonates.

If to a solution of 0.1 Gm. of beta-eucaine hydrochloride in 20 Cc. of water 1 drop of ammonia water (10 per cent.) is added, a white precipitate is produced which gradually disappears on shaking. If 3 drops more or ammonia water are added, a precipitate again occurs which dissolves on the addition of 20 Cc. of water. Further addition of ammonia produces a precipitate which is again dissolved on the addition of 10 Cc. of water. If to this liquid ammonia is again added no precipitate occurs, but merely a milky turbidity which disappears on the addition of water.

Beta-eucaine hydrochloride dissolves in sulphuric acid without color.

If 1 drop of a 1 per cent. solution is mixed with 1 drop of mercuric chloride test solution, no precipitate should occur (absence of cocaine and alpha-eucaine).

0.1 Gm. of beta-eucaine hydrochloride should leave no weighable residue on incineration.

Quantitative Determination: 0.5 Gm. eucaine hydrochloride is dissolved in 100 Cc. of alcohol. This solution is titrated with tenth normal sodium hydroxide solution, using phenolphthalein as indicator. 1 Cc. tenth normal sodium hydroxide solution= 0.0269 Gm. of eucaine hydrochloride. Instead the alkaloid may be extracted with chloroform from the aqueous solution made alkaline with ammonia water, the chloroform allowed to evaporate spontaneously, the residue dried in a desiccator, and weighed. The alkaloid should weigh 86.56 per cent. of the weight of the salt.

Actions and Uses.—Beta-eucaine hydrochloride is a local anesthetic like cocaine, but weaker and devoid of the stimulating properties of the latter. It does not dilate the pupil, nor does it contract the blood vessels as does cocaine. It has the advantage of stability even on prolonged boiling. It may be used in all cases in which cocaine is indicated as a local anesthetic, especially in ophthalmology.

Dosage.—It may be applied in a 2 to 3 per cent. solution to the eye, 5 to 10 per cent. for nose and throat and 5 to 10 per cent. for ointment for hemorrhoids.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 657,880 (Sept. 11, 1900; expires 1917). German patient No. 97,672.

BETA-EUCAINE LACTATE—Beta-Eucainæ Lactas.—Beta-eucaine lactate, $C_5H_7N(CH_3)_2(C_6H_5COO).C_3H_6O_3$, is 2,6,6-trimethyl-4-benzoxy-piperidine lactate.

It is prepared in a manner similar to the method for beta-eucaine hydrochloride, lactic acid being substituted for hydrochloric.

Beta-eucaine lactate forms a white crystalline powder soluble in about 5 parts of water at the ordinary temperature in 10 parts alcohol and in 5 parts chloroform and in fatty oils with the aid of chloroform. It melts at about 152° C. (305.6° F.). The aqueous solution is feebly alkaline to litmus. In aqueous solutions the base can be thrown down by solutions of sodium or potassium hydroxide as an oily, deposit which solidifies after a time. Ammonia produces a precipitate which redissolves, but is reprecipitated on the addition of more ammonia.

Tests: The precipitate caused by 4 drops of ammonia water (10 per cent.) in a solution of 0.1 Gm. of beta-eucaine lactate in 20 Cc. of water is redissolved on the addition of 20 Cc. of water.

If a few drops of diluted sulphuric acid and 1 Cc. of potassium bichlorate solution (1:10) are added to 0.1 Gm. of eucaine lactate, heating develops an odor of acetaldehyde.

0.1 Gm. of eucaine lactate should dissolve without coloration in 1 Cc. of cold sulphuric acid (sp. gr. 1.84). 0.2 Gm. of eucaine lactate, on combustion, should leave no weighable residue.

Quantitative Determination: 0.5 Gm. eucaine lactate is dissolved in 100 Cc. of alcohol. This solution is titrated with tenth-normal sodium hydroxide solution, using phenolphthalein as indicator. 1 Cc. tenth-normal sodium hydroxide solution = 0.0323 Gm. of eucaine lactate. Instead the alkaloid may be extracted with chloroform from the aqueous solution made alkaline with ammonia water, the chloroform allowed to evaporate spontaneously, the residue dried in a desiccator, and weighed. The alkaloid should weigh 72.30 per cent. of the weight of the salt.

Actions and Uses.—The same as those of beta-eucaine-hydrochloride, over which it possesses the advantage of greater solubility.

Dosage.—For hypodermic injections, 2 to 4 per cent. solutions (preferably in 0.6 to 1.0 per cent. sodium chloride solution with or without epinephrine); in the eye, 1 to 2 per cent. solutions; for penciling or tamponading mucous membranes, 10 to 15 per cent. solutions; for infiltration, 1 to 500 solutions with sodium chloride 0.6 to 1 per cent. and epinephrine; for painful wounds, 5 to 10 per cent. ointments with wool fat (adeps lanæ).

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 657,880 (Sept. 11, 1900; expires 1917).

EUGALLOL.—Eugallol is a solution consisting of two parts of monoacetylpyrogallol, $C_6H_3(OH)_2(CH_3COO)$, and one part of acetone.

It is prepared by treatment of pyrogallol with acetic anhydride or acetyl chloride, in the presence of a solvent and subsequent removal of the solvent by distillation. It is also obtained by other methods.

Actions and Uses.—Eugallol acts as an energetic substitute for pyrogallol, but is liable to produce local irritation when applied to the skin.

It is said to be useful externally in old and persistent cases of psoriasis.

Dosage.—It is applied pure by penciling once a day, covering the painted part with powdered zinc oxide, suspending the application a few days if it is followed by irritation.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patent No. 104,663.

EUMYDRIN — Methylatropinæ Nitras. — Atropinmethyl Nitrate.—Eumydrin, $C_6H_5(HO.CH_2)CH.CO_2.C_7H_{11}N(CH_3)_2NO_3 = C_{18}H_{26}O_6N_2$, is the nitrate of methylated atropine.

It is obtained by the interaction of methyl-atropine halide with metallic nitrates, or by treatment of the methyl atropine base with nitric acid, by interaction of atropin with methyl nitrate and by other patented processes.

It is a white, crystalline salt, melting at 163° C. (325.4° F.), odorless, permanent and readily soluble in water or alcohol, but very sparingly soluble in ether or chloroform. A quantity of 100 parts contains atropin equivalent to about 90 parts of atropine sulphate.

On warming 0.01 Gm. of eumydrin with 1.5 Cc. of sulphuric acid until the solution begins to darken, and at once adding, carefully, 2 Cc. of water a violet color develops and at the same time a faint peculiar aromatic odor appears. A solution of 0.05 Gm. of eumydrin in 3 Cc. of water, remains clear on the addition of either 1 Cc. of sodium hydroxide solution or of ammonia water.

Being an alkaloidal salt it is incompatible with alkaline solutions, etc.

Actions and Uses.—Eumydrin is a mydriatic and antihidrotic, replacing atropine sulphate both internally and externally in corresponding doses. It is claimed that it dilates the pupil more rapidly than atropine and the dilatation is of shorter duration—being intermediate in these respects between atropine and homatropine. It is said to be much less toxic than atropine, so that larger doses may be given to secure the effect. It is said to be particularly useful for the treatment of night sweats, whooping cough and for the relief of enuresis.

Dosage.—Internally as an antihidrotic, 0.001 to 0.0025 Gm. (1/60 to 1/24 grain). Externally as mydriatic, in solutions about one-tenth stronger than the usual atropine solutions.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). German patent Nos. 137,622 and 138,443.

EUPHORIN—Æthylis Phenylcarbamas.—Phenyl Urethane—Phenylethylurethane—Phenylcarbamic Acid Ethyl Ester.—Euphorin, $CO(NH.C_6H_5)(OC_2H_5) = C_9H_{11}O_2N$, is a compound closely allied to Æthylis Carbamas, U. S. P. (urethane) and differing from this by the replacement of the group NH_2 by NHC_6H_5.

It is prepared by the action of aniline on chlorformic acid ethyl ester.

It forms colorless needles or a white powder, melting at 50°-51° C. (122° to 123.8° F.), having a faint aromatic odor and clove-like taste. It is almost insoluble in water, readily soluble in diluted alcohol, in alcohol and in ether.

Actions and Uses.—Euphorin is anodyne, antipyretic and antiseptic.

It is said to be useful in rheumatism, sciatica, headache, etc. Externally it is recommended to be applied as a dusting powder in venereal and skin diseases, ulcers, burns, etc.

Dosage.—0.5 to 1 Gm. (8 to 15 grains) dissolved in wine or suspended in water; externally in powder, in lanolin ointment and in superfatted soap.

Manufactured by Fabrik von Heyden, Radebeul near Dresden, Germany. U. S. trademark.

EUPHTHALMIN—Euphthalmine Hydrochloride—Phenylglycolyl-Methyl-Vinyl Diacetonalkamine Hydrochloride.—Euphthalmin, is 1,2,6,6-tetramethyl-4-mandeloxy-piperidine hydrochloride, $C_5H_8N(CH_3)_4(C_6H_5.CHOH.COO).HCl$. It is closely related to trimethyl-benzoxy-piperidine hydrochloride (see Beta Eucaine Hydrochloride).

It is prepared by methylating vinyldiacetonalkamine (obtained as explained under beta-eucaine), treating the methylvinyldiacetonalkamine produced with a weak solution of mandelic acid (phenylglycollic acid) dissolving the base (euphthalmine) so obtained in ether, passing gaseous hydrochloric acid into the solution, and crystallizing the salt from its ether solution.

Actions and Uses.—Euphthalmin produces prompt mydriasis free from anesthetic action, pain, corneal irritation, or rise in intraocular tension. It has little or no effect on accommodation, and this disappears more rapidly than with atropine, cocaine, homatropine, etc. In its effects on the general system, euphthalmine very closely resembles atropine.

It is useful as an aid in ophthalmoscopic examinations in place of atropine, homatropine, etc.

Dosage.—2 or 3 drops of a 5 to 10 per cent. solution, according to age of the patient and the nature of the case, are instilled into the eye.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 663,754 (Dec. 11, 1900; expires 1917). U. S. trademark No. 35,541.

EUPYRINE. — Vanillin-Ethylcarbonate-Para-Phenetidin. — Eupyrine, $C_6H_4(OC_2H_5)N:[CH.C_6H_3(O.CO.OC_2H_5)(OCH_3)]$ 1:4 $= C_{19}H_{23}O_5N$ is a compound of para-phenetidin, differing from acet-phenetidine in that the acet-amino group, $NH(CH_3CO)$, is replaced by the group, $N:[CH.C_6H_3(O.CO.OC_2H_5)(OCH_3)]$.

It is prepared by the action of vanillin ethyl-carbonate, $C_6H_3(COH)O.CH_3)(O.CO.OC_2H_5)$ 1:3:4 on an equivalent amount of para-phenetidin, $C_6H_4(O.C_2H_5)(NH_2)$ 1:4. Chemically it differs from acetphenetidin (phenacetin) in that the vanillin ethyl-carbonate group has replaced the acetyl group of acetphenetidin.

It occurs in light yellow, needle-shaped crystals, melting at 87° to 88° C. (188.6° to 190.4° F.); tasteless, with faint odor of vanillin. It is insoluble in cold water, sparingly soluble in warm water and in cold alcohol, readily soluble in warm alcohol and in ether or chloroform.

Concentrated sulphuric acid is colored by eupyrine greenish yellow in the cold and dark brown on heating to the boiling point. Heated on platinum foil it burns without residue. Acids and alkalies decompose it.

Actions and Uses.—The toxic action of phenetidin is said to be counteracted in eupyrine by the vanillin. Doses twenty times as great as those used for man show no production of

an amount of methemoglobin recognizable by the spectroscope. It is claimed to be a stimulant antipyretic.

Eupyrine is claimed to be useful as an antipyretic, especially for patients with a weak stomach or otherwise sensitive, on account of its freedom from side effects. For internal use it is open to the same objections as the other coal tar derivatives (see Acetphenetidin).

Dosage.—For adults, 1.5 Gm. (23 grains) once or twice daily. It can be given by itself as a powder.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.) U. S. patent No. 658,446 (Sept. 25, 1900; expires 1917). U. S. trademark No. 39,577.

EURESOL.—Resorcin Monacetate.—Euresol is resorcinyl acetate, $C_6H_4(OH)(CH_3COO) = C_8H_8O_3$, the acetic acid ester of resorcinol, $C_6H_4(OH)_2$, 1:4.

It is obtained by acting on resorcinol with acetic anhydride or acetyl chloride, $C_6H_4(OH)_2 + CH_3COCl = C_6H_4(OH)(CH_3COO) + HCl$ or by otherwise replacing one hydroxyl group in resorcinol with an acetyl group.

It is a thick, honey-yellow, oily liquid, having an agreeable odor, boiling at 283° C. (541.4° F.) and soluble in acetone.

Actions and Uses.—Its action is similar to that of resorcinol, but milder and more lasting because of the gradual liberation of the phenol.

Euresol is said to be useful in acne, sycosis, seborrhea, and particularly in the treatment of chilblains.

Dosage.—It is applied in 5 to 20 per cent. ointments and in acetone solution.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patents Nos. 103,857 and 122,145.

Euresol Soap.—A soft soap, supplied in tubes, containing euresol, eucalyptol and oil of turpentine.

EUROPHEN — Di-Isobutyl-Cresol Iodide. — Europhen, $C_6H_2(C_4H_9)(CH_3)(OI).C_6H_2(CH_3)(:O)(.C_4H_9) = C_{22}H_{29}O_2I$, is a condensation product of 2 molecules of isobutylorthocresol, with 1 atom of iodine, analogous to Thymolis Iodidum, U. S. P.

It is prepared by the addition of a solution of iodine in potassium iodide to an alkaline solution of isobutylcresol, washing the precipitate with water, and drying it at a moderate temperature.

It forms a yellow, voluminous powder, fusing at 110° C. (230° F.), containing 28 per cent. of iodine, and having a faint saffron-like odor. It is insoluble in water or glycerin, but readily soluble in alcohol, ether, chloroform and the fixed oils. It is permanent in the dry state, but splits off iodine readily when moistened and rapidly when heated with water at 70° C. (158° F.), particularly in the presence of alkalies.

When triturated with glycerin and water, it yields a filtrate which is turned bluish by the addition of freshly prepared starch paste. Its alcoholic solution produces a yellow precipitate with mercuric chloride.

It should not be exposed to heat, light or damp air; it is incompatible with starch, metallic oxides, mercuric salts, and alkaline hydrates and carbonates.

Actions and Uses.—Its action is similar to that of iodoform and thymol iodide. It is claimed to be useful especially in the treatment of venereal ulcerations.

Dosage.—Europhen may be given internally in the form of pills in doses of from 0.2 to 0.3 Gm. (3 to 5 grains). Locally it may be used as a dusting powder in substance or mixed with an equal quantity of finely powdered boric acid, as an ointment, with wool fat (lanolin), or as a 5 per cent. embrocation, dissolved in olive oil.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 495,204 (expired); German patent No. 56,830. U. S. trademark No. 17,888.

EXODIN.—Exodin is a mixture of derivatives of rufigallic acid (hexahydroxy-anthraquinone). It contains diacetyl rufigallic acid tetra-methyl ester, acetyl-rufigallic acid penta-methyl ester and rufigallic acid hexa-methyl ester.

According to the patent it is obtained by treating rufigallic acid tetra-methyl ester with acetic anhydride and sodium acetate and purifying the product by crystallization.

Actions and Uses.—Exodin is claimed to be a pleasant and reliable cathartic. It is said to produce a mild and protracted tonic effect on the digestive tract and to produce neither gastric pains nor colic.

Exodin is claimed to be useful in acute and chronic constipation of the atonic form and also in cases in which regular evacuation of the bowels must be stimulated in consequence of hemorrhoids, etc.

Dosage.—For children, 0.5 Gm. (7½ grains); adults, 1 to 1.5 Gm. (15 to 22 grains) in tablets or in powder stirred up with water.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 751,216 (Feb 2, 1904; expires 1921). U. S. trademark No. 43,029.

FERRATIN—Sodii Ferrialbuminas.—Sodium Ferrialbuminate.—Ferratin is the sodium salt of ferrialbuminic acid, containing iron in the ferric state in organic combination, equivalent to 6 per cent. metallic iron.

Sodium ferrialbuminate occurs naturally in the organs of mammals, especially in the liver. Ferratin is prepared from egg albumin and chemically pure iron salts in the presence of alkalies.

Ferratin is a light brown, tasteless powder, having a faint odor. It is soluble in weak alkaline aqueous solutions, from which solutions it is precipitated by hydrochloric acid. On dissolving 0.3 Gm. ferratin in 10 Cc. of water with the aid of a few drops of ammonia water, and then adding an equal volume of a 25 per cent. potassium carbonate solution, no precipitation occurs.

Actions and Uses.—See Organic Iron Compounds.

Dosage.—0.5 Gm. (7½ grains) three to four times daily.

Manufactured by C. F. Boehringer & Soehne, Waldhof, Mannheim, Germany. (Merck & Co., New York). U. S. patent No. 505,986 (expired). U. S. trademark No. 24,228.

FERRIC ARSENITE, SOLUBLE—Ferri Arsenis Solubilis.—Ferric Arsenite and Ammonium Citrate.—Soluble Ferric Arsenite is Ferric Arsenite made soluble by the addition of ammonium citrate.

Soluble ferric arsenite occurs in green scale, easily soluble in water; it contains 1.06 per cent. arsenic, equivalent to 1.4 per cent. arsenous oxide, and iron, equivalent to from 15 to 18 per cent. elementary iron.

Actions and Uses.—Soluble ferric arsenite is a hematinic said to be particularly indicated in anemia complicated with malaria, in pernicious anemia and in pellagra.

Dosage.—0.03 to 0.065 Gm. (½ to 1 grain). It may be given by subcutaneous injections in the gluteal region in doses of 0.03 Gm. (½ grain) dissolved in 1 Cc. (15 minims) of water every two or three days.

Non-Proprietary Preparations:

Ampules Iron Arsenite Solution S. & D.—Each ampule is said to contain soluble iron arsenite, 0.06 Gm. (1 grain), dissolved in 1 Cc. (16 minims) of distilled water, representing closely 0.00092 Gm. (1/70 grain) of arsenic trioxide and 0.0092 gm. (1/7 grain) of metallic iron.

Prepared by Sharp & Dohme, Baltimore, Md.

FERRO-MANGAN Dieterich—Liquor Ferro-Mangani Peptonati "Dieterich."—Ferro-mangan is a solution of a compound of peptone with iron and manganese, containing 0.6 per cent. of iron, 0.1 per cent. of manganese and 1.5 per cent. of peptone.

It is prepared by covering 40.0 Gm. of iron and manganese peptonate "Dieterich" with distilled water for one hour, then heating to boiling with 550.0 Cc. of distilled water and allowing to cool. An aromatic mixture is added consisting of 100.0 Cc. cognac, 75.0 Cc. alcohol, 90 per cent., 0.25 Gm. saccharin, 12.5 Cc. aromatic tinctures, and sufficient distilled water to make 1000.0 Cc.

Ferro-mangan is a clear liquid of a dark-brown color and pleasant odor and taste. It is slightly acid in reaction.

The iron is in the organic or non-ionic form (see "Organic iron preparations").

Method of Valuation: The specific gravity at 15° C. (59° F.) should be about 1.056. The percentage of dry residue at 100° C. (212° F.) varies between 13.25 and 16.80. The percentage of residue after ignition varies between 0.99 and 1.05. The percentage of iron and manganese determined by well-known methods varies between 0.58-0.64 per cent. of iron and 0.13-0.19 per cent. of manganese.

Actions and Uses.—It has the actions of iron and manganese.

It is said to be useful in anemia, chlorosis, convalescence and as a general tonic.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams), according to age, three times a day.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany (The Reinschild Chemical Co., New York). Not patented or trademarked.

FERROUS LACTATE—Ferri Lactas.—Iron Lactate—Ferrum Lacticum. (U. S. P., 1890; Pharm. Germanica, edit. 4; Pharm. Helvetica, edit. 4; Pharm. Belgica, edit. 3; Pharm Francaise, 1908); Ferrous lactate, $Fe(C_3H_5O_3)_2 + 3H_2O$ is the ferrous salt of lactic acid. The salt contains approximately 19 per cent. of metallic iron.

Ferrous lactate occurs in pale greenish-white crusts, consisting of small needle-shaped crystals, or transparent green scales, having a slight, peculiar odor and a sweetish, ferruginous taste.

It is slowly soluble in about 40 parts of cold, and in 12 parts of boiling water; almost insoluble in alcohol; freely soluble in a solution of an alkali citrate yielding a green solution.

When strongly heated the salt froths, gives out dense, white, acid fumes, chars and finally leaves a brownish red residue.

The aqueous solution of the salt has a greenish-yellow color, a slighly acid reaction, and gives a deep blue precipitate with potassium ferricyanide, and a light blue one with potassium ferrocyanide.

A 2 per cent. aqueous solution of the salt should not yield more than a faint opalescence with a solution of lead acetate (limit or absence of sulphate, chloride, citrate, tartrate and malate). The aqueous solution after acidulation with hydrochloric acid should not yield any precipitate or coloration when treated with hydrogen sulphide (absence of foreign metals).

The aqueous solution, acidulated with nitric acid, should not afford more than a slight opalescence with barium chloride solution or with silver nitrate solution (limit of sulphate or chloride). If 25 Cc. of a 2 per cent. aqueous solution of the salt be mixed with 5 Cc. of diluted sulphuric acid, the mixture boiled for a few minutes, an excess of sodium hydroxide added and the mixture filtered, the filtrate when mixed with a few drops of alkaline cupric tartrate solution and boiled, should not yield a red precipitate (absence of sugar).

If a portion of the salt be triturated with strong sulphuric acid no offensive odor should be developed (absence of butyric acid), nor should any gas be evolved (absence of carbonate), and the mixture after standing for some time should not assume a brown color (absence of sugar, gum, or other readily carbonizable impurities).

If 1 Gm. of the salt, contained in a porcelain crucible, be moistened with nitric acid and carefully ignited, it should leave a residue of ferric oxide weighing not less than 0.270 nor more than 0.278 Gm. This residue should not have an alkaline reaction on litmus paper, nor yield anything soluble to water (absence of foreign salts).

Actions and Uses.—Ferrous lactate is a mild chalybeate which because of its feeble taste may be taken without difficulty.

Dosage.—0.06 to 1.3 Gm. (1 to 20 grains). Owing to its liability to oxidation, it is best prescribed in solutions containing much sugar. Syrup dissolves 1 Gm. in 120 Gm. (4 grains to the fluidounce).

FILICIC ACID AND RELATED SUBSTANCES

Aspidium and pharmaceutical preparations thereof have long been used as teniafuges. The most recent work indicates that aspidium probably contains the following constituents, in approximately the amount indicated: Filicic acid, 3.5 per cent.; flavaspidic acid, 2.5 per cent.; albaspidin, 0.05 per cent.; aspidinol, 0.10 per cent.; flavaspidin, 0.10 per cent.; amorphous acid, 5.0 per cent. and filicic nigrine, 6.0 per cent. These substances are, for the greater part, derivatives of phloroglucinol, and some of them are ketones possessing acid characters.

The various formulas assigned to the filicic acids and the different results reported regarding their physiological activity, have given rise to much confusion, leaving the chemistry in an unsettled condition. One of the first formulas assigned to filicic acid is that of Luck—$C_{26}H_{30}O_9$, which differs considerably from the formula—$C_{14}H_{18}O_5$—given this substance by Grabowski and $C_{14}H_{16}O_5$, as suggested by Daccoma. Later two forms, a crystalline and an amorphous filicic acid, were recognized by Poulson, who suggested the formula, $C_{36}H_{40}O_{12}$ for the crystalline filicic acid and $C_{36}H_{42}O_{13}$ for the amorphous acid, which latter he considered as the active therapeutic principle of aspidium. Poulson believed the crystalline acid to be the anhydride of the amorphous acid. More recently, Gallas has stated the formula for both the crystalline and the amorphous filicic acid to be $C_{18}H_{22}O_8$. Gallas and later Kraft concluded that one form of the acid was the lactone of the other form. Filicinic acid, which has the formula ($C_8H_{16}O_8$) is sometimes confused with filicic acid. Besides a difference in the theories regarding the constitution of the various filicic acids, there has been considerable controversy over the anthelmintic properties of these substances.

Our knowledge of the subject is very imperfect, but the majority of authors still accept filicic acid as one of the active constituents of aspidium.

FILICIC ACID, AMORPHOUS.—Acidum Filicicum Amorphum.—Amorphous filicic acid is an organic acid $C_{36}H_{42}O_{13}$, obtained from several species of aspidium.

Amorphous filicic acid is a white, or yellowish powder, without odor or taste, melting at 125° C. (257° F.), soluble in cold alcohol.

Actions and Uses.—Amorphous filicic acid has been recommended as an anthelmintic, and is generally considered one of the active principles of several species of aspidium.

Dosage.—0.5-1.0 Gm. (8 to 15 grains) given with calomel or calomel and jalap.

Note:—The crystalline filicic acid, also designated as filicinic acid, which is considered as an anhydride of the amorphous, is devoid of anthelmintic action, and must not be used in place of the amorphous.

FILMARON.—Filmaron, $C_{47}H_{54}O_{16}$, is an active anthelmintic constituent obtained from the ethereal extract of aspidium (the rhizome of Dryopteris Filix Mas).

Filmaron is obtained from the male fern extract by isolating it in the form of a metallic salt, from which the free filmaron is liberated and suitably purified.

Filmaron occurs as a straw-colored amorphous powder, insoluble in water, difficultly soluble in ethyl and methyl alcohols, and rather difficultly soluble in petroleum ether. It is readily soluble in all proportions in ether, acetic ether, amyl alcohol, chloroform, benzine, carbon disulphide, and acetone, and also, though with partial decomposition, in solutions of the alkalies and alkali carbonates. The alcoholic solution exhibits a slightly acid reaction. Filmaron melts at about 60° C. (140° F.). It exhibits a strong tendency to cake together to form a resinous mass, which is difficult to reduce to powder and dispense; hence it is not marketed in substance, but as a 10 per cent. castor oil solution, which is known as "Filmaron oil."

0.5 Gm. filmaron and 5 Gm. pumice stone, and 1 Gm. magnesia are finely triturated with 250 Cc. water, the mixture shaken for half an hour, and then filtered. On passing a rapid current of carbon dioxide through the filtrate a voluminous, flocculent precipitate forms; the filtrate should afford but very slight precipitate on the addition of hydrochloric acid.

On dissolving 0.1 Gm. filmaron in 0.2 Gm. acetic ether or 0.2 Gm. carbon disulphide by rotation in a test tube, and setting the stoppered tube aside for three days, no separation should have taken place at the end of this time (absence of other male fern constituents; filicic acid and flavaspidic acid).

0.1 Gm. filmaron should completely dissolve in 0.5 Gm. warm petroleum ether, and leave no more than a slight trace of undissolved substance. To detect the filmaron in the castor oil solution (filmaron oil), dilute the filmaron oil with ether, shake out with sodium hydroxide solution, acidulate the alkaline liquid, and then take up the liberated filmaron with ether. On evaporating the ether the filmaron is obtained as a residue.

Actions and Uses.—Filmaron is said to exhibit the specific action of male fern extract and to be useful as an anthelmintic for expelling intestinal parasites.

It is claimed to be devoid of the injurious side actions sometimes exhibited by the oleoresin of male fern and to be harmless when given in the dose necessary for the expulsion of tape worm.

Dosage.—See Filmaron Oil.

Manufactured by C. F. Boehringer & Soehne, Waldhof near Mannheim, Germany (Merck & Co., New York). U. S. trademark No. 40,558.

Filmaron Oil.—Filmaron oil is a 10 per cent. solution of Filmaron in castor oil.

Dosage: 10 Cc. (2½ fluidram).

FLUORESCEIN—Fluoresceinum. — Resorcinolphthalein (a term not strictly correct but commonly used), dioxyfluoran.—Fluorescein, $O:(C_6H_3OH)_2:C.C_6H_4.COO = C_{20}H_{12}O_5$, is the anhydride of fluoresceinic acid $O:(C_6H_3OH)_2:C(OH).C_6H_4(COOH) = C_{20}H_{14}O_6$.

Fluorescein is prepared by the fusion of phthalic anhydride and resorcinol at 195-200° C. (383-392° F.) till the mass becomes solid. This is extracted with water and the residue dissolved in potassium hydroxide solution, which is then filtered and the fluorescein precipitated with acid.

Fluorescein is an orange red powder, insoluble in water, ether, chloroform, and benzol; soluble in hot glacial acetic acid and boiling alcohol. It dissolves in alkaline solutions with formations of a salt

The alkaline solution by transmitted light is red; by reflected light it has a green fluorescence even in very dilute solutions. When fluorescein is boiled, with chalk and water, the calcium salt of fluorescein is formed which is recognized by its red brown color and green sheen.

Actions and Uses.—The soluble sodium salt of fluorescein (fluorescein 2 Gm., sodium bicarbonate 3 Gm., water to make 100 Cc.) has been used for the diagnosis of corneal lesions and detection of minute foreign bodies imbedded in the cornea. While a weak solution of fluorescein will not stain the normal cornea, ulcers or parts deprived of epithelium will become green and remain so for a time; foreign bodies will appear surrounded by a green ring; loss of substance in the conjunctiva is indicated by a yellow hue. Fluorescein also reveals defects or disease of the endothelium of the cornea, producing a deep coloration of the diseased area.

Non-Proprietary Preparation:

Tabloid (Ophthalmic) Fluorescein B.-W. & Co.—Each tablet contains fluorescin 0.00026 Gm. (1-250 grain) in combination with sodium, and weighs 0.0032 Gm. (1-20 grain).

Prepared by Burroughs-Wellcome & Co., London, England, and New York.

FORMIC ACID—Acidum Formicum.—Acidum formicum (Pharm. Helvetica, edit. 4; Pharm. Germanica, edit. 4).

Formic acid is a liquid containing 24-25 per cent. of anhydrous formic acid ($HCOOH$).

Formic acid is a clear colorless liquid possessing a sharp acid odor and taste. It has a specific gravity of 1.058-1.061. With lead acetate, formic acid produces a white crystalline precipitate. On warming with silver nitrate a gray turbidity and with mercuric chloride a white turbidity is produced. A solution (1-10) after the addition of a few drops of nitric acid should yield no precipitate with silver nitrate or barium chloride; and after neutralizing with ammonia water calcium chloride or hydrogen sulphide should produce no precipitate. If 1 Cc. formic acid is mixed with 5 Cc. water and 1.5 Gm. mercuric oxide (yellow) and heated on the water bath there will follow an evolution of gas leaving a mixture which when filtered will yield a filtrate which should not react acid (acetic acid). Five Cc. formic acid should quire 27.6 Cc. to 28.8 Cc. normal alkali for neutralization, denoting a content of 24-25 per cent. by weight or 254-265 Gm. anhydrous formic acid per liter. The titrated solution should yield no burned or sharp odor (Pharm. Helv. and Pharm. Germ.).

Action and Uses.—The actions resemble those of acetic acid but it is more volatile, more irritant and more antiseptic Formic acid is much more resistant to oxidation, in the body than the other organic acid, and is therefore excreted to a large extent as formates, in the urine. These have an irritant action on the kidneys and urinary tract, and are diuretic Large doses cause methemoglobinemia, but the toxicity is quite low. It has no effect on the general circulation or on the motor system, as has been claimed. It has been lauded in a great variety of disorders, but there is no good evidence that its internal use produces any benefits other than psychical Its external use as a counterirritant is rational, but it possesses no special advantages.

Dosage.—Internally, 1-20 drops of the 25 per cent. acid, largely diluted; or 0.1-0.25 Gm. (1½-4 grains) of sodium formate. Externally usually in a solution containing 1 per cent. of the absolute acid in alcohol or diluted alcohol.

FORTOIN—Methylene-Dicotoin.— Fortoin, $CH_2(C_{14}H_{11}O_4)_2$, = $C_{29}H_{24}O_8$, is a condensation product of cotoin and formaldehyde.

It is prepared by condensation of cotoin and formaldehyde by means of dehydrating agents (hydrogen chloride): $2C_{14}H_{12}O_4 + CH_2O = CH_2(C_{14}H_{11}O_4) + H_2O$.

Fortoin forms yellow, needle-shaped, tasteless crystals, melting at 211° to 213° C. (411.8° to 415.4° F.) It is insoluble in water, sparingly soluble in alcohol, ether or benzol, but freely soluble in dilute alkalies, acetone or chloroform.

Fortoin dissolves in cold concentrated sulphuric acid with an orange color, and on warming the solution becomes ruby red. Heated on platinum foil it should burn without leaving any residue. On shaking with cold water or alcohol it should not yield any soluble constituents.

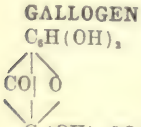
Actions and Uses.—Fortoin has an antiputrefactive, bactericidal action. It is said to cause an active, not passive, dilatation of the intestinal vessels by which the nutrition of the epithelium is improved and its regeneration hastened.

Fortoin is said to be useful as an antidiarrheic in acute and chronic intestinal catarrh and in the obstinate diarrheas due to pellagra and to tuberculosis. (See note under Beta-naphthol Benzoate.)

Dosage.—0.25 Gm. (4 grains) three times a day for adults.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York). German patent No. 104,362. U. S. trademark No. 39,523.

GALLOGEN — Ellagic Acid. — Benzoaric Acid. — Gallogen, $C_6H(OH)_3$



$= C_{14}H_6O_8$ is anhydrous ellagic acid prepared from Divi-divi, the pods of *Cæsalpina coriaria*.

It is prepared by prolonged boiling of an aqueous extraction of divi-divi, whereby the amorphous acid assumes a crystalline condition and is completely precipitated, then collecting the precipitate, washing and drying.

It is a yellowish, odorless, tasteless powder, insoluble in all acid and neutral liquids, but soluble in alkaline liquids to the amount of 2 per cent., such solutions being, however, very readily oxidized.

Its solutions in alkaline media give all the reactions of tannic acid with iron salts, gelatin solution, etc. With fuming nitric acid it gives a characteristic dark red color.

It is incompatible with alkaline liquids.

Actions and Uses.—Gallogen is an astringent and antidiarrheic, slowly decomposed in the intestinal tract, thus exerting its astringent action gradually during its passage.

It is said to be useful in dysentery, cholera infantum, diarrhea, even in cases of a syphilitic or tuberculous origin.

Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for children; 0.6 to 1 Gm. (10 to 15 grains) for adults, suspended in neutral or slightly acid media.

Manufactured by Ad. Heinemann, Eberswalde, Germany (C. Bischoff & Co., New York). German patents Nos. 137,033 and 137,034.

GELSEMINE HYDROCHLORIDE—Gelseminæ Hydrochloridum.—Gelsemine hydrochloride is the hydrochloride of an alkaloid, $C_{24}H_{28}N_2O_4$,HCl (Gerrard) ($C_{22}H_{26}N_2O_2$ by Spiegel, Ber. d. deut. Chem. Ges., vol. 26, p. 1054) derived from Gelsemium (Gelsemium sempervirens (L) Ait. f. Fam. Loganiaceæ).

Gelsemine hydrochloride occurs in prismatic crystals or a white crystalline powder. Soluble in water, but difficultly soluble in alcohol.

With concentrated sulphuric acid it gives a yellowish, and with concentrated nitric acid a green coloration. If potassium dichromate is introduced into a solution of gelsemine in strong sulphuric acid a cherry red coloration shading into violet which soon becomes green is produced at the point of contact.

Action and Uses.—Pure gelsemine appears to have a very slight toxic action, increasing reflex action in frog, to some extent, its action resembling strychnine. The effects of the commercial preparations are thought to be due to the gelseminine which they contain in varying quantities.

It has been used in neuralgia, especially trigeminal.

Dosage.—0.0005 to 0.002 Gm. (1/134 to 1/33 grain).

NOTE.—Gelseminine is a very poisonous alkaloid, found in gelsemium, which has an action very similar to that of coniine but is more depressant to the central nervous system, and must be carefully distinguished from gelsemine. Gelseminine is a mydriatic but is seldom used as such owing to its irritating action. Merck's "gelseminin" appears to consist of gelsemine and not gelseminine.

Gelsemine (Gerrard) is, according to Cushny (Proc. Am. Ph. Assn., Vol. 41, p. 850), the same as the German "crystallized gelsemine."

GLUTOL-Schleich.—Formalin Gelatin.—A chemical combination of gelatin and formaldehyde.

It is prepared by dissolving 500 Gm. of gelatin in 375 Gm. of water, adding 25 drops of formaldehyde solution, exposing the mass so obtained, in a covered box over lime, to the vapor of formaldehyde by the aid of a layer of cotton wool saturated with it until a dry mass is produced, and reducing this to powder.

It is a white, odorless powder, insoluble in water under ordinary conditions, but dissolved when heated with water under pressure, the solution thus produced gelatinizing on cooling. It is not changed by the action of acids, but is slowly decomposed in contact with living cells. It may be sterilized without decomposition.

Actions and Uses.—It is claimed that while in itself nonantiseptic, non-irritant and non-toxic, it becomes antiseptic and bactericidal in contact with living cells, in consequence of the elimination of nascent formaldehyde, which is split off very slowly but steadily.

Glutol is said to be useful as an odorless, non-irritant, non poisonous aseptic dressing, having sustained antiseptic action for wounds, ulcers, burns, etc. (See note under Creosote Carbonate.)

Dosage.—It is employed undiluted as a dusting powder, etc.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 104,365. U. S. patent No. 572,295 (Dec. 1, 1896; expires 1913) U. S. trademark No. 28,431.

GLYCEROPHOSPHATES.

Glycerophosphates are the salts of glycerophosphoric acid. $H_2(CH_2OH.CHOH.CH_2)PO_4$.

The calcium compound is prepared by heating glycerin and phosphoric acid under certain conditions for a considerable time and then neutralizing with lime. The precipitated calcium phosphate is removed, while the calcium glycerophosphate remains in solution From the calcium salt the other salts can be prepared by precipitating calcium by the appropriate salt of the metal whose glycerophosphate is desired. Thus the addition of sodium carbonate to a solution of calcium glycerophosphate yields insoluble calcium carbonate and a solution of sodium glycerophosphate.

The potassium and sodium glycerophosphates are dense syrupy liquids, exceedingly soluble in water, and represent 75 per cent. of the respective salts in a dry condition. The calcium, iron, lithium, magnesium and manganese glycerophosphates are pulverulent salts, moderately soluble in water.

When a solution of glycerophosphate is tested by ammonium molybdate for the presence of a phosphate, only a slight yellow precipitate should form at once.

The watery solutions of glycerophosphates decompose in a short time. They should be made from sterilized water, but hot liquids should not be used for their preparation.

Actions and Uses.—These salts were introduced as "nerve foods" and tonics on the theory that their phosphorus, being a step nearer lecithin, is assimilated more readily than that of hypophosphites. Neither the experimental nor the clinical evidence is considered conclusive by all authorities.

Dosage.—The potassium and sodium salts may be given hypodermically 0.2 to 0.25 Gm. (3 to 4 grains) in normal saline solution, or *per os* 0.25 to 0.65 Gm. (4 to 10 grains) in water or syrup. The calcium, iron, lithium, magnesium and manganese salts 0.2 to 0.65 Gm. (3 to 10 grains) doses, preferably in the form of tablets; the quinine salt in 0.1 to 0.33 Gm. (1½ to 5 grains), and the strychnine salt in 0.001 to 0.003 Gm. (1/60 to 1/20 grain) doses.

TONOLS.—The name applied by E. Schering to identify glycerophosphates of his manufacture. See appendix, Schering & Glatz.

GUAIACOL COMPOUNDS.

Guaiacol Carbonate is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the United States Pharmacopeia and National Formulary.

DUOTAL.—A name applied to Guaiacolis Carbonas, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No 466,913 (expired). U. S. trademark.

DUOTAL-Heyden.—A name applied to Guaiacolis Carbonas, U. S. P.,

Manufactured by Chemische Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 466,913 (expired). U. S trademark No. 28,957.

BENZOSOL—Guaiacolis Benzoas.—Guaiacol Benzoate—Benzoyl-guaiacol. — Benzosol, $C_6H_4(OCH_3)(C_6H_5COO) = C_{14}H_{12}O_2$, is methoxy-benzoxy-benzene. It is closely related to guaiacol, $C_6H_4(OH)(CH_3)$, from which it differs in that the hydroxy-group is replaced by the benzoxy-group.

It is prepared by warming the potassium salt of guaiacol with benzoyl chloride and crystallizing the product from hot alcohol.

It forms colorless, minute crystals which melt at 59° to 61° C. (138.2° to 141.8° F.); they are odorless and tasteless or nearly so. It is practically insoluble in water, sparingly soluble in ether, but readily soluble in hot alcohol. It contains 54 per cent. of guaiacol.

It forms with sulphuric acid a permanent yellow coloration which on the addition of acetone assumes a characteristic, brilliant cherry red color, distinguishing it from salol, which gives a yellow color. Ferric chloride produces in the benzosol sulphuric acid mixture a violet color, changing to green and blue, and on the further addition of nitric acid, to orange and green, or of potassium nitrite to green, violet and yellow. When heated (saponified) with alcoholic potash, the odor of guaiacol is developed.

It is incompatible with the alkalies, which split up benzosol into guaiacol and benzoic acid.

Actions and Uses.—Benzosol is decomposed slowly in the intestinal tract into guaiacol and benzoic acid which exert their usual actions. The liberated constituents are absorbed and excreted in the urine. It is claimed to be not irritating.

Its uses are analogous to those of creosote and of benzoic acid. It is said to be useful in incipient pulmonary tuberculosis, as an intestinal antiseptic in fermentation, diarrhea, typhoid fever, diabetes mellitus and as a urinary disinfectant in cystitis, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—0.2 to 0.6 Gm. (3 to 10 grains), in powder, capsule, pill, or suspended in liquids or as an emulsion.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 453,035 (expired).

GUAIACODEINE. — Codeine - Ortho - Guaiacol - Sulphonate. Guaiacodeine is Codeine - Ortho - Guaiacol - Sulphonate $C_{18}H_{21}NO_3C_6H_3(OH)(OCH_3)(HSO_3)$ 1:2:6 $= C_{25}H_{29}O_6NS$, the neutral codeine salt of guaiacol sulphonic acid.

Guaiacodeine is produced by the double decomposition of a soluble salt of codeine with the potassium or barium salts of ortho-guaiacol-sulphonic acid taken in molecular quantities.

It is a white crystalline powder Soluble in 90 parts of water, 450 parts of alcohol and 30 parts of methyl alcohol, insoluble in ether; very slightly soluble in chloroform. Very soluble in hot water.

A drop of solution of ferric chlorid added to a solution of the salt in water or alcohol produces a deep blue color, indicating the presence of ortho-guaiacol-sulphonic acid.

The salt melts between 163° C. and 165° C. (325.4 and 327.20 F.) to a white liquid. 0.1 Gm. dissolves in 10 Cc. concentrated sulphuric acid without color.

Theoretically the salt contains 59.44 per cent. anhydrous codein, or 63.20 U. S. P. codeine (containing 1 molecule of water of crystallization) and 40.56 per cent. ortho-guaiacol-sulphonic acid.

Ammonia and alkalies precipitate from a concentrated solution of the salt the alkaloid, codeine, which should respond to the tests of the U. S. P. for that alkaloid

Actions and Uses.—Those of Codeine. Since the proportion of guaiacol is small it cannot well be used to secure the action of this agent.

Manufactured by the New York Quinine and Chemical Works, New York.

U. S. patent No. 963,254 (July 5, 1910; expires 1927). Not trademarked.

GUAIACOL-SALOL—Guaiacolis Salicylas.—Salicylate of Guaiacol.—Guaiacol-salol is guaiacyl salicylate, $C_6H_4.OH.COO(.C_6H_4.OCH_3) = C_{14}H_{12}O_4$, the salicylic acid ester of guaiacol, closely related to phenyl salicylate (salol).

It is prepared by treating a mixture of sodium salicylate and sodium guaiacolate, in molecular proportions, with phosphorus oxychloride, washing the product of the reaction with water and crystallizing from alcohol.

It is a white crystalline powder, tasteless, but having a salol-like odor. It is insoluble in water, but soluble in alcohol, ether and chloroform. It melts at 65° C. (149° F.).

Being an ester, it is decomposed by alkalies and alkaline carbonates with the formation of alkali salicylate and alkali guaiacol and salicylic acid. The alcoholic solution is colored wine red by the addition of ferric chloride, but if the alcoholic solution be dropped into a watery solution of ferric chloride a turbidity but no coloration is produced.

Actions and Uses.—This compound acts like its constituents, being antiseptic and antirheumatic. It is said to be useful in phthisical diarrhea, dysentery, rheumatism, marasmus, chorea, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—1 Gm. (15 grains).

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Merck & Co., New York).

GUAIAMAR — Guaiacolglycerylester.—Guaiamar is glyceryl guaiacolate, $C_6H_4.OCH_3.O(CH_2OH.CHOH.CH_2)$, 1:2$=C_{10}H_{14}O_4$, the monoguaiacol ester of glycerin.

It is prepared by the reaction of two molecules of sodium hydroxide, one of guaiacol and two of monochlorhydrin at from 140° to 150° C. (284° to 302° F.). When the alkaline reaction has disappeared, the mass is diluted with water which leaves the greater part of the glycerin ester undissolved. The portion dissolved in the water solution may be extracted from the latter by ether.

It is a white crystalline, non-hygroscopic powder, melting at 75° C. (167° F.) and having a bitter, aromatic taste. It is soluble in 20 parts of water at the ordinary temperature, but dissolves best in warm water; it is soluble in alcohol, chloroform, ether and glycerin. Its solutions are neutral to test paper. It is decomposed by soluble hydroxides and carbonates and by strong acids.

Actions and Uses.—Guaiamar liberates guaiacol, partly in the stomach and partly in the intestinal canal, it being split up by the gastric and intestinal contents, with the assimilation of one molecule of water, into guaiacol and glycerin. By this evolution of guaiacol it is believed to exert an antiseptic action in the intestinal canal. It is said not to interfere with the normal process of digestion, but, on the contrary, exerts a tonic action. (See note under Beta-naphthol Benzoate.)

It is intended to be used as a substitute for guaiacol in any cases where the latter is indicated. In the form of ointment it has been recommended in acute articular rheumatism.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains) in capsules or dissolved in warm water. Locally, in the form of 25 per cent. ointment with wool fat (lanolin), by itself, or combined with belladonna, zinc or mercurial ointment, etc.

Manufactured by Mallinckrodt Chemical Works, St. Louis. U. S. patent No. 599,123 (Feb. 15, 1898; expires 1915).

GUJASANOL — Diethylglycocoll-Guaiacol Hydrochloride.—Gujasanol, $C_6H_4(OCH_3)(CH_2N(C_2H_5)_2.COO).HCl = C_{13}H_{19}NO_3.HCl$, is the hydrochloride of diethylglycocoll-guaiacol.

It is prepared by the action of chloracetylchloride on guaiacol and decomposition of the product with diethylamine.

It forms small, colorless, prismatic crystals, melting at 183° to 184° C. (361.4° to 363.2° F.), having a slight odor of guaiacol and a bitter saline taste. It is soluble in its own weight of water and in 25 parts of alcohol, but insoluble in ether.

The solution in water should be clear, colorless, and give a white precipitate with silver nitrate. The oily base separates on the addition of an alkali hydroxide. When incinerated on platinum it leaves no residue.

It is incompatible with alkalies and their carbonates.

Actions and Uses.—It is antiseptic and anesthetic. It is readily absorbed and splits off guaiacol in the organism with facility. Its antiseptic power is said to be about equivalent to that of boric acid.

Gujasanol has been recommended for the treatment of tuberculosis, both internally and subcutaneously. It is also said to be useful as a deodorant and to have given good results in putrid cystitis.

Dosage.—1 to 3 Gm. (15 to 45 grains) in wafers; subcutaneously, 3 to 4 Gm. (45 to 60 grains) in 20 per cent. aqueous solution; locally it may be used in from 0.1 to 2 per cent. solutions.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 624,772 (May 9, 1899; expires 1916).

MONOTAL—Guaiacolis Methylglycolas.—Monotal is guaiacyl methyl glycolate, $CH_2(O.CH_3).COO.(C_6H_4.OCH_3)=C_{10}H_{12}O_4$, the methyl-glycolic acid ester of guaiacol.

Monotal is prepared by the action of methoxacetyl chloride on guaiacol.

Monotal occurs as a limpid, colorless oil, of a faintly aromatic odor, easily soluble in alcohol, ether, benzol, and chloroform; difficultly soluble in water. It is soluble in about 6 parts of olive oil. It boils under 15 mm. pressure at about 156° C. (312.8° F.). It is split up into guaiacol and methylglycolic acid when treated with caustic alkalies.

Monotal is easily saponified by aqueous or alcoholic solutions of potassium hydroxide and then gives the reactions characteristic of guaiacol and methylglycolic acid. When incinerated on platinum foil it leaves no residue. Its watery solution is not rendered turbid by solution of silver nitrate. It has a specific gravity of 1.17 to 1.18 at 20° C.

Actions and Uses.—Monotal is said to give the systemic effects of guaiacol without having its caustic and poisonous properties. It is easily absorbed by the skin. (See note under Creosote Carbonate.)

It is said to be useful as an analgesic for various painful affections in phlebitis and in pulmonary tuberculosis.

Dosage.—2 to 4 Cc. (½ to 1 fluidram) rubbed in or painted over the affected area once or twice daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 822,339 (June 5, 1906; expires 1923). U. S. trademark No. 62,612.

STYRACOL—Guaiacolis Cinnamas.—Guaiacol Cinnamate.—Styracol is guaiacyl cinnamate, $C_6H_5CH:CH.COO(C_6H_4.OCH_3)=C_{18}H_{18}O_3$, the cinnamic acid ester of guaiacol.

It is prepared by allowing guaiacol and cinnamyl chloride in molecular proportions to react on each other for two hours at the ordinary temperature, then heating the mixture on the water bath for a short time and purifying the product of the reaction by several crystallizations from boiling alcohol.

It forms colorless, odorless and tasteless crystalline needles, melting at 130° C. (266° F.). It is insoluble in water, but easily soluble in alcohol, acetone, chloroform and benzine. It contains 55 per cent. of guaiacol, which is split off by the action of alkalies.

It is incompatible with alkalies.

Actions and Uses.—Styracol is claimed to be an intestinal antiseptic and to combine the antituberculous actions of guaiacol and cinnamic acid. It is said to liberate in the intestinal canal a larger proportion of its guaiacol (up to 85 per cent.) than other synthetic preparations of that substance.

It is said to be useful in the initial stage of phthisis, chronic enteritis and intestinal disturbances in general, catarrh of the bladder, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—1 Gm. (15 grains) in powder or tablets.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patent No. 62,176. U. S. trademark No. 42,487.

THIOCOL — Potassii Guaiacolsulphonas.—Potassium Guaiacol-Sulphonate.—Thiocol is potassium guaiacol sulphonate, $C_6H_3(OH)(OCH_3)(KSO_3)1:2:6=C_7H_7O_5KS$, the potassium salt of ortho-guaiacol sulphonic acid.

It is prepared by sulphonating guaiacol at a temperature not exceeding 70° to 80° C. (158° to 176° F.) with concentrated sulphuric acid, converting the guaiacol sulphonic acid produced into the barium salt, and this by double decomposition with potassium sulphate into the potassium guaiacolsulphonate.

It is a colorless, crystalline powder, neutral or faintly alkaline, odorless, and having a faint bitter, followed by a sweet taste.

It is readily soluble in water, slightly soluble in ordinary alcohol, but insoluble in absolute alcohol and in ether or oils.

Its aqueous solution is not precipitated by barium chloride; ferric chloride produces an intense violet-blue color, which disappears on the addition of ammonia, or of concentrated solution of alkali chlorides or sulphates.

Actions and Uses.—Thiocol is said to be non-irritating to the mucous membranes of the digestive tract, readily absorbed, and is claimed to promote appetite and improve nutrition.

It is claimed that it is useful in pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, whooping cough, emphysema of the lungs, etc., as a means of lessening expectoration, diminishing night sweats and improving nutrition.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains), in solution with orange syrup or in tablets.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 650,218 (May 22, 1900; expires 1917). U. S. trademark No. 78,327.

Syrup Thiocol Roche.—A syrup containing thiocol 10.5 Gm. in 100 Cc. (6 grains in a fluidram).

HEDONAL — Methylpropylcarbinol Urethane.—Pentan-2-Ol-urethane.—Hedonal is pentan-2-ol urethane, $CH_3.CH_2.CH_2.CH(CH_3)O.CO.NH_2=C_6H_{13}O_2N$. It is a derivative of urethane differing from ethyl carbamate, U. S. P., in that the ethyl radicle has been replaced by the radicle of methyl-propylcarbinol (pentan-2-ol).$CH_3.CH_2.CH_2.CHOH.CH_3$.

It is prepared by heating the secondary methylpropylcarbinol or pentan-2-ol, $CH_3.CH_2.CH_2.CHOH.CH_3$ with urea nitrate under pressure (U. S. patent No. 659,202), also by other methods (German patents Nos. 120,863, 120,864, 120,865).

It is a white, crystalline powder, having a faint aromatic odor and taste, melting at 74° C. (165.2° F.), and boiling at 215° C. (419° F.). It dissolves in 120 parts of water at 37° C. (98.6° F.), but is more soluble at higher temperatures and is readily soluble in alcohol, ether, chloroform and other organic solvents. It is readily volatilized with the vapors of water or alcohol, and when boiled with alkalies is split up into its constituents, methylpropylcarbinol, ammonia and carbon dioxide.

On boiling with dilute sodium hydroxide, ammonia is evolved and recognized by the odor and the usual reagents; if then an aqueous solution of iodine in potassium iodide is added, and the mixture allowed to cool, the odor of iodoform derived from the alcohol is distinctly manifested.

It is incompatible with alkalies, their carbonates and bicarbonates.

Actions and Uses.—Hedonal appears to have a greater hypnotic effect than ethyl carbamate. It is said to be followed by no after-effects and is oxidized in the body to urea and carbon dioxide. It is employed in insomnia due to mental overwork or nervous excitement occurring in the course of neurasthenia or hysteria. It is claimed to be particularly useful preliminary to anesthesia, a hypnotic dose being given and anesthesia effected with chloroform after the patient has been asleep for an hour.

Dosage.—1 to 2 Gm. (15 to 30 grains), administered dry, followed by a swallow of water, or in wafers or capsules.

Manufactured by Farbenfabriken, vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 659,202 (Oct. 9, 1900; expires 1917); German patents Nos. 11,496, 120,863, 120,864, 120,865.

Hedonal Tablets, 8 grains.—Each tablet contains hedonal 0.52 Gm. (8 grains).

HEMABOLOIDS.—Hemaboloids is a liquid said to contain in each 100 Cc. iron, combined with proteins, equivalent to 0.40 Gm. elementary iron, proteins and nucleoproteins (nitrogen x 6.25) 4.0 Gm., bone marrow extract 5.0 Gm., nuclein 0.04 Gm., in a menstruum containing 17 per cent. alcohol by volume. It is claimed that 75 per cent. of the iron is in a stable organic combination with vegetable nucleoproteins and does not react with hematoxylin (see Organic Iron), while the remaining 25 per cent. is more loosely combined.

Actions and Uses.—Hemaboloids is claimed to act as a promptly absorbable and non-irritant form of food-iron. It is said not to constipate nor stain the teeth.

Dosage.—15 Cc. (½ fluidounce) after each meal. Children in proportion. Each average dose of 15 Cc. (½ fluidounce) contains iron 0.06 Gm. (0.92 grains), proteins and nucleoproteins 0.62 Gm. (9.6 grains), bone marrow extract 0.775 Gm. (12 grains), nuclein 0.006 Gm. (0.1 grain).

Manufactured by the Palisade Manufacturing Company, Yonkers, N. Y. U. S. trademark.

HEMOGLOBIN DERIVATIVES.

Hemoglobin is the coloring matter of the blood corpuscles and is the most important iron-containing compound of the body. It exists in venous blood as hemoglobin, sometimes called reduced hemoglobin, and in the lungs takes on oxygen in a loose chemical combination becoming oxyhemoglobin.

Hemoglobin is obtained from oxyhemoglobin by the action of various reducing agents.

When ingested it is decomposed in the stomach, being converted into a protein, globin, and into hematin, an acid nonalbuminous substance, containing the iron of hemoglobin. The same decomposition is produced by heating in solution to 70°, and by various chemical agents. It is doubtful whether hematin is absorbed into the blood from the gastrointestinal canal.

Various preparations of hemoglobin have been put on the market. These are of two classes. 1. Preparations consisting essentially of oxyhemoglobin usually sold under the name hemoglobin. 2. Preparations derived by the action of reducing agents on the blood, such as zinc, pyrogallol, etc. They consist of reduced hemoglobin, or of some modification of it.

CUPRO-HEMOL—Hæmolum Cupratum.—Cupro-hemol is hemol containing 2 per cent. of copper and 0.4 per cent. of iron in organic combination.

It is prepared by precipitating a solution of blood with a dilute neutral solution of a copper salt at a temperature not materially exceeding 0° C. (32° F.).

Actions and Uses.—Cupro-hemol is said to be useful in tuberculosis, scrofula, anemia, chlorosis, etc.

Dosage.—The maximum dose is 0.5 Gm. (8 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). German patent No. 86,146.

HEMOGALLOL.—Hemogallol is an organic iron compound produced from blood by reduction of its hemoglobin by means of pyrogallol.

Fresh defibrinated blood suitably diluted with water is mixed with an equal volume of saturated solution of pyrogallol which causes the precipitation of a voluminous precipitate which is separated, washed with water to remove pyrogallol, and finally with alcohol.

It is a reddish-brown, almost tasteless powder, insoluble in water, alcohol, etc.

It does not show the spectroscopic absorption bands of hemoglobin between D and E.

Actions and Uses.—It is claimed that hemogallol acts as a preparation of organic iron (see Organic Iron).

It is claimed to be useful in anemia, chronic nephritis, and convalescence.

Dosage.—0.25 to 0.5 Gm. (4 to 8 grains), one-half hour before meals in powder with sugar or in tablets.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 541,096 (June 18, 1895; expires 1912).

HEMOGLOBIN — Hæmoglobinum. — Hæmoglobin, Hæmatocrystallin. Hemoglobin is the red coloring matter of blood.

Hemoglobin is a brownish-red powder, soluble in water. It is decomposed by extremely small amounts of acids, coagulates at 64° C. (147.2° F.) and is dextro-rotatory. It does not give characteristic albumin or iron reactions until decomposed. A solution mixed with a little sodium chlorid, evaporated over sulphuric acid to a syrupy consistence, mixed with 15 times its volume of glacial acetic acid and heated on a water bath for several hours, yields on cooling flat rhombic crystals of haematin hydrochloride with a dark violet-red color and metallic luster.

Action and Uses.—See organic iron. It is converted into hematin in the stomach.

Dosage.—0.3 to 2 Gm. (5 to 30 grains).

HEMOL—Hæmolum.— Reduced Hemoglobin—Parahemoglobulin—Hemoglobin Deoxidized by Zinc, Merck.—Hemol is an organic iron compound produced from blood by reduction, said to contain about 3 per cent. of iron in organic combination.

Neutralized blood is shaken with zinc dust and water, and the zinc removed from the product of the reduction (Zinc parahemoglobulin).

Hemol is a dark-brown, almost tasteless powder, insoluble in water, alcohol, etc. It contains traces of zinc oxide. The amount of iron may be determined by the method described in Merck's Prüfungsvorschriften für die pharmazeutischen Spezial-Präparate.

Actions and Uses.—It is claimed to have the action of an organic iron compound.

Hemol is claimed to be useful in anemia, chlorosis, etc.

Dosage.—0.12 to 0.5 Gm. (2 to 8 grains) in powder with sugar or in wafers.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 541,933 (July 2, 1895; expires 1912).

HEXAMETHYLENAMINE AND HEXAMETHYLENAMINE COMPOUNDS

Hexamethylenamine is official in the United States Pharmacopeia. For description see the pharmacopeia, or the Physician's Manual of the United States Pharmacopeia and National Formulary.

AMINOFORM. — A name applied to Hexamethylenamina, U. S. P.

Sold by C. Bischoff & Co., New York.

FORMIN.—A name applied to Hexamethylenamina, U. S. P.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

UROTROPINE.—A name applied to Hexamethylenamina, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 58,394.

HEXAMETHYLENAMINE METHYLENCITRATE — Hexamethylenaminæ Methylencitras.—Hexamethylenamine methylencitrate, $C_6H_8O_7(CH_2)_6N_4 = C_{12}H_{20}O_7N_4$, is a compound of hexamethylenamine with anhydromethylencitric acid.

It is a white, crystalline powder, melting with decomposition at 165° to 175° C. (329° to 347° F.), having an agreeable, acidulous taste and acid reaction. It is soluble in about 10 parts of water, but almost insoluble in alcohol and ether. By dilute acids and more easily by alkalies it is decomposed with the liberation of formaldehyde. On addition of 1 per cent. solution of phloroglucin to a solution of hexamethylenamine methylencitrate, followed by sodium hydroxide, the intense rose-red color characteristic of the liberated formaldehyde is developed.

It is incompatible with acids and alkalies.

Actions and Uses.—It is a urinary antiseptic and germicide claimed to be more prompt and energetic in its action than hexamethylenamine, acting equally well whether the urine be alkaline or acid in reaction, rapidly clearing it up and allaying pain.

It is said to be useful in cystitis, pyelitis, prostatic diseases and urethritis. It is also said to be an efficient urinary antiseptic in infectious diseases in which bacteria are present in the urine.

It may be used as a phophylactic against infection in case of operations or instrumental manipulation of the genitourinary tract.

Dosage.—0.6 to 1 Gm. (10 to 15 grains).

Proprietary Preparation.

HELMITOL.—A name applied to Hexamethylenamine Methylencitrate.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 722,275 (March 10, 1903; expires 1920). U. S. trademark No. 39,580.

Helmitol Tablets, 5 grains. Each tablet contains helmitol 0.3 Gm. (5 grains).

SALIFORMIN—Hexamethylenaminæ Salicylas, Merck.—Hexamethylenamine salicylate, Merck.—Saliformin is hexamethylenamine salicylate, $(CH_2)_6N_4C_6H_4.OH.COOH$, a weak salt of hexamethylenamine and salicylic acid.

It is prepared by dissolving equal weights of hexamethylenamine and salicylic acid in water and evaporating the solution to dryness at a temperature below 60° C. (140° F.).

It is a white, crystalline powder, having an acidulous and disagreeable taste, readily soluble in water or alcohol.

It is soluble in cold sulphuric acid without color, becoming crimson on heating. Its aqueous solution is colored deep green by copper sulphate, violet by ferric chloride, and forms a yellow precipitate with bromine.

It is decomposed by basic substances (soluble hydroxides, carbonates, etc.) and by strong acids. It is incompatible with salts of iron and other metals which form insoluble compounds with salicylates.

Actions and Uses.—Saliformin is recommended as a genitourinary antiseptic and uric-acid solvent. Its action does not differ materially from that of a mixture of hexamethylenamine and salicylic acid, for it is largely hydrolysed into its constituents in the presence of water.

It is said to be useful in cystitis, lithiasis and bacterial affections of the urinary passages, also in gout, etc.

Dosage.—0.3 to 2 Gm. (5 to 30 grains) in tablets or elixir.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

HOLOCAINE HYDROCHLORIDE — Holocainæ Hydrochloridum.—Ethenyl-Paradiethoxy-Diphenyl-Amidine Hydrochloride.—Holocaine hydrochloride is phenetidyl-acetphenetidin hydrochloride, $CH_3.C(:N.C_6H_4.OC_2H_5).(.NH.C_6H_4.OC_2H_5).HCl = C_{18}H_{22}N_2O_2HCl$. Phenetidyl-acetphenetidin hydrochloride is the hydrochloride of a basic condensation product of para-phenetidin (para-ethoxy-amino-benzene) and acetparaphenetidin (phenacetin).

It is prepared by the interaction of molecular proportions of paraphenetidin sulphate and acetphenetidin (phenacetin) in the presence of phosphorus oxychloride, decomposing the resulting holocaine sulphate with sodium hydroxide, crystallizing the base from alcohol, neutralizing it with hydrochloric acid, and crystallizing.

It forms small, colorless crystals, neutral or faintly alkaline, melting at 189° C. (372.2° F.), odorless, faintly bitter and producing transient numbness on the tongue. It is soluble in 50 parts of water and freely soluble in alcohol. On boiling in glass vessels the aqueous solution becomes turbid, owing to a separation of a small quantity of the free base by alkali derived from the glass.

It should form a clear, colorless solution in water, neutral or faintly alkaline, yielding a white precipitate on addition of silver nitrate or of ammonia. The base obtained by precipitation with ammonia and crystallized from alcohol forms colorless needles, which melt at 121° C. (249.8° F.). Incinerated on platinum, it leaves no weighable residue.

It is incompatible with alkalies and their carbonates and the usual alkaloidal reagents. Glass vessels should be avoided in preparing the solution, porcelain being used instead.

Actions and Uses.—It is a local anesthetic like cocaine, but having the advantage of a quicker effect and an antiseptic action. Five minims of a 1 per cent. solution when instilled into the eye are usually sufficient to cause anesthesia in from 1 to 10 minutes. It is said not to cause the scaliness of the cornea which sometimes results after the use of the older remedy.

Dosage.—It is applied in a 1 per cent. aqueous solution prepared in porcelain vessels.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patents Nos. 79,868, 80,568.

HOMATROPINE HYDROCHLORIDE—Homatropinæ Hydrochloridum.—Homatropine Hydrochloride, $C_{16}H_{21}NO_3HCl$, is the hydrochloride of the alkaloid homatropine, obtained by the condensation of tropine and mandelic acid.

Homatropine hydrochloride occurs as small white crystals, soluble in water and alcohol and melting at 216° to 217° C. (420.8° to 422.6° F.).

If sulphuric acid containing a trace of potassium dichromate be added to a crystal of the salt an evanescent pink color will be produced which rapidly changes to green. If 0.01 Gm. of the salt be added to 5 drops of nitric acid and evaporated to dryness in a porcelain dish the residue should not acquire a violet red color upon the addition of a few drops of alcoholic potassium hydroxide test solution (absence of atropine, hyoscyamine or hyoscine). If 1 Cc. of an aqueous solution of the salt (1 to 100), be made alkaline with ammonia water, shaken out with chloroform and the chloroformic solution evaporated to dryness, the residue should turn yellow and finally brick red when warmed with about 1.5 Cc. of a solution of 1 part mercuric chloride in 30 parts of a mixture of 5 volumes alcohol and 3 of water (absence of most other alkaloids except atropine and hyoscyamine). If to an aqueous solution containing 0.1 Gm. of the salt an excess of potassium hydroxide test solution be added, liquid extracted with ether and the latter evaporated spontaneously, the crystals which form should melt at 96° C. (204.8° F.).

Actions and Uses.—Homatropine is less poisonous than atropine, but the same symptoms are produced by it when exhibited in large doses.

The hydrochloride is used as a mydriatic in ophthalmic surgery. The mydriatic effect begins in ¼ to ½ hour and reaches a maximum in one hour and disappears in 36 to 48 hours. Accommodation paresis ceases earlier.

Homatropine hydrochloride is given for the same indications as the hydrobromide, but has no advantage over the latter.

Dosage.—It is applied to the eye in 1 per cent. solution.

ICHTHYOL AND RELATED COMPOUNDS

ICHTHYOL—Ammonii Ichthosulphonas.—Ammonium Sulpho-Ichthyolate. Ammonium Ichthyol Sulphonate. Ammonium-Ichthyol.—Ichthyol consists largely of the ammonium salts of sulphonic acids derived from the tar of a bituminous shale which is found in the Tyrol and which contains the remains of many fossil fishes. The exact composition and nature of ichthyol is still doubtful.

It is prepared by dry distillation of the bituminous mineral, sulphonating the crude volatile oil obtained with concentrated sulphuric acid, removing the excess of sulphuric acid by repeated precipitation with strong brine, and saturating the ichthyolsulphonic acid with strong ammonia.

Ichthyol is a brown, viscid liquid, translucent in thin layers, having a bituminous odor and taste. It is soluble in water and in mixtures of equal volumes of alcohol and ether, but insoluble in the last two liquids by themselves. It is miscible with glycerin, oils and fats. It contains about 10 per cent. of sulphur in natural combination, and further 7 per cent. introduced by the sulphonation.

Ichthyol is precipitated from its aqueous solutions by acids, and the dark, resinous mass thus formed is soluble in ether and in pure water, but not in dilute acids or in salt solutions. The fixed alkalies develop the odor of ammonia, and if the mass is then dried and carbonized, the residual mass gives off hydrogen sulphide on addition of hydrochloric acid. When dried on a water bath it yields about 55 per cent. of residue.

It is incompatible with acid and saline solutions, fixed alkalies, their carbonates and iodides, alkaloidal salts, mercuric chloride, etc.

Actions and Uses.—Ichthyol penetrates the unbroken skin and, it is claimed, acts as a vasoconstrictor on mucous surfaces. It has an antiseptic action and is believed to act as an alterative in consequence of the sulphur which it contains.

It is said to be useful internally in phthisis, skin diseases, scrofula, etc. Externally it has been applied in erysipelas, burns, chilblains, carbuncles, rheumatism, ivy poisoning, etc., also in uterine and vaginal inflammations, gonorrhea, etc.

Dosage.—Internally, 0.2 to 2 Cc. (3 to 30 minims) mostly in simple solution in water, or peppermint water, sometimes in the form of pills or capsules. Locally, in vaginal, uterine or rectal suppositories, in 0.06 to 0.18 Cc. (1 to 3 minims) bougies, or 1 to 3 per cent. solution for gonorrheal treatment.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 35,216. U. S. trademark.

CALCIUM ICHTHYOL.—A derivative of ichthyol in which calcium is substituted for ammonium.

It is a brown, tasteless powder, insoluble in water, and containing 2.5 per cent. of calcium.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

ICHTHALBIN—Ichthyol Albuminate.—A compound of ichthyolsulphonic acid and albumin analogous to tannalbumin.

It is prepared by precipitating a solution of ichthyol and albumin with diluted sulphuric acid and removing adhering odorous oil by heating the well washed and dried precipitate for 24 hours at 120° C. (248° F.), or by washing with alcohol, benzene, petroleum benzin, chloroform, etc.

It is an extremely fine, grayish white powder, odorless and practically tasteless. It is insoluble in water, in the gastric juice or in acid liquids, but completely soluble in alkaline liquids.

Actions and Uses.—Its actions and uses are the same as those of ichthyol, with the asserted advantage of freedom from such side effects as nausea, eructations, etc. It is recommended for the same purposes as ichthyol.

Dosage.—For infants 0.13 to 0.3 Gm. (2 to 5 grains), in gruel; older children, 0.6 to 1 Gm. (10 to 15 grains), mixed with scraped chocolate; adults, 1 to 1.3 Gm. (15 to 20 grains), in chocolate tablets.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. English patent No. 11,344. U. S. trademark No. 31,114.

ICHTHARGAN—Argenti Ichthosulphonas.—Silver Sulphichylolate—Silver Ichthyolate.—A compound of ichthyol and silver claimed to contain 30 per cent. of metallic silver and 15 per cent. of sulphur in organic combination.

It is prepared, according to the patent specifications, by neutralization of ichthyol sulphonic acid with silver oxide and extracting the water soluble silver ichthyol sulphonate.

It is a brown, amorphous, perfectly stable powder, having a faint chocolate-like odor. It is freely soluble in water, glycerin, or diluted alcohol, but insoluble in absolute alcohol, ether or chloroform. Its aqueous solution darkens with precipitation of metallic silver when exposed to the light, but is said to suffer no change in amber colored bottles.

It is incompatible with the soluble chlorides. Its solutions should not be exposed to the light.

Actions and Uses.—It is said to be bactericide, astringent and antiphlogistic. It is reported to combine the bactericidal action of the silver salt with the penetrating and antiphlogistic action of ichthyol.

It is recommended in gonorrhea in all its forms as a succedaneum for organic salts of silver. It is claimed to be the strongest in silver content of all the various organic compounds of silver introduced in late years.

Dosage.—0.04 to 0.2 per cent. solution in gonorrhea; 3 per cent. solution in posterior urethritis; ½ to 3 per cent. solution in trachoma.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 112,630.

ICHTHERMOL—Hydrargyri Ichthosulphonas.—Mercury Ichthyolate.—A compound of ichthyosulphonic acid and mercury, containing 24 per cent. of metallic mercury.

It is a dark colored, odorless powder, insoluble in water.
Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

ICHTHOFORM—Ichthyol Formaldehyde.—A compound of ichthyol and formaldehyde.

It is a dark brown, practically odorless, and tasteless powder. It is permanent and insoluble in the usual solvents.

Actions and Uses.—Ichthoform is said to be antiseptic and antiphlogistic. It is reported to be efficacious in arresting intestinal decomposition and inflammation, and to be nontoxic. (See note under Beta-naphthol Benzoate and under Creosote Carbonate.)

It is recommended by the manufacturer locally in endometritis, in ozena, and in wounds, ulcers, etc.

Dosage.—Internally, 0.6 to 2 Gm. (10 to 30 grains), in powders taken plain, or suspended in gruel or cacao, or as a "shake" mixture; externally as pure powder, as 30 to 50 per cent. triturations, or as 10 to 25 per cent. ointments.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 107,233.

FERRICHTHYOL—Ferric Ichthyol. — A derivative of ichthyol in which about 2.5 per cent. of iron is contained.

It is a brown-black, voluminous, non-hygroscopic powder, nearly odorless and tasteless. It is insoluble in the ordinary solvents as also in diluted acids and alkalies.

Actions and Uses.—It is said to be alterative, antiseptic, hematinic and tonic. It is recommended in anemia, chlorosis, etc.

Dosage.—1 to 2 Gm. (15 to 30 grains) in tablets.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

LITHIUM ICHTHYOL.—A lithium derivative of ichthyol.

It is a dark brown mass, somewhat more consistent, but otherwise resembling ammonium ichthyol in appearance.

Actions and Uses.—It is an antiseptic and bactericide. It is claimed to be useful as a wound antiseptic.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

SODIUM ICHTHYOL—Sodii Ichthosulphonas.—Sodium Ichthyolsulphonate.—A derivative of ichthyol containing sodium instead of ammonium.

It is prepared by neutralizing ichthyolsulphonic acid with solution of sodium hydroxide and evaporating the excess of water.
It is a dark brown mass, more solid in consistency than ammonium ichthyol, otherwise having identical physicial properties. It contains 15 per cent. of sulphur.
It is distinguished from ichthyol by not giving off ammonia on the addition of sodium hydroxide.

Actions, Uses and Dosage.—These are the same as those of ichthyol. Its firmer consistence makes it more suitable for pills.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 107,233.

TUMENOL—Tumenol Venale.—Tumenol is a crude mixture of tumenol sulphone and tumenol sulphonic acid derived from bituminous shale.

It is prepared by sulphonating the mineral oil obtained by the distillation of bituminous shale quarried in the Mossel mine.
It is a dark oil of syrupy consistency, almost insoluble in water, but easily soluble in fats.

Actions and Uses.—It is said to be a non-toxic and non-irritant protective and palliative to the skin.

It is said to be useful in eczema, excoriations, erosions, superficial ulcerations and burns as a palliative and protective covering, etc.

Dosage.—As 5 to 20 per cent. ointment or 10 per cent. solution in water or glycerin and in the form of soap plaster (with salicylic acid).

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 56,401.

TUMENOL-AMMONIUM.—Tumenol-ammonium is the ammonium salt of tumenol sulphonic acid.

Tumenol-ammonium is a dark oil with a faint tarry odor and acrid taste. It is soluble in water in all proportions with a neutral reaction. It is also soluble in alcohol, ether and glycerin.

Actions and Uses.—See Tumenol.

Dosage.—Tumenol-ammonium is applied as a local dressing in the form of a 5 to 10 per cent. aqueous solution, a 5 to 20 per cent. tincture containing equal parts of ether, alcohol and water or glycerin, and as a 5 to 20 per cent. ointment. The manufacturers state that its use is to be preferred to that of the ordinary tumenol.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). Not patented in U. S.

IODALBIN.—Iodalbin is a compound of iodine and blood albumin, containing approximately 21.5 per cent. of iodine.

It is prepared by treating blood albumin with a solution of iodin whereby an insoluble precipitate is produced. This precipitate is separated, purified by the removal of free iodin, dried, powdered and assayed.
Iodalbin is a reddish colored powder, practically tasteless and possessing a peculiar, rather pleasant odor, suggestive of cane syrup or molasses. It is almost insoluble in water, acids, alcohol and other ordinary solvents, but is readily soluble in strong alkaline solutions; more slowly soluble in dilute alkaline solutions. On heating it evolves iodine vapors copiously and is subsequently consumed to an ash, leaving a small amount of residue.
Tests. The presence and amount of iodine can be determined by the usual processes for detecting and estimating this element in organic substances.

Actions and Uses.—When administered to animals Iodalbin appears to suffer little change in the acid contents of the stomach, but on passing into the intestines it is dissolved by contact with the alkaline secretion and on absorption exerts a physiologic action similar to that of the soluble iodides. It is indicated in the same cases as the soluble iodides.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) repeated according to indications, or until the desired effects are obtained.

Manufactured by Parke, Davis & Co., Detroit, Mich. Not patented or trademarked.
Iodalbin Capsules, 5 grains.—Each capsule contains Iodalbin 0.3 Gm. (5 grains).

IODIPIN—Iodized Sesame Oil.—Iodipin is an iodine addition product of sesame oil.

It is prepared by the action of iodine chloride on sesame oil in sufficient quantity, theoretically calculated, to produce the required iodization.
It is a yellow, oily liquid, having a purely oleaginous taste. It is insoluble in water.
If to 1 Cc. of iodipin in 10 Cc. of chloroform a few drops of phenolphthalein test solution are added, the addition of one drop of half normal potassium hydroxide V. S. should produce a red color (limit of acidity).
Estimation of iodine: 3 Gm. of iodipin, 10 per cent., or 1 Gm. of iodipin, 25 per cent., are saponified by heat with 5 Gm. of potassium hydroxide and 25 Cc. of alcohol. The solution is evaporated to dryness on the water bath and the residue carefully incinerated. The residue is extracted with water and the washings filtered into a Topf distilling apparatus. Then 10 Cc. of hydrochloric acid and 10 Cc. of ferric chloride solution are added and the liberated iodine distilled with the usual precautions into a solution of potassium iodide. Finally the iodine is determined by titration with tenth normal sodium thiosulphate solution V. S. and the per cent. of iodine calculated.

Actions and Uses.—Iodipin acts in the system similarly to the iodides, being broken up in a manner analogous to that described under bromipin, which see. Its action is claimed to be more lasting and iodism is less likely to be caused.

Dosage. 2 to 6 c.c. (30 to 90 minims) of iodipin, 25 per cent. hypodermically or 4 to 8 Cc. (1 to 2 fluidrams) of iodipin 10 per cent. 3 to 4 times a day.

Manufactured by E. Merck, Darmstadt, Germany (E. Merck & Co., New York). German patent No. 96,495.
Iodipin, 10 per cent.—Iodized sesame oil, 10 per cent iodine. Iodipin 10 per cent. is an iodized sesame oil containing 10 per cent. of iodine in organic combination.
Iodipin, 25 per cent.—Iodized sesame oil, 25 per cent. iodine. Iodipin 25 per cent. is a preparation similar to the preceding, but intended for hypodermic administration.
Capsules of Iodipin, 25 per cent.—Each capsule contains iodipin, 25 per cent. 2 Gm. (30 grains).

IODOFORMOGEN — Iodoformalbumen. — Iodoformogen is a nearly odorless mixture of iodoform and albumin.

It is prepared by precipitating a solution of albumin with alcoholic solution of iodoform and heating the precipitate at 120° C. (248° F.).

It is a very fine, voluminous, light-yellow, nearly odorless powder, non-hygroscopic and non-conglutinating. It is insoluble in water, and sterilizable at 100° C. (212° F.) without decomposition or change. It contains about 12 per cent. iodine.

Actions and Uses.—Its action is that of iodoform, which is slowly liberated when it is in contact with wound surfaces, making the action more persistent. It limits secretion, favors granulation and promotes drying.

Iodoformogen is recommended by the manufacturer as a dusting powder for ulcerated surfaces.

Dosage.—Being about three times as voluminous as iodoform, it is usually applied undiluted to the affected parts. It may be used as a snuff in ozena, mixed with an equal amount of boric acid.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany and New York. German patent No. 95,580. U. S. trademark No. 31,186.

IODO-MANGAN — Liquor Ferro-Mangani Iodopeptonati "Dieterich."—Iodo-mangan is Ferromangan Dieterich with the addition of 1 per cent. of iodopeptone.[1] Iodopeptone contains 15 per cent. of iodine.

The process of preparation is the same as that given under Ferro-Mangan "Dieterich," with the addition of a solution of iodopeptone.

Iodo-mangan is a clear dark-brown liquid of agreeable odor and taste, and a slight acid reaction.

Method of Valuation: After determination of the percentage of iron and manganese a test method should be employed, as described by Dr. Karl Dieterich in Helfenberg Annals, 1901, pages 162-165, to ascertain the percentage of halogens in Iodopeptone: About 0.5 Iodopeptone should be thoroughly mixed with a few grams of a mixture of 1 part potassium nitrate and 2 parts sodium carbonate either in a porcelain or platinum crucible. The mixture is then covered with a light layer of sodium carbonate, covered and carefully heated until reaction sets in. When finished a little potassium nitrate is added to obtain a smooth flux, then the molten mass is exposed to glowheat for about 15 minutes. After cooling it is dissolved in hot water, rinsed into a beaker, filtered if necessary, acidulated dith diluted acetic acid and any iodate reduced with sulphurous acid. The excess of acid is driven off by heat, the liquid strongly acidulated with nitric acid, again heated, until the gas formation ceases, then precipitated while hot with silver nitrate. The silver iodide is collected on a weighed filter, washed with very dilute ammonia water, as the preparation contains hydrochloric acid, dried and weighed.

Actions and Uses.—It is claimed to be a reconstructive tonic and blood making adjuvant, with favorable action in affections of the glandular system.

Iodo-mangan is said to be useful in scrofulosis, rheumatism, etc.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams), according to age, three times a day.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany. (Reinschild Chemical Co., New York.) No patents. U. S. trademark No. 57,870.

IODONE.—Iodonum—Iodone $(C_3H_4C_2O_2)_2$ $KI.I_4$, is a periodide of phthalic acid anhydride.

Iodone is prepared by treating a solution of phthalic-acid anhydride in acetic ether, with a solution of iodine and potassium iodide, and crystallizing the product from suitable solvents.

Iodone occurs in the form of dark green prismatic crystals which melt with decomposition at 163° C. (325.4° F.). When freshly prepared it is odorless, but on standing, traces of iodine are liberated, giving it a faint odor of iodine. It is gradually decomposed into phthalic acid, iodine, and potassium iodide by water, in which the decomposition products dissolve until a saturated iodine potassium iodide solution results. Any excess of iodine remaining in contact with the supernatant liquid remains unchanged. Alcohol, chloroform, and ether decompose iodone, but more slowly than water. Iodone crystals are stable in dry air; exposed to damp air, they gradually liberate iodine.

When 0.1 Gm. iodone is heated in a crucible at not more than a dull red heat, the compound chars, iodine vapor is driven off, and a residue of white potassium iodide remains. At a bright red heat the latter is dissipated, leaving no weighable residue (absence of metallic impurities).

About 0.1 Gm. iodone, accurately weighed, is allowed to react, with occasional agitation, with a solution of 1 Gm. potassium iodid in 50 c.c. water. At the end of 15-20 minutes the titration of this solution with tenth-normal thiosulphate solution should indicate the presence of not less than 51.1 per cent. iodine.

Iodone surgical dressing and dusting powder, assayed by the above process, should yield not less than 2 per cent. of available iodine. (About 2.5 Gm. should be taken for the assay.)

Actions and Uses.—Like iodine, iodone is a potent germicide and stimulant to the processes of repair in wounds. It is said to be useful in all conditions in which the local use of iodine is indicated.

Dosage.—Iodone is not used in substance but the employment of its preparations should be regulated on the basis of their iodine content.

Manufactured by the Henry C. Blair Co., Philadelphia, Pa. U. S. patent applied for. Not trademarked.

Iodone Oil—Oleum Iodoni.—Iodone oil is a 2 per cent. solution of iodone crystals in a mixture of alcohol, castor oil, and cotton seed oil. It is said to yield about 1 per cent. of iodine, slowly liberated on prolonged contact with moisture and to contain about 20 per cent. alcohol.

Iodone oil is prepared by dissolving iodone crystals in a mixture of alcohol and oils to which sufficient iodine has been added to overcome the decomposing effects of the solvent on iodone.

It is a clear dark reddish-brown oily liquid, having a specific gravity of about 0.912 at 25° C. (78° F.) and a faint alcohol-like odor.

When shaken with chloroform and water the chloroform acquires a violet color, which is decolorized by shaking with a solution of sodium thiosulphate.

If 5 Cc. of the oil is dissolved in 15 Cc. of chloroform and treated as under iodone ointment, considerable time being allowed during the titration for the complete liberation of the iodine (at least twenty-four hours), about 1 per cent. iodine, calculated from the volume of volumetric sodium thiosulphate solution, should be indicated.

Actions and Uses.—Iodone oil has the germicidal and alterative actions due to the iodine which is liberated on contact with moisture.

It is said to be useful in all catarrhal affections of mucous membranes, hay fever, etc.

Dosage.—Its employment should be regulated on the basis of its liberating 1 per cent. of iodine on contact with moisture. It may be applied as a spray or on pledgets of cotton or tampons. It can be injected hypodermically into tuberculous joints, etc.

Iodone Ointment—Unguentum Iodoni.—Iodone ointment is a mixture of iodone crystals with petrolatum, said to contain about 4 per cent. of iodine and to yield about 2 per cent. of available iodine slowly liberated on contact with moisture.

Iodone ointment is a dark green unctuous mass, having the consistency of petrolatum and a faint iodine-like odor.

A small amount dissolved in chloroform in a test tube and shaken with water should impart to the chloroform a violet color, which is destroyed by addition of sodium thiosulphate solution.

If 2 to 3 Gm. of iodone ointment be weighed and dissolved in 15 Cc. of chloroform and 30 Cc. of water added, the mixture shaken frequently during one hour, and titrated with tenth normal sodium thiosulphate solution using starch as indicator, not less than 2 per cent. of iodine should be indicated.

Actions and Uses.—Iodone ointment has germicidal, alterative and stimulant powers due to the iodine liberated.

It is said to be useful in all conditions in which the local use of iodine in ointment is indicated.

Dosage.—Its employment should be regulated on the basis of the liberation of 2 per cent. of available iodine on contact with moisture.

Iodone Surgical Dressing and Dusting Powder—Pulvis Iodoni Compositus.—Iodone surgical dressing and dusting powder is a mixture of four parts of iodone and 96 parts pure sterile talcum.

Dosage.—Its employment as a surgical dressing and dusting powder should be regulated on the basis of its containing 2 per cent. of available iodine, slowly liberated on contact with the moisture of wound secretions, etc.

IOTHION — Di-Iodo-Hydroxy-Propane. — Iothion is 1,3-di-iodo-propane-2-ol $CH_2I.CHOH.CH_2I = C_3H_6OI_2$.

Dichlorhydrin, obtained by chlorinating glycerin, is heated with the theoretical quantity of potassium iodide in the presence of water, chlorine being replaced by iodine with the production of di-iodo-hydroxy-propane.

Iothion is a yellowish, oily, heavy liquid, of sp. gr. 2.4 to 2.5, containing 77 per cent. of iodine. It is volatile at the body temperature, and not unpleasantly odorous. It is insoluble in water but soluble in glycerin, oils, alcohol and other organic solvents. It is incompatible even with weak alkalies.

If Iothion be heated on the water bath under a reflux condenser for 5 to 6 hours, with 33 per cent. solution of potassium hydroxide and the iodine liberated from the residue by sulphuric acid and sodium nitrite and extracted with carbon disulphide, the titration of this iodine carbon disulphide solution with sodium thiosulphate in the usual way, should indicate 77 per cent. of iodine.

Actions and Uses.—Iothion acts like iodine and the iodides, but it is said to be rapidly absorbed by the intact skin.

It is said to be a satisfactory substitute for iodine and iodides. It is applied to the surface of the body in the same manner as mercurial inunctions.

Dosage.—It is applied in the form of a 25 to 50 per cent. ointment with a mixture of equal parts of wool fat (lanolin) and petrolatum as a base.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark No. 39,252.

KEFIR FUNGI—Kefir fungi is a mixture of bacteria and yeasts capable of causing lactic acid fermentation of milk.

Kefir occurs in the form of white irregular roundish bodies, of the size of a walnut, with a very rough, furrowed surface, and of a tough gelatinous consistency. The substance contains Saccharomyces cerevisiæ (Heyden), Bacillus acidi lactici (Pasteur),

1. Iodomangan formerly contained 0.45 per cent. of iodopeptone.

Dispora Caucasica (Kern). It acts on milk as follows: Fat, salt and water of the milk remain unaffected. The lactose is gradually decreased and the lactic acid increased. Alcohol is produced along with carbon dioxide. 10 per cent. of the casein is converted into acid albumin and peptones, 10 per cent. into hemialbumose and the rest loses its lime. (U. S. Disp., 19th ed., p. 1540.)

Action and Uses.—Kefir fungi are used for the preparation of fermented milk which contains lactic acid, alcohol, the fats, salt and water of the milk. Kefir milk acts as an easily digestible food in many cases of dyspepsia and lack of digestive power. It is also serviceable in some cases in the prevention of intestinal putrefaction.

Dosage.—Kefir kumyss may be prepared by adding active kefir grains to fresh cows' milk, kept at a temperature of 21°-27° C. (70° to 80° F.) until the effect of fermentation becomes apparent by the rising of the grains to the surface. The grains may then be strained off, and the milk, which now contains sufficient yeast-cells to insure continuance of the fermentation, left to itself in well-corked bottles.

KERATIN—Keratinum.—Keratin is a proteid substance which forms the chief part of horns, hoofs, feathers, wool, etc.

To prepare keratin horn shavings are macerated for some days in a mixture of equal parts of ether and alcohol, decanting the liquid and washing the residue with warm water. The washed shavings are then treated with an acid solution of pepsin at 40° C. (104° F.). After further washing with water the residue is dried and powdered.

Keratin occurs as a brownish yellow powder or in transparent white or grayish white scales, tasteless and odorless. It is soluble in concentrated acetic acid, caustic alkalies and ammonia, but insoluble in water, alcohol, ether, dilute acetic acid or acid pepsin solutions. It is decomposed by long boiling under pressure forming a turbid solution with the liberation of hydrogen sulphide. Boiling with dilute sulphuric acid converts it to leucine, tyrosine and other products. On ignition it emits the odor of burning feathers and the remaining carbon is very difficultly burned. On complete combustion the ash should not exceed 1 per cent. 24 hours' digestion with 15 times its volume of ammonia or glacial acetic acid solution at 25°-40° C. (77°-104° F.) should not leave more than 0.3 per cent. insoluble matter.

Uses.—For coating pills to pass the stomach unchanged.

LACTOPHENIN — Lactopheninum. — Phenetidinum lactylatum (Pharm. Helvetica. edit. 4)—Lactylparaphenetidin.—Lactophenin is lactylparaphenetidin. $C_6H_4.OC_2H_5.NH(CH_3.CHOH.CO{=}C_{11}H_{15}NO_3$. a phenetidin derivative differing from acetphenetidine (Phenacetin) in that the acetic-acid radicle of acetphenetidine is replaced by the lactic-acid radicle (lactyl).

It is prepared by heating lactic acid and paraphenetidin, in molecular proportions, at 180° C. (356° F.) until all the liberated water is expelled and crystallizing the product from hot water.

Lactophenin occurs as a white, crystalline, odorless powder, of slightly bitter taste and neutral reaction. It melts at 117.5° to 118° C. (243.5° to 244.4° F.). It is rather difficultly soluble in cold water (1:330), and is soluble in 55 parts of boiling water. It is soluble in 8.5 parts of alcohol, and is not precipitated from this solution by water. In ether and petroleum it is difficultly soluble.

On boiling 0.2 Gm. of lactophenin with 2 Cc. hydrochloric acid for one minute, then diluting the solution with 20 Cc. water, and filtering when cold, the filtrate will become colored a ruby red on the addition of chromic acid solution.

On dissolving 0.1 Gm. lactophenin in 10 Cc. hot water, and filtering when cold, the filtrate, on the addition of bromin water, should afford a decided turbidity which disappears on the addition of much water.

The aqueous solution of lactophenin must not have an acid reaction.

No blue coloration should develop on adding potassium dichromate solution to the cold aqueous solution of lactophenin (absence of phenetidin salts).

Lactophenin should dissolve in concentrated sulphuric acid in the cold without coloration (absence of foreign organic mixtures), and on incineration should leave no weighable residue (absence of inorganic admixtures).

Actions and Uses.—Lactophenin is an antipyretic and analgesic similar to acetphenetidin (phenacetin). It is claimed that it has a more marked action as a hypnotic than acetphenetidin (phenacetin) and that at the same time respiration and circulation remain unchanged. It is also claimed that the lactic acid constituent is more easily separated from the compound than is the case with the acetic acid radicle of acetphenetidin. It is stated that the preparation is absorbed from the stomach to a large extent, so that the activity of the doses given reaches its maximum in a short time.

The therapeutic indications of lactophenin are similar to those of acetphenetidin (phenacetin). It is claimed by the manufacturers to be particularly valuable in the treatment of typhoid fever on account of its combined antipyretic and sedative properties. On the other hand, it is the general opinion that antipyretics should not be used in the treatment of typhoid fever unless under very exceptional circumstances. In the opinion of good authorities the action and uses of lactophenin do not materially differ from those of acetphenetidin (phenacetin).

Dosage.—The initial dose is 0.5 Gm. (8 grains) for adults and the maximum daily dose 3 to 5 Gm. (45 to 75 grains).

Manufactured by C. F. Boehringer & Soehne, Waldhof near Mannheim, Germany (Merck & Co., New York). U. S. patent No. 503,743 (expired). U. S. trademark No. 24,643.

LECITHIN PREPARATIONS

LECITHIN.—Lecithin consists of the esters of oleic, stearic, palmitic or other fatty acid with glycerophosphoric acid combined with cholin; occurring in combination with proteids in many animal and vegetable tissues, especially in nervous matter and egg-yolk.

Lecithin is best prepared from egg-yolk (in which it exists as vitellin) by dissolving out the lecithin by strong alcohol.

It is a yellowish-brown, waxy solid of peculiar odor, soluble in an equal volume of cold absolute alcohol, readily soluble in chloroform, petroleum, benzin, and fats, less readily in ether. It is insoluble in water, but swells, giving the peculiar "myeline forms," and decomposes on prolonged contact. It is hygroscopic on exposure to air.

The alcoholic solution is precipitated by platinum or cadmium chloride. It is decomposed by alkalies with the formation of cholin and trimethylamine. The ash contains phosphoric acid. The different lecithins contain from 3.84 to 4.12 per cent. of phosphorus and 1.73 to 1.86 per cent. of nitrogen. The ratio of nitrogen to phosphorus should be as 1 to 2.21.

Lecithin is incompatible with alkalies; it should be kept in well-stoppered bottles and should be protected from the light.

Actions and Uses.—Lecithin is supposed to act as a stimulant to nutrition and not as a direct nutrient, and to increase the number of the red blood corpuscles and the amount of hemoglobin. Some investigators state that there is a slight increase in the proportion of large mononuclear leukocytes, that the appetite is improved, that there is a retention of nitrogen and a diminution in the excretion of phosphoric and sulphuric acids, indicating a storage of proteids, and that uric acid is perhaps slightly diminished. Lecithin, even in large doses, is not toxic. (See note under Creosote Carbonate.)

The ordinary diet contains from 5 to 15 Gm. (75 to 225 grains), and some observers claim that the benefits of the administration of lecithin can be obtained by an increased use of lecithin-containing food (eggs, etc.), but others claim that the raw or combined lecithin is ineffective.

Dosage.—It may be given by mouth in doses of 0.1 to 0.5 Gm. (1.5 to 8 grains) per day, in pill form, before meals, or, hypodermically 1 Cc. (15 minims) of a 5 per cent. solution in oil, daily. Infants, one-third of these doses.

GLYCEROLE OF LECITHIN—Glyceritum Lecithini.—Glycerole of lecithin is a solution of lecithin in pure glycerin, containing in each 100 Cc., 1.6 Gm. of pure lecithin.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram) containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

LECIBRIN.—Lecibrin is lecithin from the brain in combination with nucleoproteins, containing 33⅓ per cent. by weight of lecithin.

Lecibrin is put up in gelatin coated "pepules," each containing 0.2 Gm. (3 grains), the equivalent of 0.0027 Gm. (1/25 grain) of elementary phosphorus.

Actions and Uses.—See Lecithin. Said to be better borne than lecithin in some cases.

Dosage.—One to three pepules.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50,967.

LECITHIN SOLUTION.—A solution of lecithin containing 1.6 Gm. of lecithin in 100 Cc. of a glycerin-alcoholic menstruum containing 18.5 per cent. of alcohol by volume.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram), containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

LECITHOL.—An emulsion-like solution of lecithin containing 18 per cent. of absolute alcohol by volume, and .06 Gm. (1 grain) of lecithin per 4 Cc. (1 fluidram).

The lecithin is separated from hogs' brains.

An opalescent yellow liquid of pleasant taste and odor.

Test: From lecithol, 10 Cc., the alcohol is removed by evaporating on the water-bath; then water, 90 Cc., is added. Next concentrated hydrochloric acid, 2 Cc. is added, and then, with thorough shaking, gradually 2 Cc. chloroform. The liquid precipitate which separates out, containing nearly all the lecithin, is collected and treated with strong sulphuric acid and fuming nitric acid. After all the organic matter is decomposed, the phosphorus is determined in the usual way. From this the percentage of lecithin is calculated.

Actions and Uses.—See Lecithin.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) immediately before or after meals.

Manufactured by Armour & Co., Chicago.

NEURO-LECITHIN-Abbott. — Neuro-lecithin-Abbott is a preparation of lecithin with small amounts of fats and cholesterin, the amount of lecithin being determined by assay.

Neuro-lecithin is said to be made from the brain and spinal cord of animals. The water and fat are separated by heat; the soluble portions are extracted from the residue with ether; this is precipitated with acetone.

For properties and tests see Lecithin. The amount of lecithin is determined by a quantitative estimation of phosphorus and nitrogen. The material is exhausted with ether-alcohol at the boiling point of the mixture, the solution evaporated, the residue fused with sodium carbonate and potassium nitrate and phosphorus determined in the fusion. The amount of phosphorus found multiplied by 26 (806/31) is taken to indicate the amount of lecithin.

Actions, Uses and Dosage.—See Lecithin.

Manufactured by the Abbott Alkaloidal Co., Chicago. U. S. trademark No. 65,384.

Neuro-Lecithin Tablets-Abbott.—Each tablet contains neuro-lecithin 0.03 Gm. (½ grain).

Neuro-Lecithin Pills-Abbott.—Each pill contains neuro-lecithin 0.03 Gm. (½ grain).

LENIGALLOL—Pyrogallol Triacetas. — Triacetylpyrogallol. Lenigallol is pyrogallol triacetate, $C_6H_3(CH_3CO_2)_3 = C_{12}H_{12}O_6$, obtained by replacing the hydroxyl groups of pyrogallol with acetyl groups.

It is prepared by boiling 10 parts of pyrogallol, 1 part of sodium acetate, and 25 parts of acetic anhydride for 2 hours, and washing the crystalline product on a filter with water.

It is a white, crystalline powder, melting at 165° C. (329° F.). It is insoluble in water, but soluble with decomposition in warm aqueous alkalies.

It is incompatible with alkalies, strong acids and oxidizing agents.

Actions and Uses.—Lenigallol is said to be non-poisonous and non-irritating, but a mild and painless corrosive. (See note under Creosote Carbonate.)

It is introduced as a substitute for pyrogallol in psoriasis, lupus, acute and subacute eczema of children and other skin diseases.

Dosage.—In 5 to 10 per cent. ointment with zinc oxide.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany. German patent No. 105,240.

LYSIDIN.—Lysidin is a 50 per cent. solution of ethylene-ethenyl-amidine, $\begin{matrix} CH_2.N \\ | \\ CH_2.N \end{matrix} \diagdown\!\diagup C.CH_3 = C_4H_8N_2$, a monatomic base derived from ethylene diamine.

It is prepared by subjecting ethylenediamine hydrochloride and sodium acetate to dry distillation, decomposing the hydrochloride of the new base with concentrated potassium hydroxide and crystallizing.

It forms small, colorless, very hygroscopic needles, melting at 105° to 106° C. (221° to 222.8° F.). It is very soluble in water and in alcohol forming alkaline solutions; it is also soluble in chloroform, but insoluble in ether. It forms a very soluble salt with uric acid.

It should form a clear and colorless solution and give the usual alkaloidal reactions.

Being a strong base it is incompatible with acids and with the salts of many metals and of the alkaloids, which it decomposes.

Actions and Uses.—Lysidin is said to be a diuretic and is recommended as a uric acid solvent on the theory that, because it forms a very soluble salt with uric acid, it will facilitate the elimination of that substance. It is claimed that it is superior to piperazine.

It is said to be useful in gout, lithiasis and the various forms of the so-called uric acid diathesis.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

MASSOLIN—Cultura Bacilli Bulgarici-Lederle.—Massolin is a pure culture of the *Bacillus bulgaricus* of Massol, grown on one of the following media: Calcium carbonate lactose broth, calcium carbonate dextrose broth, calcium carbonate Cohendy broth, or Cohendy broth.

The material for one of the above broths is sterilized for thirty minutes on three successive days and then placed in the incubator for at least forty-eight hours to determine its sterility before using. The material is then put into large flasks, inoculated from test tube cultures of the bacillus and incubated at 37° C. (98.5° F.) for from twenty-four to ninety-six hours. It is then tested to see that it is free from contaminating organisms.

The preparation is of an amber color and has the odor and taste of the particular medium employed as its base.

The material should be inoculated into milk and into the above media in test tubes and smeared on Cohendy agar. The cultures should be examined microscopically for the detection of contaminating organisms.

Actions and Uses.—The culture tends to prevent the growth of putrefactive and pathogenic organisms. It is said to be useful in the treatment of suppurative conditions and is said to have been found especially beneficial in atrophic rhinitis, chronic nasal catarrh, inflammations of the frontal sinus, antrum, ethmoidal cells, middle ear, etc.

Dosage.—The culture should be liberally applied directly to the diseased area and in ordinary nose and throat affections the contents of one bottle, 7.5 Gm. (¼ ounce) may be employed at each treatment.

Manufactured by Lederle Antitoxin Laboratories, New York (Schieffelin & Co., New York).

No patent or trademark. U. S. Government License No. 17.

MEDICINAL FOODS

The so-called "Liquid Foods," "Medicinal Foods" or "Predigested Foods," as found on the market, are solutions containing as the essential constituents small amounts of protein substances and carbohydrates, preserved by alcohol.

The protein substances should be rendered soluble, i. e., converted to peptones and proteoses, by means of enzymes. While the hydrolysis of proteids to soluble proteoses may also be effected by means of acids or superheated steam, these products should be excluded from medicinal foods because of the uncertainty as to their composition and behavior—being held toxic and dangerous by some. The protein content of these liquid medicinal foods (obtained by multiplying the total nitrogen content by 6.25) ranges from 0.5 to more than 6 per cent. The carbohydrates present in these foods are sucrose (cane sugar), maltose, glucose, invert sugar, dextrin and possibly also lactose (milk sugar). In these foods, as found on the market, the quantity of carbohydrates ranges from 0.55 to more than 15 per cent. The alcohol content varies from 12.0 to 19 per cent. of absolute alcohol by weight. Some contain large amounts of glycerin.

Actions and Uses.—The value of medicinal foods depends on the proteins and carbohydrates contained therein. Glycerin does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism. While the value of alcohol in the treatment of disease is fully appreciated, its value as a food product, pure and simple, in disease is an open question. It probably acts as a saver of fat and carbohydrate, but not as a tissue builder. The nutritive value of these medicinal foods, therefore, should be considered as based on their carbohydrate and protein content, exclusive of alcohol or glycerin. The calculated food value of a considerable number of medicinal foods, on the basis of the potential energy (calorific value) due to proteins and carbohydrates shows that some possess but one-sixth the value of milk, while the best have a trifle greater calorific value. The Council has decided that no liquid medicinal or predigested food be given consideration which contains less nutritive value, exclusive of alcohol and glycerin, than milk; and at least one-fourth of this should reside in nitrogenous constituents.

Dosage.—None of the commercial liquid medicinal or predigested foods contains sufficient food material to maintain normal nutrition. A man doing moderate work requires an amount of food which furnishes energy to 3,000 calories per day, and while, in sickness, this amount is not required, it should not fall much below 1,500 calories per twenty-four

hours. The examination of commercial liquid food shows that the average daily dose recommended supplies from 10 to 111 calories based on protein and carbohydrate. To sustain the vitality of a patient during a serious illness, 2,000 Cc. of milk, giving about 1,430 calories, are required; to supply the same number of calories, even if the alcohol is considered to have direct food value, from 700 to 1,500 Cc. of the medicinal foods will be required. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. It should, therefore, be remembered that the patient is receiving a starvation diet when these preparations are given in ordinary doses. Unless the daily dose advised contains at least 100 calories, exclusive of alcohol and glycerol, a preparation should not be depended on as of noteworthy importance in helping to sustain life even for a very limited period.

DEXTROSE.—Saccharum Amylaceum.

Dextrose, $C_6H_{12}O_6 + H_2O$, is a carbohydrate prepared by the action of dilute acids on starch; it also occurs naturally.

Dextrose containing a molecule of water of crystallization occurs in white crystalline masses. It is soluble in its own weight of water at 15° C. (59° F.); in 50 parts alcohol (85 per cent.) at 17° C. (62.6° F.) and in 11 parts at the boiling temperature.

An aqueous solution (1-10) of dextrose should yield after the addition of dilute nitric acid not more than a slight turbidity with either barium nitrate or silver nitrate; and after the addition of ammonia should produce no precipitate with ammonium oxalate.

An aqueous solution (1-20) of dextrose should not change when heated with hydrogen sulphide.

Actions and Uses.—Dextrose is quite readily digested and may be used in place of cane sugar as a food.

Dosage.—180 Gms. (6 oz.) daily.

DRY PEPTONOIDS.—Dry peptonoids is stated to contain 40 per cent. of proteins and 53 per cent. of carbohydrates.

It is said to be made from beef, milk and wheat, by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase. The resultant solutions are assayed, mixed in proper proportions and, the acid used in the digestion having been neutralized, concentrated *in vacuo*, sterilized, dried and brought to uniform composition by the addition of milk sugar.

It consists of light brown granules of pleasant odor and taste and is very soluble in water and other fluid media.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Dry Peptonoids corresponds to approximately 2,000 calories, of which 870 are due to protein and 1,130 to carbohydrates and fat. The largest dose usually given (16 Gm.) equals, therefore, almost 64 calories. It is claimed to be especially useful for nutrient enemata.

Dosage.—For an adult 8 to 16 Gm. (¼ to ½ ounce), taken in water, milk, wine, broths, soups, etc., also in gruels, in which case it should first be dissolved in a small quantity of water.

Manufactured by the Arlington Chemical Co., Yonkers, N. Y. U. S. trademark. Oct. 17, 1882.

LIQUID PEPTONOIDS.—Liquid peptonoids contain 4.5 to 5 per cent. nitrogenous matter (nitrogen x 6.25), 10.6 to 11.5 per cent. carbohydrates (glucose, lactose and sucrose) and 17.5 to 17.8 per cent. alcohol by volume (14 to 14.1 by weight).

It is said to be made from beef, milk and wheat by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase.

It is a light brown fluid of aromatic taste and odor and acid in reaction. Its specific gravity is 1.047 to 1.049.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Liquid Peptonoids corresponds to 335 to 345.1 calories, of which 108.7 to 118.3 are due to protein and 216.7 to 236.4 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—15 to 30 Cc. (4 to 8 fluidrams) from 3 to 6 times a day. Children in proportion.

Manufactured by the Arlington Chemical Co., Yonkers, N. Y. U. S. trademark.

LEVULOSE-Schering — Levulosum-Schering. — Fruit Sugar —Fructose.—Levulose Schering is a pure, crystallized fructose (levulose), $CH_2OH.CHOH.CHOH.CHOH.CO.CH_2OH = C_6H_{12}O_6$, absolutely free from dextrose (ordinary glucose).

It is prepared from invert sugar by precipitation as calcium salt, decomposing the precipitate with carbonic acid, and crystallizing. It is a colorless, odorless, slightly hygroscopic, crystalline powder, having a sweet taste compared with that of ordinary cane sugar (saccharose). It is readily soluble in water and in diluted alcohol, slightly soluble in alcohol, insoluble in absolute alcohol and in ether.

Its aqueous solution reduces Fehling's solution and rotates the ray of polarized light to the left.

Actions and Uses.—Levulose is in part at least metabolized in the body by other agencies than those that act on dextrose and most of the other sugars and appears to be sometimes more completely utilized by the diabetic organism than the other sugars.

It has been recommended for the nutrition and for sweetening the food and drink in suitable cases of diabetes, in pulmonary tuberculosis, infantile malnutrition and marasmus.

Dosage.—It is given in diabetes in daily quantities of 30 to 60 Gm. (1 to 2 ounces): in grave forms of the disease the amount is reduced to from 12 to 24 Gm. (3 to 6 drams) daily.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 21,864

NUTROSE — Sodii Caseinas. — Sodium Caseinate — Casein-Sodium.—Nutrose is a sodium salt of milk casein, containing 65 per cent. of proteids.

It is prepared by dissolving moist casein, freshly precipitated from skimmed milk and washed with water, in solution of sodium hydroxide, evaporating the solution to dryness *in vacuo*, powdering the residue, washing it successively with alcohol and ether, and drying.

It is a coarse, white, odorless and tasteless powder, forming a turbid, adhesive solution with water, having an alkaline reaction toward litmus, but being acid toward phenolphthalein.

Incinerated on platinum foil, it evolves vapors similar in odor to burning horn and leaves at least 3 per cent. of a white, nonvolatile residue, which has an alkaline reaction and colors the Bunsen flame yellow. Casein can be detected by the biuret reaction.

It is incompatible with acids.

Actions and Uses.—Nutrose has been recommended as a nonirritant nutrient in wasting diseases, such as the cachexias in carcinoma, anemia, diabetes, etc., and in acute and chronic febrile ailments, such as pneumonia, typhoid fever and tuberculosis.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 85,057.

PANOPEPTON.—Panopepton contains 6.33 to 6.38 per cent. of nitrogenous matter (nitrogen x 6.25), 10.05 to 11.92 per cent. of carbohydrates and 17 to 20.9 per cent. alcohol by volume (15 to 18.5 per cent. by weight).

It is said to be prepared from beef and wheat by digestion with gastric and pancreatic juices. The substance obtained by the digestion is mixed in fixed proportion of protein and carbohydrate, sterilized, concentrated *in vacuo* and dissolved in fortified Spanish sherry wine.

It is a light brown fluid, acid in reaction and possessing largely the odor and taste of sherry wine. Its specific gravity is 1.063 to 1.023.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Panopepton corresponds to 359.1 to 396.3 calories, of which 151.9 to 153.1 are due to protein and 244.4 to 206 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) several times a day and at bedtime; for infants from a few drops to 2 Cc. (30 minims).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark.

PEPTONE—Peptonum.—Peptonum (Pharm. Belgica., edit. 3); Peptona Medicinalia (Pharm. Française, 1908).

Peptone is a product of the peptic or pancreatic digestion of albuminoid substances.

Peptone may be produced artificially as follows: Mince 1000 parts of lean beef freed from bone, etc., and mix it with 4000 parts of water, to this add a solution of 5 parts of pepsin in 1000 parts of water with 50 or 25 parts of hydrochloric acid. The mixture thus prepared is kept at a temperature not exceeding 50° C. (122° F.) until 10 Cc. of the filtrate or the addition of 1.5 Cc. of nitric acid in the cold no longer produces a precipitate. (Formation of a coagulum indicates incomplete peptonization.) The solution is then filtered, neutralized with sodium bicarbonate and evaporated to dryness *in vacuo*. It may be purified if necessary from adherent sodium chloride by dialysis or by precipitation by alcohol washing with ether and drying. By desiccating its concentrated solution upon plates peptone may be obtained in scales. (Brit. Codex.)

Peptone occurs as a white or yellowish-brown amorphous powder or in scales, with a somewhat cheesy but not unpleasant taste and nearly odorless. The pure substances when added to water hisses and froths at the same time evolving heat. It is soluble in water (1 in 20) forming a neutral solution or slightly acid. Aqueous solutions are pale yellow and clear or may be made quite clear by the addition of a little hydrochloric acid. The addition of alcohol precipitates peptone. Aqueous solutions are not coagulated by heat. No precipitate is formed in aqueous solution on the addition of nitric acid or potassium ferrocyanide (difference from albumen) nor is a precipitate formed by solutions of ferric chloride or cupric sulphate nor by saturation with ammonium sulphate or zinc sulphate (distinction from albumoses). The aqueous solutions are levarotatory. Neutral solutions are precipitated by tannin and by various salts of mercury. Acid solutions give precipitates with bismuth potassium iodide, potassium mercuric iodide, bromine water and other precipitants of alkaloids. Peptone is colored yellow with Millon's reagent on warming a red color and precipitate; with cupric sulphate and caustic alkali a violet red color (biuret reaction). Picric acid gives yellow flakes. Peptone should not be precipitated by lead acetate, alum or hydrogen sulphide. On ignition it should not yield more than 2 per cent. ash.

Action and Uses.—**Peptone is given as a nutrient in malnutrition and certain forms of dyspepsia. Its value is limited because larger amounts, often even small quantities, cause irritation.**

Dosage.—**Peptone is given in the form of pastilles, 5 Gm. in each prepared with gelatine. It is administered in rectal alimentation in the form of suppositories or it may be added to rectal enemata.**

MERCURIC BENZOATE—Hydrargyri Benzoas.—Hydrargyrum benzoicum (Pharm. Française, 1908), Mercuric Benzoate, $Hg(C_6H_5COO)_2+H_2O$, is the mercuric salt of benzoic acid.

10 Gm. glacial acetic acid is diluted with 100 Cc. water and 10 Gm. yellow mercuric oxide added and the mixture agitated until solution is effected. 14 Gm. sodium benzoate is dissolved in 100 Cc. water and added to the mercury solution. The precipitate which forms is collected and washed with water till free from acid and dried at 100° C. (212° F.). (Pharm. Française, 1908).

Mercuric benzoate is a white crystalline powder, slightly soluble in water, yielding a weakly acid solution, but insoluble in alcohol or ether. At 20° C. (68° F.) a 10 per cent. solution of sodium benzoate dissolves 1 per cent. of its weight of mercuric benzoate. Heated with alcohol it is decomposed into a basic salt of a yellow color. (Pharm. Française, 1908).

A solution of 1 Gm. mercuric benzoate and 0.5 Gm. sodium chloride in 20 Cc. water yield a black precipitate with hydrogen sulphide and with ferric chloride solution it yields a fawn colored precipitate of ferric benzoate.

A solution produced by shaking 1 Gm. mercuric benzoate with 20 Cc. water should not produce more than a faint turbidity when added to silver nitrate solution, acidified with nitric acid (limit of chloride). 2 Cc. of a similar solution when mixed with ferrous sulphate solution and then concentrated sulphuric acid added so as to form a layer beneath, should produce no brown coloration ta the zone of contact of the two solutions (absence of nitrates).

Action and Uses.—The same as mercuric chloride.

Dosage.—Mercuric benzoate has been recommended for hypodermic use and in gonorrhea. In urethral cases the solution may be 1-2000 or 1-1000 with an equal quantity of sodium chloride. For hypodermic injection the following may be given: Mercury benzoate, 0.02 to 0.03 Gm.; sodium chloride, 0.01 Gm.; cocaine hydrochloride, 0.15 Gm.; distilled water, 40 Cc.

MERCURIC CYANIDE—Hydrargyri Cyanidum.—Hydrargyrum cyanatum (Pharm. Française, 1908).

Mercuric cyanide, $Hg(CN)_2$, is the mercuric salt of hydrocyanic acid.

Prussian blue and mercuric oxide in water are boiled until the mixture is brown; the mixture is filtered, acidified with hydrocyanic acid, evaporated and allowed to crystallize in a cool place. It is also prepared by the action of hydrocyanic acid on mercuric chloride. Colorless or white, prismatic crystals, odorless, and having a bitter, metallic taste (the salt is exceedingly poisonous). It is darkened on exposure to light. Soluble at 15° C. (59° F.) in 12.8 parts of water, and in 15 parts of alcohol; in 3 parts of boiling water, and in 6 parts of boiling alcohol; very sparingly soluble in ether.

When slowly heated in a glass tube, the salt decrepitates, and decomposes into metallic mercury and inflammable cyanogen gas, which burns with a purple flame. On further heating, the blackish residue, consisting of para-cyanogen with globules of metallic mercury, is wholly dissipated.

If 1 part of the salt be gently heated with 1 part of iodine in a dry test-tube, it will produce at first a yellow sublimate which afterwards becomes red, and above this a sublimate of colorless, needle-shaped crystals.

On adding hydrochloric acid to the aqueous solution of the salt, the odor of hydrocyanic acid is evolved.

A 5 per cent. aqueous solution of the salt should be neutral to litmus paper, and should not yield, on the gradual addition of a few drops of potassium iodide test solution, either a red or a reddish precipitate, soluble in an excess of the precipitant, nor should it yield a white precipitate with silver nitrate test solution (absence of mercuric chloride).

If mercuric cyanide be dissolved in an aqueous solution of sodium chloride the addition of phenolphthalein to this solution should produce no red coloration (absence of mercuric oxide).

Ammonia should not color an aqueous solution blue (absence of copper) nor should a solution of copper give a brown color or precipitate (absence of potassium ferrocyanide). The presence of large quantities of potassium sulphate may be demonstrated by igniting, leaching the ash and testing the filtrate with barium. Dilute sulphuric acid should not liberate hydrocyanic acid (absence of potassium cyanide). Ammonia should dissolve mercuric cyanide without producing a white precipitate (absence of oxycyanide). (Pharm. Française, 1908).

Action and Uses.—**Mercuric Cyanide has been reported to be as actively antiseptic as mercuric chloride and to be less irritating; but this has been questioned. It is used locally and internally like mercuric chloride.**

Dosage.—**Internally from 0.004 to 0.008 Gm. (1/16 to 1/8 grain); locally, solutions of 1-4000 to 1-2000 may be used for applications to the eye or mucous membranes; 25 to 35 minims of a 1 per cent. solution may be used hypodermically without causing local irritation. Death has occurred from the use of a vaginal injection containing 0.9 Gm. (14 grains) of mercuric cyanide.**

In diphtheria and croup it is used in 0.01 per cent. solution as a gargle or internally in doses of 0.0005 Gm. to 0.001 Gm. (0.0077 to 0.0154 grain). In rhinitis fibrinosa it is used on a tampon in 0.04 per cent. solution.

MERCURIC OXYCYANIDE—Hydrargyri oxycyanidum.—Hydrargyrum oxycyanatum (Pharm. Helvetica, edit. 4).

Mercuric oxycyanide, $Hg(CN)_2.HgO$, is basic-mercuric cyanide.

22.2 Gm. mercuric oxide is triturated with 52 Cc. water and 12 Cc. of sodium hydroxide solution (U. S. P.) and then 27 Gm. of pulverized mercuric cyanide is added and the mixture triturated until it becomes colorless or nearly so. If the product is not entirely decolorized heating on a water bath for a short time will complete the reaction. The mixture is allowed to settle, the liquid portion decanted off and the solid residue recrystallized from hot water or is simply washed several times with cold water, collected and dried between filter papers. (Rupp and Goy, Arch. d. Pharm., 1908, p. 369.)

Mercuric oxycyanide occurs as a white, or nearly white, microcrystalline powder which colors moist litmus paper blue. It is soluble in 17 parts water.

Boiled with a mixture of sodium hydroxide, ferrous sulphate and ferric chloride solutions, cooled and then treated with hydrochloric acid, mercuric oxycyanide yields a blue precipitate. A 1 to 20 solution gives a white precipitate with ammonia water soluble in excess of the precipitant. Tannic acid solution gives a yellow precipitate. Stannous chloride produces a grey-black precipitate. Hydrogen sulphide and ammonium sulphide produce a black precipitate. When potassium iodide is added to a solution of mercuric oxycyanide until it becomes yellow the addition of ammonia produces a red color which finally becomes a brown precipitate, which dissolves to a colorless solution in potassium iodide. An aqueous solution should not give a test for chloride nor should 0.2 Gm. leave a weighable residue when ignited. (Pharm. Helvetica, edit. 4.)

1 Gm. of mercuric oxycyanide digested with 1 Gm. sodium chloride in 20 Cc. water yields a solution which should require not less than 37 Cc. of tenth normal hydrochloric acid for neutralization, methyl orange or paranitrophenol indicator being used.

Action and Uses.—**Mercuric oxycyanide is recommended as a substitute for mercuric chloride. Its antiseptic power is said to be greater and it is claimed to be less irritating than mercuric chloride, because it does not act on albumin to the same extent. It has the advantage over the chloride that it does not corrode steel instruments.**

Dosage.—It may be given by hypodermic injections in the same doses as mercuric chloride or may be applied locally in solution, 1-5,000 or slightly stronger.

MERCURIC SALICYLATE—Hydrargyri Salicylas.—Hydrargyrum salicylicum (Pharm. Germanica, edit. 4; Pharm. Helvetica, edit. 4).

Mercuric salicylate, $Hg.C_6H_4.O.COO.$ is a mercuric salt of salicylic acid in which one atom of mercury has combined with one molecule of salicylic acid by replacing the hydrogen atoms of the phenolic hydroxyl and carboxyl groups.

Mercuric salicylate may be prepared by precipitating the mercuric oxide from 27 parts of mercuric chloride as directed in the case of Hydrargyri Oxidum Flavum, washing, placing in a flask with a little water and 15 parts of salicylic acid, and heating on a water-bath with agitation until the mixture is perfectly white. Collect the precipitate, wash until free from acid, dry at 30° to 40° C. (86°-104° F.), and finally at 100° C. (212° F.).

Mercuric salicylate occurs as a white amorphous powder, tasteless, odorless and neutral to litmus paper, slightly soluble in water or alcohol, but soluble at the ordinary temperature in solutions of sodium hydroxide and sodium carbonate with formation of a double salt. From these solutions it is reprecipitated by acids. It is soluble also in warm solutions of chlorides, bromides

and iodides. On ignition it is entirely volatilized. Strong mineral acids decompose it, especially on heating, and after this decomposition hydrogen sulphide precipitates black mercuric sulphide from the solution.

When shaken with water the resulting solution gives a violet coloration with ferric chloride.

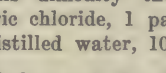
An aqueous solution of mercuric salicylate is not precipitated or colored immediately by hydrogen sulphide or ammonium sulphide.

0.1 Gm. of mercuric salicylate heated in a small tube with a small crystal of iodine produces the characteristic orange to red colored mercuric iodide (Pharm. Germanica, edit. 4). 0.3 Gm. mercuric salicylate mixed with about 3 Gm. sodium chloride and dissolved in 100 Cc. boiling water should upon diluting to 400 Cc., acidifying with hydrochloric acid and passing hydrogen sulphide, yield 0.2 Gm. mercuric sulphide.

Action and Uses.—Antiseptic and antisyphilitic. It has been stated that it is well tolerated by the stomach and that it does not produce salivation, but it may produce some gastrointestinal irritation occasionally, even when used hypodermically. The lack of salivation is probably due to its insolubility and slow absorption and not to any peculiarity of its effects. It is used as a disinfectant and as a remedy in syphilis and in certain skin diseases.

Dosage.—0.003 to 0.008 Gm. (1/20-1/8 grain). For hypodermic injections a suspension in liquid paraffin, one part in 10, is used; before injecting the mixture must be well shaken in order that the insoluble salt may not remain at the bottom. The needle and syringe should be thoroughly cleansed after each injection, as the insoluble drug readily clogs the instrument. At first, 0.65 Cc. (10 minims) of the mixture described should be injected deeply into the gluteal region every fourth day and this may be increased to every second day if no symptomatic evidences of the action of the drug appear. It is used in the form of dusting powder and ointment (1 in 10). A suspension in a mucilaginous vehicle (1 in 300) is used as an injection in gonorrhea, 1 Cc. (15 minims) being injected at a time. As a disinfectant the salicylate is as powerful as mercuric chloride, its great drawback being its insolubility; in order to overcome this difficulty the following formula has been devised: Mercuric chloride, 1 part; sodium salicylate, 3 parts; dissolved in distilled water, 100 parts.

MERCURIC SUCCINIMIDE—Hydrargyri Succinimidum.—Mercury succinimide $(Hg(CH_2.CO)_2N)_2{=}HgC_8H_8O_4N_2$, is the mercuric salt of succinic acid-imide,



Mercury Succinimide may be prepared by dissolving freshly precipitated mercuric oxide in warm aqueous solution of succinimide and evaporating the mixture, which then deposits crystalline needles. (Schmidt's Pharm. Chemie, vol. II, pt. I, p. 482.); It may also be prepared by adding an alcoholic solution of succinimide containing a few drops of ammonia to an ethereal solution of mercuric chloride (Proceedings A. Ph. A., vol. 40, p. 1029).

Mercury succinimide is a white crystalline powder, soluble in 25 parts hot water and in 75 parts of cold water, and in 300 parts of alcohol. It is very stable in solution. The aqueous solution is not affected by albumin. Mercury succinimide should be protected from light. Toward hydrogen sulphide and potassium iodide it reacts as an inorganic mercuric compound. Addition of sodium hydroxide to an aqueous solution of mercuric succinimide produces a yellowish-white precipitate, which on heating is reduced to metallic mercury. If mercuric succinimide is heated with five times its bulk of zinc dust, pyrrol is given off, which may be recognized by the red color which is developed when a pine shaving moistened with hydrochloric acid is held in its vapors.

The aqueous solution must be neutral and should not be affected by solutions of silver nitrate or egg albumin (absence of mercuric chloride and other mercuric salts).

On ignition it should volatilize completely, leaving no residue. If one gram is shaken with 10 Cc. of dry ether, the liquid filtered and the ether removed by evaporation, no residue should remain. If one gram is suspended in ether and hydrogen sulphide passed through the mixture for some time, the mercury succinimide will be decomposed, the mercury being precipitated as mercuric sulphide. If the ether be filtered from this precipitate, and evaporated, a residue of succinimide will remain which should have a melting point of 124-125° C.

Actions and Uses.—Mercuric succinimide has the action of other salts of mercury, but its solutions are said to be non-irritating. This preparation is used like other compounds of mercury in the treatment of syphilis.

Dosage.—Mercuric succinimide is used mainly by hypodermic injection, a 2.5 per cent. solution being employed. From ½ to 1 Cc. (8 to 16 minims) of this solution may be injected once daily. Mercuric succinimide may be given by the mouth in doses of 0.01 to 0.015 gm. (1/6 to 1/4 grain).

Non-Proprietary Preparations:

Tabloid Mercury Succinimide (Hypodermic) 1/5 grain: Each tablet contains mercuric succinimide 0.013 Gm. (1/5 grain). Prepared by Burroughs-Wellcome & Co., London and New York.

Hypodermic Tablets Mercuric Succinimide, 1/5 grain: Each tablet contains mercuric succinimide 0.013 Gm. (1/5 grain). Prepared by Sharpe & Dohme, Baltimore Md.

Hypodermic Tablets Mercuric Succinimide, 1/10 grain: Each tablet contains mercuric succinimide 0.006 Gm. (1/10 grain). Prepared by Sharpe & Dohme, Baltimore Md.

MERCUROL—Hydrargyri Nucleinas.—Mercury Nucleinate.—Mercurol is an organic compound of mercury with nucleinic acid from yeast, containing 10 per cent. of metallic mercury.

It is prepared by adding a solution of mercuric chloride to an alkaline solution of nuclein, containing an excess of alkali, precipitating the resulting nucleinate of mercury by the addition of alcohol and a concentrated solution of a neutral salt (sodium chloride), separating the precipitate, washing and drying it.

It is a brownish-white powder, soluble in water, especially in warm water, insoluble in alcohol. Its watery solution has a distinct metallic taste, a weak alkaline reaction, and is not precipitated by alkalies, nor by albuminous liquids.

The mercury in this preparation resists the action of hydrogen sulphide to a marked degree.

Actions and Uses.—Mercurol does not coagulate albumin; it has marked bactericidal power and possesses the pharmacologic action of soluble mercury compounds.

It is recommended as a local antiseptic application and as an antisyphilitic remedy.

Dosage.—0.3 to 0.12 Gm. (½ to 2 grains).

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. patent No. 637,355 (Nov. 21, 1899; expires 1916).

MERGAL.—Mergal is a mixture of 1 part of mercuric cholate and 2 parts of albumin tannate put up in capsules. Each capsule said to contain approximately 0.15 Gm. (2¼ grains) of mergal equivalent to 0.05 Gm. (¾ grain) mercuric cholate and 0.1 Gm. (1½ grains) albumin tannate. Mergal contains approximately 4.4 per cent. mercury.

Mercuric cholate is prepared by a patented process, mixed with albumin tannate, and inserted into gelatin capsules in the usual way.

Mergal is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol and almost insoluble in solution of sodium chloride.

When 0.1 Gm. of mergal is shaken with a few drops of saturated solution of cane sugar and underlaid with concentrated sulphuric acid, a purplish red to reddish violet zone is produced.

If 0.2 Gm. of mergal is warmed on the water bath with 10 Cc. of hydrochloric acid for about fifteen minutes and the evaporated water replaced after cooling and filtering, there results a colorless or slightly yellowish solution which gives a black precipitate with solution of hydrogen sulphide. The same filtrate gives with a drop of stannous chloride solution an immediate precipitation of metallic mercury.

Mergal should leave no weighable residue on incineration.

0.2 Gm. of mergal boiled for one minute with 20 Cc. of water gives a clear filtrate which is colored dark violet on the addition of a drop of solution of ferric chloride.

0.1 Gm. of mergal when heated with a mixture of 5 Cc. of concentrated sulphuric acid and 5 Cc. of water to boiling, produces a turbid reddish solution. The filtrate after dilution with 3 to 4 parts of water and the addition of a drop of solution of copper sulphate gives on careful underlaying or on mixture with an excess of sodium hydroxide solution an evanescent violet-red color. Mergal should be protected from the light.

Actions and Uses.—Mergal is said to pass through the stomach without decomposition and to be decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is said to be useful in all forms of syphilis and in the para-syphilitic affections, such as tabes and general paralysis. It is also said to be useful for the intermittent treatment according to the method of Fournier and Neisser.

Dosage.—One capsule three times a day after meals, gradually increasing to two capsules five or six times a day.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. patent No. 811,193 (Jan. 30, 1906; expires 1923). U. S. trade-mark No. 53,919.

MESOTAN—Ericin.—Mesotan is methyl-oxymethyl salicylate, $C_6H_4.OH.COO(CH_2.O.CH_3) = C_9H_{10}O_4$, an ester of salicylic acid, analogous to methyl salicylate.

It is prepared by the action of chlormethyl ether on salicylates thus: $C_6H_4.OH.COONa+CH_2Cl.O.CH_3{=}NaCl+C_6H_4.OH.COO(CH_2.O.CH_3)$.

It is a clear, yellowish, faintly aromatic, oily fluid, sp. gr. 1.2 at 15° C. (60° F.) and boiling at about 162° C. (323.6° F.). It is difficultly soluble in water, but readily soluble in the usual organic solvents and miscible with oils in all proportions. Above 100° C. (212° F.) it is decomposed, yielding salicylic acid, formaldehyde and methyl alcohol and it is likewise decomposed to a certain extent by moisture in the air.

Its watery solution gives a violet color with ferric chloride and after heating or exposure to moisture it responds to the usual tests for formaldehyde. Concentrated sulphuric acid colors it red.

It should be kept in a cool place and preserved dry in well-stoppered bottles.

Actions and Uses.—The action of mesotan is similar to that of oil of wintergreen, but it is more irritating to the skin. It is said to be useful in all forms of rheumatism.

Dosage.—Being quite irritating when applied pure to the sensitive skin, it is employed diluted with an equal volume of olive oil, and without friction. Simple application to the affected part, which need not be covered, or, if so, only slightly, is said to give prompt relief.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfield, Germany (Farbenfabriken of Elberfield Co., New York). U. S. patent No. 706,018 (Aug. 5, 1902; expires 1919).

METHYL CHLORIDE—Methyl Chloridum.—Methyl chloride, CH_3Cl, is the hydrochloric acid ester of methyl alcohol. It occurs, in the compressed state, as a colorless liquid, having an ethereal odor, and a sweet taste.

Methyl chloride is insoluble in water, more readily in alcohol, freely in ether and chloroform, and also in acetic acid. It should be neutral to litmus paper. At about —25° C. (—13° F.) it has a specific gravity of 0.991, and boils at about —21° C. (—5.8° F.). It burns in air with a greenish flame, though it is not highly inflammable. The neutral solution is not precipitated by solution of silver nitrate, nor is there any reaction with potassium iodide and starch paste. In the liquid condition it is a powerful refrigerating agent. At very low temperatures it forms with water a hydrate, $CH_3Cl.9H_2O$. It should not react alkaline to litmus (absence of ammonia and methylated ammonia—methylamine). It should not immediately form a precipitate with silver nitrate. On evaporating it should leave no residue and emit no odor of methylamine.

Action and Uses.—By its evaporation a temperature of —23° (—9.4° F.) is produced, while if evaporation be accelerated by means of a current of air a temperature of —55° (—67° F.) may easily be reached. On account of this property it is used as a local anesthetic in the form of a spray, but its use requires caution, since it is apt to produce blisters. The diluted vapor is said to be non-poisonous. Methyl chloride is said to be an efficient general anesthetic, which has practically no influence on the circulation, but fails to produce complete muscular relaxation. It is used as a general anesthetic mixed with ethyl chloride and ethyl bromide.

Dosage.—When sprayed on the skin the part should be partly protected by a thin layer of cotton wool. When used locally cotton wool soaked in liquid methyl chloride may be applied to the skin over the painful area, but care should be taken that blisters are not formed. In order to avoid this a mixture with ethyl chloride has been recommended.

MORPHINE DERIVATIVES

By the substitution of various radicles for hydrogen in morphine, substances are produced, the action of which varies somewhat from that of morphine and which possess, it is claimed, certain advantages over the parent alkaloid. Codeine is a natural substitution product of the same type. The principal derivatives of this class are methyl-morphine (codeine,) ethyl-morphine and diacetyl-morphine.

DIACETYL-MORPHINE—Morphina Acetylata. — Diacetyl-morphine, $C_{17}H_{17}(C_2H_3O_2)_2NO = C_{21}H_{23}O_5N$, is a synthetic alkaloid obtained by the acetylization of morphine.

Diacetyl-morphine was first introduced under the name Heroin by the Farbenfabriken, vorm. Friedr. Bayer & Co. It may be obtained by heating morphine with acetylchloride, washing the product with water and dilute solution of sodium carbonate and crystallizing it from alcohol.

It is a white, odorless powder, having a bitter taste, an alkaline reaction and melting at 173° C. (343.4° F.). It is soluble in about 1,600 parts of water, 25 parts of alcohol, 2 parts of chloroform, 70 parts of ether and 6 parts of benzin; also soluble in 3 parts of boiling alcohol. It forms salts with acids which are soluble in water. On prolonged warming with mineral acids it is saponified, splitting off acetic acid and reforming morphine.

A solution of 1 part diacetyl-morphine in 100,000 parts of water becomes distinctly turbid on addition of solution of iodine. Its color reactions are similar to those of morphine, with the following exceptions: It does not liberate iodine from iodic acid and does not at once produce a blue coloration with potassium ferricyanide and ferric chloride. No blue color is produced by the addition of ferric chloride to a neutral solution (1 in 100) made by the careful addition of dilute sulphuric acid. Its solutions reduce potassium permanganate.

Actions and Uses.—When given in small doses Diacetyl-morphine and its hydrochloride have apparently no effect on any of the vital functions except respiration, which it renders slower, the volume of the individual respirations being increased, but usually not sufficient to compensate the slowing, the result being a diminution in the total amount of air respired. In large doses it may produce dizziness, nausea and occasionally constipation, and, in poisonous amounts, twitching of the extremities, great exhaustion, and dimness of vision may be added. The temperature becomes subnormal and the pulse rapid and thready. The habit is readily formed and leads to the most deplorable results. It is said not to produce costiveness. (This is not true, according to some observers.) It is readily absorbed from mucous membranes. It lessens irritability of the respiratory center, thus allaying cough, but does not depress the respiration as much as morphine.

On withdrawing the drug from habitués there is said to be a tendency to respiratory failure which may be dangerous.

Diacetyl-morphine and its hydrochloride have been recommended chiefly for the treatment of diseases of the air passages attended with cough, difficult breathing and spasm, such as the different forms of bronchitis, pneumonia, consumption, asthma, whooping cough, laryngitis, and certain forms of hay fever. It has also been recommended as an analgesic, in the place of morphine in various painful affections.

Toxic symptoms should be treated by the administration of caffein hypodermically and of hot coffee by the stomach. To avoid respiratory failure in the treatment of diacetyl-morphine addiction, it has been suggested to substitute morphine for the diacetyl-morphine and then treat the patient for morphine addiction.

Dosage.—See Diacetyl-morphine Hydrochloride.

Proprietary Preparation:

HEROIN.—A name applied to Diacetyl-morphine, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

DIACETYL - MORPHINE HYDROCHLORIDE — Morphinæ Acetylatæ Hydrochloridum.—Diacetyl-morphine hydrochloride, $C_{17}H_{17}(C_2H_3O_2)_2NO.HCl$, is the diacetyl-morphine salt of hydrochloric acid.

It is prepared by dissolving diacetyl-morphine in dilute hydrochloric acid, concentrating the neutral solution by evaporation and crystallizing.

It is a white, crystalline, odorless powder, having a bitter taste, showing a neutral reaction with congo and melting at 230° to 231° C. (446° to 447.8° F.).

It is soluble in 2 parts of water and soluble also in alcohol, but insoluble in ether.

Its aqueous solutions are precipitated by alkaline hydroxides, the precipitate being soluble in excess of the reagent, and by alkaline carbonates. In other respects the reactions are the same as those given under diacetyl-morphine (which see).

It is incompatable with alkalies and their carbonates, tannic acid and other prcipitants of alkaloids. It is decomposed by mineral acids, particularly when heated.

Actions and Uses.—See Diacetyl-morphine.

Dosage.—0.0025 to 0.005 Gm. (1/24 to 1/12 grain) to adults three to four times a day, the maximum dose being 0.01 Gm. (1/6 grain). To children it may be given in doses varying from 0.0002 to 0.001 Gm. (1/300 to 1/60 grain), according to the age. Hypodermically it may be administered in the form of a 2 per cent. solution in the same doses. It has been applied locally to the throat, to the uterus on tampons, and by suppository for painful pelvic affections generally, but there is no evidence that it produces any local anesthetic action.

Proprietary preparation:

HEROIN HYDROCHLORIDE.—A name applied to Diacetyl-morphine Hydrochloride, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

ETHYL - MORPHINE HYDROCHLORIDE — Morphinæ Æthylatæ Hydrochloridum. — Ethyl-morphine hydrochloride, $C_{17}H_{17}NO(OH)(OC_2H_5)HCl + H_2O = (C_{19}H_{42}O_5ClN + H_2O$, is the hydrochloride of the ethyl ester of morphine.

The product was first introduced by Merck & Co., under the trade name Dionin. It may be obtained by the action of ethyl iodide on morphine in the presence of alkali, the basic product being purified by crystallization from hot alcohol, dissolving the crystals in hydrochloric acid and crystallizing.

It is a white, microscopically crystalline powder, odorless and only slightly bitter. It is soluble in about 7 parts of water and in 2 parts of alcohol, insoluble in ether and in chloroform. It melts completely with decomposition at 125° C. (257° F.).

It gives the usual reactions for alkaloids. It is distinguished from morphine salts by its insolubility in excess of alkali, and

by not producing an immediate blue color, but gradually developing a blue-green coloration, when its solution is added to dilute ferric chloride solution containing a fragment of potassium ferricyanide.

It is incompatible with alkalies and their carbonates and alkaloidal reagents, as potassio-mercuric iodide, tannic acid, picric acid, etc.

Actions and Uses.—It is claimed that this compound acts like morphine without producing constipation, nausea or lassitude. It is the conclusion of some good observers that it possesses no advantage over codeine. Applied to the eye, it causes a local vaso-dilation, leading to acute conjunctival edema.

Ethyl-morphine Hydrochloride is recommended to relieve pain, especially in respiratory affections, as an antispasmodic in whooping-cough, for insomnia and externally in the treatment of corneal affections, conjunctivitis, iritis, etc.

Dosage.—0.015 to 0.06 Gm. (¼ to 1 grain). Externally it is applied in 10 to 20 per cent. solutions.

Proprietary Preparation:

DIONIN.—A name applied to Ethyl-morphine-Hydrochioride, which see.

Manufactured by E. Merck, Darmstadt, Germany. (Merck & Co., New York). German patents Nos. 102,654, 107,225 and 108,075. U. S. trade-mark.

MORPHINE MECONATE.—Morphinæ Meconas.—Morphine meconate, $(C_{17}H_{19}O_3N)_2.C_7H_4O_7 5H_2O$, is the normal salt of morphine, $C_{17}H_{19}O_3N$, and meconic acid, $H_3(C_7H_2O_7)$, a dibasic acid obtained from opium.

Morphine meconate may be prepared by dissolving 10 Gm. crystallized meconic acid in 60 Cc. warm water, adding gradually 24 Gm., or sufficient crystallized morphine alkaloid to produce a neutral solution and evaporating to dryness at a temperature below 80° C. (176° F.). (Hager, 1903, vol. 2, p. 403.)

Morphine meconate occurs in minute colorless crystals or a yellowish white powder, soluble in 34 parts of water, also soluble in alcohol. It contains 66.3 per cent. anhydrous morphine.

Action, Uses and Dosage.—The same as other salts of morphine.

Non-Proprietary Preparation:

Tabloid Morphine Meconate (Hypodermic) 1/8 grain.—Each tablet contains morphine meconate 0.008 Gm. (1/8 grain). Prepared by Burroughs-Wellcome & Co., London, England, and New York.

NEUROCAINE.—Billets of Cocaine, Schieffelin.—

Each billet contains cocaine hydrochloride 0.005 Gm. (1/12 grain), without excipient. The billets are ⅛ inch long, 1/20 inch in diameter and very soluble.

Neurocaine is used for pressure anesthesia or as a local anesthetic in dental practice.

Prepared by Schieffelin & Co., New York. U. S. trademark, No. 43,837.

NOVARGAN — Argenti Proteinas. — Silver Proteinate. — Novargan is an organic silver-albumin compound containing 10 per cent. of silver.

It is a fine yellow powder, soluble in water, forming a practically neutral solution, from which it is not precipitated by sodium chloride, nor affected by the usual reagents for silver salts. Solutions must not be heated and must be protected from the light.

The solution is darkened by hydrogen sulphide or ammonium sulphide, but no precipitate is produced.

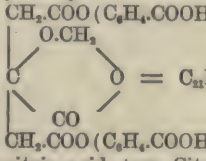
Actions and Uses.—Novargan is a bactericide; it is claimed to be more effective and less irritating than other protein-silver compounds.

It is said to be useful for the treatment of gonorrhea, especially as an abortive in the first stage.

Dosage.—0.5 Cc. (8 minims) of a 15 per cent. solution, by instillation on the anterior portion of the urethra, through a catheter 23 Cm. (9 in.) long, No. 13 French scale, as an abortive.

Manufactured by the Heyden Chemical Works, Radebeul, Germany, and Garfield, N. J. U. S. trademark No. 19,989.

NOVASPIRIN—Methylene-Citrylsalicylic Acid.—Novaspirin is methylene-citrylsalicylic acid,



$= C_{21}H_{16}O_{11}$, a compound of anhydro-methylene-citric acid (see Citarin) and salicylic acid.

Novaspirin is prepared by the action of methylene citric acid dichloride on salicylic acid.

Novaspirin is a white, odorless, crystalline powder, having a faint acidulous taste. It is easily soluble in alcohol, difficultly soluble in chloroform, ether, and scarcely soluble in water. It contains 62 per cent. of salicylic acid.

On heating with caustic alkalies salicylic acid is generated. On prolonged standing with water and more easily with alkalies it is split up into its components. When heated in a test tube it melts with the generation of formaldehyde. On adding dilute acid to the warm alkaline solution, white crystals of salicylic acid are separated.

Actions and Uses.—Novaspirin is not decomposed in the stomach and is said to be non-irritating to that organ, but it is broken up in the intestine into salicylic acid and methylene-citric acid. From its chemical constitution it is reasonable to expect it to have the same systemic actions and uses as salicylic acid.

It is said to be useful in influenza, coryza, tonsillitis, rheumatic conditions, gout and neuralgic conditions.

Dosage.—1 Gm. (15 grains) several times daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 858,142 (June 25, 1907; expires 1924). U. S. trademark No. 62,613.

Novaspirin Tablets, 5 grains. Each tablet contains novaspirin 0.33 Gm. (5 grains).

NOVOCAINE.—Novocaine is 1-para-aminobenzoyl-2-diethyl-aminoethane hydrochloride. $CH_2(C_6H_4.NH_2.COO).CH_2[N(C_2H_5)_2].HCl$, the monhydrochloride of para-aminobenzoyldiethyl-aminoethanol.

Novocaine crystallizes from alcohol in fine, colorless needles, which melt at 156° C. (312.8° F.). It is soluble in an equal weight of water, but requires 30 parts of alcohol. From the aqueous solution, which is neutral, alkali hydroxides and carbonates precipitate the free base in the form of a colorless oil, which soon congeals to a crystalline mass, but solution of sodium bicarbonate is miscible with solutions of novocaine without producing either precipitation or turbidity. The free base crystallizes from diluted alcohol with 2 molecules of water, but from ether or ligroin in the form of anhydrous shining prisms, which melt at 58° to 60° C. (136.4° to 140° F.), while the hydrated base melts at 51° C. (123.8° F.).

The aqueous solution of the salt may be heated to boiling without decomposition, and remains perfectly clear when kept for days in loosely stoppered vials. It gives precipitates even in very dilute solutions with the usual alkaloidal reagents, such as potassium mercuric-iodide, picric acid, potassium iodide, etc.

It is incompatible with alkalies and their carbonates and the alkaloidal reagents.

Actions and Uses.—It is a local anesthetic similar to cocaine, but said to be far less toxic than any of the cocaine substitutes. When injected subcutaneously it is said to exert a prompt and powerful anesthetic action, but the effect is not sustained. This may be remedied by the simultaneous injection of suprarenal alkaloid. Novocaine is not irritant. (See note under Creosote Carbonate.)

It is said to be useful in all cases in which cocaine is indicated.

Dosage.—For infiltration anesthesia, solutions of 0.25 Gm. (4 grains) novocaine in 100 or 50 Gm. (3.2 or 1.6 ounces) physiologic salt solution, with 5 or 10 drops of epinephrine solution (1-1000); for instillations and injections, solutions of 0.1 Gm. (1½ grains) novocaine in 10 or 5 Gm. (150 or 75 grains) salt solution, with or without 10 drops of epinephrine solution (1-1000). In ophthalmology, 1 to 5 to 10 per cent. solution, in rhino-laryngology 5 to 20 per cent. solutions are recommended, with the addition of 6 to 8 drops of epinephrine solution (1-1000) to each 10 Cc. (160 minims). Internally, owing to its feeble toxicity, it may be given in doses up to 0.5 Gm. (7½ grains) to adults.

Manufactured by Farbwerke, vorm. Meister, Lucius & Breuning, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Hypodermic Tablets Novocaine, 1/3 grain. Each tablet contains novocaine 0.020 Gm. (⅓ grain).

NOVOCAINE NITRATE—Novocainæ Nitras.—Novocaine nitrate is, 1-para-aminobenzoyl-2-diethylamino-ethane nitrate, $C_6H_4.NH_2(COO.C_2H_4.N(C_2H_5)_2.HNO_3 = C_{13}H_{21}O_5N_3$, the nitrate of p-aminobenzoyldiethylaminoethanol, the base contained in novocaine.

Novocaine nitrate occurs in small colorless and odorless crystals, soluble in water and alcohol. The aqueous solution is neutral in reaction. Melting point 100°-102° C. (212°-215° F.).

If 0.1 Gm. novocaine nitrate be dissolved in 1 Cc. concentrated sulphuric acid and a solution of ferrous sulphate carefully floated above it, a brown zone is formed at the surface of contact of the

two solutions. 1 part novocaine nitrate dissolved in 10 parts water and acidified with nitric acid, should yield no precipitate upon the addition of silver nitrate solution.

Actions and Uses.—As for novocaine; may be prescribed in combination with silver salts, with which it forms no precipitate.

Dosage.—Used in 3 per cent. solutions.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).
U. S. patent No. 812,554 (Feb. 13, 1906; expires 1923). Trademark No. 53,072.

NUCLEIN, NUCLEIC ACID AND NUCLEATES

Nucleins are modified nucleoproteins obtained by peptic digestion or by treatment with dilute acids. They are split up by the action of alkalies or by tryptic digestion into a protein constituent and a nucleic acid. The exact composition of the protein and of the nucleic acid varies somewhat with the source of the nucleoprotein from which it is derived. The nucleic acids of commerce are apt to contain some protein in combination. They are most commonly made from yeast cells, but have been made, also, from the wheat embryo, the sperm of certain fishes and from the thymus and pancreas glands. In composition they approximate the formula: $C_{40}H_{52}N_{14}O_{25}P_4$. From the wheat embryo products with relatively more nitrogen have been obtained.

Nucleins are colorless, amorphous, insoluble in alcohol and ether and insoluble or slightly soluble in water. They are more or less readily dissolved by dilute alkalies. They give the biuret test and Millon's reaction. They show a great affinity for many dyes, taking them up from aqueous or alcoholic solutions. The term nuclein is sometimes used to designate an impure nucleic acid, which usage has led to confusion as the nucleic acids are bodies of definite composition.

Both nucleins and nucleic acids yield metaphosphoric acid on incineration. On fusion with potassium nitrate and sodium carbonate they yield alkali phosphates.

Actions and Uses.—Nuclein and nucleic acid and nucleates are said to increase the number of white corpuscles, and it has been claimed that this increases the resistance to infections. These results have been obtained by intravenous or hypodermic injection, and on this basis therapeutic deductions have been made; it is doubtful whether we are warranted in applying these conclusions to the administration of the remedy by the mouth.

Nuclein and nucleic acid and nucleates have been used in tuberculosis and various infections, but their true value is undetermined.

They are transformed in the organism into purin compounds and may cause the amount of uric acid in the urine to be increased.

NUCLEIN—Nucleinum.—Nuclein is a modified nucleoprotein obtained by peptic digestion or by treatment with dilute acids.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.5 to 1 Gm. (8 to 15 grains) three times a day.

NUCLEIC ACID.—Acidium Nucleicum.—Nucleinic Acid.—Nucleic acid is an organic acid obtained from nuclein by the action of alkalies or by tryptic digestion.

Nucleic acid is an amorphous, white powder and has an acid reaction. It is readily soluble in ammoniacal or alkaline water with the formation of water-soluble salts. From these solutions it is precipitated by slight excess of hydrochloric acid but not by acetic acid. It is insoluble in alcohol and ether. When chemically pure it does not give the biuret test or Millon's reaction, but a slight response to these reagents does not indicate a degree of impurity incompatible with its use as a medicinal agent.

It should contain between 14.5 and 16.5 per cent. of nitrogen and between 8.5 and 10.5 per cent. of phosphorus, the relative proportion being 4 atoms of P to 14 or 16 N, approximately.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.06 to 0.3 Gm. (1 to 5 grains) three times a day.

Non-Proprietary Preparation:

Nucleinic Acid Merck (from Yeast).—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

SODIUM NUCLEATE.—Sodii Nucleas.—Sodium Nucleinate. Sodium Nucleate is the sodium salt of nucleic acid.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—Practically the same as that of Nucleic Acid.

Proprietary Preparations:

NUCLEIN, Abbott.—Sodium Tritico-Nucleinate, Abbott. A sodium nucleate derived from the wheat germ.

It is a grayish-white powder, soluble in water and insoluble in alcohol. On incineration it yields approximately 26 per cent. of ash, which is slightly alkaline and readily soluble in water. It contains phosphorus and nitrogen in the ratio of 1 atom of P. to 3.66 N. When the aqueous solution is decomposed by weak hydrochloric acid, a voluminous precipitate of the free nucleic acid is formed.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—See Nucleic Acid.

Manufactured by the Abbott Alkaloidal Co., Chicago. Not patented or trademarked.

Nuclein Solution, Abbott.—Liquor Sodii Tritico-Nucleinatis Abbott.—A solution of Nuclein-Abbott containing approximately 10 Gm. of the salt in 100 Cc. (6 grains in one fluidram) of a menstruum containing 15 per cent. of alcohol. The solution is standardized to contain 1 mg. phosphorus in 1 Cc.

The aqueous extract of the wheat germ is treated with sodium chloride and acid, the precipitate digested with pepsin, neutralized with sodium hydroxide and purified by precipitation with alcohol. The resulting sodium tritico-nucleinate is dissolved in distilled water and 15 per cent. of alcohol as a preservative.

Nuclein Tablets, Abbott.—Each tablet is said to contain 0.13 Cc. (2 minims) of Nuclein Solution. Abbott.

OIL OF PINE NEEDLES—Oleum Pini.—Oil of Pine (British Pharm., edit. 8), Oleum Pini Pumilionis (Pharm. Austriaca, edit. 8). Oil of pine needles is the oil distilled from the fresh leaves of Pinus Pumilio, Haenke (British Pharm., edit. 8).

Oil of pine occurs as a colorless or faintly yellowish liquid, having a pleasant, aromatic odor, and a pungent taste. The oil is soluble in 4.8 volumes 90 per cent. alcohol (Hager, 1908). Specific Gravity, 0.865 to 0.875; begins to boil at 165° C. (329° F.). (British Codex, 1907.)

It should rotate the plane of a ray of polarized light from 5° to 10° to the left at 15.5° C. (60° F.) in a tube 100 millimeters long. Not more than 10 per cent. should distil below 165° C. (329° F.).

***Action and Uses.*—Oil of pine is employed principally as an inhalant with hot water for its stimulating and disinfecting action in catarrh of the respiratory passages, chronic laryngitis and bronchitis. It has been applied locally and given internally in the treatment of chronic rheumatic affections. When added to ether it is said to allay the irritation and diminish the bronchial secretion, which frequently become excessive, during or after the production of anesthesia by the latter drug.**

***Dosage.*—0.05 to 0.3 Cc. (1 to 5 minims). The oil is given internally as a respiratory antiseptic and "expectorant," being taken on sugar, in capsules, or in the form of pastilles. It is rubbed over rheumatic joints, which are then covered with cotton wool, or 4 Cc. (1 fluidram) of the oil may be added to a warm bath.**

Vapor Olei Pini.—Oil of pine, 10 Cc.; Magnesium Carbonate, 5 Gm.; Distilled water, sufficient to produce 100 Cc.

Mix the oil with the magnesium carbonate and add the water. A quantity sufficient for one inhalation, 4 Cc. (1 fluidram), is to be placed with 300 Cc. (10 fluidounces) of cold water and 300 Cc. (10 fluidounces) of boiling water in an apparatus so arranged that the air to be inhaled may pass through the solution.

Pine oil inhalation is used as a mild antiseptic in catarrhal affections of the respiratory passages.

OLEORESIN OF PARSLEY SEED—Oleoresina Apii.—Apiol, Green.—An oleoresin obtained from parsley seed by extraction with alcohol.

Parsley seed is extracted with alcohol, the alcohol recovered, and the liquid portion of the residue freed from the solid, waxy matter which separates on standing.

Oleoresin of parsley seed is a greenish, oily liquid, insoluble in water, but soluble in alcohol, ether, and chloroform. Sp. gr. about 1.05.

Actions and Uses.—See Apiol.

Dosage.—0.3 to 1 Cc. (5 to 15 minims) in capsules.

ORGANIC IRON PREPARATIONS

The term, "organic iron" ("masked" or "non-ionic" iron) is confined by modern usage to those organic compounds of iron which do not give the chemical tests of this metal (blue color with potassium ferrocyanide, blue-black color with hematox-

ylin, etc.) until the structure of the molecule has been destroyed by reagents. The resistance to this destruction varies greatly; some (such as hemoglobin) require incineration or the action of concentrated acids; while others give the iron-tests after treatment with even fairly dilute acids. The organic iron compounds occurring naturally in animal and vegetable tissues (which are often termed "food-irons") belong generally to the more resistant class, while the iron of the synthetic preparations is usually liberated fairly readily. This does not, however, constitute a sharp line of distinction between the two classes, nor is there any good evidence that they differ in therapeutic action. Until this difference is established all organic iron preparations, whatever their source, may be placed in a single class. It is evident, however, that an organic iron (chemically) which is destroyed by 0.2 per cent. hydrochloric acid at the body temperature, cannot be classed as an organic iron in the therapeutic sense. It should also be emphasized that salts of iron (which give the iron tests directly) are classed as inorganic iron, whatever the acid radicle. True albuminates, peptonates, etc., of iron are, therefore, inorganic.

Actions and Uses.—Organic iron preparations are used to increase the hemoglobin in conditions of anemia. Bunge supposed that only organic iron could be absorbed and assimilated by the body, the reputed action of inorganic iron being altogether indirect, and due to its local effects on the alimentary canal. This theory was modified by Abderhalden, to the effect that inorganic iron, while it could not be converted into hemoglobin, nevertheless stimulated the assimilation and conversion of organic iron. The later work, however (Tartakowski) seems to prove conclusively that inorganic iron is assimilated and converted into hemoglobin, and is in so far therapeutically, fully equal to organic iron. Many authors, nevertheless, still adhere to the theories of Bunge and Abdernalden At all events, a real difference exists between the organic and most of the inorganic preparations, namely, in the local irritant and astringent action of the latter, and the absence of these effects in most of the organic compounds. These actions may be desirable in some cases, and undesirable in others. It should also be remembered that organic iron ay often be administered in sufficient amount, and most economically, by selecting a dietary rich in iron, such as red meats, egg-yolks, green vegetables, whole wheat, etc.

ORGANS OF ANIMALS

The discovery of the importance of internal secretions has led to extensive clinical trials with preparations of the so-called ductless glands, and other tissues which elaborate, or are supposed to elaborate such internal secretions. Two of these, the thyroid and suprarenal glands, have given decisive therapeutic results and have become official in the Pharmacopeia; preparations of the active principle of the suprarenal are described in this book under the heading of "Epinephrin." The other organ products are scarcely beyond the experimental stage, and may therefore be described together. Their active principles have not been isolated, and they are most commonly used in the form of the powdered dried gland. The gross fat and connective tissue should be removed as completely as possible, and the drying should be conducted at a relatively low temperature. The powder is frequently compressed into tablets. It is recommended that the strength of these should be stated in terms of the dried gland. Since there are no tests for the quality, or even identity, of these powdered products, the physician, unless he can himself supervise their preparation, is forced to rely on the general reputation of the manufacturer.

After the description of each gland a list of such preparations as have been submitted to the Council, and which are being marketed in an unobjectionable manner, is given. For the reasons stated, however, the Council disclaims any responsibility for their quality or identity.

CORPUS LUTEUM

It is generally recognized that one or more of the most important of the internal secretions of the ovaries originate in the corpora lutea and the latter have been tried recently to a considerable extent in some of the classes of cases in which the entire gland has been used. Thus, it is stated that in cases of artificial menopause, following operation, the use of the dried corpus luteum has been followed by great improvement. It may be given in the form of tablets, each of which is composed of a dried corpus luteum, obtained from a pregnant animal, usually a pig; or it may be given as "lutein" in twenty grain doses, three times a day, in some cases given continuously, in others periodically when the discomforts are greatest, and continued for about ten days at a time. The "lutein" is made by squeezing out the corpora lutea from the ovaries of the pig obtained at the slaughter house. The corpora are then rapidly dried, powdered, and compressed into tablets. These preparations are stated to frequently give good results when the ordinary ovarian extract made from the dried tissues of the ovary itself fails.

Corpus luteum has also been recommended in obesity associated with amenorrhea and in other conditions of "ovarian insufficiency" and in dysmenorrhea. This substance also, however, is still of questionable value in these various conditions, the evidence being not yet sufficient for judgment.

Drevet recommends that an extract of the corpora lutea, prepared as follows, be used: 1 kilo of finely divided corpora lutea are macerated in the cold for forty-eight hours with a mixture of 500 Cc. glycerine, 500 Cc. distilled water and 10 Cc. sulphuric acid. The liquid is filtered, neutralized with soda and the precipitate after being washed, is dissolved in acetic acid and again precipitated. The precipitate is then dried in vacuo. Dose of this extract, 0.04 Gm. to 0.08 Gm. (⅔ to 1⅓ grain) gradually increased to 0.12 Gm. (2 grains).

DESICCATED CORPUS LUTEUM—Armour.—Desiccated corpus luteum—Armour, consists of the fresh substance from the corpora lutea from cow's ovaries, removed, dried and powdered without the addition of preservative or diluent.

A yellowish powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh corpus luteum substance. It contains a true lipochrome which may be extracted by alcohol, ether or chloroform. On incineration, it should yield not more than 6 per cent. of ash.

Actions and Uses.—See Corpus Luteum.

Dosage.—0.03 to 0.06 Gm. (½ to 1 grain) twice daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

MAMMARY GLAND

The extracts of the mammary gland are said to have an effect upon the uterus. They have been used in the treatment of profuse and painful menstruation and of uterine and ovarian tumors, but the beneficial results reported can hardly be accepted until confirmed by further observations.

MAMMARY SUBSTANCE—Armour.—Mammary Substance—Armour, consists of the mammary gland of the sheep freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A yellowish to orange colored powder, having a slight peculiar odor. Only partially soluble in water.

One part represents approximately 4½ parts of the fresh mammary gland of the sheep. It contains nucleoproteid which, when treated with dilute sulphuric acid, yields guanin. (S. Fränkel. Descriptive Biochemie, p. 386). Upon incineration, it should not yield more than 9 per cent. ash.

Actions and Uses.—See Mammary Gland.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Mammary Substance Tablets-Armour.—Each tablet contains desiccated mammary substance 0.13 Gm. (2 grains).

Dose.—1 to 3 tablets three times a day.

OVARY

The ovaries produce internal secretions which are necessary for the proper functioning of the uterus and which also have obscure effects on metabolism and the nervous system. Diminution or cessation of the activity of the ovaries (as at menopause, natural or artificial) often leads to a variety of nervous symptoms; irregularities in their activities seems to be sometimes accompanied by dysmenorrhea. Ovarian substance has been administered, often with apparently good

results, for the relief of symptoms following the natural or artificial menopause and in dysmenorrhea, intermenstrual pain, etc.

OVARIAN SUBSTANCE—Armour. — Ovarian Substance—Armour, consists of the entire fresh ovaries (including the corpora lutea) of the hog, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder having a peculiar odor. Partially soluble in water.

One part represents approximately 6¾ parts of the fresh ovary of the hog. It contains gelatin, mucin, nuclein and the active constituent of the corpus luteum. Upon incineration, it should not yield more than 7 per cent. ash.

Actions and Uses.—See Ovary.

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Ovarian Substance Tablets-Armour.—Each tablet contains ovarian substance 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

PARATHYROID GLAND

The parathyroid gland, even in small doses, has a pronounced action on the course of the tetany resulting from the removal of or injury to the parathyroid glands. Its use checks the convulsions and removes the feeling of fear, the nausea and diarrhea and has undoubtedly at times greatly prolonged life or saved it while the injured parathyroid glands regained their functions. The fresh gland seems to be more active than the dried commercial preparation.

The drug has been used most successfully in tetany following removal of the parathyroids; its use in idiopathic and other non-operative forms of tetany has been much less satisfactory.

DESICCATED PARATHYROID GLAND—Armour.—Desiccated Parathyroid Gland—Armour, consists of the exterior parathyroids of the ox freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately six parts of the fresh tissue. On incineration it should yield not more than 7 per cent. ash. It contains very small amounts of organically combined iodine.

Action and Uses.—See Parathyroid Gland.

Dosage.—0.006 Gm. (1/10 grain) four times a day.

Manufactured by Armour & Co., Chicago.

Parathyroid Tablets, Armour.—Each tablet contains desiccated parathyroid gland 0.003 Gm. (1/20 grain).

PAROTID GLAND

The suggested uses are similar to those for the mammary and ovary; it has been recommended in artificial menopause, intermenstrual pain and other conditions in which the ovary or corpus luteum are used.

DESICCATED PAROTID GLAND—Armour. — Desiccated Parotid Gland—Armour, consists of the fresh parotid gland of the ox, freed from fat, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder, having a slight peculiar odor. Partially soluble in water.

One part represents approximately 5 parts of the fresh parotid gland of the ox. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Parotid Gland.

Dosage.—0.2 to 0.3 Gm. (3 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Parotid Tablets-Armour.—Each tablet contains desiccated parotid gland 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

PITUITARY GLAND

The removal of this body in animals is followed by symptoms of motor disturbances, depression, emaciation, and rapid death. The infundibular portion of the gland causes, when injected intravenously, a rise of blood pressure and slows but strengthens the action of the heart. It contains a substance soluble in water, and not destroyed by boiling, which is stated to cause dilation of the renal vessels and a marked increase in the secretion of urine. The gland has been found to be abnormal in many cases of acromegaly and so is believed by many to have an internal secretion acting on the growth of bones. The anterior lobe is claimed to have properties similar to those of thyroid extract.

The drug has a doubtful effect on the circulation when given by the mouth, but the infundibular portion may be useful in cardiac debility. An extract of this part of the gland has been recommended as a diuretic. The results of the use of the gland in acromegaly are uncertain, but the output of phosphates is said to be increased. It may be given at the first symptom of debility or functional disturbances.

DESICCATED PITUITARY SUBSTANCE (ANTERIOR LOBE)—Armour.—Desiccated pituitary substance (anterior lobe)—Armour consists of the anterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder, having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.5 per cent. ash.

Action and Uses.—See pituitary gland above.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

DESICCATED PITUITARY SUBSTANCE (POSTERIOR LOBE)—Armour.—Desiccated pituitary substance (posterior lobe)—Armour consists of the posterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.2 per cent. of ash.

Action and Uses.—See pituitary gland.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

PITUITARY BODY, DESICCATED—Armour.—Desiccated pituitary body—Armour, consists of the dried substance of the entire pituitary body of the ox, including the infundibulum and the anterior and posterior lobes without the addition of preservative or diluent. It is said to contain all the active principles naturally existing in the gland.

A light yellowish-gray powder, practically odorless and tasteless. One part represents approximately 4 parts of fresh gland.

Actions and Uses.—See pituitary gland.

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Pituitary Tablets.—Armour.—Each tablet contains desiccated pituitary body 0.06 Gm. (1 grain).

RED BONE MARROW

Red bone marrow consists largely (more than 90 per cent.) of fat. In new born animals a third or more of this fat consists of lecithin. The marrow of the bones of new-born animals contains iron (up to 1 per cent. or more) in various forms of organic combination. Both lecithin and iron decrease rapidly in the first weeks after birth. The commercial preparations contain very variable amounts of these constituents.

Action and Uses.—Red bone marrow is supposed to stimulate the formation of red blood corpuscles; whatever action it may have in this direction is probably due largely to the iron and lecithin which it contains.

It is recommended in simple and pernicious anemias.

EXTRACT OF RED BONE MARROW.—Extract of red bone marrow is a glycerin extract of the red marrow of bones. It contains about 2 per cent. of proteids, about 0.1 per cent. of lecithin and about 85 per cent. of glycerin.

It is a brownish liquid of an agreeable aromatic taste.

Actions and Uses.—This preparation is claimed to stimulate the formation of the red blood corpuscles.

It is recommended in simple and pernicious anemia, but its value is not yet beyond question.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) in water, milk or wine, three times a day.

Prepared by Armour & Co., Chicago.

SPLEEN

Spleen has been used empirically in anemia, chlorosis, myxedema and various other diseases with no definite results.

DESICCATED SPLEEN—Armour. — Desiccated Spleen—Armour, consists of the spleen of the calf, freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A dark yellowish colored powder, having a peculiar odor. Partially soluble in water.

One part represents approximately 4¾ parts of the fresh spleen substance. It contains nuclein and iron. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Spleen.

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) every three or four hours.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Spleen Tablets-Armour.—Each tablet contains desiccated spleen 0.065 Gm. (1 grain).

Dose.—1 to 3 tablets three times a day.

TESTICLE

Subcutaneous injections of testicular extracts were claimed to increase muscular energy from 10 to 20 per cent. Oxidation has been said to be somewhat increased and extracts of the gland have been used in obesity, but the results have been most uncertain. It has also been employed in prostatic hypertrophy and many other conditions.

ORCHIC SUBSTANCE—Armour. — Orchic Substance—Armour, consists of the pulp from fresh ram testicles removed, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 7 parts of the fresh pulp from the ram testicle. Upon incineration, it should yield not more than 10 per cent. ash.

Actions and Uses.—See Testicle.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Orchic Substance Tablets-Armour.—Each tablet contains orchic substance 0.13 Gm. (2 grains).

Dose.—1 to 3 tablets three times a day.

THYMUS GLAND

Little is known as to the functions of the thymus, but it is believed to have an important relation to growth. There also seems to be some relation between the thymus and thyroid, for the former is frequently abnormal in diseases involving the latter (exophthalmic goiter).

The use of thymus is purely empirical. It has been employed in the treatment of exophthalmic goiter, rickets, tuberculosis, hemophilia, and infantile marasmus and atrophy; its use in the latter conditions is said to be the most promising. It is claimed on very doubtful grounds to exert a somewhat favorable effect in certain cases of cancer.

DESICCATED THYMUS—Armour.—Desiccated Thymus—Armour, consists of the fresh thymus gland of the calf freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A very light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh thymus gland. It is rich in nucleoprotein and in lymphoid tissue. Upon incineration, it should yield not more than 12 per cent. ash.

Actions and Uses.—See Thymus Gland.

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Thymus Tablets-Armour.—Each tablet contains desiccated thymus 0.065 Gm. (1 grain).

Dose.—2 to 4 tablets three times a day.

ORPHOL—Bismuthi Beta-Naphtholas.—Orphol is bismuth beta-naphtholate, a bismuth salt of beta-naphthol.

Bismuth beta-naphtholate occurs in the form of a brownish or grayish powder without odor, almost tasteless and insoluble in water. It is slightly soluble in alcohol.

1 to 2 Gm. bismuth beta-naphtholate is shaken in a separator during one hour with 25 Cc. chloroform and 25 Cc. concentrated hydrochloric acid, and then 50 Cc. water added and again shaken. The chloroform solution drawn off and the acid mixture extracted with three more portions of 10 Cc. chloroform and the combined extracts evaporated and dried to constant weight over sulphuric acid, a residue should remain weighing at least 15 per cent. of the material used, and should respond to tests of identity for beta-naphthol.

The acid solution from which the naphthol has been extracted is transferred to a beaker, diluted to 200 Cc., heated to boiling, ammonia water added till turbidity appears, then sufficient hydrochloric acid to clear up the turbidity and then 50 Cc. of 10 per cent. ammonium phosphate solution is added to the boiling liquid. The precipitate is allowed to subside, the clear liquid decanted through a tared porcelain Gooch crucible, the precipitate washed with hot water by decantation and finally transferred completely to the crucible. The precipitate and crucible are dried, placed in a nickel crucible, and exposed to the full heat of a bunsen flame till the weight is constant. The weight of the resulting bismuth phosphate multiplied by 0.6869 should yield a figure (representing bismuth, Bi) equal to not less than 60 per cent. of the material taken.

1 to 2 Gm. bismuth beta-naphtholate is weighed to a small asbestos plugged percolating tube, 5 Cc. chloroform added, mixed by means of a glass rod, and allowed to percolate into a tared dish. When the liquid ceases to drop, a further portion of 5 Cc. of chloroform is poured into the percolator and also allowed to percolate into the tared dish. The stem of the percolator is washed with a little chloroform, and the combined washings and the percolates allowed to evaporate spontaneously and the residue brought to constant weight over sulphuric acid. The residue should not exceed 1 per cent. of the material taken.

Actions and Uses.—Bismuth beta-naphtholate is decomposed into its constituents in the intestines, where it exerts the effects of bismuth salts and of beta-naphthol. Hence it is used in catarrhal and fermentative gastroenteric disorders, such as gastritis, dysentery, diarrhea, etc. (See note under Betanaphthol Benzoate.)

Dosage.—For children 0.1 to 0.3 Gm. (1½ to 5 grains) and for adults 1.5 to 5 Gm. (22 to 75 grains) daily.

A mixture of beta-naphtholate with acacia should be avoided as a viscid precipitate rapidly becoming hard is likely to be formed.

Manufactured by the Chemische Fabrik von Heyden, Radebeul near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 516,358 (March 13, 1894; expires 1911)). U. S. trademark No. 27,482.

Orphol Tablets.—Each tablet contains orphol, 0.3 Gm. (5 grains).

ORTHOFORM-NEW — Meta-Amido-Para-Oxybenzoate of Methyl.—Orthoform-new is methyl meta-amino-para-oxybenzoate, $C_6H_3.NH_2.OH.COO(CH_3)$, $3:4:1 = C_8H_9O_3N$, the meta-amino-para-oxybenzoic acid ester of methyl alcohol.

It is prepared by the nitration of para-oxybenzoate of methyl and reduction of the nitro-product obtained.

It occurs in a fine, white, crystalline powder, neutral in reaction, and melting at 141° to 143° C. (285.8° to 289.4° F.), odorless and tasteless. It is scarcely soluble in water, but soluble in 5 or 6 parts of alcohol and 50 parts of ether. It is decomposed by boiling with water or by warming with alkalies or their carbonates, into methyl alcohol and paroxybenzoic acid. When crystallized from chloroform it sometimes assumes the form of white crystals melting at 110° to 111° C. (230° to 231.8° F.) returning on melting to the ordinary form.

The filtrate obtained after shaking a small portion with water produces a fugitive color with ferric chloride and should not give a reaction with silver nitrate. A solution of 0.1 Gm. in 2 Cc. of water by the aid of hydrochloric acid is colored yellowish red on addition of sodium nitrate and then deposits a yellow precipitate, deepening to red on exposure to the air.

It is decomposed by heating with water; it is incompatible with alkalies and their carbonates.

Actions and Uses.—Orthoform-new is a local anesthetic, resembling cocaine in its local action, but not penetrating the tissues on account of its insolubility. It has practically no action on the unbroken skin and produces no irritation except slight corrosion about the place of application. It is somewhat antiseptic and practically non-toxic in the usual doses.

It is used internally to relieve the pain of gastric ulcer. Since it acts only on ulcerated surfaces, the relief of pain has been assumed to be evidence of the existence of an open ulcer. It has been applied locally as an analgesic to wounds of every description. It has been used in dentistry, in nasal catarrh, hay fever, etc.

Dosage.—Internally, 0.5 to 1 Gm. (8 to 15 grains) in emulsion; locally, in substance as a dusting powder or mixed with milk sugar for insufflation, dissolved in ether and mixed with oil for pencilings, or as salve with wool fat, etc.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patents Nos. 610,348 (Sept. 6, 1898; expires 1915) and 625,158 (May 16, 1899; expires 1916).

ORTHOFORM-NEW HYDROCHLORIDE. — Orthoform-new hydrochloride, $C_8H_9O_3N.HCl$, is the hydrochloride of methyl meta-amino-para-oxybenzoate.

It is a white, crystalline powder, having an indefinite melting point and an acid reaction. It is soluble in 10 parts of water. Its reactions are the same as those of orthoform-new, except that it gives a reaction for chlorides with silver nitrate and has an acid reaction; 3.65 Gm. dissolved in 50 Cc. of alcohol require not less than 17.8 Cc. nor more than 18 Cc. of normal solution of sodium hydroxide to produce a neutral liquid.

Its incompatibilities are the same as those of orthoform-new.

Actions and Uses.—The actions, uses and dosage of this compound are similar to those of orthoform-new, which see.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

OSMIUM TETROXIDE—Osmium Tetroxidum.—Osmic acid, Osmium anhydride-Osmium tetroxide, OsO_4, the anhydride of a theoretical acid is obtained by the action of nitrohydrochloric acid on osmium.

Osmium tetroxide occurs in the form of white or yellowish crystals which are slowly soluble in water (1-50); it is also soluble in alcohol and ether but the solutions decompose. Osmium tetroxide melts at 40° C. (104° F.) and boils at about 100° C. (212° F.). It vaporizes even at ordinary temperatures yielding very irritating and extremely poisonous vapors, attacking the eyes and lungs. It is decomposed by contact with organic substances. (Brit. Codex, 1907).

From aqueous acidified solutions of osmium tetroxide, hydrogen sulphide precipitates brown osmium sulphide, OsS_4 which is insoluble in ammonium sulphide. An aqueous solution of osmium tetroxide decolorizes indigo solution. Iodine is liberated from potassium iodide solutions by osmium tetroxide. Treated with sulphuric acid, aqueous solutions of osmium tetroxide become yellow, turning to brown and finally becoming blue; tannic acid produces a red color becoming brown; ferric chlorid and alcohol reduce osmium tetroxide to the metal osmium.

Action and Uses.—Intraneural injections are used to produce degeneration of nerves for the relief of persistent neuralgias. The treatment is best applied by injecting ½ to 1 Cc. of a fresh 1 to 2 per cent. solution directly into the, preferably exposed, nerve. The result is sometimes immediate, but more commonly it is not complete until after one or two weeks, or it may even fail entirely. If successful, the effects may persist for several months, when it may become necessary to repeat the injection as the cure is rarely, if ever, permanent. The local reaction is always painful, but not serious. It is not advisable, perhaps, to use osmium tetroxide in renal disease.

OVOFERRIN—Ferri Vitellinum Syntheticum.—Ovoferrin is a solution containing 5 per cent. of an artificial proteid-product in which iron is present in the so-called "organic" or "masked" form (a form which does not give the iron-test directly) equivalent to 0.4 Gm. metallic iron to each 100 Cc. The solution also contains 9 per cent. of alcohol.

Ovoferrin is prepared by modifying serum-albumin by electrolysis, producing a proteid which is classed by the manufacturers as a vitellin, and introducing ferric hydrate into this proteid by heating under pressure. The "vitellin" constituent of this preparation should not be confounded with the well-known vitellin of yolk of eggs.

The solution has a reddish-brown color, little odor, and a flat, slightly aromatic and alcoholic taste.

The solution does not give a blue color on the addition of potassium ferrocyanide solution; a blue tint develops slowly if an equal volume of 5 per cent. hydrochloric acid is added to the mixture; a deep blue color develops at once if this mixture is boiled (difference from the egg yolk).

The solution is not precipitated by boiling, but gives precipitates with the alkalies, with which it is incompatible. It is also precipitated on half saturation with ammonium sulphate. It is not precipitated by acids.

Actions and Uses.—Ovoferrin is stated to be not appreciably affected by the gastric juice, a 0.5 per cent. solution of hydrochloric acid liberating its iron very slowly and incompletely. The product ranks with the other forms of artificially masked iron, which are devoid of the local action of the soluble inorganic iron salts, and, according to some authorities, are more readily absorbed and utilized.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) corresponding to 0.03 to 0.06 Gm. (½ to 1 grain) of elemental iron three times a day.

Manufactured by A. C. Barnes Co., Philadelphia. U. S. trademark.

OXAPHOR.—Oxaphor is a 50 per cent. solution of oxycamphor, $C_8H_{14}\begin{matrix}CHOH\\CO\end{matrix}$ $= C_{10}H_{16}O_2$, a derivative of camphor in which a hydrogen atom has been replaced by a hydroxyl group.

Oxycamphor is prepared by reducing camphor quinone $C_8H_{14}(CO)_2$ by means of zinc dust and acids, extracting the oxycamphor from the liquid product of the reaction with an immiscible solvent and purifying it by distillation with steam.

Oxycamphor is a white crystalline powder, neutral in reaction, melting at 203° to 205° C. (397.4° to 401° F.). It is soluble in about 50 parts of cold water, more soluble in warm water, and readily soluble in all organic solvents except petroleum benzin, in which it is soluble, but from which it crystallizes in feathery aggregations. On prolonged keeping it is prone to undergo decomposition, but it keeps permanently in alcoholic solution. It volatilizes gradually at ordinary temperature and readily with steam.

Oxycamphor, being decomposed on prolonged exposure to the air, is marketed only in the form of the 50 per cent. alcoholic solution under the name of "oxaphor."

Oxaphor should be completely soluble in alcohol and in benzene, forming clear solutions. Its filtered aqueous solution after acidulation with nitric acid should not afford a precipitate with silver nitrate or barium chloride. When incinerated it should yield no weighable residue.

Actions and Uses.—Oxaphor is a depressant to the respiratory center, but is said to have no effect on circulation and secretion.

It is said to be useful as a substitute for morphine in respiratory disorders, chiefly in cardiac dyspnea and asthma. It is said to have been used with advantage in renal affections, in emphysema, bronchitis, etc. Freedom from undesirable side-effects is claimed as an advantage over morphine.

Dosage.—2 to 3 Gm. (30 to 45 grains) of oxaphor in a little water, wine, syrup or other desirable adjuvant.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 610,361 (Sept. 6, 1898; expires 1915).

OXYNTIN.—Oxyntin is a compound of protein and hydrochloric acid containing 5 per cent. hydrogen chloride (absolute hydrochloric acid) in unstable combination.

Oxyntin is prepared by combining hydrochloric acid with the albumin of fresh egg, desiccating the product at low temperature, and standardizing it to a uniform content of hydrochloric acid.

Oxyntin is a dry, granular powder, readily miscible with water, to which it imparts but a slightly acidulous taste.

The method of assay by which the acidity is determined is as follows:

1. About 1 Gm. oxyntin is weighed and mixed with 20 to 25 Cc. water and then titrated with standard sodium hydroxide, phenolphthalein being used as the indicator, and the result calculated to hydrogen chloride.

2. (a) About 3 Gm. oxyntin is weighed moistened with sodium carbonate solution in excess, dried, charred and extracted with hot water until free from chloride. The extract is slightly acidified with nitric acid and neutralized by the addition of an excess of calcium carbonate. This solution is titrated with standard silver nitrate potassium chromate being used as an indicator. From the result the total chloride content of oxyntin is calculated.

(b) About 3 Gm. oxyntin is weighed and treated as in 2 (a), the addition of sodium carbonate being omitted. From this result the fixed chloride is calculated.

The volatile chloride is calculated from the difference in the results between (a) and (b), and expressed as hydrogen chloride.

Actions and Uses.—Oxyntin is said to be useful as a substitute for dilute hydrochloric acid in the digestion of protein.

Dosage.—Being one-half the strength of diluted hydrochloric acid, U. S. P., oxyntin may be given 0.3 to 1.0 Gm. (5 to 15 grains) dry upon the tongue or in capsules, followed by a draught of water; or mixed with two or three tablespoonfuls of cold water, plain or sweetened to taste.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50,968.

PARA COTO—(Coto[1]).—Para Coto is the bark of an undetermined South American tree, probably a species of Cryptocarya.

Para Coto occurs in pieces which are of considerable size and thickness, 30 cm. (12 in.) wide and 1.5 cm. (⅝ in.) thick. The outer surface is of reddish-brown or cinnamon-brown color. It is sometimes fissured longitudinally and transversely, and sometimes nearly smooth, with occasional patches of whitish cork. The inner surface is coarsely striated. It breaks with a fibrous, splintery fracture, and the smoothed transverse section exhibits a thin, brown cork within, which is a narrow cortex separated by a line of sclerenchymatous cells from the very thick bast, which is well characterized by the presence of abundant groups of sclerenchymatous cells. The odor is spicy and characteristic, the taste

1. While commercially, Para coto and coto are sold indiscriminately, botanists make a definite distinction between them.

aromatic and pungent. (Para coto is exported from Para at the mouth of the Amazon, and should therefore be called Para coto and not paracoto.)

The chief constituent of Para coto is paracotoin, an indifferent crystalline, bitter principle along with hydrocotoin, methyl hydrocotoin protocotoin, methyl protocotoin (oxyleucotoin), phenyl coumarin, piperonylic acid, volatile oil, resin and tannin.

Para coto is distinguished from coto by the action of nitric acid on the ether extractive matter. In the case of Para coto the result is the formation of a yellow color and in the case of coto a red color appears.

Actions and Uses.—Paracotoin is irritant to the gastrointestinal tract and is similar to cotoin but is weaker. Para coto is used like coto as an appetizer and for diarrhea and dysentery and similar disorders.

Dosage.—0.05 to 0.5 Gm. (1 to 8 grains).

PARACOTOIN.—Paracotoin is a principle, $C_{12}H_6O_4$, from Para coto.

Para coto is extracted with ether and the ether extract distilled. The residue is fractionated by repeated crystallizations from hot alcohol. The first body to separate out is paracotoin.

Paracotoin is a pale yellow, crystalline body, neutral in reaction, tasteless and odorless, melting at 149°-152° C. (300.2°-305.6° F.). It is difficultly soluble in water, but easily in ether, chloroform and boiling alcohol. Concentrated sulphuric and nitric acids dissolve it, forming a yellowish-brown solution. On boiling with a solution of caustic alkalies, a colorless crystalline body, melting at 82°-83° C. (179.6°-181.4° F.), and having the odor of coumarin is formed; this body is acetopiperon (paracumarhydrin) $C_9H_8O_3$ or $C_6H_3\,O_2CH_2.CO.CH_3$, and paracotoic acid $C_{12}H_{10}O_5$ a yellow amorphous mass melting at 108° C. (226.4° F.). Paracotoin fused with potassium hydroxide yields principally piperonylic acid $C_8H_6O_4$.

1 Gm. of paracotoin shaken up with 10 Cc. of fuming hydrobromic acid forms a semi-solid mass of yellow crystals, which on drying over potassium hydroxide lose hydrobromic acid. This residue decomposed with water and recrystallized forms paracotoin, recognized by its crystalline form and melting point.

By gradually adding about 1 Gm. paracotoin to about 10 Cc. concentrated nitric acid, a red-brown solution will result, which, when heated for a short time on the water bath and cooled, deposits a yellow crystalline mass. This product recrystallized from acetone and then from benzene or glacial acetic acid forms golden yellow crystals, melting at 195° C. (323.0° F.). This body is dinitro paracotoin, probably of the formula $C_{12}H_6\,(NO_2)_2O_4$.

An excess of bromine added to a 10 per cent. solution of paracotoin in chloroform cooled to 0° C. produces a deep yellow precipitate, which loses hydrobromic acid, and when recrystallized from alcohol forms the mono-bromide of paracotoin ($C_{12}H_7BrO_4$), melting at 200°-201° C. (392°-393.8° F.).

Actions and Uses.—See para coto.

Dosage.—0.06 to 0.18 Gm. (1 to 3 grains).

Actions, Uses and Dosage.—Bitter stomachic, 0.002 to 0.02 Gm. (1/30 to 1/3 grain) before meals.

PERHYDROL—Thirty per cent. Solution of Hydrogen Dioxide.—Perhydrol is a 30 per cent. solution of hydrogen dioxide which is free from acid.

While perhydrol is stable, dilutions of perhydrol rapidly deteriorate unless they are preserved by the addition of some acid.

Actions and Uses.—By suitable dilution a preparation is obtained equivalent to the official solution of hydrogen dioxide. An advantage is claimed for this preparation that it is less irritating on account of the absence of acid. The full strength preparation is said to be useful as an application to nevi, ulcers, gummata, etc. Diluted one-half to two-thirds, it may be applied to syphilitic ulcers, gangrenous processes, ulcerating buboes, in endometritis, suppuration of the middle ear, etc.

Manufactured by E. Merck, Darmstadt, Germany. (Merck & Co., New York). U. S. trademark No. 44,147.

PHENOCOLL HYDROCHLORIDE — Aminoacetphenetidini Hydrochloridum. — Glycocoll-Paraphenetidin Hydrochloride — Phenamine.—Phenocoll hydrochloride is the hydrochloride of amino - acet - phenetidin, $C_6H_4.OC_2H_5NH(CH_2NH_2.CO)HCl = C_{10}H_{14}O_2N_2.HCl$, a synthetic base produced by the combination of phenetidin (paraamidophenetol) and glycocoll (aminoacetic acid). Amino . acet-phenetidin (phenocoll), $C_6H_4.OC_2H_5.NH(CH_2NH_2.CO)$, differs from acetphenetidin (phenacetin), $C_6H_4.OC_2H_5.NH(CH_3.CO)$, in that one hydrogen atom in the acetyl group has been replaced by the NH_2 group.

It is prepared by the action of chloracetylchloride on phenetidin, treating the product of the reaction with ammonia, neutralizing the aminoacetphenetidin (phenocoll) so produced with hydrochloric acid, and crystallization.

It is a white, microcrystalline powder, soluble in 16 parts of water at the ordinary temperature, more soluble in hot water, from which it crystallizes in cubes, while from hot alcoholic solution it crystallizes in needles. It is barely soluble in chloroform, ether or benzene (benzol). The free base (phenocoll) obtained by precipitating the aqueous solution with fixed alkalies or their carbonates forms white, matted needles, containing one molecule of water. In its hydrated condition it melts at 95° C. (203° F.), while the anhydrous base melts at 100.5° C. (212.9° F.). It is stable and not chemically affected by acids or alkalies unless subjected to prolonged boiling with these reagents, by which phenocoll is split into phenetidin and glycocoll.

It should produce a clear solution with 30 parts of water, a turbidity indicating the presence of di- or tri-phenocoll, and the solution should not produce a red color with ferric chloride, showing absence of free phenetidin. No ammonia should be evolved on the addition of sodium hydroxide to the warm solution, and the precipitated base should be of a pure white color.

Phenocoll hydrochloride is incompatible with soluble hydroxides or carbonates.

Actions and Uses.—Phenocoll hydrochloride is similar to acetphenetidin (phenacetin) in its effects and acts as an antineuralgic and antipyretic. It is claimed by some observers to be less depressing than other antipyretics derived from aniline, such as acetanilid and acetphenetidin. It has been asserted to have an antiperiodic action and to be efficient as a substitute for quinine in malaria and free from unpleasant by-effects. Its use for this purpose is, however, to be deprecated, for it obviously obscures the symptoms only and does not destroy the malarial parasite. In somewhat larger doses than are usually employed it is said to have a beneficial action in rheumatic fever, but is both more dangerous and less efficient than the salicylates. See Acetphenetidin.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains) in powder, dissolved in water before taking; hypodermically, in 0.25 to 0.5 Gm. (4 to 8 grains) doses.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 543,214 (July 23, 1895; expires 1912).

PHENOCOLL SALICYLATE.—Phenocoll salicylate, $C_6H_4.OC_2H_5.NH(CH_2NH_2.CO).C_6H_4.OH.COOH = C_{17}H_{20}O_5N_2$, is the salicylate of the synthetic base phenocoll (see phenocoll hydrochloride).

It is prepared by neutralizing a hot aqueous solution of salicylic acid with phenocoll (obtained as described under phenocoll hydrochloride) and cooling the solution.

It forms fine, white, crystalline needles, having a sweetish taste, sparingly soluble in cold water (1 :200), readily soluble in hot water. It gives a violet reaction with ferric chloride.

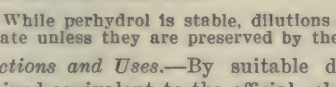
It is incompatible with soluble hydroxides and carbonates and with bodies which are incompatible with the salicylates in general.

Actions and Uses.—It combines the therapeutic action of phenocoll (antipyretic, analgesic, see phenocoll hydrochloride) with those of salicylic acid (antiseptic, antirheumatic).

It is said to be useful in rheumatism, gout, chorea, pleuritis and fevers, especially in influenza, but is more toxic than the salicylates alone.

Dosage.—1 to 2 Gm. (15 to 30 grains).

PHENOLPHTHALEIN.—Phenolphthalein,



$= C_{20}H_{14}O_4$, is a product of the interaction of phenol and phthalic anhydride.

It may be prepared by heating together 10 parts of phenol 5 parts of phthalic anhydride and 4 parts of concentrated sulphuric acid for 10 to 12 hours at 115° to 120° C. (239° to 248° F.). The product of the reaction is boiled with water, and the residue dissolved in soda lye. From this solution the phenolphthalein is precipitated by the addition of acetic acid. The precipitate after washing is dissolved in six times its weight of absolute alcohol and the solution decolorized by animal charcoal. A part of the alcohol is then distilled, the mixture filtered and the phenolphthalein separated from the filtrate by the addition of water.

Phenolphthalein occurs as a crystalline or amorphous powder, white or grayish-white, melting at 250° to 253° C. (482° to 487.4° F.). It is soluble in 600 parts of water and in 10 of alcohol. Its solutions in acid liquids are colorless, but turn red when the liquid is alkaline. The red color of the solution disappears if it be boiled with zinc dust, phenolphthalin, $C_{20}H_{16}O_4$, being formed.

Phenolphthalein heated on platinum foil should burn, leaving no residue.

Actions and Uses.—Phenolphthalein acts as a purgative, but appears to possess no further physiologic action. A case of poisoning from taking 1 Gm. (15 grains) is reported.

Dosage.—For adults the average dose is 0.1 to 0.2 Gm. (1.5 to 3 grains) given as powder, in cachets, capsules or pills. It may be given with safety in doses of 0.5 Gm. (8 grains), and these doses seem to be necessary to secure its effects in bedridden patients or in obstinate cases.

PHLORIDZIN—Phloridzinum.—Phlorizin.—Phloridzin is a glucoside, $C_{21}H_{24}O_{10} + 2H_2O$, from the root of the apple, pear, cherry, etc.

Phloridzin occurs as minute white slightly pinkish crystals, of a silky texture, or as a pale yellow light crystalline powder.

odorless and having a bitter but later a sweet taste. It is sparingly soluble in cold but freely soluble in hot water, from which it crystallizes on cooling. It is soluble in alcohol (1-4) and sparingly soluble in ether. The solutions are lævogyrate. At 100° C. (212° F.) it loses water and at 107° C. (224.6° F.) melts When heated to 130° C. (266° F.) it becomes solid again and then melts again at 17° (338° F.). At 200° (392° F.) it assumes a red color, due to the formation of rufin.

Boiled with dilute acids it is converted into sugar, phlorose and phloretine. Exposed to air in the presence of ammonia it assumes a purple color. Cold concentrated sulphuric acid dissolves it to a yellow solution and at 25°-50° C. (77°-122° F.) it becomes red.

Action and Uses.—Phloridzin destroys malarial parasites. When administered to man or animals, it produces glycosuria of renal origin. Polyuria is also produced. It has been recommended as an antiperiodic in malaria, but its use is not justified in view of the possible injury to the kidney which it may cause. It is used as a means of testing the functional activity of the kidney.

Dosage.—To test the permeability of the kidney 0.005 Gm. (1-12 grain) is dissolved in 1 Cc. (15 minims) of a 0.5 per cent. solution of sodium carbonate and injected hypodermically. Glucose should appear in the urine in from 15 minutes to one-half hour and the secretion of sugar should continue for from two to four hours. The test gains in diagnostic value if the urine of each kidney is collected separately. Phloridzin may be given per os in pills massed with glucose syrup or suspended in a mixture with acacia or tragacanth. The internal dose is 0.3 to 0.6 Gm. (5 to 10 grains).

PICRIC ACID—Acidum Picricum.—Acidum Picricum (Pharm. Française, 1908). Picric acid is 2,4,6-tri-nitro-1-phenol, $C_6H_3O_7N_3$ or $C_6H_2.OH.(NO_2)_3$(1:2:4:6), an acid obtained by nitrating phenol.

Picric acid occurs as orthorhombic yellow prisms, odorless, but with a very bitter taste, with a specific gravity of 1.81 and melting at 122° C. (251.6° F.). It is explosive when heated to a high temperature. It is slightly soluble in cold water, imparting a yellow color to a very large volume of water. It is soluble in 81 parts water at 20° and in 25 parts at 80°. It is easily soluble in alcohol and in 5.7 parts of dry pure ether it dissolves to an almost colorless solution. (Pharm. Française, edit. 1908.)

Aqueous solutions dye organic matter, such as silk, wool and skin a characteristic yellow, but do not dye vegetable fibre.

1 part picric acid dissolved in 9 parts water at 60° C. and a warm solution of 2 parts potassium cyanide in 4 parts water when mixed give a red color. This solution on being cooled yields reddish brown plates of potassium picrocyanin or isopurpuric acid $C_8H_4KN_5O_6$.

Ammonium sulphide produces a red color in solutions of picric acid which becomes deeper on heating. (Pharm. Française, edit. 1908.)

The absence of salts of picric acid is demonstrated by its complete solubility in ether. (Pharm. Française, edit. 1908.)

Action and Uses.—Picric acid is an irritant to the skin and mucous membranes. Taken internally, it may produce nausea, vomiting and diarrhea. The urine is colored red or yellow and may show signs of nephritis. The skin and mucous membranes may be stained yellow and thus jaundice may be simulated. Red blood cells are partly dissolved and the white cells are increased in number. It is said to be a very useful application for burns, but the application has been said to be painful in certain cases. Toxic symptoms have been produced in some instances, especially in children, by absorption through the skin.

Dosage.—0.025 to 0.1 Gm. (½ to 2 grains). A solution containing 6 parts of picric acid, 60 parts of alcohol to 1,000 parts of water has been recommended for local application.

PIPERAZINE COMPOUNDS

PIPERAZINE—Piperazina. — Diethylenediamine.—Ethyleneimine.—Piperazine, $NH\langle^{CH_2.CH_2}_{CH_2.CH_2}\rangle NH + 6H_2O = C_4H_{10}N_2 + 6H_2O$, is a synthetic base obtained by the condensation of two $.CH_2.CH_2.$ groups, with two $:NH$ groups, containing 6 molecules of water of crystallization.

It is prepared by the interaction of ammonia on ethylene chloride, treating the complex mixture of different salts produced with sodium nitrate at 60° to 70° C. (140° to 158° F.), purifying the sparingly soluble dinitroso-piperazine, which separates as a scaly crystalline mass, by repeated crystallizations from hot water, and subjecting the pure dinitroso-piperazine so obtained to distillation with an alkali. It is also prepared by several other patented processes.

It forms colorless, lustrous, tabular crystals, hygroscopic, which melt at 44° C. (111.2° F.). It is extremely soluble in water, forming strongly alkaline but non-caustic solutions. It is not so readily soluble in alcohol. It is volatile. It forms soluble salts with acids, and with uric acid it forms a very soluble salt (in 50 parts of water; lithium urate requires 368 parts of water). It is not affected by chromic acid, but is slowly oxidized by potassium permanganate.

In aqueous solution it gives a characteristic scarlet-red precipitate with potassium-bismuth iodide, a white precipitate with Nessler's reagent, and is precipitated light blue by copper sulphate, white by mercuric chloride, lemon-yellow (crystalline) by picric acid and grayish by tannic acid.

It is incompatible with acetanilide, acetphenetidin (phenacetin), alkaloidal salts, nitrites, metallic salts in general and with picric and tannic acids. It should not be exposed to moisture.

Actions and Uses.—A part of the piperazine ingested passes undecomposed into the urine and is claimed by some to form a very soluble compound with the urinary uric acid; others state that the piperazine which is excreted is largely in combination with the stronger mineral acids. It has been shown that urine containing piperazine has no greater solvent power on uric acid than ordinary urine. Piperazine seems to produce no symptoms in man or animals, even when administered in fairly large quantities, although it is stated that, after large doses, tremors, clonic spasms and general depression have occurred.

Piperazine is claimed by the manufacturer to be useful in the prevention of the formation of renal and vesical calculi and for the relief of irritation of the bladder due to excess of uric acid in the urine and in cases of chronic gout, rheumatism, renal colic, etc. The attempt to secure the solution of uric acid in the body by this as well as other remedies has not been successful in the experience of many clinicians. There is no reliable evidence to warrant the acceptance of these claims.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains); daily dose, 1 to 2 Gm. (15 to 30 grains). Owing to its hygroscopic character, it is impracticable to dispense it in powder; it should, therefore, be dispensed in solution in water, plain or carbonated, but in quantities sufficient for a day's supply only.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 482,108 (expired). Also by Chemische Fabrik auf Actien vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. patent No. 543,214 (July 23, 1895; expires 1912).

Piperazine Tablets, 16 grains. Each tablet contains piperazine 1.03 Gm. (16 grains).

Prepared by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York).

LYCETOL.—Lycetol is dimethyl piperazine tartrate, $NH\langle^{CH(CH_3).CH_2}_{CH_2CH(CH_3)}\rangle NH + H_2C_4H_4O_6 = C_{10}H_{20}O_6N_2$, a tartrate of a methyl derivative of diethylenediamine (piperazine).

It is prepared by the distillation of glycerin with ammonium chloride or bromide, reduction of the dimethylpyrazine (isolated from the distillation products) with metallic sodium and converting the base so obtained, after purification, into the tartrate.

It is a white, odorless powder, melting at 250° C. (482° F.), anhydrous, but slightly hygroscopic. It is soluble in water, forming agreeably acidulous solutions.

It is incompatible with alkalies which liberate the insoluble free base.

Actions and Uses.—Lycetol is claimed to be a serviceable diuretic and uric acid solvent. It is said to be free from disturbing effects on the stomach and to be well tolerated for long periods.

Dosage.—1 to 2 Gm. (15 to 30 grains), well diluted, and preferably in carbonated water, sweetened with sugar if desired.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York) U. S. patent No. 523,018 (July 17, 1894; expires 1911). U. S. trademark No. 24,722.

SIDONAL—Piperazinæ Quinas.—Piperazine Quinate—Kinate of Piperazine.—Sidonal is piperazine quinate, $NH\langle^{CH_2CH_2}_{CH_2CH_2}\rangle NH.2C_6H_7(OH)_4(COOH) = C_{18}H_{34}N_2O_{12}$, the normal salt of piperazine and quinic acid.

It is prepared by heating 1 molecule of piperazine with 2 molecules of quinic acid and maintaining the mixture at its melting point for some time, or by dissolving equivalents of piperazine and quinic acid in the smallest practicable quantity of water,

concentrating the solution on a water bath, removing the residual water by repeated additions of small quantities of alcohol, evaporating and finally drying the residue in a vacuum.

It forms a white, crystalline powder, melting at 168° to 171° C. (334.4° to 339.8° F.), and having a faint acid taste and reaction. It is very soluble in water and forms salts on mixing the aqueous solution with solutions of alkali carbonates and evaporating to dryness.

It responds to tests for piperazine (precipitate with potassium-bismuth iodide, etc.) and quinic acid.

Its incompatibilities are those of the alkaloidal salts generally.

Actions and Uses.—Sidonal is said to be useful as a uric acid solvent in gout, neurasthenia, etc.

Dosage.—1 to 1.3 Gm. (15 to 20 grains) 5 or 6 times a day, dissolved in water.

Manufactured by Vereinigte Chemische Werke Actiengesellschaft, Charlottenburg, Germany (Victor Koechl & Co., New York). Eng. patent No. 11,420. U. S. patent No. 665,879 (Jan. 15, 1901; expires 1918). U. S. trademark No. 34,706.

POLLANTIN, FALL—Dunbar's Serum.—An antitoxic serum from horses treated with pollen toxin derived from ragweed.

Horses are injected with gradually increased doses of pollen toxin (derived from ragweed), which results in the formation of an antitoxin after two or three months of treatment. The horses are then bled and the strength of the serum is estimated by determining the proportion which will prevent the action of a solution of pollen toxin, of which one drop is barely sufficient to produce a reaction when instilled into the conjunctival sac of a hay-fever patient. The serum is preserved by the addition of 0.25 per cent of phenol.

It is a clear, slightly yellowish liquid, having the odor and taste of a dilute solution of phenol. On standing, the liquid deposits a slight precipitate. The liquid is alkaline in reaction and not irritating to the normal conjunctiva.

It should neutralize the effects of a solution of pollen toxin when mixed with it and dropped into the eye or when a drop is applied immediately after a drop of the toxin solution.

The liquid does not keep well if exposed to the air. When it becomes cloudy or a bad odor develops, decomposition has occurred and the preparation should no longer be used.

Actions and Uses.—It has no pharmacologic action except the neutralization of the pollen toxin. The serum is not intended for use hypodermically. It is employed for the relief of hay fever and it seems to be effective in a proportion of cases. It may be used as prophylactic.

Dosage.—One drop should be instilled by means of a pipette into the outer angle of each eye and one or two drops into one nostril, the other being kept closed, every morning before rising. If the first application causes sneezing or reddening of the mucous membrane of the eye, the directions are to repeat the application, even for the fourth time, if necessary.

Manufactured by Schimmel & Co., Miltitz, near Leipsic, Germany (Fritzsche Bros., New York). U. S. patent No. 745,333 (Dec. 1, 1903; expires 1920). U. S. trademark No. 40,562.

POLLANTIN POWDER, FALL.—A powder obtained by evaporating, *in vacuo*, pollantin serum derived from ragweed toxin at about 45° C. (113° F.) and mixing it with sterilized sugar of milk.

It is a fine, slightly yellowish, almost odorless powder, almost but not entirely soluble in water, and having a slight alkaline reaction. The tests are the same as for the liquid. It should reduce Fehling's solution. The powder keeps well.

Actions and Uses.—The same as those of the liquid.

Dosage.—The powder is applied to the eyes by dusting on the conjunctiva and to the nose by snuffing into one nostril, the other being closed, a piece as large as a lentil.

Manufactured by Schimmel & Co., Miltitz, near Leipsic, Germany (Fritsche Bros., New York). U. S. trademark No. 40,562.

POTASSIUM MERCURIC-IODIDE — Potassii Hydrargyro-iodidum.—Potassium mercuric-iodide is a complex salt formed by interaction of mercuric iodide with potassium iodide.

When mercuric iodide is added to an excess of potassium iodide solution a colorless liquid is obtained containing the mercuric iodide as a complex salt, approximately K_2HgI_4 (or $2KI + HgI_2$). Under suitable conditions (Naylor and Chappell, Pharm. J., Mar. 7, 1908, p. 315) the salt having the composition $K_2HgI_4 + 3H_2O$ (or $2KI + HgI_2 + 3H_2O$) may be obtained in yellow needle-shaped crystals.

Potassium mercuric-iodide is deliquescent and is decomposed by water.

Actions and Uses.—The same as mercuric iodide, over which it is claimed to have some advantages because of its solubility.

Proprietary Preparation:

SOLOID MERCURIC POTASSIUM IODIDE.—Tablets said to contain in each tablet mercuric potassium iodide (potassium mercuric-iodide) ($HgI_2 2KI = K_2HgI_4$) 0.113 Gm. (1.75 grains), an excess of potassium iodide, which prevents the decomposition of the potassium mercuric-iodide when water is added, and a trace of coloring matter.

Prepared by Burroughs-Wellcome & Co., London, England, and New York.

PROTAN—Tannin Nucleo-Proteid, Mulford—Protan is said to be a chemical combination of casein with tannic acid containing about 50 per cent. tannic acid.

It is made by adding a solution of tannic acid to an alkaline solution of casein, collecting and drying the precipitate. Protan is a light brown powder, tasteless, and free from astringent action on the mouth and stomach; insoluble in water or dilute acids, and does not coagulate albumen or precipitate pepsin or peptones.

When shaken with water and filtered, a colorless solution should be obtained, which should give not more than a faint trace of color with ferric chloride solution, showing absence of more than traces of free (uncombined) tannic acid.

The resistance of Protan to the action of the gastric juice may be shown by mixing 2 Gm. (dried at 100 degrees C.) with 40 Cc. 0.2 per cent. hydrochloric acid containing ten times the theoretical amount of 1 :3000 pepsin necessary to digest the proteid present, warming to 40 degrees C. for six hours, filtering off the residue, drying and weighing; 60 to 70 per cent. of the amount taken may thus be recovered.

The tannin may best be determined by difference, the casein being determined by decomposing it by the Kjeldahl-Gunning method and estimating the nitrogen.

Actions and Uses.—It is employed as an intestinal astringent in all forms of diarrhea.

Dosage.—For infants and children, 0.3 to 0.6 Gm. (5 to 10 grains) every hour; in acute catarrhal diarrhea (cholera morbus), 1 to 2 Gm. (15 to 30 grains) every one or two hours; in chronic diarrhea, 1.3 to 2 Gm. (20 to 30 grains) every hour or two hours.

Manufactured by the H. K. Mulford Co., Philadelphia. Not patented. U. S. trademark No. 38,616.

Friable Tablets Protan. 2½ grains.—Each tablet contains protan, 0.16 Gm. (2½ grains).

Friable Tablets, Protan, 5 grains.—Each tablet contains protan, 0.32 Gm. (5 grains).

Friable Tablets, Protan, 7½ grains.—Each tablet contains protan, 0.48 Gm. (7½ grains).

Protan and Opium Tablets, No. 1.—Each tablet contains opium 0.005 Gm. (1/12 grain) and protan 0.162 Gm. (2½ grains).

Protan and Opium Tablets, No. 2.—Each tablet contains opium 0.03 Gm. (½ grain) and protan 0.5 Gm. (7½ grains).

PROTARGOL—Protein Silver Salt.—Protargol is a compound of albumin and silver containing 8.3 per cent. of silver in organic combination.

According to the patent specification insoluble protein silver compounds, obtained by treating protein bodies with silver salt, are rendered soluble by treatment with a solution of albumoses.

It is a light-brown powder, soluble in twice its weight of cold water, producing a solution which is not affected by the ordinary precipitants of silver salts, such as alkalies, sulphides, chlorides, bromides, iodides, nor by heat.

Ammonium sulphide gives a dark color to the solution without precipitation. Addition of strong hydrochloric acid produces a precipitate of unchanged protargol, soluble in a large quantity of water. A solution containing sulphuric acid is not colored blue by diphenylamine. It is compatible with picric acid and picrates and with most metallic salts. It should not be exposed to light. It is precipitated by cocaine hydrochloride, but this is prevented by addition of boric acid.

Actions and Uses.—Protargol is claimed to be a non-irritant bactericide and antiseptic. It is said to be useful in acute and chronic gonorrhea as a non-irritant substitute for silver nitrate and in diseases of the mucous membranes of the eye, ear, nose and throat, and particularly in the treatment of conjunctivitis.

Dosage.—From 0.25 or 1 per cent. solution in acute gonorrhea, to 5 or 10 per cent. instillations in chronic cases, in cystitis and urethritis; in solutions of 1:1000 to 1:2000 as irrigations. Used also in form of bougies and tampons (5 to 10 per cent.). Its solutions in water are made by pouring on the protargol a little *cold* water, stirring into a thick paste, and gradually adding the remainder of the water under stirring; or by sprinkling the protargol on the surface of the whole of the water (cold) and setting it aside until solution occurs.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 615,970 (Dec. 13, 1898; expires 1915). U. S. trademark No. 30,882.

PYRAMIDON. — Dimethylaminoantipyrina. — Pyramidon is phenyl-dimethyl-dimethylamino-pyrazolon,

$$C_6H_5N\begin{matrix}/CO——C.N(CH_3)_2\\ \backslash N(CH_3).C(CH_3)\end{matrix} = C_{13}H_{17}N_3O,$$

differing from antipyrine, $C_{11}H_{12}N_2O$, in that a dimethylamino group, $N(CH_3)_2$, has replaced a hydrogen atom of the pyrazolon nucleus.

It is prepared by the reduction of nitroso-antipyrine to amido-antipyrine and treating this with methyl chloride or iodide.

It forms small, colorless, slightly alkaline crystals, melting at 108° C. (226.4° F.); almost tasteless; soluble in 11 parts of cold water and readily soluble in alcohol, ether and benzene. Its aqueous solution saturated at 70° C. (158° F.) deposits oily globules of pyramidon on boiling.

Ferric chloride colors the neutral or slightly acidulated solution of pyramidon a bluish violet color; nitrous or nitric acid produces a fugitive blue-violet color; silver nitrate produces an intense violet coloration when added to the aqueous solution, followed by the formation of a black precipitate of metallic silver, and the same color is produced by platinum chloride, by ammonium persulphate and by lead dioxide. In hydrochloric acid solution pyramidon gives a fine crystalline double salt with mercuric chloride.

Its incompatibilities are in general the same as those of antipyrine. Oxidizing agents (also acacia) often produce colored solutions.

Actions and Uses.—Pyramidon acts as an antipyretic and anodyne, like antipyrine, but is effective in smaller doses. The action, while somewhat slower at the beginning, is more lasting. It is claimed to be devoid of harmful influences on the blood, heart or kidneys. It is said to be useful, particularly in the chronic fevers of tuberculosis, as well as in the acute febrile conditions incident to typhoid fever, erysipelas and pneumonia. In the treatment of infectious fevers, it, like other antipyretics, should be cautiously employed. See Acetphenetidin.

Dosage.—0.3 to 0.4 Gm. (5 to 6 grains), most conveniently in the form of tablets, a single dose usually sufficing for 24 hours.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 579,412 (March 23, 1897; expires 1914).

PYRAMIDON ACID CAMPHORATE.—Pyramidon acid camphorate, $C_{13}H_{17}N_3O.C_{10}H_{16}O_4$, is an acid salt of pyramidon and camphoric acid.

It is prepared under the same conditions as the neutral salt.

It is a white, crystalline powder of acid reaction, melting (indefinitely) at 84° to 94° C. (183.2° to 201.2° F.); soluble in 20 parts of water or in 4 parts of alcohol.

It gives the characteristic reaction of pyramidon (which see) with silver nitrate. If the solution in hot water is made alkaline with caustic soda, the pyramidon may be shaken out with chloroform; if the residual aqueous liquid is then acidified with sulphuric acid the camphoric acid (melting point 186° C., 366.8° F.) may be shaken out with ether.

Actions and Uses.—The acid and neutral salts combine the antipyretic action of pyramidon with the antihidrotic action of camphoric acid. It is claimed that in these compounds the respective action of the component is modified, the antihidrotic effect of the camphoric acid being materially increased, while the toxicity of the pyramidon is diminished; but the latter statement is hypothetical. In the neutral salt the antipyretic action of the pyramidon predominates; in the acid salt the antihidrotic effect of the camphoric acid.

They are said to be especially useful in the febrile conditions of phthisis, attended by profuse sweating. See Pyramidon.

Dosage.—0.75 to 1 Gm. (12 to 15 grains), given in powders or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 686,999 (Nov. 19, 1901; expires 1918).

PYRAMIDON NEUTRAL CAMPHORATE.—Pyramidon neutral camphorate $(C_{13}H_{17}N_3O)_2.C_{10}H_{16}O_4$, is a neutral salt of pyramidon and camphoric acid.

It is prepared by combining its components with the aid of suitable solvents, under exclusion of light, moisture and heat.

It is a white, crystalline powder, melting (indefinitely) at 80° to 90° C. (176° to 194° F.). It dissolves with acid reaction in 15 parts of water or 2 parts of alcohol.

It gives the characteristic reaction of pyramidon (which see) with silver nitrate. If the solution in hot water is made alkaline with caustic soda, the pyramidon may be shaken out with chloroform; if the residual aqueous liquid is then acidified with sulphuric acid the camphoric acid (melting point 186° C., 366.8° F.) may be shaken out with ether.

Dosage.—Neutral camphorate, 0.5 to 0.75 Gm. (8 to 12 grains) given in powders or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 686,998 (Nov. 19, 1901; expires 1918).

PYRAMIDON SALICYLATE.— Pyramidon salicylate, $C_{13}H_{17}N_3O.C_7H_6O_3$, is a salt of pyramidon and salicylic acid.

It is prepared by combining its components with the aid of a suitable solvent and avoidance of exposure to light, moisture and heat

It is a white, crystalline powder, having an acid reaction and melting indefinitely at 68° to 70° C. (154.4° to 158° F.). It is soluble in 16 parts of water or 5 to 6 parts of alcohol.

The aqueous solution is colored intensely red by ferric chloride, and produces a white precipitate with silver nitrate, the solution assuming a violet color after a short time.

It is incompatible with ferric salts.

Actions and Uses.—It is antipyretic, analgesic and antiseptic, combining the activity of its components.

It is said to be useful in rheumatic and gouty affections, neuralgia, pleuritis, etc. See Pyramidon.

Dosage.—0.5 to 0.75 Gm. (8 to 12 grains) in powder or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 680,278 (Aug. 13, 1901; expires 1918).

PYROXYLIN

Pyroxylin is official in the United States Pharmacopœia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

CELLOIDIN.—A name applied to a preparation of the character of a purified Pyroxylin, U. S. P.

Celloidin is prepared by solution of pyroxylin in a mixture of alcohol and ether, filtration and recovering the solvent from the filtrate. It is supplied in shreds immersed in water.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 299,857 (expired).

QUASSIN[1]—Quassine (Pharm. Française, 1908)—Quassinum—Quassin is a bitter principle found in quassia.

The alcoholic extract of Jamaica quassia wood (Quassia U. S. P.) is neutralized with magnesia, then acidified with tartaric acid and the alcohol distilled off. The residue is shaken up with chloroform and the solution evaporated to syrupy consistency and dissolved in a mixture of equal parts of absolute alcohol and ether. This solution is evaporated and the residue dissolved in as little absolute alcohol as possible, the solution covered with a layer of ether and allowed to evaporate. The crystals which form are recrystallized from alcohol. The product thus prepared consists of two bitter principles *a*-picrasmin ($C_{35}H_{48}O_{10}$) melting at 204° C. (399.2° F.) and *β*-picrasmin ($C_{36}H_{48}O_{10}$) melting at 209-212° C. (408.2° to 413.6° F.).

Quassin crystallizes in oblique rhomboidal needles with a pearly lustre. It is odorless, but has a bitter taste. Its melting point is 210° C. (410° F.) and cooling it forms an amorphous mass. It is soluble in about 400 parts of water at 15° C. (59° F.); in 30 parts alcohol (85 per cent.) and in 21 parts of cold chloroform. It is very soluble in boiling alcohol, in acetic acid, and very slightly soluble in ethyl and petroleum ethers. It is soluble in concentrated acids and alkalies, but not in alkaline carbonates. Continued action of alkalies forms resins (Pharm. Française, 1908). It is dextrorotatory in its chloroform solution; 4.22 gm. in 100 Cc. chloroform rotating the plane of polarized light to the right with a specific rotation of plus 38° 8'. Solutions of quassin are neutral.

It dissolves to a colorless solution in concentrated sulphuric acid, which becomes red on the addition of sugar. (Pharm. Française, 1908).

QUININE DERIVATIVES

ARISTOCHIN — Diquinine carbonic Ester.—Aristoquin—Carbonyl Quinine. — Aristochin is quinine carbonate, $CO(C_{20}H_{23}N_2O_2)_2 = C_{41}H_{46}N_4O_5$, the neutral carbonic acid ester of quinine.

It is prepared according to the patents by acting on quinin dissolved in pyridin or chloroform with carbonyl chloride or by heating together quinine and phenol carbonate in the proportion of one molecule of the latter to two molecules of the former.

It forms a white, absolutely tasteless powder, melting at 189° C. (372.2° F.) insoluble in water, difficultly soluble in alcohol, more soluble in warm alcohol and chloroform, very sparingly soluble in ether. It is capable of combining with one and two molecules of hydrochloric acid forming soluble salts. It is gradually decomposed by acids with liberation of quinine, thus acquiring a bitter taste; hence it is incompatible with acids.

It should be free from bitter taste. As it is decomposed by acids and alkalies with the formation of quinine, it should respond to tests for quinine after such treatment.

Actions and Uses.—The same as those of quinine, but, since it is only slowly acted on by acids, it is said not to produce disturbance of the stomach and to be much freer from tendency to production of cinchonism.

Dosage.—The same as that of quinine, in powder, mixed with milk sugar, dry on the tongue or suspended in liquids.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). German patents No. 105,666, 134,307 and 137,308. U. S. patent No. 625,075 (May 16, 1899; expires 1916).

1. Quassin (amorphous) is not identical with the above and should not be confounded with it.

CHINAPHENIN—Phenetidin Quinine Carbonic Acid Ester.—Chinaphenin is phenetidin quinine carbonate, $CO(NH.C_6H_4OC_2H_5)(C_{20}H_{23}N_2O_2{=}C_{39}H_{33}N_3O_4$, the carbonic acid ester of phenetidin and quinine.

It is prepared by the action of quinin on p-ethoxyphenyl carbamic acid chloride.

It is a white, odorless and tasteless powder, difficultly soluble in water, but readily soluble in alcohol, ether, chloroform and benzene. Acids dissolve it with the formation of soluble salts.

It gives the thalleioquin reaction for quinine salts, but forms a yellow herapathite.

It is decomposed by acids with the liberation of quinine.

Actions and Uses.—Chinaphenin combines the antiperiodic properties of quinine with the analgesic power of acetphenetidin (phenacetin), with the advantage of tastelessness and asserted freedom from symptoms of cinchonism. It has been recommended in febrile diseases, especially la grippe; in spasmodic conditions, such as whooping-cough; in certain forms of malaria and in neuralgia.

Dosage.—Adult: 0.3 to 0.6 Gm. (5 to 10 grains) ordinarily, or 1.5 to 2 Gm. (22 to 30 grains), given in two doses as an antipyretic in neuralgia and malaria; in whooping-cough, 0.13 to 0.3 Gm. (2 to 5 grains), according to age.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 637,839 (Nov. 28, 1899; expires 1916). Vereinigte Chininfabriken. Zimmer & Co., Frankfort a. M., Germany. German patent No. 109,259.

EUQUININE—Quininæ Æthylcarbonas.—Quinine Ethyl Carbonate—Euchinin.—Euquinine is quinine ethyl carbonate, $C_2H_5O.CO.OC_{20}H_{23}N_2O{=}C_{23}H_{28}O_4N_2$, the quinine ester of ethyl Carbonic acid ester.

It is prepared by the action of chlorocarbonic ethyl ester on quinine, $C_2H_5O.COCl + C_{20}H_{24}N_2O_2{=}HCl + C_2H_5O.COO.C_{20}H_{23}N_2O$.

It is a light, fleecy conglomeration of delicate, white needles, melting at 95° C. (203° F.) and practically tasteless. It is sparingly soluble in water, but readily soluble in alcohol, ether and chloroform. It is slightly alkaline in reaction, forming well crystallizable, bitter salts with acids. It produces a tasteless tannate.

Its solutions in acidulated water have the characteristic bitter taste of quinine. On heating a mixture of 0.2 Gm. of euquinine, 3 Cc. of solution of sodium hydroxide and a little iodine, the odor of iodoform is manifested. Like quinine its solution in dilute sulphuric acid exhibits strong, blue fluorescence, and it gives also the so-called thalleioquin reaction, but not the herapathite reaction. A solution in nitric acid should not change on addition of either silver nitrate or barium chloride.

It should leave no residue on combustion.

It is incompatible with acids which will develop the bitter quinine taste.

Actions and Uses.—Euquinine is claimed to have the same action as quinine, with the advantage of being tasteless, owing to its insolubility in water and alkaline media.

Dosage.—The same as quinine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (Merck & Co., New York). U. S. patent No. 585,068 (June 22, 1897; expires 1914). U. S. trademarks Nos. 640,977 and 701,523.

QUININE LYGOSINATE—Quininæ Lygosinas.—Quinine lygosinate. $CO(CH{:}CH.C_6H_4.C_{20}H_{24}N_2O_2)_2{=}C_{57}H_{60}N_4O_5$, is a quinine compound of dioxy-dibenzal-acetone.

It is prepared by the reaction of quinine hydrochloride with sodium lygosinate.

Quinine lygosinate is a fine, orange yellow, amorphous powder, melting at 114° C. (237.2° F.), having a faintly aromatic odor and a bitter taste, which is gradually developed on account of its sparing solubility in water. It is slightly soluble in water, soluble in 6 parts of alcohol, in 20 parts of hot oil and readily soluble in chloroform and benzene. It is decomposed by acids and alkalies. It contains 70.8 per cent. of quinine.

Burned on platinum foil, quinine lygosinate develops the odor of bitter almonds and leaves no residue. Its alcoholic solution dyes cotton gauze a bright yellow color, which becomes red-brown on drying.

If 1 Gm. quinine lygosinate be shaken with 20 Gm. of 20 per cent. sodium hydroxide solution and extracted twice with 10 Gm. of ether, the quinine remaining after evaporation of the ether should not weigh less than 0.7 Gm. If the alkaline solution thus obtained be acidified, lygosin separates as a thick yellow precipitate.

It is incompatible with acids and alkalies.

Actions and Uses.—It is stated that this preparation is capable of preventing completely the development of cultures of staphylococcus. Given to rabbits by mouth in doses of 1 Gm. per kilo of the body weight it is said to be entirely harmless. It is claimed to be a styptic useful in parenchymatous hemorrhages and free from unfavorable side effects, such as cauterization of the wound surfaces.

Dosage.—It is employed as a dusting powder, in bandages, gauzes, suppositories, in the form of court plaster and in glycerin suspensions.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.)

QUININE AND UREA HYDROCHLORIDE.—Quininæ et Ureae Hydrochloridum.—Chininum bihydrochloricum Carbamidum. — Quinine and urea hydrochloride, $C_{20}H_{24}N_2O_2.HCl + CH_4N_2O.HCl + 5H_2O$. is a compound of quinine hydrochloride and urea hydrochloride containing approximately 60 per cent. of anhydrous quinine.

Quinin and urea hydrochloride is prepared by dissolving 400 parts quinin hydrochloride in 300 parts of dilute hydrochloric acid, sp. gr. 1.061, mixing the solution with 60 to 61 parts of pure urea $CO(NH_2)_2$ warming the mixture until dissolved, filtering it through glass wool and setting the filtrate aside for crystallization. After twenty-four hours the crystals are brought on a filter, drained, washed with very cold distilled water, spread on flat plates and dried at room temperature. The mother liquor is evaporated and again set aside for crystallization. The second mother liquor which is colored brown is exposed in a dish to spontaneous evaporation, during which all of the double salt of quinine slowly crystallizes out and may be separated.

The hydrochloride of quinine and urea crystallizes from hot solutions in hard white interlaced four sided prisms. On spontaneous evaporation of a concentrated solution very large transparent prisms are formed. The salt dissolves at ordinary temperature in its own weight of water forming a somewhat viscid straw colored liquid, not altered by exposure to light. During its solution a marked lowering of temperature occurs.

It is not hygroscopic and is unalterable in the air excepting when warmed, the crystals lose their transparency and become yellowish. They fuse at from 70° to 75° C. (158° to 167° F.) with the loss of 10 per cent. of water forming a yellowish liquid which congeals on cooling to a yellow mass. If this mass is allowed to stand in the air it takes up after a few days the whole amount of water expelled and becomes again white. If the melted salt is dissolved in water it may be completely recovered in a crystalline form. It is also soluble in alcohol and from this solution a salt of somewhat variable composition is precipitated by ether.

It is soluble in about 800 parts of chloroform.

Its aqueous solutions are of a strong acid reaction.

A solution of the salt in water 1 to 20 shows no fluorescence, but if one drop of this solution is added to 10 Cc. of distilled water in a test tube a vivid blue fluorescence is developed.

On drying the salt at 125 C. to constant weight and cooling in a desiccator, it should not lose more than 16.5 per cent. of its weight (corresponding to five molecules of water of crystallization).

On ignition the pure salt is slowly consumed, leaving no residue.

Ammonia water, alkaline hydroxides or alkali carbonates throw down from the aqueous solution of quinine and urea hydrochloride a white precipitate of alkaloidal quinine, which when carefully washed with cold distilled water until free from chlorides and dried at a low temperature, should conform to the reactions and tests given in the United States Pharmacopeia under quinine. One gramme dissolved in 2 Cc. of distilled water and well shaken in a stoppered test tube with 6 Cc. of ether and 2 Cc. of 10 per cent. ammonia water should be dissolved completely and no crystals should separate out from the ethereal solution on standing for six hours. If the ethereal stratum is removed to a tared beaker and the contents of the test tube washed successively with three portions of 5 Cc. each of ether and these ether washings also added to the tared beaker, the alkaloidal quinine remaining after evaporating off the ether, dried at 125 C. to constant weight, should weigh not less than 0.592 Gm.

If 2 Gm. of the salt be dissolved in a test tube in 4 Cc. of distilled water, the solution cooled and 4 Cc. of nitric acid U. S. P. (free from nitrous acid) be added, the solution quickly cooled again in ice water and the cold mixture set aside at a low temperature, separation of crystals will commence after a few minutes and crystallization will be completed after the solution has stood in a cold place over night. The crystals may be separated by the use of a small glass funnel provided with a pellet of glass wool. The test tube should be washed with three portions of 2 Cc. each of cold diluted nitric acid 1 and 1 and the acid carefully poured over the crystals in the funnel, drop by drop, to remove all traces of quinin. The remaining crystals should consist of urea nitrate. This is demonstrated by taking 3 Cc. of water, heating in the test tube in which the crystals have been crystallized, and after carefully draining off the acid which may be held back by the stem of the funnel, pouring the hot water slowly on the crystals in the funnels and repeating with another 2 Cc. of hot water. The resulting well-mixed solution is divided into two equal parts in two test tubes and cooled. To the first is added from a pipette 10 drops of solution of mercuric nitrate, U. S. P., and then, gradually, normal solution of sodium hydroxide until only a slightly acid reaction is obtained, when a copious white precipitate should result.

The second part of the filtrate is made strongly alkaline by the use of a solution of sodium hydroxide, 1 in 4, and to the resulting clear liquid is added 2 Cc. of a strong solution of sodium hypochlorite. The mixture is warmed to about 40 C., when a development of gas will take place at once.

Actions and Uses.—Quinine and urea hydrochloride has the actions of quinine. It is non-irritating when injected hypodermically. Recent investigations have shown that when injected hypodermically or when applied locally to mucous membranes it exerts an anesthetic action similar to that of cocaine. It is reported that the anesthesia is in some cases prolonged for several days.

Quinine and urea hydrochloride is said to be especially useful in the treatment of malaria by hypodermic injections. It has also been applied as a substitute for cocaine in the production of local anesthesia for operations.

Dosage.—The same as Quinine. For the production of local anesthesia injections of a solution of from ¼ to 1 per cent. strength are used. The ¼ per cent. solution is said to be free from the risk of producing fibrous indurations, which sometimes occurs with the stronger solution. For application to mucous membranes solutions varying in strength from 10 to 20 per cent. should be used.

SALOQUININE—Quinine Salicylic Ester.—Salochinin—Salicylquinine.—Saloquinine is quinine salicylate, $C_6H_4.OH.COO(C_{20}H_{23}N_2O)=C_{27}H_{28}O_4N_2$, the salicylic acid ester of quinine, containing 73.1 per cent. of quinine.

According to the patent specifications it is obtained by heating a mixture of phenyl salicylate (salol) with anhydrous quinine to 170° to 190° C. (338° to 374° F.) in a vacuum, whereby quinine salicylic acid ester and phenol are formed. The phenol set free is removed by distillation and the residue washed with dilute acetic acid to remove unchanged quinine.

It is a white, crystalline powder, melting at 138° C. (280.4° F.), perfectly tasteless and odorless. It is insoluble in water, soluble in acidulated water and moderately soluble in alcohol and in ether. It forms neutral salts which are tasteless, and acid salts.

Its acid solutions are precipitated by alkalies and the usual alkaloidal reagents. The filtrate obtained after shaking saloquinine with water, does not give a violet color with ferric chloride (absence of free salicylic acid).

It is incompatible with acids.

Actions and Uses.—It is a tasteless substitute for quinine and salicylic acid.

Dosage.—0.5 to 2 Gm. (8 to 30 grains).

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Merck & Co., New York). U. S. patent No. 678,401 (July 16, 1901; expires 1918). U. S. trademark No. 37,373 (salochinin), No. 37,374 (saloquinine).

SALOQUININE SALICYLATE. — Saloquinine salicylate $C_6H_4.OH.COO(C_{20}H_{23}N_2O).C_6H_4OH.COOH=C_{34}H_{34}N_2O_3$, is the salicylate of the salicylic acid ester of quinine.

It is prepared by the addition of salicylic acid to a hot alcoholic solution of salicylic acid ester of quinine (see saloquinine) and collection of the crystals which separate out on cooling.

It is a white, tasteless powder, melting at 182° to 183° C. (359.6° to 361.4° F.), sparingly soluble in water, soluble in benzene, chloroform and hot alcohol.

It is incompatible with alkaline liquids.

Actions and Uses.—It has been recommended in acute rheumatism, neuralgia, tabes, gonorrheal inflammations, etc.

Dosage.—1 Gm. (15 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 698,079 (April 22, 1902; expires 1919).

RED GUM—Eucalypti Gummi.—Eucalyptus gum. Eucalyptus Kino.

Red gum is an exudation from the bark of Eucalyptus rostrata, Schlecht, and other species of Eucalyptus.

Red gum occurs in small, dark reddish brown, opaque and more or less dusty pieces which yield a pale red powder. It is usually collected from artificial incisions. When chewed it is tough, and colors the saliva red. Water dissolves 80-90 per cent. Its chief constituent is tannic acid, to the extent of 47 per cent.

Action and Uses.—Red gum is an active astringent. It is used as an astringent in sore throat, diarrhea and in catarrhal affections of various mucous membranes. Largely used in the form of lozenges where an astringent is needed in throat affections.

Dosage.—0.1 to 0.3 Gm. (2 to 5 grains).

SABROMIN — Dibromebehenate of Calcium. — Sabromin, $(C_{21}H_{41}Br_2COO)_2Ca=C_{44}H_{82}O_4Br_4Ca$, is the calcium salt of dibrombehenic acid.

It is prepared from erucic acid by the addition of bromine and transformation of the diobrombehenic acid thus obtained into the calcium salt.

Sabromin is a colorless, odorless and tasteless powder claimed to contain about 29 per cent. bromin and about 3.8 per cent. calcium. It is insoluble in water and alcohol, soluble in ether, acetone, benzol, ligroin and tetrachloride of carbon. On heating on platinum foil it is decomposed with liberation of bromine.

Tests: Sabromin is recognized by its solubilities and the liberation of bromine on heating.

Action and Uses.—Sabromin is converted in the stomach into dibrombehenic acid, a substance which is free from any action on that organ, but which is absorbed from the intestine. Its effect is less rapid than that of the bromides, but more prolonged. It is said to be devoid of the disadvantages of the bromides, such as their unpleasant taste, irritating action on the stomach, and systemic by-effects.

Sabromin is indicated in the same class of cases in which the bromides are useful.

Dosage.—The dose is about the same as that of potassium bromide.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 848,230 (March 26, 1907; expires 1924).

Sabromin Tablets, 8 grains.—Each tablet contains sabromin 0.5 Gm. (8 grains).

SAJODIN—Monoiodobehenate of Calcium.—Sajodin, $(C_{21}H_{42}ICOO)_2Ca=C_{44}H_{84}O_4I_2Ca$, is the calcium salt of monoiodobehenic acid.

It is prepared from erucic acid, $C_{22}H_{42}O_2$, by addition of hydrogen iodide, forming monoiodobehenic acid, $C_{22}H_{43}O_2I$. This is converted into the calcium salt.

Sajodin is a colorless, odorless and tasteless powder, insoluble in water. On heating it generates an abundance of iodine vapor; on exposure to light the superficial portion becomes yellow without material decomposition.

It should contain 26 per cent. of iodine and 4.1 per cent. of calcium.

Actions and Uses.—Although containing a smaller quantity of iodine than potassium iodide, sajodin is claimed to be equally efficient. It is said to have been proven exceptionally free from the unpleasant and deleterious by-effects of the iodides.

It is used for the same purposes as potassium iodide.

Dosage.—1 to 3 Gm. (15 to 45 grains) daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, and Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 848,230 (March 26, 1907; expires 1924). Trademark pending.

Sajodin Tablets, 8 grains. Each tablet contains sajodin 0.52 Gm. (8 grains).

SALOPHEN — Acetylparamidophenol Salicylate.—Acetparamidosalol. — Salophen is 1,4-acetamino-phenyl salicylate, $(C_6H_4.OH.COO).C_6H_4NH.(CH.CO)$, the salicylic acid ester of 1,4-acetaminophenol, $C_6H_4(NHCH_3CO)(OH)$.

It is made by preparing paranitrophenol salicylate by a process similar to that of preparing phenyl salicylate (salol); converting this by means of reducing agents into paramidophenol salicylate, and this into acetylparamidophenol salicylate by the action of acetic acid. This crude salophen so obtained is then purified by crystallization from benzene or alcohol.

It forms small, white, crystalline leaflets or powder, odorless and tasteless, melting at 187° to 188° C. (368.6° to 370.4° F.), and containing 51 per cent. of salicylic acid. It is almost insoluble in cold water, more soluble in warm water, but freely soluble in watery solutions of the alkalies and in alcohol, ether and benzene, but not in petroleum benzin.

If its alkaline solution be boiled it gradually becomes blue; on continuing the boiling the color is discharged, but is again produced on cooling and exposure to air. On addition of ferric chloride to the alkaline solution the violet color characteristic of salicylic acid is produced, but a simple aqueous solution of salophen does not react with ferric chloride and should not be changed by silver nitrate. It forms a colorless solution with concentrated sulphuric acid.

It is incompatible with alkalies, which decompose it.

Actions and Uses.—The actions of salophen resemble those of phenyl salicylate (salol). It is not changed in the stomach, but is broken up in the intestine, liberating salicylic acid and acetylparamidophenol, which, unlike phenol, is not toxic. It acts as an antirheumatic, antipyretic, antiseptic and analgesic. It is said to be useful in rheumatism, gout, typhoid fever, and as an intestinal antiseptic, in diarrhea and dysentery. Externally it has been applied in psoriasis and other itching skin diseases.

Dosage.—0.3 to 1 Gm. (5 to 15 grains), in powder, wafers or capsules. Externally in 10 per cent. ointment.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 492,868 (expired). U. S. trademark 20,759.

SANGUINARINE NITRATE — Sanguinarinæ Nitras.—Sanguinarine nitrate is the nitrate $(C_{20}H_{15}NO_4.HNO_3)$ of the alkaloid sanguinarine, obtained from sanguinaria canadensis and other plants.

Sanguinarine nitrate occurs in orange-yellow crystalline needles or deep-orange colored powder. It is soluble in water and in alcohol.

Action and Uses.—Sanguinarine is a violent poison producing in mammals vomiting, purging, convulsions with loss of reflex activity and cardiac depression. The blood pressure is said to be raised by small doses.

The principal use of sanguinarine nitrate is as a stimulant expectorant in chronic bronchitis and in the later stages of acute bronchitis. It is said to be an emmenagogue and may be used in functional amenorrhea.

Dosage.—0.004 to 0.06 Gm. (1/16 to 1 grain); as an expectorant 0.004 to 0.008 Gm. (1/16 to ⅛ grain); as an emetic 0.015 to 0.06 gm (¼ to 1 grain); average dose 0.015 Gm. (¼ grain) to be given with caution.

SANTYL—Santalolis Salicylas.—Salicylic Ester of Santalol. —Santyl is santalyl salicylate, $C_6H_4OH.COO(C_{15}H_{23}) = C_{22}H_{28}O_3$, the salicylic acid ester of santalol.

According to the German patent the neutral esters of sandalwood oil are produced by heating the oil with the respective acid anhydrides and subsequent purification of the product.

Santyl is a yellowish oil with only a faint balsamic odor and taste; specific gravity, 1.07 at 15° C. (59° F.); it boils under 20 mm. pressure at 121° C. (250° F.) to 126.6° C. (260° F.) with partial decomposition; insoluble in water, but soluble in about 10 parts of alcohol.

It is incompatible with alkalies and with the usual incompatibles of sandalwood oil and of salicylates.

Santyl should possess the physical constants given above. On saponification with alcoholic sodium hydroxide it should yield approximately 40 per cent. of salicylic acid and 60 per cent. of santalol.

Actions and Uses.—It is said that santyl passes the stomach unchanged, but is slowly split up in the intestines into its constituents, santalol and salicylic acid. Santyl is claimed to have the same actions as sandalwood oil, except that because of the slow liberation of santalol, it produces no irritation of the gastrointestinal tract nor of the kidneys and urinary passages, nor any unpleasant odor or eructations.

It is claimed to be useful like santal oil for gonorrheal urethritis.

Dosage.—1.5 Cc. (24 minims) usually given in three capsules of 0.5 Cc. (8 minims) each, three times a day.

Manufactured by Knoll & Co., Ludwigshafen, a. R., Germany (Knoll & Co., New York). German patent No. 173,240. U. S. patent No. 862,858 (Aug. 6, 1907; expires 1924). U. S. trademark No. 61,255.

SECACORNIN.—Ergotin Roche.—Secacornin is a solution of the active principles of ergot in a menstruum consisting of distilled water, glycerin and 7.5 per cent. of alcohol. 1 Cc. of secacornin corresponds to 4 Gm. of ergot U. S. P. and is said to be standardized according to the method of Kehrer (Arch. f. exp. Path. u. Pharm., vol. lviii).

Secacornin is prepared from ergot by removing fat by means of benzin or similar solvent and exhausting by percolation with diluted alcohol. The total percolate is then deprived of its alcohol by distillation in vacuo. The resinous mass which separates after cooling is then carefully drained off and the clear filtrate having been evaporated to the consistency of an extract is mixed with the general vehicle.

Secacornin is a dark brown solution, said to be sterile. It is claimed that it does not deteriorate on keeping.

Secacornin responds to the following identity test: 1.6 Cc. secacornin is mixed with 3.0 Cc. distilled water, and 5 drops of 10 per cent. ammonia water, and shaken out in a separatory funnel with 20.0 Cc. of ether. After complete separation of the two liquids, the aqueous solution is allowed to flow off, the remaining ether washed with 2.0 Cc. distilled water, and the wash-water likewise carefully separated. After this the ethereal solution is filtered into an Erlenmeyer flask, and traces of water removed by the use of as much anhydrous sodium sulphate as can be held on the point of a knife. Following this it is filtered into a small glass dish and cautiously evaporated.

The residue is then dissolved in from 1 to 1½ Cc. ferric-chloride-acetic acid (1 drop of Liq. ferri chloridi with 200 Cc. acetic acid). To this solution is added with a pipette, cautiously and without mixing, in order to form an understratum, 3.0 Cc. pure concentrated sulphuric acid. At the point of contact of the two liquids a characteristic blue to violet ring forms after a time.

Action and Uses.—The same as ergot.

Dosage.—0.5 Cc. (8 minims) are equivalent to 2 Cc. (30 minims) of fluid extract of ergot U. S. P. It may be given by intramuscular injection in doses of 0.5 to 1 Cc. (8 to 15 minims).

Manufactured by F. Hoffmann-La Roche & Co., Basel, Switzerland (The Hoffmann-La Roche Chemical Works, New York). Not patented. U. S. trademark No. 58,830.

SERUMS AND VACCINES

The vaccines, viruses and serums constitute one of the most important groups of drugs with which the physician has to deal. Some preparations of this group are specific cures for certain diseases; others are invaluable in prophylaxis and diagnosis. The great importance of exercising some degree of governmental control over these products was recognized by the passage by Congress in 1902, of a law entitled "An Act to Regulate the Sale of Viruses, Serums, Toxins and Analogous Products in the District of Columbia, to Regulate Interstate Traffic in Said Articles, and for Other Purposes." The law provides for the licensing of manufacturers who make these products. In order to obtain such a license it is necessary for an establishment desiring it to request the Surgeon-General of the U. S. Public Health and Marine-Hospital Service to have an inspection made of its laboratories, methods, products, etc. This inspection is made by an officer of that service, and consists in a careful examination of the stables, laboratory facilities, methods, animals, collection of the serum, standardization, and tests for potency, purity and amount of preservation. Samples of the products from licensed manufacturers are bought on the open market and examined at frequent intervals in the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The inspection of the laboratories is repeated at least once a year and if unsanitary conditions are found, or if the products are not what they are claimed, the license is suspended.

Antidiphtheric and antitetanic serums are required to conform strictly to the standards which have been established by the United States Government. There being no established standard for the various other products they are not examined for their therapeutic value in the laboratory, but are tested for the amount of preservative and freedom from bacterial and toxic contaminations. Vaccine virus is examined particularly for its freedom from pathogenic bacteria, especially tetanus, and also for its potency.

The following pages contain a description of the preparations which may be legally sold in interstate commerce in the United States and which have not been found to conflict with the rules of the Council:

SERUMS AND VIRUSES

SERUM ANTIDIPHTHERICUM AND ANTIDIPHTHERIC GLOBULINS.—Antidiphtheric Serum or Diphtheria Antitoxin is an official preparation; for description see the U. S. Pharmacopeia, 8th decennial revision. The diphtheria antitoxin sold in interstate commerce in the United States and in the District of Columbia is required to conform to the standard established by the United States Public Health and Marine-Hospital Service. Some manufacturers mix serums of different strengths so as to secure a preparation containing approximately a definite number of units per c.c. Most of the firms also market a concentrated diphtheria antitoxin or antidiphtheric globulins prepared by the removal, by precipitation with neutral salts, of most of the constituents of the serum except that fraction of the globulins bearing antitoxic potency.

Inasmuch as the ordinary (not concentrated) serum antidiphthericum is contained in the U. S. P., it is desirable that the term "U. S. P." be used in connection with this product (and only with this one) in order to avoid confusion with the globulin preparations.

The French, German and Spanish Pharmacopeias recognize both liquid and desiccated preparations.

H. M. Alexander & Co., Marietta, Pa.

Diphtheria Antitoxin. **Only the antidiphtheric globulin is marketed; the antidiphtheric serum is concentrated and refined in accordance with recent improvements of the Gibson method. Marketed in syringes containing from 500 to 5,000 units.**

Burroughs, Wellcome & Co., London, England, and New York City.

Diphtheria Antitoxin Serum. **Serums of different values from a number of horses are mixed to yield a definite value (from 450 to 500 units per Cc.), also a high potency serum, 1 Cc. of which contains 1,000 units. Trikresol (0.3 per cent.) is added as a preservative. Marketed in hermetically-sealed vials containing 1,000 to 4,000 (Ehrlich-Behring) units; also a high potency serum containing from 1,000 to 10,000 units.**

Cutter Laboratory, Berkeley, Cal.

Diphtheria Antitoxin. Marketed in syringes containing 4,000 units; also in bulbs. Diphtheria antitoxin globulin marketed in syringes containing 1,000 units.

Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Diphtheria Antitoxin "Behring;" imported into the United States only upon special order.

Department of Health, City of New York.

Refined and Concentrated Diphtheria Antitoxin (Globulin). The preparation is a solution of the globulins of the blood which are soluble in a saturated sodium chloride solution; this contains most of the antitoxin. Preserved with chloroform. Marketed in syringes containing from 2,000 to 5,000 units, each Cc. containing 800 to 1,500 units. Also in bulk.

Wm. R. Hubbert, Detroit, Mich.

Diphtheric Antitoxin. Marketed only in bulk (usually from 1 to 10 liters).

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Diphtheria Antitoxin. Only antidiphtheric globulin is sold; this is marketed in syringes containing from 500 to 10,000 units each; also in vials containing from 1,000 to 5,000 units each. The latter are prepared more particularly for the use of Boards of Health.

Memorial Institute for Infectious Diseases, Chicago.

Antidiphtheritic Serum. Most of the antitoxin prepared is concentrated. Marketed in packages of from 1,000 to 5,000 units each, both in syringes ready for use and in bottles.

H. K. Mulford Co., Philadelphia.

Diphtheria Antitoxin, Concentrated (globulin). Prepared from serum antidiphthericum by the removal, by precipitation at 33⅓ per cent. saturation with ammonium sulphate, of the serum albumins and globulins. The product consists essentially of a soluble serum globulin freed from inorganic salts by dialysis and redissolved in physiological salt solution. Preserved with not more than ¼ per cent. trikresol or not more than 1/10 to 1 per cent. chloroform. Marketed in syringes containing from 1,000 to 5,000 units.

National Vaccine and Antitoxin Institute, Washington, D. C.

Diphtheria Antitoxin, Concentrated; prepared according to Gibson's method. Preserved with chloroform. Marketed in syringes containing from 500 to 6,000 units.

Parke, Davis & Co., Detroit, Mich.

Antidiphtheric Serum, U. S. P.; preserved with 0.4 per cent. trikresol; marketed in piston syringe containers of from 500 to 5,000 units each.

Antidiphtheric Globulins. Marketed as above.

Antidiphtheric Globulins (dry). Marketed in packages of 3,000 units each. The dry powder is readily soluble in water and will keep indefinitely.

Frederick Stearns & Co., Detroit, Mich.

Diphtheric Antitoxin, U. S. P. Preserved with 0.4 per cent. trikresol. Marketed in syringe containers holding from 1,000 to 4,000 units.

Concentrated Diphtheric Antitoxin. Prepared by the Gibson process; preserved with chloroform (2.4 minims per fluid ounce). Marketed as above; also in syringes containing 5,000 units.

ANTIDYSENTERIC SERUM.—

H. K. Mulford Co., Philadelphia, Pa.

Antidysenteric Serum. The blood serum of horses immunized against the Shiga bacillus. Recommended in dysentery and summer diarrheas where the bacillus of Shiga is an etiologic factor. Marketed in syringes containing 10 Cc. Dose 10 to 40 Cc. every four to eight hours; to be injected hypodermically.

ANTIGONOCOCCIC SERUM.—Favorable results have been reported from the use of antigonococcic serum in the treatment of chronic complications of gonorrhea involving serous cavities, especially the joints. The results in the case of the chronic stages and sequels of gonorrhea involving the genito-urinary tract seem to be less favorable while it seems to have still less value in acute gonorrheal affections.

Parke, Davis & Co., Detroit, Mich.

Antigonococcic Serum, prepared from the blood of rams immunized against both dead and living cultures of virulent gonococci according to the method of Rogers and Torrey[1]. Marketed in bulbs containing 2 Cc. each.

Dosage. Two Cc. subcutaneously, to be repeated in 1 to 4 days.

ANTIMENINGOCOCCUS SERUM.—

Farbwerke, vorm. Meister, Lucius und Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York..

Meningococcus Serum "Hoechst." A serum prepared by the immunization of horses with virulent cultures of diplococcus intracellularis or its products according to Ruppel's method. Recommended as a diagnostic agent for distinguishing (by the agglutination test) the meningococcus from other diplococci and as a prophylactic and curative agent. It is injected subcutaneously or intralumbarly or in the dry form may be used as a dusting powder applied to the nasopharyngeal space or tonsils. Marketed in powder form mixed with 49.5 per cent. milk sugar and 0.5 per cent. alumnol, for use as a dusting powder; also in the dried form to be dissolved in 10 parts of water and injected subcutaneously or intralumbarly; also in the liquid form, preserved with 0.5 per cent. phenol (for agglutination tests).

Dose. 2.5 Gm. of the dried serum, dissolved in 25 Cc. water, subcutaneously to be followed, after lumbar puncture, by 10 to 15 Cc. or more, intralumbarly. In severe cases much larger amounts are recommended. 1 Gm. as a protective dose.

H. K. Mulford Co., Philadelphia.

Antimeningitis Serum. A serum prepared from the blood of horses immunized to the meningococcus of Weichselbaum (Diplococcus intracellularis), according to the method of Flexner (inoculation of autolyzed cultures followed by living organisms).

It is useful for the treatment of epidemic cerebrospinal meningitis, due to the meningococcus.

Dose. 15 to 30 Cc. (4 to 8 fluidrams) given by intraspinal injection. For young infants, 10 Cc. (2½ fluidrams). The serum is marketed in aseptic glass syringes with sterilized needle.

ANTIPNEUMOCOCCUS SERUM.—Antipneumococcus serum is the blood serum of horses immunized against pneumococci. Frequently both dead and living pneumococci are used.

Use.—It has been said to be useful in the treatment of pneumonia when injected subcutaneously. Hektoen, Weaver and Tunnicliff have recently examined the serums of this class found on the American market. They summarize their views as follows: "In the antipneumococcus serums it was impossible to demonstrate antibodies for pneumococci by any method employed."

"It is our belief that the claims for the usefulness of antistreptococcus and antipneumococcus serums rest on impressions from results in clinical cases in man, and have in most cases no foundation whatsoever in experimental tests."

H. K. Mulford Co., Philadelphia.

Antipneumococcic Serum, stated to be prepared by immunizing horses with both dead and living pneumococci. Marketed in syringes containing 20 Cc. Dose: 20 to 100 Cc.

Frederick Stearns & Co., Detroit, Mich.

Pneumolytic Serum, stated to be a composite polyvalent serum prepared by injecting horses with virulent pneumococci from various sources. The horses are first immunized with diphtheria toxin. Marketed in syringes containing 20 Cc. Dose: 10 to 20 Cc., to be repeated in 12 to 24 hours.

ANTISTAPHYLOCOCCUS SERUM.—

Burroughs, Wellcome & Co., London, England, and New York.

Antistaphylococcus Serum is stated to be obtained from horses injected with killed cultures of staphylococcus pyogenes aureus, albus and citreus. Preserved with trikresol. Marketed in vials containing 25 to 50 Cc. Recommended in the treatment of various staphylococcus infections.

ANTISTREPTOCOCCUS SERUM.—Antistreptococcus serums are prepared by immunizing horses with virulent cultures of streptococci. Most manufacturers employ several strains of streptococci, thus obtaining polyvalent serums. In some cases humanized strains of streptococci are used; in others, cultures, the virulence of which has been much increased by passage through animals. In a few cases both human and animal strains are employed. Some manufacturers employ horses immunized against diphtheria, making the doubtful claim that such serum is especially active in stimulating leucocytosis and phagocytosis.

Actions and Uses.—Antistreptococcus serum has been claimed to be useful in the treatment of streptococcus infections such as erysipelas, scarlet fever, puerperal septicemia, tuberculosis (mixed infection), etc. It has also been used as a prophylactic prior to surgical operations, after labor, in scarlet fever epidemics, etc. Its value is doubtful.

Hektoen, Weaver and Tunnicliff recently examined the preparations found on the American market; in a preliminary report (1) they state: "Streptococcus opsonins could not be demonstrated in any of the serums tested, and activation by fresh serums was not accomplished to any significant degree. When they were injected into rabbits, increase in streptococcus opsonins could not be demonstrated in the animals' serums in any notable degree, except in some instances. Attempts to obtain protective and curative effects from the injection of antistreptococcus serums in rabbits, guinea pigs, and in a more

1. THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 918.

limited scale in mice, met failure. The serums often seemed to reduce the natural resistance and to hasten death."

"It is our belief that the claims for the usefulness of antistreptococcus and antipneumococcus serums rest on impressions from results in clinical cases in man, and have in most cases no foundation whatsoever in experimental tests."

Antistreptococcus serum (liquid and desiccated) is recognized by the French pharmacopeia.

Burroughs, Wellcome & Co., London, England, and New York.

Polyvalent Antistreptococcus Serum is stated to be obtained from horses injected with killed cultures of a number of strains of cases of erysipelas, scarlet fever, puerperal fever, rheumatism, septicemia, angina, pneumonia and ulcerative endocarditis.

Antistreptococcus Serum (Erysipelas) is stated to be obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of erysipelas.

Antistreptococcus Serum (Rheumatism) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of rheumatism.

Antistreptococcus Serum (Scarlatina) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of scarlet fever.

Antistreptococcus Serum (Puerperal Fever) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of puerperal fever.

All of the above are prepared with trikresol and are marketed in hermetically-sealed vials containing in most cases 25 to 50 Cc.

Cutter Laboratory, Berkeley, Cal.

Polyvalent Streptococcic Serum, stated to be prepared by the injection of many strains of living humanized cultures of streptococci into horses immunized with diphtheria toxin. Marketed in piston syringe containers, each containing 10 Cc. of serum.

Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. (Schering & Glatz, New York.)

Aronson's Antistreptococcus Serum, stated to be a polyvalent serum obtained by inoculating horses with streptococci the virulence of which has been highly exalted by animal passage and with various humanized strains of streptococci. Preserved with 0.4 per cent. trikresol. Dose: 20 to 100 Cc., according to the severity of the case and the age of the patient.

Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.

Antistreptococcic Serum, Hoechst, stated to be a polyvalent serum, prepared by immunizing horses against streptococcus cultures of the most varied origin and with highly virulent passage cultures according to the method of Meyer and Ruppel. Contains no artificial preservatives. Dosage: 1 to 10 Cc. for immunization. 2 to 25 Cc. for single curative dose. 3 to 50 Cc. for double curative dose.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Antistreptococcic Serum Polyvalent: marketed in 10 Cc. syringes. Dose: as a prophylactic, 10 Cc.; curative, 20 to 100 Cc.

H. K. Mulford Co., Philadelphia.

Antistreptococcic Serum, stated to be the serum of horses which have been treated with streptococci of various strains. Marketed in 10 Cc. syringes. Dose: 20 to 80 Cc.

Parke, Davis & Co., Detroit, Mich.

Antistreptococcic Serum, stated to be a polyvalent serum; prepared by immunizing horses with killed cultures of streptococci; the latter are obtained from various human streptococcus infections and certain pathologic conditions common to animals. Preserved with trikresol. Marketed in 10 Cc. piston syringe containers, also in bulbs containing 10 Cc. each.

Frederick Stearns & Co., Detroit, Mich.

Streptolytic Serum, stated to be a composite and polyvalent serum; composite because it contains diphtheric antitoxin in addition to the streptococcus antibodies. Marketed in 10 Cc. syringes some of which have attachments for subcutaneous injection, others for rectal injection.

ANTITUBERCLE SERUM.—

Parke, Davis & Co., Detroit, Mich.

Antituberele Serum. A serum prepared by treating horses for several months with the toxic products of the tubercle germs. Stated to be an experimental remedy claimed by some to give favorable results in tuberculosis. Marketed in 1, 2 and 4 Cc. bulbs and in 1 ounce bottles. Dose: 1 to 4 Cc. daily hypodermically.

ANTITYPHOID SERUM.—Antityphoid serum is a serum obtained from horses which have been injected with killed cultures of bacillus typhosus.

Actions and Uses.—Antityphoid serum has been employed in the treatment of typhoid fever, but the evidence as to its value is conflicting.

Burroughs, Wellcome & Co., London, England, and New York.

Anti-typhoid Serum is stated to be obtained from horses injected with killed cultures of Bacillus typhosus. Marketed in hermetically-sealed vials containing 25 to 50 Cc.

TETANUS ANTITOXIN.—(Antitetanic Serum and Antitetanic Globulin).—Antitetanic Serum is the blood serum of horses immunized to the toxin of the tetanus bacillus. It is marketed in both liquid and dry forms. Some manufacturers prepare an Antitetanic Globulin; this contains a solution of the globulins of the blood, which are soluble in a saturated sodium chloride solution, together with the antitoxin, and contains the latter in concentrated form.

The antitetanic serum sold in interstate commerce in the United States should conform to the standard established by the United States Public Health and Marine-Hospital Service. This standard is defined as follows (Treasury Department Circular No. 61, Oct. 25, 1907; Bulletin 43, Hygienic Laboratory): "The immunity unit for measuring the strength of tetanus antitoxin shall be ten times the least quantity of antitetanic serum necessary to save the life of a 350-gram guinea pig for ninety-six hours against the official test dose of a standard toxin furnished by the Hygienic Laboratory of the Public Health and Marine-Hospital Service."

Uses.—Antitetanic serum is used both as a prophylactic and a curative agent in tetanus. The dried product may be used as a dusting powder.

Dose.—Immunizing, 1,500 units; in tetanus, 3,000 to 20,000 units every four to eight hours.

Serum Antitetanicum is official in the Belgian, French and Swiss Pharmacopeias. Both liquid and desiccated preparations are recognized by the French Pharmacopeia.

Department of Health, City of New York.

Antitetanic Globulin. Preserved with chloroform. Marketed in vials containing 1,500 to 5,000 units.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Only the concentrated antitoxin (globulin) is marketed; this is offered in syringes containing from 1,500 to 5,000 units each.

H. K. Mulford Co., Philadelphia, Pa.

Tetanus Antitoxin, marketed in syringes containing 1,500 units.

Parke, Davis & Co., Detroit, Mich.

Antitetanic Serum, marketed as follows:

1. In piston containers, 1,500 units.
2. In bulbs containing 1,500 units.
3. Dry.
4. Antitetanic Dusting Powder; the dried serum mixed with a small quantity of chloretone (chlorbutanol).

VACCINE VIRUS.—Vaccine virus is the material obtained from the skin eruptions of calves having vaccinia. The "pulp" is ground and mixed with varying percentages of glycerin. The latter has a certain degree of antiseptic action. It is usually marketed in capillary tubes or as glycerinated points. The serums which exude after the removal of the crusts have been used by some manufacturers for the preparation of "dry lymph points." These are generally regarded as unsatisfactory and the new federal regulations forbid interstate traffic in them after Jan. 1, 1910.

Some firms test the activity of their products on the cornea of rabbits and on calves.

Vaccine virus is official in the Belgian Pharmacopeia under the name "Vaccinum"; in the Swiss as "Virus Vaccinum."

H. M. Alexander & Co., Marietta, Pa.

Marketed as "glycerinated lymph" in capillary tubes; also as "glycerinated vaccine points" and as "dry points."

Cutter Laboratory, Berkeley, Cal.

Marketed in two forms; ivory points (dry) and in capillary tubes.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.),

Glycerinated Vaccine Virus: (a) in glass capillary tubes and in bulk (for 10, 20 or 50 vaccinations); (b) upon Lederle's Protected Ivory Points; the latter are contained in capsule-like glass tubes which do not require breaking.

H. K. Mulford Co., Philadelphia.

Glycerinated Vaccine Lymph, in sealed capillary tubes. Glycerinated Glass Vaccine Points; glycerinated lymph on sterile glass points.

National Vaccine and Antitoxin Institute, Washington, D. C.

Glycerinated Vaccine Virus marketed in capillary tubes; Glycerinated Vaccine Virus on Ivory Points; special capsule.

Parke, Davis & Co., Detroit, Mich.

Glycerinated Vaccine: (a) in capillary tubes, (b) on ivory points. The points are contained in sealed glass tubes provided with Lee's breakable ring so that they may be opened without difficulty.

BACTERIAL VACCINES

Bacterial vaccines (cf. also tuberculin) are suspensions of the killed bacteria in physiologic salt solution; phenol (0.5 per cent.) is usually added as a preservative. Being suspensions, there is a tendency for the bacteria to settle on standing; hence the vial should be shaken before the syringe is filled and the latter should be shaken before injecting.

Pharmacopeial Preparation.—The French Pharmacopeia contains a *"Vaccin antipesteux,"* consisting of a suspension of killed plague bacilli and a *"Vaccin antipesteux sensibilisé,"* prepared by treating killed plague bacilli with antiplague serum. (Antiplague Serum is also official in the French Pharmacopeia.)

Actions and Uses.—The use of many of these vaccines is in the experimental stage. Bacterial vaccines are often prepared from cultures obtained from the individual to be treated (autogenous vaccines); these usually give the best results. In fact some authors maintain that "stock" vaccines should be used only when it is impracticable to secure the autogenous agent.

Bacterial vaccines are used to aid the production of an active immunity. Great care and skill are necessary for their proper use and no definite statements as to dosage, etc., can be given; the physician must be guided by the condition of the patient and the manner in which the latter reacts to the treatment.

The following were licensed to manufacture and sell in interstate commerce products of this character prior to July 15, 1909. (Cf. also Tuberculin).

Burroughs Wellcome & Co., London, England and New York City.
Lederle Antitoxin Laboratories, New York City.
H. K. Mulford Co., Philadelphia, Pa.
National Vaccine and Antitoxin Institute, Washington, D. C.
Parke, Davis & Co., Detroit, Mich.
Swiss Serum and Vaccine Institute, Berne, Switzerland.

The following products have been submitted to the Council:

Some of the licensed firms do not market stock vaccines, but prepare them only from cultures from patients.

ACNE VACCINE—A vaccine prepared from acne bacilli (Bacillus acnes). Said to be useful in the milder forms of acne.

H. K. Mulford Co., Philadelphia.

Acne-Bacterin. This product is marketed in four syringes containing respectively 25 million, 50 million, 100 million and 200 million killed acne bacilli, sold in a package or as separate syringes.

Dose. Initially 5 to 25 millions.

BACILLUS COLI VACCINE.—Bacillus Coli Vaccine seems to cause distinct improvement in certain infections of the urinary tract, due to the colon bacillus. Pain and frequency of micturition are said to be quickly relieved, but complete elimination of the bacteria is stated to be rare. It has also been used in subacute and chronic appendicitis and in gall bladder fistulas where there was an infection with the colon bacillus.

H. K. Mulford Co., Philadelphia.

Coli-Bacterin. Marketed in 1 Cc. vials; each Cc. is said to contain approximately 50,000,000 killed bacilli suspended in normal salt solution.

BACILLUS PYOCYANEUS VACCINE.—This is said to be useful in local infections in which this organism is present. A recent writer states that he has never experienced the slightest beneficial effect either from the autogenous or stock vaccines prepared from this organism, and considers its use illogical.

H. K. Mulford Co., Philadelphia.

Pyocyano-Bacterin. Each Cc. is said to contain about 30,000,000 killed bacilli.

FRIEDLANDER VACCINE.—A vaccine prepared from the Friedlander bacillus. It is said to be useful in infections by the Friedlander bacillus, such as chronic nasal catarrh and chronic gleet.

H. K. Mulford Co., Philadelphia.

Friedlander Bacterin. This product is marketed in packages of four syringes, containing respectively 50 million, 100 million, 200 million and 400 million killed Friedlander bacilli. The single syringes may be obtained separately.

GONOCOCCUS VACCINE.—Gonococcus vaccine has been used with much success in subacute and chronic gonococcus infections involving the prostate, joints, eyes, etc. It has been stated that the strains of the gonococcus are not so diversified as are those of many other organisms and that therefore better results may be expected from stock vaccines of this organism than in many other cases.

Cutter Laboratory, Berkeley, Cal.

Gonococcic Vaccine. Marketed in 1 Cc. vials; each Cc. containing about 50,000,000 cocci suspended in physiological salt solution with 0.4 per cent. trikresol.

H. K. Mulford Co., Philadelphia.

Neisser Bacterin. Each Cc. is said to contain approximately 50,000,000 killed gonococci; preserved by 0.5 per cent. phenol.

National Vaccine and Antitoxin Institute, Washington, D. C.

Gonococcic Vaccine. Marketed in syringes each said to contain 2,000,000 to 50,000,000 bacteria; sterilized by heat.

Parke, Davis & Co., Detroit, Mich.

Gonococcus Vaccine. P., D. & Co. Marketed in bulbs each said to contain 20,000,000 bacteria; sterilized by heat.

MICROCOCCUS NEOFORMANS VACCINE.—Micrococcus neoformans vaccine is claimed to be beneficial in ulcerated tumors in which this organism occurs as a secondary infection.

H. K. Mulford Co., Philadelphia.

Neoformans-Bacterin. Each Cc. is said to contain approximately 50,000,000 killed neoformans micrococci.

PNEUMOCOCCUS VACCINE.—Pneumococcus vaccine has been claimed to be useful in pneumococcic infections. In laboratory experiments it was found inert so far as indicated by any change in the opsonic index when injected into rabbits.

H. K. Mulford Co., Philadelphia.

Pneumo-Bacterin. Each Cc. is said to contain about 50,000,000 killed pneumococci.

STAPHYLOCOCCUS VACCINES.—These have been used with much success in localized surface infections such as acne, acute boils, carbuncles and septic wounds, in multiple subcutaneous abscesses, sinuses, chronic osteomyelitis, etc. The best results are obtained with autogenous vaccines. Laboratory experiments have also shown that these vaccines possess distinct antigenic properties when tested by infections in rabbits with subsequent opsonin determinations.

Cutter Laboratory, Berkeley, Cal.

Staphylococcus Vaccine. Each Cc. contains about 500,000,000 cocci preserved with 0.4 per cent. trikresol.

H. K. Mulford Co., Philadelphia.

Four varieties of vaccine are offered:

1. *Staphylo-Albus Bacterin.* From staphylococcus pyogenes albus.
2. *Staphylo-Aureus Bacterin.* From Staphylococcus pyogenes aureus.
3. *Staphylo-Bacterin.* Containing a mixed culture of staphylococcus albus, aureus, and citreus.
4. *Staphylo-Acne-Bacterin.* A mixed vaccine prepared from cultures of staphylococcus albus, aureus, and citreus with bacillus acnes.

All the above are marketed in packages of four syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed staphylococci. The syringes of staphylo-acne bacterin contain in addition, respectively, 25 million, 50 million, 100 million and 200 million acne bacilli. The single syringes may be obtained separately.

Parke, Davis & Co., Detroit, Mich.

Four forms of vaccines are offered.
1. From staphylococcus pyogenes albus.
2. From staphylococcus pyogenes aureus.
3. From staphylococcus pyogenes citreus.
4. From the three preceding combined.

Each Cc. contains about 400,000,000 bacteria.

STREPTOCOCCUS VACCINE.—Recommended in various infections by streptococci (scarlet fever, puerperal septicemia, erysipelas, etc.).

H. K. Mulford Co., Philadelphia.

Strepto-bacterin. Each Cc. contains about 50,000,000 killed streptococci.

Parke, Davis & Co., Detroit, Mich.

Streptococcus Vaccine. Each Cc. contains about 40,000,000 streptococci pyogenes.

TYPHOID VACCINE.—Inoculations with typhoid vaccines have been practiced extensively in various armies; the results, both as regards the morbidity and the mortality from typhoid fever seem to have been distinctly favorable. Such inoculations have been recommended in institutions where many of the personnel are not infrequently exposed to typhoid infection and in communities threatened with or affected by typhoid epidemics. It has been suggested that typhoid vaccines may be of value in the treatment of typhoid carriers.

H. K. Mulford Co., Philadelphia.

Typho-bacterin. Each Cc. contains about 50,000,000 killed typhoid bacilli.

TUBERCULIN PREPARATIONS

Tuberculins represent the toxins of the tubercle bacillus. They may be in the form of a filtered extract of the bacilli or may be composed of the pulverized insoluble substance of the bacilli themselves. In the latter, or emulsified form, tuberculin is known as tubercle vaccine, and might be classed with the "Bacterial Vaccines" (which see). Tuberculins are therefore of two general classes:

1. Those prepared from the germ-free culture media, and containing for the most part only soluble products of the bacillus. This class includes Tuberculin "old" (or Tuberculin Koch) and Tuberculin Denys (Bouillon Filtré).

2. Those which contain the greater part of the germ body itself; they include the new tuberculins of Koch ("T. R." and the "New Tuberculin Koch [Bacillus emulsion]").

OLD TUBERCULIN, "O. T." (Tuberculin Originale, "T. O."; Tuberculin Koch).

Old Tuberculin is prepared by evaporating a 6 to 8 weeks' bouillon culture of tubercle bacilli at boiling temperature to 1/10 of its volume and filtration through clay or porcelain. A clear, syrupy, amber colored fluid; containing about 50 per cent. glycerin[1]. Frequently marketed in "serial dilutions" by which the doses may be gradually increased.

TUBERCULIN "DENYS" ("B. F."; Bouillon Filtrate; Bouillon Filtré, Denys).

This is the bouillon from cultures on which tubercle bacilli of the human type have grown to maturity (5 to 6 weeks) freed from germs by filtration through porcelain.

"NEW TUBERCULIN"—"T. R."—New Tuberculin represents a portion of the tubercle bacillus.

It is prepared as follows: A suspension of ground virulent tubercle bacilli is centrifugalized; the upper layer, consisting of extractives and fatty substances mixed with bacilli, is removed while other bacilli and fragments are thrown to the bottom. The sediment is again ground and centrifugalized; the process is repeated until almost no sediment remains. The second and supernatant liquids are united and to them glycerin, 20 per cent., and a little formaldehyde in solution are added; this emulsion is the "T. R." Each Cc. represents the residue from approximately 10 mg. dry originally virulent tubercle bacilli (human).

NEW TUBERCULIN, KOCH, BACILLI EMULSION ("B. E."). This represents the entire bacilli whether soluble or insoluble.

The germs are simply crushed and pulverized and mixed with equal parts of water and glycerin. The suspension contains 5 mg. dry, originally virulent, tubercle bacilli (human).

Action and Uses.—The different modifications and preparations of tuberculin are practically identical in their physiologic effects. They vary chiefly in a quantitative way and in absorbability. They are used both for diagnostic and therapeutic purposes:

Diagnostic Use.—"Tuberculin depends for its diagnostic value on a special sensitiveness acquired by the tissues after a tuberculous infection. This sensitiveness is manifested by an inflammatory response when tuberculin is brought in contact with the skin or mucous membrane."[1] The original tuberculin of Koch is considered the most satisfactory preparation for diagnosis but other filtered extracts are suitable. There are four principal methods of applying the test: 1. The Cutaneous Test (von Pirquet); 2. The Inunction Test (Moro); 3. The Conjunctival Test (Wolff-Eisner, Calmette); 4. The Subcutaneous Test. The proper performance and correct interpretation of these tests require much knowledge and experience. Some of them, notably the conjunctival and subcutaneous tests, may, under certain circumstances and in the hands of inexperienced or careless persons, do much harm.

Use in Therapeutics.—The successful employment of tuberculin in therapeutics depends upon a thorough knowledge of the disease and the individual patient; in many cases its use may do much harm. Baldwin[2] states the general principle involved as follows:

"The therapeutic use of tuberculin may have two fairly definite objects in view: One is to diminish the sensitiveness to the toxin—i. e., to itself—the other is to create intermittent local reactions and thus to stimulate the disease focus to heal or become absorbed. The possibility of the production of a recognizable immunity to the disease thus far by any form of tuberculin treatment is open to question. A certain degree of resistance is indirectly accomplished when sensitiveness to tuberculin is decreased to a marked degree, accompanied by constitutional improvement. Such specific resistance as can be obtained by tuberculin is gradually lost after the treatment is discontinued, so that statements that patients can be made 'immune' are unjustified."

As regards the choice of tuberculin and the method of administration Baldwin says:

"For therapeutic use the choice chiefly lies between the solutions and emulsions or vaccines. Opinions are too variant to permit the formulation of rules. In general the dosage is more controllable with solutions, and reactions are less frequent from emulsions." "Owing to the uncertain absorption of emulsions, reactions may ensue unexpectedly if the dose is increased greatly. The solutions are therefore safer for tuberculin immunization until some accurate standards for determining the dosage shall be made. The dosage is at present empirical; each individual case must be an experiment, and the symptoms carefully observed before each dose. The subcutaneous injection is the only satisfactory method for the administration of tuberculin. Tuberculin pills or capsules for stomach ingestion and suppositories per rectum are too uncertain of absorption to warrant any recommendation. Inunctions of tuberculin have a possible field in treatment of skin tuberculosis; otherwise they are also impracticable."

Pharmacopeial Preparations.—Koch's "old tuberculin" is official in the German Pharmacopeia under the name "Tuberkulinum-Kochi, Tuberkulin"; in the Belgian under the name "Tuberculinum"; in the Swiss under the name "Tuberkulinum Concentratum"; and in the French under the name "Tuberculine Brute." The French and Swiss Pharmacopeias contain also diluted tuberculin ("Tuberkulinum Normale Dilutum" of the Swiss, "Tuberculine Diluée" of the French, Pharmacopeia), prepared by diluting 1 Cc. of the concentrated tuberculin with 10 Cc. of 0.5 per cent. phenol. The French Pharmacopeia contains also a "Tuberculine Solide Purifiée" prepared by precipitating the "Tuberculine Brute" with ten times its volume of 80 per cent. alcohol, washing the precipitate with ether and drying *in vacuo*. For use 0.01 Gm. of this is dissolved in 100 Gm. distilled water.

TUBERCULOSIS SERUM VACCINE.—An emulsion of human tubercle bacilli, sensitized by the application of tuberculosis serum.

The production of sensitized tubercle bacilli, or bacilli which are capable of complement fixation, is accomplished with the assistance of an efficient tuberculosis-immune serum, which has a considerable content of specific amboceptor antituberculin. The content of this serum in specific amboceptor is ascertained according to the method of complement fixation. Besides antituberculin, this serum contains agglutinating, precipitating and bacteriotrope immune bodies.

Emulsions of sensitized tubercle bacilli are prepared as follows: Human tubercle bacilli, after having been thoroughly washed and briskly dried, are mixed with fresh tuberculosis serum, the quantity of which is calculated from the determination of the immunity bodies. This mixture is left for several days in the incubator, at a temperature of 37° C., and is then shaken in an apparatus, with glass beads, until intact tubercle bacilli are no longer demon-

1. Some firms add trikresol to their preparations of this tuberculin; the necessity or advisability of this is considered questionable if the glycerin is of the proper strength. It is stated that trikresol will, in the course of time, weaken the tuberculin.

1. Baldwin: THE JOURNAL A. M. A., 1910, liv, 260.
2. Baldwin: THE JOURNAL A. M. A., 1910, liv, 260.

strable in the removed sample. The broken-up masses of bacilli are then separated from the serum, through centrifugalization, washed with physiologic salt solution, and finally worked into fine emulsions, with 40 per cent. glycerin water, to which has been added phenol 0.5 per cent. The contents of this emulsion in bacillary substance amounts to 0.005 Gm. in 1 Cc. The original emulsions and dilutions are to all intents and purposes permanently durable, provided they are kept in a cool place, not exposed to freezing, and protected from the light.

Actions and Uses.—It is claimed that this emulsion contains specific immune bodies which are non-poisonous for healthy and tuberculous subjects, but are capable of exerting a remarkable effect on tuberculous processes.

Preparations[1]*:*

The use of ready made "serial dilutions" as a routine practice is not to be commended. Such solutions deteriorate rapidly, especially in the presence of phenol or trikresol and the rate of such deterioration may not be the same in different dilutions; competent authorities think it desirable to limit the use of dilutions to one month or even less in the case of soluble tuberculins. Some firms state the date of manufacture on the labels; it is desirable that this should de done in all cases. Sufficient precautions are often not given as to the care necessary in passing from a weak to a stronger solution.

The dangers from the use of tuberculin in the eye are not sufficiently emphasized by some firms.

The "conclusions" which some manufacturers state may be drawn from a "positive reaction" seem to the Council to be in some cases stated too dogmatically.

H. M. Alexander & Co., Marietta, Pa.

Original Tuberculin "O. T." (Koch); marketed in 1 and 3 Cc. vials.

Tuberculin.—Bouillon Filtrate "B. F." (Human). 1 and 3 Cc. vials.

Tuberculin Residue. T. R. (Human) (Koch).

Bacillin Emulsion "B. E." (Human).

Dixon's Tubercle Bacilli Extract (See "Fluid of Dixon," Medical News, Jan. 17, 1891). An extract of tubercle bacilli dissolved in normal saline solution. Marketed in syringes containing the extract from 1 mg. bacilli. The standard therapeutic dose is a weekly injection of the contents of 1 syringe, to be reduced in amount and frequency if the patient shows signs of reaction.

Dixon's Suspension of Dead Tubercle Bacilli (See "Possibility of Establishing Tolerance for Tubercle Bacilli," Medical News, Oct. 19, 1889). A suspension of dead tubercle bacilli in physiologic salt solution which have been decreased by prolonged treatment with alcohol and ether. Marketed in syringes containing 0.001 mg. bacilli, which is the standard therapeutic dose (cf. preceding).

Tuberculin for the Cutaneous Test (von Pirquet). A solution of *tuberculin original* in capillary tubes. Solutions of two strengths, one for children and one for adults, are prepared.

Tuberculin Ointment Capsules (for the Moro Test). Consists of equal parts by weight of Koch's Old Tuberculin and anhydrous wool fat. Marketed in capsules.

Tuberculin for the Ophthalmic Test. Tuberculin Precipitatum, "T. P." Prepared by precipitation with 95 per cent. alcohol from Koch's Old Tuberculin. Marketed in tubes in solutions of two strengths (0.5 per cent. and 1 per cent.).

Tuberculins for the Detre Differential Diagnostic Test. Three capillary tubes: 1. Tuberculin Original, "T. O." 2. Bouillon Filtrate, "B. F." (Human). 3. Bouillon Filtrate, "B. F." (Bovine).

Cutter Laboratory, Berkeley, Cal.

Tuberculin "Old," Koch; Concentrated; in 1 Cc. vials and preserved with trikresol; for use in solutions only. Also in serial dilutions; the latter in packages containing 5 bottles each holding about 8 Cc., ranging from 0.01 to 100 mg. per Cc.

Deny's Bouillon Filtrate; in 1 Cc. vials; preserved with trikresol; for use in dilutions only. Also in serial dilutions.

Tuberculin, Koch (concentrated).—For the *cutaneous reaction;* in capillary pipettes.

Tuberculin, Purified; 1 per cent. solution, for the ophthalmic reaction.

Farbwerke vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Tuberculin "Koch" (old). Marketed in vials containing 1 Cc., 5 Cc. or 50 Cc.

New Tuberculin "Koch" (T. R.). Marketed in vials containing 1 Cc. and 5 Cc.

Koch's Bacilli Emulsion. Marketed in vials containing 1 Cc. and 5 Cc.

Tuberculosis Diagnostic "Hoechst." Dried tuberculin free from glycerin, prepared from Tuberculin Koch (old Tuberculin). To be used in 0.1 per cent. solutions for the tuberculo-ophthalmic reaction.

Tuberculosis Diagnostic "Hoechst" Dry in Tubes. Each tube contains 0.005 Gm. (1/10 grain).

Dosage. The contents of a tube are dissolved in 5 Cc. of cold sterile water.

Tuberculosis Diagnostic "Hoechst" 0.1 per cent. solution.

Dosage. The contents of the tube are ready for use.

Tuberculin T. O. A. Original Tuberculin T. O. A. This preparation is a bouillon filtrate. For preparation see Tuberculin "Deny's," Supplied in bottles containing 1 Cc. and 5 Cc.

Vacuum Tuberculin. Tuberculin T. O. A. reduced to 1/10 of its volume in a partial vacuum at a low temperature.

Actions and Uses. It is intended solely for the treatment of patients who exhibit too violent reactions to Old Tuberculin, to Tuberculin T. R. and to Tuberculin Bacilli Emulsion.

Vacuum Tuberculin is marketed in glass bottles containing 1 Cc. and 5 Cc.

Dry Dead Tubercle Germs. For use in making the bacillary emulsion for the tuberculo-opsonic test.

Bovine Tuberculin. Tuberculin corresponding to Tuberculin "Koch" Old but prepared from bovine bacilli. Marketed in bottles containing 1 Cc. or 5 Cc.

Bovine Bacilli Emulsion. Corresponding to Koch's Bacilli Emulsion but prepared from bovine bacilli. In original bottles containing 1 Cc. and 5 Cc.

Bovine Tuberculin T. R. Corresponding to Tuberculin T. R. but prepared from bovine bacilli. In bottles containing 1 Cc.

Bovine Tuberculin Old. A bouillon filtrate from bovine bacilli. Indications similar to those for Tuberculin T. O. A. Supplied in glass bottles containing 1 Cc. and 5 Cc.

Vacuum Bovine Tuberculin. A tuberculin prepared from bovine bacilli by the process for vacuum tuberculin. The advantage of the vacuum preparations is only in their better keeping qualities. Vacuum bovine tuberculin is supplied in glass bottles containing 1 Cc. and 5 Cc.

Polygenous Tubercle Bacilli Emulsion. A bacilli emulsion prepared from eight different cultures of tubercle bacilli which differ as much as possible from each other.

Dead Bovine Tubercle Bacilli. Supplied in flasks containing 1 Gm. and 5 Gm.

Tuberculin Residue. Tuberculin residue is supplied in the form of a moist paste and a dry preparation in vials of 1 Gm. and 5 Gm. each.

Tuberculosis Serum Vaccine "Hoechst." Emulsions of sensitized tubercle bacilli are supplied in the original concentration, in vials of 1 and 5 Cc. each, and also in serial dilutions.

Dosage. The treatment is begun with 0.1 Cc. of a dilution 1/1,000,000 and the dose gradually increased until 0.5 Cc. of the original emulsions are readily tolerated and the corresponding clinical effects are demonstrable. It should not be used in the presence of cachexia, mixed infection or permanent rise of temperature.

Tuberculin Gesellschaft, St. Petersburg, Russia. (Morgenstern & Co., New York.)

Endotin.—Tuberculinum Purum. Endotin is the purified extract of a filtered culture of human bacilli in 50 per cent. glycerin.

Endotin is prepared exactly as Koch's "Old" tuberculin, but is subsequently treated with alcohol, ether, chloroform and xylol in order to eliminate the deuteroalbumoses present.

Tuberculinum purum is now supplied in a carton of 4 series which are intended to represent a course of tuberculin treatment. Each series consists of 7 ampuls.

H. K. Mulford Co., Philadelphia.

Tuberculin "Old" (O. T.). Marketed in 1 Cc. vials; also in serial dilutions in 5 vials of 8 Cc. each progressing by doses of 2 minims containing 0.001 mg. to 2 minims containing 10 mg.; in rectal suppositories containing from 1 to 500 mg. tuberculin in cacao butter.

Tuberculin, Bouillon Filtrate, Denys. Marketed in 1 Cc. vials; also in serial dilutions.

Tuberculin "R." Marketed both in concentrated form and in serial dilutions.

Bacillin Emulsion "B. F." Marketed in 1 Cc. vials; also in serial dilutions.

Tuberculin Ophthalmic Test Solution. Prepared from the precipitate obtained on treating Tuberculin "Old" with 70 per cent. alcohol; ½ and 1 per cent. solutions in physiological salt solutions are made of the dry precipitate.

Tuberculin Ophthalmic Test Tablets. The precipitate as prepared above; each tablet contains 1 mg. dried tuberculin; to be dissolved in 0.13 Cc. (2 minims) of water.

Tuberculin Ointment. An ointment consisting of 50 per cent. of tuberculin "Old" with an equal part of adeps lanae hydrosus.

Parke, Davis & Co., Detroit, Mich.:

Tuberculin, "Old" (Koch). Marketed in ½ Cc. bulbs.

Tuberculin B. E. (concentrated). Bacillus Emulsion, marketed in bulbs containing 1 mg. of dry tubercle solids per Cc.

Tuberculin B. F.; marketed in 1 Cc. bulbs; contains 0.4 per cent. trikresol.

Tuberculin T. R. Marketed in 1 Cc. bulbs in 2 strengths; one contains 0.001 mg. of tubercle solids per Cc., the other 1 mg. per Cc.

Tuberculin Discs for the Ophthalmic Reaction. Prepared by precipitating concentrated tuberculin with alcohol. Each disc contains 3.3 mg. tuberculin which when dissolved in 0.3 Cc. (5 minims) of water makes a 1 per cent. solution.

Moist Dead Tubercle Germs. For use in making the bacillary emulsion for the tuberculo-opsonic test.

Bacterio-Therapeutic Laboratory, Asheville, N. C.

This laboratory is licensed to manufacture all tuberculin preparations including Watery Extract of Tubercle Bacilli (von Ruck) and Tubercle Bacilli Emulsions (von Ruck); they are supplied only to physicians who make special applications for them.

OTHER SERUM PRODUCTS

ANTIRABIC VACCINE.—An emulsion of the cords of rabbits that have died as a result of the subdural injection of fixed rabies virus. The fixed virus is obtained by passage of rabies virus through a long series of rabbits until the

1. The directions given by some manufacturers as to the method of using and the conclusions to be drawn from the use of their preparations seem to the Council to be open to criticism in certain respects. Thus many firms enclose droppers for use in making dilutions; droppers are not sufficiently accurate for use with strong solutions. Pipettes, accurately calibrated in the metric system, should be used

animals die after a uniform period of incubation; this period may vary according to the strain of virus. The cords are removed from the rabbits and, as a rule, dried over potassium hydroxide for a period of from 2 to 15 days.

Use.—Antirabic vaccine is used for the preventative treatment of rabies. Emulsions of the cords are prepared with broth or saline solution and injected subcutaneously. The "scheme of dosage" varies according to circumstances, but the general principle consists in daily injections, beginning with an emulsion of a cord dried for from 8 to 14 days and gradually increasing until a "2 day" cord is used.

H. M. Alexander & Co., Marietta, Pa.

Antirabic Vaccine. The fixed virus is of the strain employed by the Hygienic Laboratory, Washington, D. C. An emulsion of vaccine in glycerin sufficient for one dose, together with a syringe and needle, is contained in a vacuum tube by which a low temperature may be maintained for a period of 36 hours. A dose is sent each day by mail; the treatment requires 18 to 22 days.

ERYSIPELAS AND PRODIGIOSUS TOXINS (Coley).—Parke, Davis & Co., Detroit, Mich. A mixed culture of Streptococcus Erysipelatis and Bacillus Prodigiosus made according to the specifications of Dr. W. B. Coley. Marketed in 1 oz. bottles.

Action and Uses.—Loeb summarizes the results of the treatment of sarcoma with these toxins as follows: "It is therefore likely that the treatment of inoperable sarcoma with the toxins of streptococcus and Bacillus prodigiosus leads to a cure in approximately 4 to 9 per cent. of cases. And some results obtained so far suggest that this method of treatment may prove of value as a postoperative procedure in diminishing the number of recurrences, and that in a certain number of cases it might limit the necessity for amputation of the limb in cases of sarcoma of the long bones. As to its mode of action, nothing definite can be stated, but it is likely that the toxins themselves, as well as the local and general reactions they produce, frequently affect the life of the sarcoma cells unfavorably."

The toxins are injected in gradually increasing doses, at first in a part of the body removed from the tumor, and later, if possible, directly into the tumor itself.

NORMAL HORSE SERUM.—Injection of this has been recommended in various conditions where the coagulative power of the blood is deficient, as in hemophilia, severe anemias and purpura with hemorrhagic tendencies. Applied locally to bleeding surfaces it is said to act as a styptic and to have a favorable action on septic wounds. There is, however, an element of danger in the use of this or any other serum in certain conditions (Anaphylaxis), and while this is slight because of the rarity of dangerous effects it is sufficient to make the use of serums for purposes in which their value is extremely doubtful a questionable procedure.

National Vaccine and Antitoxin Institute, Washington, D. C.

Sterile Normal Horse Serum. Marketed in syringes containing 10, 15 and 20 Cc.

H. K. Mulford Co., Philadelphia.

Normal Serum (From the Horse). Marketed in packages of two syringes, each containing 10 Cc.

Noguchi Test for Syphilis

Noguchi test for syphilis is a modification of the method of Wassermann and involves the use of two standardized papers as follows:

Amboceptor Paper.—This is obtained by injecting washed human blood corpuscles (erythrocytes) into rabbits, at intervals of five to seven days, over a period of five or six weeks. Ten days are allowed to elapse after the last injection. The rabbits are then bled and the serum collected. Filter paper is now saturated with this serum and allowed to dry. The paper is cut in strips and set aside until wanted for use. In this form amboceptor will keep for a considerable length of time.

Amboceptor paper is standardized by measuring its specific activity. The measurement of specific activity consists of finding the amount of amboceptor necessary to cause hemolysis in 1 Cc. of suspended human red corpuscles, one drop of blood in 4 Cc. normal saline solution with 0.02 Cc. of fresh guinea-pig serum. Incubate this at a temperature of 37½ C. for one hour. The quantity of paper necessary to cause hemolysis under these conditions is known as 1 unit.

Antigen Paper.—Antigen is made by rubbing liver tissue with sand and extracting with alcohol. One Gm. of liver tissue is macerated in 10 Cc. of alcohol for one week at 37.5 C., shaking the container every day. It is filtered until clear and the filtrate evaporated. The resulting extract is dissolved in ether and this solution poured into a large quantity of acetone. The acetone precipitates certain lipoid substances, which are then collected and redissolved in ether-alcohol and constitute the antigen. Antigen papers are now prepared by saturating filter paper with this solution and allowing it to dry, after which it is cut into strips. The unit of standardization is the amount of antigen paper necessary to prevent hemolysis of human red corpuscles in the presence of syphilitic serum. The antigen paper must not of itself cause hemolysis.

H. K. Mulford Co., Philadelphia.

Noguchi Test Mulford. Noguchi test Mulford consists of amboceptor paper and antigen paper in a package accompanied with full directions for use.

Amboceptor Paper. Amboceptor paper is marketed in a glass tube.

Antigen Paper. Antigen paper is marketed in tubes containing acetone, because it is believed to prevent oxidation. When wanted for use, a strip of the paper is removed from the vial and the acetone allowed to evaporate.

SILVER CITRATE.—Silver citrate, $Ag_3C_6H_5O_7$, is the normal silver salt of citric acid.

Solution of citric acid is neutralized with sodium carbonate and a solution of silver nitrate added with constant stirring. The precipitate is allowed to subside, washed with water, and dried on porous plates. The entire operation must be conducted under protection from the light.

Silver citrate forms a white, odorless, heavy powder which is moderately sensitive to the light. It dissolves in 3.800 parts of water. On heating to redness a residue of metallic silver remains, weighing 63.16 per cent. of the original salt.

It should be carefully protected from the light.

Actions and Uses.—Silver-citrate is a non-irritating antiseptic.

It is said to be useful in the treatment of wounds, ulcers, gonorrhea and other affections of the mucous membranes.

Dosage.—It may be applied in substance to wounds. Solutions of from 1 to 4,000 to 1 to 10,000 are recommended for injection into the body cavities, the urethra, etc.

Proprietary Preparations:

ANTISEPTIC-Credé.—A name applied to Silver Citrate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

SILVER LACTATE.—Silver lactate, $Ag.C_3H_5O_3 + H_2O$, is the normal silver salt of lactic acid.

It is prepared by dissolving freshly precipitated silver carbonate in a solution of lactic acid by the aid of heat and concentrating the solution until crystallization begins. The operation must be conducted in a darkened room.

Silver lactate forms colorless crystalline needles, turning brown on exposure to light; it dissolves in 15 parts of water. On heating it leaves a residue of metallic silver weighing 50.2 per cent. It is usually colored somewhat brown and gives with water a brownish or reddish solution. The salt must be protected from the light.

Actions and Uses.—The 1 to 300 to 1 to 500 aqueous solution is said to be equal in disinfecting power to a 1 to 1000 solution of mercuric chloride. It is irritating if applied in substance to wounds.

It is intended for all purposes for which a powerful antiseptic is desired.

Dosage.—1 to 100 to 1 to 2,000 solutions.

Proprietary Preparations:

SILVER LACTATE-Credé.—A name applied to Silver Lactate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

SODIUM CACODYLATE—Sodii Cacodylas.—Sodium Dimethylarsenate.—Sodium cacodylate, $(CH_3)_2AsO.ONa + 3H_2O$, is the sodium salt of cacodylic acid (dimethyl arsenic acid), $(CH_3)_2AsO.OH$.

It is prepared by distilling arsenous oxide with potassium acetate, oxidizing the distillate, composed of cacodyl $AS_2(CH_3)_4$, and cacodyl oxide, $(As_2(CH_3)_4O$, with mercuric oxide, neutralizing the cacodylic acid with solution of sodium hydroxide and concentrating to crystallization.

It is a white powder, very soluble in water, forming needle-shaped crystals, hygroscopic, but otherwise of marked stability. The aqueous solution is alkaline toward litmus, but nearly neutral toward phenolphthalein.

On addition of silver nitrate T. S. to a solution of 1 Gm. of sodium cacodylate in 20 Cc. of water, a white precipitate is formed which is soluble in nitric acid and in ammonia water.

If to 1 Cc. of a 1 per cent. solution of sodium cacodylate 10 Cc. of hypophosphorous acid are added and put aside for 1 hour in a closed container, a disgusting odor of cacodyl (caution on account of extreme poisonous properties of the gas) is apparent (distinction from sodium monomethyl arsenate).

If calcium chloride T. S. solution be added to a solution of sodium cacodylate (1:20) no precipitate will be produced in the cold nor on warming (distinction from sodium monomethyl arsenate).

When warmed with ammonium molybdate T. S. a solution of sodium cacodylate (1:20) should not produce a yellow precipitate; nor should a yellow precipitate form when the 1:20 solution is treated with sodium thiosulphate T. S. or with hydrogen sulphide T. S.; nor should a white precipitate form when, after acidulating with hydrochloric acid, barium chloride T. S. is added to the 1:20 solution.

Estimation: A weighed quantity (approximately 1 Gm.) is dissolved in 25 Cc. of water, one drop of methyl orange T. S. added, and then normal hydrochloric acid V. S. added until a faint pink color appears; 1 Cc. normal hydrochloric acid V. S. = 0.2125 Gm. of sodium cacodylate. If to the finished titration phenolphthalein T. S. is added a volume of normal potassium hydroxide V. S. equal to the volume of normal acid used, should be required to produce a red color; $(CH_3)_2AsO.OH$ being a monobasic acid toward phenolphthalein.

Actions and Uses.—The action of sodium cacodylate is similar to other arsenic compounds, but it is said to be much less toxic than the ordinary preparations of arsenic and is also less apt to cause undesirable side effects. This superiority is due to the slow liberation of the arsenous acid in the body.

The cacodylate has been particularly recommended in obstinate psoriasis, pseudoleukemia, diabetes, anemia, chlorosis, tuberculosis, malarial cachexia, etc.

Dosage.—0.025 to 0.12 Gm. (½ to 2 grains) in pills, hypodermically or by enema.

SODIUM CINNAMATE—Sodii Cinnamas.—Sodium Phenylacrylate. Sodium cinnamate, $C_6H_5.CH:CH.COONa = NaC_9H_7O_2$, is the sodium salt of cinnamic acid (benzene-propenoic) acid, $C_6H_5CH:CH.COOH$.

Sodium cinnamate may be prepared by saturating a hot aqueous solution of sodium carbonate with cinnamic acid, evaporating and crystallizing. Cinnamic acid is obtained from balsam of tolu or may be produced synthetically by heating together benzaldehyde, sodium acetate, and acetic anhydride. By the latter method of preparation a purer product is produced which it is claimed is free from any by-effects of the acid from natural sources.

Sodium cinnamate is a white, crystalline powder, soluble in water, 1 part in 20, the solution being faintly alkaline. On boiling the alkalinity becomes stronger on account of the decomposition of the cinnamic acid forming sodium carbonate. Solution of sodium cinnamate (1 to 25) yields on the addition of ferric chloride a yellow precipitate. On adding it to potassium permanganate solution, the red color of the permanganate is destroyed and the odor of benzaldehyde developed. If a solution of sodium cinnamate is treated with dilute sulphuric acid, a precipitate of cinnamic acid appears, which after purification should melt at 133° C. (271.4° F.).

It is incompatible with acids and with oxidizing agents, e. g., potassium permanganate.

Actions and Uses.—Balsam of Peru, cinnamic acid and sodium cinnamate are recommended by Landerer for the treatment of phthisis, the drugs being injected intravenously under strict aseptic precautions. The effect is referred by him to an inflammatory reaction, localized about the tuberculous foci which leads to cicatrization. He records very favorable results in well-selected early cases, and other clinicians have also reported some successes, although the treatment fails very often. The synthetic cinnamate is preferred on account of its greater purity.

Dosage.—0.001 Gm. (1/60 grain), gradually increased to 0.02 Gm. (1/3 grain), in 1 to 5 per cent. solution, injected intravenously thrice weekly for long periods (3 to 18 months).

SODIUM LYGOSINATE—Sodii Lygosinas.—Lygosin Sodium. — Sodium lygosinate, $CO:(CH:CH.C_6H_4.ONa)_2 + 7H_2O = Na_2C_{17}H_{12}O_3 + 7H_2O$, is the sodium salt of dioxy-dibenzal acetone.

It is prepared by condensation of 2 molecules of salicylic aldehyde with 1 molecule of acetone and combining the product with sodium.

Sodium lygosinate occurs in glossy, greenish prisms, soluble in 16 parts of water at 18.4° C. (67.12° F.), or in about 9.5 parts at 37° C. (98.6° F.). It is soluble to the extent of 1 per cent. in cold alcohol, easily soluble in hot alcohol and in glycerin. Its aqueous solution has a ruby-red color and is alkaline in reaction.

On ignition, 1 Gm. of sodium lygosinate leaves a residue of sodium carbonate weighing 0.243 Gm. From the aqueous solution acids precipitate a thick yellow precipitate of diortho-cumaraketone. The solution is fairly stable when kept in a cool place, protected from the air, and is not decomposed on boiling, but is decomposed by weak acids, even the carbonic acid of the air.

Actions and Uses.—The powder causes sneezing. Sodium lygosinate is said to possess a germicidal power similar to that of the silver salts, slightly weaker, but practically non-irritant.

It is claimed to be useful in gonorrhea, especially of the uterus.

Dosage.—Injections of a 3 to 8 per cent. solution daily or every second or third day.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.) German patent No. 110,521. U. S. trademark No. 40,177.

SODIUM OLEATE[1]—Sodii Oleas.—Sodium oleate, $NaC_{18}H_{33}O_2$, is the sodium salt of oleic acid.

Sodium oleate is obtained by neutralizing sodium hydroxide with oleic acid.

Sodium oleate is a white solid, which crystallizes from absolute but not from aqueous alcohol. When heated it melts and burns leaving a residue of sodium carbonate. It is soluble in about 10 parts of water, in about 20 parts of alcohol, and in about 100 parts of boiling ether. When dissolved in water it is partly decomposed (hydrolysed) into oleic acid and sodium hydroxide; hence its aqueous solution has an alkaline reaction to phenolphthalein; its solution in strong alcohol is neutral to this indicator. It is precipitated from its aqueous solution by saturation with sodium chloride.

Acids separate from its aqueous solution oleic acid, which collects at the surface of the liquid, in an oily layer. If a solution of 5 Gm. of sodium oleate, in 50 Cc. of water be mixed with 3 Cc. of tenth-normal oxalic acid solution, the subsequent addition of a few drops of phenolphthalein test solution should not produce a pink coloration.

An aqueous solution of sodium oleate (1 in 20) should remain unchanged in color upon the addition of ammonium sulphide test solution; and upon acidulating another portion of the solution with hydrochloric acid and filtering, the filtrate should remain unchanged in color when an equal volume of hydrogen sulphide test solution is added and the mixture is allowed to stand well stoppered in a warm place for half an hour (absence of metallic impurities).

Action and Uses.—Sodium oleate is antacid and mildly laxative. It is commonly added to laxative pills. It has been claimed without any definite evidence that it is especially useful in disease of the biliary tract.

Dosage.—0.12 to 1.3 Gm. (2 to 20 grains).

SODIUM PERBORATE—Sodii Perboras.

Sodium perborate, $NaBO_3.4H_2O$, is the sodium salt of perboric acid. It should contain not less than 9 per cent. of available oxygen.

Sodium perborate may be prepared by the action of an alkali peroxide and carbon dioxide on an alkali borate (U. S. Pat. No. 842,470) and by other methods.

Sodium perborate occurs as a white granular salt, odorless and soluble in water; the solution has a saline taste. It is decomposed by water into hydrogen peroxide and sodium metaborate, $NaBO_3 + H_2O = H_2O_2 + NaBO_2$ producing an alkaline solution. It is decomposed by catalyzers, ferments and animal tissues. Heated to 60° C. (140° F.) it evolves oxygen and when heated to a higher temperature it gradually loses all its available oxygen and water of crystallization.

On adding to 10 Cc. water in a test tube, one drop of potassium dichromate test solution then ten drops of dilute sulphuric acid and pouring a few Cc. of ether on top, the subsequent addition of a few drops of an aqueous solution of sodium perborate will cause a blue color to appear at the zone of contact of the two liquids. After shaking the ether layer will separate with a blue color.

If 0.20-0.03 Gm. sodium perborate accurately weighed be dissolved in 50 Cc. water and 10 Cc. dilute sulphuric acid added, to produce a permanent pink color, not less than 11.25 Cc. tenth normal permanganate solution should be required for each 0.1 Gm. of substance taken (indicating not less than 9 per cent. of available oxygen).

Action and Uses.—Sodium perborate is an antiseptic, deodorant and bactericide, and is used in wounds, purulent sores, varicose ulcers, etc. In general, it is used in place of hydrogen peroxide, over which it has the advantage of yielding an alkaline solution. It is applied as a dusting powder or in a 2 per cent. solution.

Non-proprietary Preparation:

Sodium Perborate Merck.—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

1. This preparation should not be confounded with the preparations sold as "Acid sodium oleate" or "Sodium Oleate, acid" which are mixtures of sodium oleate and free oleic acid, containing from about 5 to 30 per cent. of the latter.

Proprietary Preparation:

PEROGEN BATH—Oxygen Bath Salts. Perogen.—Perogen bath is a preparation consisting of a catalyzer and sodium perborate capable of yielding 10 per cent. of oxygen, the two substances being wrapped separately.

The catalyzer is a light yellow odorless powder, and is made by a method which is the subject of a patent application now pending. The oxygen contents may be determined by any of the well-known methods.

Actions and Uses.—The catalyzer is a medicinally indifferent substance. When the two substances are mixed with water the catalyzer causes the liberation of the available oxygen of the sodium perborate. The oxygen bath thus obtained is said usually to reduce blood pressure and the pulse rate to a much greater extent than the ordinary bath. It is claimed to have marked tranquilizing and somnifacient effects. It is said to be useful in cardiac affections with high vascular tension and excitement, neuroses, insomnia, chronic nephritis, and skin diseases in which hydrogen dioxide is indicated.

Dosage.—One bath daily until 24 or 48 have been taken, with occasional intermissions.

Manufactured by Morgenstern & Co., New York. U. S. trademark 75,982. U. S. patent No. 969,073 (Aug. 30, 1910; expires 1927).

SODIUM PEROXIDE—Sodii Peroxidum.—Bioxydum natri (Pharm. Hispanola, edit. vii).

Sodium Peroxide is the sodium salt of hydrogen peroxide containing at least 75 per cent. Na_2O_2.

Sodium peroxide occurs in the form of a white, or yellowish, amorphous powder. It is soluble in water, with evolution of heat, and forms a solution of hydrogen peroxide, from which latter, oxygen is liberated by the heat of the reaction. It dissolves in cold dilute acids forming a solution of hydrogen peroxide. When heated sodium peroxide becomes darker, but on cooling resumes its original color. It does not react with alcohol, but it ignites ether on contact. A mixture with red phosphorus explodes under pressure or on being struck. It is an extremely powerful oxidizing agent.

Sodium peroxide should not respond to tests for sulphates, chlorides, phosphates, nitrogen and heavy metals.

Action and Uses.—Sodium peroxide is not used internally but has been used in acne, applied in the form of a paste prepared with liquid paraffin, or as a soap to remove comedones.

It has been suggested as an air purifier, based on the theory that the moisture of the air would liberate oxygen and the alkali simultaneously formed would absorb carbon dioxide.

Proprietary Preparation:

OXONE.—Oxone is a name applied to fused sodium peroxide containing a fractional percentage of a catalytic agent. It is said to yield its entire content of available oxygen in gaseous form, upon contact with water.

Manufactured by the Roessler & Hasslacher Chemical Co., New York. U. S. patent No. 788,256 (April 25, 1905; expires 1922). U. S. trademark No. 46,673.

SOLUTION OF FORMALDEHYDE

Solution of Formaldehyde is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

FORMALIN.—A name applied to Liquor Formaldehydi, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 65,625.

SOPHOL.—Sophol is a compound of silver and methylennucleinic acid, the silver being in organic ("masked") form.

It is prepared by conversion of insoluble silver compounds of methylennucleinic acid into soluble silver compounds by treatment with neutral salts, such as chloride of sodium. Sophol is a yellowish powder, having a metallic taste and claimed to contain silver, equivalent to not less than 20 per cent. metallic silver. Sophol is readily soluble in water, the aqueous solution having a faint alkaline reaction; it does not give a precipitate on the addition of dilute solution of sodium hydroxide or of sodium chloride; it is insoluble in ether and alcohol.

If 0.3 Gm. sophol is heated in a test-tube decomposition occurs with the development of brownish-red pungent vapors. If the ash is treated with dilute nitric acid, the solution filtered, a white cheesy precipitate is formed on addition of hydrochloric acid, which dissolves in ammonia water.

If 0.5 Gm. sophol is boiled with 5 Cc. of sodium hydroxide solution, the latter assumes a black color with the development of a formaldehyde odor.

If 0.1 Gm. sophol is heated with 3 Cc. nitric acid, a dirty yellow precipitate is formed, disappearing on addition of an excess of ammonia water with the formation of an orange colored solution.

A solution of 0.5 Gm. sophol in 10 Cc. water should have a faintly alkaline reaction and should not at once become turbid on the addition of sodium chloride solution.

If 1.0 Gm. sophol is shaken with 10 Cc. of alcohol and filtered, the filtrate should not be changed on addition of hydrochloric acid.

Actions and Uses.—It is said to act as a germicide and to be free from irritating effects in the solutions ordinarily employed.

It is said to be especially useful for the prevention and treatment of ophthalmia neonatorum and may be employed in other eye affections and for the general indications of the silver salts.

Dosage.—Sophol may be applied in from 2 to 5 per cent. solutions.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 852,545 (May 7, 1907; expires 1924). U. S. trademark No. 62,900.

SPIROSAL.—Spirosal is monoglycol salicylate, $C_6H_4OH.CO.O.CH_2.CH_2.OH = C_9H_{10}O_4$, the salicylic acid ester of monoglycol.

It is prepared by the action of ethyleneglycol on salicylic acid.

Spirosal is an almost odorless and colorless oily fluid, with a boiling point of 169° to 170° C. (336.2° to 338° F.) at 12 mm. pressure. It is easily soluble in alcohol, ether, chloroform and benzol and soluble in about 110 parts of water and 8 parts of olive oil.

Tests. 0.5 Gm. spirosal is saponified with 5 Cc. soda lye by slight warming, the clear fluid diluted with water and acidified with dilute sulphuric acid; fine crystalline needles of salicylic acid are formed, which after being extracted with ether and the latter then evaporated, can be identified by the melting point and ferric chloride reaction. The saturated watery solution obtained by shaking 1 Cc. spirosal with 50 Cc. of water gives a filtrate, which becomes intensely violet on addition of ferric chloride, but should not be changed by barium nitrate or silver nitrate; 0.5 Gm. of spirosal when added to 2 Cc. of concentrated sulphuric acid should be given a light yellow and not a brownish color; 0.3 Gm., if incinerated on platinum foil, should not leave any weighable residue.

Actions and Uses.—Spirosal is said to be easily absorbed by the skin without causing irritation even when rubbed in thoroughly. It splits off salicylic acid in the tissues.

Spirosal is said to be useful for the external treatment of rheumatic affections.

Dosage.—It is used undiluted or mixed with 2 to 3 parts of alcohol or in a mixture with olive oil, 1 to 8, or in ointments with equal parts by weight of petrolatum or lard.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 794,982 (July 18, 1905; expires 1922). U. S. trademark No. 62,856.

STOVAINE—Benzoyl-Ethyl-Dimethylaminopropanol Hydrochloride.—Stovaine is 2-benzoxy-2-methyl-1-dimethyl-amino butane hydrochloride, $CH_3.CH_2.C(C_6H_5COO)(CH_3)CH_2N(CH_3)_2.HCl = C_{14}H_{22}O_2NCl$. It is closely related to alypin (which see).

It is prepared by causing a reaction of benzoyl chloride on the *a*-dimethyl-amino-pentonal-*b*, which is itself the product of reaction of ethylmagnesium chloride on methylaminoacetone.

It crystallizes in small, brilliant scales, which melt at 175° C. (347° F.). It is extremely soluble in water and easily in methyl alcohol and acetic ether, but requires 5 parts of absolute alcohol for solution and is only slightly soluble in acetone. It is quite stable and its solutions may be sterilized at 115° C. (239° F.) without suffering decomposition.

The aqueous solution is slightly acid to litmus, neutral to methyl orange. It is precipitated by all the alkaloidal reagents and is decomposed even by very dilute alkalies.

It is incompatible with alkalies and all alkaloidal reagents.

Actions and Uses.—Stovaine acts as a local anesthetic. It has about the same power as cocaine, but dilates the blood vessels, whereas cocaine contracts them. It is only ⅓ to ¼ as toxic as cocaine. Stovaine also is said to exert a tonic action on the heart.

It is used as a local anesthetic; while most reports are favorable, one case of gangrene has been reported following the use of a 10 per cent. solution.

Dosage.—Internally, 0.002 Gm. (1/30 grain) pill form. Locally it may be used in the eye in 4 per cent solution and applied to other mucous membranes, as in laryngology, in from 5 to 10 per cent. solution. For hypodermic injections for local anesthesia it can be used in 0.75 to 1 per cent. solution.

Manufactured by the Poulenc Frères Co., Paris, France (Parmele Pharmacal Co., New York). U. S. patent Nos. 829,262; 829,374 (Aug. 21, 1906; expires 1923); 828,846 (Aug. 14, 1906; expires 1923). U. S. trademark No. 59,228.

STROPHANTHIN THOMS.—Strophanthin Thoms is a crystalline glucoside ($C_{30}H_{46}O_{12} + 9H_2O$), obtained from Strophanthus gratus. It is identical with the ouabain obtained from Ouabaio wood by Arnaud (the official strophanthin is methyl-ouabain ($C_{31}H_{48}O_{12}$).).

The light-brown dehaired seeds of strophanthus gratus are cold pressed to free from oil. The oil free cakes thus formed are broken up and extracted with 96 per cent. alcohol. The alcohol is distilled off on the water bath, leaving a residue, which is described as follows: It consists of several layers—an upper thin layer of oil, then an aqueous alcohol layer, followed by a yellowish brown mass of crystals, under which is a layer of a brown extract, from which an amorphous strophanthin can be isolated. The above mentioned crystals are freed from the mother liquor and recrystallized from hot water. The seeds yield about 3.62 per cent. of crystallized strophanthin.

Colorless quadratic crystals of bitter taste and easily soluble in hot water. Soluble in 100 parts of cold water and 30 parts cold absolute alcohol and 30 parts amyl alcohol. It is slightly soluble in acetic ether, ether and chloroform. Its solubilities require further study. Solutions of 1 part of crystallized strophanthin in 100 parts of 95 per cent. alcohol have been frequently observed to deposit crystals on standing.

A solution of 0.01 gm. in 1 Cc. water run onto a layer of concentrated sulphuric acid colors the latter pink to red and the aqueous layer is colored a dirty green color.

Heated to 105° C. (221° F.), it loses 20 per cent. of water. The strophanthin thus dried melts at 187° to 188° C. (368.6° to 370.4° F.). Upon ignition no weighable residue should remain.

Heating with dilute hydrochloric acid or sulphuric acid produces hydrolytic cleavage, yielding a body which is identical with rhamnose.

Action and Uses.—Its pharmacologic action is probably qualitatively identical with that of the official strophanthus or strophanthin, but the crystallized is more than twice as active as the official strophanthin when injected subcutaneously or intravenously. The action of crystallized strophanthin appears to be identical with that of the purest preparation of strophanthin from Strophanthus Kombé; this action develops more rapidly, the drug is more quickly excreted, and shows less tendency to cumulative action than is the case with digitalis.

Strophanthin Thoms is used in place of strophanthus as a substitute for digitalis.

Dosage.—It is recommended in doses of 5 minims of a 1 per cent. solution by the mouth, gradually increased by 1 minim until the desired effect is obtained, which seldom requires more than ten minims (or about one-tenth of a grain of strophanthin). (H. Schedel, Arbeit a. d. Pharm. Inst. d. Universität, Berlin, II, 1904, p. 97). Single dose by mouth, 0.003 to 0.025 Gm. (1/20 to 2/5 grain); daily dose, up to 0.03 Gm. (½ grain). The larger doses are probably not absolutely safe. Intramuscularly or intravenously: The correct dose has not been accurately determined, but it appears to be one-half milligram (1/130 grain) or less for a single dose, and only one such dose should be given in a day as a rule. For intramuscular injection it should be dissolved in about 4,000 parts of distilled water, and even in that dilution it occasions some pain. The intramuscular injection should be repeated only by the physician himself.

SUBLAMINE — Mercuric Sulphate-Ethylenediamine. — Sublamine, $HgSO_4.2C_2H_4(NH_2)_2 + 2H_2O$, is a compound of one molecule of mercuric sulphate with two molecules of ethylenediamine (which see).

It forms white needles, readily soluble in water and in 10 parts of glycerin, sparingly soluble in alcohol. It has an alkaline reaction; it contains about 44 per cent. of mercury. It does not precipitate albumin from its solutions.

It is incompatible with sodium chloride and should not be exposed to the air.

Actions and Uses.—Sublamine is a disinfectant, similar to mercuric chloride, over which it has the advantage of being non-irritating, more penetrating and readily soluble.

It is used as a substitute for mercuric chloride for hand disinfection, as well as in dermatology, gynecology, ophthalmology and otology.

Dosage.—It is used in a 1:1,000 solution for skin disinfection and in 1:5,000 solution for irrigations of the bladder, etc. It may be used in syphilis by injection into the gluteal muscles of a 3 or 4 per cent. solution.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 726,126 (April 21, 1903; expires 1920). U. S. trademark No. 37,736

SULPHANILIC ACID.—Acidum Sulphanilicum.—Acidum Sulfanilicum (Pharm. Helvetica, edit. 4).—Sulphanilic acid, $C_6H_4(NH_2)(HSO_3)$ 1:4, is para-amino-benzene-sulphonic acid.

Twenty-five Gm. colorless aniline are gradually added to 75 Gm. concentrated sulphuric acid in a 250 Cc. flask and the mixture warmed to 180° to 190° C. (356° to 374° F.), under agitation for about three hours or until a drop of the mixture dropped into a solution of potassium hydroxide no longer gives indication of the presence of aniline. At the end of the reaction the mixture is poured into 500 Cc. cold water which precipitates the sulphanilic acid as a grayish crystalline powder; it is treated with animal charcoal and recrystallized from hot water (Hager 1, p. 116).

It occurs as colorless crystals slightly soluble in water, and insoluble in alcohol and ether. It is decomposed at 280° to 300° C. (536° to 572° F.). It effloresces in air. It is soluble in 182 parts water at 0° C. (32° F), and in 166 parts water at 10° C. (50° F.). It is not altered by boiling alkali, but fusion with alkali decomposes it, yielding aniline. Chromic acid mixtures oxidize it to chinon. Permanganate oxidizes it to azo-benzene-sulphonic acid and an excess of this reagent to carbon dioxide, sulphuric acid, ammonia and oxalic acid. The cold saturated solution is not altered by hydrogen sulphide or barium chloride, but boiling with alkali should produce a visible change (Pharm. Helvetica, edit. 4). One Gm. of the powdered acid treated with 3 Cc. zinc chloride solution should not be darkened. It should leave no residue on ignition (Pharm Helvetica, edit 4).

Uses and Dosage.—Internally (of doubtful value) in chronic catarrh of the respiratory mucosæ, 0.5 to 2 Gm. (10 to 30 grains) three times a day. It may be rendered more soluble by sodium bicarbonate. Its most important use is in Ehrlich's diazo-reaction for typhoid urines.

Proprietary Preparation:

SOLOID NIZIN.—Tablets, each of which contains 0.13 Gm. (2 grains) of zinc sulphanilate, $Zn(C_6H_4(NH_2)SO_3)_2 + 4H_2O = Zn(C_6H_6O_3NS)_2 + 4H_2O$.

Actions and Uses.—Soloid Nizin is said to be an astringent and antiseptic. It is said to be useful in gonorrhea, in conjunctivitis and other eye affections.

Dosage.—One to three in 30 Cc. (one fluidounce) of water for urethral injection. One in 60 Cc. (2 fluidounces) for an eye lotion.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark No. 287,163.

SULPHONMETHANE.

Sulphonmethane is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

SULPHONAL. — A name applied to Sulphonmethanum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 391,875 (expired).

SULPHONETHYLMETHANE.

Sulphonethylmethane is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

TRIONAL. — A name applied to Sulphonethylmethanum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 396,526 (expired).

SULPHURATED POTASH — Potassa Sulphurata — Kalium sulphuratum crudum—Hepar Sulfuris.—Sulphurated potash is a mixture of salts of potassium, of which the chief are potassium sulphides (Br. Pharm., p. 259).

It is prepared as follows: Mix the powdered and dried potassium carbonate thoroughly with the sublimed sulphur, and gradually heat the mixture, in a covered crucible, which should be only about half filled with it, until the mass ceases to foam and is in a state of perfect fusion. Then pour the fused mass on a cold marble slab, and, after it has cooled, break it into pieces, and keep it in a well-stoppered bottle (U. S. P., 1890, p. 313).

When freshly prepared, sulphurated potassa forms irregular pieces of a liver-brown color, which, by exposure to the air, gradually absorb moisture, oxygen and carbon dioxide, and change to a greenish-yellow and finally to a gray mass containing potassium carbonate, thiosulphate and sulphate. The compound has a faint odor of hydrogen sulphide, and a bitter, alkaline taste.

Soluble in 2 parts of water at 15° C. (59° F.), with the exception of a small residue. Alcohol dissolves only the potassium sulphide, leaving the other constituents (thiosulphate and sulphate) undissolved.

The aqueous solution (1 in 10) is of an orange-yellow color, is strongly alkaline to litmus paper, and gives off the odor of hydrogen sulphide.

On adding to it acetic acid in slight excess, an abundance of hydrogen sulphide is evolved, while sulphur is precipitated.

In this liquid, after filtration, sodium bitartrate test solution produces an abundant, white, crystalline precipitate (U. S. P., 1890, p. 213).

On triturating 1 Gm. of sulphurated potassa with 1 Gm. of crystallized copper sulphate and 10 Cc. of water, and filtering, the filtrate should remain unaffected by hydrogen sulphide test solution, corresponding to at least 12.85 per cent. of sulphur combined with potassium to form sulphide (U. S. P., 1890, p. 313).

Actions and Uses.—Externally sulphurated potash acts as an irritant and softens the horny layers of the skin, acting especially on the hairs. Internally, it is a gastrointestinal irritant and is believed to be an alterative. In some cases it has produced severe poisoning from the amount of hydrogen sulphide evolved. It is employed externally[1] as a local irritant in various skin diseases and as a parasiticide.

TANNALBIN—Albuminis Tannas.—Tannate of Albumin.—Tannalbin is a compound of tannic acid and albumin thoroughly exsiccated.

It is prepared by precipitating 10 parts of a 10 per cent. solution of egg albumin with 6.5 parts of a 10 per cent. solution of tannic acid, washing the precipitate with water until the washings react only faintly with ferric chloride, drying it on porous tiles, powdering, and heating the product at 126° C. (258.8° F.) for six hours.

It is a light brown, odorless and tasteless powder, containing about 50 per cent. of tannic acid. It is practically insoluble in water or alcohol, but slowly soluble in alkaline fluids, which split it up into its constituents.

The filtrate obtained after shaking tannalbin with water should give, at most, a faint reaction with ferric chloride.

It is incompatible with alkaline liquids.

Actions and Uses.—Tannalbin is astringent. Being insoluble in the gastric juice, it becomes effective when it reaches the intestines, where it slowly splits off tannic acid. It does not produce gastric disturbance.

It is said to be useful in diarrhea, especially in that of children, and in phthisis.

Dosage.—1 to 4 Gm. (15 to 60 grains) in powder (or tablets) followed by water; infant doses, 0.3 to 0.5 Gm. (5 to 8 grains) in gruel or other mucilaginous liquid.

Manufactured by Knoll & Co., Ludwigshafen a. R., Germany, and New York. U. S. patent No. 563,479 (July 7, 1896; expires 1913). U. S. trademark No. 28,348.

TANNIGEN—Acidum Tannicum Diacetylicum. — Diacetyl-Tannin.—Tannigen is tannyl acetate, $C_{14}H_8(C_2H_3O)_2O_9 = C_{18}H_{14}O_{11}$, the acetic acid ester of tannin.

It is prepared by heating tannin and acetic anhydride, in molecular proportions, in the presence of glacial acetic acid in a flask under a reflux condenser, pouring the product of the reaction into water, washing the precipitate produced with warm water, drying and powdering.

It is a light-gray, almost odorless and tasteless powder, which undergoes no change when heated alone, even to 180° C. (356° F.), but softens when heated in water at 50° C. (122° F.). It is practically insoluble in cold water, scarcely soluble in hot water, but soluble in alcohol, and also in solutions of borax, sodium phosphate, sodium carbonate, lime, etc., being reprecipitated from these solutions by acids. It is rapidly saponified by boiling sodium or potassium hydroxide solutions, or gradually in the cold, into acetic and gallic acids, while ammonia produces acetic and tannic acids.

Its aqueous solutions produce with ferric salts a green color, instead of the blue-violet color characteristic of tannic acid. A slightly alkaline solution in sodium phosphate exhibits all the characteristics of an astringent and precipitate albumin, but these properties are destroyed by borax or more alkali.

It is incompatible with alkalies and with salts of iron; it should not be exposed to heat or moisture.

Actions and Uses.—Tannigen passes unchanged into the intestine, where it becomes effective as an astringent in contact with the alkaline juice. It is said to be free from irritant action. (See note under Cresosote Carbonate.)

It is said to be useful in acute diarrheal affections, such as acute intestinal catarrhs, cholera morbus, cholera infantum and dysentery; it has also been used with reported success for the diarrhea of typhoid fever and intestinal tuberculosis.

Dosage.—0.2 to 0.7 Gm. (3 to 10 grains) four times per day, dry on the tongue followed by a swallow of water; or mixed with food, avoiding warm or alkaline liquids.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 533,718 (Feb. 5, 1895; expires 1912). U. S. trademark No. 17,668.

TANNISMUTH—Bismuthi Bitannas. - Bitannate of Bismuth. Tannismuth is the bismuth salt of tannic acid in which approximately one atom of bismuth is combined with two molecules of tannic acid having approximately the formula $Bi(OH)(C_{14}H_9O_9)_2$ and containing between 17 and 21 per cent. bismuth.

It is a light yellow powder with slightly astringent taste, insoluble in water, soluble in cold caustic alkalies, and in diluted hydrochloric acid.

Actions and Uses.—It is claimed that one molecule of the tannic acid becomes operative immediately after ingestion, while the other is slowly separated and prolongs the astringent action throughout the entire length of the alimentary canal.

It is said to be useful in chronic intestinal catarrh, involving different portions of the intestinal tract.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) three to five times daily.

Manufactured by Chemische Fabrik von Heyden, Radebeul near Dresden, Germany (The Heyden Chemical Works, New York). Not patented in the United States. German patent No. 172,933. U. S. trademark No. 36,916.

TANNOFORM — Tanninformaldehydum. — Tanninformaldehyde—Methylenditannin—Tannoform, $CH_2(C_{14}H_9O_9)_2 = C_{29}H_{20}O_{18}$, is a condensation product of formaldehyde with gallo-tannic acid.

It is prepared by mixing solutions of formaldehyde and tannic acid, precipitating with concentrated hydrochloric acid, washing the precipitate with water, and drying.

It forms a voluminous, reddish powder, odorless and tasteless. It is insoluble in water, but soluble in alkaline liquids and in alcohol. 0.01 Gm. of tannoform dissolved in 2 Cc. concentrated sulphuric acid forms a brown solution which on warming becomes green and later changes to blue. The green or blue solution, on addition of alcohol, assumes a brilliant blue color, which gradually changes to wine color, while on addition of dilute sodium hydroxide the color is pale green.

Its incompatibilities are those of tannin generally.

Actions and Uses.—Tannoform is astringent and antiseptic. It is said to be useful an account of these properties in chronic intestinal catarrh and externally in hyperidrosis, bromidrosis, weeping eczema, ozena, etc.

Dosage.—0.25 to 0.5 Gm. (4 to 8 grains); externally, pure or in 25 to 50 per cent. triturations (with talc) as dusting powder, or as 10 per cent. ointment or soap.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). German patents Nos. 88,082 and 88,841.

TANNOPIN—Hexamethylene-Tetramine-Tannin.—Tannon.—Tannopin, $(C_{14}H_{10}O_9)_3.CH_2)_6N_4 = C_{82}H_{82}O_{27}N_4$, is a condensation product of tannin with hexamethylenamine

It is prepared by mixing molecular proportions of solutions of hexamethylenamine and tannic acid, collecting, washing and drying the precipitate.

It is a fine, fawn-colored, odorless and tasteless, non-hygroscopic powder, containing 87 per cent. of tannin and 13 per cent. of hexamethylenamine. It is insoluble in water, weak acids, alcohol, chloroform or ether, but slowly soluble in dilute alkalies. On heating dry tannopin, it swells and gives off the odor of formaldehyde. The odor of formaldehyde is also developed on heating tannopin with dilute sulphuric or hydrochloric acid, while on boiling with sodium hydroxide solution it splits off ammonia. The clear aqueous filtrate from tannopin does not give a reaction with ferric chloride.

It is incompatible with alkalies.

Actions and Uses.—Tannopin has an astringent and antiseptic action in the intestine; it passes unchanged through the stomach, but, being gradually decomposed by alkalies, it becomes effective in the intestinal tract, exerting the action of its two components.

It is said to be useful in acute, subacute or chronic intestinal catarrh, in tuberculous enteritis, and other intestinal disorders.

Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for infants and children; 1 Gm. (15 grains) for adults, dry on the tongue, followed by a swallow of water, or sprinkled on food, four times a day.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 607,172 (July 12, 1898; expires 1915). U. S. trademark No. 31,527.

THEOBROMINE AND THEOBROMINE COMPOUNDS.

THEOBROMINE—Theobromina. — 3,7-Dimethyl-Xanthine.—Theobromine is 3,7-dimethyl xanthine.

$$\begin{array}{l} N(CH_3).CH{:}C.N(CH_3)\diagdown \\ \quad\quad\quad\

Theobroma cacao, Kola acuminata, etc., and also made synthetically. Theobromine is closely related to caffeine (1,3 7 trimethyl xanthine).

It is a white, crystalline powder, odorless and bitterish. It is almost insoluble in cold water or chloroform, readily soluble in hot alcohol and in ether. It forms salts with acids.

Actions and Uses.—Its uses are similar to those of caffeine, but its action is said to be relatively greater on the heart and muscles and also as a diuretic. It does not act so powerfully on the central nervous system.

It is used as a diuretic. The great obstacle to its use has been its insolubility and the consequent uncertainty of the degree of its absorption. It is liable to produce gastric disturbances.

Dosage.—0.35 to 0.5 Gm. (5 to 8 grains).

AGURIN — Theobrominæ Sodio-Acetas. — Theobromine-Sodium-Acetate.—Agurin, $NaC_7H_7N_4O_2 + NaC_2H_3O_2$, is a double salt of sodium acetate and theobromine-sodium.

It is prepared by adding to a solution of one molecule of sodium hydroxide one molecule of theobromine. To this solution of sodium theobromine one molecule of sodium acetate is added and the solution brought to dryness.

It is a white, finely crystalline powder, containing 60 per cent. of theobromine. It is freely soluble in water, not very readily soluble in cold, more so in hot, alcohol. It is quite hygroscopic, and in watery solutions gradually splits up into its components, and more readily in the presence of carbon dioxide.

It is precipitated and decomposed by carbon dioxide and by acids; it forms a bluish white precipitate with silver nitrate, a blue precipitate with copper sulphate, white with tartar emetic, red-brown with ferric salts. It is not readily precipitated by Mayer's reagents, nor by iodine.

It is incompatible with carbonated beverages, acids, saccharine and mucilaginous liquids, and most of the alkaloid reagents.

Actions and Uses.—It acts like theobromine, over which it has the advantage of great solubility and that it is well tolerated by the stomach. While inferior in diuretic power to theophyllin (which see), it is said to have greater power in sustaining the diuresis produced.

Dosage.—0.5 to 1 Gm. (7 to 15 grains), preferably in wafers or capsules. If in solution, this should be freshly prepared (with peppermint water) and without sugar or mucilage.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

Tablets Agurin, 5 grains. Each tablet contains agurin 0.33 Gm. (5 grains).

THEOBROMINE SODIUM SALICYLATE — Theobrominæ Sodio-Salicylas.—Theobromine sodium salicylate, $NaC_7H_7N_4O_2 + NaC_7H_5O_3$, is a double salt of theobromine-sodium and sodium salicylate. It is official in the German Pharmacopeia as Theobrominum natrio-salicylicum.

It is prepared by adding to a solution of one molecule of sodium hydroxide one molecule of theobromine. To this solution of sodium theobromine one molecule of sodium salicylate is added and the solution brought to dryness.

It is a white powder, odorless, having a saline taste, and containing 50 per cent. of theobromine. It is freely soluble in water, and, like "theobromine sodium-acetate" (see Agurin) is readily decomposed by exposure to carbon dioxide or by the action of acids. It must therefore be preserved in well-stoppered bottles.

The aqueous solution (1 to 5) is colorless, turns litmus paper blue and after acidification with acetic acid assumes a violet coloration on addition of ferric chloride solution. From the solution, hydrochloric acid precipitates salicylic acid, and, after a time, also theobromine, the precipitate being completely soluble in sodium hydroxide solution, but not in ammonia water. If 10 Cc. of the solution, rendered clear by the addition of sodium hydroxide solution, is shaken with 10 Cc. of chloroform, the chloroform when separated and evaporated should leave a residue not exceeding 0.005 Gm. for 1 Gm. theobromine sodium salicylate.

It is incompatible with acids, bicarbonates, borates, phosphates, ferric salts, hydrated chloral, etc.

Actions and Uses.—Its effects are the same as those of theobromine (which see), over which it has the advantage of greater solubility.

Dosage.—1 Gm. (15 grains) five or six times a day. Its tendency to produce gastric irritation may be prevented by giving it in well-diluted solution, or, if preferred, in capsules or wafers, followed by water.

THEPHORIN—Theobrominæ Sodio-Formas. — Theobromine Sodium Formate. Thephorin is theobromine sodio-formate, $NaC_7H_7N_4O_2 + NaCHO_2 + H_2O$, a double salt of sodium formate and theobromine sodium.

It is prepared by dissolving 70.1 parts of theobromine sodium in 200 parts of water and adding to it a solution of 23.5 parts of anhydrous sodium formate in 50 parts of water, filtering the mixture, and evaporating to dryness on a steam bath or in vacuo

Thephorin is a white, odorless powder having a saline bitter taste and is readily soluble in water producing an alkaline solution. From its aqueous solution the theobromine is precipitated by acetic acid. In the filtrate formic acid is indicated by the reduction of silver nitrate.

If an aqueous solution of thephorin be faintly acidulated with nitric acid, the filtrate should give no precipitate with barium chloride, nor with silver nitrate, nor with ammonia water and hydrogen sulphide.

Two Gm. thephorin are placed in a porcelain dish and dissolved in 10 c.c. water with the aid of gentle heat. A few drops of phenolphthalein test solution are placed in the solution, neutralized with nitric acid, the faint alkaline reaction is again restored by means of diluted ammonia, the solution is then thoroughly stirred and, with frequent stirring, allowed to stand for three hours at ordinary temperature.

The resulting precipitate collected on a weighed filter of 8 cm. diameter, is dried at a temperature of 100 C.; it is then washed twice with cold water, using 10 Cc. each time. The filter is again dried at a temperature of 100 C. and weighed. The weight of the precipitate should amount to 1.2 Gm.

Actions and Uses.—Thephorin is said not to irritate the stomach and acts as a powerful diuretic, both on account of the theobromine which it contains and also from the action of sodium formate.

It is said to be useful in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.5 Gm. (7½ grains) two or three times a day in the form of powder or as tablets.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 799,764 (Sept. 19, 1905; expires 1922). U. S. trademark No. 59,581.

Thephorin Tablets, 7 1/2 grains: Each tablet contains thephorin 0.5 Gm. (7½ grains).

UROPHERIN-B—Theobrominæ et Lithii Benzoas. — Theobromine and Lithium Benzoate—Uropherin Benzoate.—Uropherin-B is theobromine lithio-benzoate, $LiC_7H_7N_4O_2 + LiC_7H_5O_2$, a double salt of theobromine-lithium and lithium benzoate.

It is a white powder containing 50 per cent. of theobromine. It is soluble in 5 parts of water; it decomposes on exposure to light and air.

A solution of uropherin-B will respond to the various tests for lithium, theobromine and benzoate.

Actions and Uses.—It is a diuretic, said to be particularly efficient in connection with digitalis.

It is said to be useful in dropsy, nephritis and diseases of the heart and of the genitourinary organs.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder or capsules, followed by water.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark.

UROPHERIN-S—Theobrominæ et Lithii Salicylas.—Theobromine and Lithium Salicylate—Uropherin Salicylate.—Uropherin-S is theobromine lithio-salicylate, $LiC_7H_7N_4O_2 + LiC_7H_5O_3$, a double salt of theobromine-lithium and lithium salicylate.

Actions and Uses.—The properties, actions, uses and dosage of this compound are practically the same as those of "theobromine-lithium benzoate" (see Uropherin-B).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark.

THEOPHYLLINE AND THEOPHYLLINE COMPOUNDS.

THEOPHYLLIN—Theophyllina. — 1,3-Dimethyl-Xanthine.—Theophyllin is 1,3-dimethyl-xanthine,

$$\begin{array}{l} N(CH_3).CO.C.NH\diagdown \\ | \qquad\quad || \qquad\quad CH + H_2O = C_7H_8O_2N_4 + H_2O, \\ CO.N(CH_3).C.N\diagup\diagup \end{array}$$

an organic base isomeric with theobromine; it is found in small amounts in tea and is also made synthetically.

It is a white odorless, crystalline powder, having a bitter taste, and melting at 268° C. (514.4° F.). It is soluble in 180 parts of water at ordinary temperature and in 85 parts at 37° C. (98.6° F.), sparingly soluble in alcohol, insoluble in ether. It forms easily soluble compounds with ammonium and potassium, a less soluble salt with sodium, but a freely soluble double salt with sodium acetate.

It responds to the murexid test. Addition of tannin to a solution of theophyllin produces a precipitate soluble in an excess of the reagent. It is soluble in an excess of sodium hydroxide solution (difference from caffeine). On addition to solution of theophyllin in sodium hydroxide of a solution of sulphanilic acid 0.5, hydrochloric acid 5.0, water 100, to which a few drops of a ½ per cent. solution of sodium nitrite have been added (diazo test), a red coloration is produced (distinction from caffeine and theobromine).

Actions and Uses.—Theophyllin has a diuretic action similar to that of caffeine or theobromine but is more effective. The

diuretic effect, however, is not prolonged and its administration is, therefore, advantageously followed by one of the theobromine derivatives having a weaker, but more persistent, action. It occasionally produces gastric disturbances and renal irritation has also been reported. It is claimed that these may be obviated by the use of theophyllin sodio-acetate (which see) instead.

It is used in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.2 to 0.35 Gm. (3 to 5 grains) in warm tea.

Proprietary Preparations:

THEOPHYLLIN (Boehringer) is prepared by transformation of uric acid.

Manufactured by C. F. Boehringer & Soehne, Mannheim, Germany. (Merck & Co., New York.) U. S. patent Nos. 667,381 (Feb. 5, 1901; expires 1918); 757,328; 757,329 (April 12, 1904; expires 1921).

THEOCIN:—A name applied to theophyllin manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). It is prepared by treating the monoformyl derivative of 1-3 dimethyl-4-5-diamido-2-6-dioxypyrimidin with alkalies. The alkaline salts of theophyllin thus produced are transformed into theophyllin by the action of acids.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 716,994 (Dec. 30, 1902; expires 1919). U. S. trademark No. 39,135.

THEOPHYLLIN SODIO-ACETATE—Theophyllinæ sodio-acetas—Theophyllin sodium-acetate $C_7H_7N_4O_2Na + CH_3COONa + H_2O$, is a double salt of sodium acetate and 1, 3-dimethylxanthine-sodium (theophyllinsodium).

It is a white crystalline powder, containing about 60 per cent. of anhydrous theocin. It dissolves in about 20 parts of water at 25° C. (77° F.), but is insoluble in alcohol or ether.

Actions and Uses.—It has the diuretic properties of theophyllin reinforced by the diuretic action of sodium acetate, and being more soluble, it is claimed to be more readily absorbed and to be better tolerated than theophyllin.

It is said to be useful in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.2 to 0.35 Gm. (3 to 5 grains), best given after meals.

Proprietary Preparations:

ACET-THEOCIN SODIUM.—A name applied to Theophyllin-Sodio-Acetate.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 716,994 (Dec. 30, 1902; expires 1919). U. S. trademark No. 39,135.

Acet-Theophyllin Sodium.—A name applied to Theophyllin-Sodio-Acetate.

Manufactured by C. F. Boehringer & Soehne, Mannheim, Germany (Merck & Co., New York). U. S. patent Nos. 667,381 (Feb. 5, 1901; expires 1918); 757,328; 757,329 (April 12, 1904; expires 1921).

THERMODIN — Phenacetin-Urethane. — Acetylparethoxy-Phenyl-Urethane.—Thermodin, $C_6H_4(OC_2H_5).(N(COOC_2H_5)(CH_3CO)) = C_{13}H_{17}O_4N$, is a compound of acetphenetidin (phenacetin) and ethyl carbamate (urethane). It is chemically related to acetphenetidin (phenacetin), but differs from the latter in that it contains the group $[N(COOC_2H_5)(CH_3CO)]$ in place of $(NH.CO.CH_3)$.

It is prepared by the action of ethyl chlorocarbonate on paraphenetidin by which parethoxyphenyl-urethane is formed which is converted into the acetyl compound by heating with acetic anhydride.

It forms colorless, odorless and tasteless crystals, melting at 86° to 88° C. (186.8° to 190.4° F.). It is practically insoluble in cold water (1:2600); soluble in 450 parts of boiling water.

If 0.5 Gm. of thermodin, 5 Cc. sulphuric acid, and 5 Cc. of alcohol are mixed and warmed gently, the odor of ethyl acetate is developed. A solution of 0.5 Gm. of thermodin in 5 Cc. of sulphuric acid on the addition of 0.2 Gm. of sucrose, assumes a red color, becoming more intense on standing (distinction from neurodin). If 0.5 Gm. of thermodin is boiled with 3 Cc. of hydrochloric acid during one minute, then mixed with 5 Cc. phenol solution 1:20, and a solution of chlorinated lime added, an onion red color appears which changes to blue on supersaturation with ammonium hydroxide. 0.1 Gm. of thermodin dissolved in 1 Cc. of sulphuric acid should form an almost colorless solution. 0.1 Gm. of thermodin should, on ignition, not leave a weighable residue.

Actions and Uses.—Thermodin is an analgesic, antipyretic and antiseptic.

It is recommended as a mild and reliable antipyretic in typhoid fever, pneumonia, influenza, tuberculosis and febrile conditions in general, and is said to be free from unpleasant by-effects. There is every reason to believe, however, that for use in these infectious diseases it is open to the same objection as the other derivatives of acetphenetidin and related products. (See Acetphenetidin.)

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) as an antipyretic; 1 to 1.3 Gm. (15 to 20 grains) as an analgesic.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark.

THIGENOL.—Solution of Sodium Sulpho-Oleate, Roche.—Thigenol is a solution of the sodium salts of synthetic sulpho-oleic acids, containing 2.85 per cent. sulphur.

Precipitated sulphur is dissolved by boiling in the glyceride of oleic acid; the resulting solution is treated with sulphuric acid, during which process sulphurous acid escapes, and a sulpho-oleic acid is separated out. The separated sulpho-acid is then obtained by pouring into water, and subsequently washing thoroughly. By treatment with solution of sodium hydroxide, there results a solution of sodium sulpho-oleate, which is evaporated in vacuo until it has a specific gravity of 1.05 to 1.06.

Thigenol is a dark brown liquid, having a faint sulphurous odor. It is soluble in one or more parts of water, dilute alcohol, glycerin, chloroform, oily or fatty bases, with any one of which it mixes freely. When water is the vehicle employed, it should be distilled; hard water will cause a precipitate. Thigenol is incompatible with mineral acids or acetic acid.

Actions and Uses.—Thigenol is said to have the actions of sulphur. It is claimed to stimulate granulation, restrict secretions and to be antipruritic.

It is used in diseases of the uterus and its appendages and in skin diseases in which sulphur is commonly employed.

Dosage.—0.2 to 0.6 Gm. (3 to 10 grains) in plain or sweetened water. Thigenol is used locally either in the pure state or mixed in any desired proportion with ointment bases, fats or glycerin according to the intensity of action required.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland. (The Hoffmann-LaRoche Chemical Works, New York). U. S. trademark No. 51,393. Not patented.

THIOL.—Thiolum.—Thiol is a water soluble mixture of sulphurated and sulphonated petroleum oils.

Thiol is prepared by heating certain paraffin oils with 10 per cent. of sulphur, by which a partial addition of the sulphur takes place. The thiol oil thus formed is then treated with sulphuric acid for sulphonization. The excess of sulphuric acid is washed out by water and the sulphonated product neutralized by ammonia and the solution freed by dialysis from all inorganic salts. The dialyzed product evaporated to dryness contains about 12 per cent. of sulphur. For therapeutic purposes the evaporation is not carried to absolute dryness but the product is marketed either in the form of a syrupy liquid (Thiol Liquid, see below) or as a powder (Thiol Dry, see below).

Thiol is a brown powder with a pleasant odor resembling Russia leather, having a somewhat bitter and slightly astringent taste. It swells up in water and finally dissolves. It is also soluble in alcohol and slightly soluble in ether.

Thiol should not markedly redden litmus paper.

Actions and Uses.—Thiol is said to have a drying, astringent, antiphlogistic, and disinfecting action. Taken internally it is said to favor digestion and defecation. It is said to be useful in skin diseases, especially in dermatitis, acne, eczema, erysipelas, erythema, furunculosis, herpes, pruritus, pityriasis, etc. It is also claimed to be useful in burns, in rheumatism and in certain diseases of women.

Dosage.—It may be applied locally in the form of liquid thiol in full strength or in solution with glycerin or water or in the form of ointment or a 2 per cent. solution of liquid thiol may be used as a spray. Internally it may be given in the form of dry thiol in the dose of 0.1 to 0.2 Gm. (1½ to 3 grains) three times a day. Dry thiol may be employed as a dusting powder, either alone or with 80 per cent. of starch or in the form of ointment or of paste.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. trademark 16,553.

Thiol Dry.—Thiolum Siccum.—Thiol Dry is a brown powder with properties corresponding to the description of thiol, containing from 8 to 9 per cent. of sulphur.

Actions, Usage and Dosage.—See Thiol.

Thiol Liquid.—Thiolum Liquidum.—Thiol liquid is a preparation of thiol containing about 1.8 to 2 per cent. of sulphur.

It is a dark brown neutral liquid of a not unpleasant smell resembling that of Russian leather. It is easily soluble in water and glycerin but only slightly soluble in ether.

Actions, Uses and Dosage.—See Thiol.

THIOSINAMINE AND THIOSINAMINE COMPOUNDS.

THIOSINAMINE—Thiosinamina.—Allyl Sulphocarbamide—Allyl Thiouren—Rhodaline.—Thiosinamine is allyl-thio-urea, $(NH_2).CS.NHCH_2.CH:CH_2 = C_4H_8N_2S$.

It is prepared by warming together volatile oil of mustard (chiefly allyl thiocyanate) and alcoholic solution of ammonia, collecting the crystalline product of condensation, and recrystallizing from alcohol.

It forms colorless crystals, having a slight alliaceous odor and bitter taste and melting at 74° C. (165.2° F.). It is moderately soluble in water, but is decomposed by this solvent. It is soluble in about 3 parts of alcohol and readily soluble in ether.

It is incompatible with water, which decomposes it, but this change is to a limited extent prevented by the presence of glycerin.

Actions and Uses.—Thiosinamine appears to cause or quicken the absorption of exudates, lymphatic swellings, scar tissue, etc., the action being unexplained. The opinions as to its value are contradictory.

It is used by hypodermic injection in lupus, chronic glandular tumors, cicatrices, etc. By the mouth in stricture, corneal opacity, chronic deafness.

Dosage.—0.03 to 0.1 Gm. (½ to 1½ grains) in capsules or tablet triturates; in subcutaneous injections, 0.05 to 0.2 Gm. (1 to 5 grains) in 15 per cent. alcoholic or 10 per cent. glycerinated water solution.

SOLUTION THIOSINAMINE SODIUM SALICYLATE.—Liquor Thiosinaminæ Sodio-Salicylatis.—A sterilized solution containing 15 per cent. of a double salt of thiosinamine and sodium salicylate, $(NH_2.CS.NHCH_2.CH:CH_2)\ C_6H_4(OH)\ (COO\ Na)$.

It is prepared by mixing the two compounds in solution.

It is an aqueous odorless solution. It does not keep well in the air, but is marketed in sealed, brown glass vials, each containing 2.3 Cc. (37 minims) of the solution, equivalent to 0.2 Gm. (3 grains) of thiosinamine.

The tests are those of thiosinamine and sodium salicylate.

Actions and Uses.—Those of thiosinamine, with the advantage of quicker absorption and freedom from pain or irritation, on account of its solubility and aqueous vehicle.

Dosage.—The contents of one vial (2.3 Cc. = 0.2 Gm. thiosinamin) by subcutaneous, intramuscular or intravenous injection; one injection being administered daily or every second or third day.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark No. 49,160.

THORIUM NITRATE—Thorii Nitras.—Thorium nitrate, $Th(NO_3)_4 + 4H_2O$, is the thorium salt of nitric acid.

Thorium nitrate occurs as white crystalline granules or lumps. Very soluble in water and alcohol. On calcination yields a voluminous, white oxide, which should amount to 48-50 per cent. of the original salt. The aqueous solution dries over sulphuric acid to a crystalline mass.

An aqueous solution gives a white precipitate with ammonium carbonate, the precipitate being completely soluble in an excess of the precipitant. The aqueous solution gives with caustic alkalies a voluminous precipitate of the hydroxide insoluble in an excess of the precipitant. The presence of tartaric acid prevents the precipitation. Potassium ferrocyanide produces an amorphous precipitate.

Action and Uses.—The soluble thorium salts bear a close resemblance to alum in their local astringent and irritant properties. They are not absorbed from the alimentary canal. Hypodermically, they cause local sloughing, and intravenously, they kill by coagulating the blood. The non-precipitant double salts are practically non-toxic, even intravenously. They are excreted by the kidneys. Thorium salts are fairly radioactive. They have been recommended for local application in malignant diseases and thorium emanation has been inhaled in phthisis. Reliable evidence as to the therapeutic value of thorium salts is lacking.

Dosage.—A solution of thorium nitrate (1 to 5) is neutralized with ammonia and allowed to stand in a bottle four-fifths full; the emanation that accumulates in the vessel is inhaled (Br. Codex).

THYMOL IODIDE.

Thymol Iodide is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

ARISTOL.—A name applied to Thymolis Iodidum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark No. 17,393.

THYRESOL.—Thyresol consists chiefly of the methyl ether of santalol, $C_{15}H_{23}OCH_3$. It is prepared by the action of sodium methylate on "santal oil chloride."

Thyresol is a colorless liquid of aromatic odor, almost insoluble in water; easily soluble in alcohol and ether; soluble in concentrated sulphuric acid with a reddish-brown color. Boils at 149-156° C. (300.2-312.8° F.) under pressure of about 16 mm. On heating with hydriodic acid, santalyl iodide and methyl iodide are formed.

Actions and Uses.—Similar to sandal wood oil, but said to be practically free from irritant effects on the stomach and kidneys.

It is said to be useful in acute and chronic gonorrhea, anterior and posterior, and other conditions in which the sandal wood oil preparations are indicated.

Dosage.—0.5 Gm. (8 grains) 3 to 4 times daily, best given in milk or gelatin capsules.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 909,541 (Jan. 12, 1909; expires 1926).

THYROID PREPARATIONS.

IODOTHYRINE—Thyroiodine.—Iodothyrine is a milk sugar trituration of the active principle of thyroid gland, 1 Gm. representing 1 Gm. of fresh gland and containing 0.0003 Gm. of iodine.

According to the patent specifications iodothyrine may be obtained by boiling the fresh thyroid glands, freed from fat, with dilute sulphuric acid, cooling the liquid and collecting the body which separates, dissolving the active portion in alcohol and evaporating to dryness. The product is further purified by washing with ether, which dissolves impurities. One part of the active ingredient is mixed with 309 parts of sugar of milk.

It is a white or yellowish white powder, having the sweet taste of milk sugar.

Actions and Uses.—It is similar in action to Glandulæ Thyroideæ Siccæ, U. S. P., but it is claimed to possess the advantage of more definite strength and absence of decomposable extraneous matter.

Dosage.—Adults, 0.6 to 2 Gm. (10 to 30 grains); children, 0.3 to 1 Gm. (5 to 15 grains) per day.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). E. Merck, Darmstadt (Merck & Co., New York). U. S. patent No. 626,648 (June 6, 1899; expires 1916). U. S. trademark No. 29,406.

Iodothyrine Tablets, 5 grains. Each tablet contains Iodothyrine 0.33 Gm. (5 grains).

TRIFERRIN—Triferrinum.—Triferrin is ferric paranucleinate; a compound of caseinparanucleinic acid with iron, containing 22 per cent. of iron, 9 per cent. of nitrogen and 2.5 per cent. of phosphorus in natural (organic) combination.

It is prepared by digesting cow's milk-casein with pepsin and precipitating the solution with a ferric salt.

It is a tasteless powder. It is soluble in weak solution of sodium hydroxide, but insoluble in weak hydrochloric acid (0.1 to 0.3 per cent.).

Actions and Uses.—In addition to its hematinic action derived from the iron, it is claimed to act like lecithin by reason of the phosphorus in organic combination which it contains. It is said to agree with very sensitive stomachs, since it passes the stomach unchanged but is freely absorbed in the intestines.

It is said to be useful in anemia, chlorosis, neurasthenia, rachitis and general debility.

Dosage.—0.3 Gm. (5 grains) in powder, taken during meals.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York (Knoll & Co., New York). German patent No. 114,273. U. S. trademark No. 36,747.

Triferrol—Liquor Triferrini, Knoll.—Triferrol is an elixir of triferrin, said to contain 0.06 Gm. (1 grain) triferrin in 4 Cc. (1 fluidram). It contains 15 per cent. of alcohol.

A soluble form of triferrin (soluble triferrin Knoll), is dissolved in a vehicle consisting of water, alcohol, tincture of orange, tinct. cardamon co. and vanillin.

Dosage.—16 Cc. (4 fluidrams) corresponding to 0.24 Gm. (4 grains) of the powder.

TRIOXYMETHYLENE — Paraformaldehydum.—Paraformaldehyde.—Trioxymethylene, $(CH_2O)x$, is a polymeric condensation of formaldehyde.

It is prepared by concentrating an aqueous solution (40 per cent.) of formaldehyde by evaporation.

It is a white, crystalline powder, melting at 171° C. (339.8° F.). It is insoluble in alcohol or ether, but slowly soluble in water at ordinary temperature, more rapidly when heated, formaldehyde being regenerated as indicated by the vapors given off.

It responds to the tests for formaldehyde.

It has the same incompatibilities as formaldehyde: Bases, oxidizing agents, gelatin, tannin, etc.

Actions and Uses.—Antiseptic and escharotic. Externally it is used chiefly to generate formaldehyde by heating, for disinfection or for inhalations.

Dosage.—Internally, 0.3 to 1 Gm. (5 to 15 grains); externally (for warts), in 10 per cent. suspension in collodion.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). It is not patented or trademarked.

TRIPHENIN.—Propionyl-Phenetidin—Triphenin, $C_6H_4(OC_2H_5)NH(CH_3CH_2CO) = C_{11}H_{15}NO_2$, is a derivative of paraphenetidin, differing from acetphenetidin (phenacetin), $C_6H_4(OC_2H_5)NH(CH_3CO)$, in that the acetic acid residue, $(CH_3.CO)$, has been replaced by the propanoic acid residue, $(CH_3.CH_2.CO)$.

It is a white, shining, crystalline powder, melting at 120° C. (248° F.), odorless and faintly bitter. It is practically insoluble in water, requiring 2,000 parts, but soluble in alcohol and in ether.

It is prepared by heating paraphenetidin with propanoic acid and crystallizing the product.

In general it responds to the pharmacopoeial tests for acetphenetidin (phenacetin). From this it may be distinguished by its melting point and by identifying the propanoic acid evolved when heated with 50 per cent. sulphuric acid.

Its incompatibilities are those of acetphenetidin (phenacetin.)

Actions and Uses.—Triphenin is antipyretic, analgesic and hypnotic, its action is slower and milder than that of phenacetin, because it is less soluble, and it is said to be free from by- or after-effects.

It has been recommended in typhoid, pneumonia, pleurisy, influenza, erysipelas and tuberculosis; also in neuralgia, sciatica, migraine, tabetic pains, etc. Like similar products, it must be used with caution, especially in the infectious fevers. (See Acetphenetidin.)

Dosage.—As an antipyretic, 0.25 to 0.6 Gm. (4 to 10) grains); as an antineuralgic, 1 to 1.3 Gm. (15 to 20 grains), preferably in wafers.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 535,846 (March 19, 1895; expires 1912). U. S. trademark.

TROPACOCAINE HYDROCHLORIDE—Tropacocainæ Hydrochloridum.—Benzoylpseudotropeine Hydrochloride—Tropeine.—Tropacocaine hydrochloride, $C_8H_{14}NO(C_7H_5O.)HCl = C_{15}H_{19}NO_2.HCl$, is the hydrochloride of synthetic tropacocaine.

Pseudotropin-Lieberman is obtained from tropinon or from tropin by electrolytic reduction and from this the benzoyl derivative is obtained and this is converted to the hydrochloride.

It forms colorless, needle-shaped crystals, melting at 271° C. (519.8° F.). It is readily soluble in water, and its solution keeps well for several months. Heated in the presence of hydrochloric acid it is split into benzoic acid and tropine.

Its incompatibilities are the same as those of the alkaloids in general.

Actions and Uses.—Tropacocaine hydrochloride is a local anesthetic, resembling cocaine very closely in its general action, but only half as poisonous. It is reported that anesthesia sets in more rapidly and lasts longer than with cocaine. It produces less dilatation of the pupil, sometimes none at all.

It is employed as a local anesthetic.

Dosage.—It is applied in 3 to 10 per cent. aqueous solutions containing 0.6 per cent. sodium chloride.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 628,293 (July 4, 1899; expires 1916).

UREA.—Urea, $CO(NH_2)_2 = CH_4ON_2$, is the diamide of carbonic acid.

Urea occurs as colorless transparent prismatic crystals almost odorless having a cooling saline taste. It is somewhat hygroscopic. It is soluble in water (1-1), more readily in hot water. Soluble in alcohol (1-7) and (1-1) in boiling alcohol. It is insoluble in ether and chloroform. It fuses at 132° C. (269.6° F.), evolving ammonia and ammonium cyanate. Kept at 150° C. (302° F.) for some time most of it is converted to biuret. If the temperature is raised to 170° C. (338° F.) the biuret evolves ammonia and is converted to cyanuric acid. Heated with water under pressure it is decomposed into ammonium carbonate. It is not alkaline, but is a weak base and though a diamide, forms salts like a monacid base; these are acid to litmus. By hydrolysis it is converted into ammonia and carbon dioxide. Nitric and oxalic acids produce precipitates when added to concentrated solutions of urea.

Action and Uses.—Urea is an active diuretic; it is rapidly eliminated and is not poisonous. It has been claimed, without convincing proof, to have the power of dissolving urinary calculi. It has been recommended in the treatment of tuberculosis, but this use of it is generally being abandoned. It may be employed where diuresis is indicated, though it appears irrational in primary renal disease.

Dosage.—0.5 to 4 Gms. (10 to 60 grains). Urea is given in solution, or it may be enclosed in cachets.

VALIDOL.—Validol is menthyl valerianate, $C_{10}H_{19}O.C_5H_9O$, the menthylester of valerianic acid, with 30 per cent. of free menthol.

It is prepared by heating a mixture of 16 parts of menthol and 12 parts of valerylchloride on a water bath until hydrogen chloride ceases to be given off, adding very dilute solution of sodium hydroxide, shaking out the mixture with ether, drying the ether-solution with potassium carbonate, distilling off the ether, and rectifying the residual oily product by vacuum distillation, finally dissolving 30 per cent. of free menthol in the pure ester so obtained.

Validol is a crystal-clear, colorless liquid, of the consistency of glycerin, having a mild and pleasant odor, distinct from either that of menthol or valerian, and a refreshing cool and very faintly bitter taste, insoluble in water, but readily soluble in alcohol, ether, chloroform, and oils. It is decomposed by alkalies. On warming with sodium hydroxide solution, the odor of menthol manifests itself; if then the alkaline solution is acidulated with diluted sulphuric acid, the odor of valerianic acid is developed. It is incompatible with alkaline media.

Actions and Uses.—Analeptic, antihysteric, carminative, stomachic; combining the activity of valerianic acid and of menthol. It is devoid of the irritating acridity of the latter and is said to be well tolerated by the most sensitive stomach.

It is said to be useful in hysteria, migraine, gastralgia, gastritis, vomiting of pregnancy, exhaustion, hypochondria, syncope and certain reflex neuroses.

Dosage.—10 to 15 drops, on sugar, or in a little sweet wine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York).

VALIDOL CAMPHORATUM.—Validol camphoratum is camphorated Validol.

Camphorated Validol is a 10 per cent. solution of camphor in validol. Camphorated Validol is a clear, colorless liquid, of the consistency of glycerin, having an agreeable odor, and refreshingly cool and faintly bitter taste. It is insoluble in water, but readily soluble in alcohol, oils and other organic solvents. It is incompatible with alkaline media.

Actions and Uses.—Restorative, local analgesic, non-irritant and non-poisonous; well tolerated by the mucous membrane of the stomach. It is said to be useful in serious cases of exhaustion, where the administration of camphor is indicated; in odontalgia, either by application to the pulp or inserted on cotton into the previously rinsed cavity.

Dosage.—10 to 15 drops, on sugar or in wine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York).

VALYL—Valeryldiethylamidum.—Valerianic Acid Diethylamide.—Valyl is valeryl diethylamide, $C_4H_9CO.N(C_2H_5)_2 = C_9H_{19}ON$, a compound of valeric acid and diethylamine.

It is prepared by the direct interaction of its acid and basic components.

It is a bright, colorless, neutral liquid, having a peculiar pepper-like odor, boiling at 210° C. (410° F.). It is soluble in 25 parts of water and easily soluble in alcohol or ether.

It should be neutral to moistened litmus paper and the boiling point should not vary materially above or below that indicated.

It should not be exposed to the air.

Actions and Uses.—Valyl acts as a sedative, antispasmodic and nervine, similar to valerian.

It is said to be useful in hysteria, traumatic neurosis, hemicrania, neuralgia, menstrual irregularities, insomnia due to nervousness, etc.

Dosage.—Owing to the liability of valyl to oxidize when exposed to the air, it is supplied only in the form of pearls, each containing 0.125 Gm. (2 grains), the dose being 2 or 3 capsules, administered during or immediately after meals, or otherwise with a little milk.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoecht a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 697,730 (April 15, 1902; expires 1919).

VIOFORM.—Iodochloroxyquinolin.—Nioform.—Vioform is iodo-chlor-hydroxy-quinoline, $C_9H_4N.OH.I.Cl = C_9H_5ONClI$, a substitution compound of anachlor-orthohydroxy-quinoline, resulting from the introduction of one atom of iodine.

Hydroxy-quinoline is first chlorinated and dissolved in an alkaline solution, which is then treated with a solution of iodine in potassium iodide when a voluminous yellowish brown precipitate of vioform is produced. This is washed with a solution of sodium thiosulphate to remove free iodine and then with 1 per cent. hydrochloric acid until the dried residue melts at from 170° to 175° C. (338° to 347° F.).

It is a very voluminous, greenish yellow powder; crystallizing from glacial acetic acid in needles melting at 177° to 178° C. (350.6° to 352.4° F.), practically odorless, and insoluble in water and slightly soluble in alcohol; it permits sterilization without decomposition; it is about six times as bulky as iodoform.

Vioform contains 41.57 per cent. of iodine—it gives a green coloration with Millon's reagent or when the alcoholic solution is treated with ferric chloride solution. It dissolves with a brown color in concentrated sulphuric acid and the solution evolves iodine on warming. If this solution, after driving off the iodine, be diluted with water, chlorine can be demonstrated by the usual test with silver nitrate. If a solution of vioform in chloroform is shaken with nitric acid, the chloroform acquires a violet red color, and the nitric acid becomes somewhat yellow.

Actions and Uses.—It is antiseptic, hemostatic, cicatrisant; non-toxic and non-irritant. It is claimed to be an ideal substitute for iodoform and to prevent decomposition in wound secretions to a much higher degree. Drains and tampons may be left *in situ* for a considerable time.

Dosage.—As a dusting powder and as an ointment spray, suppository, or in form of gauze.

Manufactured by Baseler Chemische Fabrik, Basel, Switzerland (C. Bischoff & Co., New York). German patent No. 117,767.

Vioform Gauze.—Gauze impregnated with a solution of 10 Gm. (150 grains) of vioform, 50 Gm. (750 grains) of absolute alcohol, 10 Gm. (150 grains) of sugar, 25 Gm. (375 grains) of glycerin, and 500 Gm. (1 1/12 pints) of water.

XEROFORM—Bismuthi Tribromphenolas.—Tribromphenol-Bismuth.—Xeroform is basic bismuth tribrom-phenolate, $Bi(C_6H_2Br_3O)_2OH.Bi_2O_3 = C_{12}H_5O_6Br_6Bi_3$, containing nearly 50 per cent. of Bi_2O_3.

According to the patent it is obtained by dissolving tribromphenol in sodium hydroxide and adding bismuth nitrate to the sodium tribromphenolate solution. The precipitated tribromphenol bismuth is collected, and washed with alcohol.

It is a fine yellow, nearly odorless and tasteless powder, neutral in reaction, and unaffected by light. It is insoluble in water, alcohol, chloroform, liquid petrolatum and vegetable oils, but soluble in 2 per cent. hydrochloric acid in the proportion of 30:100. By alkalies it is decomposed with the formation of bromides; it is not decomposed by heat at temperatures below 120° C. (248° F.), and therefore may be sterilized.

It should yield 49.5 per cent. of bismuth oxide. If 1 Gm. is boiled with sodium hydroxide T. S. filtered, the filtrate rendered acid with sulphuric acid and the white, curdy precipitate washed and dried, it should melt at 95° C. (203° F.) (tribromphenol).

It is incompatible with alkaline media and should not be heated above 120° C. (248° F.).

Actions and Uses.—Xeroform is claimed to be non-irritant and non-toxic antiseptic. It is said to be useful as an odorless and efficient substitute for iodoform; as valuable in *ulcus cruris* and all weeping eczemas; internally, in gastrointestinal catarrh, proctitis, dysentery, bacillary and choleraic diarrhea, cholera infantum, etc. (See note under Creosote Carbonate.)

Dosage.—1 to 3 Gm. (15 to 45 grains) per day to adults; 0.12 to 0.3 Gm. (2 to 5 grains) at a dose to children. Externally, as a dusting powder, in bandages, etc., like iodoform.

Manufactured by the Heyden Chemical Works, New York. U. S. patent No. 516,358 (March 13, 1894; expires 1911).

ZINC PERMANGANATE.—Zinci Permanganas.—Zinc permanganate, $Zn(MnO_4)_2 + 6H_2O$ is the zinc salt of permanganic acid. It should contain not less than 90 per cent. of zinc permanganate.

Zinc permanganate occurs in dark brown, nearly black, lustrous deliquescent crystals, or crystalline masses. It is readily soluble in water (1 in 3), generally leaving a slight residue. Aqueous solutions decompose in air, but are permanent if kept in well-closed bottles, protected from light. When heated slowly it loses water of crystallization (25.46 per cent.) and oxygen, leaving a residue of zinc manganite. If heated quickly it gives off pink vapors, or more properly, a fine dust of manganese trioxid. Zinc permanganate gives up oxygen more easily than does the potassium salt, hence great care should be taken in bringing it in contact with easily oxidizable substances.

Zinc permanganate should be almost completely soluble in water. The color of the solution is discharged by alcohol, hydrogen sulphid, ferrous sulphate, oxalic acid, or hydrogen dioxid, especially if the solution is first rendered acid with sulphuric acid.

Tests.—If 1 Gm. of the salt is dissolved in 50 Cc. of water and 5 Cc. of alcohol added, a colorless solution must be obtained after boiling and filtering; if a small part of the latter acidified with nitric acid is tested with silver nitrate T. S. for chlorid and with barium chlorid T. S. for sulphate, not more than traces of either should be indicated.

To estimate its purity, 0.1 to 0.2 Gm. of substance is weighed, dissolved in water, filtered through asbestos, the filtrate acidulated with 5 Cc. dilute sulphuric acid, warmed to about 60° C., treated with an excess of tenth-normal oxalic acid V. S., and the excess of oxalic acid determined by titration with N/10 potassium permanganate V. S. Each cubic centimeter of tenth-normal oxalic acid V. S. consumed indicates 0.0040842 Gm. zinc permanganate, $Zn(MnO_4)_2 + 6.H_2O = 408.42$.

Action and Uses.—Zinc permanganate resembles the potassium salt in its oxidizing properties, but is more astringent. It is antiseptic. It is used chiefly in urethritis, either as an injection or as a urethral douche.

Dosage.—Locally 1 part to 4,000 (1 grain in 8 fluidounces). 1.3 Gm. zinc permanganate is equal in permanganate content to 1 Gm. potassium permanganate.

Non-Proprietary Preparations:

Zinc Permanganate, P-W-R.—Manufactured by the Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Zinc Permanganate, Merck.—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

Tablets Zinc Permanganate, 1 grain, Mulford.—Each tablet contains zinc permanganate 0.065 Gm. (1 grain). Prepared by the H. K. Mulford Co., Philadelphia, Pa.

'Soloid' Zinc Permanganate, 1/8 grain, B.-W. & Co.—Each tablet contains zinc permanganate 0.008 Gm. (⅛ grain). Prepared by Burroughs-Wellcome & Co., London and New York.

ZINC PEROXIDE—Zinci Peroxidum.—Zinc Peroxide is the zinc salt, ZnO_2, of hydrogen peroxide, containing an admixture of not more than 55 per cent. of zinc oxide.

Zinc peroxide occurs as a yellowish white voluminous powder; tasteless, odorless, non-hydroscopic, antiseptic, neither caustic nor irritant, and not more toxic than ordinary zinc oxide. It is insoluble in water, but gives to it a slight alkaline reaction; it is soluble in cold dilute sulphuric acid with evolution of oxygen and in dilute hydrochloric acid with liberation of chlorine. It gives all the reactions of peroxides, caramelizes sugar, disengages oxygen by the action of acids and in contact with living tissue. It is stable in the autoclave to 130° C. and at a dry heat to 150° C., and thus may be readily sterilized. Heated to higher temperature, it loses oxygen and forms zinc oxide. It should not respond to tests for calcium, magnesium, barium, sulphates, chlorides or carbonates.

0.2-0.3 Gm. zinc peroxide accurately weighed and added to 50 Cc. water and acidulated with 20 Cc. dilute sulphuric acid, should require for each 0.1 Gm. material used not less than 9.25 Cc. dilute tenth-normal permanganate solution to produce a permanent pink color.

Action and Uses.—Zinc peroxide is used in the extemporaneous preparation of hydrogen peroxide for wounds, chronic ulcers, etc. It may be applied as a dressing directly on wounds, etc., where it produces hydrogen peroxide *in situ*. For eczema and other skin diseases it is sometimes prescribed with half its weight of potassium iodide and one-tenth its weight of tartaric acid, the mixture liberating iodine on contact with moist surfaces.

Dosage.—It may be used as a dusting powder either alone or mixed with tannin, or in the form of gauze, or a 10 per cent. ointment.

Proprietary Preparation:

PEROXIDE ZINC SOAP—Sapo cum zinci peroxido.—Peroxide Zinc Soap is a soap containing 10 per cent. zinc peroxide, which see.

Actions and Uses.—It is said to be useful as a vehicle for employing zinc peroxide in the treatment of skin diseases.

Prepared by J. Eavenson & Sons, Camden, N. J., for the Roessler & Hasslacher Chemical Co., New York. U. S. patent No. 787,776 (April 18, 1905; expires 1922). No trademark.

APPENDIX.

An index to the proprietary articles, arranged under the names of the manufacturers or their agents, which, so far as known to the Council, comply with the rules, but which did not possess sufficient originality to be admitted to the body of the book (see Introduction to Official Rules of the Council, page 9).

Edward G. Binz Co., Los Angeles, Cal.

Eucaloids.—Gelatine capsules, each said to contain pure oil of eucalyptus 0.3 Cc. (5 minims).

Euca-Mul.—An emulsion of oil of eucalyptus in glycerin and honey, said to contain oil of eucalyptus 3.25 Cc. in 100 Cc. (15 minims in a fluid ounce).

Burroughs, Wellcome & Co., New York.

Enule Soap Compound.—A cocoa butter suppository weighing 2.52 Gm. (39 grains) and containing in each suppository curd soap and dry sodium sulphate 0.454 Gm. (7 grains) of each.

Tabloid Hypophosphites Comp.—Each tablet is said to contain: Sodium hypophosphite, 0.0084 Gm. (⅛ grain); potassium hypophosphite, 0.0084 Gm. (⅛ grain); iron hypophosphite, 0.0084 Gm. (⅛ grain); manganese hypophosphite, 0.0042 Gm. (1/16 grain); quinine hypophosphite, 0.0021 Gm. (1/32 grain); strychnine hypophosphite, 0.0005 Gm. (1/128 grain); calcium hypophosphite, 0.0663 Gm. (1 3/128 grain).

*Tabloid Coffee Mint.**—Each tablet said to contain: Sodium bicarbonate, 0.2 Gm. (3 grains); ammonium carbonate, 0.004 Gm.

* This article and all others thus starred do not comply with the present rules of the Council. Having been accepted before the revision of the rules the Council decided to retain them for the present in the appendix.

(1/16 grain); extract of coffee (obtained by extracting roasted coffee with water, the percolate being evaporated, dried and powdered), 0.032 Gm. (½ grain); cerium oxalate, 0.016 Gm. (¼ grain); oil of peppermint to flavor.

G. W. Carnrick Co., New York.

*Antithermoline.**—Each 1000 Gm. is said to contain purified kaolin, 563 Gm.; boric acid, 2 Gm.; oil of eucalyptus, menthol and thymol, combined, 2 Gm.; and glycerine, 320 Cc. It closely resembles Cataplasma Kaolini, U. S. P.

Cloftlin Chemical Co., New York.

*Emulsion Cloftlin.**—Each 100 Cc. is said to contain calcium hypophosphite, 1.33 Gm. (6 grains in a fluidounce); manganese hypophosphite, 0.66 Gm. (3 grains in a fluidounce); glycerin, 10 per cent.; cod liver oil, 50 per cent. (by volume).

Eusoma Pharmaceutical Co., Cincinnati, O.

Mercuran.—It is stated to be a 50 per cent. mercurial ointment in which the benzoinated lard of the official ointment (Unguentum Hydrargyri U. S. P.) has been replaced by goose fat stearin. It is supplied in capsules containing about 4 Gm. (60 grains) each.

Louisville Pharmacal Works, Louisville, Ky.

Elixir Duozyma.—Elixir Pepsin, Diastase and Hydrastis, L. P. W. A mixture said to represent in each 100 Cc.: pure scale pepsin (1:3000) 2.2 Gm. (10 grains in a fluidounce); malt diastase 0.22 Gm. (1 grain in a fluidounce); golden seal 0.22 Gm. (1 grain in a fluidounce); glycerin, C. P., 10 Cc. (48 minims in a fluidounce) and alcohol 15 per cent.

Malt-Diastase Co., New York.

Maltzyme.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 7 per cent. of alcohol. U. S. trademark No. 46,459.

Maltzyme with Cod Liver Oil.—Said to consist of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod liver oil.

Maltzyme with Cascara Sagrada.—Each 100 Cc. is said to represent cascara bark, 10 Gm. (48 grains in a fluidounce).

Maltzyme with Hypophosphites.—Each 100 Cc. is said to contain calcium, sodium, and potassium hypophosphites, of each 0.4 Gm. (2 grains in a fluidounce) and iron and manganese hypophosphites, of each, 0.05 Gm. (¼ grain in a fluidounce).

Maltzyme with Phosphate of Iron, Quinine and Strychnine.—Each 100 Cc. is said to contain iron pyrophosphate, 0.85 Gm. (4 grains in a fluidounce); quinine, 0.20 Gm. (1 grain in a fluidounce); strychnine, 0.0066 Gm. (2/75 of a grain in a fluidounce).

Maltzyme Ferrated.—Each 100 Cc. is said to contain iron pyrophosphate, 1.65 Gm. (8 grains in a fluidounce).

Maltzyme with Yerba Santa.—Each 100 Cc. is said to represent yerba santa leaves, 6.6 Gm. (30 grains in a fluidounce).

The Maltine Company, Brooklyn, N. Y.

Maltine.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 3.88 per cent. alcohol. U. S. trademark No. 44,556.

Maltine with Cascara Sagrada.—Each 100 Cc. is said to represent casgara sagrada (Rhamnus Purshiana) 12.5 Gm. (60 grains in a fluidounce) in a mixture containing maltine 96.115 per cent. and alcohol 3.885 per cent.

Maltine with Cod Liver Oil.—A liquid said to represent maltine, 56.115 per cent.; glycerin, 10 per cent.; cod liver oil, 30 per cent.; alcohol, 3.885 per cent.

Maltine with Creosote.—Each 100 Cc. is said to represent beechwood creosote, 0.83 Cc. (4 minims in a fluidounce) in a mixture containing maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine Ferrated.—Each 100 Cc. is said to represent iron pyrophosphate 1.65 Gm. (8 grains in a fluidounce) in a menstruum containing maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Hypophosphites.—Each 100 Cc. is said to contain calcium hypophosphite, 0.64 Gm. (3 grains in a fluidounce), sodium hypophosphite, 0.64 Gm. (3 grains in a fluidounce), and iron hypophosphite, 0.42 Gm. (2 grains in a fluidounce), dissolved in a solution of ammonium citrate and to contain maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Olive Oil and Hypophosphites.—A preparation said to consist of maltine, 65 per cent.; pure olive oil, 25 per cent.; glycerin, 10 per cent.; to which per 100 Cc. there is added calcium hypophosphite, 0.6 Gm. (3 grains per fluidounce); sodium hypophosphite, 0.6 Gm. (3 grains per fluidounce).

Maltine with Phosphate of Iron, Quinia and Strychnia.—Each 100 Cc. is said to represent iron pyrophosphate, 0.83 Gm. (4 grains in a fluidounce); quinine sulphate, 0.21 Gm. (1 grain in a fluidounce); strychnine (alkaloid), 0.0066 Gm. (2/75 grain in a fluidounce) dissolved in a solution of ammonium citrate and to contain maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Wine of Pepsin.—A liquid said to consist of maltine, 27.5 per cent. wine of pepsin, 71.5 per cent.; and fluid extract of gentian, 1 per cent., the percentage of alcohol in the mixture being 18 per cent.

Malto-Yerbine.—A liquid said to contain in each 100 Cc. an extract of 6.6 Gm. (30 grains in a fluidounce) of eriodictyon (Yerba Santa), also flavoring composed of the essential oils of anise, cassia, coriander and caraway in a mixture containing maltine, 96.115 per cent. and alcohol, 3.885 per cent.

The extract of Yerba Santa employed in Malto-Yerbine is prepared as follows:

The leaves of Yerba Santa in coarse powder are boiled under pressure for six hours and inert matter separated by a filter press. The filtrate is concentrated with a certain quantity of maltine at a high temperature until the product has reached a density of 1.35. This extract is mixed in proper proportions with maltine of extra diastasic strength to make up for the diastasic strength lost through heat during the concentration of the drug with maltine.

Manhattan Eye Salve Co., Owensboro, Ky.

Argyrol Ointment (M. E. S. Co.)—An ointment said to consist of argyrol 10 per cent.; hydrous wool fat, 25 per cent.; white petrolatum, 65 per cent. Put up in collapsible tubes, for application to the eye.

Compound Yellow Oxide and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain yellow oxide of mercury 1 per cent., solution of adrenalin chloride 5 per cent., menthol 0.04 per cent., phenol 0.2 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent. Put up in collapsible tubes, for application to the eye.

Cocaine and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain cocaine hydrochloride 2 per cent., solution of adrenalin chloride 17 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent. Put up in collapsible tubes, for application to the eye.

Dionin Ointment (M. E. S. Co.).—An ointment said to consist of dionin 5 per cent.; white petrolatum, 95 per cent. Put up in collapsible tubes, for application to the eye.

Holocain and Adrenalin Ointment (M. E. S. Co.).—An ointment said to consist of holocain 1 per cent.; adrenalin chloride, 4 per cent.; hydrous wool fat, 10 per cent.; white petrolatum, 85 per cent. Put up in collapsible tubes for application to the eye.

Wm. S. Merrell Chemical Co., Cincinnati, O.

*Akaralgia.**—A mixture each 100 Cc. of which is said to represent sodium sulphate, 25 Gm.; sodium salicylate, 8.33 Gm.; magnesium sulphate, 42.5 Gm.; lithium benzoate, 4.16 Gm.; tincture of nux vomica, 5 Cc. Each average dose of 2 drams is said to represent sodium sulphate 30 grains, sodium salicylate (Merrell) 10 grains, magnesium sulphate 50 grains, lithium benzoate 5 grains and tincture of nux vomica 6 minims.

Erpiol—Dr. Shrader.—Capsules stated to contain in each: Apiol, green (see Oleoresin of Parsley Seed), 0.31 Cc. (5 minims); Ergotin, Bonjean's process (see Purified Extract of Ergot), 0.065 Gm. (1 grain); Gossypin, resinoid, 0.195 Gm. (3 grains).

H. K. Mulford Co., Philadelphia, Pa.

*Blandine Comp.**—A liquid said to contain in each 100 Cc.: Camphor, 0.3 Gm. (1½ grains in a fluidounce); menthol, 0.04 Gm. (1/5 grain in a fluidounce); thymol, 0.04 Gm. (1/5 grain in a fluidounce); eucalyptol, 0.08 Gm. (2/5 grain in a fluidounce); oil of gaultheria, 0.33 Cc. (1½ minims in a fluidounce); hydrastine alkaloid, 0.005 Gm. (1/40 grain in a fluidounce) in a neutral, odorless mineral oil (liquid petroleum). U. S. trademark No. 51,647.

*Casca-Laxative.**—A liquid extract representing in each 100 Cc.: Cascara sagrada, 116.6 Gm. (540 grains in a fluidounce); senna, 58.3 Gm. (270 grains in a fluidounce); podophyllin, 0.16 Gm. (¾ grain in a fluidounce); in a menstruum containing 17 per cent. of absolute alcohol by volume with aromatics.

Compound Capsules of Glycerophosphates. Capsula glycerophosphatum composita.—Each capsule is said to contain: Terebene, 0.2 Cc. (3 minims); oil of sandalwood, 0.2 Cc. (3 minims); guaiacol, 0.06 Cc. (1 minim) calcium glycerophosphate 0.06 Gm. (1 grain) sodium glycerophosphate, 0.03 Gm. (½ grain); strychnine 0.00065 Gm. (1/100 grain); pure olive oil sufficient to make 10 minims.

They are soft, oval shaped capsules of a clear, yellow color, with a small compressed tablet containing the glycerophosphates and strychnine suspended in the oils.

Methyl-Santal.—Each capsule is said to contain: Methylene blue, 0.06 Gm. (1 grain); oleoresin of copaiba, 0.1 Cc. (1 3/5 minims); oleoresin of cubebs, 0.025 Cc. (2/5 minim); oil of sandalwood, 0.09 Cc. (1½ minims); oil of cinnamon, 0.013 Cc. (1/5 minim); oil of nutmeg, 0.005 Cc. (1/12 minim).

Granular Effervescent Sodium Sulphate (Glauber's Salt), Mulford.—A mixture said to contain in each 100 Gm.: Dried sodium sulphate, 40 Gm., with an effervescing mixture consisting of sodium bicarbonate, citric acid, tartaric acid, and sugar. Each heaping teaspoonful weighing about 75 grains is said to contain dried sodium sulphate, 30 grains.

Granular Effervescent Bromide and Acetanilide Compound, Mulford.—A mixture said to contain in each 100 Gm.: Sodium bromide, 5 Gm., acetanilide, 1.5 Gm., and saccharin, 0.014 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of this salt, about 100 grains, is said to contain about 1.5 grains acetanilide, about 5 grains sodium bromide, and about 1/70 grain of saccharin.

Granular Effervescent Caffeine and Sodium Bromide Compound, Mulford.—A mixture said to contain in each 100 Gm.: Sodium bromide, 5.45 Gm.; caffeine, 0.545 Gm.; and saccharin, 0.014 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of this salt, about 92 grains, is said to contain about 5 grains sodium bromide, ½ grain, caffeine, and about 1/70 grain of saccharin.

Granular Effervescent Caffeine and Potassium Bromide, Mulford.—A mixture said to contain in each 100 Gm.: Potassium bromide, 2.3 Gm.; caffeine, 0.122 Gm.; and saccharin, 0.014 Gm., with an effervescent mixture consisting of sodium bicarbonate, and citric and tartaric acids. Each ounce is said to contain about 10 grains of potassium bromide, about 2 grains of caffeine, and about 1/16 grain of saccharin.

Granular Effervescent Carlsbad Salt (*Artificial*), Mulford.—A mixture said to contain in each 100 Gm.: Potassium sulphate, 0.35 Gm.; sodium chloride, 3.266 Gm.; sodium bicarbonate, 6.533 Gm., and sodium sulphate (dried), 8 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of the salt, about 90 grains, is said to contain about ⅛ grain of potassium sulphate, 3 grains of sodium chloride, 6 grains of sodium bicarbonate and 7 grains of sodium sulphate (dried).

Granular Effervescent Carlsbad Salt (Artificial) with Phenolphthalein, Mulford.—A mixture said to contain in each 100 Gm.: Potassium sulphate, 0.35 Gm.; sodium chloride, 3.266 Gm.; sodium bicarbonate, 6.533 Gm.; sodium sulphate (dried), 8 Gm., and phenolphthalein, 1.1 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of the salt will average about 90 grains and is said to contain about ⅛ grain of potassium sulphate, 3 grains of sodium chloride, 6 grains of sodium bicarbonate, 7 grains of sodium sulphate (dried) and about 1 grain of phenolphthalein.

Guaiacol Carbonate Comp.—Soft, elastic, soluble capsules, each of which is said to contain: Guaiacol carbonate, 0.09 Gm. (1½ grains); calcium hypophosphite, 0.03 Gm. (½ grain); ichthyol, 0.03 Gm. (½ grain), strontium arsenite, 0.00055 Gm. (1/120 grain), and olive oil sufficient to make 0.3 Cc. (5 minims). Trademark not registered.

National Pharmacy Co., Oakland, Cal.

Bismuthal.—A milky liquid, said to contain in 100 Cc. lac bismuthi citratis, 44 Cc.; pepsin, 3.30 Gm.; hydrochloric acid, 0.013 Gm.; lactic acid, 0.013 Gm.; glycerin, 40 Gm., and alcohol, 5 Cc.; cherry laurel water, 1.66 Cc.; Jamaica ginger, 0.26 Gm.; gum benzoin, 0.59 Gm. Each dose of 1 fluidram is said to contain approximately: Lac bismuthi citratis, 26 minims; pepsin, 2 grains; hydrochloric acid, 8/1000 grain; lactic acid, 8/1000 grain; glycerin, 24 grains; alcohol, 3 minims; cherry laurel water, 1 minim; Jamaica ginger, 1/6 grain; gum benzoin, ⅛ grain.

Lac bismuthi citratis contains 7.60 per cent. of anhydrous bismuth citrate. It is made by double decomposition between bismuth trinitrate and sodium citrate, decanting the supernatant liquid and washing the precipitate.

Pitman-Myers Co., Indianapolis, Ind.

Aromatic Cordial, P.-M. Co.—Aromatic cordial is a mixture said to contain in each 100 Cc.: Papain, 0.4 Gm., and lactic acid, 0.625 Cc. in a menstruum consisting of glycerin wine, aromatics, sugar, and 5 per cent. of alcohol. One fluidram is said to contain papain, ¼ grain, and lactic acid, 4/10 minim.

Elixir Buchu, Juniper and Acetate Potassium, P.-M. Co.—Each 100 Cc. is said to represent: Buchu, 16.6 Gm.; juniper berries, uva ursi, of each, 8.3 Gm.; potassium acetate, 5 Gm. Each fluidram is said to represent: Buchu, 10 grains; juniper berries, uva ursi, of each, 5 grains, and potassium acetate, 3 grains.

Oleum Ricini Dulce, P.-M. Co.—Castor oil to which has been added saccharin 0.07 Gm. in 100 Cc. (0.33 in a fluidounce) and aromatics; contains 2.5 per cent. alcohol.

Syrup Cannabis Compound.—Each 100 Cc. is said to represent: Cannabis indica, 1.66 Gm. (7½ grains in a fluidounce); heroin hydrochloride, 0.066 Gm. (⅛ grain in a fluidounce); chloroform, 0.83 Cc. (4 minims in a fluidounce); lobelia, 1.66 Gm. (7½ grains in a fluidounce); antimony and potassium tartrate (tartar emetic), 0.026 Gm. (⅛ grain in a fluidounce), with aromatics; alcohol, 10 per cent.

Tablets Acet-Phenetidin Compound, P.-M. Co.—Tablets, each stated to contain acet-phenetidin 0.23 Gm. (3½ grains); caffein, 0.016 Gm. (¼ grain) and sodium bicarbonate, 0.08 Gm. (1¼ grains).

Reinschild Chemical Co., New York.

Extractum Chinae Nanning.—A liquid extract of red chinchona said to contain cinchona alkaloids 5 per cent., cinchona tannins 7½-10 per cent., glycerine 30 per cent., water 55-57½ per cent.

Dosage.—1 to 1.25 Gm. (15 to 20 minims) three times a day.

*Regulin.**—A mixture of agar-agar in a dry form with extract of cascara sagrada representing 15 per cent. of an aqueous fluid extract of cascara sagrada.

Actions and Uses.—See Agar-agar. Regulin is used for the the treatment of habitual constipation.

Dosage.—From a teaspoonful to a tablespoonful once daily in stewed apples, mashed potatoes or similar food.

U. S. patent No. 896,807 (Aug. 25, 1908; expires 1925).

Russell & Lawrie, Tarrytown, New York.

*Lubraseptic.**—Lubraseptic is a jelly prepared from Chondrus (Irish moss) containing 2 per cent. boric acid and 0.067 per cent. formaldehyde.

The material is packed in screw cap metal tubes and sterilized by heat.

Dosage.—It is put up in collapsible tubes and it is suggested to reject the portion first expressed to make sure of the sterile condition of that used.

Schering & Glatz, New York.

*Tonols.**—Tonol is a name applied by E. Schering to identify the glycerophosphates of his manufacture. The following are mentioned: Calcium (or lime) tonol, Iron tonol, Lithium tonol, Magnesium tonol, Manganese tonol, Potassium tonol, Quinine tonol, Strychnine tonol. U. S. trademark No. 59,094.

*Duotonol.**—A mixture of equal parts of calcium tonol and sodium tonol. U. S. trademark.

*Quartonol.**—A name applied to a mixture of tonols in tablets of 0.3 Gm. (5 grains), each tablet being said to contain: Lime tonol, 0.148 Gm. (2¼ grains), sodium tonol, 0.148 Gm. (2¼ grains); quinine tonol, 0.03 Gm. (½ grain), and strychnin tonol, 0.00032 Gm. (1/200 grain). U. S. trademark.

*Sextonol.**—A mixture of tonols in tablets of 0.3 Gm. (5 grains), each tablet being said to contain: Lime tonol, 0.13 Gm. (2 grains); sodium tonol, 0.13 Gm. (2 grains); iron tonol, 0.03 Gm. (½ grain); manganese tonol, 0.015 Gm. (¼ grain); quinine tonol, 0.015 Gm. (¼ grain), and strychnine tonol, 0.00032 Gm. (1/200 grain). U. S. trademark.

* For significance of star see foot-note under Tabloid Coffee Mint, p. 70

Trikresol.—A liquid said to consist of: Orthocresol, 35 per cent.; metacresol, 40 per cent., and paracresol, 25 per cent. It closely corresponds to Cresol, U. S. P. U. S. trademark No. 65,624.

Schieffelin & Co., New York.

*Colalin Laxative.**—Tabella Colalinæ cum Extracto Rhamni Purshianæ, Crowell. Each tablet is said to contain colalin, 0.015 Gm. (¼ grain), powdered extract of cascara, 0.12 Gm. (2 grains), and podophyllin, 0.01 Gm. (1/6 grain).

Dosage.—One to three tablets on retiring or one after each meal.

*Elixir Eupnein.**—A preparation each 100 Cc. of which is said to contain: Heroin, 0.0325 Gm.; terpin hydrate, 1.625 Gm.; creosote, 3.75 Gm., in a menstruum containing 30 per cent. of alcohol, with glycerin and aromatic essential oils. Each dose of 2 fluidrams is said to contain: Heroin, 1/24 grain; terpin hydrate, 2 grains, and creosote, 5 grains. U. S. trademark No. 36,419.

*Hemoquinine.**—Each 100 Cc. is said to contain: So-called peptonate of iron (made by adding ammoniocitrate of iron to freshly prepared peptone of egg albumin), 7.2 Gm., and so-called peptonate of manganese, 1.8 Gm., together with: Quinine peptonate (equivalent to 0.5 Gm. of quinine sulphate). 1.0 Gm., and sodium arsenate, 0.266 Gm., in a menstruum containing 20 per cent. of alcohol with glycerin and aromatics. Each dose of 2 fluidrams is said to contain: Peptonate of iron, 8½ grains; peptonate of manganese, 2⅛ grains, peptonate of quinine, 1 grain, and sodium arsenate, 1/36 grain. U. S. trademark No. 38,512.

*Heromal.**—Each 100 Cc. is said to contain: Heroin, 0.01625 Gm. and sodium hypophosphite, 0.375 Gm., in a menstruum of malt extract, with 6 per cent. of alcohol. Each dose of 2 fluidrams is said to contain: Heroin, 1/48 grain, and sodium hypophosphite, ½ grain. U. S. trademark No. 37,010.

Heroterpine.—Each 100 Cc. is said to contain: Terpin hydrate, 1.625 Gm., and heroin, 0.0325 Gm., in a menstruum containing 32 per cent. of alcohol, with glycerin and aromatic essential oils. Each average dose of 2 fluidrams is said to contain: Terpin hydrate, 2 grains, and heroin, 1/24 grain. U. S. trademark No. 36,181.

Laminoids Ferruginous (Nascent).—Each tablet contains iron sulphate and sodium bicarbonate in quantities equivalent to those of pilulæ ferri carbonatis (Blaud's pills), but the two salts are separated into two layers so that the formation of ferrous carbonate will occur only when the tablets are moistened. An excess of bicarbonate is present. U. S. trademark No. 38,384.

*Neuronidia.**—An elixir said to contain in each 100 Cc.: Veronal (Diethyl-Barbituric Acid), 3.25 Gm. in a menstruum containing 35 per cent. of alcohol, with aromatics. Each dose of 2 fluidrams is said to contain veronal, 4 grains. U. S. trademark No. 44,141.

*Uriform.**—Each 100 Cc. is said to represent: Hexamethylenetetramine, 6.25 Gm.; saw palmetto, 4.16 Gm.; santal, 2.08 Gm.; damiana, 2.08 Gm., and nux vomica, 0.2 Gm., in a menstruum containing 20 per cent. of alcohol, with sugar and aromatics. Each dose of 2 fluidrams is said to contain: Hexamethylenetetramine, 7½ grains; saw palmetto, 5 grains; santal, 2½ grains; damiana, 2½ grains, and nux vomica, ¼ grain. U. S. trademark No. 37,924.

Leonard A. Seltzer, Detroit, Mich.

*Eusemine.**—A sterile solution, in hermetically sealed vials, of: Cocaine hydrochloride, 0.0075 Gm. (0.116 grains), and Adrenalin hydrochloride, 0.00005 Gm. (0.008 grains), dissolved in physiologic salt solution, 1 Cc.

Sharp & Dohme, Baltimore, Md.

Compressed Tablets Anesthesin, 2 1/2 grains.—Each tablet contains anesthesin, 0.162 Gm. (2½ grains).

Solution Atoxyl 10 per cent. (Sterilized).—Each 100 Cc. contain atoxyl, 10 Gm. (each fluidounce contains atoxyl, 48 grains), dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent. (Sterilized).—Each 100 Cc. contain atoxyl, 10 Gm. (each fluidounce contains 48 grains), dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contain: Atoxyl, 10 Gm., and novocaine, 1 Gm. (each fluidounce contains: Atoxyl, 48 grains, and novocaine, 4 8/10 grains), dissolved in distilled water.

Compressed Tablets Atoxyl and Iron.—Each is said to contain: Atoxyl, 0.02 Gm. (⅓ grain), and ferrous lactate, 0.06 Gm. (1 grain).

Compressed Tablets Atoxyl and Quinine Comp.—Each tablet contains: Atoxyl, 0.01 Gm. (1/6 grain), quinine hydrochlor, 0.022 Gm. (⅓ grain), strych. nitrate, 0.0043 Gm. (1/150 grain), ferrous carbonate mass (Blaud), 0.162 Gm. (2½ grains).

Compressed Tablets Benzosol, 2 1/2 grains.—Each tablet contains benzosol 0.162 Gm. (2½ grains).

Compressed Tablets Benzosol and Codeine.—Each tablet contains: Codeine sulph., 0.0054 Gm. (1/12 grain), and benzosol, 0.162 Gm. (2½ grains).

Compressed Tablet Blaud with Atoxyl.—Each tablet contains Ferrous carb. mass (Blaud), 0.162 Gm. (2½ grains), and atoxyl 0.022 Gm. (⅓ grain).

Compressed Tablets Pyramidon, 1 1/2 grains.—Each tablet contains pyramidon, 0.097 Gm. (1½ grains).

Compressed Lozenges Orthoform, 1 grain.—Each lozenge contains orthoform, 0.065 Gm. (1 grain).

Compound Emulsion Petroleum, S. & D.—An emulsion containing: Refined petroleum, 28⅓ per cent.; petrolatum oil, 5 per cent., with calcium hypophosphite, 2.2 Gm., and sodium hypophos-

phite, 2.2 Gm. in each 100 Cc. Each dose of 4 fluidrams is said to contain: Calcium hypophosphite, 5 grains, and sodium hypophosphite, 5 grains.

Liquor Santaira.—Liquor Santali et Copaibae Compositus, S. & D.—Each 100 Cc. contains Santal oil 1 Cc. (5 minims in a fluidounce) and copaiba 2 Cc. (10 minims in a fluidounce) dissolved in 55 per cent. alcohol with addition of aromatic oils

Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contain: Atoxyl, 10 Gm., and novocaine, 1 Gm. (each fluidounce contains atoxyl, 48 grains, and novocaine, 4 8/10 grains), dissolved in distilled water.

Soluble Hypodermic Tablets Atoxyl, 1/3 grain.—Each tablet contains atoxyl, 0.02 Gm. (⅓ grain).

Soluble Hypodermic Tablets Novocaine, 1/3 grain.—Each tablet contains novocaine, 0.02 Gm. (⅓ grain).

Soluble Tablets Novocaine, 1 1/7 grains.—Each tablet contains novocaine, 0.074 Gm. (1 1/7 grains).

*Tonic Hypophosphites.**—Each 100 Cc. is said to contain: Potassium hypophosphite, 0.33 Gm. (1½ grains in a fluidounce); iron hypophosphite, 0.33 Gm. (1½ grains in a fluidounce); manganese hypophosphite, 0.22 Gm. (1 grain in a fluidounce); calcium hypophosphite, 0.22 Gm. (1 grain in a fluidounce); quinine hypophosphite, 0.10 Gm. (½ grain in a fluidounce); strychnine hypophosphite, 0.013 Gm. (1/16 grain in a fluidounce.

F. H. Strong Co., New York.

*Cholegestin.**—A liquid of which 100 Cc. is said to contain the amorphous sodium salt of glycoholic acid, 0.858 Gm.; true sodium salicylate from the natural oil of wintergreen, 1.07 Gm.; pancreatin, 2.15 Gm.; sodium bicarbonate, 2.15 Gm., in a menstruum containing 15 per cent. alcohol. Each half ounce is said to contain the amorphous sodium salt of glycoholic acid, 2 grains; true sodium salicylate from the natural oil of wintergreen, 2½ grains; pancreatin, 5 grains; sodium bicarbonate, 5 grains. U. S. trademark No. 61,767.

Veroform Hygienic Co., New York.

Veroform Germicide.—A practically neutral liquid containing 20 per cent. of formaldehyde gas dissolved in a solution of soap.

Veroform Antiseptic.—A practically neutral liquid containing 6 per cent. of formaldehyde gas dissolved in a solution of soap. U. S. patent No. 740,424 (Oct. 6, 1903; expires 1920). U. S. trademark "Veroform" No. 44,144.

H. K. Wampole Co., Philadelphia.

Bismuth Hydrate Comp.—A mixture containing in each 100 Cc.: Alcohol, 2 per cent.; chloroform, 0.4 Cc. (2 minims in a fluidounce); fluidextract of red gum (eucalypti gummi), 6.6 Cc. (32 minims in a fluidounce); phenyl salicylate, 0.20 Gm. (1 grain in a fluidounce); pepsin, 0.8 Gm. (4 grains in a fluidounce); bismuth hydroxycarbonate, an amount corresponding to 1.2 Gm. (6 grains in a fluidounce); antiseptic oils and aromatics, and glycerin, 20 per cent. No patents or trademarks.

Colchi-Methyl Capsules.—Each capsule contains: Colchicine, 0.00025 Gm. (1/250 grain); phenyl salicylate (salol), 0.13 Gm.

Glycerodine.—Glyceritum acidi hydriodici. It is said to contain in each 100 Cc. hydrogen iodide (absolute hydriodic acid), 1.54 Gm. (7 grains in a fluidounce).

GENERAL INDEX

PAGE

Acetone-Bromoform 13
Acetozone 5
Acetphenetidin 5
Acet-Phenetidin Compound Tablets 72
Acet-Theocin Sodium 67
Acid, Acetylsalicylic 10
Acid, Agaric 5
Acid, Arsanilic, and Derivatives 9
Acid, Diethyl-Barbituric, and Comp 18
Acid, Filicic, and Related Substances 29
Acid, Formic 30
Acid, Methylene-Citrylsalicylic 43
Acid, Nucleic 44
Acid, Picric 50
Acid, Sulphanilic 64
Acne Vaccine 58
Adnephrin 23
Adrenalin 23
Adrenalin Ointments 71
Adrin 23
Agar-agar 5
Agurin 66
Airol 13
Akaralgia 71
Albargin 6
Albumin Tannate 65
Albuminum Betanaphthol 6
Alphozone 6
Alumnol 6
Alypin 6
Aminoform 33
Ammonium Hypophosphite 6
Ammonium, Gardner's Syrup of Hypophosphite of 7
Amyl Valerate 7
Anesthesin, Compressed Tablets 72
Anthrasol 7
Antiformin 7
Antigen Paper 61
Antipyrine Chloralhydrate 15
Antipyrine Ferric Chloride 8
Antipyrine Mandelate 8
Antipyrine Salicylate 7
Antiseptic-Credé 61
Antithermoline 71
Antithyroidin-Moebius 8
Antitoxin, Tetanus 57
Apinol 8
Apiol 9
Arbutin 9
Argentamin 9
Argenti Proteinas 43
Argonin 9
Argyrol 9
Argyrol Ointment 71
Aristochin 52
Aristol 68
Aromatic Cordial 72
Arsacetin 9
Arsenoferratin 10
Arsen-Triferrin 10
Aspirin 10
Atoxyl 10
Atoxyl, Solution 72

Bacillus bulgaricus 38
Bacillus Coli Vaccine 58
Bacillus Pyocyaneus Vaccine 58
Barium Chloride 11
Benzosal 31
Benzosalin 11
Benzosol, Compressed Tablets 72
Benzoyl-Salicylate 11
Benzoyl-Salicylic-Acid-MethylesterMethyl 11
Berberine Hydrochloride 11

PAGE

Beta-Eucaine Hydrochloride 26
Beta-Eucaine Lactate 27
Betanaphthol Benzoate 11
Betol 12
Bile Salts 12
Bismal 13
Bismuth Beta-Naphtholate 47
Bismuth Bitannate 65
Bismuth Hydrate Comp 73
Bismuth and Iron Citrate (Soluble) 13
Bismuth and Lithium Citrate (Soluble) 13
Bismuth Subcarbonate Preparations 13
Bismuth Subgallate Preparations 13
Bismuthal 72
Blandine Comp 71
Blaud with Atoxyl, Compressed Tabs 72
Bornyval 13
Brometone 13
Bromide and Acetanilide Comp., Granular Effervescent 71
Bromipin 14
Bromo-Mangan 14
Bromural 14
Brovalol 14
Buchu, Juniper and Acetate Potassium, Elixir of 72
Butyl-Chloral Hydrate 14

Caffeine and Potassium Bromide, Granular Effervescent 71
Caffeine and Sodium Bromide Compound, Granular Effervescent 71
Calcium, Dibromebehenate 54
Calcium Ichthyol 34
Calcium Lactate 15
Calcium, Monoidobehenate 54
Calomelol 15
Cannabis Compound, Syrup 72
Carbosant 15
Carlsbad Salt (Artificial), Mulford, Granular Effervescent 71
Carlsbad Salt (Artificial) with Phenolphthalein Mulford, Granular Efferv 72
Casca-Laxative 71
Caseinsilver 9
Cello.din 52
Cephaeline 15
Chinæ Nanning Extr 72
Chinaphenin 53
Chinosol 15
Chloral Hydrate Preparations 15, 16
Chloralamid 15
Chloralformamide 15
Chlorbutanol 16
Chloretone 16
Citarin 16
Coffee Mint, Tabloid 70
Colalin 12
Colalin Laxative 72
Colchi-Methyl Capsules 73
Coley's Toxins 61
Collargol 16
Colloidal Calomel 15
Colloidal Silver 16
Coniine Hydrobromide 16
Copper Citrate 17
Corpus Luteum 45
Coryfin 17
Cotarnine Hydrochloride 17
Cotarnine Phthalate 17
Cremo-Bismuth 13
Creosotal 18
Creosotal-Heyden 18
Creosote Carbonate 17, 18
Cupratum, Haemolum 33
Cupro-Hemol 33

PAGE

Dextrose 30
Diacetyl-Morphine 42
Diacetyl-Morphine Hydrochloride 42
Diaspirin 18
Diazyme Essence 19
Diazyme Glycerole 19
Digalen 20
Digipuratum 21
Digitalein Crude 21
Digitalin, French 21
Digitalin, German 22
Digitalin, True 21
Digitalis Preparations 20
Digitonin 22
Digitoxin 22
Dionin 43
Dionin Ointment 71
Dolomol 22
Duotal 31
Duotonol 72

Elix.-Buchu, Juniper and Acetate Potas 72
Elixir Duozyma 71
Emetine Hydrochloride 22
Emulsion Cloftlin 71
Empyroform 22
Enule Soap Compound 70
Enzymes, Elixir of 20
Enzymol 20
Epicarin 23
Epinephrine 23
Epinephrine Preparations 23
Ergot, Extr. of, Purified 24
Ergotinine Citrate 24
Ergotinine Citrate and Strychnine Sulphate, Tabloid 24
Erpiol 71
Erysipelas and Prodigiosus Toxins 61
Erythrol Tetranitrate 25
Ethyl Aminobenzoate 25
Ethyl Bromide 25
Ethyl Carbamate 25
Ethyl Chloride 26
Ethyl-Morphine Hydrochloride 42, 43
Ethyl Salicylate 26
Ethylenediamine 26
Eucaine 26
Eucaloids 70
Eucalyptus gum 54
Euca-Mul 70
Eugallol 27
Eumydrin 27
Euphorin 27
Euphthalmin 27
Eupnein, Elixir of 72
Eupyrine 27
Euquinine 53
Euresol 28
Europhen 28
Eusemine 72
Exodin 28

Ferments, Digestive 18
Ferments, Milk Curdling 20
Ferric Arsenite, Soluble 28
Ferrichthyol 35
Ferripyrine 8
Ferro-Mangan Dieterich 28
Ferropyrine 8
Ferrous Lactate 28
Filmaron 29
Fluorescin 29
Foods, Medicinal 38
Formaldehyde, Solution 63

PAGE

Formalin 63
Formin 33
Fortoin 30

Gallogen 30
Gardner's Syrup, Hypophosphite of Ammonium 7
Gelsemine Hydrochloride 30
Globulins, Antidiphtheric, and Serum Antidiphthericum 55
Glutol-Schleich 30
Glycerodine 73
Glycerole of Lecithin 37
Glycerole Trypsin 19
Glycerophosphates 30
Glycerophosphates, Comp. Capsules of 71
Glyceryl guaiacolate 31
Gonococcus Vaccine 58
Guaiacodeine 31
Guaiacol Benzoate 31
Guaiacol Carbonate 31
Guaiacol Carbonate Comp. 72
Guaiacol Cinnamate 32
Guaiacol Compounds 31
Guaiacol methyl glycolate 32
Guaiacol-Salol 31
Guaiamar 31
Gujasanol 31

Hedonal 32
Helmitol 33
Hemaboloids 32
Hemogallol 33
Hemoglobin 33
Hemoglobin Derivatives 33
Hemol 33
Hemoquinine 72
Heroin 42
Heroin Hydrochloride 42
Heromal 72
Heroterpine 72
Hexamethylenamine 33
Holadin 19
Holocain and Adrenalin Ointment 71
Holocaine Hydrochloride 34
Homatropine Hydrochloride 34
Hypophosphites, Tonic 73

Ichthalbin 34
Ichthargan 34
Ichthermol 35
Ichthoform 35
Ichthyol and Related Compounds 34, 35
Iodalbin 35
Iodipin 35
Iodoformogen 36
Iodo-Mangan 36
Iodone 36
Iodothyrine 68
Iothion 36
Iron Preparations, Organic 44

Kefir Fungi 36
Kelene 26
Keratin 37
Kresamine 26

Lac Bismo 13
Lactophenin 37
Laminoids Ferruginous (nascent) 72
Lecibrin 37
Lecithin Preparations 37, 38
Lecithol 38
Lenigallol 38
Levulose 39
Liquor Argentamini 9
Liquor Digitoxini Solubilis 20
Liquor Ferro-Mangani 36
Liq. Ferro-Mangani Bromopeptonati Dieterich 14
Liquor Suprarenalis 24
Lithium Ichthyol 35
Lubraseptic 72
Lysidin 38

PAGE

Maltine 71
Maltzyme 71
Mammary Substance 45
Massolin 38
Medinal 18
Menthyl Ethylglycolate 17
Mercuran 71
Mercuric Benzoate 40
Mercuric Cyanide 40
Mercuric Oxycyanide 40
Mercuric Potassium Iodide, Soloid 51
Mercuric Salicylate 40
Mercuric Succinimide 41
Mercuric Sulphate-Ethylenediamine 64
Mercurol 41
Mergal 41
Mesotan 41
Methaform 16
Methyl Chloride 42
Methyl-Santal 71
Methylatropinæ Nitras 27
Methylis 11
Micrococcus Neoformans Vaccine 58
Monoglycol Salicylate 63
Monotal 32
Morphine Derivatives 42
Morphine Meconate 43

Naphtholis Salicylas 12
Neurocaine 43
Neuro-Lecithin 38
Neuronidia 72
Nioform 69
Nizin, Soloid 64
Noguchi Test for Syphilis 61
Novargan 43
Novaspirin 43
Novocaine 43
Novocaine, Soluble Tablets 73
Nucleates 44
Nuclein 44
Nutrose 39

Oil of Pine Needles 44
Oil, Sesame, Brominized 14
Oil, Sesame, Iodized 35
Oleoresin of Parsley Seed 44
Oleum Recini Dulce 72
Orchic Substance 47
Organs of Animals 45
Orphol 47
Orthoform, Compressed Lozenges 72
Orthoform-New 47
Orthoform-New Hydrochloride 48
Osmium Tetroxide 48
Ovarian Substance 46
Ovoferrin 48
Oxaphor 48
Oxone 63
Oxychinolin Sulphate, Normal 15
Oxygen Bath Salts 63
Oxyntin 48

Panase 19
Pancreatic Preparations 19
Panopepton 39
Para Coto 48
Paracotoin 49
Paraformaldehyde 68
Parathyroid Gland, Desiccated 46
Parotid Gland, Desiccated 46
Parsley Camphor 9
Parsley Seed, Oleoresin of 44
Pegnin 20
Pepsin, Essence of 20
Pepsin Preparations 20
Peptone 39
Peptonoids 39
Perhydrol 49
Perogen Bath 63
Peroxide Zinc Soap 70
Petroleum, Compound Emulsion 72
Phenacetin 5
Phenocoll Hydrochloride 49
Phenocoll Salicylate 49

PAGE

Phenolphthalein 49
Phenyl Urethane 27
Phloridzin 49
Piperazine Compounds 50
Pituitary Substance, Desiccated 46
Pneumococcus Vaccine 58
Pollantin 51
Potash, Sulphurated 64
Potassa Sulphurata 64
Potassium Guaiacol-Sulphonate 32
Potassium Mercuric-Iodide 51
Protan 51
Protein Silver Salt 51
Protargol 51
Pyramidon 51, 52
Pyramidon, Compressed Tablets 72
Pyramidon Salicylate 52
Pyroxylin 52

Quartonol 72
Quassin 52
Quinin Derivatives 52, 53, 54
Quinin and Urea Hydrochloride 53
Quinine Lygosinate 53

Red Bone Marrow, Extract of 46
Red Gum 54
Regulin 72

Sabromin 54
Saccharum Amylaceum 39
Sajodin 54
Sal Ethyl 26
Saliformin 33
Salipyrin 8
Salophen 54
Saloquinine 54
Sanguinarine Nitrate 54
Santaiva, Liquor 73
Santali et Copaibæ Compositus, Liquor 73
Santalol 55
Santalyl-Carbonate 15
Santyl 55
Secacornin 55
Serum Antidiphthericum and Antidiphtheric Globulins 55
Serum, Antidysenteric, ...56
Serum, Antigonococcic 56
Serum, Antimeningococcus 56
Serum, Antipneumococcus 56
Serum, Antistaphylococcus 56
Serum, Antistreptococcus 56
Serum Antithyroideum, Merck 8
Serum, Antitubercle 57
Serum, Antityphoid 57
Serum, Horse, Normal 61
Serum Vaccine, Tuberculosis 59
Serums and Vaccines 55
Serums and Viruses 55
Sextonol 72
Sidonal 50
Silvercasein 9
Silver Citrate 61
Silver Lactate 61
Silver Proteinate 43
Silver Vitellin 9
Soamin 10
Soap Compound, Enule 70
Soap, Peroxide Zinc 70
Sodii Glyco-taurocholas bovis 12
Sodium Anhydromethylene Citrate 16
Sodium Arsanilate 10
Sodium Arsenoferrialbuminate 10
Sodium Cacodylate 61
Sodium Caseinate 39
Sodium Cinnamate 62
Sodium Diethyl-Barbiturate 18
Sodium Ichthyol 35
Sodium Lygosinate 62
Sodium Nucleate 44
Sodium Oleate 62
Sodium Perborate 62
Sodium Peroxide 63
Sodium Sulphate, Granular Effervescent 71
Sophol 63

PAGE

Spirosal 63
Spleen, Desiccated 47
Staphylococcus Vaccines 58
Stovaine 63
Streptococcus Vaccine 59
Styracol 32
Sublamine 64
Succinic Dioxide 6
Sulphonal 64
Supracapsulin 24
Suprarenal Liquid 24
Suprarenalin 24
L-Suprarenin Synthetic 24
L-Suprarenin Synthetic Bitartrate 24
Syphilis, Noguchi Test for 61
Syrup Cannabis Compound 72

Tablets, Erythrol Tetranitrate 25
Tannalbin 65
Tannigen 65
Tannin Nucleo-Proteid 51
Tannismuth 65
Tannoform 65
Tannopin 65
Tannyl Acetate 65
Testicle 47
Tetanus Antitoxin 57
Theobromine and Theobromine Compounds 65, 66
Theocin 67
Theophyllin Sodio-Acetate 67
Theophylline and Theophylline Compounds 66, 67

PAGE

Thephorin 66
Thermodin 67
Thigenol 67
Thiocol 32
Thiol 67
Thiosinamine and Thiosinamine Compounds 67, 68
Thorium Nitrate 68
Thymol Iodide 68
Thymus, Desiccated 47
Thyreoidectin 8
Thyresol 68
Thyroid Preparations 68
Tonols 31, 72
Toxins, Prodigiosus and Erysipelas 61
Tribromphenol Bismuth 70
Triferrin 68
Trikresol 72
Trional 64
Trioxymethylene 68
Triphenin 69
Tropacocaine Hydrochloride 69
Trypsin 19
Tuberculin Preparations 59
Tuberculosis Serum Vaccine 59
Tumenol 35
Tumenol-Ammonium 35
Tussol 8
Typhoid Vaccine 59

Urea 69
Urethan-Hoechts 26
Urethane 26
Uriform 72

PAGE

Uropherin-B 66
Uropherin-S 66
Urotropine 33

Vaccine, Acne 58
Vaccine, Antirabic 60
Vaccine, Bacillus Coli 58
Vaccine, Bacillus Pyocyaneus 58
Vaccine, Friedlander 58
Vaccine, Gonococcus 58
Vaccine, Micrococcus Neoformans 58
Vaccine, Pneumococcus 58
Vaccine, Serum, Tuberculosis 59
Vaccine, Staphylococcus 58
Vaccine, Streptococcus 59
Vaccine, Typhoid 59
Vaccine Virus 57
Vaccines, Bacterial 58
Vaccines and Serums 55
Validol 69
Valyl 69
Veroform Antiseptic 73
Veroform Germicide 73
Veronal 18
Veronal-Sodium 18
Vioform 69
Viruses and Serums 55

Zeroform 70
Zinc Permanganate 70
Zinc Peroxide 70

INDEX TO MANUFACTURERS AND AGENTS

PAGE

Abbott Alkaloidal Co.
Nuclein 44
Neuro-Lecithin 38
Alexander, H. M. & Co.
Antirabic Vaccine 61
Diphtheria Antitoxin 55
Original Tuberculin 60
Vaccine Virus 57
American Antiformin Co.
Antiformin 7
Apinol Chemical Co.
Apinol 8
Arlington Chemical Co.
Peptonoids 39
Armour & Co.
Corpus Luteum 45
Desiccated Parathyroid Gland 46
Desiccated Parotid Gland 46
Desiccated Pituitary Substance 46
Desiccated Spleen 47
Desiccated Thymus 47
Elixir of Enzymes 20
Extract of Red Bone Marrow 46
Glycerole Trypsin 19
Lecithol 38
Mammary Substance 45
Orchic Substance 47
Ovarian Substance 46
Pituitary Body, Desiccated 46
Suprarenalin 24
Trypsin 19
Bacterio-Therapeutic Laboratory
Tuberculin Preparations 60
Barnes, A. C., Co.
Argyrol 9
Ovoferrin 48
Binz, E. G., Co.
Eucaloids 70
Euca-Mul 70
Bischoff, C., & Co.
Aminoform 33
Eupyrine 27

PAGE

Bischoff, C., & Co.
Fortoin 30
Gallogen 30
Quinine Lygosinate 53
Sodium Lygosinate 62
Validol Preparations 69
Vioform 69
Blair, Henry C., Co.
Iodone 36
Burroughs, Wellcome & Co.
Antistaphylococcus Serum 56
Antistreptococcus Serum 56
Antityphoid Serum 57
Bismuth and Iron Citrate (Soluble) 13
Bismuth and Lithium Citrate (Soluble) 13
Diphtheria Antitoxin Serum 55
Enule Soap Compound 70
Fluorescin 29
Morphine Meconate 43
Soamin 10
Soloid Mercuric Potassium Iodide 51
Soloid Nizin 64
Tabloid Coffee Mint 70
Tabloid Ergotinine Citrate and Strychnine Sulphate 24
Tabloid Mercury Succinimide 41
Carnrick, G. W. Co.
Antithermoline 71
Chinosol Co.
Chinosol 15
Cloftlin Chemical Co.
Emulsion Cloftlin 71
Crowell, Rufus & Co.
Colalin 12
Cudahy Packing Co.,
Supracapsulin 24
Cutter Laboratory
Diphtheria Antitoxin 56
Gonococcus Vaccine 58
Polyvalent Streptococcic Serum 57

PAGE

Cutter Laboratory.
Staphylococcus Vaccines 58
Tuberculin Preparations 60
Vaccine Virus 57
Eusoma Pharmaceutical Co.
Mercuran 71
Fairchild Bros. & Foster.
Bile Salts 12
Diazyme Preparations 19
Enzymol 20
Essence of Pepsin 20
Glycerole of Lecithin 37
Holadin 19
Lecibrin 37
Oxyntin 48
Panopepton 39
Farbenfabriken of Elberfeld Co.
Acet-Theocin Sodium 67
Agurin 66
Aristochin 52
Aristol 68
Aspirin 10
Chinaphenin 53
Citarin 16
Coryfin 17
Creosotal 18
Diaspirin 18
Duotal 31
Epicarin 23
Eumydrin 27
Europhen 28
Hedonal 32
Helmitol 33
Heroin 42
Heroin Hydrochloride 42
Iodothyrine 68
Iothion 36
Mesotan 41
Monotal 32
Novaspirin 43
Phenacetin 5
Piperazine Compounds 50

PAGE

Farbenfabriken of Elberfeld Co.
Piperazine Tablets 50
Protargol 51
Sabromin 54
Sajodin 54
Salophen 54
Sophol 63
Spirosal 63
Sulphonal 64
Tannigen 65
Tannopin 65
Theocin 67
Thyresol 68
Trional 64
Veronal 18
Veronal-Sodium 18
Fries Bros.
Kelene 26
Fritzsche Bros.
Pollantin 51
Pollantin Powder, Fall 51
Gardner, R. W.
Syrup Hypophosphite of Ammonium. 7

Hart, E. J., & Co.
Lac Bismo 13
Heyden Chemical Works
Betol 12
Calomelol 15
Carbosant 15
Novargan 43
Tannismuth 65
Xeroform 70
Heyden, Fabrik von.
Euphorin 27
Hoffmann-LaRoche Chemical Works
Airol 13
Benzosalin 11
Digalen 20
Secacornin 55
Thephorin 66
Thigenol 67
Thiocol 32
Hubbert, William R.
Diphtheric Antitoxin 56

Knoll & Co.
Anthrasol 7
Arsen-Triferrin 10
Cotarnine Phthalate 17
Digipuratum 21
Eugallol 27
Euresol 28
Ferropyrine 8
Ichthalbin 34
Iodoformogen 36
Lenigallol 38
Santyl 55
Styracol 32
Tannalbin 65
Triferrin 68
Koechl, Victor, & Co.
Albargin 6
Alumnol 6
Antimeningococcus Serum 56
Antipyrine Chloralhydrate 15
Antipyrine Salicylate 7
Antistreptococcic Serum 57
Argonin 9
Arsacetin 9
Atoxyl 10
Benzosol 31
Betanaphthol Benzoate 11
Diphtheria Antitoxin 56
Ethyl Aminobenzoate 25
Ferripyrine 8
Gujasanol 31
Holocaine Hydrochloride 34
Lysidin 38
Novocaine 43
Novocaine Preparations 43
Nutrose 39
Orthoform—New 47
Orthoform—New Hydrochloride 48
Oxaphor 48

PAGE

Koechl, Victor & Co.
Pegnin 20
Pyramidon 51
Pyramidon Salicylate 52
Sidonal 50
L-Suprarenin Synthetic 24
L-Suprarenin Synthetic Bitartrate... 24
Tumenol 35
Tussol 8
Urethan-Hoechst 26
Valyl 69
Louisville Pharmacal Works.
Elixir Duozyma 71

Mallinckrodt Chemical Works.
Guaiamar 31
Malt-Diastase Co.
Maltzyme Preparations 71
Maltine Co.
Maltine Preparations 71
Manhattan Eye Salve Co.
Adrenal Ointments 71
Adrenalin Ointments 71
Argyrol Ointment 71
Dionin Ointment 71
Holocain and Adrenalin Ointment.... 71
Memorial Institute for Infectious Diseases.
Antidiphtheritic Serum 56
Merck & Co
Acet Theocin Sodium 67
Antithyroidin—Moebius 8
Bismal 13
Bromipin 14
Bromural 14
Calcium Ichthyol 34
Cotarnine Hydrochloride 17
Cupro-Hemol 33
Dionin 43
Erythrol Tetranitrate Tablets 25
Euquinine 53
Filmaron 29
Ferrichthyol 35
Formin 33
Guaiacol-Salol 31
Hemogallol 33
Hemol 33
Ichthargan 34
Ichthermol 35
Ichthoform 35
Ichthyol 34
Iodipin 35
Iodothyrine 68
Lactophenin 37
Lithium Ichthyol 35
Nucleic Acid 44
Perhydrol 49
Saliformin 33
Saloquinine 54
Saloquinine Salicylate 54
Sodium Ichthyol 35
Sodium Perborate 62
Solution Thiosinamine Sodium Salicylate 68
Tannoform 65
Thermodin 67
Trioxymethylene 68
Triphenin 69
Tropacocaine Hydrochloride 69
Urethane 26
Uropherin-B. 66
Uropherin-S. 66
Veronal 18
Merrell, Wm. S., Chemical Co.
Akaralgia 71
Erpiol 71
Morgenstern & Co.
Endotin 60
Perogen Bath 63
Mulford, H. K., Co.
Acne Vaccine 58
Adrin 23
Antidysenteric Serum 56
Antigen Paper 61
Antimeningitis Serum 56
Antipneumococcus Serum 56

PAGE

Mulford, H. K., Co.
Antistreptococcic Serum 57
Bacillus Coli Vaccine 58
Bacillus Pyocyaneus Vaccine..... 58
Blandine Comp. 71
Casca-Laxative 71
Comp. Capsules of Glycerophosphates. 71
Cremo-Bismuth 13
Diphtheria Antitoxin, Concentrated.. 56
Friedlander Vaccine 58
Glycerinated Vaccine Lymph..... 58
Granular Efferv. Bromide and Acetanilide Compound 71
Granular Efferv. Caffeine and Potassium Bromide 71
Granular Efferv. Caffeine and Sodium Bromide Compound..... 71
Granular Efferv. Carlsbad Salt (Artificial) 71
Granular Efferv. Carlsbad Salt (Artificial) with Phenolphthalein, Mulford 72
Granular Efferv. Sodium Sulphate... 71
Guaiacol Carbonate Comp..... 72
Methyl-Santal 71
Micrococcus Neoformans Vaccine.... 58
Neisser Bacterin 58
Normal Horse Serum 61
Pneumococcus Vaccine 58
Staphylococcus Vaccines 58
Streptococcus Vaccine 59
Tetanus Antitoxin 57
Tuberculin Preparations 60
Typhoid Vaccine 59

National Pharmacy Co.
Bismuthal 72
National Vaccine and Antitoxin Institute.
Diphtheria Antitoxin, Concentrated.. 56
Glycerinated Vaccine Virus..... 58
Gonococcic Vaccine 58
New York Department of Health.
Antitetanic Globulin 57
Diphtheria Antitoxin, Refined and Concentrated 56
New York Quinin and Chemical Works.
Guaiacodeine 31

Palisade Manufacturing Co., Yonkers.
Hemaboloids 32
Parmele Pharmacal Co.
Chinosol 15
Stovaine 63
Parke, Davis & Co.
Acetozone 5
Adrenalin 23
Antidiphtheric Serum 56
Antigonococcic Serum 56
Antistreptococcic Serum 57
Antitetanic Serum 57
Antitubercle Serum 57
Brometone 13
Chloretone 16
Erysipelas and Prodigiosus Toxins... 61
Glycerinated Vaccine 58
Gonococcus Vaccine 58
Iodalbin 35
Mercurol 41
Staphylococcus Vaccines 58
Streptococcus Vaccine 59
Suprarenal Liquid 24
Thyreoidectin 8
Tuberculin Preparations 60
Pitman Myers Co.
Aromatic Cordial 72
Elixir Buchu, Juniper and Acetate Potassium 72
Oleum Ricini Dulce..... 72
Syrup Cannabis Compound 72
Tablets Acet—Phenetidin Comp..... 72
Pulvola Chemical Co.
Dolomol 22
Reinschild Chemical Co.
Bromo-Mangan 14
Extractum Chinae Nanning..... 72

PAGE

Reinschild Chemical Co.
- Ferro-Mangan Dieterich 28
- Iodo-Mangan 36
- Regulin 72

Riedel & Co.
- Bornyval 13
- Mergal 41
- Salipyrin 8
- Thiol 67

Roessler & Hasslacher Chemical Co.
- Oxone 63
- Peroxide Zinc Soap 70

Russel & Lawrie.
- Lubraseptic 72

Schering & Glatz.
- Antiseptic—Credé 61
- Aronson's Antistreptococcus Serum 57
- Argentamin 9
- Beta-Eucaine Hydrochloride 26
- Beta-Eucaine Lactate 27
- Brovalol 14
- Celloidin 52
- Chloralamid 15
- Collargol 16
- Creosotal-Heyden 18
- Duotal 31
- Duotonol 72
- Empyroform 22
- Ethylenediamine Solution 26
- Eucaine 26
- Euphthalmin 27

PAGE

Schering & Glatz.
- Exodin 28
- Formalin 63
- Glutol-Schleich 30
- Kresamine 26
- Levulose 39
- Orphol 47
- Phenocoll Hydrochloride 49
- Sublamine 64
- Tonols 72
- Trikresol 72
- Urotropine 33

Schieffelin & Co.
- Antistreptococcic Serum 57

Colalin Laxative 72
- Concentrated Antitoxin 57
- Elixir Eupnein 72
- Glycerinated Vaccine Virus 57
- Hemoquinine 72
- Heromal 72
- Heroterpine 72
- Laminoids Ferruginous (Nascent) 72
- Massolin 38
- Neurocaine 43
- Neuronidia 72
- Uriform 72

Seltzer, Leonard A.
- Eusemine 72

Sharp & Dohme.
- Compound Emulsion Petroleum 72
- Compressed Lozenges Orthoform 72

PAGE

Sharp & Dohme.
- Compressed Tablets Anesthesin 72
- Compressed Tablets Benzosol 72
- Compressed Tablets Blaud with Atoxyl 72
- Compressed Tablets Pyramidon 72
- Ferric Arsenite, Soluble 28
- Hypodermic Tablets Mercuric Succinimide 41
- Liquor Santaiva 73
- Solution Atoxyl 72
- Solution Atoxyl with Novocaine 73
- Soluble Tablets Novocaine 73
- Tonic Hypophosphites 73

Stearns, F. & Co.
- Adnephrin 23
- Alphozone 6
- Diphtheric Antitoxin 56
- Methaform 16
- Panase 19
- Pneumolytic Serum 56
- Streptolytic Serum 57

Veroform Hygienic Co.
- Veroform Antiseptic 73
- Veroform Germicide 73

Wampole, H. K., Co.
- Bismuth Hydrate Comp 73
- Colchi-Methyl Capsules 73
- Glycerodine 73

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